ANTENNAS

GENERAL CATALOG

F.M. ANTENNA SYSTEMS & ACCESSORIES

Telecomunicazioni Ferrara

antenne e componenti
alta frequenza

PRODUCT WARRANTY

Any product of Telecomumicazioni Ferrara is covered by a 12 (twelve) month warranty (standard).
Telecomumicazioni Ferrara S.r.l. extends to the original end-user purchaser all manufacturers warranties which are transferrable and all claims are to be made directly to Telecomumicazioni Ferrara per indicated procedures.

Warranty shall not include:

1. Connectors;
2. Re-shipment of the unit to Telecomumicazioni Ferrara for repair purposes;
3. Any unauthorized repair/modification;
4. Incidental/consequential damages as a result of any defect;
5. Nominal non-incidental defects;
6. Re-shipment costs or insurance of the unit or replacement units/parts;

Any damage to the goods must be reported to the carrier in writing on the shipment receipt.

Any discrepancy or damage discovered subsequent to delivery, shall be reported to Telecomumicazioni Ferrara within 5 (five) days from delivery date.

To claim your rights under this warranty, you should follow this procedure:

- Contact the dealer or distributor where you purchased the unit. Describe the problem and, so that a possible easy solution can be detected. Dealers and Distributors are supplied with all the information about problems that may occur and usually they can repair the unit quicker than what the manufacturer could do. Very often installing errors are discovered by dealers.
- If your dealer cannot help you, contact Telecomumicazioni Ferrara and explain the problem. If it is decided to return the unit to the factory, Telecomumicazioni Ferrara will mail you a regular authorization with all the necessary instructions to sendback the goods.
- When you receive the authorization, you can return the unit. Pack it carefully for the shipment, preferably using the original packing and seal the package perfectly. DO NOT RETURN UNITS WITHOUT OUR AUTHORIZATION AS THEY WILL BE REFUSED.

Be sure to enclose a written technical report where mention all the problems found and a copy of your original invoice establishing the starting date of the warranty.

Replacement and warranty parts may be ordered from the following address:

Telecomunicazioni Ferrara S.r.l.
Via Dei Calzolai, 156
44036 Francolino (Ferrara)
ITALY
Tel.: +39 0532 72.40.33
Fax: +39 0532 72.48.19
E-Mail: info@telecfe.it

be sure to include the equipment model and serial number as well as part description and part number.

CUSTOMER SEVICE AND TECHNICAL ASSISTANCE

The technical assistance is aviable from Telecomunicazioni Ferrara S.r.l. by letter or prepaid telephone or telegram. Equipment requiring repair or over haul should be sent by common carrier, prepaid, insured and well protect. Do not mail equipment. We can assume no liability for inbound damage and necessary repairs become the obligation of the shipper.
Prior arrangement is necessary. Contact the dealer or distributor with all the informations about problems that may occur and usually thay can repair the unit quicker than what the manufacturer could do. Very often installing errors discovered by dealers.
If yoy dealer cannot help you, contact Telecomunicazioni Ferrara S.r.l. in Francolino (FE) and explain the problem. If it is decided to return the unit to the factory, Telecomunicazioni Ferrara will mail you a regular authirization with all the necessary instuctions to send back the goods.

SUMMARY

GENERAL CATALOG

F.M. ANTENNA SYSTEMS & ACCESSORIES

FM BAND ANTENNAS

LINK ANTENNAS

BAND I ANTENNAS

FM BAND PASS FILTERS

FM COMBINERS

ACCESSORIES

CABLES

RVRGROUP TELECOMUNICAZIONIFERRARA

FM BAND ANTENNAS

GENERAL CATALOG

BROAD BAND HORIZONTAL AND VERTICAL POLARIZATION ANTENNAS

BROAD BAND CIRCULAR POLARIZATION ANTENNAS

TUNED HORIZONTAL AND VERTICAL POLARIZATION ANTENNAS

TUNED CIRCULAR POLARIZATION ANTENNAS

Telecomunicazioni Ferrara RVR GROUP

Model AJ1FENA

BROADBAND COST EFFECTIVE DIPOLE
LOW WEIGHT HIGHT PERFORMANCE

- Model A1JFENA – AJ1FEA6 – AJ1FEA7
- Band II dipole
- Broadband 87.5÷108 MHz
- 2 dBd gain
- Vertical polarization
- Omni directional pattern
- Aluminium anticorodal

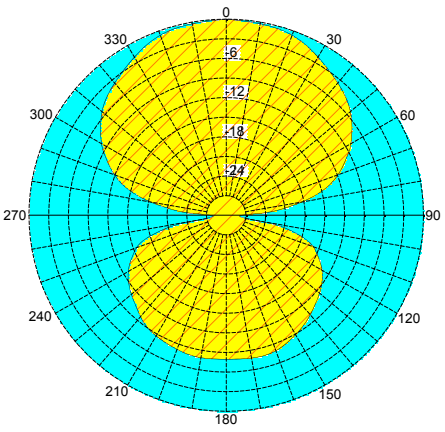
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N (AJ1FENA) – 7/16 female (AJ1FEA6) – 7/8 EIA (AJ1FEA7)
Max Power	800W (N) – 2KW (7/16" - 7/8" EIA)
VSWR	≤ 1.35:1
Polarization	Vertical
Gain	2 dB (referred to half-wave dipole) at 98 MHz
Pattern	Omni directional ± 1.5 dB in free space Omni directional ± 3 dB with 100mm diameter pole
Lightning protection	All metal parts DC grounded

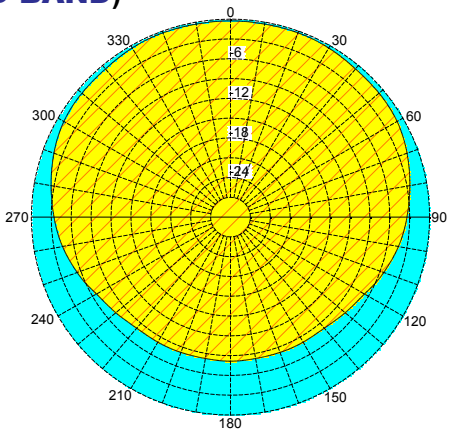
MECHANICAL DATA

Dimensions	1400x900x50 mm
Weight	4 kg with hardware mounting
Wind surface	0.05m2
Wind load	9.8 kg (wind speed at 160 km/h – without radome)
Max wind velocity	220 km/h.
Materials	External parts: Aluminium anticorodal Internal parts: brass Radome: fiberglass (optional)
Icing protection	Feed point radome (optional)
Radome (optional)	Color white
Mounting	With special pipe clamps 40÷110 mm diameter

RADIATION PATTERN (MID BAND)

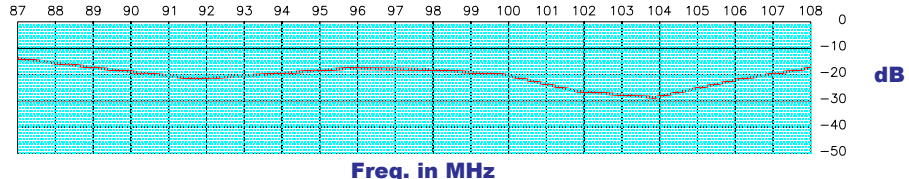


E-plane



H-plane

Return Loss

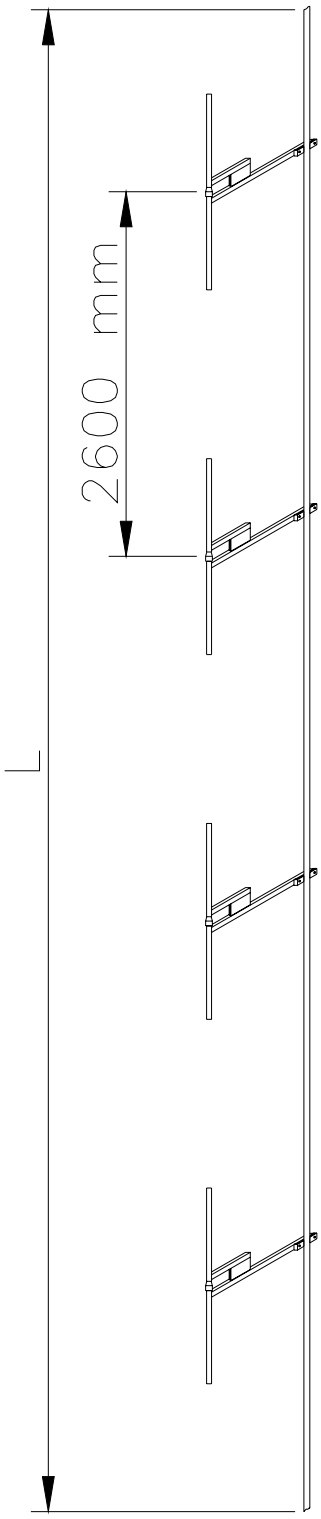


Freq. in MHz

"These specifications are subject to change without notice"

Broad Band Cost Effective Antenna Systems with the AJ1FENA

Omni - directional pattern



ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.35:1 Max
Polarization	Vertical
Gain	According to requirement
Horizontal pattern	Any type according to the customer requirements
Vertical pattern	Null fill, beam tilt and special requirements on demand
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on demand)
Radome colour	White (optional)
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg
		dB	times			
1	1	2.0	1.6	4	1.4	9.8
2	1	5.0	3.2	8	4.0	19.6
4	1	8.0	6.3	16	9.2	39.2
6	1	9.8	9.5	24	14.4	58.8
8	1	11.0	12.7	32	19.6	78.4

[1] Referred to half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] Systems comprise: antennas, cables and splitter – for more details look on catalog – different versions on demand

- Gain is provided for vertical polarisation.
- When antenna is pole mounted on the top of a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing are provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- A length of five ft(1.6mt) of pipe is required above the top bay and below the bottom bay to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

Model AJ1FEN

BROADBAND COST EFFECTIVE DIPOLE

- Model A1JFEN – AJ1FE6 – AJ1FE7
- Band II dipole
- Broadband 87.5÷108 MHz
- 2 dBd gain
- Vertical polarization
- Omni directional pattern
- Hot–dip galvanized steel

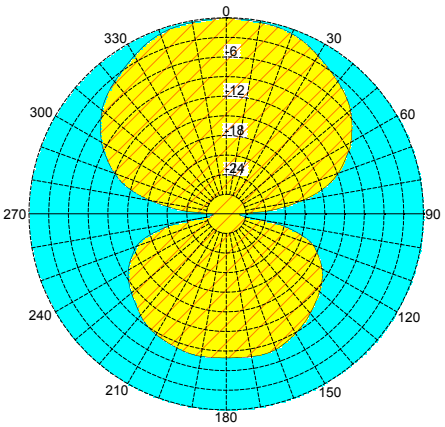
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N (AJ1FEN) – 7/16 female (AJ1FE6) – 7/8 EIA (AJ1FE7)
Max Power	800W (N) – 2KW (7/16" - 7/8" EIA)
VSWR	≤ 1.35:1
Polarization	Vertical
Gain	2 dB (referred to half-wave dipole) at 98 MHz
Pattern	Omni directional ± 1.5 dB in free space Omni directional ± 3 dB with 100mm diameter pole
Lightning protection	All metal parts DC grounded

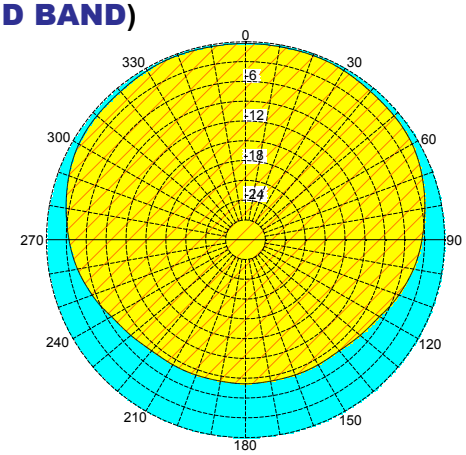
MECHANICAL DATA

Dimensions	1400x900x50 mm
Weight	7 kg with hardware mounting
Wind surface	0.05m2
Wind load	9.8 kg (wind speed at 160 km/h – without radome)
Max wind velocity	220 km/h.
Materials	External parts: Hot-dip galvanized steel Internal parts: brass Radome: fiberglass (optional)
Icing protection	Feed point radome (optional)
Radome (optional)	Color white
Mounting	With special pipe clamps 40÷110 mm diameter

RADIATION PATTERN (MID BAND)

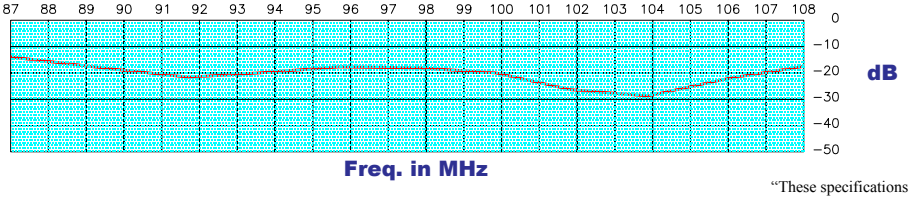


E-plane



H-plane

Return Loss



Freq. in MHz

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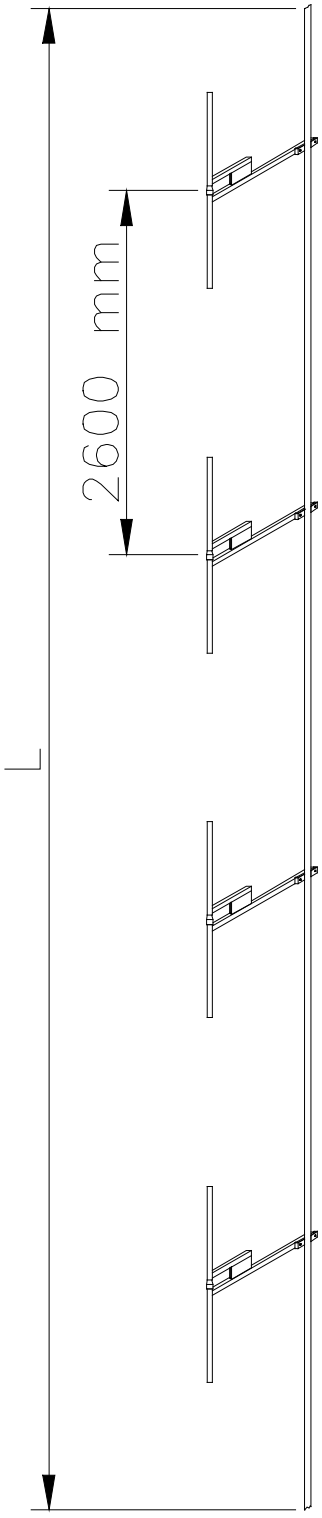
Broad Band Effective Cost Antenna Systems with the AJ1FENAI

Omni - directional pattern



ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.35:1 Max
Polarization	Vertical
Gain	According to requirement
Horizontal pattern	Any type according to the customer requirements
Vertical pattern	Null fill, beam tilt and special requirements on demand
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on demand)
Radome colour	White (optional)
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg
		dB	times			
1	1	2.0	1.6	4	1.4	9.8
2	1	5.0	3.2	8	4.0	19.6
4	1	8.0	6.3	16	9.2	39.2
6	1	9.8	9.5	24	14.4	58.8
8	1	11.0	12.7	32	19.6	78.4

[1] Referred to half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] Systems comprise: antennas, cables and splitter – for more details look on catalog – different versions on demand

- Gain is provided for vertical polarisation.
- When antenna is pole mounted on the top of a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing are provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- A length of five ft(1.6mt) of pipe is required above the top bay and below the bottom bay to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

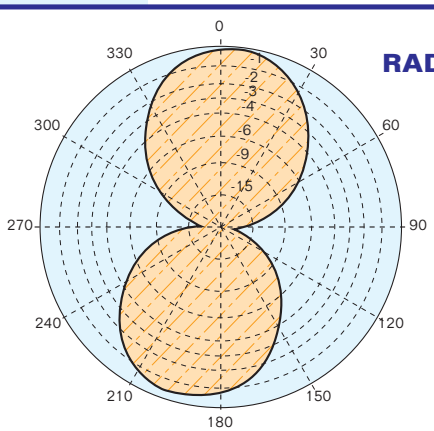
Model AJ1F – AJ1F 7/8

- **Band II dipole**
- **Broadband 87.5÷108 MHz**
- **1,5 dB gain**
- **Vertical polarization**
- **Omni directional pattern**
- **Stainless steel AISI 304**

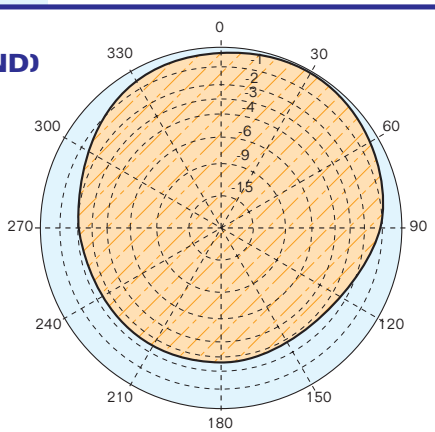
ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" female or 7/8" EIA
Max Power	800W (N) – 2KW (7/16") – 3.5KW (7/8" EIA)
VSWR	≤ 1.35:1 Average
Polarization	Vertical
Gain	See table (referred to half-wave dipole)
Pattern	Omni directional ± 1.5 dB in free space Omni directional ± 3 dB with 100mm dia. pole
Lightning protection	All metal parts DC grounded

MECHANICAL DATA	
Dimensions	1360x1100x180 mm
Weight	9 kg with hardware mounting
Wind surface	0.06 m^2
Wind load	10.1 kg (wind speed at 160 km/h – without radome)
Max wind velocity	220 km/h.
Materials	External parts: stainless steel Internal parts: passivated aluminium Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)

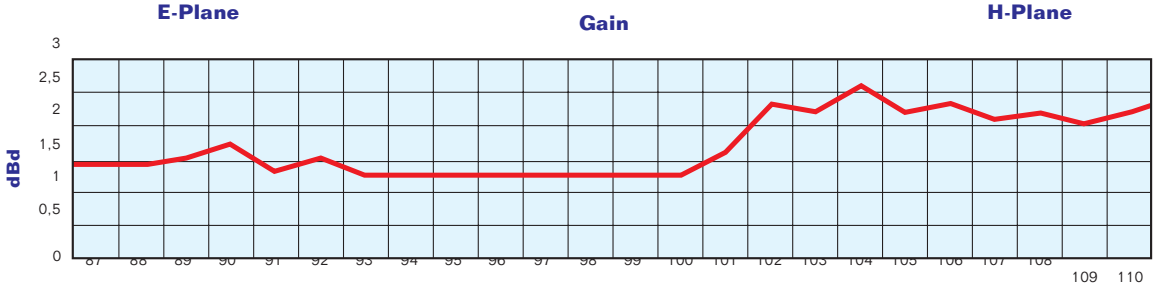


E-Plane



H-Plane

Gain

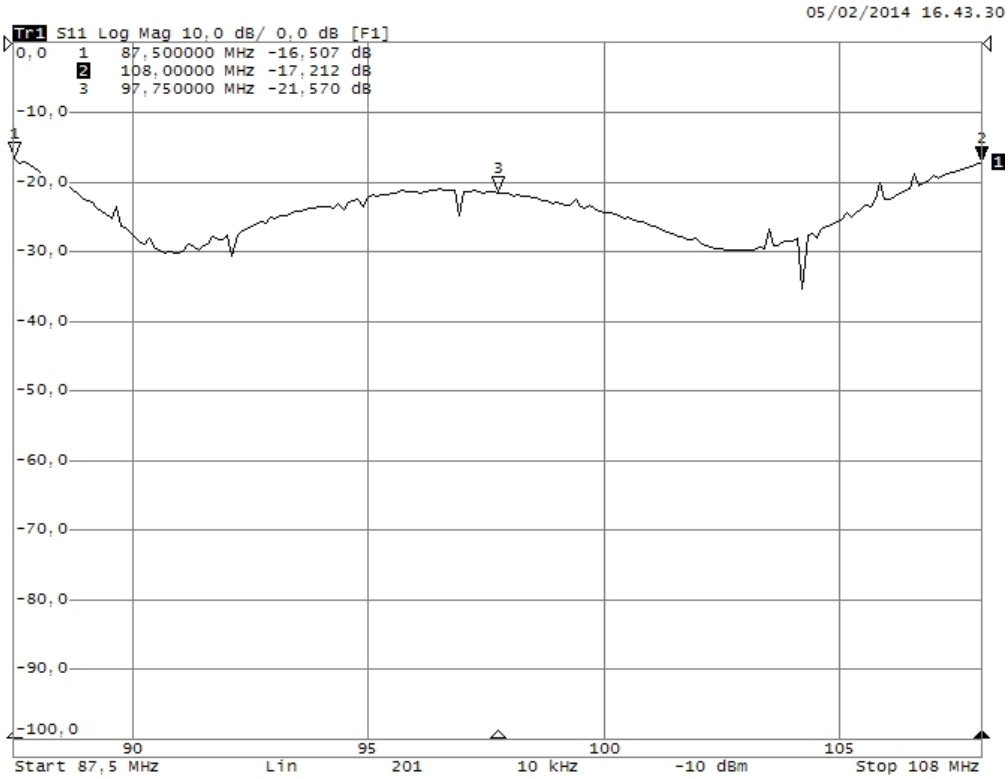


Freq. in MHZ

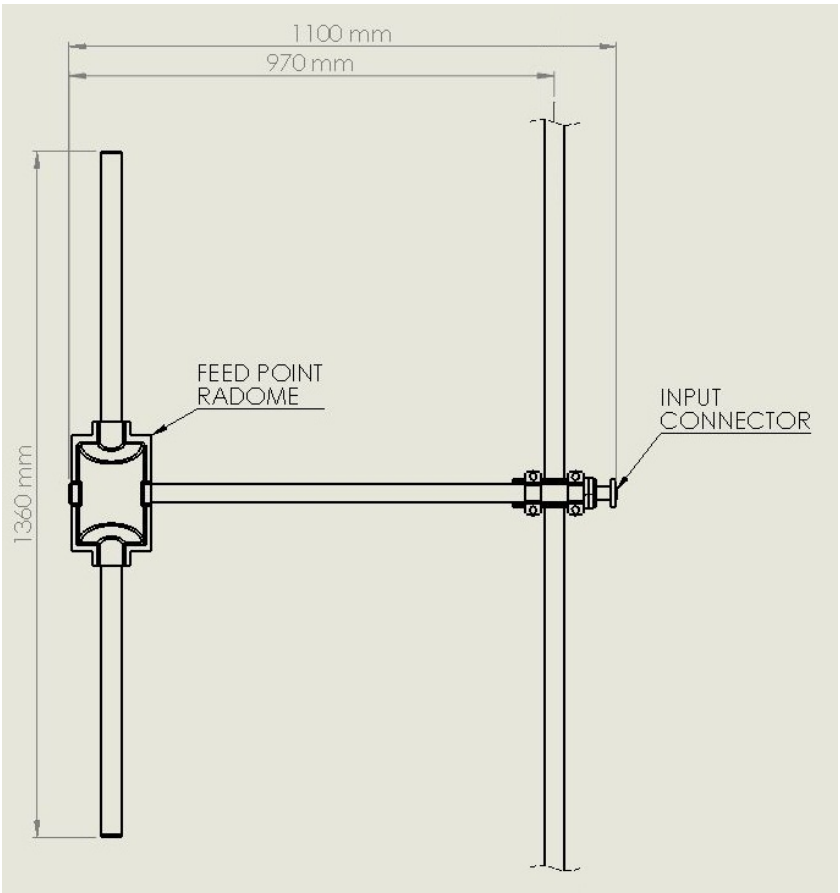
"These specifications are subject to change without notice"

Model AJ1F – AJ1F 7/8

RETURN LOSS



DIMENSIONS



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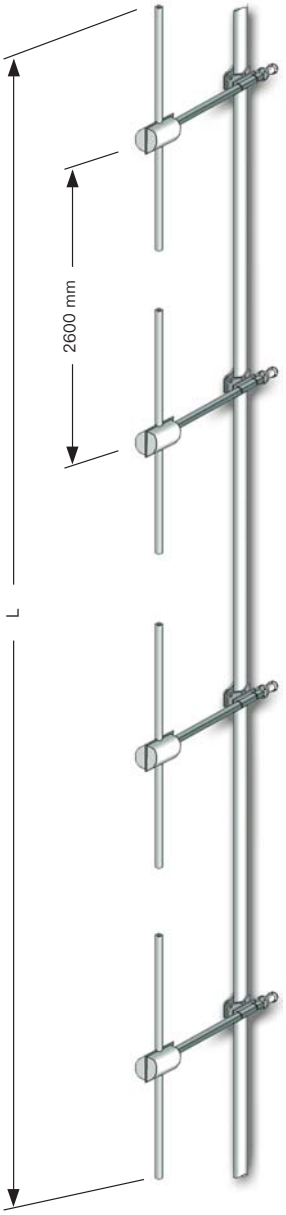
Model AJ1F – AJ1F 7/8

Radiations systems with AJ1F antenna

Omni-directional pattern



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.35:1 Max
Polarization	Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg	COLLINEARS SYSTEMS[3]			
		dB	times				2 KW	4 KW	6 KW	10 KW
1	1	1.5	1.4	9	1.4	10.1	AJ1F	AJ1F	-	-
2	1	4.5	2.8	18	4.0	20.2	AJ1FX22	AJ1FX24	AJ1FX26	-
4	1	7.5	5.6	36	9.2	40.4	AJ1FX42	AJ1FX44	AJ1FX46	AJ1FX410
6	1	9.3	8.4	54	14.5	60.6	AJ1FX62	AJ1FX64	-	AJ1FX610
8	1	10.5	11.3	72	20.0	80.8	AJ1FX82	AJ1FX84	AJ1FX86	AJ1FX810

[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] The systems comprised: antennas, cables and splitter – for more details to see catalog – different version on request.

- Gain is provided for vertical polarization.
- When antenna is pole mounted on the top a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AJ1F10

- Band II dipole
- Broadband 87.5÷108 MHz
- 1,5 dB gain
- Vertical polarization
- Omni directional pattern
- Stainless steel AISI 304

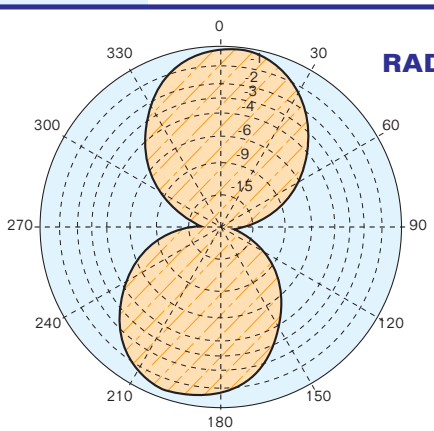
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	1+5/8"
Max Power	10 kW
VSWR	≤ 1.35:1 Average
Polarization	Vertical
Gain	See table (referred to half-wave dipole)
Pattern	Omni directional ± 1.5 dB in free space Omni directional ± 3 dB with 100mm dia. pole
Lightning protection	All metal parts DC grounded

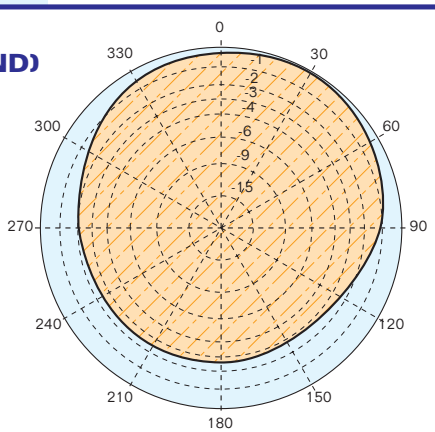
MECHANICAL DATA

Dimensions	1360x1100x100 mm (without support)
Weight	15 kg with hardware mounting
Wind surface	0.15 m^2
Wind load	18.5 kg (wind speed at 160 km/h – without radome)
Max wind velocity	220 km/h.
Materials	External parts: stainless steel Internal parts: passivated aluminium Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	White (Optional)
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)

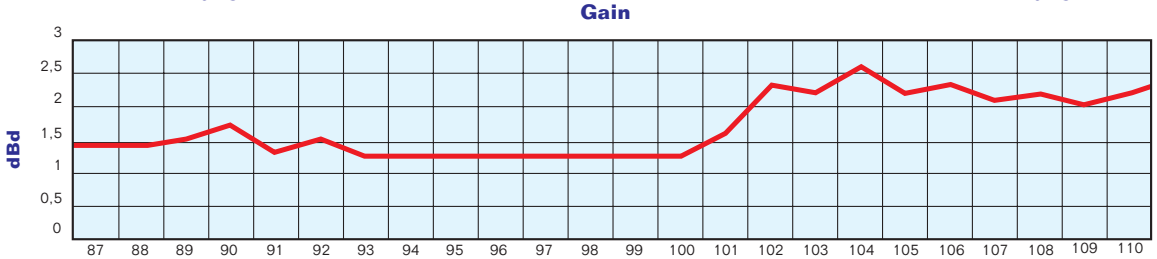


E-Plane



H-Plane

Gain

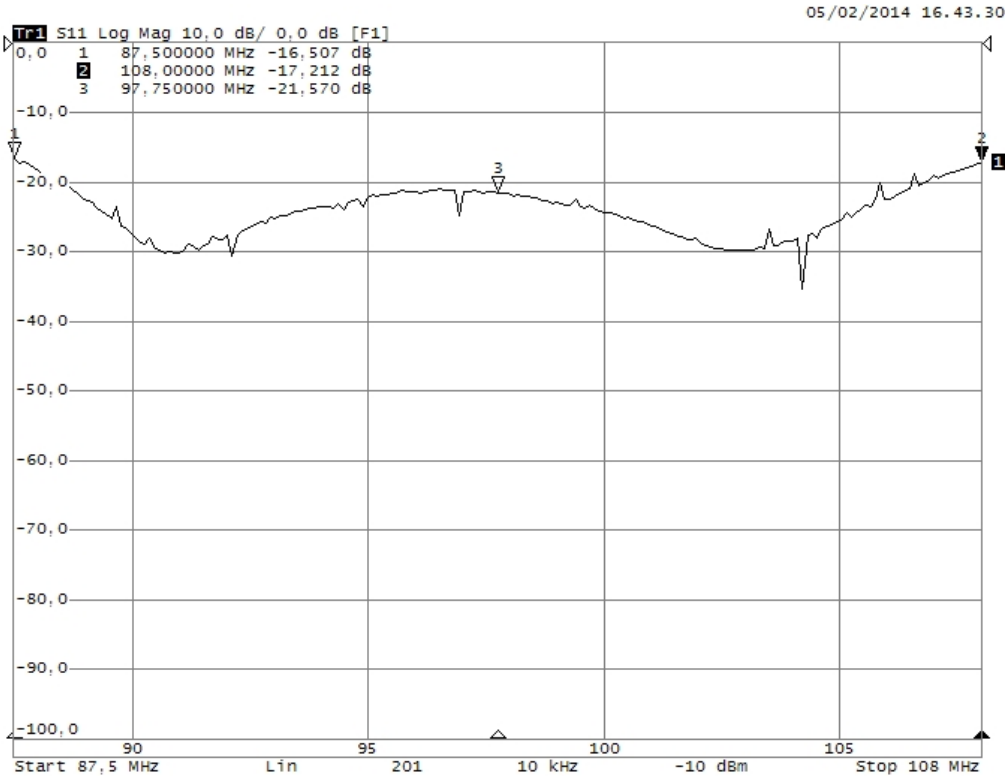


Freq. in MHZ

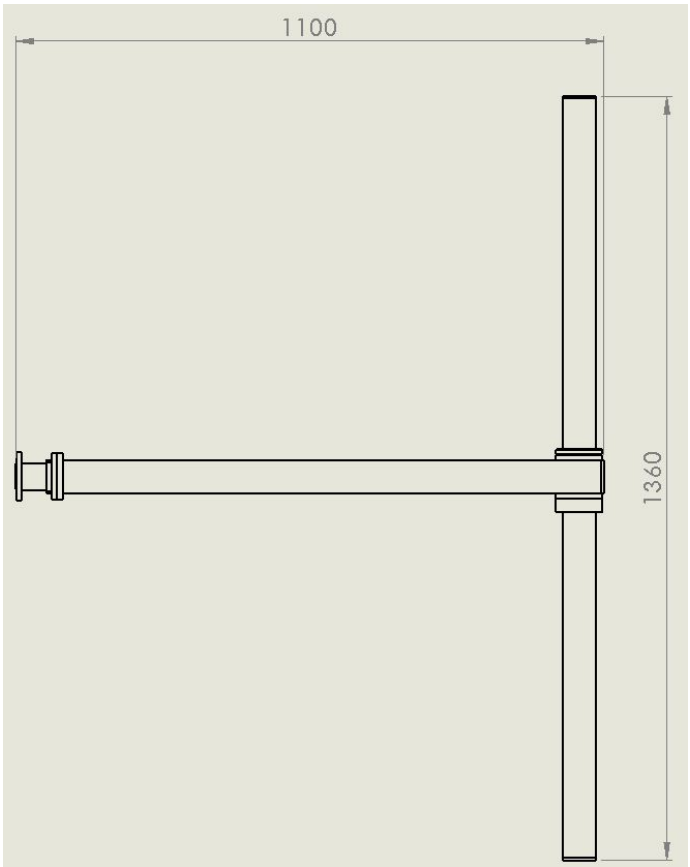
These specifications are subject to change without notice.
We are not responsible for any use of this information.

Model AJ1F10

RETURN LOSS



DIMENSIONS

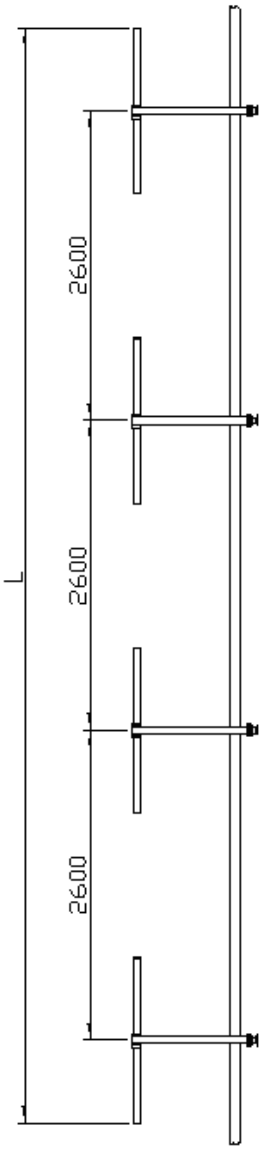


These specifications are subject to change without notice.
We are not responsible for any use of this information.

Model AJ1F10

Radiations systems with AJ1F10 antenna

Omni-directional pattern



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.35:1 Max
Polarization	Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps (option)
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg
		dB	times			
1	1	1.5	1.4	15	1.4	18.5
2	1	4.5	2.8	30	4.0	37.0
4	1	7.5	5.6	60	9.2	74.0
6	1	9.3	8.4	90	14.5	111.0
8	1	10.5	11.3	120	20.0	148.0

[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] The systems comprised: antennas, cables and splitter – for more details to see catalog – different version on request.

- Gain is provided for vertical polarization.
- When antenna is pole mounted on the top a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

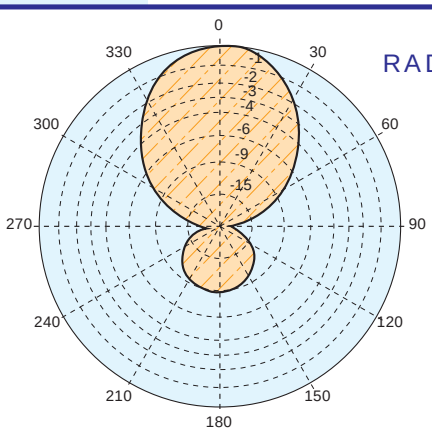
Model AJ2

- Band II
- Broadband 87.5÷108 MHz
- Demountable
- Vertical or Horizontal polarization
- Stainless steel AISI 304
- Pressurizzable on request

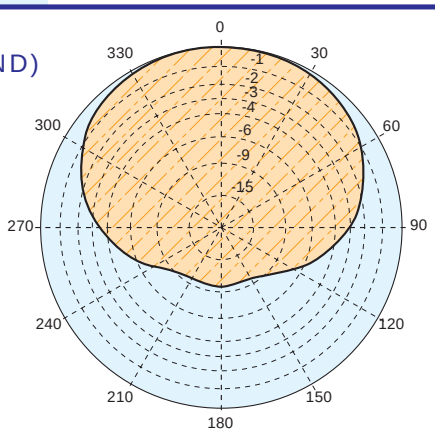
ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800W (N) – 2KW (7/16") – 3.5KW (7/8" EIA)
VSWR	≤ 1.3:1
Polarization	Horizontal or Vertical
Gain	2.5 dB (refered to half-wave dipole)
Half power beam width	E plane ± 32° H plane ± 80°
Lightning protection	All metal parts DC grounded

MECHANICAL DATA	
Dimensions	1740x1100x180 mm
Weight	11.5 kg with hardware mounting
Wind surface	0.14 m^2
Wind load	20.1 kg (wind speed at 160 km/h – without radome)
Max wind velocity	200 km/h.
Materials	External parts: stainless steel Internal parts: passivated aluminium Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)

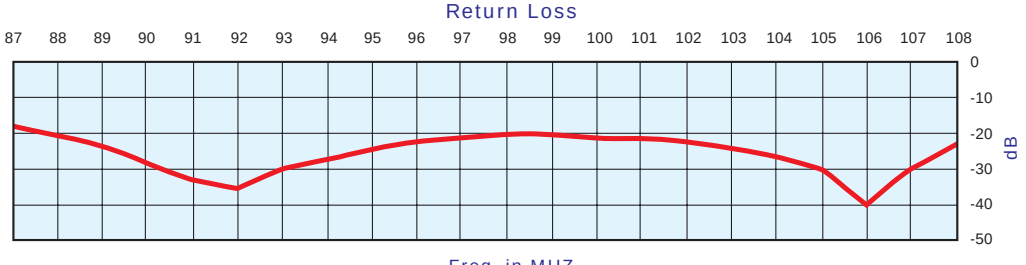


E-Plane



H-Plane

Return Loss



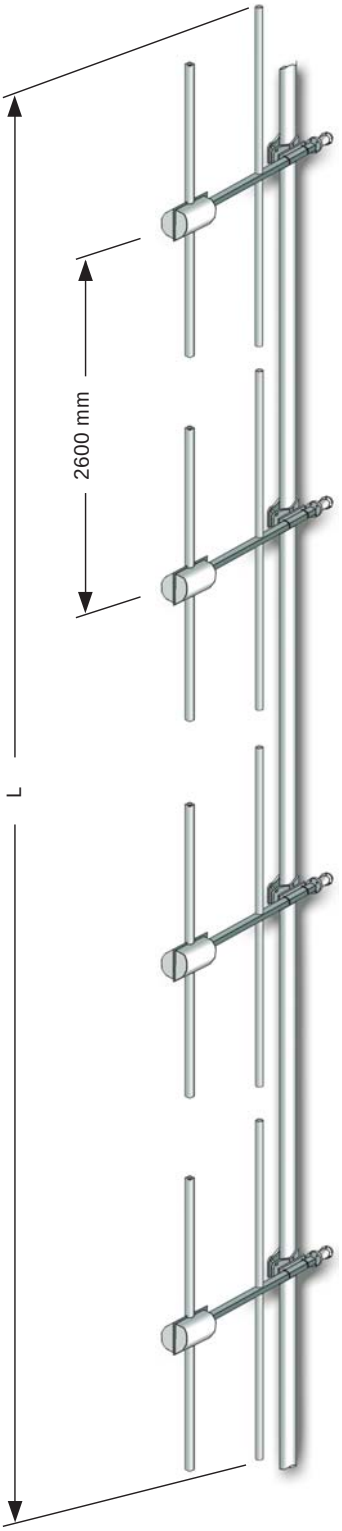
Freq. in MHZ

"These specifications are subject to change without notice"

Model AJ2

Radiations systems with AJ2 yagi antenna

Directional pattern



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.3:1 Max
Polarization	Horizontal or Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg
		dB	times			
2	1	5.5	3.5	23	4.4	40.2
4	1	8.5	7.1	46	9.6	80.4
6	1	10.3	10.7	69	14.8	120.6
8	1	11.5	14.2	92	20.0	160.8
12	1	13.3	21.4	138	30.5	241.2

[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AJ2FENA

BROADBAND COST EFFECTIVE DIPOLE
LOW WEIGHT HIGHT PERFORMANCE

- Model AJ2FENA
- Band II dipole
- Broadband 87.5÷108 MHz
- 2 dBd gain
- Vertical polarization
- Omni directional pattern
- Aluminium anticorodal

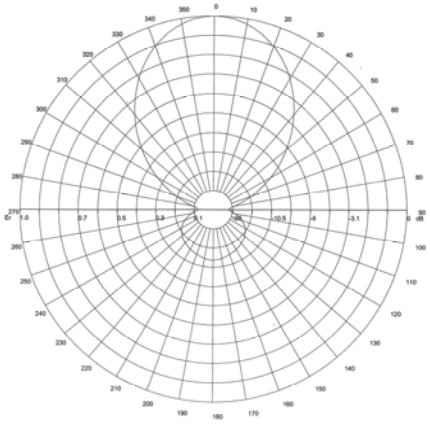
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N – 7/16 female – 7/8 EIA
Max Power	800W (N) – 2KW (7/16" - 7/8" EIA)
VSWR	≤ 1.35:1
Polarization	Vertical
Gain	3,32 dB (referred to half-wave dipole) at 98 MHz
Pattern	Omni directional ± 1.5 dB in free space Omni directional ± 3 dB with 100mm diameter pole
Lightning protection	All metal parts DC grounded

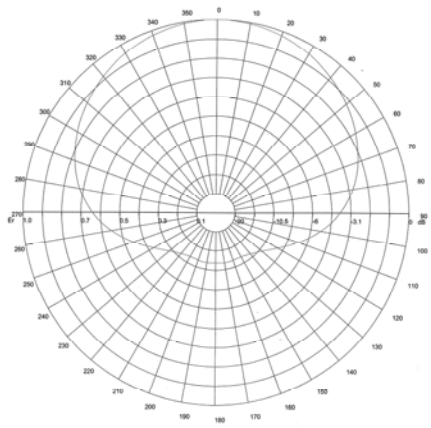
MECHANICAL DATA

Dimensions	1915x885x70 mm
Weight	5 kg with hardware mounting
Wind surface	0.17m2
Wind load	21.0 kg (wind speed at 160 km/h – without radome)
Max wind velocity	220 km/h.
Materials	External parts: Aluminium anticorodal Internal parts: brass Radome: fiberglass (optional)
Icing protection	Feed point radome (optional)
Radome (optional)	Color white
Mounting	With special pipe clamps 40÷110 mm diameter

RADIATION PATTERN (MID BAND)

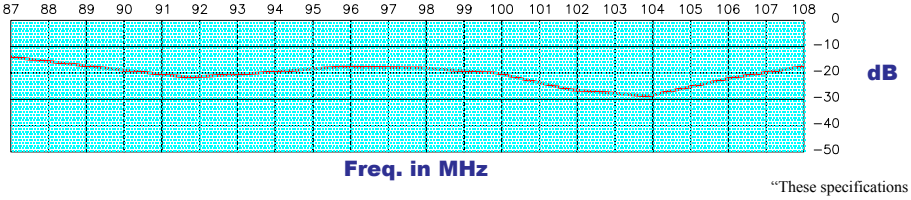


E-plane



H-plane

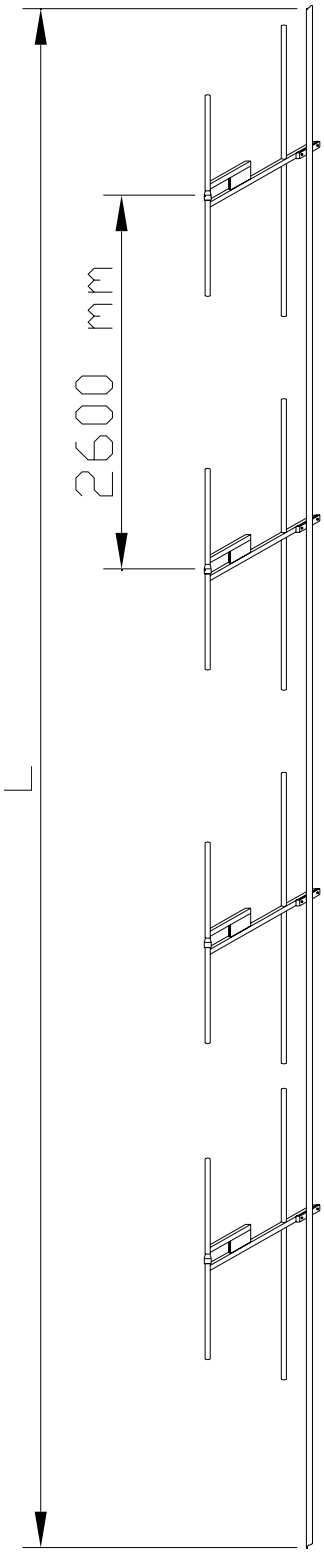
Return Loss



"These specifications are subject to change without notice"

Broad Band Cost Effective Antenna Systems with the AJ2FENA

Omni - directional pattern



ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.35:1 Max
Polarization	Vertical
Gain	According to requirement
Horizontal pattern	Any type according to the customer requirements
Vertical pattern	Null fill, beam tilt and special requirements on demand
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg
		dB	times			
1	1	2.0	1.6	4	1.4	9.8
2	1	5.0	3.2	8	4.0	19.6
4	1	8.0	6.3	16	9.2	39.2
6	1	9.8	9.5	24	14.4	58.8
8	1	11.0	12.7	32	19.6	78.4

[1] Referred to half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] Systems comprise: antennas, cables and splitter – for more details look on catalog – different versions on demand

- Gain is provided for vertical polarisation.
- When antenna is pole mounted on the top of a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing are provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- A length of five ft(1.6mt) of pipe is required above the top bay and below the bottom bay to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

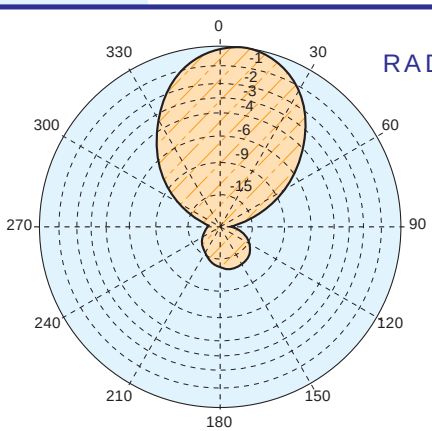
Model AJ3

- Band II
- Broadband 87.5÷108 MHz
- Demountable
- Vertical or Horizontal polarization
- Stainless steel AISI 304
- Pressurizzable on request

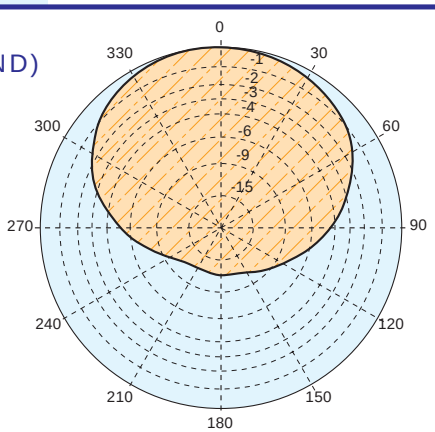
ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800W (N) – 2KW (7/16") – 3.5KW (7/8" EIA)
VSWR	≤ 1.35:1
Polarization	Horizontal or Vertical
Gain	4.0 dB (refered to half-wave dipole)
Half power beam width	E plane ± 32° H plane ± 68°
Lightning protection	All metal parts DC grounded

MECHANICAL DATA	
Dimensions	1540x1780x180 mm
Weight	13.5 kg with hardware mounting
Wind surface	0.18 m^2
Wind load	26.7 kg (wind speed at 160 km/h – without radome)
Max wind velocity	200 km/h.
Materials	External parts: stainless steel Internal parts: passivated aluminium Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)

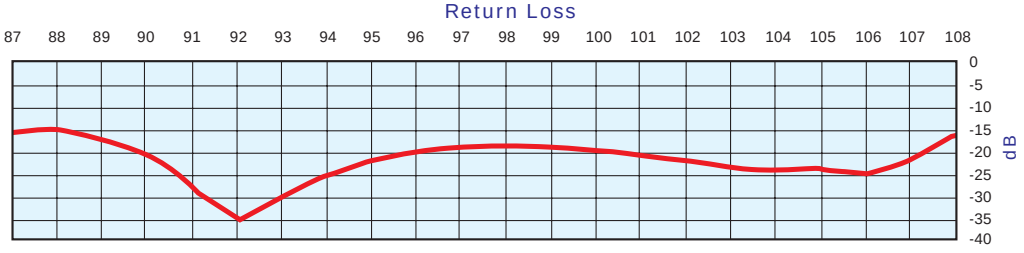


E-Plane



H-Plane

Return Loss



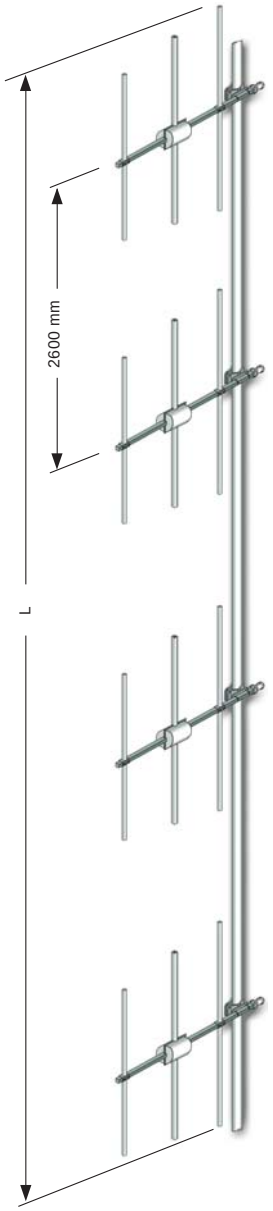
Freq. in MHZ

"These specifications are subject to change without notice"

Model AJ3

Radiations systems with AJ3 yagi antenna

Directional pattern



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.3:1 Max
Polarization	Horizontal or Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg	COLLINEARS SYSTEMS[3]			
		dB	times				2 KW	4 KW	6 KW	10 KW
2	1	7.0	5.0	27	4.4	53.4	AJ3X22	AJ3X24	AJ3X26	-
4	1	10.0	10.0	54	9.6	106.8	AJ3X42	AJ3X44	AJ3X46	AJ3X410
6	1	11.8	15.0	81	14.8	160.2	AJ3X62	AJ3X64	-	AJ3X610
8	1	13.0	20.0	108	20.0	213.6	AJ3X82	AJ3X84	AJ3X86	AJ3X810
12	1	14.8	30.1	138	30.5	320.4	-	-	-	-

[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] The systems comprised: antennas, cables and splitter – for more details to see catalog – different version on request.

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model : AJ3FEN

- **Band II**
- **Broadband 87.5÷108 MHz**
- **Vertical polarization (special version horizontal a request)**
- **Hot dip galvanized steel**

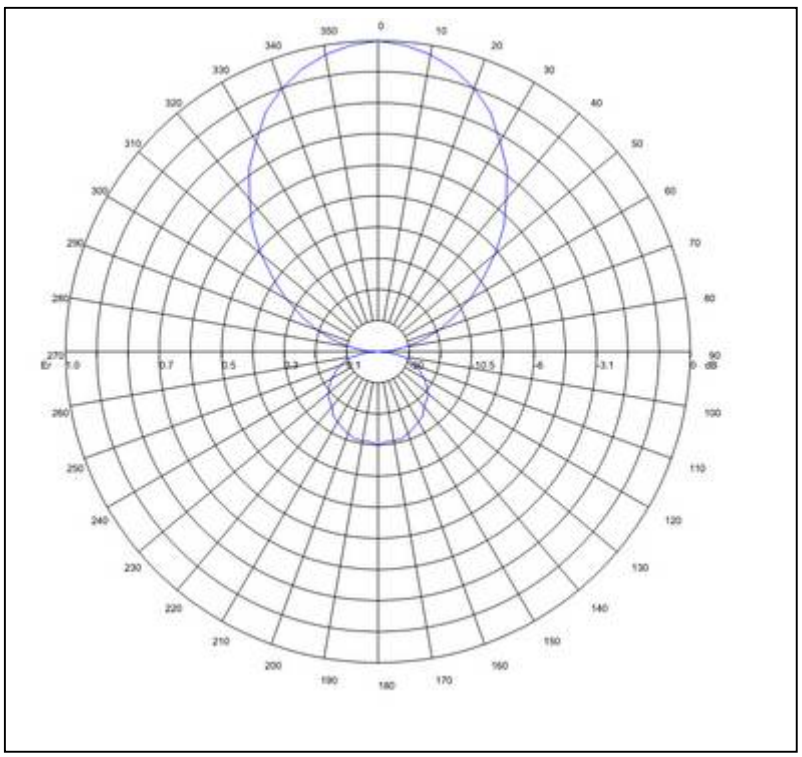
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800 W (N) single carrier 2 KW (7/16") single carrier 3 KW (7/8" EIA) single carrier
VSWR	≤ 1.35:1
Polarization	Horizontal or Vertical
Gain at 98mhz.	3.8 dB (referred to half-wave dipole)
Half power beam width	E plane ± 35° H plane ± 75°
Lightning protection	All metal parts DC grounded

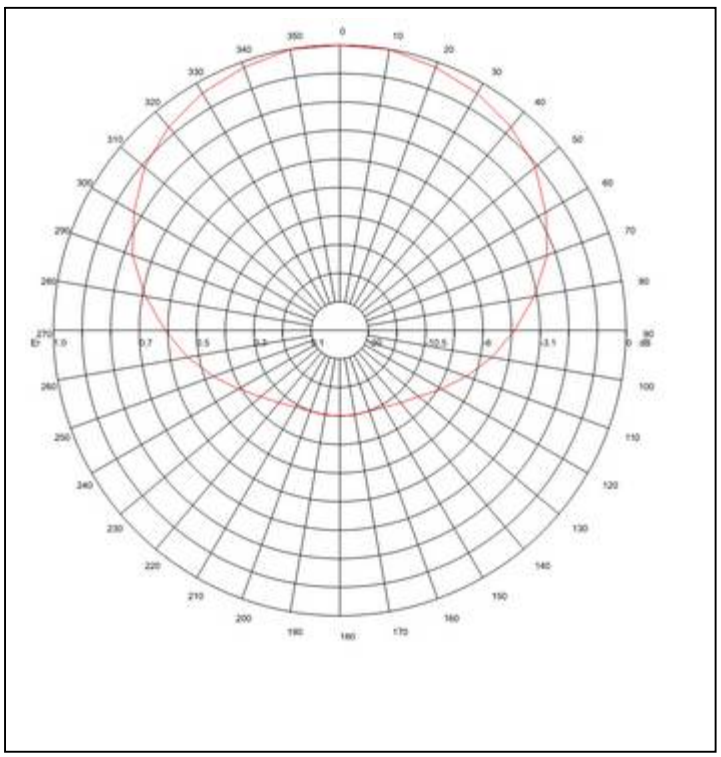
MECHANICAL DATA

Dimensions	1460x1800x180 mm
Weight	13 Kg with hardware mounting
Wind surface	0.19 m^2
Wind load	27 Kg (wind speed at 160 km/h – without radome)
Max wind velocity	200 Km/h
Materials	External parts: hot dip galvanized steel Internal parts: aluminium treated Radome : fiberglass (option)
Icing protection	Feed point radome
Radome color	White (optional)
Mounting	With special pipe clamps 50 ÷ 110 mm dia.

RADIATION PATTERN (MID BAND)

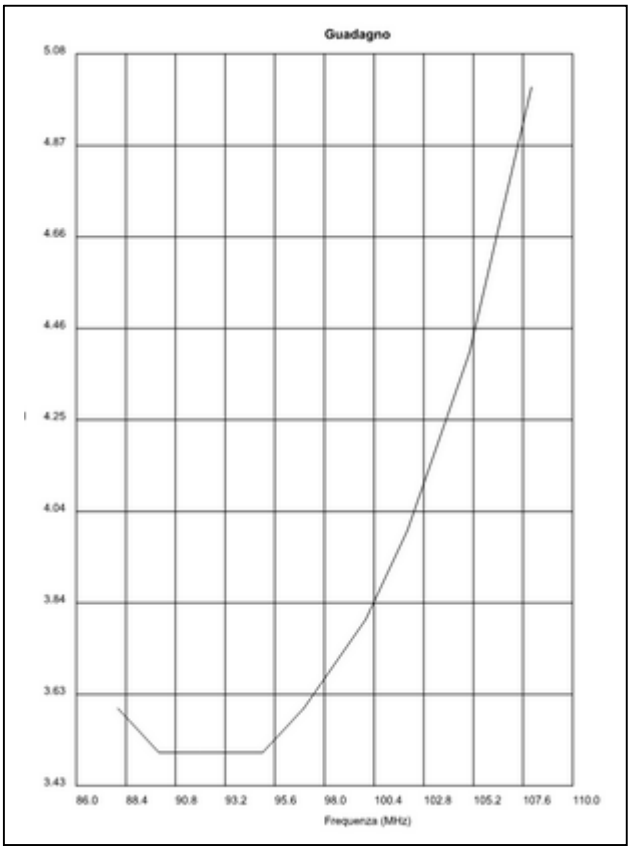


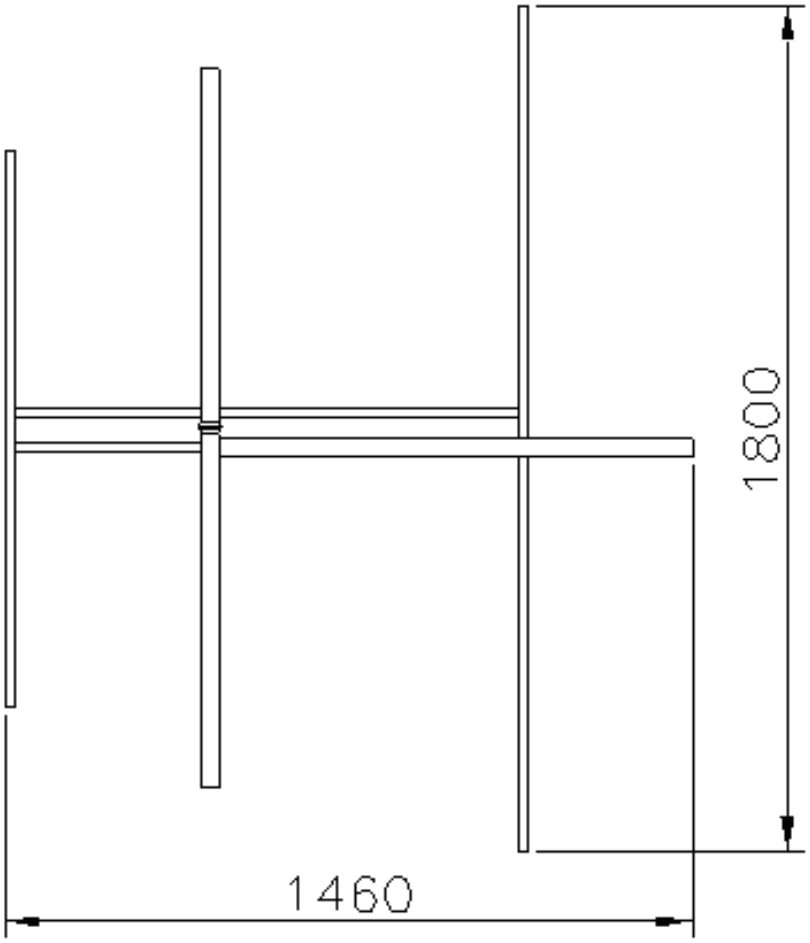
E- PLANE



H- PLANE

DIMENSIONS

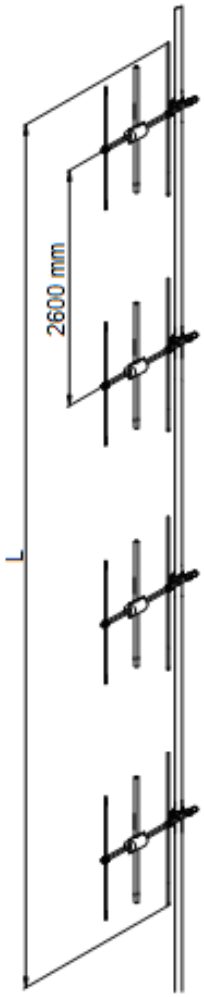

Guadagno
5.08
4.87
4.66
4.46
4.25
4.04
3.84
3.63
3.43
86.0
88.4
90.8
93.2
95.6
98.0
100.4
102.8
105.2
107.6
110.0
Frequenza (MHz)


1800
1460


Return Loss
87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108
0
-5
-10
-15
-20
-25
-30
-35
-40
dB
Freq. in MHZ

Radiations systems with AJ3FEN Yagi antenna

Directional pattern



ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.35:1 Max
Polarization	Horizontal or Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome colour	White (optional)
Mounting hardware	Hot dip galvanized steel clamps (option)
Shipping	As required

TECHNICAL DATA

Number of bays	Dipoles per bay	Gain[1]		Weight[2]	Antenna height L	Wind load (v=160 km/h)	COLLINEARS SYSTEMS[3]			
		dB	times	kg	m	kg	2KW	4KW	6KW	10KW
2	1	6.8	5	27	4.4	53.4	AJ3FENX22	AJ3FENX24	AJ3FENX26	-
4	1	9.8	10	54	9.6	106.8	AJ3FENX42	AJ3FENX44	AJ3FENX46	AJ3FENX410
6	1	11.6	15	81	14.8	160.2	AJ3FENX62	AJ3FENX64	-	AJ3FENX610
8	1	12.8	20	108	20.0	213.6	AJ3FENX82	AJ3FENX84	AJ3FENX86	AJ3FENX810
12	1	14.6	30	138	30.5	320.4	-	-	-	-

[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account..
[2] without mounting hardware
[3] the systems comprised: antennas, cables and splitter – for more details to see catalogue – different version on request

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

Model : AJ4

- **Band II**
- **Broadband 87.5÷108 MHz**
- **Demountable**
- **Vertical or Horizontal polarization**
- **Stainless steel AISI 304**
- **Pressurizzable on request**

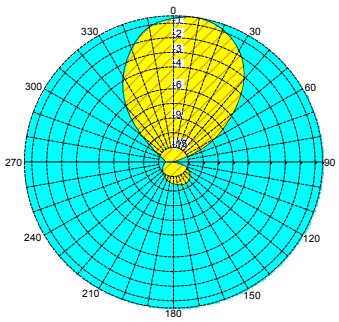
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800W (N)–2KW (7/16")–3.5KW (7/8" EIA)
VSWR	≤ 1.35:1
Polarization	Horizontal or Vertical
Gain	5.0 dB (referred to half-wave dipole)
Half power beam width	E plane ± 30° H plane ± 62°
Lightning protection	All metal parts DC grounded

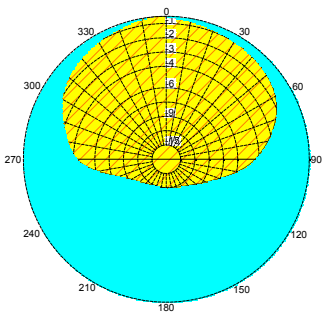
MECHANICAL DATA

Dimensions	1786x1740x180 mm
Weight	16.5 Kg with hardware mounting
Wind surface	0.21 m^2
Wind load	31.1 Kg (wind speed at 160 km/h – without radome)
Max wind velocity	200 Km/h
Materials	External parts: stainless steel Internal parts: passivated aluminium Radome : fiberglass (option)
Icing protection	Feed point radome (optional)
Radome color	White (optional)
Mounting	With special pipe clamps 50 ÷ 110 mm dia.

RADIATION PATTERN (MID BAND)

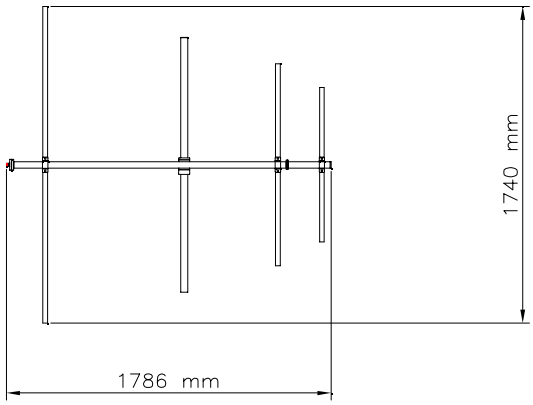


E-plane

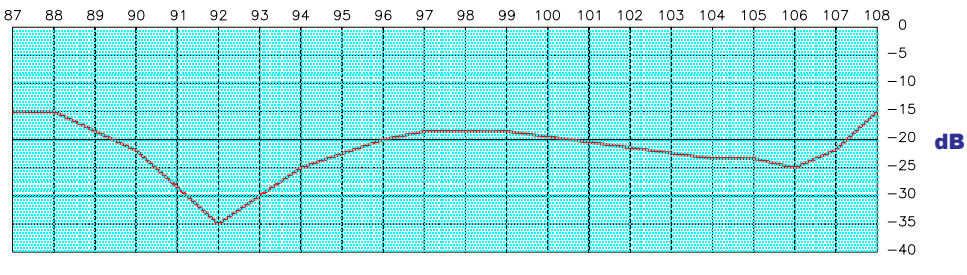


H-plane

DIMENSIONS

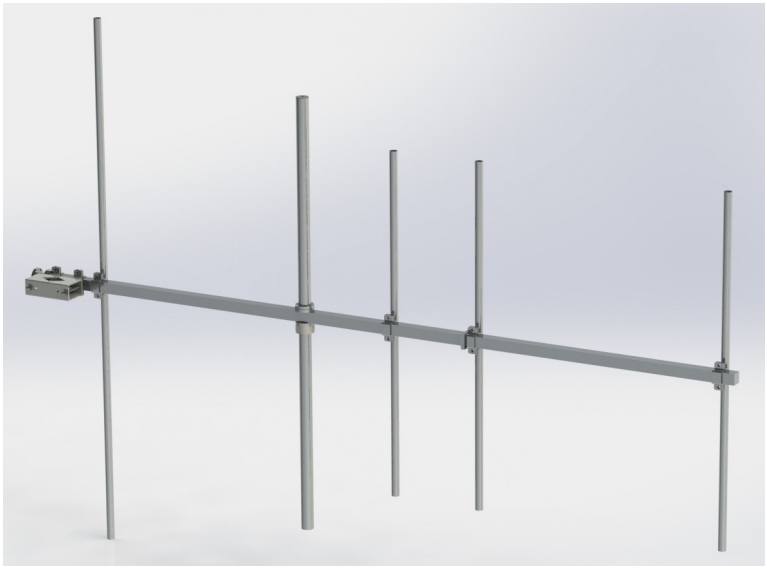


Return Loss



Freq. in MHz

Model : AJ5



- **Band II**
- **Broadband 87.5÷108 MHz**
- **Demountable**
- **Vertical or Horizontal polarization**
- **Stainless steel AISI 304**
- **Pressurizzable on request**

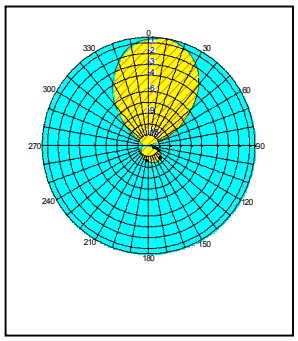
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800W (N)–2KW (7/16")–3.5KW (7/8" EIA)
VSWR	≤ 1.40:1
Polarization	Horizontal or Vertical
Gain	6.0 dB (referred to half-wave dipole)
Half power beam width	E plane ± 30° H plane ± 52°
Lightning protection	All metal parts DC grounded

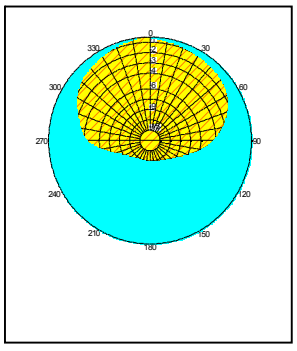
MECHANICAL DATA

Dimensions	2000x1740x180 mm
Weight	17.5 Kg with hardware mounting
Wind surface	0.25 m^2
Wind load	35.1 Kg (wind speed at 160 km/h – without radome)
Max wind velocity	200 Km/h
Materials	External parts: stainless steel Internal parts: passivated aluminium Radome : fiberglass (option)
Icing protection	Feed point radome (optional)
Radome color	White (optional)
Mounting	With special pipe clamps 50 ÷ 110 mm dia.

RADIATION PATTERN (MID BAND)

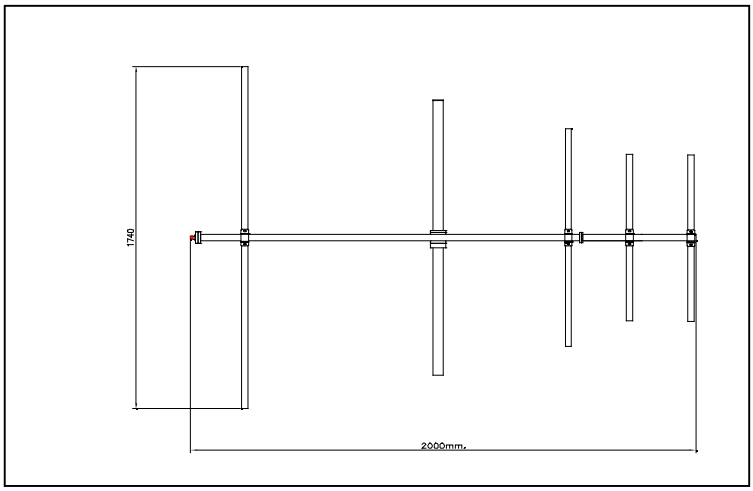


E-plane

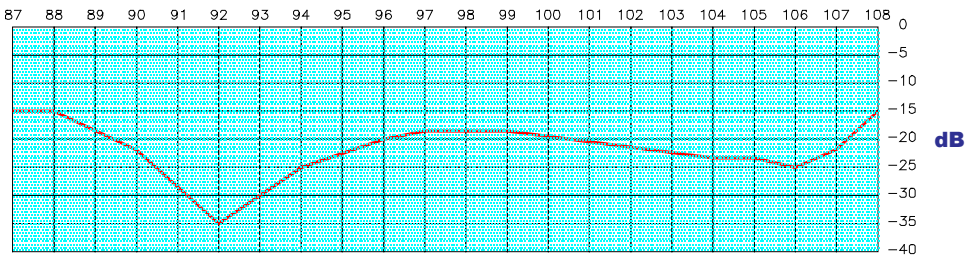


H-plane

DIMENSIONS



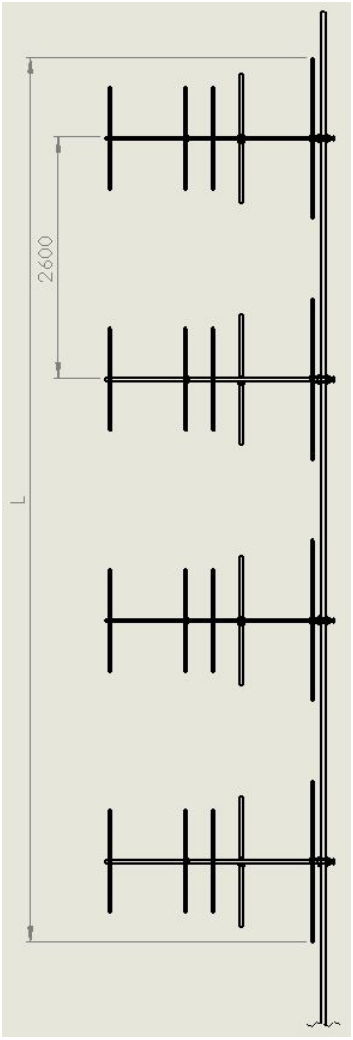
Return Loss



Freq. in MHz

Radiations systems with AJ5 Yagi antenna

Directional pattern



ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.40:1 Max
Polarization	Horizontal or Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome colour	White (optional)
Mounting hardware	Hot dip galvanized steel clamps (option)
Shipping	As required

TECHNICAL DATA

Number of bays	Dipoles per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg	COLLINEARS SYSTEMS[3]			
		dB	times				2KW	4KW	6KW	10KW
2	1	9.0	7.9	31	4.4	61.4	AJ5X22	AJ5X24	AJ5X26	-
4	1	12.0	15.8	62	9.6	122.8	AJ5X42	AJ5X44	AJ5X46	AJ5X410
6	1	13.8	24	93	14.8	184.2	AJ5X62	AJ5X64	-	AJ5X610
8	1	15.0	31.6	124	20.0	250.6	AJ5X82	AJ5X84	AJ5X86	AJ5X810
12	1	16.8	47.8	162	30.5	368.4	-	-	-	-

[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account..
[2] without mounting hardware
[3] the systems comprised: antennas, cables and splitter – for more details to see catalogue – different version on request

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

Model : AJ5FEN
AJ5FENA

- **Band II**
- **Broadband 87.5÷108 MHz**
- **Vertical polarization (special version horizontal upon request)**
- **Hot dip galvanized steel version or aluminium version**
- **Demountable**

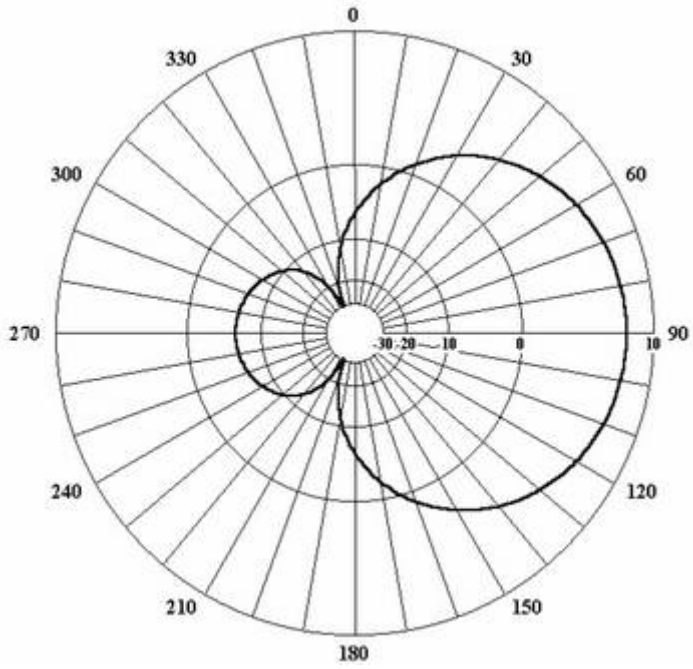
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800 W (N) single carrier 2 KW (7/16") single carrier 3 KW (7/8" EIA) single carrier
VSWR	≤ 1.25:1
Polarization	Horizontal or Vertical
Gain at 98mhz.	6 dB average (referred to half-wave dipole)
Half power beam width	E plane ± 28° H plane ± 40°
Lightning protection	All metal parts DC grounded

MECHANICAL DATA

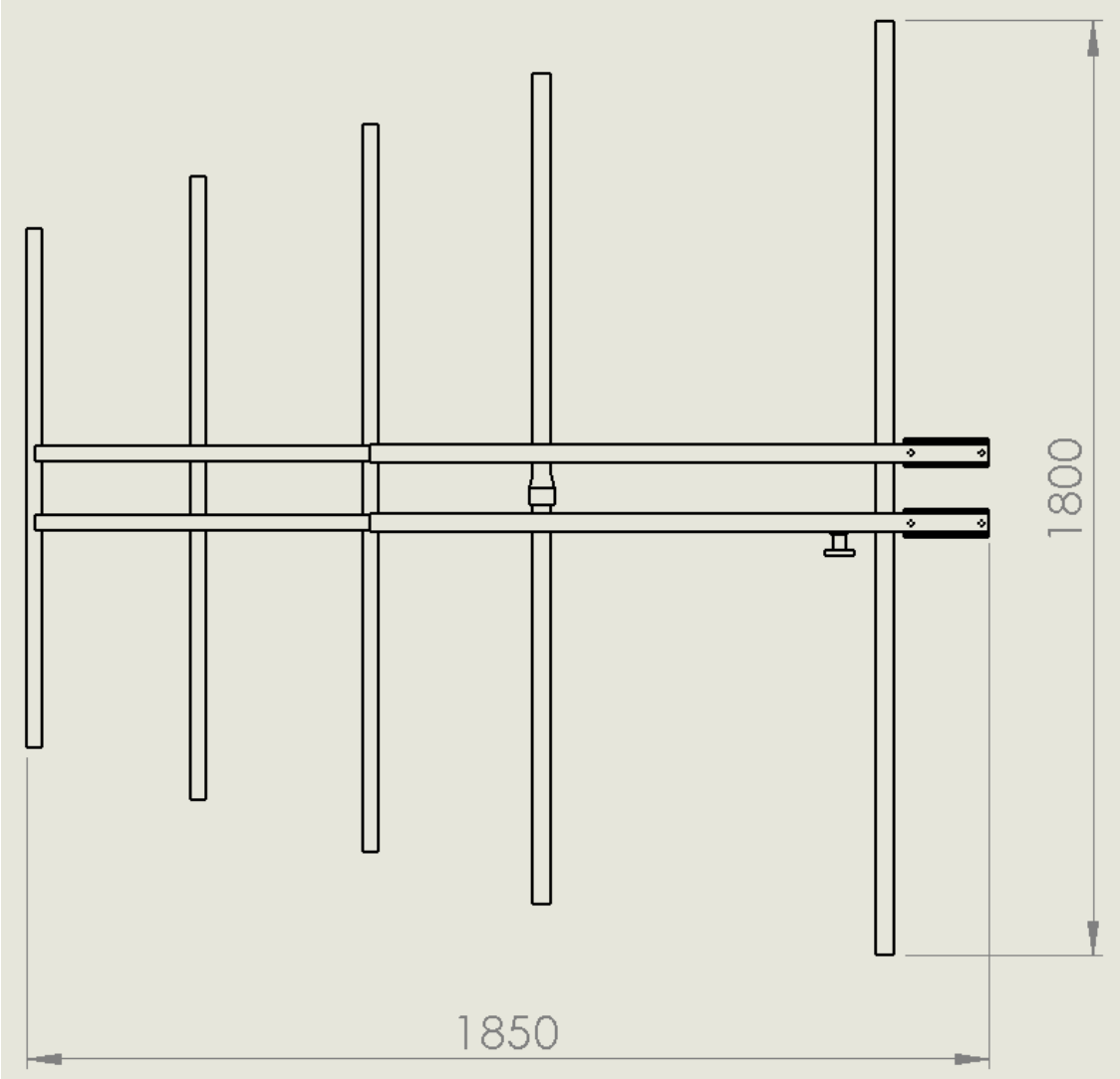
Dimensions	1850x1800x130 mm
Weight	18 Kg Approx. (hot dip galvanized version without hardware mounting) 8 Kg Approx. (aluminium version without hardware mounting)
Wind surface	0.35 m^2 Approx.
Wind load	74 Kg approx. (wind speed at 160 km/h – without radome)
Max wind velocity	200 Km/h
Materials	External parts: hot dip galvanized steel Internal parts: aluminium treated Radome : fibreglass (option)
Icing protection	Feed point radome (optional)
Radome color	White (optional)
Mounting	With special pipe clamps 50 ÷ 110 mm dia.

RADIATION PATTERN (MID BAND)



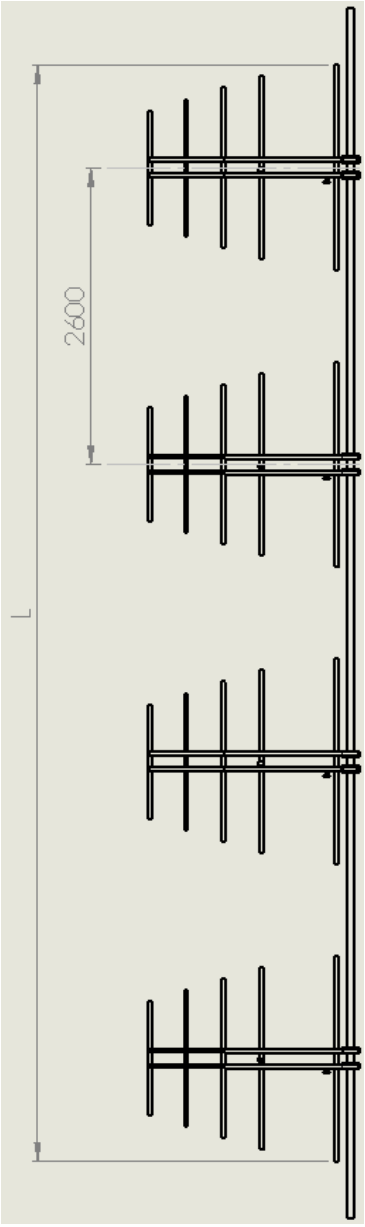
E- PLANE

DIMENSIONS (mm)



Radiation systems with AJ5FEN-AJ5FENA Yagi antenna

Directional pattern



ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.25:1 Max
Polarization	Horizontal or Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome colour	White (optional)
Mounting hardware	Hot dip galvanized steel clamps (option)
Shipping	As required

TECHNICAL DATA

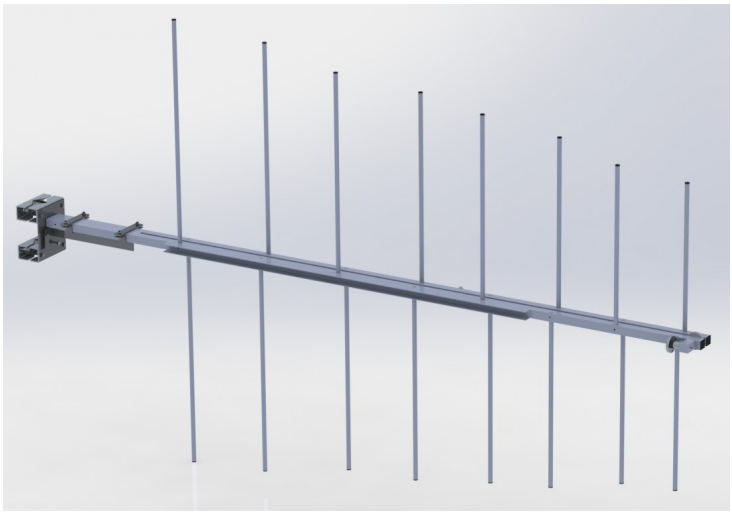
Number of bays	Dipoles per bay	Gain[1]		Weight[2]	Antenna height L	Wind load (v=160 km/h)	COLLINEARS SYSTEMS[3]			
		dB	times	kg	m	kg	2KW	4KW	6KW	10KW
2	1	9.5	8.9	36^{2A}-8^{2B}	4.4	148	AJ5FENX22	AJ5FENX24	AJ5FENX26	-
4	1	12.5	17.7	72^{2A}-32^{2B}	9.6	296	AJ5FENX42	AJ5FENX44	AJ5FENX46	AJ5FENX410
6	1	14.3	26.9	108^{2A}-48^{2B}	14.8	444	AJ5FENX62	AJ5FENX64	-	AJ5FENX610
8	1	15.5	35.4	144^{2A}-64^{2B}	20.0	592	AJ5FENX82	AJ5FENX84	AJ5FENX86	AJ5FENX810
12	1	17.3	53.7	216^{2A}-96^{2B}	30.5	888	-	-	-	-

[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] without mounting hardware – [2A] hot dip galvanized steel version – [2B] aluminium version.
[3] the systems comprised: antennas, cables and splitter – for more details to see catalogue – different version on request

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

Models: LGPRD-LGPRD/I-LGPRD/S

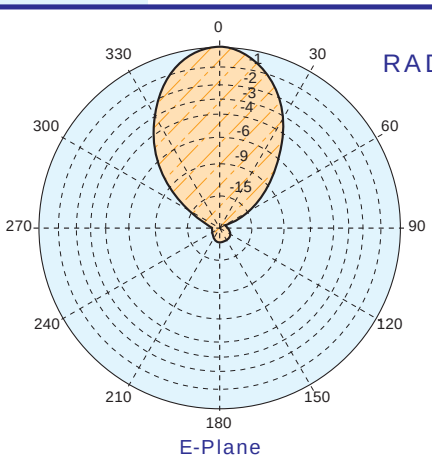
- Band II
- Broadband 87.5÷108 MHz
- Demountable
- Vertical or Horizontal polarization



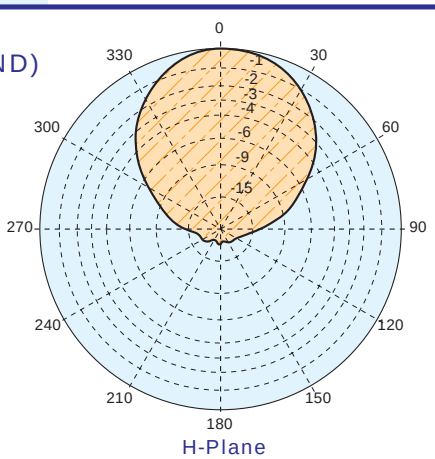
ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800W (N) – 2KW (7/16") – 2.5KW (7/8" EIA)
VSWR	≤ 1.4:1
Polarization	Horizontal or Vertical
Gain	7.0 dB (refered to half-wave dipole)
Half power beam width	E plane ± 30° H plane ± 45°
Lightning protection	All metal parts DC grounded

MECHANICAL DATA	
Dimensions	2600x1680x150 mm
Weight	15.0 kg
Wind surface	0.27 m^2
Wind load	41 kg (wind speed at 160 km/h)
Max wind velocity	140 km/h.
Materials	LGPRD: Aluminium LGPRD/I: Stainless steel LGPRD/S: Welded version
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)

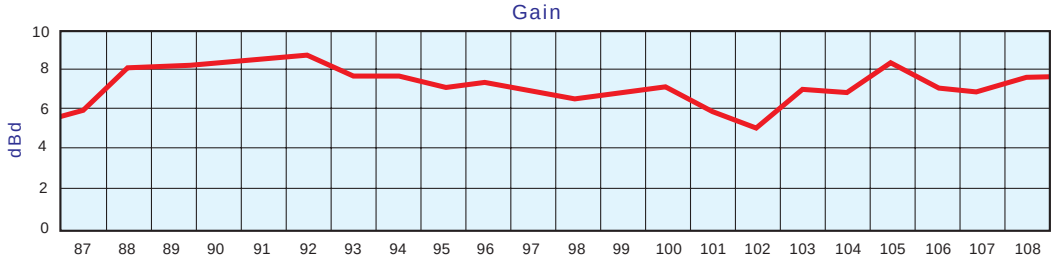


E-Plane



H-Plane

Gain



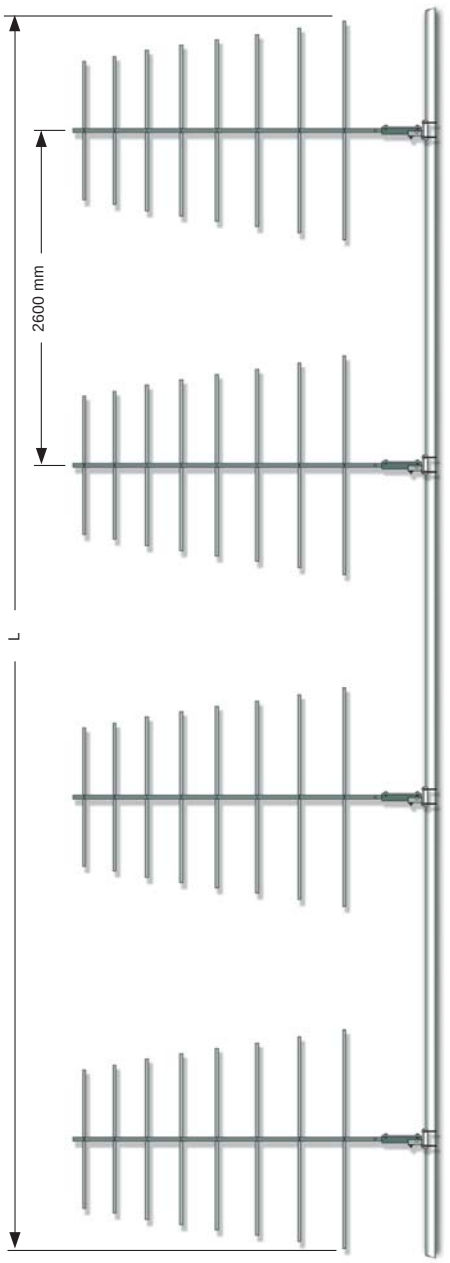
Freq. in MHZ

"These specifications are subject to change without notice"

Models: LGPRD-LGPRD/I-LGPRD/S

Radiations systems with LGPRD yagi antenna

Directional pattern



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.4:1 Max
Polarization	Horizontal or Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg
		dB	times			
2	1	10.0	10.0	30	4.3	82.0
4	1	13.0	20.0	60	9.5	164.0
6	1	14.8	30.0	90	14.7	246.0
8	1	16.0	40.0	120	20.0	328.0
12	1	17.8	60.0	180	30.3	492.0

[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model: LGPRDSPEC

- **Band II**
- **Broadband 87.5÷108 MHz**
- **Demountable (Welding option)**
- **Vertical or Horizontal polarization**

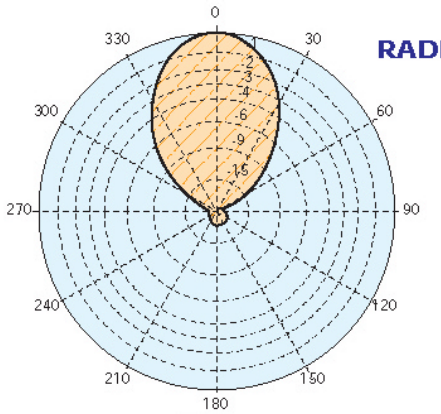
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800W (N) – 1200W (7/16" – 7/8" EIA)
VSWR	≤ 1.35:1
Polarization	Horizontal or Vertical
Gain	5 dB (referred to half-wave dipole)
Half power beam width	E plane ± 37° H plane ± 60°
Lightning protection	All metal parts DC grounded

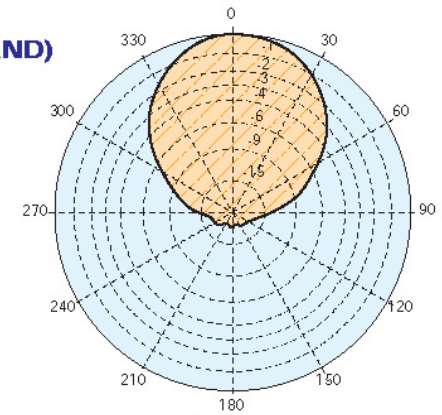
MECHANICAL DATA

Dimensions	2240x1470x40 mm (88.2x57.9x1.6 inch)
Weight	7 Kg (with clamp)
Wind surface	0.21 m^2
Wind load **Max wind velocity**	31,1 kg (wind speed at 160 km/h) 140 km/h.
Materials	Aluminium
Mounting	With special pipe clamps 50 ÷ 110 mm dia.
Colour	Enamel Gray Ral 7001

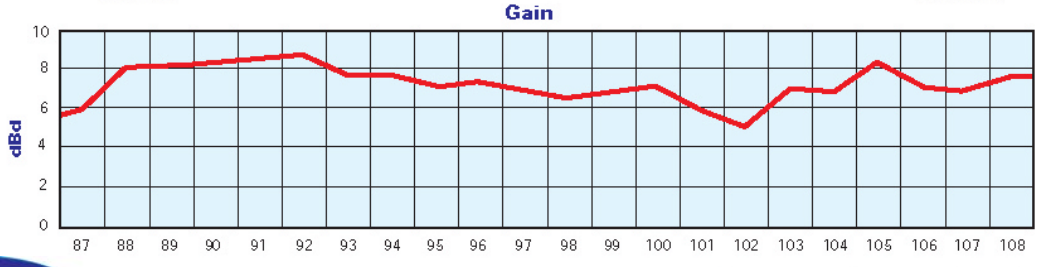
RADIATION PATTERN (MID BAND)



E-Plane



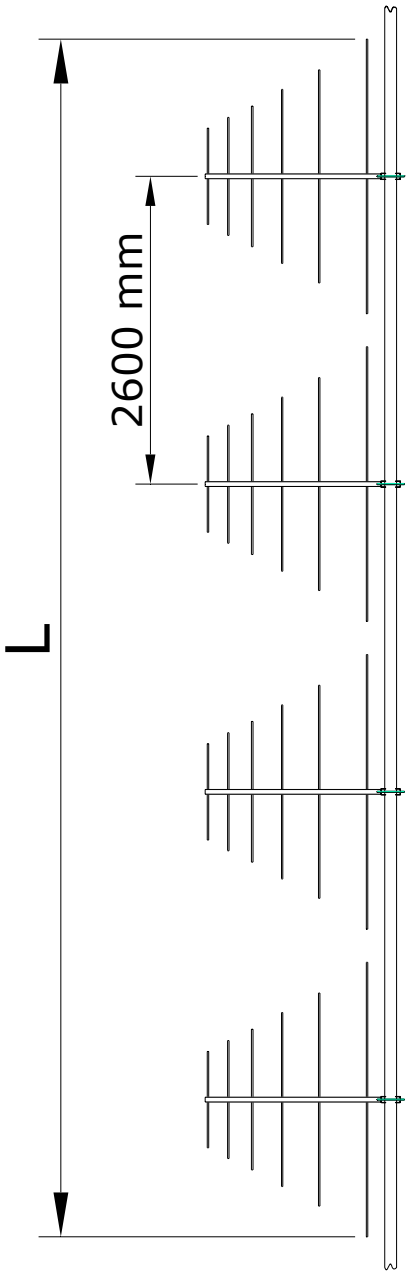
H-Plane



"These specifications are subject to change without notice"

Radiations systems with LGPRDSPEC antenna

Directional pattern

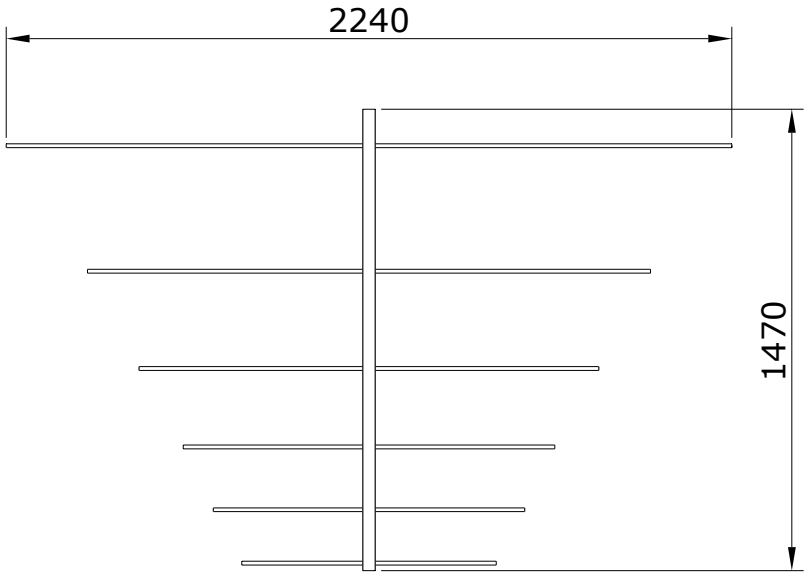


ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.35:1 Max
Polarization	Horizontal or Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account..
[2] without mounting hardware

DIMENSIONS



- Gain is provided for vertical polarisation.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

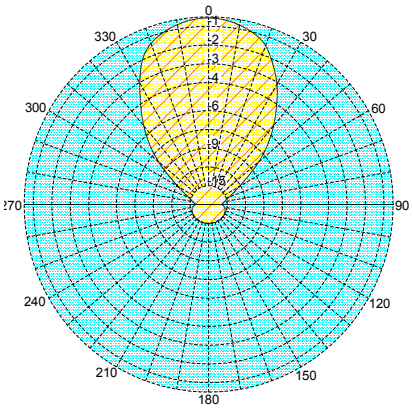
Model: DPA10

- **Band II panel**
- **Broadband 87.5÷108 MHz**
- **Demountable**
- **Vertical or Horizontal polarization**
- **Stainless steel AISI 304**
- **Directional pattern**

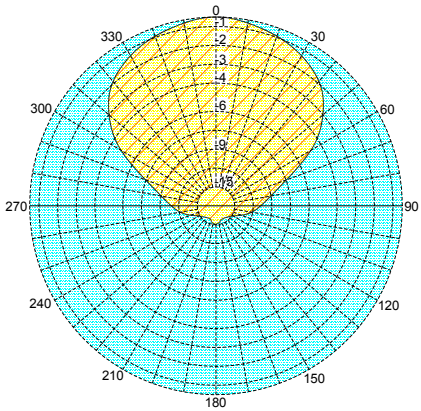
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	7/8" EIA
Max Power	5KW (7/8" EIA)
VSWR	≤ 1.25:1
Polarization	Horizontal or Vertical
Gain	4.5 dB (refered to half-wave dipole)
Half power beam width	E plane ± 32° H plane ± 58°
Lightning protection	All metal parts DC grounded

Dimensions	1400x1000x2000 mm
Weight	32 Kg ref. stainless steel
Wind surface	0.13 m^2 (side) 0.56 m^2 (front)
Wind load **Max wind velocity**	108 kg (front - wind speed at 160 km/h) 200 km/h.
Materials	Reflector: hot dip. galvanized Dipole: stainless steel Internal parts: passivated aluminium Radome: fiberglass
Icing protection	Feed point radome (optional)
Radome color	White (optional)
Mounting	With special pipe clamps 50 ÷ 110 mm dia.

RADIATION PATTERN (MID BAND)

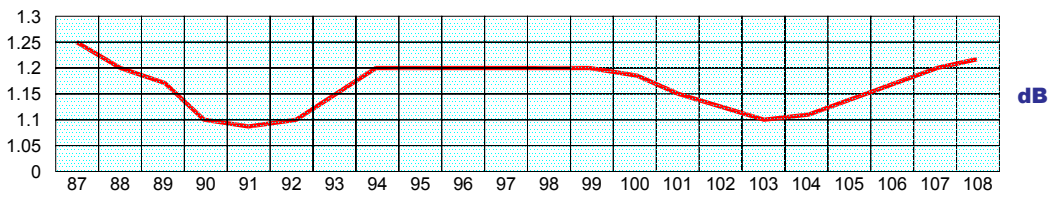


E-plane



H-plane

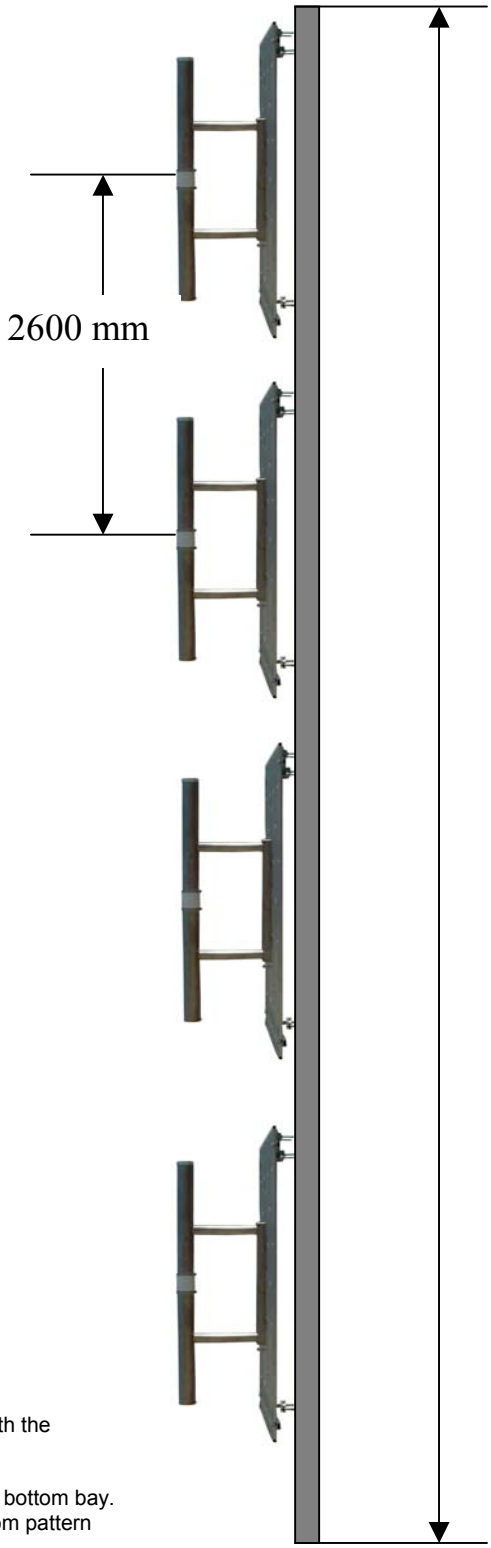
VSWR



Freq. in MHz

Radiations systems with DPA10 antenna

Directional pattern



ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.25:1 Max
Polarization	Horizontal or Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome colour	White (optional)
Mounting hardware	Hot dip galvanized steel clamps (option)
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg
		dB	times			
2	1	7.5	5.6	64	4.6	216
4	1	10.5	11.3	128	9.8	432
6	1	12.3	16.9	192	15.0	678
8	1	13.5	22.5	256	20.2	864
12	1	15.3	33.8	384	30.6	1296

[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account..
[2] without mounting hardware
[3] the systems comprised: antennas, cables and splitter – for more details to see catalog different version on request

- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

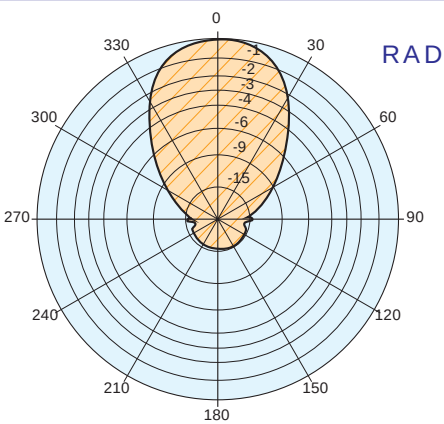
Model DPA1

- Band II panel
- Broadband 87.5÷108 MHz
- Demountable
- Vertical or Horizontal polarization
- Stainless steel AISI 304
- Directional pattern

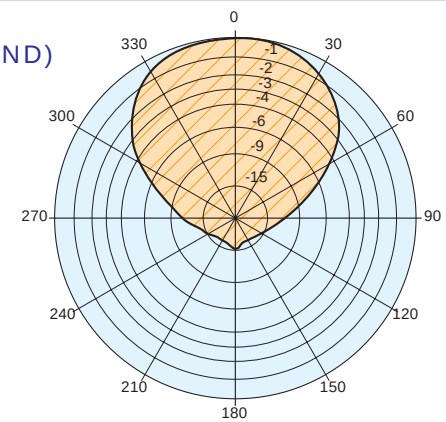
ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800W (N) – 2KW (7/16") – 3.5KW (7/8" EIA)
VSWR	≤ 1.25:1
Polarization	Horizontal or Vertical
Gain	4.5 dB (refered to half-wave dipole)
Half power beam width	E plane ± 38° H plane ± 68°
Lightning protection	All metal parts DC grounded

MECHANICAL DATA	
Dimensions	1400x1000x2000 mm
Weight	32 kg ref. stainless steel
Wind surface	0.13 m^2 (side) 0.56 m^2 (front)
Wind load	108 kg (front - wind speed at 160 km/h)
Max wind velocity	200 km/h.
Materials	Reflector: hot dip. galvanized Dipole: stainless steel Internal parts: passivated aluminium Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)

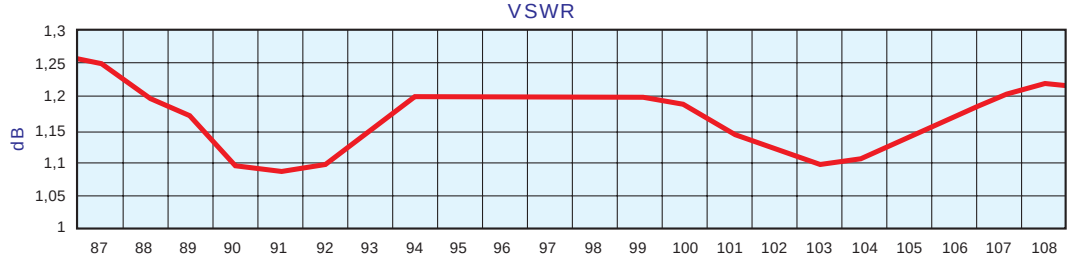


E-Plane



H-Plane

VSWR



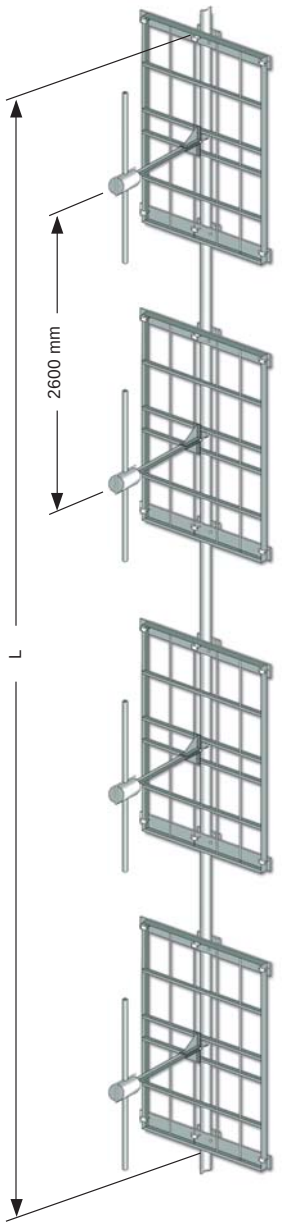
Freq. in MHZ

"These specifications are subject to change without notice"

Model DPA1

Radiations systems with DPA1 antenna

Directional pattern



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.25:1 Max
Polarization	Horizontal or Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Panels per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg	COLLINEARS SYSTEMS[3]			
		dB	times				2 KW	4 KW	6 KW	10 KW
2	1	7.5	5.6	64	4.6	216	DPA1X22	DPA1X24	DPA1X26	-
4	1	10.5	11.3	128	9.8	432	DPA1X42	DPA1X44	DPA1X46	DPA1X410
6	1	12.3	16.9	192	15.0	678	DPA1X62	DPA1X64	-	DPA1X610
8	1	13.5	22.5	256	20.2	864	DPA1X82	DPA1X84	DPA1X86	DPA1X810
12	1	15.3	33.8	384	30.6	1296	-	-	-	-

[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] The systems comprised: antennas, cables and splitter – for more details to see catalog – different version on request.

- Gain is provided for vertical polarization.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model DPA2V

- Band II panel
- Broadband 87.5÷108 MHz
- Demountable
- Vertical polarization
- Directional pattern
- Suitable as a component in various array

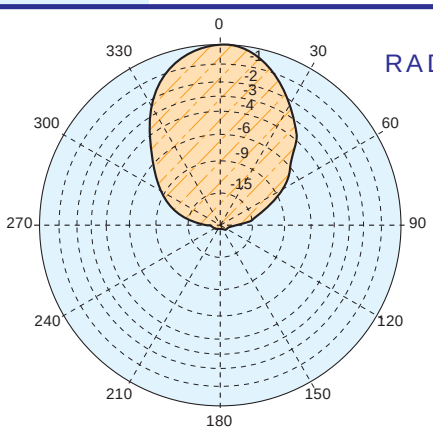
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	Two input connectors Type N or 7/16" or 7/8" EIA
Max Power	2x800W (N) – 2x2KW (7/16") 2x3.5KW (7/8" EIA)
VSWR	≤ 1.35:1
Polarization	Vertical
Gain	7.5 dB (refered to half-wave dipole)
Half power beam width	E plane ± 35° H plane ± 32°
Lightning protection	All metal parts DC grounded

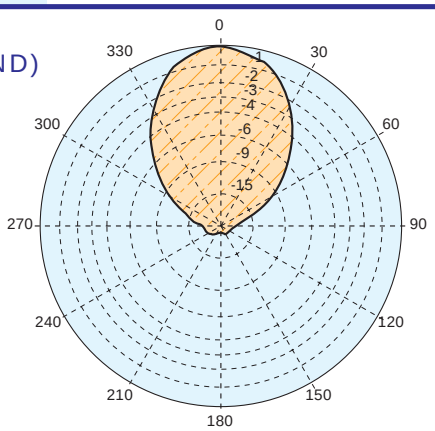
MECHANICAL DATA

Dimensions	2200x2200x1050 mm
Weight	79 kg ref. stainless steel
Wind surface	0.90 m^2 (side) 0.22 m^2 (front)
Wind load	173,7 kg (front - wind speed at 200 km/h)
Max wind velocity	200 km/h.
Materials	Reflector: hot dip. galvanized Dipole: stainless steel Internal parts: passivated aluminium Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)

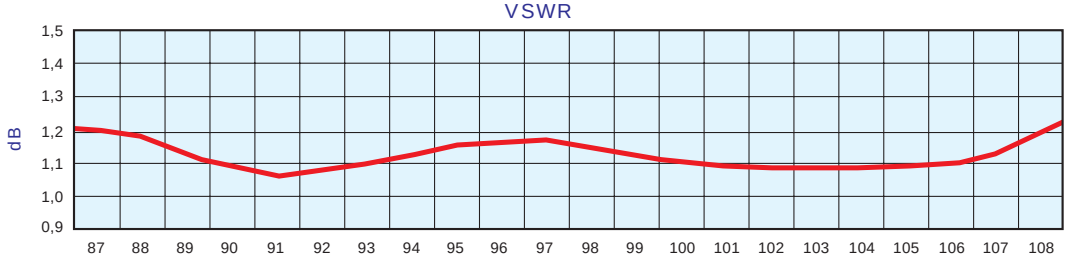


E-Plane



H-Plane

VSWR

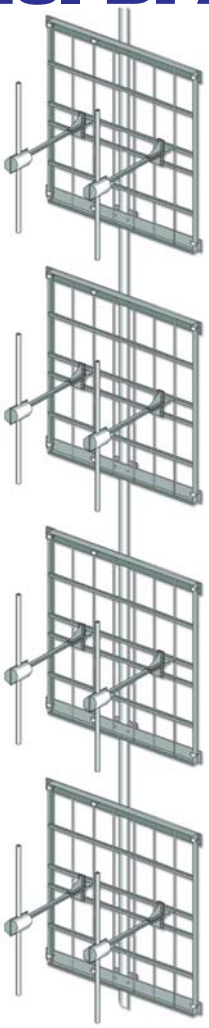


Freq. in MHZ

"These specifications are subject to change without notice"

Model DPA2V

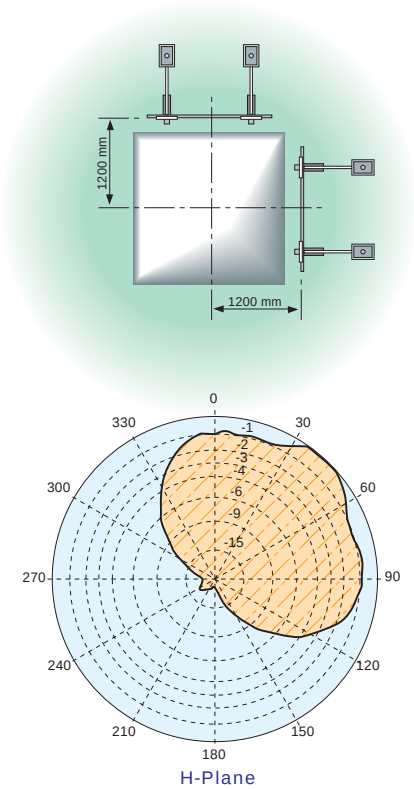
Radiations systems with DPA2V panel
Omnidirectional or directional pattern
Balanced or unbalanced splitting power
High power system
Broadband 87.5÷108 MHz



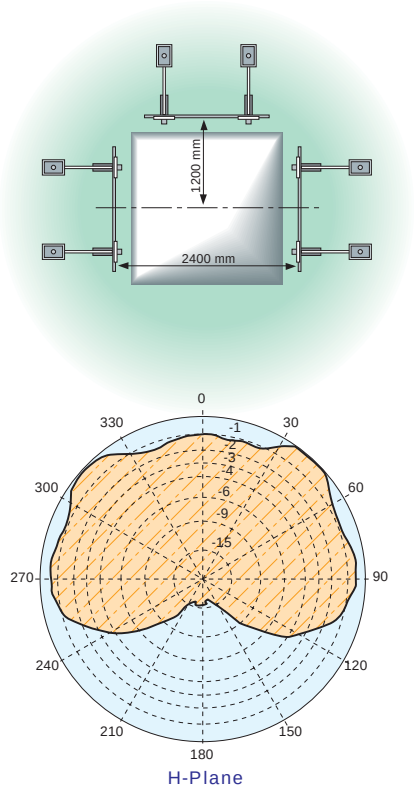
ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.35:1 Max
Polarization	Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

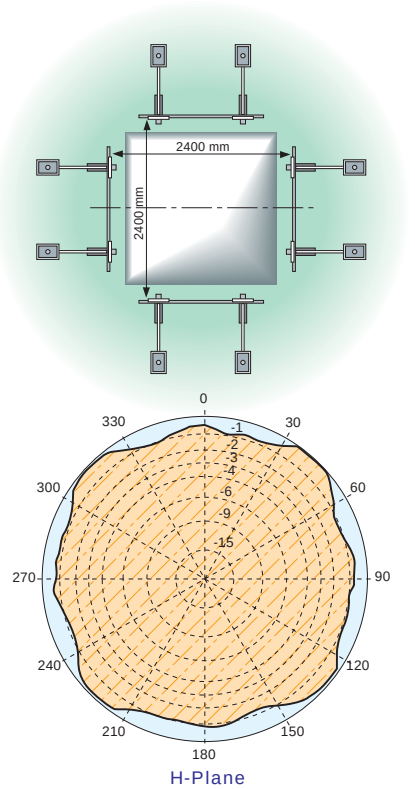
HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 98 MHz



H-Plane



H-Plane



H-Plane

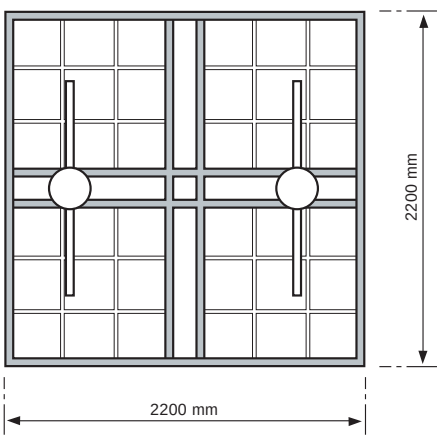
"These specifications are subject to change without notice"

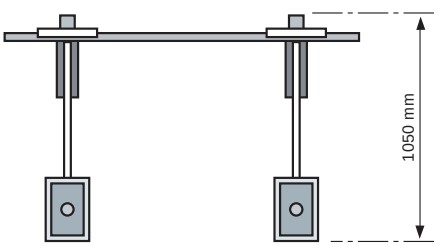
Model DPA2V

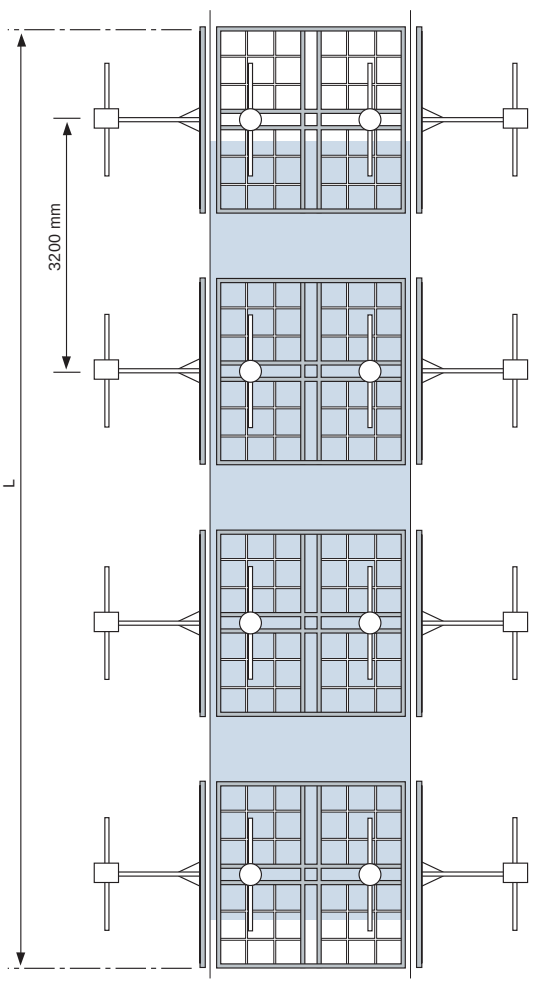
TECHNICAL DATA

Number of bays	Panels per bay	Gain[1] dB	Gain[1] times	Weight[2] kg	Antenna height L m	Wind load[3] (v=160 km/h) kg
1	2	5.1	3.2	158	2.2	210
	3	3.1	2.0	237		259
	4	2.0	1.6	316		303
2	1	10.8	12.0	158	5.4	348
	2	8.1	6.5	316		402
	3	6.1	4.1	474		518
	4	5.2	3.3	632		606
4	1	13.9	25.5	316	11.8	695
	2	11.1	12.9	632		804
	3	9.3	8.5	984		1036
	4	8.1	6.5	1264		1212
6	1	15.5	35.5	474	18.2	1044
	2	12.9	19.5	984		1206
	3	10.8	12.0	1422		1554
	4	9.6	9.1	1896		1818
8	1	17.1	51.3	632	24.6	1390
	2	14.2	26.3	1264		1608
	3	12.1	16.2	1896		2072
	4	11.2	13.2	2528		2424

[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] According to the tower type, for more details contact us.





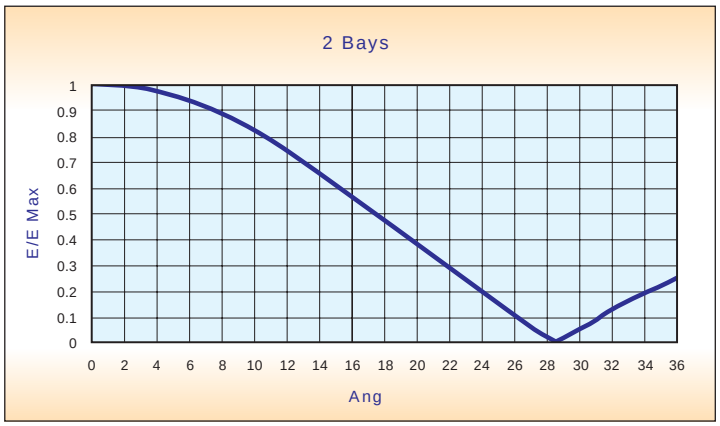


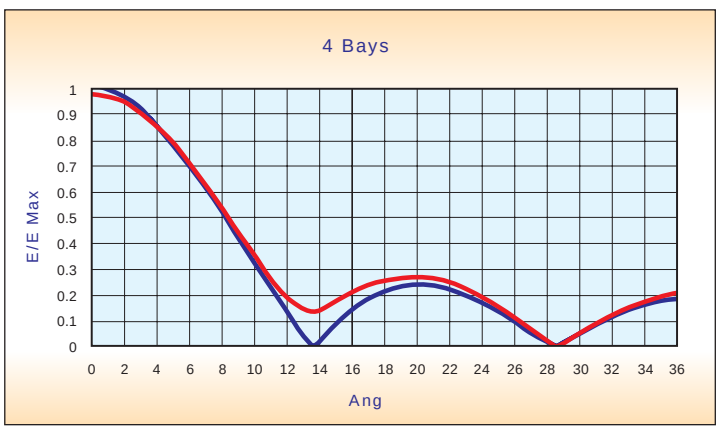
"These specifications are subject to change without notice"

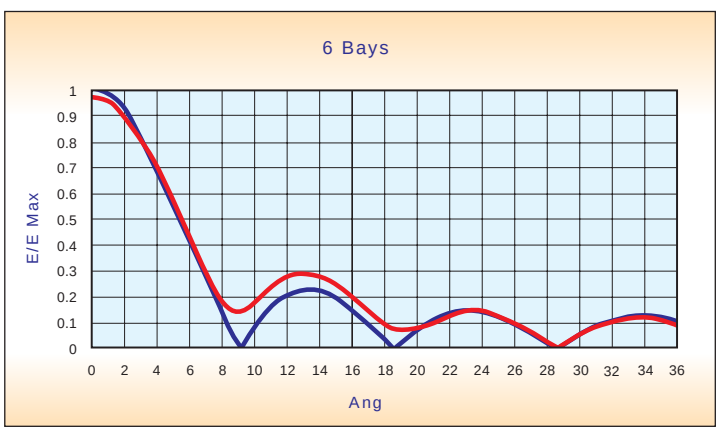
Model DPA2V

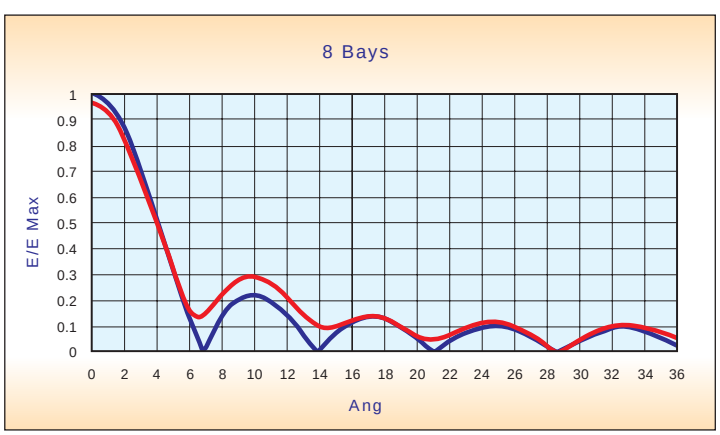
VERTICAL PATTERN

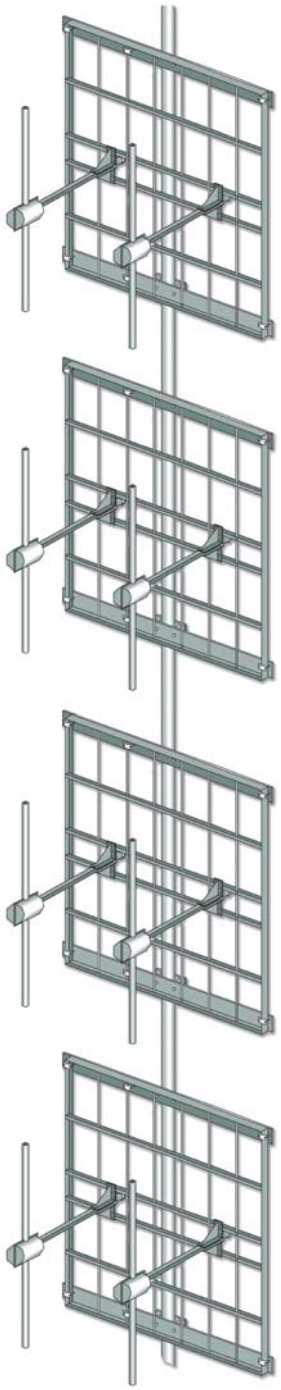
Without null fill
With null fill and beam tilt











- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

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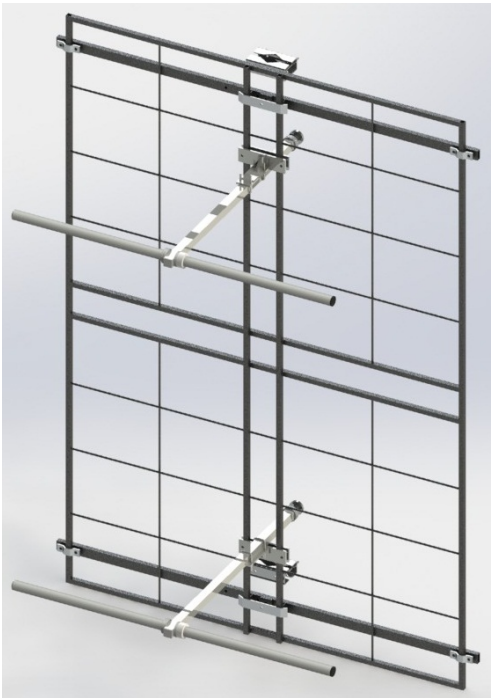
Model DPA2H

- Band II panel
- Broadband 87.5÷108 MHz
- Demountable
- Horizontal polarization
- Directional pattern
- Suitable as a component in various array



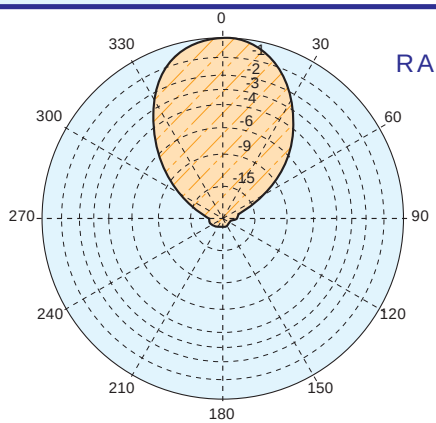
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	Two input connectors Type N or 7/16" or 7/8" EIA
Max Power	2x800W (N) – 2x2KW (7/16") 2x3.5KW (7/8" EIA)
VSWR	≤ 1.3:1
Polarization	Horizontal
Gain	7.5 dB (refered to half-wave dipole)
Half power beam width	E plane ± 35° H plane ± 28°
Lightning protection	All metal parts DC grounded

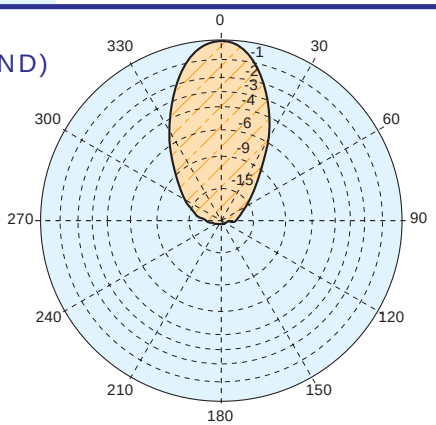
MECHANICAL DATA

Dimensions	2220x2200x1050 mm
Weight	75 kg
Wind surface	0.77 m^2 (front) 0.13 m^2 (side)
Wind load	148 kg (front - wind speed at 160 km/h)
Max wind velocity	200 km/h.
Materials	Reflector: hot dip. galvanized steel Radiating dipoles: stainless steel Internal parts: passivated aluminium Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)

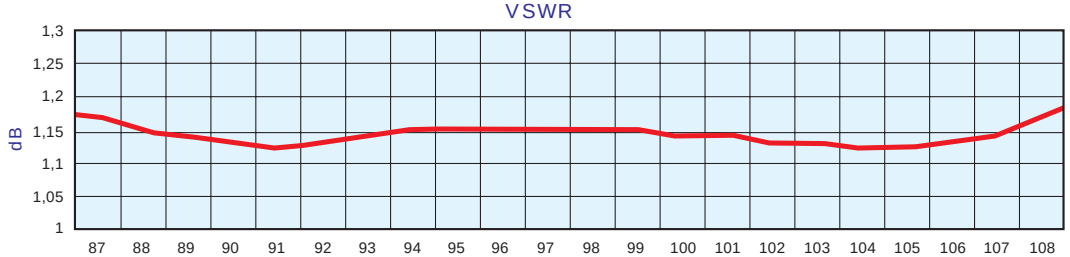


E-Plane



H-Plane

VSWR

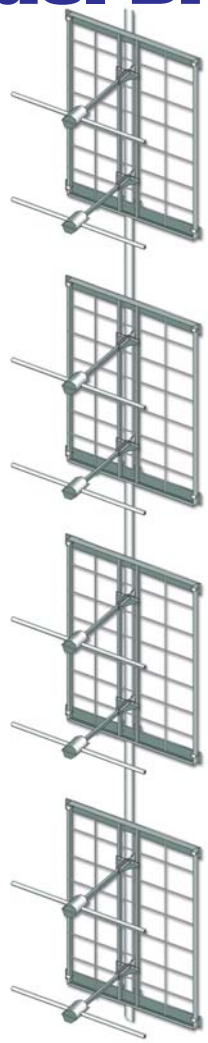


Freq. in MHZ

"These specifications are subject to change without notice"

Model DPA2H

Radiations systems with DPA2H panel
Omnidirectional or directional pattern
Balanced or unbalanced splitting power
High power system
Broadband 87.5÷108 MHz



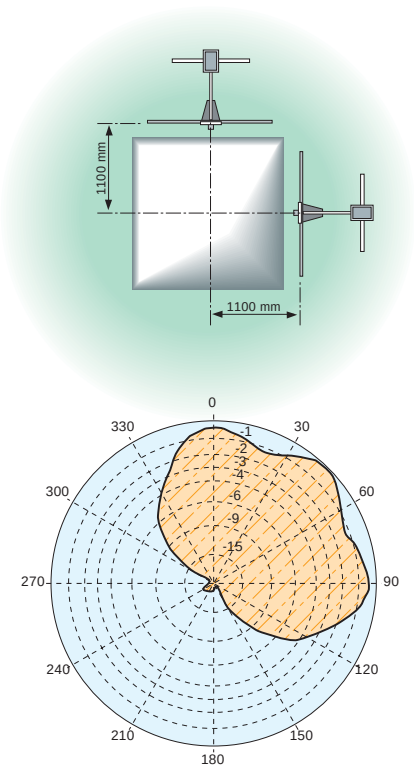
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.3:1 Max
Polarization	Horizontal
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

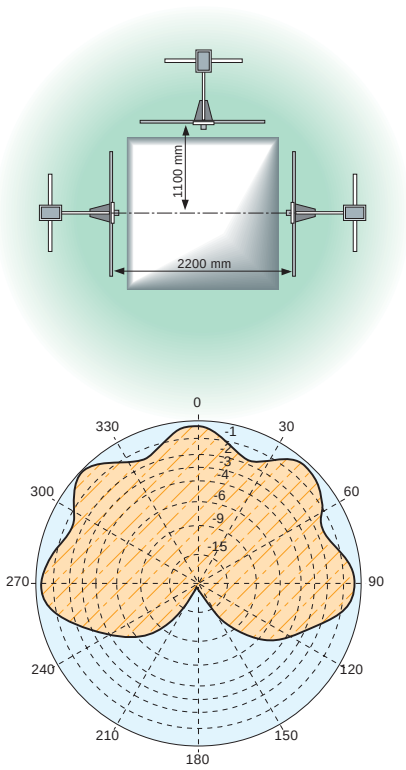
MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

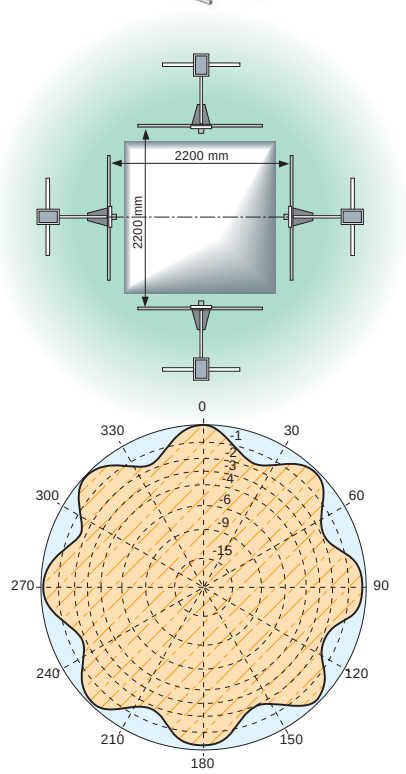
HORIZONTAL PATTERNS WITH 2, 3 AND 4 FACES AT 98 MHz



H-Plane



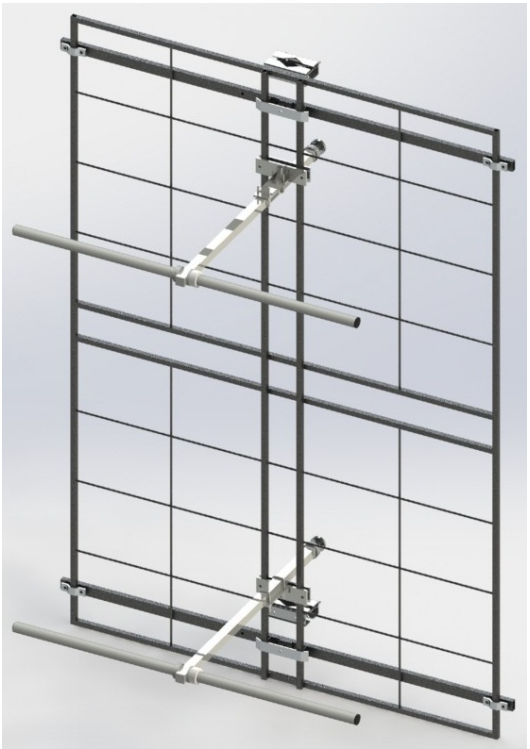
H-Plane



H-Plane

"These specifications are subject to change without notice"

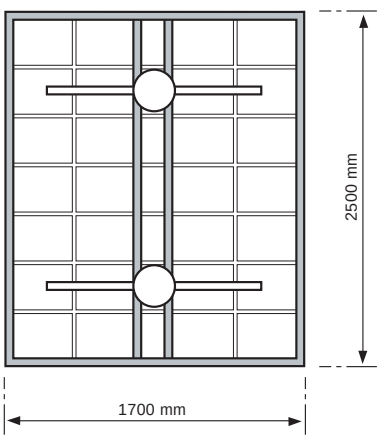
Model DPA2H

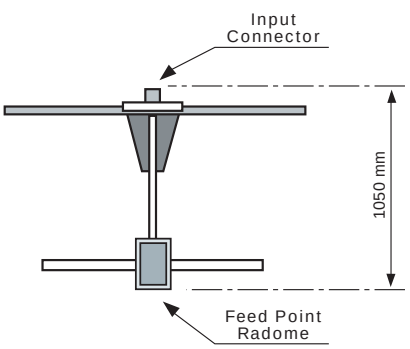


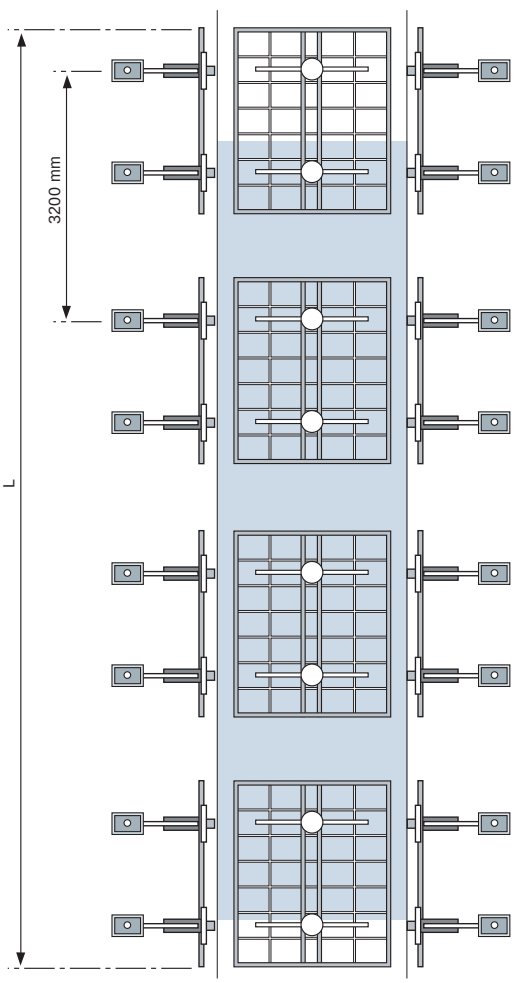
TECHNICAL DATA

Number of bays	Panels per bay	Gain[1] dB	Gain[1] times	Weight[2] kg	Antenna height L m	Wind load[3] (v=160 km/h) kg
1	2	4.9	3.1	150	2.5	174
	3	2.8	2.1	225		199
	4	1.3	1.6	300		236
2	1	10.5	13.2	150	5.7	196
	2	7.8	6.5	300		348
	3	5.9	4.5	450		398
	4	4.3	3.3	600		472
4	1	13.5	26.2	300	12.1	592
	2	10.8	13.2	600		696
	3	8.9	9.2	900		796
	4	7.3	6.7	1200		944
6	1	15.3	39.8	450	18.5	888
	2	12.6	20.0	900		1044
	3	10.7	13.7	1350		1194
	4	9.1	10.0	1800		1416
8	1	15.9	55.0	600	24.9	1184
	2	13.8	27.6	1200		1392
	3	11.9	18.3	1800		1592
	4	10.3	13.7	2400		1888

[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] According to the tower type, for more details contact us.





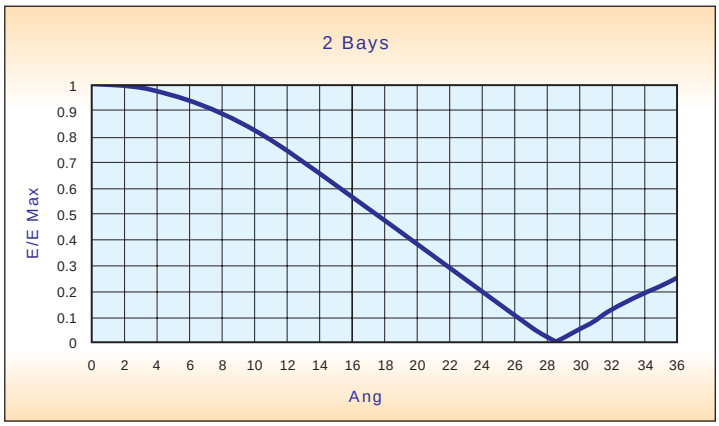


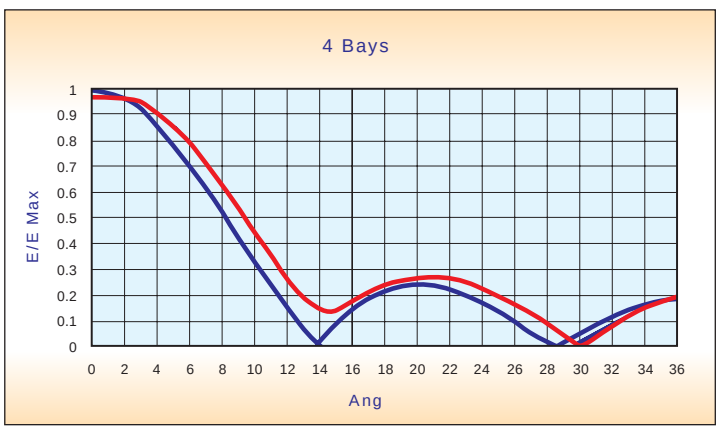
"These specifications are subject to change without notice"

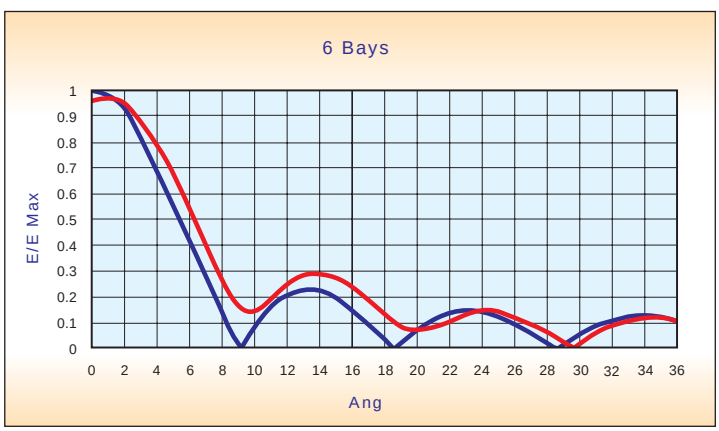
Model DPA2H

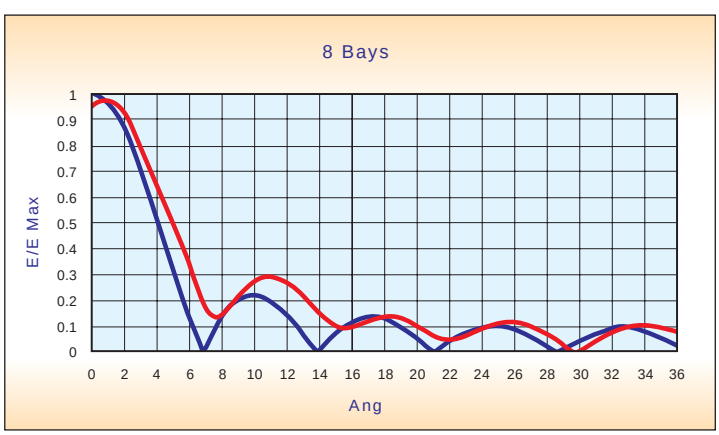
VERTICAL PATTERN

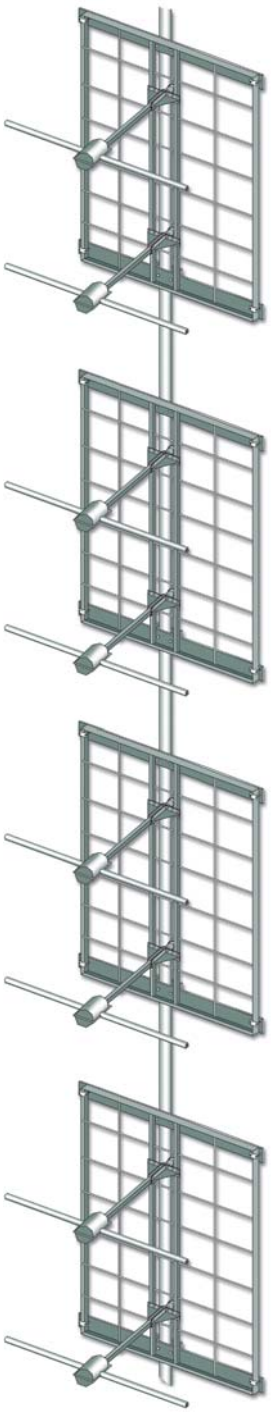
Without null fill
With null fill and beam tilt







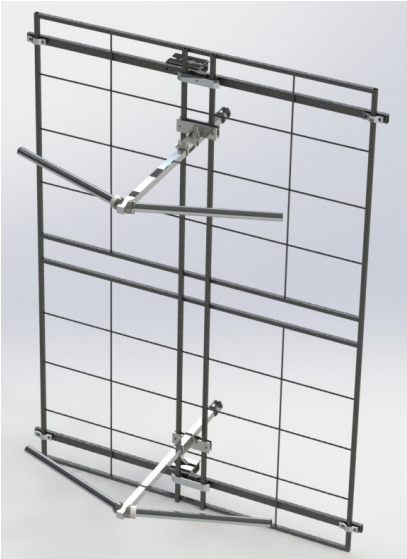




- Gain is provided for horizontal polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model : DPA2HT



- **Band II panel**
- **Broadband 87.5÷108 MHz**
- **Demountable**
- **Horizontal polarization**
- **Directional pattern**
- **Suitable as a component in various arrays**

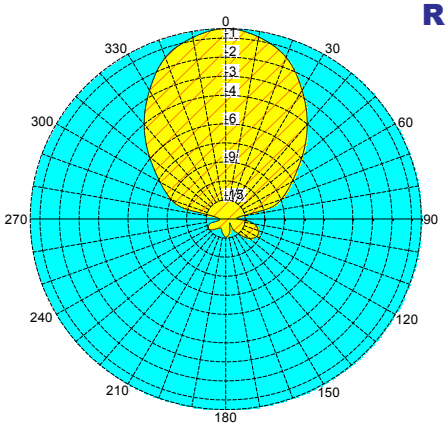
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	Two input connectors of type 7/8" EIA
Max Power	5KW
VSWR	≤ 1.2:1
Polarization	Horizontal
Gain	6.5 dB (referred to half-wave dipole)
Half power beamwidth:	E plane ± 40° H plane ± 28
Lightning protection	All metal parts DC grounded

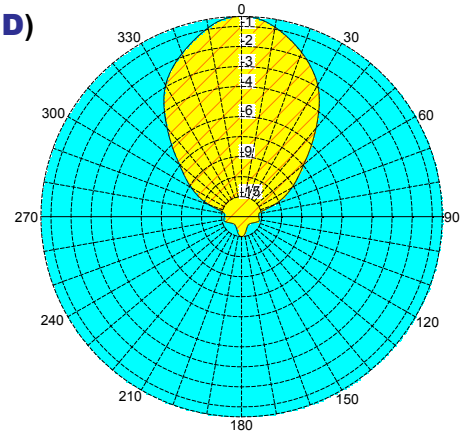
MECHANICAL DATA

Dimensions	2500x1800x1050 mm
Weight	75 Kg
Wind surface	0.75 m^2 (front) 0.18 m^2 (side)
Wind load **Max wind velocity**	148 kg (wind speed at 160 km/h) 200 km/h.
Materials	Reflector: hot dip galvanized steel Radiating dipoles: stainless steel Internal parts: passivated aluminium Radome: fibreglass (option)
Icing protection	Feed point radome (optional)
Radome color	White (optional)
	With special pipe clamps 50 ÷ 110 mm dia.

RADIATION PATTERN (MID BAND)

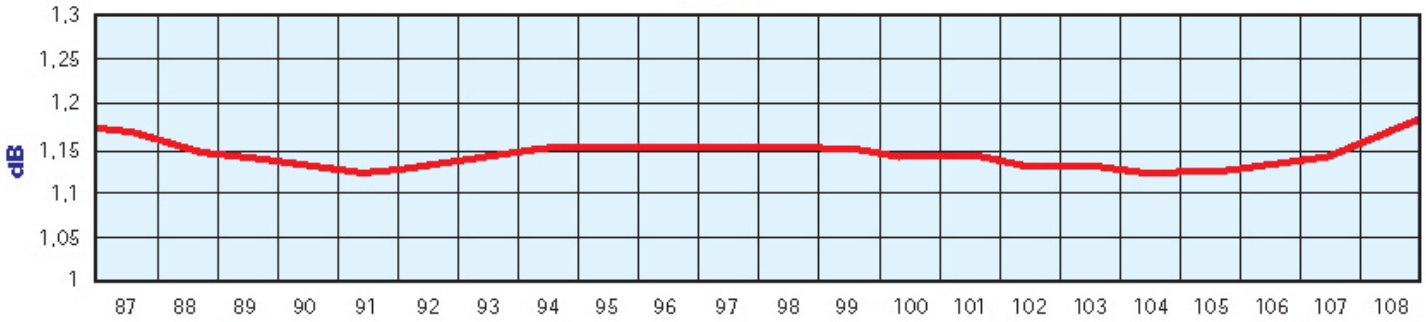


E-plane



H-plane

VSWR



Freq. in MHZ

R.V.R. ELETTRONICA

Radiations systems with DPA2HT panel

Omnidirectional or directional pattern

Balanced or unbalanced splitting power

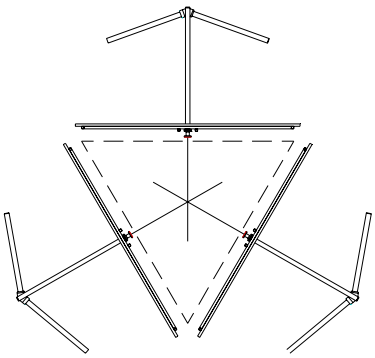
High power systems

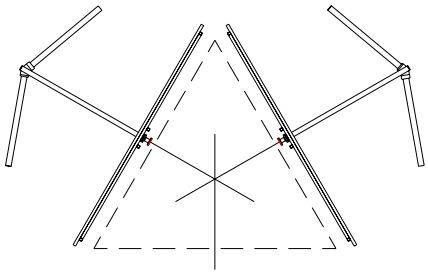
Broadband: 87.5÷108 MHz

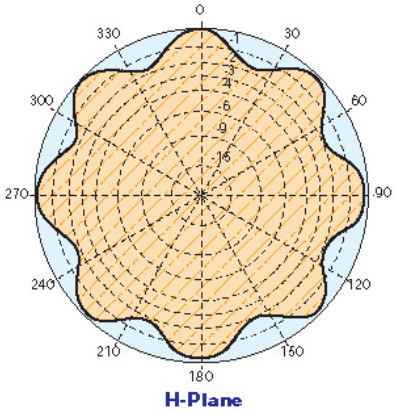
ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.2:1 Max
Polarization	Horizontal
Gain	According to requirement
Horizontal pattern	Any type according to requirement
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half con accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes
Radome color	White (optional)
Mounting hardware	Hot dip galvanized steel (option)
Shipping	As required

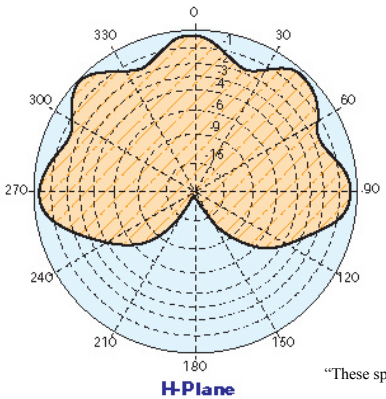
Horizontal patterns With 2 and 3 faces at 98 MHz







H-Plane

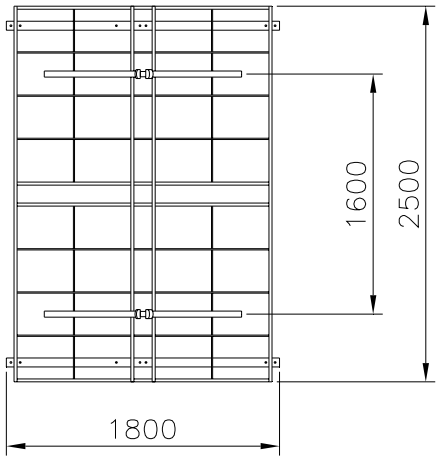


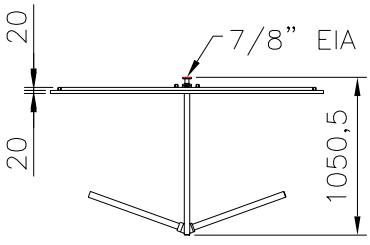
H-Plane

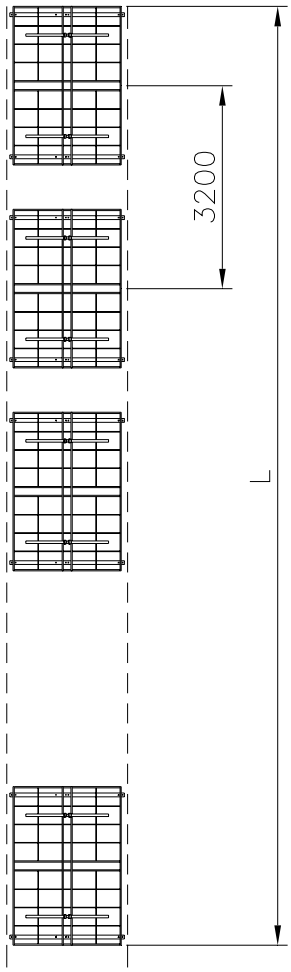
TECHNICAL DATA

Number of bays	Panels per bay	[1] dB	[1] times	Weight[2] kg	Antenna height L m	Wind load[3] (v=160 km/h) kg
1	2 3	3.31 1.62	2.14 1.45	150 225	2.5	216 324
2	1 2 3	9.52 6.51 4.83	8.95 4.48 3.04	150 300 450	5.7	216 432 648
4	1 2 3	12.72 9.71 8.01	18.71 9.34 6.32	300 600 900	12.1	432 864 1296
6	1 2 3	14.52 11.52 9.81	28.31 14.19 9.57	450 900 1350	18.5	648 1296 1944
8	1 2 3	15.82 12.81 11.12	38.19 19.01 12.94	600 1200 1800	22.4	864 1728 2592

[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] without mounting hardware
[3] according to the tower type, for more details contact us





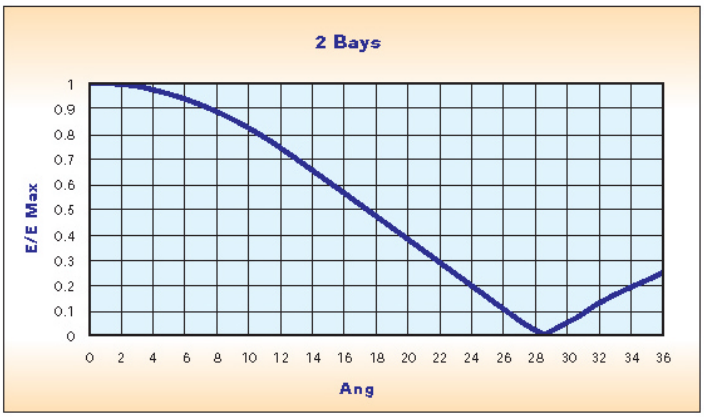


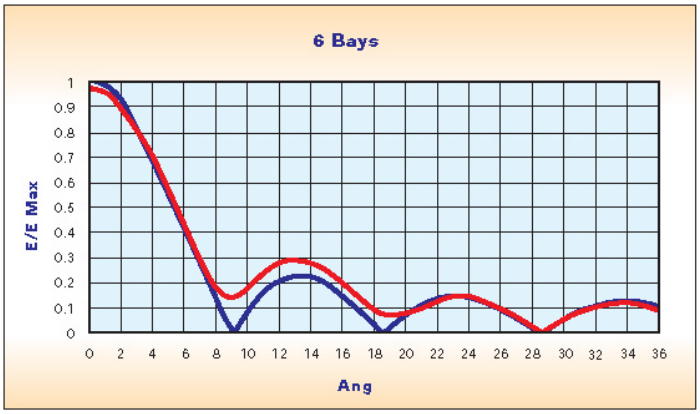
"These specifications are subject to change without notice"

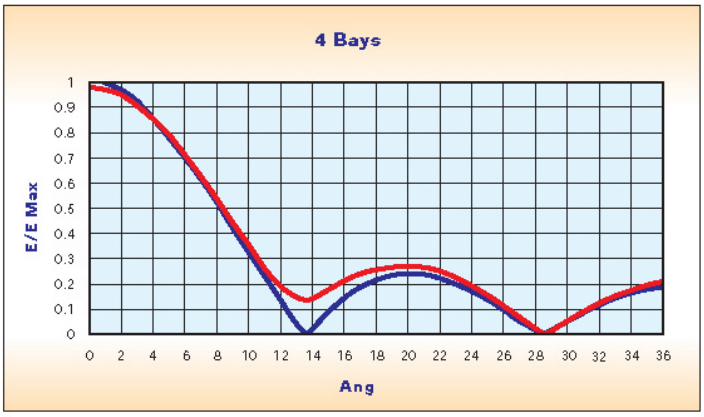
VERTICAL PATTERN

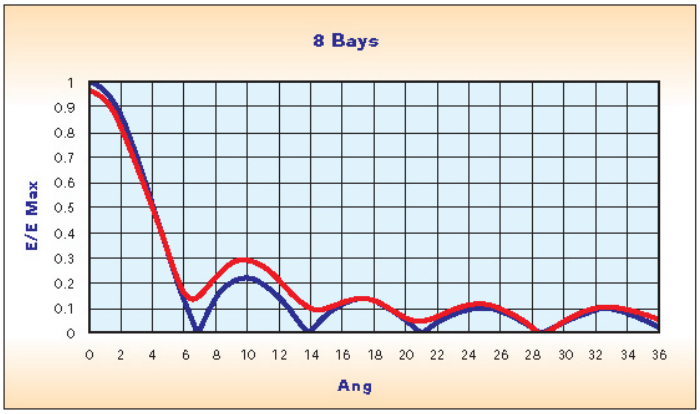
Without null fill

With null fill and beam tilt









- Gain is provided for horizontal polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

Model DPC4

- **Band II panel**
- **Broadband 87.5÷108 MHz**
- **Demountable**
- **Circular polarization**
- **Directional pattern**
- **Suitable as a component in various array**
- **Dipole Inox AISI304**

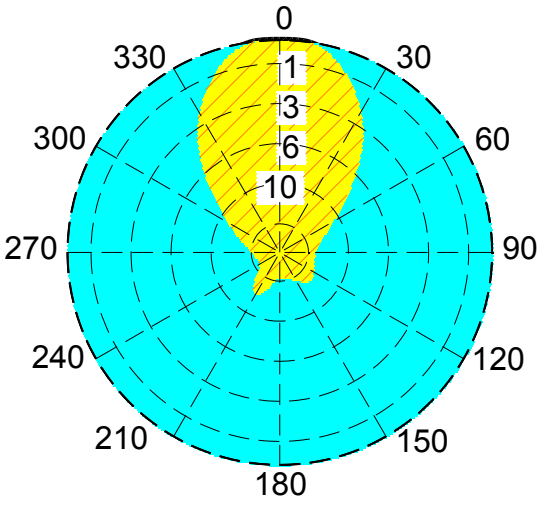
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	Four input connectors Type 7/8" EIA or 7/16" DIN
Max Power	20KW (5KW for each input))
VSWR	≤ 1.2 in circular polarization max.
Polarization	Circular
Gain	4.5 dB (referred to half wave dipole: Circular polarization) 7.5 dB (referred to half-wave dipole: Linear polarization)
Half power beam width	E plane ± 32° (Vertical) H plane ± 30° (Horizontal)
Lightning protection	All metal parts DC grounded

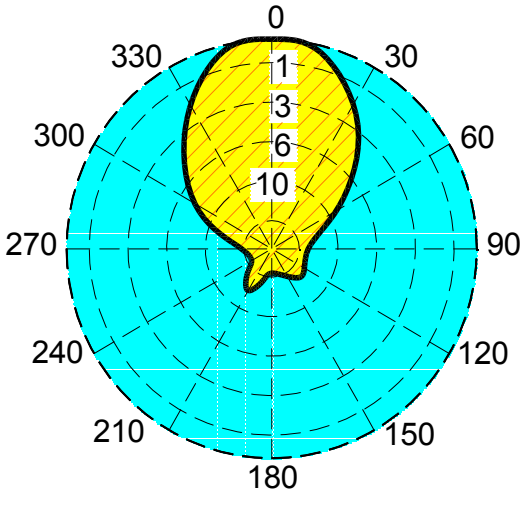
MECHANICAL DATA

Dimensions	2200x2200x1050 mm
Weight	95 Kg
Wind surface	0.960 m^2
Wind load **Max wind velocity**	187 kg (wind speed at 150 km/h) 220 km/h. (Safety factor → 2)
Materials	Reflector: hot dip galvanized steel Dipole: stainless steel AISI304 Internal parts: anticorodal aluminium Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome color	White (optional)
Mounting	Directly on supporting mast

RADIATION PATTERN (MID BAND)



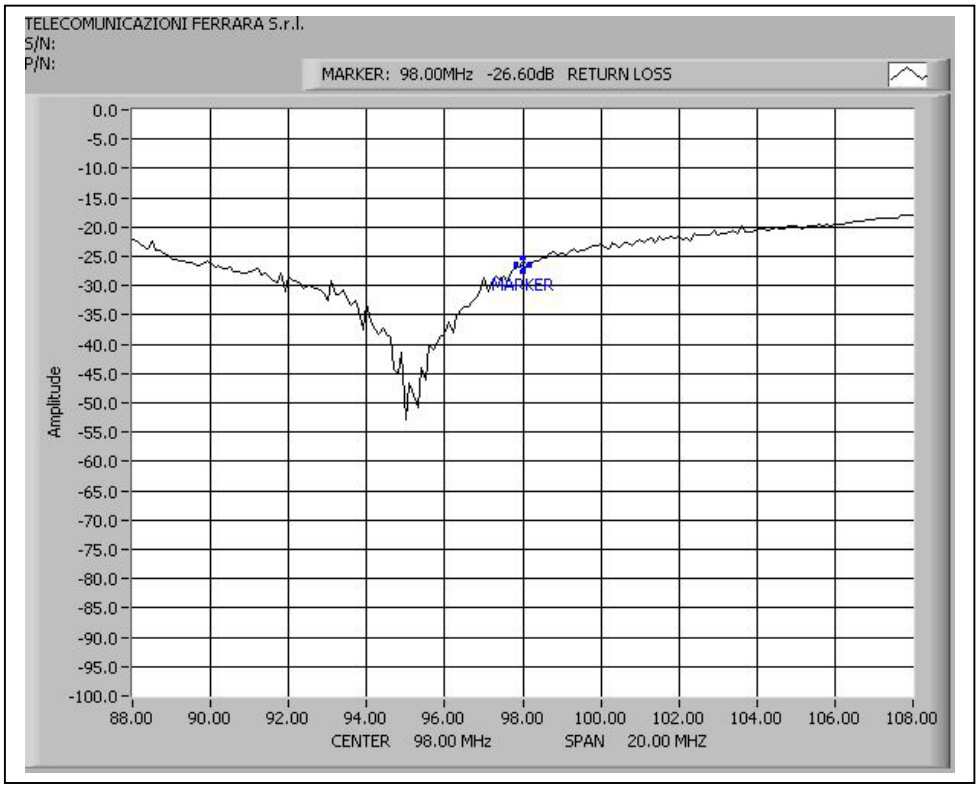
E-plane



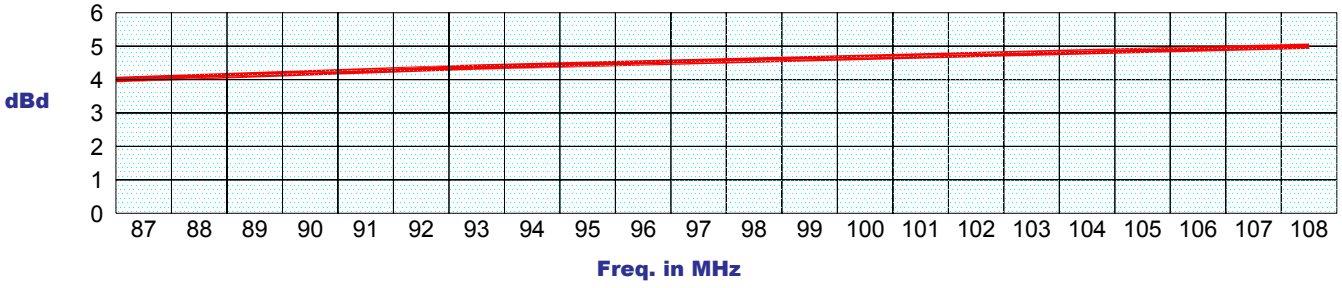
H-plane

"These specifications are subject to change without notice"

RETURN LOSS

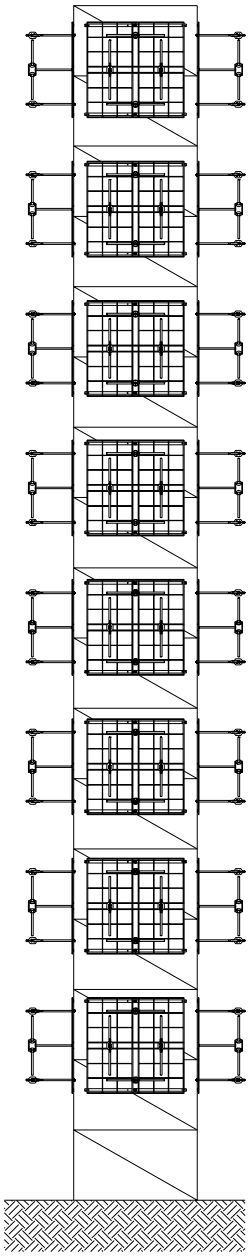


GAIN



"These specifications are subject to change without notice"

Panel Circular Polarization directional pattern



Broadband 87.5÷108 MHz

High power system

Omni-directional or directional pattern

Balanced or unbalanced splitting power

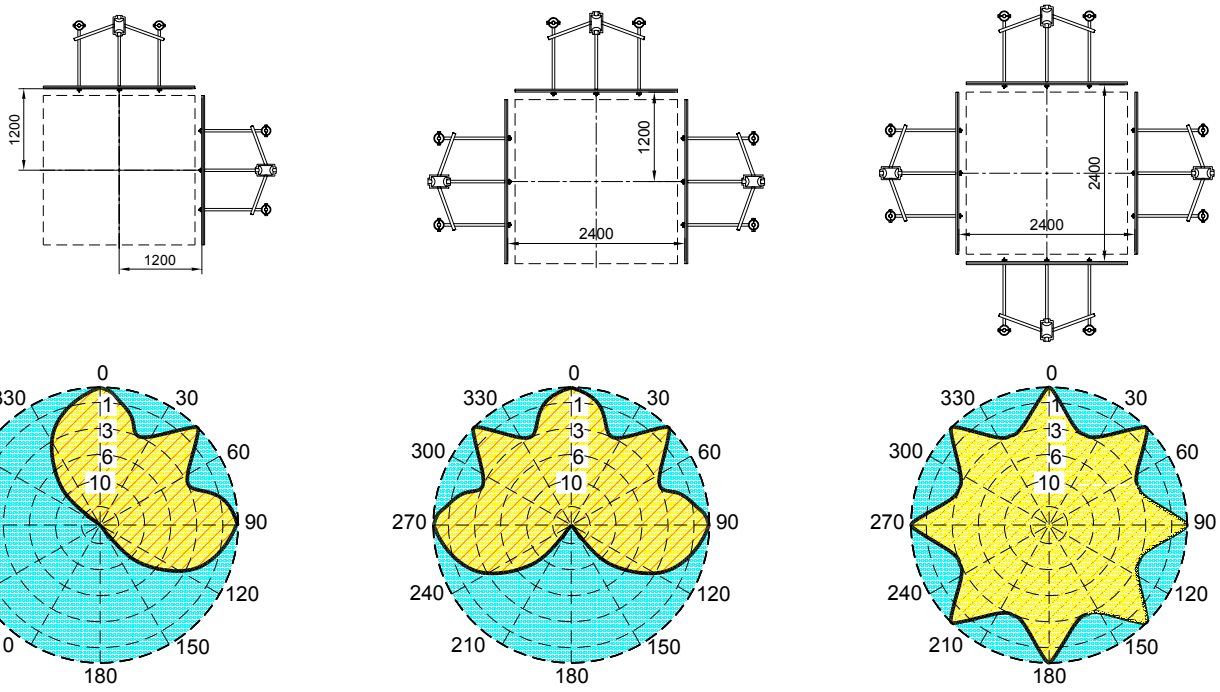
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.15 (throughout the frequency range (Lower figures for individual channels on request)
Polarization	Circular
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power (option)

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome colour	White (optional)
Mounting hardware	Hot dip galvanized steel clamps (option)
Shipping	As required

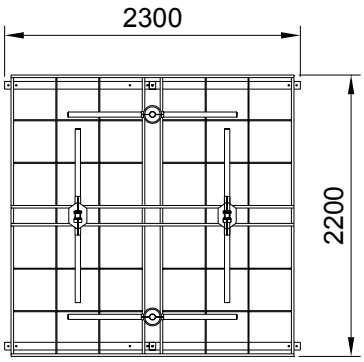
Horizontal Patterns with 2, 3 and 4 faces at 98 MHz

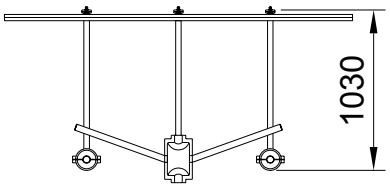


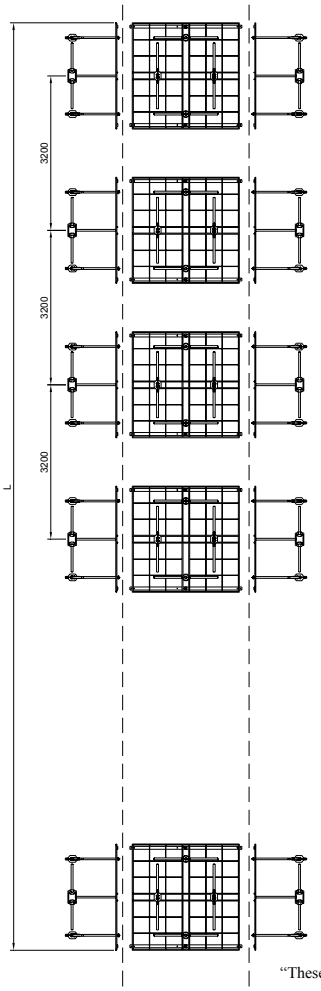
TECHNICAL DATA

Number of bays	Panels per bay	Gain[1]		Weight[2]	Antenna height L m	Wind load[3] (v=150 km/h) kg
		dB	times	kg		
1	2 3 4	1.85 0.3 -0.65	1.53 1.01 0.86	210 340 440	2.2	296 370 440
2	1 2 3 4	7.5 5.0 3.35 2.45	5.62 3.16 2.16 1.76	210 440 790 880	5.4	376 592 740 880
4	1 2 3 4	10.5 7.8 6.3 5.55	11.22 6.03 4.27 3.59	752 1184 1480 1760	11.8	752 1184 1480 1760
6	1 2 3 4	12.3 9.9 8.4 6.95	16.98 9.77 6.92 4.96	1128 1776 2220 2640	18.2	1128 1776 2220 2640
8	1 2 3 4	13.7 10.95 9.5 8.5	23.44 12.45 8.91 7.08	1504 2368 2960 3520	26.6	1504 2368 2960 3520

[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] without mounting hardware
[3] according to the tower type, for more details contact us



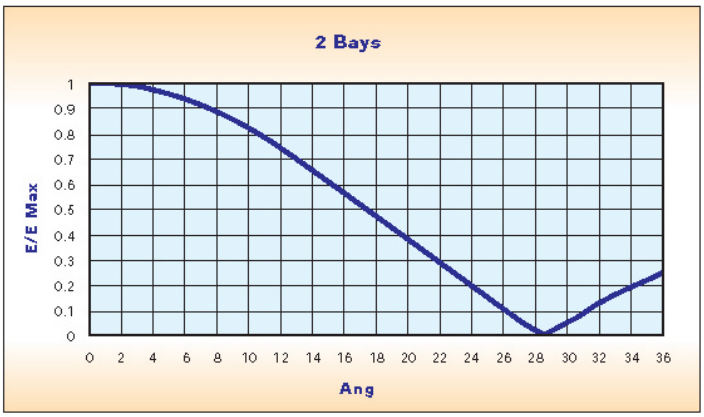


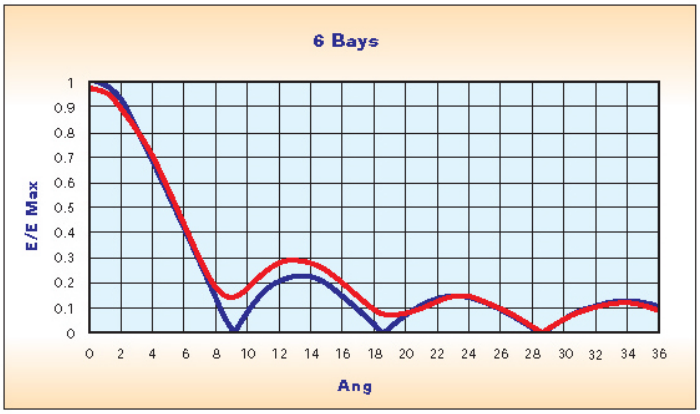


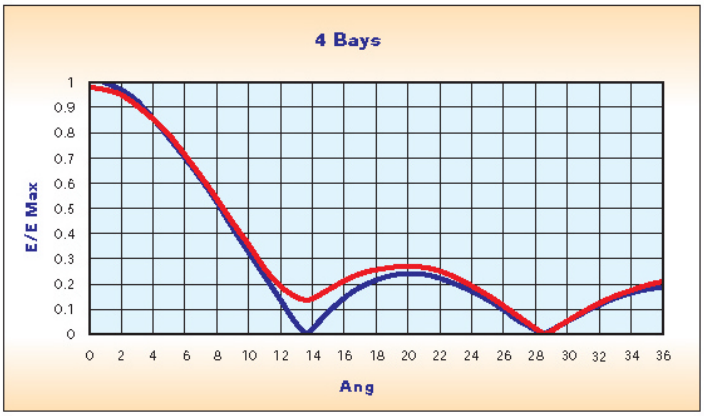
VERTICAL PATTERN

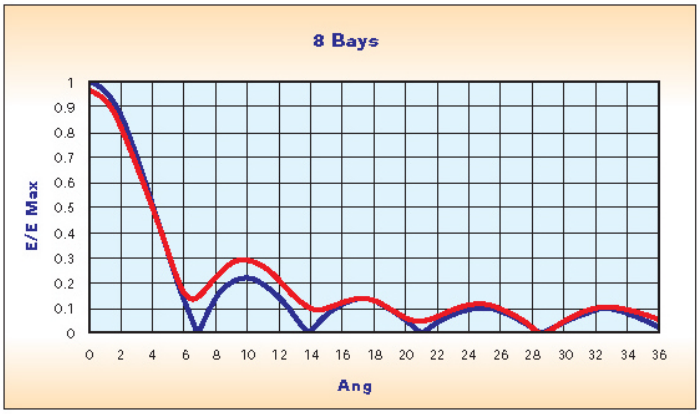
Without null fill

With null fill and beam tilt



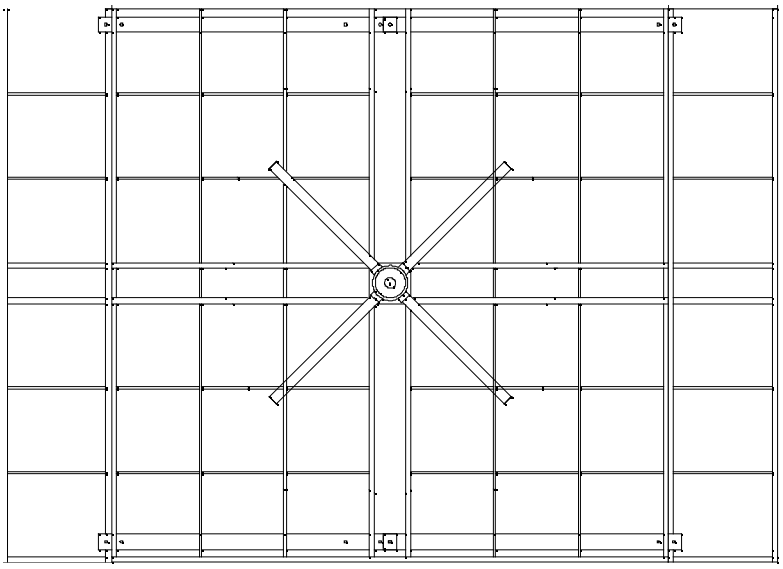






- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

Model DPC2



- Band II panel
- Broadband 87.5÷108 MHz
- Demountable
- Circular polarization
- Directional pattern
- Suitable as a component in various array
- Dipole Inox AISI304

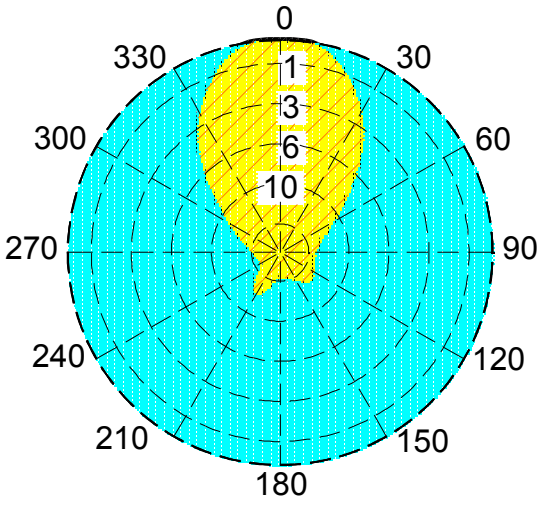
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	Two input connectors Type 7/8" EIA or 7/16" DIN
Max Power	10KW (5KW for each input)) single carrier
VSWR	≤ 1.3 in circular polarization max.
Polarization	Circular
Gain (average)	3 dB (referred to half wave dipole: Circular polarization) 6 dB (referred to half-wave dipole: Linear polarization)
Half power beam width	E plane ± 32° (Vertical) H plane ± 32° (Horizontal)
Lightning protection	All metal parts DC grounded

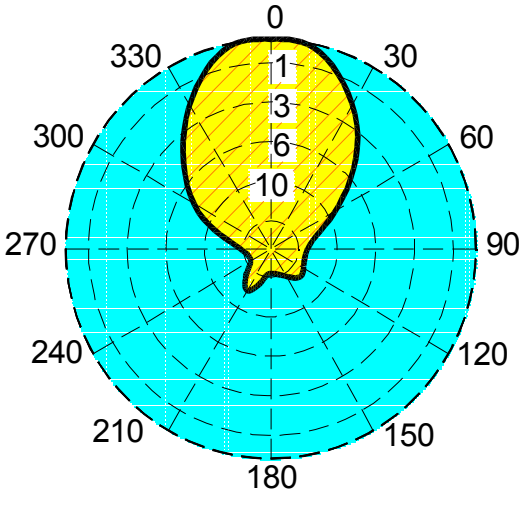
MECHANICAL DATA

Dimensions	3080x2200x1130 mm
Weight	110 Kg APROX.
Wind surface	1.28 m^2
Wind load **Max wind velocity**	195 kg (wind speed at 150 km/h) 220 km/h. (Safety factor → 2)
Materials	Reflector: hot dip galvanized steel Dipole: stainless steel AISI304 Internal parts: anticorodal aluminium Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome color	White (optional)
Mounting	Directly on supporting mast

RADIATION PATTERN (MID BAND)



E-plane

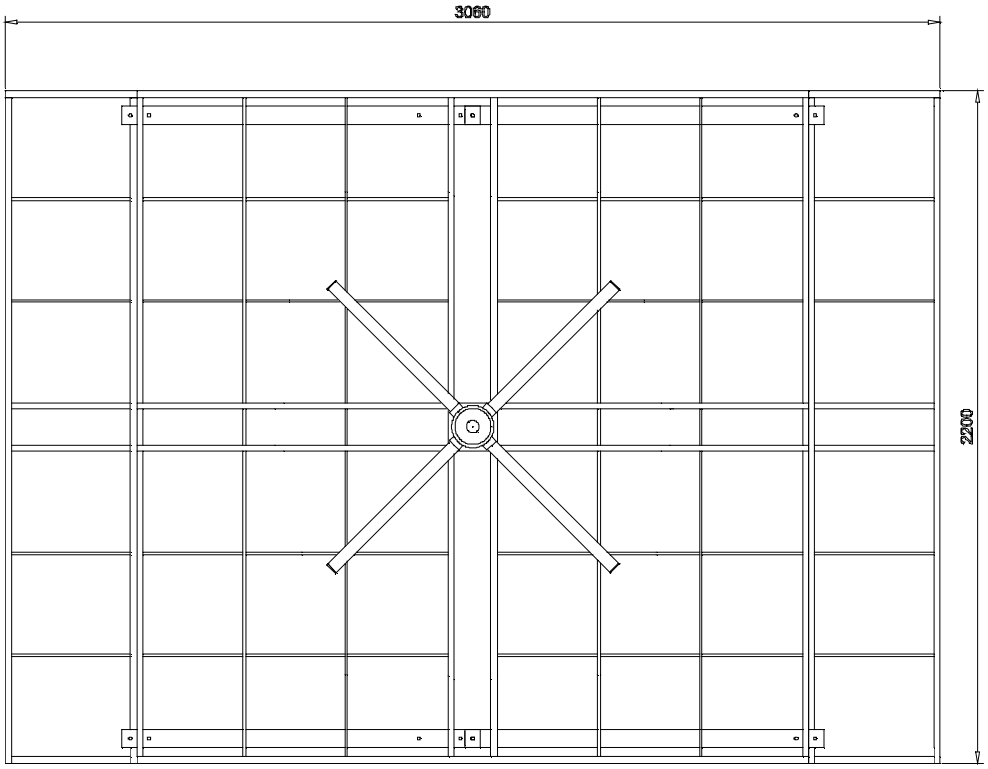


H-plane

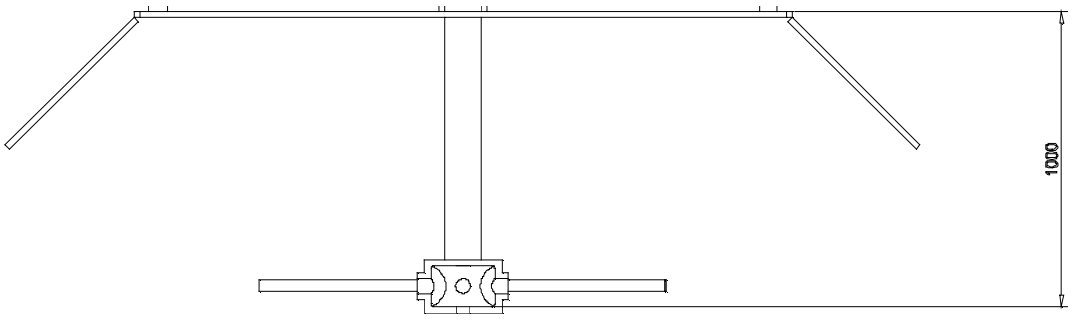
"These specifications are subject to change without notice"

DIMENSIONS in mm.

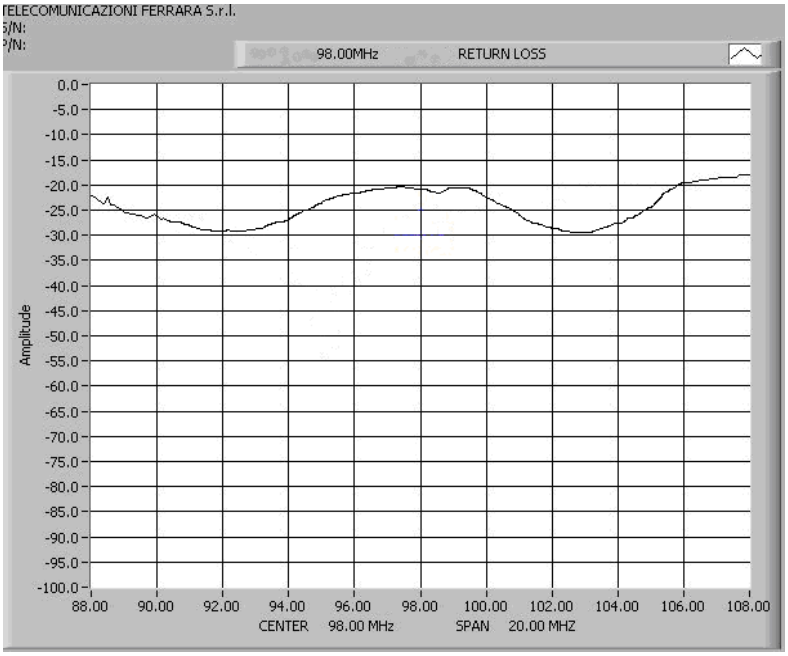
FRONT VIEW



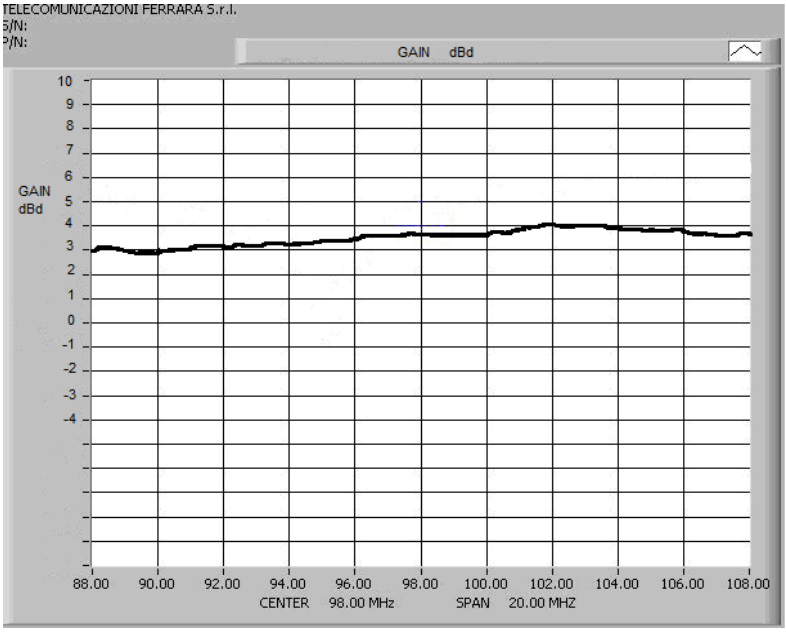
TOP VIEW



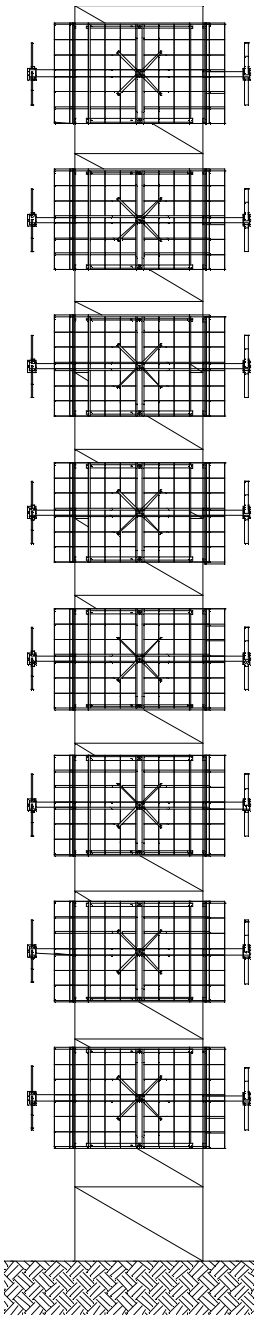
RETURN LOSS



GAIN



Pannel Circular Polarizationomni or directional pattern



Broadband 87.5÷108 MHz

High power system

Omni-directional or directional pattern

Balanced or unbalanced splitting power

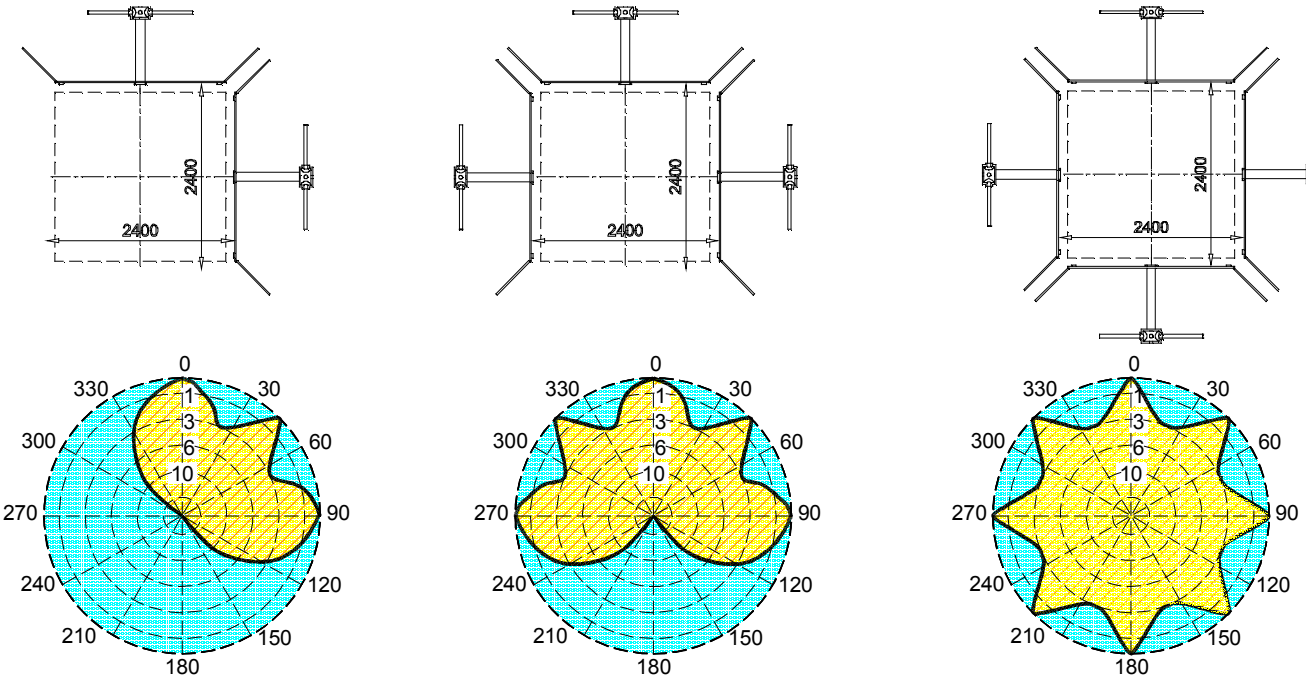
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.25 (throughout the frequency range (Lower figures for individual channels on request)
Polarization	Circular
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power (option)

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome colour	White (optional)
Mounting hardware	Hot dip galvanized steel clamps (option)
Shipping	As required

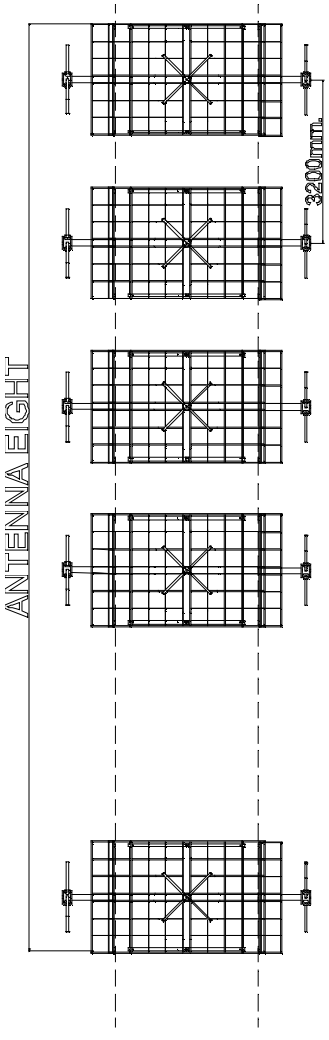
Horizontal Patterns with 2, 3 and 4 faces at 98 MHz



TECHNICAL DATA

Number of bays	Panels per bay	Gain[1]		Weight[2]	Antenna height L m	Wind load[3] (v=150 km/h) kg
		dB	times	kg		
1	2 3 4	1.5 0.18 -0.95	1.413 1.042 0.804	240 360 480	2.2	296 370 440
2	1 2 3 4	7.4 4.5 3.25 2.1	5.495 2.818 2.113 1.622	240 480 770 1040	5.4	376 592 740 880
4	1 2 3 4	10.2 7.5 6.1 5..1	10.471 5.623 4.074 3.236	480 1020 1490 2045	11.8	752 1184 1480 1760
6	1 2 3 4	12 9.2 7.8 6.6	15.849 8.318 6.026 4.571	770 1495 2285 3055	18.2	1128 1776 2220 2640
8	1 2 3 4	13.2 10.4 9.2 8	20.893 10.965 8.318 6.310	1030 2035 3055 4150	26.6	1504 2368 2960 3520

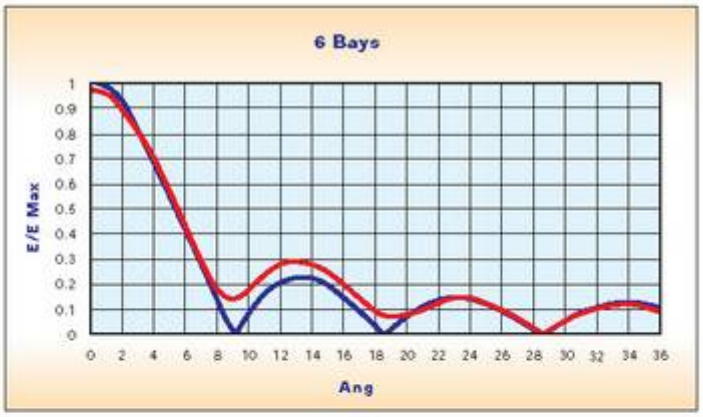
[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] without mounting hardware
[3] according to the tower type, for more details contact us

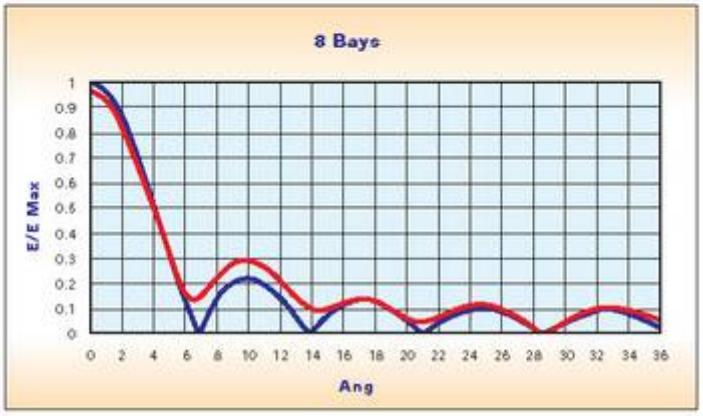


VERTICAL PATTERN

Without null fill

With null fill and beam tilt





- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

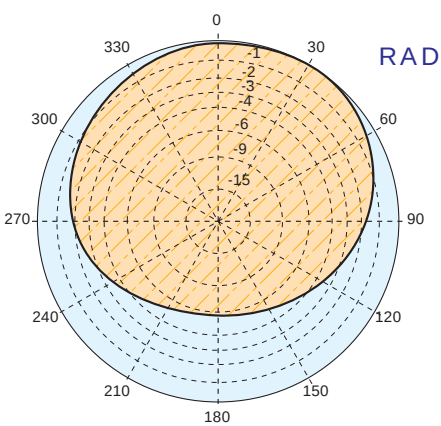
Model ACP1

- Band II
- Broadband 87.5÷108 MHz
- Demountable
- Circular polarization
- Stainless steel AISI 304
- Pressurizzable on request

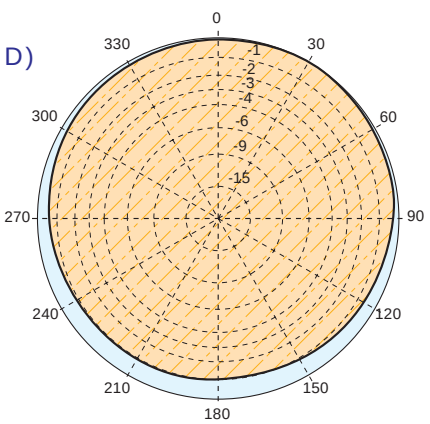
ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800W (N) – 2KW (7/16") – 3KW (7/8" EIA)
VSWR	≤ 1.4:1
Polarization	Circular
Gain	Refer to table
Pattern	Omni directional ± 1.5 dB in free space Omni directional ± 3 dB with 100mm dia. pole
Lightning protection	All metal parts DC grounded

MECHANICAL DATA	
Dimensions	1560x1150x1150 mm
Weight	13 kg
Wind surface	0.19 m^2 (side) 0.13 m^2 (front)
Wind load	31.1 kg (side - wind speed at 160 km/h)
Max wind velocity	220 km/h.
Materials	External parts: stainless steel Internal parts: aluminium treated
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)

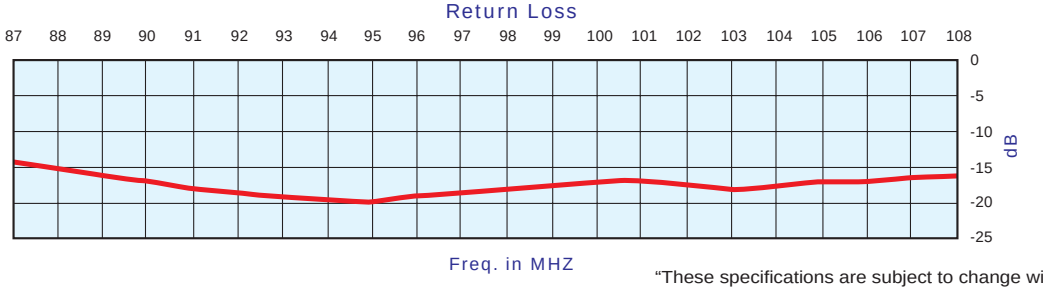


E-Plane



H-Plane

Return Loss



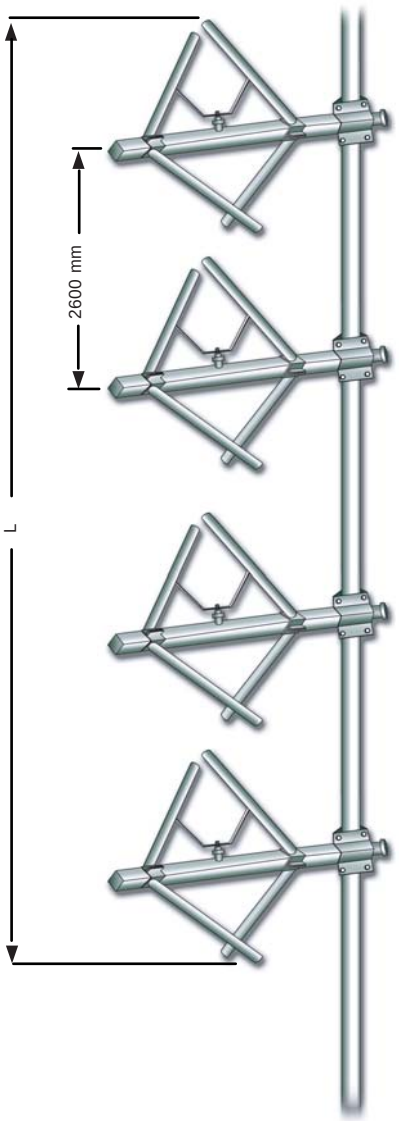
Freq. in MHZ

"These specifications are subject to change without notice"

Model ACP1

Radiations systems with ACP1 antenna

Omnidirectional patterns



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.4:1 Max
Polarization	Circular/Elliptical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA (1 Wave)

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg	SYSTEMS MODELS[3]			
		dB	times				2 KW	4 KW	6 KW	10 KW
2	1	1.50	1.40	26	3.8	62.2	ACP1X22	ACP1X24	ACP1X26	-
3	1	3.30	2.10	39	6.4	93.3	-	-	-	-
4	1	4.50	2.80	52	9.0	124.4	ACP1X42	ACP1X44	ACP1X46	ACP1X410
6	1	6.30	4.20	78	14.2	186.6	ACP1X62	ACP1X64	-	ACP1X610
8	1	7.50	5.70	104	19.4	248.8	ACP1X82	ACP1X84	ACP1X86	ACP1X810
12	1	9.30	8.50	156	29.8	373.2	-	-	-	-

[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] The systems comprised: antennas, cables and splitter – for more details to see catalog – different version on request.

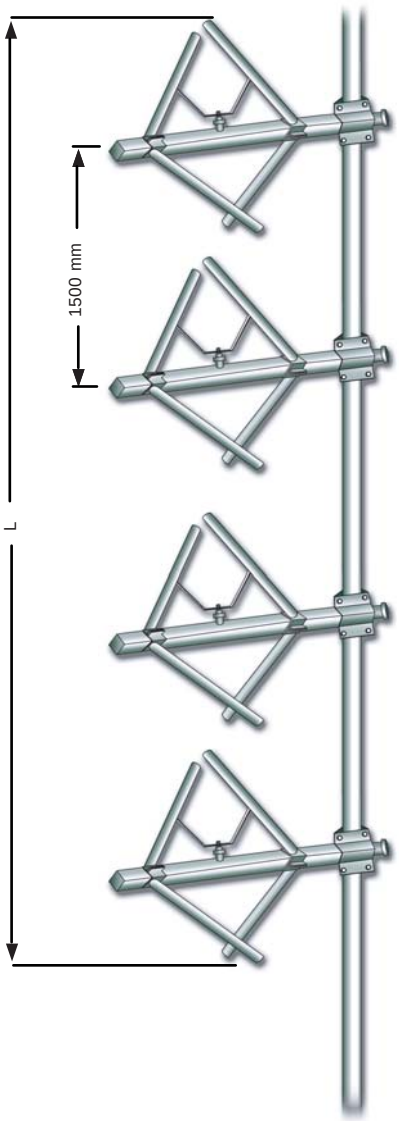
- Gain is provided for vertical polarization.
- When antenna is pole mounted on the top a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model ACP1

Radiations systems with ACP1 antenna

Omnidirectional patterns



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.4:1 Max
Polarization	Circular/Elliptical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA (1/2 Wave)

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg	SYSTEMS MODELS[3]			
		dB	times				2 KW	4 KW	6 KW	10 KW
2	1	-1.50	0.71	26	2.65	62.2	ACP1X22	ACP1X24	ACP1X26	-
3	1	0.27	1.06	39	4.15	93.3	-	-	-	-
4	1	1.50	1.42	52	5.65	124.4	ACP1X42	ACP1X44	ACP1X46	ACP1X410
6	1	3.28	2.13	78	8.65	186.6	ACP1X62	ACP1X64	-	ACP1X610
8	1	4.50	2.84	104	11.65	248.8	ACP1X82	ACP1X84	ACP1X86	ACP1X810
12	1	6.29	4.26	156	17.65	373.2	-	-	-	-

[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] The systems comprised: antennas, cables and splitter – for more details to see catalog – different version on request.

- Gain is provided for vertical polarization.
- When antenna is pole mounted on the top a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model: ACP1HP

- Band II dipole
- Broadband 87.5÷108 MHz
- Circular polarization
- Stainless steel AISI 304
- Pressurizzable on request

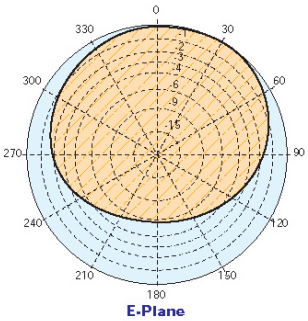
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	1+5/8" – 7/8"
Max Power	7 KW *with 1+5/8" connector* 5 KW *with 7/8" connector*
VSWR	≤ 1.4:1
Polarization	Circular
Gain	Refer to table
Pattern:	Omnidirectional ± 1.5 dB in free space Omnidirectional ± 3 dB with 100 mm diameter pole
Lightning protection	All metal parts DC grounded

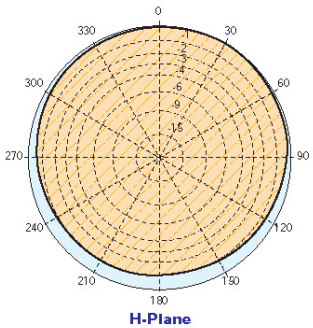
MECHANICAL DATA

Dimensions	1560x1150x1150 mm
Weight	22 Kg
Wind surface	0.4 m^2
Wind load	79 kg (side - wind speed at 160 km/h)
Max wind velocity	200 km/h.
Materials	External parts (stainless steel) Internal parts (aluminium treated) Radome: fibreglass (optional)
Icing protection	Feed point radome (option)
Radome color	White (optional)
Mounting	With special pipe clamps 50 ÷ 110 mm dia.

RADIATION PATTERN (MID BAND)

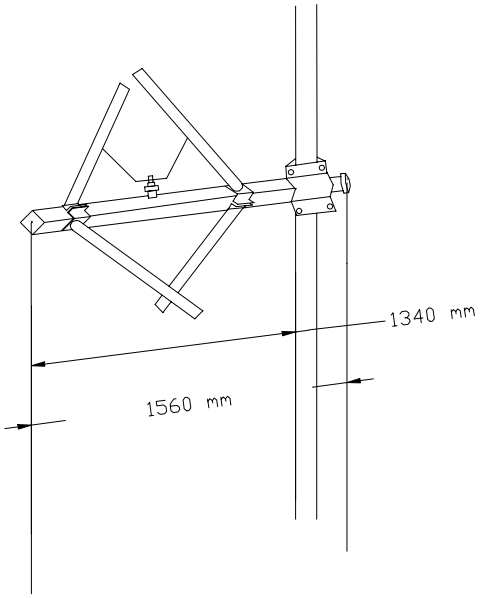


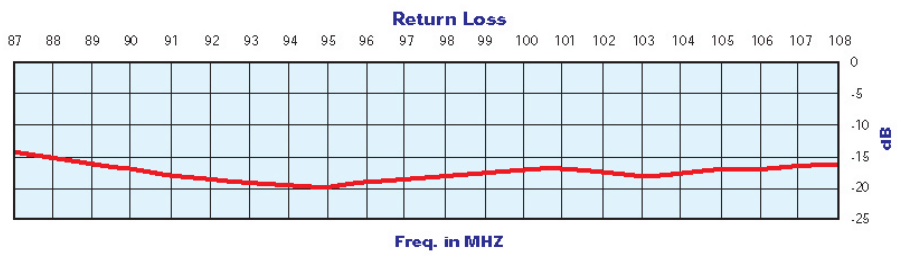
Vertical Component



Horizontal Component

DIMENSIONS

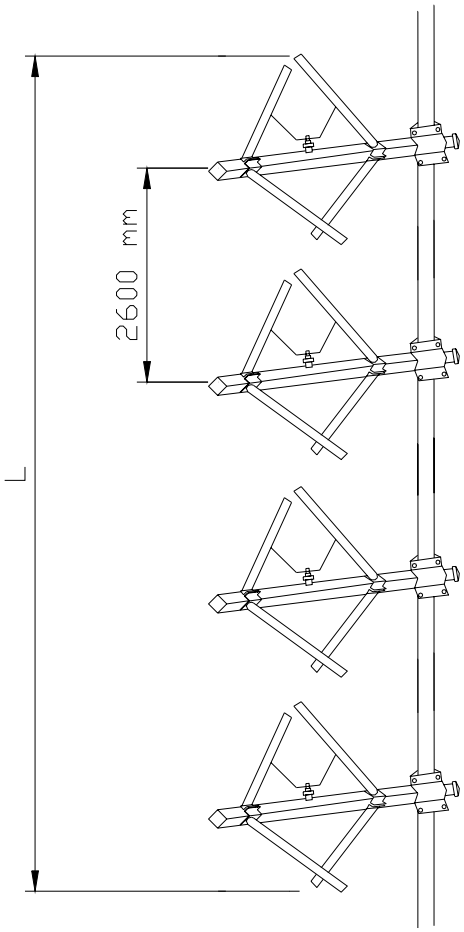




"These specifications are subject to change without notice"

Radiations Systems with ACP1HP antenna

Omnidirectional patterns



ELECTRICAL DATA

	87.5÷108 MHz
	50 Ohm
	EIA flange according to system power rating
	≤ 1.4:1 Max
	Circular
	According to requirement
	Any type according to requirements
	Null fill, beam tilt and special requirements to order
	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA

	Subject to number of bays (refer to table)
	Refer to table
	Refer to table
	Yes (on request)
	White (optional)
	Hot dip galvanized steel clamps
	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg
		dB	times			
2	1	1.5	1.4	44	3.8	158
3	1	3.2	2.1	66	6.4	237
4	1	4.5	2.8	88	9.0	316
6	1	6.2	4.2	132	14.2	474
8	1	7.5	5.6	176	19.4	632
12	1	9.2	8.4	264	29.8	948

[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account total gain.
[2] without mounting hardware (cables and dividers are not included)

- Gain is provided for one polarization.
- When antenna is pole mounted on the top a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

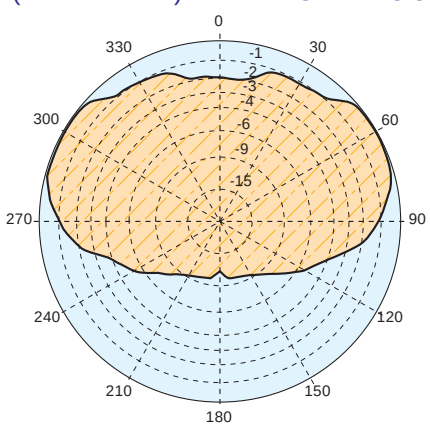
Model ACP2

- Band II
- Broadband 87.5÷108 MHz
- Circular polarization
- Stainless steel AISI 304
- Pressurizzable on request

ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800W (N) – 2KW (7/16") – 3KW (7/8" EIA)
VSWR	≤ 1.35:1
Polarization	Circular
Gain	-0.5 dB (ref. tohalf wave dipole)
Lightning protection	All metal parts DC grounded

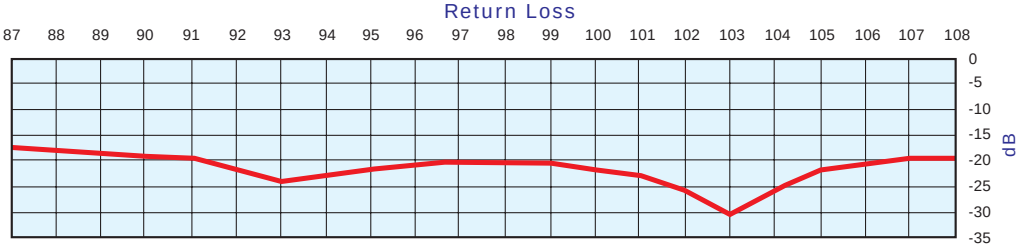
MECHANICAL DATA	
Dimensions	2210x1300x1300 mm
Weight	20 kg
Wind surface	0.32 m^2 (side) 0.23 m^2 (front)
Wind load	46.7 kg (side - wind speed at 160 km/h)
Max wind velocity	160 km/h.
Materials	External parts: stainless steel Internal parts: aluminium treated
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND) WITH POLE MOUNTING 100mm DIAMETER



H-Plane

Return Loss



Freq. in MHZ

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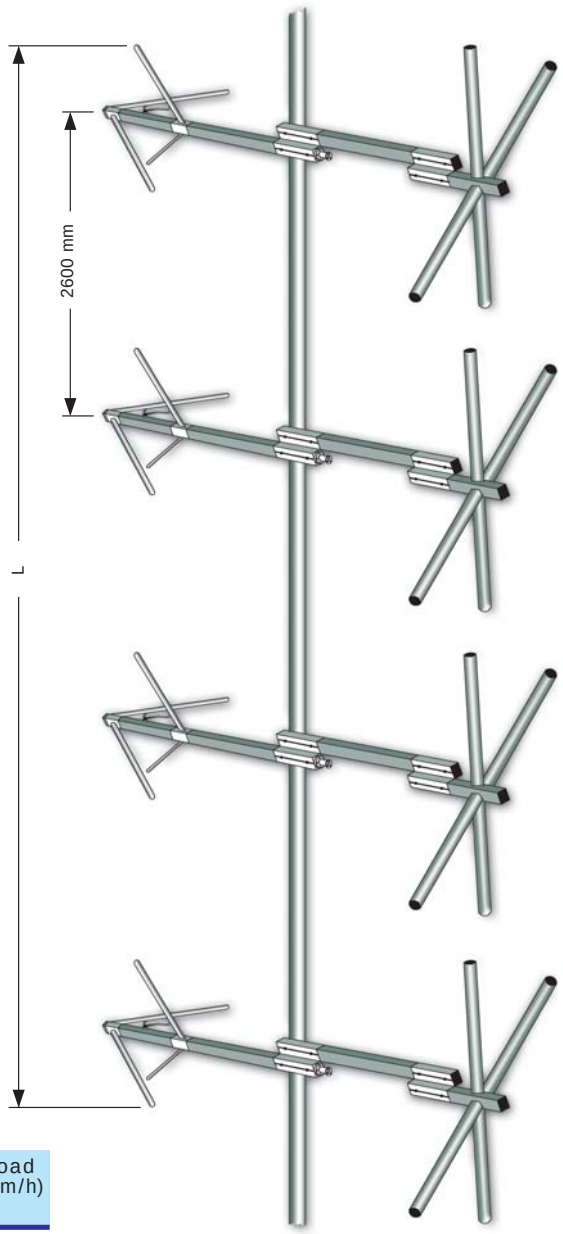
Model ACP2

Radiations systems with ACP2 antenna

Collinears systems



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.35:1 Max
Polarization	Circular
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg
		dB	times			
2	1	3.50	1.41	40	3.9	93.4
3	1	5.26	2.12	60	6.5	140.1
4	1	6.50	2.81	80	9.1	186.8
6	1	8.27	4.22	120	14.3	280.2
8	1	9.50	5.62	160	19.5	373.6

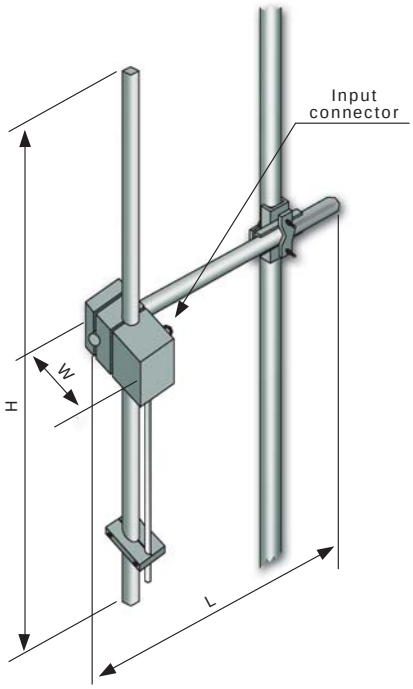
[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AJ1E – AJ1EBI – AJ1E/INOX – AJ1E/IT

- High Power Version (H.P.)
- FM Band 87.5÷108 MHz
- Suitable for VHF, Band I and OIRT Band
- Gamma Match Tuned
- Omni directional pattern
- Vertical polarization
- Light - Low Cost - Demountable



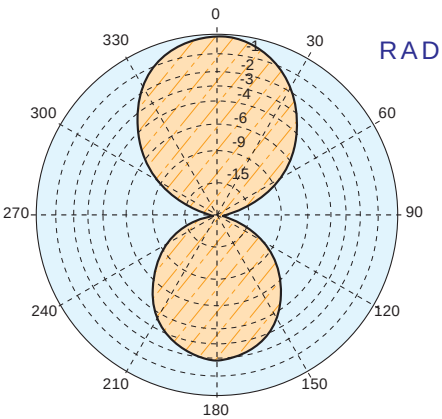
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" female or 7/8" EIA
Max Power	650W (N) – 1300W (7/16" – H.P. Version)
VSWR	≤ 1.1:1 in the operating channel
Polarization	Vertical
Gain	1 dB (referred to half-wave dipole)
Pattern	Omni directional ± 1.5 dB in free space Omni directional ± 3 dB with 100mm dia. pole
Lightning protection	No DC grounded

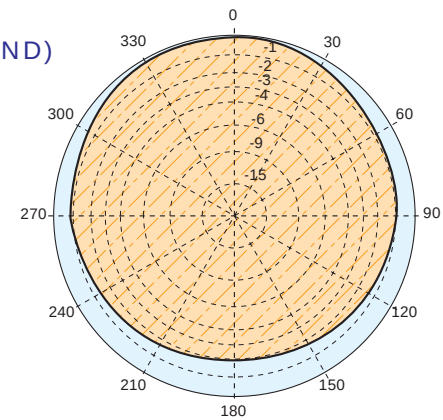
MECHANICAL DATA

Dimensions	According to the working frequency 1380 (H) x 760 (L) x 100 (W) mm at 98 MHz
Weight	According to the working frequency (aluminium or stainless steel)
Wind surface	0.05 m^2 (at 98 MHz)
Wind load	6.7 kg (wind speed at 160 km/h)
Max wind velocity	200 km/h (AJ1E/IT model)
Materials	AJ1E: Aluminium elements and boom AJ1EBI: Aluminium elements and inox boom AJ1E/INOX: Stainless steel elements and boom AJ1E/IT: Stainless steel elements and boom Tig Welded Version Teflon insulator Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



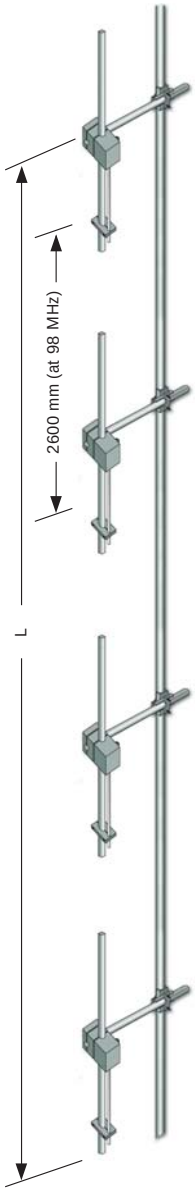
H-Plane

"These specifications are subject to change without notice"

Model AJ1E – AJ1EBI – AJ1E/INOX – AJ1E/IT

Radiations systems with AJ1E antenna

Omni-directional pattern



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.1:1 Max
Polarization	Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	According to the working frequency
Wind load	Refer to table (at 98 MHz)
Pressurizzable	No
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg	COLLINEARS SYSTEMS[3]				
		dB	times				800 W	1 KW	2 KW	3 KW	5 KW
1	1	1.0	1.2	-	1.4	6.7	AJ1E	AJ1E(HP)	-	-	-
2	1	4.0	2.5	-	4.0	13.5	-	AJ1EX21	-	-	-
4	1	7.0	5.0	-	9.2	27.0	AJ1EX41	-	AJ1EX42	AJ1EX43	-
6	1	8.8	8.5	-	14.4	40.5	AJ1EX61	-	AJ1EX62	AJ1EX63	-
8	1	10.0	10.0	-	19.6	54	AJ1EX81	-	AJ1EX82	-	AJ1EX85

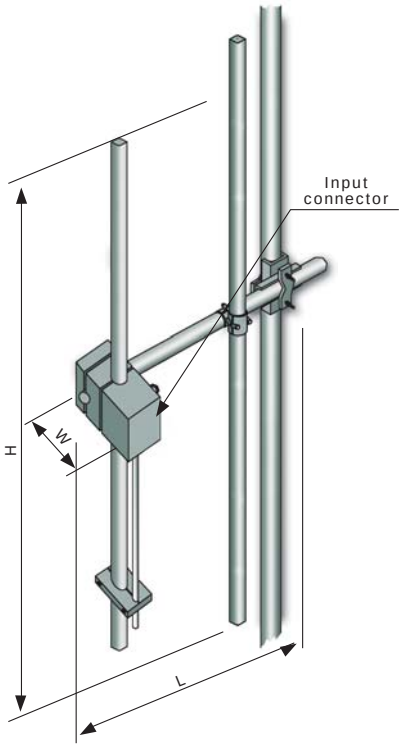
[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] The systems comprised: antennas, cables and splitter – for more details to see catalog – different version on request.

- Gain is provided for vertical polarization.
- When antenna is pole mounted on the top a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AJ2E – AJ2EBI – AJ2E/INOX – AJ2E/IT

- High Power Version (H.P.)
- FM Band 87.5÷108 MHz
- Suitable for VHF, Band I and OIRT Band
- Gamma Match Tuned
- Directional pattern
- Vertical or horizontal polarization
- Light - Low Cost - Demountable



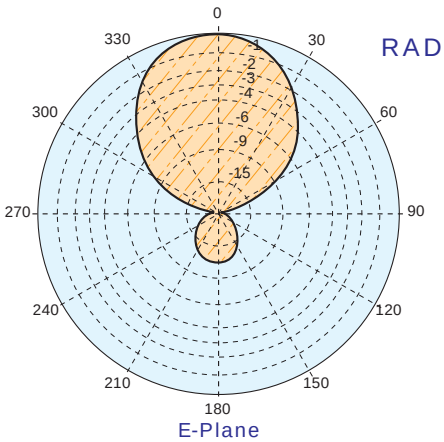
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" female or 7/8" EIA
Max Power	650W (N) – 1300W (7/16" – H.P. Version)
VSWR	≤ 1.1:1 in the operating channel
Polarization	Vertical or horizontal
Gain	5 dB (referred to half-wave dipole)
Pattern	E plane ± 40° H plane ± 90°
Lightning protection	No DC grounded

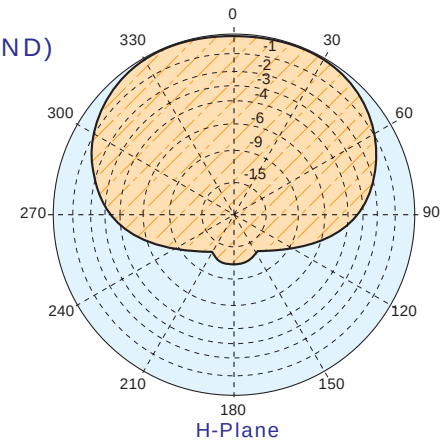
MECHANICAL DATA

Dimensions	According to the working frequency 1500 (H) x 860 (L) x 100 (W) mm at 98 MHz
Weight	According to the working frequency (aluminium or stainless steel)
Wind surface	0.093 m^2 (at 98 MHz)
Wind load	12.1 kg (wind speed at 160 km/h)
Max wind velocity	200 km/h (AJ2E/IT model)
Materials	AJ2E: Aluminium elements and boom AJ2EBI: Aluminium elements and stainless steel boom AJ2E/INOX: Stainless steel elements and boom AJ2E/IT: Stainless steel elements and boom Tig Welded Version Teflon insulator Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



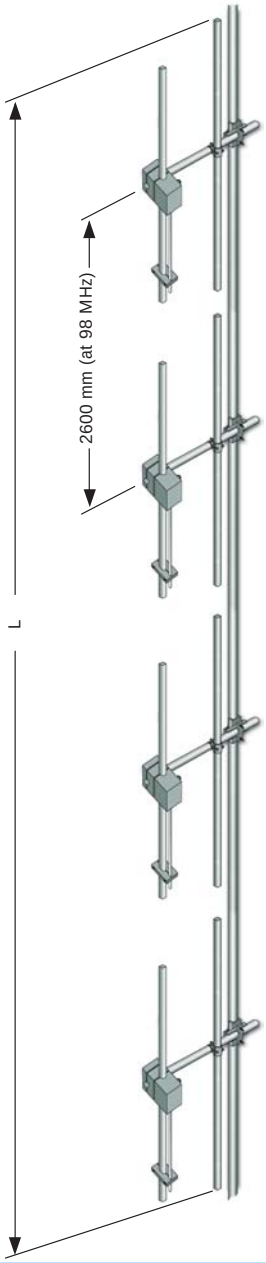
H-Plane

"These specifications are subject to change without notice"

Model AJ2E – AJ2EBI – AJ2E/INOX – AJ2E/IT

Radiations systems with AJ2E antenna

Collinears systems



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.1:1 Max
Polarization	Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	According to the working frequency
Wind load	Refer to table (at 98 MHz)
Pressurizzable	No
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg	COLLINEARS SYSTEMS[3]				
		dB	times				800 W	1 KW	2 KW	3 KW	5 KW
1	1	5.0	3.1	-	1.5	12.1	AJ2E	AJ2E(HP)	-	-	-
2	1	8.0	6.3	-	4.1	24.2	-	AJ2EX21	-	-	-
4	1	11.0	12.7	-	9.3	48.4	AJ2EX41	-	AJ2EX42	AJ2EX43	-
6	1	12.8	18.9	-	14.5	72.6	AJ2EX61	-	AJ2EX62	AJ2EX63	-
8	1	14.0	25.2	-	19.7	96.8	AJ2EX81	-	AJ2EX82	-	AJ2EX85

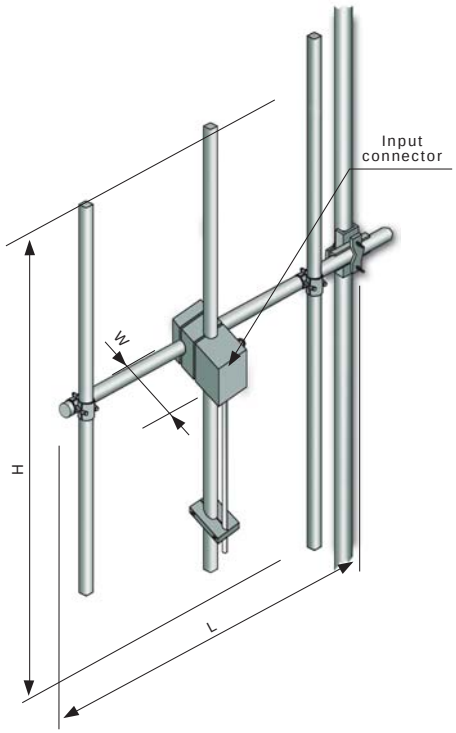
[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] The systems comprised: antennas, cables and splitter – for more details to see catalog – different version on request.

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AJ3E – AJ3EBI – AJ3E/INOX – AJ3E/IT

- High Power Version (H.P.)
- FM Band 87.5÷108 MHz
- Suitable for VHF, Band I and OIRT Band
- Gamma Match Tuned
- Directional pattern
- Vertical or horizontal polarization
- Light - Low Cost - Demountable



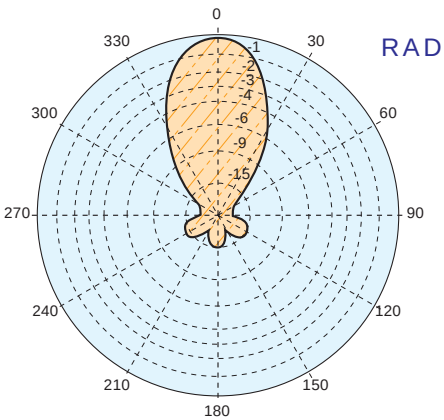
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" female or 7/8" EIA
Max Power	650W (N) – 1300W (7/16" – H.P. Version)
VSWR	≤ 1.1:1 in the operating channel
Polarization	Vertical or horizontal
Gain	7 dB (referred to half-wave dipole)
Pattern	E plane ± 25° H plane ± 30°
Lightning protection	No DC grounded

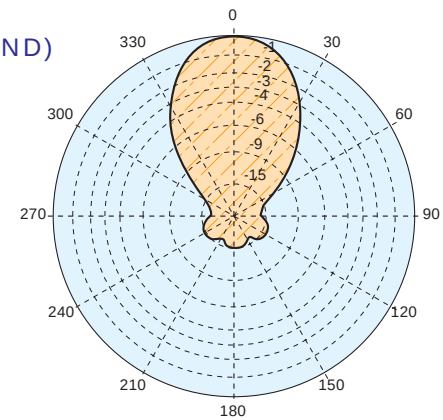
MECHANICAL DATA

Dimensions	According to the working frequency 1500 (H) x 1480 (L) x 100 (W) mm at 98 MHz
Weight	According to the working frequency (aluminium or stainless steel)
Wind surface	0.14 m^2 (at 98 MHz)
Wind load	18 kg (wind speed at 160 km/h)
Max wind velocity	200 km/h (AJ3E/IT model)
Materials	AJ3E: Aluminium elements and boom AJ3EBI: Aluminium elements and stainless steel boom AJ3E/INOX: Stainless steel elements and boom AJ3E/IT: Stainless steel elements and boom Tig Welded Version Teflon insulator Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



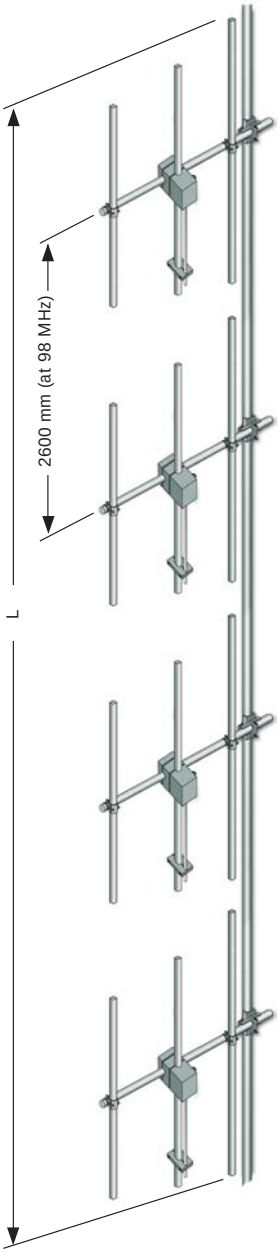
H-Plane

"These specifications are subject to change without notice"

Model AJ3E – AJ3EBI – AJ3E/INOX – AJ3E/IT

Radiations systems with AJ3E antenna

Collinears systems



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.1:1 Max
Polarization	Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	According to the working frequency
Wind load	Refer to table (at 98 MHz)
Pressurizzable	No
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg	COLLINEARS SYSTEMS[3]				
		dB	times				800 W	1 KW	2 KW	3 KW	5 KW
1	1	7.0	5.0	-	1.5	18	AJ3E	AJ3E(HP)	-	-	-
2	1	10.0	10.0	-	4.1	36	-	AJ3EX21	-	-	-
4	1	13.0	20.0	-	9.3	72	AJ3EX41	-	AJ3EX42	AJ3EX43	-
6	1	14.8	30.0	-	14.5	108	AJ3EX61	-	AJ3EX62	AJ3EX63	-
8	1	16.0	40.0	-	19.7	144	AJ3EX81	-	AJ3EX82	-	AJ3EX85

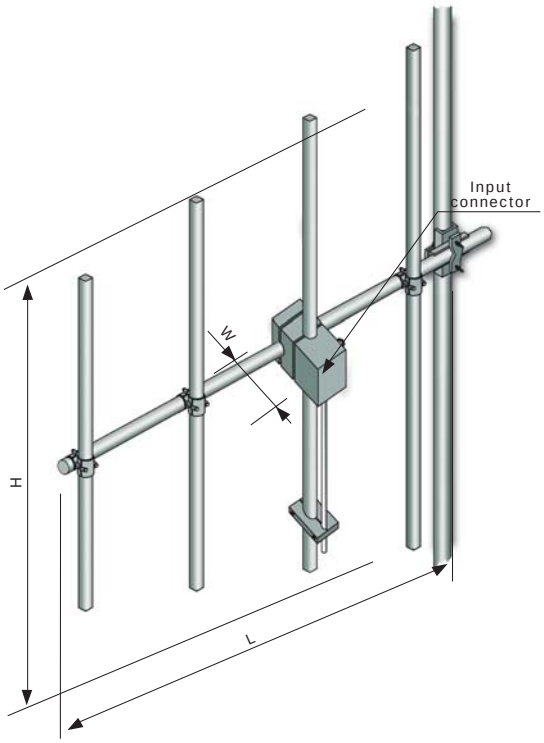
[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] The systems comprised: antennas, cables and splitter – for more details to see catalog – different version on request.

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AJ4E – AJ4EBI – AJ4E/INOX – AJ4E/IT

- High Power Version (H.P.)
- FM Band 87.5÷108 MHz
- Suitable for VHF, Band I and OIRT Band
- Gamma Match Tuned
- Directional pattern
- Vertical or horizontal polarization
- Light - Low Cost - Demountable



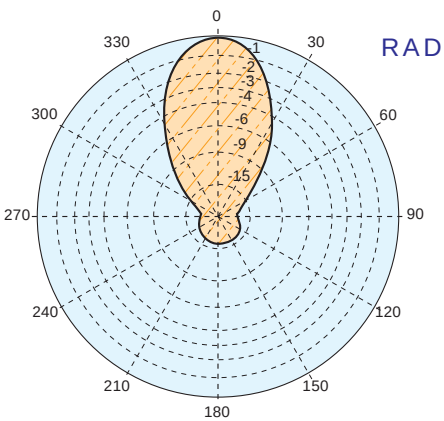
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" female or 7/8" EIA
Max Power	650W (N) – 1300W (7/16" – H.P. Version)
VSWR	≤ 1.1:1 in the operating channel
Polarization	Vertical or horizontal
Gain	8 dB (referred to half-wave dipole)
Pattern	E plane ± 25° H plane ± 30°
Lightning protection	No DC grounded

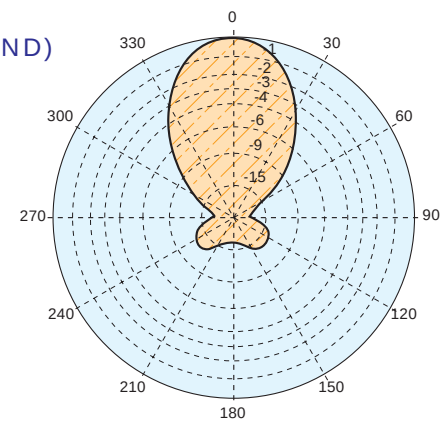
MECHANICAL DATA

Dimensions	According to the working frequency 1500 (H) x 2090 (L) x 100 (W) mm at 98 MHz
Weight	According to the working frequency (aluminium or stainless steel)
Wind surface	0.18 m^2 (at 98 MHz)
Wind load	23.3 kg (wind speed at 160 km/h)
Max wind velocity	180 km/h (AJ4E/IT model)
Materials	AJ4E: Aluminium elements and boom AJ4EBI: Aluminium elements and stainless steel boom AJ4E/INOX: Stainless steel elements and boom AJ4E/IT: Stainless steel elements and boom Tig Welded Version Teflon insulator Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



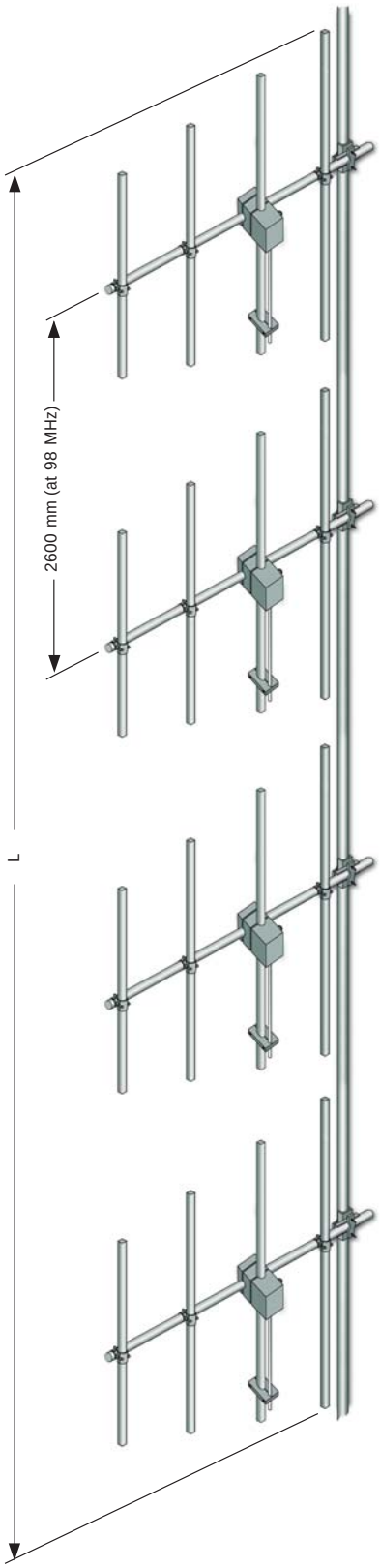
H-Plane

"These specifications are subject to change without notice"

Model AJ4E – AJ4EBI – AJ4E/INOX – AJ4E/IT

Radiations systems with AJ4E antenna

Collinears systems



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.1:1 Max
Polarization	Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	According to the working frequency
Wind load	Refer to table (at 98 MHz)
Pressurizzable	No
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg
		dB	times			
1	1	8.0	6.3	-	1.5	23.3
2	1	11.0	12.6	-	4.1	46.6
4	1	14.0	25.2	-	9.3	93.2
6	1	15.8	37.8	-	14.5	139.8
8	1	17.0	50.4	-	19.7	186.4

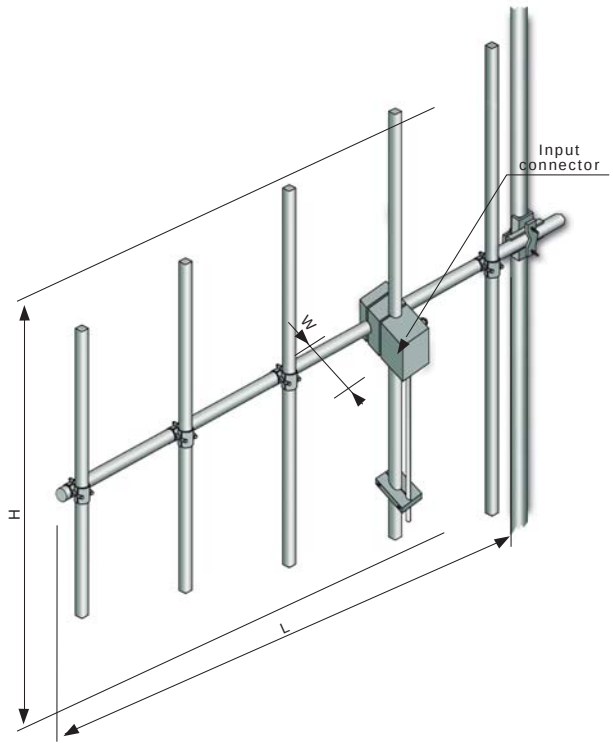
[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AJ5E – AJ5EBI – AJ5E/INOX – AJ5E/IT

- High Power Version (H.P.)
- FM Band 87.5÷108 MHz
- Suitable for VHF, Band I and OIRT Band
- Gamma Match Tuned
- Directional pattern
- Vertical or horizontal polarization
- Light - Low Cost - Demountable



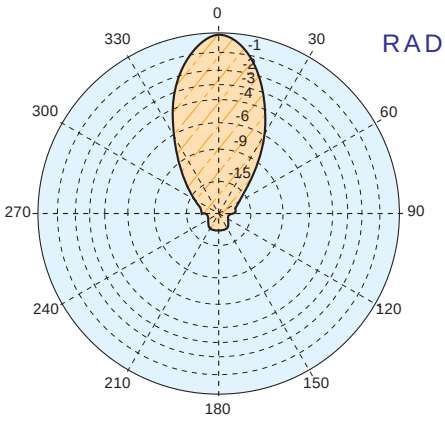
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N or 7/16" female or 7/8" EIA
Max Power	650W (N) – 1300W (7/16" – H.P. Version)
VSWR	≤ 1.1:1 in the operating channel
Polarization	Vertical or horizontal
Gain	9.5 dB (referred to half-wave dipole)
Pattern	E plane ± 20° H plane ± 22°
Lightning protection	No DC grounded

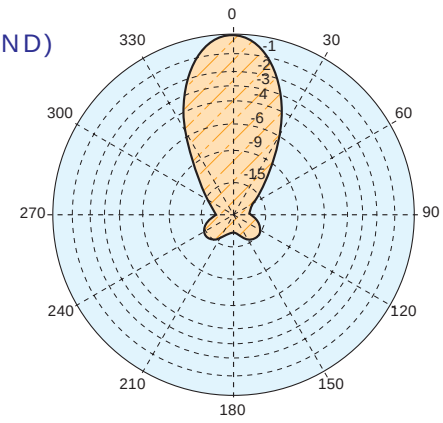
MECHANICAL DATA

Dimensions	According to the working frequency 1500 (H) x 2700 (L) x 100 (W) mm at 98 MHz
Weight	According to the working frequency (aluminium or stainless steel)
Wind surface	0.23 m^2 (at 98 MHz)
Wind load	30 kg (wind speed at 160 km/h)
Max wind velocity	160 km/h (AJ5E/IT model)
Materials	AJ5E: Aluminium elements and boom AJ5EBI: Aluminium elements and stainless steel boom AJ5E/INOX: Stainless steel elements and boom AJ5E/IT: Stainless steel elements and boom Tig Welded Version Teflon insulator Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



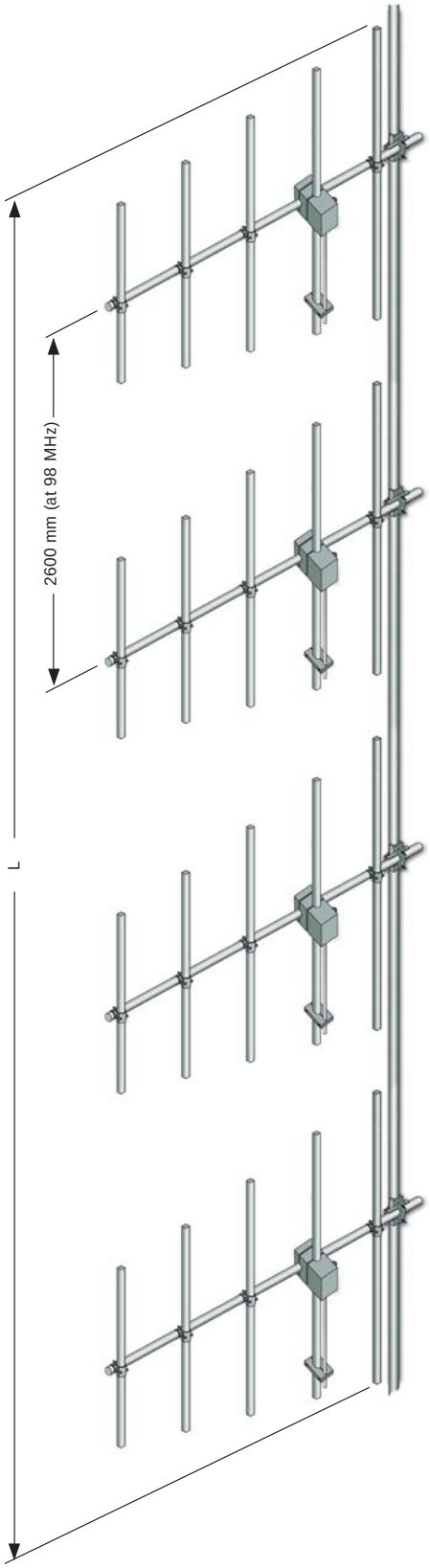
H-Plane

"These specifications are subject to change without notice"

Model AJ5E – AJ5EBI – AJ5E/INOX – AJ5E/IT

Radiations systems with AJ5E antenna

Collinears systems



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.1:1 Max
Polarization	Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	According to the working frequency
Wind load	Refer to table (at 98 MHz)
Pressurizzable	No
Radome	Optional
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg
		dB	times			
1	1	9.5	8.9	-	1.5	30
2	1	12.5	17.8	-	4.1	60
4	1	15.5	35.6	-	9.3	120
6	1	17.3	53.4	-	14.5	180
8	1	18.5	71.3	-	19.7	240

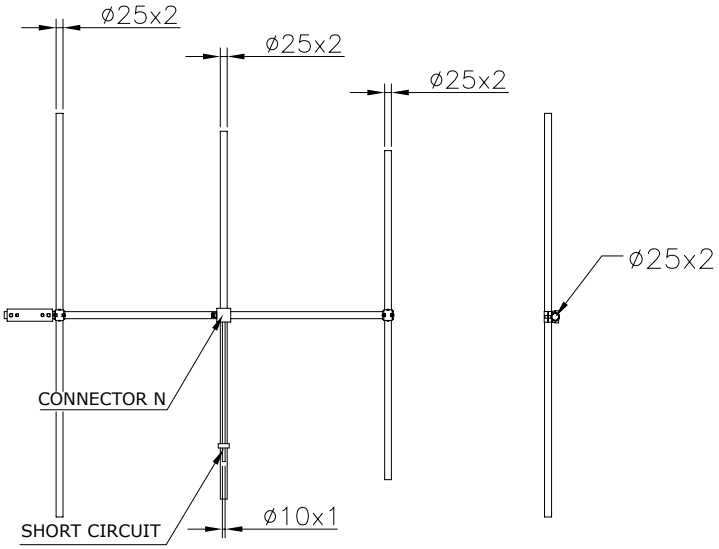
[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

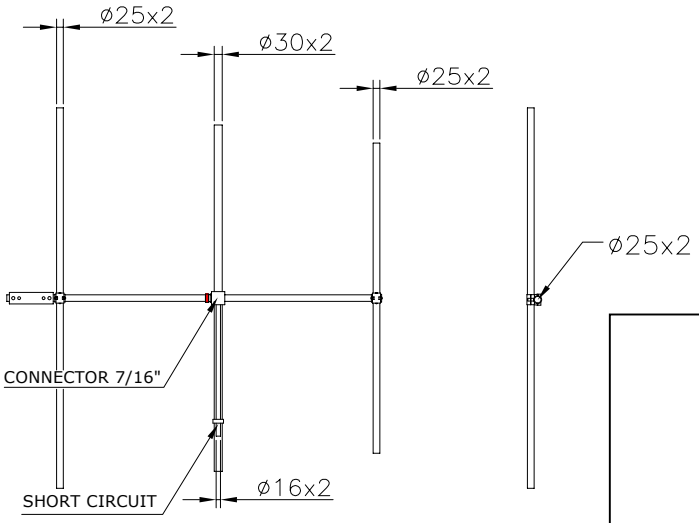
DETAILED LIST TUNED ANTENNA

STANDARD VERSION ALUMINIUM/INOX CONNECTOR N



EXAMPLE WITH 3 ELEMENTS

STANDARD VERSION ALUMINIUM/INOX CONNECTOR 7/16” – 7/8”

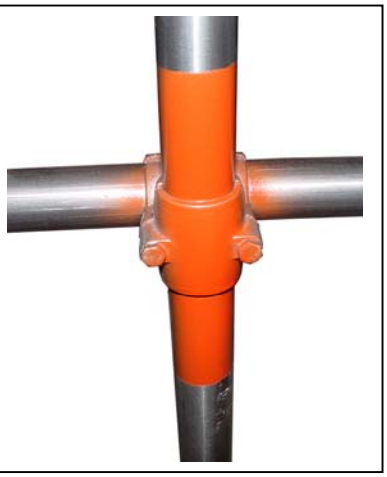


EXAMPLE WITH 3 ELEMENTS

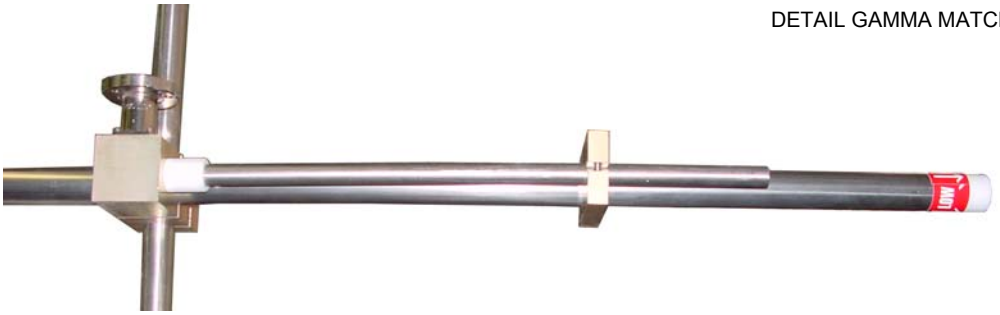
DETAIL
CONNECTOR
VERSION 7/8”

←

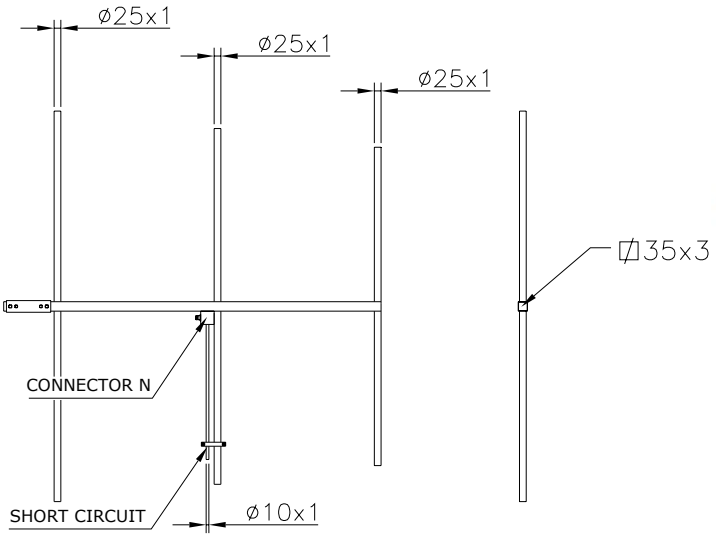
DETAIL ELEMENTS ↓



DETAIL GAMMA MATCH

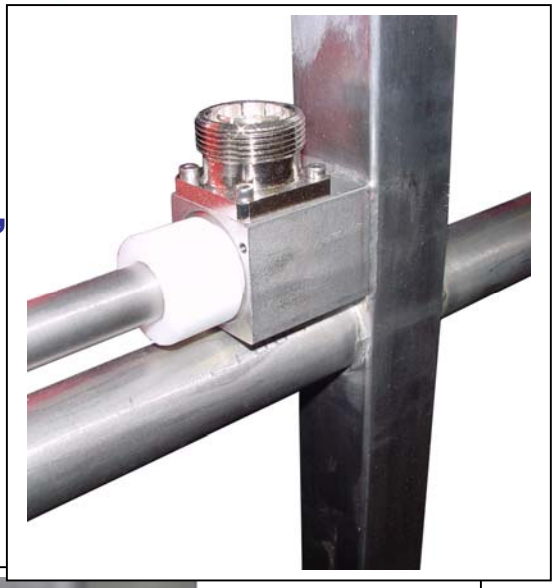


WELDED VERSION INOX CONNECTOR N

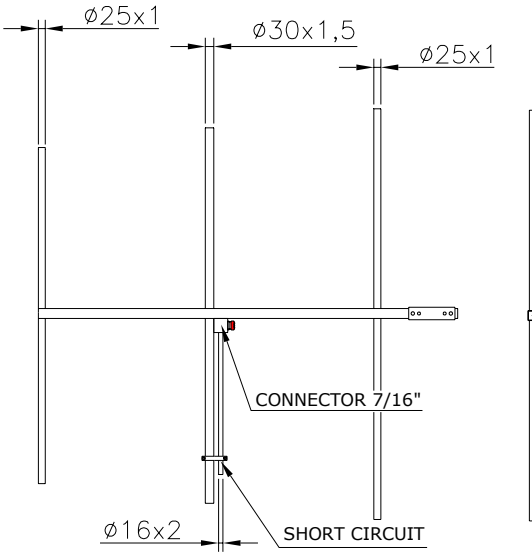


EXAMPLE WITH 3 ELEMENTS

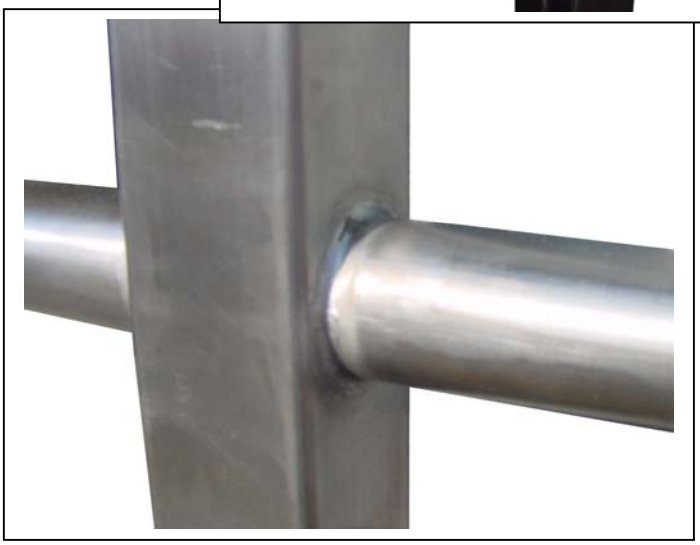
DETAIL CONNECTOR (7/16")



WELDED VERSION INOX CONNECTOR 7/16”

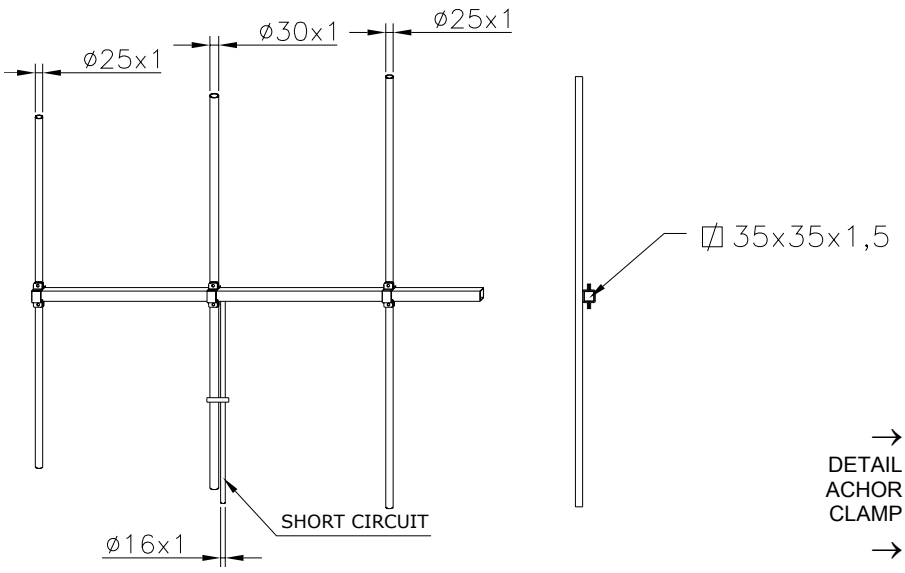


EXAMPLE WITH 3 ELEMENTS

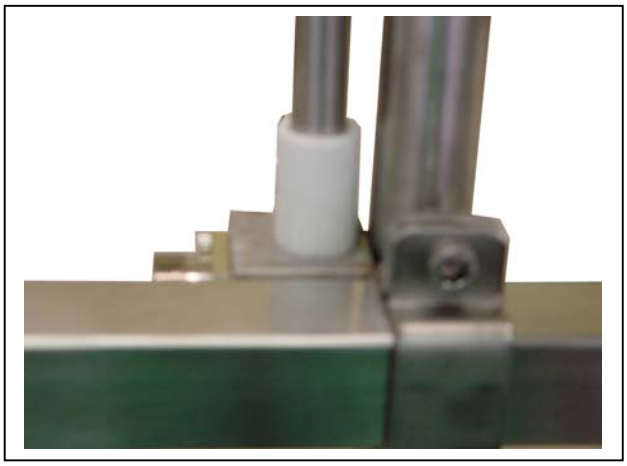


DETAIL WELDED ELEMENT

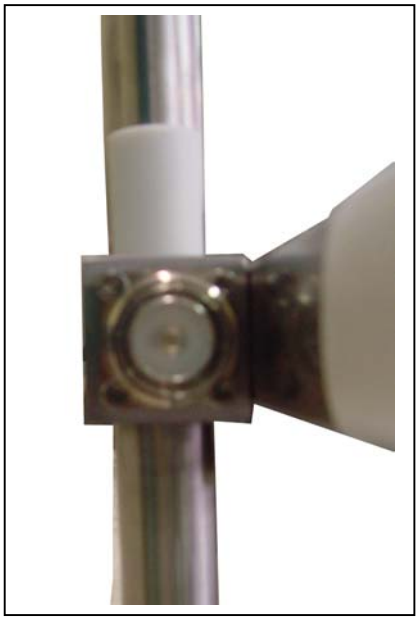
DEMOUNTABLE VERSION INOX CONNECTOR N /7/16”



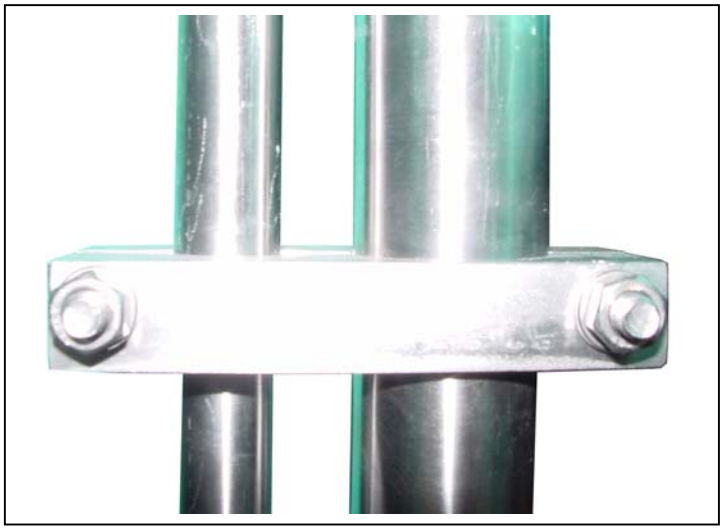
→ DETAIL ACHOR CLAMP →



↑ DETAIL CONNECTOR (7/16”) ←



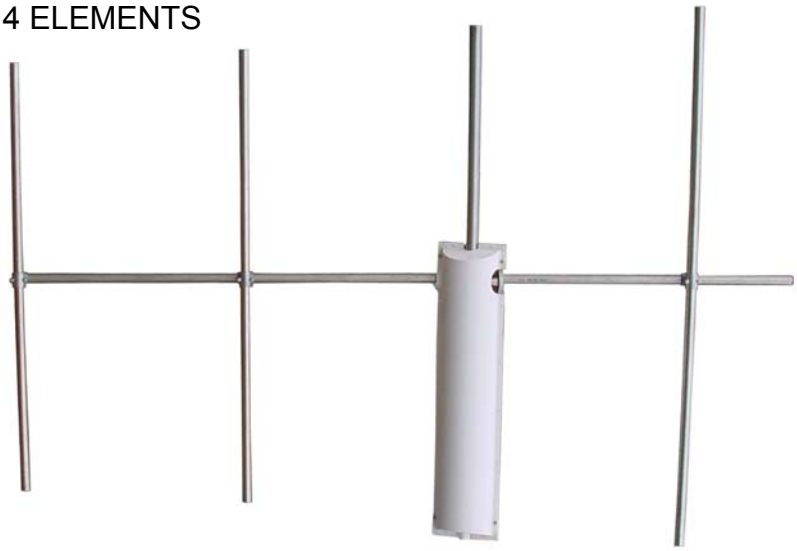
DETAIL GAMMA MATCH ↓



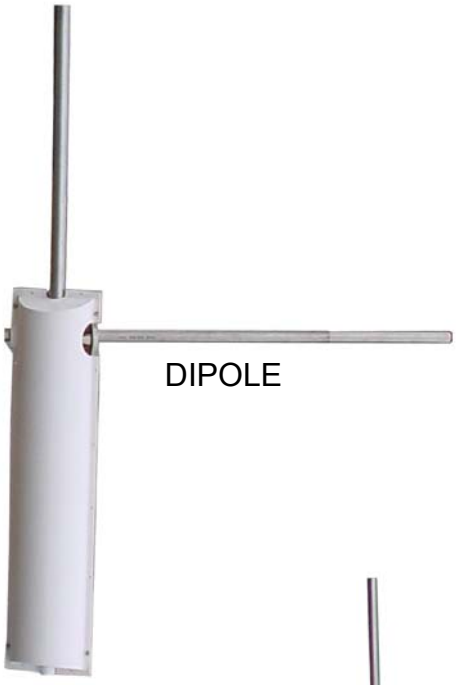
DEMOUNTABLE: PARTICULAR VERSION INOX

OPTION RADOME

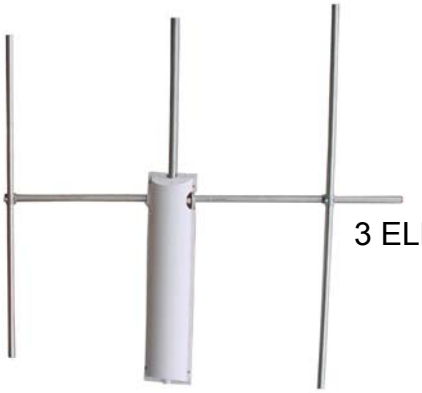
4 ELEMENTS



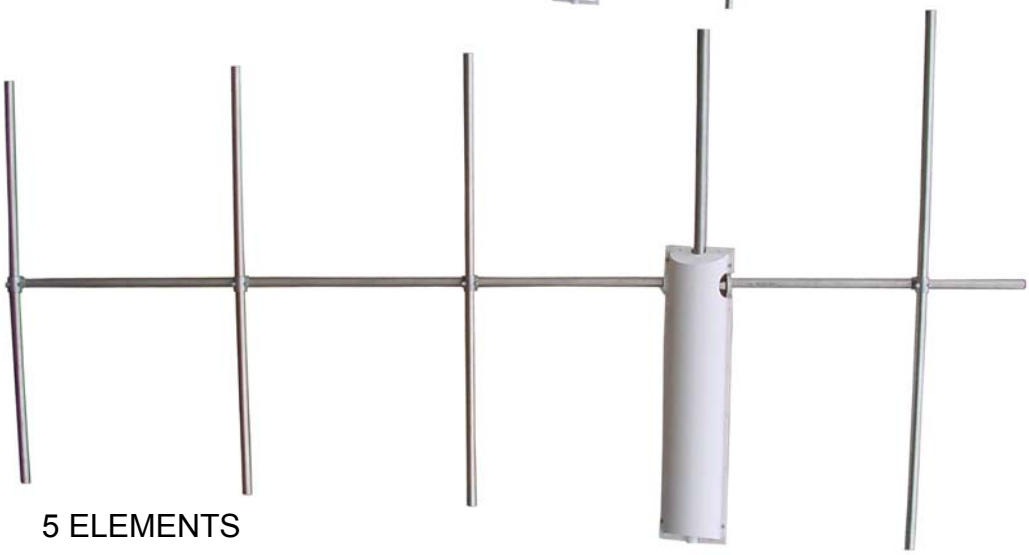
2 ELEMENTS



DIPOLE



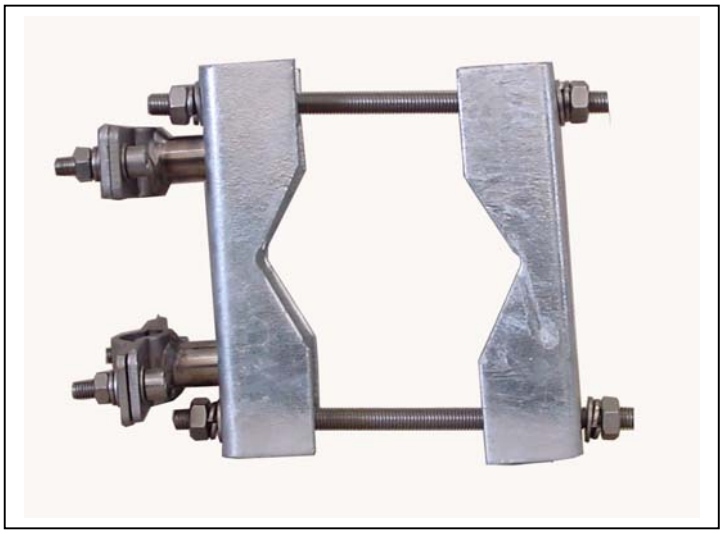
3 ELEMENTS

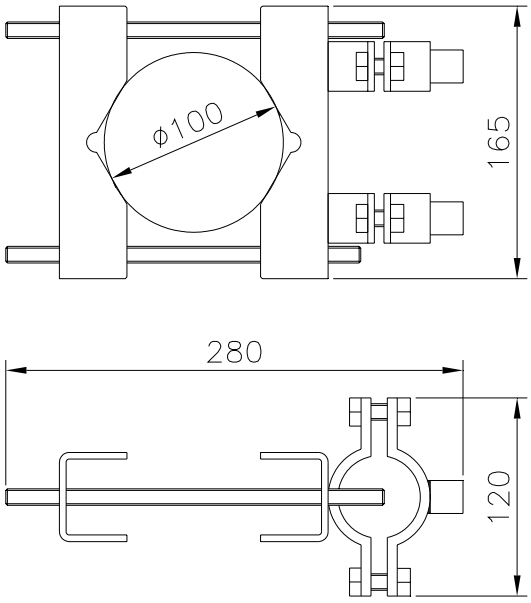


5 ELEMENTS

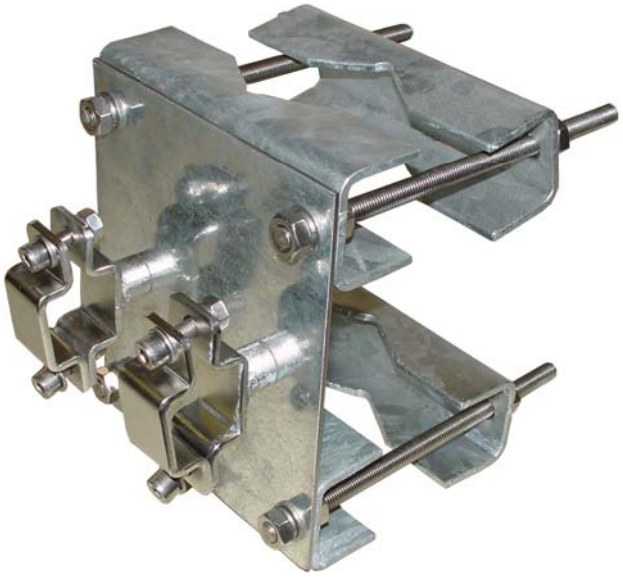
SUPPORT

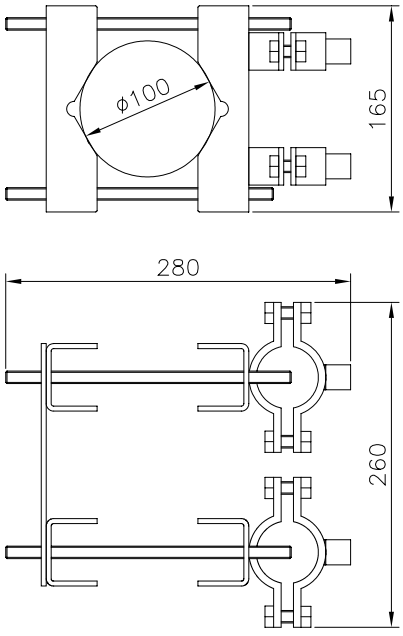
STANDARD CLAMP





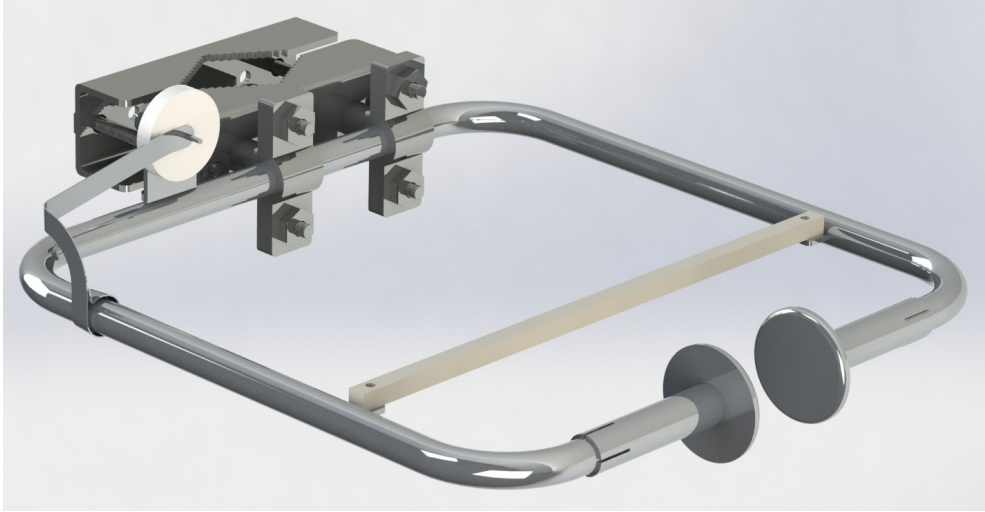
REINFORCED CLAMP (DOUBLE CLAMP)





Model : ACP0H

- **Band II**
- **FM Band 87.5÷108 MHz**
- **Horizontal Polarization**
- **Omnidirectional Pattern**
- **Tuned antenna**
- **No Pressurization Needed**
- **Economical**
- **Digital Ready**
- **Stainless steel AISI 304**



ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N female
Max Power	700W
VSWR ± 100KHz	≤ 1.1:1
Polarization	Horizontal
Gain	-0.3 dB (ref.to to half wave dipole)
Pattern	Omnidirectional ±1.5 dB with 100 mm dia. pole
Lightning protection	All metal parts DC grounded

MECHANICAL DATA

Dimensions	360x360x100 mm
Net Weight	2 Kg without clamp
Wind surface	0.0384 m^2
Wind load	6,5 kg (wind speed at 160 km/h)
Max wind velocity	220 km/h.
Materials	External parts: stainless steel, Plexiglas Internal parts: silver plated brass
Mounting	With special pipe clamps 50 ÷ 110 mm dia.

Radiations systems with ACP0H antenna

Collinear systems

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

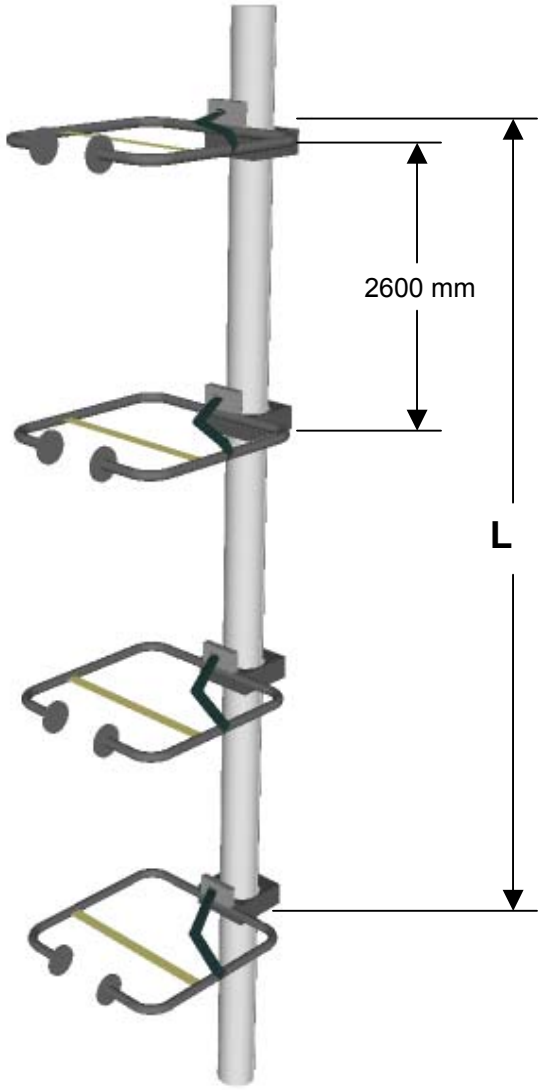
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	N female
VSWR ± 100KHz	1.1:1 in the operating channel
Polarization	Horizontal
Gain	Refer to table
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power.

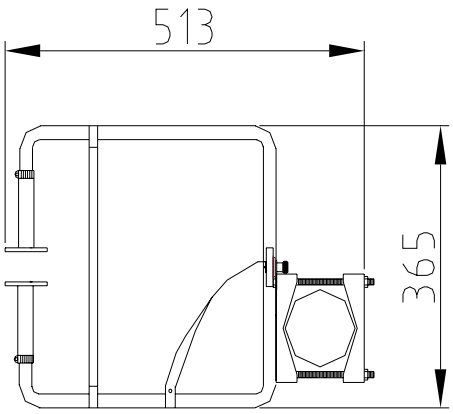
TECHNICAL DATA

of bays	Dipoles per bay	Gain[1] dB				(v=160 km/h) kg
	1	2.7	1.8	4		13.0
	1	4.5	2.8	6		19.5
	1	5.7	3.7	8		26.0
	1	7.5	5.6	12		39.0
	1	8.7	7.5	16		52.0

[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] without mounting hardware



DIMENSIONS



- Gain is provided for Horizontal polarization.
- When antenna is pole mounted on the top a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

Model : ACPO

- **Band II**
- **FM Band 87.5÷108 MHz**
- **Tuned antenna**
- **True circular polarization**
- **Stainless steel AISI 304**

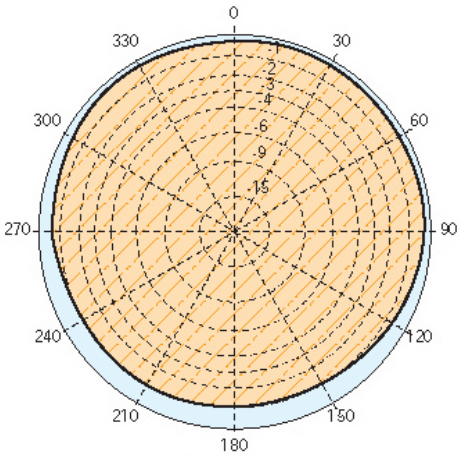
ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	N female
Max Power	800W (N female)
VSWR ± 100KHz	≤ 1.1:1
Polarization	Right circular
Gain	-3.4 dB
Pattern	Omnidirectional ± 1.5 dB in free space Omnidirectional ± 3 dB with 100 mm dia. pole
Lightning protection	All metal parts DC grounded

MECHANICAL DATA

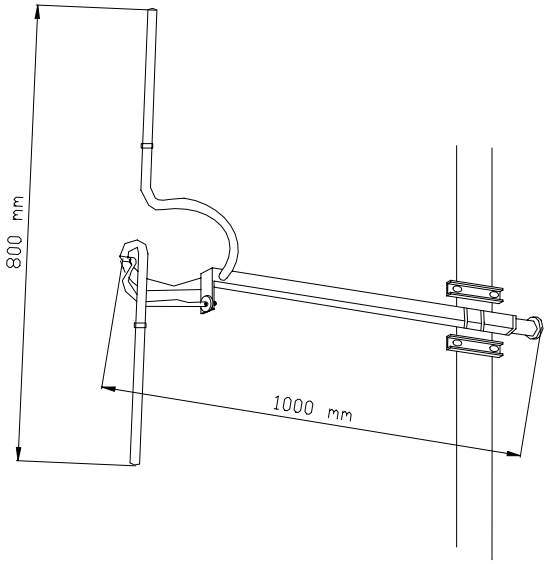
Dimensions	1000x300x800 mm
Net Weight	3 Kg without clamp 5.5 Kg with clamp
Wind surface	0.036 m^2
Wind load	6 kg (wind speed at 160 km/h)
Max wind velocity	220 km/h.
Materials	External parts: stainless steel Internal parts: silver plated brass
Mounting	With special pipe clamps 50 ÷ 110 mm dia.

RADIATION PATTERN (MID BAND)



H-plane

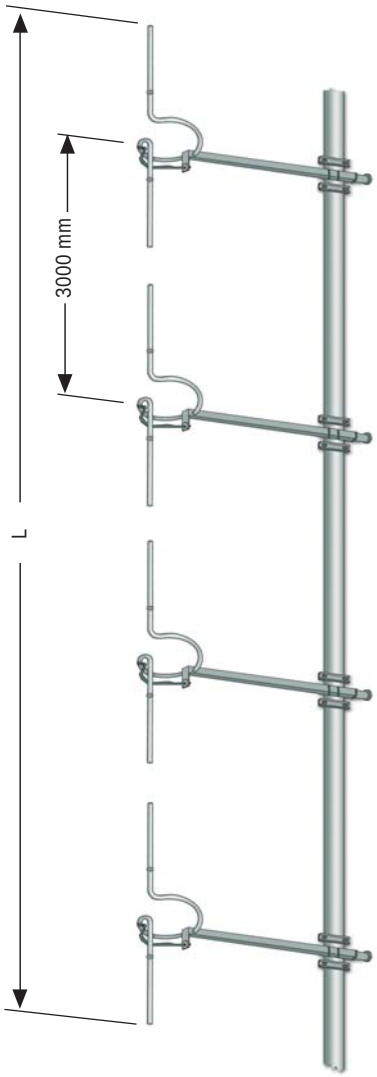
DIMENSIONS



Model ACP0

Radiations systems with ACP0 antenna

Collinears systems



ELECTRICAL DATA	
Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	N female
VSWR	≤ 1.1:1 in the operating channel
Polarization	Circular
Gain	Refer to table
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	According to the working frequency
Wind load	Refer to table (at 98 MHz)
Pressurizzable	No
Mounting hardware	Hot dip galvanized steel clamps (option)
Shipping	As required

TECHNICAL DATA

Number of bays	Dipole per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=160 km/h) kg	Pipe Lenght m	Tower space m	COLLINEARS SYSTEMS[3]				
		dB	times						800 W	1 KW	2 KW	3 KW	5 KW
1	1	-3,4	0.46	5.5	1.4	6	3.1	10	ACP0	-	-	-	-
2	1	-0.0	0.99	11.0	4.0	12	6.1	20	-	ACP0X21	-	-	-
3	1	1.9	1.55	16.5	9.2	18	9.1	30	-	-	-	-	-
4	1	3.2	2.12	22.0	14.4	24	12.2	40	ACP0X41	-	ACP0X42	ACP0X43	-
5	1	4.3	2.70	27.5	19.6	30	15.2	50	-	-	-	-	-
6	1	5.2	3.28	33.0	9.2	36	18.3	60	ACP0X61	-	ACP0X62	ACP0X63	-
8	1	6.5	4.40	44.0	14.4	48	24.4	80	ACP0X81	-	ACP0X82	-	ACP0X85
12	1	8.4	6.85	66.0	19.6	72	36.6	120	-	-	-	-	-

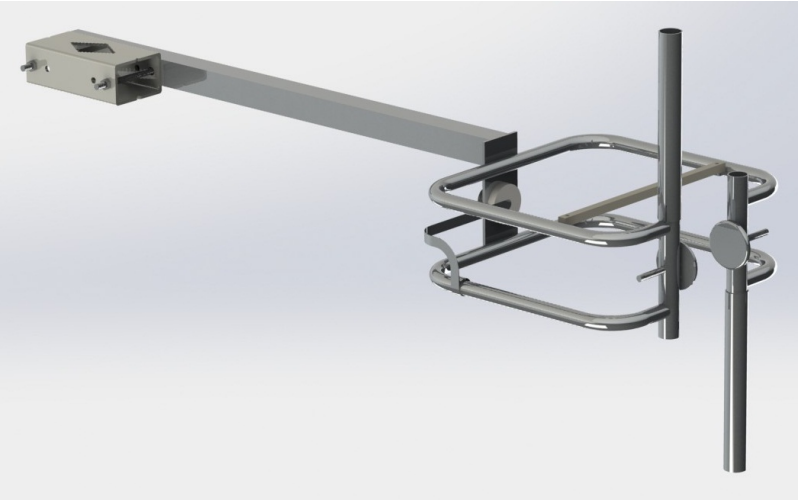
[1] Referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] Without mounting hardware.
[3] The systems comprised: antennas, cables and splitter – for more details to see catalog – different version on request.

- Gain is provided for vertical polarization.
- When antenna is pole mounted on the top a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model : ACP0HP

- **Band II**
- **FM Band 87.5÷108 MHz**
- **True Circular Polarization**
- **Tuned antenna**
- **Economical**
- **Digital Ready**
- **Stainless steel AISI 304**
- **Adjustable Fine-Matching Transformer (OPTION)**



ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connectors	7/8" (3KW) or 7/16" (2KW)
Max Power	3 KW
VSWR ± 100KHz	≤ 1.1:1
Polarization	Right Circular
Gain	-3.4 dB (referred to half wave dipole)
Azimut Pattern Circularity:	Omnidirectional ± 1.5 dB in free space Omnidirectional ± 3 dB with 100 mm dia. pole
Lightning protection	All metal parts DC grounded

MECHANICAL DATA

Dimensions	1200x375x775 (HxWxL) mm
Net Weight	6 Kg without clamp 8,5 Kg with clamp
Wind surface	0.072 m^2
Wind load	11.5 kg (wind speed at 160 km/h) Side
Max wind velocity	220 km/h.
Materials	External parts: stainless steel, plexiglas Internal parts: silver plated brass
Mounting	With special pipe clamps 50 ÷ 110 mm dia.

Radiations systems with ACP0HP antenna - Collinear systems

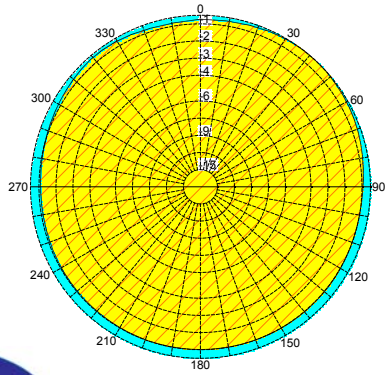
MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Mounting hardware	Hot dip galvanized steel clamps
Shipping	As required

ELECTRICAL DATA

Frequency range	87.5÷108 MHz
Impedance	50 Ohm
Connector	N female
VSWR ± 100KHz	1.1:1 in the operating channel
Polarization	Circular
Gain	Refer to table
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

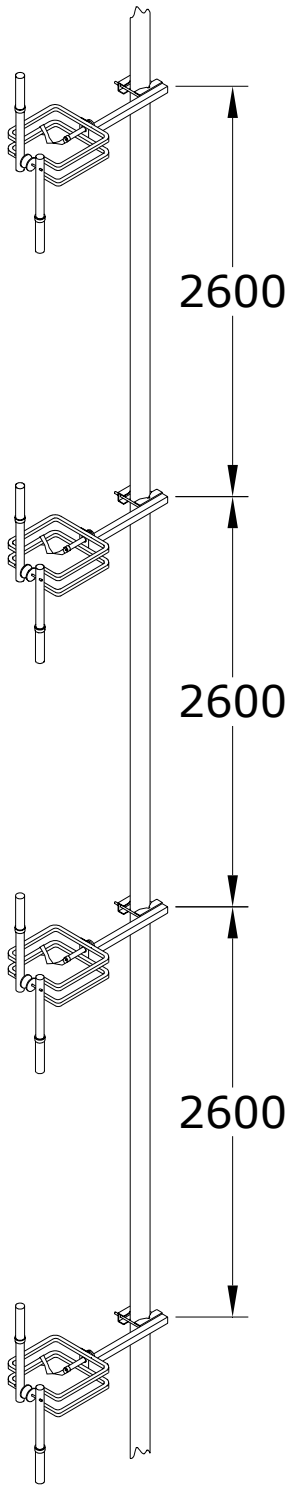
RADIATION PATTERN FREE SPACE (MID BAND)



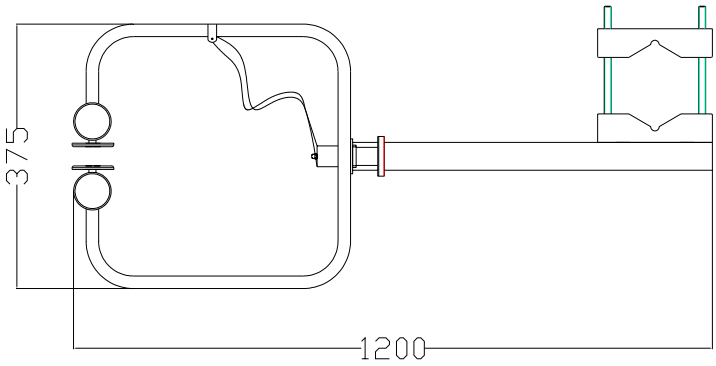
TECHNICAL DATA (FULL-WAVE-SPACED)

Number of bays	Dipoles per bay	Gain[1]		Weight[2]	Antenna height L	Wind load (v=160 km/h)
		dB	times	Kg	m	kg
1	1	-3.4	0.5	6	---	11.5
2	1	0.0	1.0	12	3.6	23
4	1	3.2	2.1	24	8.8	46
6	1	5.2	3.3	36	14.0	69
8	1	6.5	4.5	48	21.8	92
12	1	8.4	6.9	72	29.6	138

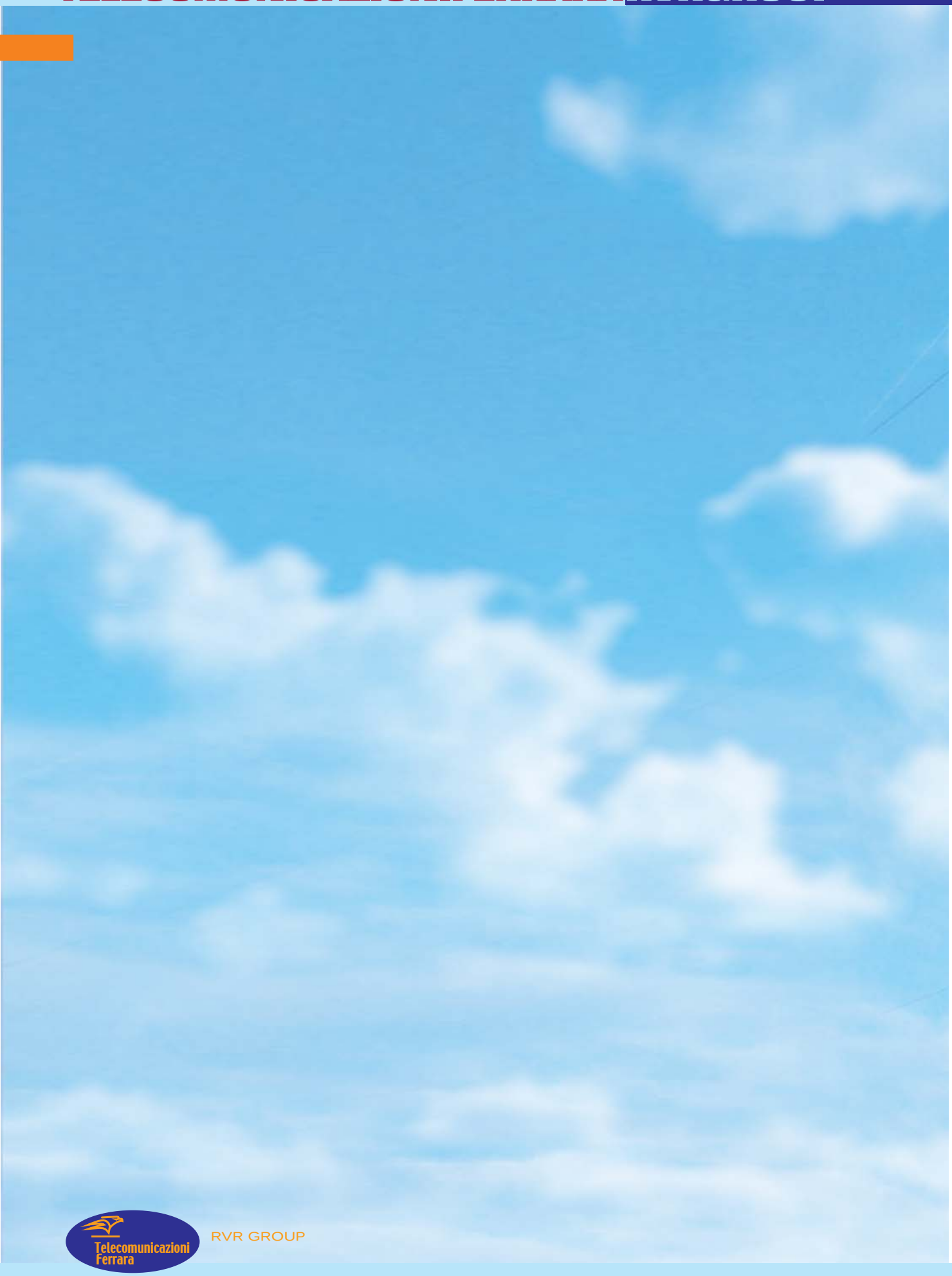
[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] without mounting hardware
[3] without radome



DIMENSIONS



- Gain is provided for Horizontal polarization.
- When antenna is pole mounted on the top a tower the horizontally polarized radiation pattern is omni - directional.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.



RVRGROUP TELECOMUNICAZIONI FERRARA

LINKS ANTENNAS

GENERAL CATALOG

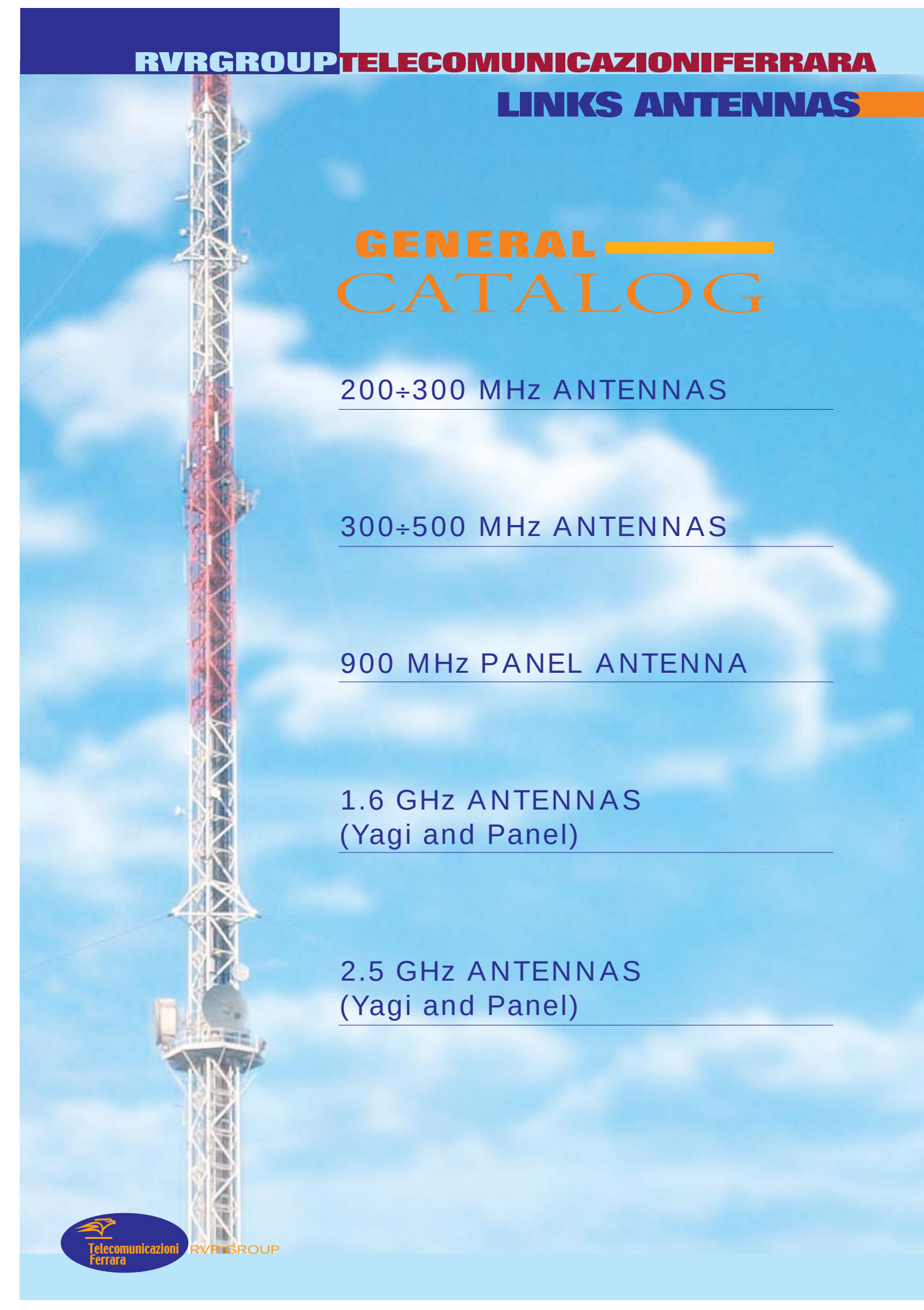
200÷300 MHz ANTENNAS

300÷500 MHz ANTENNAS

900 MHz PANEL ANTENNA

1.6 GHz ANTENNAS
(Yagi and Panel)

2.5 GHz ANTENNAS
(Yagi and Panel)



Telecomunicazioni Ferrara RVRGROUP

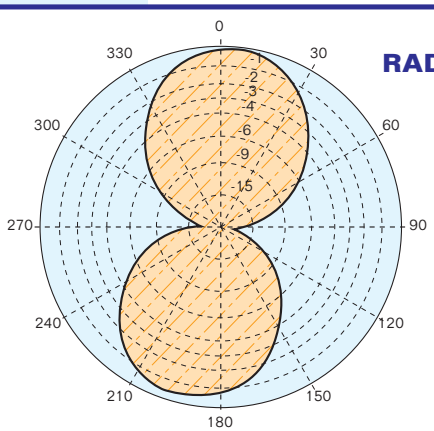
Model AJ1FIII - AJ1FIII7/8

- **Band III VHF dipole**
- **Broadband 215-220 MHz**
- **2 dB gain**
- **Vertical polarization**
- **Suitable for various patterns**
- **Stainless steel AISI 304**

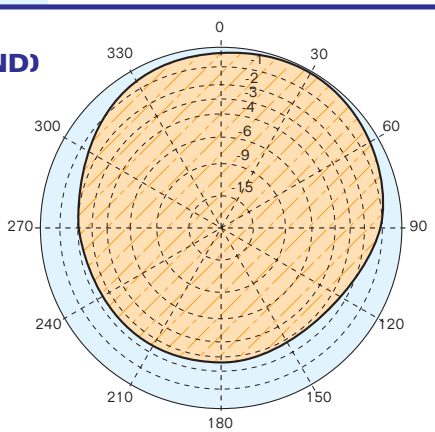
ELECTRICAL DATA	
Frequency range	215 ÷ 220 MHz
Impedance	50 Ohm
Connectors	N or 7/16" female or 7/8" EIA
Max Power	800W (N) – 2KW (7/16") – 3.5KW (7/8" EIA)
VSWR	≤ 1.25:1 Average
Polarization	Vertical
Gain	2 dB
Pattern	Omni directional ± 1.5 dB in free space Omni directional ± 3 dB with 100mm dia. pole
Lightning protection	All metal parts DC grounded

MECHANICAL DATA	
Dimensions	605x550x180 mm
Weight	7 kg without hardware mounting
Wind surface	0.114 m^2
Wind load	16.3 kg (wind speed at 150 km/h – without radome)
Max wind velocity	220 km/h.
Materials	External parts: stainless steel Internal parts: passivated aluminium Radome: fiberglass (option)
Icing protection	Feed point radome (optional)
Radome	Optional
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)

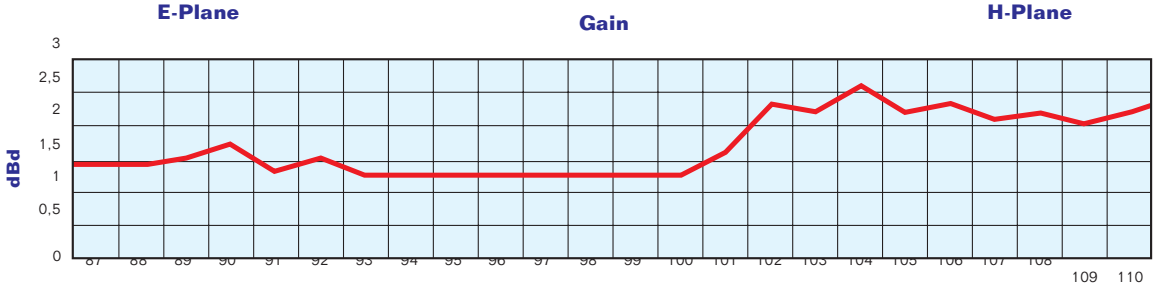


E-Plane



H-Plane

Gain



Freq. in MHZ

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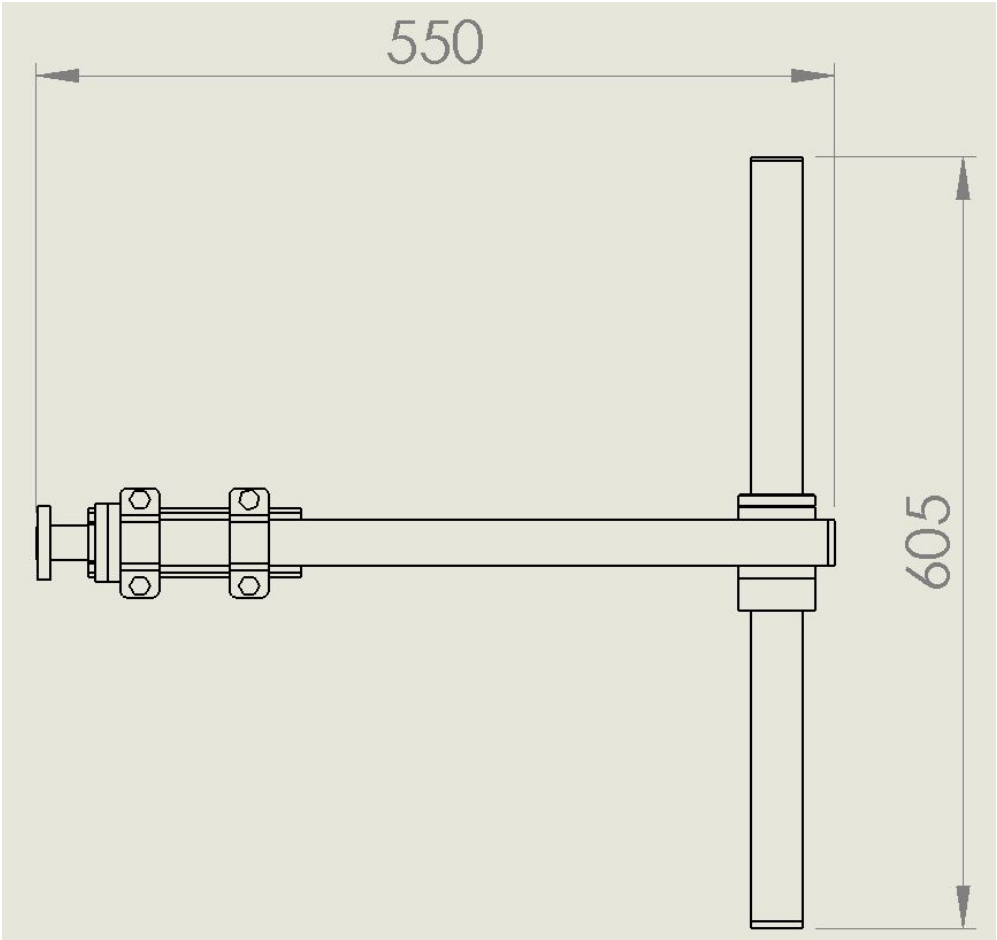
We are not responsible for any use of this information.

Model AJ1F III– AJ1FIII 7/8

DIMENSIONS (mm)



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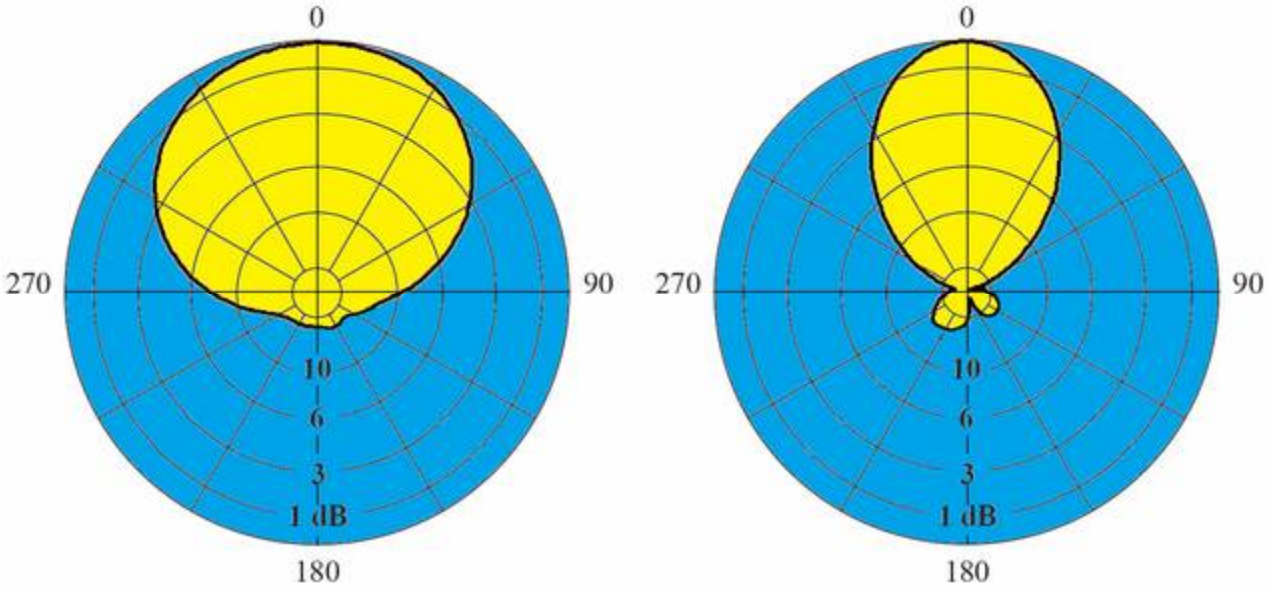
The firm reserve the right to change without prior notice the information contained in this brochure. Whilst every effort is made to ensure that details are correct at time of print, the firm cannot be held responsible for any error.

Model : AJ4III

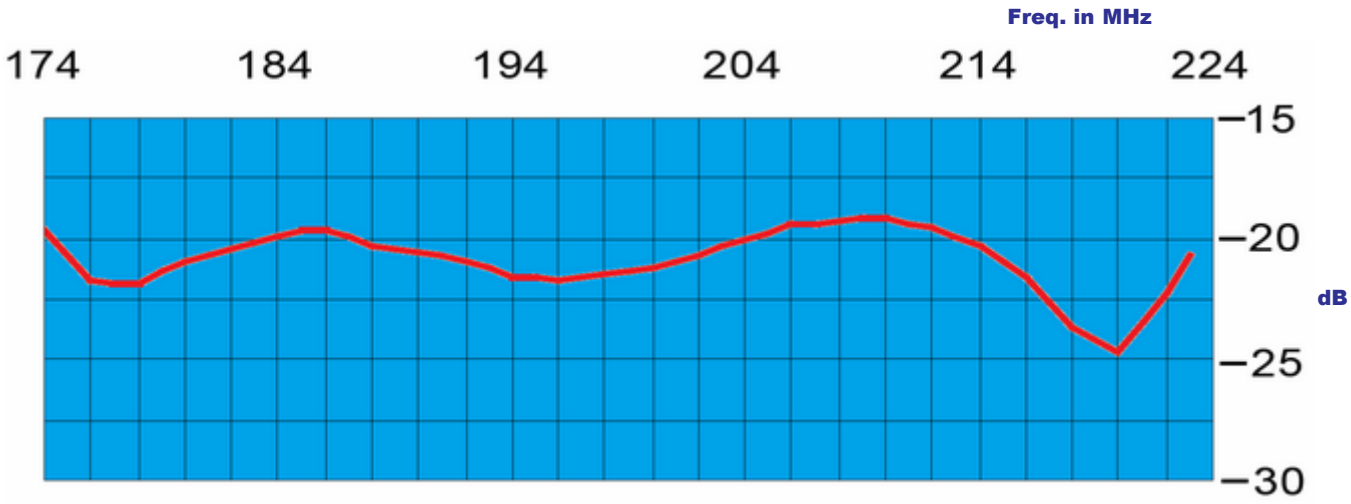
- Band III
- Broadband 174 ÷ 223 MHz
- Demountable
- Vertical or Horizontal polarization
- Pressurizzable on request

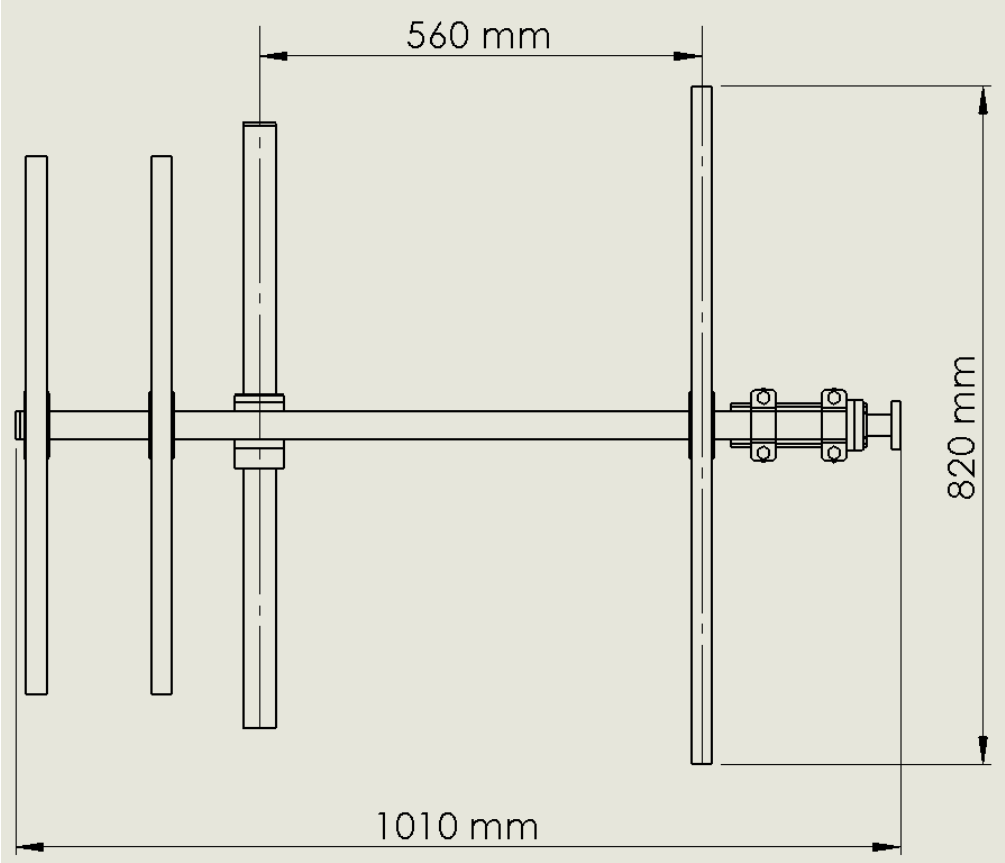
RADIATION PATTERN (MID BAND)



E-plane H-plane

RETURN LOSS





ELECTRICAL DATA

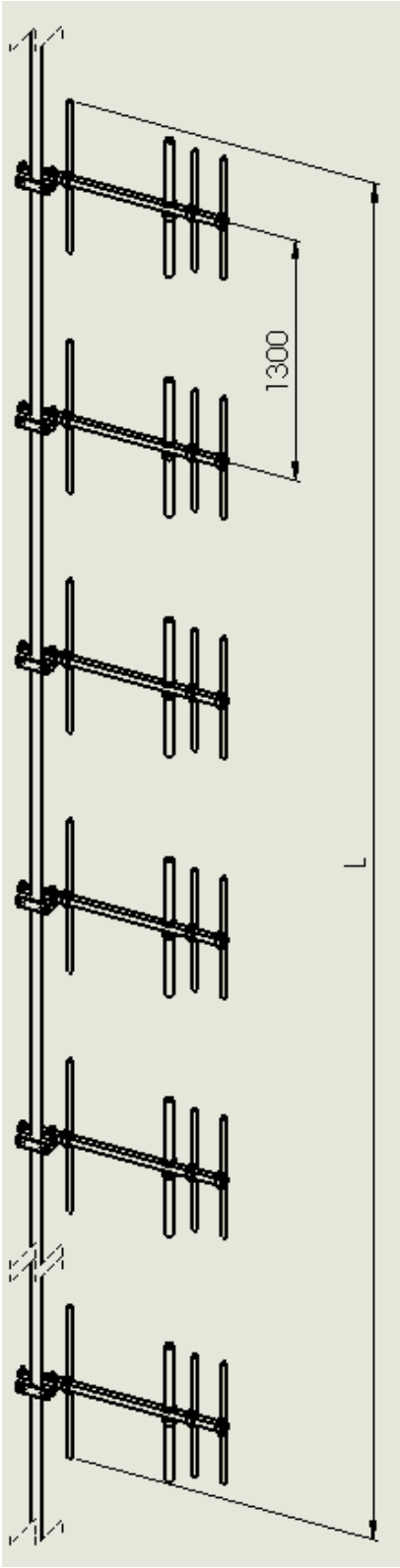
Frequency range	174 ÷ 223 MHz
Impedance	50 Ohm
Connectors	N or 7/16" or 7/8" EIA
Max Power	800W (N)–2KW (7/16")–3 KW (7/8" EIA)
VSWR	≤ 1.22:1 Horizontal polarization with pole diam. 100 mm ≤ 1.25:1 Vertical polarization with pole diam. 100 mm
Polarization	Horizontal or Vertical
Gain	4.8 dB (referred to half-wave dipole)
Half power beam width	E plane ± 32° H plane ± 62°
Lightning protection	All metal parts DC grounded

MECHANICAL DATA

Dimensions	1010x820x180 mm
Weight	11 Kg without hardware mounting
Wind surface	0.16 m^2
Wind load	21.4 Kg (wind speed at 150 km/h – without radome)
Max wind velocity	220 Km/h
Materials	External parts: stainless steel Internal parts: passivated aluminium, brass Radome : fiberglass or PTFE(option)
Icing protection	Feed point radome (optional)
Radome color	White (optional)
Mounting	With special pipe clamps 50 ÷ 110 mm dia.

Radiations systems with AJ4III Yagi antenna

Directional pattern



ELECTRICAL DATA

Frequency range	174 ÷ 223 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	≤ 1.25:1 Max
Polarization	Horizontal or Vertical
Gain	According to requirement
Horizontal pattern	Any type according to requirements
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes (on request)
Radome colour	White (optional)
Mounting hardware	Hot dip galvanized steel clamps (option)
Shipping	As required

TECHNICAL DATA

Number of bays	Dipoles per bay	Gain[1]		Weight[2] kg	Antenna height L m	Wind load (v=150 km/h) kg
		dB	times			
2	1	7.8	6.0	22	2.9	42.8
4	1	10.8	12.0	44	7.1	85.6
6	1	12.6	18.1	66	11.3	128.4
8	1	13.8	23.9	88	15.5	171.2
12	1	15.6	36.3	132	23.9	256.8

[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] without mounting hardware

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 93 Mph (150Km/h) per EIA-222-C standard.

MODEL AJ6E300
AJ6E300I
AJ6E300IS

- 6 ELEMENTS YAGI ANTENNA
- 300 ÷ *500* MHz
- GAMMA MATCH TUNED
- VERTICAL OR HORIZONTAL POLARIZATION
- DIRECTIONAL PATTERN

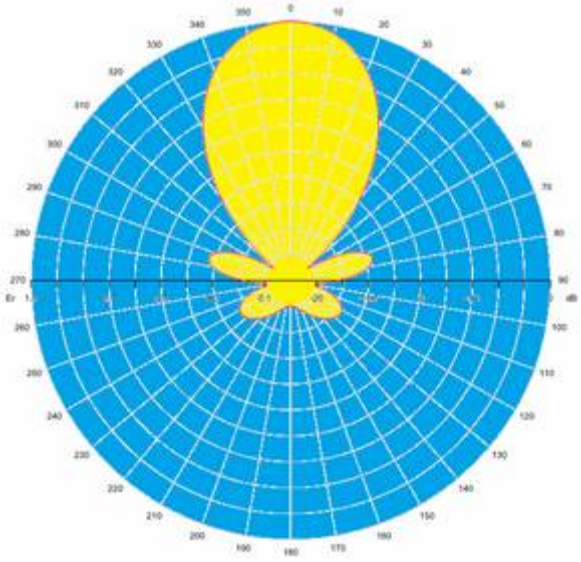
ELECTRICAL DATA

Frequency range	300÷500 MHz working fq. 30-40 mhz.
Impedance	50 Ohm
Connectors	N
Max Power	300W
VSWR band 10MHz *VSWR* band 30MHz	≤ 1.1:1 in the working frequency ≤ 1.3:1 in the working frequency
Polarization	Horizontal or Vertical
Gain	8 dBd 10 dBi
Half power beam width	E plane aperture at -3dB 48° H plane aperture at -3dB 57°

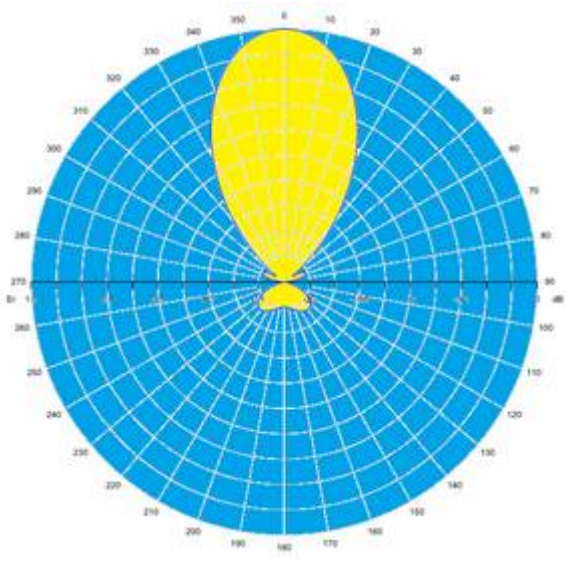
MECHANICAL DATA

Dimensions	According to the working frequency (1300×430×50 mm at 315 MHz)
Weight	According to the working frequency and material used (aluminum or stainless steel).
Wind surface	0.05 m^2 (at 315 MHz)
Wind load	7 kg (wind speed at 160 Km/h)
Max wind velocity	200 km/h. (all versions)
Materials	AJ6E300:Aluminum elements AJ6E300I: Stainless steel elements and boom AJ6E300IS: Stainless steel elements and boom tig welded. Teflon insulator Radome: Fiberglass (option)
Icing protection	Feed point radome (option)
Radome color	White (option)
Mounting	With special pipe clamps 50 ÷ 100 mm dia.

RADIATION PATTERN (MID BAND) frequency 315 MHz.



H amplitude



V amplitude

MODEL DPA2VIII

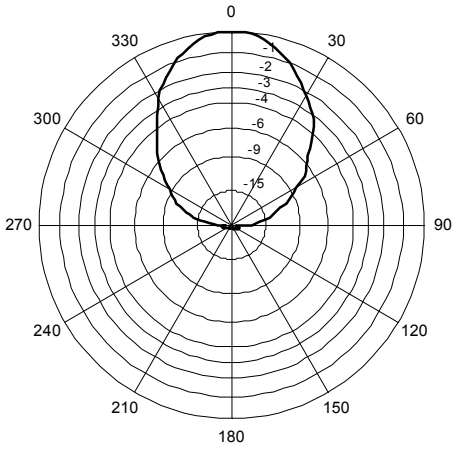
- BAND III VHF DIPOLE
- BROADBAND 174÷230 MHz
- 7.5 dB GAIN
- DIRECTIONAL PATTERN
- SUITABLE A COMPONENT IN VARIOUS ARRAYS
- EACH ANTENNA IS SEALED AND PRESSURIZABLE
- INPUT CONNECTOR IS NICKEL PLATED
- INTERNAL LINES ARE MADE OF SILVER PLATED BRASS
- THESE PANELS CAN BE USED IN VERTICAL POLARIZATION OR HORIZONTAL POLARIZATION TO SET UP SYSTEMS HAVING DIRECTIVE, SEMIDIRECTIVE AND OMNIDIRECTIONAL DIAGRAMS.
- SYSTEMS MADE UP WITH THESE PANELS CAN BE DESIGNED ON CUSTOMER SPECIFICATIONS

ELECTRICAL DATA	
Frequency range	175÷230 MHz
Impedance	50 Ohm
Connectors	7/8 EIA or 7/16”
Max Power	2 Kw with 7/8” EIA flange
VSWR	≤ 1.3:1
Polarization	Vertical or horizontal
Gain	7.4 dB
Half Power Beamwidth	E-Plane: ± 28° H-Plane: ± 28°
Lightning protection	All metal parts DC grounded

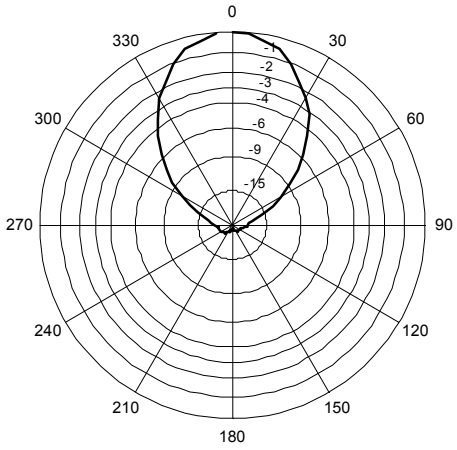
MECHANICAL DATA	
Dimensions	1250x873x535 mm
Weight	26 kg approx.
Wind load at 160 kmh	Frontal 527 N Lateral 76 N
Max wind velocity survival	180 km/h.
Materials	Reflector: hot dip galvanized Dipole: stainless steel Internal parts: passivated aluminum
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)

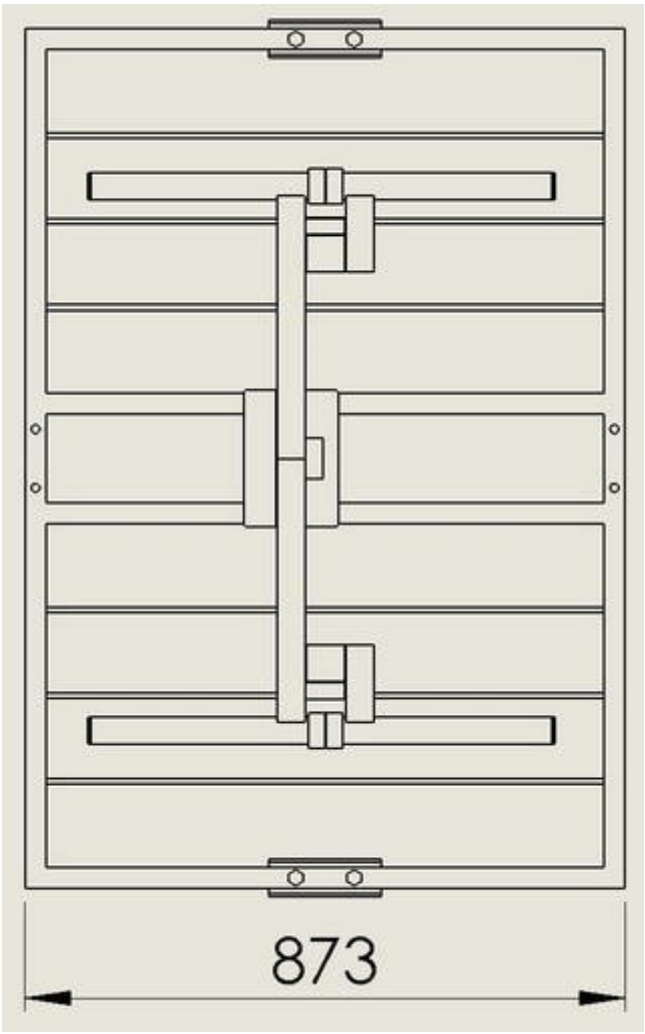
H-PLANE

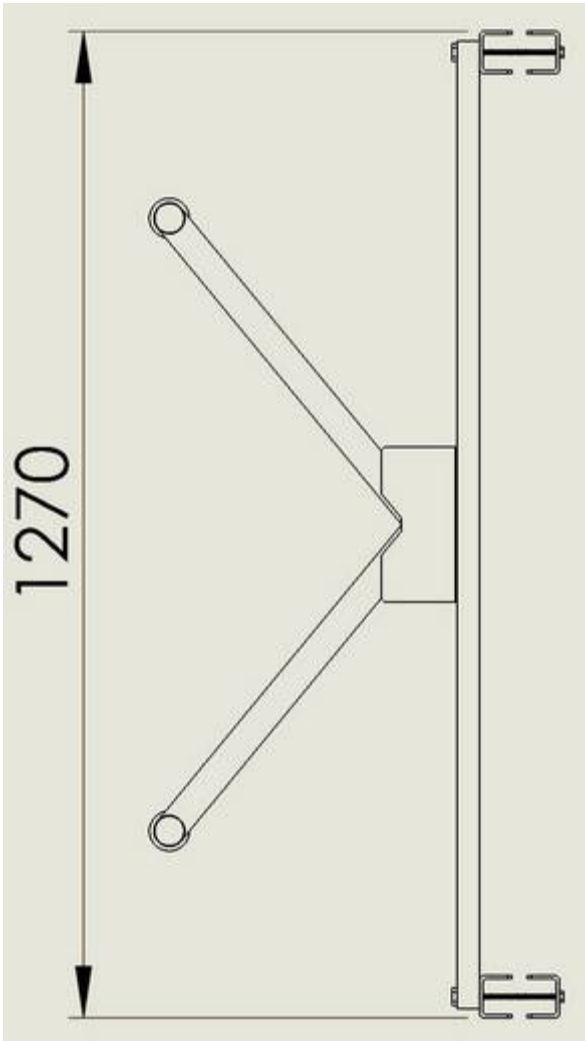


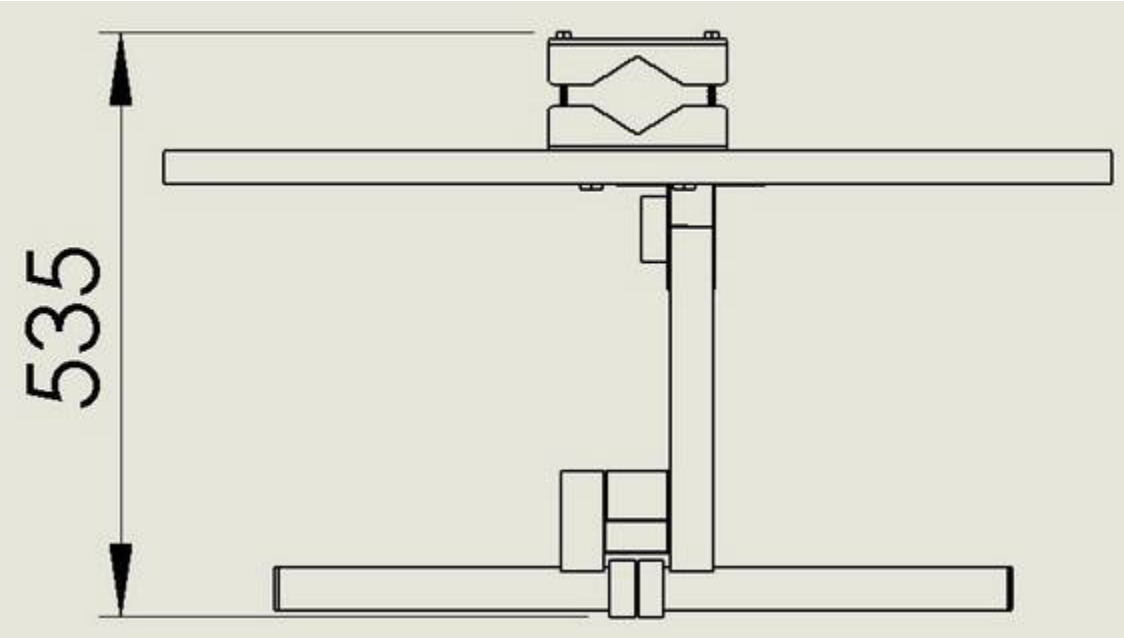
V-PLANE



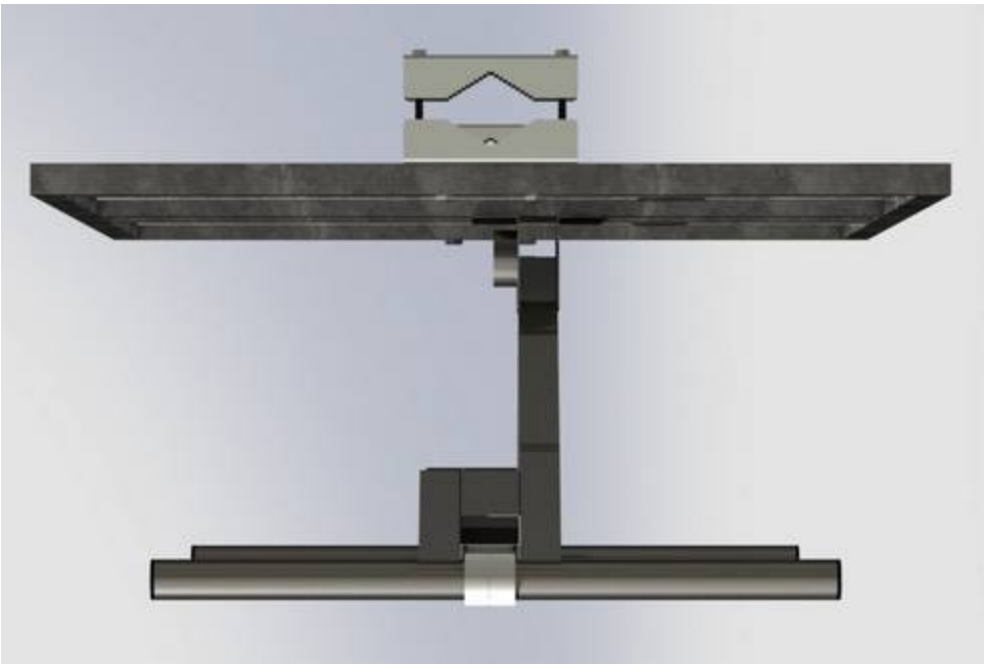
DIMENSIONS (mm)

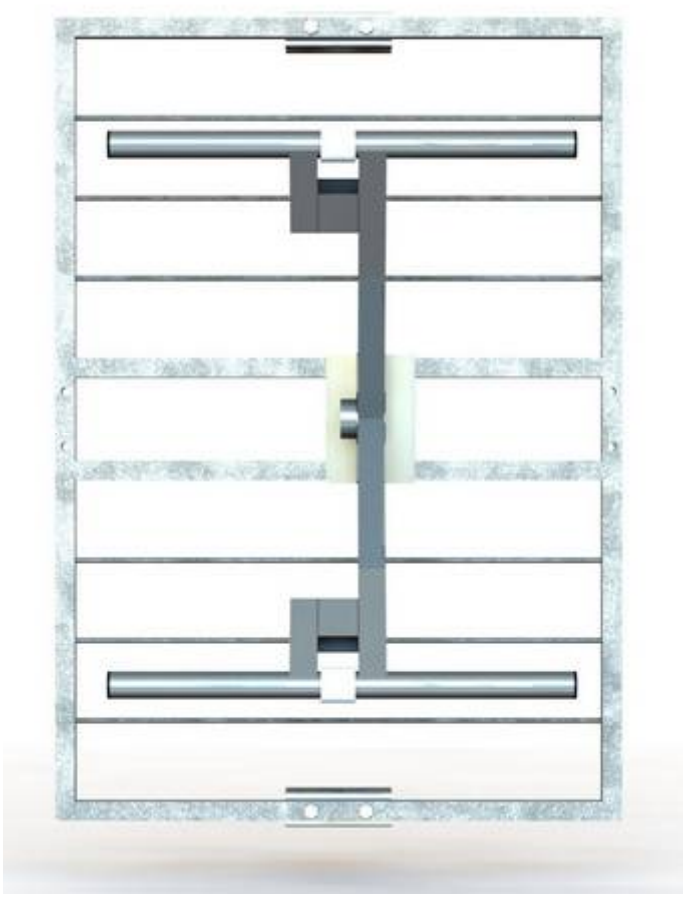


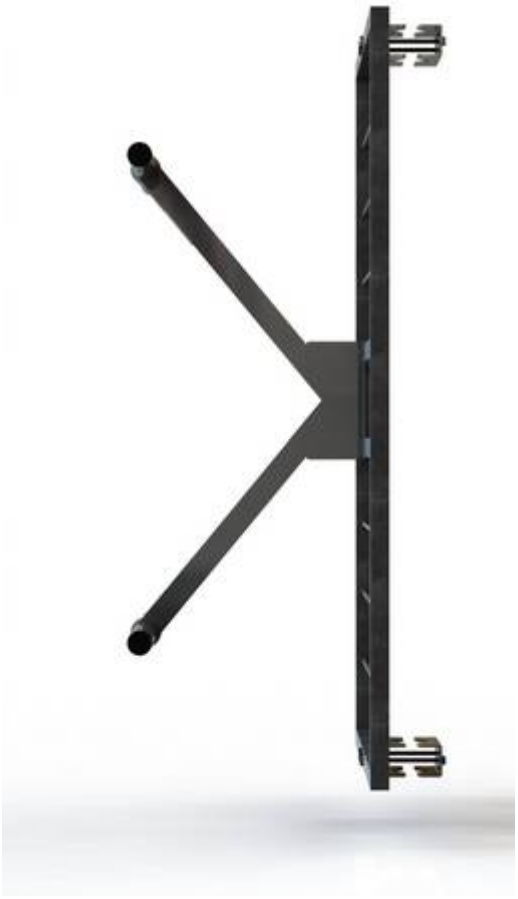



535

VIEWS OF THE SYSTEM







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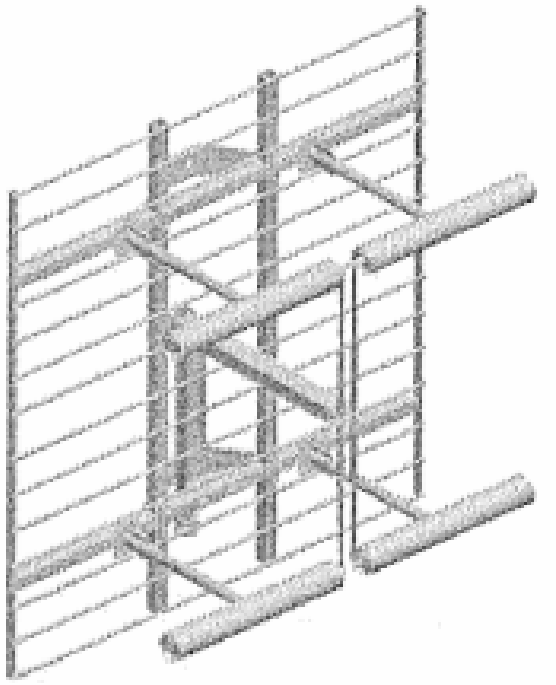
MODEL DPA2VIIIL



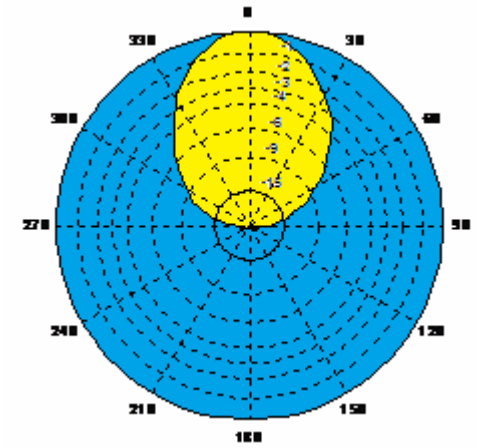
- BAND III VHF DIPOLE
- BROADBAND *174÷230* MHz
- 7.8 dB GAIN
- VERTICAL OR HORIZONTAL POLARIZATION
- DIRECTIONAL PATTER
- SUITABLE AS COMPONENT ON VARIOUS ARRAYS
- EACH ANTENNA IS SEALED AND PRESSURIZABLE
- INPUT CONNECTOR IS NICKEL PLATED
- INTERNAL LINES ARE MADE OF SILVER PLATED BRASS
- ALSO AVAILABLE A DISMOUNTABLE VERSION
- THESE PANELS CAN BE USED IN VERTICAL OR HORIZONTAL POLARIZATION TO SET UP SYSTEMS HAVING DIRECTIVE, SEMIDIRECTIVE AND OMNIDIRECTIONAL DIAGRAMS
- SYSTEMS MADE UP WITH DPA2VIIIL PANELS CAN BE DESIGNED ON CUSTOMER SPECIFICATIONS

ELECTRICAL DATA	
Frequency range	174÷230 MHz
Impedance	50 Ohm
Connectors	7/8 EIA or 7/16”
Max Power	2 Kw with 7/8” EIA flange
VSWR	≤ 1.10:1
Polarization	Vertical or horizontal
Gain	7.8 dB (referred to half wave dipole)
Half Power Beamwidth	E-Plane: ± 28° H-Plane: ± 28°
Lightning protection	All metal parts DC grounded

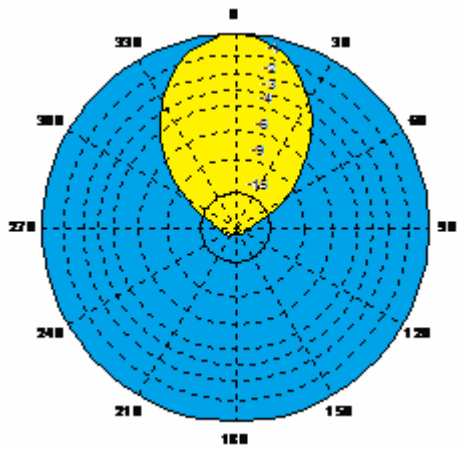
MECHANICAL DATA	
Dimensions	1300x1260x630 mm
Weight	36 kg net
Wind load at 160 kmh	Frontal 527 N Lateral 76 N
Max wind velocity survival	180 km/h.
Materials	Reflector: hot dip galvanized Dipole: stainless steel Internal parts: passivated aluminum
Mounting	With special pipe clamps 50÷110 mm dia.

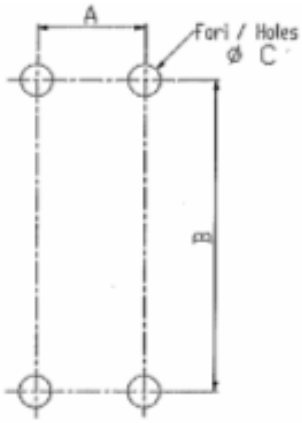
RADIATION PATTERN (MID BAND)

H-PLANE



V-PLANE





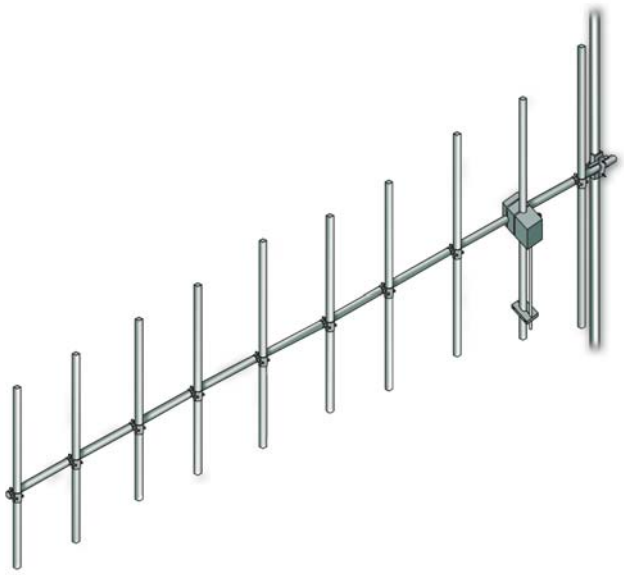
MOUNTING SYSTEM

On frame according to the mounting lay-out beside, where:
A = 80 mm
B = 800 mm
C = 17 mm

Pole mount available on request.

Model AR102 – AR102I – AR102IS

- Yagi Antenna
- 200÷300 MHz
- Gamma Match Tuned
- Vertical or Horizontal polarization
- Directional Pattern



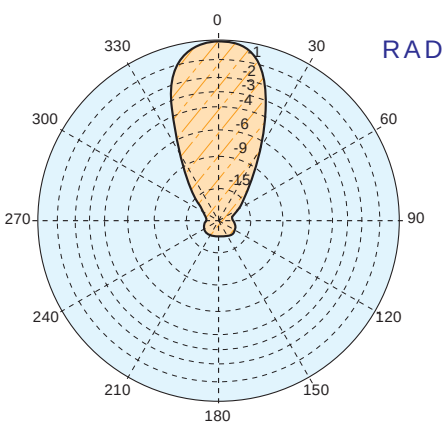
ELECTRICAL DATA

Frequency range	200÷300 MHz
Impedance	50 Ohm
Connectors	N
Max Power	300W (N)
VSWR	≤ 1.1:1 in the working frequency
Polarization	Horizontal or Vertical
Gain	12 dB (referred to half-wave dipole)
Pattern	E plane ± 20° H plane ± 22°

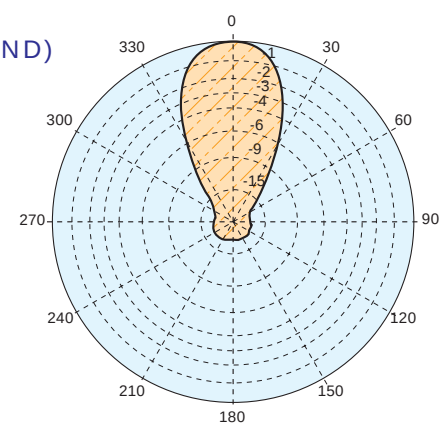
MECHANICAL DATA

Dimensions	According to the working frequency (2400 x 590 x 50 mm at 250 MHz)
Weight	According to the working frequency and material used (aluminium or stainless steel)
Wind surface	0.17 m^2 (at 250 MHz)
Wind load	22 kg (wind speed at 160 km/h)
Max wind velocity	120 km/h (AR102I / AR102IS)
Materials	AR102: Aluminium elements and stainless steel boom AR102I: Stainless steel elements and boom AR102IS: Stainless steel elements and boom Tig Welded Teflon insulator
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



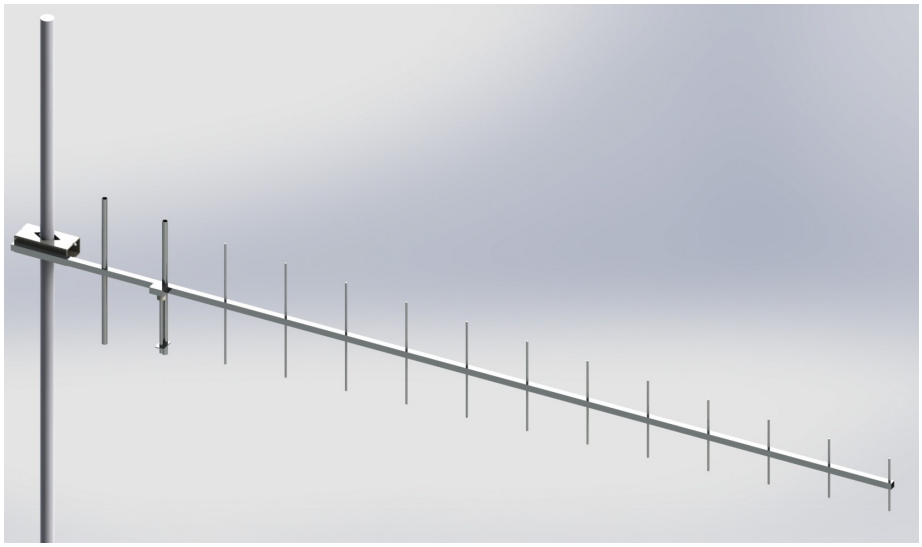
H-Plane

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AR142 – AR142I – AR142IS

- Yagi Antenna
- 200÷300 MHz
- Gamma Match Tuned
- Vertical or Horizontal polarization
- Directional Pattern



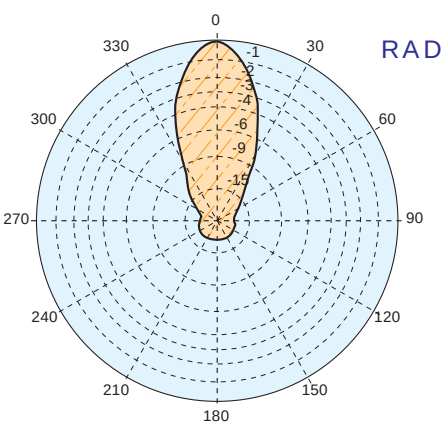
ELECTRICAL DATA

Frequency range	200÷300 MHz
Impedance	50 Ohm
Connectors	N
Max Power	300W (N)
VSWR	≤ 1.1:1 in the working frequency
Polarization	Horizontal or Vertical
Gain	13 dB (referred to half-wave dipole)
Pattern	E plane ± 18° H plane ± 20°

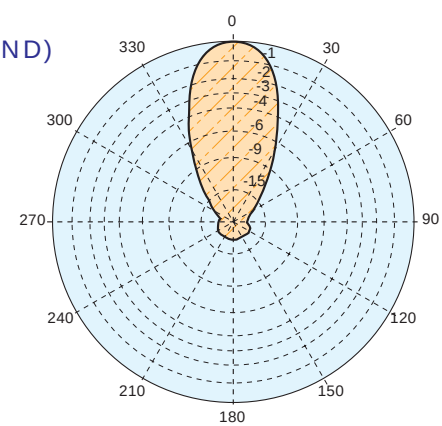
MECHANICAL DATA

Dimensions	According to the working frequency (3360 x 590 x 50 mm at 250 MHz)
Weight	According to the working frequency and material used (aluminium or stainless steel)
Wind surface	0.22 m^2 (at 250 MHz)
Wind load	28.5 kg (wind speed at 160 km/h)
Max wind velocity	100 km/h (AR142I / AR142IS)
Materials	AR142: Aluminium elements and stainless steel boom AR142I: Stainless steel elements and boom AR142IS: Stainless steel elements and boom Tig Welded Teflon insulator
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



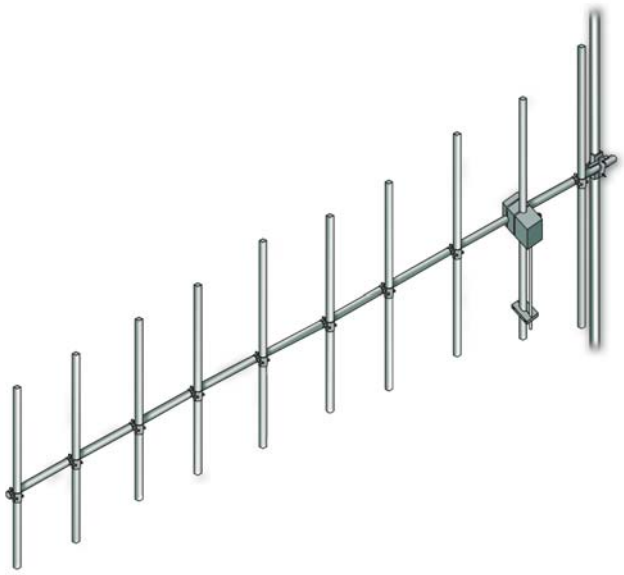
H-Plane

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AR10 – AR10I – AR10IS

- Yagi Antenna
- 300÷500 MHz
- Gamma Match Tuned
- Vertical or Horizontal polarization
- Directional Pattern



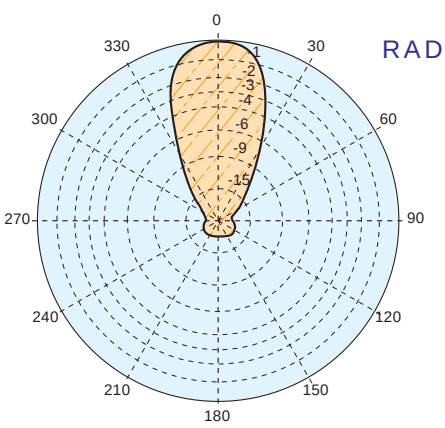
ELECTRICAL DATA

Frequency range	300÷500 MHz
Impedance	50 Ohm
Connectors	N
Max Power	300W (N)
VSWR	≤ 1.1:1 in the working frequency
Polarization	Horizontal or Vertical
Gain	12 dB (referred to half-wave dipole)
Pattern	E plane ± 20° H plane ± 22°

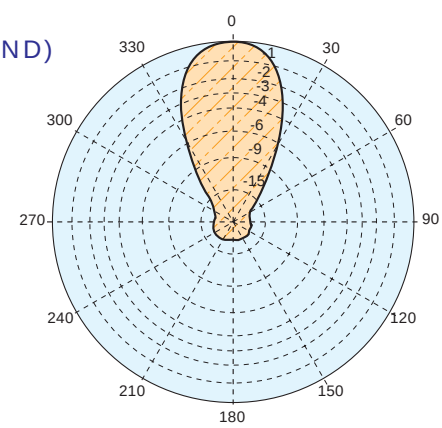
MECHANICAL DATA

Dimensions	According to the working frequency (1650 x 380 x 50 mm at 385 MHz)
Weight	According to the working frequency and material used (aluminium or stainless steel)
Wind surface	0.1 m^2 (at 385 MHz)
Wind load	13 kg (wind speed at 160 km/h)
Max wind velocity	200 km/h (AR10I / AR10IS)
Materials	AR10: Aluminium elements and stainless steel boom AR10I: Stainless steel elements and boom AR10IS: Stainless steel elements and boom Tig Welded Teflon insulator
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



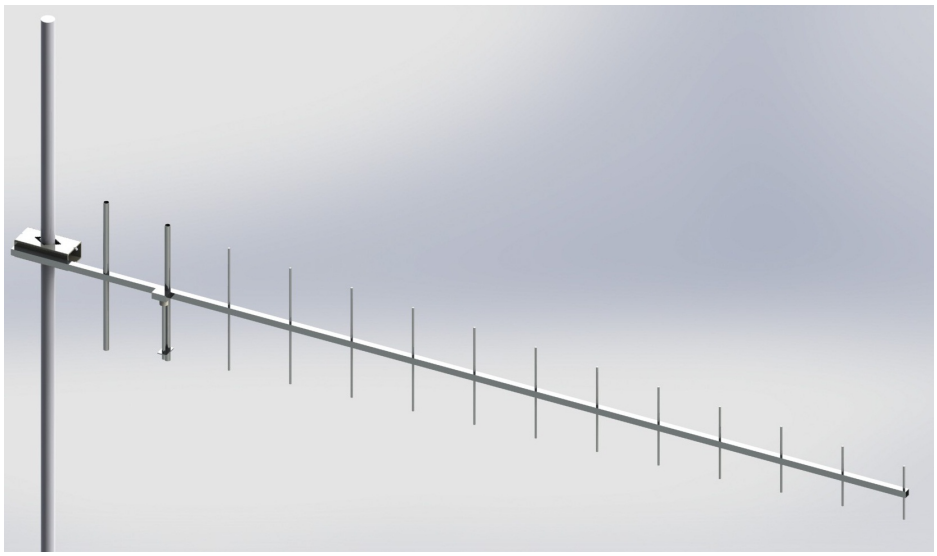
H-Plane

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AR14 – AR14I – AR14IS

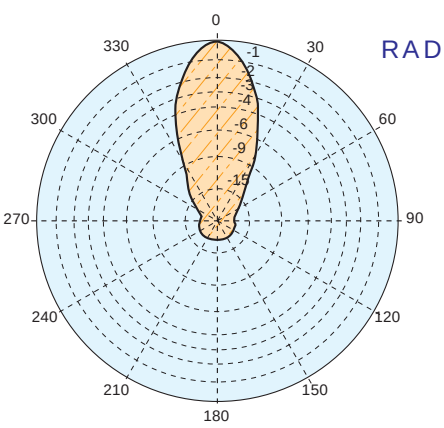
- Yagi Antenna
- 200÷300 MHz
- Gamma Match Tuned
- Vertical or Horizontal polarization
- Directional Pattern



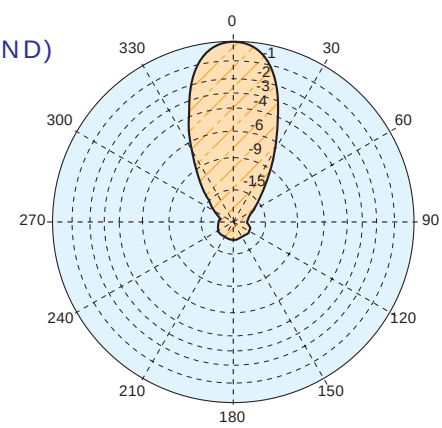
ELECTRICAL DATA	
Frequency range	300÷500 MHz
Impedance	50 Ohm
Connectors	N
Max Power	300W (N)
VSWR	≤ 1.1:1 in the working frequency
Polarization	Horizontal or Vertical
Gain	13 dB (referred to half-wave dipole)
Pattern	E plane ± 18° H plane ± 20°

MECHANICAL DATA	
Dimensions	According to the working frequency (2270 x 380 x 50 mm at 385 MHz)
Weight	According to the working frequency and material used (aluminium or stainless steel)
Wind surface	0.13 m^2 (at 385 MHz)
Wind load	17 kg (wind speed at 160 km/h)
Max wind velocity	200 km/h (AR14I / AR14IS)
Materials	AR14: Aluminium elements and stainless steel boom AR14I: Stainless steel elements and boom AR14IS: Stainless steel elements and boom Tig Welded Teflon insulator
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



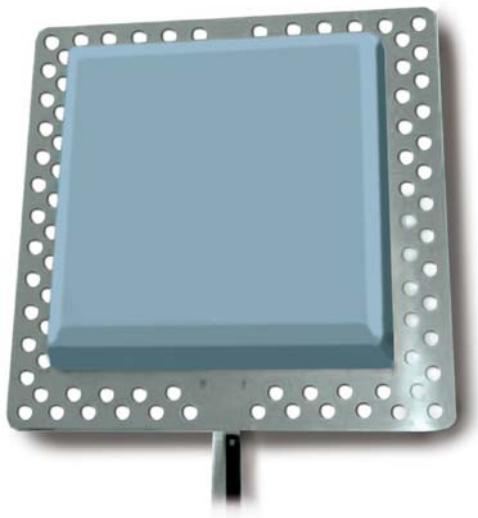
H-Plane

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model PA90

- Link Panel Antenna
- 870÷960 MHz
- Vertical or Horizontal polarization
- Directional Pattern



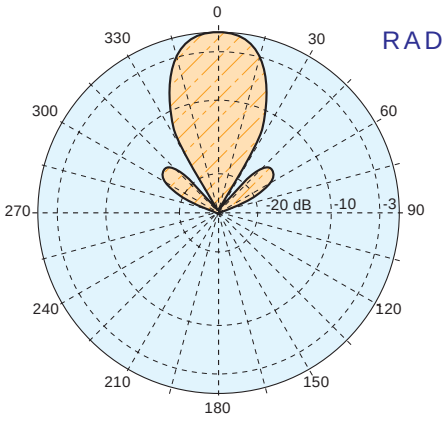
ELECTRICAL DATA

Frequency range	870÷960 MHz
Impedance	50 Ohm
Connectors	N
Max Power	100W (N)
VSWR	≤ 1.5:1
Polarization	Horizontal or Vertical
Gain	12.5 dB (referred to half-wave dipole)
Half power beam width	E plane ± 15° H plane ± 13°
Lightning protection	All metal parts DC grounded

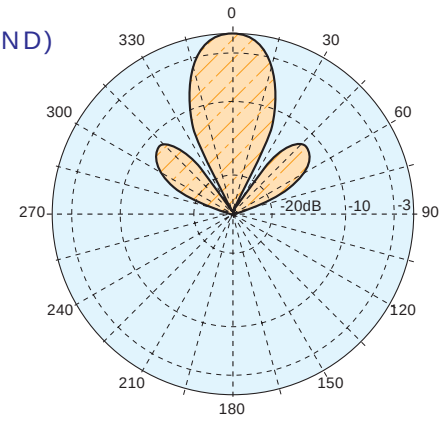
MECHANICAL DATA

Dimensions	600 x 600 x 130 mm
Weight	3 Kg
Wind surface	0.3 m^2
Wind load	45 kg (wind speed at 160 km/h)
Max wind velocity	200 km/h
Materials	Internal parts: passivated aluminium, brass Clamp: hot dip galvanized steel Radome: PST
Icing protection	Radome
Radome color	White
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



H-Plane

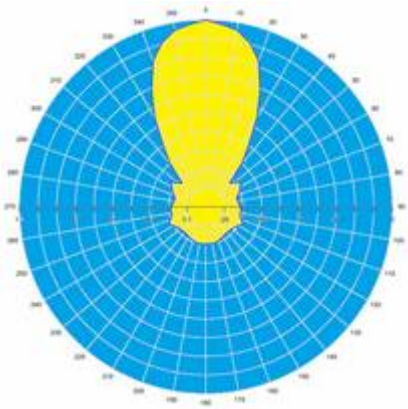
- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

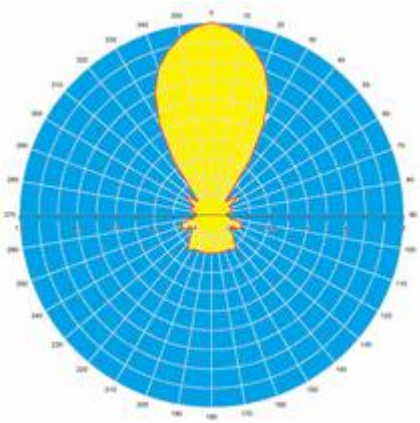
MODEL TFL16900

- 16 ELEMENTS ANTENNA
- BROADBAND 705 ÷ 975
- VERTICAL OR HORIZONTAL POLARIZATION
- DIRECTIONAL PATTERN
- VERY LIGHTWEIGHT MODEL
- IMPEDANCE 50 OHM

RADIATION PATTERN (MID BAND)



E-plane



H-plane

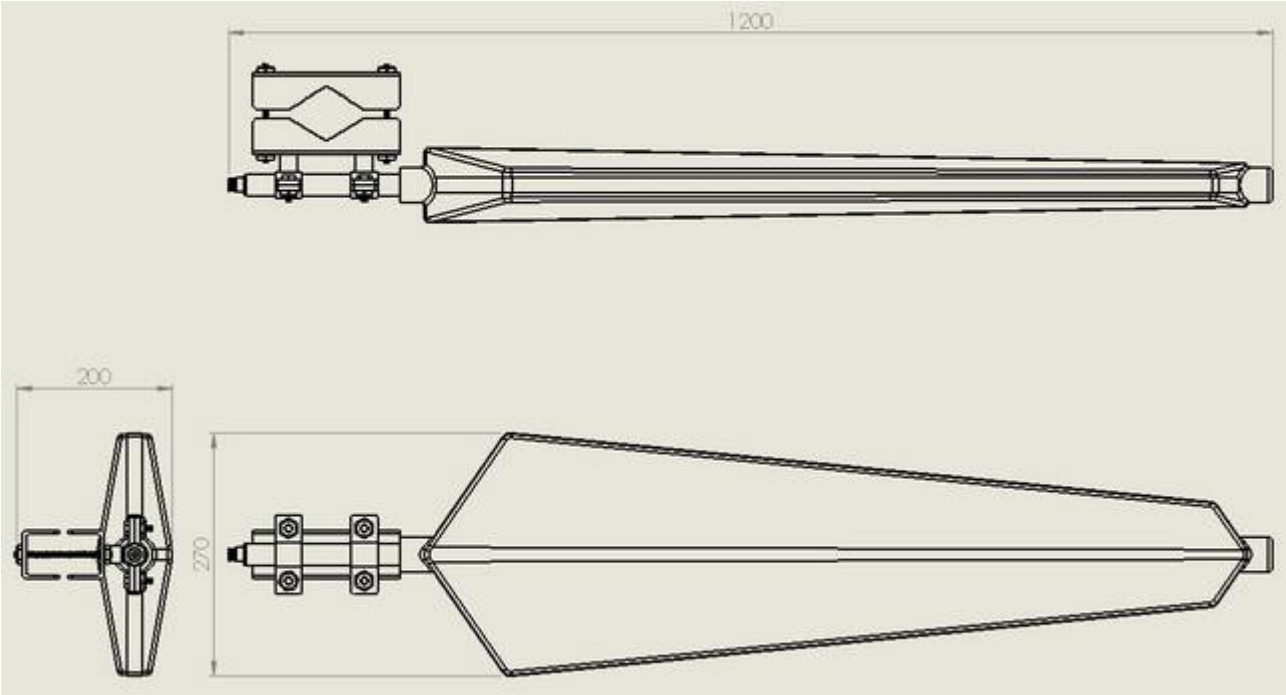
ELECTRICAL DATA

Frequency range	710 ÷ 950 MHz
Impedance	50 Ohm
Connectors	N FEMALE
Max Power	100 W
VSWR	≤ 1.28:1 APPROX.
Polarization	Horizontal or Vertical
Gain	14.1 dBd - 16.3 dBi
Half power beam width	E plane ± 49.5° H plane ± 49.5°
Lightning protection	All metal parts DC grounded

MECHANICAL DATA

Dimensions	1200x270x200 mm
Weight	4.1 Kg without hardware mounting
Wind surface	0.029 m^2 front - 0.175 m^2 side (vertical pol.) - 0.12 m^2 side (horizontal pol.)
Wind load (wind speed at 150 km/h)	3.85 Kg front – 34.15 Kg side (vertical pol.) – 10.45 Kg side (horizontal pol.)
Max wind velocity	160 Km/h
Materials	External parts: stainless steel Internal parts: brass, PTFE Radome : ABS (option)
Icing protection	Feed point radome (optional)
Radome color	White (optional)
Mounting	With special pipe clamps 50 ÷ 110 mm dia.

DIMENSIONS (mm)



Dimensions	1200x270x200 with support mm (47.4×10.6×7.8 with support inch) (H×L×W)
Weight	≅ 4.1 Kg approx.

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TELECOMUNICAZIONI FERRARA SRL

Model AR16

- Yagi Link Antenna
- 1.6 GHz
- Vertical or Horizontal polarization
- Directional Pattern

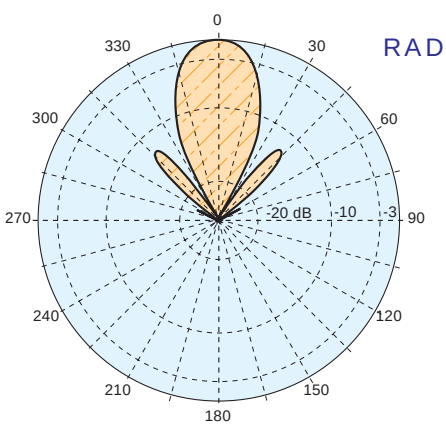
ELECTRICAL DATA

Frequency range	1635÷1735 MHz
Impedance	50 Ohm
Connectors	N
Max Power	100W (N)
VSWR	≤ 1.5:1
Polarization	Horizontal or Vertical
Gain	12.5 dB (referred to half-wave dipole)
Half power beam width	E plane ± 13° H plane ± 15°
Lightning protection	All metal parts DC grounded

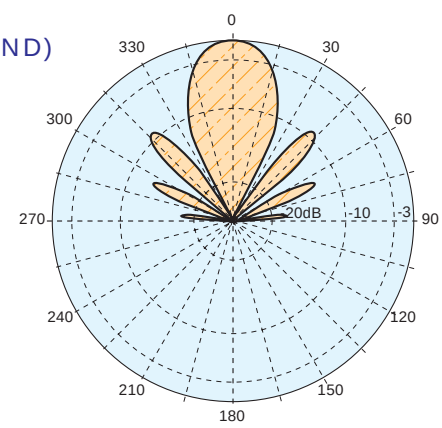
MECHANICAL DATA

Dimensions	565 x 160 x 160 mm
Weight	2.4 Kg
Wind surface	0.1 m^2
Wind load	13.5 kg (wind speed at 160 km/h)
Max wind velocity	200 km/h
Materials	Internal parts: passivated aluminium, brass Clamp: hot dip galvanized steel Radome: Plastic
Icing protection	Radome
Radome color	White
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



H-Plane

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

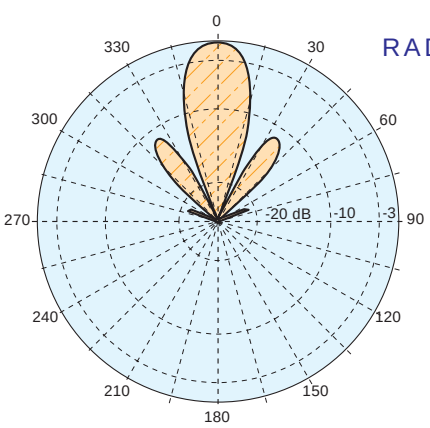
Model PA16

- Link Panel Antenna
- 1.6 GHz
- Vertical or Horizontal polarization
- Directional Pattern

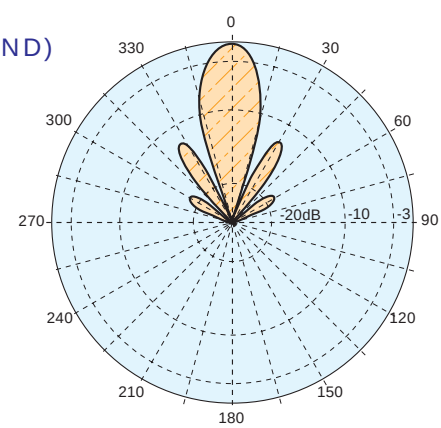
ELECTRICAL DATA	
Frequency range	1630÷1740 MHz
Impedance	50 Ohm
Connectors	N
Max Power	100W (N)
VSWR	≤ 1.5:1
Polarization	Horizontal or Vertical
Gain	15 dB (referred to half-wave dipole)
Half power beam width	E plane ± 10° H plane ± 10°
Lightning protection	All metal parts DC grounded

MECHANICAL DATA	
Dimensions	485 x 485 x 80 mm
Weight	3 Kg
Wind surface	0.23 m^2
Wind load	45 kg (wind speed at 160 km/h)
Max wind velocity	200 km/h
Materials	Internal parts: passivated aluminium, brass Clamp: hot dip galvanized steel Radome: PST
Icing protection	Radome
Radome color	White
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



H-Plane

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

MODEL TF16L

- BROADBAND 1710- 1900 MHz
- IMPEDANCE 50 Ohm
- ROS IN THE FREQUENCY RANGE < 1.5
- GAIN 18 dBi
- LINEAR POLARIZATION
- EACH ANTENNA IS SEALED AND PRESSURIZABLE
- INPUT CONNECTOR IS NICKEL PLATED
- SYSTEMS MADE UP WITH THESE PANELS CAN BE DESIGNED ON CUSTOMER SPECIFICATIONS
- DIRECTIONAL PATTERN

ELECTRICAL DATA

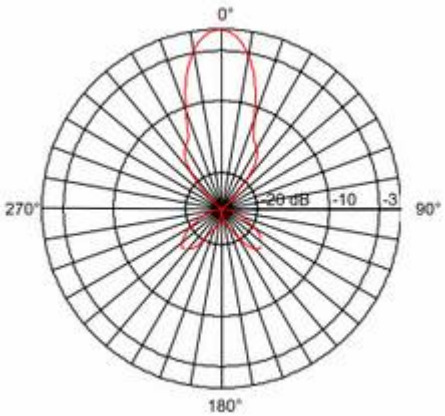
Frequency range	1710÷1900 MHz
Impedance	50 Ohm
Connector	N female
Power Applicable	100 W cw
ROS max	< 1.5
Polarization	Vertical or horizontal
Gain	18 dBi
Radiation Pattern	E-Plane: 20 ± 1° -3dB H-Plane: 16 ± 1° -3dB
Lightning protection	All metal parts DC grounded
Forw/Refl Rate	> 24 dB

MECHANICAL DATA

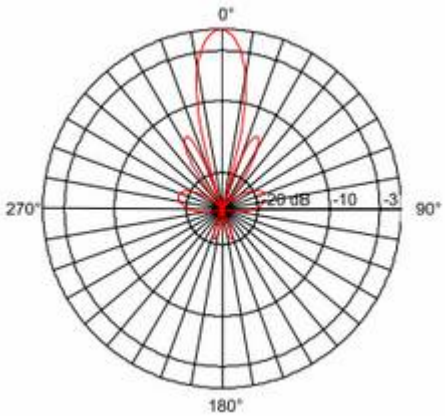
Dimensions	Diam. 620 x Lenght 230 mm (24.4x9 inch)
Weight	4 kg approx.
Wind load at 150 kmh	410 N
Materials	Reflector: Steel Dipoles: Copper Radome: ABS
Color	RAL 7035
Fixing	On pole diam. 40 ÷ 100

RADIATION PATTERNS (MID BAND)

V-plane



H-plane



MODEL TF16V

- BROADBAND 1710- 1900 MHz
- BAND DCS/DECT
- IMPEDANCE 50 Ohm
- ROS IN THE FREQUENCY RANGE < 1.5
- GAIN 13 dBi
- LINEAR POLARIZATION
- EACH ANTENNA IS SEALED AND PRESSURIZABLE
- INPUT CONNECTOR IS NICKEL PLATED
- SYSTEMS MADE UP WITH THESE PANELS CAN BE DESIGNED ON CUSTOMER SPECIFICATIONS
- DIRECTIONAL PATTERN

ELECTRICAL DATA

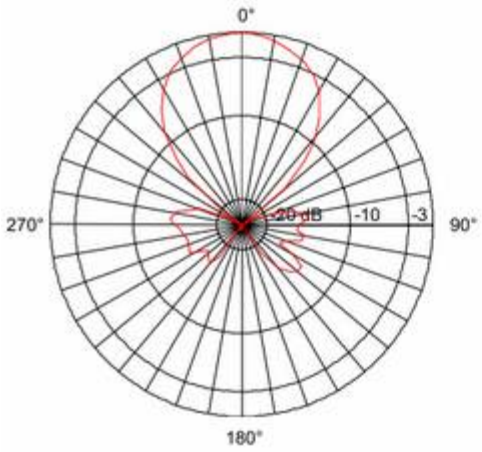
Frequency range	1710÷1900 MHz
Impedance	50 Ohm
Connector	N female
Power Applicable	20 W cw
ROS max	< 1.5
Polarization	Vertical
Gain	13 dBi
Radiation Pattern	E-Plane: 55 ± 5° -3dB H-Plane: 30 ± 3° -3dB
Lightning protection	All metal parts DC grounded
Forw/Refl Rate	> 20 dB

MECHANICAL DATA

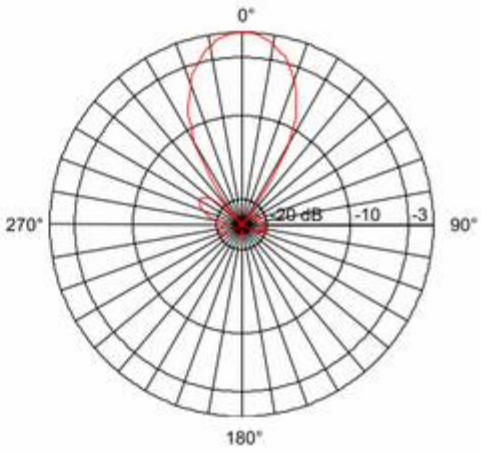
Dimensions	160x300x45 mm (6.3x18.8x1.7 inch)
Weight	0.6 kg approx.
Wind load at 150 kmh	67.6 N
Fixing	On wall with screw and anchors
Materials	Reflector: Aluminium Dipoles: Circuit board Radome: PVC

RADIATION PATTERNS (MID BAND)

H-plane



V-plane



OPTIONAL: Tilt clamp for pole 40 ÷ 60 mm diam.

Model AR25

- Yagi Link Antenna
- 2.4 GHz
- Vertical or Horizontal polarization
- Directional Pattern

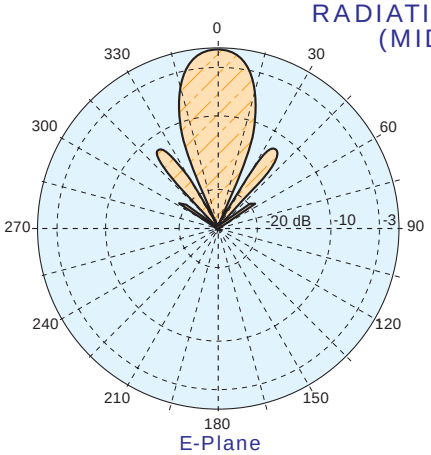
ELECTRICAL DATA

Frequency range	2360÷2485 MHz
Impedance	50 Ohm
Connectors	N
Max Power	100W (N)
VSWR	≤ 1.5:1
Polarization	Horizontal or Vertical
Gain	13 dB (referred to half-wave dipole)
Half power beam width	E plane ± 13° H plane ± 14°
Lightning protection	All metal parts DC grounded

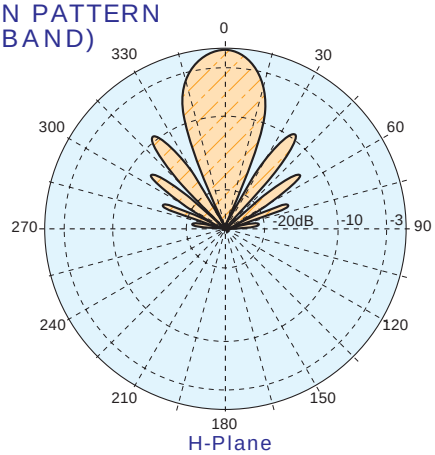
MECHANICAL DATA

Dimensions	565 x 160 x 160 mm
Weight	2.4 Kg
Wind surface	0.1 m^2
Wind load	13.5 kg (wind speed at 160 km/h)
Max wind velocity	200 km/h
Materials	Internal parts: passivated aluminium, brass Clamp: hot dip galvanized steel Radome: Plastic
Icing protection	Radome
Radome color	White
Mounting	With special pipe clamps 50÷110 mm dia.

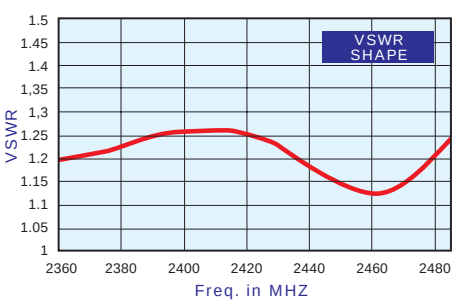
RADIATION PATTERN (MID BAND)

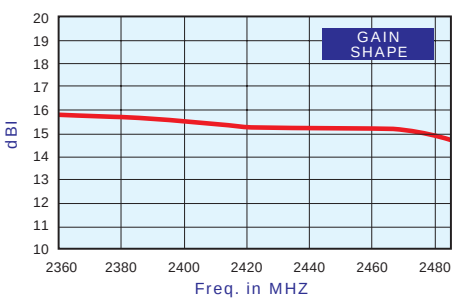


E-Plane



H-Plane





- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model PA24

- Link Panel Antenna
- 2.4 GHz
- Vertical or Horizontal polarization
- Directional Pattern

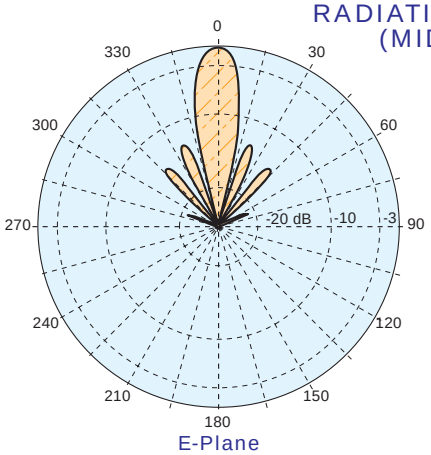
ELECTRICAL DATA

Frequency range	2360÷2485 MHz
Impedance	50 Ohm
Connectors	N
Max Power	100W (N)
VSWR	≤ 1.5:1
Polarization	Horizontal or Vertical
Gain	16.5 dB (referred to half-wave dipole)
Half power beam width	E plane ± 10° H plane ± 10°
Lightning protection	All metal parts DC grounded

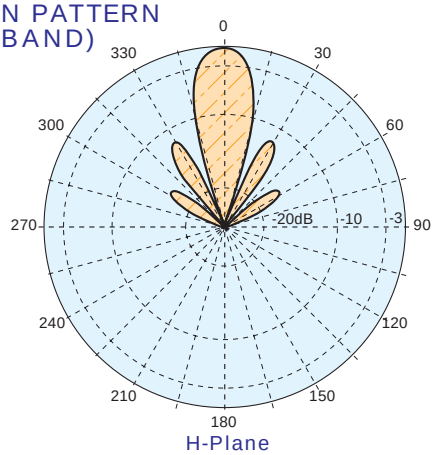
MECHANICAL DATA

Dimensions	478 x 478 x 60 mm
Weight	3 Kg
Wind surface	0.23 m^2
Wind load	44 kg (wind speed at 160 km/h)
Max wind velocity	200 km/h
Materials	Internal parts: passivated aluminium Clamp: hot dip galvanized steel Radome: PST
Icing protection	Radome
Radome color	White
Mounting	With special pipe clamps 50÷110 mm dia.

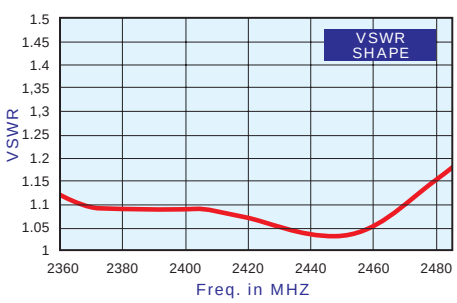
RADIATION PATTERN (MID BAND)

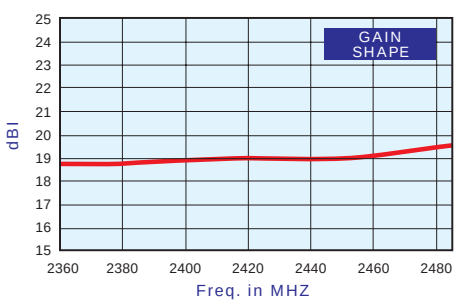


E-Plane



H-Plane





- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

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MODEL PSHF1

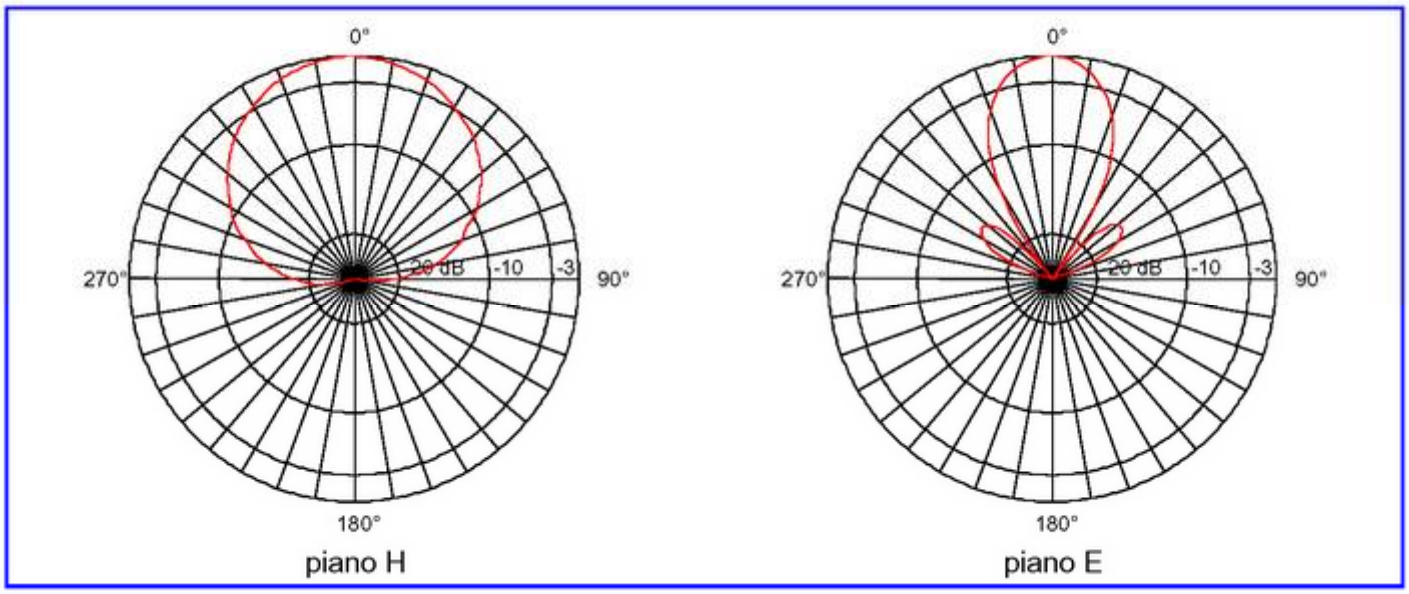
- **BAND *1490 ÷ 1820 MHz***
- **IMPEDANCE 50 Ohm**

SPECIFICHE ELETTRICHE

Banda operativa	MHz	1490 ÷ 1820
Impedenza	Ω	50
Polarizzazione		verticale
ROS		< 1.5
Guadagno	dBi	12.5
Rapporto A/I	dB	> 23
Larghezza lobi di radiazione:		
- piano H **(orizzontale)**	-3 dB	55° ± 8°
- piano E **(verticale)**	-3 dB	30° ± 5°
Potenza applicabile	W cw	50
Protezione da scariche atm.		a massa per la c.c.

SPECIFICHE MECCANICHE

Tipo di connettore *(posizione)*		Nf **(posteriore)**
Dimensioni **[largxaltxprof]**	mm	200 x 450 x 45
Peso	kg	≈ 2
Carico al vento *(@ 150 km/h)*	kg	≈ 13
Materiali:		
- elementi radianti		PCS/ottone stagnato
- riflettore		alluminio anodizzato
- radome		PVC
- staffe e bulloneria		alluminio/INOX
Montaggio		staffa posteriore tiltabile
Diametro palo	mm	40 ÷ 60



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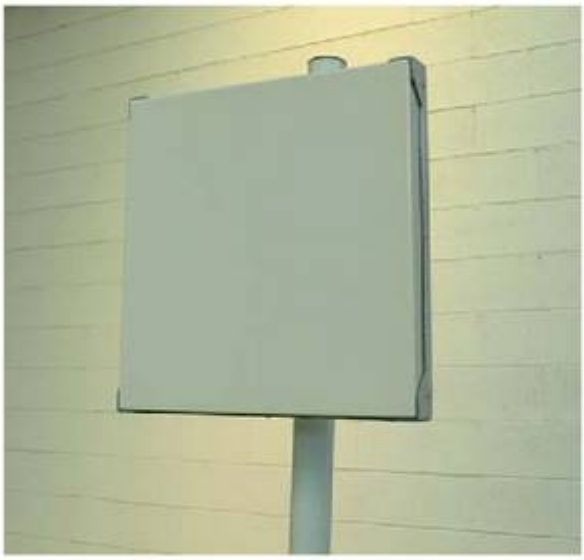
TELECOMUNICAZIONI FERRARA SRL

MODEL PSHF2

- **IMPEDANCE 50 Ohm**
- **BAND *1490 ÷ 1820 MHz***

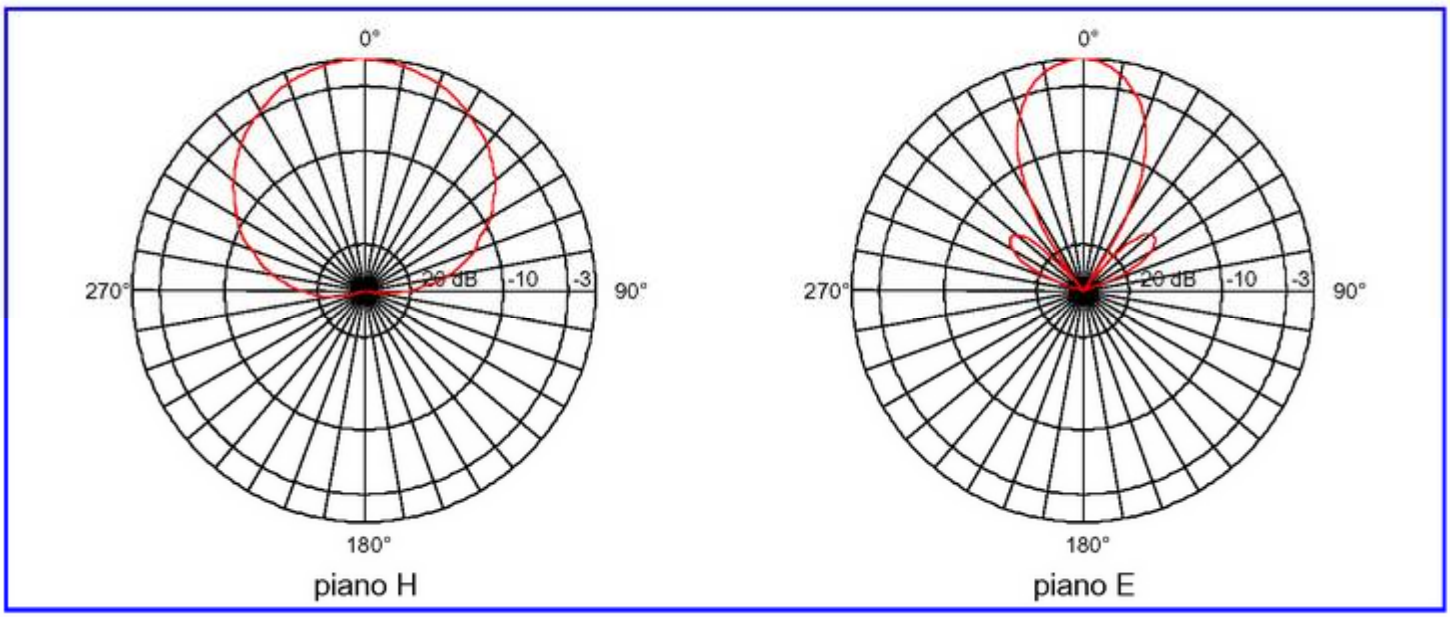


SPECIFICHE ELETTRICHE

Banda operativa	MHz	1490 ÷ 1820
Impedenza	Ω	50
Polarizzazione		**verticale**
ROS massimo in banda		< 1.5
Guadagno	dBi	15
Rapporto A/I	dB	> 23
Larghezza lobi di radiazione:		
- piano E	-3 dB	28 ± 5°
- piano H	-3 dB	26 ± 5°
Potenza applicabile	W cw	50
Protezione da scariche atm.		**a massa per la c.c.**

SPECIFICHE MECCANICHE

Connettore *(posizione)*:		N-f **(posteriore)**
Dimensioni *(proiezioni escluse)*:		
- larghezza	mm	450
- altezza	mm	450
- profondità	mm	45
Peso	kg	≈ 3
Carico al vento *(@ 150 km/h)*	kg	≈ 28
Materiali:		
- elementi radianti		**PCS/ottone stagnato**
- radome		**PVC**
- riflettore		**alluminio anodizzato**
- staffa e bulloneria		**acciaio INOX**
Montaggio		**staffa posteriore tiltabile**
Diametro palo	mm	40 ÷ 60



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TELECOMUNICAZIONI FERRARA SRL

MODEL SP90

- **LINK PANEL ANTENNA**
- **IMPEDANCE 50 Ohm**
- **BAND *870 ÷ 960 MHz***
- **VERTICAL POLARIZATION**
- **DIRECTIONAL PATTERN**

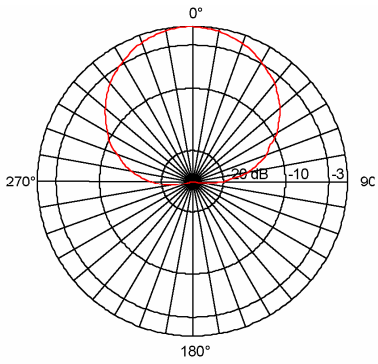
ELECTRICAL DATA

Frequency range	870 ÷ 960 MHz
Impedance	50 Ohm
Connectors	N
Max Power	100W
VSWR	≤ 1.3:1
Polarization	Vertical
Gain	10 dB (refered to half-wave dipole)
Half power beam width	E plane ± 15° H plane ± 30°
Lightning protection	All metal parts DC grounded

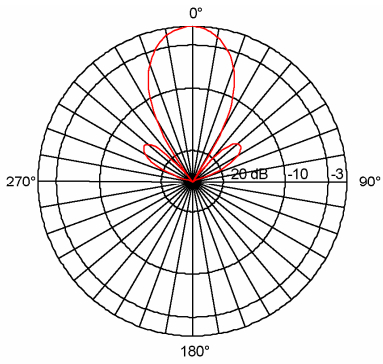
MECHANICAL DATA

Dimensions	500×270×65 mm
Weight	2 kg
Wind surface	0.14 m^2
Wind load	26 kg (wind speed at 160 Km/h)
Max wind velocity	200 km/h
Materials	Internal parts: passivated aluminum, brass Clamp : hot dip galvanized steel Radome: PVC
Icing protection	Radome
Radome color	White
Mounting	With special pipe clamps 50 ÷ 100 mm dia.

RADIATION PATTERN (MID BAND)



H-Plane



E-Plane

- *Gain is provided for vertical polarization.*
- *If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.*
- *Actual values vary with the specific installation. Contact us for more details of your installation.*
- *Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.*

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TELECOMUNICAZIONI FERRARA SRL

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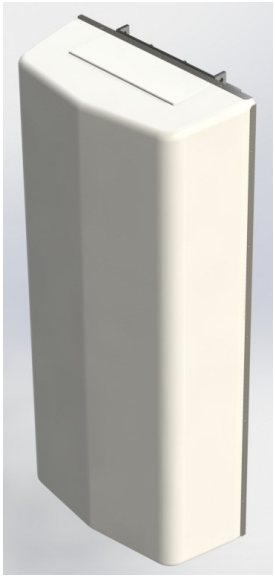
Model : PUHF1

- **Bandwidth 470 ÷ 860 MHz**
- **TV antenna**
- **4 dipoles antenna with panel reflector and protection radome**
- **Suitable for directional, semi-directional or omnidirectional UHF stacked-array systems**
- **Directional antenna**



Horizontal polarization

ELECTRICAL DATA

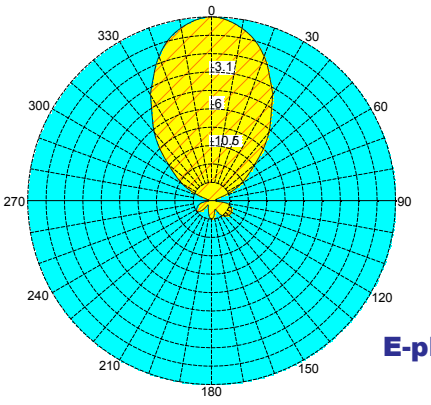
Frequency range	470 ÷ 860 MHz
Impedance	50 Ohm
Connectors	7/16" female input connector (7/8" EIA on request)
Max Power	1000W - 7/16" 2500W with 7/8" flange
VSWR	≤ 1.13:1
Polarization	Horizontal
Gain	9.55 dBd (11.7 dBi) - (470 MHz) 11.0 dBd (13.2 dBi) - (630 MHz) 12.0 dBd (14.1 dBi) - (860 MHz)
Half power beam width	E plane ± 60° at –3dB H plane ± 25° at –3dB
Lightning protection	DC grounded dipoles

MECHANICAL DATA

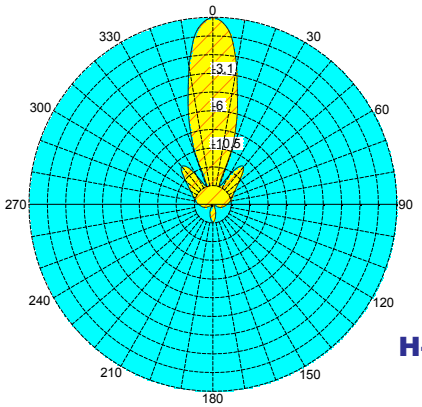
Dimensions	1000x450x270 mm (HxLxW) 1070x530x360 mm (Packing size)
Weight	14 Kg (17 Kg including packing)
Wind surface	0.45 m^2 (front) 0.25 m^2 (side)
Wind load	89 Kg (wind speed at 160 km/h)*
Max wind velocity	200 km/h*
Materials	Panel reflector and bolts: stainless steel Lines and Dipole: silver-plated copper and brass Silicone – O-rings – Teflon insulator Radome: fiberglass
Icing protection	Fiberglass radome
Radome color	White
Mounting	4 holes threated M8 at 980x85 mm spacing, or throught tiltable or fix mounting brackets for poles (optionals)

* Antenna wind load is calculated for 100 Mph (160 Km/h) per EIA-222-F standard

RADIATION PATTERN (MID BAND)

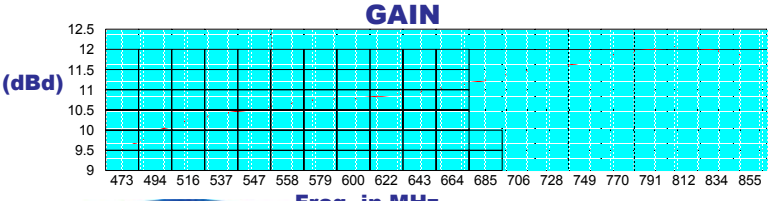


E-plane



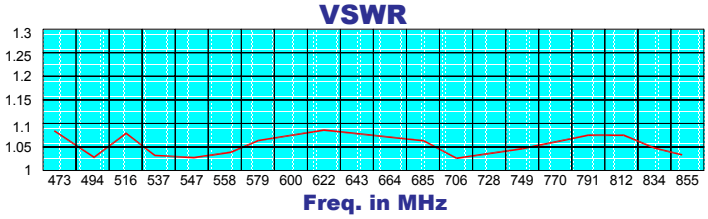
H-plane

GAIN



Freq. in MHz

VSWR



Freq. in MHz

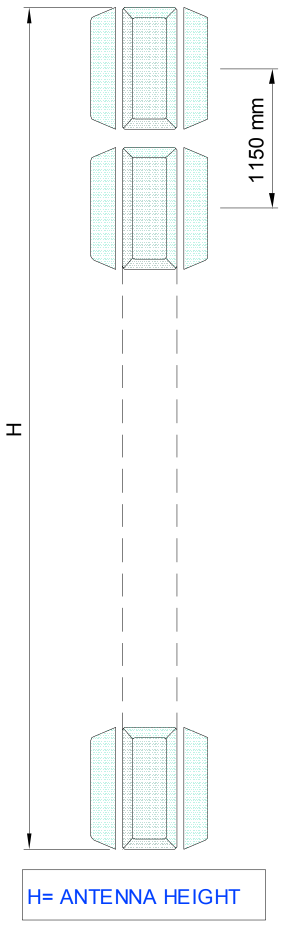
"These specifications are subject to change without notice"

Telecomunicazioni Ferrara

RVR GROUP

R.V.R. ELETTRONICA

- **Radiations systems with PUHF1 antenna**
- **Omnidirectional or directional pattern**
- **Balanced or unbalanced splitting power**



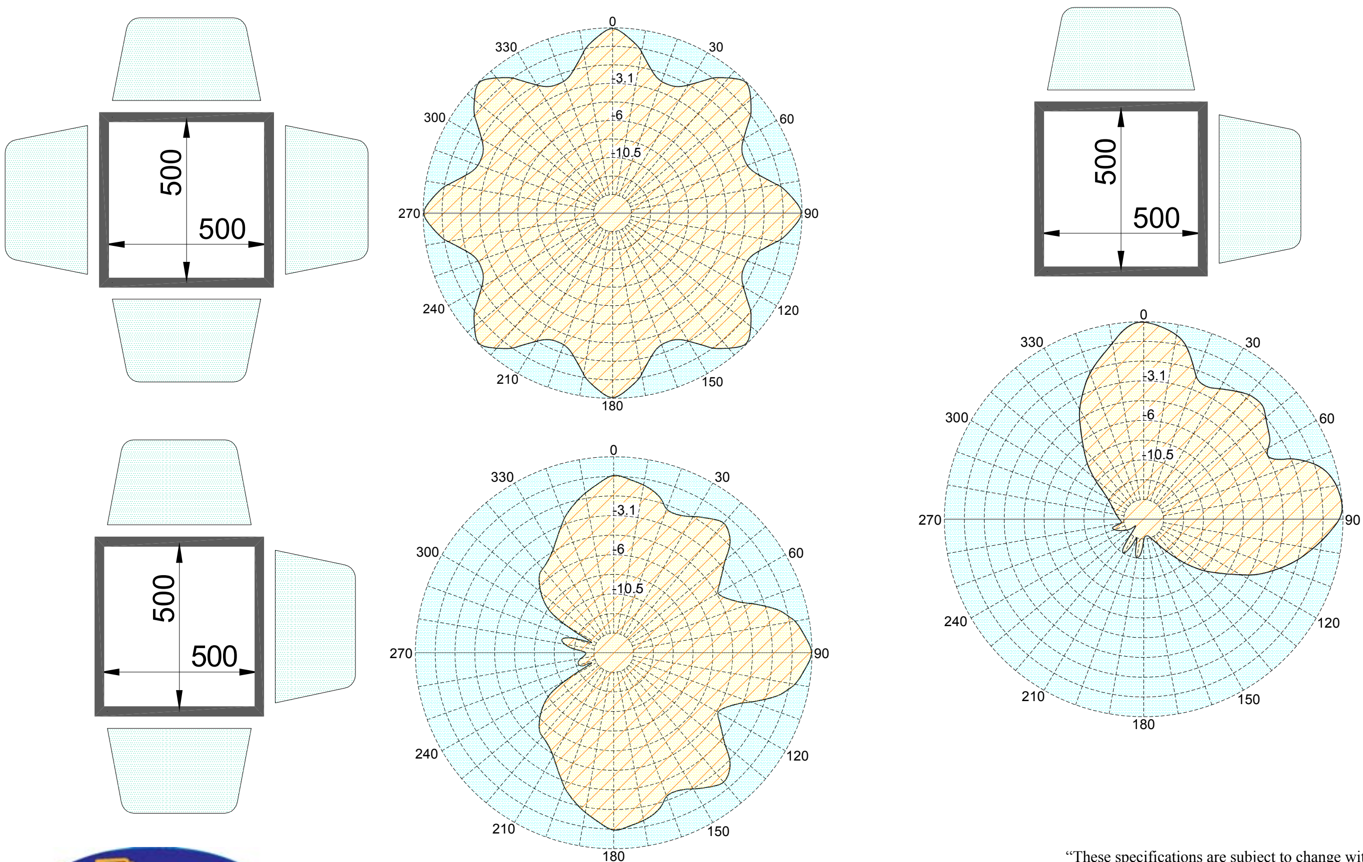
ELECTRICAL DATA

Frequency range	470 ÷ 860 MHz
Impedance	50 Ohm
Connector	7/16” female input connector (N female or 7/8” EIA on request)
VSWR	≤ 1.13:1 Max
Polarization	Horizontal
Gain	Refer to table
Horizontal pattern	Directional, omni-directional or customer designed
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

MECHANICAL DATA

Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Radome color	White
Mounting hardware	4 holes threated M8 at 980x85 mm spacing, or throught tiltable or fix mounting brackets for poles (optionals)
Shipping	As required

Horizontal Patterns with 2, 3 and 4 faces at Mid Band



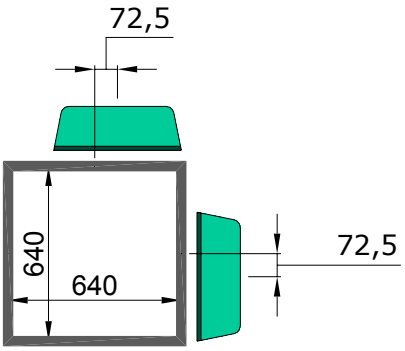
“These specifications are subject to change without notice”

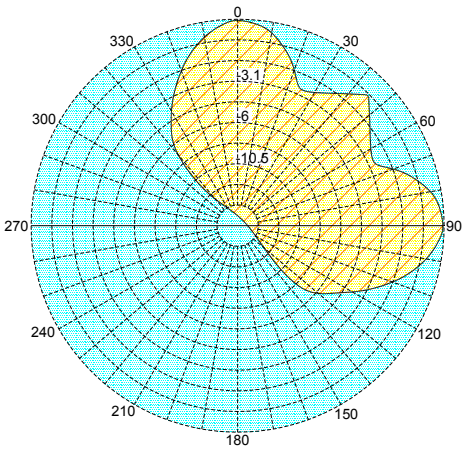
TECHNICAL DATA

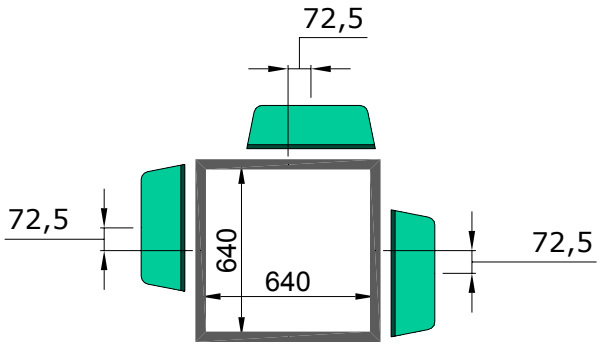
Number of bays	Panels per bay	Gain[1] 470 MHz dB	Gain[1] 470 MHz times	Gain[1] 630 MHz dB	Gain[1] 630 MHz times	Gain[1] 860 MHz dB	Gain[1] 860 MHz times	Weight[2] kg	Antenna height H m	Wind load[3] (v=160 km/h) kg
1	2 3 4	6.5 5.0 3.2	4.46 3.16 2.09	7.8 5.8 4.6	6.02 3.80 2.88	9.5 7.7 6.1	8.91 5.89 4.07	35 50 65	1.0	256 313 303
2	1 2 3 4	12.5 9.5 8.0 6.2	17.78 8.91 6.30 4.17	13.9 10.8 8.8 7.6	24.55 12.02 7.58 5.75	14.8 12.5 10.7 9.1	3.20 17.78 11.75 8.13	35 65 102 130	2.15	178 382 468 453
4	1 2 3 4	15.5 12.5 11.0 9.2	35.48 17.78 12.59 8.31	16.9 13.8 11.8 10.6	48.90 23.99 15.13 11.48	17.8 15.5 13.7 12.1	60.25 35.48 23.44 16.22	65 130 188 250	4.45	356 570 698 677
6	1 2 3 4	17.3 14.3 12.7 11.0	53.70 26.91 18.62 12.59	18.7 15.6 13.6 12.4	74.13 36.30 22.90 17.37	19.5 17.9 15.5 13.8	89.12 61.66 35.48 23.99	102 188 275 360	6.75	534 851 1048 1015
8	1 2 3 4	18.5 15.5 14.0 12.2	70.79 35.48 25.11 16.59	19.9 16.8 14.8 13.6	97.72 47.86 30.19 22.9	20.8 18.5 16.7 15.1	120.23 70.79 46.77 32.36	130 250 360 490	9.05	712 1135 1397 1354
12	1 2 3 4	20.3 17.3 15.7 14.0	107.15 53.70 37.15 25.11	21.7 18.6 16.6 15.4	147.91 72.44 45.71 34.67	22.5 20.2 18.5 16.8	177.83 104.71 70.79 47.86	188 360 550 730	13.65	1068 1700 2096 2030
16	1 2 3 4	21.5 18.5 17.0 15.2	141.25 70.79 50.11 33.11	22.9 19.8 17.8 16.6	194.98 95.50 60.25 45.70	25.5 21.5 19.7 18.1	354.81 141.25 93.32 64.56	130 490 730 960	18.25	1424 2270 2795 2707

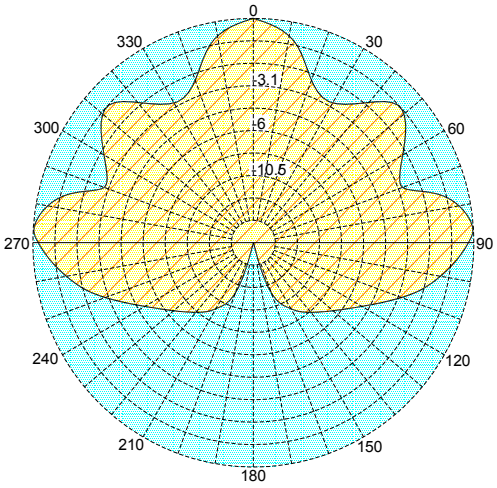
[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account.
[2] without mounting hardware
[3] according to the tower type, for more details contact us

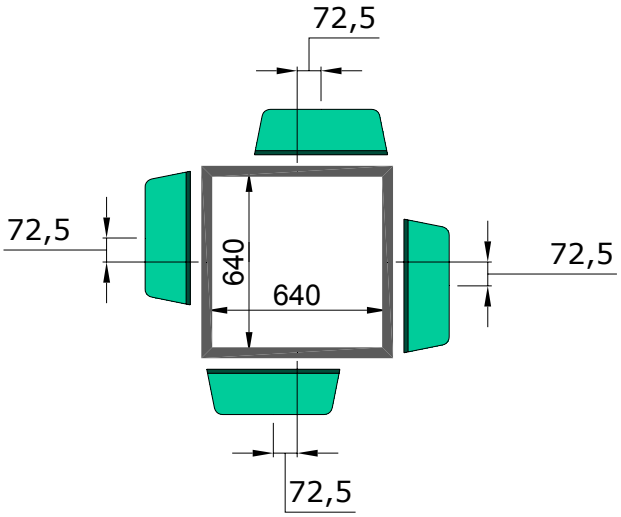
Horizontal Patterns with offset 2, 3 and 4 faces at Mid Band (650 MHz)

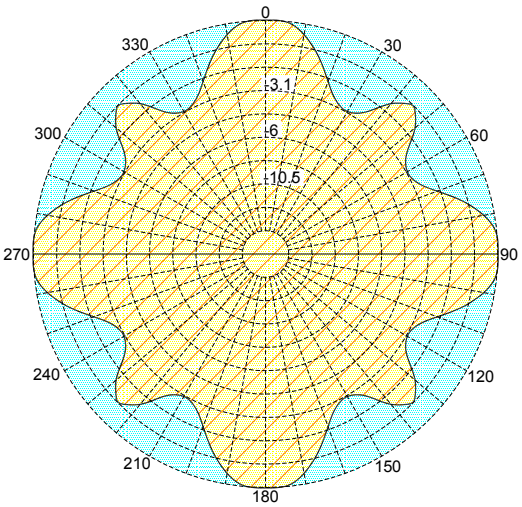






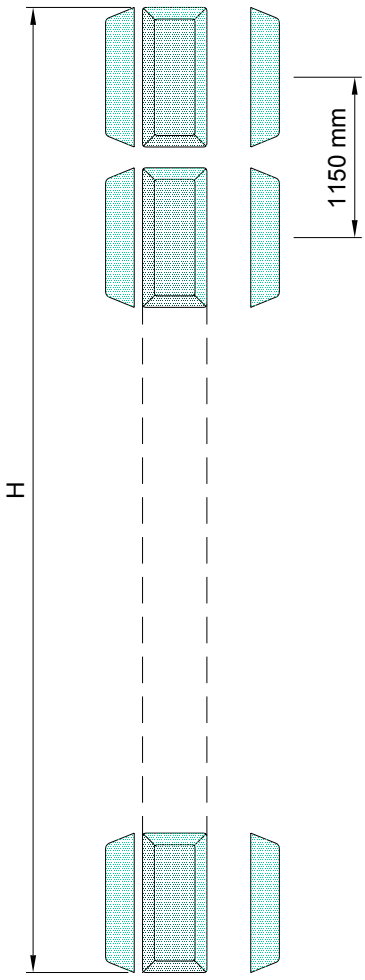






TECHNICAL DATA AT MID BAND (650 MHz)

Number of bays	Panels per bay	Gain[1] dB	Gain[1] times	Weight[2] kg	Antenna height H m	Windload/kg (V=150 km/h) Ø 1,65 m Without cylinder	Windload/kg (V=150 km/h) Ø 1,65 m With cylinder
2	1 2 3 4	15.1 12.2 10.3 9.1	32.8 16.6 10.9 8.2	30 60 90 120	2.15	131 192 253 288	310
4	1 2 3 4	18.3 15.3 13.5 12.3	68.1 34 22.6 17	60 120 180 230	4.45	262 384 506 577	650
6	1 2 3 4	20 17 15.3 14	101.2 50.6 33.7 25.3	90 180 260 350	6.75	393 576 760 866	1000
8	1 2 3 4	21.3 18.3 16.6 15.3	136.4 68.2 45.4 34.1	120 230 360 460	9.05	524 768 1015 1160	1350
10	1 2 3 4	22.3 19.3 17.6 16.3	172 86.1 57.3 43	150 300 430 600	11.35	655 960 1270 1450	1650
12	1 2 3 4	23 20.1 18.3 17.1	204 102 68 51	200 360 520 700	13.65	786 1152 1520 1730	2000
16	1 2 3 4	24.3 21.3 19.6 18.4	273.2 136.6 91 68.3	250 480 720 920	18.25	1048 1540 2030 2315	2650



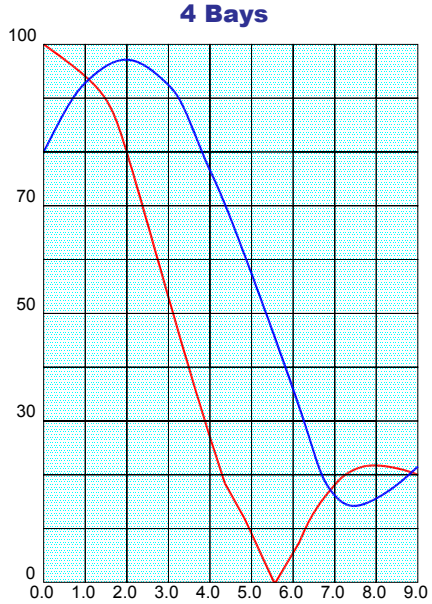
H= ANTENNA HEIGHT

VERTICAL PATTERN

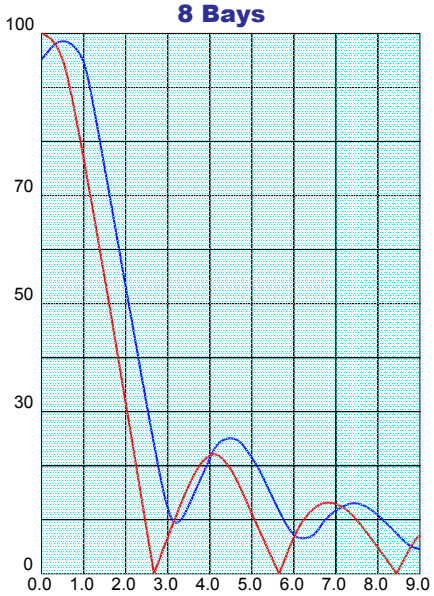
Without null fill

With null fill and beam tilt

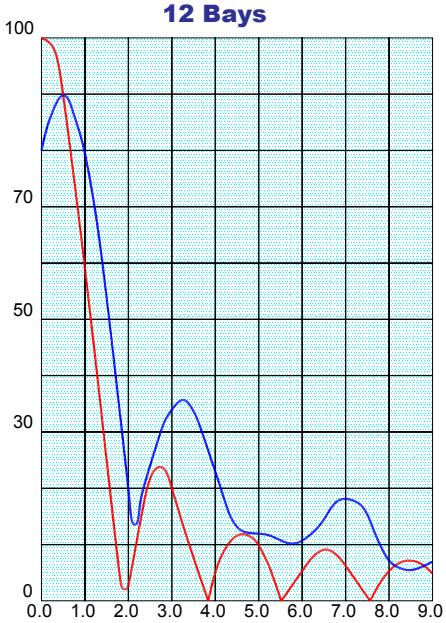
4 Bays



8 Bays

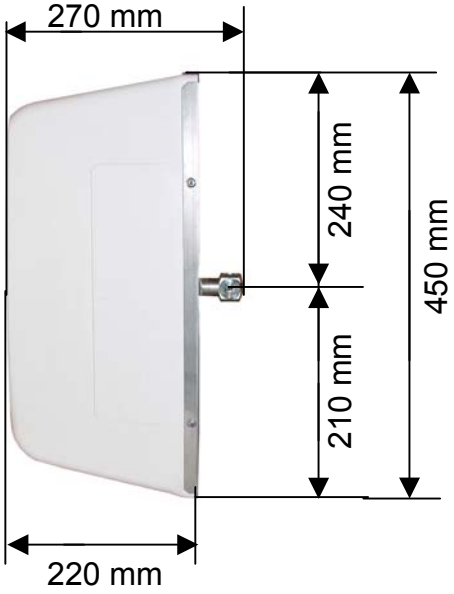


12 Bays



- Gain is provided for horizontal polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-F standard.

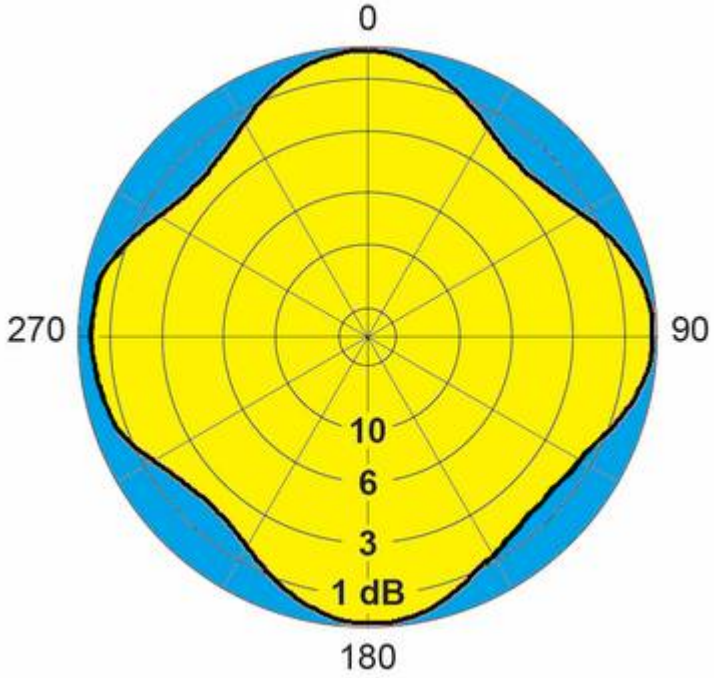
PANEL DIMENSION



Model : ATSU1

- **UHF Turnstile Antenna**
- **Broadband 470 ÷ 860 MHz**
- **horizontal polarization**
- **Omnidirectional pattern**

RADIATION PATTERN (MID BAND)



H- PLANE

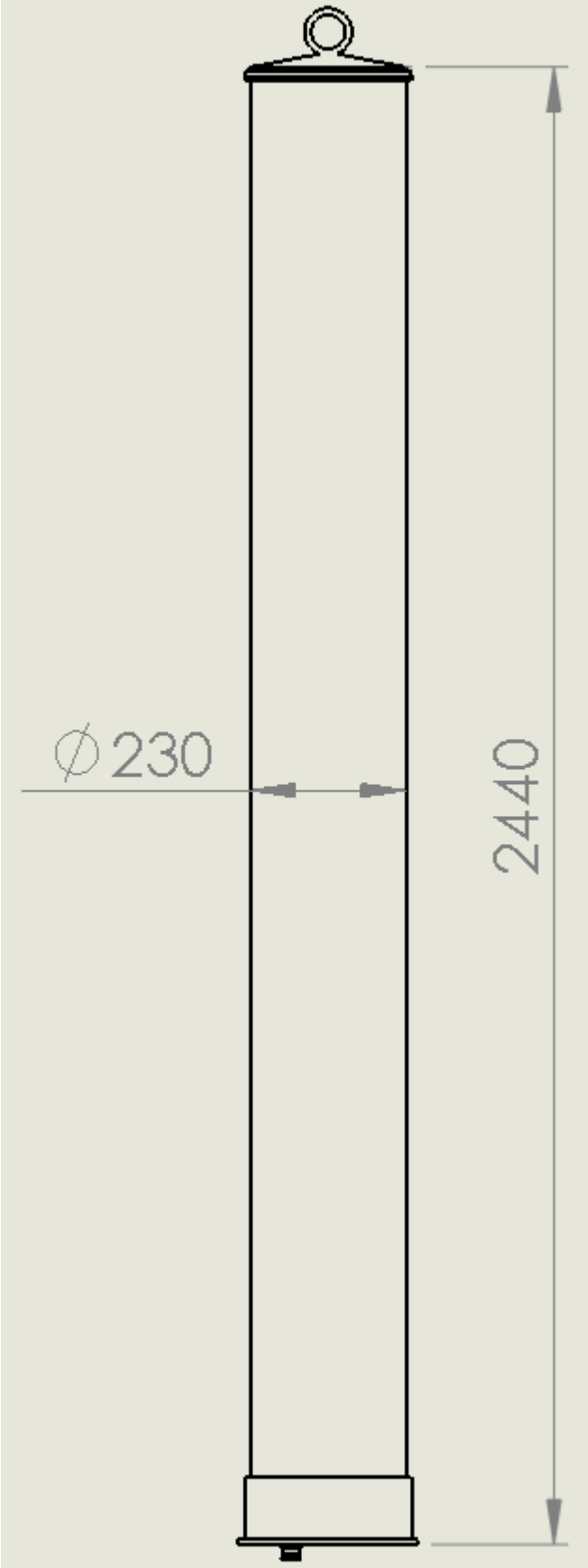
ELECTRICAL DATA

Frequency range	470 ÷ 860 MHz
Impedance	50 Ohm
Connector	7/16”
Max Power	1.4 kW
VSWR	≤ 1.1:1
Polarization	Horizontal
Gain	8 dB (referred to half-wave dipole)
Lightning protection	All metal parts DC grounded

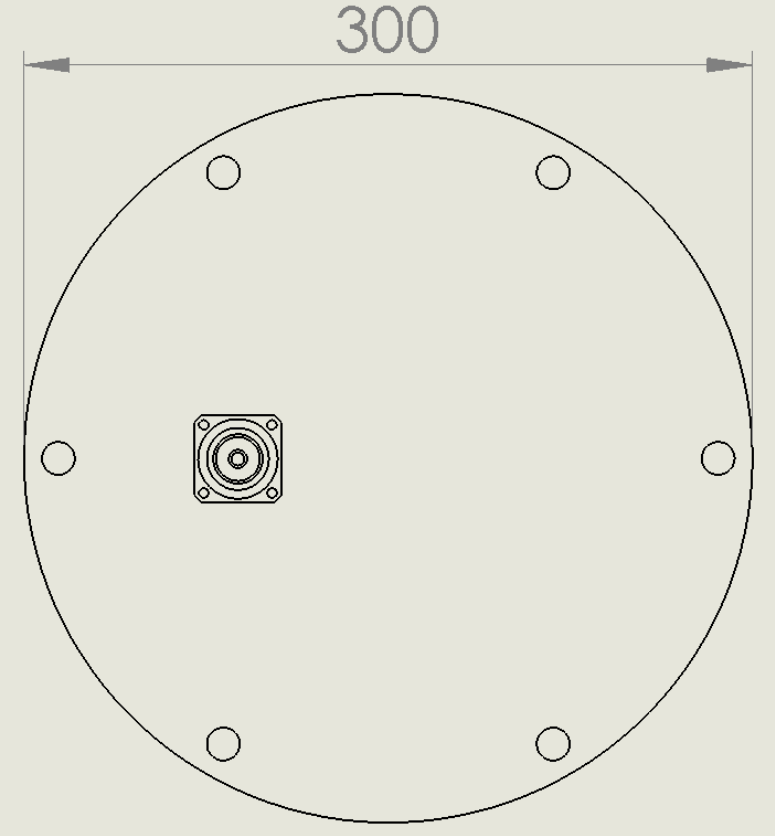
MECHANICAL DATA

Dimensions	2440 x ø 300 mm
Weight	30 Kg Approx.
Wind surface	0.56 m^2 Approx.
Wind load	45.8 Kg approx. (wind speed at 150 km/h)
Max wind velocity	220 Km/h
Materials	Aluminium, Brass, Fibreglass
Icing protection	Full radome
Radome color	White
Mounting	Directly on top of existing mast by means of a flange

DIMENSIONS (mm)



Lateral View



Bottom View

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RVRGROUP TELECOMUNICAZIONIFERRARA

BAND I ANTENNAS

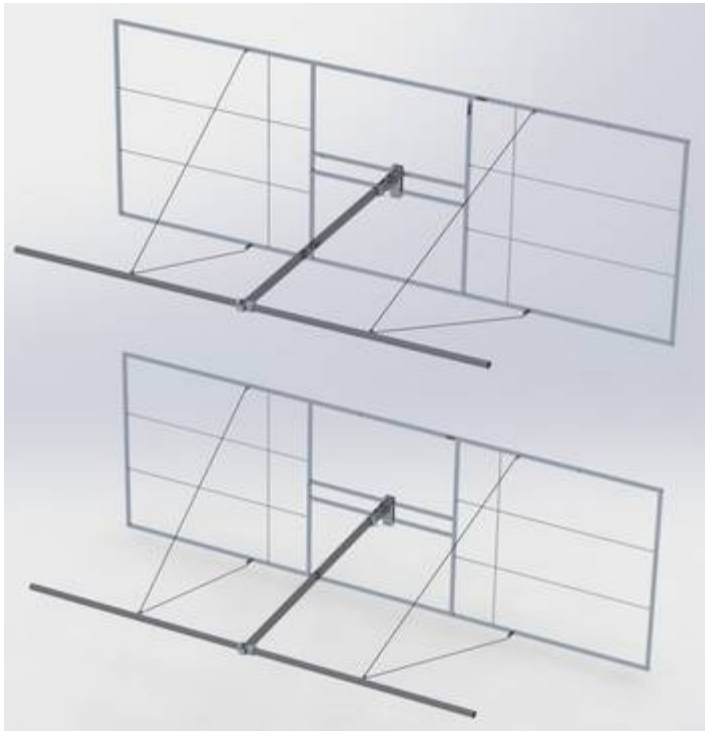
GENERAL CATALOG

45÷70 MHz YAGI ANTENNAS

Telecomunicazioni Ferrara

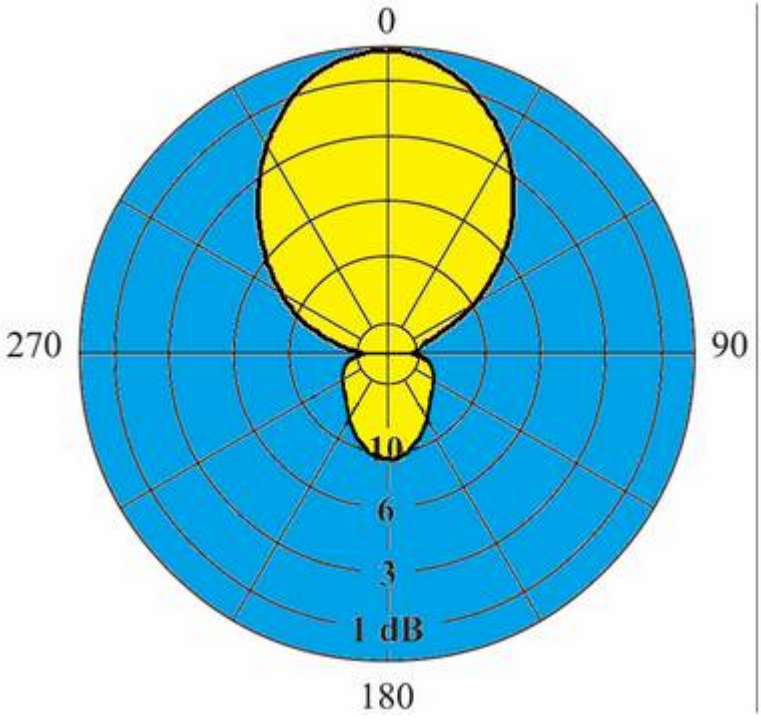
RVR GROUP

Model: DPA1HB1#1
DPA1HB1#2
DPA1HB1#3
DPA1HB1#4
DPA1HB1#5
DPA1HB1#6

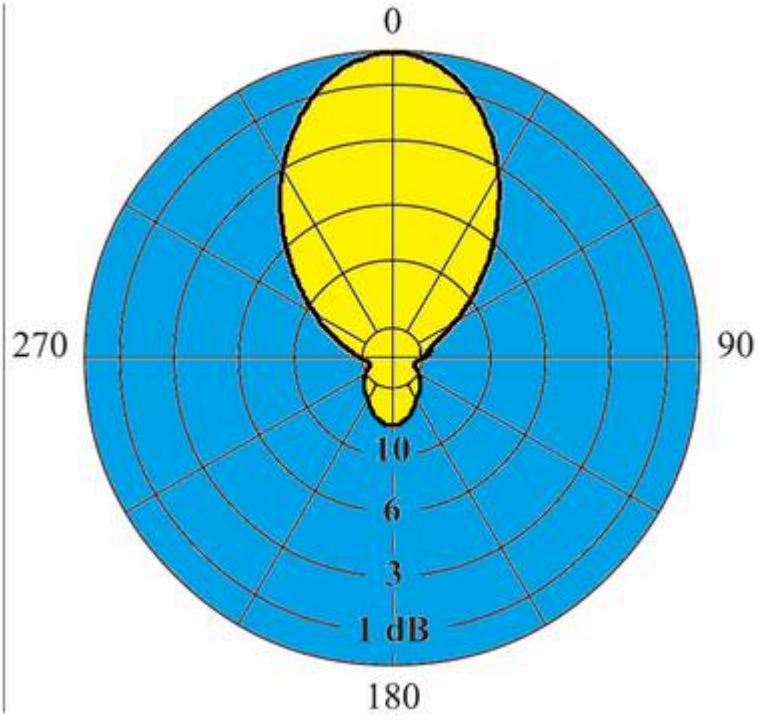


- **Band I panel**
- **Broadband 47 ÷ 68 MHz**
- **Demountable**
- **Horizontal polarization**
- **Directional pattern**
- **Suitable as a component in various arrays**

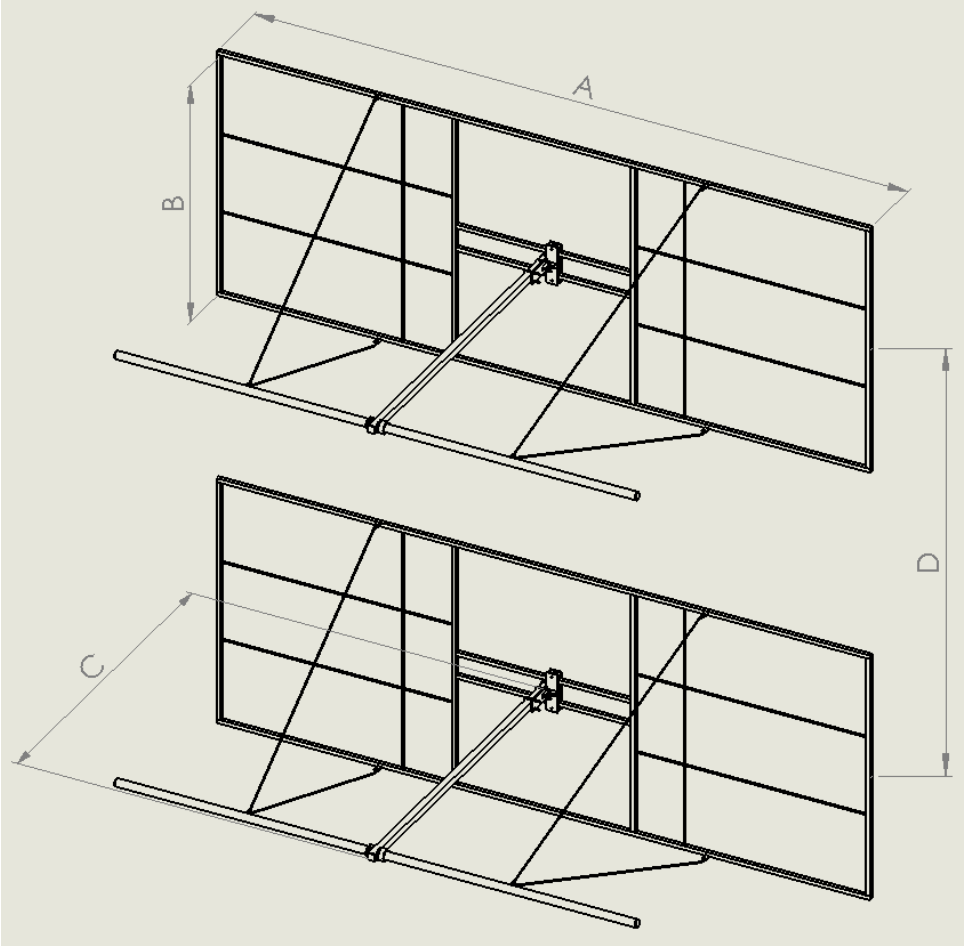
RADIATION PATTERN (MID BAND)



E-plane



H-plane



ELECTRICAL DATA

Code	DPA1HB1#1	DPA1HB1#2	DPA1HB1#3	DPA1HB1#4	DPA1HB1#5	DPA1HB1#6
Frequency range	47 ÷ 54 MHz TYPE 1	54 ÷ 61 MHz TYPE 2	61 ÷ 68 MHz TYPE 3	66 ÷ 72 MHz TYPE 4	76 ÷ 82 MHz TYPE 5	82 ÷ 88 MHz TYPE 6
Impedance	50 Ohm					
Connector	2 x 7/8" EIA					
Max Power	2 x 2.5 kW					
VSWR	≤ 1.15:1					
Polarization	Horizontal					
Gain	7.5 dB (referred to half-wave dipole)					
Half power beamwidth:	E plane ± 35° H plane ± 27					
Lightning protection	All metal parts DC grounded					

MECHANICAL DATA

Code		DPA1HB1#1	DPA1HB1#2	DPA1HB1#3	DPA1HB1#4	DPA1HB1#5	DPA1HB1#6
Dimensions (mm)	A	3360	3020	2690	2460	2165	2000
	B	1300	1170	1060	970	850	810
	C	1700	1580	1490	1312	1245	1170
	D	2850	2500	2310	2100	2000	1900
Weight		135 Kg	122 Kg	110 Kg	96 Kg	90 Kg	80 Kg
Wind load at 150 km/h		380 Kg	350 Kg	310 Kg	291 Kg	265 Kg	260 Kg
Max wind velocity		220 km/h.					
Materials		Dipole: Brass, aluminium, stainless steel, PTFE Reflector: hot dip galvanized steel Radome: PTFE (optional)					
Icing protection		Feed point radome (optional)					
Radome color		White (optional)					
Mounting		With special pipe clamps 50 ÷ 110 mm dia.					

Radiations systems with DPA1HB#1/2/3/4/5/6

Omnidirectional or directional pattern

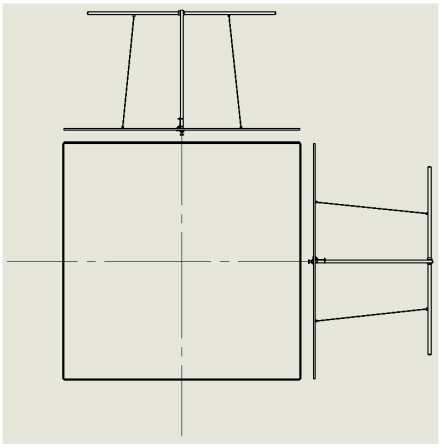
Balanced or unbalanced splitting power

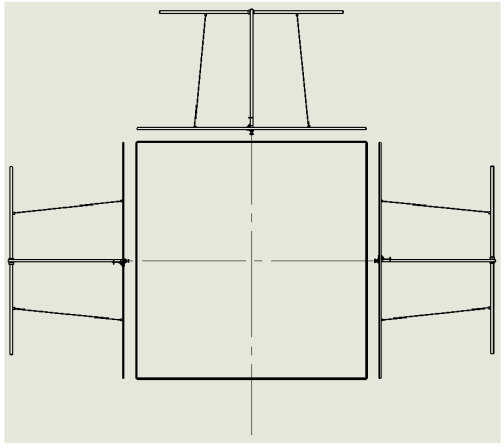
High power systems

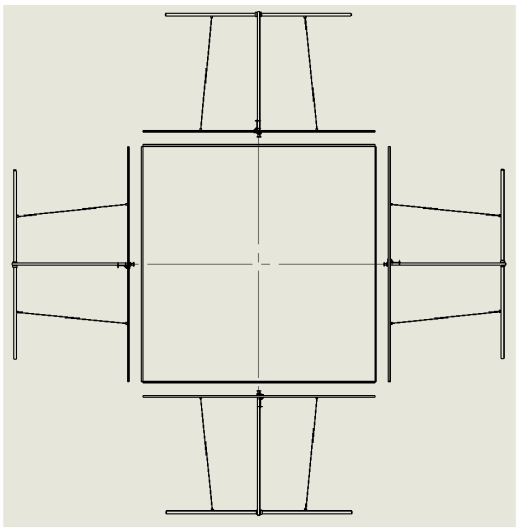
ELECTRICAL DATA	
Frequency range	TYPE 1 47 ÷ 54 MHz ; TYPE 2 54 ÷ 61 MHz ; TYPE 3 61 ÷ 68 MHz TYPE 4 66 ÷ 72 MHz ; TYPE 5 76 ÷ 82 MHz ; TYPE 6 82 ÷ 88 MHz
Impedance	50 Ohm
Connector	EIA flange according to system power rating
VSWR	1.15:1 Max
Polarization	Horizontal
Gain	According to requirement
Horizontal pattern	Any type according to requirement
Vertical pattern	Null fill, beam tilt and special requirements to order
Other facilities	The antenna system can be supplied in split feed with two equal half antennas. Each half can accept full power

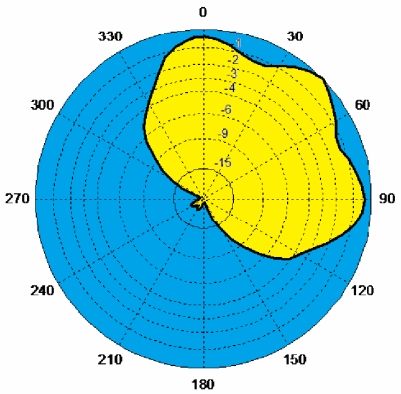
MECHANICAL DATA	
Height of array	Subject to number of bays (refer to table)
Total net weight	Refer to table
Wind load	Refer to table
Pressurizzable	Yes
Radome color	White (optional)
Mounting hardware	Hot dip galvanized steel (option)
Shipping	As required

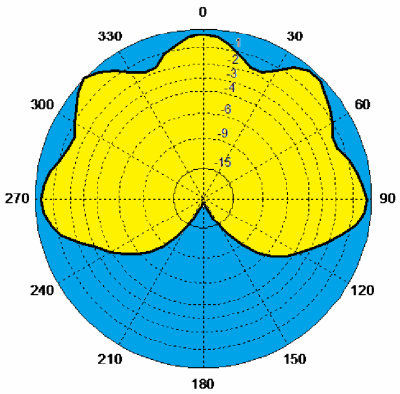
Horizontal patterns with 2, 3 and 4 faces

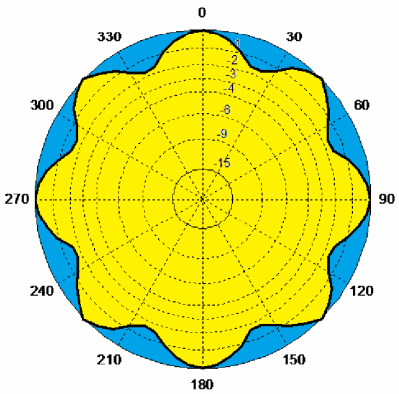












TECHNICAL DATA

N°	Pan per bay	Gain[1]		Weight[2] (kg)						Antenna height L (m) Interbay distance S (m)						Wind load[3] (kg)					
		dB	times	#1	#2	#3	#4	#5	#6	#1	#2	#3	#4	#5	#6	#1	#2	#3	#4	#5	#6
1	2	5.2	3.3	280	250	230	210	190	170							591	540	500	448	418	408
	3	3.6	2.3	440	395	365	335	305	275	L=4.2	L=3.7	L=3.4	L=3.1	L=2.8	L=2.7	887	815	764	693	622	612
	4	2	1.6	610	550	510	470	430	390							1091	999	907	836	785	754
2	1	11.2	13.2	280	250	230	210	190	170							1121	1019	938	877	805	785
	2	8.2	6.6	610	550	510	470	430	390	L=10.6	L=9.3	L=8.4	L=7.8	L=6.9	L=6.5	1193	1080	989	907	836	815
	3	6.6	4.6	950	860	800	740	680	620	S=6.4	S=5.6	S=5	S=4.7	S=4.1	S=3.8	1784	1631	1509	1254	1254	1223
	4	5.2	3.3	1240	1120	1040	960	880	800							2161	1998	1814	1682	1560	1478
4	1	14.2	26.3	610	550	510	470	430	390							2314	2079	1937	1763	1621	1580
	2	11.2	13.2	1240	1120	1040	960	880	800	L=23.4	L=20.5	L=18.4	L=17.2	L=15.1	L=14.1	2385	2130	1957	1794	1651	1621
	3	9.6	9.10	1830	1650	1530	1410	1290	1170	S=6.4	S=5.6	S=5	S=4.7	S=4.1	S=3.8	3568	3231	3007	2731	2508	2446
	4	8.2	6.60	2440	2200	2040	1880	1720	1560							4312	3945	3608	3364	3099	2956
6	1	16	39.8	950	860	800	740	680	620							3057	3150	2915	2650	2436	2385
	2	13	20	1830	1650	1530	1410	1290	1170	L=36.2	L=31.7	L=28.4	L=26.6	L=23.3	L=21.7	3588	3200	2925	2681	2467	2446
	3	11.4	13.8	2720	2450	2270	2090	1910	1730	S=6.4	S=5.6	S=5	S=4.7	S=4.1	S=3.8	5632	4760	4516	4098	3751	3649
	4	10	10	3560	3200	2960	2720	2480	2240							6493	5933	5423	5036	4638	4444
8	1	17.4	55	1240	1120	1040	960	880	800							4699	4230	3884	3557	3272	3191
	2	14.4	27.5	2440	2200	2040	1880	1720	1560	L=49.0	L=42.9	L=38.4	L=36	L=31.5	L=29.3	4781	4261	3914	3588	3303	3252
	3	12.6	18.2	3560	3200	2960	2720	2480	2240	S=6.4	S=5.6	S=5	S=4.7	S=4.1	S=3.8	7146	6453	6024	5474	5005	4882
	4	11.4	13.8	4680	4200	3880	3560	3240	2920							8644	7900	7277	6718	6177	5922

N° : number of bays

[1] referred to a half wave dipole. Attenuation of connecting cables not taken into account.

[2] without mounting hardware

[3] wind velocity=150 km/h, according to the tower type, for more details contact us

#1 : referred to TYPE 1 (DPA1HB1#1)

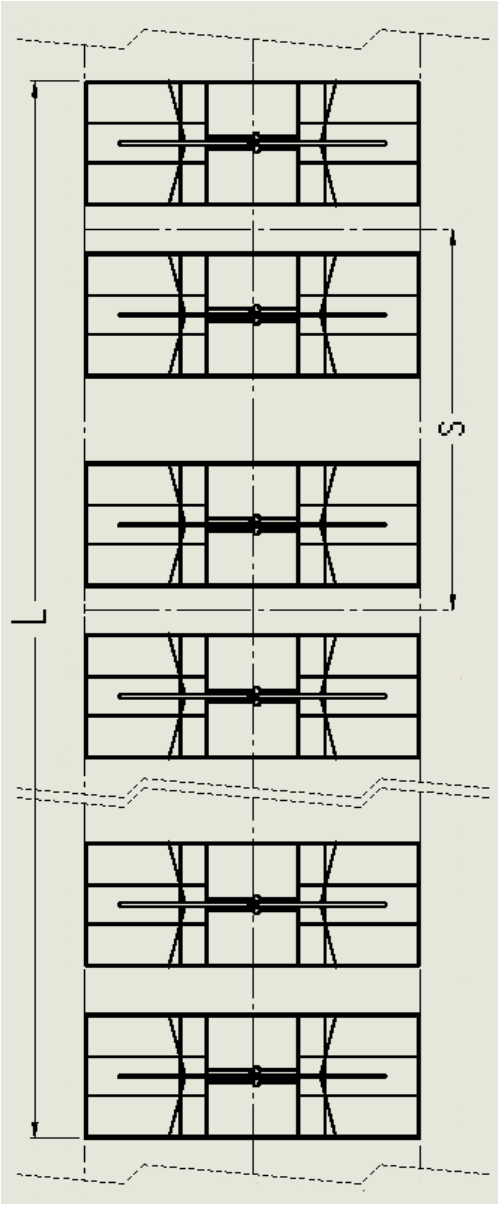
#2 : referred to TYPE 2 (DPA1HB1#2)

#3 : referred to TYPE 3 (DPA1HB1#3)

#4 : referred to TYPE 4 (DPA1HB1#4)

#5 : referred to TYPE 5 (DPA1HB1#5)

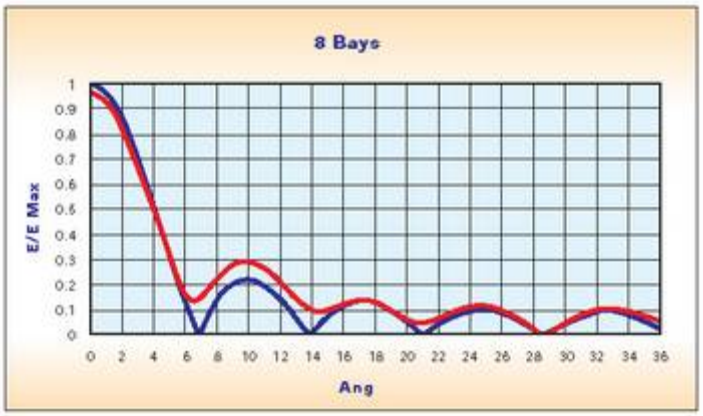
#6 : referred to TYPE 6 (DPA1HB1#6)



VERTICAL PATTERN

Without null fill

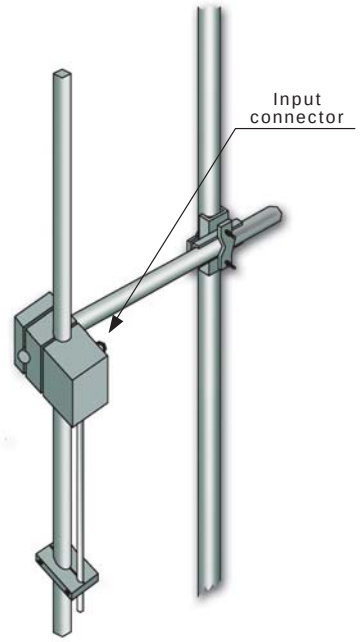
With null fill and beam tilt



- Gain is provided for horizontal polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Vertical tower space, wind load and weight numbers given are typical. Actual values vary with the specific installation. Contact us for more details of your installation.
- Gain will be reduced if null fill, beam tilt or special wavelength spacing is provided.
- Antenna radiation aperture is the distance from the centre of the top bay to the centre of the bottom bay.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 93 Mph (150Km/h) per EIA-222-C standard.

Model AJ1EIBI

- 45÷70 MHz
- Gamma Match Tuned
- Omni Directional Pattern
- Vertical or horizontal polarization
- Light - Low Cost - Demountable



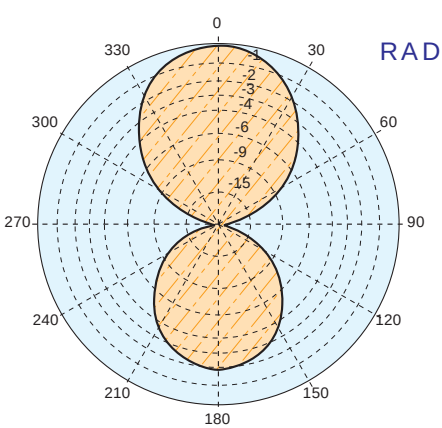
ELECTRICAL DATA

Frequency range	45÷70 MHz
Impedance	50 Ohm
Connectors	N
Max Power	650W (High Power on request)
VSWR	≤ 1.1:1 in the operating channel
Polarization	Vertical or horizontal
Gain	1 dB (referred to half-wave dipole)
Pattern	Omni directional ± 1.5 dB in free space Omni directional ± 3 dB with 100mm dia. pole
Lightning protection	No DC grounded

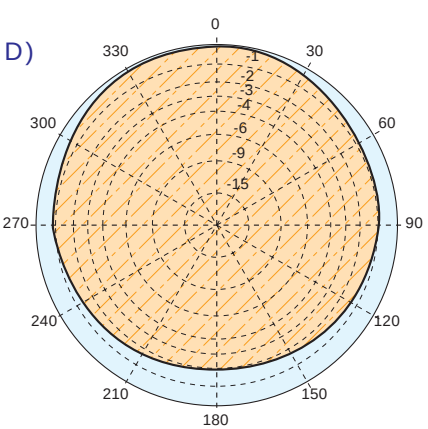
MECHANICAL DATA

Dimensions	According to the working frequency
Weight	According to the working frequency
Wind surface	According to the working frequency
Wind load	According to the working frequency
Max wind velocity	According to the working frequency
Materials	AJ1EIBI: Stainless steel elements and boom (Aluminium elements and stainless steel boom on request) Teflon insulator
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



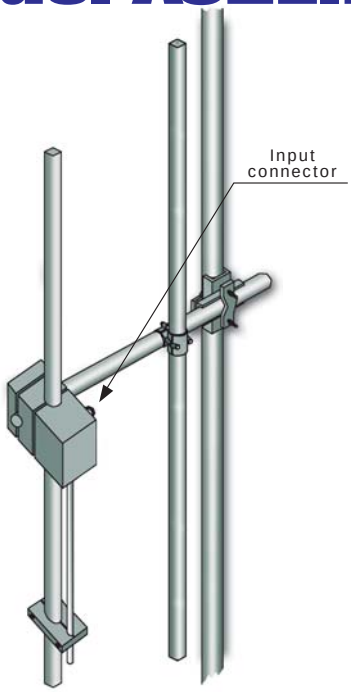
H-Plane

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AJ2EIBI

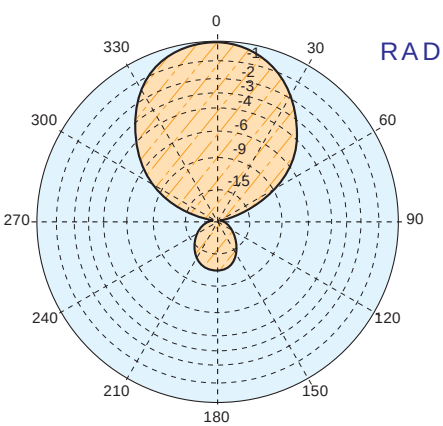
- 45÷70 MHz
- Gamma Match Tuned
- Vertical or horizontal polarization
- Light - Low Cost - Demountable



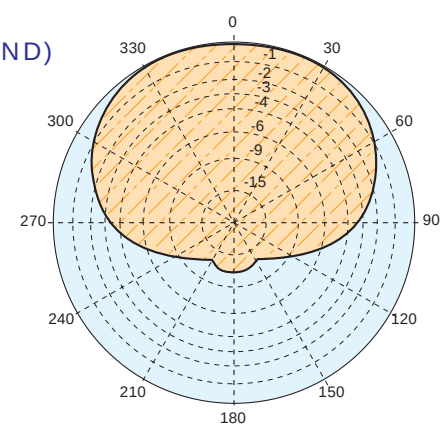
ELECTRICAL DATA	
Frequency range	45÷70 MHz
Impedance	50 Ohm
Connectors	N
Max Power	650W (High Power on request)
VSWR	≤ 1.1:1 in the operating channel
Polarization	Vertical or horizontal
Gain	5 dB (referred to half-wave dipole)
Pattern	E plane ± 40° H plane ± 90°
Lightning protection	No DC grounded

MECHANICAL DATA	
Dimensions	According to the working frequency
Weight	According to the working frequency
Wind surface	According to the working frequency
Wind load	According to the working frequency
Max wind velocity	According to the working frequency
Materials	AJ2EIBI: Stainless steel elements and boom (Aluminium elements and stainless steel boom on request) Teflon insulator
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



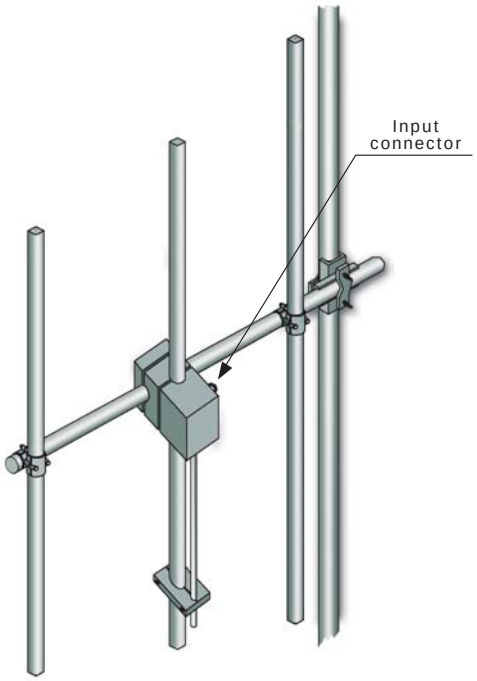
H-Plane

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AJ3EIBI

- 45÷70 MHz
- Gamma Match Tuned
- Vertical or horizontal polarization
- Light - Low Cost - Demountable



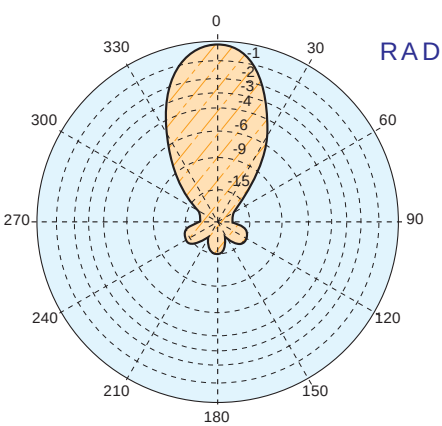
ELECTRICAL DATA

Frequency range	45÷70 MHz
Impedance	50 Ohm
Connectors	N
Max Power	650W (High Power on request)
VSWR	≤ 1.1:1 in the operating channel
Polarization	Vertical or horizontal
Gain	7 dB (referred to half-wave dipole)
Pattern	E plane ± 25° H plane ± 30°
Lightning protection	No DC grounded

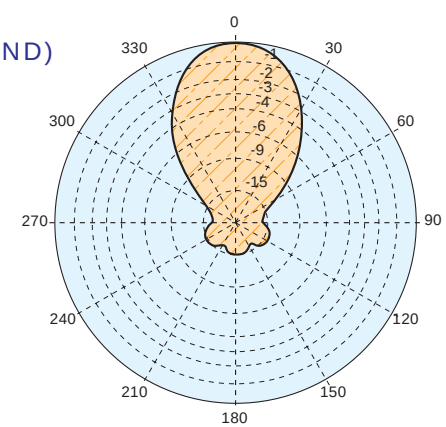
MECHANICAL DATA

Dimensions	According to the working frequency
Weight	According to the working frequency
Wind surface	According to the working frequency
Wind load	According to the working frequency
Max wind velocity	According to the working frequency
Materials	AJ3EIBI: Stainless steel elements and boom (Aluminium elements and stainless steel boom on request) Teflon insulator
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



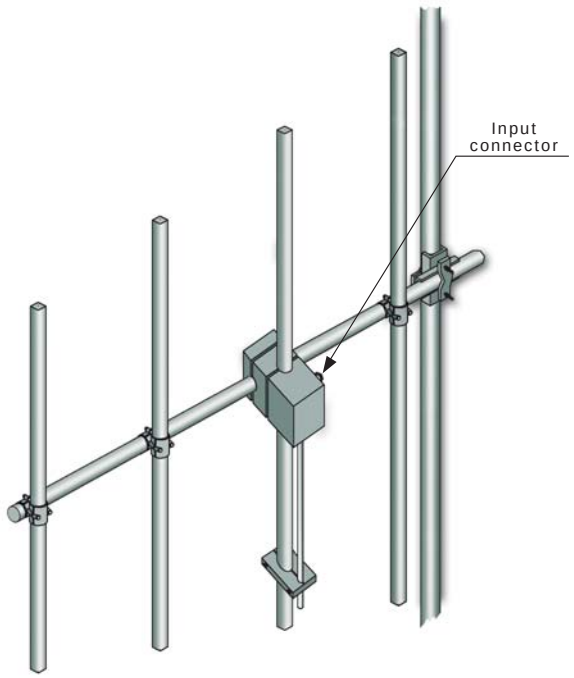
H-Plane

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AJ4EIBI

- 45÷70 MHz
- Gamma Match Tuned
- Vertical or horizontal polarization
- Light - Low Cost - Demountable



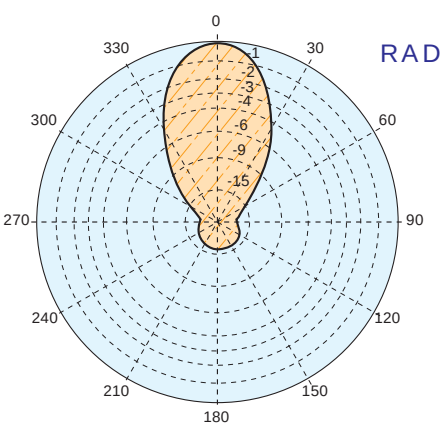
ELECTRICAL DATA

Frequency range	45÷70 MHz
Impedance	50 Ohm
Connectors	N
Max Power	650W (High Power on request)
VSWR	≤ 1.1:1 in the operating channel
Polarization	Vertical or horizontal
Gain	8 dB (referred to half-wave dipole)
Pattern	E plane ± 25° H plane ± 30°
Lightning protection	No DC grounded

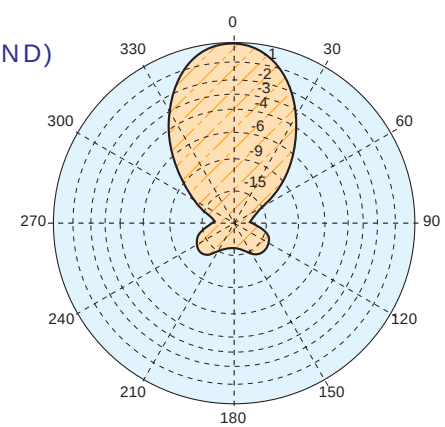
MECHANICAL DATA

Dimensions	According to the working frequency
Weight	According to the working frequency
Wind surface	According to the working frequency
Wind load	According to the working frequency
Max wind velocity	According to the working frequency
Materials	AJ4EIBI: Stainless steel elements and boom (Aluminium elements and stainless steel boom on request) Teflon insulator
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



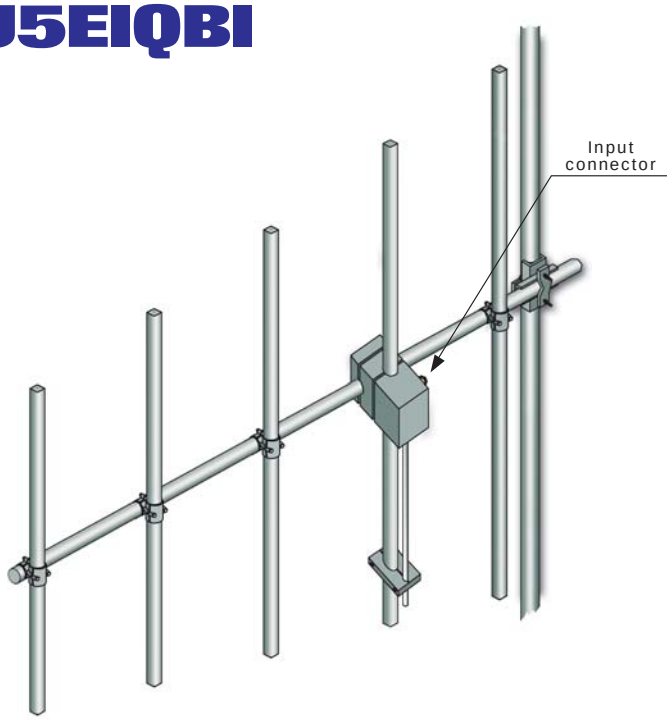
H-Plane

- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

"These specifications are subject to change without notice"

Model AJ5EIBI - AJ5EIQBI

- 45÷70 MHz
- Gamma Match Tuned
- Vertical or horizontal polarization
- Light - Low Cost - Demountable



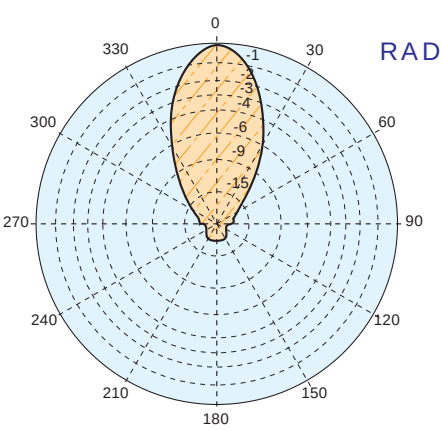
ELECTRICAL DATA

Frequency range	45÷70 MHz
Impedance	50 Ohm
Connectors	N
Max Power	650W (High Power on request)
VSWR	≤ 1.1:1 in the operating channel
Polarization	Vertical or horizontal
Gain	9.5 dB (referred to half-wave dipole)
Pattern	E plane ± 20° H plane ± 22°
Lightning protection	No DC grounded

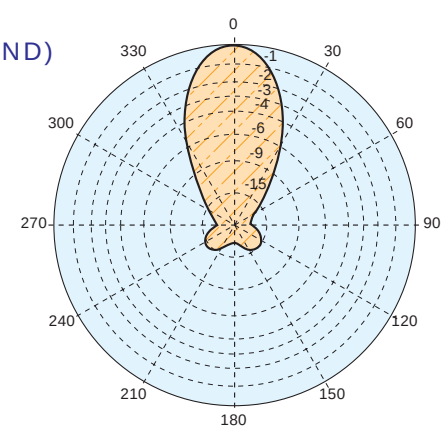
MECHANICAL DATA

Dimensions	According to the working frequency
Weight	According to the working frequency
Wind surface	According to the working frequency
Wind load	According to the working frequency
Max wind velocity	According to the working frequency
Materials	AJ5EIBI: Stainless steel elements and boom (Aluminium elements and Stainless steel boom on request) AJ5EIQBI: Boom square (more resistant) Teflon insulator
Mounting	With special pipe clamps 50÷110 mm dia.

RADIATION PATTERN (MID BAND)



E-Plane



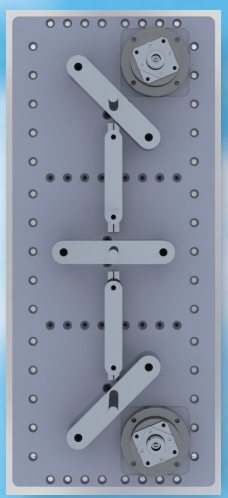
H-Plane

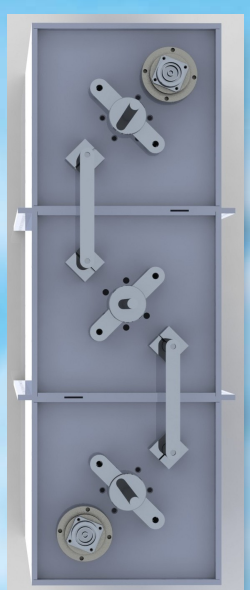
- Gain is provided for vertical polarization.
- If the antenna is side mounted, the supporting structure will have a slight effect on the radiation pattern and VSWR.
- Actual values vary with the specific installation. Contact us for more details of your installation.
- Five ft(1.6mt) of pipe required above the top bay and below the bottom bay for to protect from pattern interference by other antennas.
- Antenna wind load is calculated for 100 Mph (160Km/h) per EIA-222-C standard.

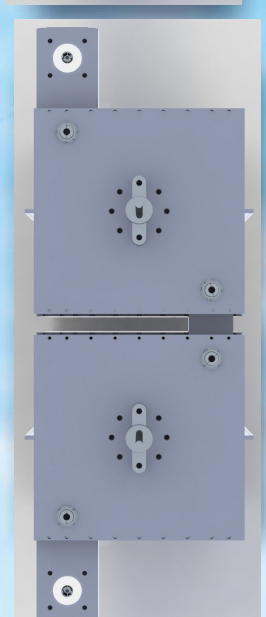
"These specifications are subject to change without notice"

RVRGROUP TELECOMUNICAZIONIFERRARA

FM PASS BAND FILTER







GENERAL CATALOG

- VARIOUS POWER
- FROM 300W TO 30KW POWER
- STANDARD CONFIGURATION OF 2 CAVITIES
- SPECIAL CONFIGURATION 3 AND 4 CAVITIES
- LOW LOSS, HIGH ISOLATION

This type of filters is executable in triple and quadruple cavity version

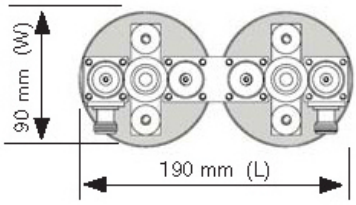
MODEL FFC03

- **BAND-PASS FILTER**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND IN SPECIAL VERSION WITH 3 AND 4 IT.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.

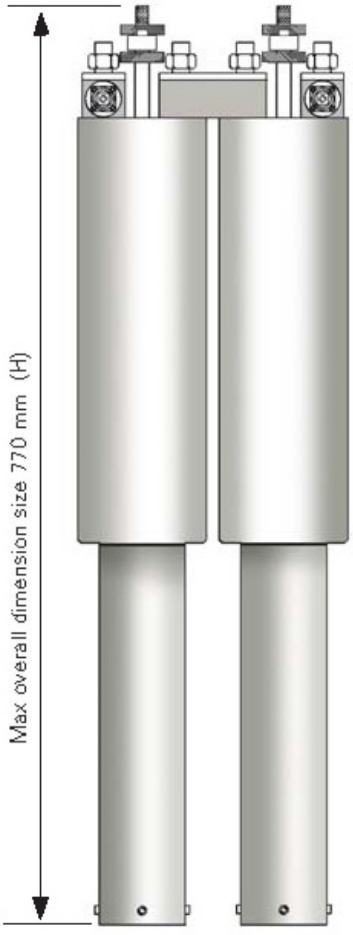
The band pass filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, octagonal, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

TYPICAL SPECIFICATIONS	
Model	FFC03
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.6 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 1MHz it's even to –8dB)
Connectors	N Input-Output
Max Power	300 W
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)



Features:

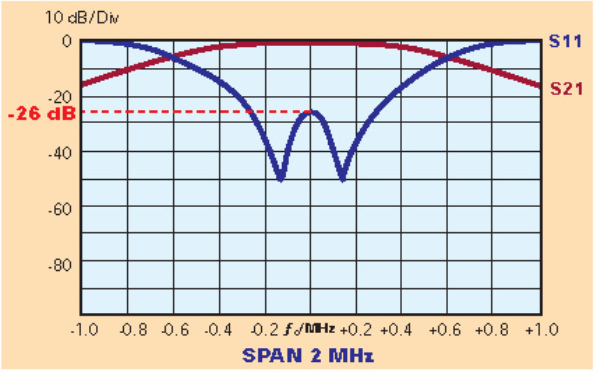
- Distortion – Free Transmission
- Standard configuration of 2 cavities
- Special configuration 3 and 4 cavities
- Low loss, high isolation
- Natural convection



No rack version	
Dimensions	770(Max size)×190×90mm (28(Max size)×7.5×3.5 inch) (H×L×W)
Net Weight	≅ 6 Kg

Rack version (optional)	
Panel Size	2 HE (1 HE=44,45 mm)
Net Weight	≅ 7 Kg

Typical shape of a curves for S11 and S12 parameters



"These specifications are subject to change without notice"

MODEL FFTC03

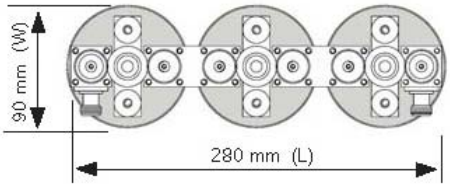
- **BAND-PASS FILTER**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

VERSION WITH RACK (OPTION)

THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND IN SPECIAL VERSION 4 IT.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.

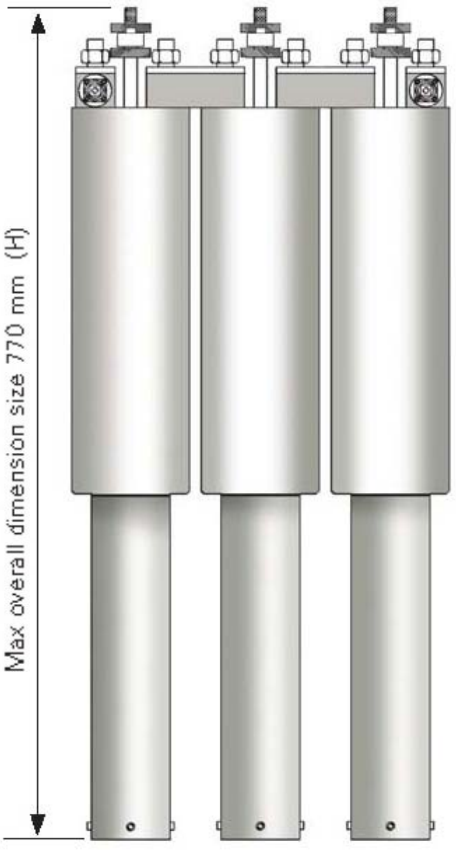
The band pass filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, octagonal, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

TYPICAL SPECIFICATIONS	
Model	FFTC03
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.8 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 1MHz it's even to –8dB)
Connectors	N Input-Output
Max Power	300 W
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)



Features:

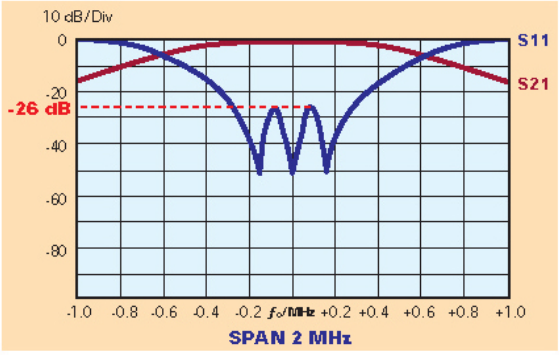
- Distortion – Free Transmission
- Special configuration 4 cavities
- Low loss, high isolation
- Natural convection



No rack version	
Dimensions	770(Max size)×280×90mm (28(Max size)×11×3.5 inch) (H×L×W)
Net Weight	≅ 9 Kg (triple cavity)

Rack version (optional)	
Panel Size	2 HE (1 HE=44,45 mm)
Net Weight	≅ 10 Kg (triple cavity)

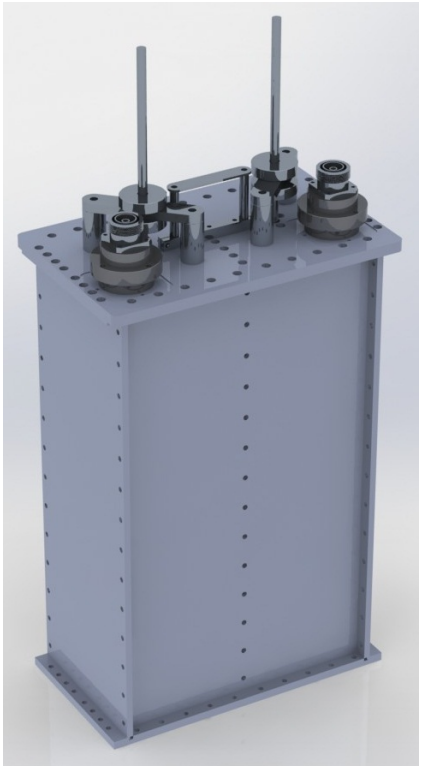
Typical shape of a curves for S11 and S12 parameters



"These specifications are subject to change without notice"

MODEL FFC05D

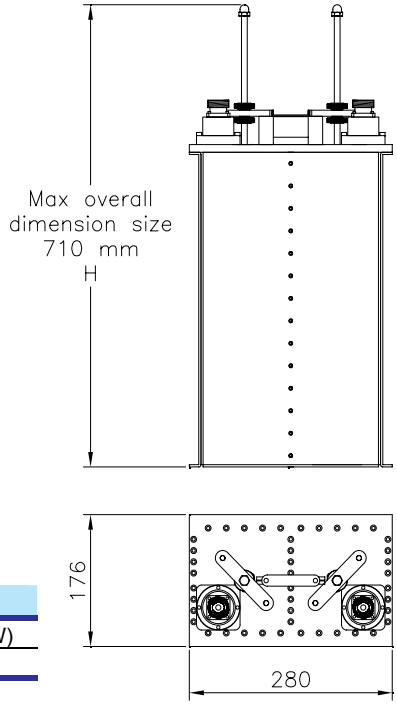
- **BAND-PASS FILTER**
- **FM BAND 87.5-108 MHz**
- **BAND II**



THESE ARE TWO STANDARD RESONANT CAVITY FILTERS.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.
The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

TYPICAL SPECIFICATIONS

Model	FFC05D
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.35 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 1 MHz it's even to –8dB)
Connectors	N-7/16" Input-Output Option 7/8" EIA
Max Power	500W
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)



Features:

- Distortion – Free Transmission
- Standard configuration of 2 cavities
- Low loss, high isolation
- Natural convection

No rack version	
Dimensions	710(Max size)×280×176 mm (27.9(Max size)×11.0×6.9 inch) (H×L×W)
Net Weight	≅ 17 Kg

Rack version (optional)	
Panel Size	4 HE (1 HE = 44,45 mm)
Net Weight	≅ 18 Kg

Typical shape of a curves for S11 and S12 parameters

"These specifications are subject to change without notice"

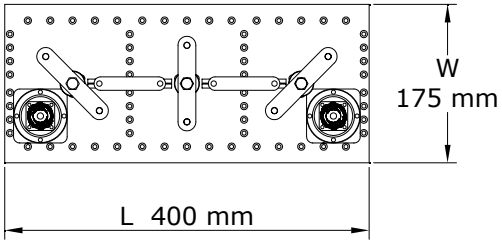
MODEL FFC05

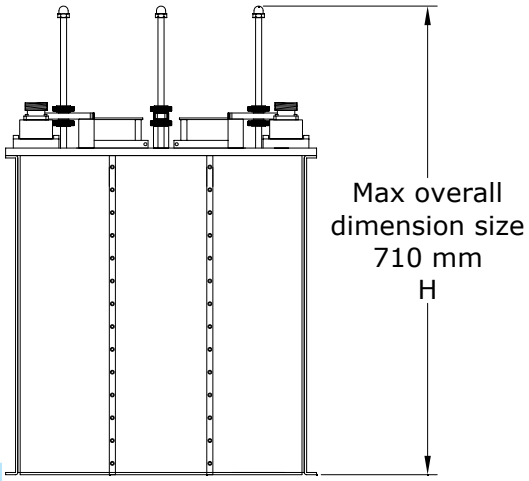
- **BAND-PASS FILTER**
- **FM BAND 87.5-108 MHz**
- **BAND II**

Rack version (optional)

THESE ARE THREE STANDARD RESONANT CAVITY FILTERS.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.

The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.





TYPICAL SPECIFICATIONS

Model	FFC05
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.58 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 1MHz it's even to –14dB)
Connectors	N-7/16" Input-Output Option 7/8" EIA
Max Power	500W
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

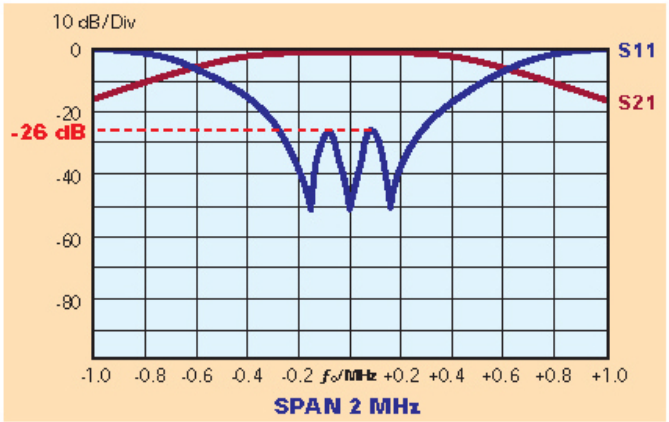
Features:

- Distortion – Free Transmission
- Standard configuration of 3 cavities
- Low loss, high isolation
- Natural convection

No rack version	
Dimensions	710(Max size)×400×175 mm (26.8(Max size)×15.7×6.9 inch) (H×L×W)
Net Weight	≅ 25 Kg

Rack version (optional)	
Panel Size	4 HE (1 HE=44,45 mm)
Net Weight	≅ 25 Kg

Typical shape of a curves for S11 and S12 parameters



MODEL FFC08I-FFC2I-FFC2I/78

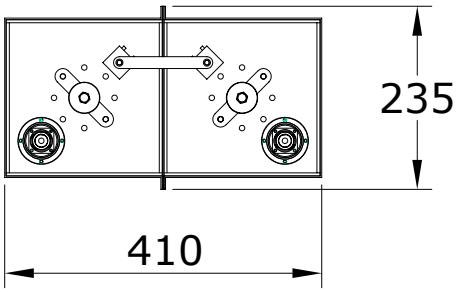
- **BAND-PASS FILTER**
- **FM BAND 87.5-108 MHz**
- **BAND II**

THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND IN SPECIAL VERSION WITH 3 AND 4.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.

The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

TYPICAL SPECIFICATIONS

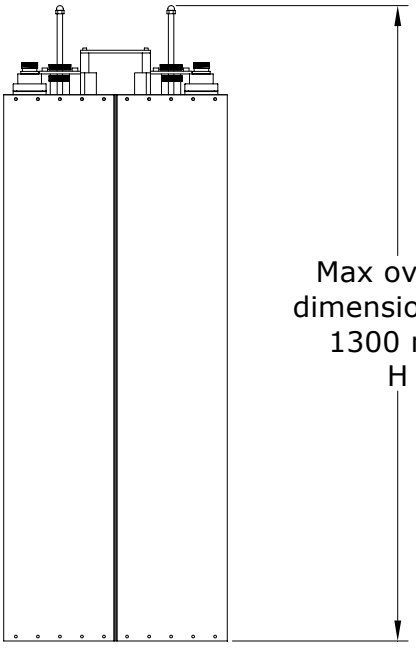
Models	FFC08I-FFC2I-FFC2I/78
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.28 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 1MHz it's even to –14dB)
Connectors	FFC08I - N Input-Output FFC2I - 7/16" Input-Output FFC2I/78 - 7/8" EIA Input-Output
Max Power	2KW (FFC2I-FFC2I/78) 800 Watts (FFCI08)
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



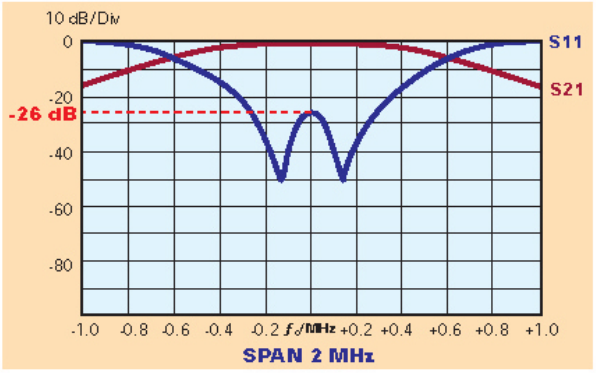
Features:

- Distortion – Free Transmission
- Standard configuration of 2 cavities
- Special configuration 3 and 4 cavities
- Low loss, high isolation
- Natural convection

Dimensions	1300(Max size)×410×235 mm (51.2(Max size)×16.1×9.2 inch) (H×L×W)
	Net Weight 20 Kg (double cavity)



Typical shape of a curves for S11 and S12 parameters



Model FFC2R

- DOUBLE CAVITY
- BAND-PASS FILTER
- FM BAND 87.5-108 MHz
- BAND II
- OPTION: RACK MOUNTING

Version with Rack option

This Band Pass Filter has been designed as an extension of our Band Pass Combiner Technology. Using our industry-leading square, cavity filter design, this filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
This filter isolates the transmission system to eliminate spurious emissions.

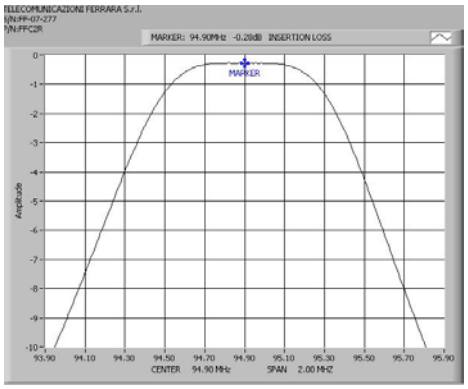
TYPICAL SPECIFICATIONS

Models	FFC2R
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.25 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	12 dB @ ± 1MHz ADJUST
Connectors	7/16” Input/Output (Option 7/8”)
Max Power	2 KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

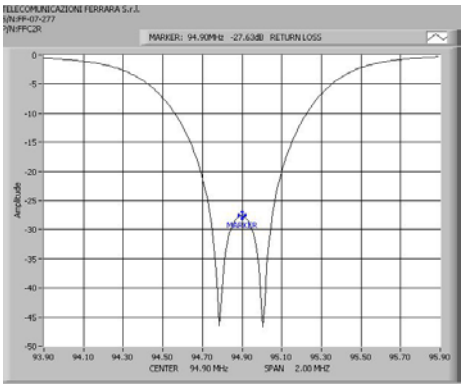
Features:

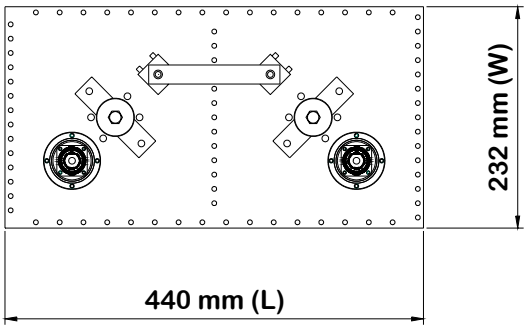
- **Distortion – Free Transmission**
- **Low Loss, High Isolation**
- **Natural Convection**
- **Rack Mounting (Option from Panel 6HE)**

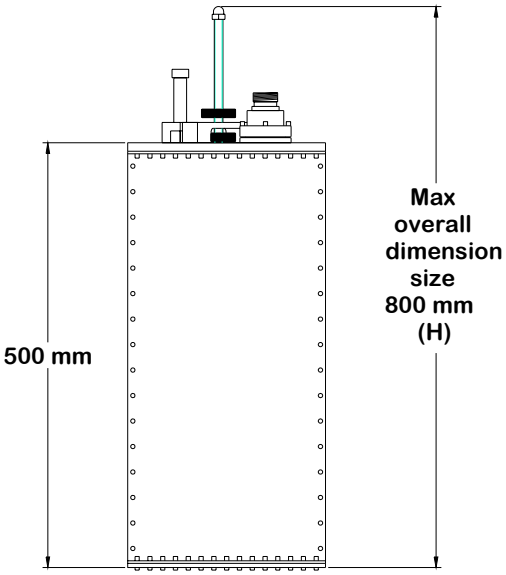
Example of Return Loss



Example of Insertion Loss

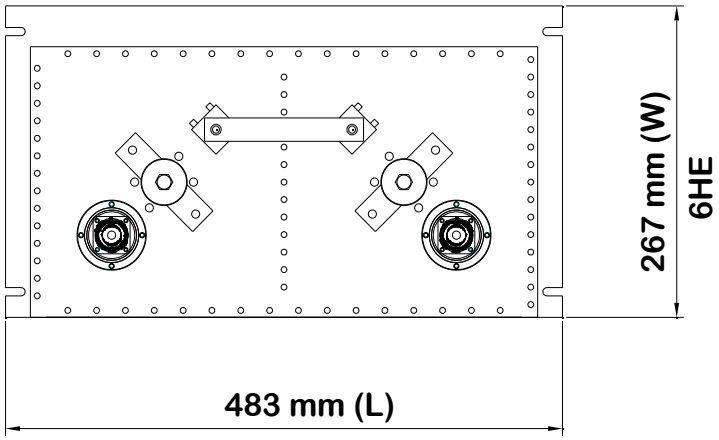




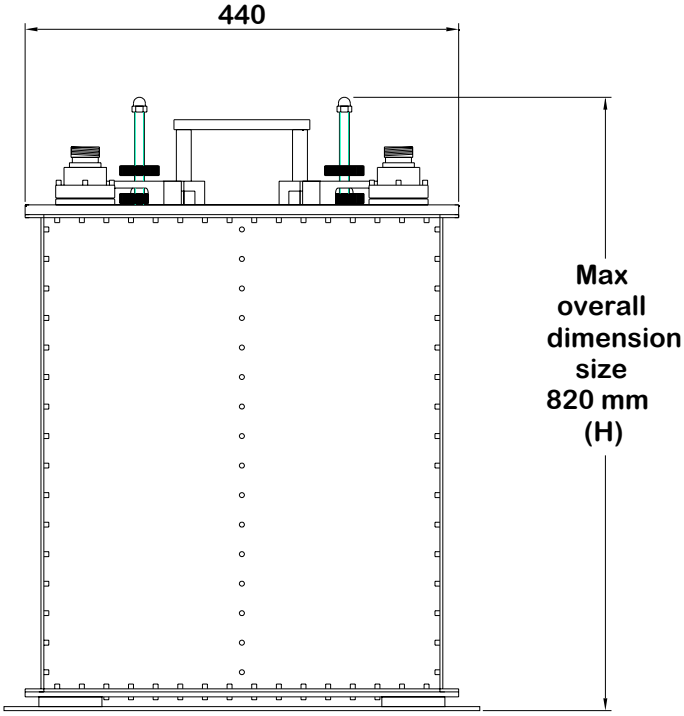


Rack version

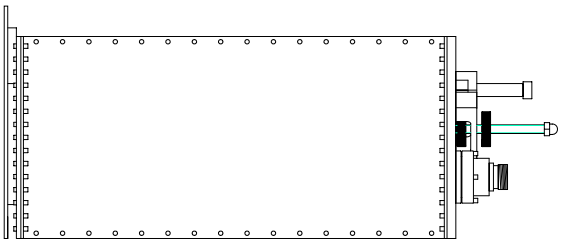
REAR VIEW



TOP VIEW



SIDE VIEW



Dimensions	800 (Max size) × 440 × 232 mm (31.5 (Max size) × 17.3 × 9.1 inch) (H×L×W)
Net Weight	≅ 9 Kg Standard - ≅ 10 Kg Rack Version
	635 (Max size) × 483 × 267 mm (25 (Max size) × 19× 10.5 inch) (H×L×W)

MODEL FFC3

- **BAND-PASS FILTER**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND IN THE SPECIAL VERSION WITH 3 AND 4.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.

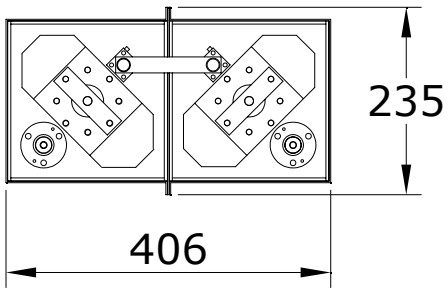
The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

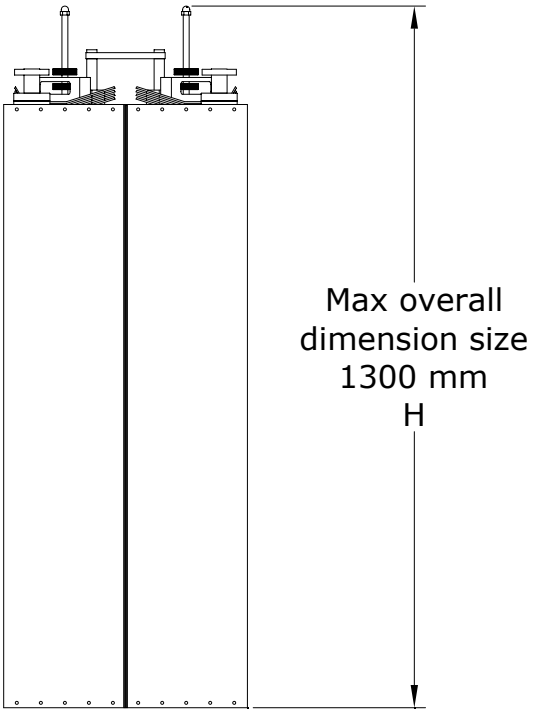
TYPICAL SPECIFICATIONS	
Model	FFC3
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.20 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 1MHz it's even to –14dB)
Connectors	7/8" EIA Input-Output
Max Power	3KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

Features:

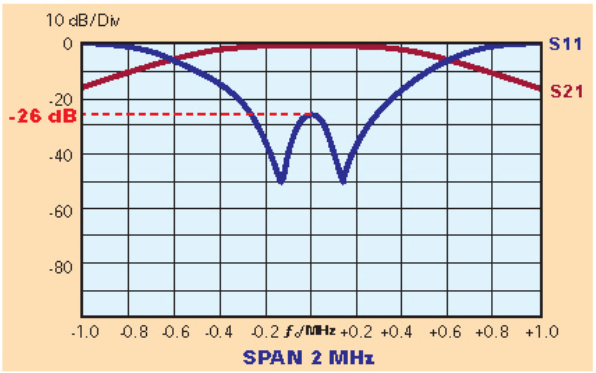
- Distortion – Free Transmission
- Standard configuration of 2 cavities
- Special configuration 3 and 4 cavities
- Low loss, high isolation
- Natural convection

Dimensions	1300(Max size)×406×235 mm (51.2(Max size)×16.0×9.2 inch) (H×L×W)
Net Weight	≅ 25 Kg (double cavity)





Typical shape of a curves for S11 and S12 parameters



"These specifications are subject to change without notice"

MODEL FFTC3

- **BAND-PASS FILTER**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

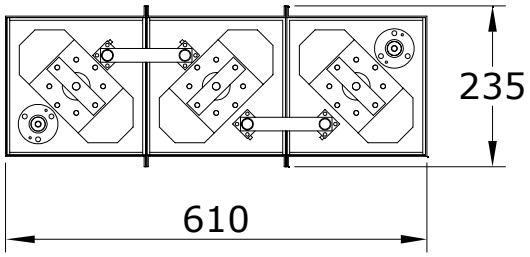
THESE ARE THREE STANDARD RESONANT CAVITY FILTERS, AND IN THE SPECIAL VERSION WITH 4.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.

The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

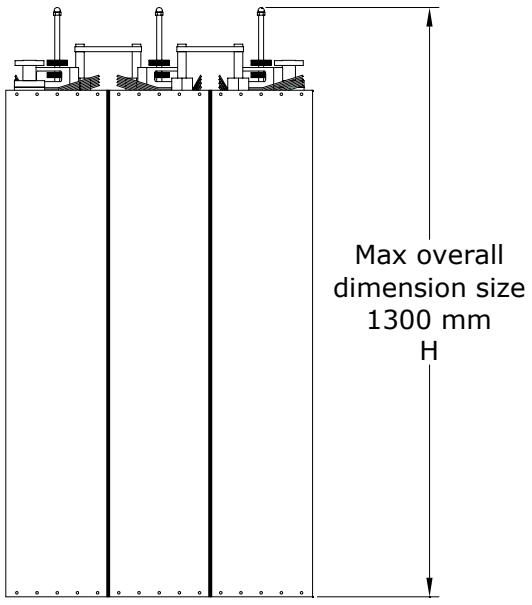
TYPICAL SPECIFICATIONS	
Model	FFTC3
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.35 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 1MHz it's even to –16dB)
Connectors	7/8" EIA Input-Output (Opt. 1+5/8")
Max Power	3KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

Features:

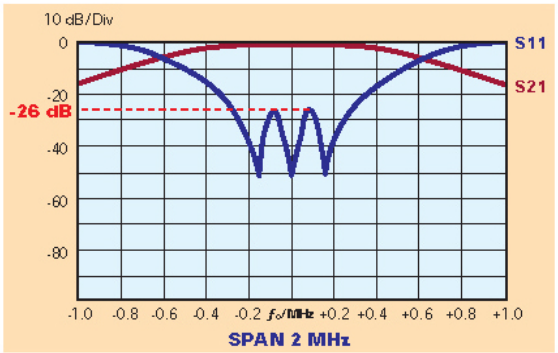
- Distortion – Free Transmission
- Standard configuration of 3 cavities
- Special configuration 4 cavities
- Low loss, high isolation
- Natural convection



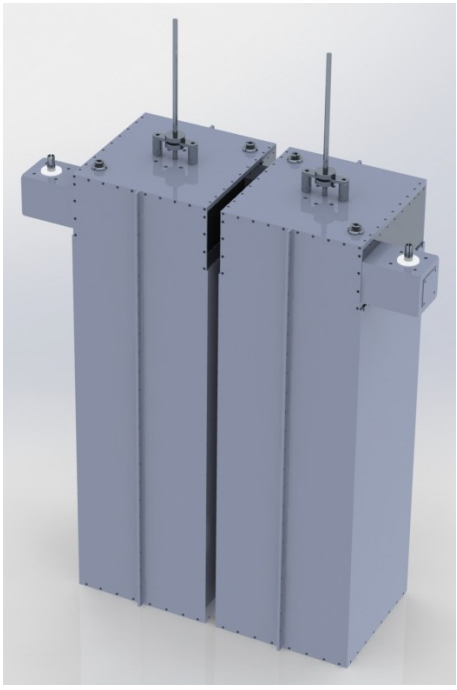
Dimensions	1300(Max size)×610×235 mm (51.2(Max size)×24.0×9.2 inch) (H×L×W)
Net Weight	≅ 37 Kg (triple cavity)



Typical shape of a curves for S11 and S12 parameters



MODEL FFC5 (double)
FFTC5 (triple)
FFQC5 (Quadruple)



INPUT - OUTPUT 90° IS OPTION

- **BAND-PASS FILTER**
- **FM BAND 87.5-108 MHz**
- **BAND II**

THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND IN THE SPECIAL VERSION WITH 3 AND 4.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.

The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

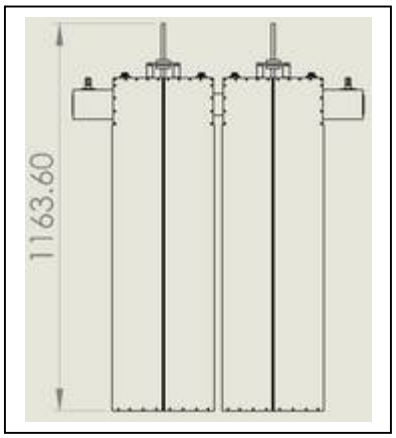
TYPICAL SPECIFICATIONS

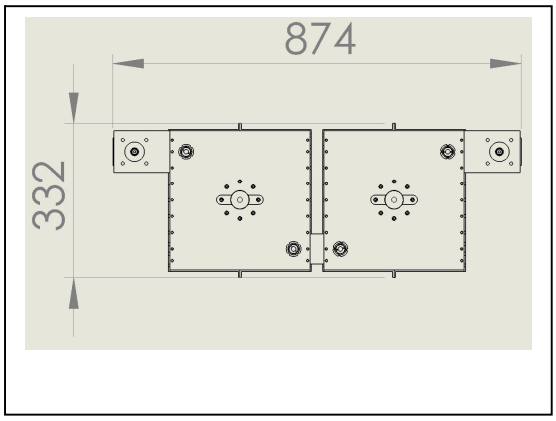
Model	FFC5
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	≤ 0.15 - 0.35 dB double cavity adjustable ≤ 0.25 - 0.45 dB triple cavity adjustable ≤ 0.35 - 0.55 dB quadruple cavity adjustable
Return Loss ± 150 KHz	≤ -26 dB
Rejection	per customer's requirements typical 30 dB ± 4 mhz. double cavity typical 30 dB ± 1.5 mhz. triple cavity typical 30 dB ± 1 mhz. quadruple cavity
Connectors	1+5/8" or 7/8" special version 3+1/8" Input - Output
Max Power	5 KW
Working Temperature	-20°C ÷ +50°C not significative variation in the range
Colour	Enamel Gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

Features:

- Modular design
- Distortion – Free Transmission
- Standard configuration of 2 cavities
- Special configuration 3 and 4 cavities
- Low loss, high isolation
- Natural convection
- Special system temperature compensation

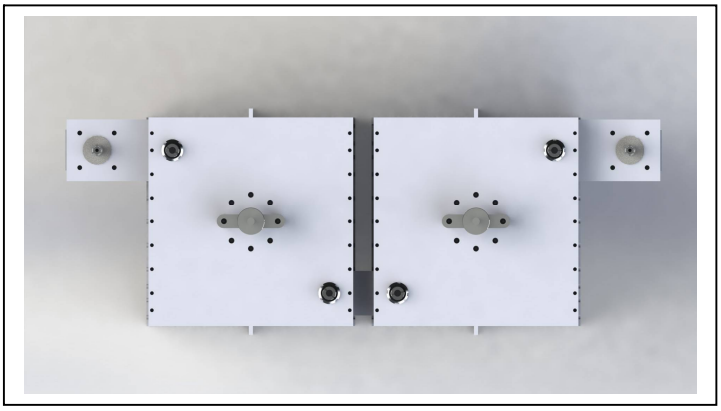
DIMENSIONS DOUBLE CAVITY (is mm.)

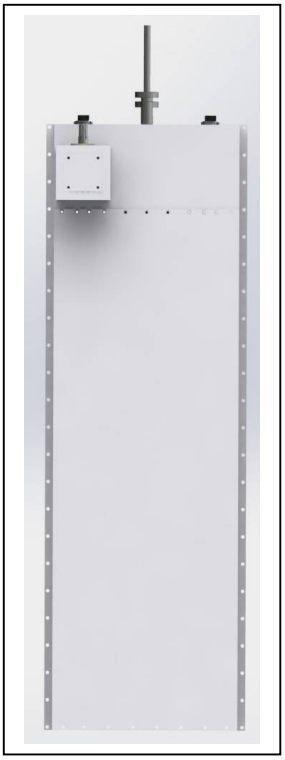




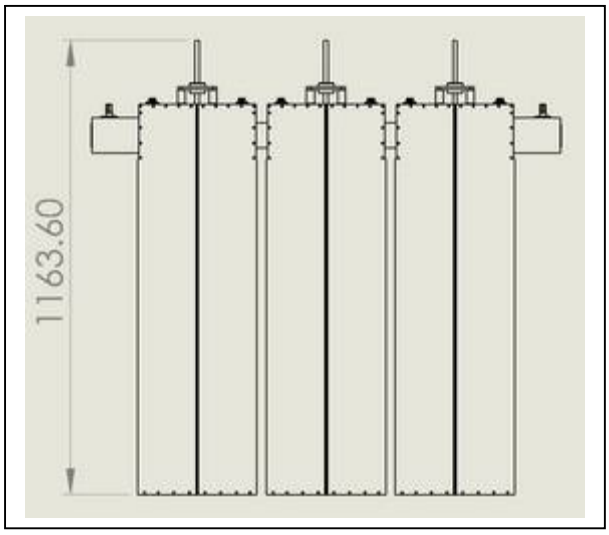
Dimensions	1400(Max size)×874×332 mm (H×L×W)
Net Weight	≅ 45 Kg (double cavity)

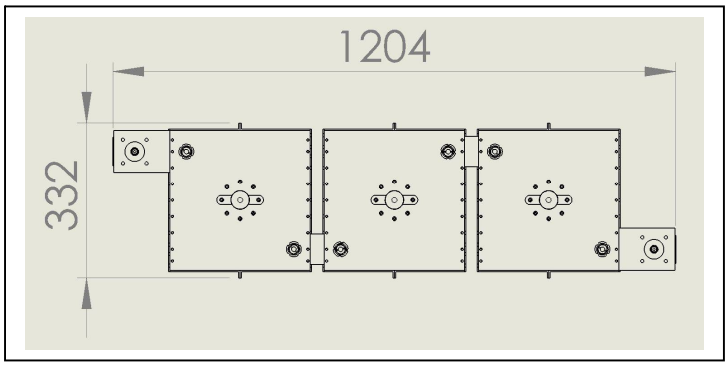
VIEW IN VARIOUS DIRECTIONS





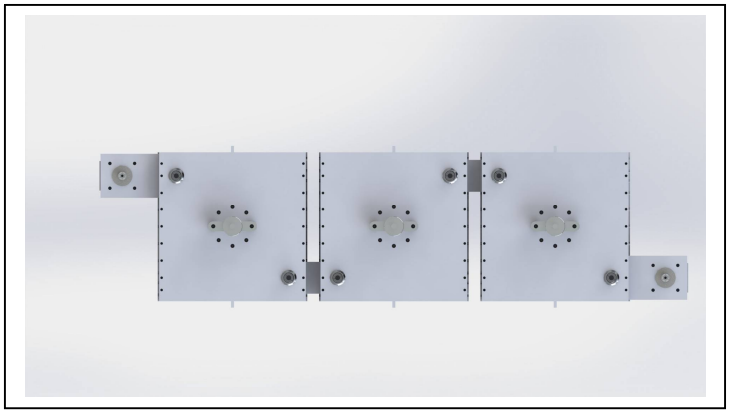
DIMENSIONS TRIPLE CAVITY (is mm.)

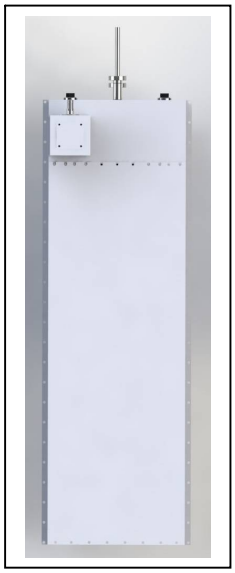




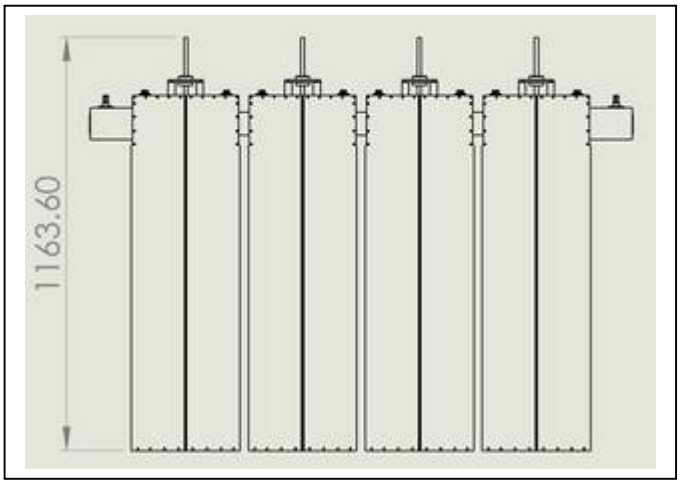
Dimensions	1400(Max size)×1204×332 mm (H×L×W)
Net Weight	≅ 65 Kg APROX

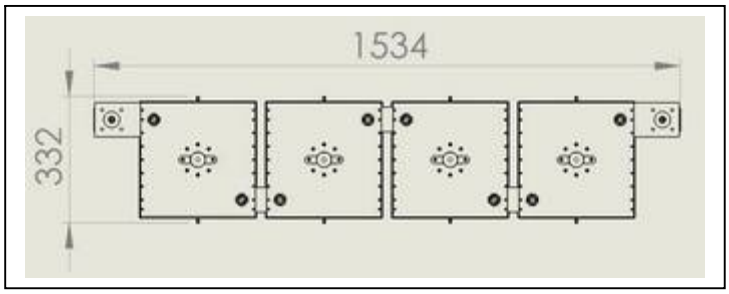
VIEW IN VARIOUS DIRECTIONS





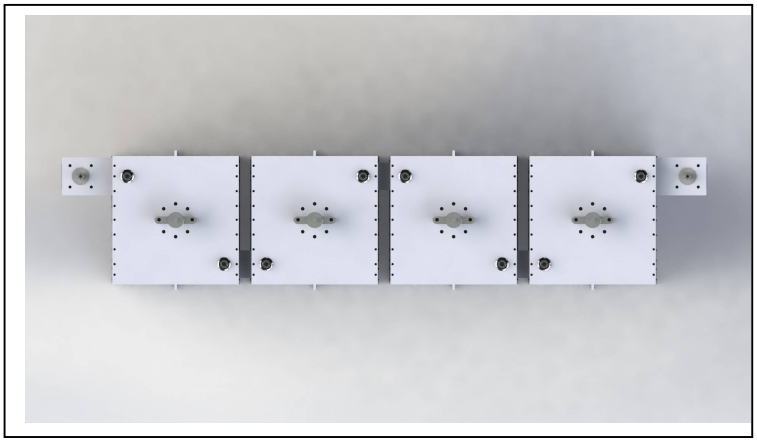
DIMENSIONS QUADRUPLE CAVITY (is mm.)

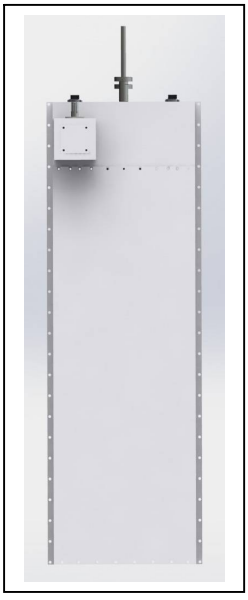


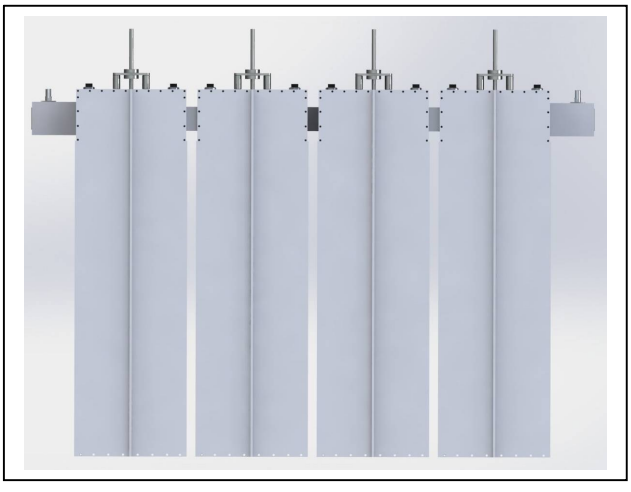


Dimensions	1400(Max size)×1534×332 mm (H×L×W)
Net Weight	≅ 85 Kg APROX

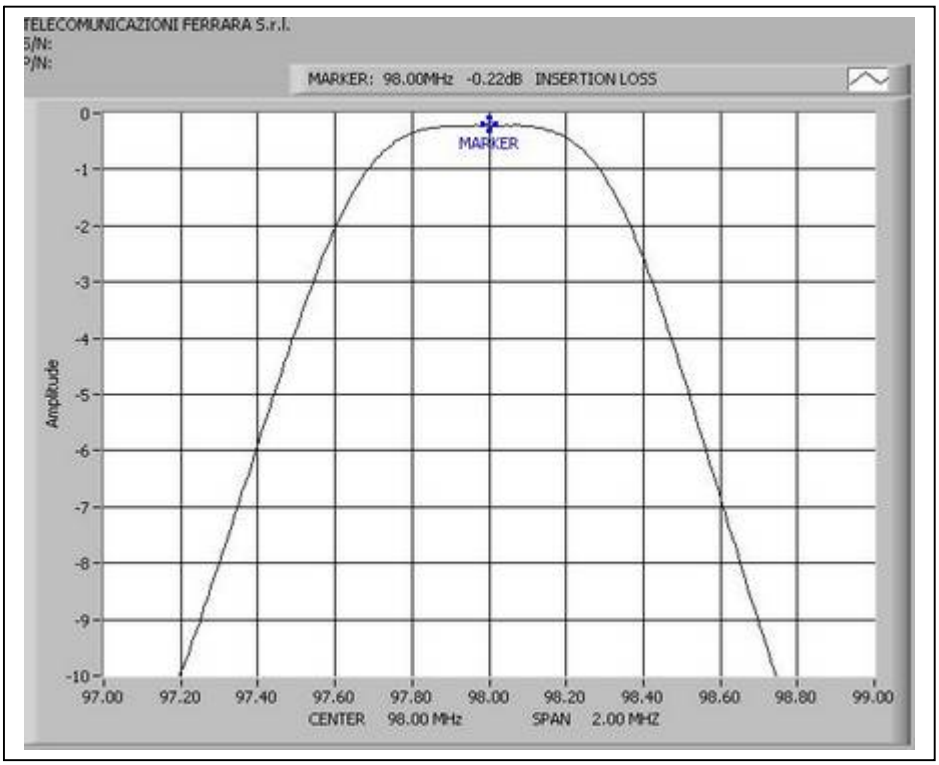
VIEW IN VARIOUS DIRECTIONS



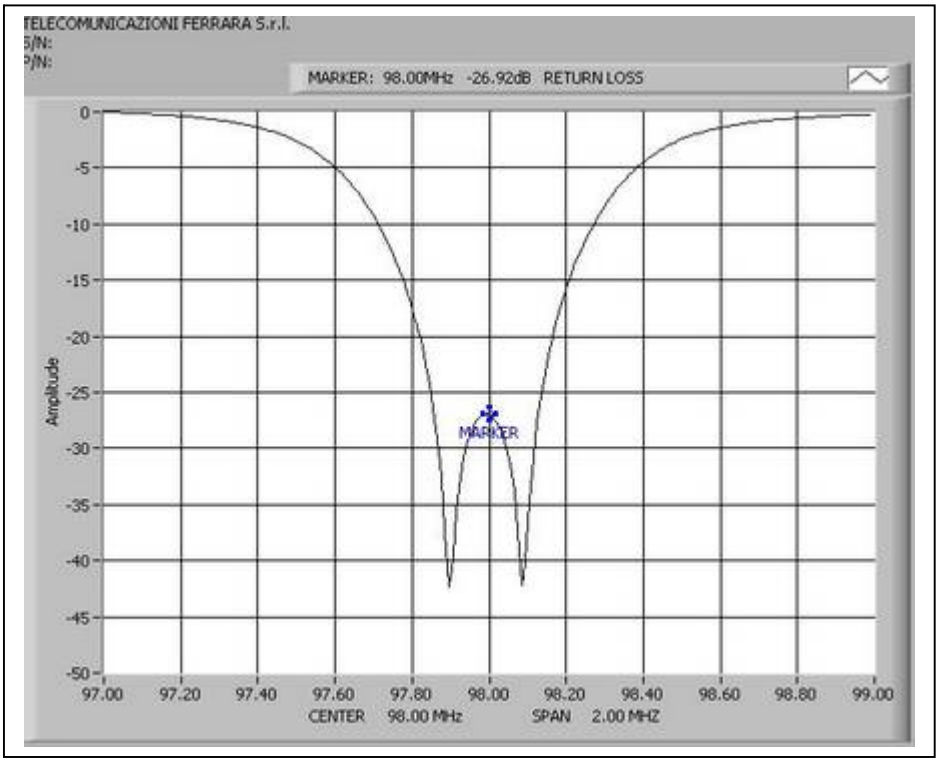




TYPICAL RESPONSE (DOUBLE CAVITY)



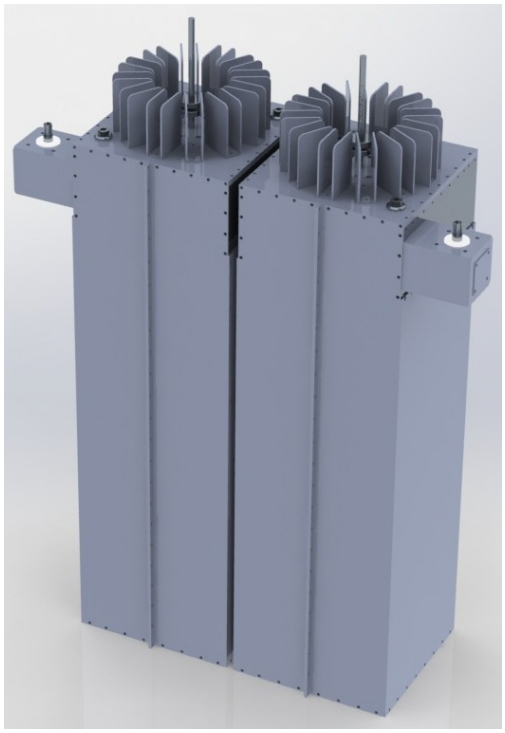
INSERTION LOSS



RETURN LOSS

MODEL FFC10/C

- **BAND-PASS FILTER**
- **FM BAND 87.5-108 MHz**
- **BAND II**



THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND IN THE SPECIAL VERSION WITH 3 AND 4.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.

The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

TYPICAL SPECIFICATIONS

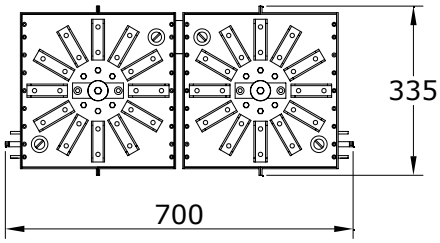
Model	FFC10/C *(compact version)*
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	≤ 0.15 dB
Return Loss ± 150 KHz	≤ -26 dB
Rejection	per customer's requirements (Typical ± 1MHz it's even to –14dB)
Connectors	1+5/8" Input – Output (Option 3+1/8")
Max Power	10 KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

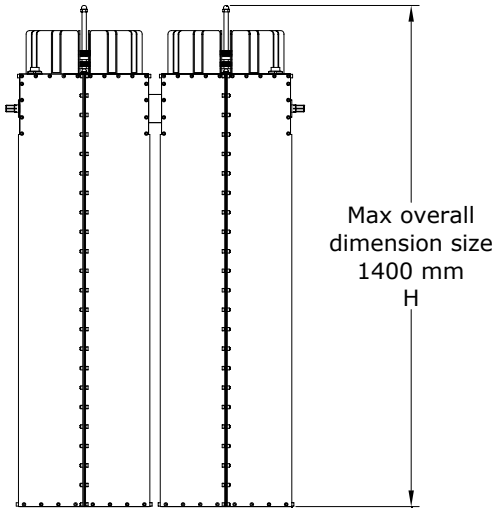
Features:

- Modular design
- Distortion – Free Transmission
- Standard configuration of 2 cavities
- Special configuration 3 and 4 cavities
- Low loss, high isolation
- Forced air cooling

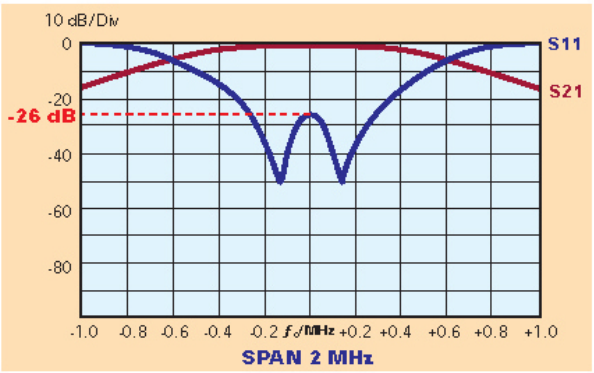
Dimensions	1400(Max size)×700×335 mm (55.1(Max size)×27.5×13.2 inch) (H×L×W)
Net Weight	≅ 46 Kg (double cavity)

OUTPUT 90° OPTION



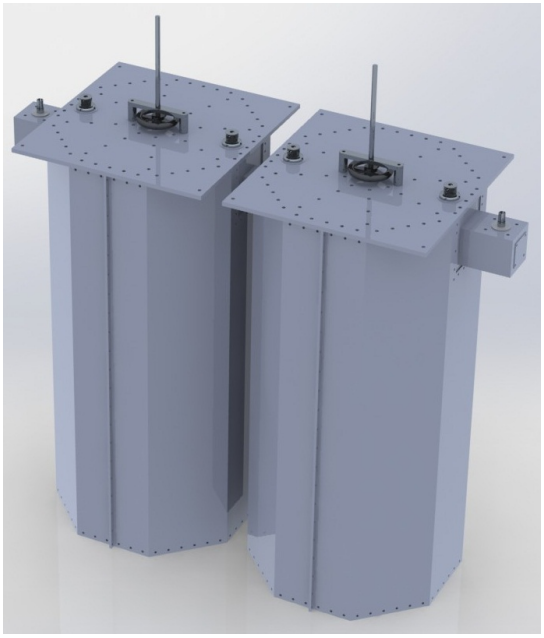


Typical shape of a curves for S11 and S12 parameters



Model FFC10

- Band-Pass Filter
- FM Band 87.5÷108 MHz
- Band II



OUTPUT 90° OPTION

THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND IN THE SPECIAL VERSION WITH 3 AND 4.

ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.

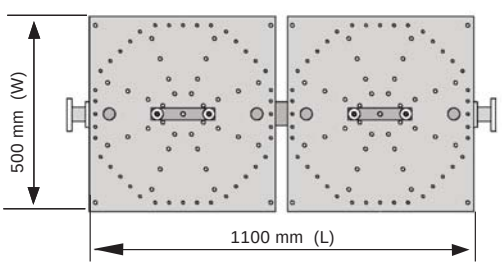
The band pass filters was designed as an extension of our band pass combiner technology. Using our industry-leading squarecavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site. The filter isolates the transmission system to eliminate spurious emissions.

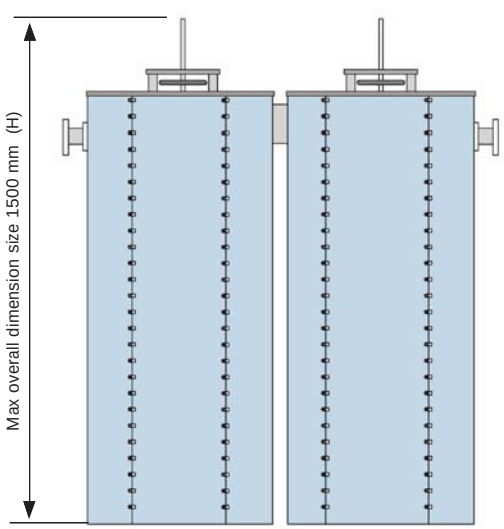
TYPICAL SPECIFICATIONS	
Model	FFC10
Impedance	50 Ohm
Frequency Range	87.5÷108 MHz
VSWR ±150 KHz	1.1:1 Max
Insertion Loss	≤ 0.1 dB
Return Loss ±150 KHz	≤ -26 dB
Rejection	per customer's requirements (Typical ±1MHz it's even to –14 dB)
Connectors	1+5/8" Input-Output (Option 3+1/8")
Max Power	10 KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, silver brass, copper, PTFE, stainless steel, silver plated (min 12μ thickness)

Features:

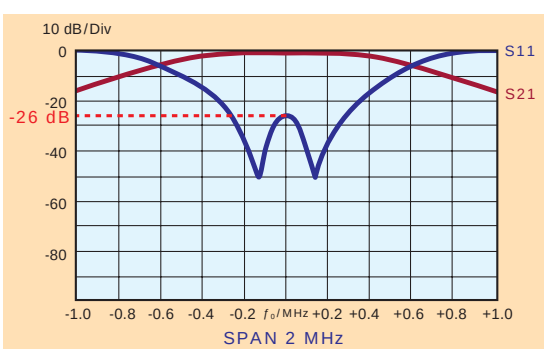
- Modular design
- Distortion – Free Transmission
- Standard configuration of 2 cavities
- Special configuration 3 and 4 cavities
- Low loss, high isolation
- Natural convection

No Rack Version	
Dimensions	1500 (Max size) x 1100 x 500 mm (59-Max Size-x43.3x19.7 inch) (HxLxW)
Net Weight	≅ 60 Kg (double cavity)





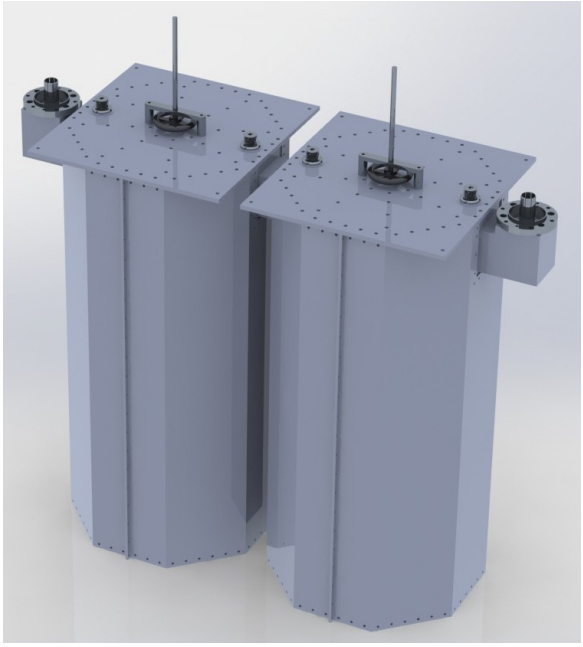
Typical shape of a curves for S11 and S12 parameters



"These specifications are subject to change without notice"

MODEL FFC20

- **BAND-PASS FILTER**
- **FM BAND 87.5-108 MHz**
- **BAND II**



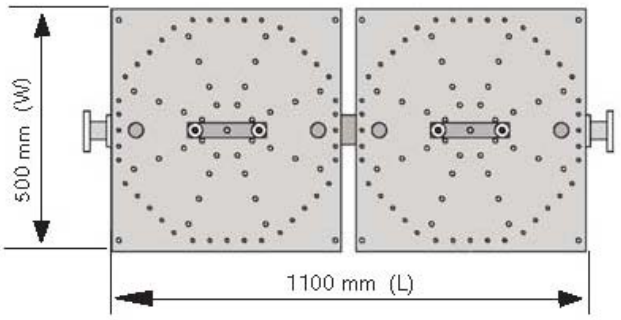
OUTPUT 90° OPTION

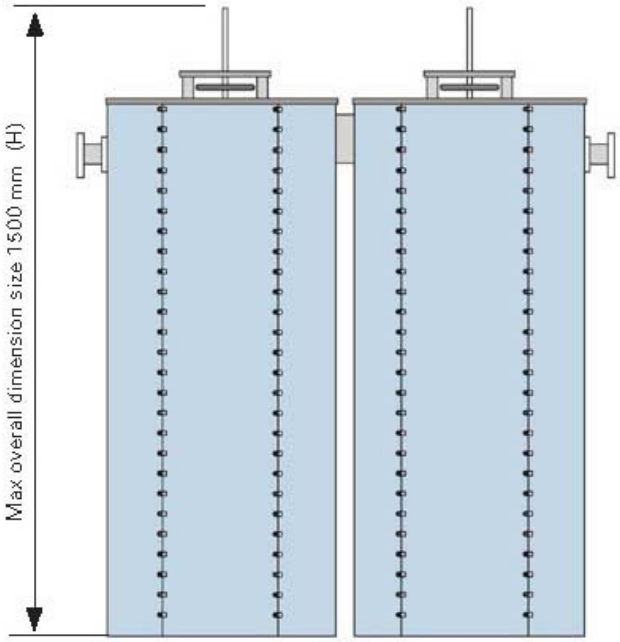
THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND IN SPECIAL VERSION WITH 3 AND 4.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.
The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

TYPICAL SPECIFICATIONS	
Model	FFC20
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	≤ 0.1 dB
Return Loss ± 150 KHz	≤ -26 dB
Rejection	per customer's requirements (Typical ± 1MHz it's even to –14dB)
Connectors	3+1/8" Input - Output
Max Power	20 KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

Features:

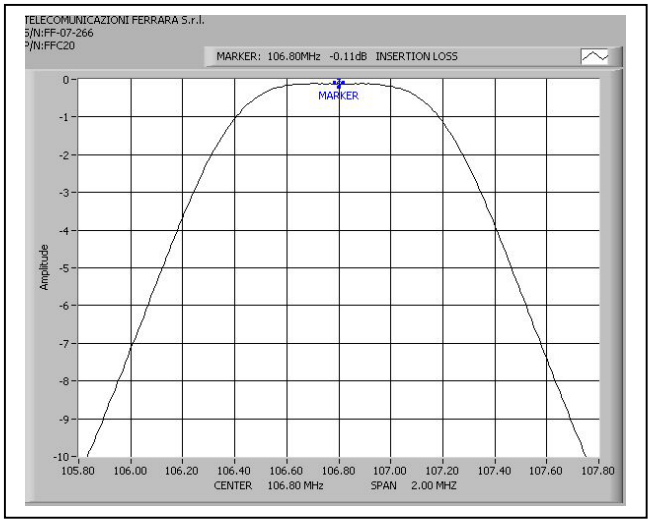
- **Modular design**
- **Distortion – Free Transmission**
- **Standard configuration of 2 cavities**
- **Special configuration 3 and 4 cavities**
- **Low loss, high isolation**
- **Natural convection**



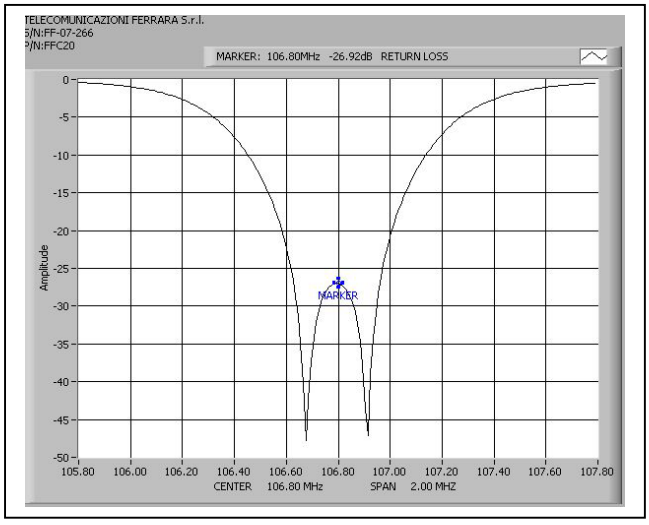


Dimensions	1500(Max size)×1100×490 mm (59.0(Max size)×43.3×19.3 inch) (H×L×W)
Net Weight	≅ 60 Kg (double cavity)

Example of Return Loss

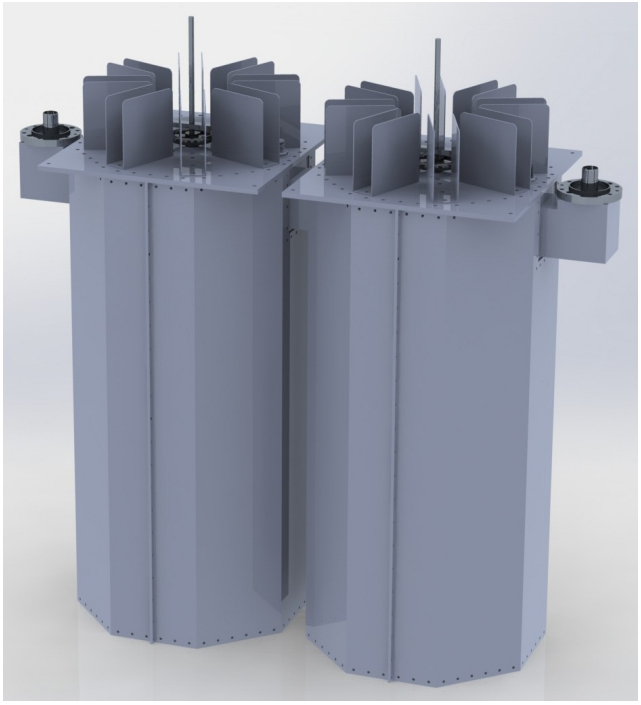


Example of Insertion Loss



MODEL FFC30

- **BAND-PASS FILTER**
- **FM BAND 87.5-108 MHz**
- **BAND II**



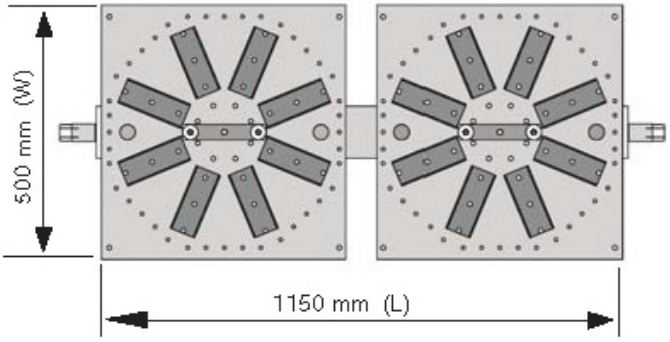
OUTPUT 90° OPTION

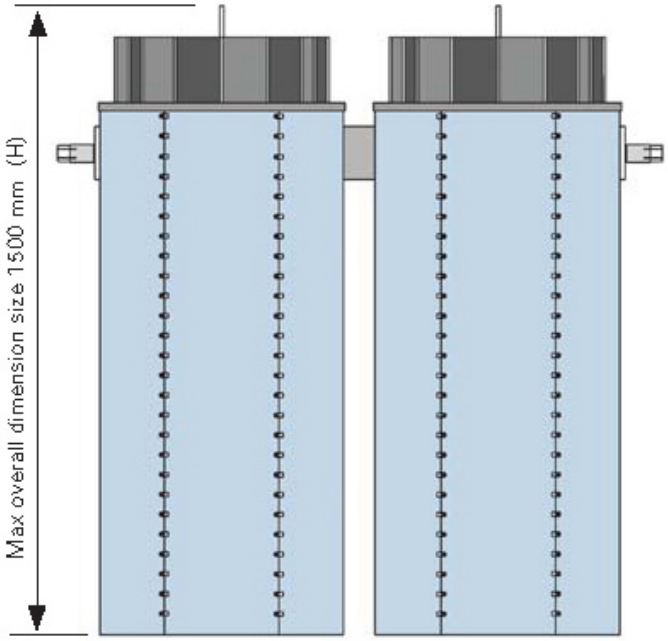
THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND IN SPECIAL VERSION WITH 3 AND 4.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.
The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

TYPICAL SPECIFICATIONS	
Model	FFC30
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	≤ 0.1 dB
Return Loss ± 150 KHz	≤ -26 dB
Rejection	per customer's requirements (Typical ± 1MHz it's even to –14dB)
Connectors	3+1/8" Input - Output
Max Power	35 KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

Features:

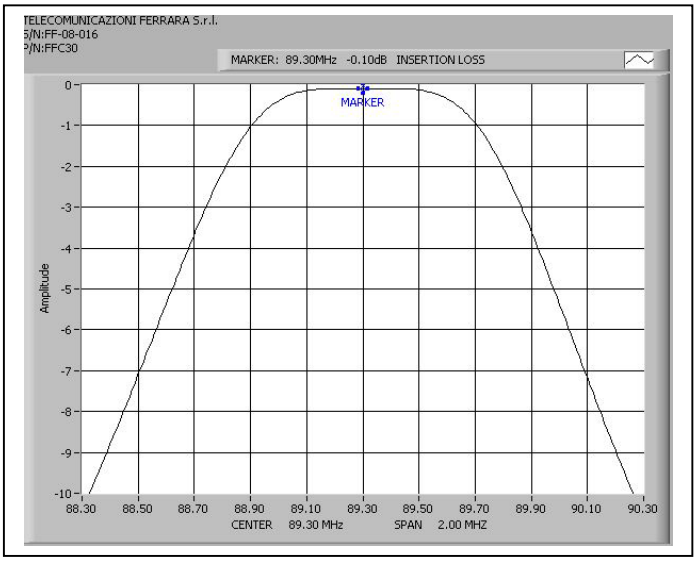
- **Modular design**
- **Distortion – Free Transmission**
- **Standard configuration of 2 cavities**
- **Special configuration 3 and 4 cavities**
- **Low loss, high isolation**
- **Natural convection**



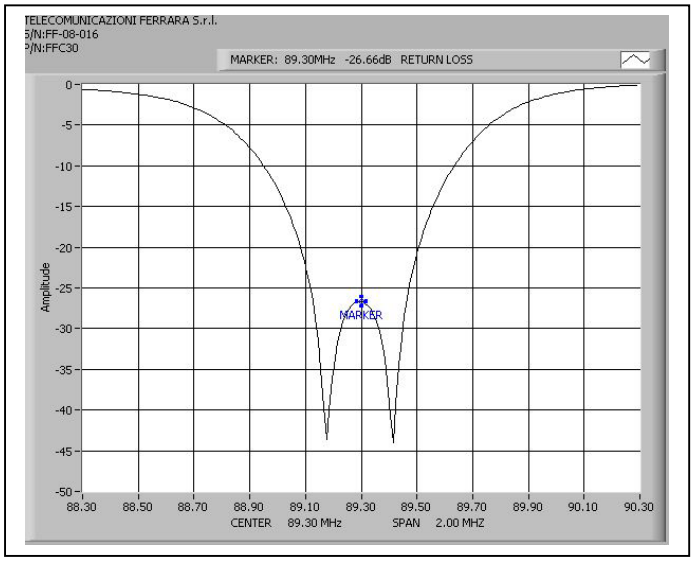


Dimensions	1500(Max size)×1150×500 mm (59.0(Max size)×45.3×19.7 inch) (H×L×W)
	≅ 58 Kg (double cavity)

Example of Return Loss



Example of Insertion Loss



MODEL FFC40

- **BAND-PASS FILTER**
- **FM BAND 87.5-108 MHz**
- **BAND II**

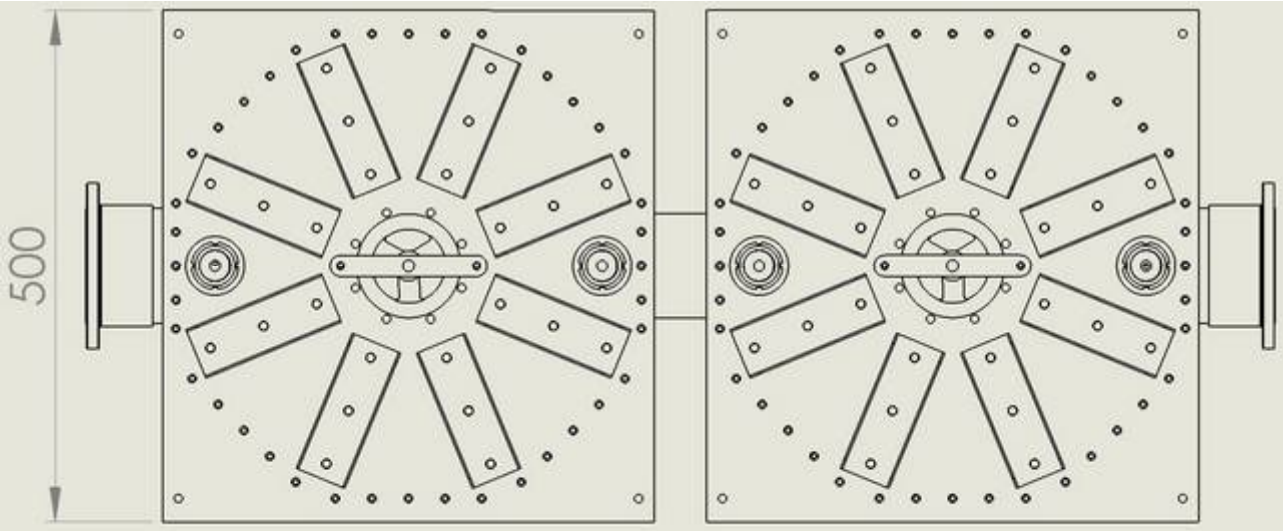
THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND IN SPECIAL VERSION WITH 3 AND 4.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.
The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

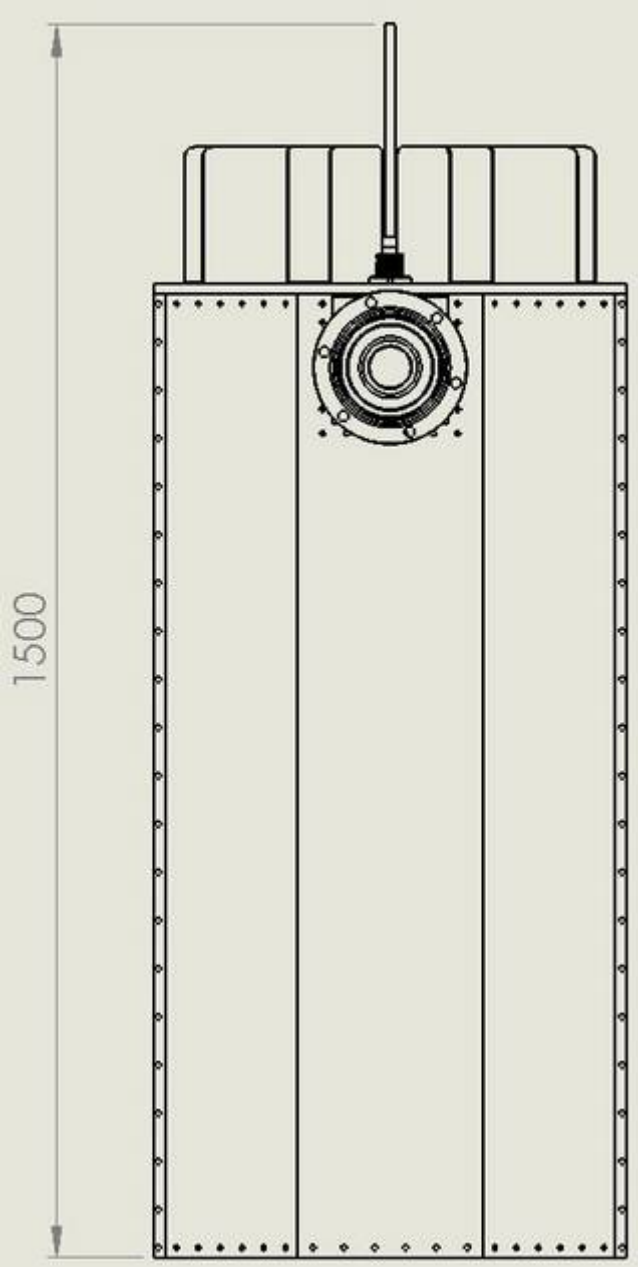
TYPICAL SPECIFICATIONS	
Model	FFC40
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	≤ 0.09 dB
Return Loss ± 150Khz	≤ -26dB
Rejection	per customer's requirements (Typical ± 1MHz it's even to –14dB)
Connectors	Input - Output 4+1/2"
Max Power	40 KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

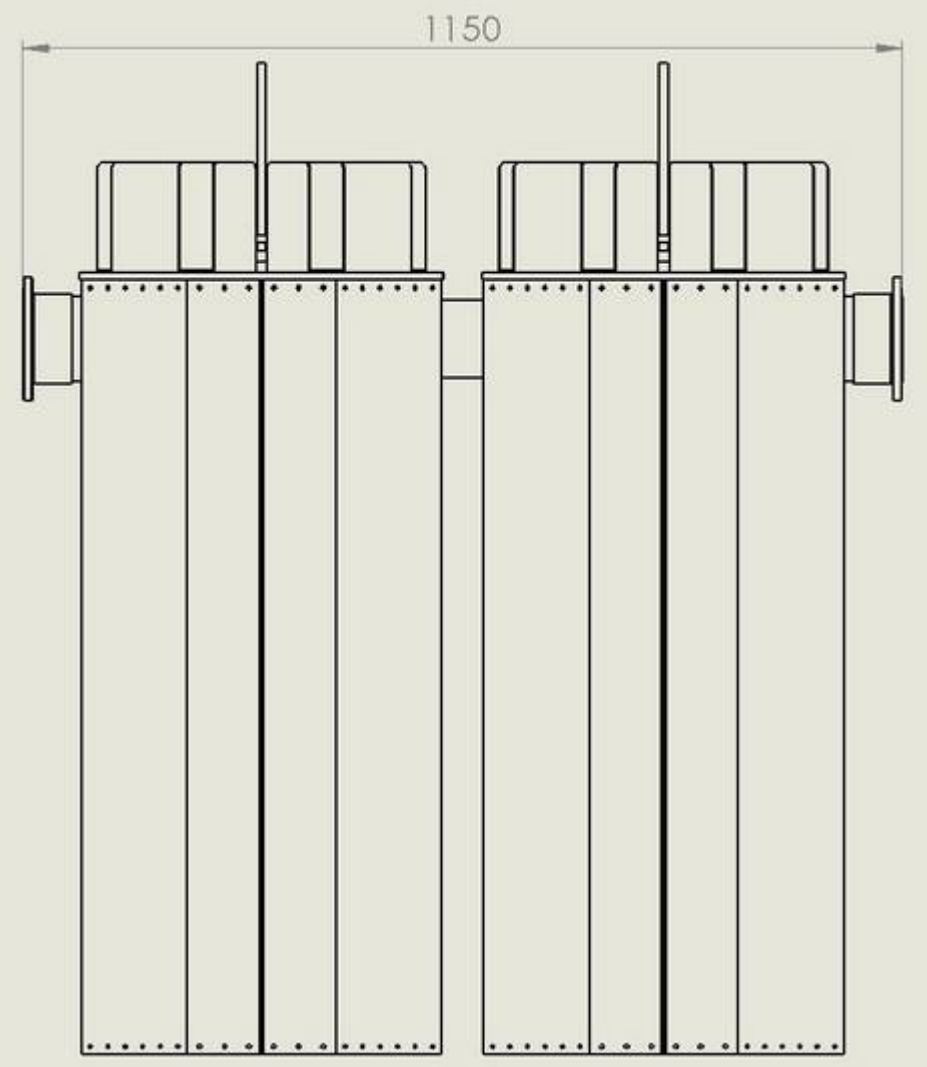
Features:

- **Modular design**
- **Distortion – Free Transmission**
- **Standard configuration of 2 cavities**
- **Special configuration 3 and 4 cavities**
- **Low loss, high isolation**
- **Natural convection**

DIMENSIONS (mm)

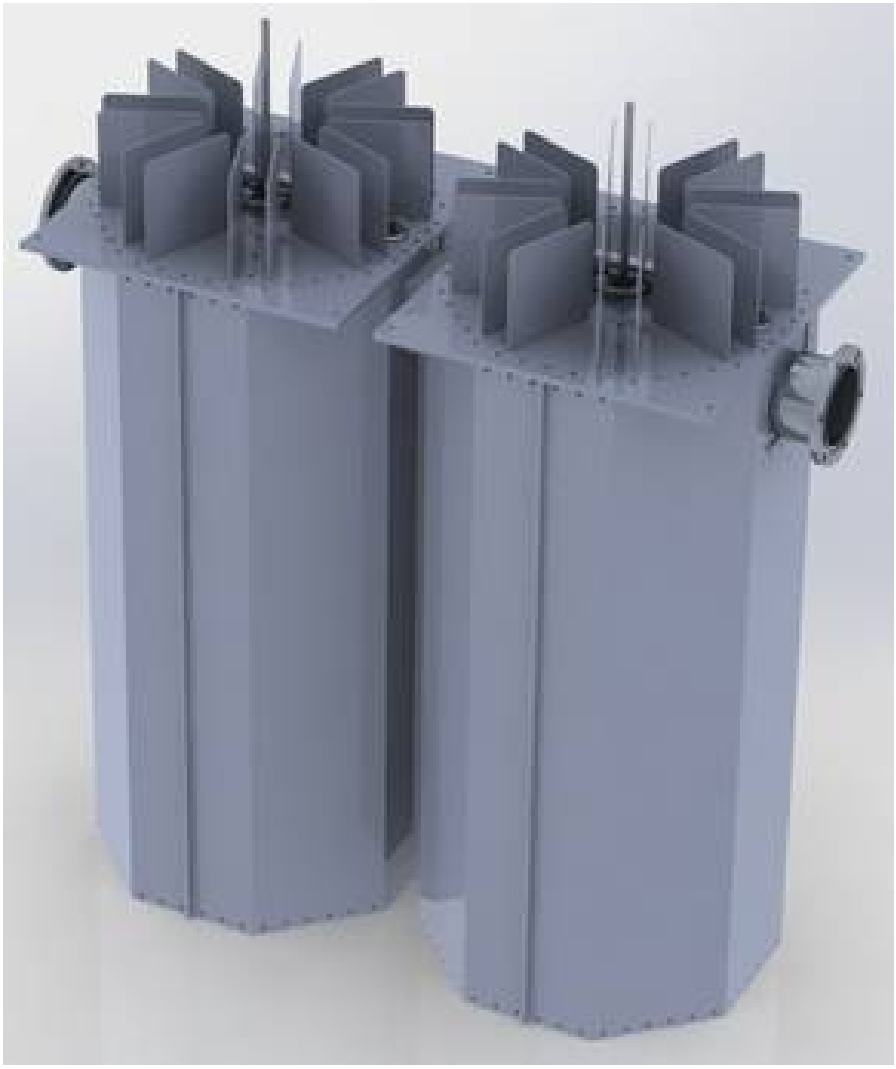


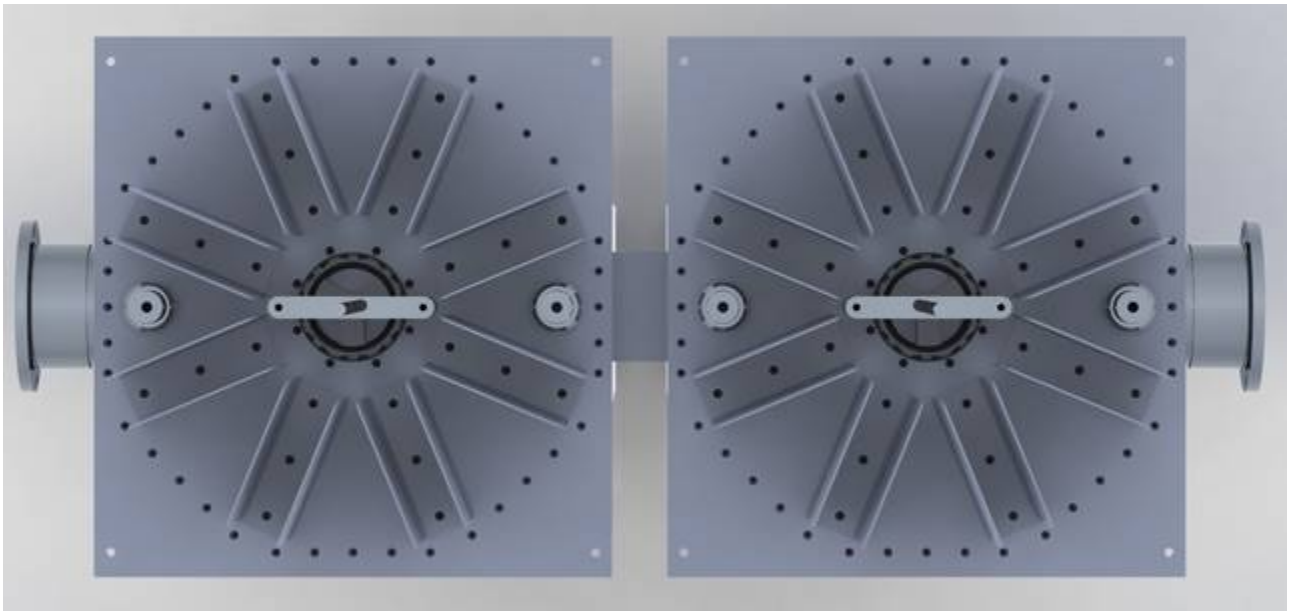




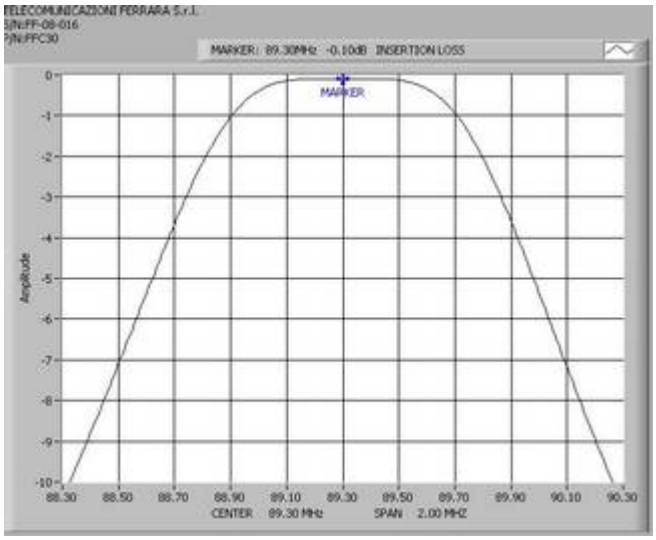
Dimensions	1500 (Max size)×1150×500 mm (59 (Max size)×45.2×19.6 inch) (H×L×W)
Net Weight	≅ 58 Kg (double cavity)

VIEWS OF THE SYSTEM

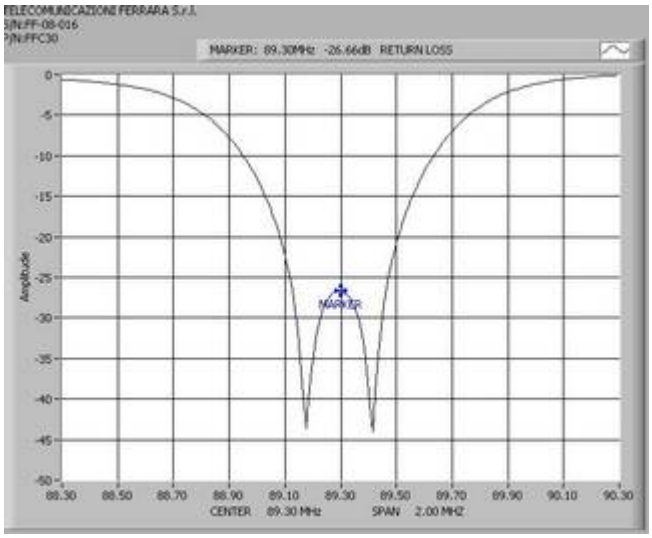




Example of Insertion Loss



Example of Return Loss



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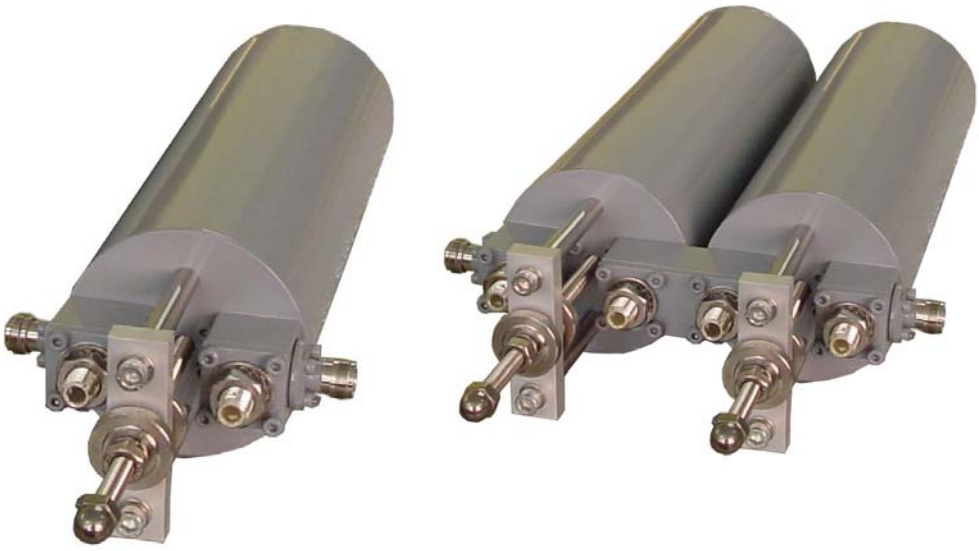
E-Mail: info@telecfe.it www.telecfe.it

TELECOMUNICAZIONI FERRARA SRL

MODEL FFC03 VHF (DOUBLE)
FFCS03 VHF (SINGLE)
FFCT03 VHF (TRIPLE)

- **BAND-PASS FILTER**
- **BAND VHF 200-300 MHz**



THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND IN SPECIAL VERSION WITH 3 AND 4 IT.
ALL THE MODELS ARE USED TO MAKE UP MIXERS WITH SEVERAL CHANNELS.
The band pass filters was designed as an extension of our band pass combiner technology.
Using our industry-leading square, octagonal, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

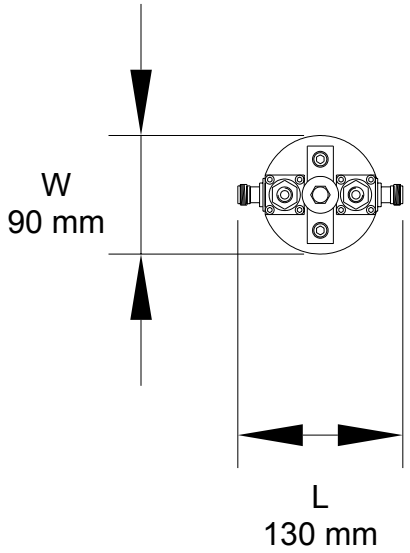
TYPICAL SPECIFICATIONS

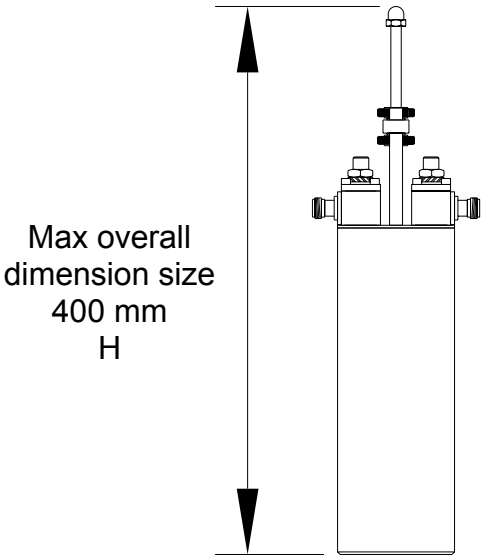
Model	FFC03 VHF (FFCS03 VHF – FFCT03 VHF)
Impedance	50 ohm
Frequency Range	200-500 MHz
VSWR	1.1:1 Max
Insertion Loss	at f_0 0.4 dB (Typical Single)
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 1MHz it's even to –8dB) (Double)
Connectors	N Input-Output
Max Power	200 W
Working Temperature	-30°C ÷ +60°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

Features:

- **Distortion – Free Transmission**
- **Standard configuration of 2 cavities**
- **Special configuration 4 cavities or Notch**
- **Low loss, high isolation**
- **Natural convection**

SINGLE VERSION

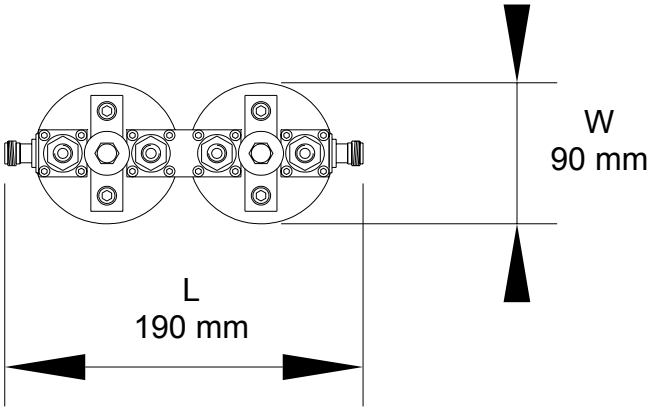


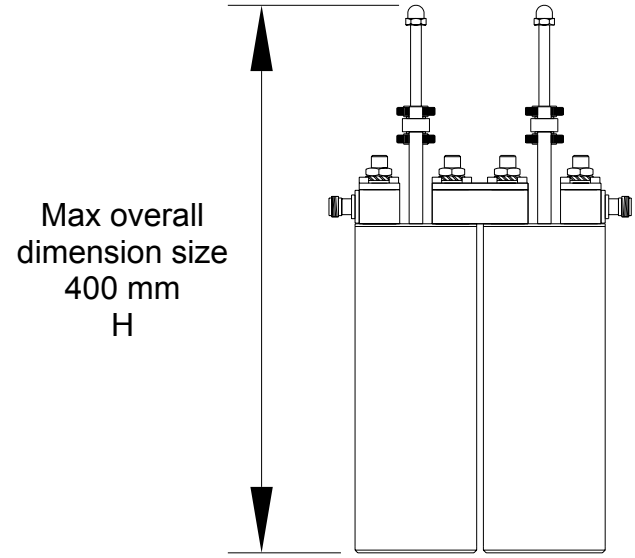


No rack version

Dimensions	400(Max size)×130×90mm (15,7(Max size)×5.1×3.5 inch) (H×L×W)
Net Weight	≅ 2,5 Kg (Double)

DOUBLE VERSION





No rack version

Dimensions	400(Max size)×190×90mm (15,7(Max size)×7.5×3.5 inch) (H×L×W)
Net Weight	≅ 5 Kg (Double)

Rack version (optional)

Panel Size	2 HE (1 HE=44,45 mm)
Net Weight	≅ 5,2 Kg (Double)

MODEL FFOC2-UHF

- **UHF BAND-PASS FILTER**
- **BAND UHF 474 - 862 MHz**

  Poles Elliptical Response

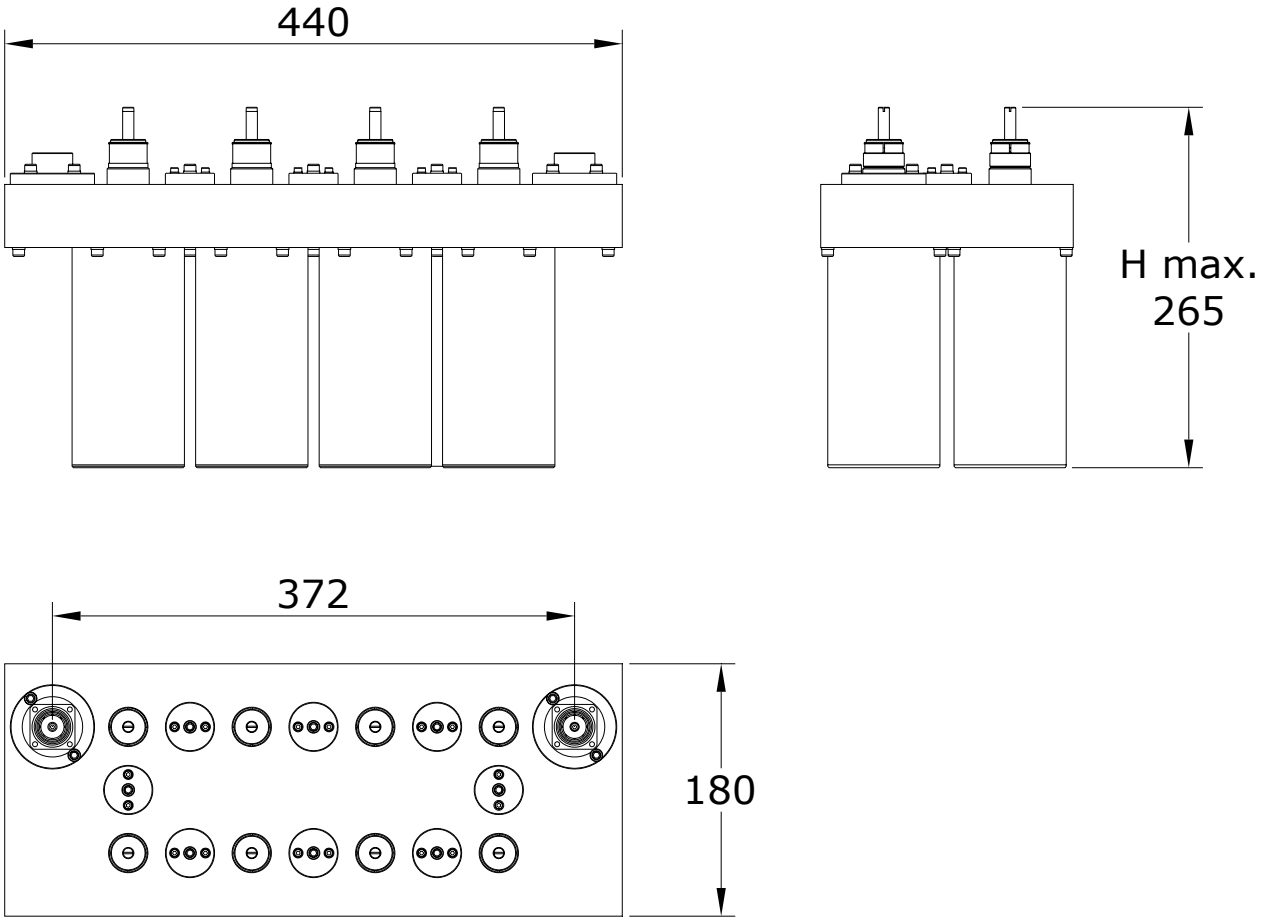
These are four standard resonant cavity filters.
All the models are used to make up mixers with several channels.
The band pass filters was designed as an extension of our band pass combiner technology.
Using our industry-leading square, octagonal, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

TYPICAL SPECIFICATIONS

Model	FFOC2-VHF
Impedance	50 ohm
Frequency Range	474 - 862 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 < 0.26 dB @ V.C. Ch. 69 at f_0 < 0.24 dB @ V.C. Ch. 21
Return Loss ± 150 KHz	> 28 dB
Group Delay Variation	< 30 nS
Bandwith	6 to 8 MHz
Selectivity	> 40 dB @ V.C. –5,5/+11 MHz > 25 dB @ V.C. +11/+16,5 MHz
Connectors	7/16" (In – Out)
Max Power	2 KW
Working Temperature	-20°C ÷ +50°C
Temperature Stability	< 4 kHz / K
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

Features:

- **UHF 3 KW analog and 1 digital RMS TV output filter**
- **3D electromagnetic CAD exclusive design**
- **4 poles elliptical response: two transmission zeros for IMD suppression**
- **Foreshorten combine resonators structure; iris couplings with fine bandwidth regulation**
- **High selectivity and low loss (Typ. 0.22 dB @ V.C. Ch. 69 G)**
- **Exclusive thermal compensation technology providing high temperature stability (< 4 kHz/K)**
- **Very compact, lightweight (9.1 kg) and extremely reliable**



No rack version

Dimensions	265(Max size)×440×180mm (10,4(Max size)×17.3×7.1 inch) (H×L×W)
Net Weight	≅ 10 Kg.

Rack version (optional)

Panel Size	1 HE (1 HE=44,45 mm)
Net Weight	≅ 11 Kg

Model FFQC2-UHF

- **UHF BAND-PASS FILTER**
- **Band UHF 474 - 862 MHz**

  Poles Elliptical Response

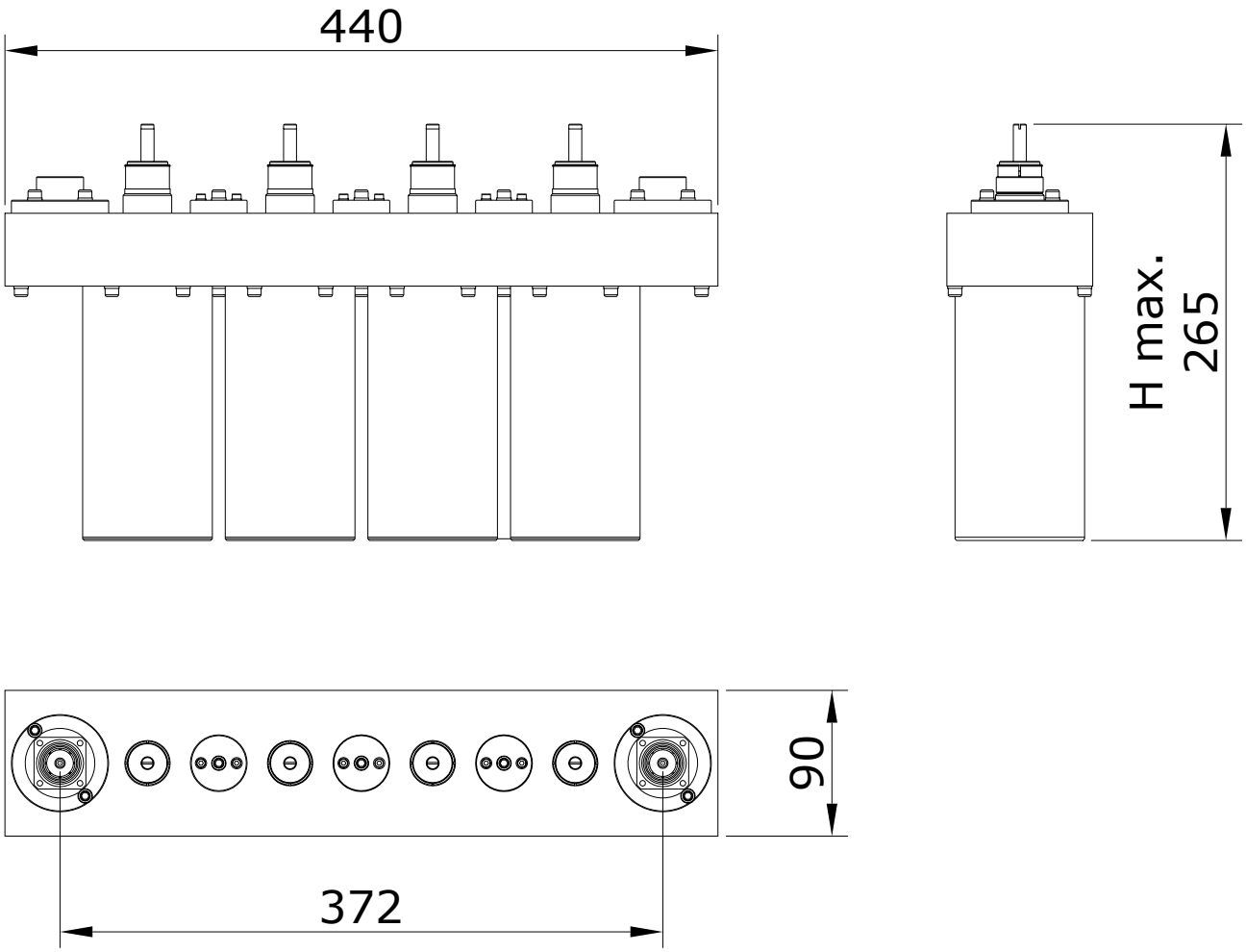
These are four standard resonant cavity filters.
All the models are used to make up mixers with several channels.
The band pass filters was designed as an extension of our band pass combiner technology.
Using our industry-leading square, octagonal, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site.
The filter isolates the transmission system to eliminate spurious emissions.

TYPICAL SPECIFICATIONS

Model	FFQC2-UHF
Impedance	50 ohm
Frequency Range	474 - 862 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 < 0.26 dB @ V.C. Ch. 69 at f_0 < 0.24 dB @ V.C. Ch. 21
Return Loss ± 150 KHz	> 28 dB
Group Delay Variation	< 30 nS
Bandwith	6 to 8 MHz
Selectivity	> 40 dB @ V.C. –5,5/+11 MHz > 25 dB @ V.C. +11/+16,5 MHz
Connectors	7/16" (In – Out)
Max Power	2 KW
Working Temperature	-20°C ÷ +50°C
Temperature Stability	< 4 kHz / K
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

Features:

- **UHF 2 KW analog and 1 digital RMS TV output filter**
- **3D electromagnetic CAD exclusive design**
- **4 poles elliptical response: two transmission zeros for IMD suppression**
- **Foreshorten combine resonators structure; iris couplings with fine bandwidth regulation**
- **High selectivity and low loss (Typ. 0.22 dB @ V.C. Ch. 69 G)**
- **Exclusive thermal compensation technology providing high temperature stability (< 4 kHz/K)**
- **Very compact, lightweight (9.1 kg) and extremely reliable**



No rack version

Dimensions	265(Max size)×440×90mm (10,4(Max size)×17.3×3.5 inch) (H×L×W)
Net Weight	≅5 Kg.

Rack version (optional)

Panel Size	1 HE (1 HE=44,45 mm)
Net Weight	≅ 5,5 Kg

Filters digital version for various power and configurations

MODEL FFC2IELF

- BAND-PASS FILTER
- IMPEDANCE 50 Ohm
- FM BAND *87.5 ÷ 108 MHz*
- BAND II
- SPECIAL VERSION WITH SPECIAL DOUBLE CROSS COUPLING

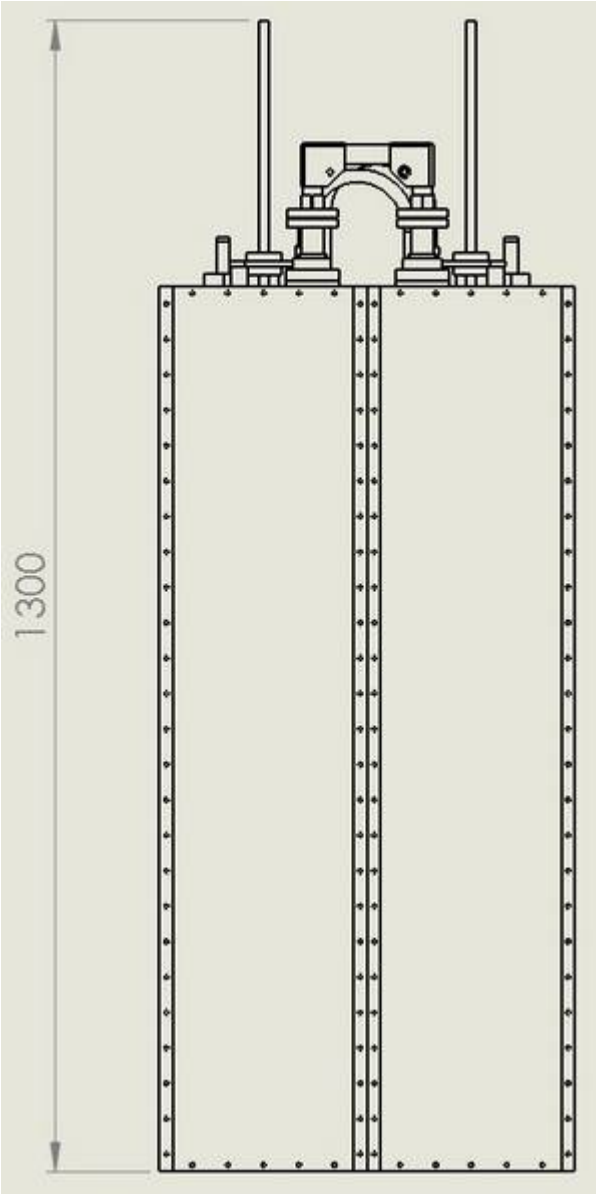
This quadruple cavity filter is used to set up starpoint combiners with very low spacing between channels.
The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site. The filter isolates the transmission system to eliminate spurious emissions.

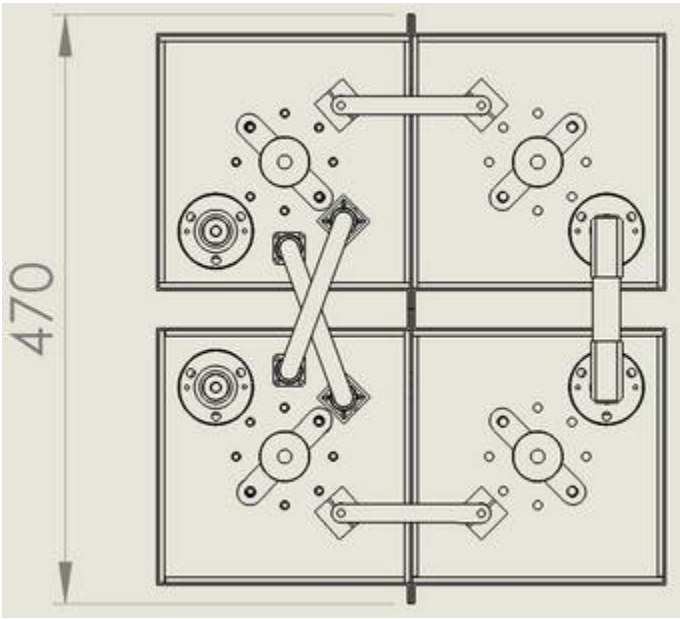
TYPICAL SPECIFICATIONS	
Models	FFC2IELF
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.9 - 1.5 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 350 kHz it's even to –30dB approx.)
Connectors	N - 7/16" - 7/8" on customer request
Max Power	1KW with 7/16" – 7/8" connectors 800 W with N connector
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

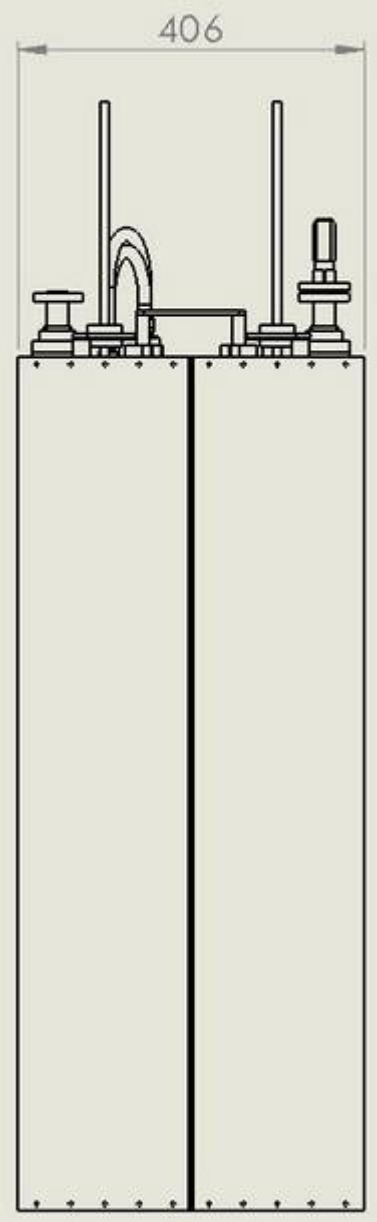
Features:

- Distortion – Free Transmission
- Very low spacing between channels if used in starpoint combiners
- Low loss, high isolation
- Natural convection

DIMENSIONS (mm)

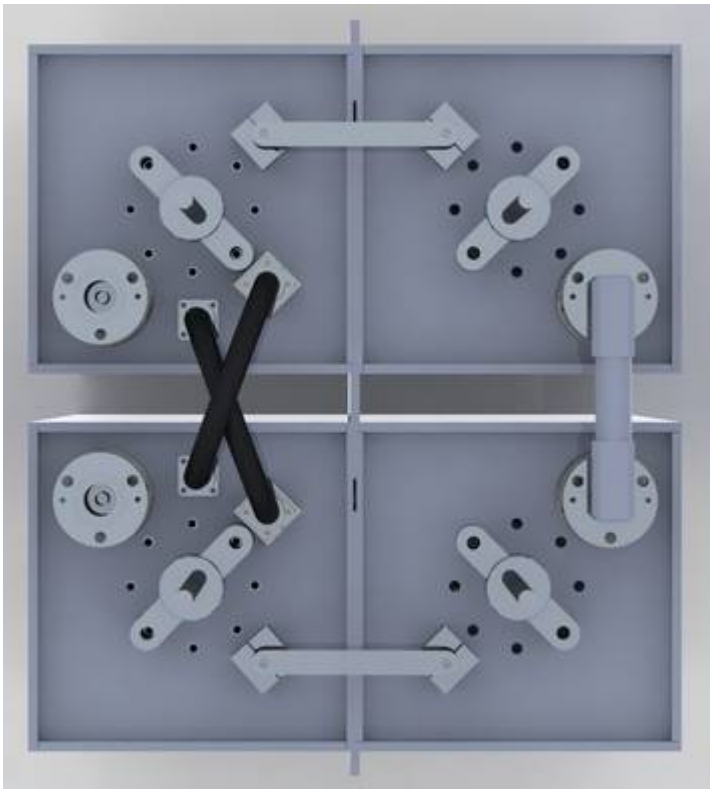


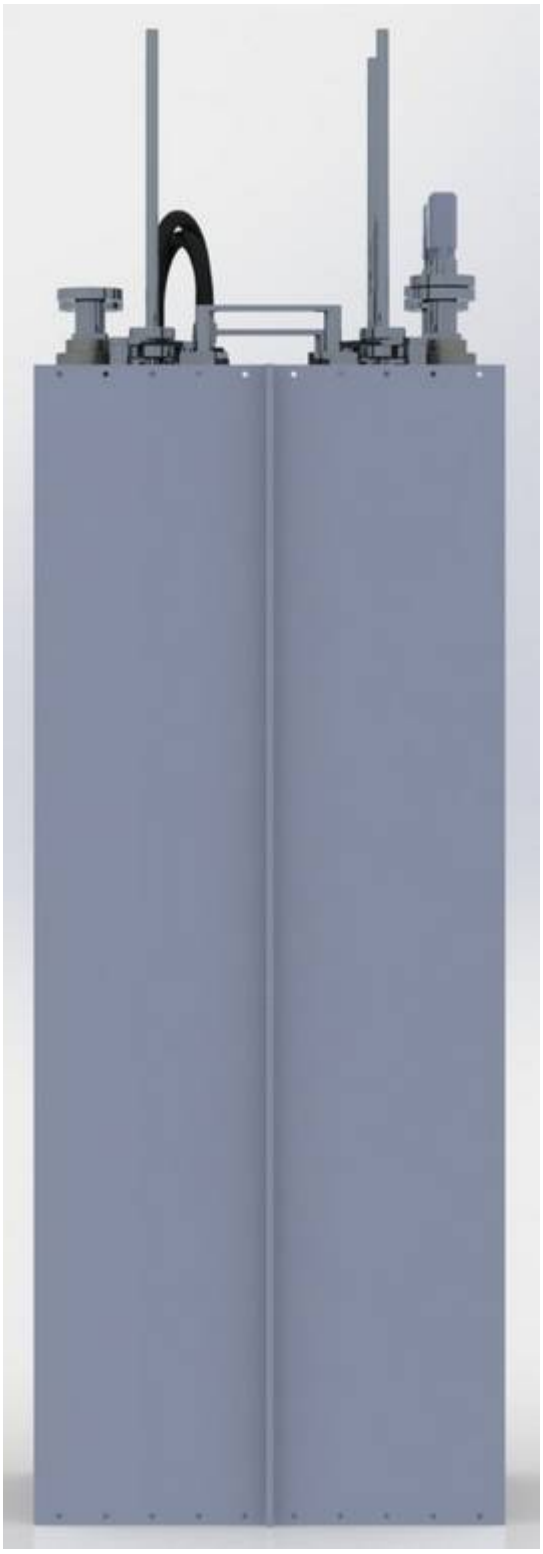


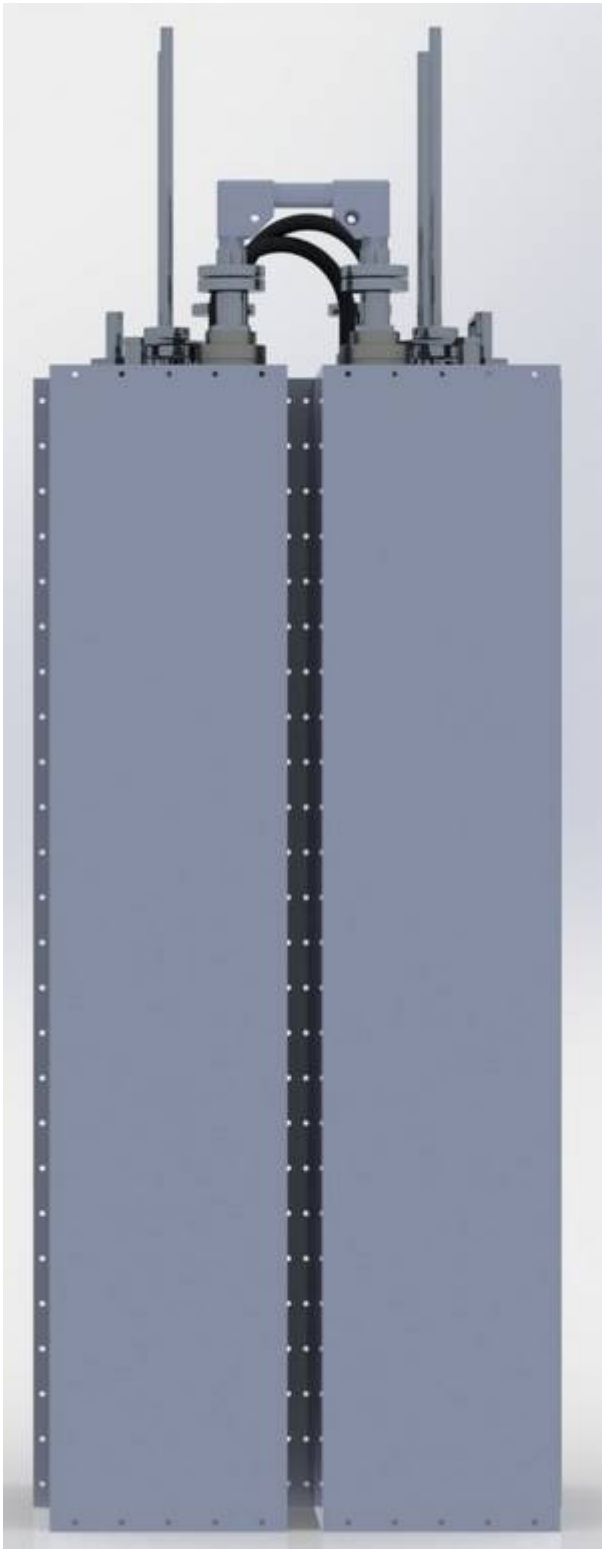


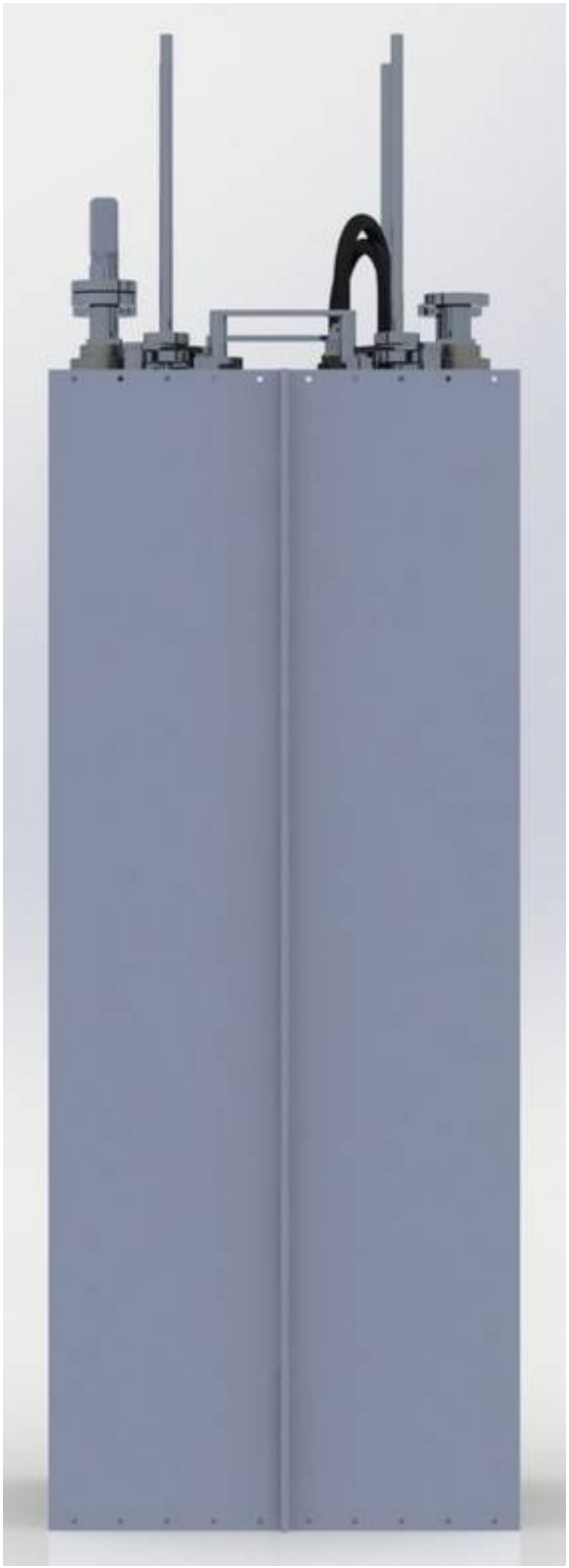
Dimensions	1300 (Max size)×470×406 mm (51.1(Max size)×18.5×15.9inch) (H×L×W)
Net Weight	≅ 50 Kg approx.

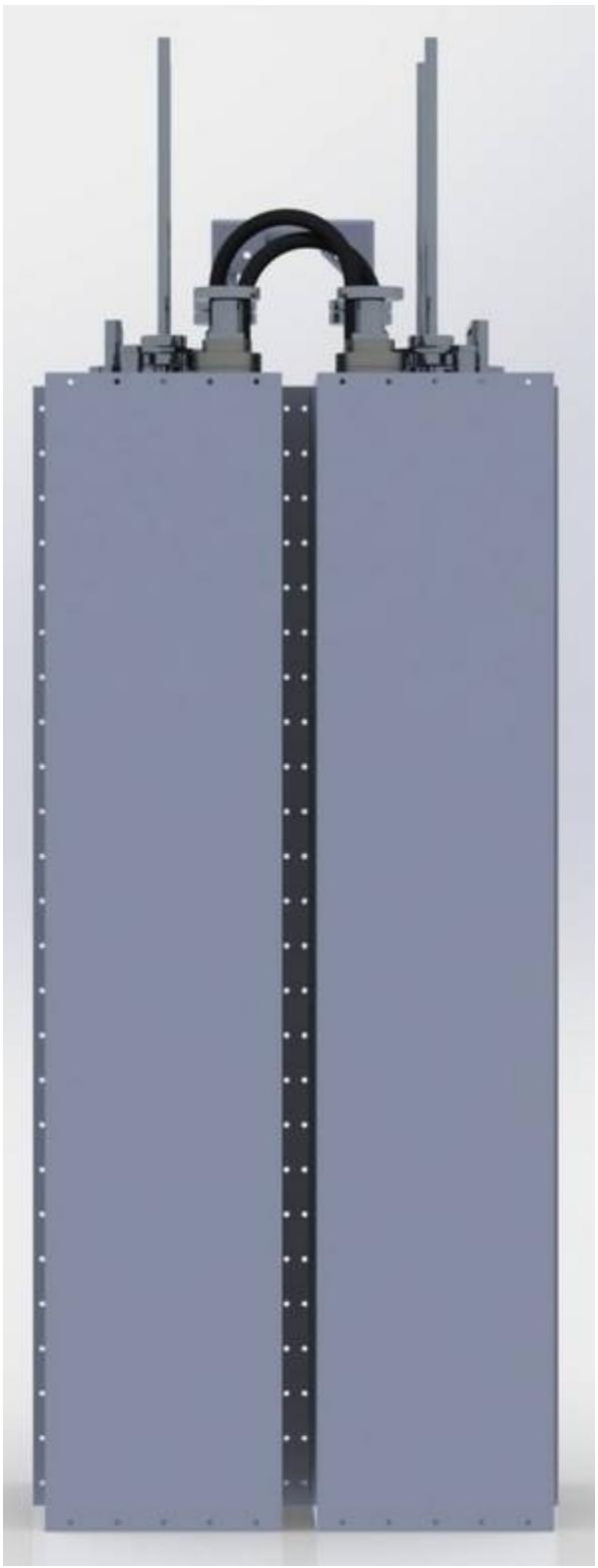
VIEWS OF THE SYSTEM

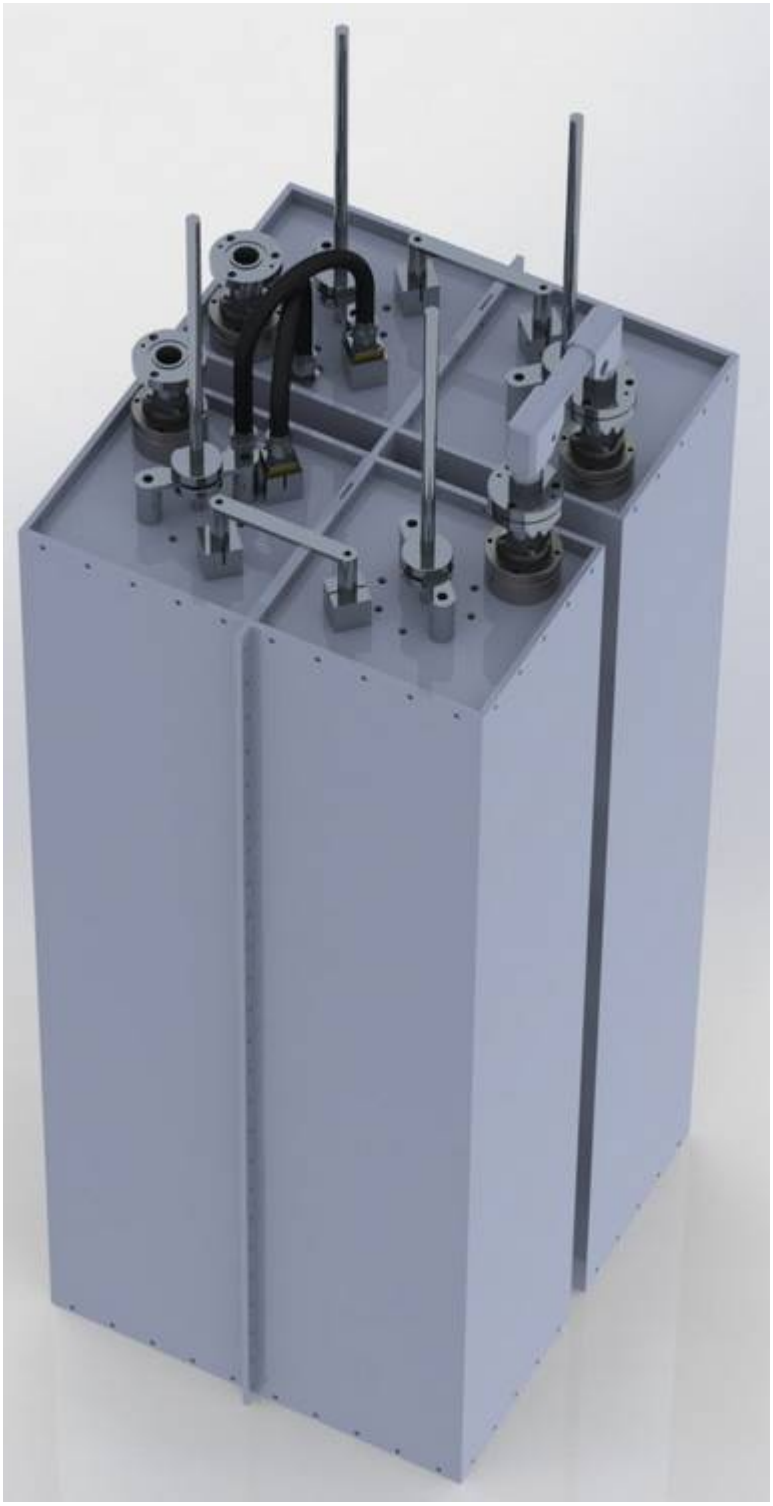




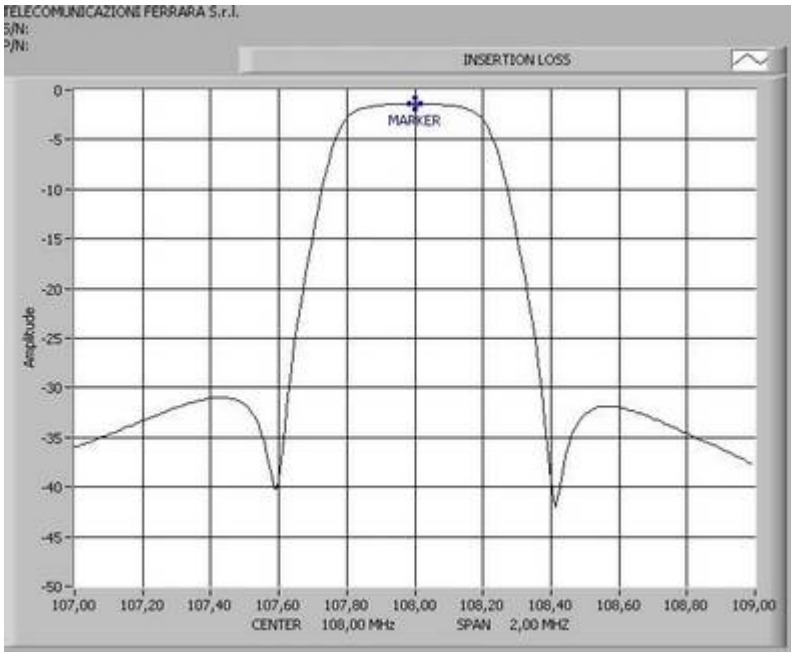


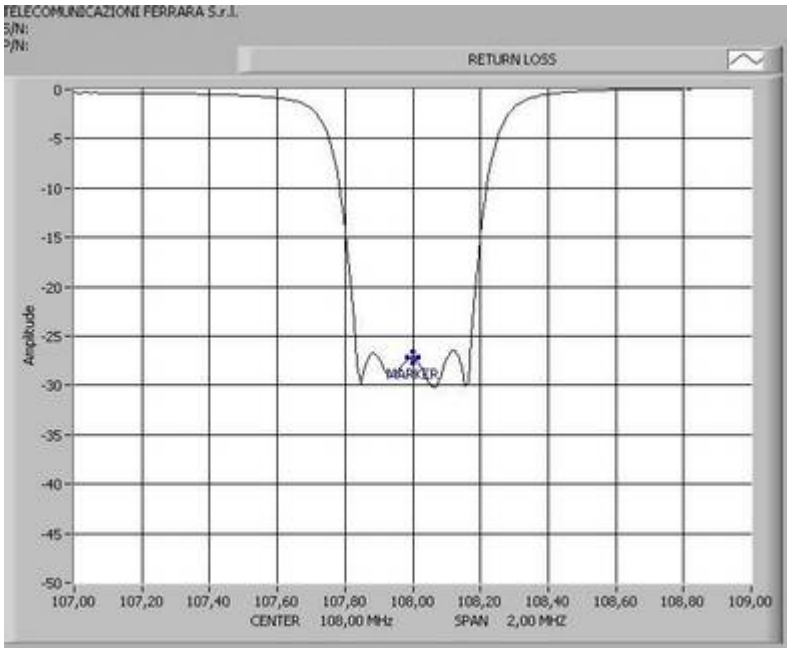






FINAL TEST





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E-Mail: info@telecfe.it www.telecfe.it

TELECOMUNICAZIONI FERRARA SRL

MODEL FFELF1K

- BAND-PASS 6 CAVITIES FILTER
- IMPEDANCE 50 Ohm
- FM BAND *87.5 ÷ 108 MHz*
- BAND II
- SPECIAL VERSION WITH SPECIAL DOUBLE CROSS COUPLING

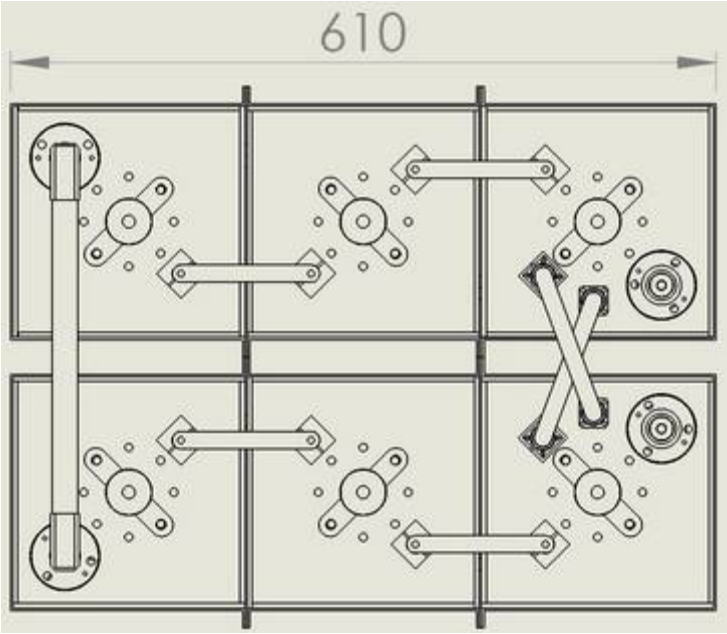
This six-cavities filter is used to set up starpoint combiners with very low spacing between channels.
The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site. The filter isolates the transmission system to eliminate spurious emissions.

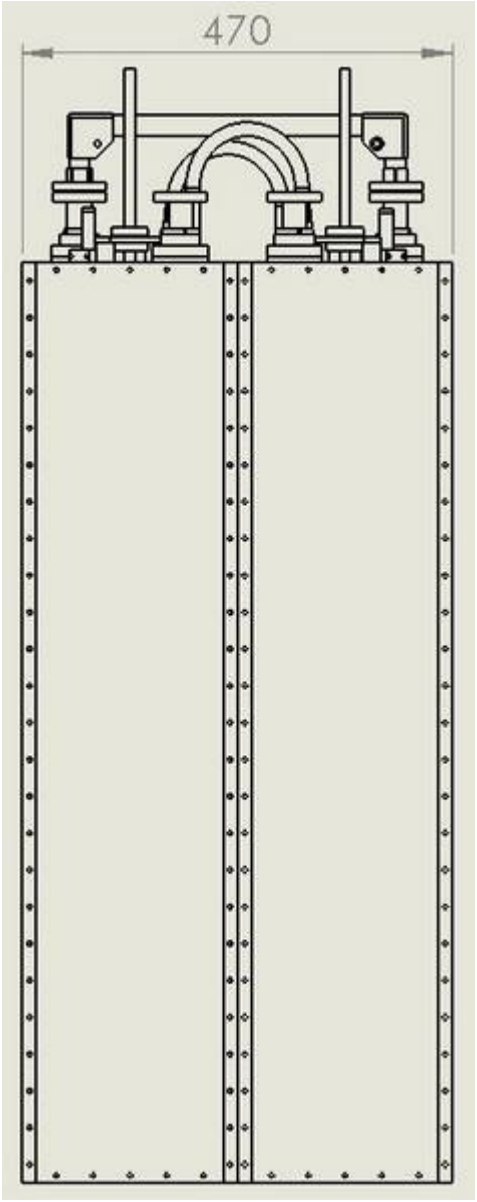
TYPICAL SPECIFICATIONS	
Model	FFELF1K
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.7 - 1.5 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 350 kHz it's even to –30dB approx.)
Connectors	N - 7/16" - 7/8" on customer request
Max Power	1KW with 7/16" – 7/8" connectors 800 W with N connector
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

Features:

- Distortion – Free Transmission
- Very low spacing between channels if used in starpoint combiners
- Low loss, high isolation
- Natural convection

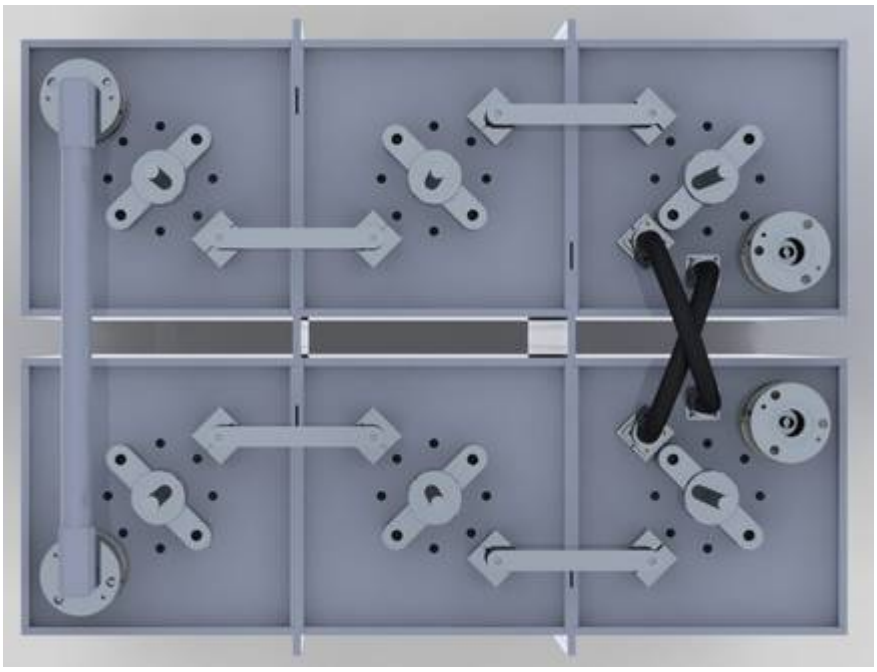
DIMENSIONS (mm)

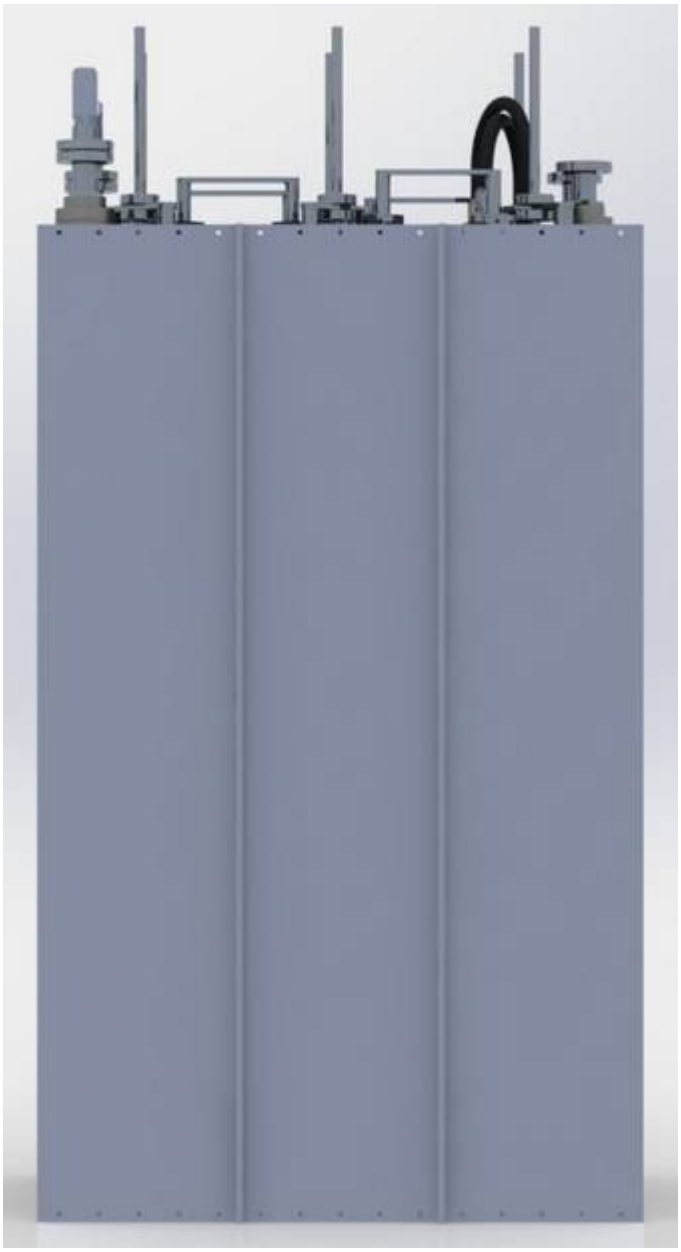


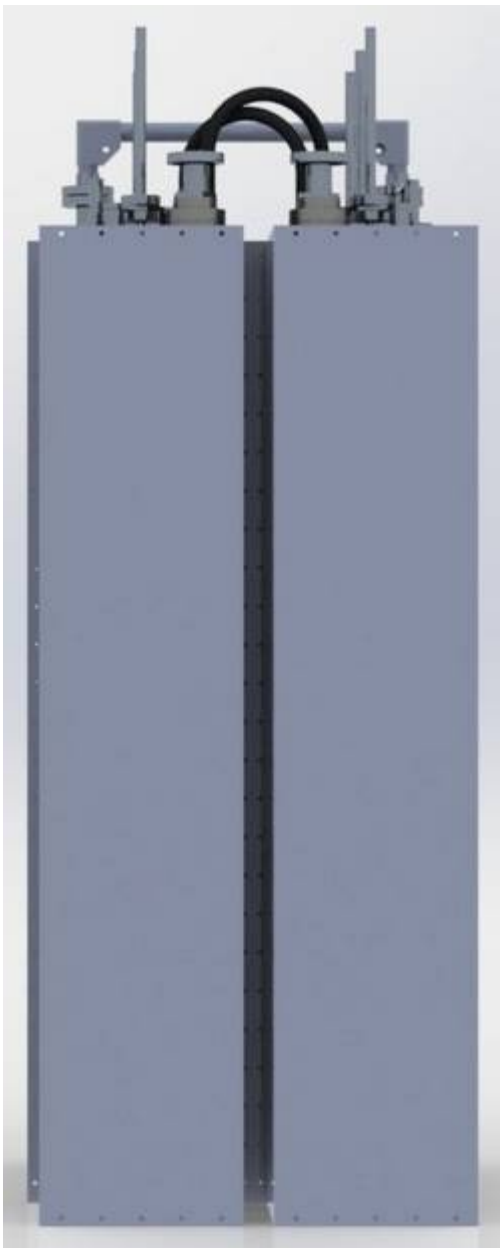


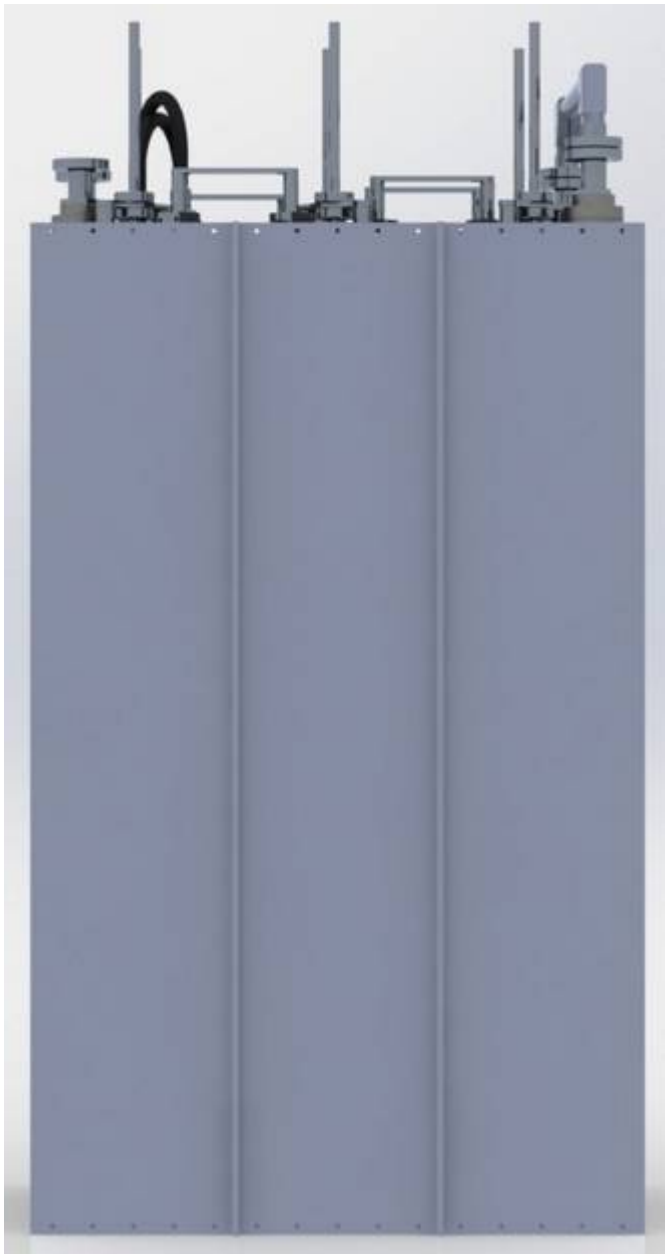
Dimensions	1300 (Max size)×470×610 mm (51.1(Max size)×18.5×24 inch) (H×L×W)
Net Weight	≅ 60 Kg approx.

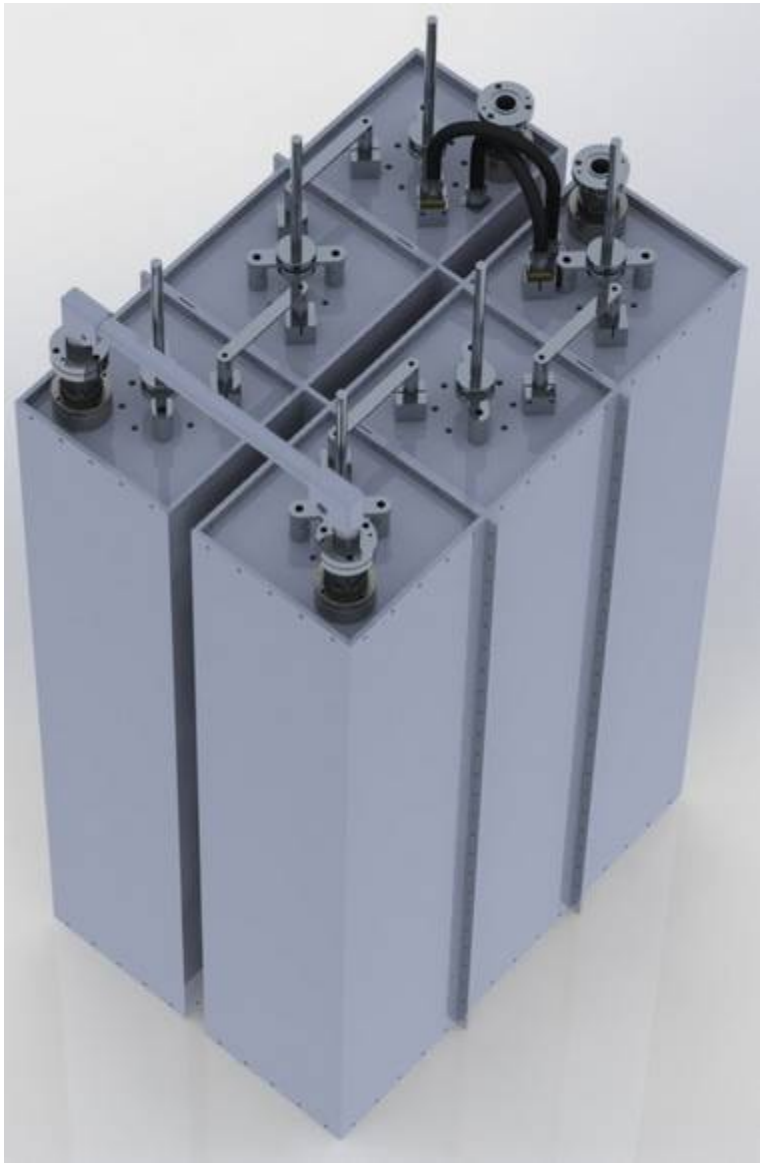
VIEWS OF THE SYSTEM











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TELECOMUNICAZIONI FERRARA SRL

MODEL FFELF2K

- BAND-PASS 6 CAVITIES FILTER
- IMPEDANCE 50 Ohm
- FM BAND *87.5 ÷ 108 MHz*
- BAND II
- SPECIAL VERSION WITH SPECIAL DOUBLE CROSS COUPLING

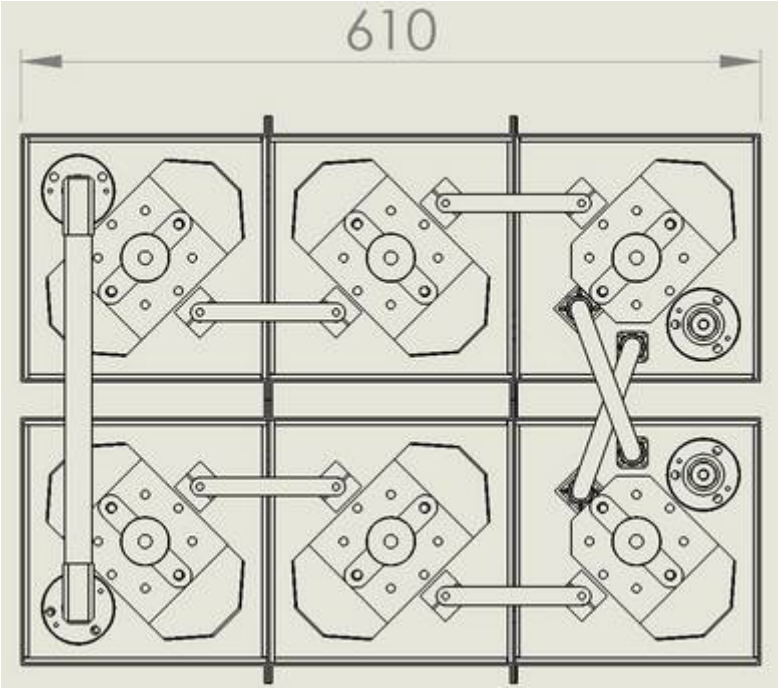
This six-cavities filter is used to set up starpoint combiners with very low spacing between channels.
The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site. The filter isolates the transmission system to eliminate spurious emissions.

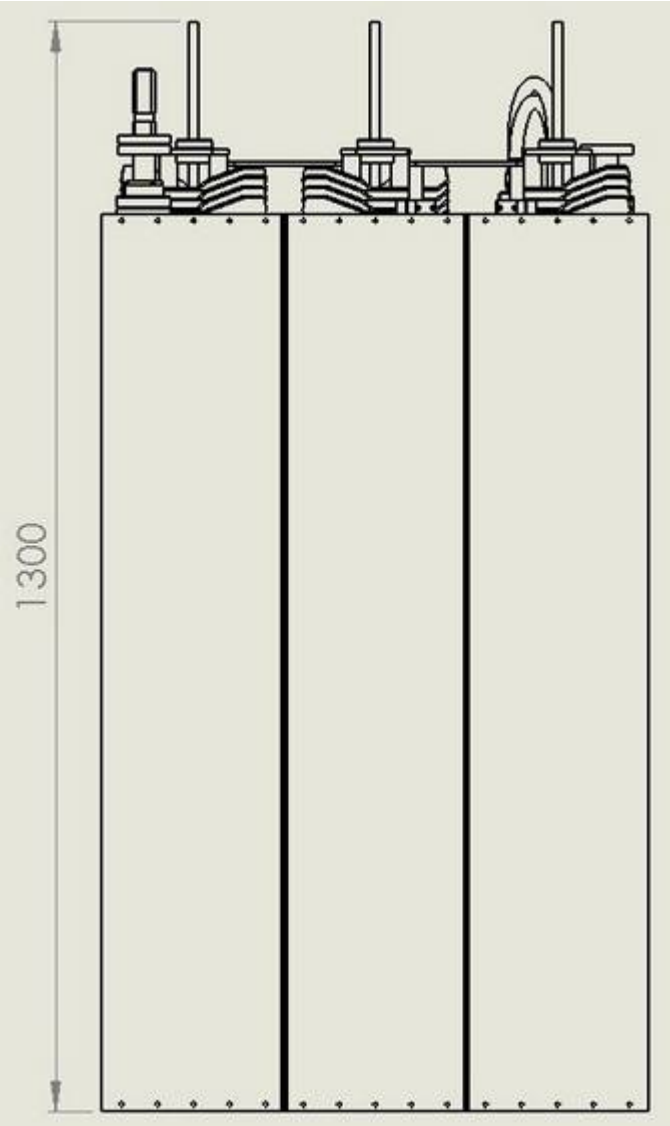
TYPICAL SPECIFICATIONS	
Model	FFELF2K
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.6 - 1.4 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 350 kHz it's even to –30dB approx.)
Connectors	7/8"
Max Power	2 KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

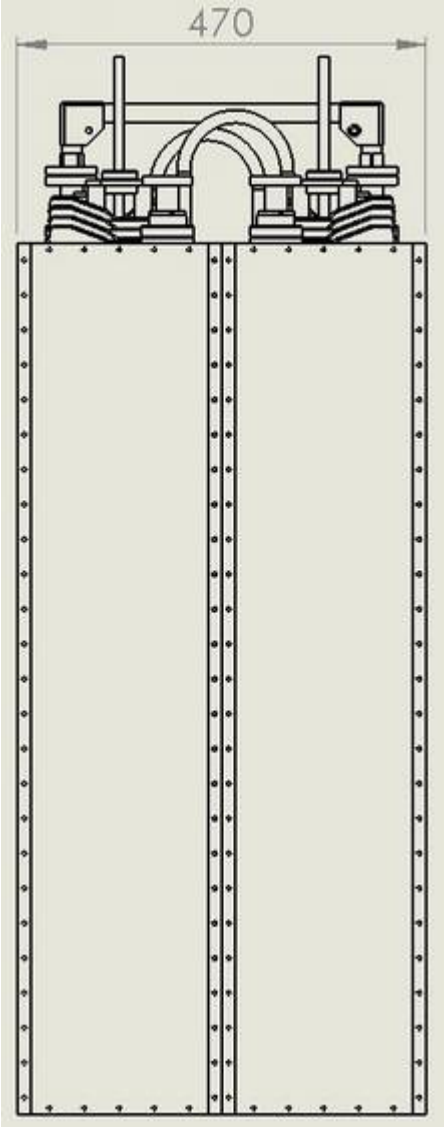
Features:

- Distortion – Free Transmission
- Very low spacing between channels if used in starpoint combiners
- Low loss, high isolation
- Natural convection

DIMENSIONS (mm)

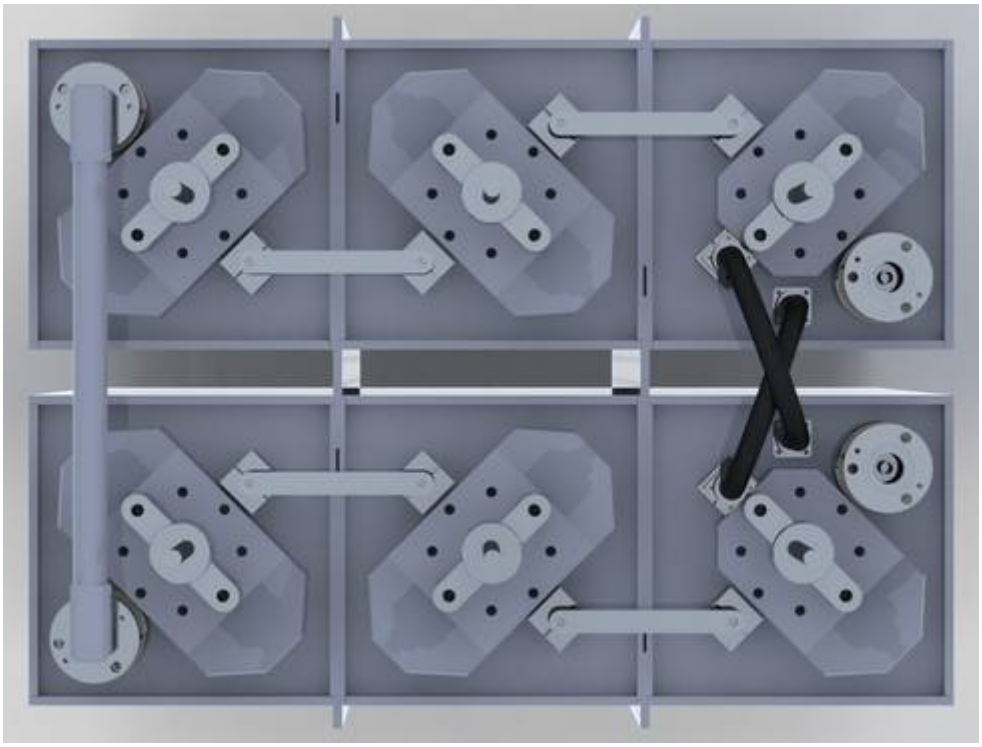


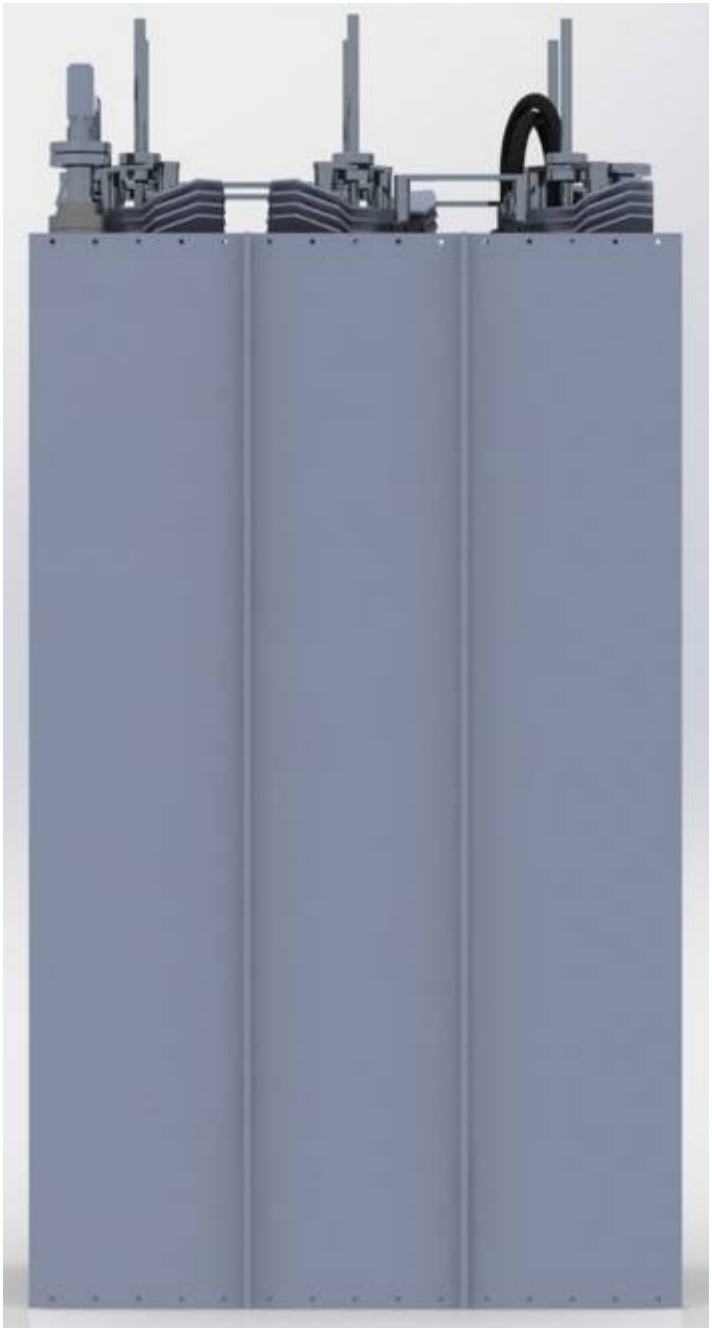


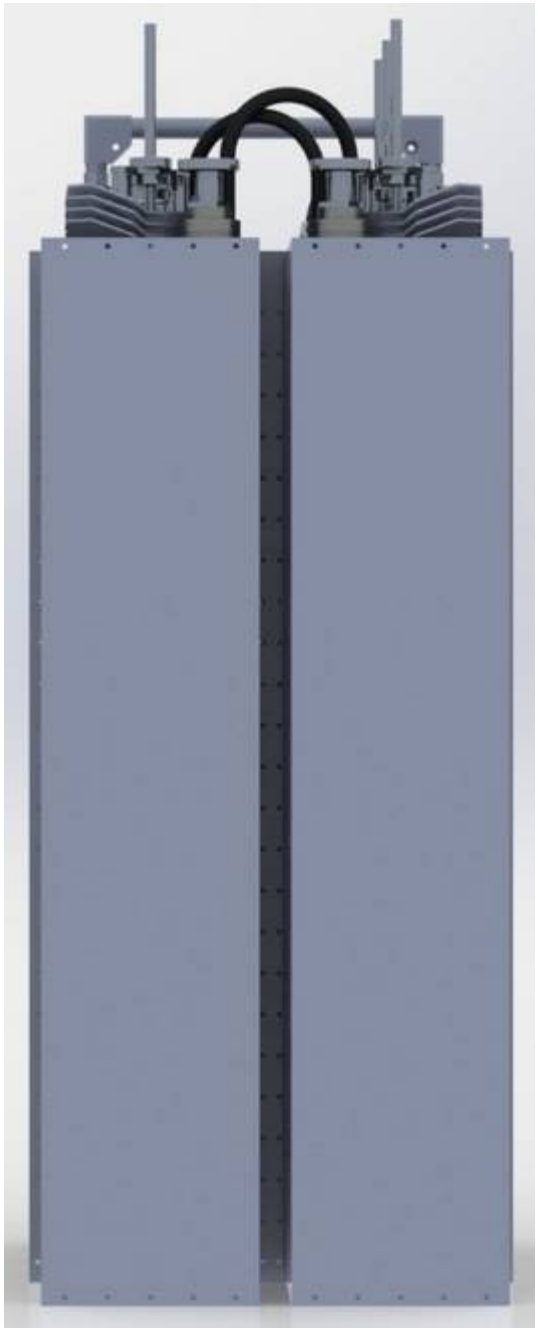


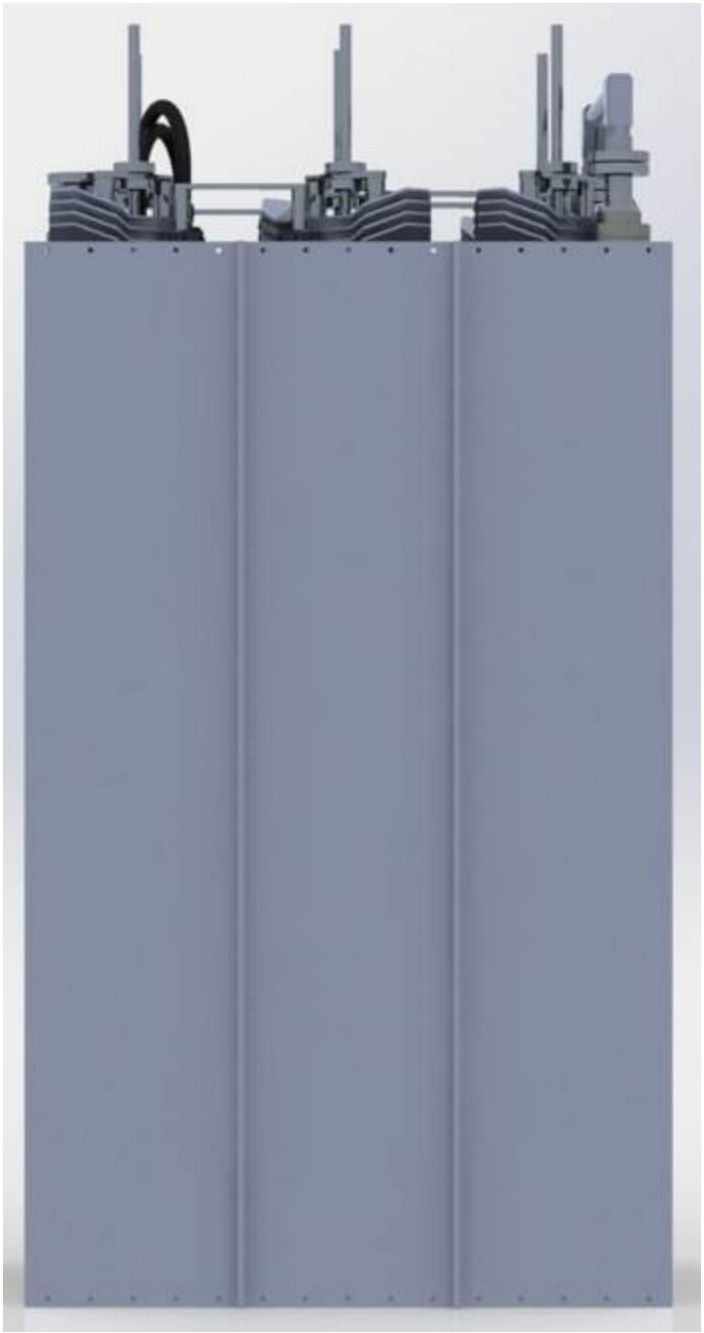
Dimensions	1300 (Max size)×470×610 mm (51.1(Max size)×18.5×24 inch) (H×L×W)
Net Weight	≅ 75 Kg approx.

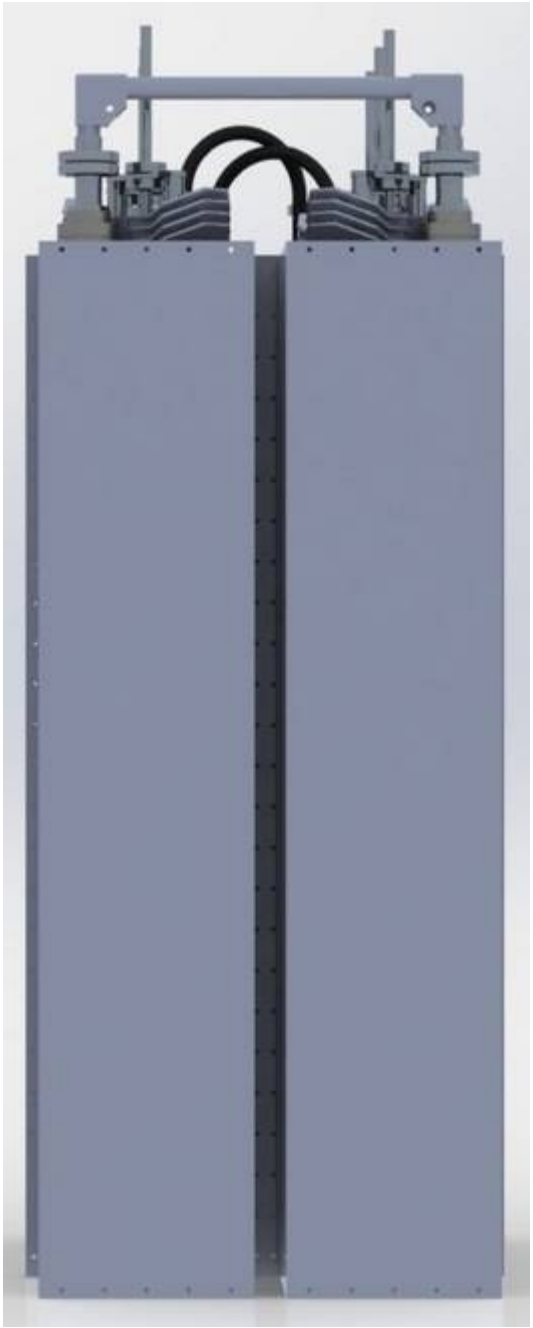
VIEWS OF THE SYSTEM

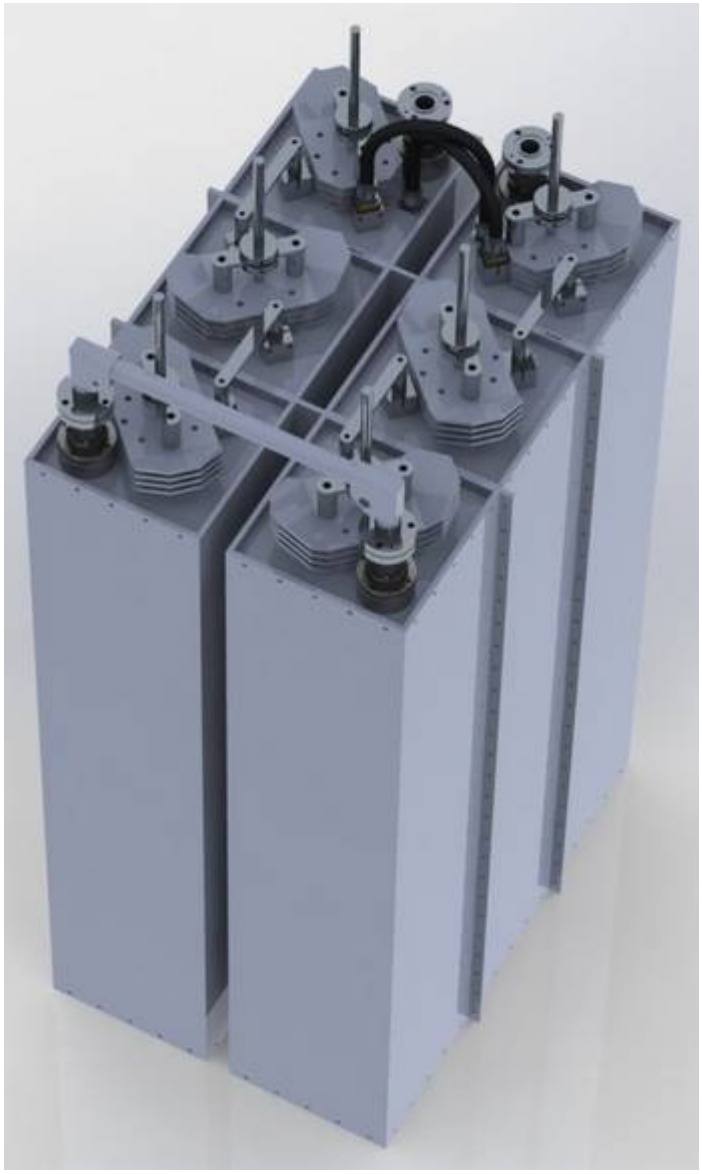












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TELECOMUNICAZIONI FERRARA SRL

MODEL FFELF3K

- BAND-PASS 6 CAVITIES FILTER
- IMPEDANCE 50 Ohm
- FM BAND *87.5 ÷ 108 MHz*
- BAND II
- SPECIAL VERSION WITH SPECIAL DOUBLE CROSS COUPLING

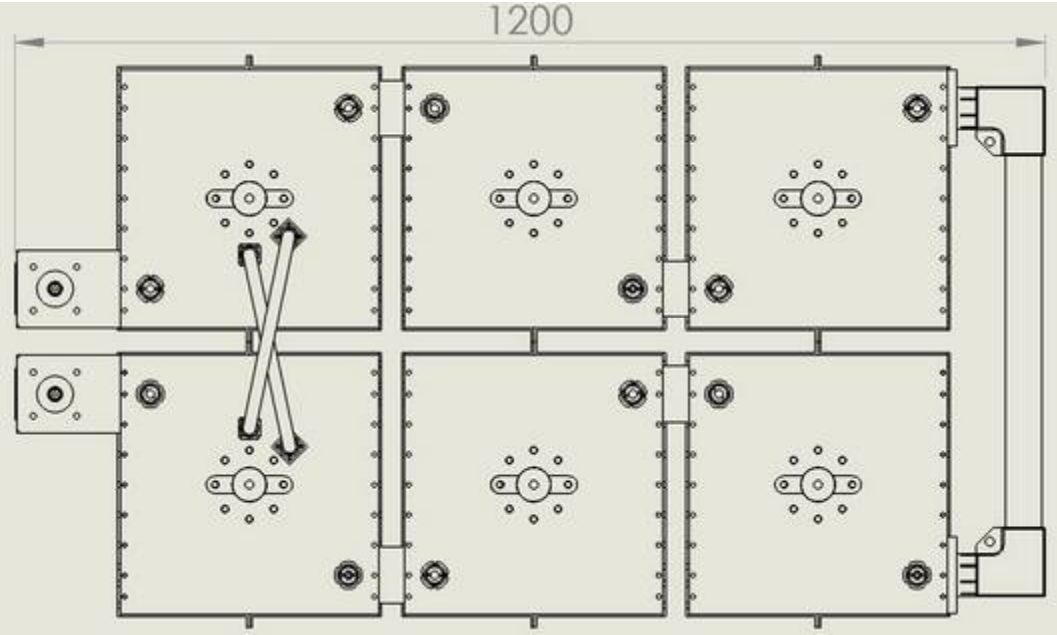
This six-cavities filter is used to set up starpoint combiners with very low spacing between channels.
The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site. The filter isolates the transmission system to eliminate spurious emissions.

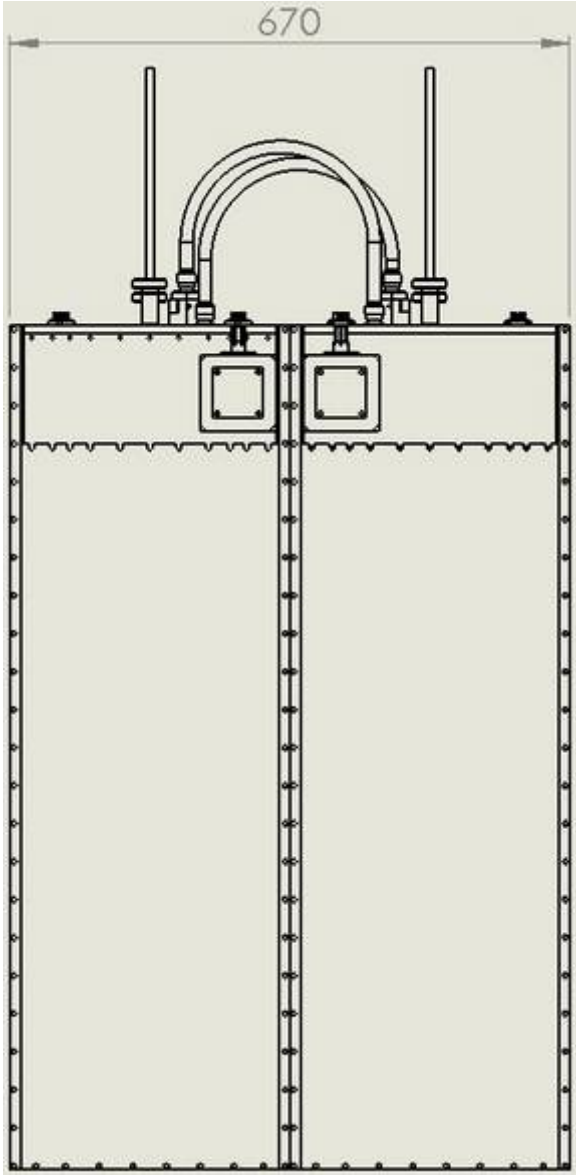
TYPICAL SPECIFICATIONS	
Model	FFELF3K
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.5 – 1.2 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 350 kHz it's even to –30dB approx.)
Connectors	1+5/8"
Max Power	3 KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

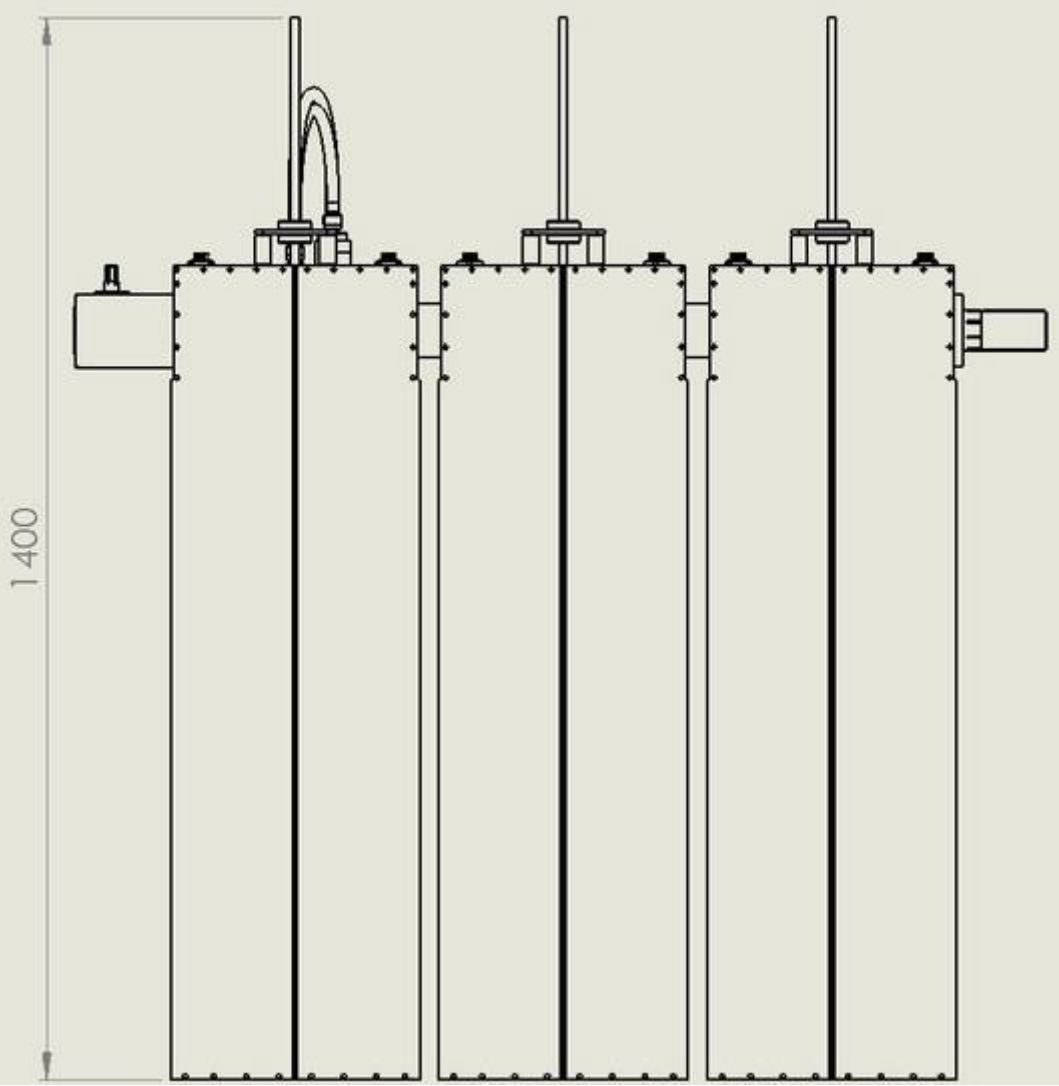
Features:

- Distortion – Free Transmission
- Very low spacing between channels if used in starpoint combiners
- Low loss, high isolation
- Natural convection

DIMENSIONS (mm)

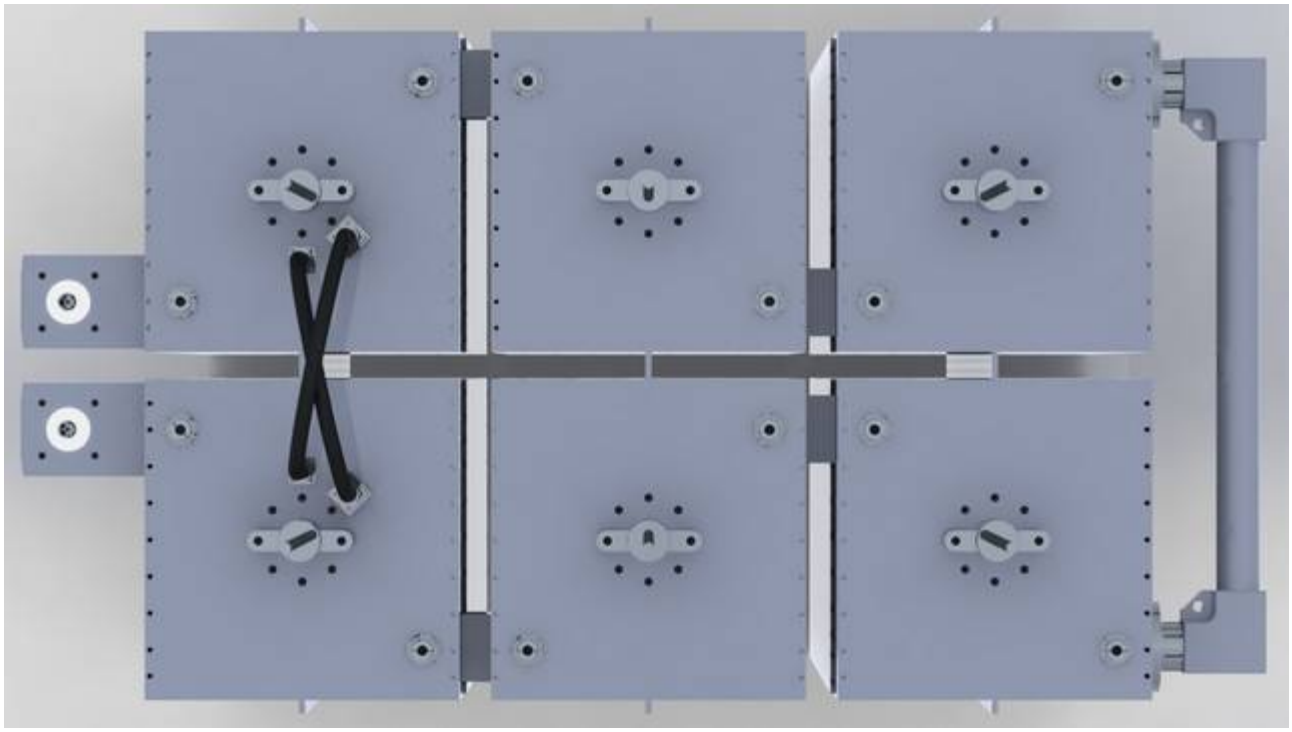


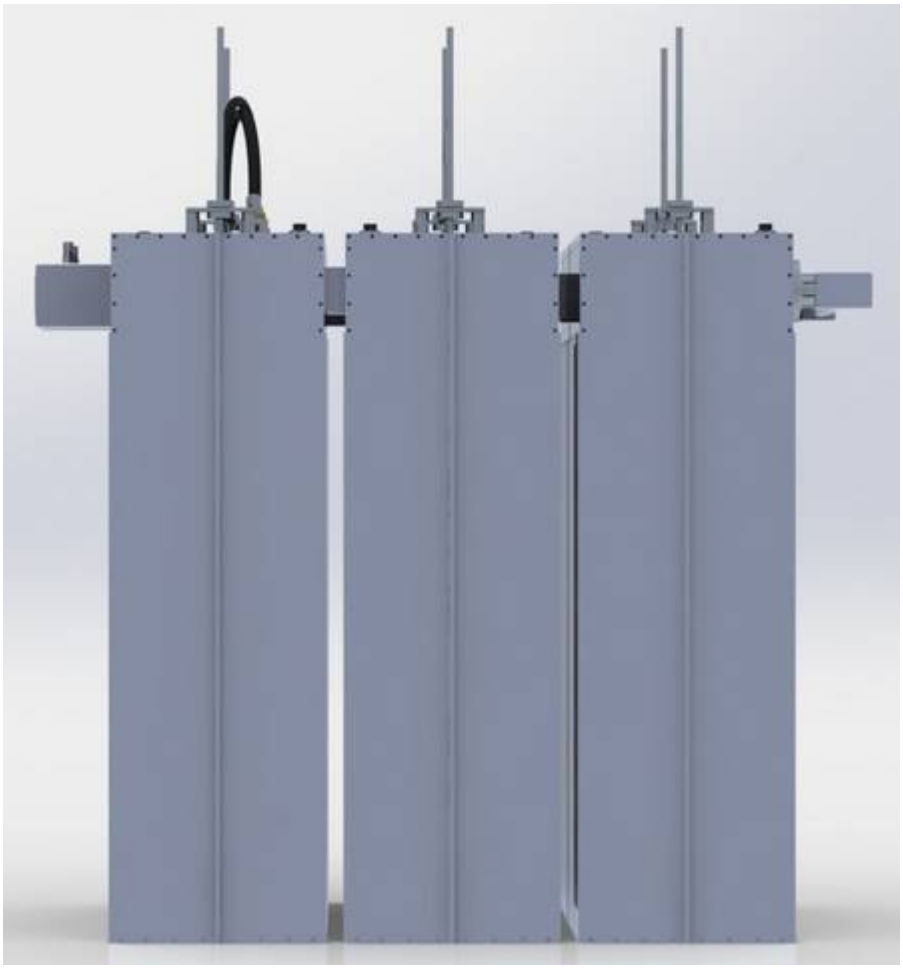


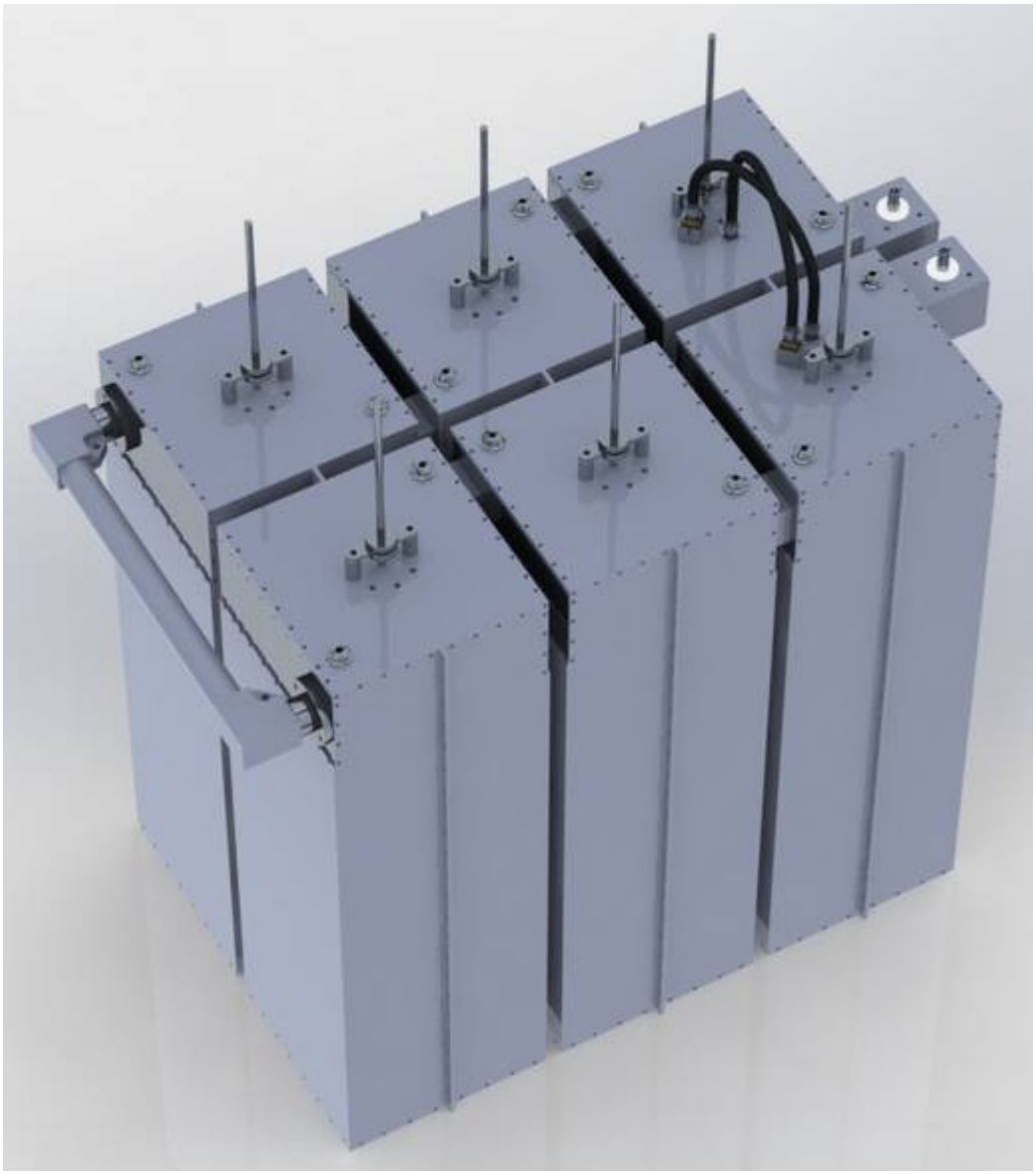


Dimensions	1400 (Max size)×1200×670 mm (55.1(Max size)×47.2×26.3 inch) (H×L×W)
Net Weight	≅ 140 Kg approx.

VIEWS OF THE SYSTEM







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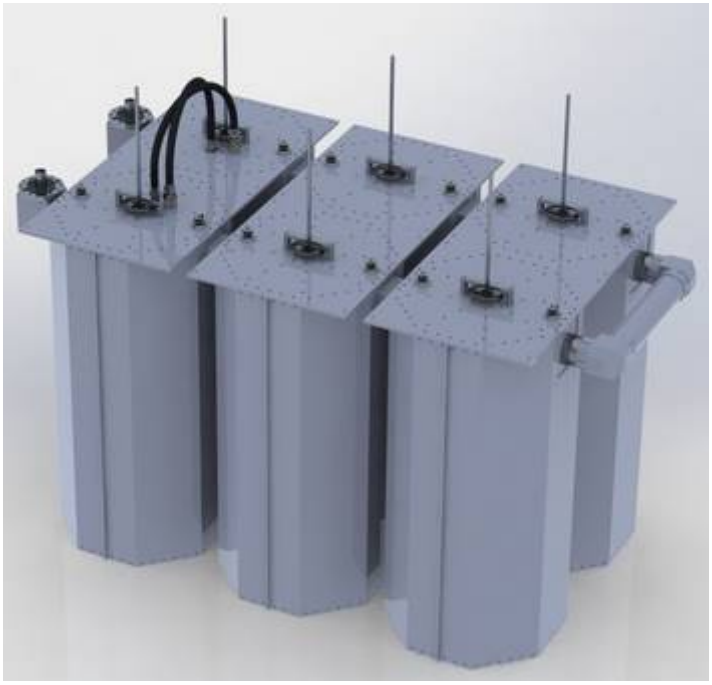
E-Mail: info@telecfe.it www.telecfe.it

TELECOMUNICAZIONI FERRARA SRL

MODEL FFELF10K



- BAND-PASS 6 CAVITIES FILTER
- IMPEDANCE 50 Ohm
- FM BAND *87.5 ÷ 108 MHz*
- BAND II
- SPECIAL VERSION WITH SPECIAL DOUBLE CROSS COUPLING

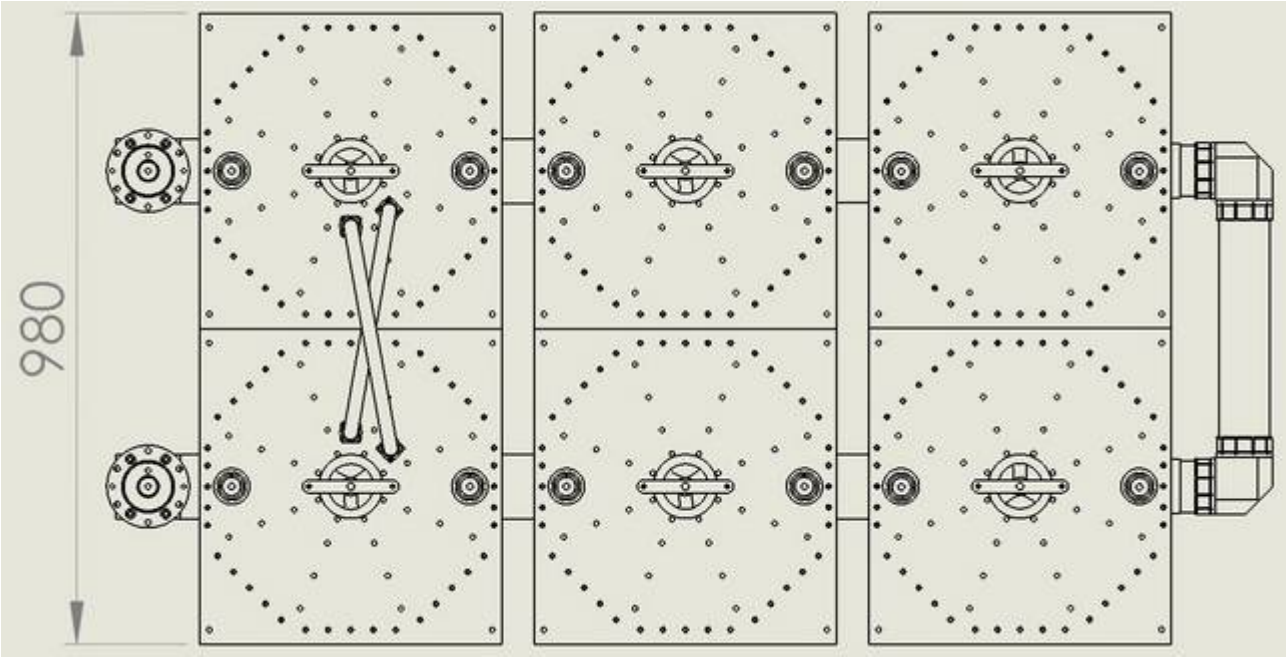
This six-cavities filter is used to set up starpoint combiners with very low spacing between channels.
The pass band filters was designed as an extension of our band pass combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site. The filter isolates the transmission system to eliminate spurious emissions.

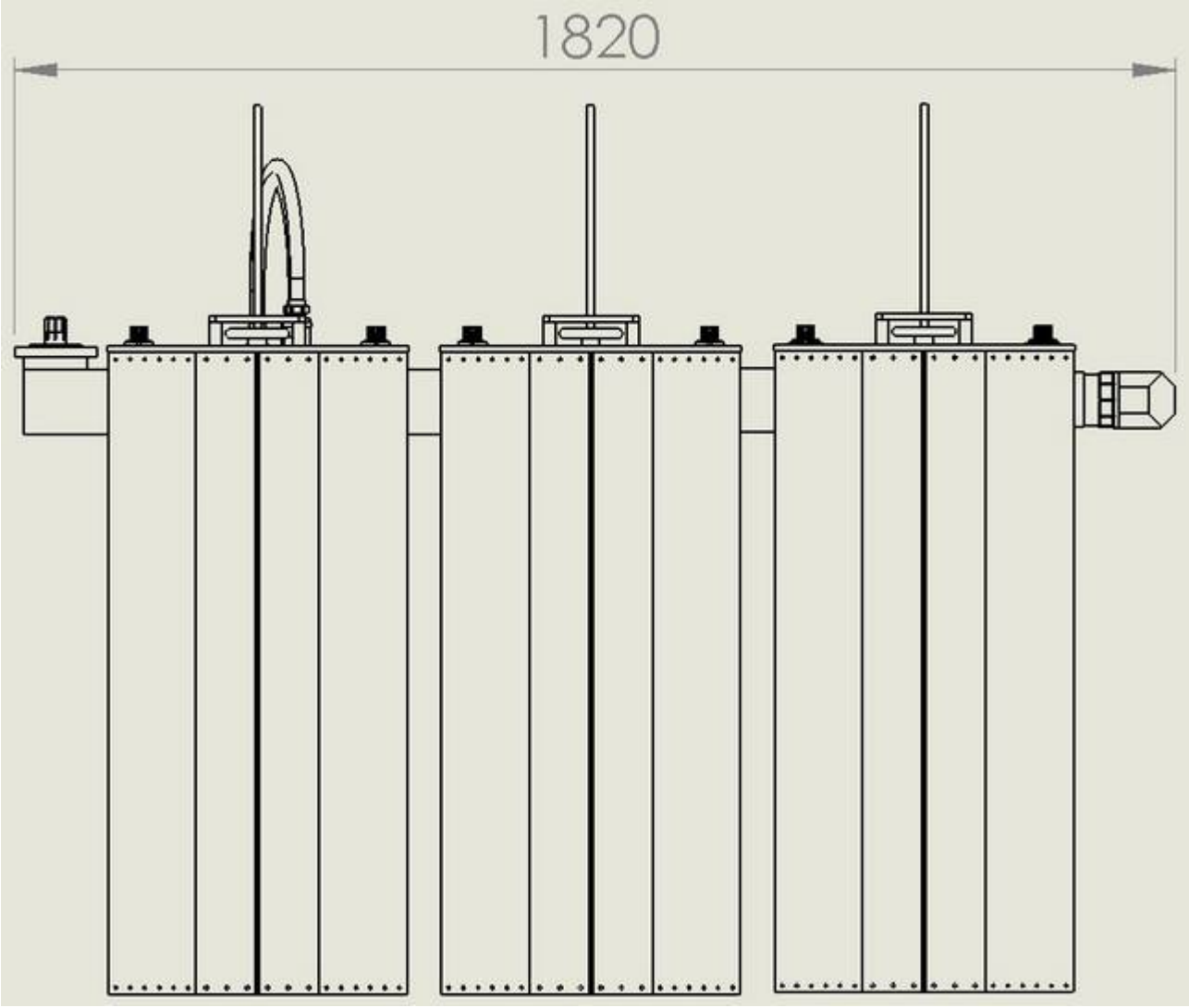
TYPICAL SPECIFICATIONS	
Model	FFELF10K
Impedance	50 ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.4 – 1.1 dB Max
Return Loss ± 150 KHz	≤ -26dB
Rejection	per customer's requirements (Typical ± 350 kHz it's even to –30dB approx.)
Connectors	3+1/8"
Max Power	10 KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

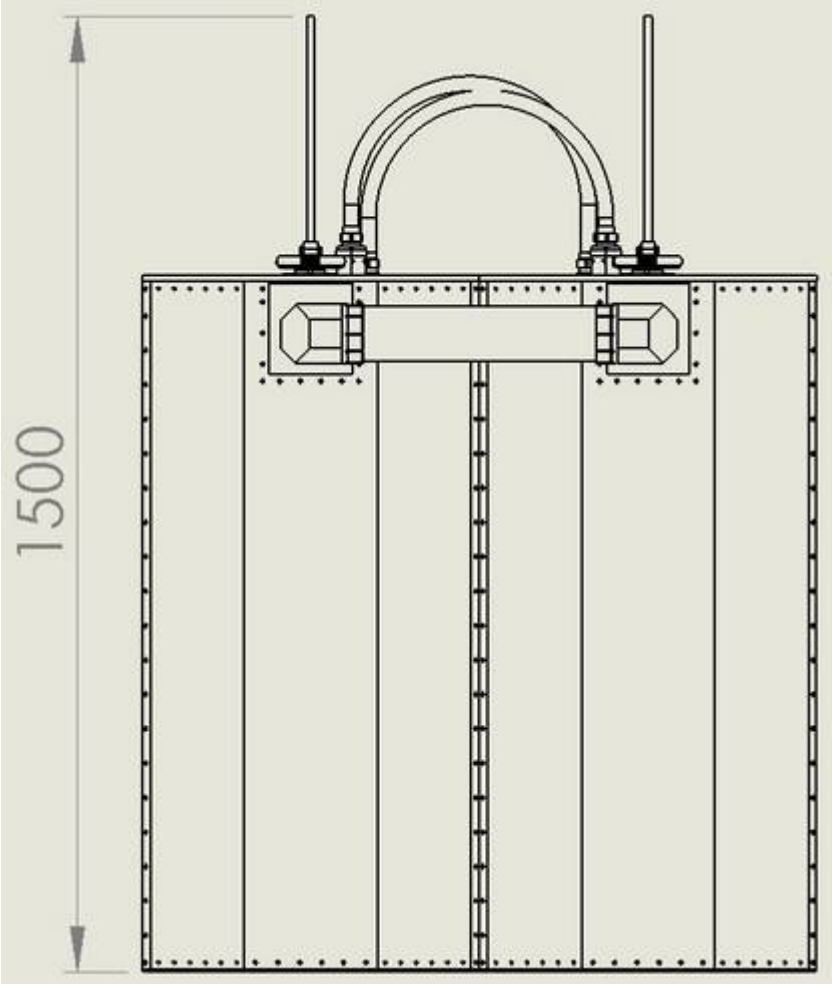
Features:

- Distortion – Free Transmission
- Very low spacing between channels if used in starpoint combiners
- Low loss, high isolation
- Natural convection

DIMENSIONS (mm)

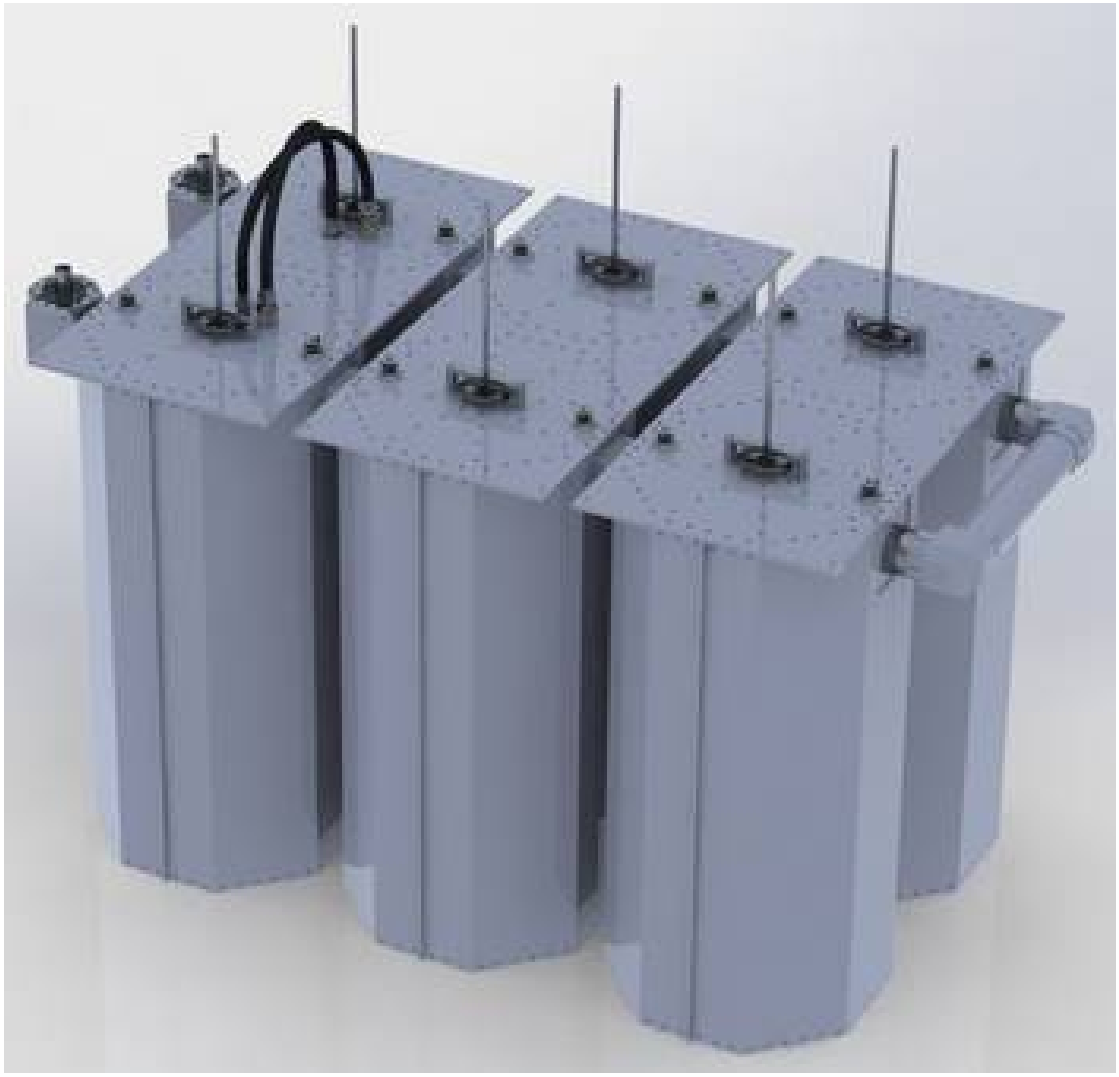


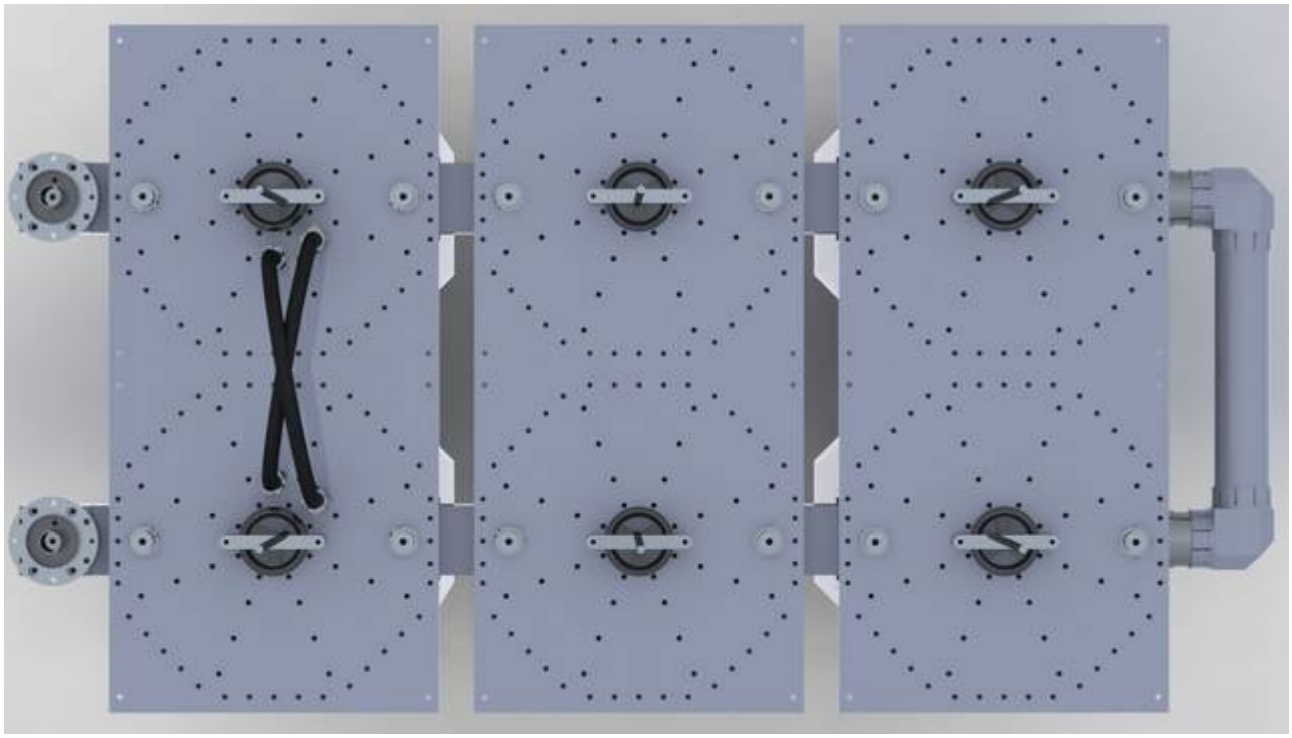


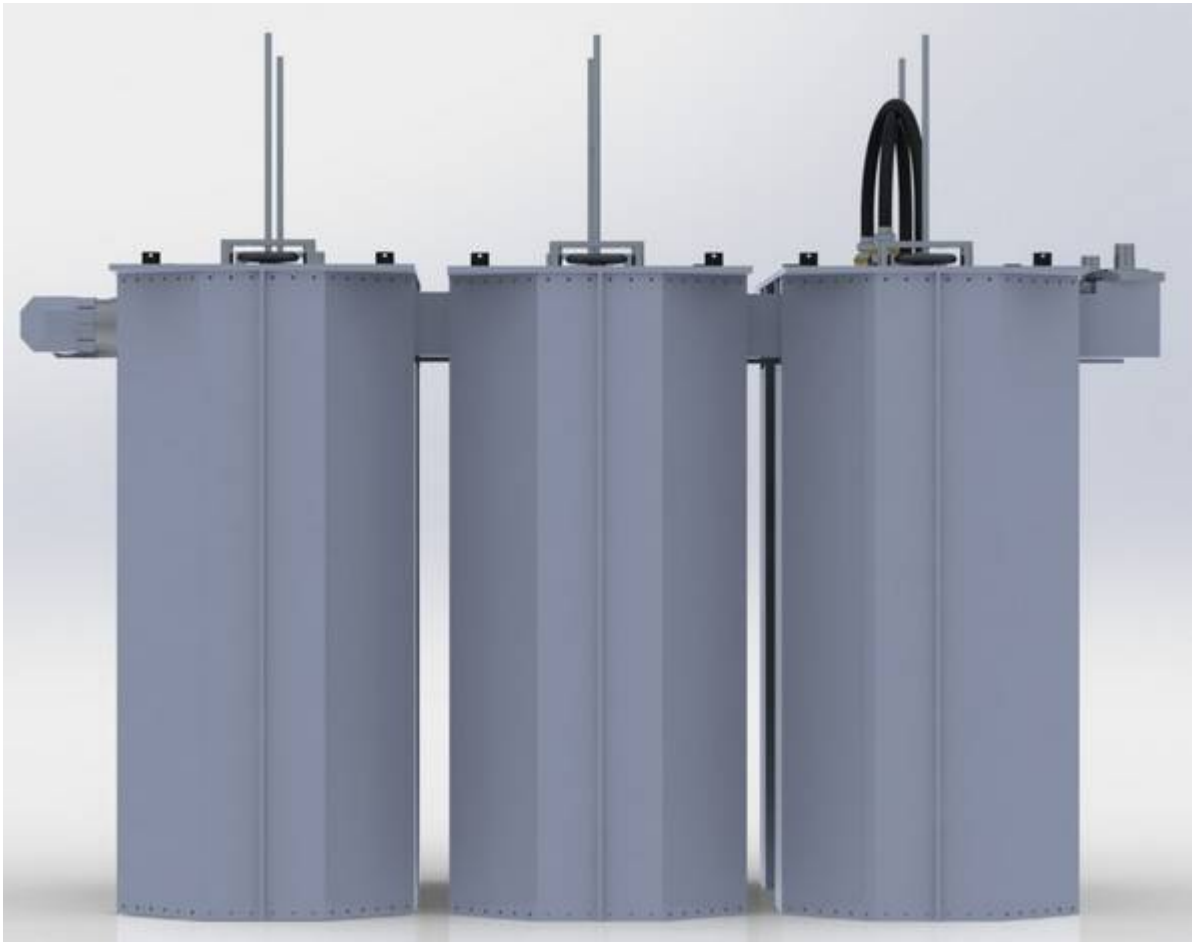


Dimensions	1500 (Max size)×1820×980 mm (59(Max size)×71.6×38.5 inch) (H×L×W)
Net Weight	≅ 180 Kg approx.

VIEWS OF THE SYSTEM







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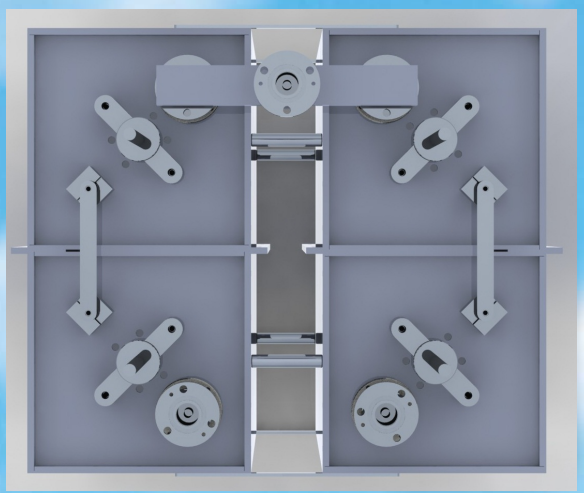
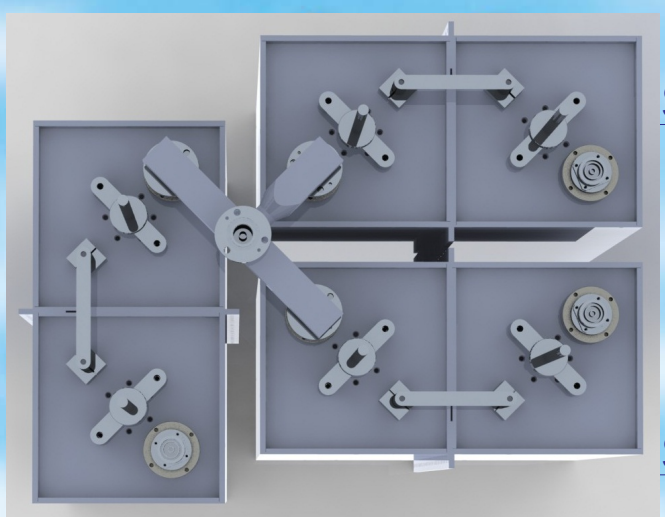
TELECOMUNICAZIONI FERRARA SRL

FM COMBINERS



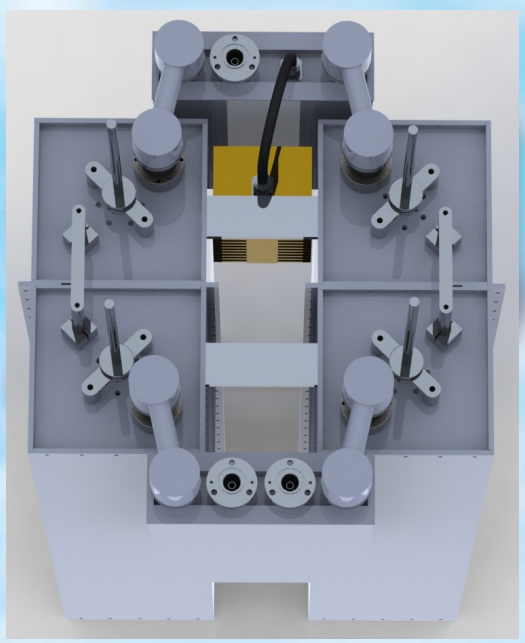
GENERAL CATALOG

STAR POINT DIPLEXER 70



STAR POINT TRIPLEXER 82

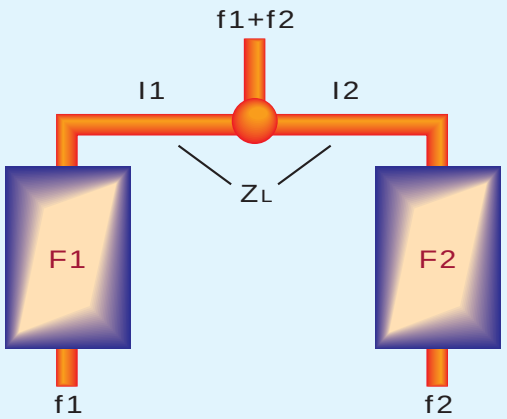
STAR POINT TETRAPLEXER 90



DOUBLE BALANCED
BRIDGE DIPLEXER 98

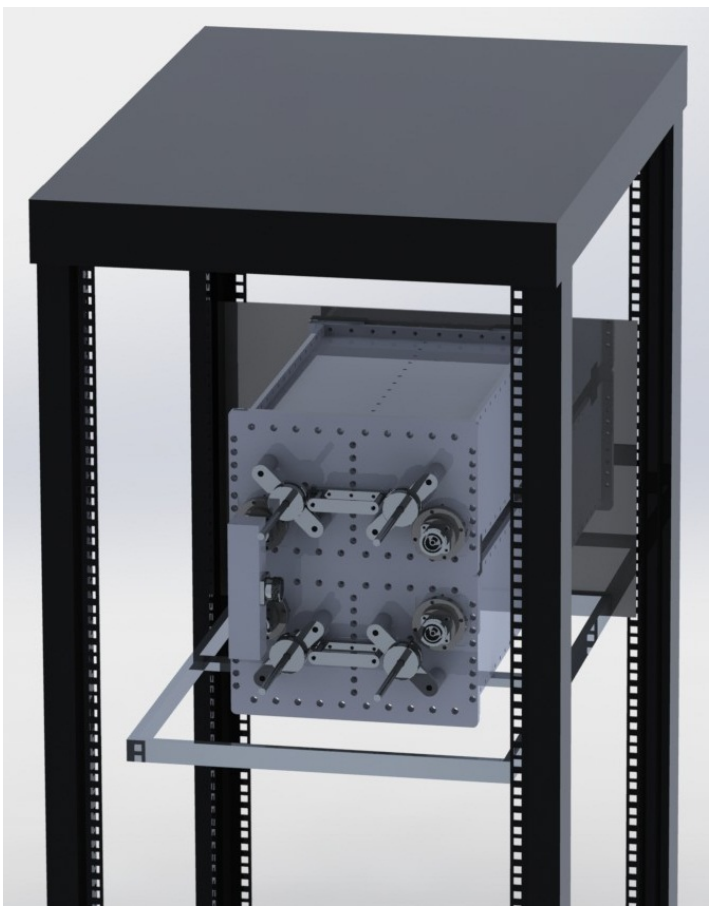
Description of Star-Point Diplexer

- A star-point diplexer is made by parallel circuiting two band pass filters having different pass bands. Care must be taken, however, to ensure that the impedance transformed by the one band pass filter at the junction point does not affect the pass band of the other filter.



In the diplexer illustrated in Fig, filter F1 permits frequency f1 to pass, whereas filter F2 cuts it off. In relation to frequency 2 f , filter F2 presents a short circuit at its inputs. In contrast, due to the matching of its input impedance for a frequency of f1, filter F1 presents impedance ZL at this point. The filter F2 functions in the analog manner in relation to frequency f2.

The diplexing filter, consisting of two filters and a junction point, has two narrow band inputs corresponding to the pass band characteristics of the filters.



Diplexer mounting rack.

This type of filters is executable in triple and quadruple cavity version

MODEL FDCSDC03

- **COMBINER 2 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

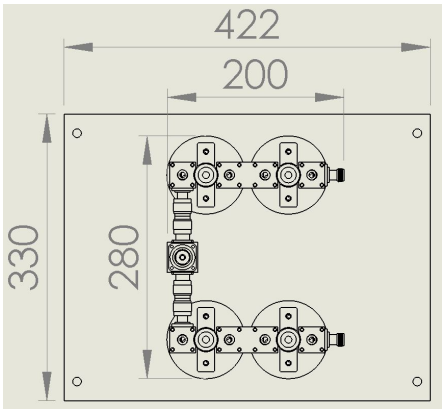
Model	Input Connector	Output Connector	Power Input	Power Output
FDCSDC03-1	N	7/16"	300W	600W
FDCSDC03-2	N	7/8"	300W	600W

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each n tuned transmitter frequency to witch it's connected. The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

Panel is option

TYPICAL SPECIFICATIONS

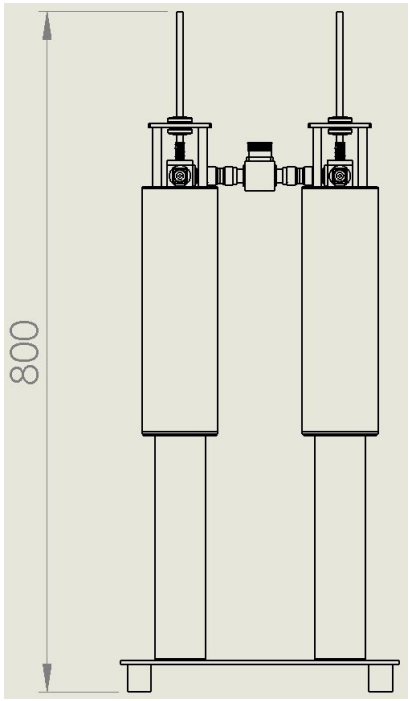
Model	FDCSDC03 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_0 0.8 dB typical
Return Loss ±150Khz	≤ -26 dB
Isolation ±2.5MHz **Isolation ±1.4MHz**	≥ 30 dB ≥ 27 dB (~1dB insertion loss)
Input Number	2
Output Number	1
Connectors standard	Input N female Output N *(See table)*
Max Power	300W x 2 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Dimensions in mm

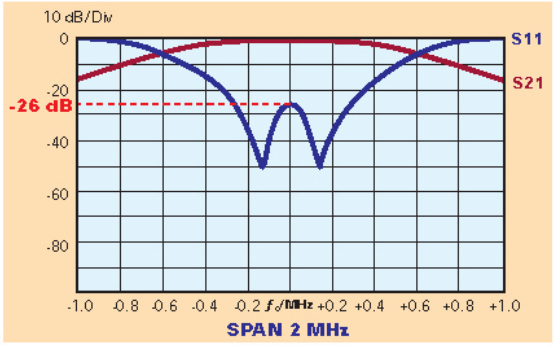
Features:

- Distortion – Free Transmission
- Starpoint system with pass stop
- Low loss, high isolation
- Natural convection
- Option whit Rack



No rack version	
Dimensions	200×280×800 mm (7.3×11.4×31.5 inch) (H×L×W)
Net Weight	≅ 12 Kg

Rack version (optional)	
Panel Size	6 HE (1 HE=44,45 mm)
Net Weight	≅ 12 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FDCSTC03

- **COMBINER 2 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

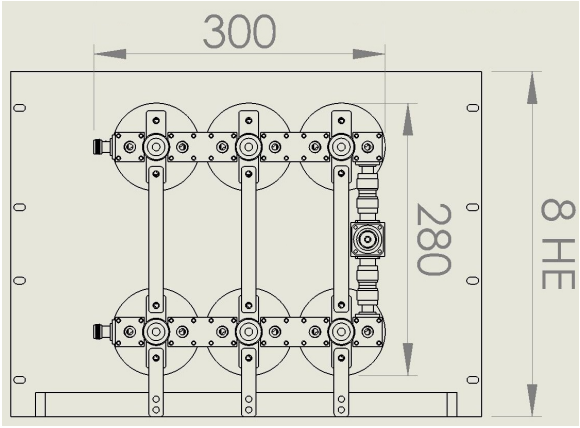
VERSION WITH OPTION RACK

Model	Input Connector	Output Connector	Power Input	Power Output
FDCSTC03-1	N	7/16"	300W	600W
FDCSTC03-2	N	7/8"	300W	600W

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each n tuned transmitter frequency to witch it's connected. The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FDCSTC03 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_0 0.8 dB typical
Return Loss ±150Khz	≤ -26 dB
Isolation ±2.5MHz	≥ 30 dB
Isolation ±1.4MHz	≥ 27 dB (~1dB insertion loss)
Input Number	2
Output Number	1
Connectors standard	Input N female Output N *(See table)*
Max Power	300W x 2 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



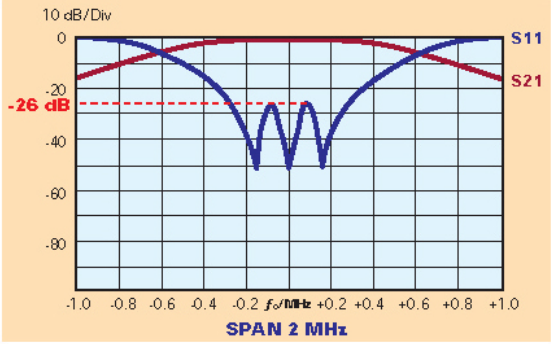
Dimensions in mm

Features:

- Distortion – Free Transmission
- Starpoint system with pass stop
- Low loss, high isolation
- Natural convection
- Option whit Rack

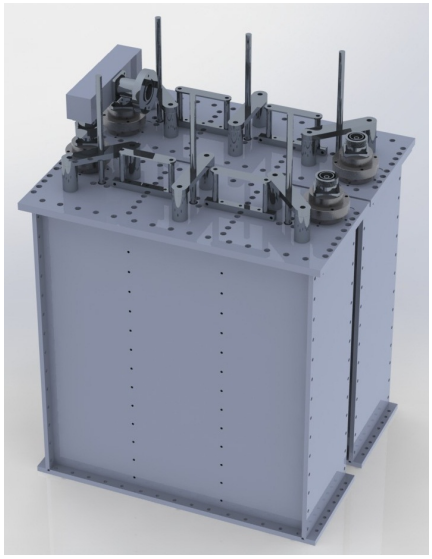
No rack version	
Dimensions	280×300×775 mm (11×11.8×30.5 inch) (H×L×W)
Net Weight	≅ 18 Kg (triple cavity)

Rack version (optional)	
Panel Size	8 HE (1 HE=44,45 mm)
Net Weight	≅ 20 Kg (triple cavity)



Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FDCSTC05



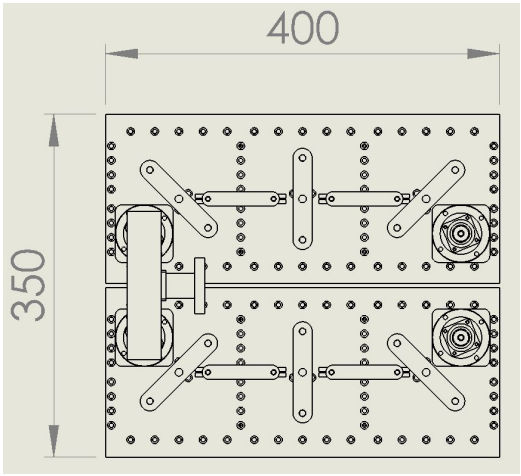
- **COMBINER 2 CHANNELS**
- **TYPE STAR POINT**
- **RACK VERSION OPTION**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FDCSTC05-1	7/16"	7/16"	600W	1200W
FDCSTC05-2	7/16"	7/8"	600W	1200W

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

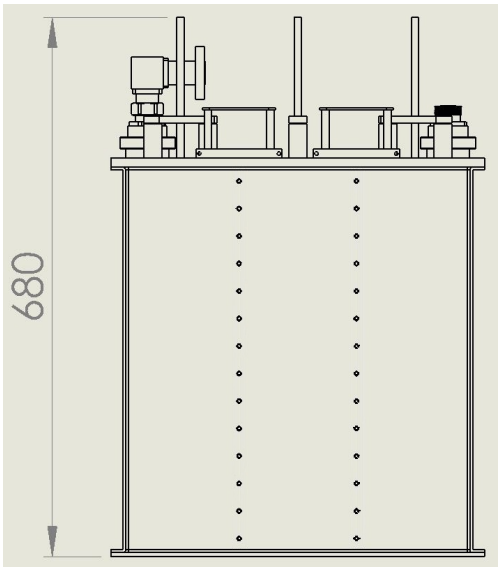
Model	FDCSTC05 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_0 0.65 dB max
Return Loss ±150Khz	≤ -26 dB
Isolation ±1.6MHz	≥ 30 dB
No. Input	2
No. Output	1
Connectors standard	Input N Output 7/16
Max Power	600 W × 2 CHANNELS
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Dimensions in mm

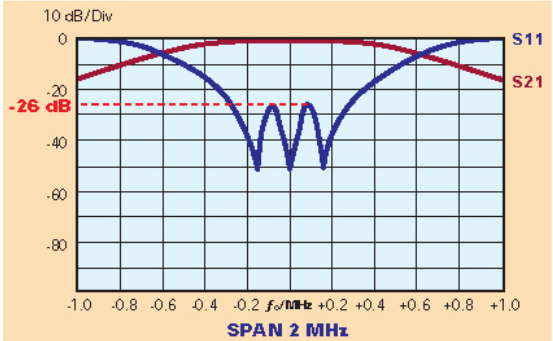
Features:

- Distortion – Free Transmission
- Low loss, high isolation
- Natural convection



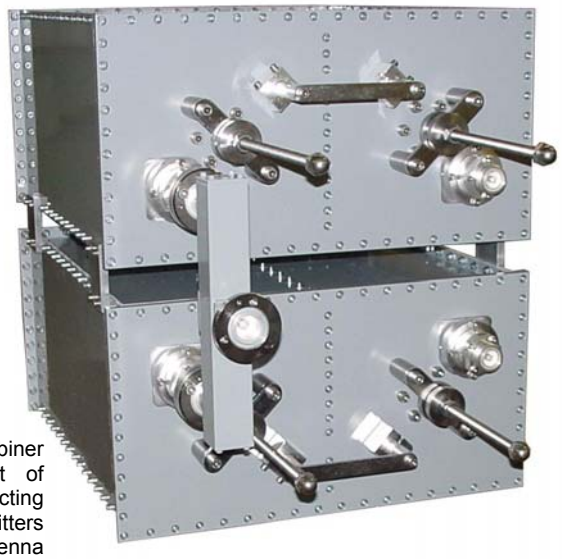
Standard version	
Dimensions	400×350×680 mm (15.7×13.8×26.8 inch) (H×L×W)
Net Weight	≅ 40 Kg

Rack version (optional)	
Panel Size	8 HE (1 HE=44,45 mm)
Net Weight	≅ 41 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

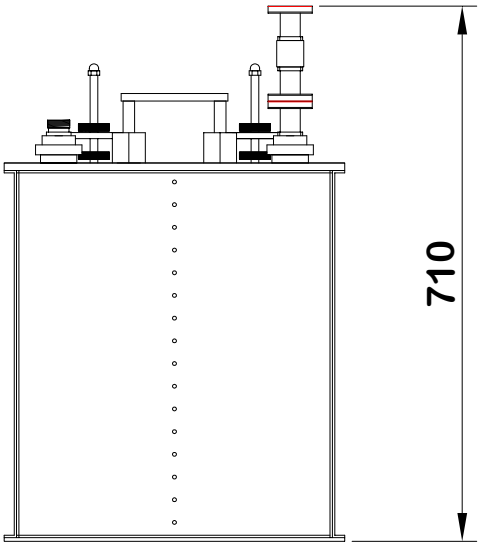
MODEL FDCSDC2R



- **COMBINER 2 CHANNEL**
- **TYPE STAR POINT**
- **FM BAND 87.5-108 MHz**
- **BAND II**
- **RACK VERSION (option)**
- **OPTION**

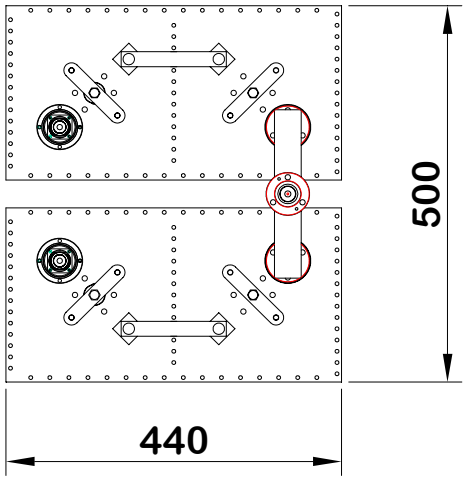
Model	Input Connector	Output Connector	Power Input	Power Output
FDCSDC2R-1	N	7/16”	600W	1200W
FDCSDC2R-2	N	7/8”	600W	1200W
FDCSDC2R-3	7/16”	7/16”	1KW	2KW
FDCSDC2R-4	7/16”	7/8”	2KW	4KW
FDCSDC2R-5	7/8”	1+5/8”	2KW	4KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it’s connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.



TYPICAL SPECIFICATIONS

Model	FDCSDC2R
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1:1.1 max
Insertion Loss	at f_0 0.25 dB max
Return Loss ±150Khz	≤ -26dB
Isolation ±1,5MHz	≥ 30 dB
Input Number	2
Output Number	1
Standard Connectors	Input 7/8” Output 7/8” (See table)
Max Power	2KW × 2 CHANNELS
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



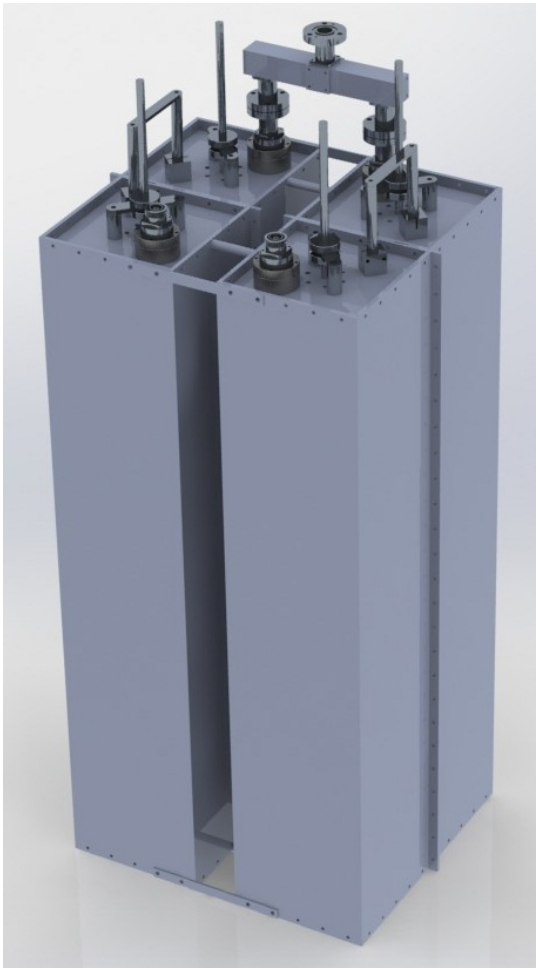
Features:

- Distortion – Free Transmission
- Star point system with double pass-band cavity filters (standard configurations)
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

STANDARD VERSION (FDCSDC2-#10)	
Dimensions	710(Max size)×500×440 mm (27.9 (Max size)×16.7×17.3 inch) (H×L×W)
Net Weight	≅ 40 Kg

VERSION WITH RACK (FDCSDC2R)	
Dimensions	12 HE (714(H max)×534×483 mm (28.1 (Max size)×21.0×19.0 inch)) (H×L×W)
Net Weight	≅ 42 Kg

MODEL FDCSDC2

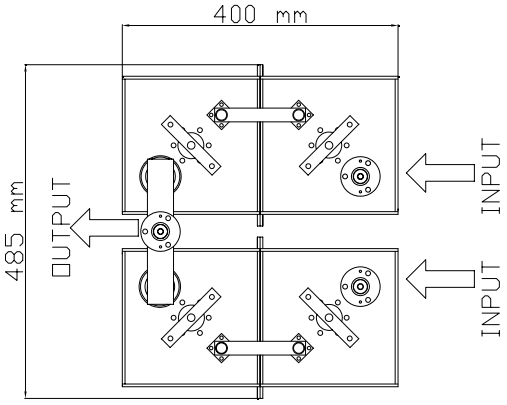


- **COMBINER 2 CHANNEL**
- **TYPE STAR POINT**
- **FM BAND 87.5-108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FDCSDC2-1	N	7/16"	600W	1200W
FDCSDC2-2	N	7/8"	600W	1200W
FDCSDC2-3	7/16"	7/16"	1KW	2KW
FDCSDC2-4	7/16"	7/8"	2KW	4KW
FDCSDC2-5	7/8"	1+5/8"	2KW	4KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected. The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

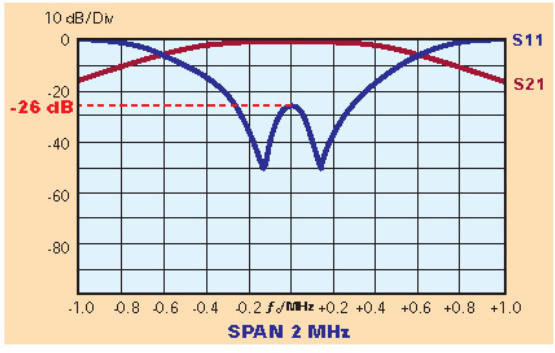
TYPICAL SPECIFICATIONS	
Model	FDCSDC2 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1:1.1 max
Insertion Loss	at f_0 0.25 dB max
Return Loss ±150Khz	≤ -26dB
Isolation ±2MHz	≥ 30 dB
No. of input	2
No. of output	1
Connectors standard	Input 7/8" *(See table)* Output 7/8"
Max Power	2KW × 2 CHANNELS
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)



Features:

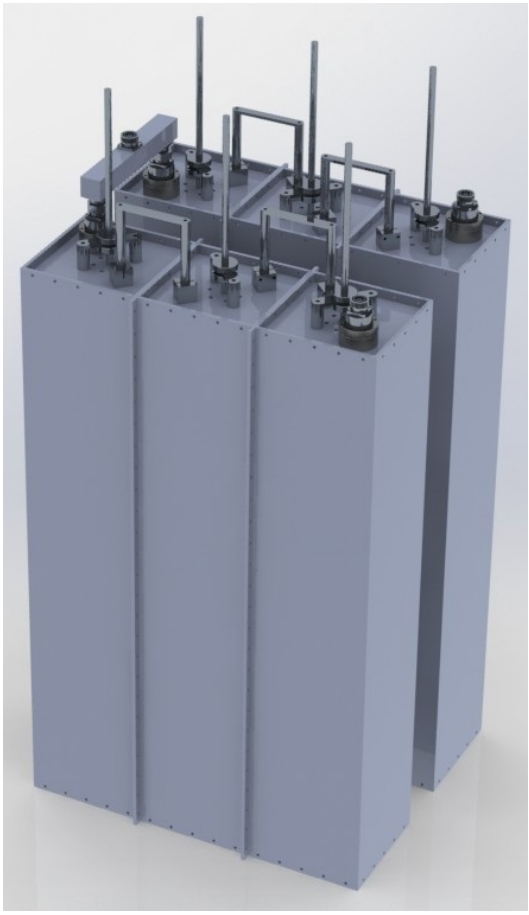
- Distortion – Free Transmission
- Star-point system with double pass-band cavity filters (standard configurations)
- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

Dimensions	1300(Max size)×485×400 mm (51.2(Max size)×19.09×15.74 inch) (H×L×W)
Net Weight	≅ 45 Kg



"These specifications are subject to change without notice"

MODEL FDCSTC2



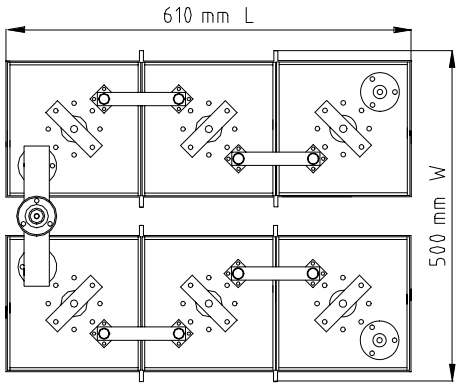
- **COMBINER 2 CHANNEL**
- **TYPE STAR POINT**
- **FM BAND 87.5-108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FDCSTC2-1	N	7/16”	600W	1200W
FDCSTC2-2	N	7/8”	600W	1200W
FDCSTC2-3	7/16”	7/16”	1KW	2KW
FDCSTC2-4	7/16”	7/8”	2KW	4KW
FDCSTC2-5	7/8”	1+5/8”	2KW	4KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it’s connected. The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

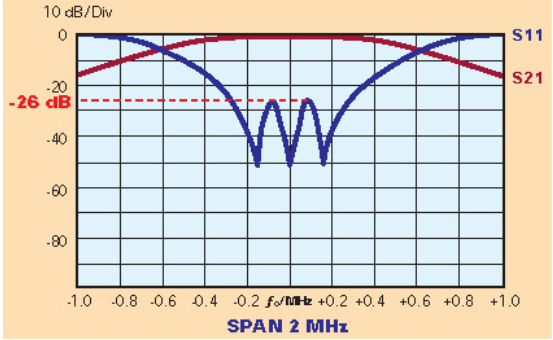
Model	FDCSTC2 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Return Loss ±150Khz	≤ -26dB
Insertion Loss **Isolation ±1.0MHz**	at f_0 0.45 dB max ≥ 30 dB
Insertion Loss **Isolation ±1.5MHz**	at f_0 0.33 dB max ≥ 35 dB
No. of Input	2
No. of Output	1
Connectors Standard	Input 7/8” Output EIA 7/8” *(See table)*
Max Power	2KW × 2 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Features:

- Distortion – Free Transmission
- Star-point system with triple pass-band cavity filters (standard configurations)
- Star-point system with quadruple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

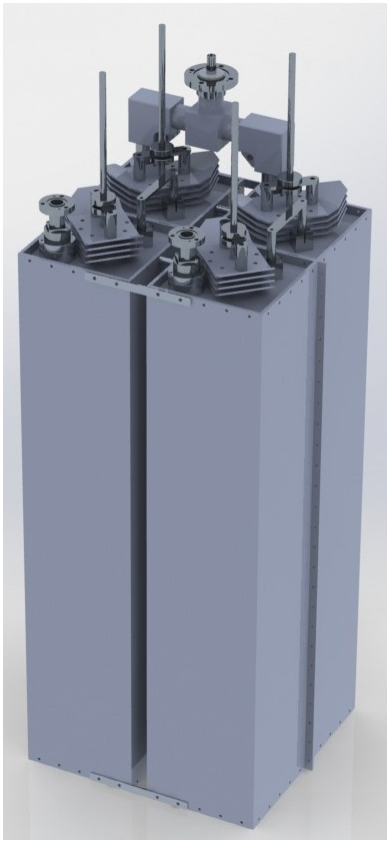
Dimensions	1300(Maz size)×610×500 mm (51.2(Max size)×24.0×19.7 inch) (H×L×W)
Net Weight	≅ 65 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

“These specifications are subject to change without notice”

MODEL FDCSDC3



- **COMBINER 2 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FDCSDC3-1	7/8"	7/8"	2.5KW	5KW
FDCSDC3-2	1+5/8"	1+5/8"	3KW	6KW

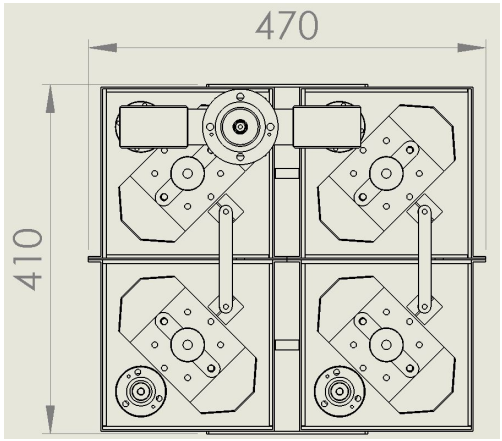
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FDCSDC3 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_0 0.25 dB max
Return Loss ±150Khz	≤ -26dB
Isolation ±1,5MHz	≥ 30 dB
Input Number	2
Output Number	1
Connectors Standard	Input 7/8" Output 1+5/8" *(See table)*
Max Power	3KW X 2 Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

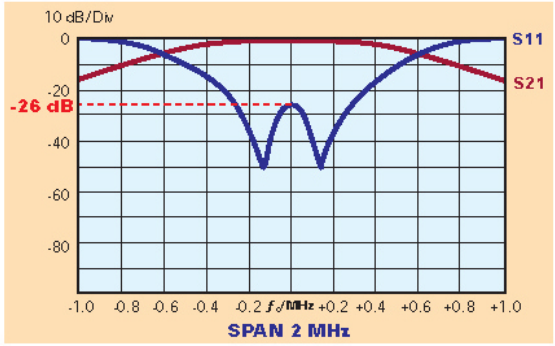
Features:

- Distortion – Free Transmission
- Star-point system with double pass-band cavity filters (standard configurations)
- Star-point system with triple pass-band cavity filters
- Low loss, high isolation
- Natural convection

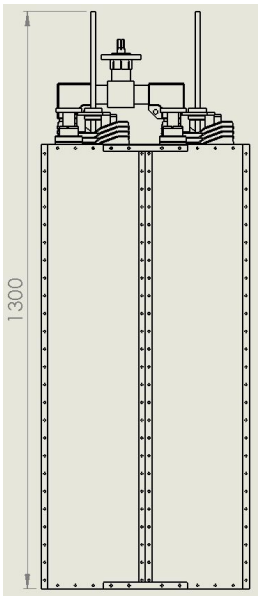


Dimensions in mm

Dimensions	1300(Max size)×470×410 mm(51.2(Max size)×18.5×16.1inch) (H×L×W)
Net Weight	≅ 45 Kg (double cavity)



Typical shape of a curves for S11 and S12 parameters for single filter



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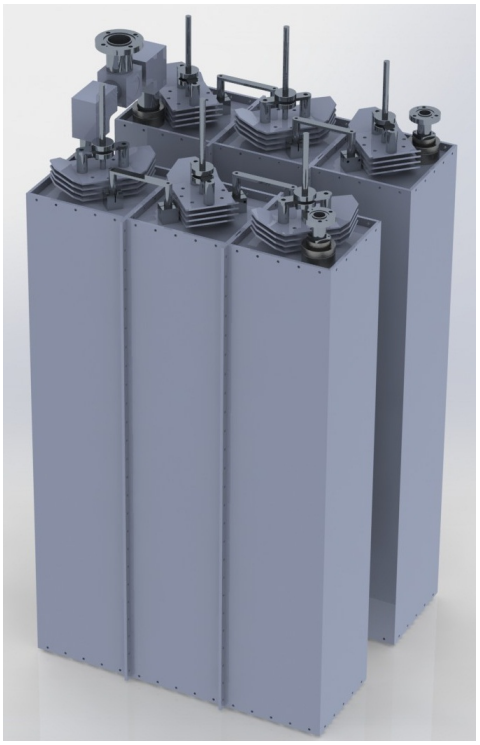
MODEL FDCSTC3



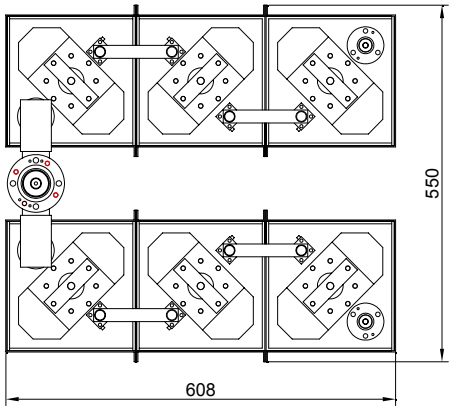
- **COMBINER 2 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FDCSTC3-1	7/8"	7/8"	2.5KW	5KW
FDCSTC3-2	1+5/8"	1+5/8"	3KW	6KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

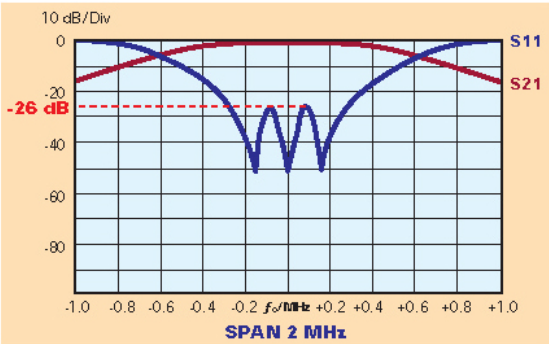
Model	FDCSTC3 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Return Loss ±150Khz	≤ -26dB
Insertion Loss **Isolation ±1.2MHz**	at f_0 0.45 dB max ≥ 30 dB
Insertion Loss **Isolation ±1.5MHz**	at f_0 0.33 dB max ≥ 30 dB
No. of Input	2
No. of Output	1
Connectors Standard	Input 7/8" Output 1+5/8" (See table)
Max Power	3KW × 2 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Features:

- Distortion Free Transmission
- Star-point system with double pass-band cavity filters (standard configurations)
- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group Delay equalizer

Dimensions	1300(Max size)×608×550 mm (51.2(Max size)×24.0×19.7 inch) (H×L×W)
Net Weight	≅ 75 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

"These specifications are subject to change without notice"

MODEL FDCSDC5-1

- COMBINER 2 CHANNELS
- TYPE STAR POINT
- FM BAND 87.5÷108 MHz
- BAND II

Model	Input Connector	Output Connector	Power Input	Power Output
FDCSDC5-1	7/8"	1+5/8"	5KW	10KW
ALSO AVAILABLE: FDCSDC5-2	1+5/8"	3+1/8"	5KW	10KW

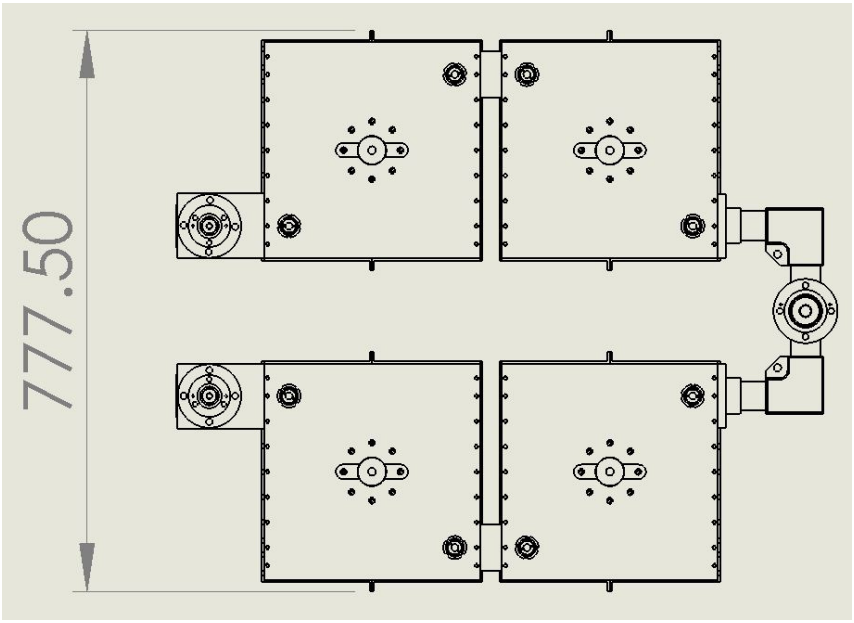
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

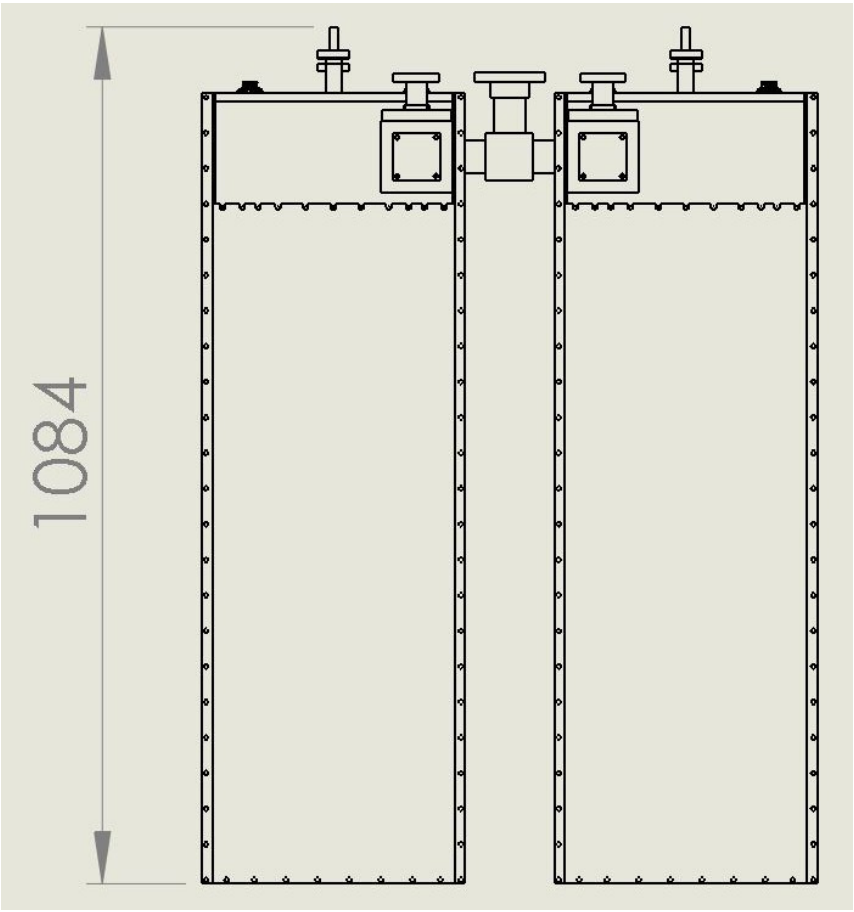
TYPICAL SPECIFICATIONS	
Model	FDCSDC5 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1 max
Insertion Loss	at f_0 0.15 dB max
Return Loss ±150 KHz	≤ -26dB
Isolation ±1.8 MHz	≥ 30 dB
No. of input	2
No. of output	1
Connectors Standard	1+5/8" Input-Output *(See table)*
Max Power	5KW × 2 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

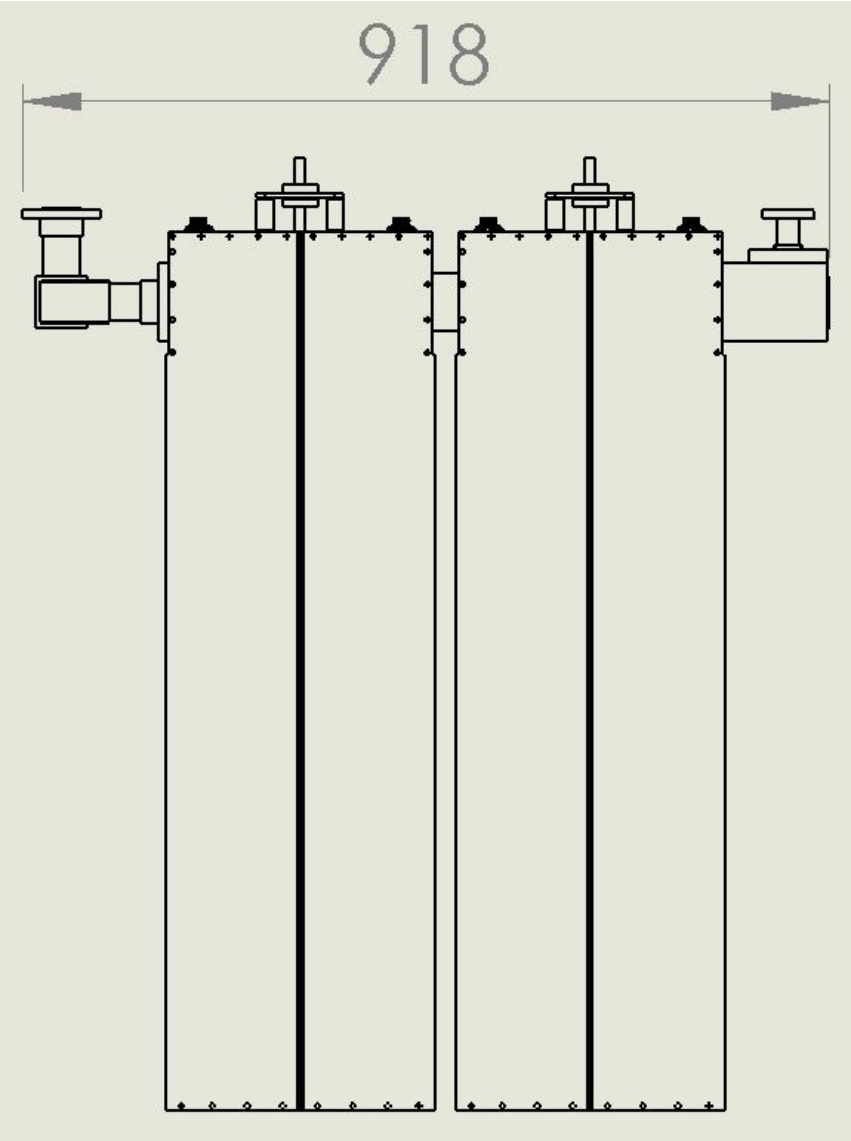
Features:

- Distortion – Free Transmission
- Star-point system with double pass-band cavity filters (standard configurations)
- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

DIMENSIONS (mm)

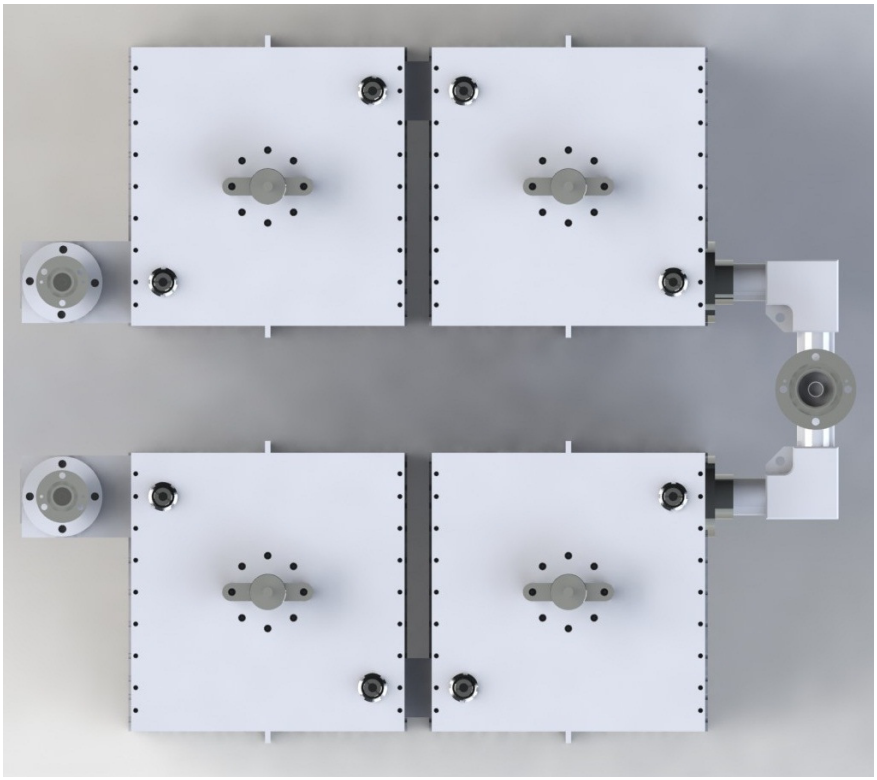


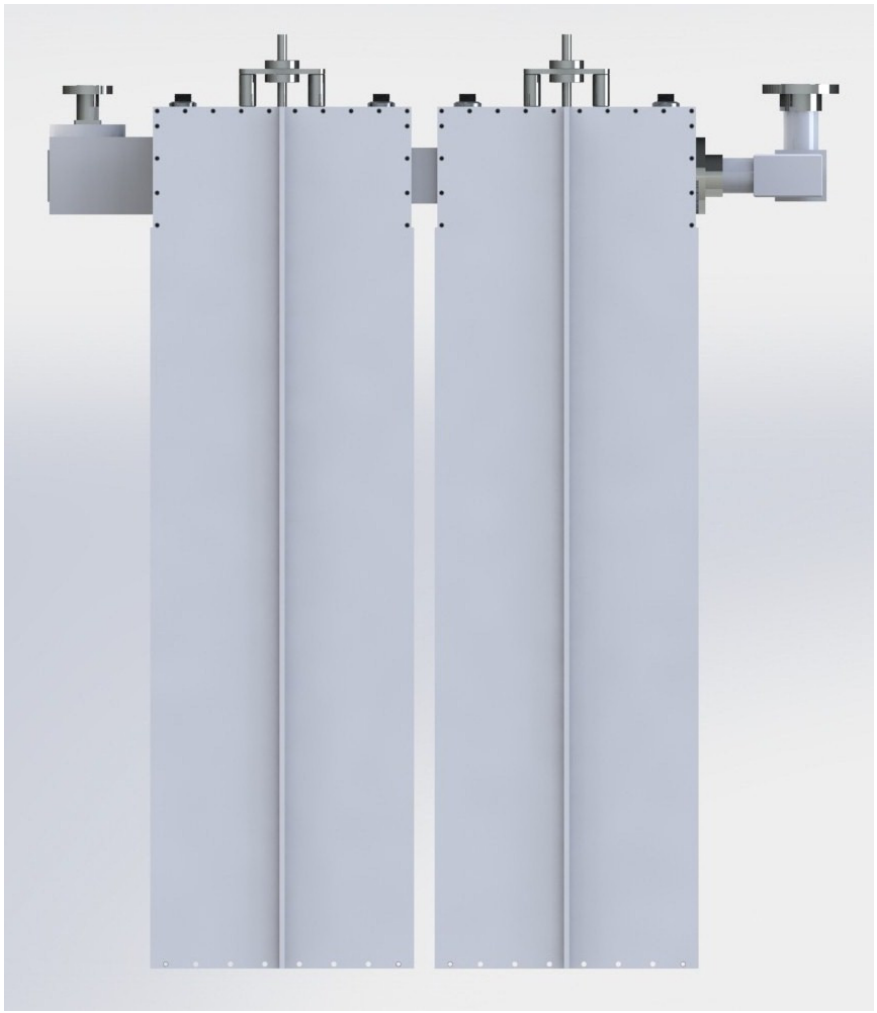


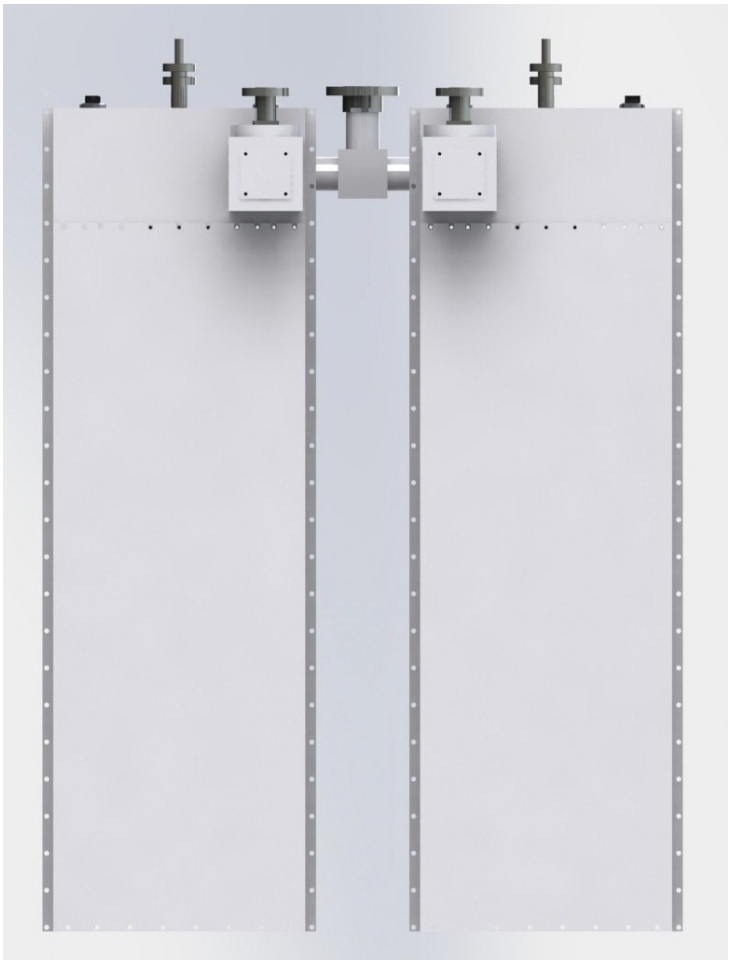


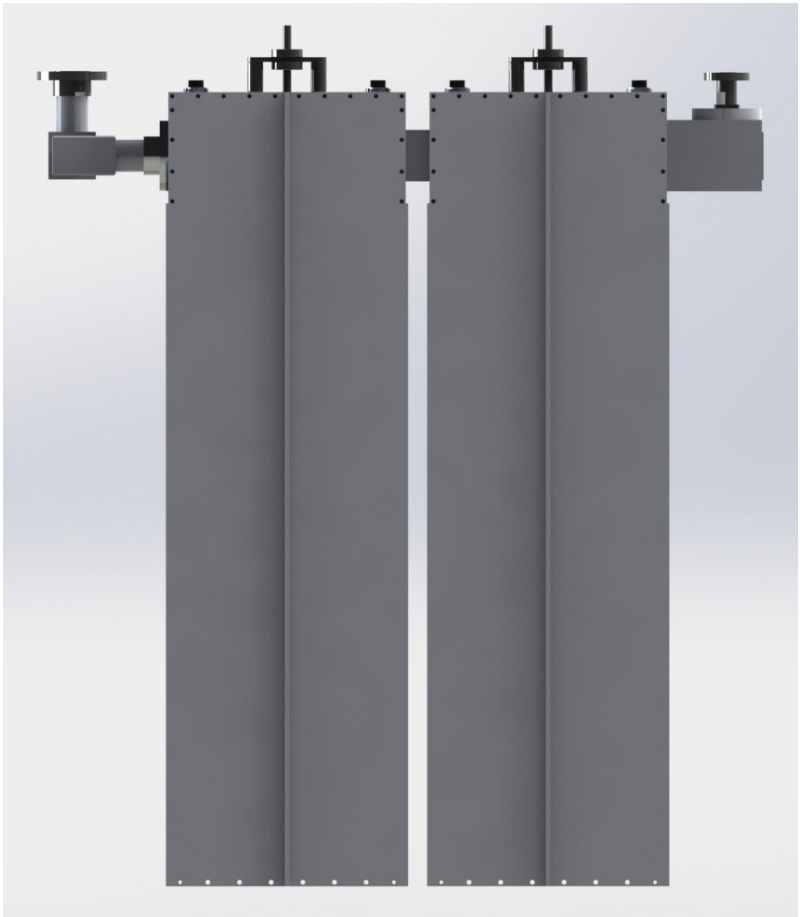
Dimensions	1085(Max size)×780×920 mm (42.7(Max size)×30.7×36.2 inch) (H×L×W)
Net Weight	≅ 90 Kg

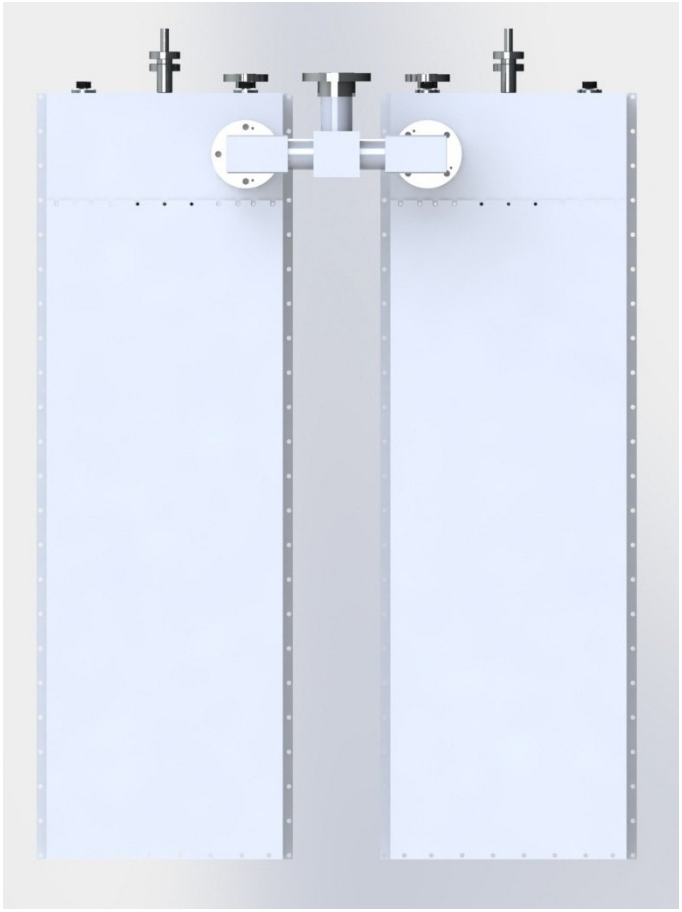
VIEWS OF THE SYSTEM

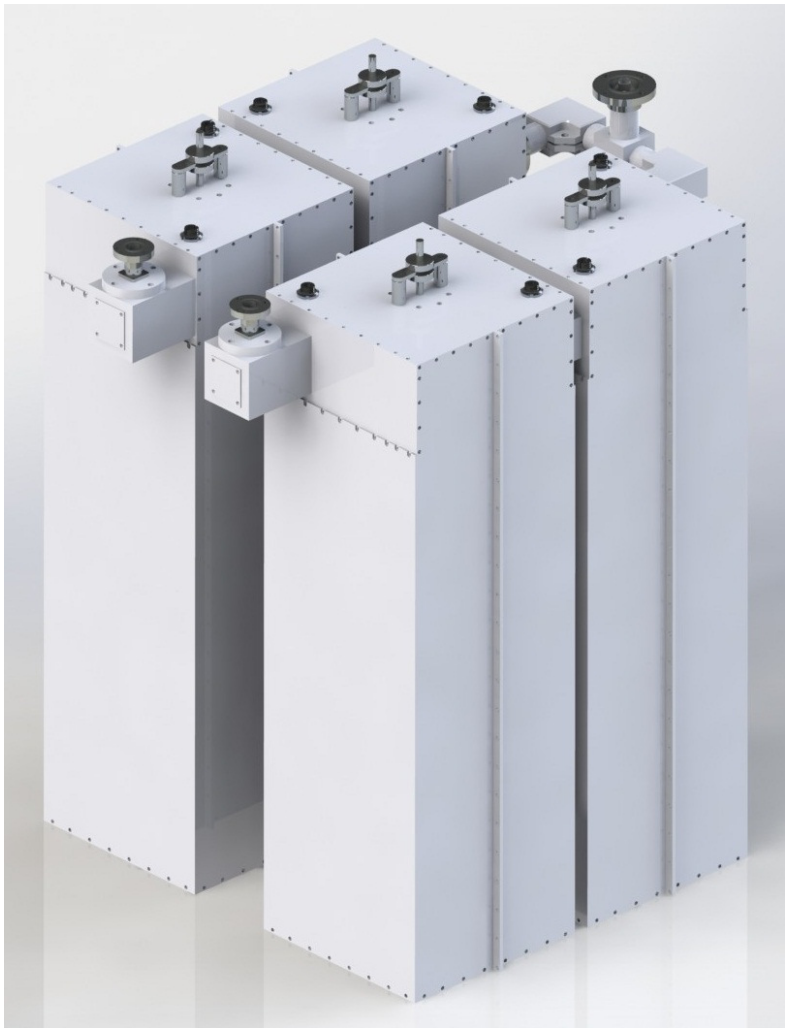




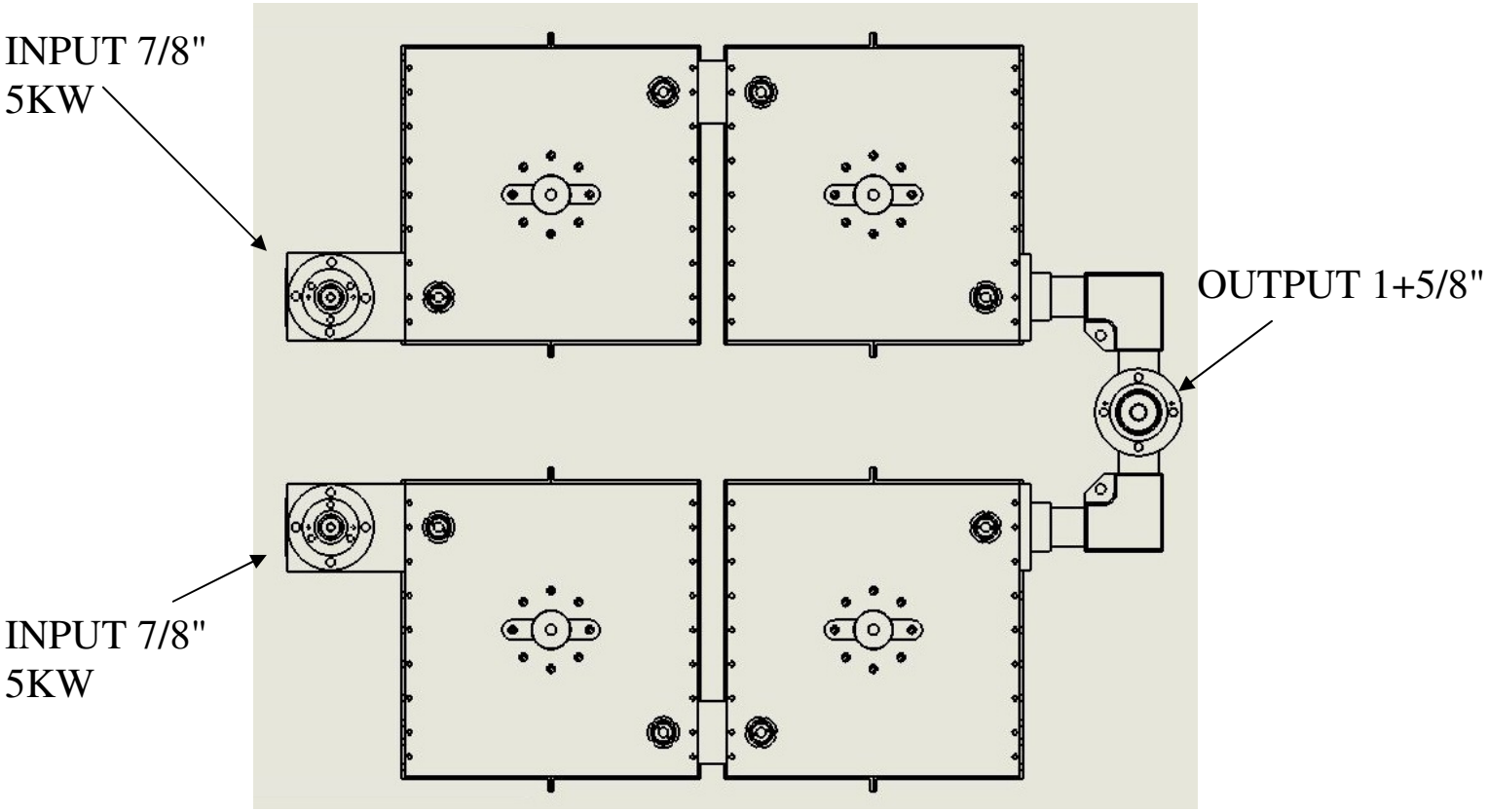








POWER INPUT LAYOUT



MODEL FDCSDC10/C

- **2 CHANNELS COMBINER**
- **IMPEDANCE 50 Ohm**
- **FM BAND *87.5 ÷ 108 MHz***
- **BAND II**
- **STARPOINT TYPE**

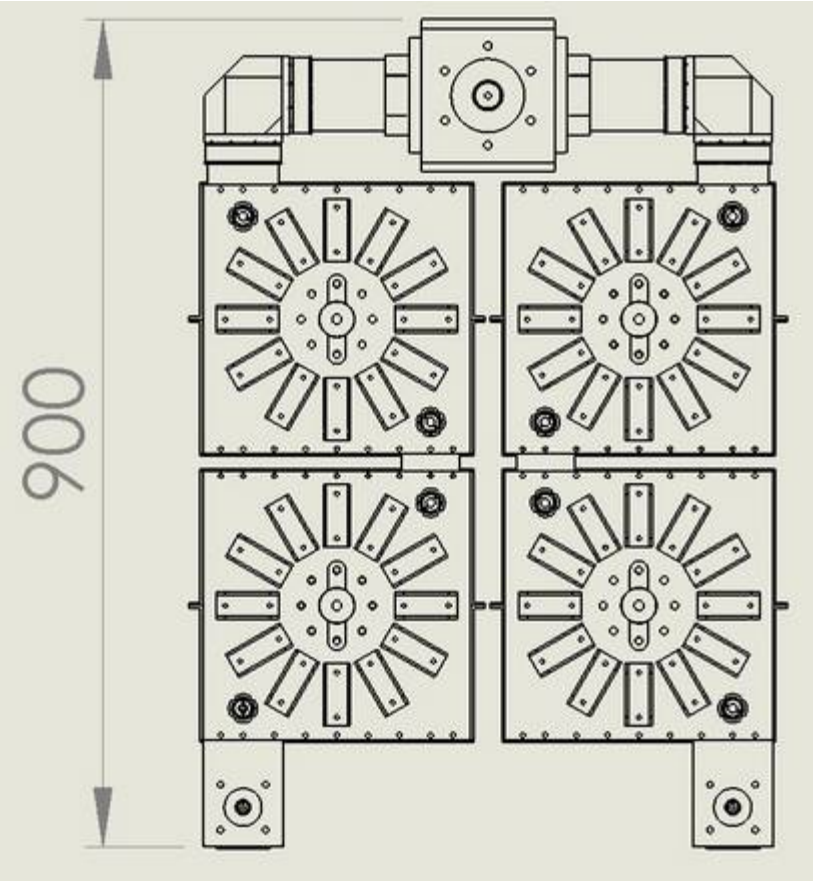
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected. The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

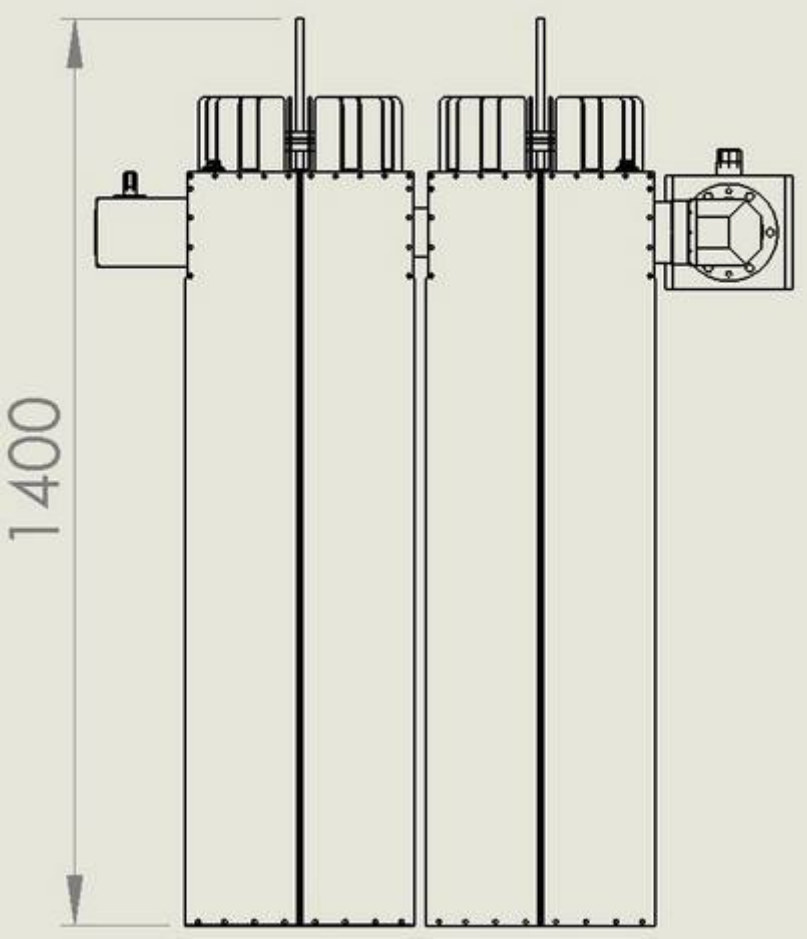
TYPICAL SPECIFICATIONS	
Model	FDCSDC10/C *COMPACT VERSION* – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1 max
Insertion Loss	at f_0 0.10 – 0.15 dB max
Return Loss ±150KHz	≤ -26dB
Isolation ±1.5MHz	≥ 30 dB
Input Number	2
Output Number	1
Connectors	Input 1+5/8" Output 3+1/8" (opt. 1+5/8")
Max Power	10KW × 2 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Bass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

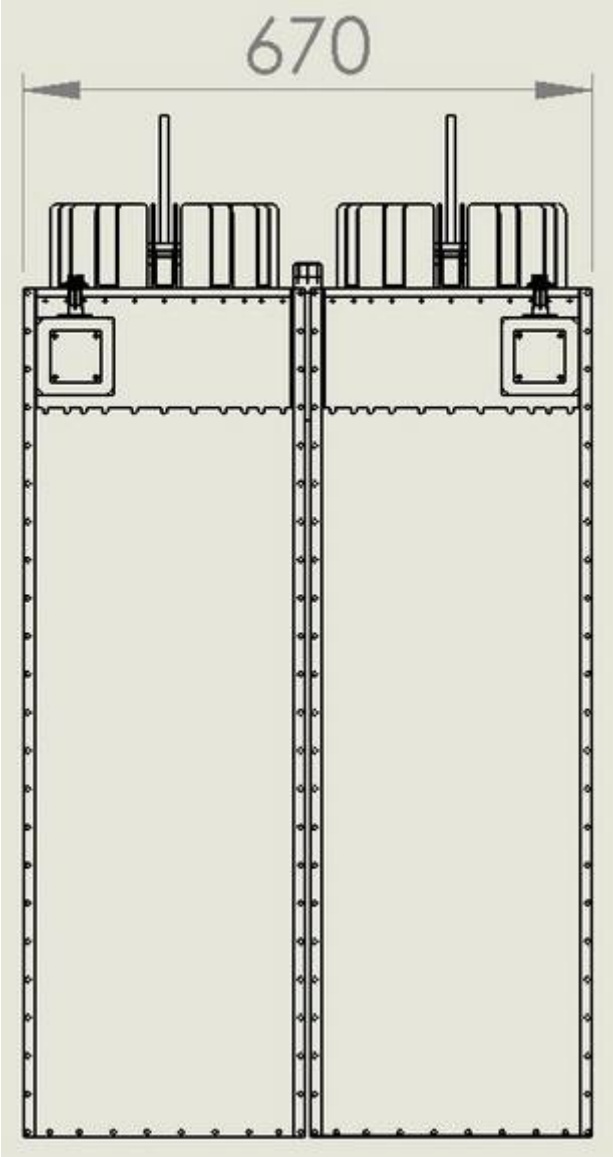
Features:

- Distortion – Free Transmission
- Star-point system with double pass-band cavity filters (standard configurations)
- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

DIMENSIONS (mm)

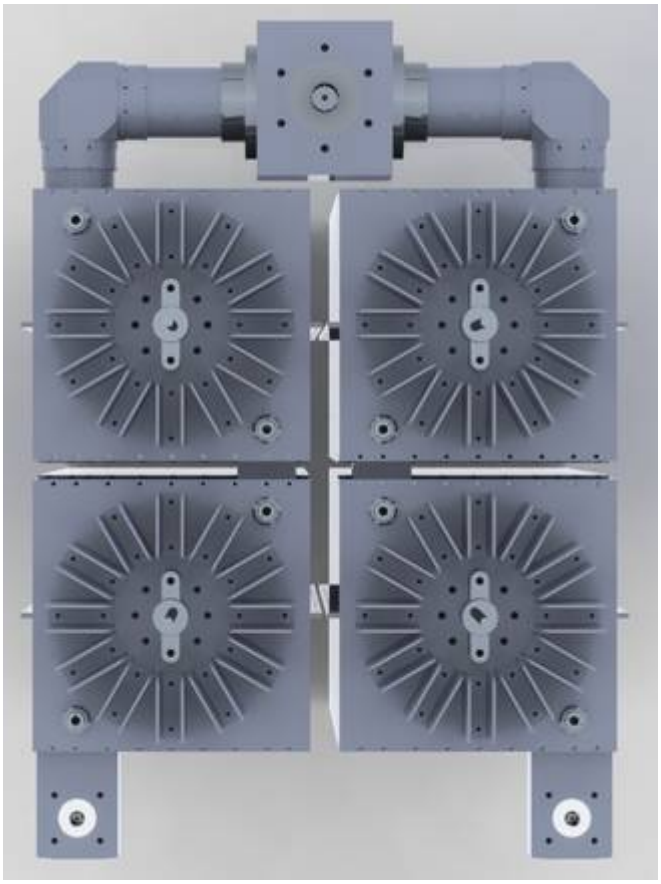


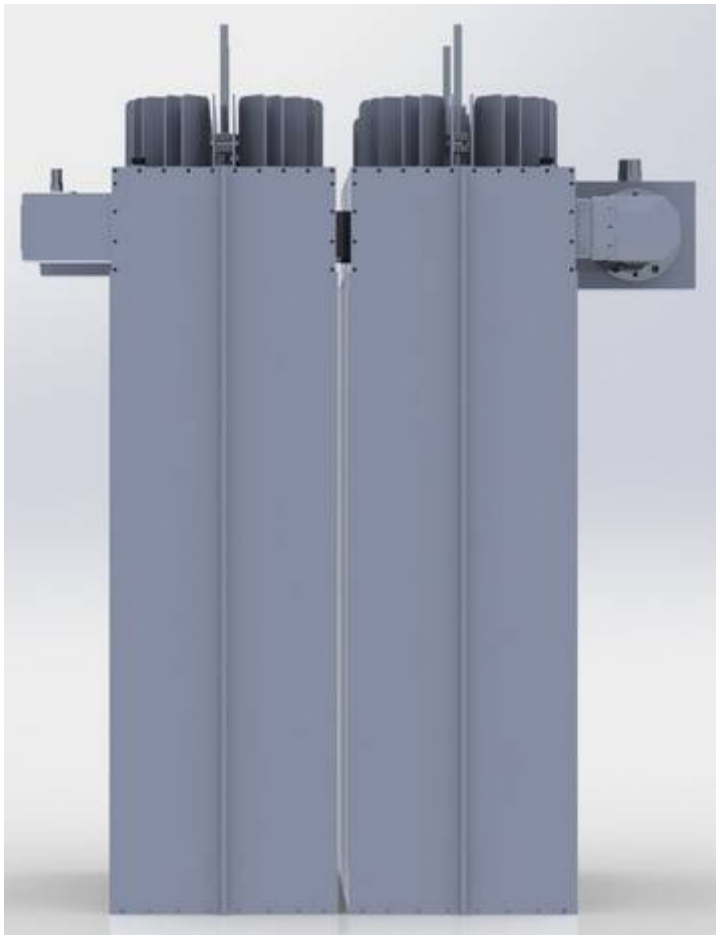


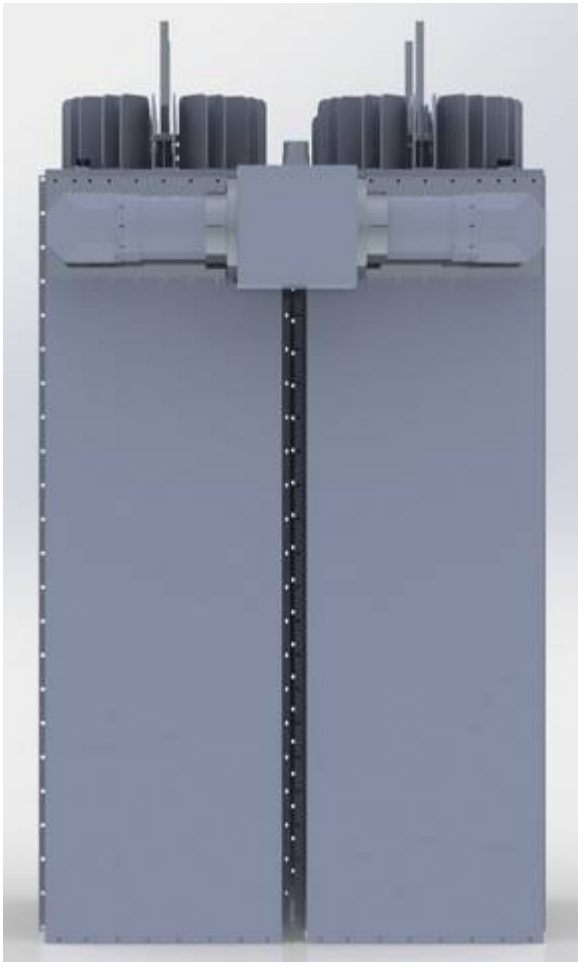


Dimensions	1400 (Max size)×900×670 mm (55.1(Max size)×35.4×26.3inch) (H×L×W)
Net Weight	≅ 120 Kg approx.

VIEWS OF THE SYSTEM







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TELECOMUNICAZIONI FERRARA SRL

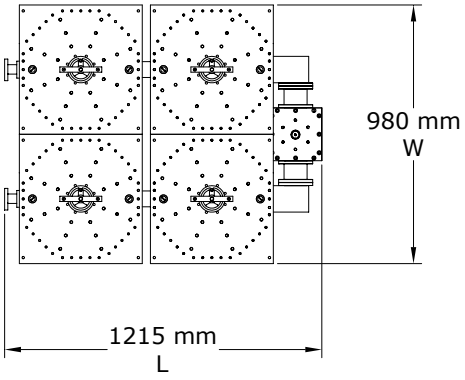
MODEL FDCSDC10

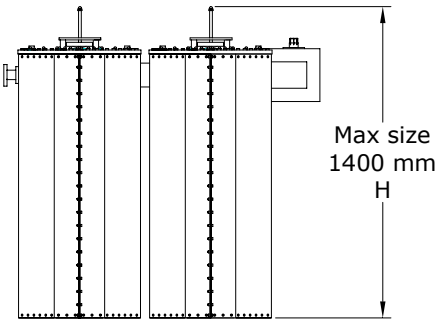
- **COMBINER 2 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FDCSDC10 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1 max
Insertion Loss	at f_0 0.1 dB max
Return Loss ±150KHz	≤ -26dB
Isolation ±1.5MHz	≥ 30 dB
Input Number	2
Output Number	1
Connectors	Input 1+5/8" Output 3+1/8"
Max Power	10KW × 2 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Bass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)





STANDARD CONFIGURATION

Features:

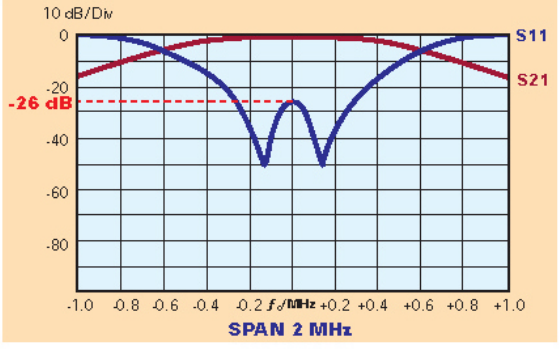
- Distortion – Free Transmission
- Star-point system with double pass-band cavity filters (standard configurations)
- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

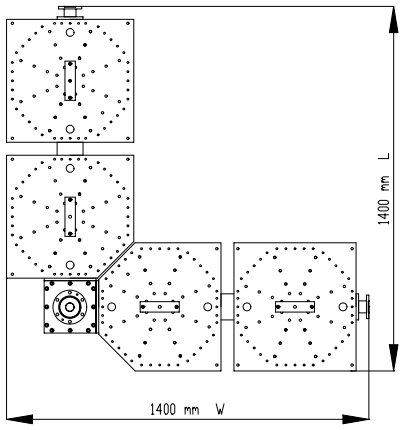
STANDARD CONFIGURATION

Dimensions	1400(Max size)×1215×980 mm (55.1(Max size)×47.8×38.6 inch) (H×L×W)
Net Weight	≅ 150 Kg (double cavity)

OPTIONAL CONFIGURATION

Dimensions	1400(Max size)×1400×1400 mm (55.1(Max size)×55.1×55.1 inch) (H×L×W)
Net Weight	≅ 150 Kg (double cavity)

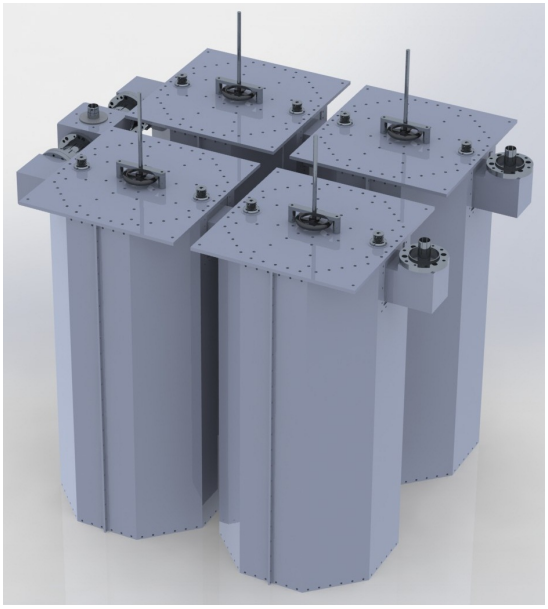




OPTIONAL CONFIGURATION

"These specifications are subject to change without notice"

MODEL FDCSDC20

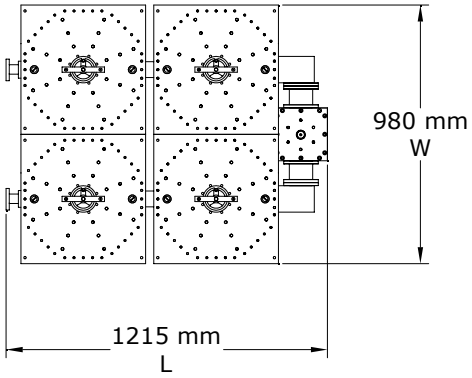


- **COMBINER 2 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

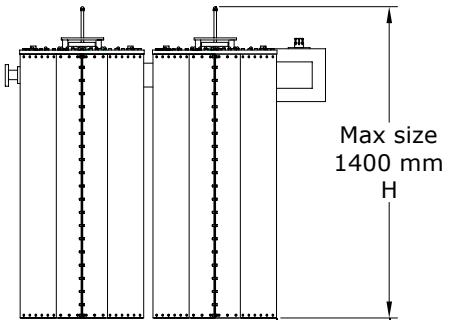
TYPICAL SPECIFICATIONS

Model	FDCSDC20 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1 max
Insertion Loss	at f_0 0.1 dB max
Return Loss ±150KHz	≤ -26dB
Isolation ±1.5MHz	≥ 30 dB
Input Number	2
Output Number	1
Connectors	Input 3+1/8" Output 3+1/8"
Max Power	20KW × 2 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min.12μm thickness)



Features:

- Distortion – Free Transmission
- Star point system with double pass-band cavity filters (standard configurations)
- Star point system with triple pass-band cavity filters
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer



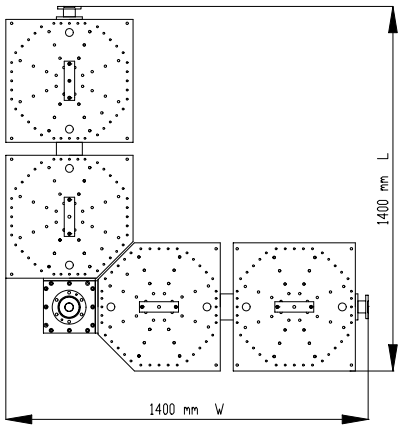
STANDARD CONFIGURATION

STANDARD CONFIGURATION

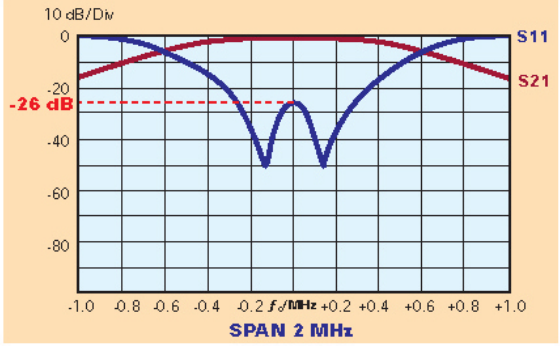
Dimensions	1400(Max size)×1215×980 mm (55.1(Max size)×47.8×38.6 inch) (H×L×W)
Net Weight	≅ 150 Kg (double cavity)

OPTIONAL CONFIGURATION

Dimensions	1400(Max size)×1400×1400 mm (55.1(Max size)×55.1×55.1 inch) (H×L×W)
Net Weight	≅ 150 Kg (double cavity)



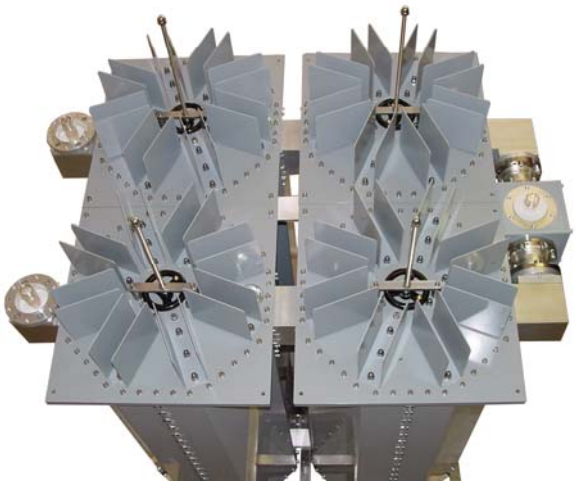
OPTIONAL CONFIGURATION



Typical shape of a curves for S11 and S12 parameters for single filter

"These specifications are subject to change without notice"

MODEL FDCSDC30



- **COMBINER 2 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

SPECIAL VERSION WITH
OUTPUT CONNECTOR 3+1/8"

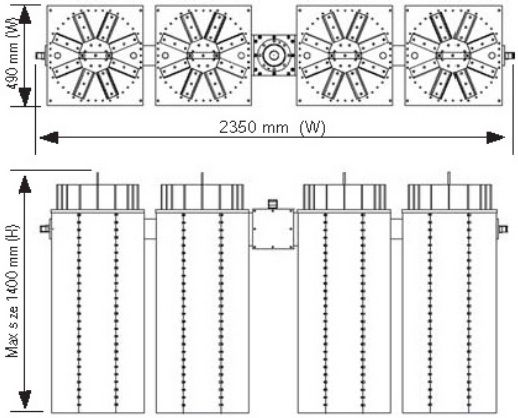
TYPICAL SPECIFICATIONS

Model	FDCSDC30 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1 max
Insertion Loss	at f_0 0.1 dB max
Return Loss ±150KHz	≤ -26dB
Isolation ±1.5MHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	Input 3+1/8" Output 4+1/2" (Opt.6+1/8")
Max Power	30KW × 2 CHANNELS
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

Features:

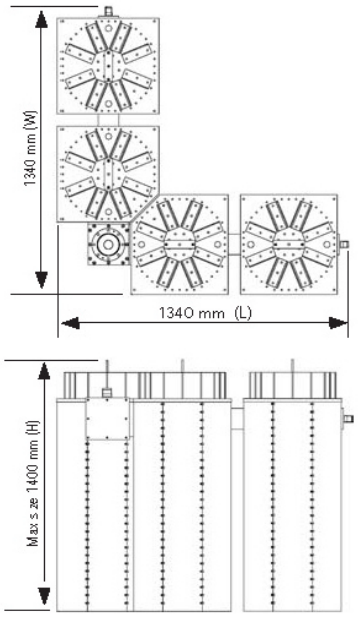
- Distortion – Free Transmission
- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection

Standard Configuration

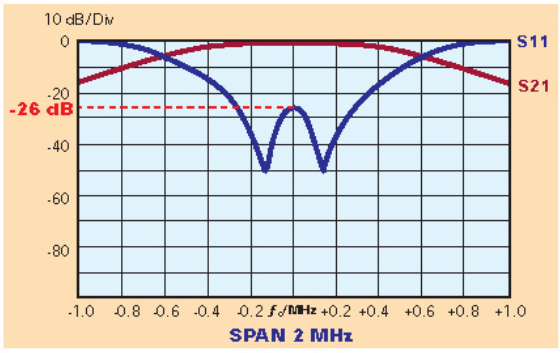


Dimensions	1400(Max size)×2350×490 mm (55.1(Max size)×92.5×19.3 inch) (H×L×W)
Net Weight	≅ 120 Kg (double cavity)

Optional Configuration



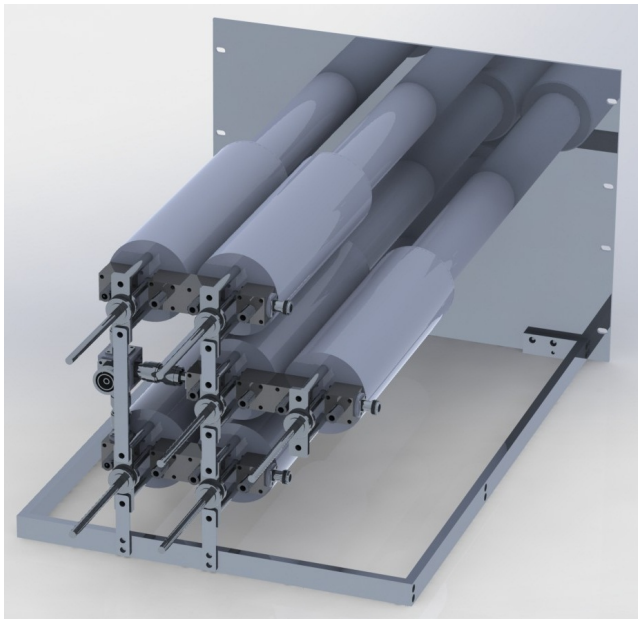
Dimensions	1400(Max size)×1340×1340 mm (55.1(Max size)×52.8×52.8 inch) (H×L×W
Net Weight	≅ 120 Kg (double cavity)



Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FTCSDC03

RACK VERSION (OPTION)



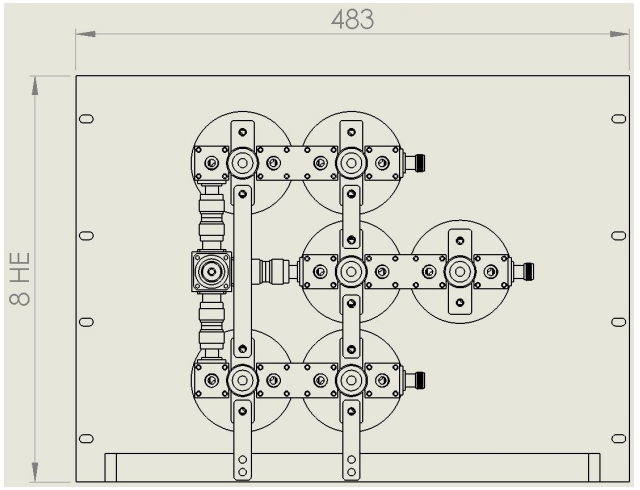
- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION rack mounting**

Model	Input Connector	Output Connector	Power Input	Power Output
FTCSDC03-1	N	N	200W	600W
FTCSDC03-2	N	7/8"	300W	900W

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

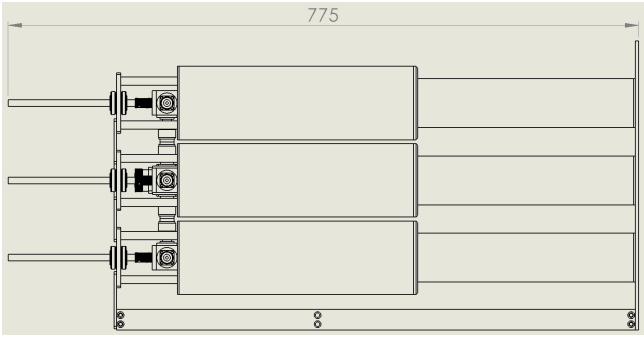
Model	FTCSDC03 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_0 0.6 - 0.7 dB max
Return Loss ±150Khz	≤ -26 dB
Isolation ±2.5MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors Standard	Input N female Output 7/16" *(See table)*
Max Power	300W X 3 Channels (Out 900W)
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Dimensions in mm

Features:

- Distortion – Free Transmission
- Star-point system with Band Pass double cavity filters
- Low loss, high isolation
- Natural convection
- Rack Version Option

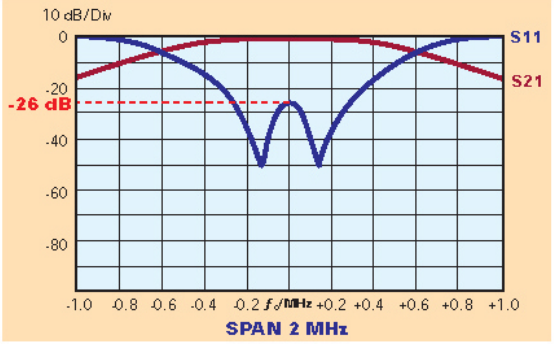


No rack version

Dimensions	280×290×775 mm (11×11.4×30.5 inch) (H×L×W)
Net Weight	≅ 18 Kg

Rack version (optional)

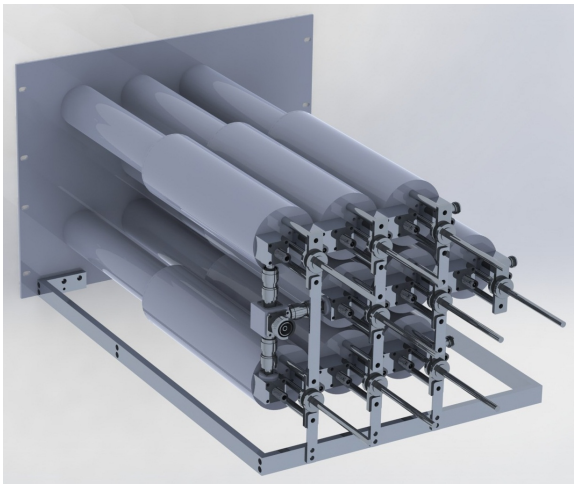
Panel Size	7 HE (1 HE=44,45 mm)
Net Weight	≅ 20 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FTCSTC03

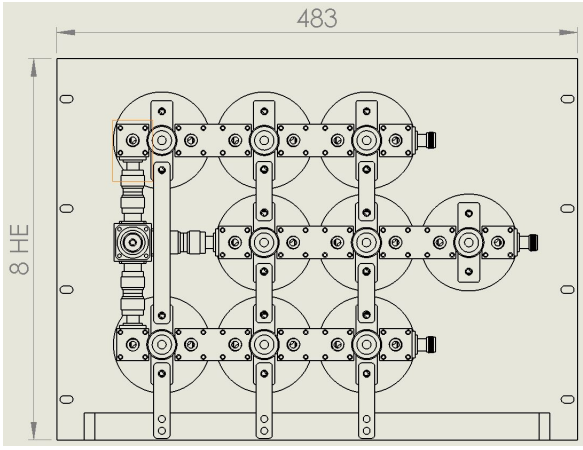
- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **RACK VERSION OPTION**
- **OPTION**



RACK VERSION (OPTION)

Model	Input Connector	Output Connector	Power Input	Power Output
FTCSTC03-1	N	N	200W	600W
FTCSTC03-2	N	7/8"	300W	900W

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected. The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.



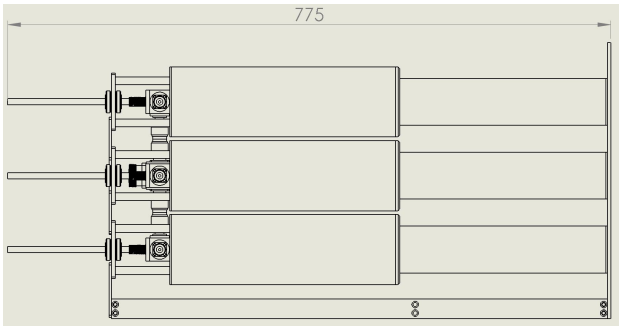
Dimensions in mm

TYPICAL SPECIFICATIONS

Model	FTCSTC03 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1 max
Insertion Loss	at f_0 0.8 dB max (triple cavity)
Return Loss ±150KHz	≤ -26 dB
Isolation ±2MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors	Input N female Output 7/16" (opt. 7/8" EIA)
Max Power	300 W X 3 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

Features:

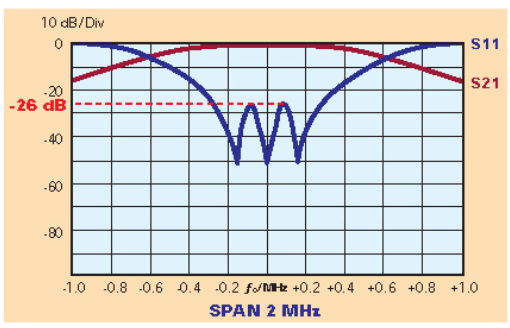
- Distortion – Free Transmission
- Star point system with double pass-band cavity filters
- Star point system with triple pass-band cavity filters (standard configurations)
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- OPTION Group delay equaliser – Equipment Rack Mounting



No rack version	
Dimensions	280×380×775 mm (280×15×30.5 inch) (H×L×W)
Weight	≅ 27 Kg (triple cavity)

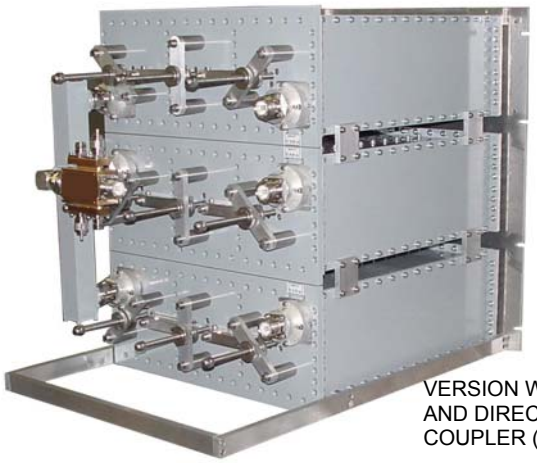
Rack version (optional)	
Panel Size	8 HE (1 HE=44,45 mm)
Weight	≅ 27 Kg (triple cavity)

Typical shape of a curves for S11 and S12 parameters for single filter



MODEL FTCSTC05

- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **RACK VERSION OPTION**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**



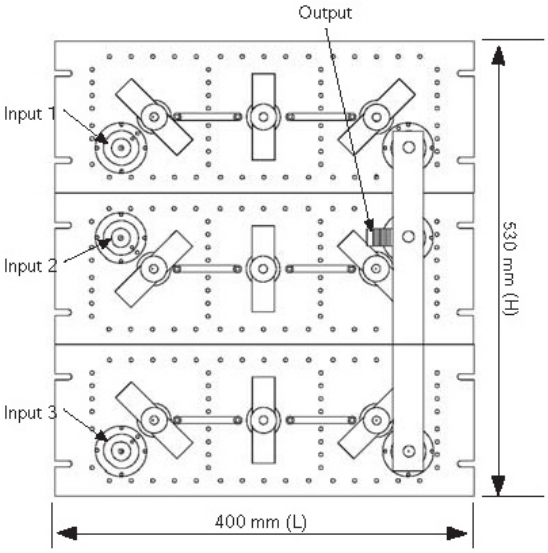
VERSION WITH RACK AND DIRECTIONAL COUPLER (OPTIONS)

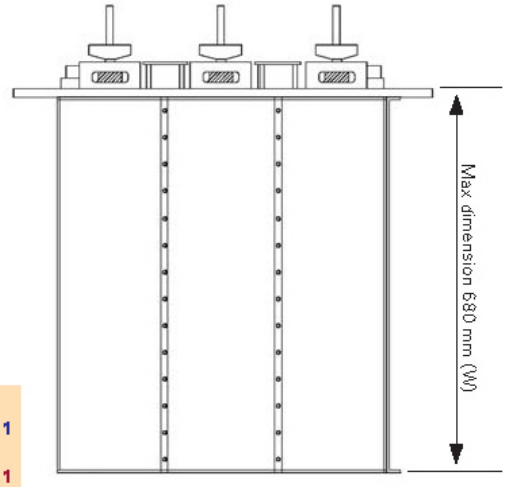
Model	Input Connector	Output Connector	Power Input	Power Output
FTCSTC05-1	7/16"	7/16"	600W	1800W
FTCSTC05-2	7/16"	7/8"	600W	1800W

The star point combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected. The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FTCSTC05 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1 max
Insertion Loss	at f_0 0.65 dB max
Return Loss ±150Khz	≤ -26 dB
Isolation ±2.5MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors Standard	Input N Output 7/16" *(See table)*
Max Power	600 W X 3 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness).





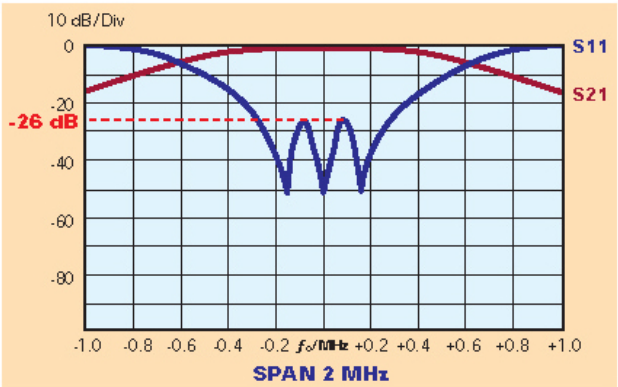
Features:

- Distortion – Free Transmission
- Star point system with triple pass-band cavity filters
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- Modular design
- OPTION Group delay equaliser

No rack version	
Dimensions	530×400×680 mm (20.8×15.7×26.8 inch) (H×L×W)
Net Weight	≅ 70 Kg

Rack version (optional)	
Panel Size	12 HE (1 HE=44,45 mm)
Net Weight	≅ 70 Kg

Typical shape of a curves for S11 and S12 parameters



"These specifications are subject to change without notice"

MODEL FTCSDC2

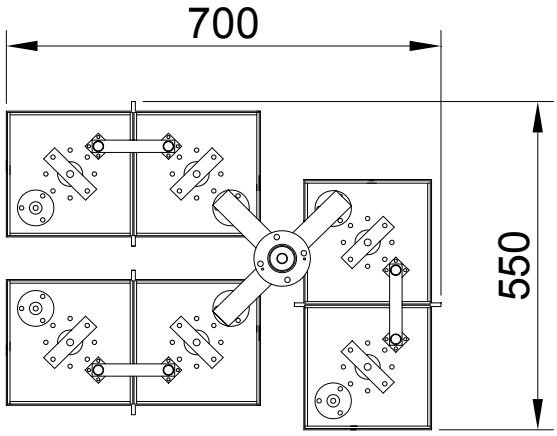
- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FTCSDC2-1	N	7/16"	600W	1800W
FTCSDC2-2	N	7/8"	600W	1800W
FTCSDC2-3	7/16"	7/16"	600W	1800W
FTCSDC2-4	7/16"	7/8"	1.5KW	4.5KW
FTCSDC2-5	7/8"	7/8"	1.5KW	4.5KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected. The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

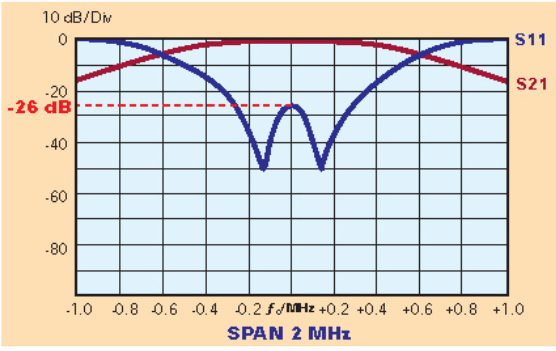
Models	FTCSDC2 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1 max
Insertion Loss	at f_0 0.28 dB max
Return Loss ±150KHz	≤ -26dB
Isolation ±2.5MHz	≥ 30 dB
No. of Input	3
No. of Output	1
Connectors Standard	Input 7/8" Output EIA 1+5/8" (See table)
Max Power	2 KW x 3 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Features:

- Distortion – Free Transmission
- Star point system with double pass-band cavity filters (standard configurations)
- Star point system with triple pass-band cavity filters
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

Dimensions	1300(Max size)×700×550 mm (51.2(Max size)×27.5×21.6 inch) (H×L×W)
Net Weight	≅ 63 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

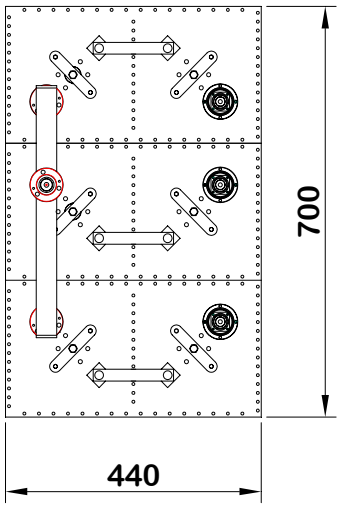
R.V.R. ELETTRONICA

MODEL FTCSDC2R

- **COMBINER 3 CHANNEL**
- **TYPE STAR POINT**
- **FM BAND 87.5-108 MHz**
- **BAND II**
- **RACK VERSION (option)**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FTCSDC2R-1	N	7/16"	600W	1.8KW
FTCSDC2R-2	N	7/8"	600W	1.8KW
FTCSDC2R-3	7/16"	7/16"	660W	2KW
FTCSDC2R-4	7/16"	7/8"	1650W	5KW
FTCSDC2R-5	7/8"	7/8"	1650W	5KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

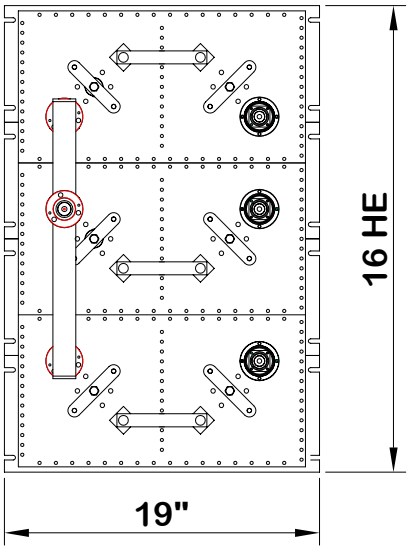


TYPICAL SPECIFICATIONS

Model	FTCSDC2R
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1:1.1 max
Insertion Loss	at f_0 0.25 dB max
Return Loss ±150Khz	≤ -26dB
Isolation ±1,5MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors Standard	Input 7/8" Output 7/8" (See table)
Max Power	2KW × 3 CHANNELS
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

Features:

- Distortion – Free Transmission
- Star point system with double pass-band cavity filters
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer
- Rack version Option

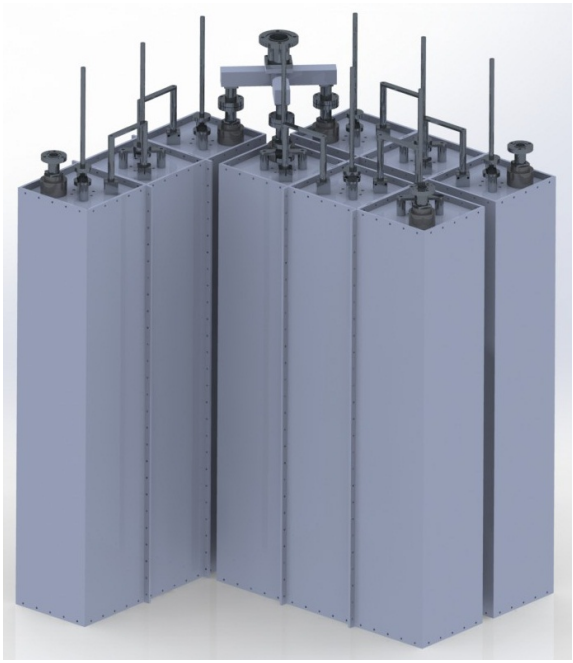


STANDARD VERSION	
Dimensions	710(Max size)×700×440mm (27.9(Max size)×27.6×17.3 inch) (H×L×W)
Net Weight	≅ 60 Kg

VERSION WITH RACK	
Dimensions	16 HE (714(H max) (28.1 (Max size) inch))
Net Weight	≅ 62 Kg

MODEL FTCSTC2

- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

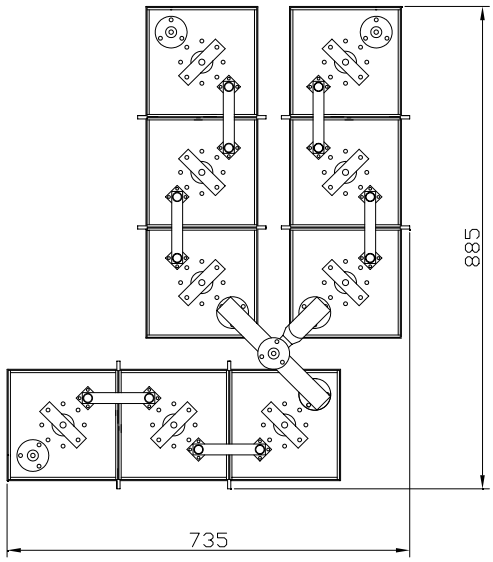


Model	Input Connector	Output Connector	Power Input	Power Output
FTCSTC2-1	N	7/16"	600W	1800W
FTCSTC2-2	N	7/8"	600W	1800W
FTCSTC2-3	7/16"	7/16"	660W	2KW
FTCSTC2-4	7/16"	7/8"	1600W	5KW
FTCSTC2-5	7/8"	1+5/8"	2KW	6KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

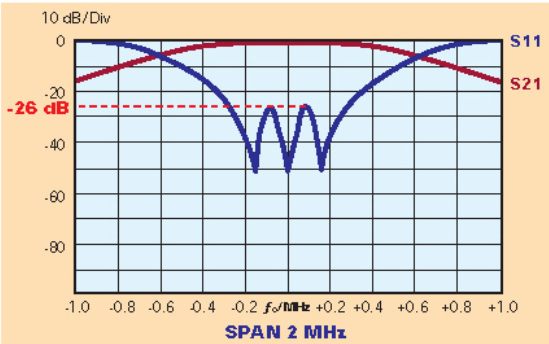
Models	FTCSTC3 – Type STAR POINT	
Impedance	50 Ohm	
Frequency Range	87.5-108 MHz	
VSWR ±150KHz	1.1:1 max	
Insertion Loss	at f_0 0.35 dB max	
Return Loss ±150KHz	≤ -26dB	
Isolation ±1.2 MHz	≥ 30 dB	
No. of Input	3	
No. of Output	1	
Connectors Standard	Input 7/8" Output 1+5/8"	(See table)
Max Power	2KW x 3 Channels	
Working Temperature	-20°C ÷ +50°C	
Colour	Enamel gray ral 7001	
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)	



Features:

- Distortion – Free Transmission
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

Dimensions	1300(Max size)×735×885 mm (51.2(Max size)×28.9×34.8 inch) (H×L×W)
Net Weight	≅ 116 Kg

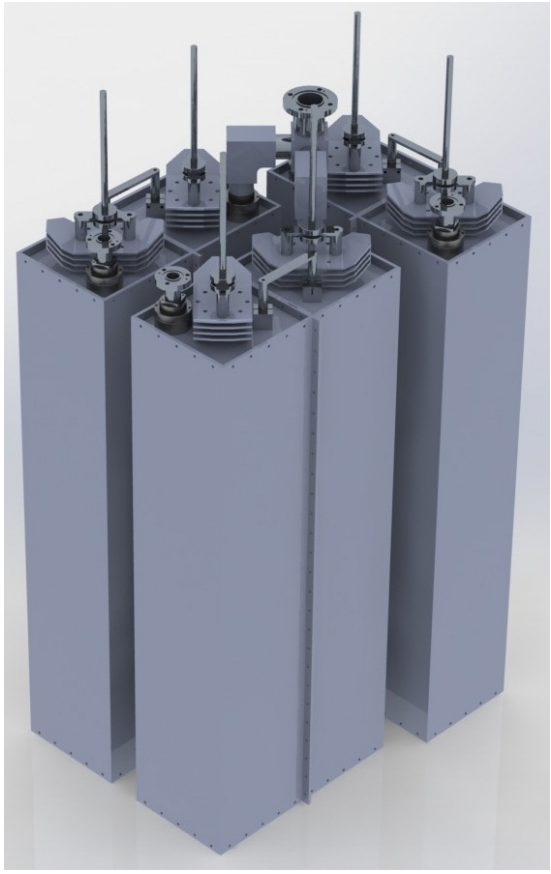


Typical shape of a curves for S11 and S12 parameters for single filter

"These specifications are subject to change without notice"

MODEL FTCSDC3

- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**



Model	Input Connector	Output Connector	Power Input	Power Output
FTCSDC3-1	7/8"	7/8"	1.6KW	5KW
FTCSDC3-2	1+5/8"	1+5/8"	3KW	9KW

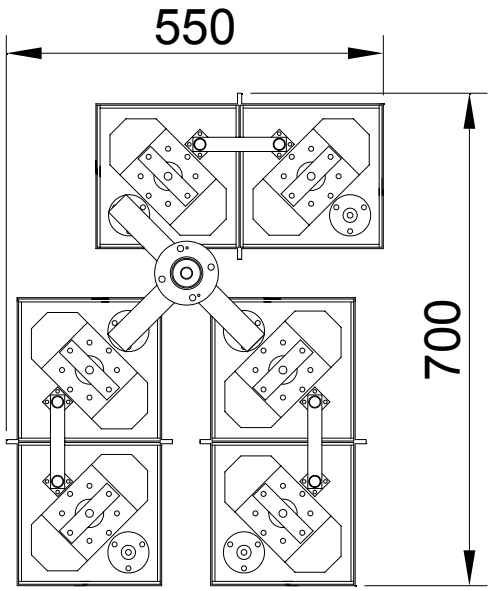
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Models	FTCSDC3– Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1 max
Insertion Loss	at f_0 0.25 dB max
Return Loss ±150KHz	≤ -26dB
Isolation ±2.0MHz	≥ 30 dB
No. of Input	3
No. of Output	1
Connectors Standard	Input EIA 7/8" Output EIA 1+5/8" *(See table)*
Max Power	3KW X 3 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

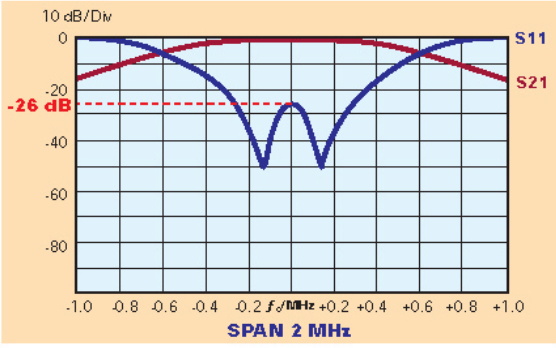
Features:

- Distortion – Free Transmission



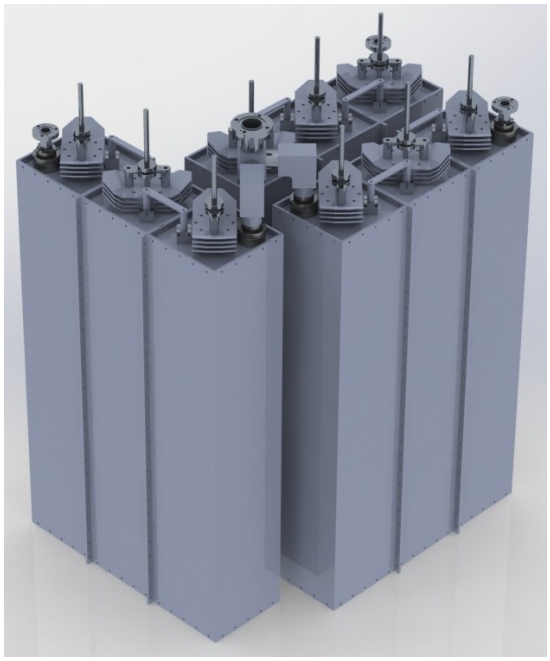
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

Dimensions	1300(Max size)×700×550 mm (51.2(Max size)×27.5×21.6 inch) (H×L×W)
Net Weight	≅ 75 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FTCSTC3



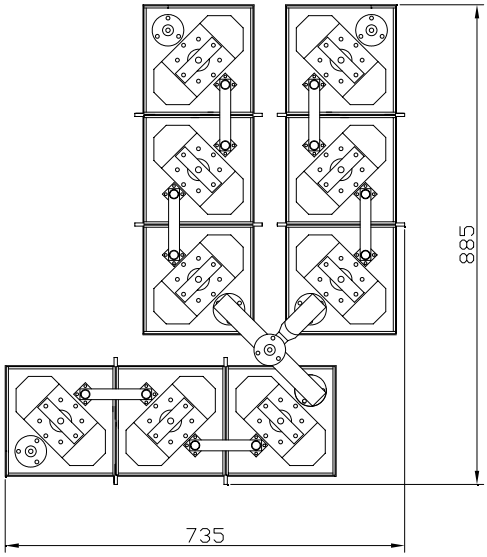
- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FTCSTC3-1	7/8"	7/8"	1.6KW	5KW
FTCSTC3-2	1+5/8"	1+5/8"	3KW	9KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

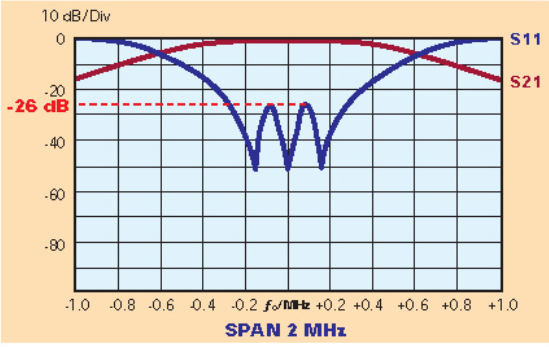
Models	FTCSTC3 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1 max
Insertion Loss	at f_0 0.35 dB max
Return Loss ±150KHz	≤ -26dB
Isolation ±1.2 MHz	≥ 30 dB
No. of Input	3
No. of Output	1
Connectors Standard	Input 7/8" Output 1+5/8" (See table)
Max Power	3KW x 3 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)



Features:

- Distortion – Free Transmission
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

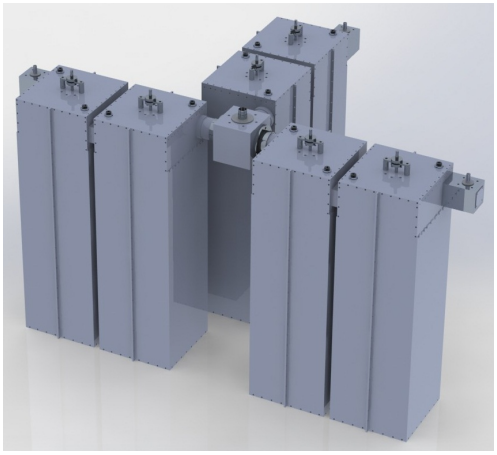
Dimensions	1300(Max size)×735×885 mm (51.2(Max size)×28.9×34.8 inch) (H×L×W)
Net Weight	≅ 116 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

"These specifications are subject to change without notice"

MODEL FTCSDC5



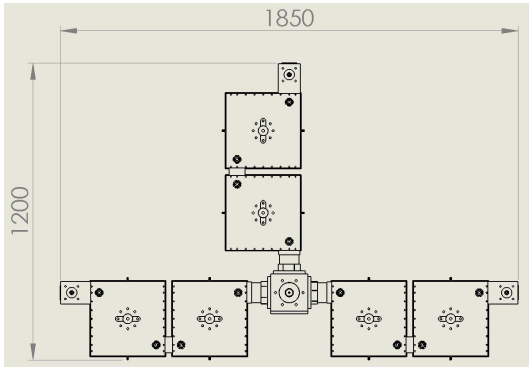
- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FDCSDC5-1	7/8"	1+5/8"	5KW	15KW
FDCSDC5-2	1+5/8"	1+5/8"	5KW	15KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

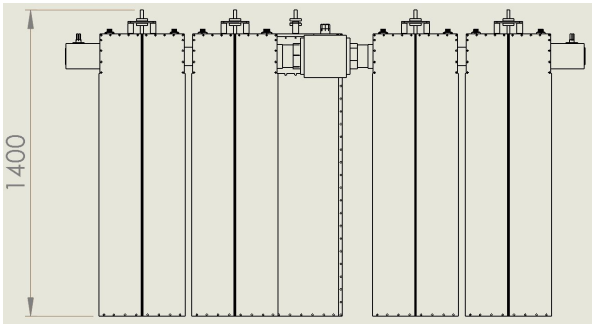
Model	FTCSDC5 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_0 0.15 dB max
Return Loss ±150Khz	≤ -26 dB
Isolation ±1.5 MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors Standard	Input 1+5/8" (See table) Output 3+1/8"
Max Power	5KW × 3 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



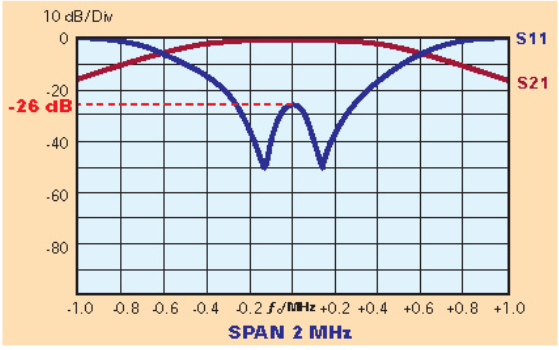
Dimension in mm

Features:

- Distortion – Free Transmission
- Star point system with double pass-band cavity filters
- Star point system with triple pass-band cavity filters (standard configurations)
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- OPTION Group delay equaliser

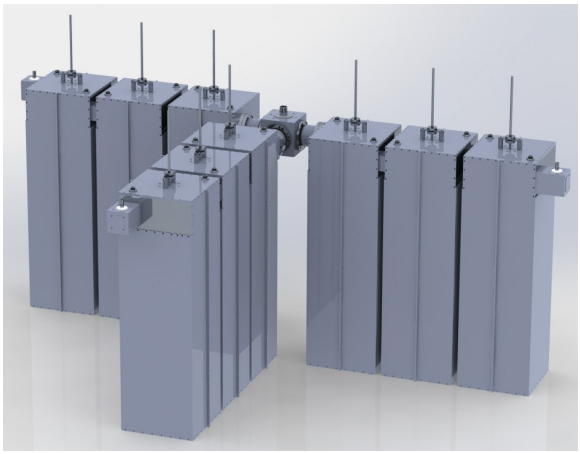


Dimensions	1400(Max size)×1850×1200 mm (55.1(Max size)×72.8×47.2 inch) (H×L×W)
Net Weight	≅ 140 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

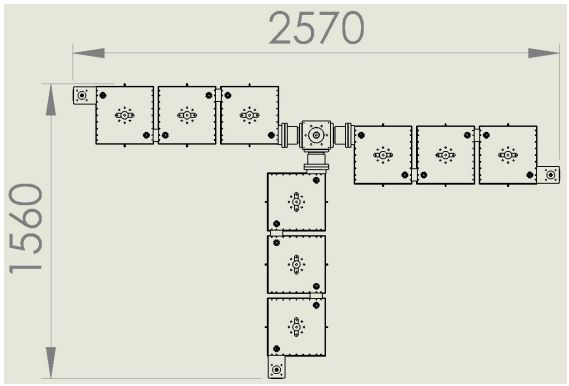
MODEL FTCSTC5



- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FTCSTC5-1	7/8"	1+5/8"	4KW	12KW
FTCSTC5-2	1+5/8"	1+5/8"	4KW	12KW

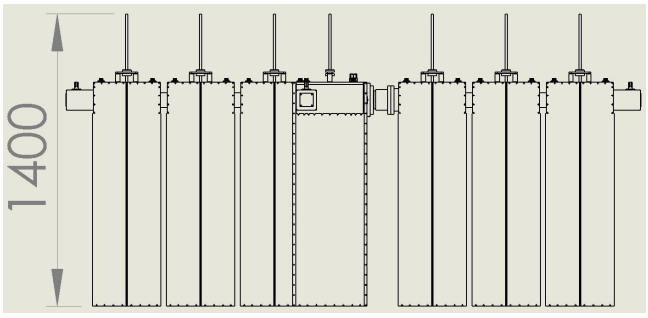
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.



Dimensions in mm

TYPICAL SPECIFICATIONS

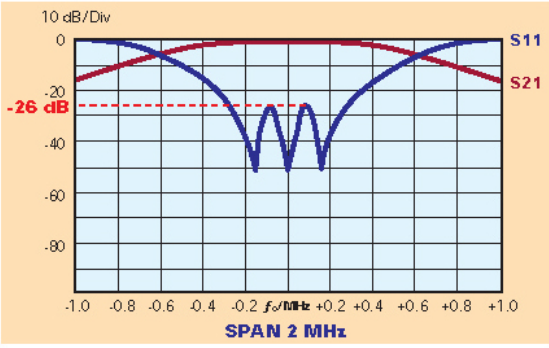
Model	FTCSTC5 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_0 0.25 dB max
Return Loss ±150Khz	≤ -26 dB
Isolation ±1 MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors Standard	Input 1+5/8" (See table) Output 3+1/8"
Max Power	5KW × 3 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Features:

- Distortion – Free Transmission
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- OPTION Group delay equaliser

Dimensions	1400(Max size)×2570×1560 mm (55.1(Max size)×101.1×61.4 inch) (H×L×W)
Net Weight	≅ 185 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FTCSDC10

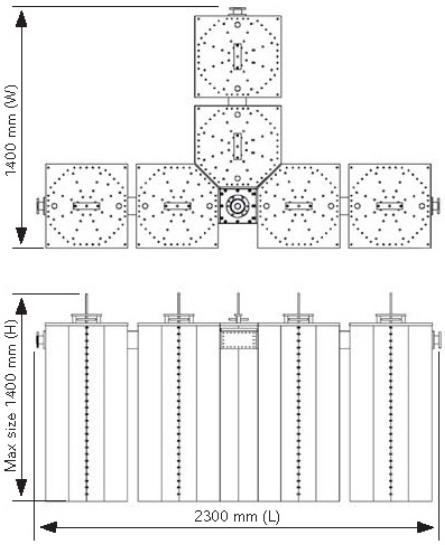
- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5-108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FTCSDC10-1	1+5/8"	3+1/8"	10KW	30KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

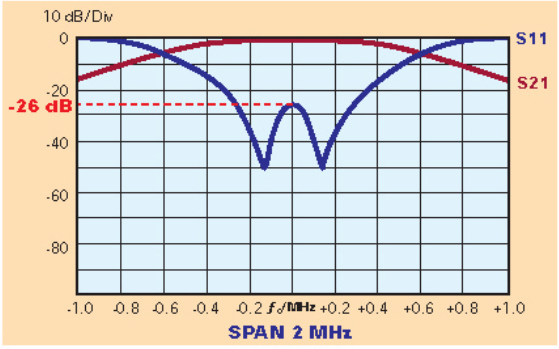
Model	FTCSDC10 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1max
Insertion Loss	at f_0 0.1 dB max
Return Loss ±150KHz	≤ -26dB
Isolation ±1.5MHz	≥ 30 dB
N° of input	3
N° of output	1
Connectors Standard	Input 1+5/8" Output 3+1/8" (See table)
Max Power	10KW × 3 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Features:

- Distortion – Free Transmission
- Star-point system with double pass-band cavity filters (standard configurations)
- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

Dimensions	1400(Max size)×2300×1400 mm (55.1(Max size)×90.6×55.1 inch) (H×L×W)
Net Weight	≅ 185 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FTCSTC10

- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5-108 MHz**
- **BAND II**

Model	Input Connector	Output Connector	Power Input	Power Output
FTCSTC10-1	1+5/8"	3+1/8"	10KW	30KW

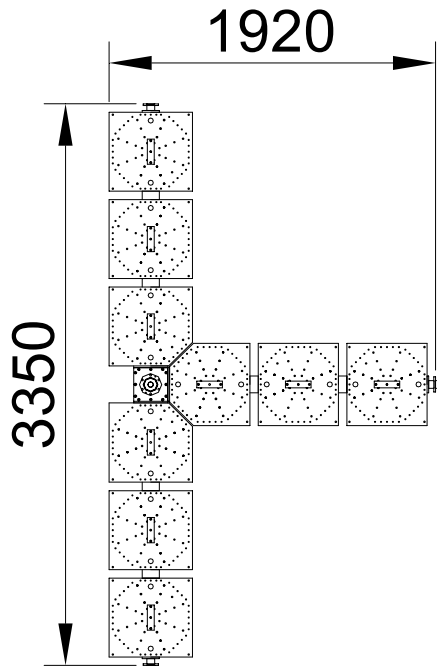
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable bandpass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

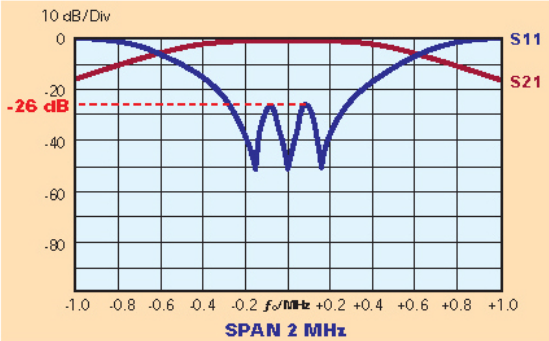
Model	FTCSTC10 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1max
Insertion Loss	at f_0 0.25 dB max
Return Loss ±150KHz	≤ -26dB
Isolation ±1MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors standard	Input-Output 3+1/8" (See table)
Max Power	10KW × 3 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

Features:

- Distortion – Free Transmission
- Starpoint system with triple pass-band cavity filters
- Starpoint system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer



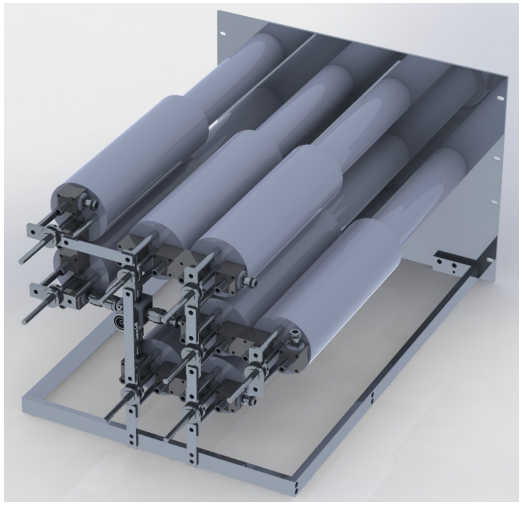
Dimensions	1400(Max size)×3350×1920mm (55.1(Max size)×131.9×75.6inch) (H×L×W)
Net Weight	≅ 270 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FQCSDC03

- **COMBINER 4 CHANNELS**
- **TYPE STAR POINT**
- **RACK VERSION OPTION**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**



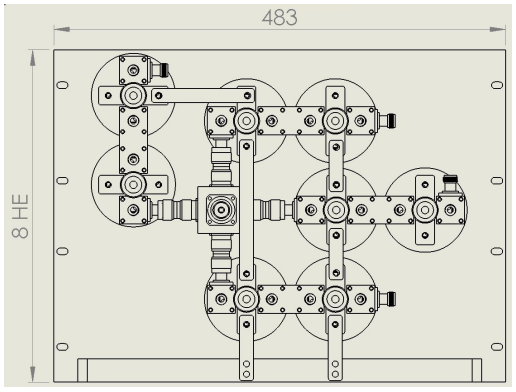
Rack Version (option)

Model	Input Connector	Output Connector	Power Input	Power Output
FQCSDC03-1	N	N	150W	600W
FQCSDC03-2	N	7/8"	200W	800W

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

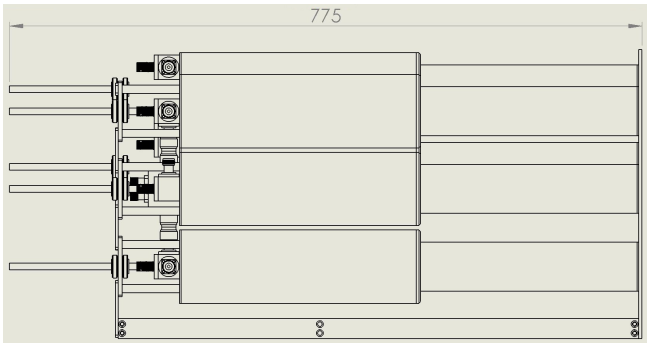
Model	FQCSDC03 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150Khz	1.1:1 max
Insertion Loss	at f_0 0.6 dB max
Return Loss ±150Khz	≤ -26 dB
Isolation ±2.5MHz	≥ 30 dB
No. of Input	4
No. of Output	1
Connectors Standard	Input N female Output 7/16" (See table)
Max Power	200 W × 4 Channels (800W)
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)



Dimensions in mm

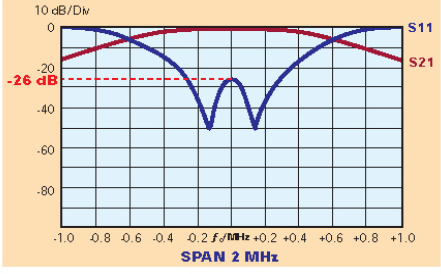
Features:

- Distortion – Free Transmission
- Star point system with double pass-band cavity filters (standard configurations)
- Star point system with triple pass-band cavity filters
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- OPTION Group delay equaliser



No Rack Version	
Dimension	375 x 290 x 775 mm (14.8x11.4x30.5 inch) (HxLxW)
Net Weight	≅ 24 Kg

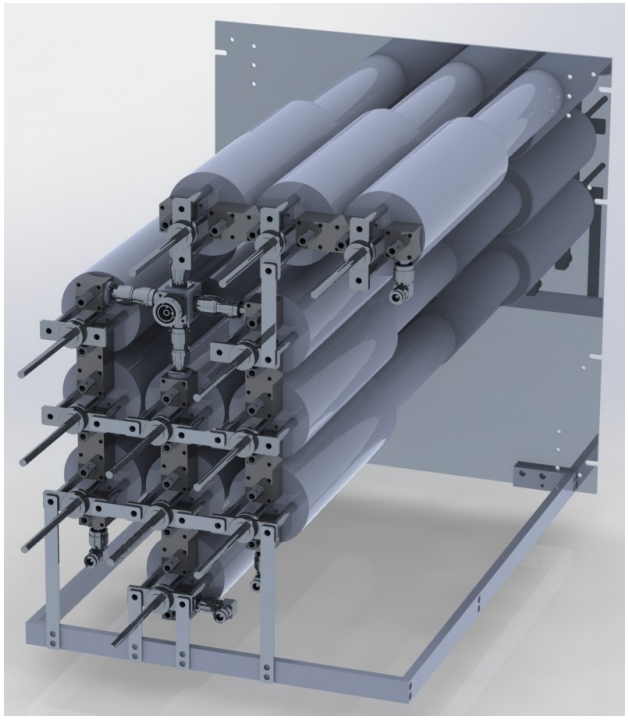
Rack Version	
Panel Size	8 HE (1 HE=44,45 mm)
Weight	≅ 26 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FQCSTC03

- **4 CHANNELS COMBINER**
- **STAR POINT TYPE**
- **FM BAND: 87.5÷108 MHz**
- **BAND II**
- **OPTION rack mounting**



Rack Version (option)

Model	Input Connector	Output Connector	Power Input	Power Output
FQCSTC03-1	N	7/16"	300W	1200W
FQCSTC03-2	N	7/8"	300W	1200W

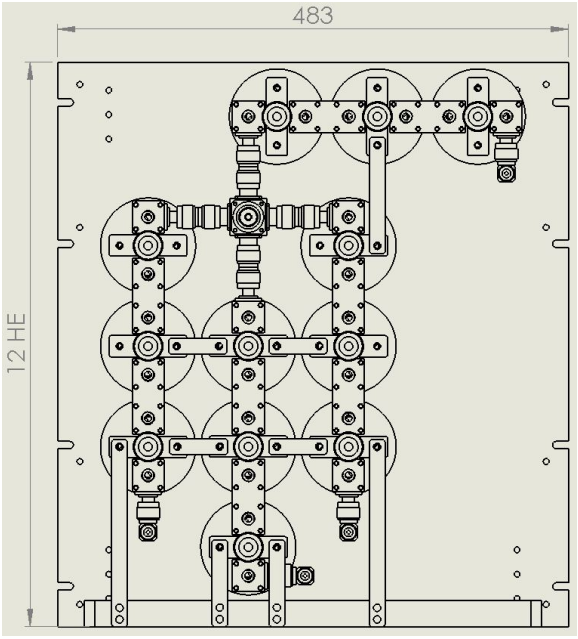
The Star Point combiner basically consists of a parallel connection of several transmitters to a single antenna system through suitable band pass filters, each one tuned on the transmitter frequency to which it's connected.

TYPICAL SPECIFICATIONS

Model	FQCSTC03 – Type Star Point
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150Khz	1.1:1 max
Insertion Loss	at f_0 0.8 dB max
Return Loss ±150Khz	≤ -26 dB
Isolation ±2MHz	≥ 30 dB
Number of Inputs	4
Number of Outputs	1
Standard Connectors	Input N female Output N (See table)
Max Power	150 W x 4 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

Features:

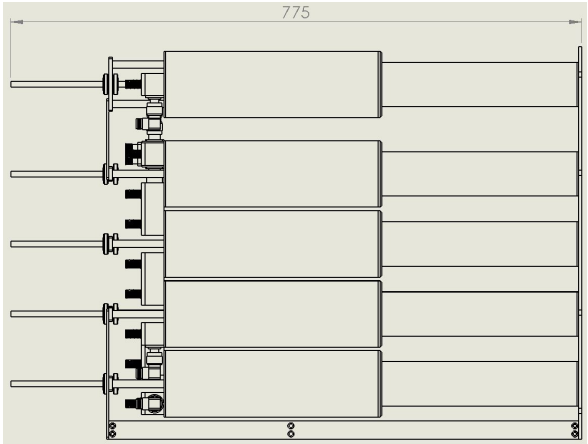
- Distortion – Free Transmission
- Triple Band-Pass Cavity filters
- Low Loss, High Isolation
- Natural convection
- Option whit Rack

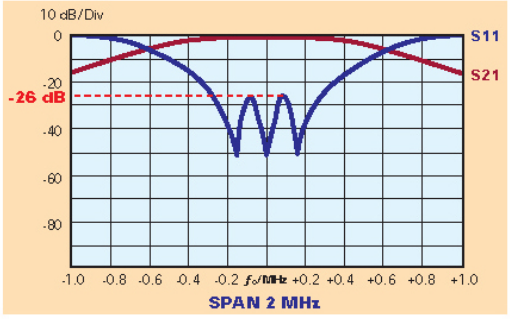


Dimensions in mm

No rack version	
Dimensions	405×500×775 mm (15.9×19.7×30.5 inch) (H×L×W)
Weight	≅ 36 Kg

Rack Version	
Panel Size	12 HE (1 HE=44,45 mm) (534×483 mm (21×19 inch))
Weight	≅ 38 Kg

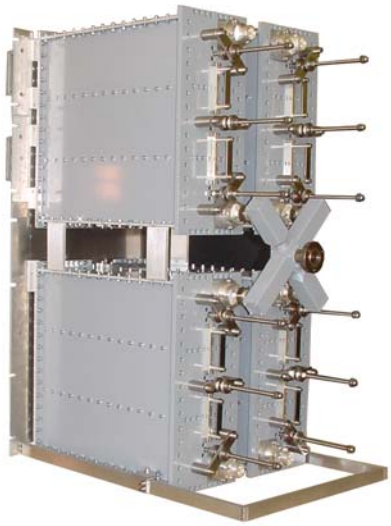




Typical shape of a curves for S11 and S12 parameters for single filter

"These specifications are subject to change without notice"

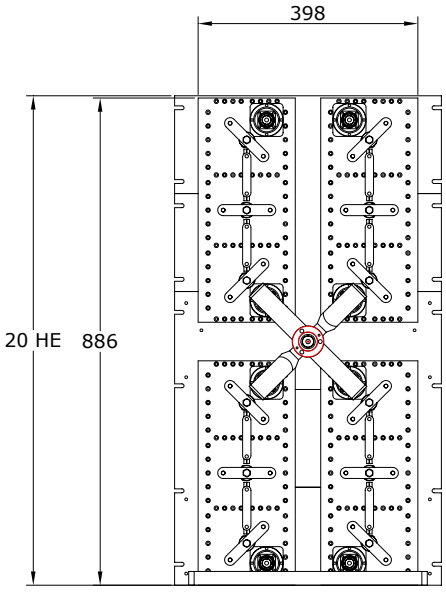
MODEL FQCSTC05



- **COMBINER 4 CHANNELS**
- **STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **RACK VERSION**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FQCSTC05-1	7/16”	7/16”	500W	2KW
FQCSTC05-2	7/16”	7/8”	500W	2KW

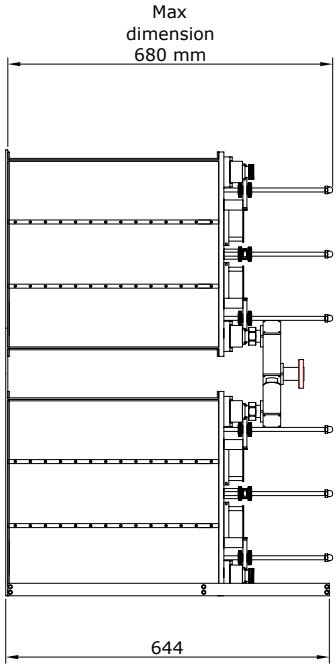
The star point combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it’s connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.



TYPICAL SPECIFICATIONS	
Model	FQCSTC05 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1 max
Insertion Loss	at fo 0.65 dB max
Return Loss ±150Khz	≤ -26 dB
Isolation ±2MHz	≥ 30 dB
No. Input	4
No. Output	1
Standard Connectors	Input N Output 7/16” (See table)
Max Power	500 W X 4 Channels
Working Temperature	-20° ÷ +50°
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness).

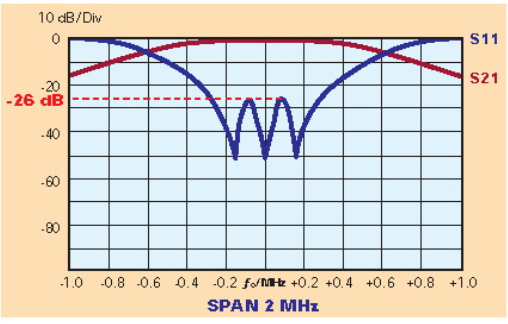
Features:

- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Modular design



Rack size	
Panel Size	20 HE (1 HE=44,45 mm)

Combiner size	
Dimensions	886×398×680 mm (34.9×15.7×26.8 inch) (H×L×W)
Net Weight	≅ 106 Kg (including hardware mounting Rack)



Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FQCSDC3

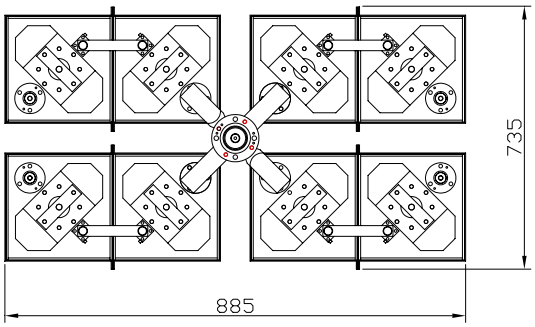
- **COMBINER 4 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FDCSDC3-1	7/8"	7/8"	1.6KW	5KW
FDCSDC3-2	1+5/8"	1+5/8"	3KW	12KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

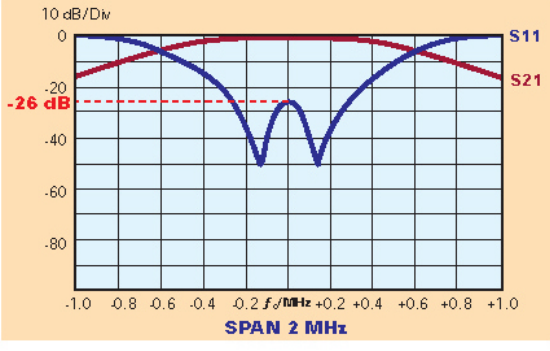
Model	FQCSDC3 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_0 0.25 dB max
Return Loss ±150Khz	≤ -26dB
Isolation ±2MHz	≥ 30 dB
Input Number	4
Output Number	1
Connectors	Input 7/8" Output 1+5/8"
Max Power	3KW × 4 Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Features:

- Distortion – Free Transmission
- Star point system with double pass-band cavity filters (standard configurations)
- Star point system with triple pass-band cavity filters
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group Delay equalizer

Dimensions	1300(Max size)×885×735 mm (51.2(Max size)×34.8×28.9 inch) (H×L×W)
Net Weight	≅ 110 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

"These specifications are subject to change without notice"

MODEL FQCSTC3

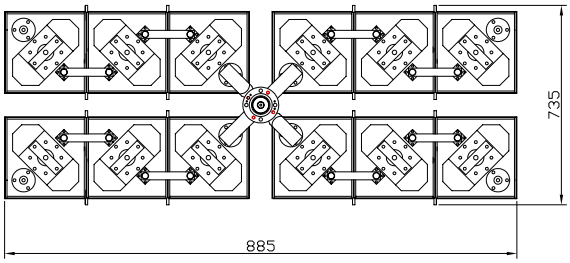
- **COMBINER 4 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FQCSTC3-1	7/8"	7/8"	1.6KW	5KW
FQCSTC3-2	1+5/8"	1+5/8"	3KW	12KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FQCSTC3 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_0 0.35 dB max
Return Loss ±150Khz	≤ -26dB
Isolation ±1.2 MHz	≥ 30 dB
No. of Input	4
No. of Output	1
Connectors	Input 7/8" Output 1+5/8"
Max Power	3KW × 4 Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

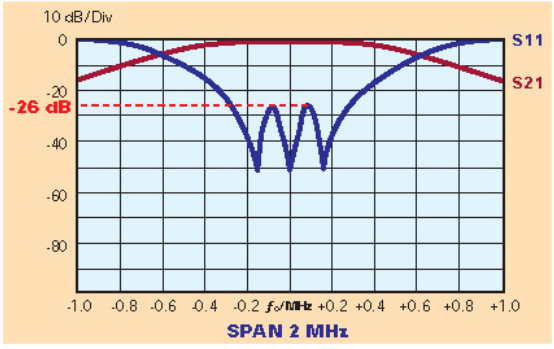


Features:

- Distortion – Free Transmission

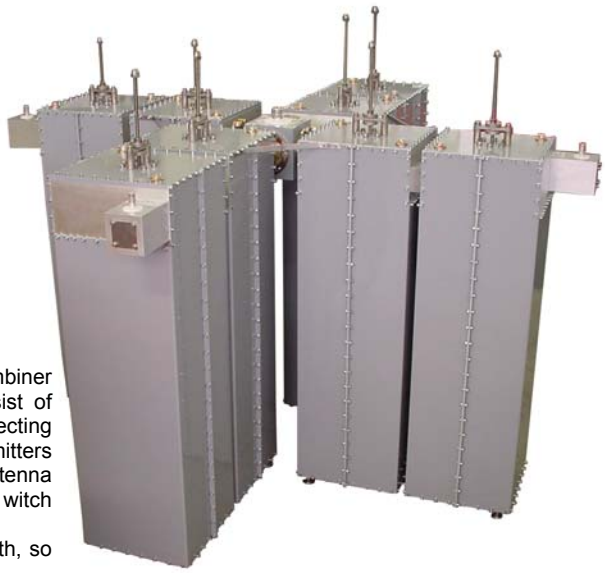
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group Delay equalizer

Dimensions	1300(Maz size)×885×735 mm (51.2(Max size)×34.8×28.9 inch) (H×L×W)
Net Weight	≅ 150 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FQCSDC5



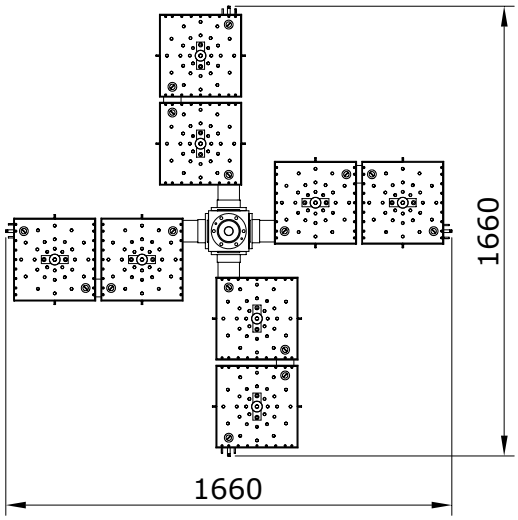
- **COMBINER 4 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FQCSDC5-1	7/8"	1+5/8"	5KW	10KW
FQCSDC5-2	1+5/8"	3+1/8"	5KW	10KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

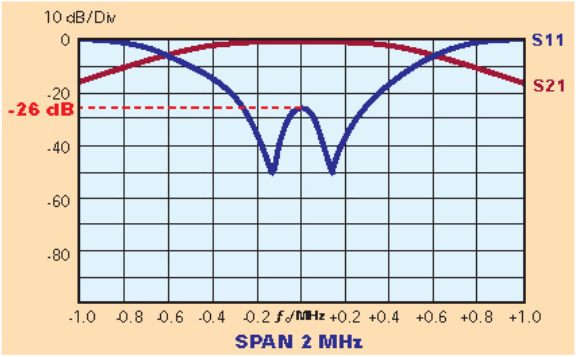
Model	FQCSDC5 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_0 0.15 dB max
Return Loss ±150Khz	≤ -26 dB
Isolation ±2 MHz	≥ 30 dB
No. of Input	4
No. of Output	1
Connectors	Input 1+5/8" Output 3+1/8"
Max Power	6KW × 4 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)



Features:

- Distortion – Free Transmission
- Low loss, high isolation
- Natural convection

Dimensions	1400(Max size)×1660×1660 mm (55.1(Max size)×65.3×65.3 inch) (H×L×W)
Net Weight	≅ 180 Kg



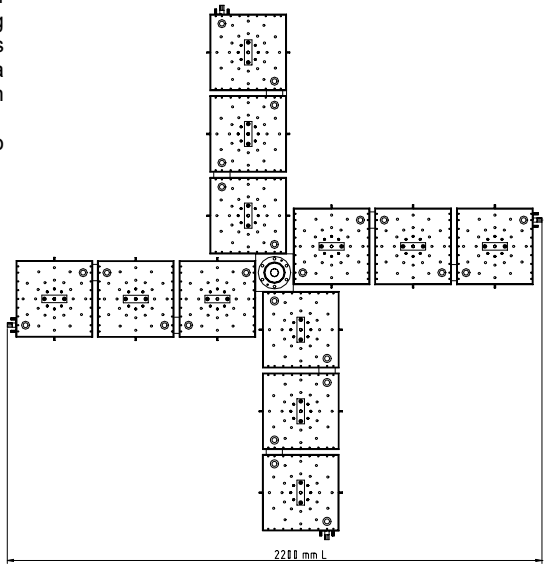
Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FQCSTC5

- **COMBINER 4 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

Model	Input Connector	Output Connector	Power Input	Power Output
FQCSTC5-1	7/8"	1+5/8"	3KW	12KW
FQCSTC5-2	1+5/8"	1+5/8"	3KW	12KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.



TYPICAL SPECIFICATIONS

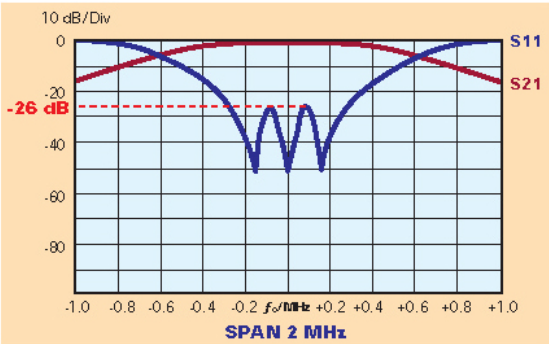
Model	FQCSTC5 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_0 0.25 dB max
Return Loss ±150Khz	≤ -26 dB
Isolation ±1 MHz	≥ 30 dB
Input Number	4
Output Number	1
Standard Connectors	Input 1+5/8" Output 3+1/8"
Max Power	5KW × 4 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

Features:

- Distortion – Free Transmission

- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- OPTION Group delay equaliser

Dimensions	1400(Max size)×2200×2200 mm (55.1(Max size)×86.6×86.6 inch) (H×L×W)
Net Weight	≅ 260 Kg



Typical shape of a curves for S11 and S12 parameters for single filter

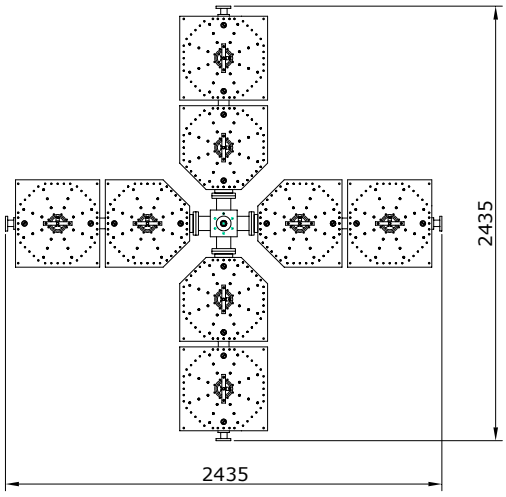
MODEL FQCSDC10

- **COMBINER 4 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

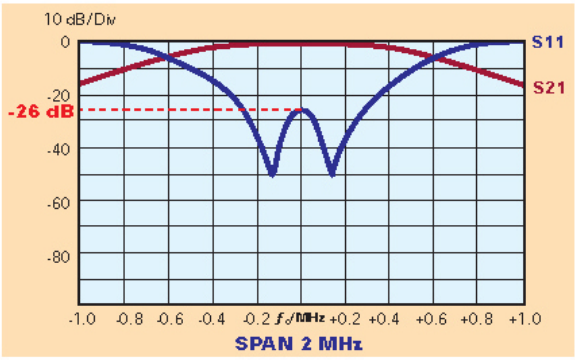
Model	FQCSDC10 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1max
Insertion Loss	at f_0 0.1 dB max
Return Loss ±150KHz	≤ -26dB
Isolation ±1.5MHz	≥ 30 dB
Input Number	4
Output Number	1
Connectors	Input 1+5/8" (Opt. 3+1/8") Output 3+1/8" (Opt. 4+1/2")
Max Power	10KW × 4 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Features:

- Distortion – Free Transmission
- Star point system with double pass-band cavity filters (standard configurations)
- Star point system with triple pass-band cavity filters
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

Dimensions	1400(Max size)×2435×2435 mm (55.1(Max size)×95.8×95.8 inch) (H×L×W)
Net Weight	≅ 240 Kg

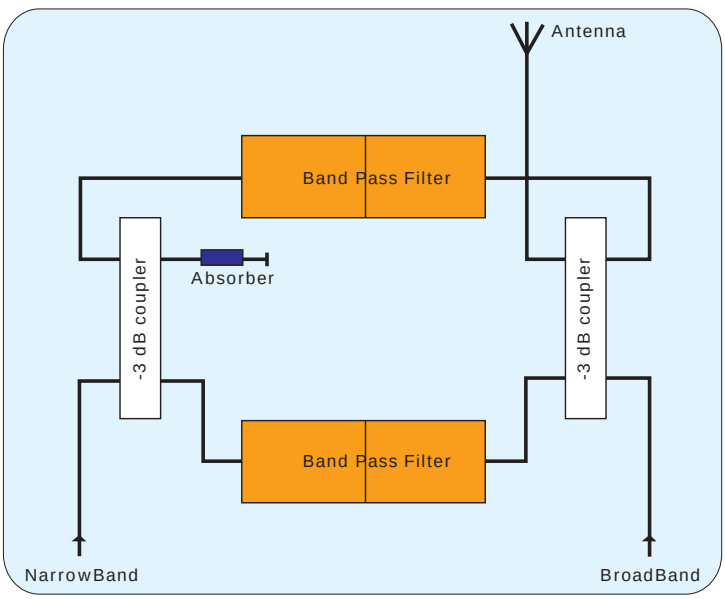


Typical shape of a curves for S11 and S12 parameters for single filter

Description of a Double Balanced Bridge

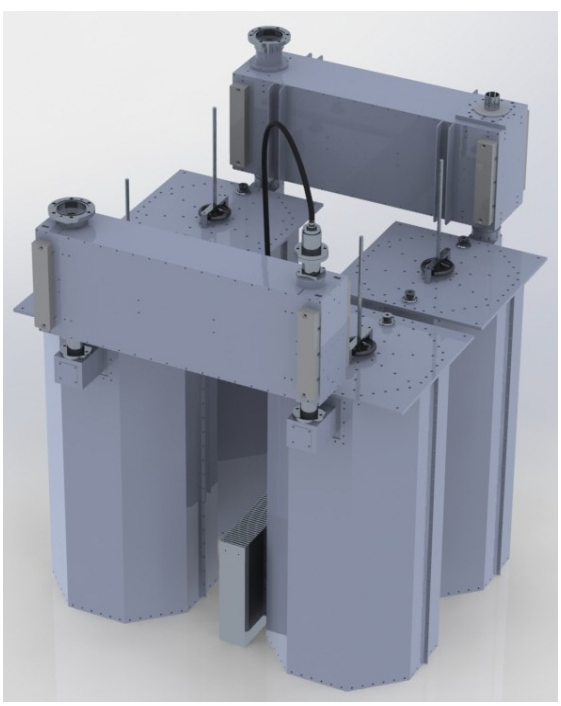
The double balanced bridge consist of units, each comprising two band pass filters, two 3 dB couplers an and a dummy resistors (absorber).

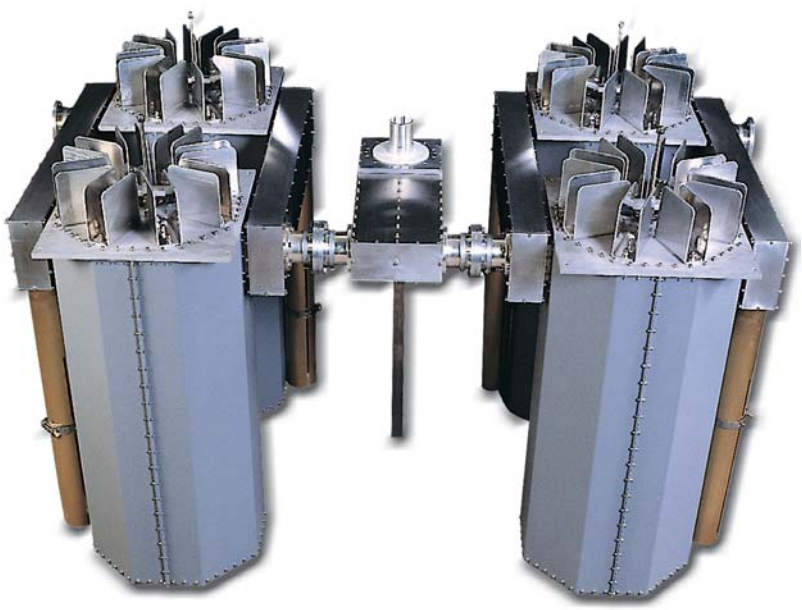
- One of both inputs has a narrow band characteristic, while the remaining input features a broadband characteristic.
- Frequency independent input impedance
- The frequency at the broadband input can be varied without retuning of the pass-band cavity filters.
- The broadband input can be used as spare input for expansion without requiring modification of the existing pass-band cavity filters.
- If only narrow band input is being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacings.



Schematic block of double bridge diplexer

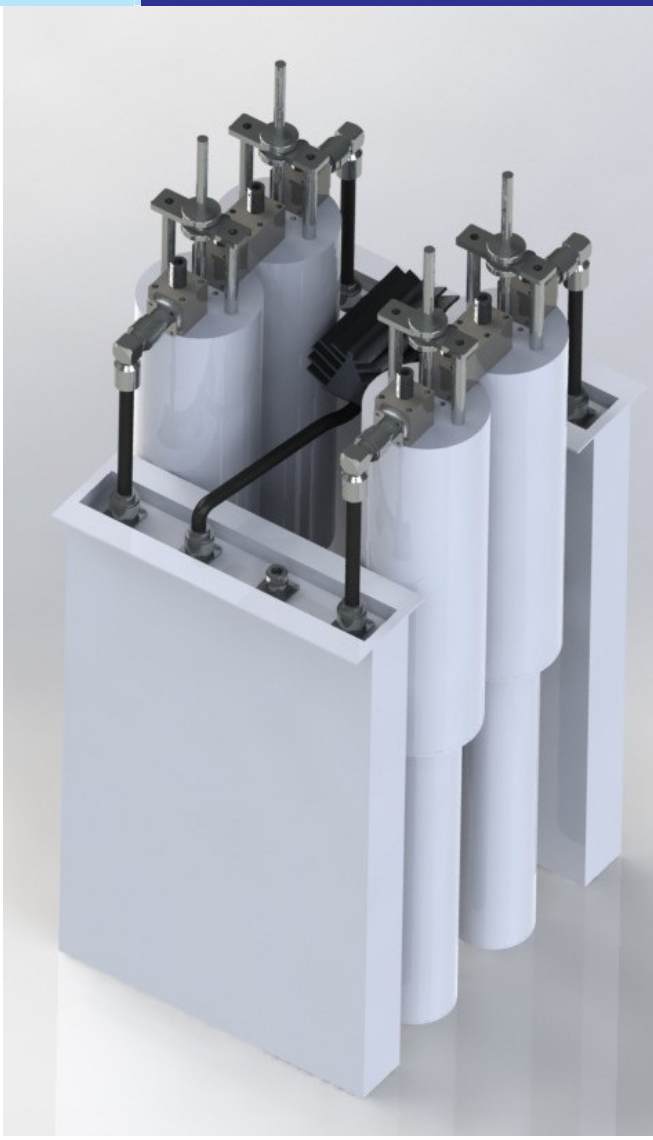
The double bridge filter is factory tuned. When ordering, please specify the desired operating channel for the narrow band input. The broadband input accepts, however, any frequency range.
The devices can also be tuned by the customer.
Detailed instructions and adjustment tools are supplied with each unit.





This type of filters is executable in triple and quadruple cavity version

MODEL FDDPDC03



- **COMBINER 2 CHANNELS**
- **DOUBLE BALANCED BRIDGE**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **RACK VERSION (OPTIONAL)**

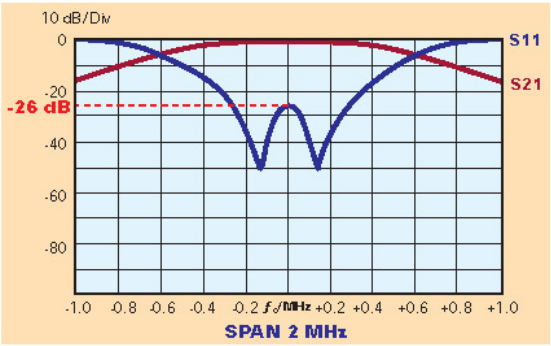
The double balanced bridge system consist of two band-pass filter, two -3dB coupler and a absorber. One of both inputs has a narrow-band characteristic (complying with the pass-band functions of the band pass filters), while the remaining input features a broadband characteristic within the operating frequency range of -3dB couplers, both inputs exhibits a frequency independent load impedance to the RF source.

TYPICAL SPECIFICATIONS

Model	FDDPDC03 – Type DOUBLE BRIDGE
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150Khz	1.1:1 max
Insertion Loss	at f_0 0.65 – 0.75 dB max (Narrow Band Input) 0.1 dB Max (Broad Band Input)
Return Loss ±150Khz	≤ -26 dB
Isolation ±3MHz	≥ 30 dB
Input Number	2 (Narrow Band + Broad Band)
Output Number	1
Connectors	Input N female – 7/16" – 7/8" Output N - 7/16" – 7/8"
Max Power	300 W X 2 Channels
Working Temperature	-20℃ ÷ +50℃
Colour	Silver
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12µm thickness)

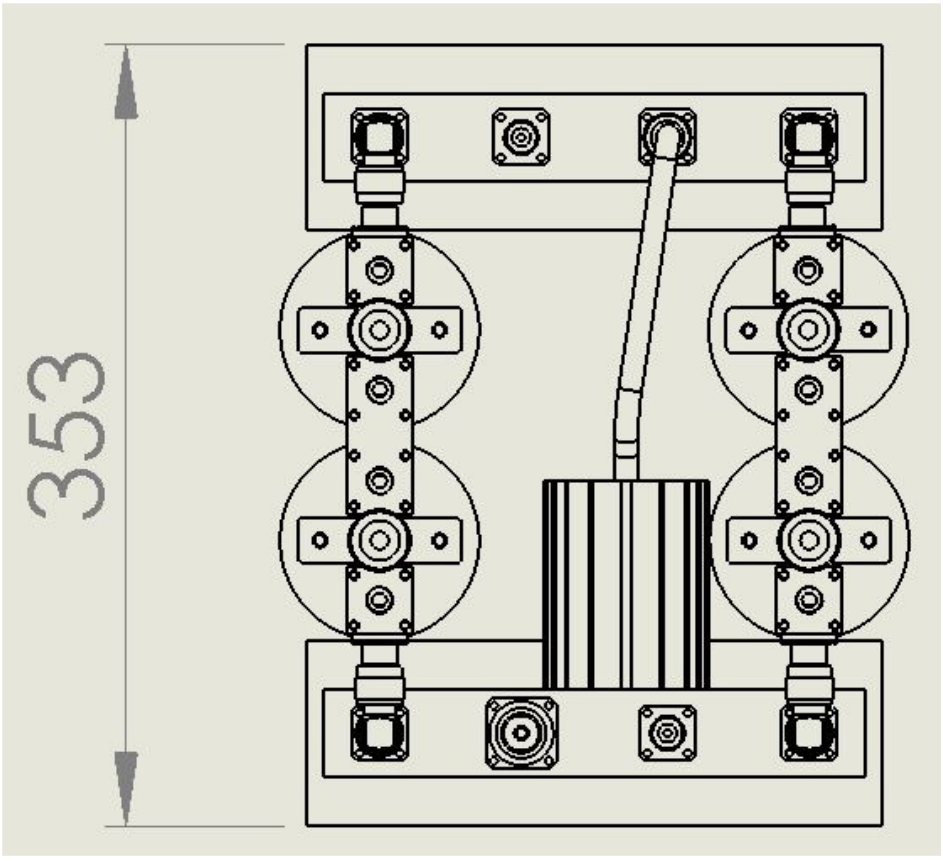
Features:

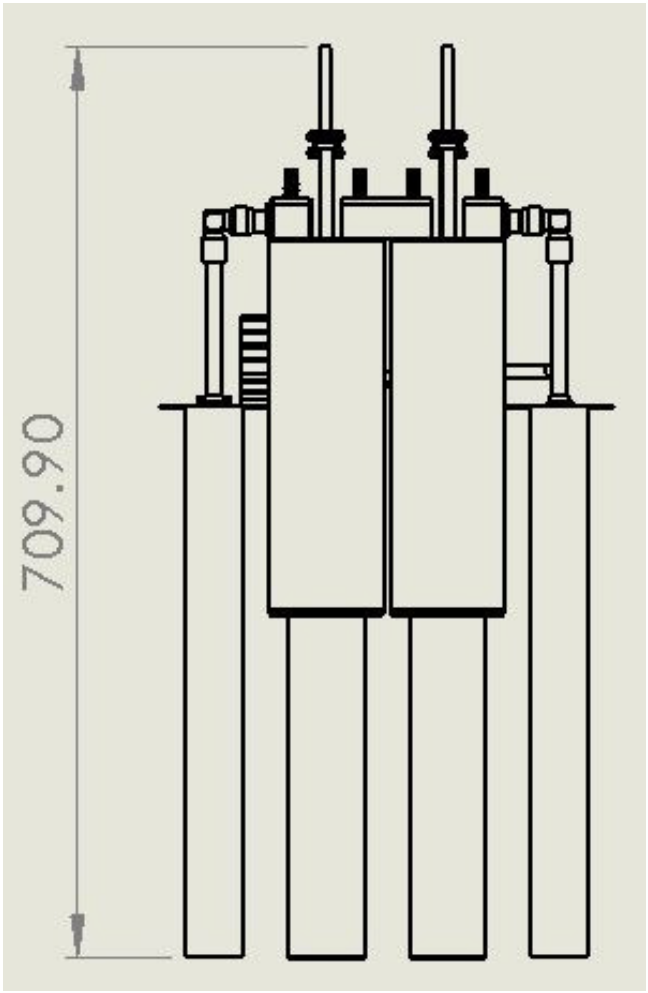
- Distortion – Free Transmission
- Double Balanced Bridge system with double pass-band cavity filters (standard configurations)
- Double Balanced Bridge system with triple pass-band cavity filters
- Double Balanced Bridge system with pass stop
- Low loss, high isolation
- Natural convection
- Option: Group delay equaliser
- Frequency independent input impedance
- The frequency at the broadband input can be varied without retuning of the pass-band cavity filters.

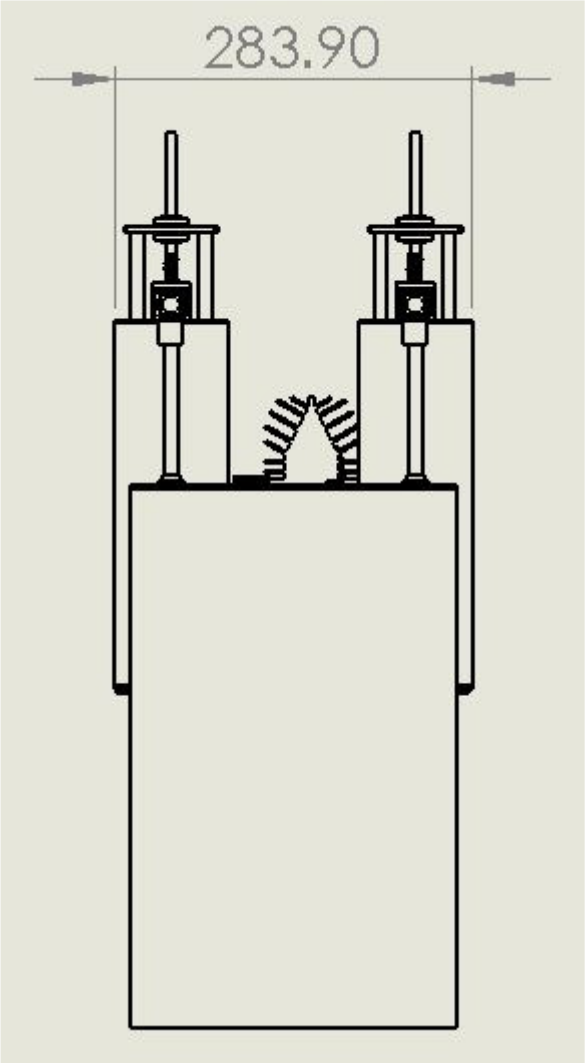


Typical shape of a curves for S11 and S12 parameters for single filter

DIMENSIONS



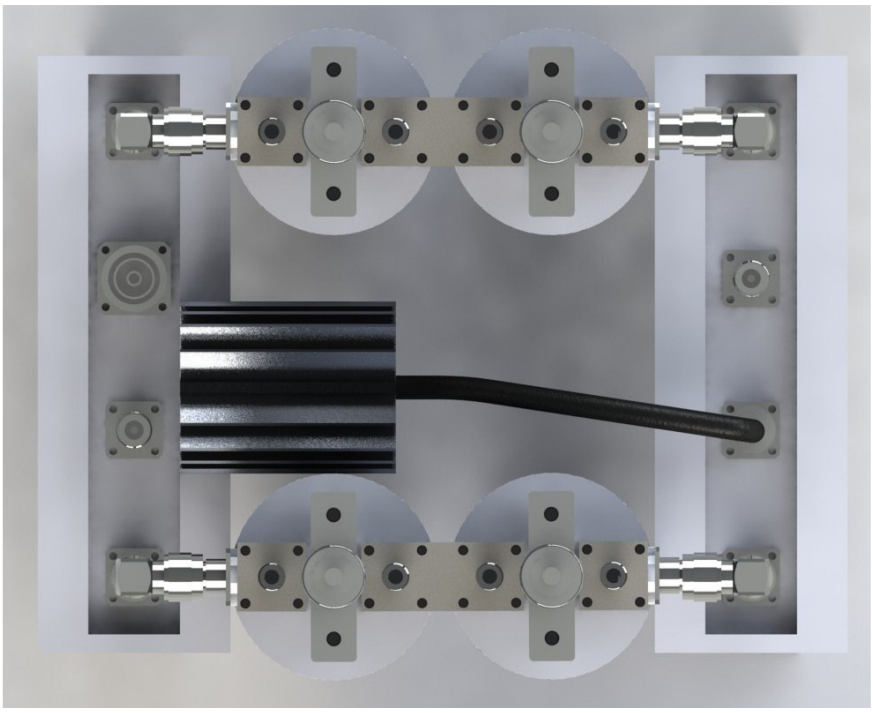


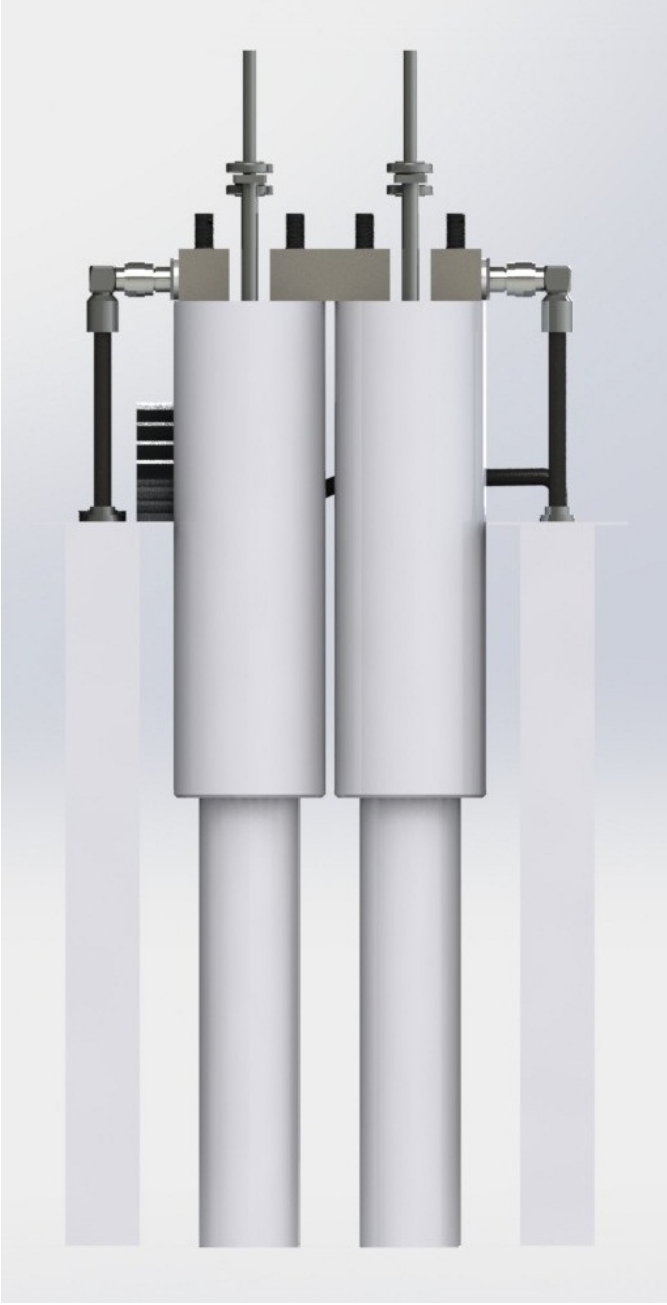


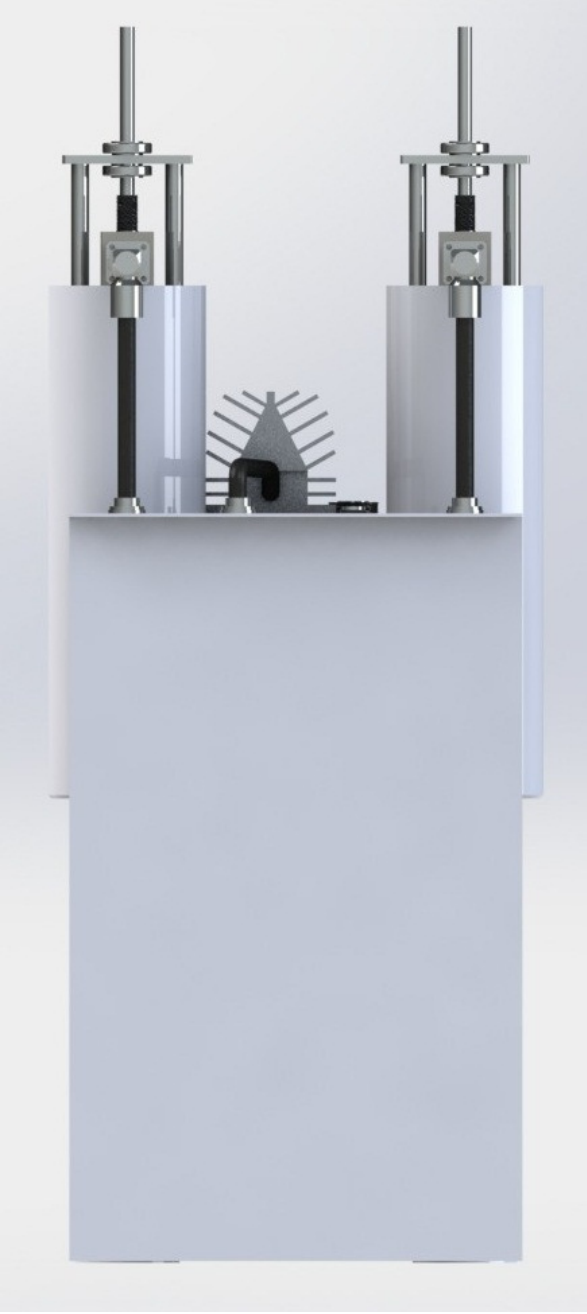
No rack version	
Dimensions	710×284×353(Max size) mm (27.9×11.1×13.8(Max size) inch) (H×L×W)
Net Weight	≅ 21 Kg

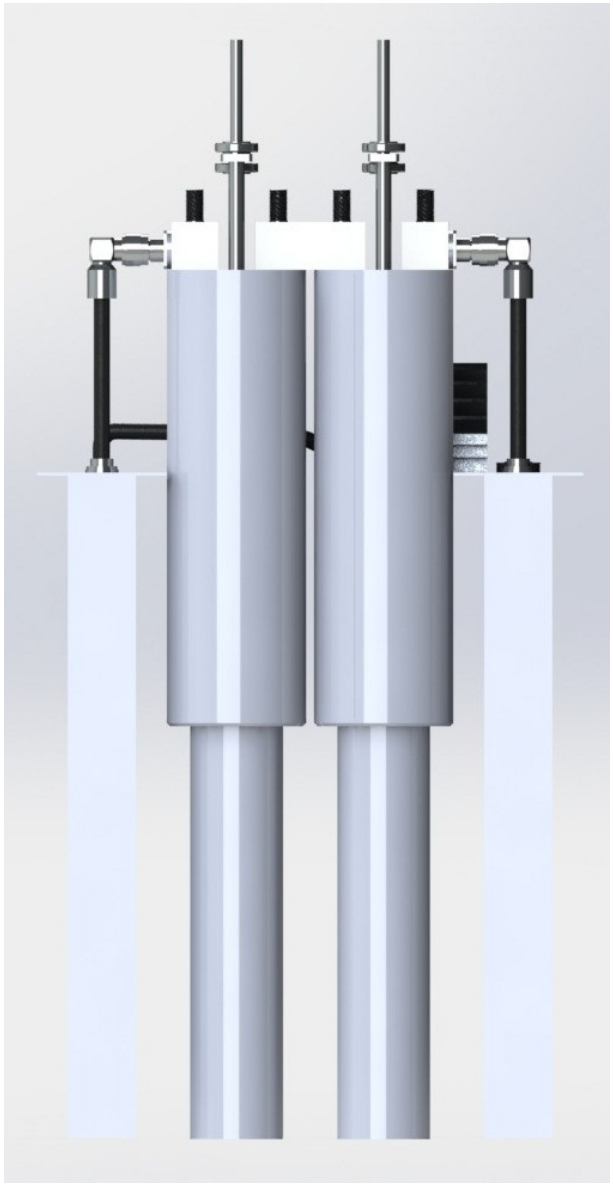
Rack version (optional)	
Panel Size	8 HE (1 HE=44,45 mm)
Net Weight	≅ 21 Kg

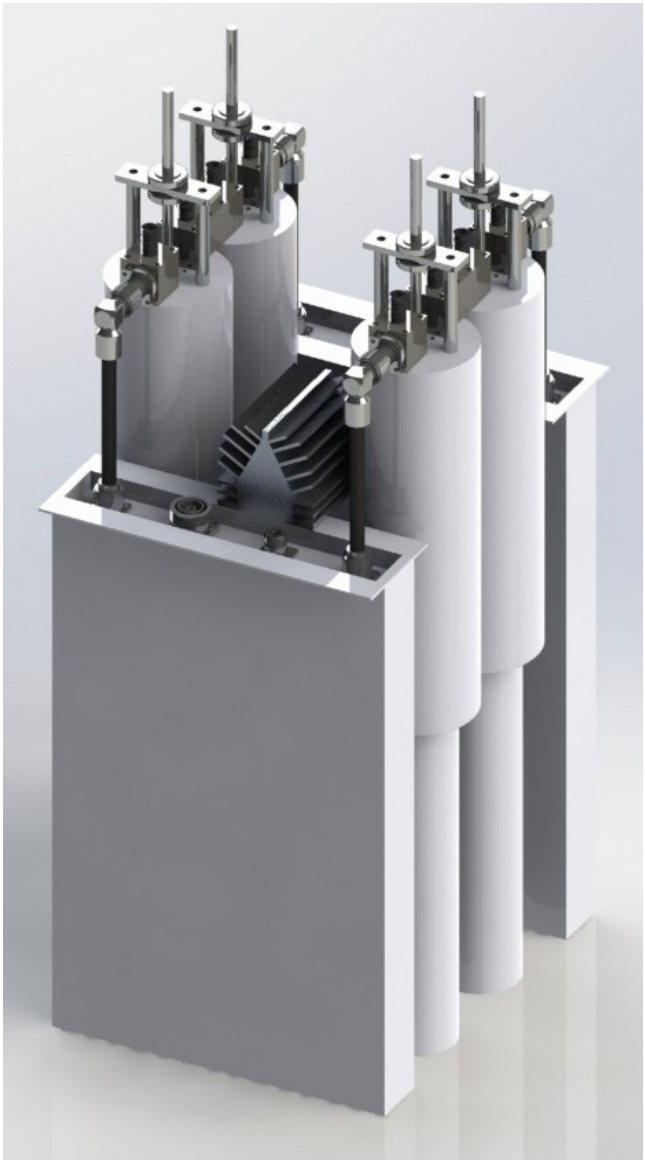
VIEWS OF THE SYSTEM

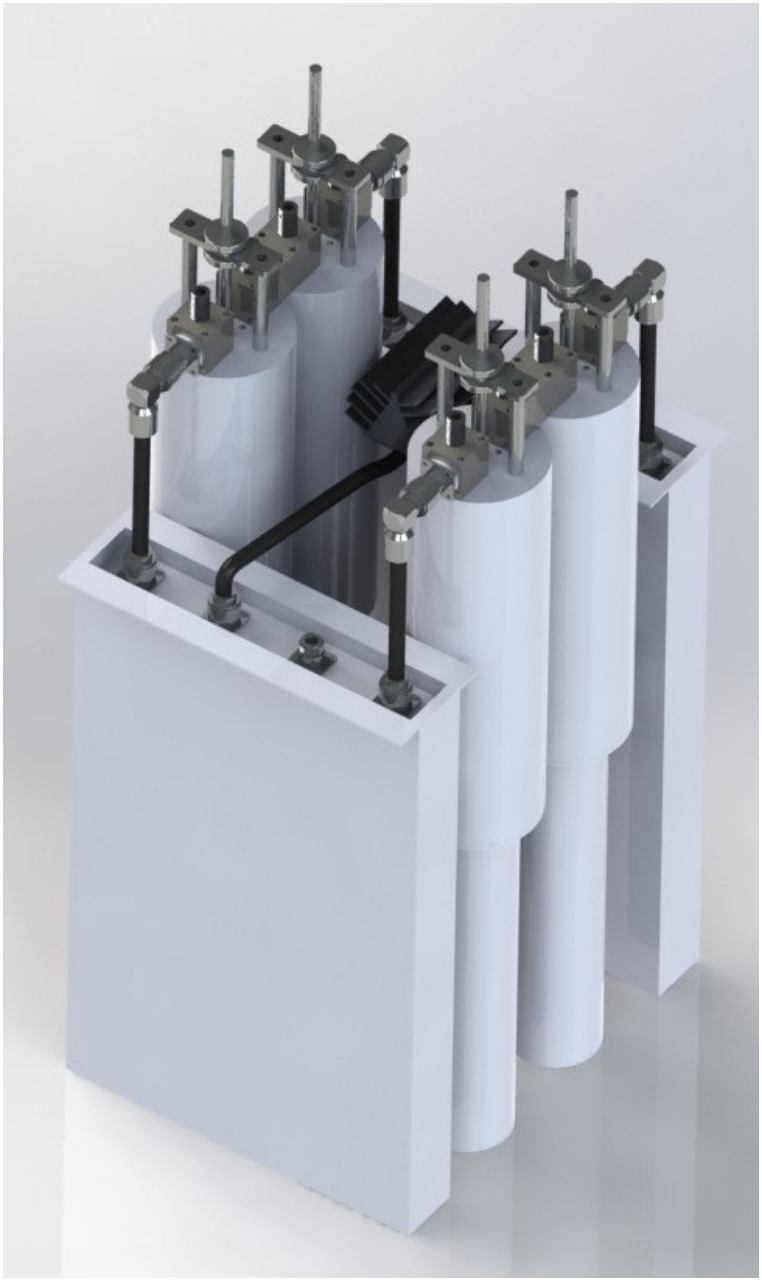








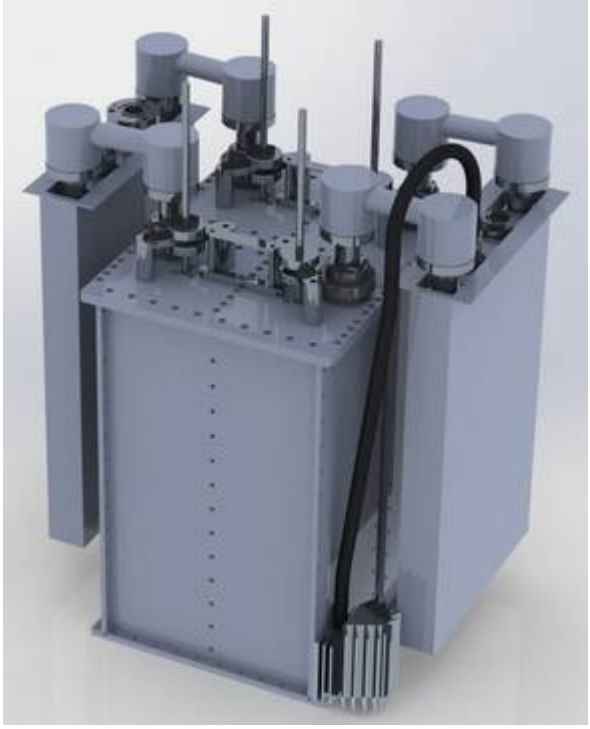




MODEL FDDPDC05

- **Combiner 2 Channels**
- **Double Balanced Bridge**
- **FM Band: 87.5÷108 MHz**
- **Band II**

NO RACK VERSION



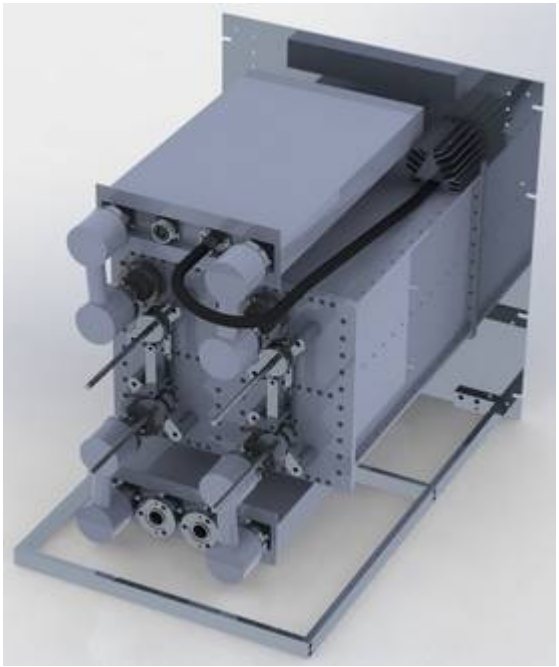
The Double Balanced Bridge System consists of two Band-Pass Filters, two -3dB Couplers and an Absorber. One of the inputs has a narrow-band characteristic (complying with the band-pass functions of the band-pass filters), while the other input has a broadband characteristic within the operating frequency range of -3dB couplers. Both inputs exhibit a frequency independent load impedance to the RF source.

TYPICAL SPECIFICATIONS

Model	FDDPDC05 – Double Bridge Type
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.45 dB Max Narrow Band Input at f_0 0.1 dB Max Broad Band Input
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.2 MHz	N/B → B/B ≥ 30 dB B/B → N/B ≥ 40 dB
Number of Inputs	2
Number of Outputs	1
Connectors	Narrow Band Input N female (Opt. 7/16") Broad Band Input N female (Opt.7/16" – 7/8") Output N (Opt. 7/16" - 7/8")
Max Power	Narrow Band Input 1000 W Broad Band Input 3KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

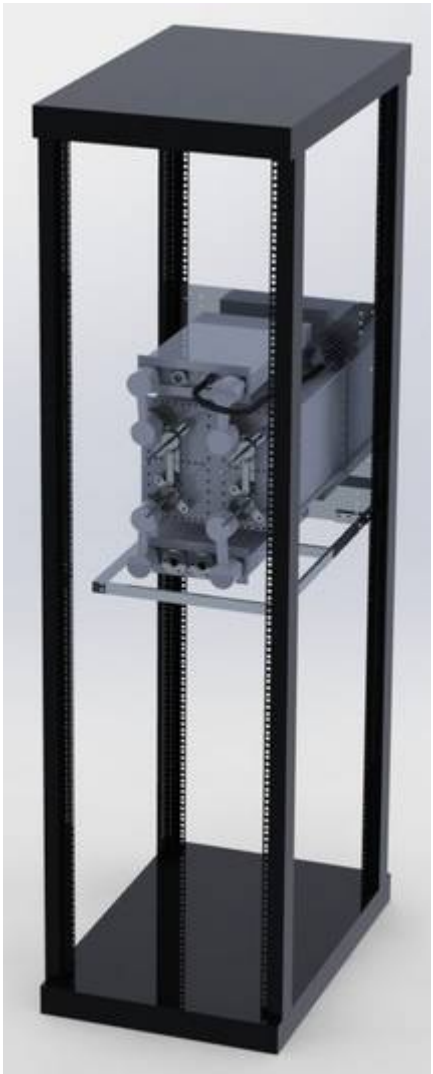
Features:

- Distortion – Free Transmission
- Double Balanced Bridge
- Frequency Independent Input Impedance
- Low Loss, High Isolation
- Natural Convection
- Frequency at broadband input can be varied without retuning band-pass cavity filters



- Broadband input can be used as spare input for expansion without requiring modifications of existing band-pass cavity filters
- If narrow band input is the only one being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacing

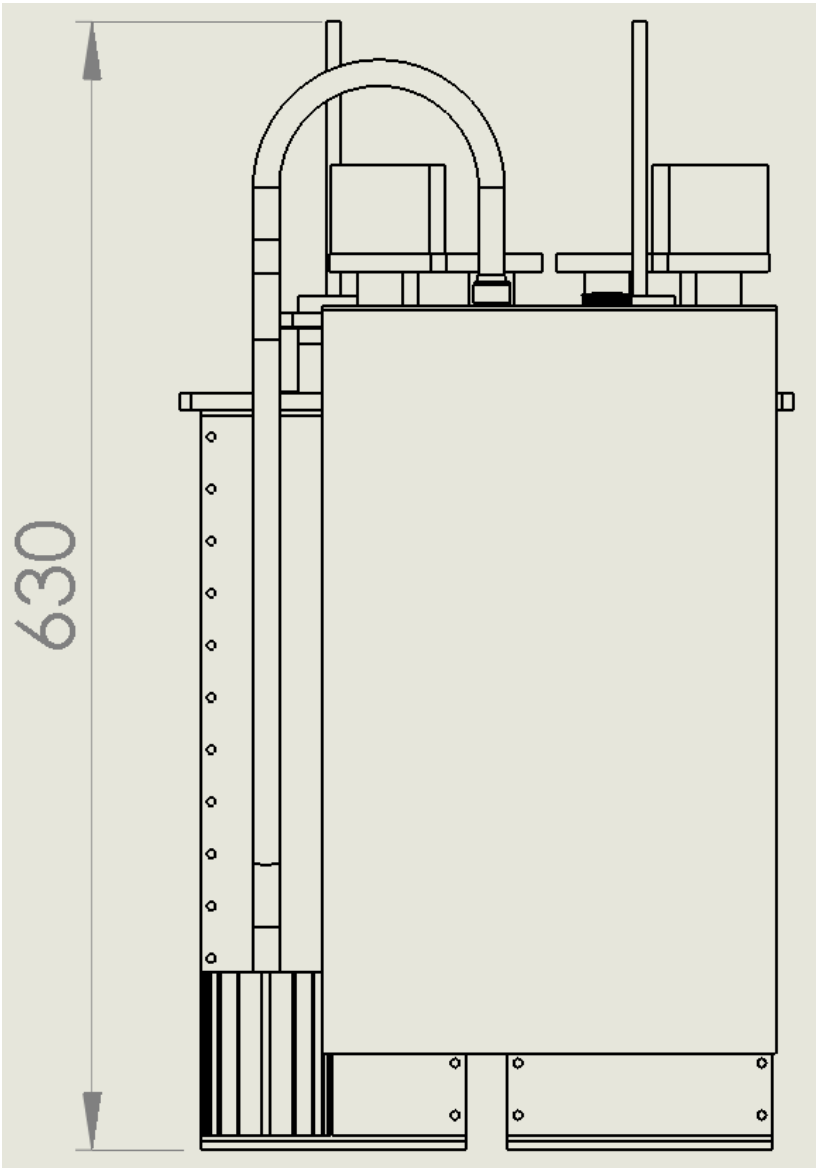
RACK VERSION
(OPTIONAL)

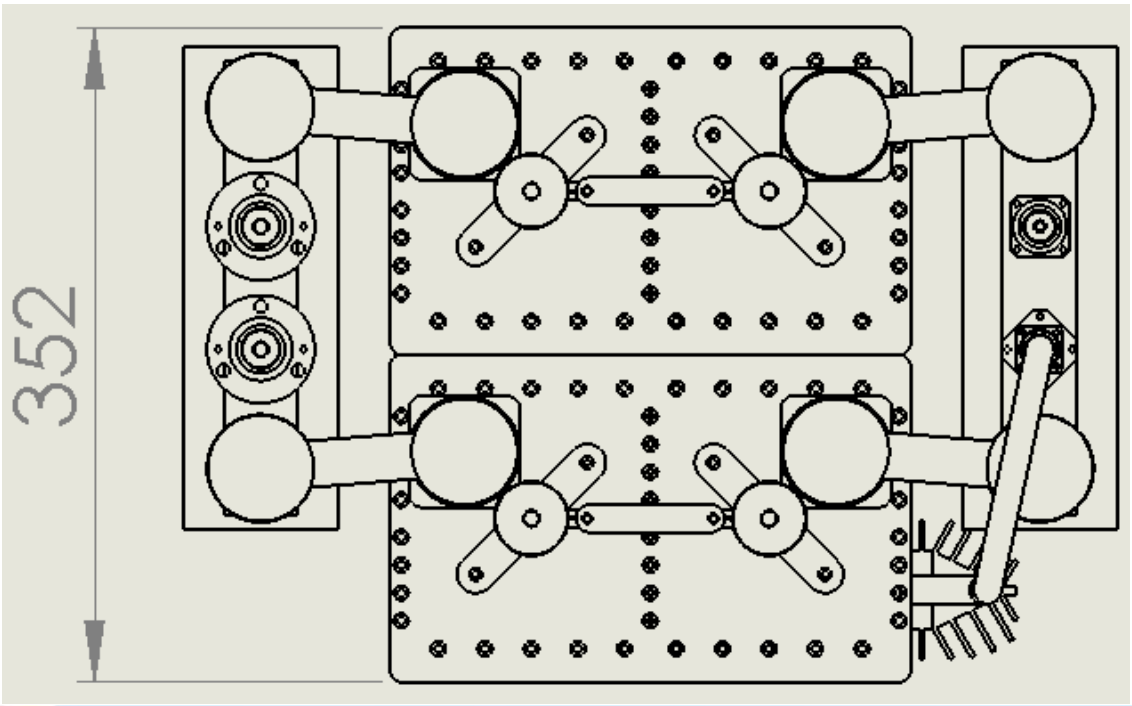


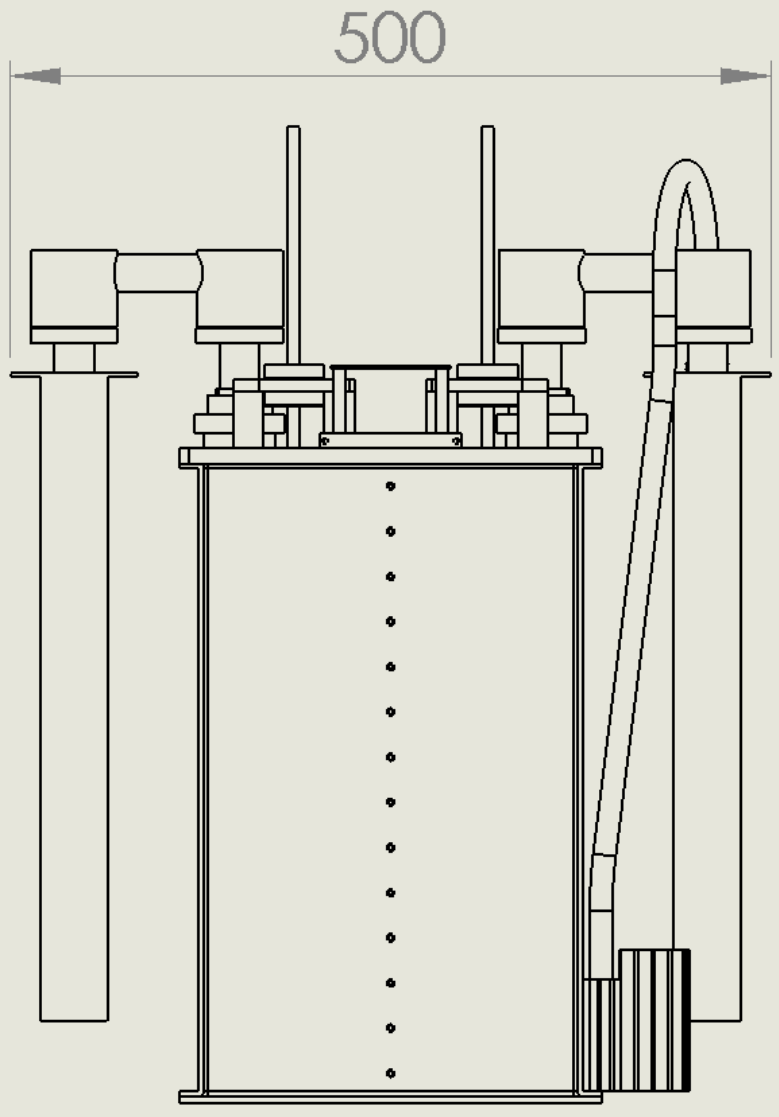
RACK MOUNTING
(OPTIONAL)

DIMENSIONS (mm)

NO RACK VERSION



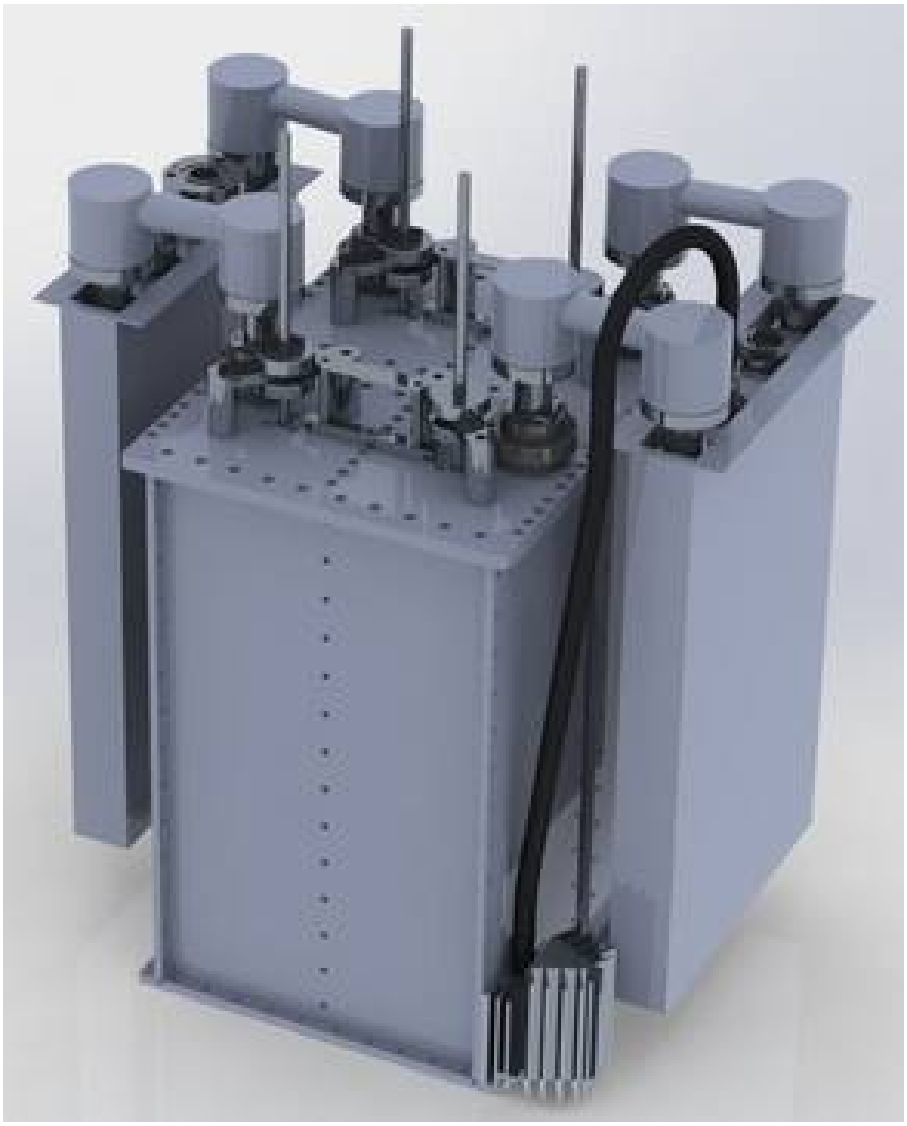


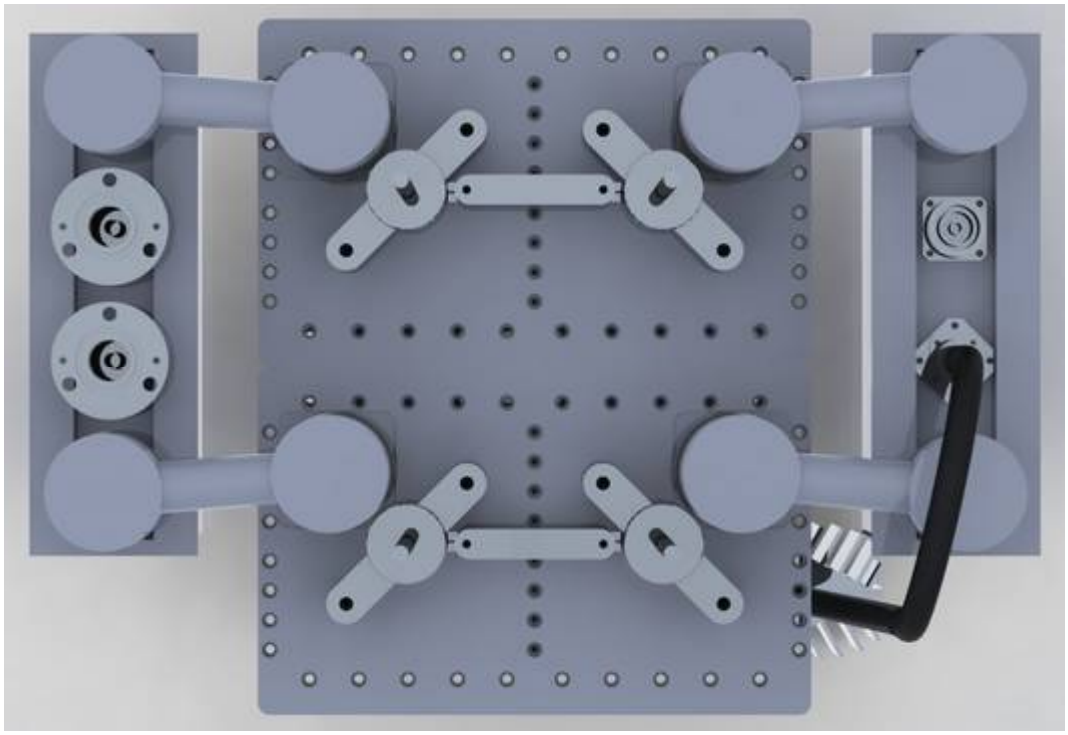


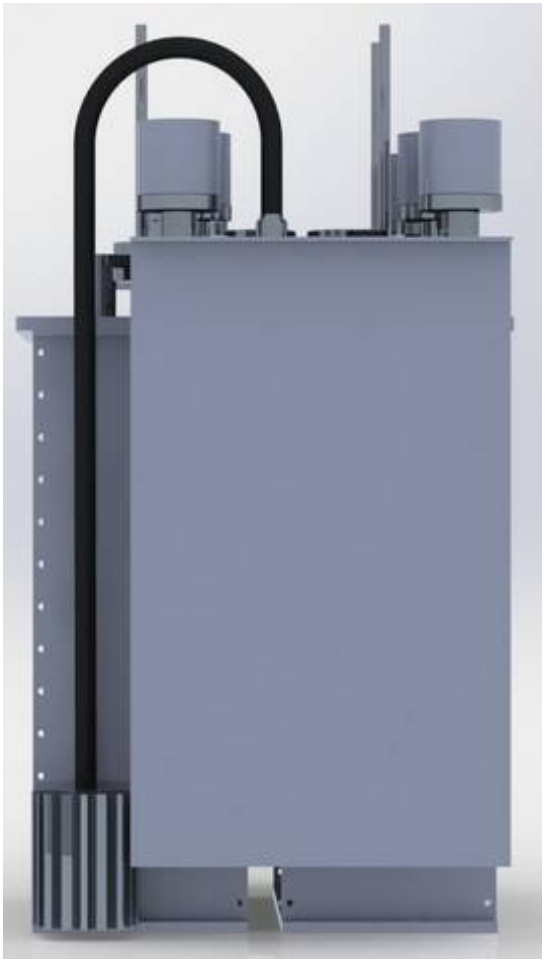
No rack version	
Dimensions	630(Max size)×500×352 mm (24.8(Max size)×19.6×13.8 inch) (H×L×W)
Net Weight	≅ 45 Kg

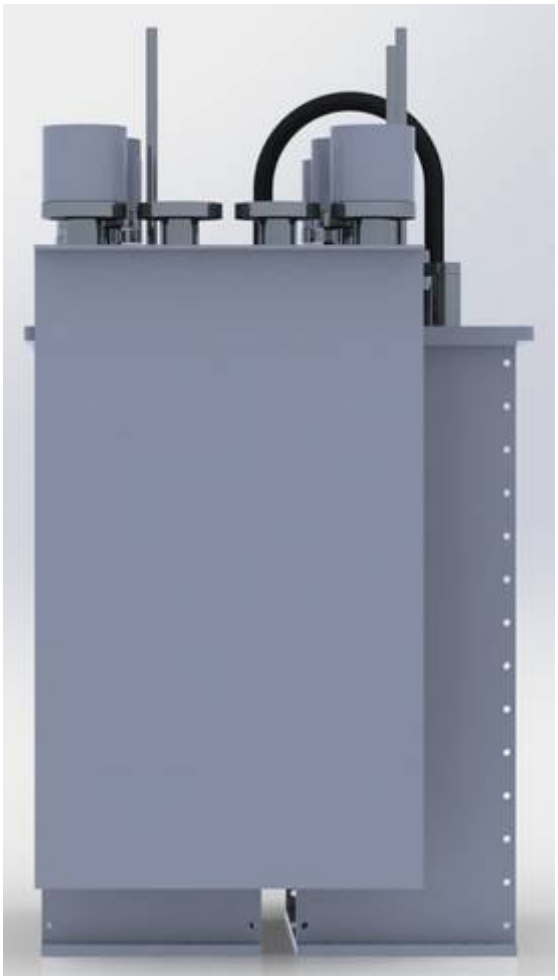
VIEWS OF THE SYSTEM

NO RACK VERSION

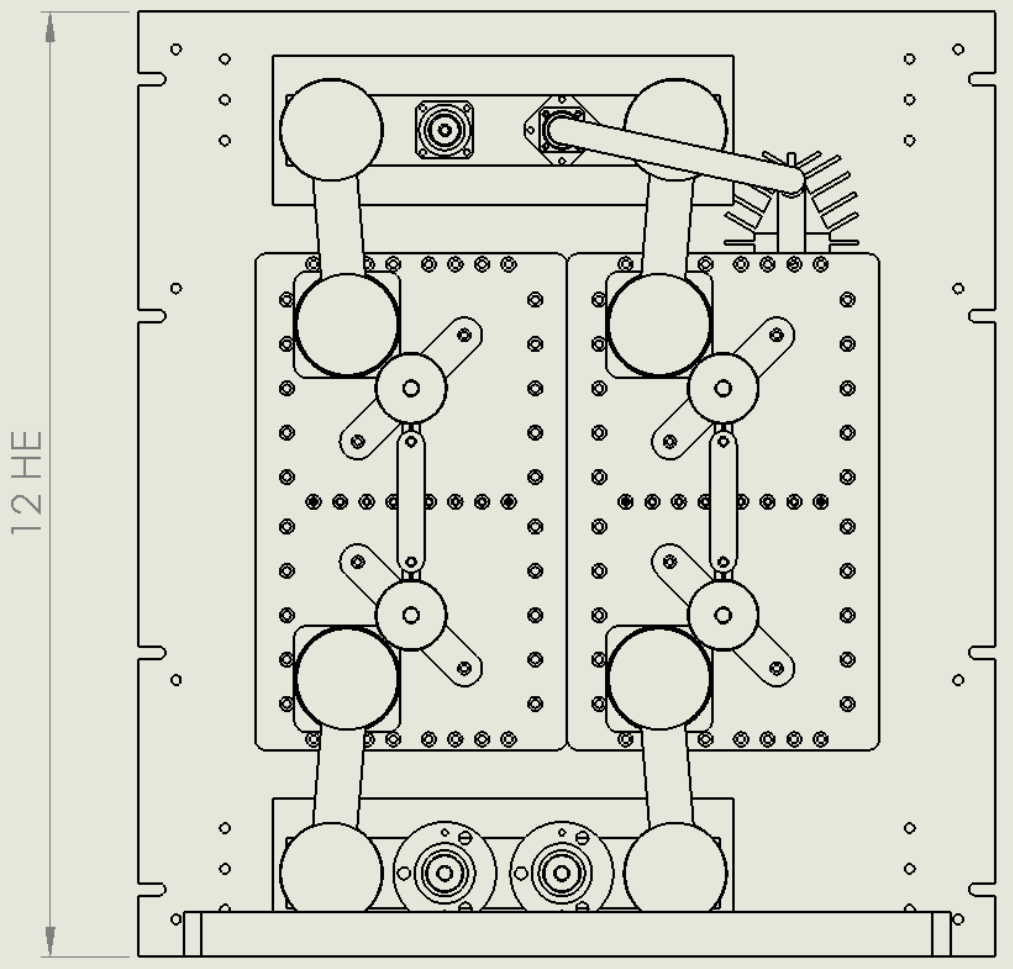








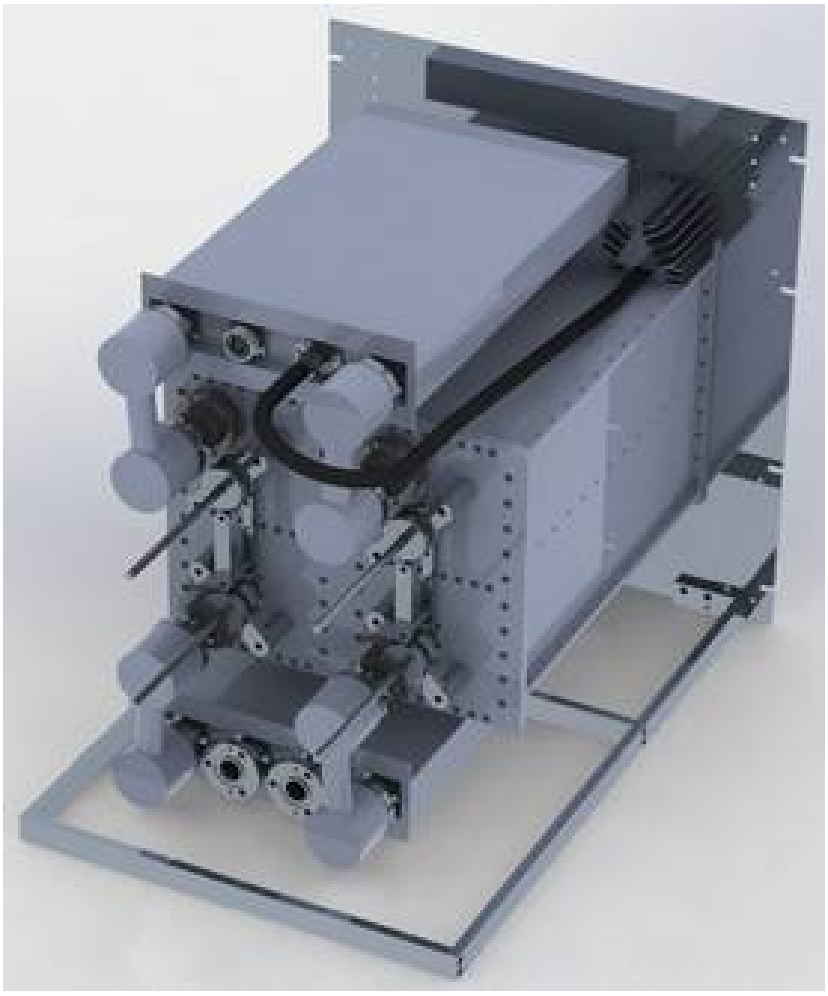
DIMENSIONS (mm)
RACK VERSION (OPTIONAL)

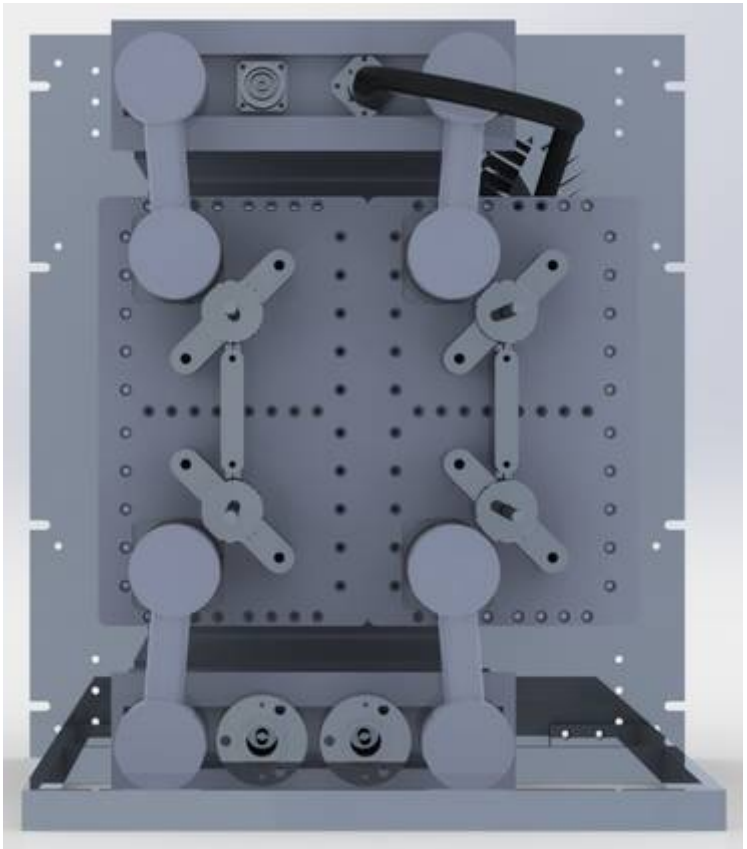


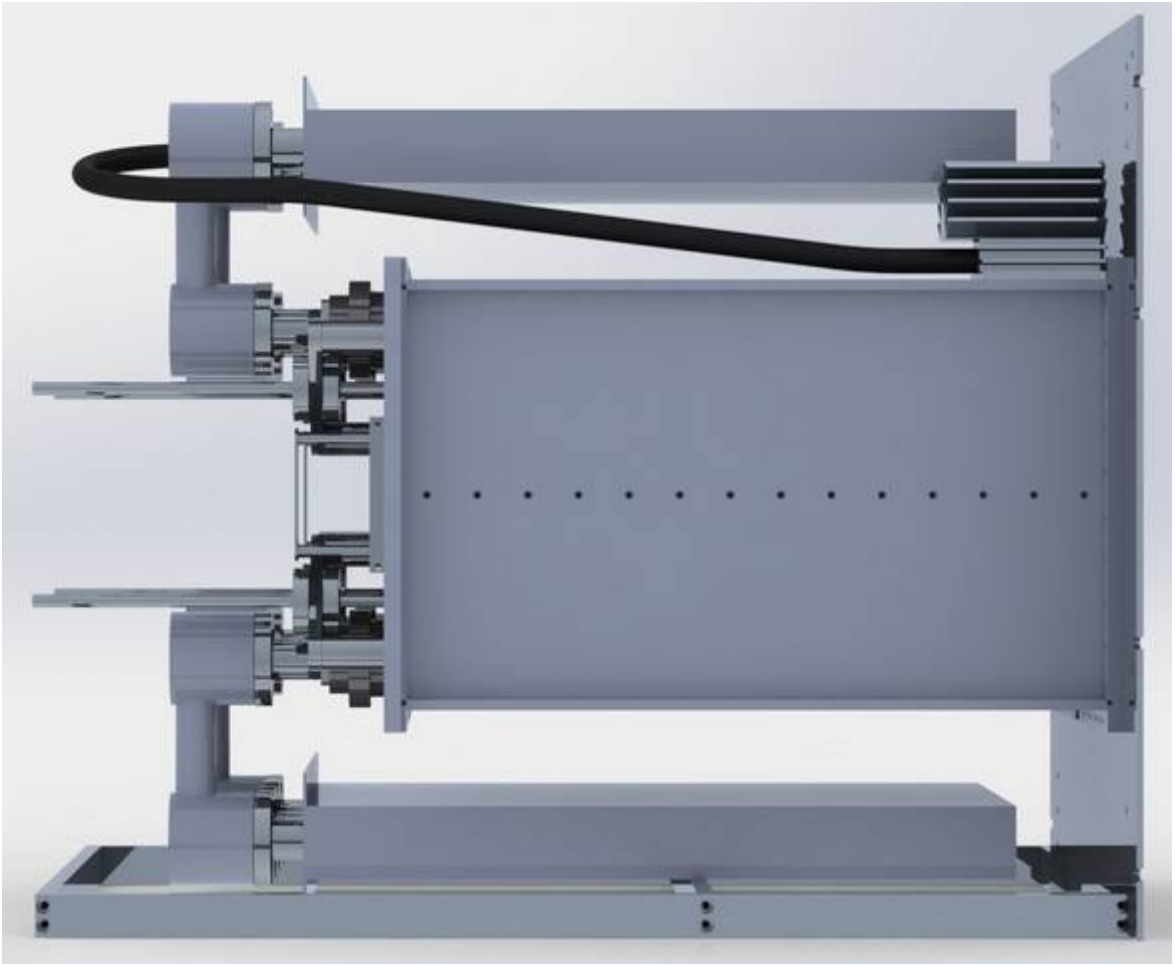
Rack version (optional)	
Dimensions	12 HE (1 HE=44.45 mm)
Net Weight	≅ 46 Kg

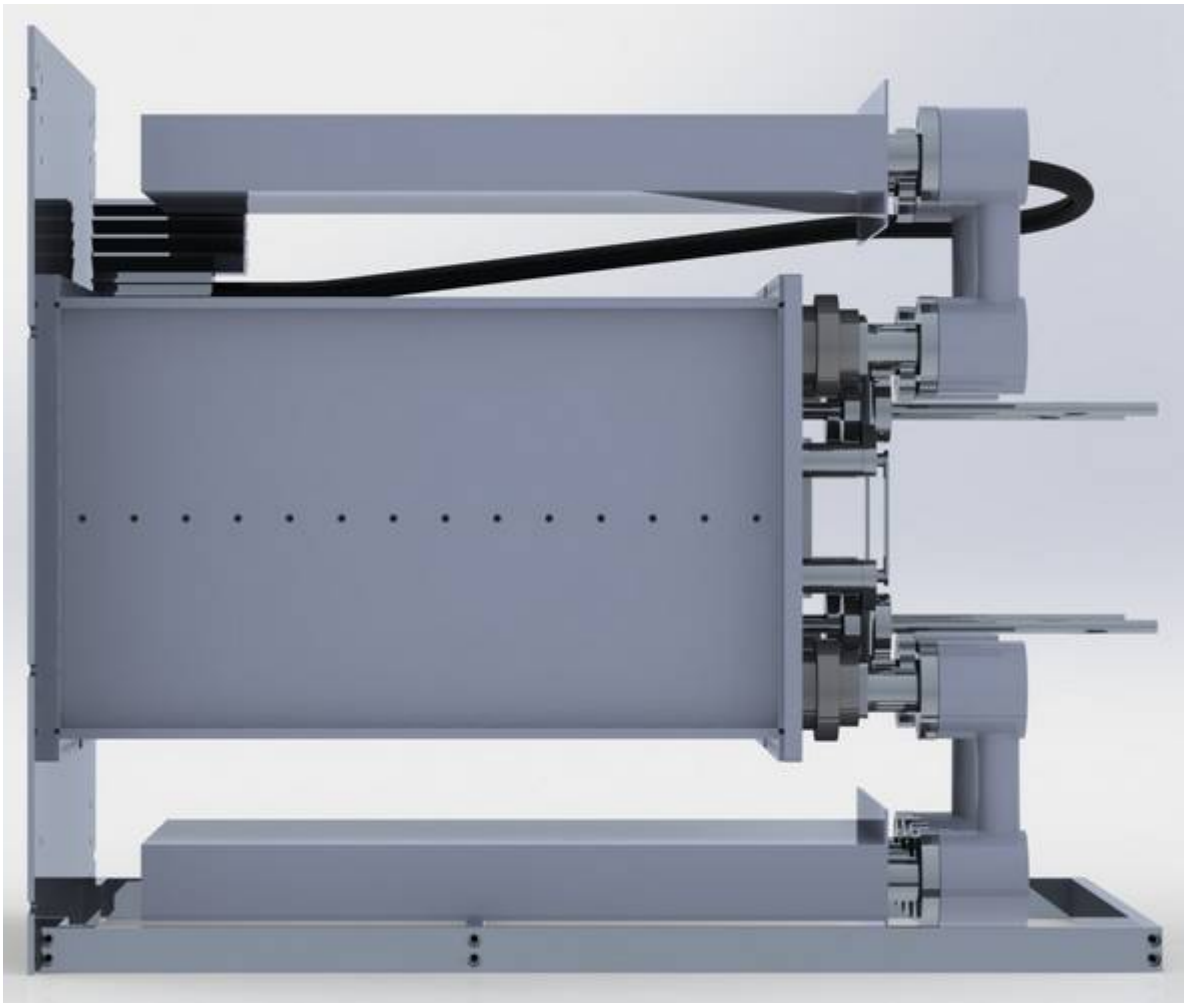
VIEWS OF THE SYSTEM

RACK VERSION (OPTIONAL)



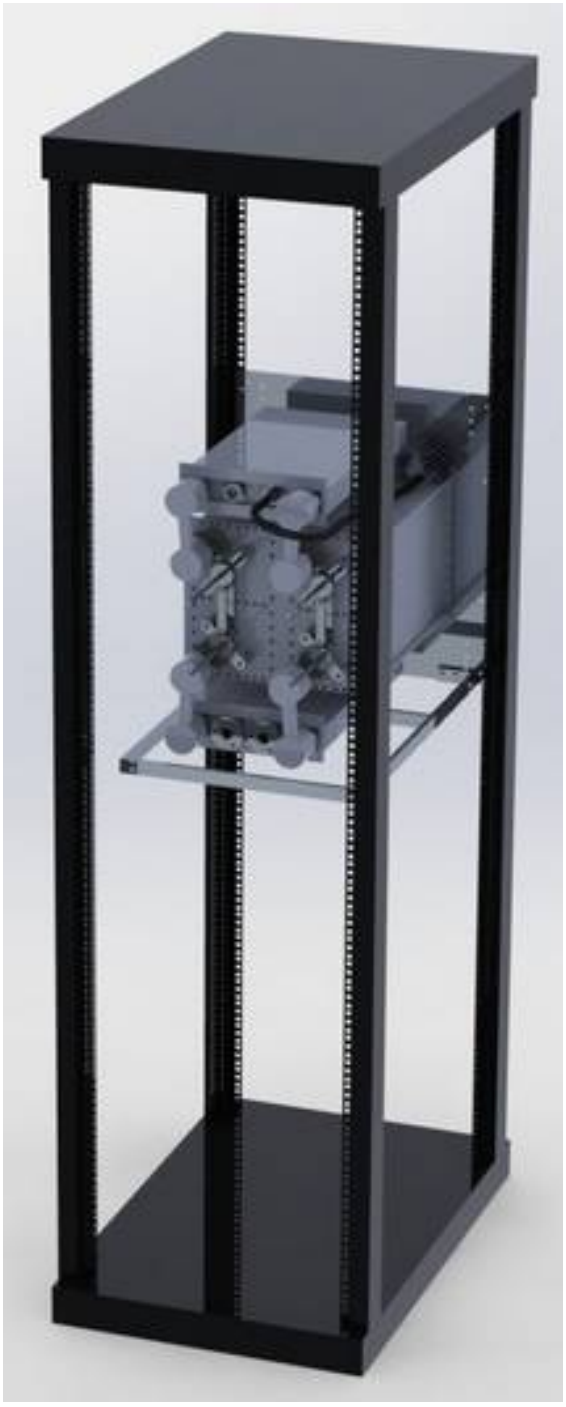


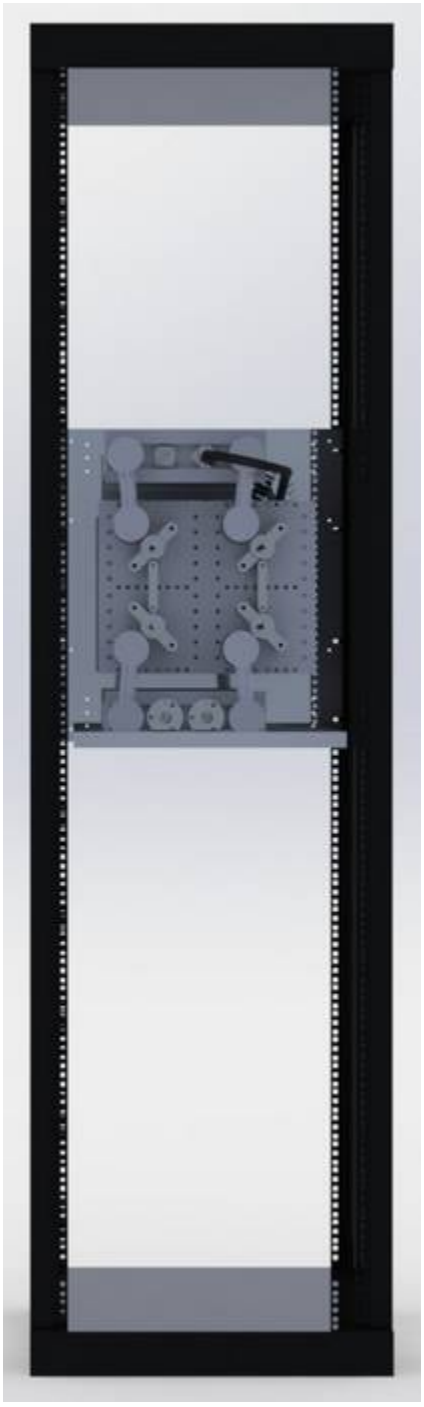




VIEWS OF THE SYSTEM

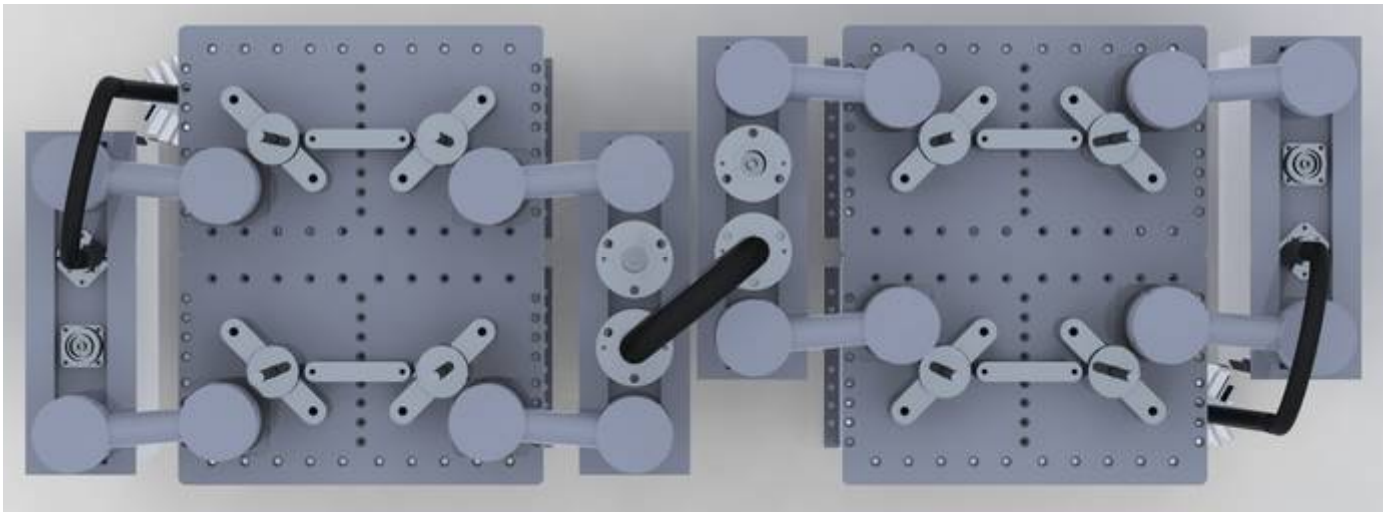
RACK MOUNTING (OPTIONAL)





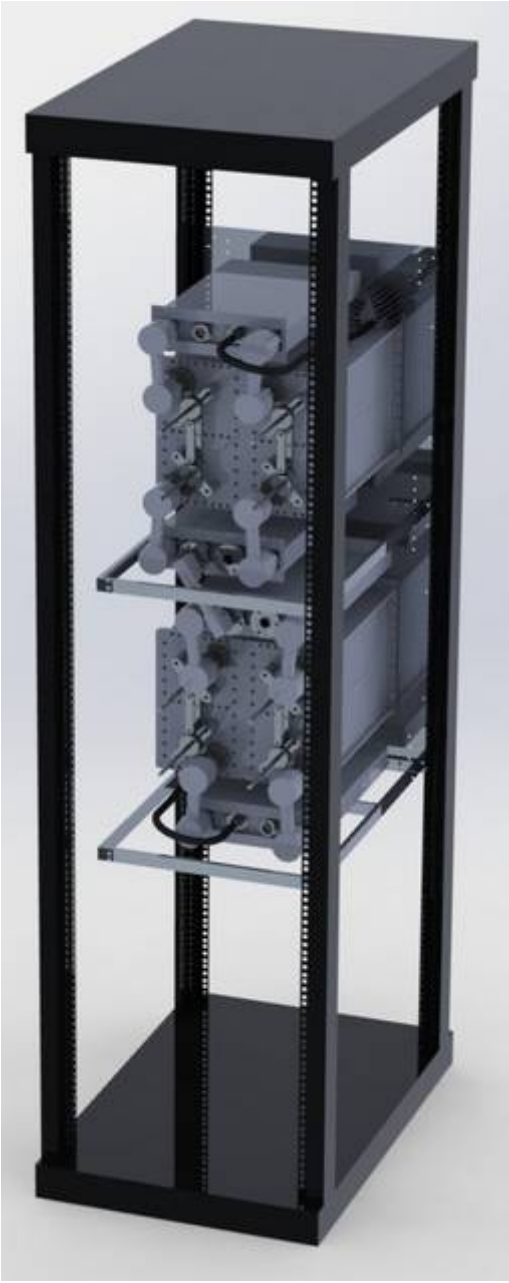
EXAMPLE OF CONNECTION OF 2 FDDPDC05 TO MAKE A TRIPLEXER

NO RACK VERSION



EXAMPLE OF CONNECTION OF 2 FDDPDC05 TO MAKE A TRIPLEXER

RACK VERSION (OPTIONAL)



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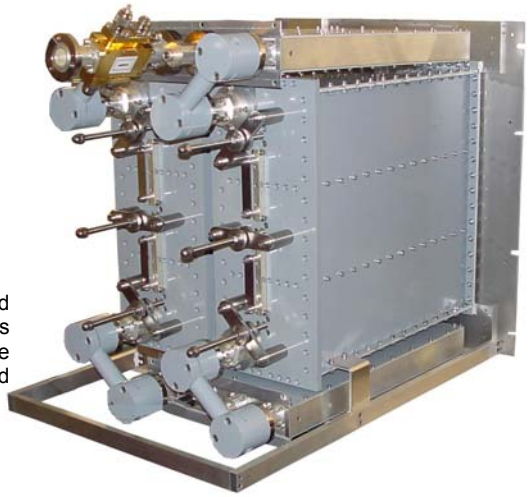
TELECOMUNICAZIONI FERRARA SRL

MODEL FDDPTC05

- **Combiner 2 Channels**
- **Double Balanced Bridge**
- **FM Band: 87.5÷108 MHz**
- **Band II**

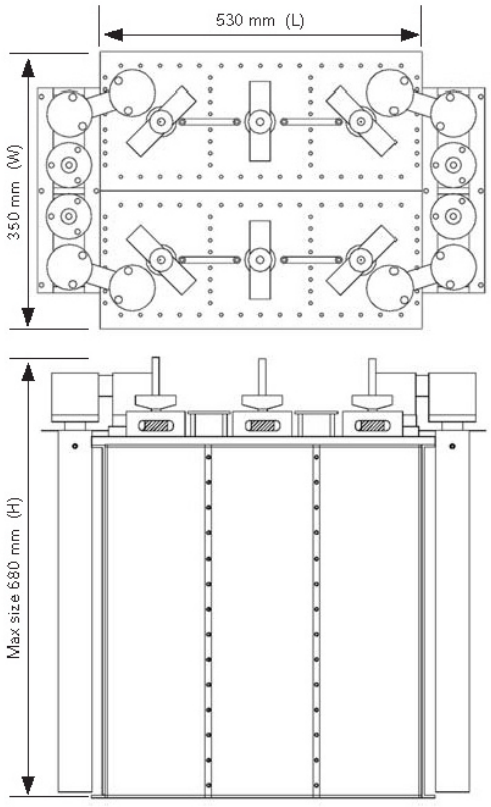


VERSION WITH RACK AND COUPLER (OPTION)

The Double Balanced Bridge System consists of two Band-Pass Filters, two -3dB Couplers and an Absorber. One of the inputs has a narrow-band characteristic (complying with the band-pass functions of the band-pass filters), while the other input has a broadband characteristic within the operating frequency range of -3dB couplers. Both inputs exhibit a frequency independent load impedance to the RF source.

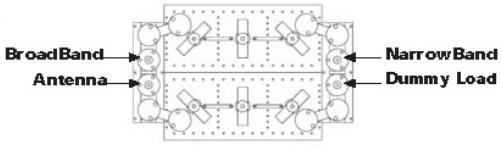
TYPICAL SPECIFICATIONS

Model	FDDPTC05AA – Double Bridge Type
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.65 dB Max Narrow Band Input at f_0 0.1 dB Max Broad Band Input
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.2 MHz	N/B → B/B ≥ 30 dB B/B → N/B ≥ 40 dB
Number of Inputs	2
Number of Outputs	1
Connectors	Narrow Band Input N female (Opt. 7/16") Broad Band Input N female (Opt.7/16" – 7/8") Output N (Opt. 7/16" - 7/8")
Max Power	Narrow Band Input 1000 W Broad Band Input 3KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Features:

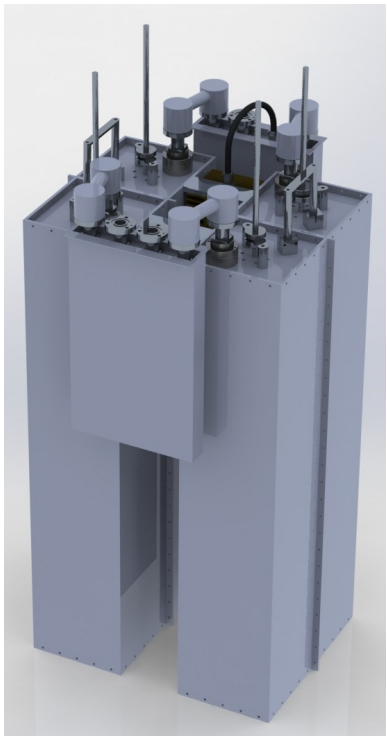
- Distortion – Free Transmission
- Double Balanced Bridge
- Frequency Independent Input Impedance
- Low Loss, High Isolation
- Natural Convection
- Frequency at broadband input can be varied without retuning band-pass cavity filters
- Broadband input can be used as spare input for expansion without requiring modifications of existing band-pass cavity filters
- If narrow band input is the only one being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacing



No rack version	
Dimensions	680(Max size)×530×350 mm (26.8(Max size)×20.9×13.8 inch) (H×L×W)
Net Weight	≅ 60 Kg

Rack version (optional)	
Dimensions	12 HE (1 HE=44.45 mm)
Net Weight	≅ 60 Kg

MODEL FDDPDC2-AA



- **2 CHANNELS COMBINER**
- **DOUBLE BALANCED BRIDGE**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

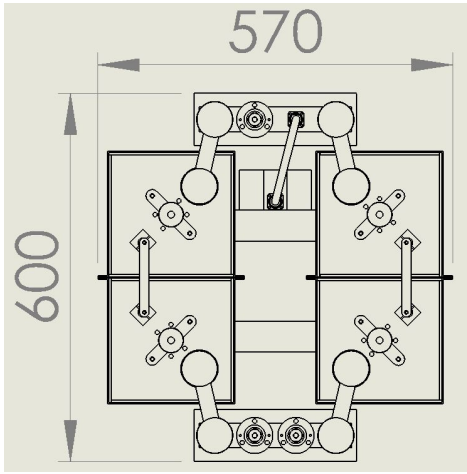
The Double Balanced Bridge System consists of two Band Pass Filters, two -3dB couplers and an absorber. One of both inputs has narrow-band characteristics (complying with the band-pass functions of the band-pass filters), while the remaining input features broadband characteristics within the operating frequency range of -3dB couplers, both inputs exhibit a frequency independent load impedance to the RF source.

TYPICAL SPECIFICATIONS

Model	FDDPDC2-AA - Double Bridge Type
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.25 dB Max (Narrow Band Input) 0.1 dB Max (Broad Band Input)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.8 MHz	≥ 32 dB
No. of Inputs	2 (NarrowBand + BroadBand)
No. of Outputs	1
Connectors	7/16" (Opt. 7/8") Narrow Band Input 7/16" (Opt. 7/8") Broad Band Input 7/8" (Opt. 1+5/8") Output
Max Power	1 (2) KW on Narrow Band Input 4 (5) KW on Broad Band Input
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

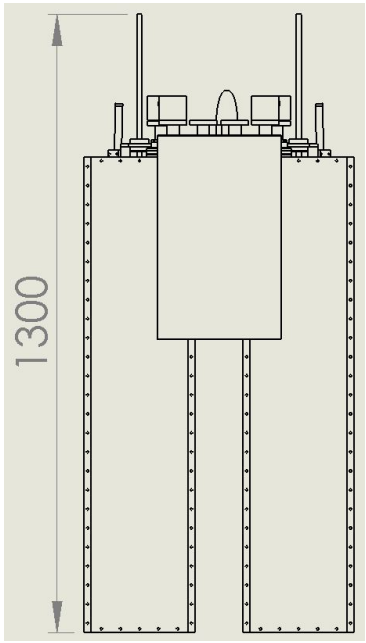
Features:

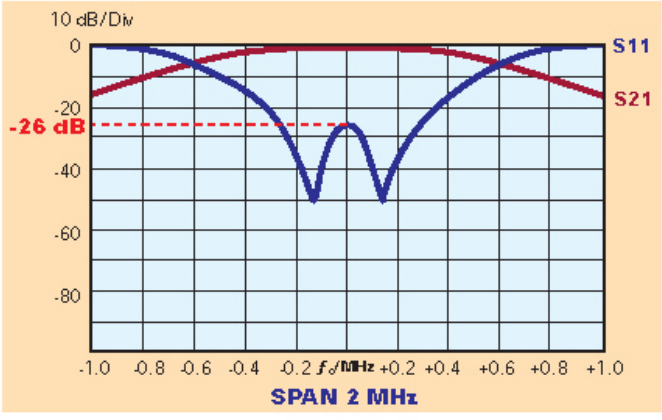
- Distortion – Free Transmission
- Double Balanced Bridge System
- Frequency Independent Input Impedance
- Frequency at broadband input can be varied without retuning any band-pass cavity filter
- Broadband input can also be used as spare input for expansion without requiring modifications of existing band-pass cavity filters
- Low loss, High Isolation



Dimensions in mm

Dimensions	1300(Max size)×570×600 mm (51.2(Max size)×22.4×23.6 inch) (H×L×W)
Net Weight	≅58 Kg



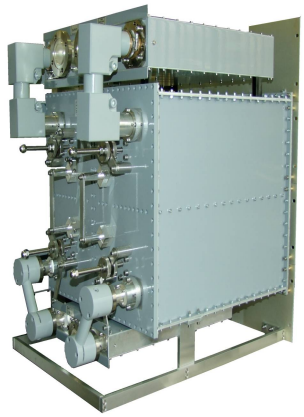


Typical shape of a curves for S11 and S12 parameters for single filter

"These specifications are subject to change without notice"

MODEL FDDPDC2R

- **COMBINER 2 CHANNELS**
- **DOUBLE BALANCED BRIDGE**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

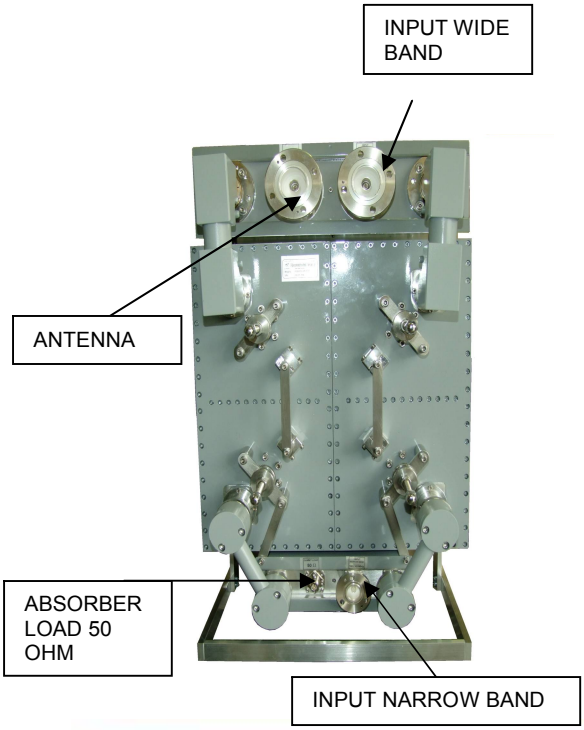


RACK MOUNTING OPTION

The double balanced bridge system consist of two band-pass filter, two -3dB coupler and a absorber. One of both inputs has a narrow-band characteristic (complying with the pass-band functions of the band pass filters), while the remaining input features a broadband characteristic within the operating frequency range of -3dB couplers, both inputs exhibits a frequency independent load impedance to the RF source.

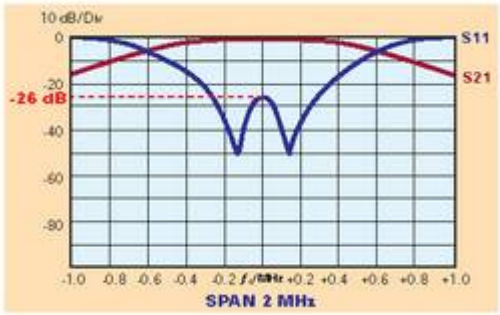
TYPICAL SPECIFICATIONS

Model	FDDPDC2R – Type DOUBLE BRIDGE
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.3 dB Max (Narrow Band Input) 0.08 dB Max (Broad Band Input)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 2 MHz	≥ 32 dB
No. of Input	2 (Narrow Band + Broad Band)
No. of Output	1
Connectors	Narrow Band Input 7/8" (Opt . 1+5/8") Broad Band Input 1+5/8" or 7/8" Output 1+5/8"
Max Power	4 KW Narrow Band 8 KW Broad Band
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Features:

- Distortion – Free Transmission
- Double Balanced Bridge system with pass stop
- Frequency independent input impedance
- The frequency at the broadband input can be varied without retuning of the pass-band cavity filters.
- The broadband input can be used as spare input for expansion without requiring modification of the existing pass-band cavity filters
- If only narrow band input is being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacings.
- Low loss, high isolation
- Natural convection
- Option: Group delay equaliser

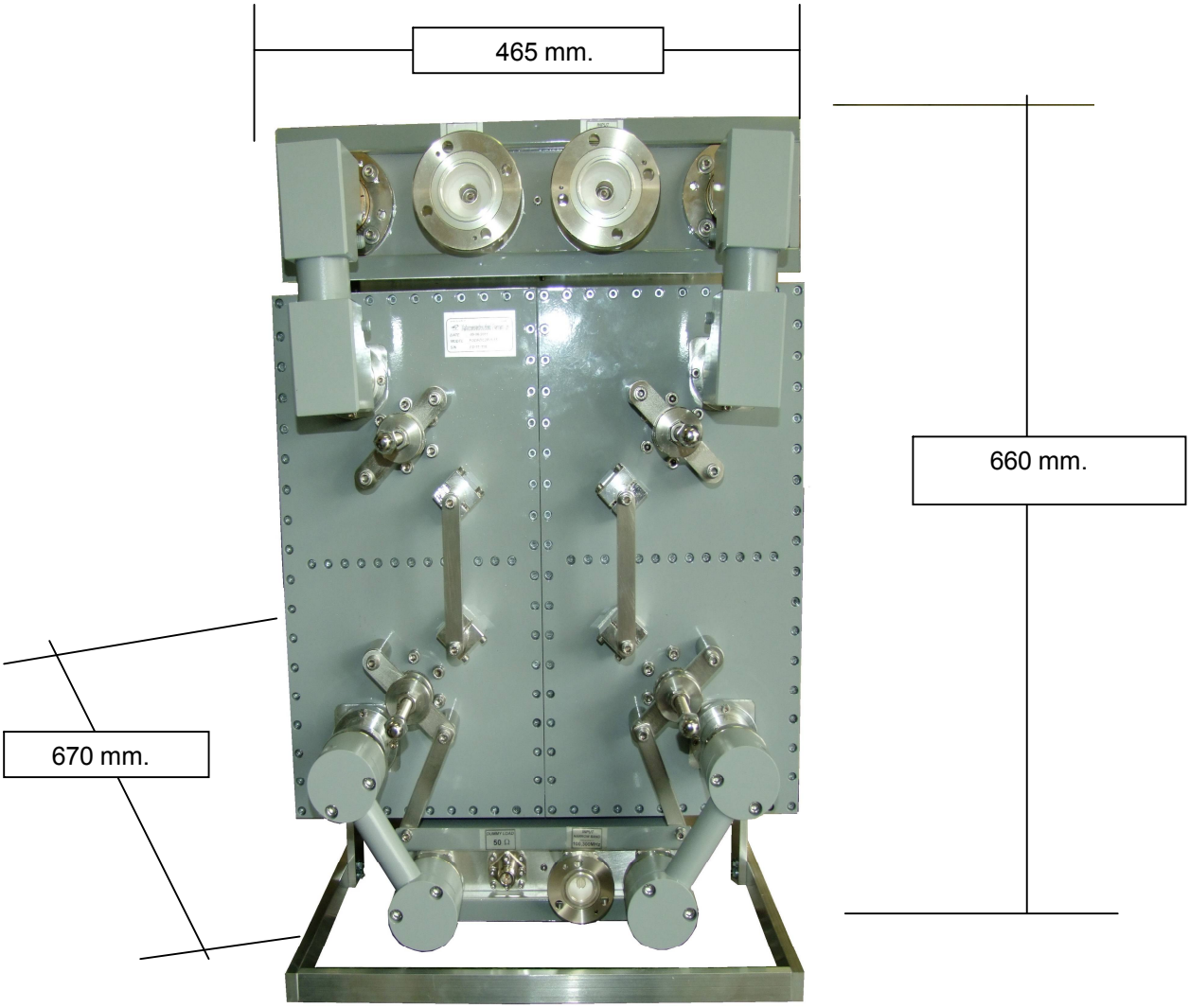


Typical shape of a curves for S11 and S12 parameters for single filter

Dimensions	1300(Max size)×650×480 mm (51.2(Max size)×25.6×18.9 inch) (H×L×W)
Net Weight	≅65 Kg

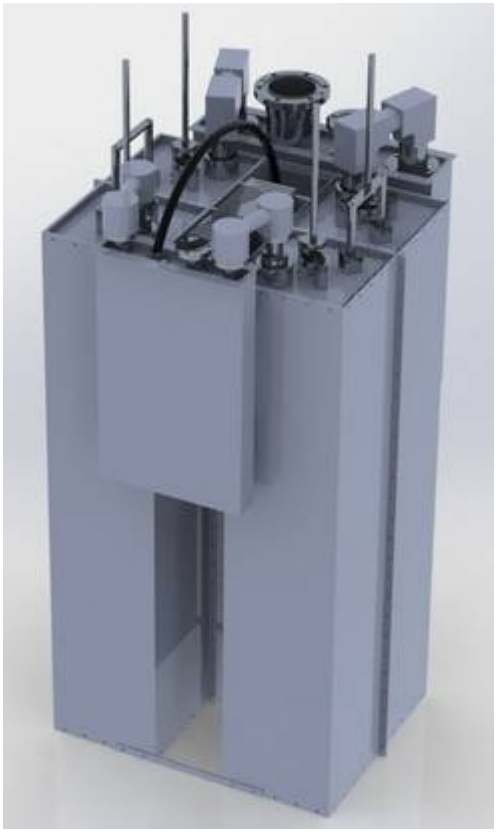
"These specifications are subject to change without notice"

DIMENSIONS WITHOUT RACK



APPLICATIONS

MODEL FDDPDC2-AD



- 2 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 ÷ *108*
- BAND II
- DOUBLE BRIDGE TYPE

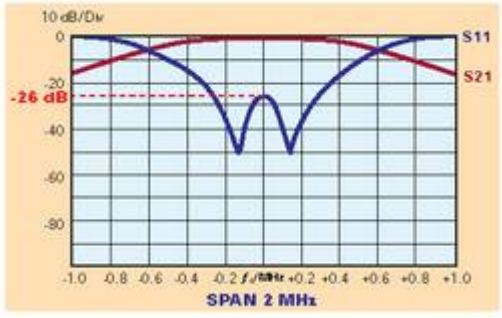
The Double Balanced Bridge System consists of two Band Pass Filters, two -3dB Couplers and an Absorbing Load. One of both inputs has narrow-band characteristics (complying with the band-pass functions of the band-pass filters), while the remaining input presents broadband characteristics within the operating frequency range of -3dB couplers. Both inputs exhibit a frequency independent load impedance to the RF source.

TYPICAL SPECIFICATIONS

Model	FDDPDC2-AD – Type DOUBLE BRIDGE
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.3 dB Max (Narrow Band Input) 0.08 dB Max (Broad Band Input)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 2 MHz	≥ 32 dB
No. of Input	2 (Narrow Band + Broad Band)
No. of Output	1
Connectors	Narrow Band Input 7/8" (Opt . 1+5/8") Broad Band Input 1+5/8" Output 3+1/8"
Max Power	3 KW Narrow Band 12 KW Broad Band
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

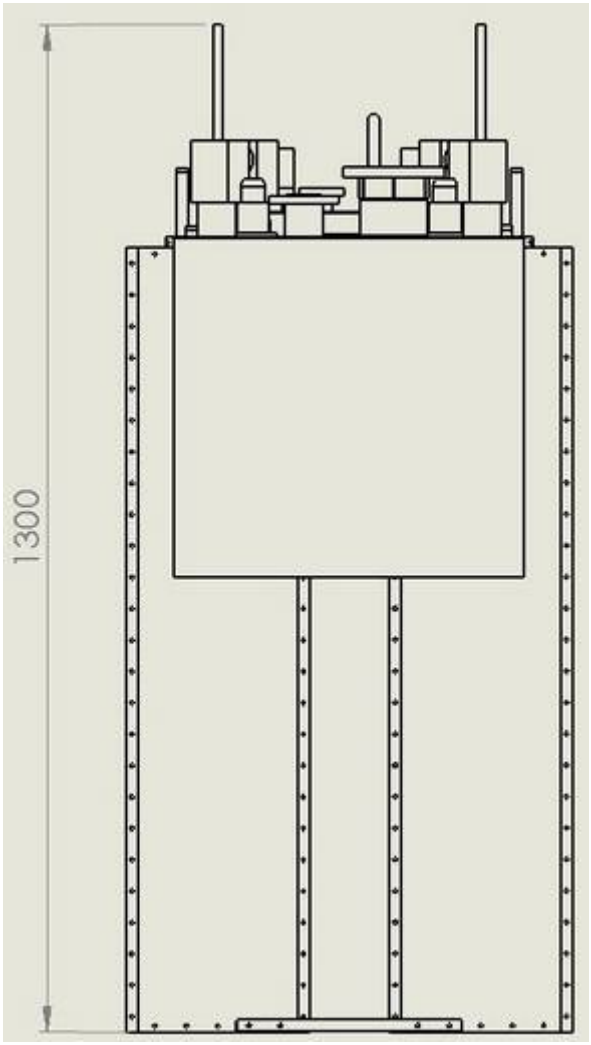
Features:

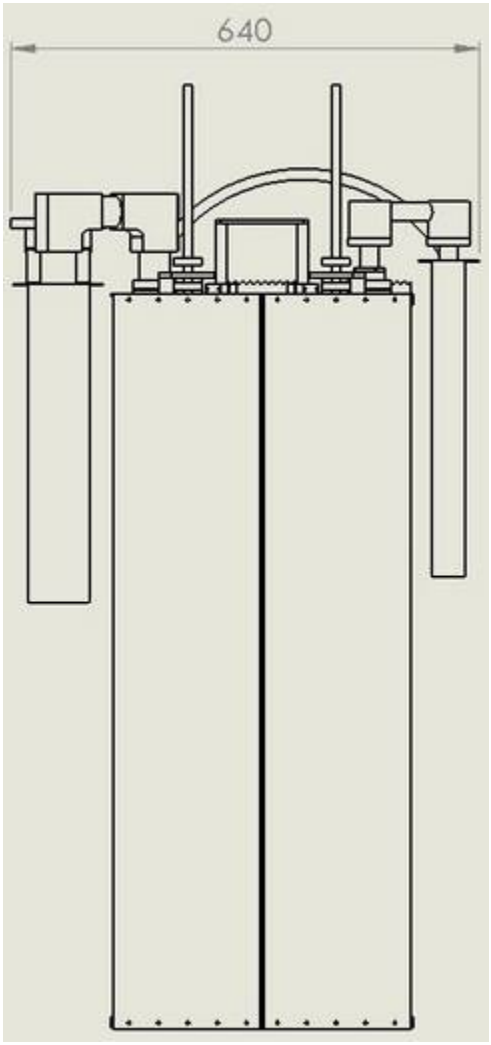
- Distortion – Free Transmission
- Double Balanced Bridge system with pass stop
- Frequency independent input impedance
- The frequency at the broadband input can be varied without retuning of the pass-band cavity filters.
- The broadband input can be used as spare input for expansion without requiring modification of the existing pass-band cavity filters
- If only narrow band input is being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacings.
- Low loss, high isolation
- Natural convection
- Option: Group delay equaliser

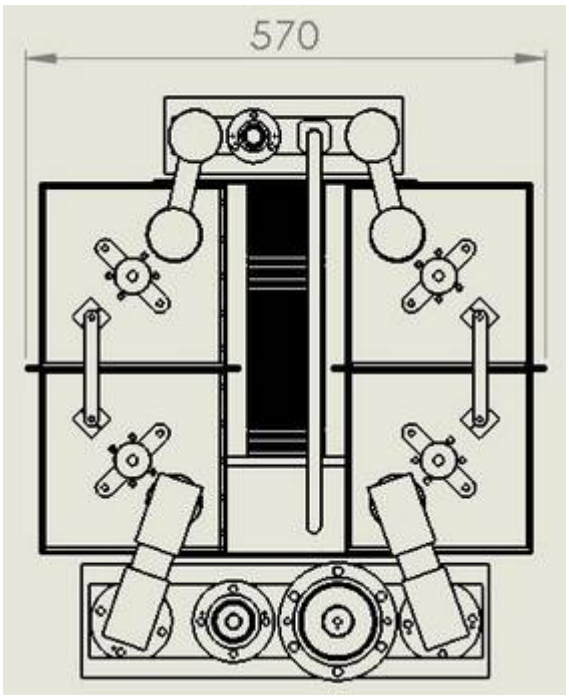


Typical shape of a curves for S11 and S12 parameters for single filter

DIMENSIONS (mm)

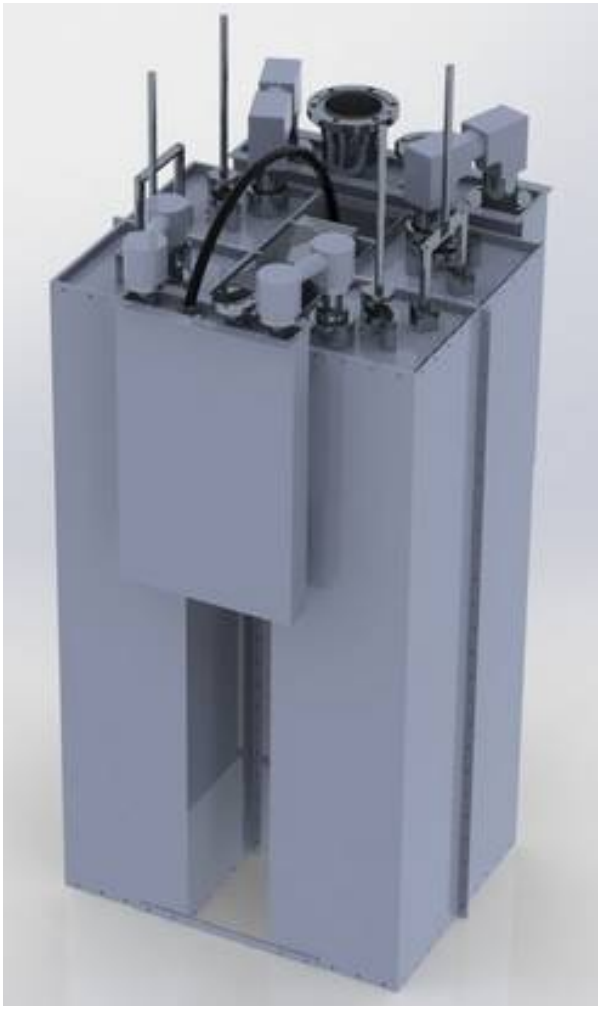


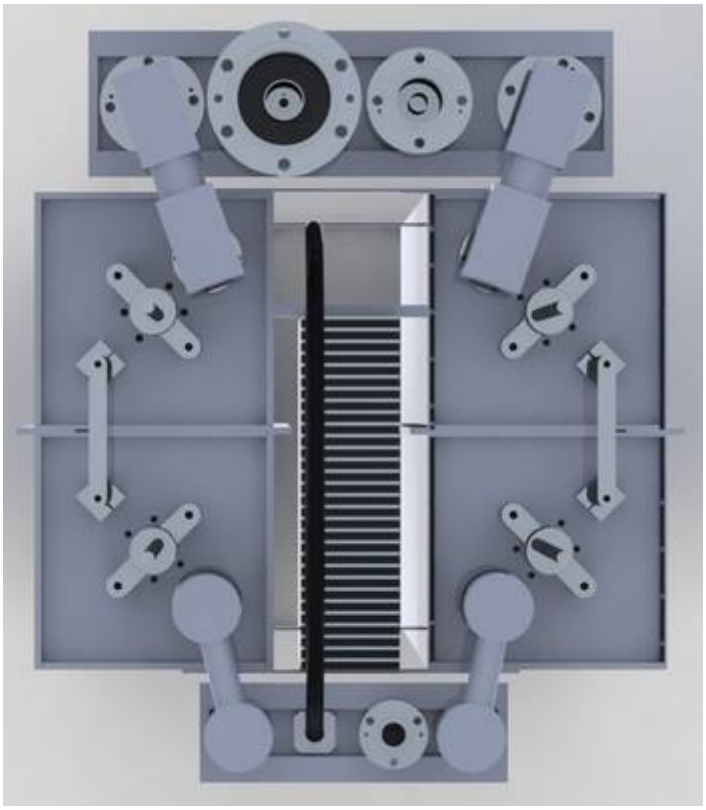


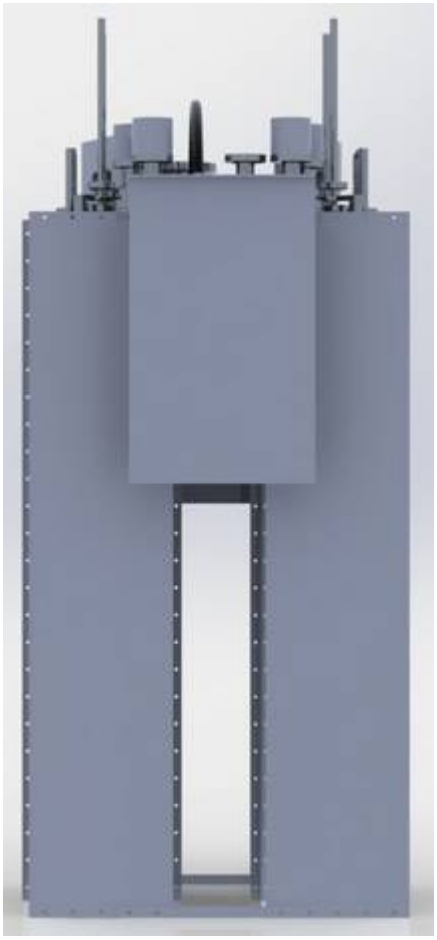


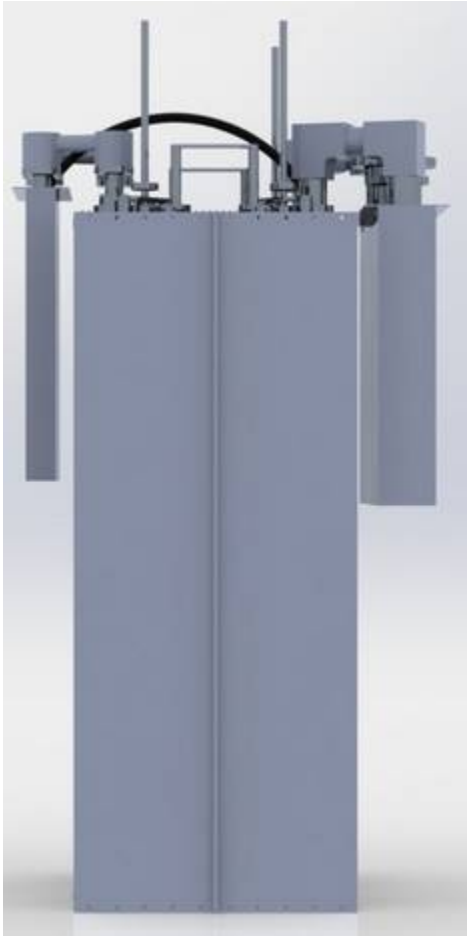
Dimensions	1300 (Maz size)×640×570 mm (51.1(Max size)×25.1×26.3 inch) (H×L×W)
Net Weight	≅ 65 Kg approx.

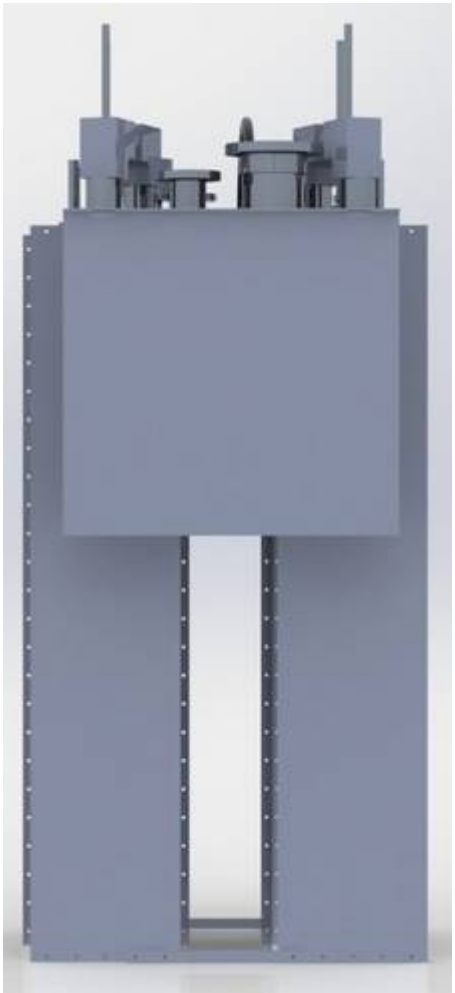
VIEWS OF THE SYSTEM

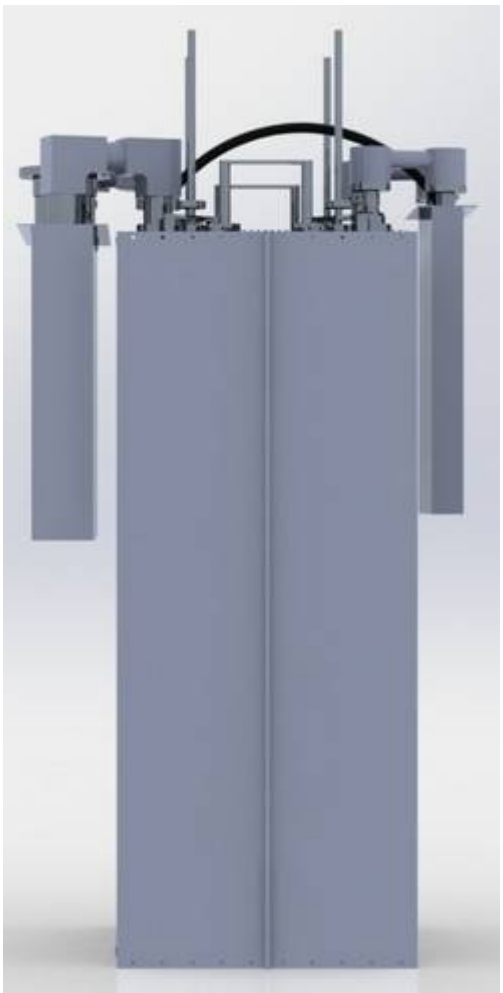


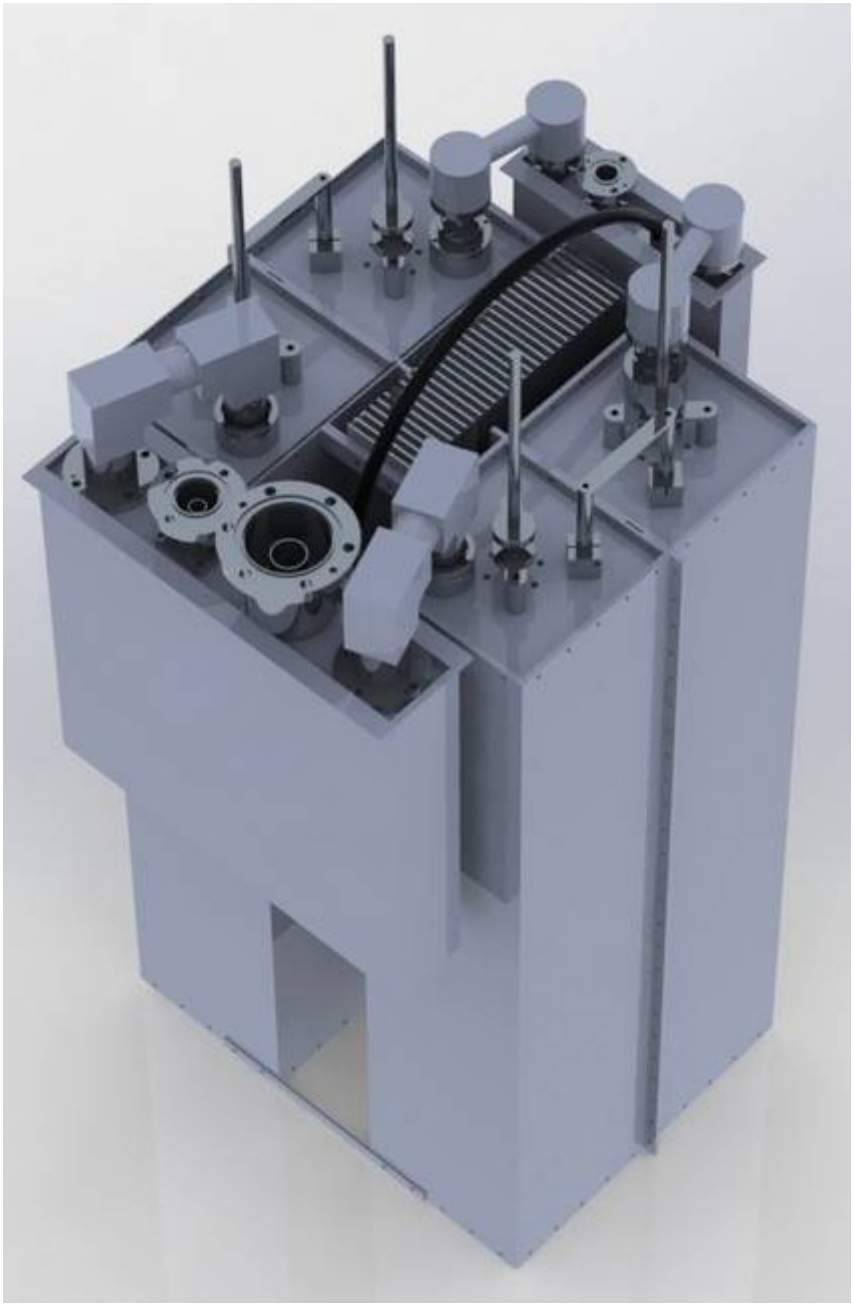












R.V.R. ELETTRONICA S.p.a. – Via del Fonditore, 2/2c – Zona Roveri
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TEL.: (+39) 051 6010506 FAX: (+39) 051 6011104
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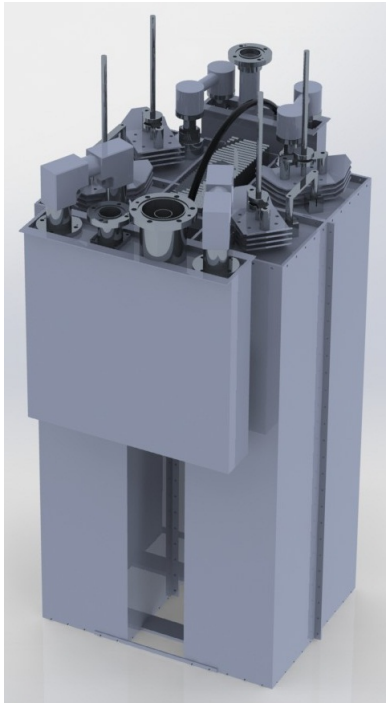
E-Mail: info@telecfe.it www.telecfe.it

TELECOMUNICAZIONI FERRARA SRL

MODEL FDDPDC3-BD

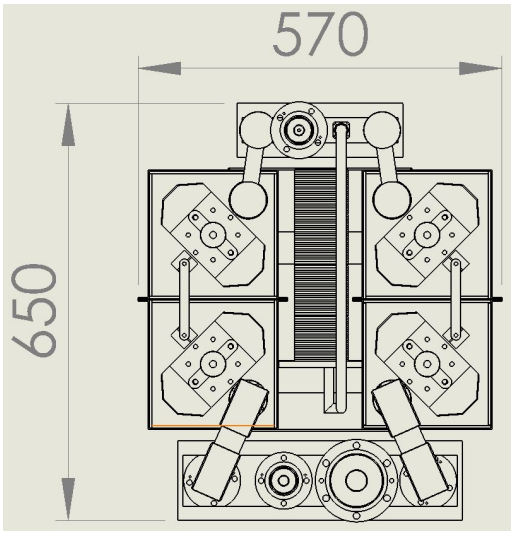


- **2 CHANNELS COMBINER**
- **DOUBLE BALANCED BRIDGE**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

The Double Balanced Bridge System consists of two Band-Pass Filters, two -3dB Couplers and an Absorber. One of the two inputs has a narrow-band characteristic (complying with the band-pass functions of the band-pass filters), while the remaining input shows a broadband characteristic within the operating frequency range of -3dB couplers. Both inputs exhibit a frequency independent load impedance to the RF source.

TYPICAL SPECIFICATIONS

Model	FDDPDC3-BD – Double Bridge Type
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.25 dB Max (Narrow Band Input) 0.1 dB Max (Broad Band Input)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 2 MHz	N/B → B/B ≥ 32 dB B/B → N/B ≥ 40 dB
No. of Input	2 (Narrow Band + Broad Band)
No. of Output	1
Connectors	1+5/8" Narrow Band Input 1+5/8" Broad Band Input 3+1/8" Output (Opt. 1+5/8")
Max Power	5 KW on Narrow Band 15 KW on Broad Band
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

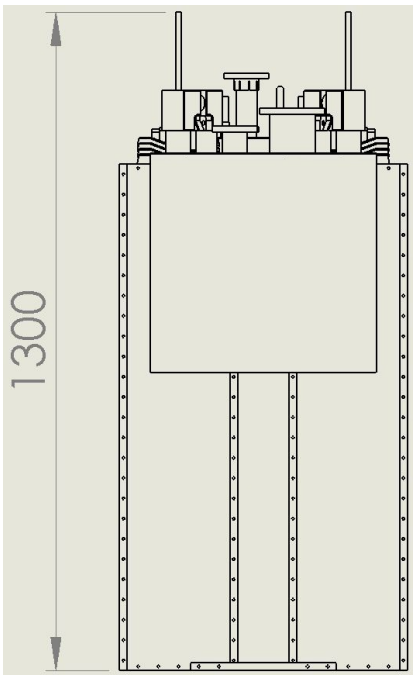


Dimensions in mm

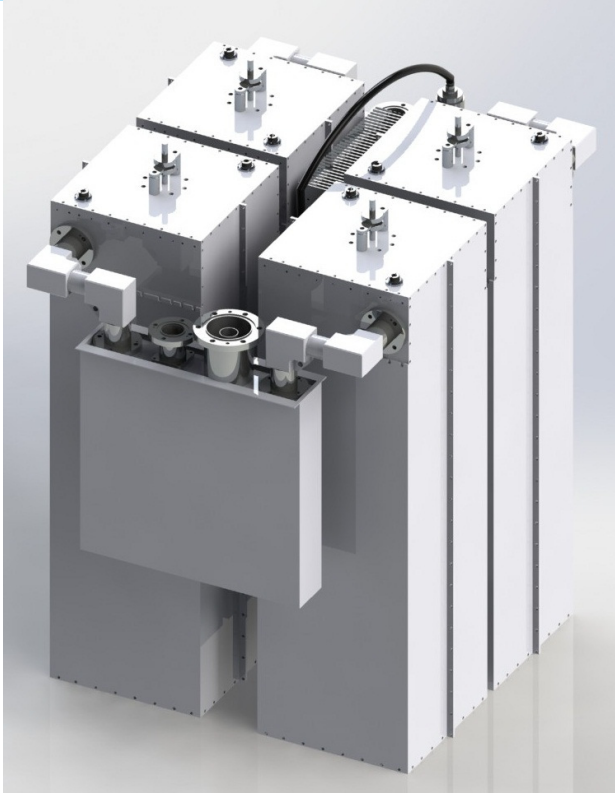
Features:

- Distortion – Free Transmission
- Frequency Independent Input Impedance
- Frequency at the broadband input can be varied without retuning the band-pass cavity filters.
- Broadband input can be used as spare input for expansion without requiring modification of existing band-pass cavity filters.
- If only narrow band input is being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacings.
- Low Loss, High Isolation
- Natural Convection

Dimensions	1300(Max size)×650×570 mm (51.2(Max size)×25.6×22.4 inch) (H×L×W)
Net Weight	≅65 Kg



MODEL FDDPDC5-CD

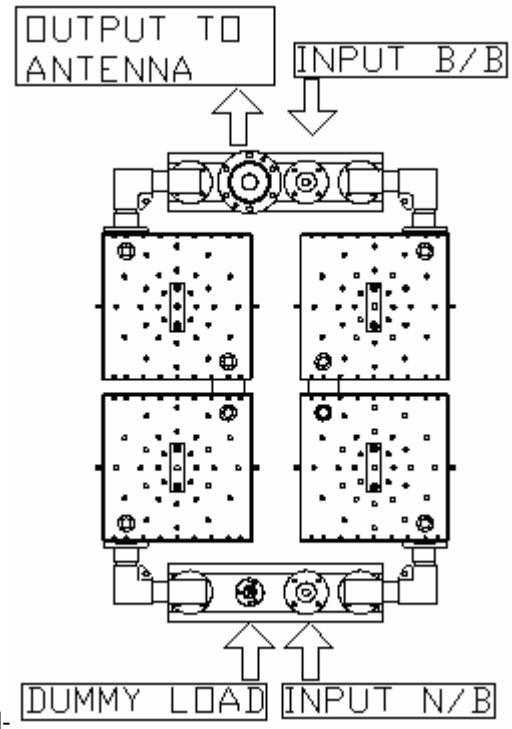


- 2 CHANNELS COMBINER
- DOUBLE BALANCED BRIDGE
- FM BAND 87.5÷108 MHz
- BAND II
- COMPACT SIZE

The Double Balanced Bridge System consists of two Band-Pass Filters, two -3dB Couplers and an Absorber Load. One of the two input ports has narrow-band characteristics (complying with the Band-Pass functions of the Band-Pass filters), while the remaining input shows broadband characteristics within the operating frequency range of -3dB couplers. Both inputs exhibit a frequency independent load impedance to the RF source.

TYPICAL SPECIFICATIONS

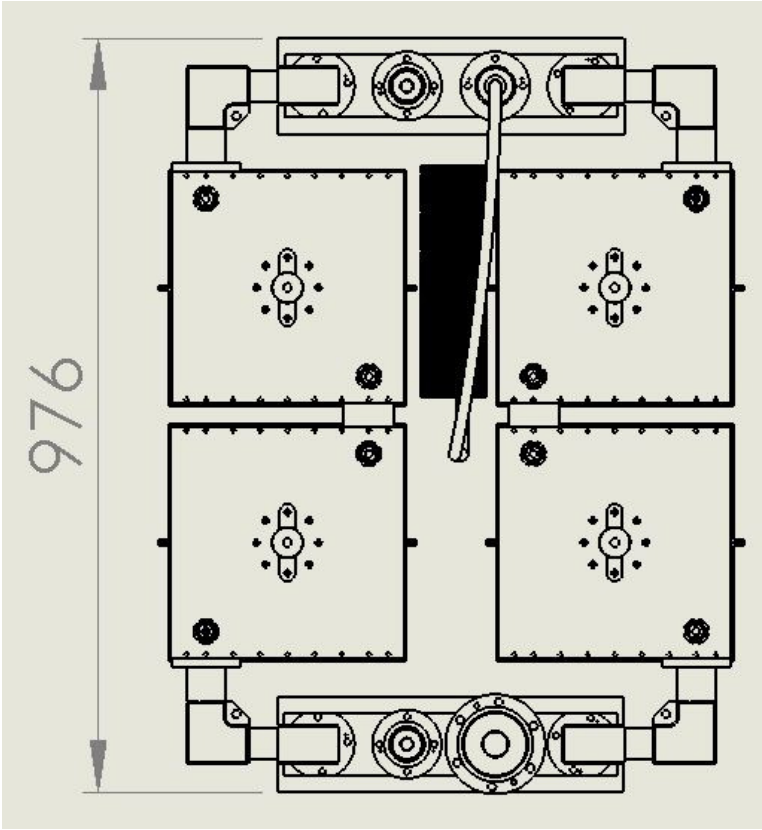
Model	FDDPDC5-CD – Double Bridge Type Compact Version
Input-Output Impedance	50 Ohm
Frequency Range **Broadband input** **Narrowband input**	 87.5-108 MHz Tunable over the 87.5 – 108 MHz Band
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.2 dB Max (Narrow Band Input) 0.1 dB Max (Broad Band Input)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.4 MHz	Narrowband vs. Broadband ≥ 30 dB Broadband vs. Narrowband ≥ 40 dB
Number of Inputs	2 (NarrowBand + BroadBand)
Number of Output	1
Connectors	NarrowBand Input 1+5/8” BroadBand Input 1+5/8” Output 3+1/8”
Max Output Power **20 KW**	10 KW on NarrowBand Input max. 10 KW on BroadBand Input max.
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

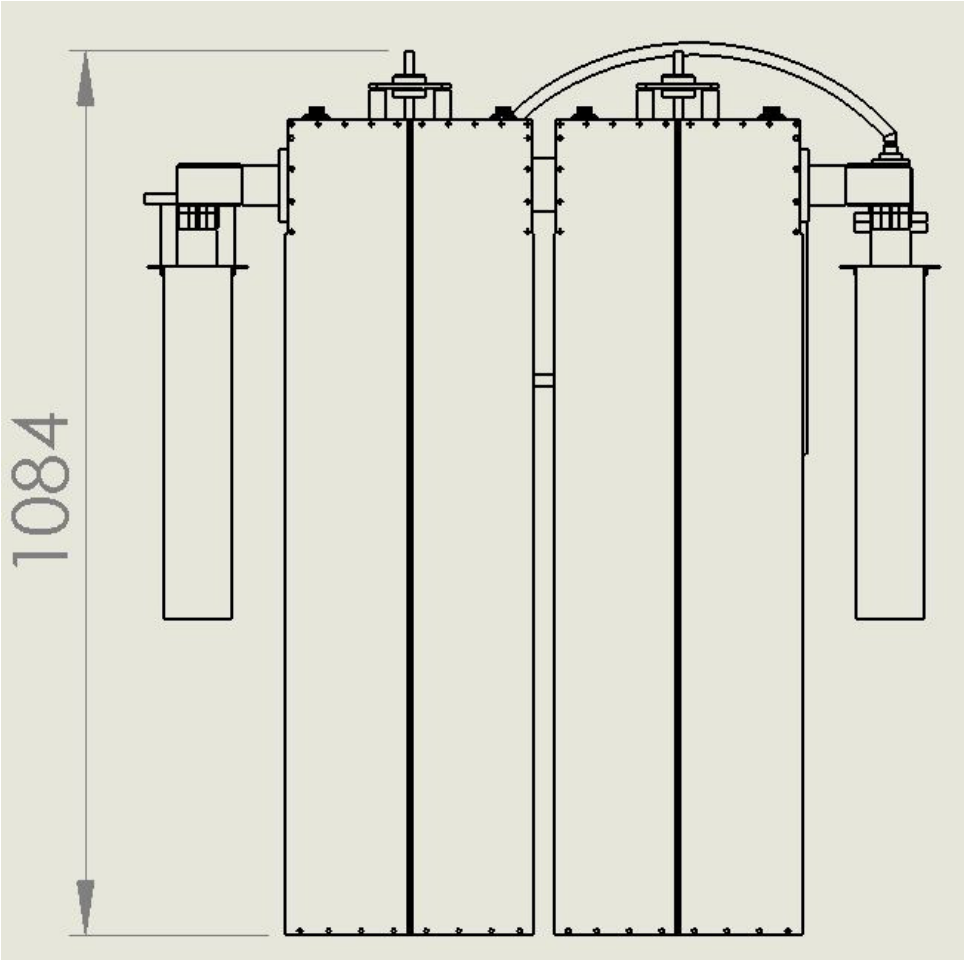


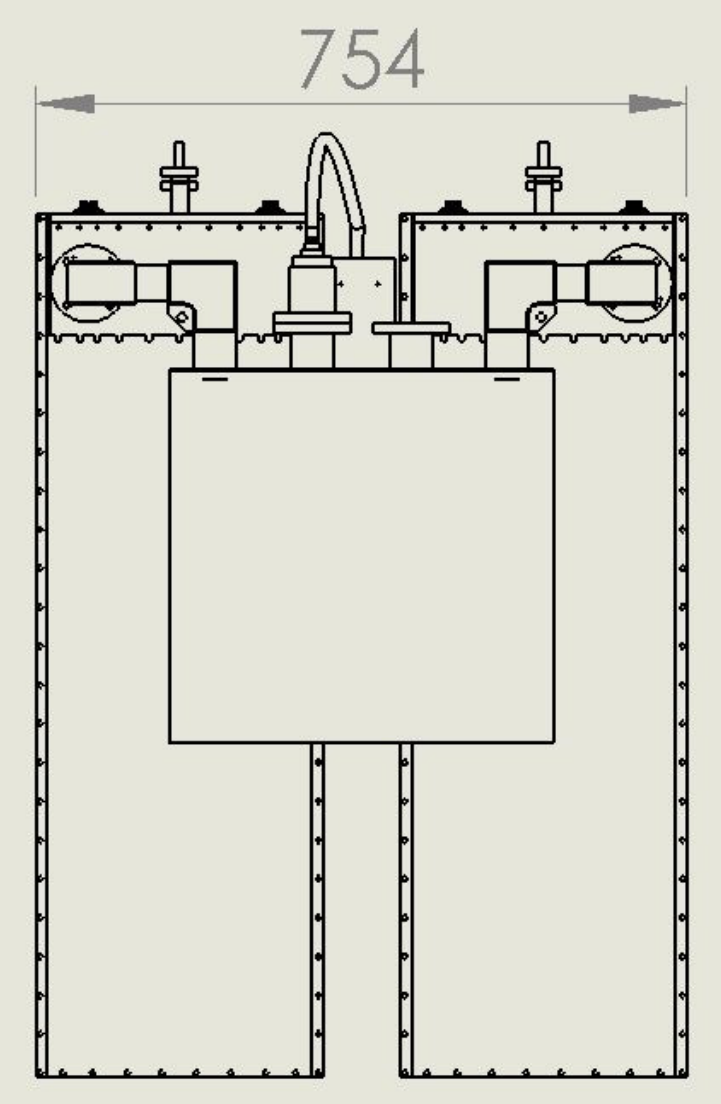
Features:

- Distortion – Free Transmission
- Double Balanced Bridge System (Broadband Input not filtered)
- Frequency Independent Input Impedance
- Frequency at Broadband input can be varied without retuning the Band-Pass cavity filters.
- Broadband input can be used as spare input for expansion without requiring any modification of existing Band-Pass cavity filters
- If only Narrowband input is being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacings.
- Low Loss, High Isolation
- Natural Convection

DIMENSIONS

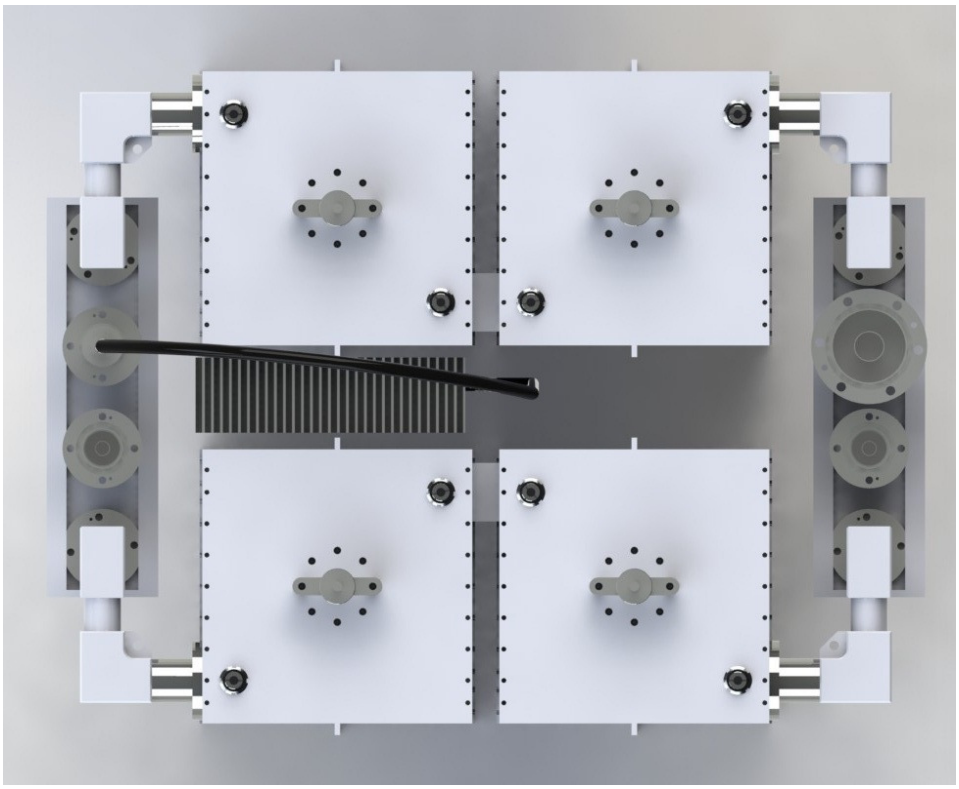


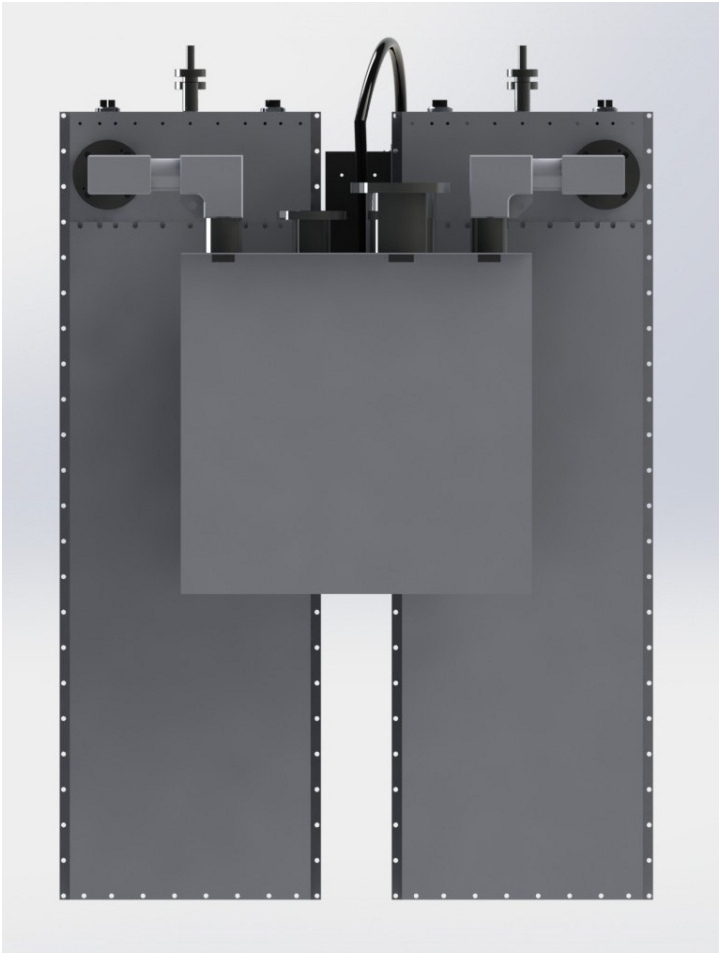


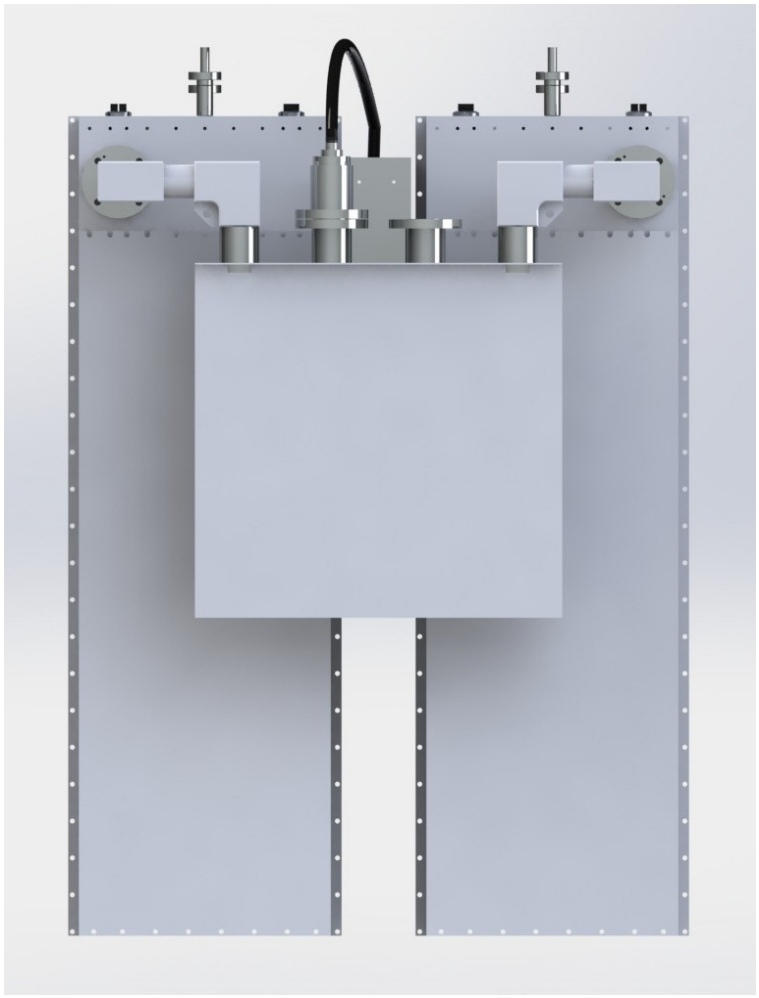


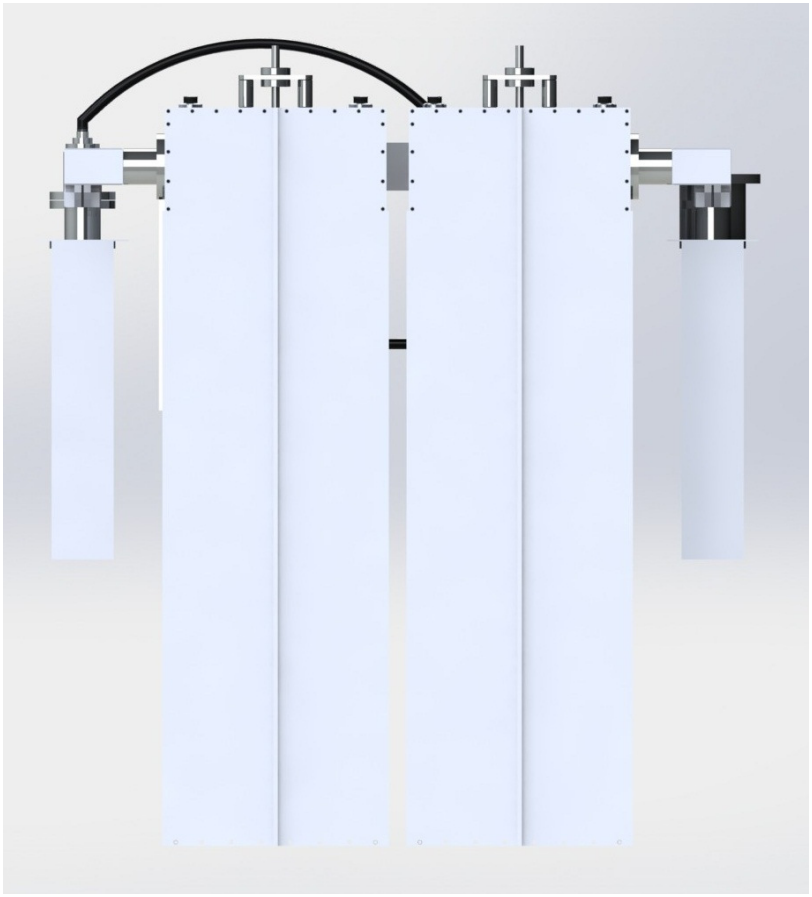
Dimensions	1085(Max size)×976×754 mm (42.7(Max size)×38.4×29.6 inch) (H×L×W)
Net Weight	≅ 116 Kg

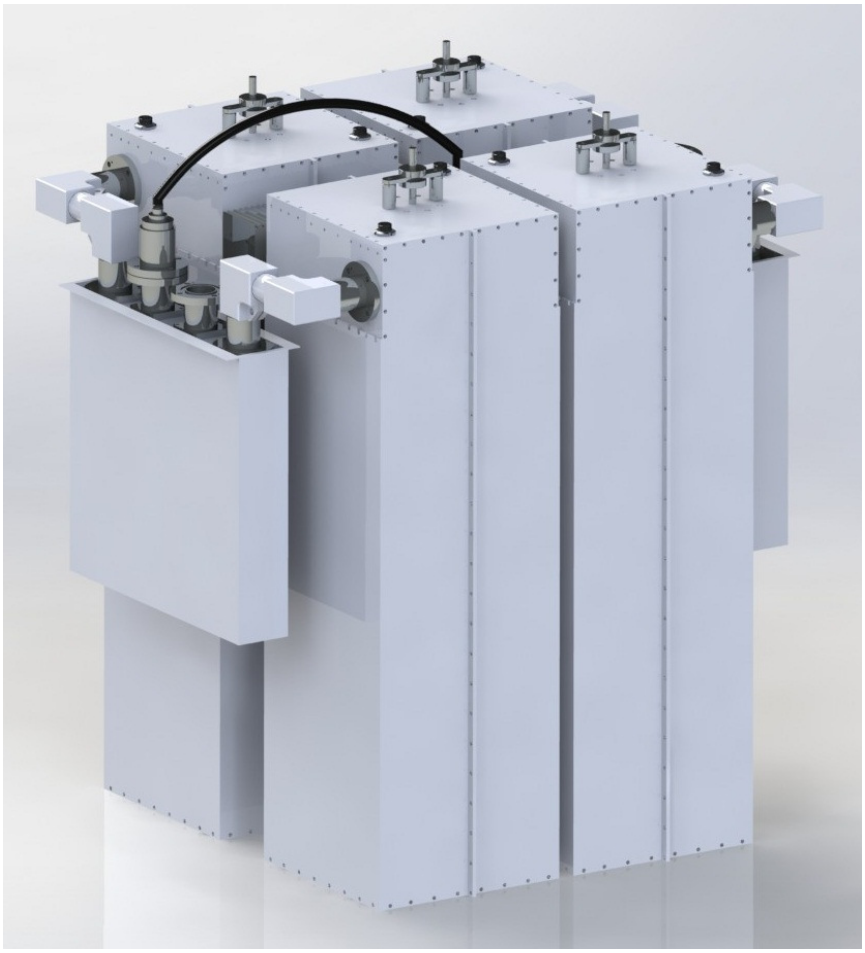
VIEWS OF THE SYSTEM

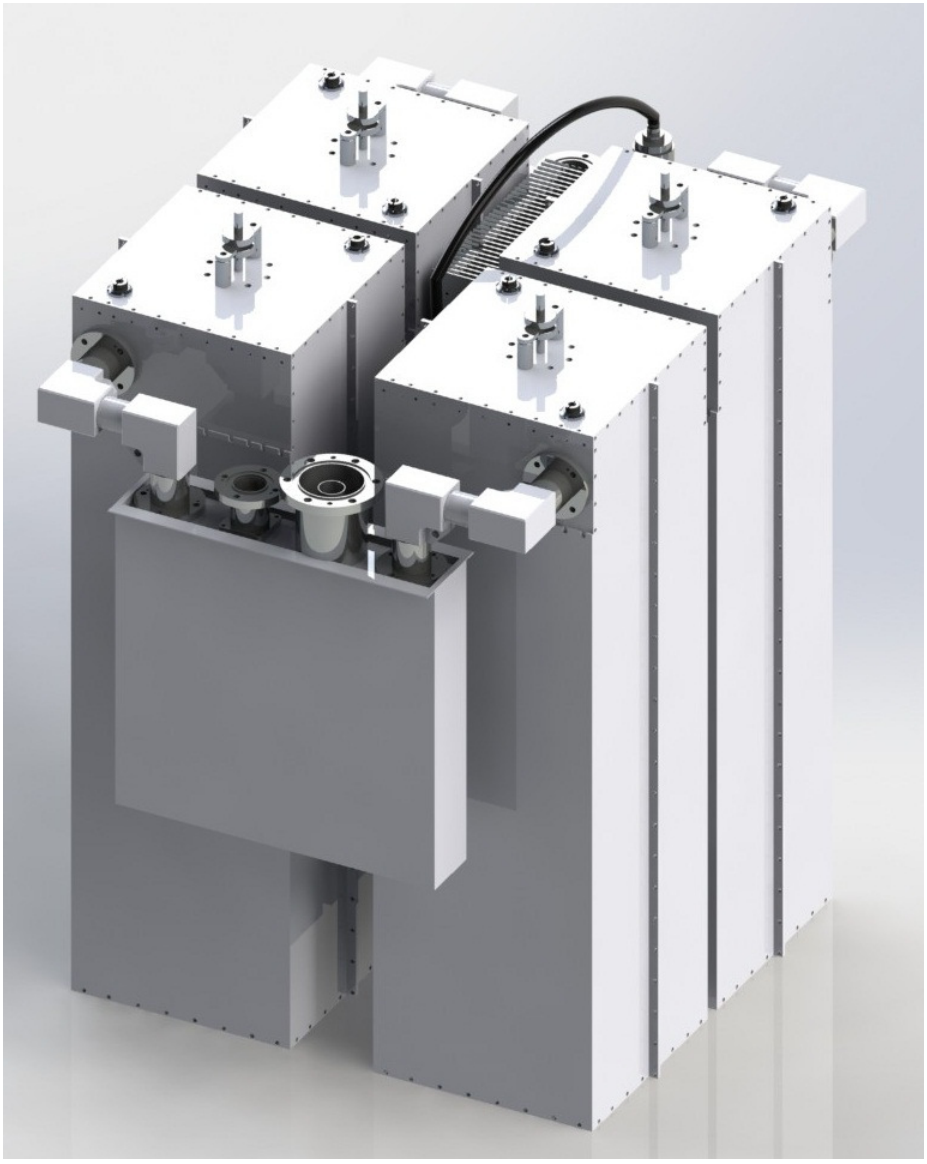




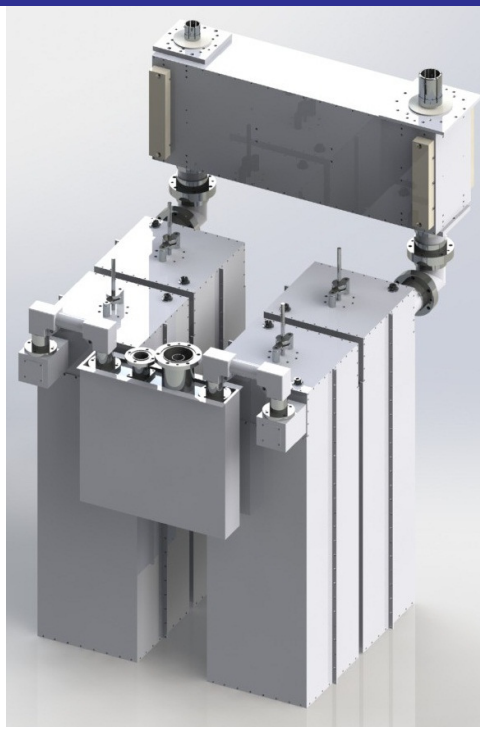








MODEL FDDPDC5-CE



- **COMBINER 2 CHANNEL**
- **DOUBLE BALANCED BRIDGE**
- **FM BAND 87.5-108 MHz**
- **BAND II**

The double balanced bridge system consist of two band-pass filter, two -3dB coupler and a absorber. One of both inputs has a narrow-band characteristic (complying with the pass-band functions of the band pass filters), while the remaining input features a broadband characteristic within the operating frequency range of -3dB couplers, both inputs exhibits a frequency independent load impedance to the RF source.

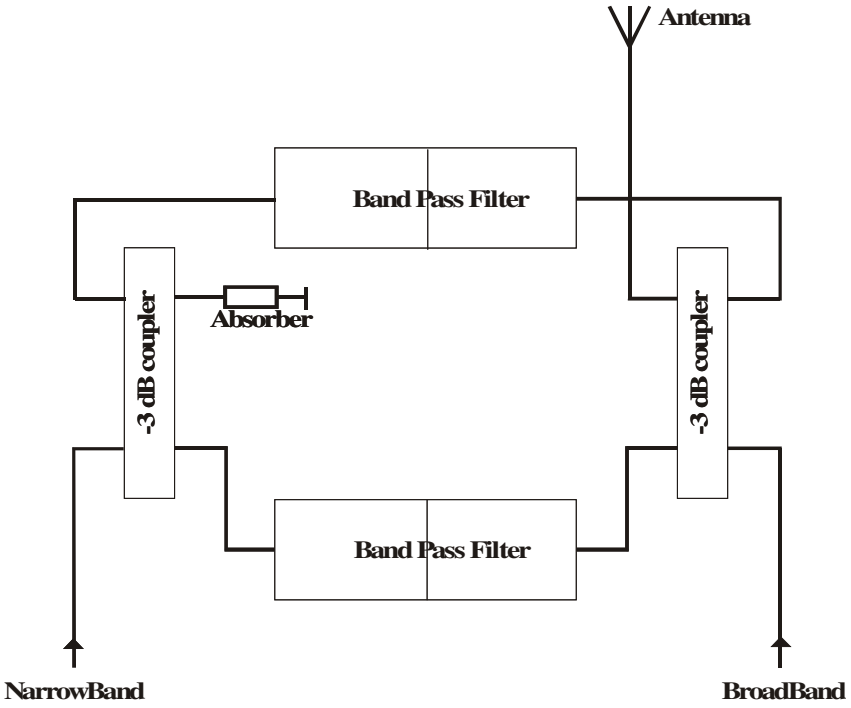
TYPICAL SPECIFICATIONS

Model	FDDPDC5-CE – Double Bridge Type
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.25 dB Max (Narrow Band Input) 0.1 dB Max (Broad Band Input)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.5 MHz	N/B → B/B ≥ 30 dB B/B → N/B ≥ 40 dB
No. of Input	2 (NarrowBand + BroadBand)
No. of Output	1
Connectors	NarrowBand Input 1+5/8" Option 3+1/8" BroadBand Input 3+1/8" Option 4+1/2" Output 4+1/2" Option 6+1/2"
Max Power	10KW on NarrowBand Input 60KW on BroadBand Input
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminum, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

Features:

- Distortion – Free Transmission
- Frequency independent input impedance
- The frequency at the broadband input can be varied without retuning of the pass-band cavity filters.
- The broadband input can be used as spare input for expansion without requiring modification of the existing pass-band cavity filters
- Low loss, high isolation
- Natural convection
- If only narrow band input is being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacings.
- Low loss, high isolation
- Option: Group delay equaliser

SCHEMATIC BLOCK



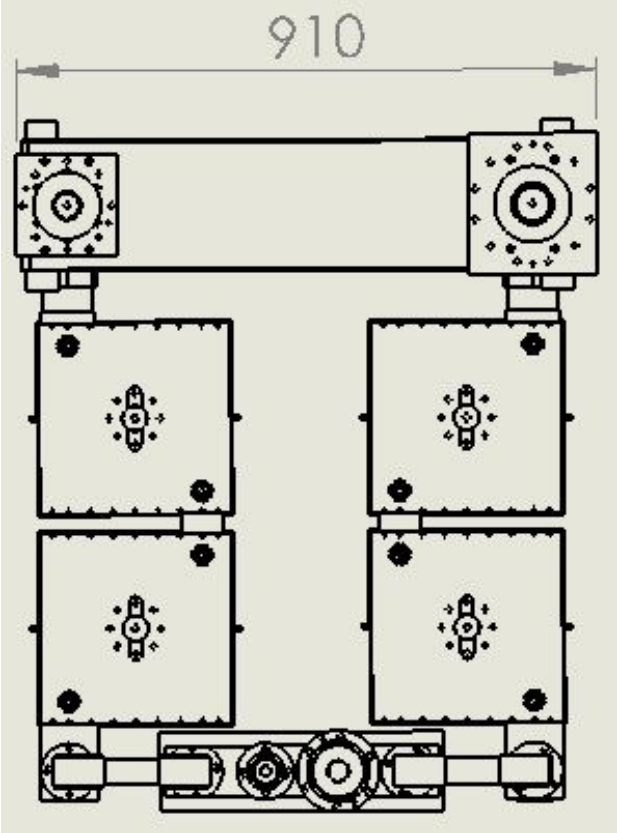
Schematic block of double bridge diplexer

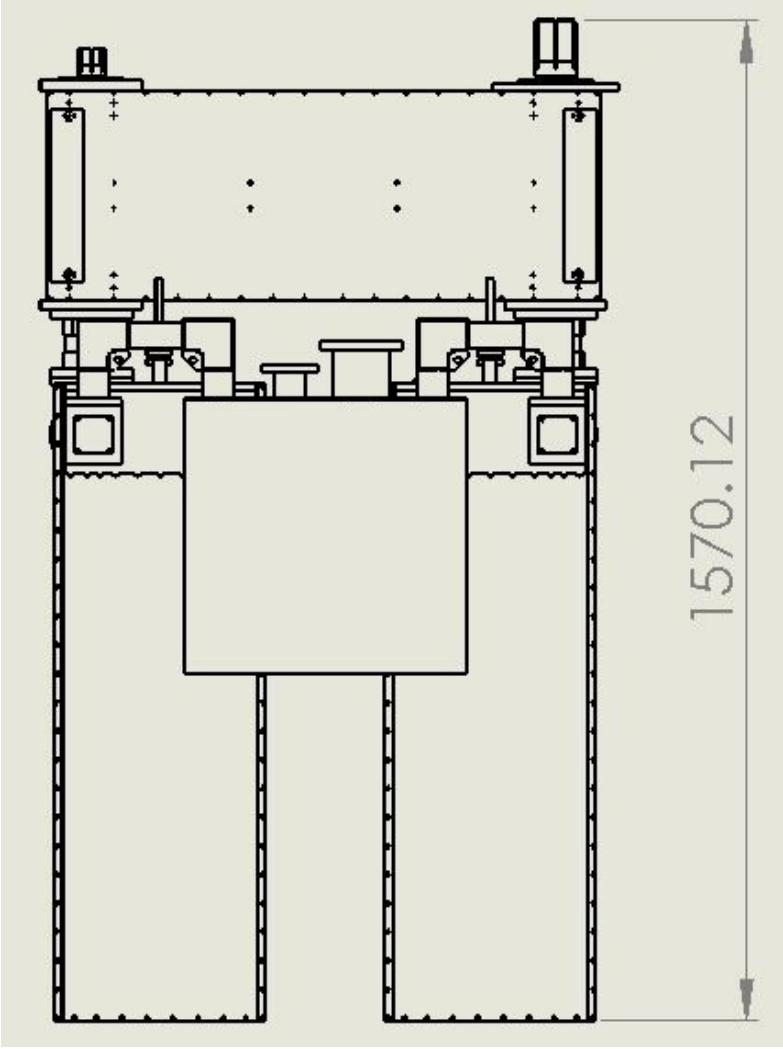
The double bridge filter is factory tuned. When ordering, please specify the desired operating channel for the narrow band input.

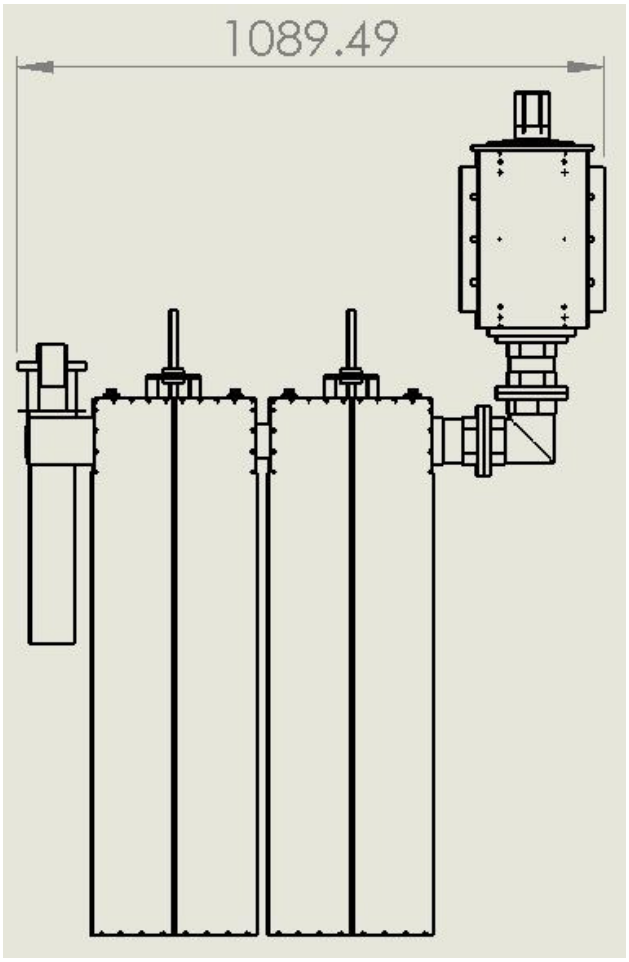
The broadband input accepts, however, any frequency range. The devices can also be tuned by the customer.

Detailed instructions and adjustment tools are supplied with each unit.

DIMENSIONS

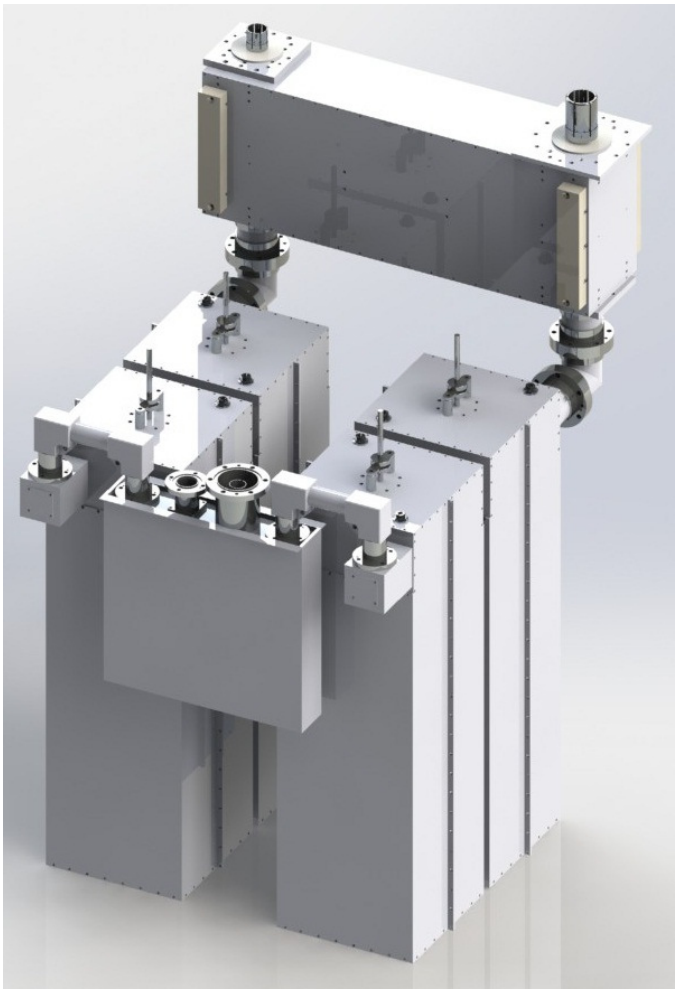


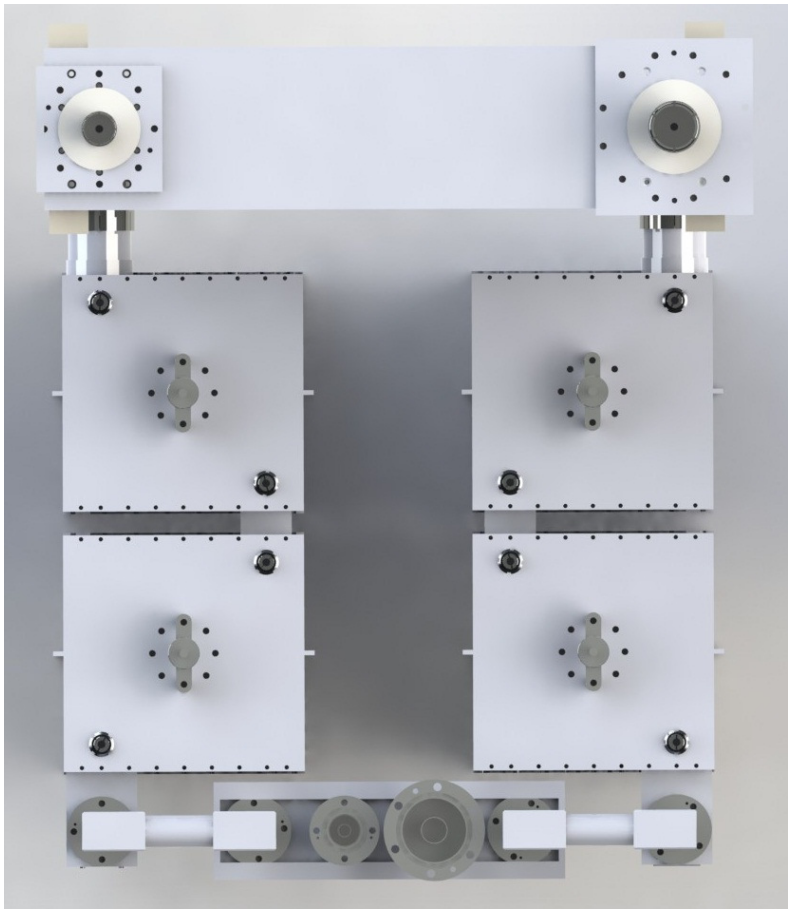


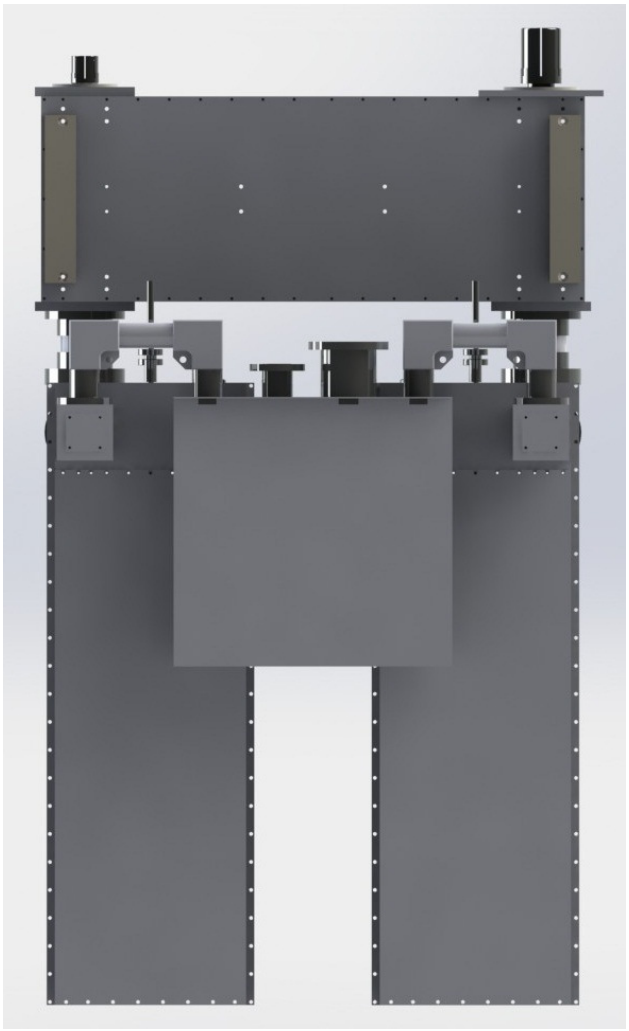


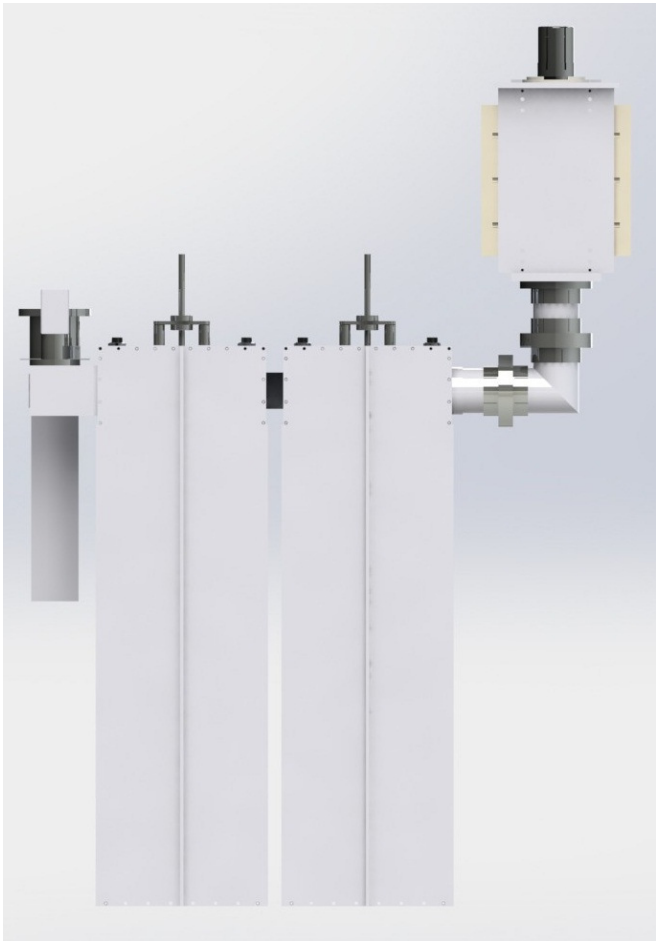
Dimensions	1570(Max size)×1090×910 mm (61.8(Max size)×42.9×35.8 inch) (H×L×W)
Net Weight	≅ 115 Kg

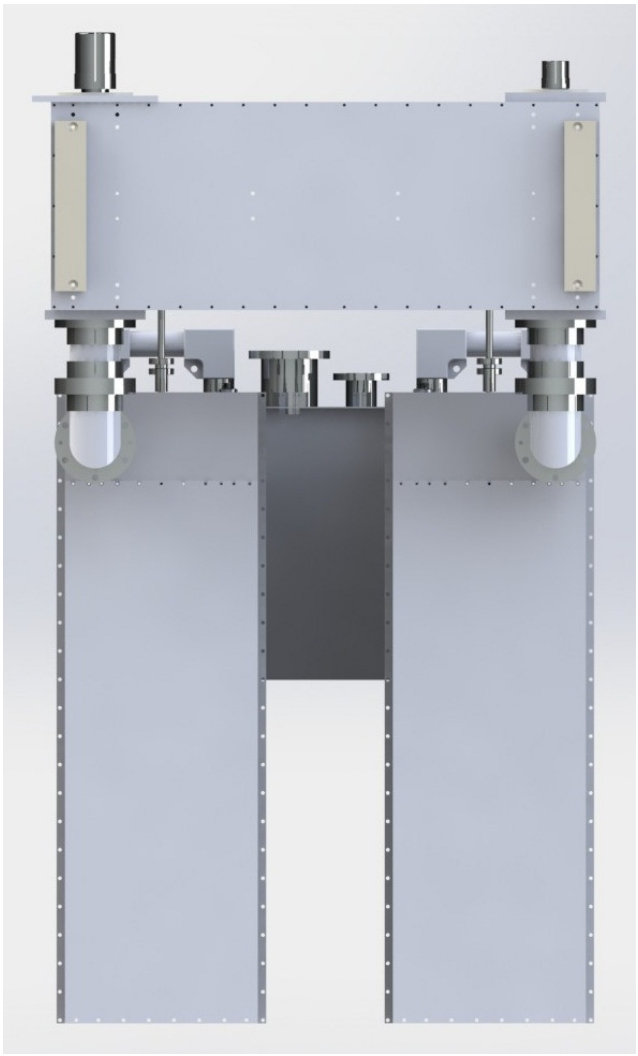
VIEWS OF THE SYSTEM

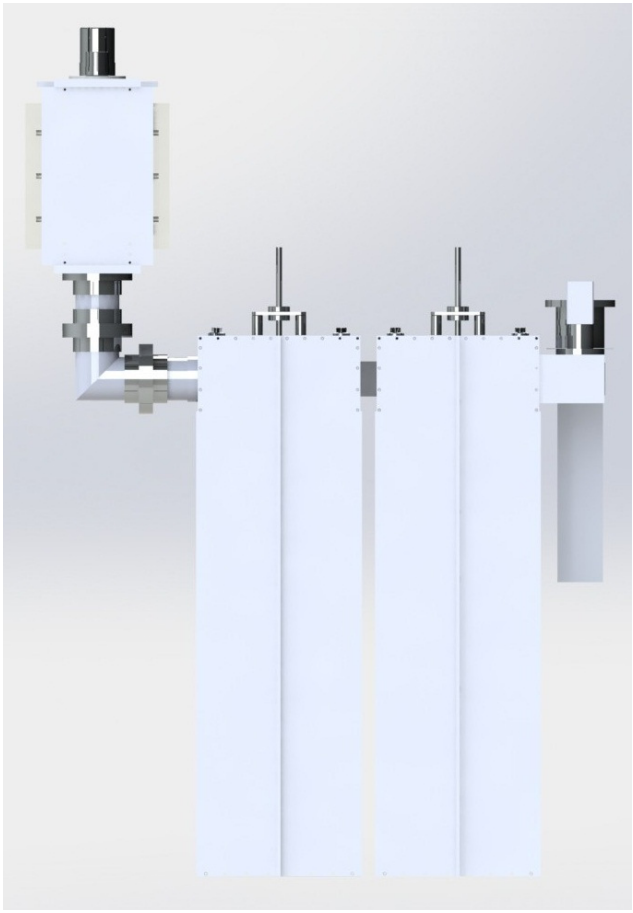


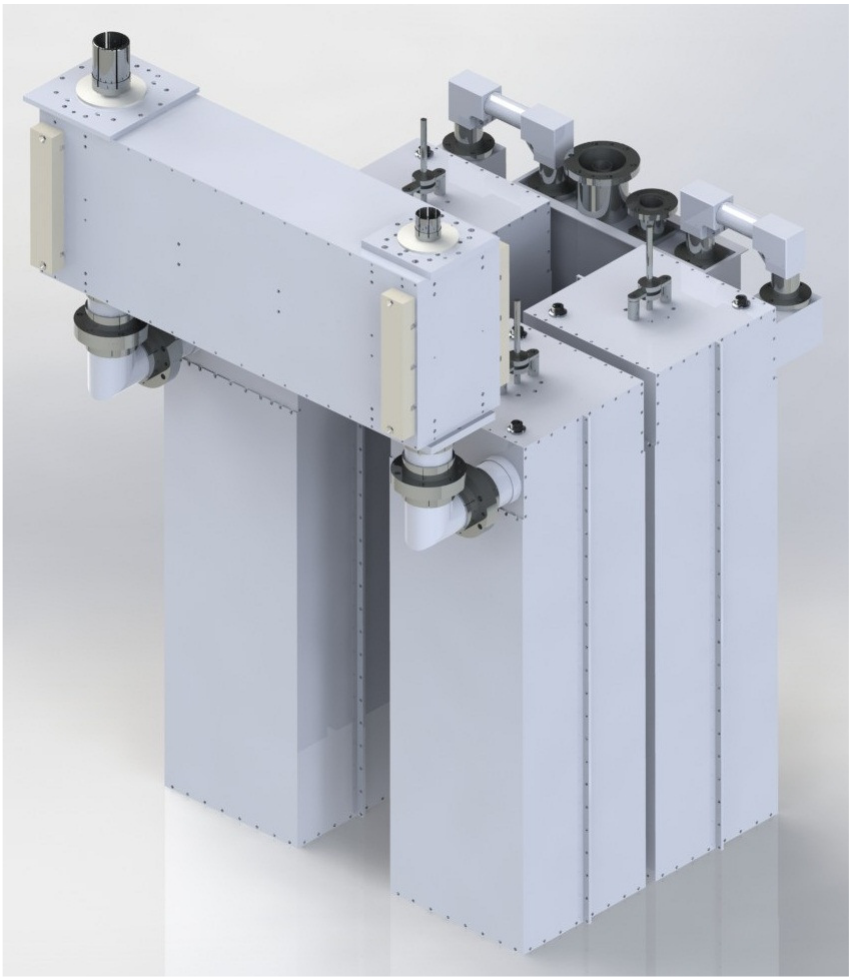






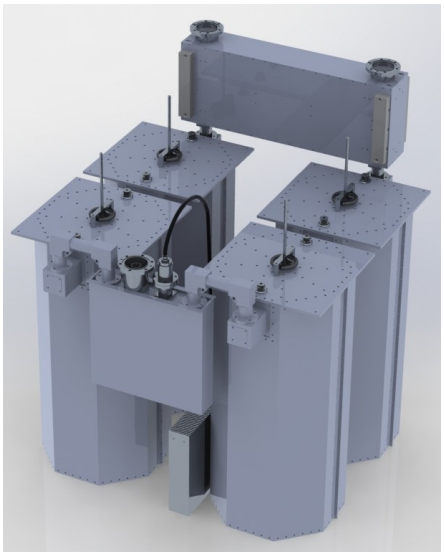






MODEL FDDPDC10DE

- **COMBINER 2 CHANNELS**
- **DOUBLE BALANCED BRIDGE**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

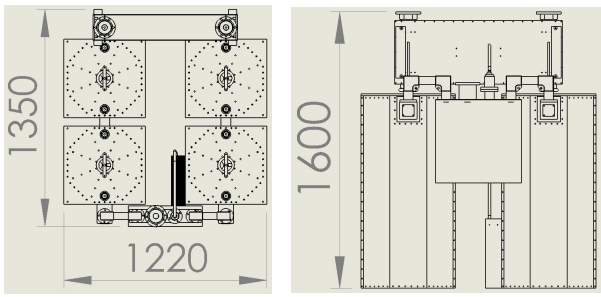


Standard version

The double balanced bridge system consist of two band-pass filter, two -3dB coupler and a absorber. One of both inputs has a narrow-band characteristic (complying with the pass-band functions of the band pass filters), while the remaining input features a broadband characteristic within the operating frequency range of -3dB couplers, both inputs exhibits a frequency independent load impedance to the RF source.

TYPICAL SPECIFICATIONS

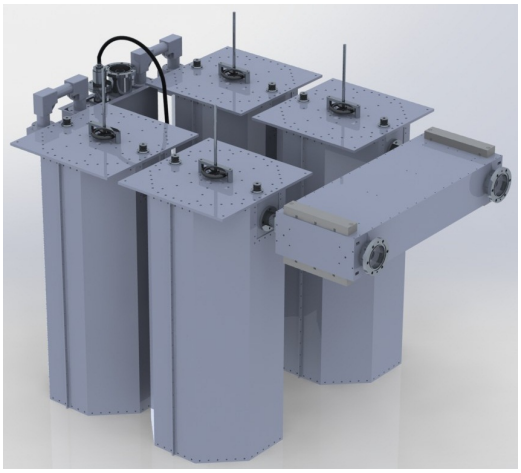
Model	FDDPDC10DE – Type DOUBLE BRIDGE
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.2 dB Max (Narrow Band Input) 0.1 dB Max (Broad Band Input)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.2 MHz	N/B → B/B ≥ 30 dB B/B →N/B ≥ 35dB
No. of Input	2 (NarrowBand + BroadBand)
No. of Output	1
Connectors	NarrowBand Input 3+1/8” BroadBand Input 3+1/8” Output 3+1/8”
Max Power	20KW on NarrowBand Input 20KW on BroadBand Input
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



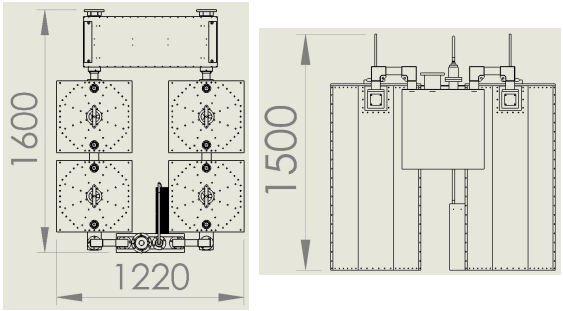
Dimensions in mm

Features:

- Distortion – Free Transmission
- Double Balanced Bridge system with pass stop
- Frequency independent input impedance
- The frequency at the broadband input can be varied without retuning of the pass-band cavity filters.
- The broadband input can be used as spare input for expansion without requiring modification of the existing pass-band cavity filters
- If only narrow band input is being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacings.
- Low loss, high isolation
- Natural convection
- Option: Group delay equaliser



Different assembling



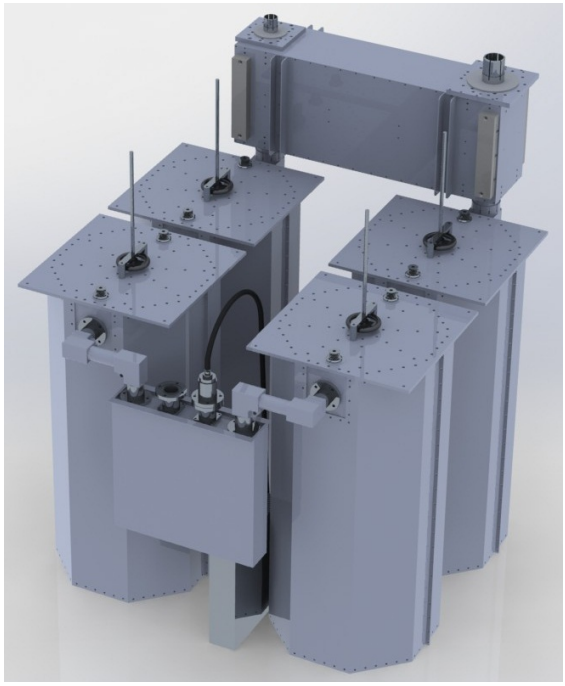
Dimensions in mm

STANDARD VERSION	
Dimensions	1600(Max size)×1350×1220 mm (63.0(Max size)×53.1×48.0 inch) (H×L×W)
Net Weight	≅ 205 Kg

DIFFERENT ASSEMBLY	
Dimensions	1500(Max size)×1600×1220 mm (59(Max size)×63.0×48.0 inch) (H×L×W)
Net Weight	≅ 205 Kg

MODEL FDDPDC10DF

- **COMBINER 2 CHANNELS**
- **DOUBLE BALANCED BRIDGE**
- **FM BAND 87.5÷108 MHz**
- **BAND II**



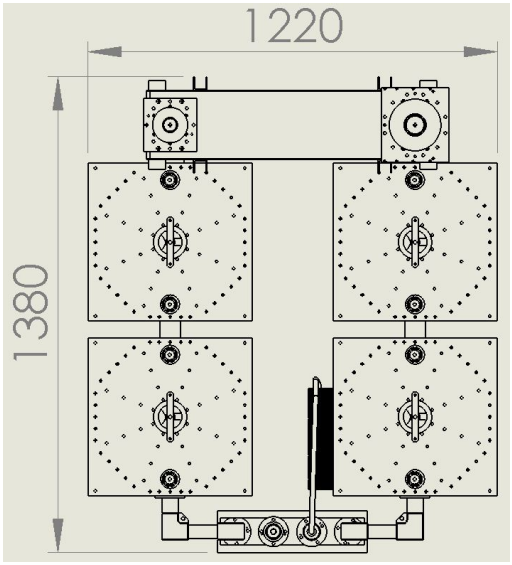
The double balanced bridge system consist of two band-pass filter, two -3dB coupler and a absorber. One of both inputs has a narrow-band characteristic (complying with the pass-band functions of the band pass filters), while the remaining input features a broadband characteristic within the operating frequency range of -3dB couplers, both inputs exhibits a frequency independent load impedance to the RF source.

TYPICAL SPECIFICATIONS

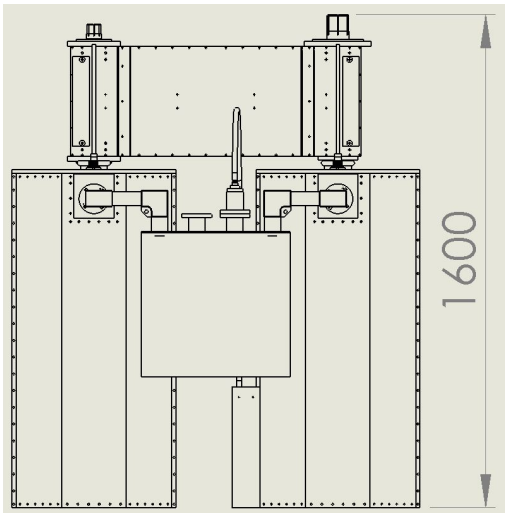
Model	FDDPDC10DF – Type DOUBLE BRIDGE
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.2 dB Max (Narrow Band Input) 0.1 dB Max (Broad Band Input)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.5 MHz	≥ 30 dB
No. of Input	2 (NarrowBand + BroadBand)
No. of Output	1
Connectors	NarrowBand Input 1+5/8" (Opt 7/8" EIA) BroadBand Input 4+1/8" Output 6+1/8"
Max Power	20KW on NarrowBand Input 40KW on BroadBand Input
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

Features:

- Distortion – Free Transmission
- Double Balanced Bridge system with pass stop
- Frequency independent input impedance
- The frequency at the broadband input can be varied without retuning of the pass-band cavity filters.
- The broadband input can be used as spare input for expansion without requiring modification of the existing pass-band cavity filters
- If only narrow band input is being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacings.
- Low loss, high isolation
- Natural convection
- Option: Group delay equaliser

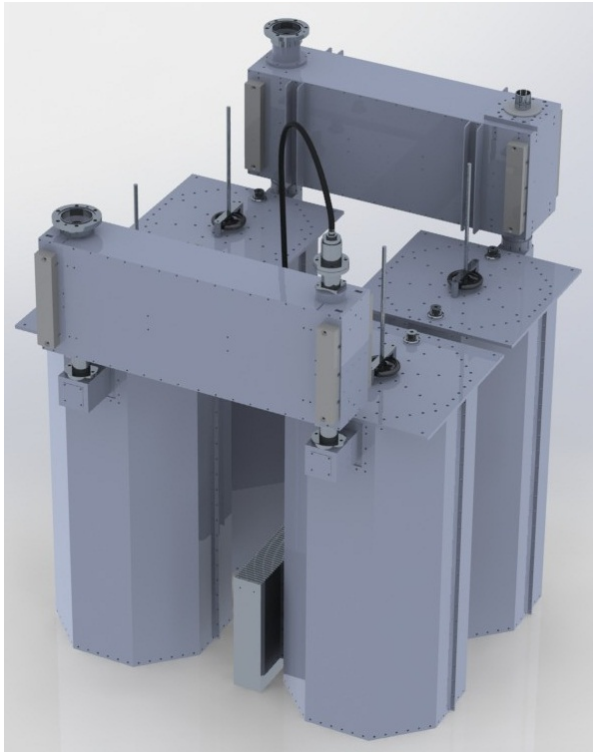


Dimensions in mm



Dimensions	1600(Max size)×1380×1220 mm (63.0(Max size)×54.3×48.0 inch) (H×L×W)
Net Weight	≅ 215 Kg

MODEL FDDPDC20EF



- **COMBINER 2 CHANNELS**
- **DOUBLE BALANCED BRIDGE**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

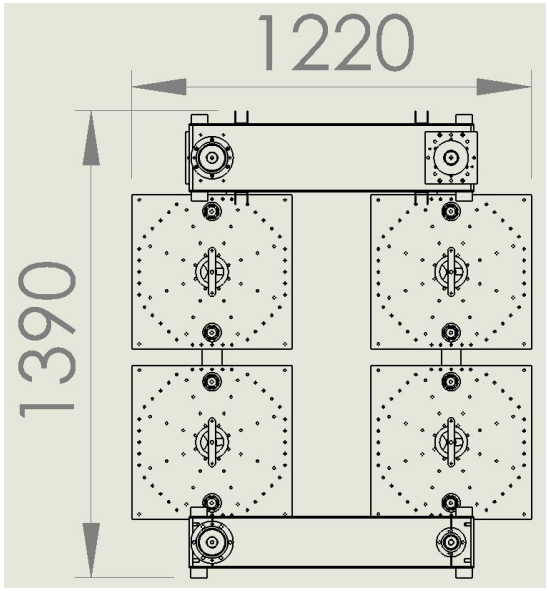
The double balanced bridge system consist of two band-pass filter, two -3dB coupler and a absorber. One of both inputs has a narrow-band characteristic (complying with the pass-band functions of the band pass filters), while the remaining input features a broadband characteristic within the operating frequency range of -3dB couplers, both inputs exhibits a frequency independent load impedance to the RF source.

TYPICAL SPECIFICATIONS

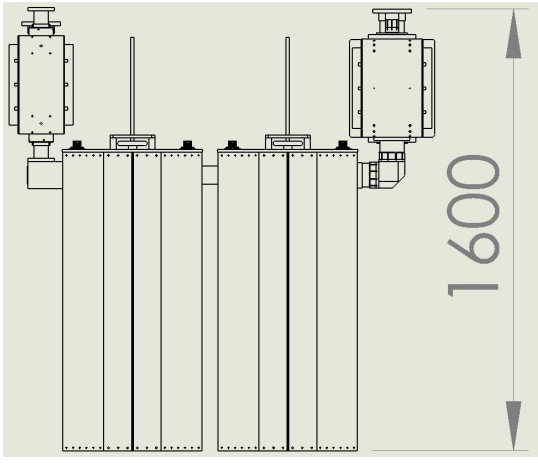
Model	FDDPDC20EF – Type DOUBLE BRIDGE
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.15 dB Max (Narrow Band Input) 0.1 dB Max (Broad Band Input)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.5 MHz	N/B → B/B ≥ 30 dB B/B → N/B ≥ 35dB
No. of Input	2 (Narrow Band + Broad Band)
No. of Output	1
Connectors	Narrow Band Input 3+1/8” Broad Band Input 3+1/8” Output 4+1/8”
Max Power	30KW on Narrow Band Input 40KW on Broad Band Input
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

Features:

- Distortion – Free Transmission
- Double Balanced Bridge system with pass stop
- Frequency independent input impedance
- The frequency at the broadband input can be varied without retuning of the pass-band cavity filters.
- The broadband input can be used as spare input for expansion without requiring modification of the existing pass-band cavity filters
- If only narrow band input is being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacings.
- Low loss, high isolation
- Natural convection
- Option: Group delay equaliser

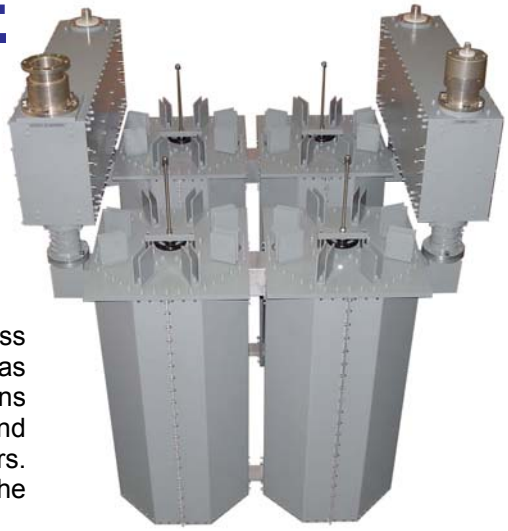


Dimensions in mm



Dimensions	1600(Max size)×1390×1220 mm (63.0(Max size)×54.72×48.03 inch) (H×L×W)
Net Weight	≅ 160 Kg

MODEL FDDPDC20HE

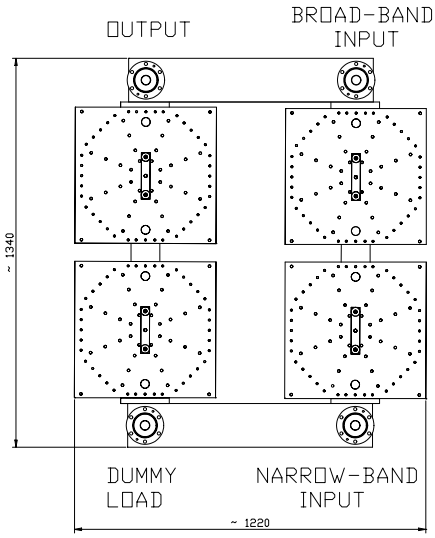


- **2 CHANNELS COMBINER**
- **DOUBLE BALANCED BRIDGE**
- **FM BAND: 87.5÷108 MHz**
- **BAND II**

The Double Balanced Bridge System consists of two Band-Pass Filters, two -3dB Couplers and an Absorber. One of the two inputs has a narrow-band characteristic (complying with the band-pass functions of the band-pass filters), while the other input has a broadband characteristic within the operating frequency range of -3dB couplers. Both inputs exhibit a frequency independent load impedance to the RF source.

TYPICAL SPECIFICATIONS

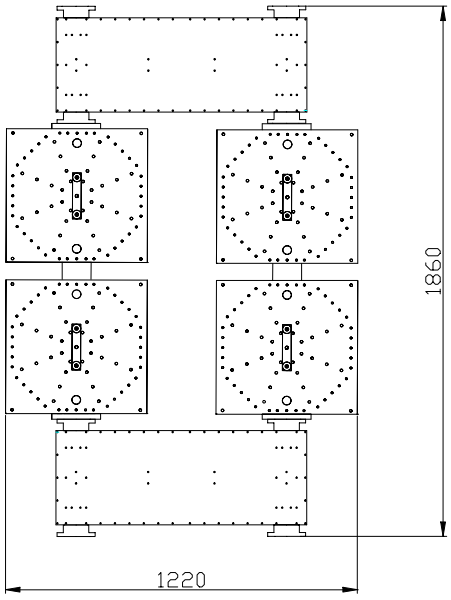
Model	FDDPDC20HE – Double Bridge Type
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.15 dB Max (Narrow Band Input) 0.1 dB Max (Broad Band Input)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.2 MHz	N/B → B/B ≥ 35 dB B/B → N/B ≥ 55dB
Number of Inputs	2 (Narrow Band + Broad Band)
Number of Outputs	1
Connectors	Narrow Band Input 3+1/8" Broad Band Input 3+1/8" Output 4+1/2"
Max Power	30KW on Narrow Band Input 30KW on Broad Band Input
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



STANDARD VERSION
FDDPDC20HE01

Features:

- Distortion – Free Transmission
- Frequency Independent Input Impedance
- Frequency at broadband input can be ward without retuning band-pass cavity filters Broadband input can be used as spare input for expansion without requiring modifications of the existing pass-band cavity filters
- If narrow band input is the only one being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacing
- Low Loss, High Isolation
- Natural convection



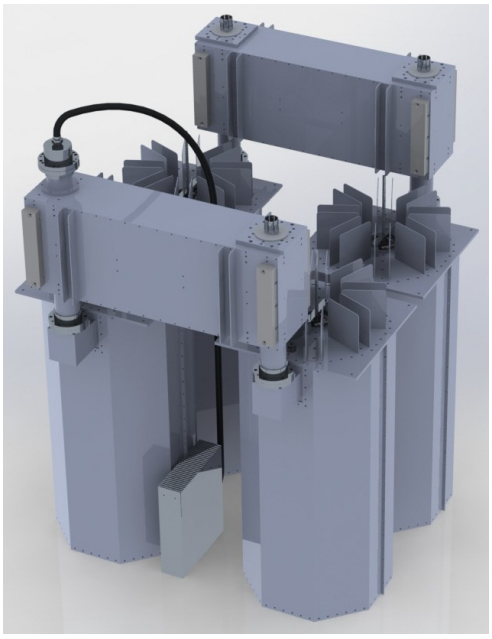
DIFFERENT ASSEMBLING
FDDPDC20HE03

Standard Version	
Dimensions	1600(Max size)×1340×1220 mm (63.0(Max size)×52.7×48.03 inch) (H×L×W)
Net Weight	≅ 160 Kg

Different Assembling	
Dimensions	1400(Max size)×1860×1220 mm (55.1(Max size)×73.2×48.03 inch) (H×L×W)
Net Weight	≅ 160 Kg

MODEL FDDPDC30FF
(Standard Version)
FDDPDC30FF-V
(Vertical Version)

- **COMBINER 2 CHANNELS**
- **DOUBLE BALANCED BRIDGE**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

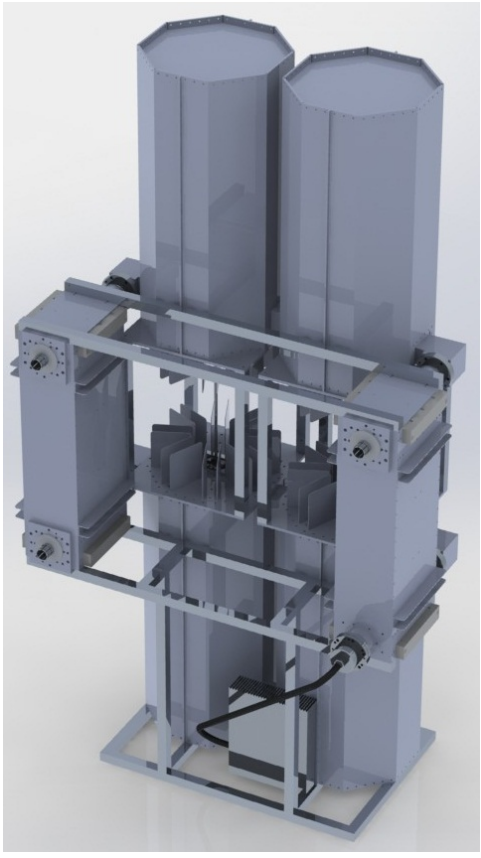


Standard Version

The double balanced bridge system consist of two band-pass filter, two -3dB coupler and a absorber. One of both inputs has a narrow-band characteristic (complying with the pass-band functions of the band pass filters), while the remaining input features a broadband characteristic within the operating frequency range of -3dB couplers, both inputs exhibits a frequency independent load impedance to the RF source.

TYPICAL SPECIFICATIONS

Model	FDDPDC30FF – Type DOUBLE BRIDGE
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.15 dB Max (Narrow Band Input) 0.1 dB Max (Broad Band Input)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.2 MHz	N/B ▯ B/B ≥ 35 dB B/B ▯ N/B ≥ 55dB
Input Number	2 (Narrow Band + Broad Band)
Output Number	1
Connectors	Input - Output 4+1/2" option out 6+1/8
Max Power	40 KW × Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

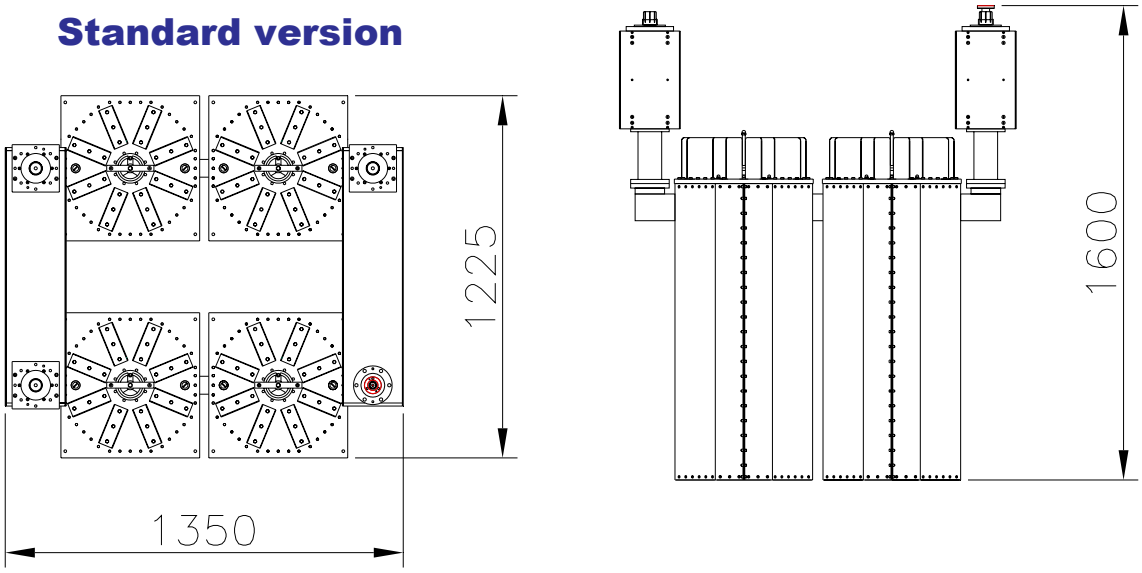


Vertical Version

Features:

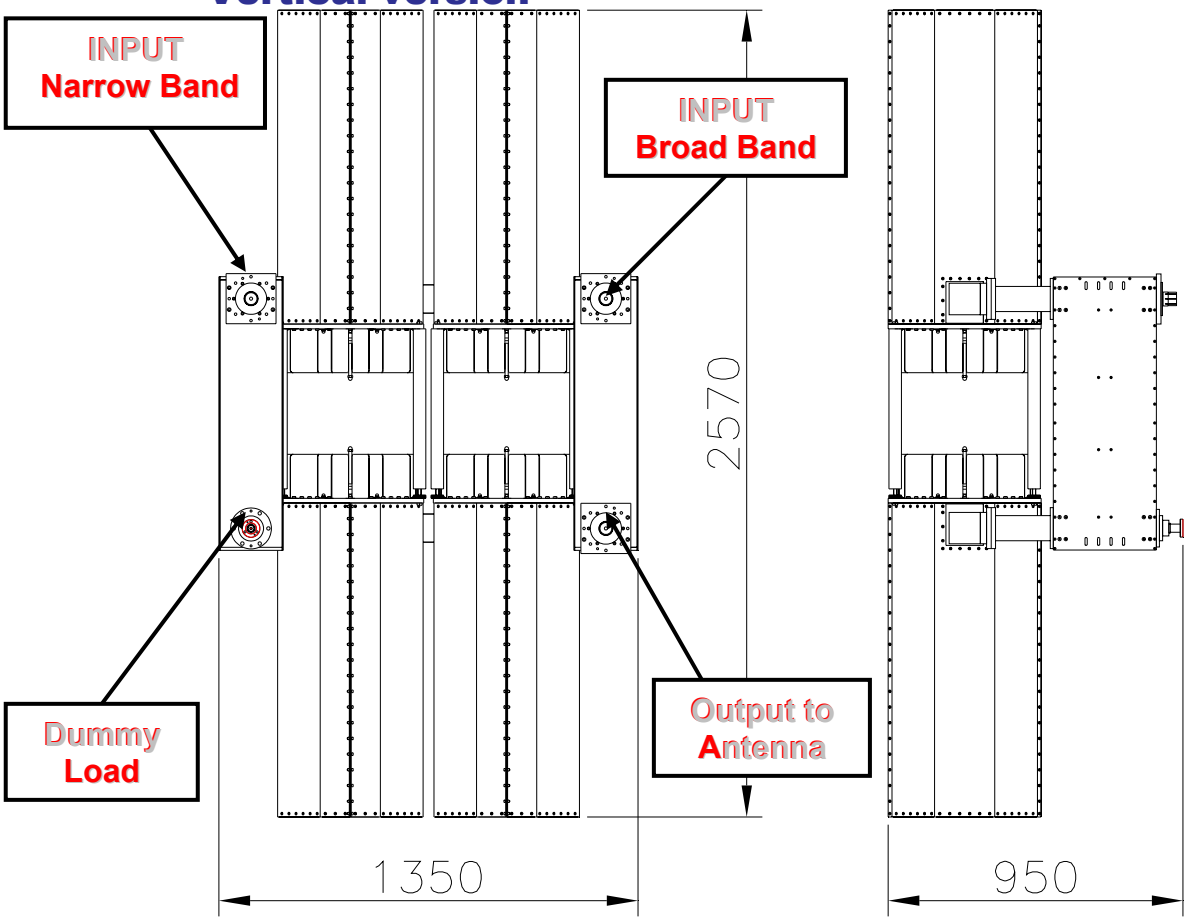
- Distortion – Free Transmission
- Double Balanced Bridge system with pass stop
- Frequency independent input impedance
- The frequency at the broadband input can be varied without retuning of the pass-band cavity filters.
- The broadband input can be used as spare input for expansion without requiring modification of the existing pass-band cavity filters
- If only narrow band input is being used, an extremely high coupling attenuation (directional coupler attenuation plus filter attenuation) can be achieved for very small frequency spacings.
- Low loss, high isolation
- Natural convection
- Option: Group delay equaliser

Standard version



Dimensions	1600(Max size)×1350×1225 mm (63.0(Max size)×53.1×48.2 inch) (H×L×W)
Net Weight	≅ 180 Kg (approx.)

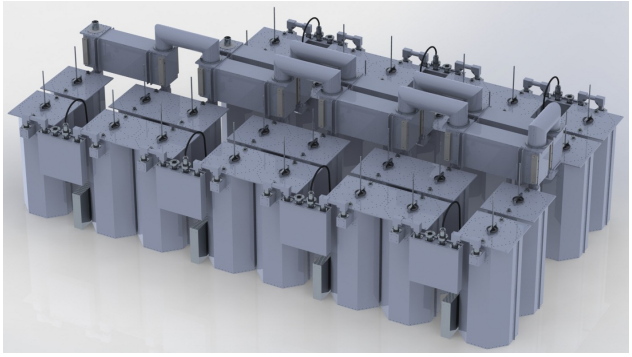
Vertical version



Dimensions	1350(Max size)×2570×950 mm (53.1(Max size)×101.1×37.4 inch) (H×L×W)
Net Weight	≅ 220 Kg (approx.)

multi-channels versions of various types

MODEL FGDDC2002



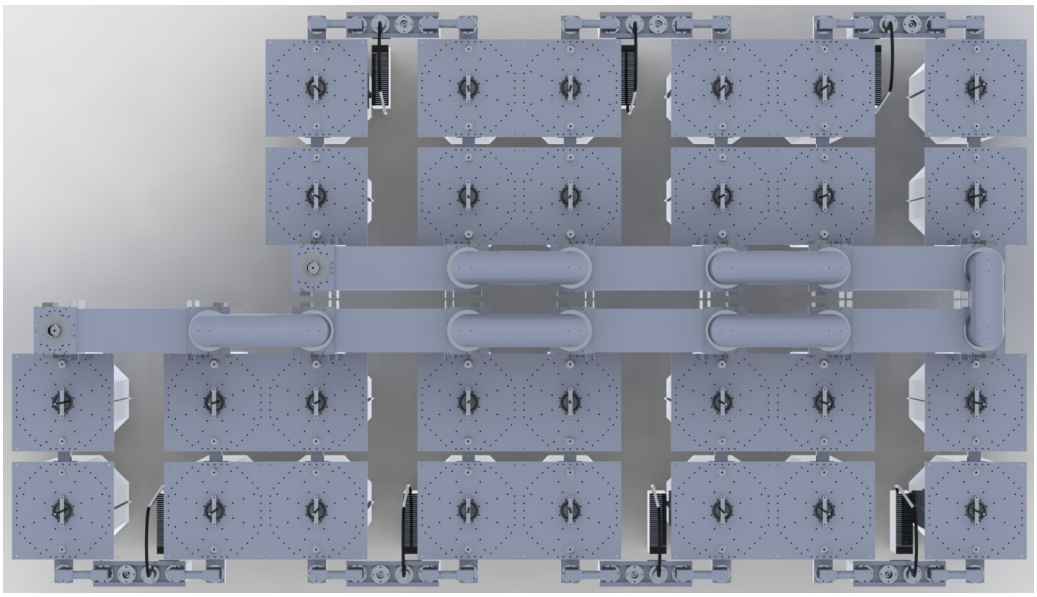
- **COMBINER 7 CHANNELS**
- **TYPE DOUBLE BRIDGE**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

The Double Balanced Bridge System consists of two Band-Pass Filters, two -3dB Couplers and an Absorber. One of the inputs has a narrow-band characteristic (complying with the band-pass functions of the band-pass filters), while the other input has a broadband characteristic within the operating frequency range of -3dB couplers. Both inputs exhibit a frequency independent load impedance to the RF source.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

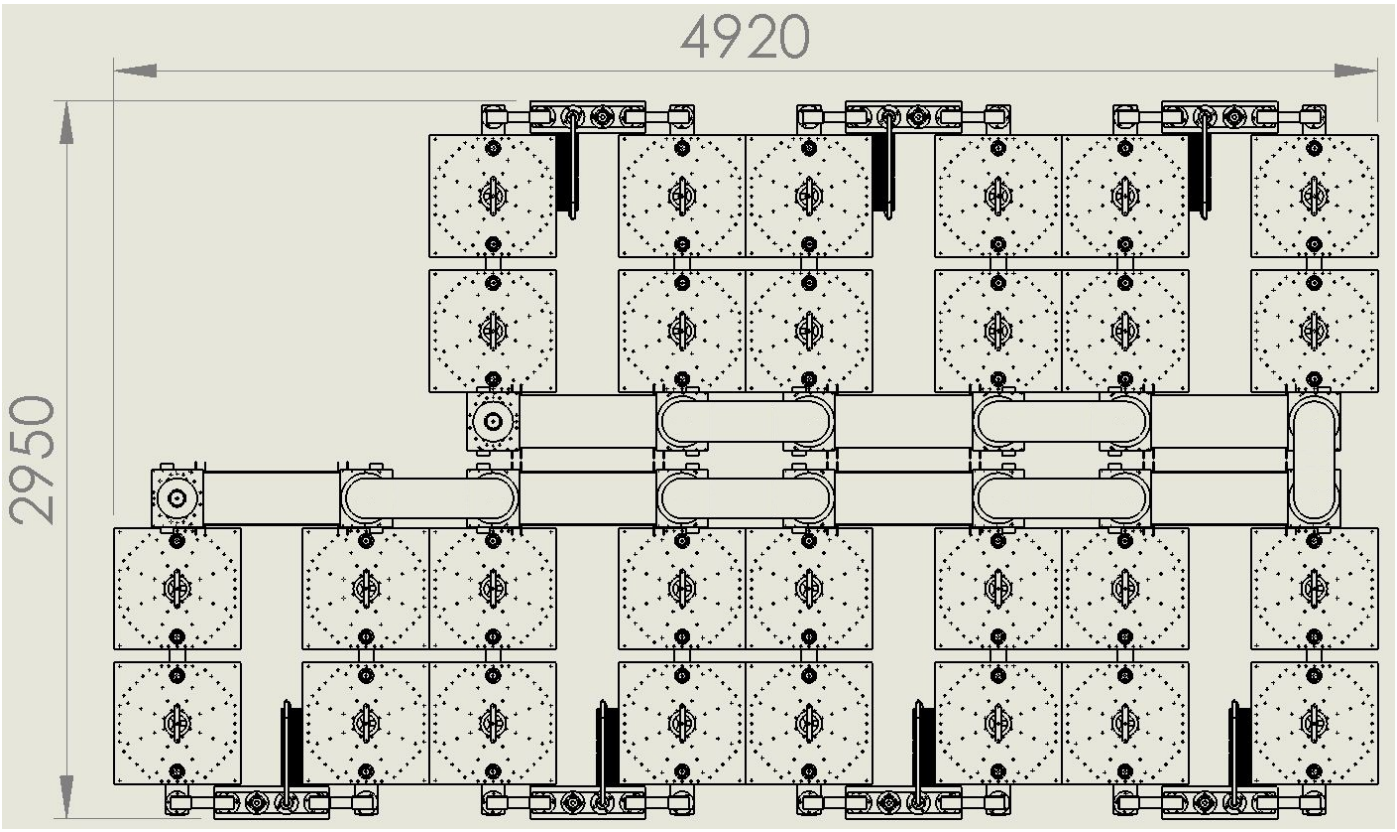
TYPICAL SPECIFICATIONS

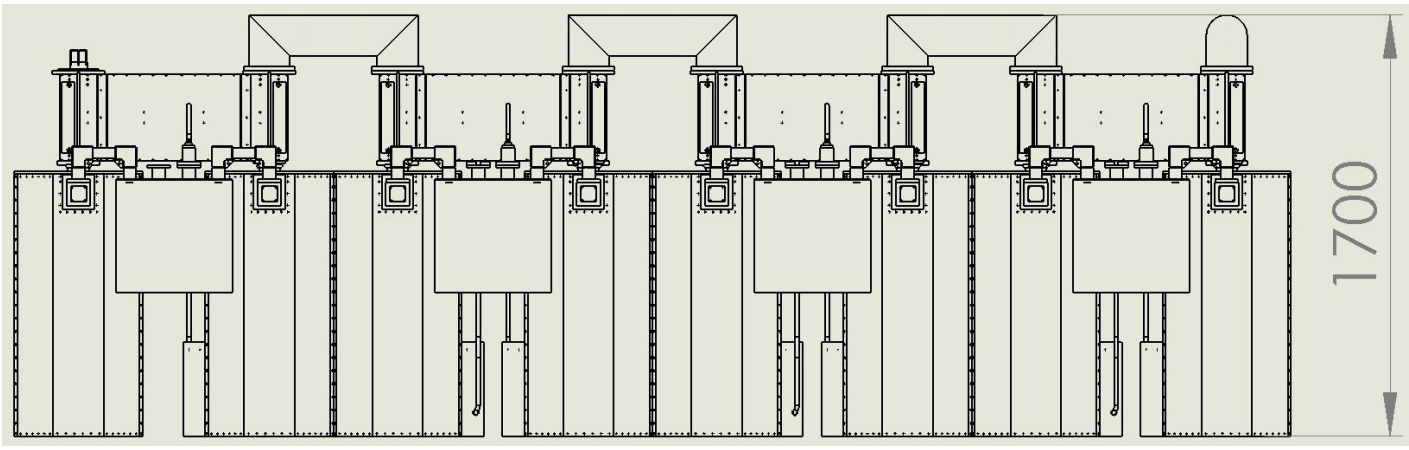
Model	FGDDC2002 – Type DOUBLE BRIDGE
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	**at f_1 0.12 dB MAX** **at f_2 0.17 dB** **at f_3 0.22 dB** **at f_4 0.27 dB** **at f_5 0.32dB** **at f_6 0.37 dB** **at f_7 0.42 dB** **at f_8 0.25-0.30 dB wide band**
Return Loss ±150Khz	**≤ -26 dB**
Isolation ±1.3 MHz	≥ 30 Db minimum
Input Number	12
Output Number	1
Connectors	IN N/B 1+5/8” IN B/B 6+1/8” OUT 6+1/8”
Max Power	10000W x Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

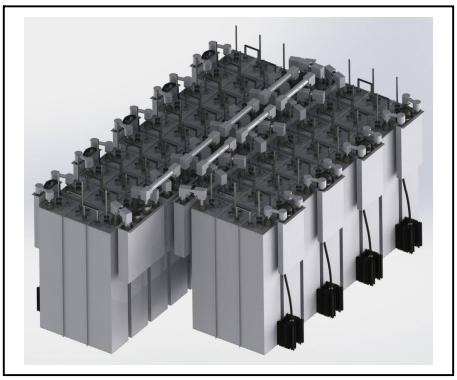
Dimensions	1700mm.(Max size)×4920 mm x2950mm. (H×L×W)
Net Weight	≅1600Kg aprox



Dimensions (mm)







MODEL FCDPTC2AC01

- **COMBINER 10 CHANNELS**
- **TYPE DOUBLE BRIDGE**
- **FM BAND 87.5÷108 MHz**
- **BAND II**

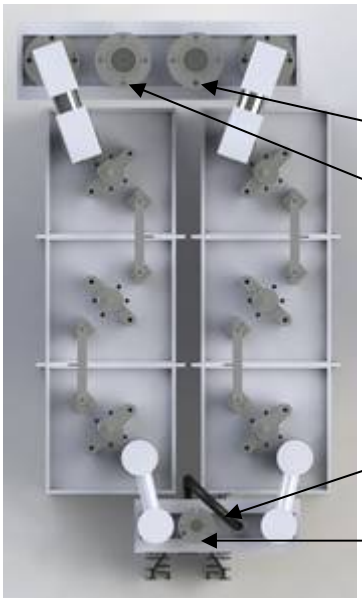
The Double Balanced Bridge System consists of two Band-Pass Filters, two -3dB Couplers and an Absorber. One of the inputs has a narrow-band characteristic (complying with the band-pass functions of the band-pass filters), while the other input has a broadband characteristic within the operating frequency range of -3dB couplers. Both inputs exhibit a frequency independent load impedance to the RF source.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FCDPTC2AC01 – Type DOUBLE BRIDGE
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_1 0.35 dB at f_2 0.37 dB at f_3 0.39 dB at f_4 0.43 dB at f_5 0.45dB at f_6 0.48 dB at f_6 0.51 dB at f_6 0.54 dB at f_6 0.57 dB in wide band 0.2 dB
Return Loss ±150Khz	≤ -26 dB
Isolation ±1 MHz	≥ 35 dB aprox.
Input Number	10
Output Number	1
Connectors	IN N/B 7/8" option 1+5/8" IN B/B 1+5/8 option 3+1/8"" OUT 1+5/8"
Max Power	2KW x Channel with 3+1/8" out
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

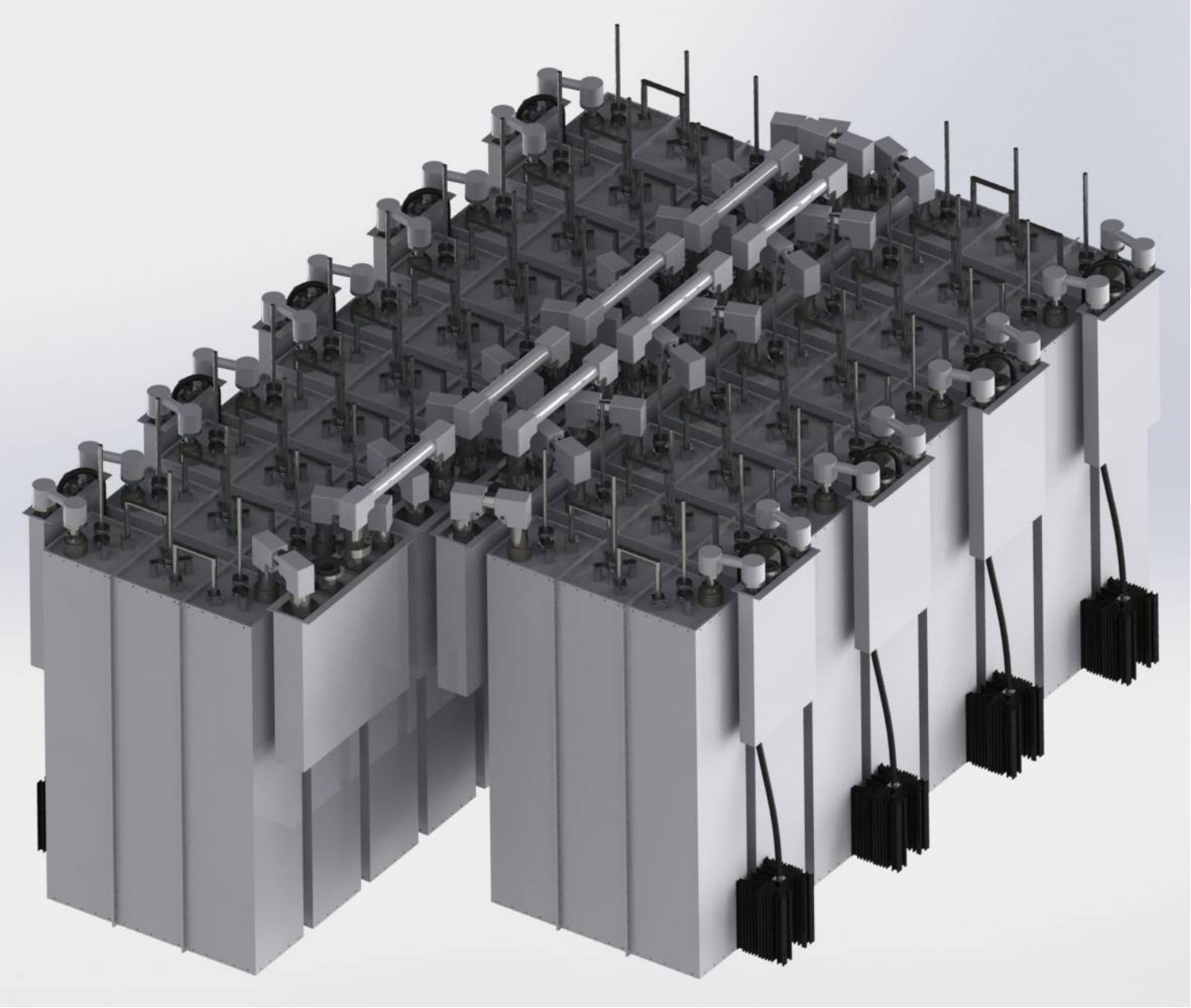
this values is aproximates

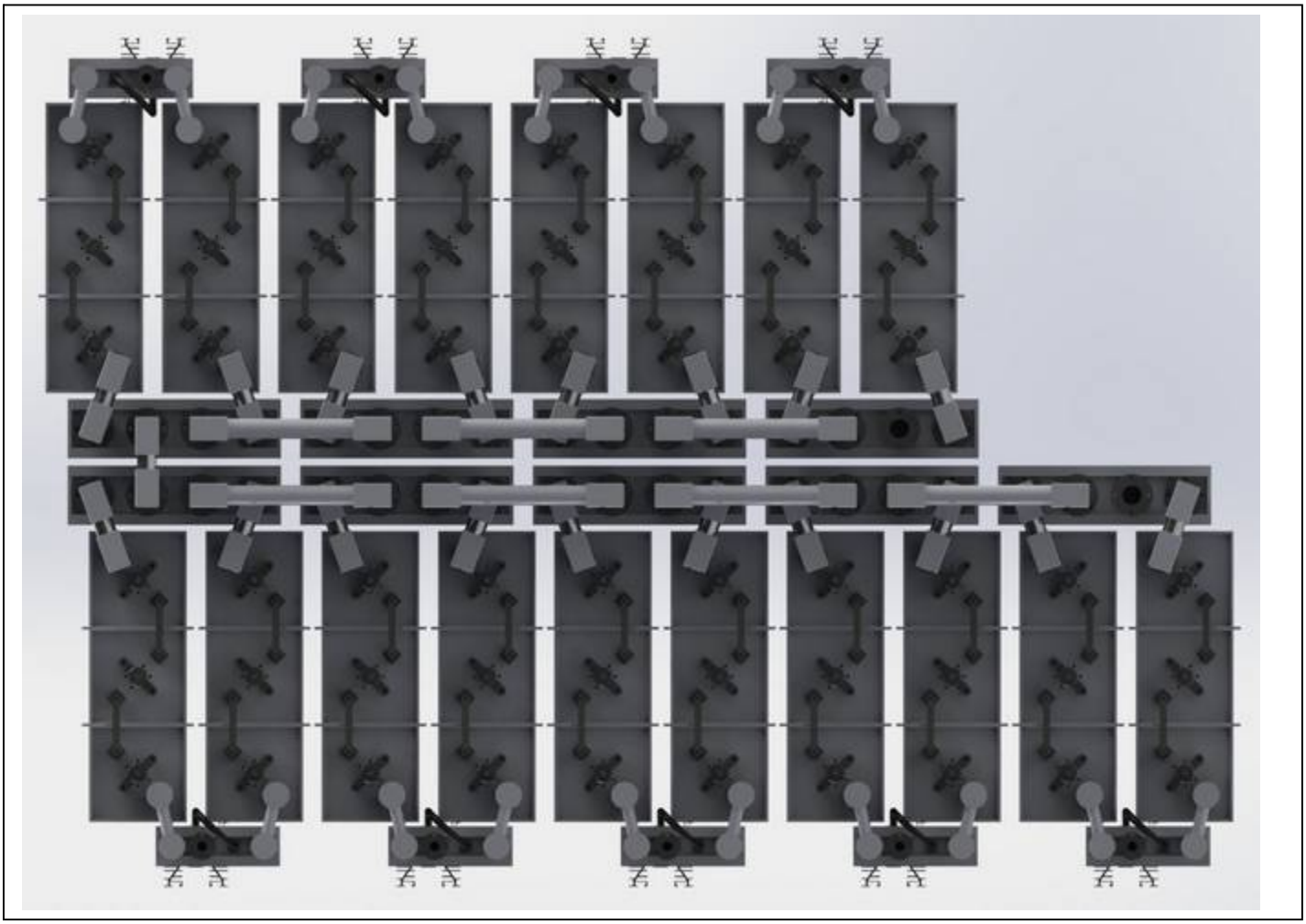
Dimensions	See dimensions
Net Weight	≅500Kg aprox

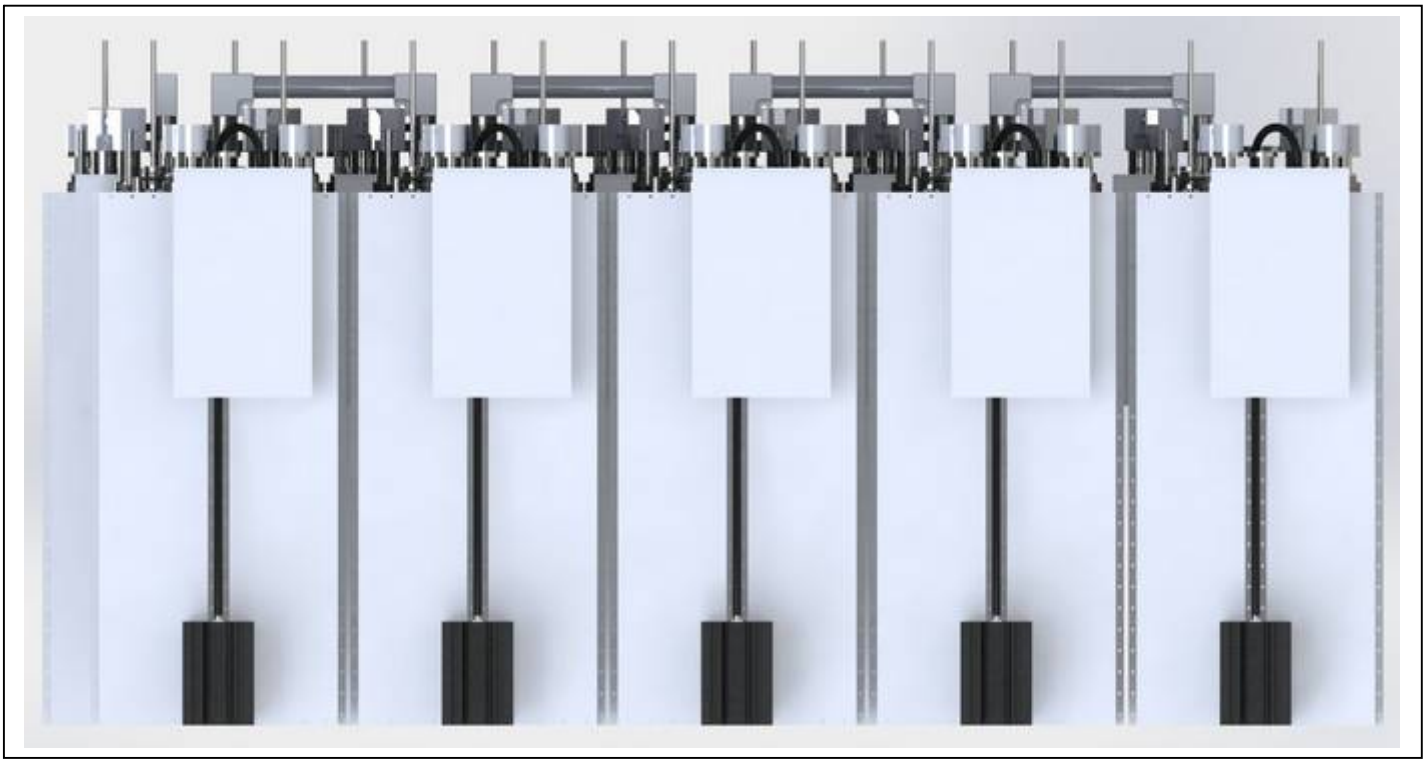


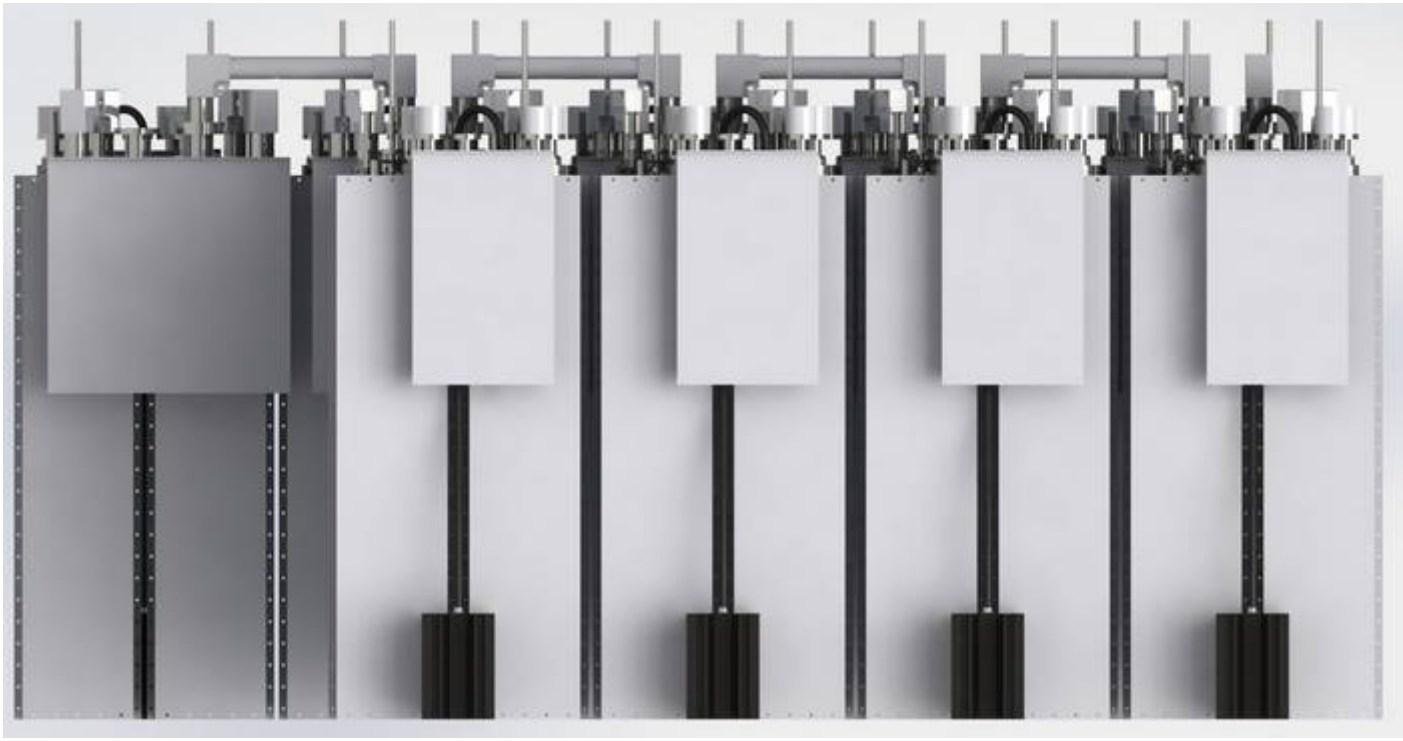
SINGLE MODULE IS FDDPTC2IAC

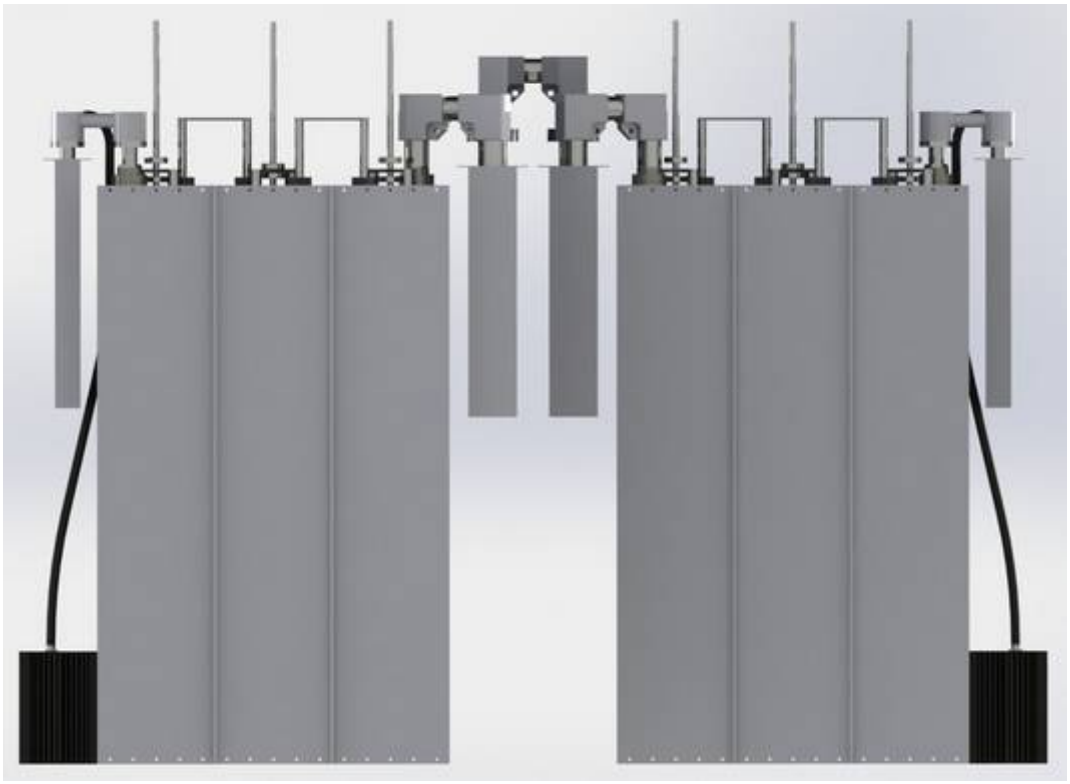
VIEWS



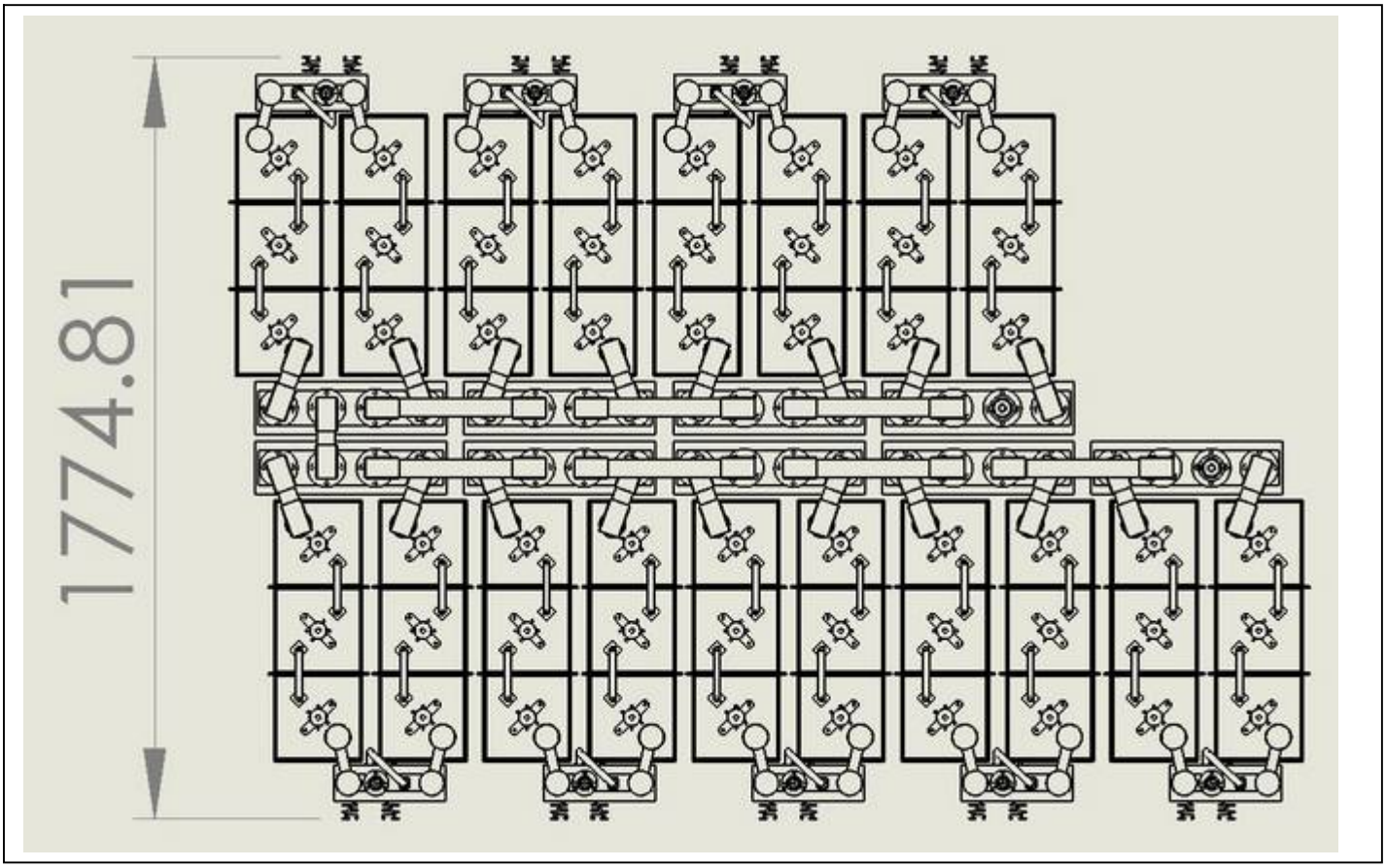


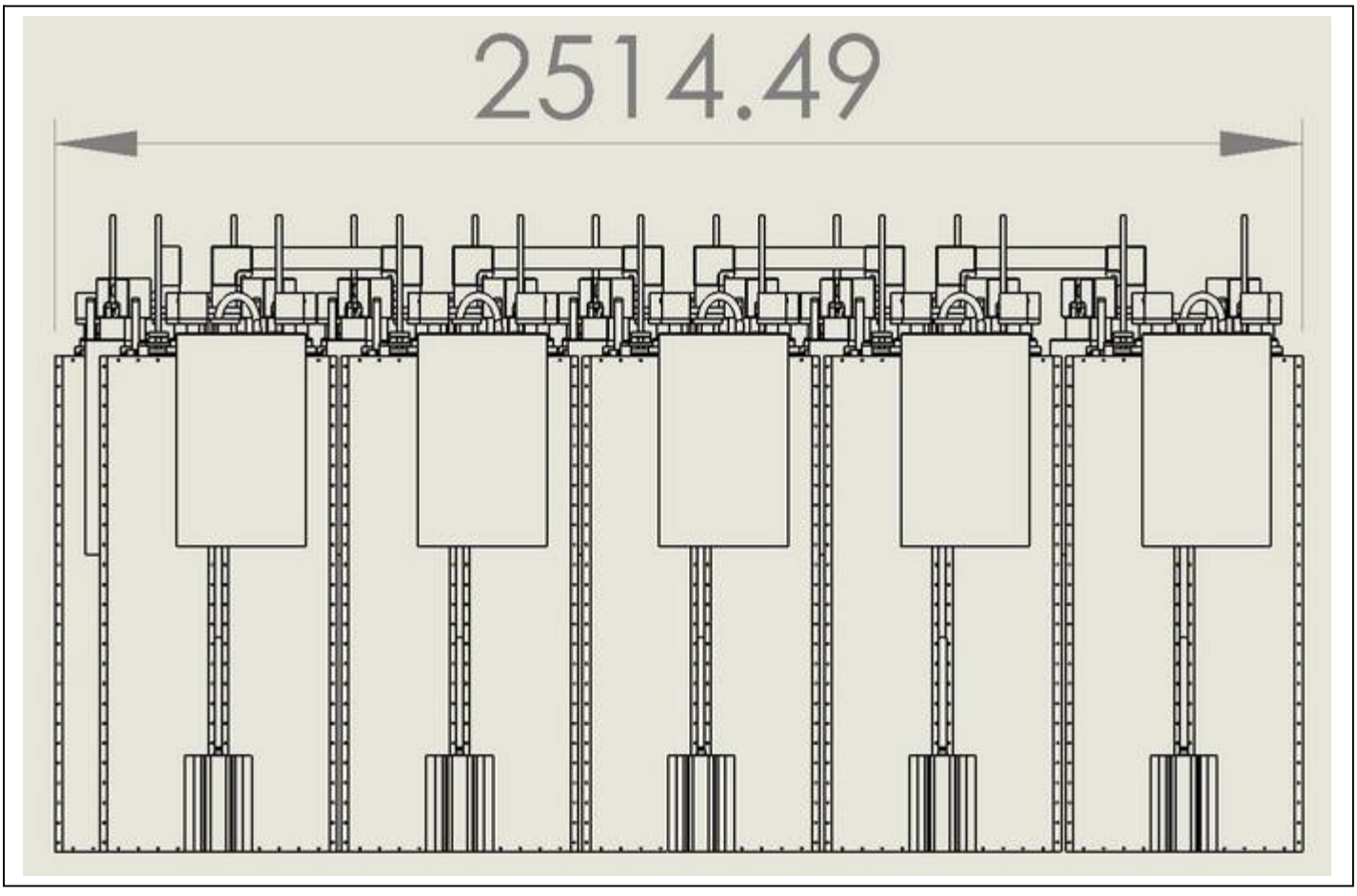


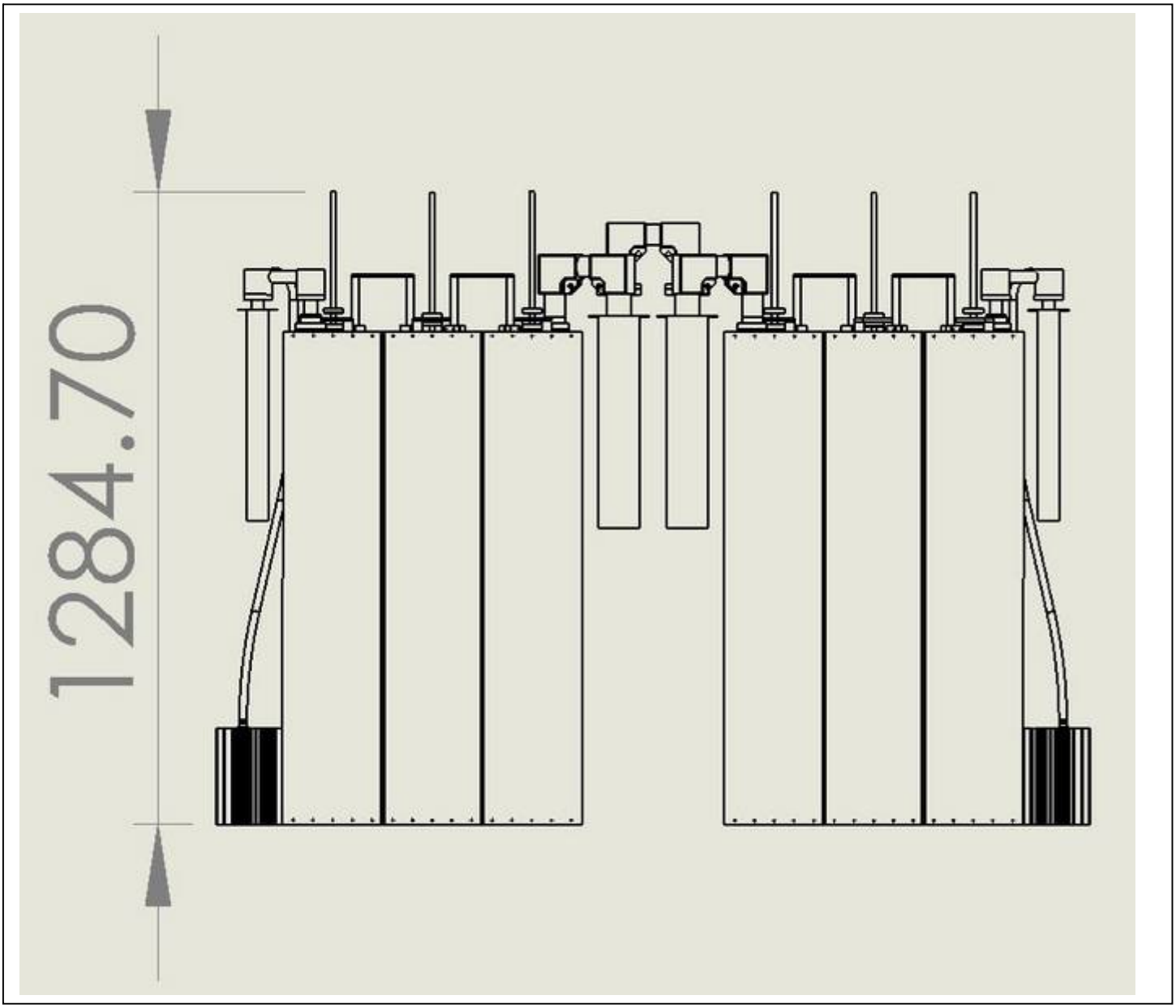




DIMENSIONS is in mm.



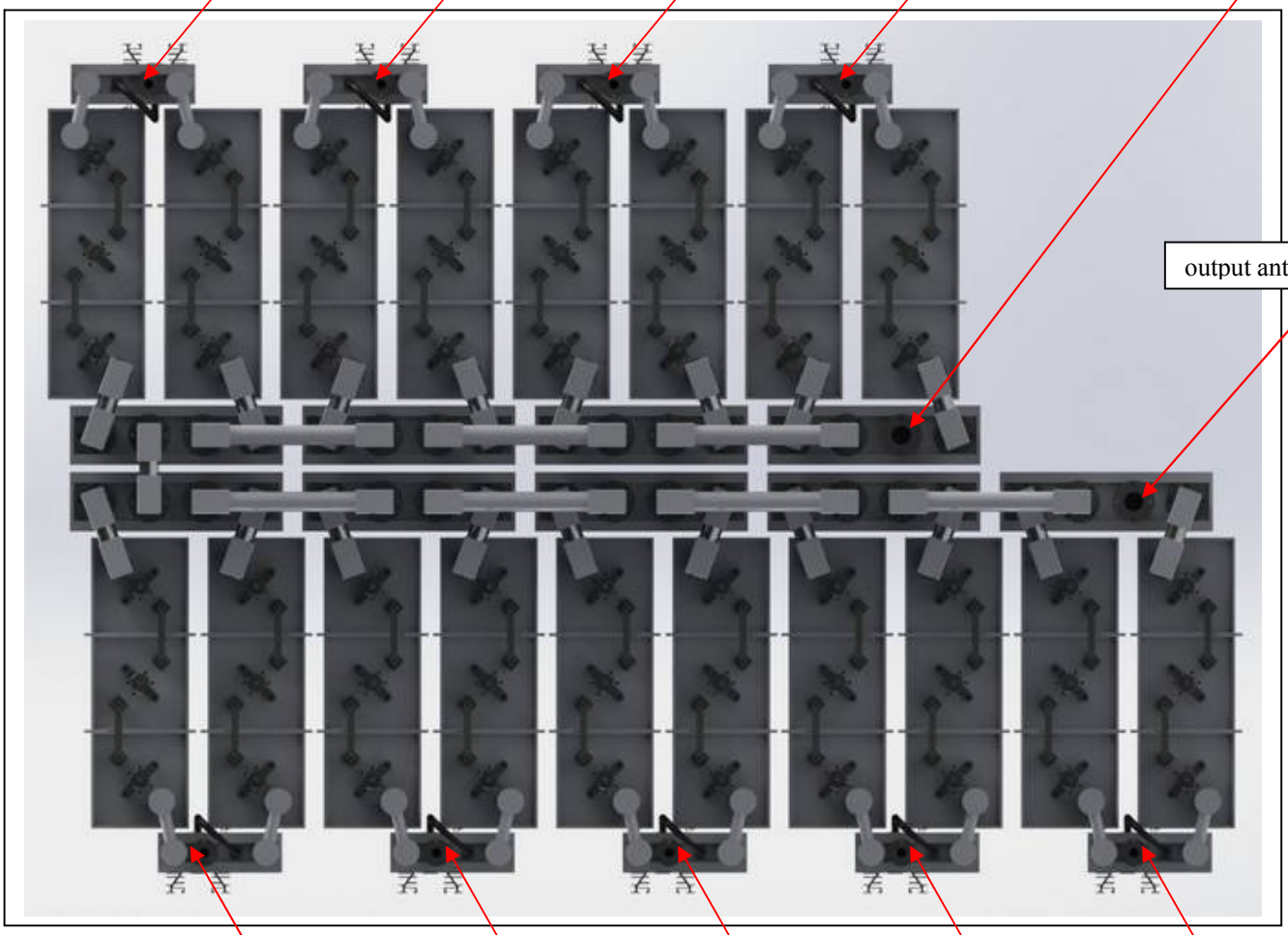



1284.70

LAYOUT

input narrow band 2kw	input narrow band 2kw	input narrow band 1kw	input narrow band 1kw
F6	**F7**	**F8**	**F9**

input wide band

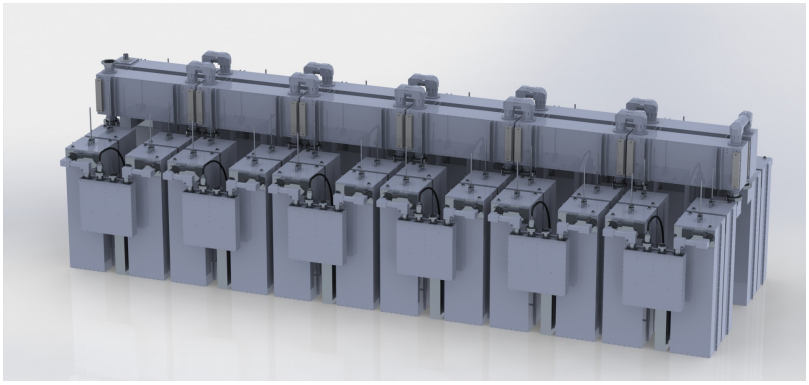


output antenna

input narrow band 1kw	input narrow band 1kw	input narrow band 2kw	input narrow band 1kw	input narrow band 3kw
F5	**F4**	**F3**	**F2**	**F1**

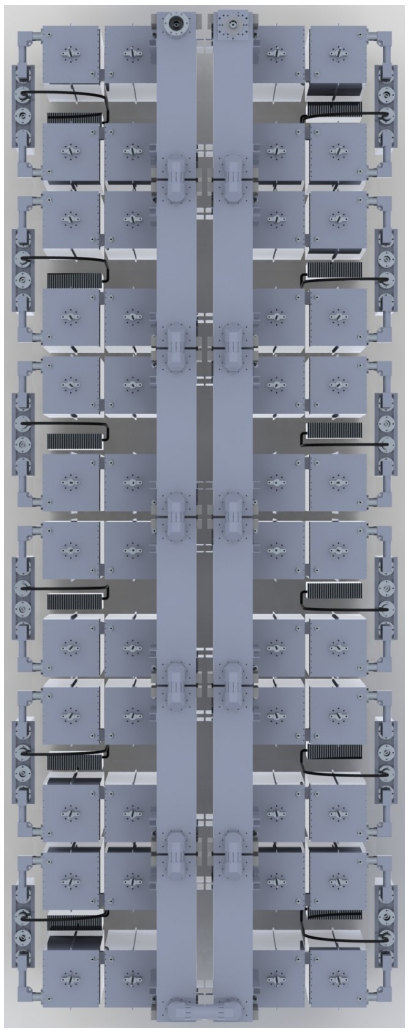
PHOTO DETAILS

MODEL FODPDC5CF01



- **COMBINER 12 CHANNELS**
- **TYPE DOUBLE BRIDGE**
- **FM BAND 87.5÷108 MHz**
- **BAND II**
- **OPTION**

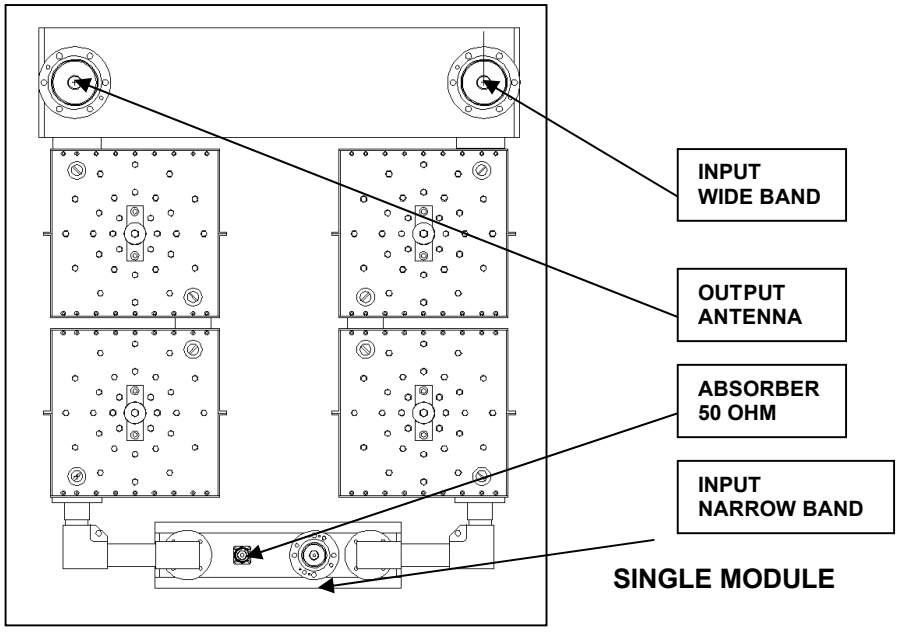
The Double Balanced Bridge System consists of two Band-Pass Filters, two -3dB Couplers and an Absorber. One of the inputs has a narrow-band characteristic (complying with the band-pass functions of the band-pass filters), while the other input has a broadband characteristic within the operating frequency range of -3dB couplers. Both inputs exhibit a frequency independent load impedance to the RF source.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.



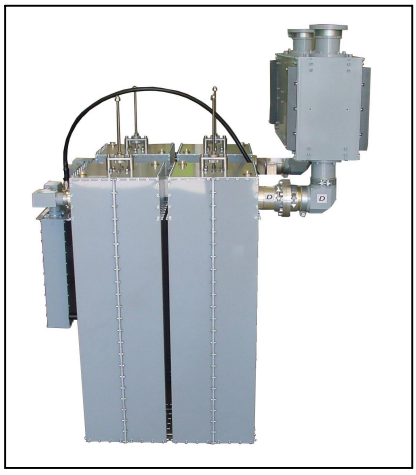
TYPICAL SPECIFICATIONS

Model	FODPDC5CF01 – Type DOUBLE BRIDGE
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max
Insertion Loss	at f_1 0.15 dB at f_2 0.17 dB at f_3 0.19 dB at f_4 0.22 dB at f_5 0.25dB at f_6 0.29 dB
Return Loss ±150Khz	≤ -26 dB
Isolation ±1.5 MHz	≥ 30 dB
Input Number	12
Output Number	1
Connectors	IN N/B 1+5/8” IN B/B 3+1/8” OUT 4+1/2”
Max Power	3KW x Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

Dimensions	1600mm.(Max size)×2200 mm x6800mm. (H×L×W)
Net Weight	≅1800Kg aprox

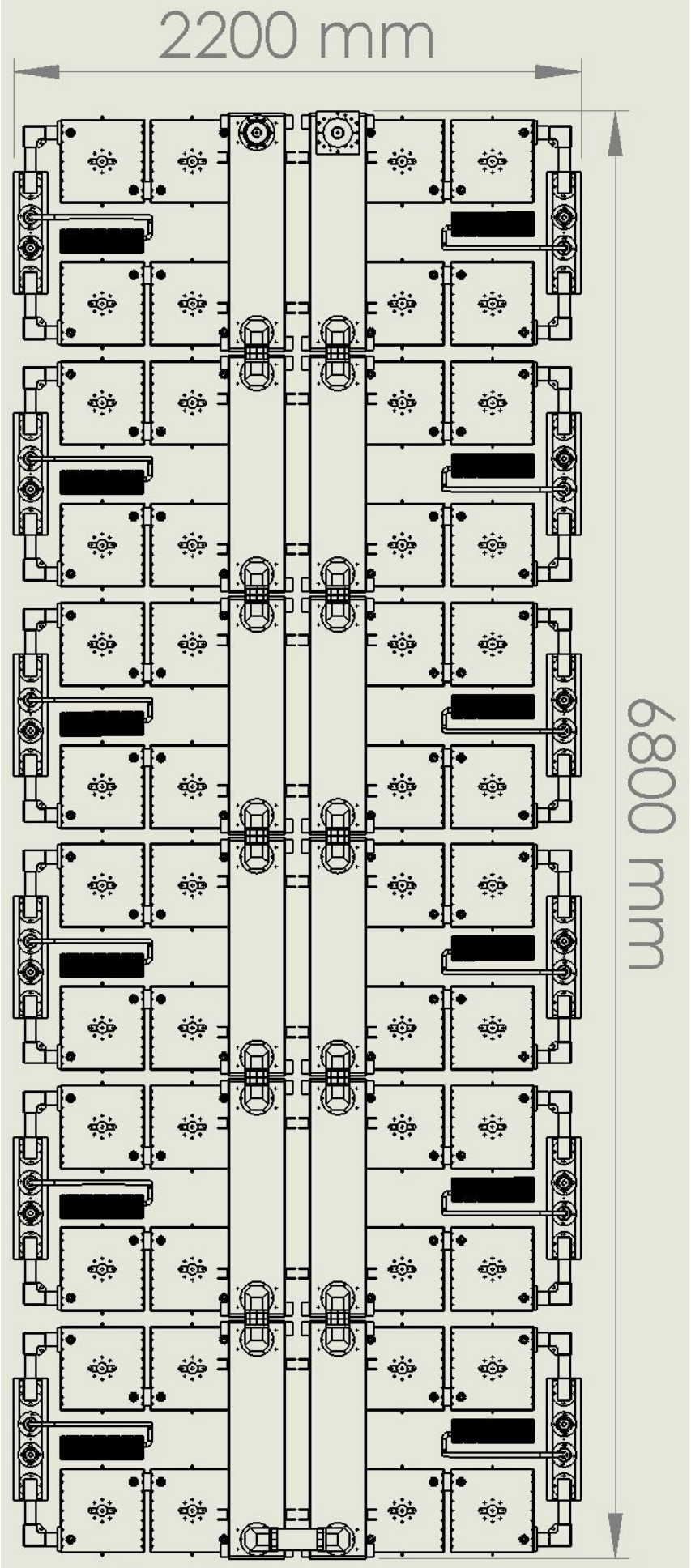


SINGLE MODULE



“These specifications are subject to change without notice”

DIMENSIONS



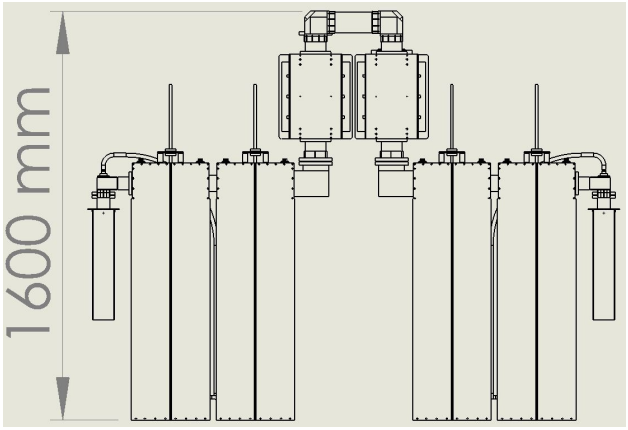
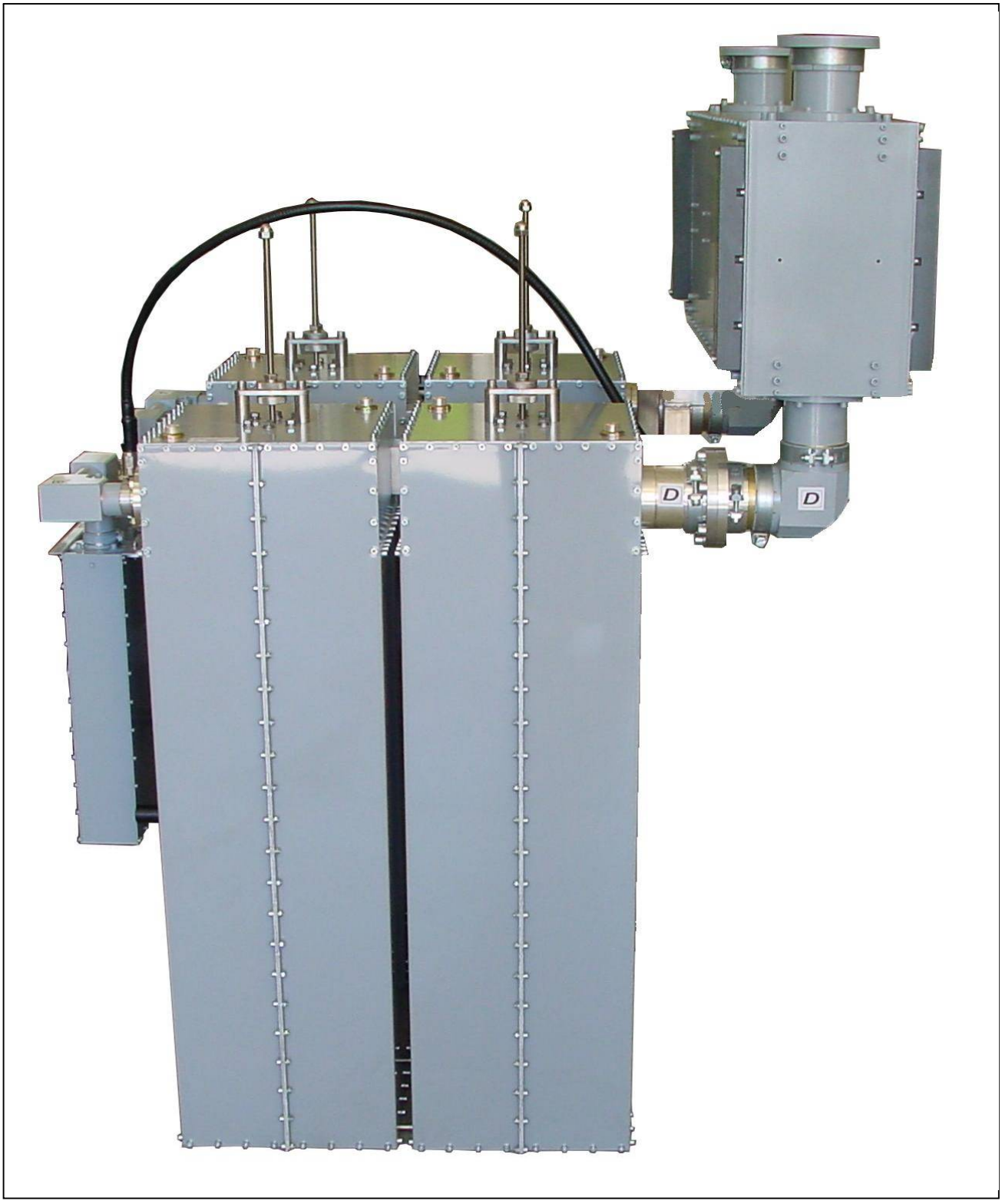


PHOTO DETAILS

DETAILS HYBRID INPUT



VIEW HYBRID INPUT AND OUTPUT

Combiners digital version for various power and configurations

MODEL FDCSQC3ELF

- **COMBINER 2 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5-108 MHz**
- **BAND II**
- **EXTREMELY LOW SPACING BETWEEN CHANNELS**

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to which it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

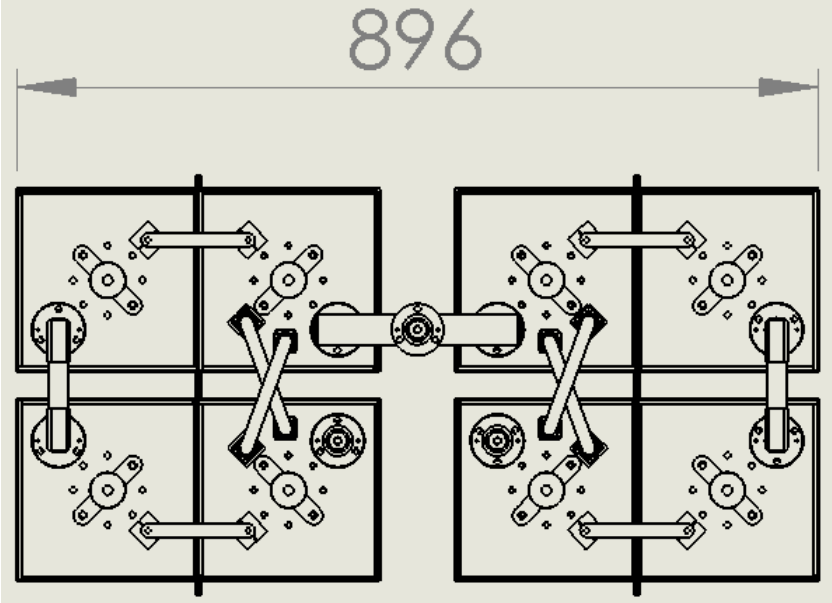
TYPICAL SPECIFICATIONS

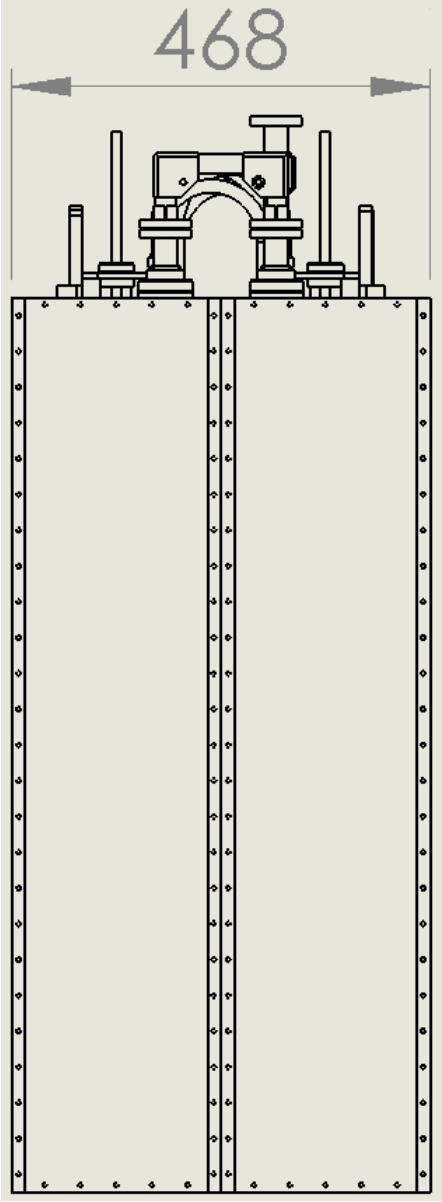
Model	FDCSQC3ELF – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1max
Insertion Loss	at f_0 0.6-1.2dB max (depending by adjustment)
Return Loss ±150KHz	≤ -26dB
Isolation ±400 kHz	≥ 30 dB
N° of input	2
N° of output	1
Connectors Standard	Input 7/8" Output 7/8"
Max Power	1 KW × 2 Channels
Working Temperature	-20°C ÷ +50°C
Color	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

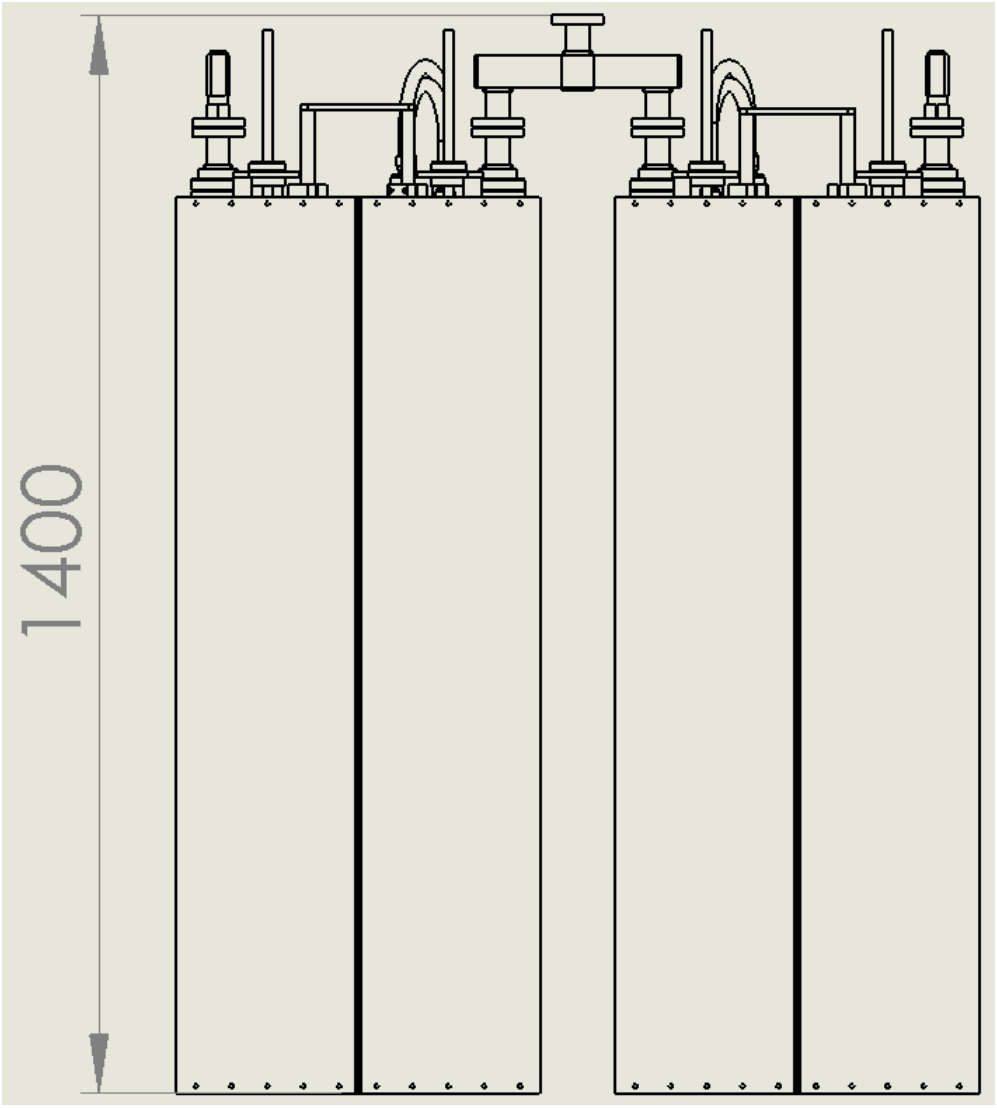
Features:

- Distortion – Free Transmission
- Star-point system with quadruple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

DIMENSIONS (mm)

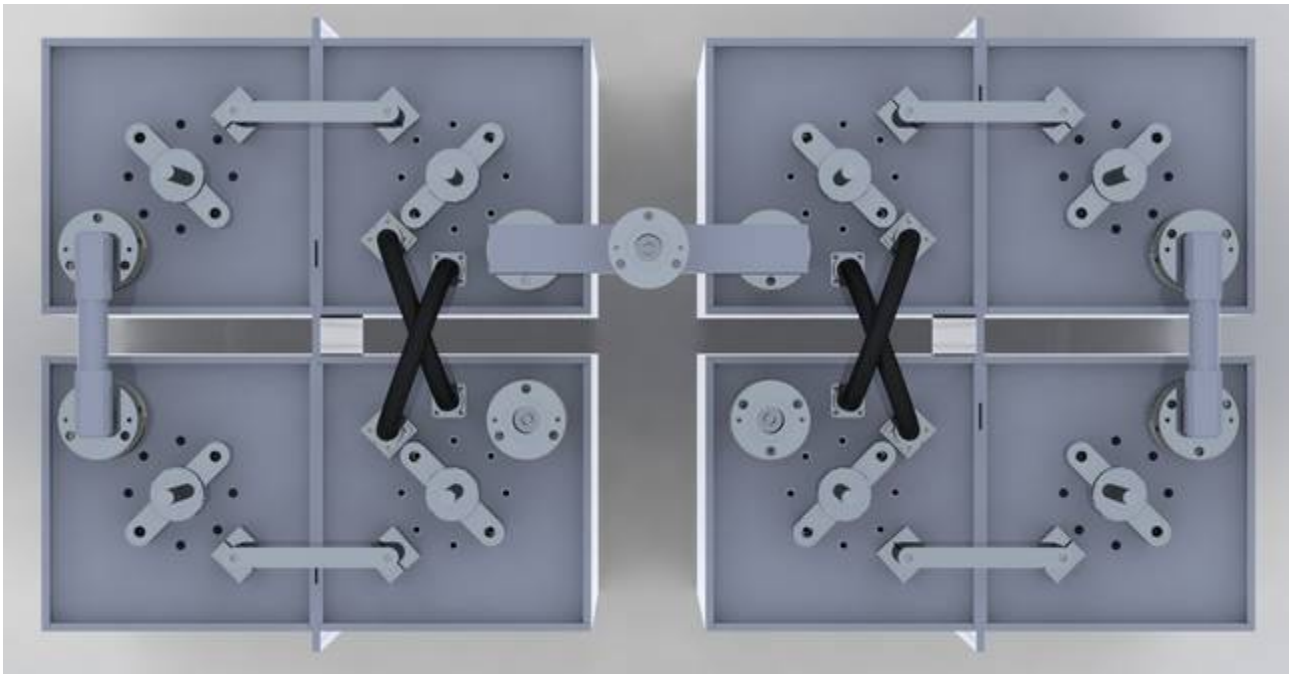


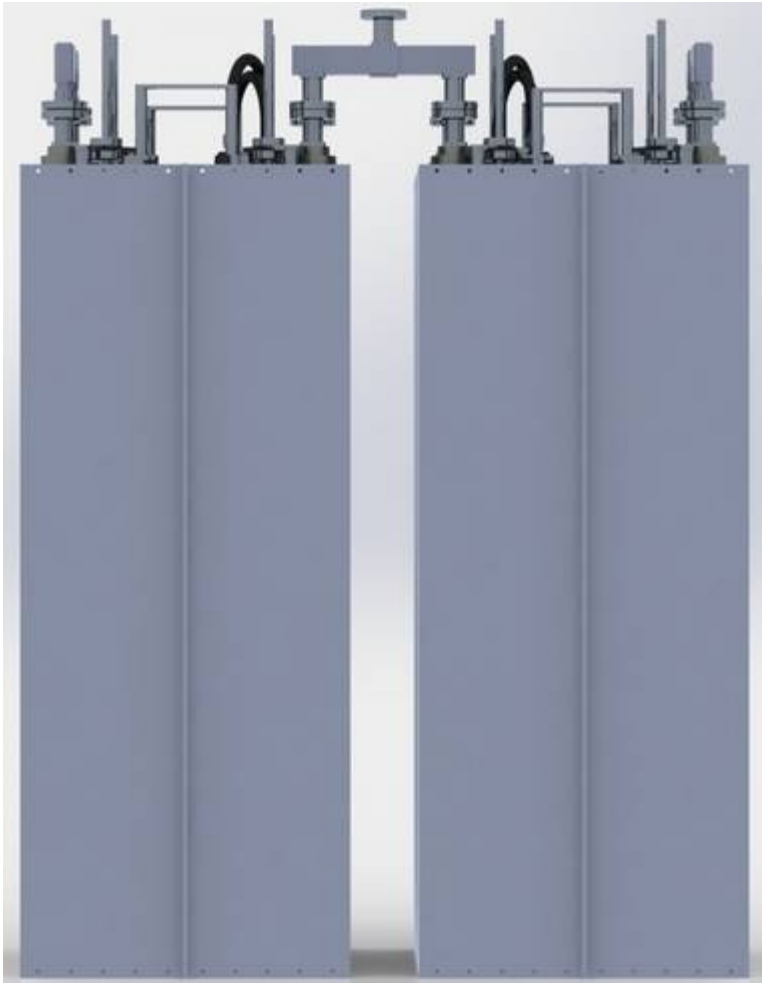




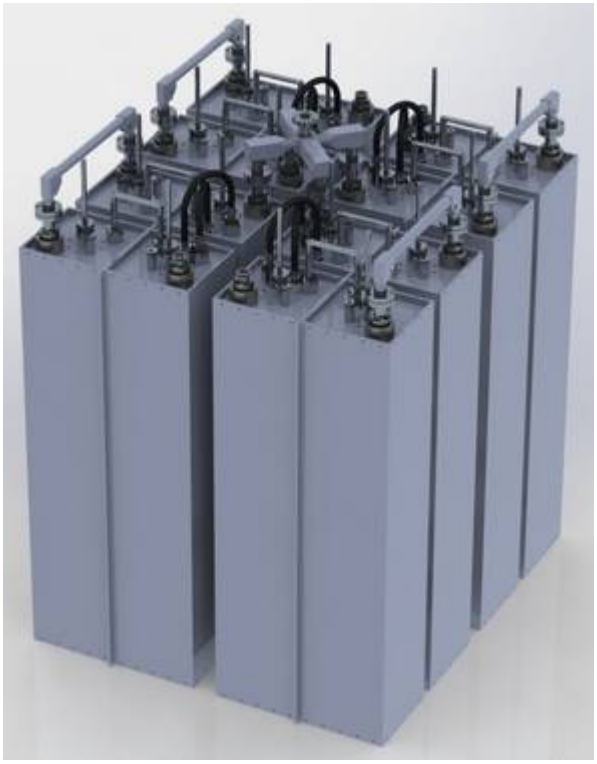
Dimensions	1400(Max size)×896×468 mm (55.1(Max size)×35.2×18.4 inch) (H×L×W)
Net Weight	≅ 100 Kg Approx.

VIEWS OF THE SYSTEM





MODEL FQCSQC3ELF



- **COMBINER 4 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5-108 MHz**
- **BAND II**
- **EXTREMELY LOW SPACING BETWEEN CHANNELS**

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to which it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

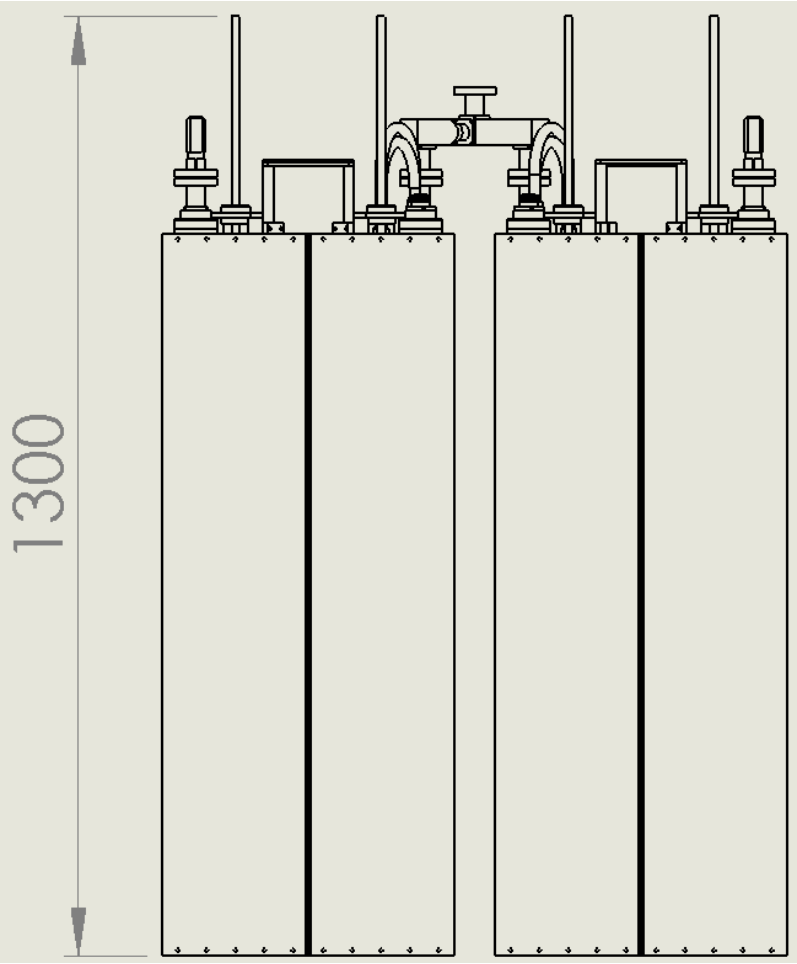
TYPICAL SPECIFICATIONS

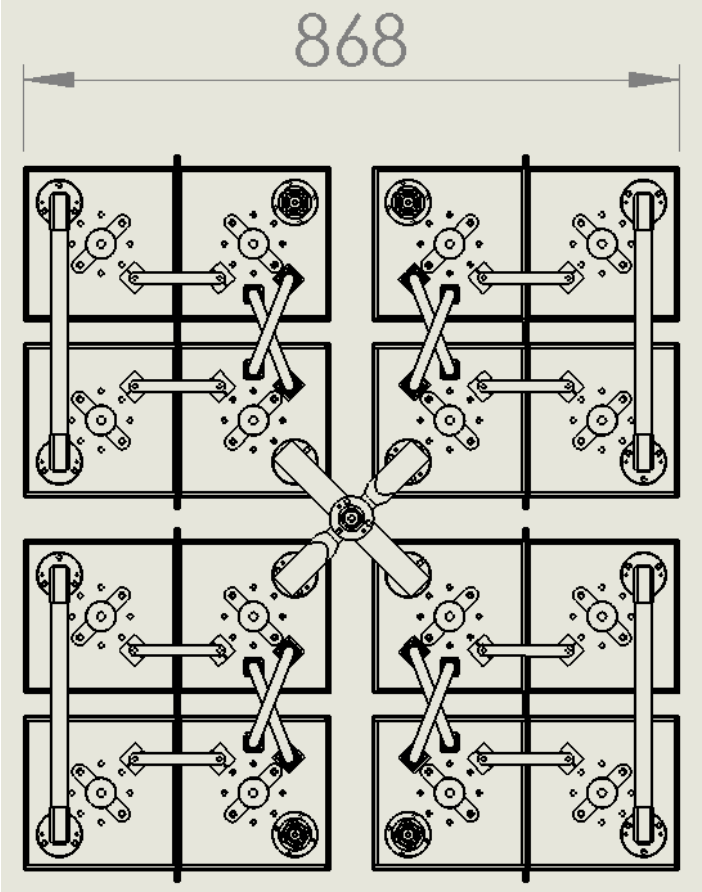
Model	FQCSQC3ELF – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1max
Insertion Loss	at f_0 Input F_1 F_2 1.0 - 1.2 dB Max (approx.) at f_0 Input F_3 F_4 1.4 - 1.6 dB Max (approx.)
Return Loss	F_1 - F_2 ± 125 KHz ≤ -26 dB F_3 - F_4 ± 130 KHz ≤ -26 dB
Isolation	F_1 - F_2 ±700 kHz 30 dB min F_3 - F_4 ±400 kHz 25 - 30 dB min
N° of input	4
N° of output	1
Connectors Standard	Input 7/16" Output 7/8"
Max Power	300 W × Channel
Working Temperature	-20°C ÷ +50°C
Color	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

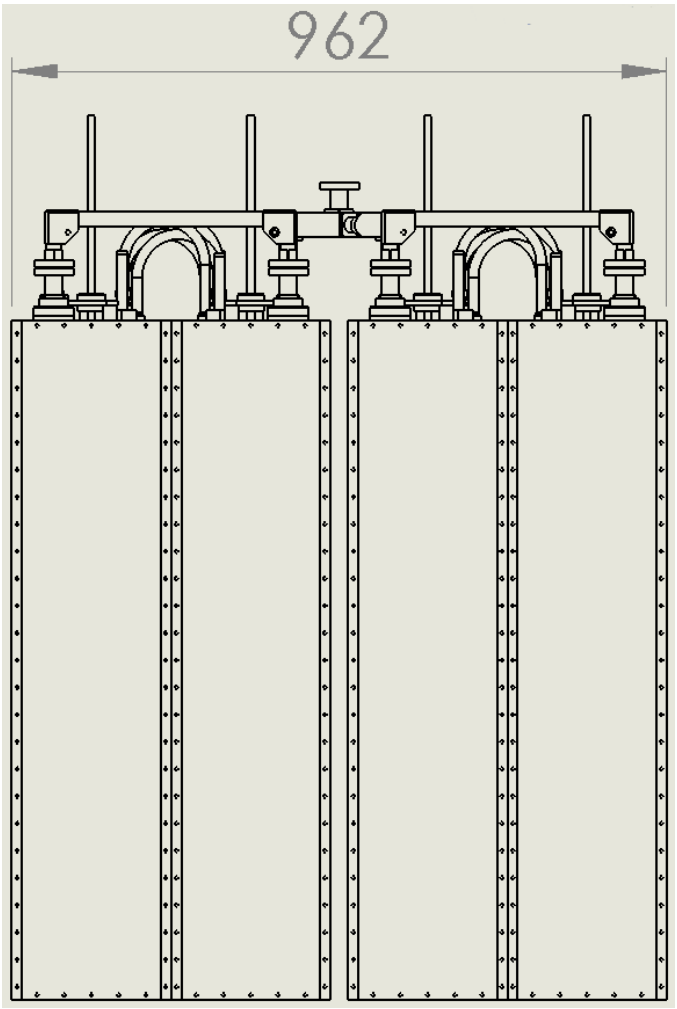
Features:

- Distortion – Free Transmission
- Star-point system with quadruple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

DIMENSIONS (mm)

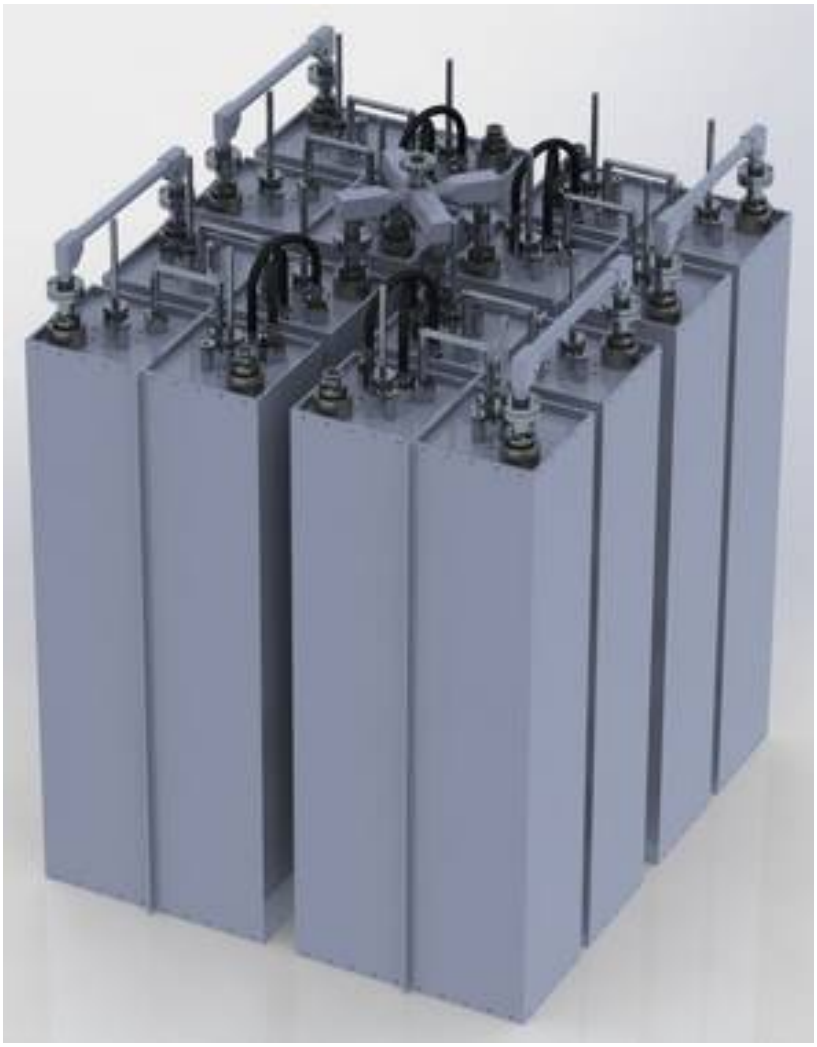


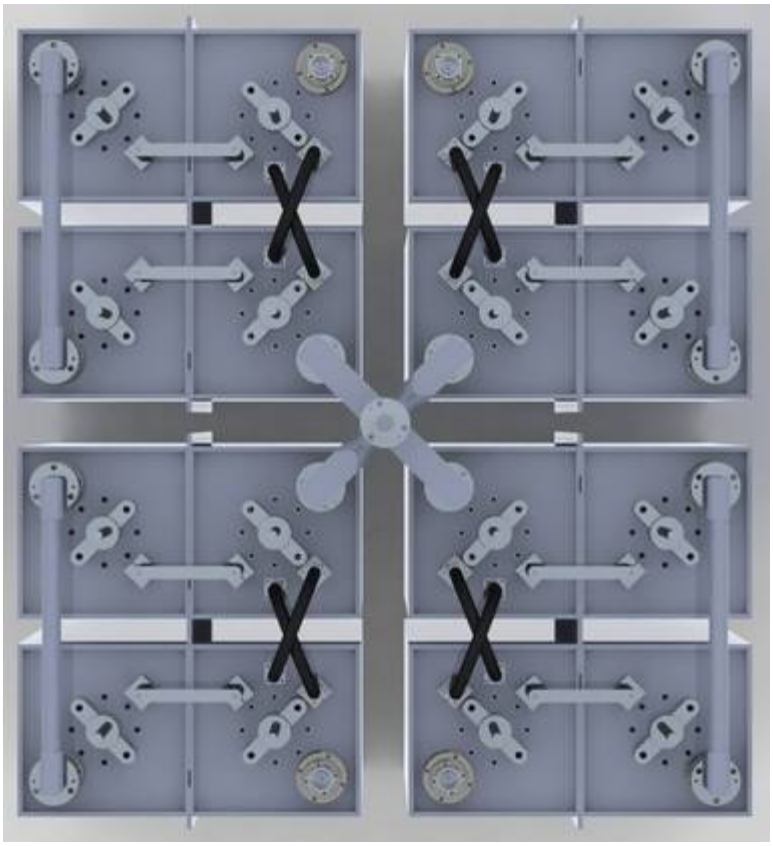


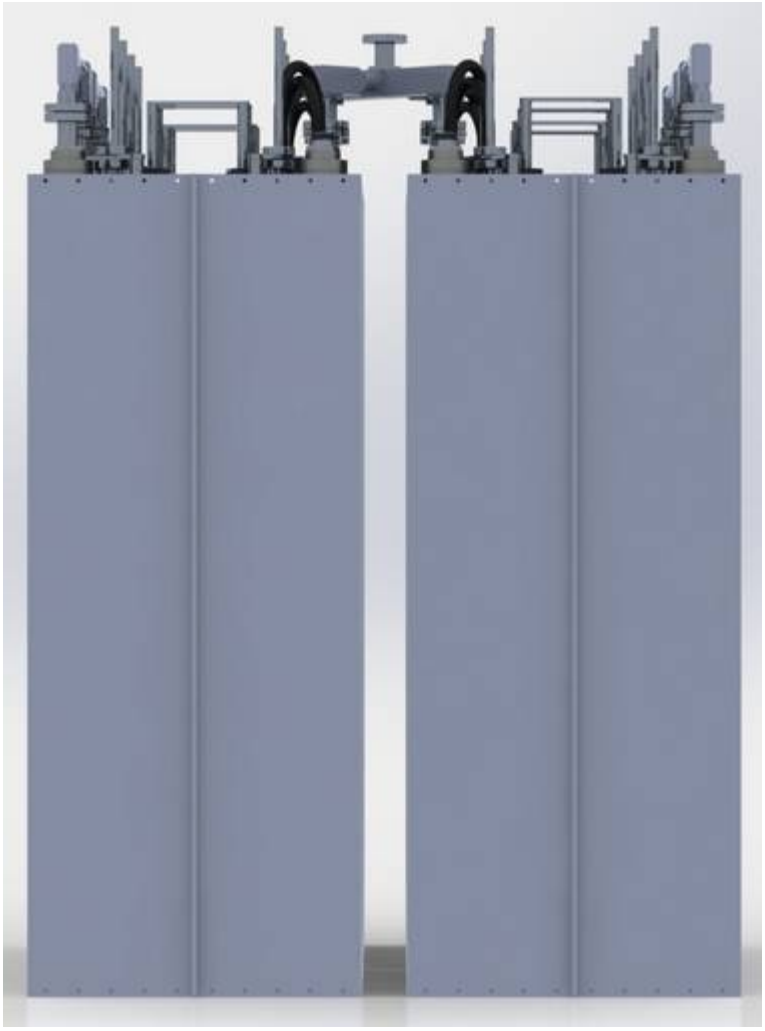


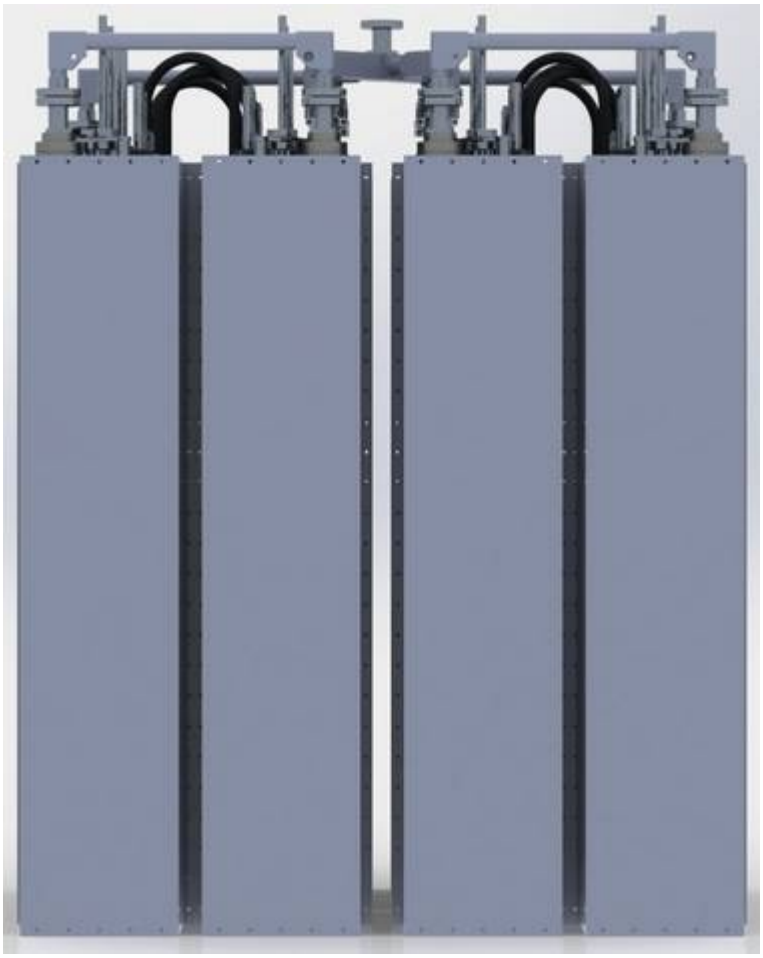
Dimensions	1300(Max size)×962×868 mm (51.1(Max size)×37.8×34.1 inch) (H×L×W)
Net Weight	≅ 200 Kg Approx.

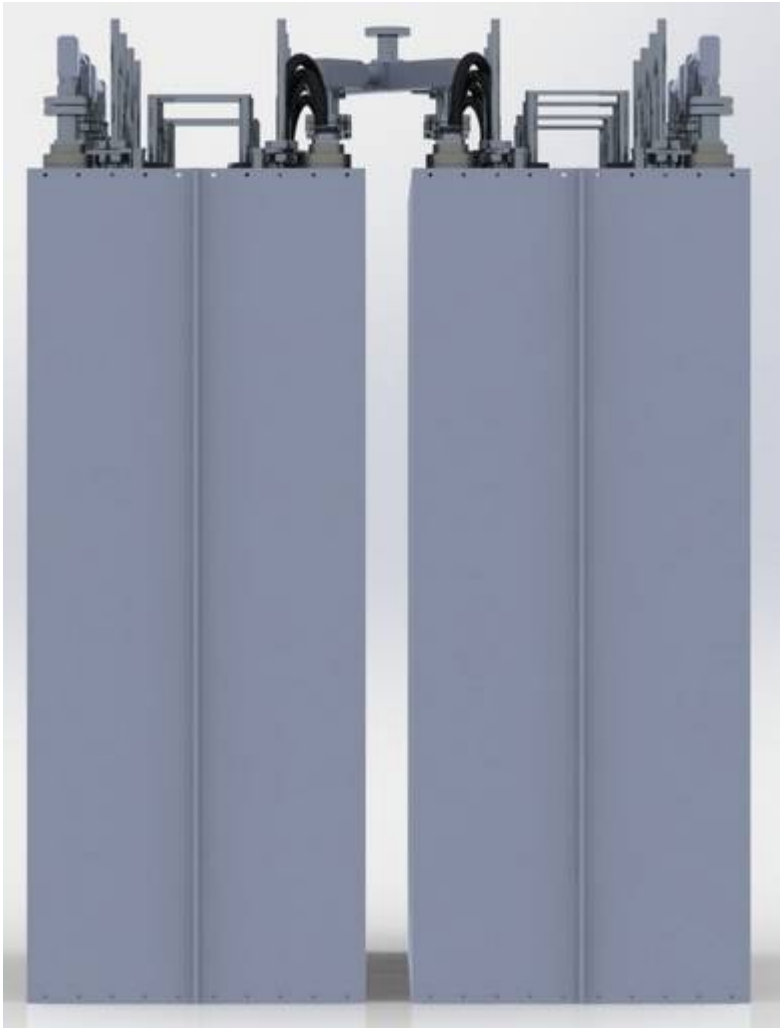
VIEWS OF THE SYSTEM

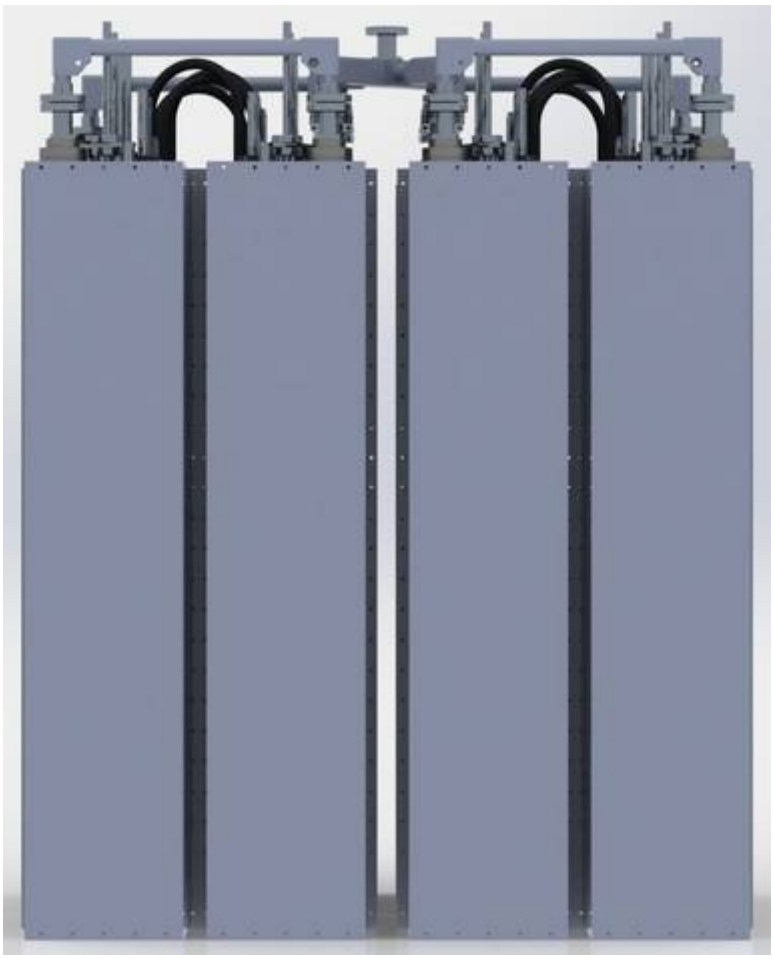


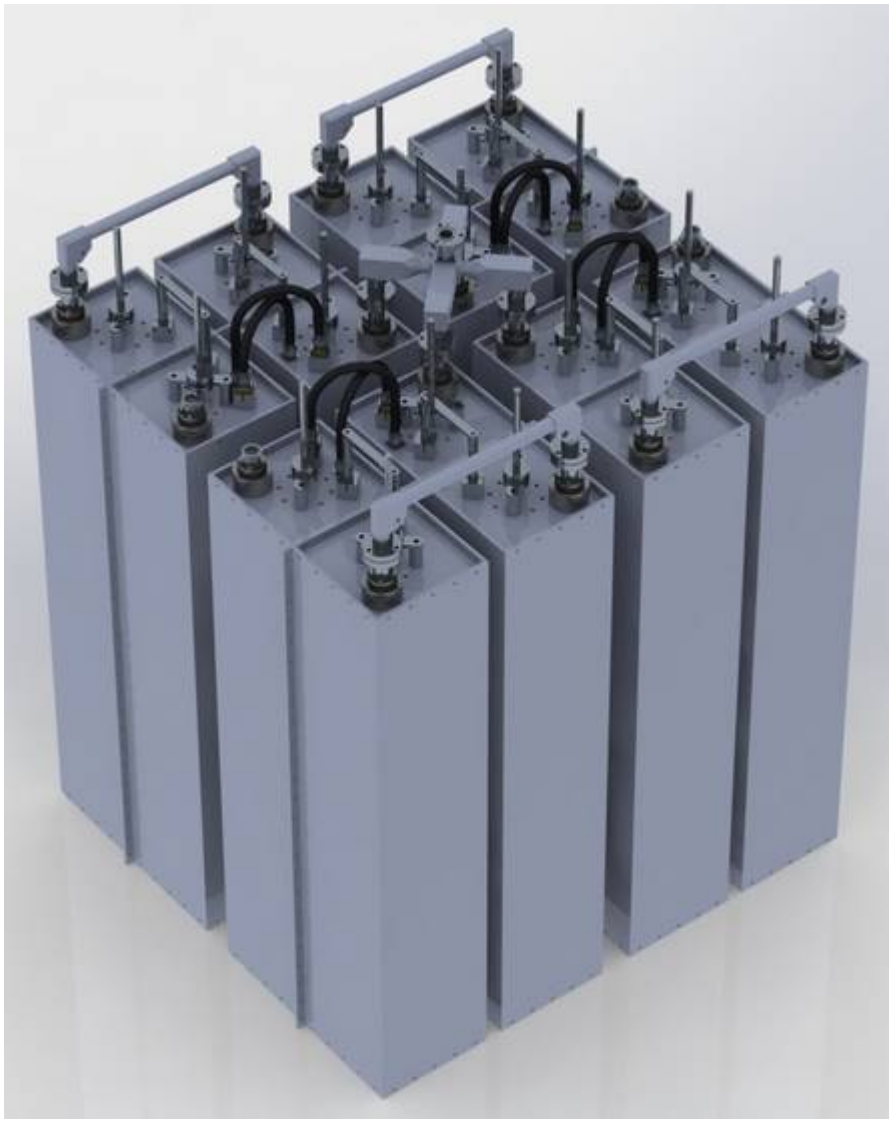




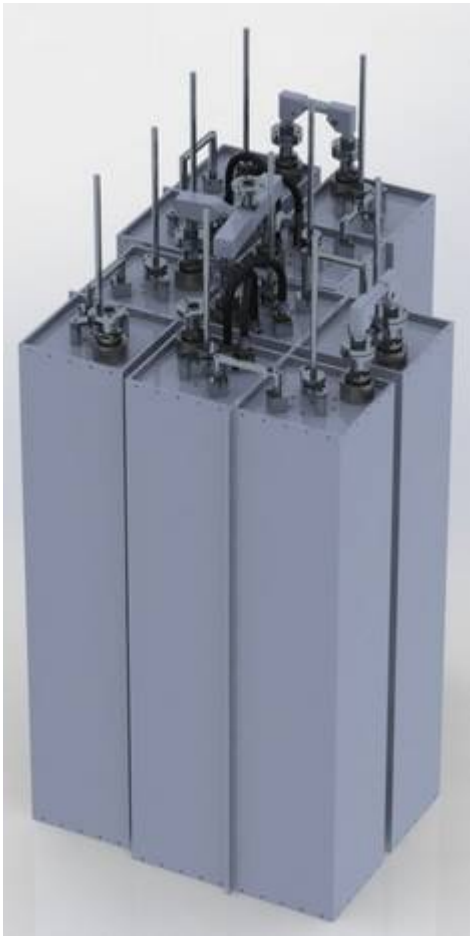








MODEL FTMSELF#002



- **COMBINER 3 CHANNELS**
- **TYPE STAR POINT**
- **FM BAND 87.5-108 MHz**
- **BAND II**
- **EXTREMELY LOW SPACING BEETWEEN CHANNELS**

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to which it's connected.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

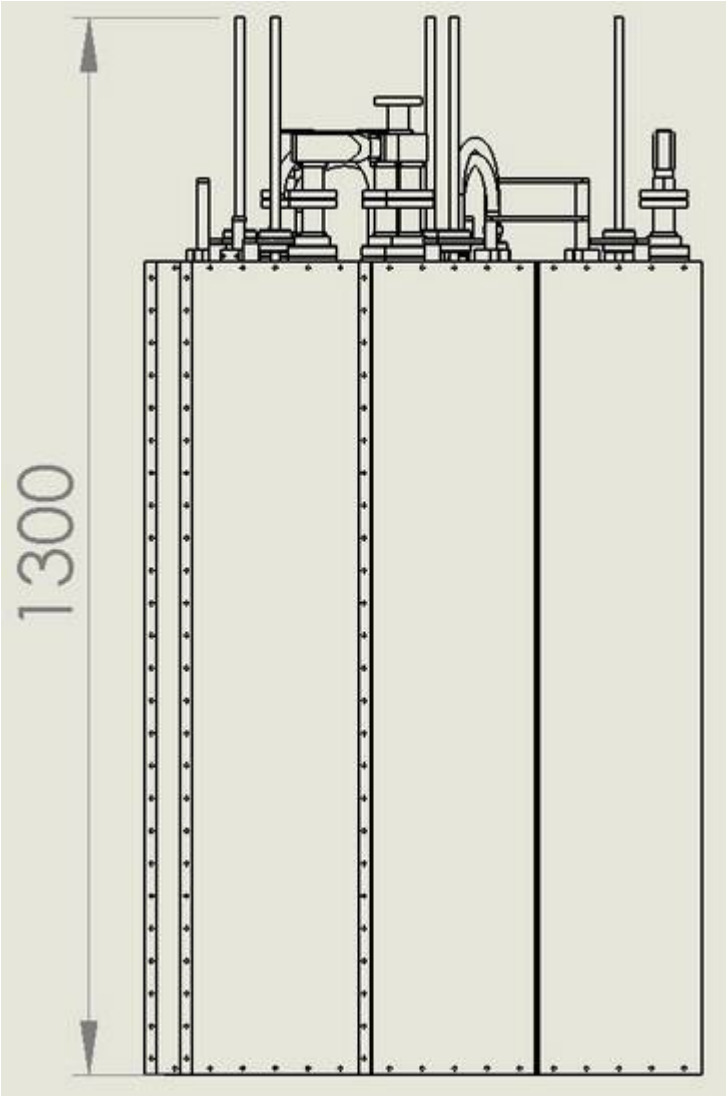
TYPICAL SPECIFICATIONS

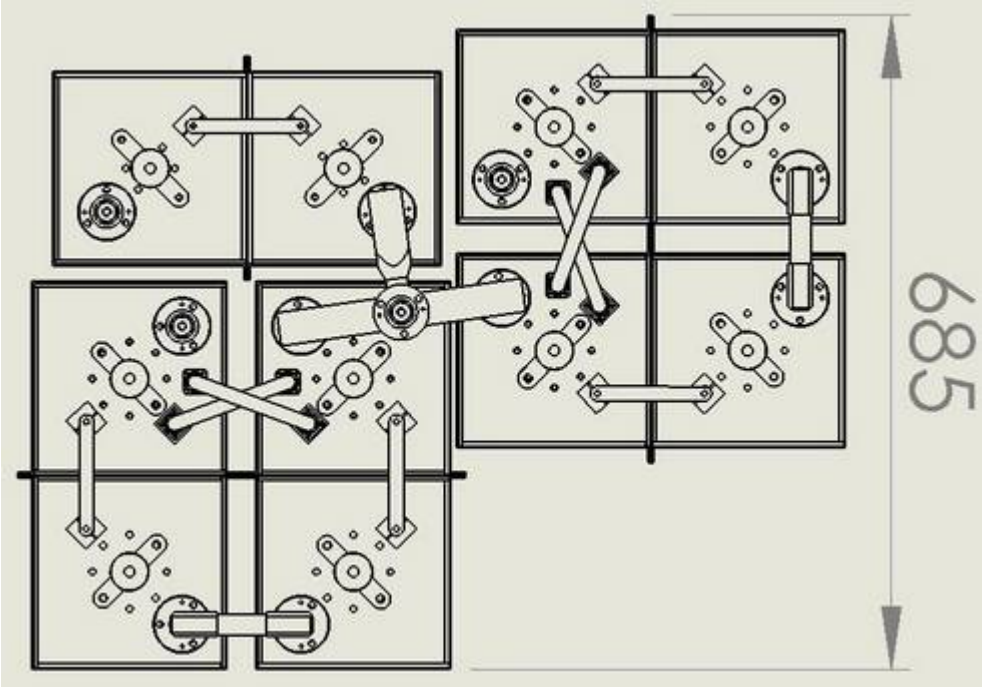
Model	FTMSELF#002 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150KHz	1.1:1max
Insertion Loss	F1 0.7-0.9 dB max F2 0.7-0.9 dB max See layout F3 0.25 dB max
Return Loss ±150KHz	≤ -26dB
Isolation 600 kHz	≥ 30 dB
N° of input	3
N° of output	1
Connectors Standard	Input 7/8" or 7/16" Output 7/8" Option 1+5/8"
Max Power	1 KW × Channel
Working Temperature	-20°C ÷ +50°C
Color	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

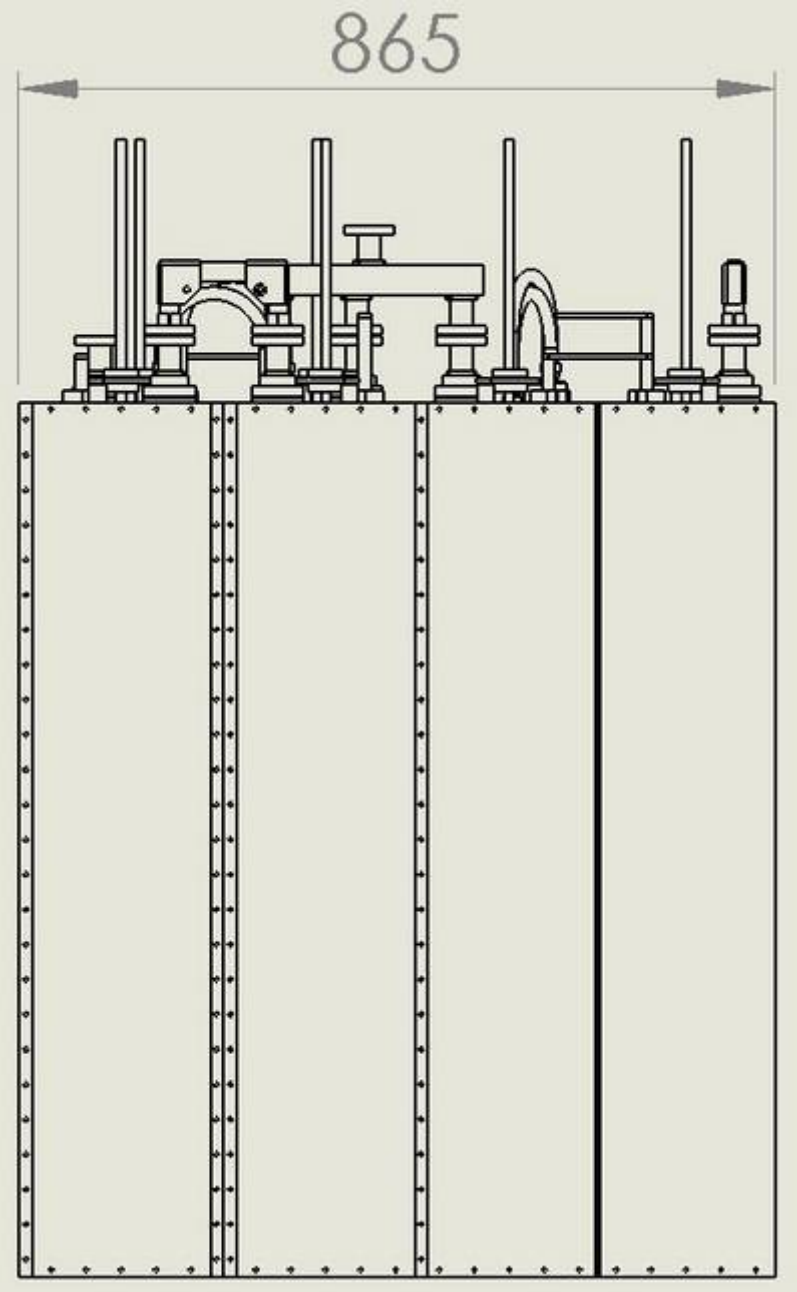
Features:

- Distortion – Free Transmission
- Star-point system with quadruple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

DIMENSIONS (mm)

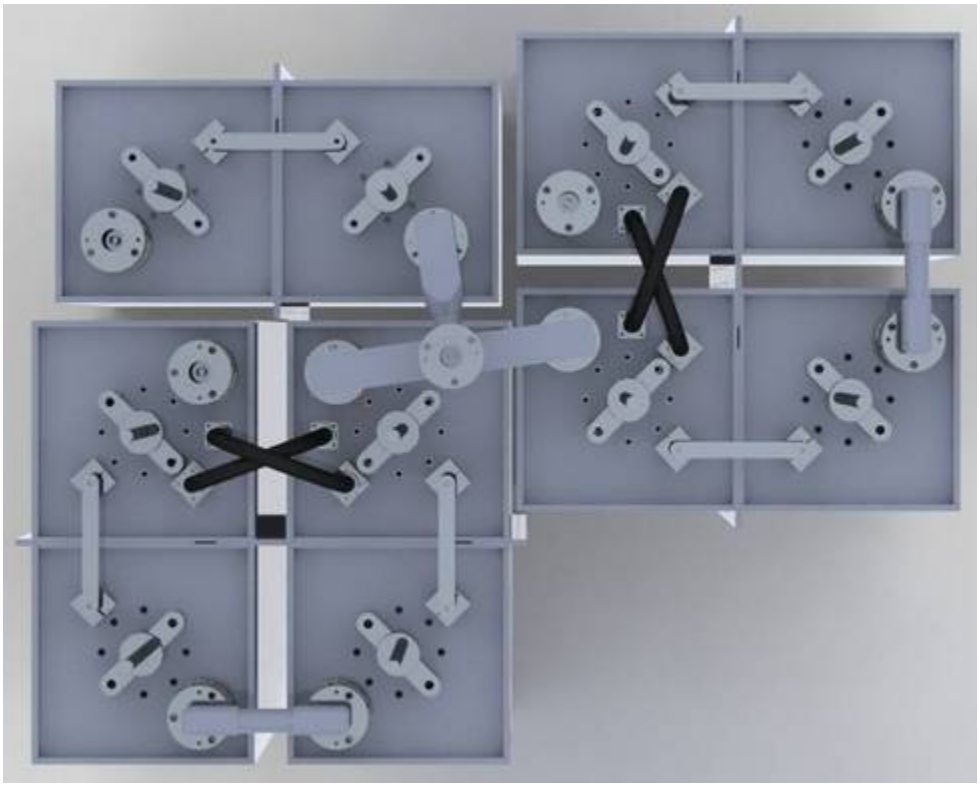


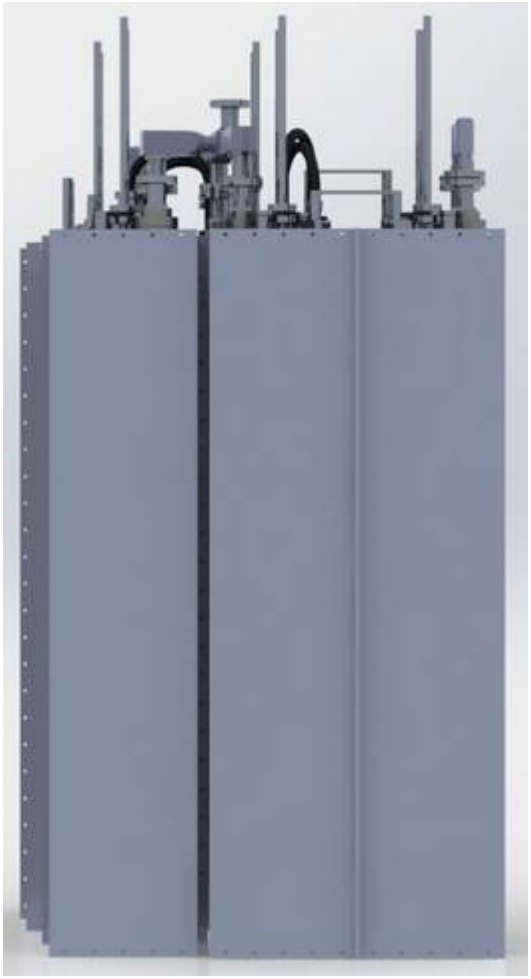




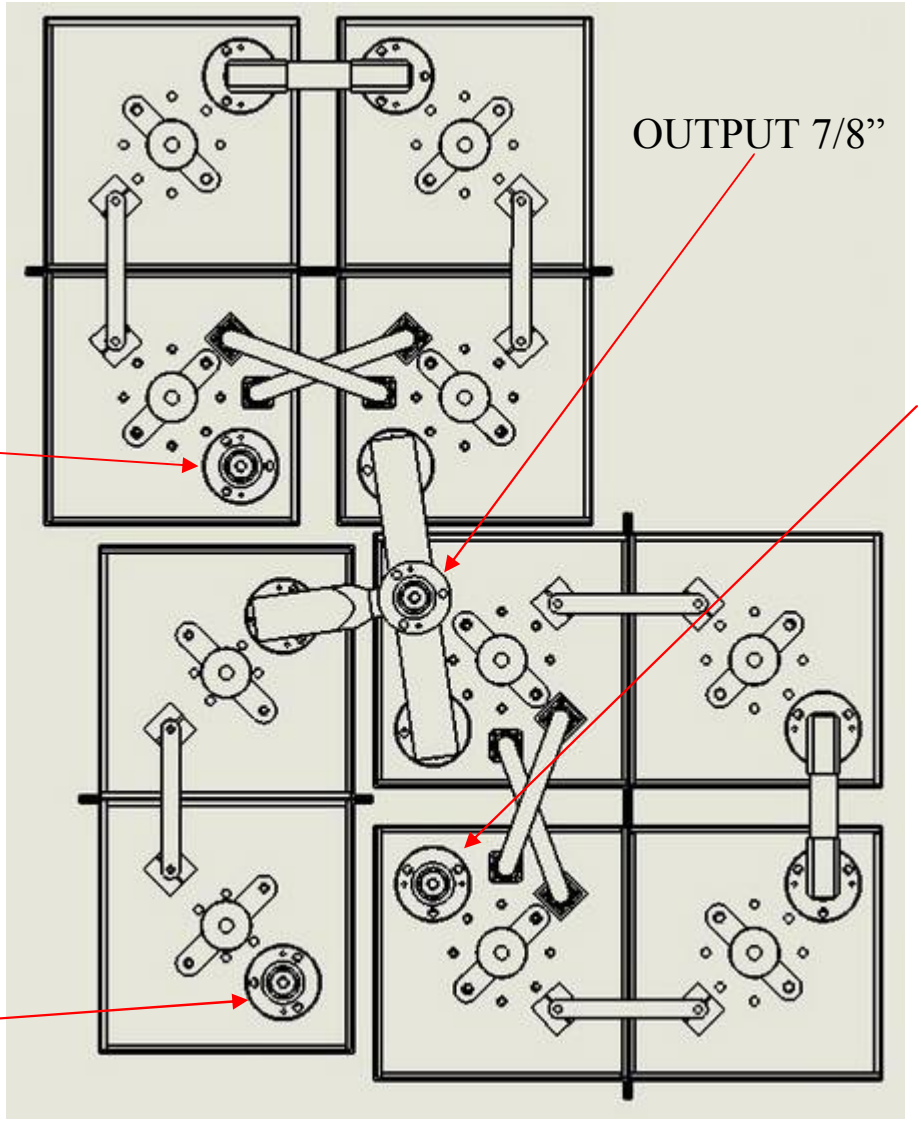
Dimensions	1300(Max size)×865×685 mm (51.1(Max size)×34×26.9 inch) (H×L×W)
Net Weight	≅ 120 Kg Approx.

VIEWS OF THE SYSTEM





LAYOUT



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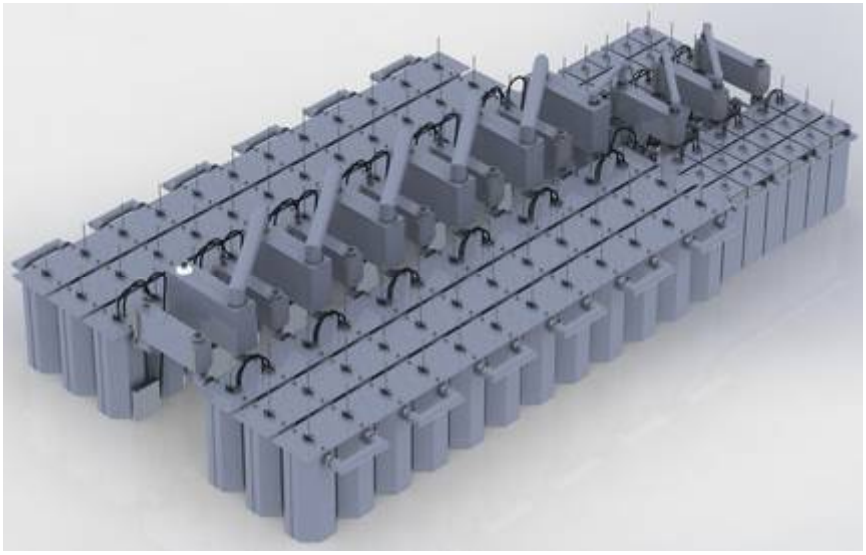
TELECOMUNICAZIONI FERRARA SRL

MODEL FCEDELF#001

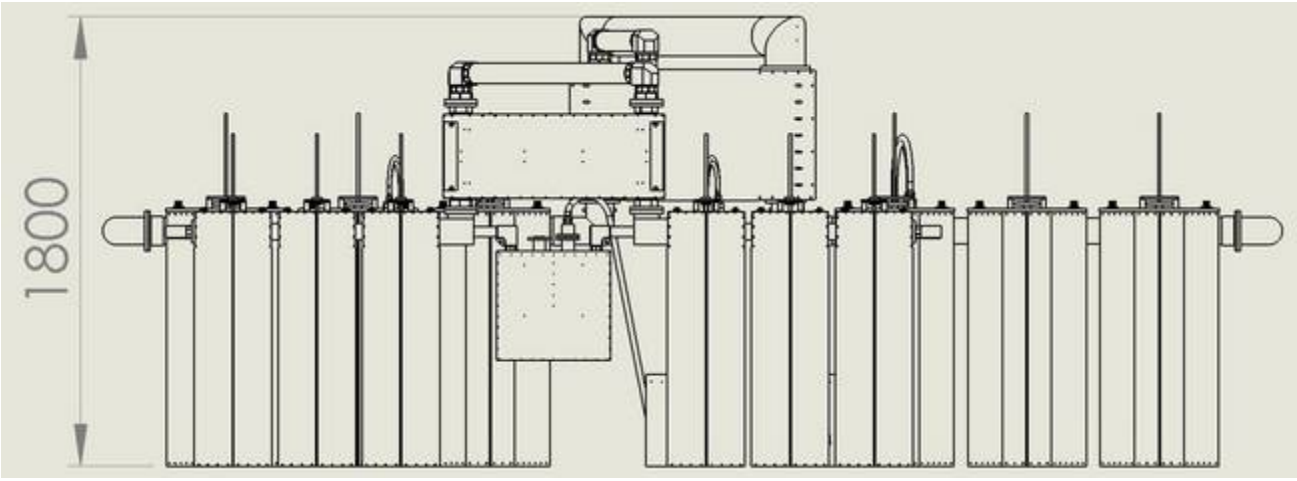
- **COMBINER 10 CHANNELS**
- **DOUBLE BALANCED BRIDGE**
- **FM BAND 87.5-108 MHz**
- **BAND II**
- **FOR DIGITAL TRANSMISSION**

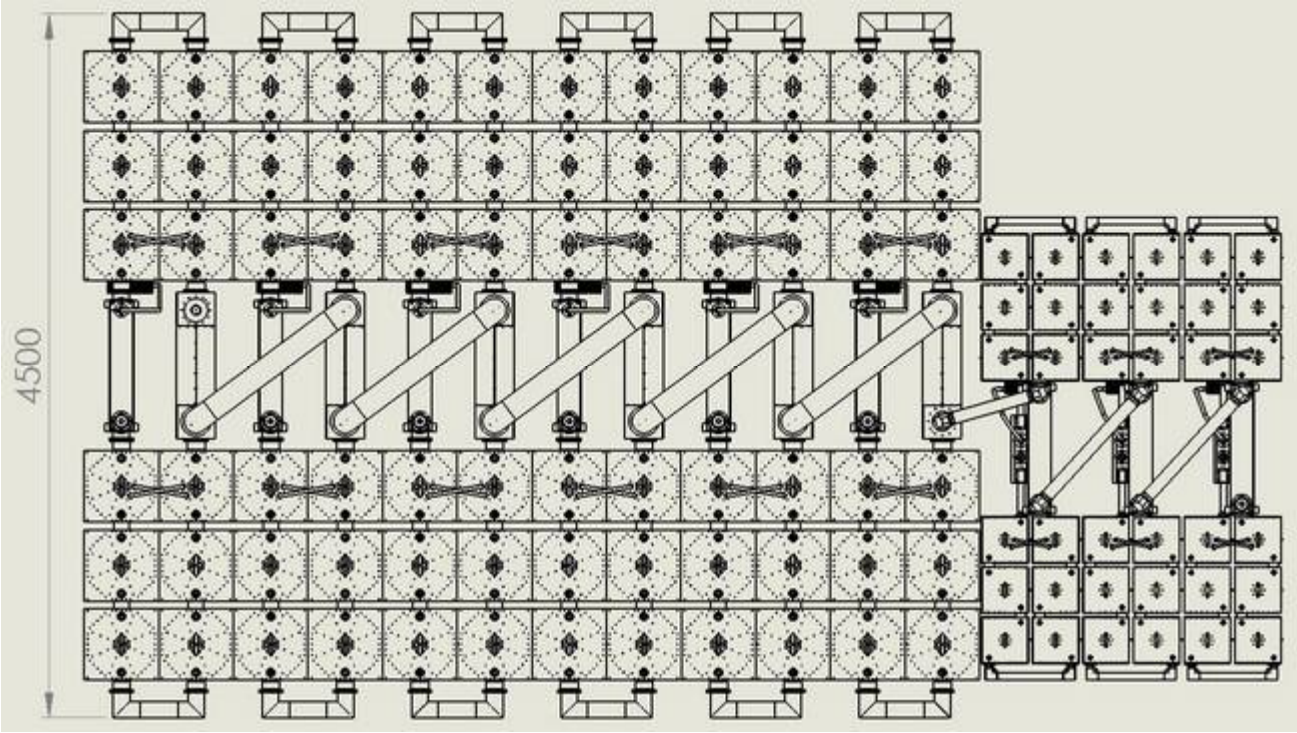


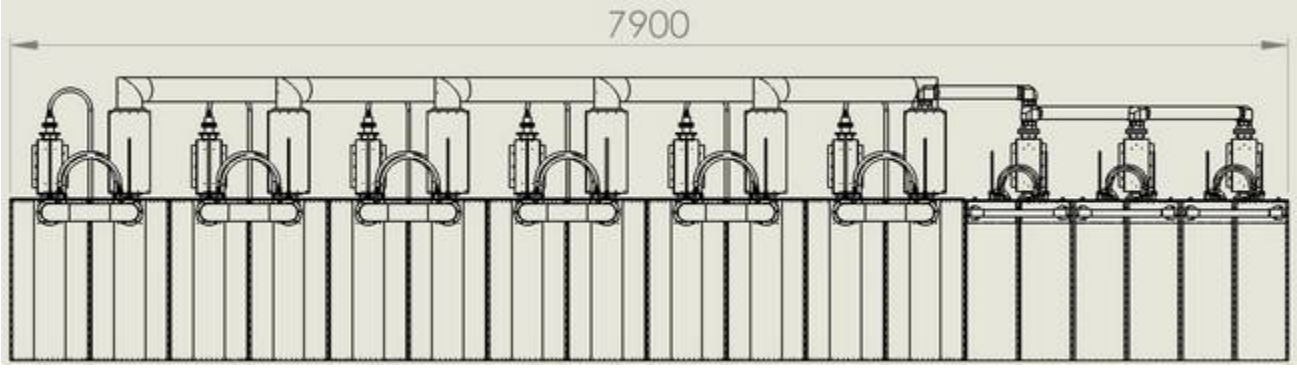
The Double Balanced Bridge System consists of two Band-Pass Filters, two -3dB Couplers and an Absorber.
One of the inputs has a narrow-band characteristic (complying with the band-pass functions of the band-pass filters), while the other input has a broadband characteristic within the operating frequency range of -3dB couplers. Both inputs exhibit a frequency independent load impedance to the RF source.
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS	
Model	FCEDELF#001
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±250KHz	1.1:1max
Insertion Loss	Input Broadband 0.2 dB max at F_1 0.7 – 1.3 dB max at F_2 0.7 – 1.2 dB max at F_3 0.7 – 1.1 dB max at F_4 0.5 – 0.95 dB max at F_5 0.4 – 0.9 dB max at F_6 0.4 – 0.9 dB max at F_7 0.4 – 0.9 dB max at F_8 0.4 – 0.9 dB max at F_9 0.4 – 0.9 dB max
Return Loss ±250KHz	≤ -26dB
Isolation	± 800 kHz 35 - 50 dB min
N° of input	10
N° of output	1
Connectors	Input 1+5/8” and 3+1/8” – Output 6+1/8” (See layout)
Max Power	See layout
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

DIMENSIONS (mm)

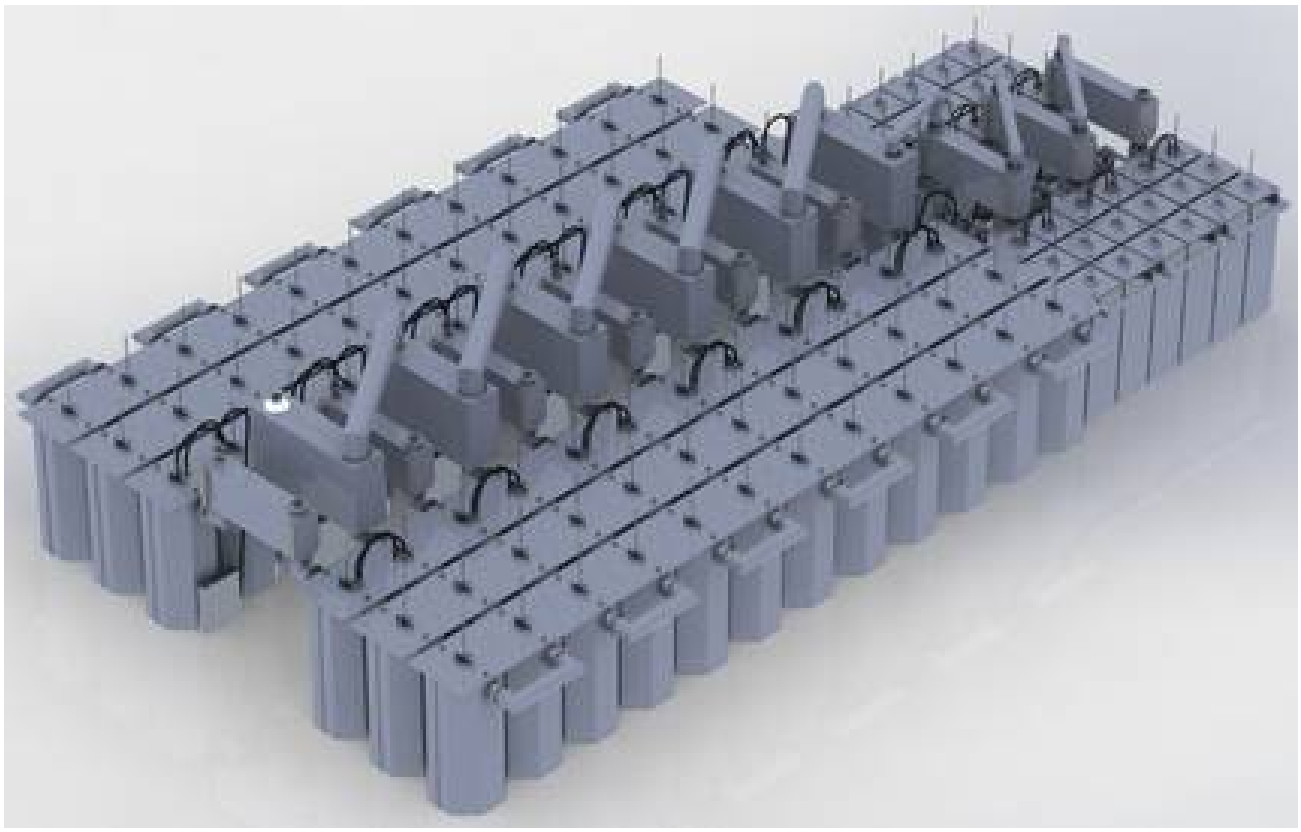


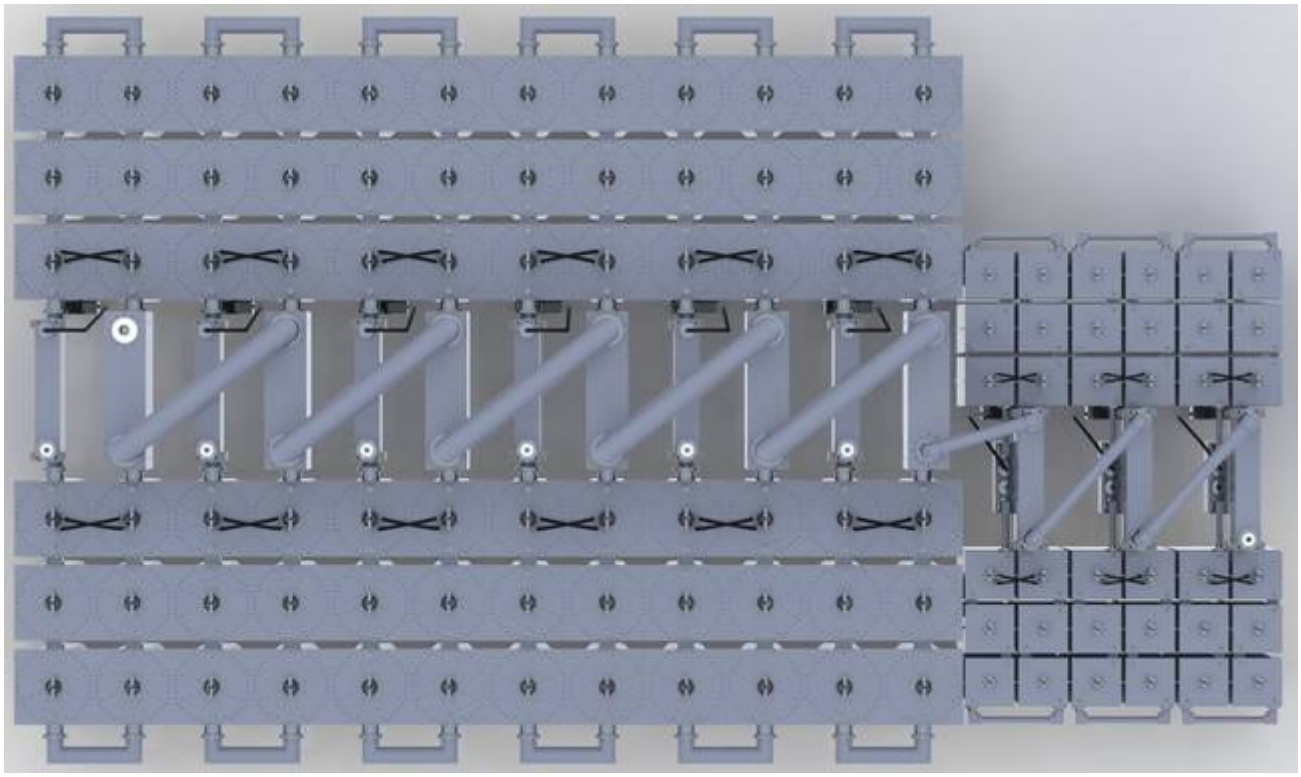


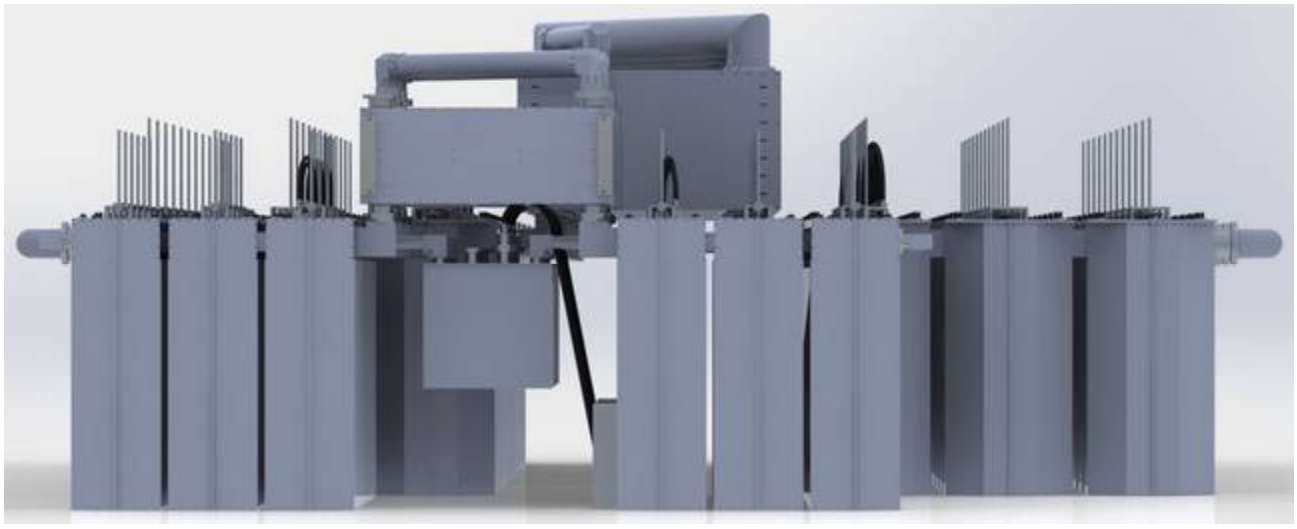


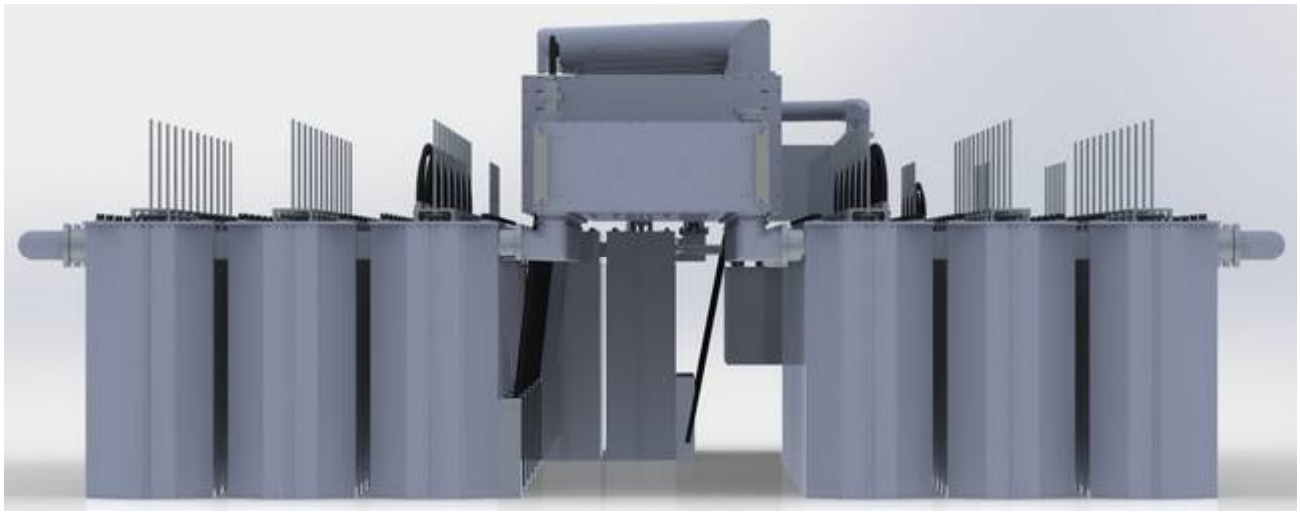
Dimensions	1800 (Max size)×7900×4500 mm (70.8(Max size)×311.0×177.1 inch) (H×L×W)
Net Weight	≅ 3700 Kg (approx.)

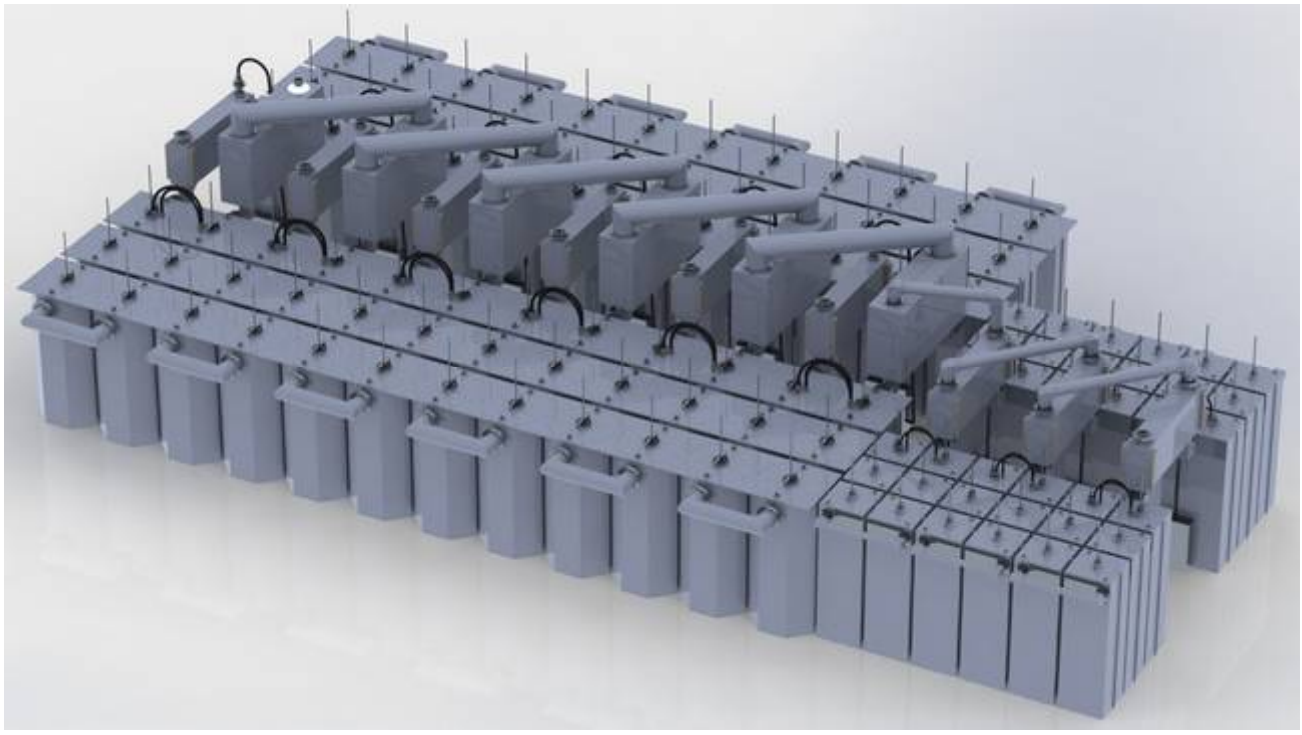
VIEWS OF THE SYSTEM



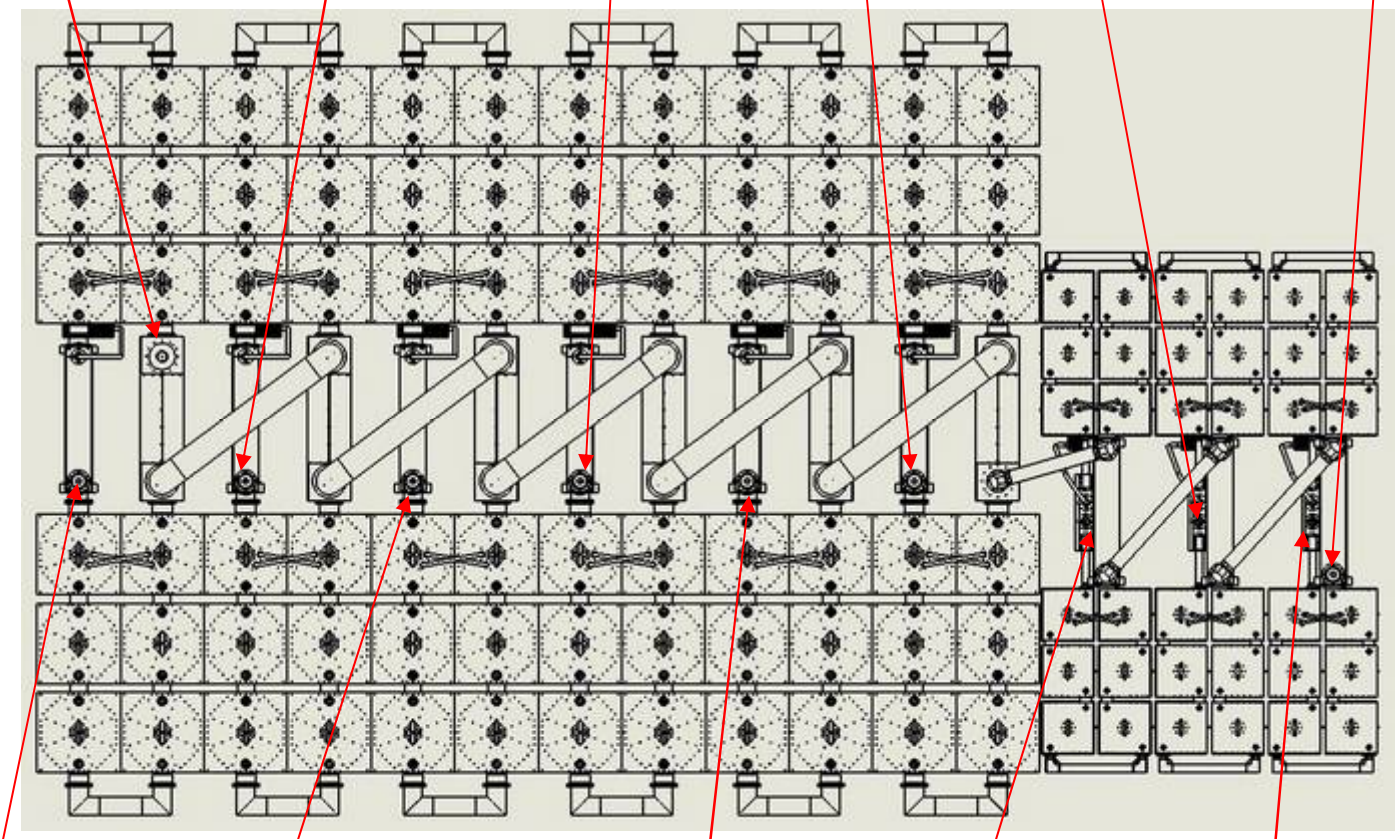








LAYOUT



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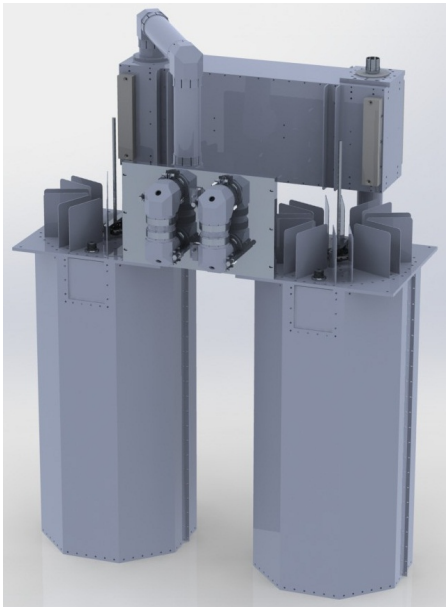
TELECOMUNICAZIONI FERRARA SRL

Stop Pass Filters

Model PSFC40



VERSION WITH PATCH PANELS (OPTION)

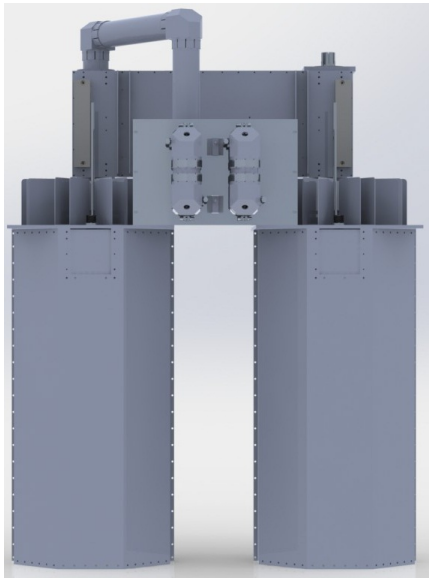
- **Pass Stop Filter**
- **FM Band 87.5 – 108 MHz**
- **Band II**

THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND SPECIAL VERSION.

The pass stop filters was designed as an extension of our combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site. The filter isolates the transmission system to eliminate spurious emissions.

TYPICAL SPECIFICATIONS

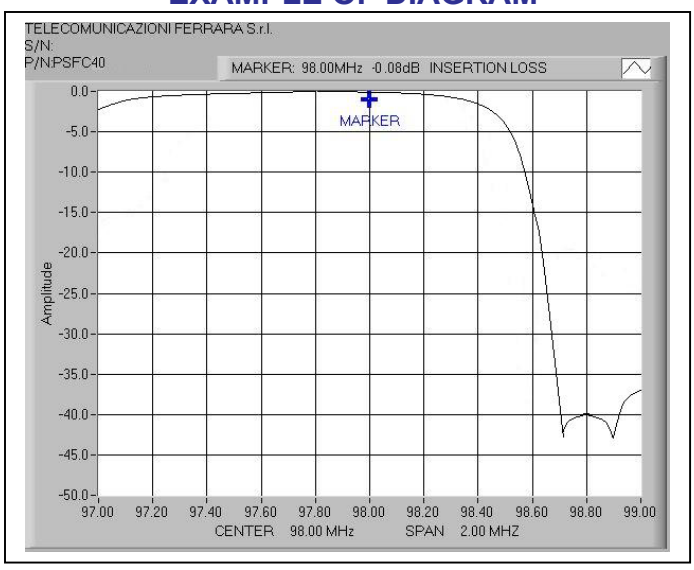
Model	PSFC40
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	≤ 0.1 dB
Return Loss ± 150 KHz	≤ -26 dB (carrier frequency)
Rejection ± 800 KHz	40 dB
Connectors	4+1/2" (or 3+1/8")
Max Power	60 KW *(with connector 4+1/2")* 35 KW *(with connector 3+1/8")*
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Features:

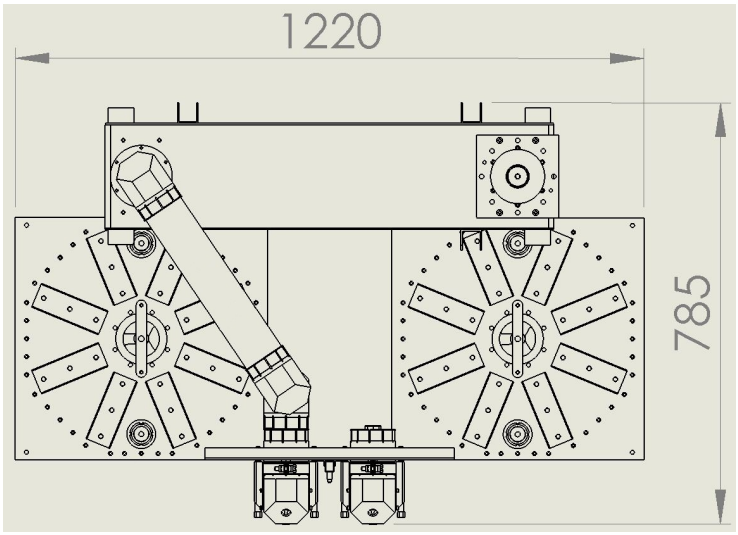
- **Modular design**
- **Distortion – Free Transmission**
- **Special configuration 2, 3 and 4 cavities**
- **Low loss, high isolation**
- **Natural convection**
- **Option with Patch Panels**

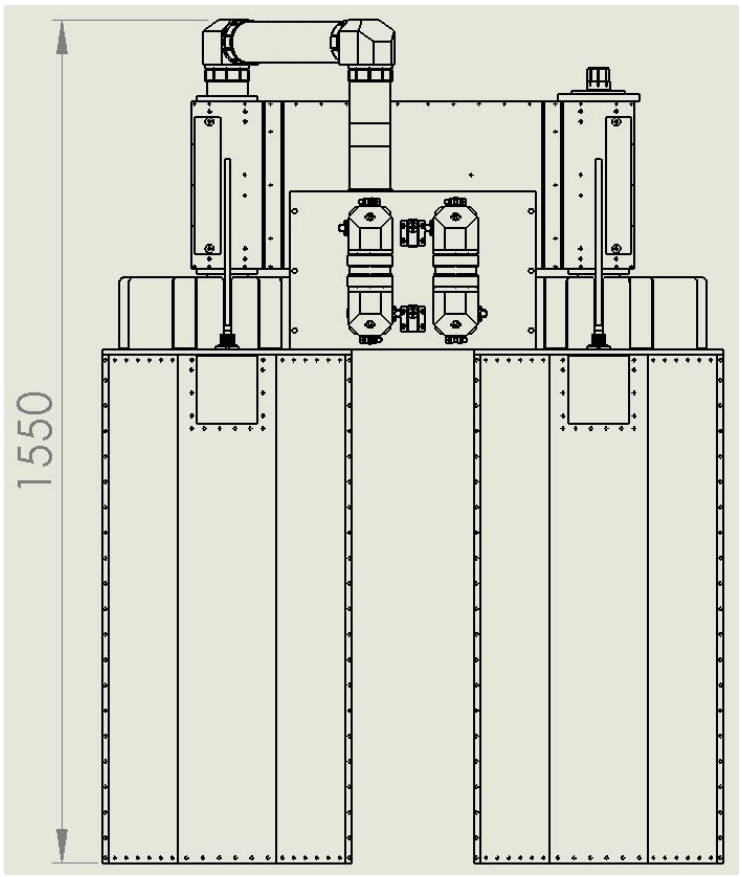
EXAMPLE OF DIAGRAM



"These specifications are subject to change without notice"

Dimensions (mm)





Dimensions	1550 (Max size) × 1220 × 785 mm (61.0 (Max size) × 48.0 × 30.9 inch) (H×L×W)
Net Weight	≅ 90 Kg

TELECOMUNICAZIONI FERRARA SRL

RVR GROUP

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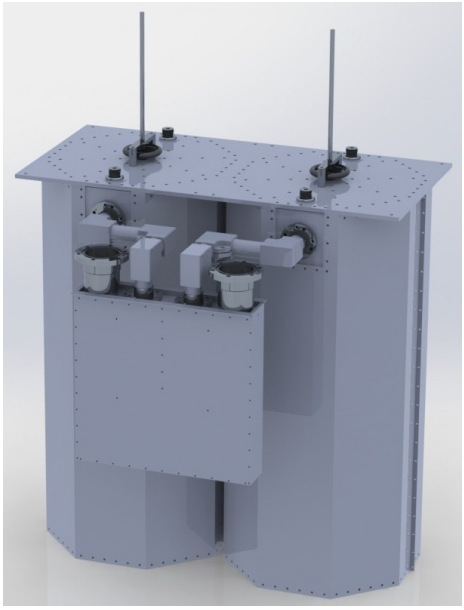
Model PSFC20



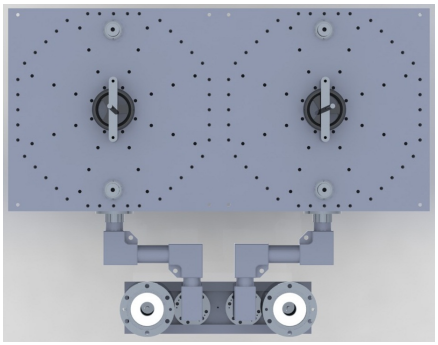
- **Pass Stop Filter**
- **FM Band 87.5 – 108 MHz**
- **Band II**

THESE ARE TWO STANDARD RESONANT CAVITY FILTERS, AND SPECIAL VERSION.

The pass stop filters was designed as an extension of our combiner technology. Using our industry-leading square, cavity filter design, the filter provides a one-time-buy filtering solution for the broadcaster located at multiple-user site. The filter isolates the transmission system to eliminate spurious emissions.

TYPICAL SPECIFICATIONS

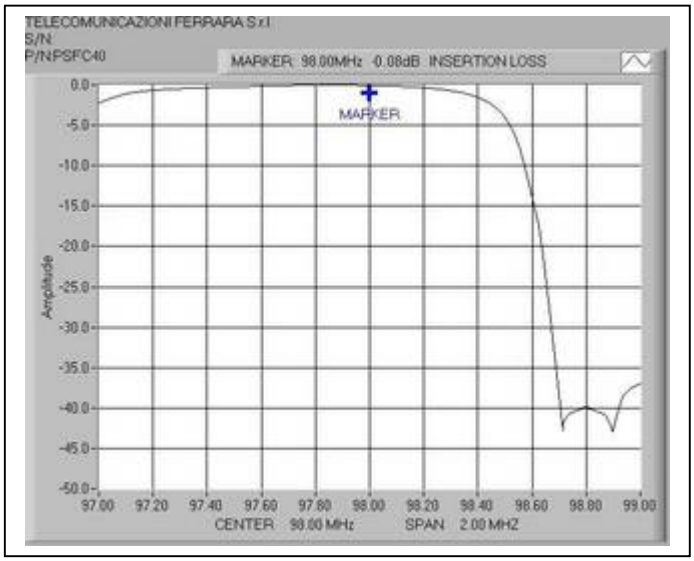
Models	PSFC10 - PSFC20
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	≤ 0.1 - 0.15 Db typical
Return Loss ± 150 KHz	≤ -26 dB (carrier frequency)
Rejection ± 400 KHz	20-30 dB
Connectors	1+5/8" or 3+1/8"
Max Power	10 KW *(with connector 1+5/8") 20kw (3+1/8)*
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)



Features:

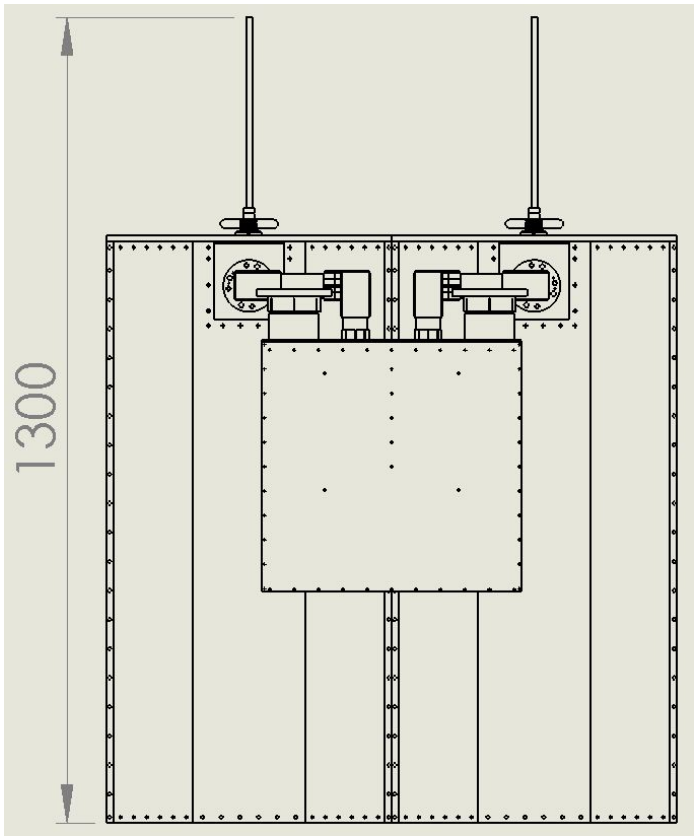
- **Modular design**
- **Distortion – Free Transmission**
- **Special configuration 2, 3 and 4 cavities**
- **Low loss, high isolation**
- **Natural convection**
- **Option with Patch Panels**

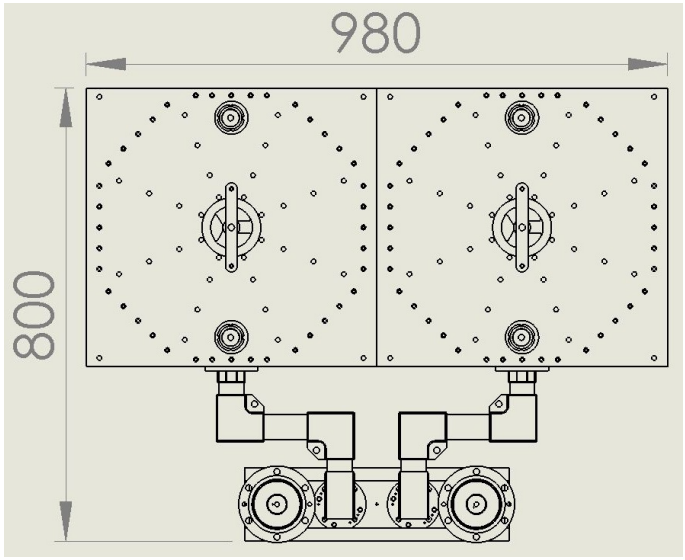
EXAMPLE OF DIAGRAM



"These specifications are subject to change without notice"

Dimensions (mm)





Dimensions	1300 (Max size) × 980 × 800 mm (H×L×W)
Net Weight	≅ 80 Kg

TELECOMUNICAZIONI FERRARA SRL

RVR GROUP

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40138 BOLOGNA – ITALY
TEL.: (+39) 051 6010506 FAX: (+39) 051 6011104
e-mail: info@rvr.it – http://www.rvr.it

SPLITTER FM

- **FM BAND 87.5÷108 MHz**
- **Special version with unequal power splitting**
- **Pressurizzable on request**
- **Option Clamps (minimum 2 for Splitter)**

TYPICAL SPECIFICATIONS

	50 Ohm
	87.5-108 MHz
	1.05:1 Max
	0.05 dB Max
	N-7/16"-7/8"-1+5/8"-3+1/8"-4+1/8" In according to the working power
	From 100 Watts to 40 KW In according to the model
	2-8 (In according to the model)
	1600 mm
	From 40 to 120 mm In according to the working power
	With special pipe clamp
	-20°C ÷ +50°C
	Enamel gray ral 7001
	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μ thickness)

IN 7/8" OUT 4 7/8" ↑

IN 1+5/8" OUT 2 7/8" ↑

↑ IN 3+1/8" OUT 2 3+1/8"

↑ IN 3+1/8" OUT 4 1+5/8"

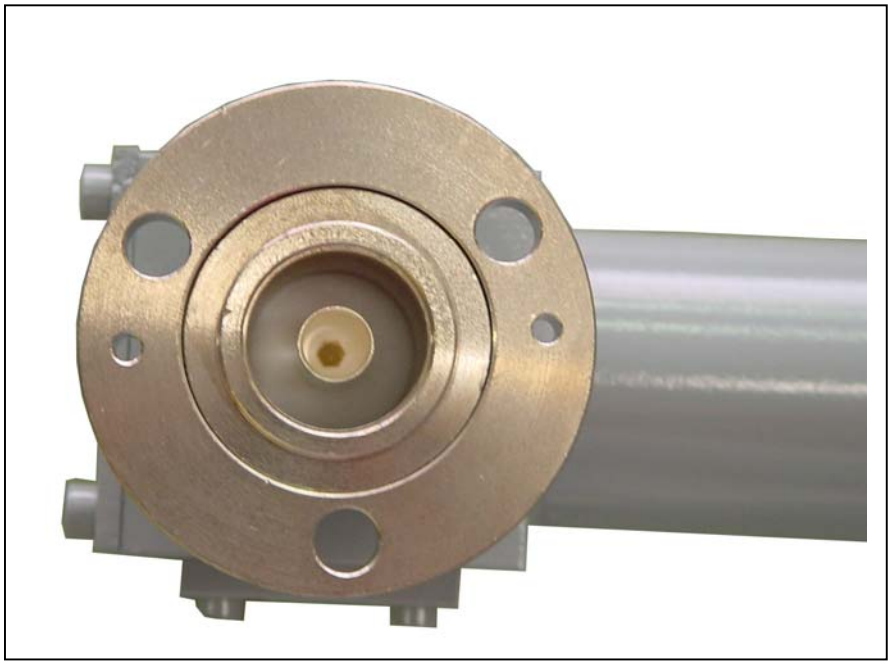
IN 1+5/8" OUT 8 7/8" →

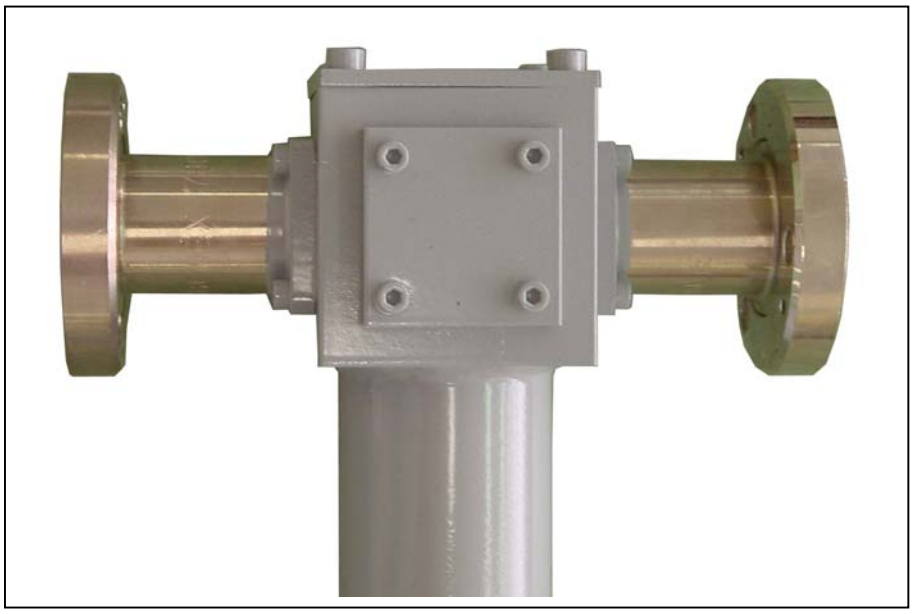
← IN 1+5/8" OUT 4 7/16"

EXAMPLES OF SPLITTERS

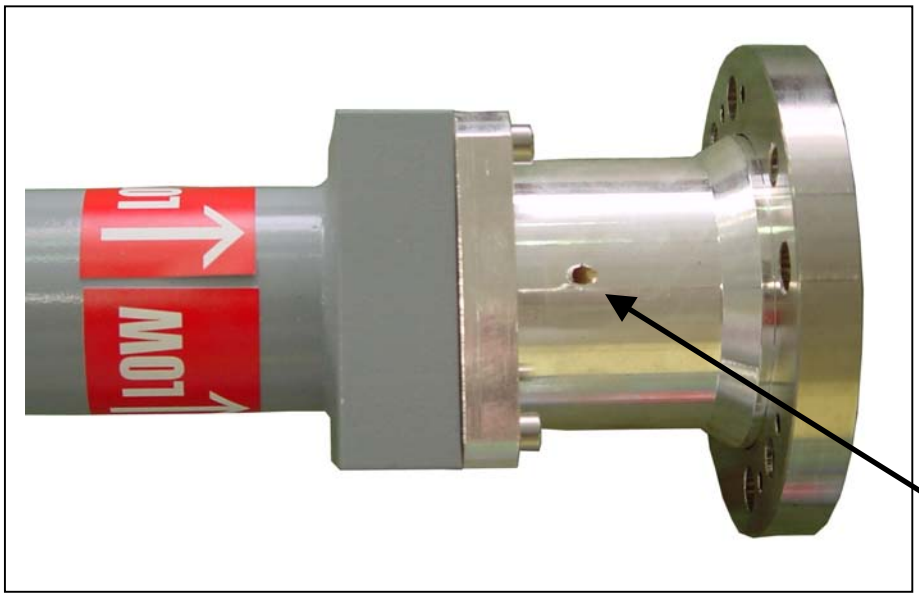
"These specifications are subject to change without notice"

EXAMPLE OF CONNECTOR OUTPUT 7/8":





EXAMPLE OF CONNECTOR INPUT 1+5/8":



EXAMPLE OF CONNECTOR INPUT 7/8”:

UNBALACED SPLITTER

- **Unbalaced Splitter**
- **FM Band 87.5 ÷ 108 MHz**
- **Pressurizzable on request**

TYPICAL SPECIFICATIONS

Model	According to type
Impedance	50 Ohm
Frequency Range	87,5 - 108 MHz
VSWR	1.05 : 1 Max
Insertion Loss	0.05 dB Max
Connectors	According to type
Max Power Input	From 100W to 40 KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Brass, Copper, PTFE, Stainless steel, Silvering (min. 8μm thickness)

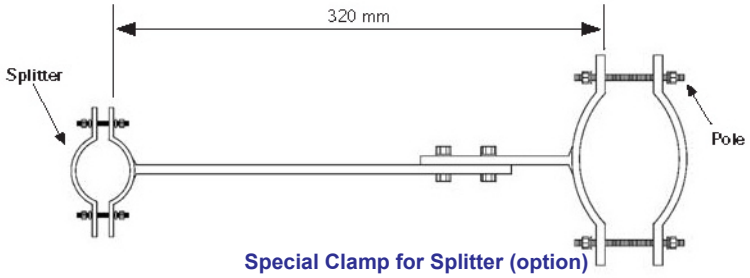
← IN 1+5/8" OUT 4 7/16"

IN 1+5/8" OUT 8 7/8" →

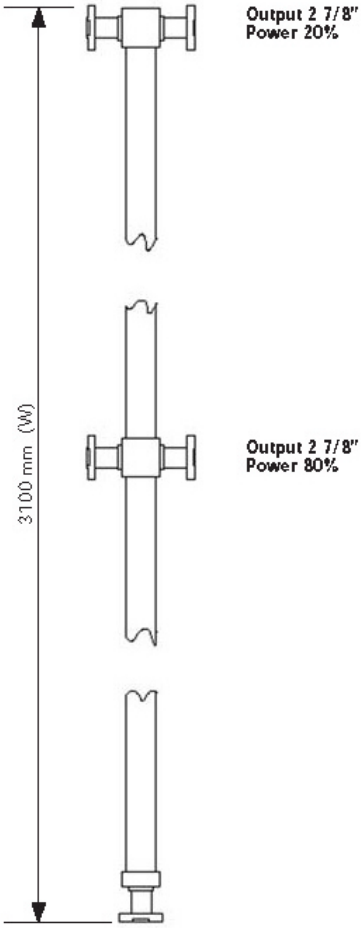
← IN 3+1/8" OUT 12 7/8"

EXAMPLE OF UNBALACED SPLITTER

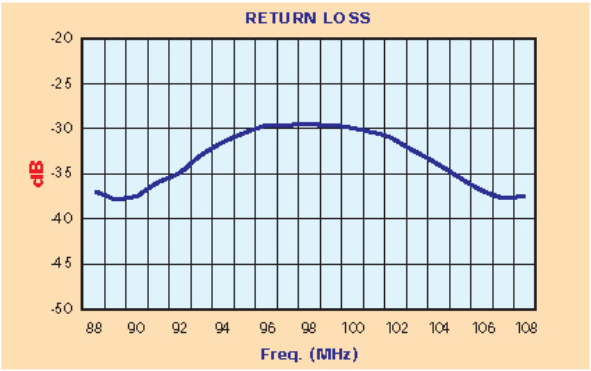
"These specifications are subject to change without notice"

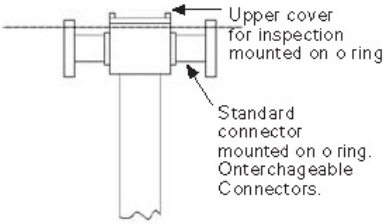


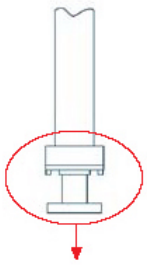
Special Clamp for Splitter (option)

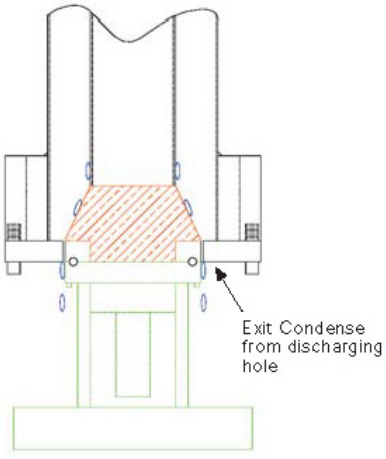


Typical return loss curve for splitter model DV/47/8-7/8









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SPLITTER UHF

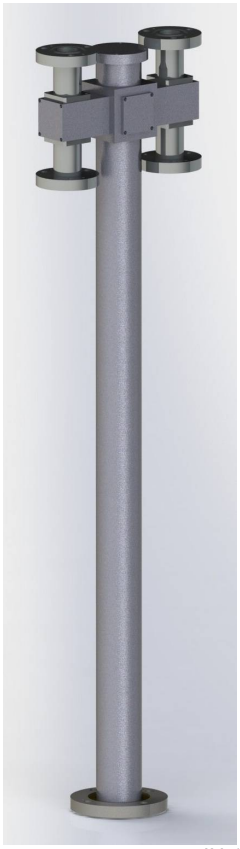
- **UHF BAND 470÷860 MHz**
- **Special version with unequal power splitting**
- **Pressurizzable on request**

← IN 7/8" OUT 2 7/8"

IN 7/8" OUT 4 7/8" ↑

TYPICAL SPECIFICATIONS	
Impedance	50 Ohm
Frequency Range	470-860 MHz
VSWR	<1.05 in each frequency range
Insertion Loss	0.05 dB Max
RF-Connectors	Female N, DIN 7/16, or EIA-flange 7/8", 1+5/8",3+1/8",4+1/2", 6+1/8"
Max Power Input	According to depending on connectors
Number of outputs	2-8 (In according to the model.)
Length approx.	Approx. 550 mm
Diameter external tube	From 40 to 120 mm In according to the working power
Mounting	With special pipe clamp
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless steel, Silvering (min 12μm thickness)

← IN 7/8" OUT 6 7/8"

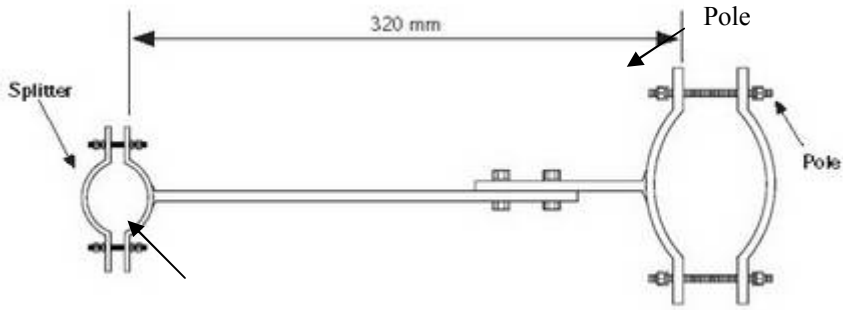


← IN 1+5/8" OUT 47/8"

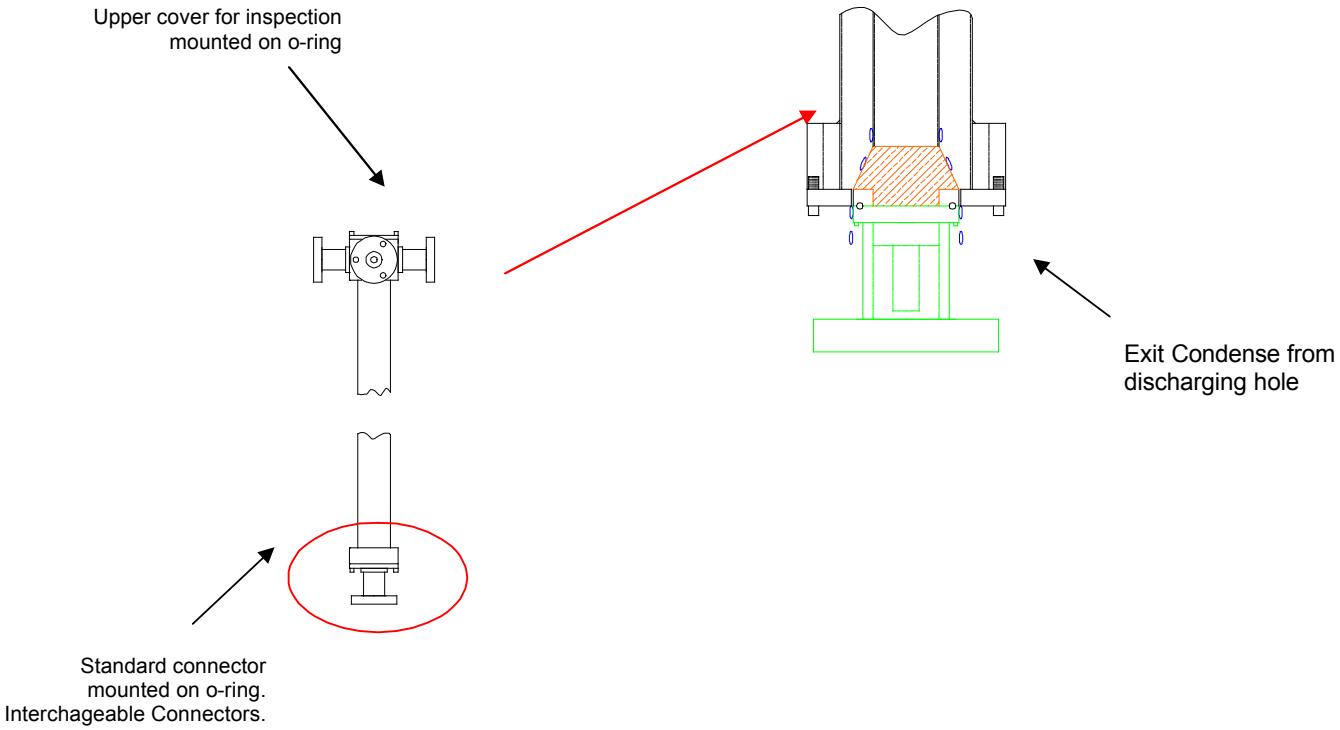
← IN 7/8" OUT 6 7/16"

EXAMPLES OF SPLITTERS

SPECIALS VERSIONS	
BAND	**LENGHT**
Band I 47-88 MHz	Approx. 2400 mm
Band III 174-230 MHz	Approx. 850 mm
Band IV V 470-860 MHz	Approx. 550 mm



Special clamp for splitter

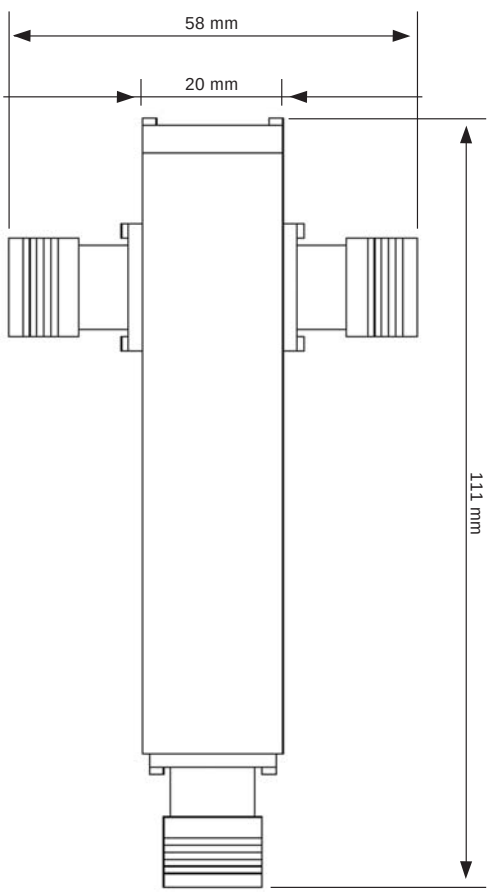


Model DV/2 LINK

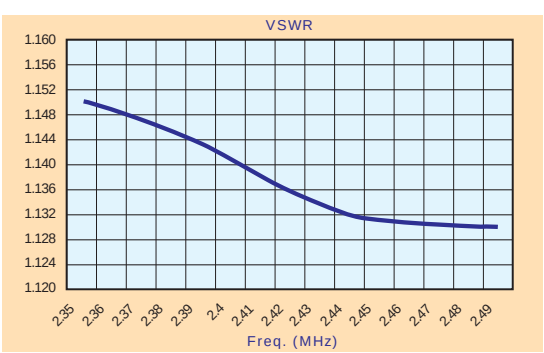
- Splitter
- For to connect several antennas
- Band 2360÷2485 Mhz

TYPICAL SPECIFICATIONS	
Model	DV/2 LINK
Impedance	50 Ohm
Frequency Range	2360÷2485 MHz
VSWR	1.15:1 Max
Insertion Loss	0.08 dB Max
Connectors	N Input-Output
Max Power	100 Watts
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, silver brass, copper, PTFE, stainless steel, silver plated (min 12μ thickness)

Dimensions	1300(Max size) x 650 x 450 mm (51.2(Max size) x 25.5 x 17.7 inch) (H x L x W)
Net Weight	≅ 0.15 Kg



Typical curve for VSWR

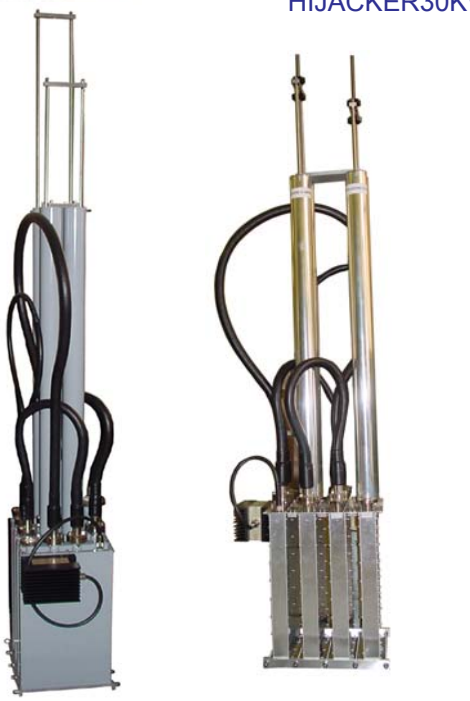


"These specifications are subject to change without notice"

Model HIJACKER5KW-HIJACKER30KW

- **RF Power HIJACKER**
- **FM Band 87.5 ÷108 MHz**
- **Band II**

HIJACKER30KW



HIJACKER5KW

Presentation

RF Power Hijacker is a passive device that is inserted between a FM broadcast radio transmitter and its main antenna. Its main function is to shunt a part of the available power on to an auxiliary antenna.
RF Power Hijacker is designed for indoor placement, preferably in the transmitter's shelter.

Possible applications

- Diminution of the signal strength in a specific direction to reduce the interference against other broadcasters, or to avoid transmitting in other countries
- Signal enhancement in the direction where the preferred audience reside
- Adjustable horizontal radiation pattern rotation, to move the signal power to zones having variable population density
- Adjustment of the vertical radiation pattern, to modify the reached audience area
- RF power switching between two antennas without transmission interruption
- Removal of intermodulation for transmitters with near antennas
- Elimination with electrical uncoupling of interference for a receiving system.

In all the cases in that it is desirable to have signal power branching with adjustable power and phase.

TYPICAL SPECIFICATIONS

Model	HIJACKER5KW	HIJACKER30KW
Frequency Range	87.5-108 MHz	87.5-108 MHz
VSWR	≤ 1.1:1 Max	≤ 1.1:1 Max
Return Loss	≤ -26dB	≤ -26dB
Connectors	Input/Output 7/8"	Input/Output 3+1/8"
Max Power	5 KW	30 KW

GENERAL SPECIFICATIONS

Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

Description

RF Power Hijacker features 4 connectors and 2 regulators. The connectors are used to join the device to:
1. FM transmitter
2. Main antenna
3. Auxiliary antenna
4. Dummy Load

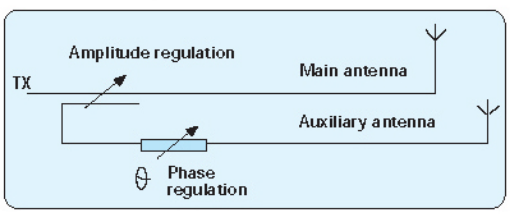
The first regulator adjusts the power distribution among the antennas, while the second one regulates the phase shift between the output signals.
The role of the dummy load is to dissipate possible reflected power in the system, this avoiding the transmitter being affected by it. The dummy load should not be needed for a well tuned and working system, but its presence guarantees better stability in the behaviour of the device.

Working principle

RF Power Hijacker consists of four functional parts:
1. Input signal splitter with fixed power ratio
2. A variable phase shifter
3. A signal combiner with fixed power ratio
4. A second variable phase shifter

The transmitted RF power is first divided by the power splitter. One of the outputs of the splitter is connected to one of the inputs of the combiner with a 50 Ohm transmission line. The other output is routed via the first phase shifter to the second input of the combiner. The last output of the input splitter is closed on a dummy load. The combiner has two output connectors: one is connected to the main antenna, while the other goes through the second phase adjuster to the auxiliary antenna. The phase shift between the signals at the combiner input determines the power ratio at the combiner output. The transmission line joining the splitter output with the combiner input determines the maximum range of the power ratio. The role of the dummy load is to dissipate possible reflected power in the system. The total loss of RF Power Hijacker is restricted to the insertion losses of the single components, as the total energy in the system is conserved and just divided in a determined way.

Scheme of principle



R.V.R. ELETTRONICA

Model HIJACKER5KW-HIJACKER30KW

Installation

The setup of RF Power Hijacker requires appropriate study and design. The installation location shall permit the operator to comfortably perform the needed regulations: the preferred location is nearby the transmitter, even if there is no need to monitor its parameters during the setup of the system.
There is no requirement about the length of the cable connecting the transmitter with RF Power Hijacker. The initial setup is completed once the main and auxiliary antennas and the dummy load are connected.
The power that is dissipated by the dummy load is of little importance unless an antenna malfunction arises: it is up to the system engineer to evaluate the probability and type of the problems that could affect the antenna system, and to plan out the rating and positioning of the dummy load as a function of it.

Setup directions

The adjustment of RF Power Hijacker requires the collaboration of an operator that will manoeuvre the regulators of the device and of a second operator whose role is to monitor the effect in the field and to drive the operator on site towards the desired result. The operators will therefore be in radio or telephone contact.
Due to the very nature of the system, RF Power Hijacker cannot be factory-preset, and the best choice is just to request the device to be set with minimum power directed to the auxiliary antenna.
The typical regulation process consists of a succession of iterations until the desired result is obtained.
The first step of each iteration is to raise the amount of power directed to the auxiliary antenna: the operator in the field will notice the effect of this operation measuring the received field strength.
Than, the operator on site will vary the phase of the auxiliary signal along the whole range, while the operator in the filed monitors the corresponding variations in the received field. If the phase regulation doesn't give satisfactory results, the amount of power shunted to the auxiliary antenna is increased, beginning a new iteration.

Model	Dimension	Net Weight
HIJACKER5KW	1500(min)÷2500(max)x430x260 mm (59.1(min)÷98.4(max)x16.9x10.2 inch) (HxLxW)	≅ 25 Kg
HIJACKER30KW	1700(min)÷2500(max)x550x350 mm (66.9(min)÷98.4(max)x21.6x13.8 inch) (HxLxW)	≅ 30 Kg

Theoretical considerations

Using two antennas to irradiate the RF signal produced by a single transmitter, always results in mutual influence in the radiated fields. RF Power Hijacker is helpful to shape the resulting pattern in an useful way from the broadcaster's point of view.
At the receiver, the combination of the signal gives two different effects: the first and useful one is the enhancement or suppression of signal strength due the phase shift that is regulated by RF Power Hijacker. The second one, due to the relative delay of the received signals, is the so called multipath interference, resulting in distortion in the received signal and unwanted AM in the field. To reduce the multipath effect, it is important to avoid the use of filters affecting only one of the transmission paths, and to keep the length of the antenna feeders as similar as possible. It should be noted that the multipath effect could also be present in the direction of the notch of the overall radiation pattern: in this case, the resulting signal would be a suppressed-carrier AM, with lateral spectral lines carrying more energy, the bigger the delay and the deeper the modulation level of the FM signal is.
A final consideration about the antennas to be used in conjunction with the RF Power Hijacker: in most cases, the main antenna is already installed, while the auxiliary one has to be chosen in view of the desired result. Since the auxiliary antenna shall normally irradiate a small part of the total transmitted power, it can be of smaller size. It's also important to take into account the whole radiation pattern of the selected auxiliary antenna, and to study its effect on the global radiated field of the system, to avoid the risk of unwanted side-effects affecting the main audience area.

Application examples

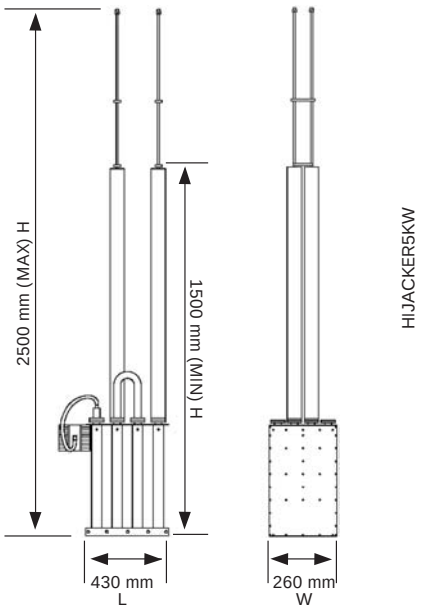
Received interference suppression in a radio link

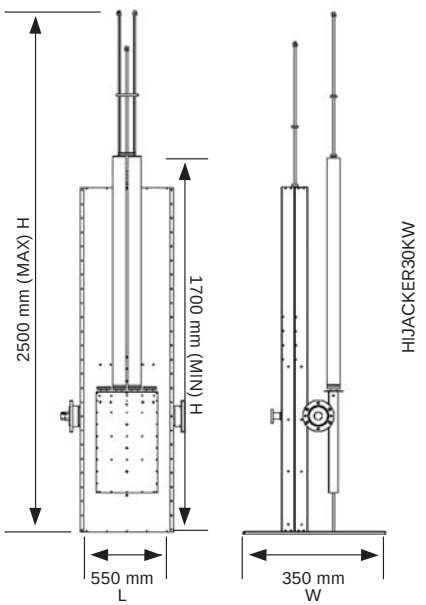
In some cases a radio link can suffer from interference induced by a signal arriving from a direction different from the one of the desired signal. If the normal anti-reflecting receiving system or reduced sidelobes antennas are not sufficient to bring the interference below the needed level, the RF Power Hijacker can be helpful as a sidelobe canceller.
In this configuration, an auxiliary directive antenna is installed with its main lobe pointed towards the interfering source. The received signal is then routed through the phase shifting channel of the RF Power Hijacker. Adjusting the provided regulators in a proper way, it is possible to render the contributions in the channels due to the interfering signal as having the same amplitude and opposite phase, thus obtaining suppression levels often well below 40 dB, compared to 20-25 dB permitted by traditional systems.
The system has a remarkable bandwidth, thanks to the maximum efficiency design of the circuit. The auxiliary antenna can be constituted by one or more elements in different configurations, to obtain the most suitable receiving pattern for the specific application.

Attenuation of the power transmitted in a certain direction

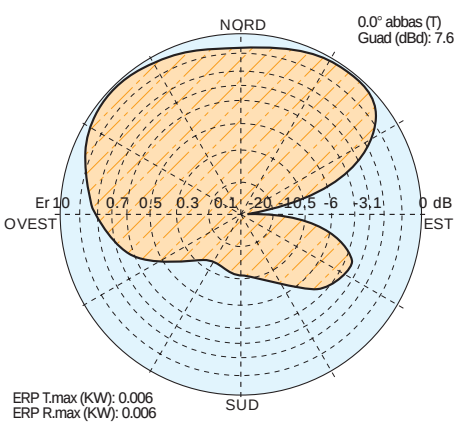
In this case, the desired effect is to reduce the interference caused by a transmitter in an area that is not intended to be served by it. The auxiliary antenna is pointed in the direction of the area to be protected, and fed with the signal shunted by the RF Power Hijacker. The regulations of the RF Power Hijacker will be adjusted so that the resulting radiation pattern will have a minimum in this direction, thanks to the main and auxiliary signals having opposite phase in the desired direction.

"These specifications are subject to change without notice"





Example of antenna system comprising a main section of four collinear broadband fm dipoles pointed at 0°, and an auxiliary 5 elements yagi auxiliary antenna pointed at 90°, creating a null in the corresponding direction



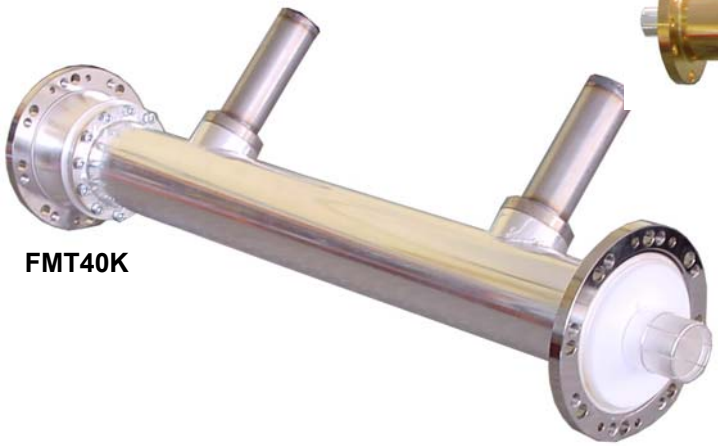
MODEL FMT12K-FMT30K-FMT40K

- **FINE MATCHER**
- **FM BAND 87.5÷108 MHz**
- **Band II**
- **FINE TUNED ANTENNA FOR MINIMUN VSWR**

FMT12K

Although the TELECOMUNICAZIONI FERRARA antennas are tuned at the factory to provide a low standing wave ratio for the operating channel, when an antenna is mounted on a conductive metal object such as a tower or a pole its VSWR naturally increases. The fine matcher provides the user a quick and easy way to optimize the antenna for the absolute minimum VSWR and released signal degradation. With this device, tuning can be accomplished in a fraction of the time that it take to tune competitive antennas without having to disassemble the feed-line. Tuning can even be accomplished without loss of system pressure.

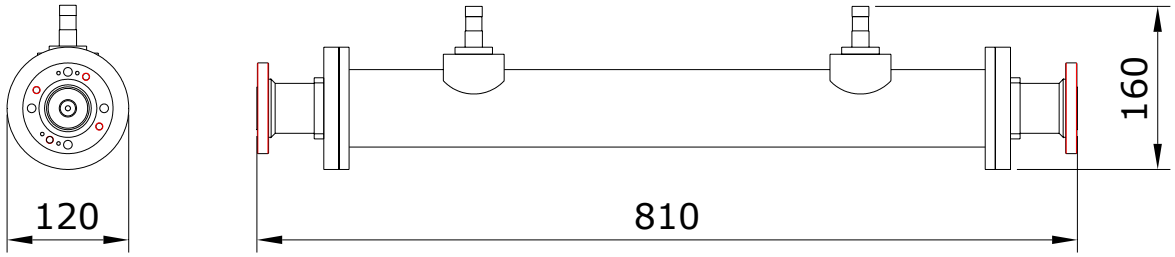
FMT30K



FMT40K

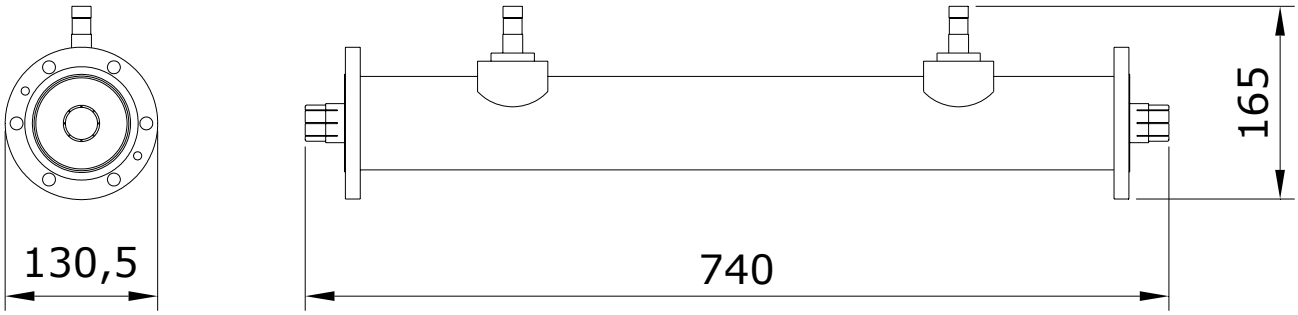
TYPICAL SPECIFICATIONS	
Model	FMT12K - FMT30K – FMT40K
Impedance	50 ohm
Frequency Range	87.5-108 MHz
Insertion Loss	0.05 dB Max
Connectors	Input-Output 1+5/8” (Opt. 7/8”) FMT12K Input-Output 3+1/8” FMT30K Input-Output 4+1/2” FMT40K
Max Power	12-30-40KW
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

FINE MATCHER 12 KW (FMT12K)



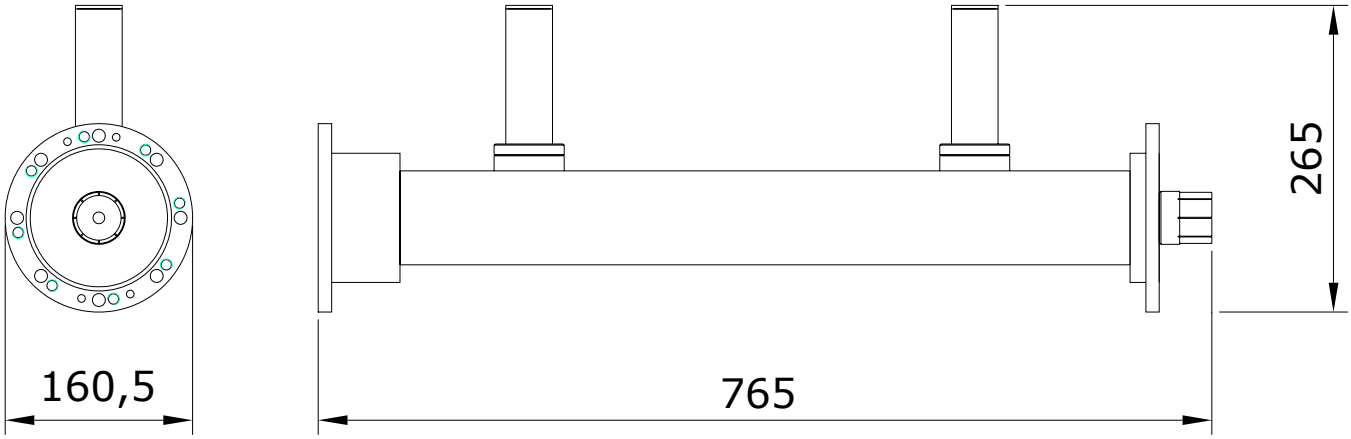
Dimensions	160× 810×120 mm (6.3×31.9×4.7 inch) (H×L×W)
Net Weight	≅ 15 Kg approx.

FINE MATCHER 30 KW (FMT30K)



Dimensions	165×740×130,5 mm (6.5×29.1×5.1inch) (H×L×W)
Net Weight	≅ 15 Kg approx.

FINE MATCHER 40 KW (FMT40K)



Dimensions	265×765×160,5 mm (10.4×30.1×6.3 inch) (H×L×W)
Net Weight	≅ 20 Kg approx.

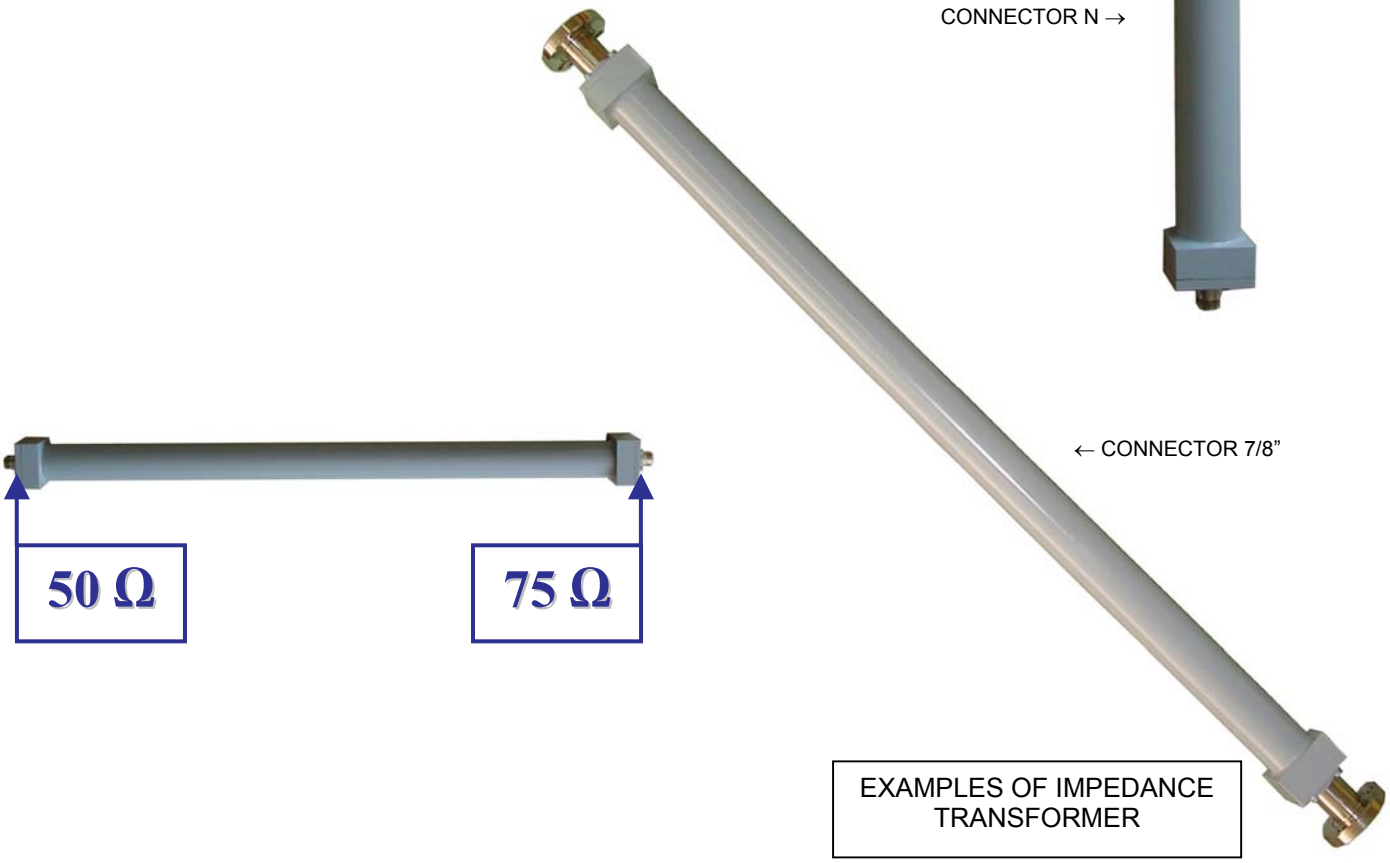
IMPEDANCE TRANSFORMER
50Ω - 75Ω

- **FM BAND 87.5÷108 MHz**
- **Pressurizzable on request**
- **Option Clamps (minimum 2 for Transformer)**

TYPICAL SPECIFICATIONS

Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR	1.05:1 Max
Insertion Loss	0.05 dB Max
Connectors	N or 7/8” In according to the working power
Max Power Input	From 100 Watts to 5 KW In according to the model
Length approx.	735 mm (with conn. N) 785 mm (with conn. 7/8”)
Diameter external tube	40 mm
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Brass, Copper, PTFE, Silvering

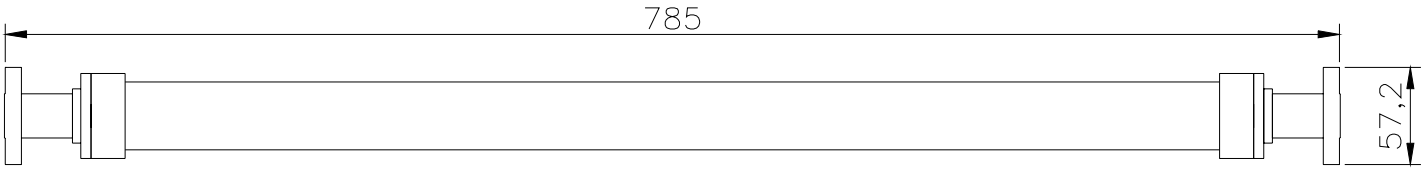
CONNECTOR N →



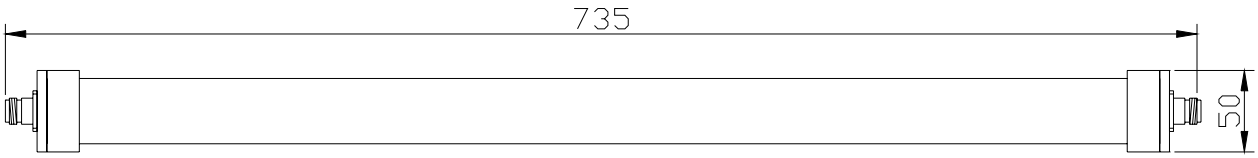
← CONNECTOR 7/8”

EXAMPLES OF IMPEDANCE TRANSFORMER

Dimension

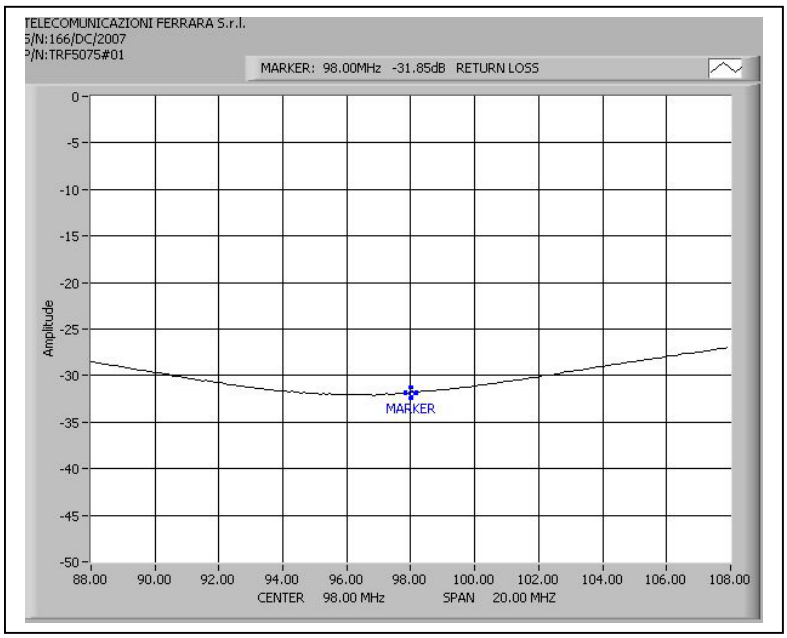


Connector 7/8”



Connector N

Example of Return Loss



MODEL : FFNOT05K - FFNOT2K FFNOT5K - FFNOT10K

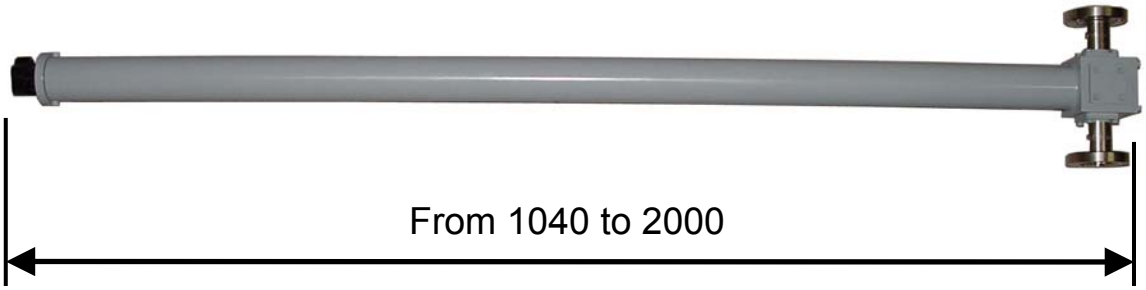
- **NOTCH FILTER**
- ***FM BAND 87.5÷108 MHz***
- ***BAND II***

Notch filter is a STUB TUNERS to block 2th .

Models	Input Connector	Output Connector	Max. Power
FFNOT05K	N	N	500W
FFNOT2K	7/16”	7/16”	2KW
FFNOT5K	7/8”	7/8”	5KW
FFNOT10K	1+5/8”	1+5/8”	10KW

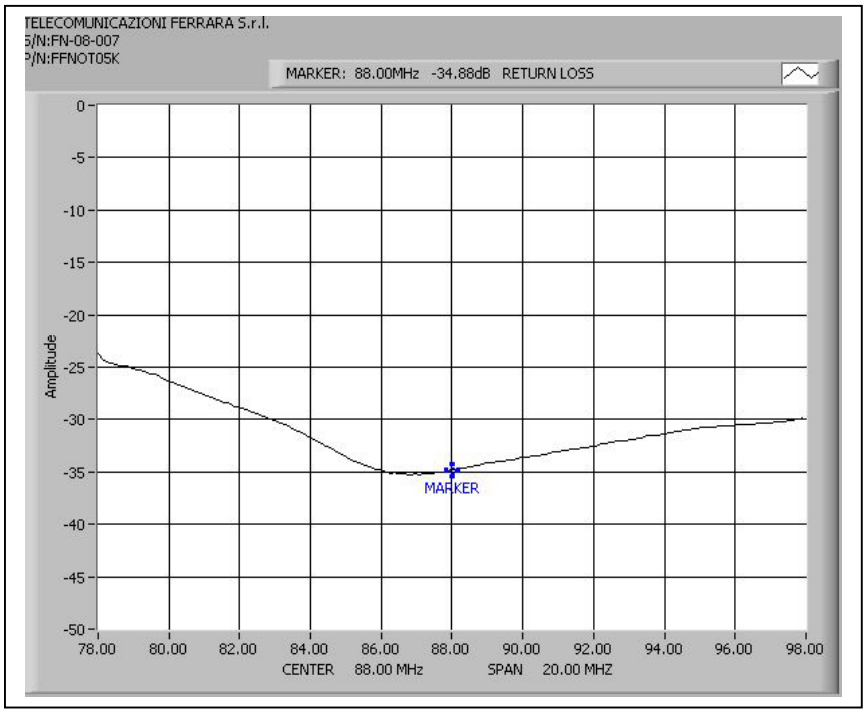
TYPICAL SPECIFICATIONS	
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 Max
Insertion Loss	at f_0 0.05 dB Max
Attenuation 2th harmonic	Typical –35dB
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12μm thickness)

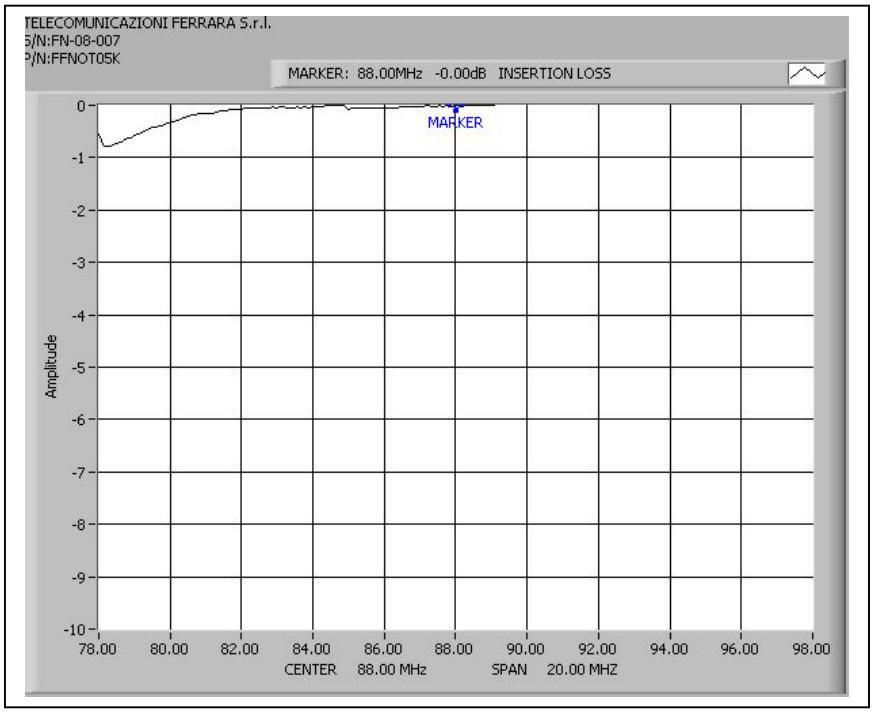
DIMENSIONS

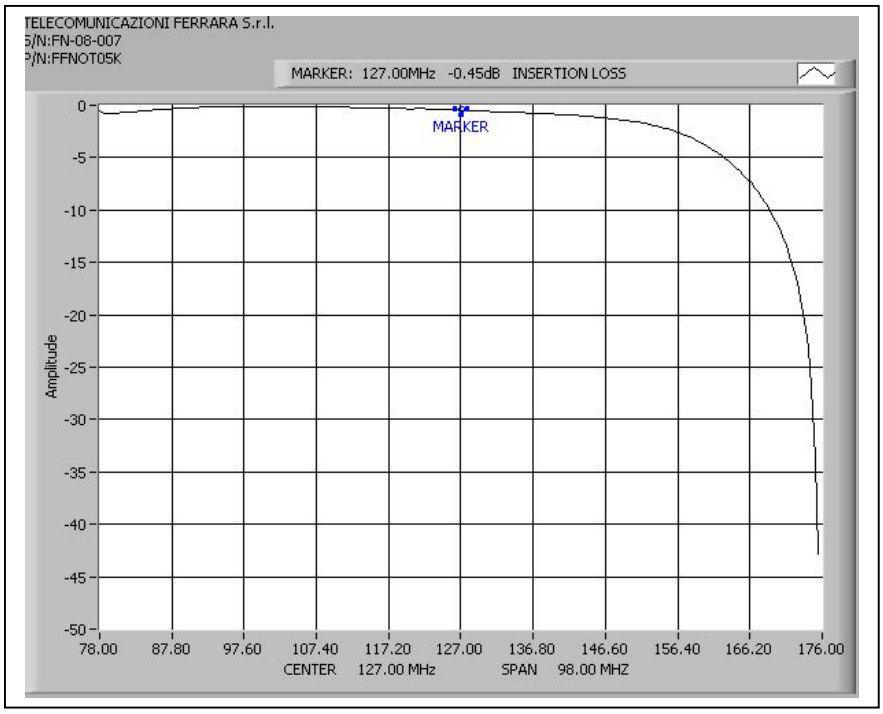


Models	Dimensions (H×L×W) mm	(inch)	Weight
FFNOT05K	2000(Max size)×60×100	(78.74×2.4×2.4)	≅ 4 Kg
FFNOT2K	2000(Max size)×60×100	(78.74×2.4×2.4)	≅ 4 Kg
FFNOT5K	2000(Max size)×60×150	(78.74×2.4×2.4)	≅ 4 Kg
FFNOT10K	2000(Max size)×100×190	(78.74×3.9×7.5)	≅ 8 Kg

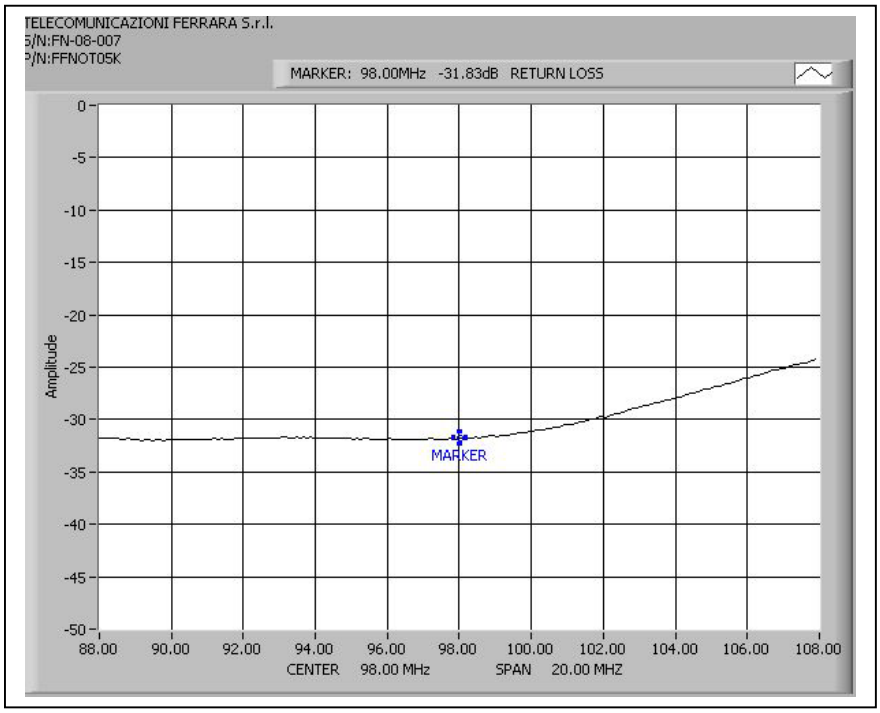
DIAGRAMS FOR FREQUENCY 88,00 MHz

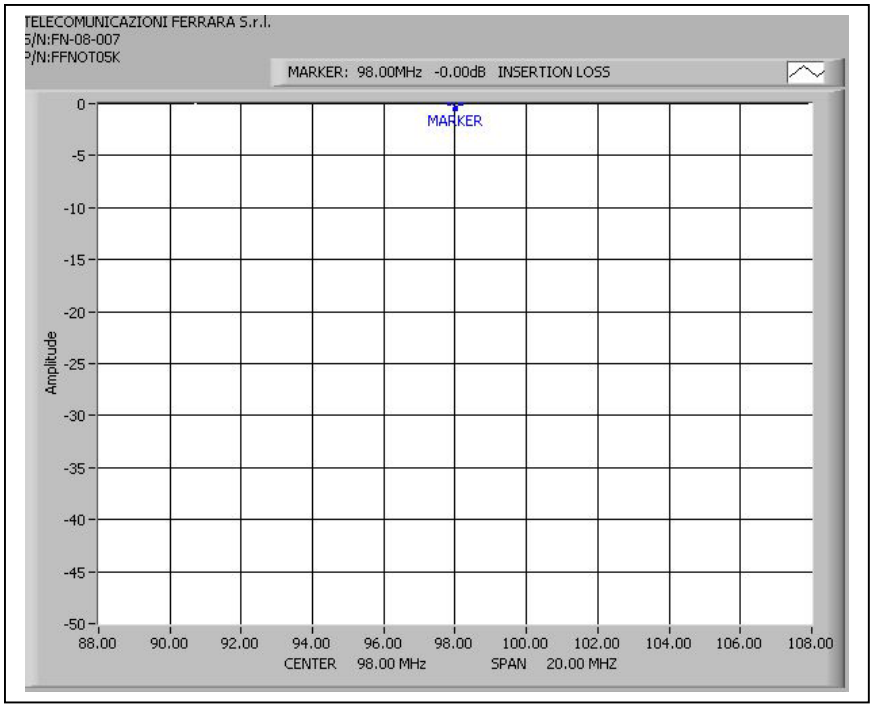


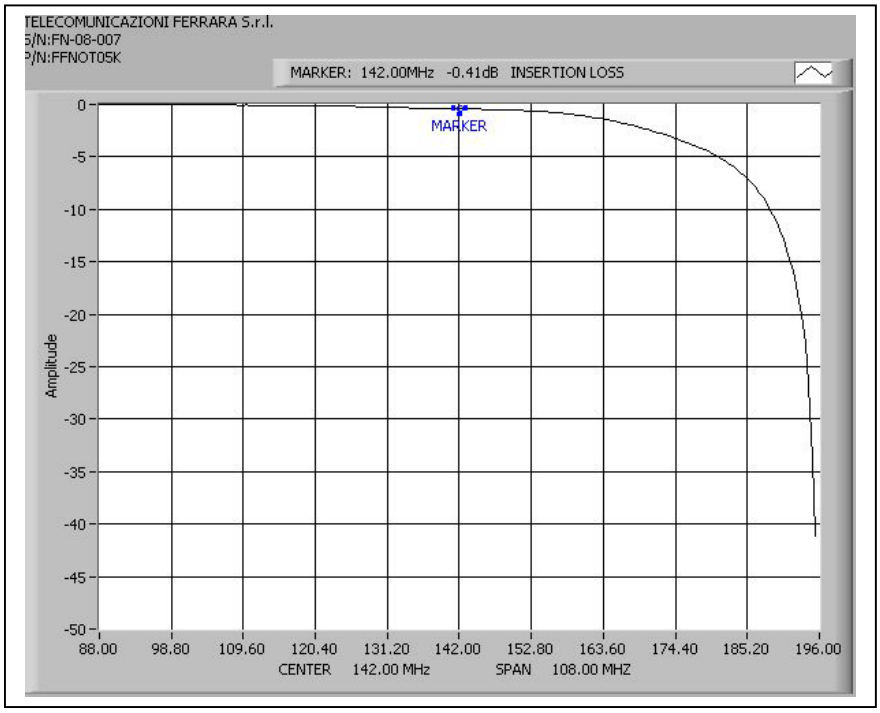

TELECOMUNICAZIONI FERRARA S.r.l.
S/N:FN-08-007
P/N:FFNOT05K
MARKER: 88.00MHz -0.00dB INSERTION LOSS
MARKER
Amplitude
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
78.00 80.00 82.00 84.00 86.00 88.00 90.00 92.00 94.00 96.00 98.00
CENTER 88.00 MHz
SPAN 20.00 MHZ


TELECOMUNICAZIONI FERRARA S.r.l.
S/N:FN-08-007
P/N:FFNOT05K
MARKER: 127.00MHz -0.45dB INSERTION LOSS
MARKER
Amplitude
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
78.00 87.80 97.60 107.40 117.20 127.00 136.80 146.60 156.40 166.20 176.00
CENTER 127.00 MHz
SPAN 98.00 MHZ

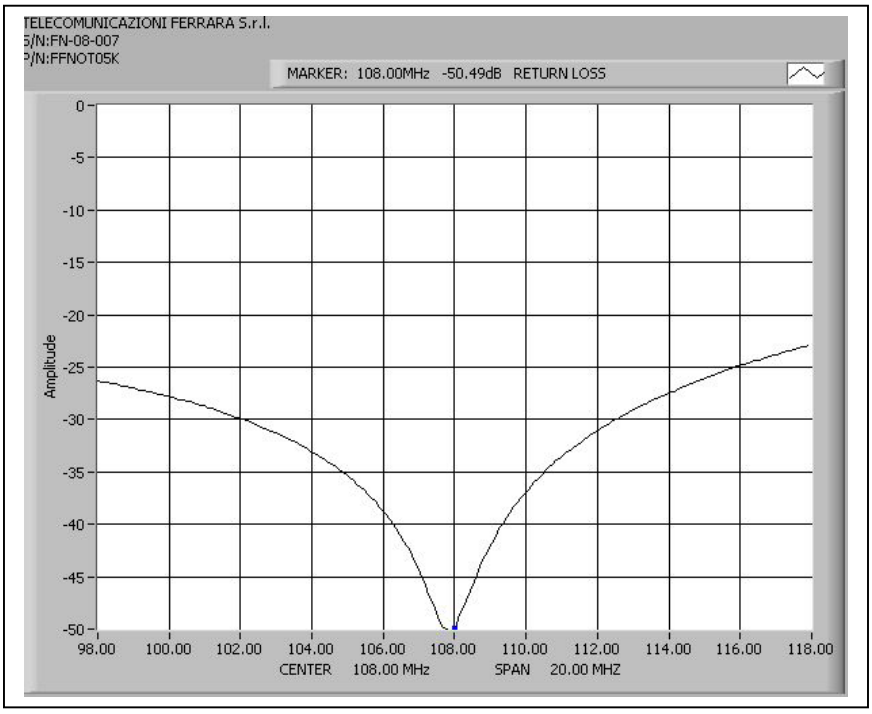
DIAGRAMS FOR FREQUENCY 98,00 MHz

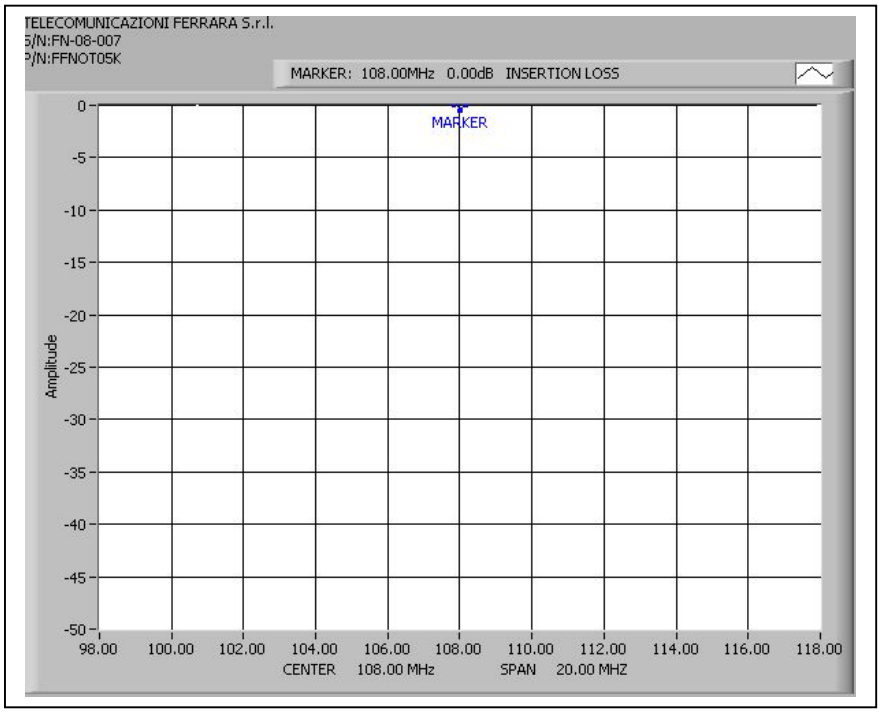


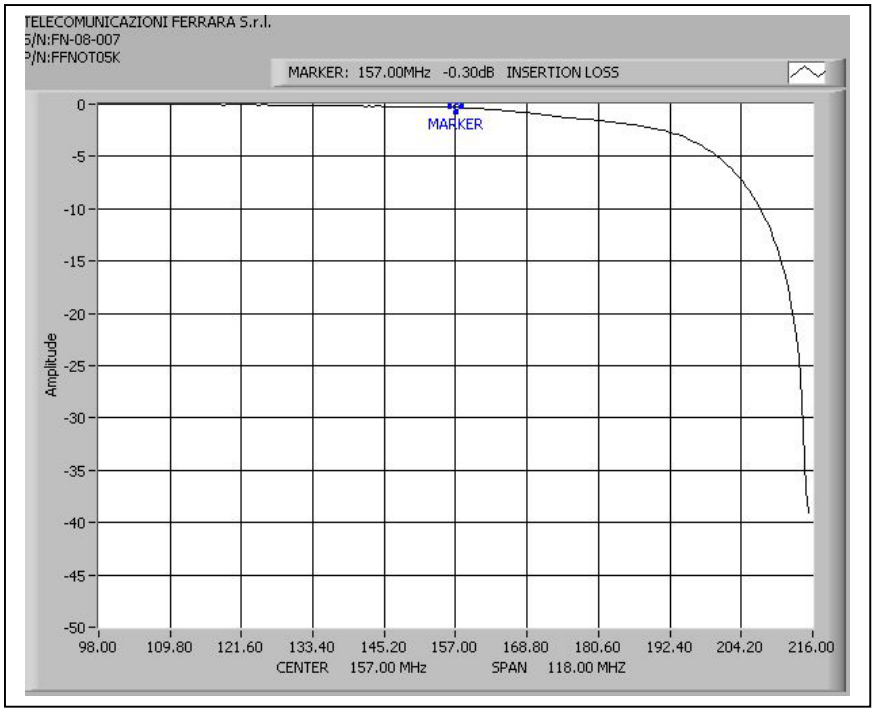




DIAGRAMS FOR FREQUENCY 108,00 MHz




TELECOMUNICAZIONI FERRARA S.r.l.
S/N:FN-08-007
P/N:FFNOT05K
MARKER: 108.00MHz 0.00dB INSERTION LOSS
MARKER
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
Amplitude
98.00 100.00 102.00 104.00 106.00 108.00 110.00 112.00 114.00 116.00 118.00
CENTER 108.00 MHz
SPAN 20.00 MHZ


TELECOMUNICAZIONI FERRARA S.r.l.
S/N:FN-08-007
P/N:FFNOT05K
MARKER: 157.00MHz -0.30dB INSERTION LOSS
MARKER
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
Amplitude
98.00 109.80 121.60 133.40 145.20 157.00 168.80 180.60 192.40 204.20 216.00
CENTER 157.00 MHz
SPAN 118.00 MHZ

Model COUP3DB500W - COUP3DB2KW - COUP3DB5KW - COUP3DB10KW - COUP3DB20KW - COUP3DB45KW - COUP3DB80KW - COUP3DB120KW

- -3dB COUPLERS
- FM BAND 87.5-108 MHz
- BAND II

Model: COUP3DB5KW

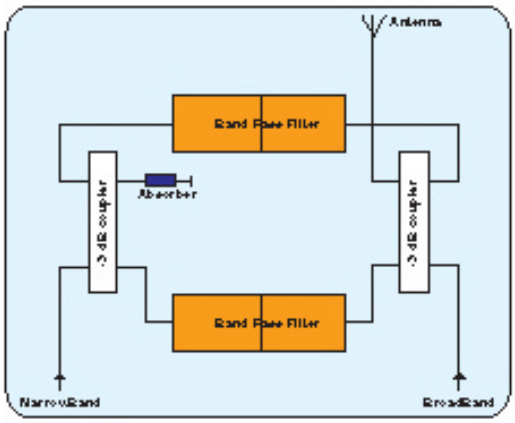
-3 dB couplers to realize double bridge combiner type

GENERAL SPECIFICATIONS	
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

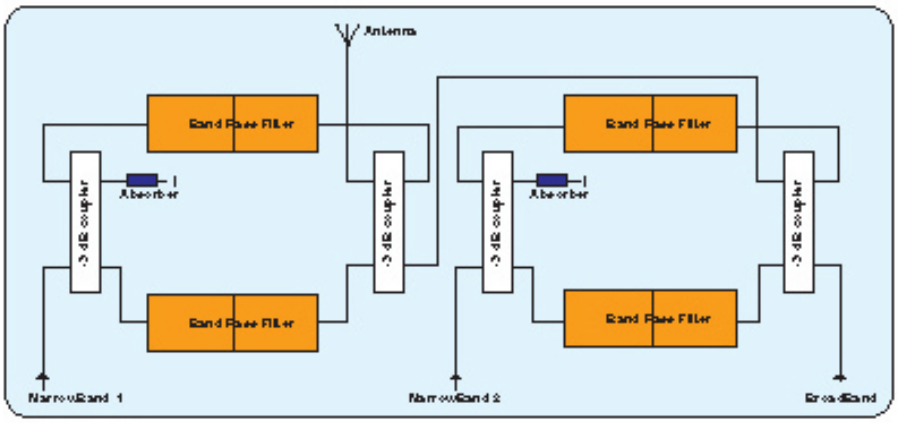
TYPICAL SPECIFICATIONS				
Model	COUP3DB500W	COUP3DB2KW	COUP3DB5KW	COUP3DB10KW
Frequency Range	87.5-108 MHz	87.5-108 MHz	87.5-108 MHz	87.5-108 MHz
Directivity	≥ 32dB	≥ 32dB	≥ 32dB	≥ 35dB
Impedance	50 ohm	50 ohm	50 ohm	50 ohm
VSWR ± 150 KHz	1:1.1 max	1:1.1 max	1:1.1 max	1:1.1 max
Return Loss ± 150 KHz	≤ -26 dB	≤ -26 dB	≤ -26 dB	≤ -26 dB
Coupling	-3 dB ± 0.25 dB	-3 dB ± 0.25 dB	-3 dB ± 0.25 dB	-3 dB ± 0.25 dB
Connectors	Input – Output N	Input N - Output 7/16”	Input – Output 7/8”	Input - Output 1+5/8”
Max Power	500 W	2 KW	5 KW	10 KW

TYPICAL SPECIFICATIONS				
Model	COUP3DB20KW	COUP3DB45KW	COUP3D80KW	COUP3D120KW
Frequency Range	87.5-108 MHz	87.5-108 MHz	87.5-108 MHz	87.5-108 MHz
Directivity	≥ 35dB	≥ 35dB	≥ 35dB	≥ 35dB
Impedance	50 ohm	50 ohm	50 ohm	50 ohm
VSWR ± 150 KHz	1:1.1 max	1:1.1 max	1:1.1 max	1:1.1 max
Return Loss ± 150 KHz	≤ -26 dB	≤ -26 dB	≤ -26 dB	≤ -26 dB
Coupling	-3 dB ± 0.25 dB	-3 dB ± 0.25 dB	-3 dB ± 0.25 dB	-3 dB ± 0.25 dB
Connectors	Input 1+5/8” Output 3+1/8”	Input 3+1/8” Output 4+1/2”	Input – Output 4+1/2”	Input 4+1/2” Output 6+1/8”
Max Power	20 KW	45 KW	80 KW	120 KW

TYPICAL APPLICATIONS

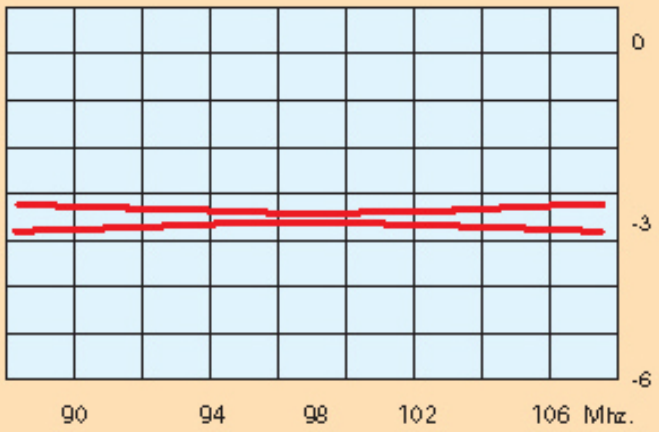


DIPLEXER

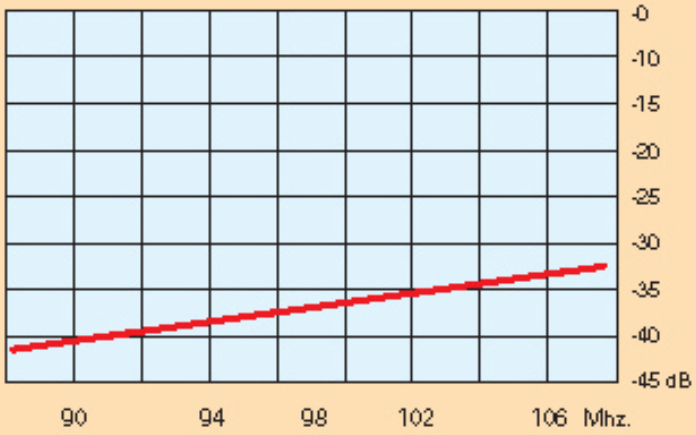


TRIPLEXER

COUPLING MEASUREMENT



DIRECTIVITY MEASUREMENT

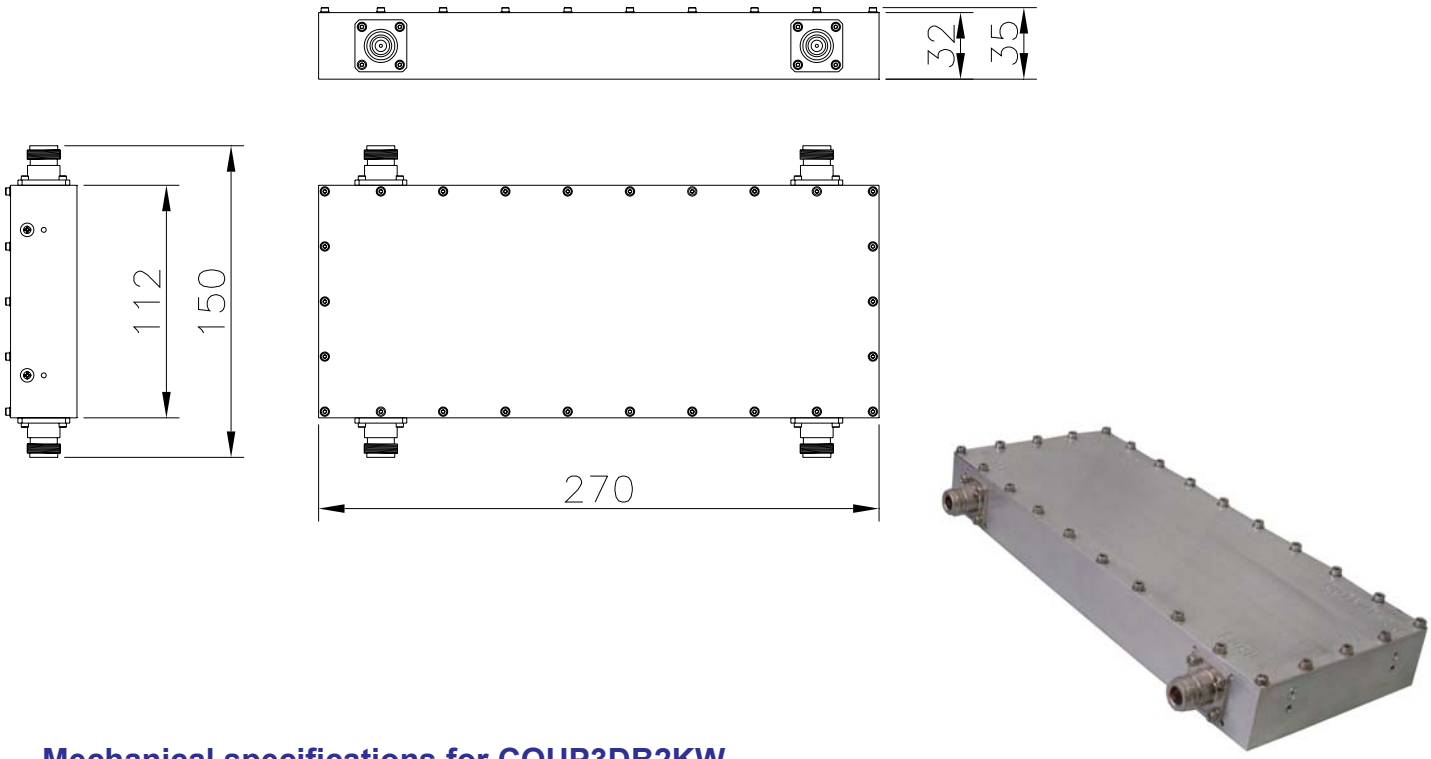


- **Special version on request**
- **Possibility of interchange between the mouths**

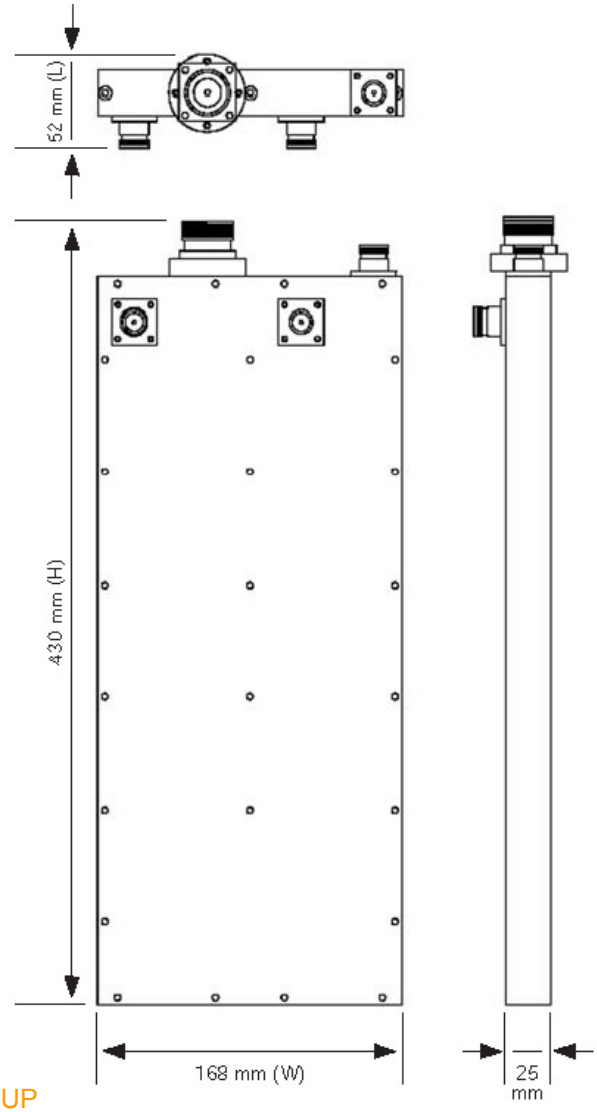
Model	Dimension	Net Weight
COUP3DB500W	270×150×32 mm (10.6×5.9×1.3 inch) (H×L×W)	≅ 2 Kg
COUP3DB2KW	430×168×52mm (16.9×6.6×2.0 inch) (H×L×W)	≅ 3 Kg
COUP3DB5KW	560×260×40 mm (22.0×10.2×1.6 inch) (H×L×W)	≅ 4 Kg
COUP3DB10KW	475×450×80 mm (18.7×17.7×3.1 inch) (H×L×W)	≅ 8 Kg
COUP3DB20KW	520×450×80 mm (20.5×17.7×3.1 inch) (H×L×W)	≅ 9 Kg
COUP3DB45KW	870×330×150 mm (34.2×13.0×5.9 inch) (H×L×W)	≅ 15 Kg
COUP3DB80KW	870×330×200 mm (34.3×13.0×7.9 inch) (H×L×W)	≅ 25 Kg
COUP3DB120KW	964×520×250 mm (37.9×20.7×9.8 inch) (H×L×W)	≅ 45 Kg

(Data approx.)

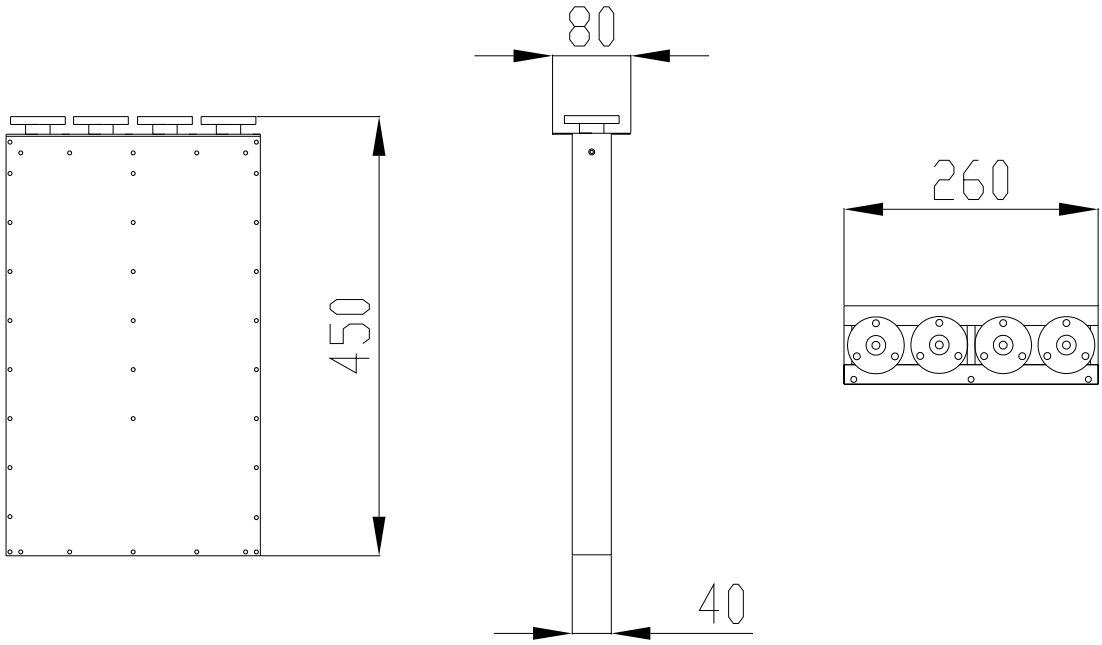
Mechanical specifications for COUP3DB500W

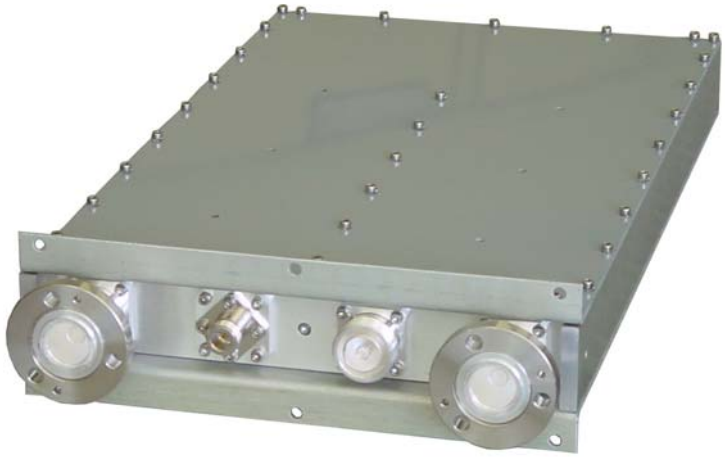


Mechanical specifications for COUP3DB2KW

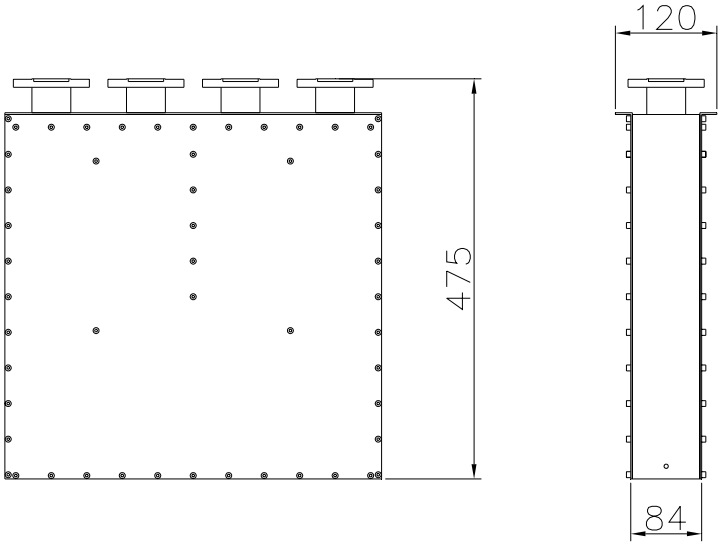


Mechanical specifications for COUP3DB5KW

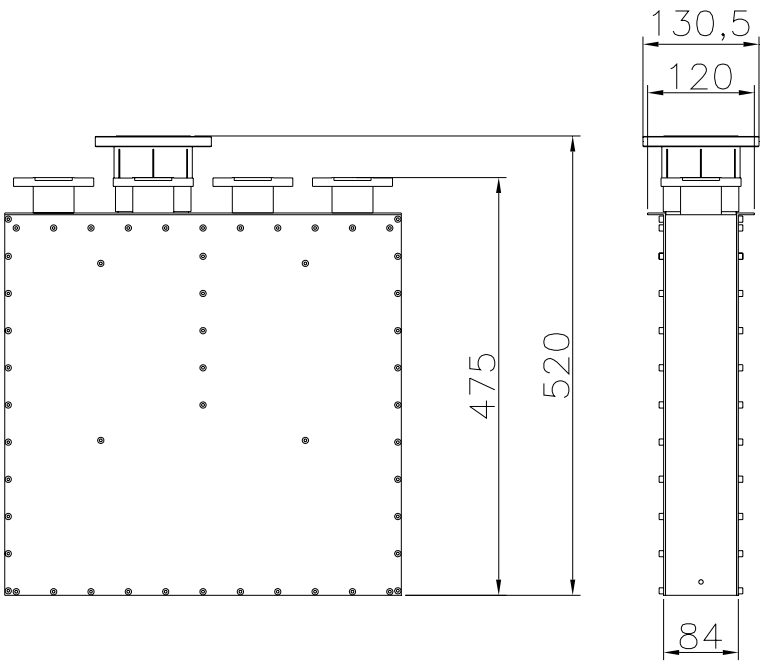




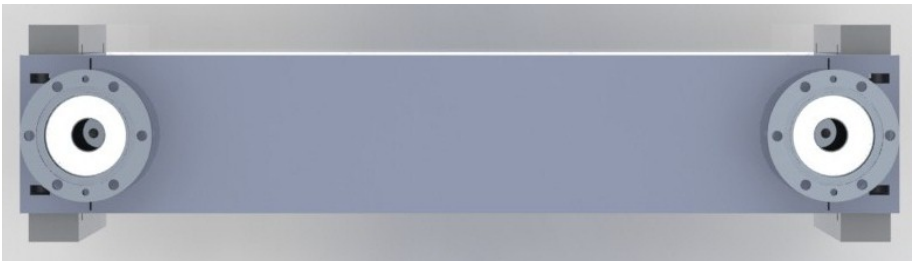
Mechanical specifications for COUP3DB10KW

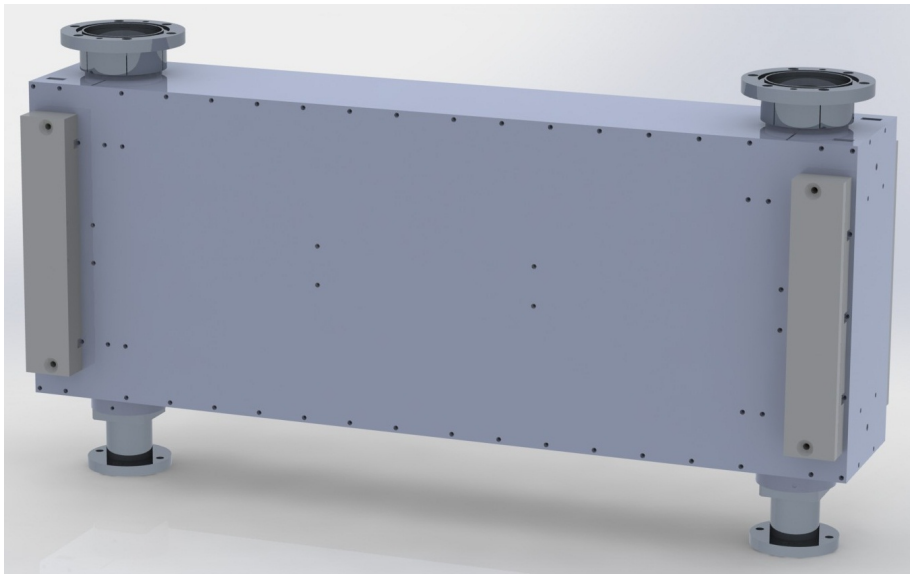


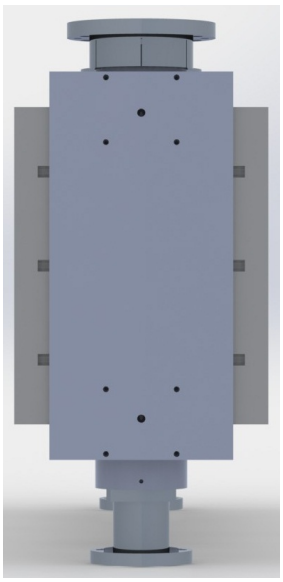
Mechanical specifications for COUP3DB20KW

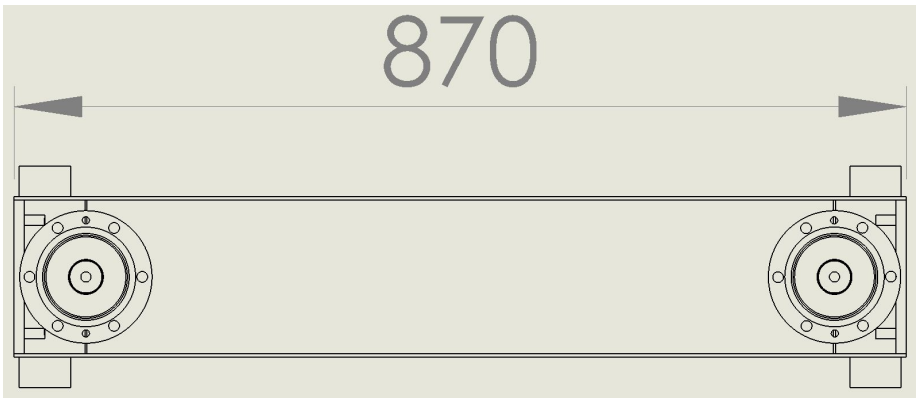


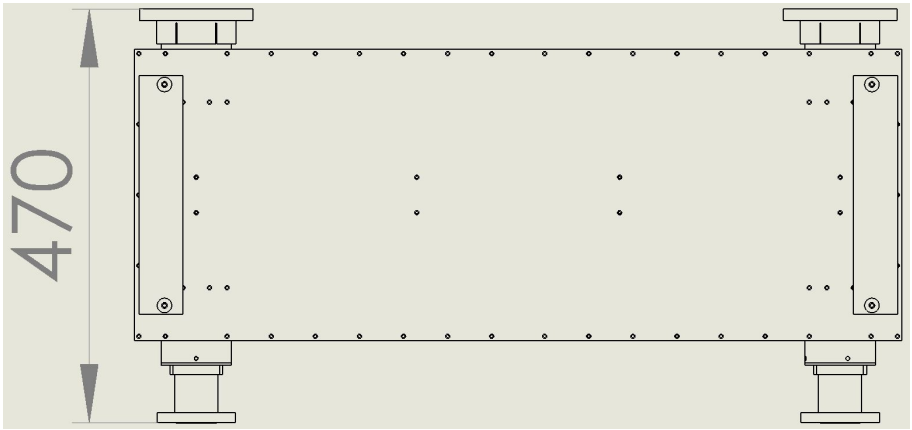
Mechanical specifications for COUP3DB45KW

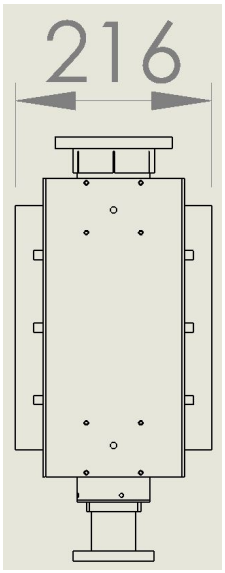




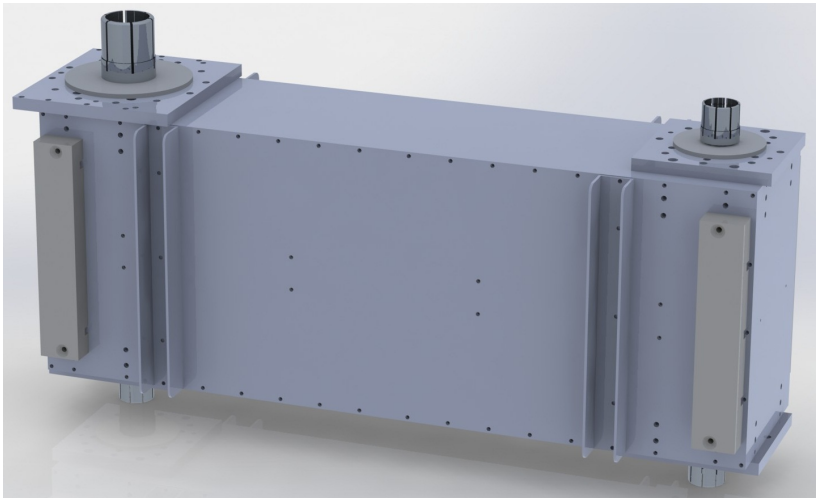


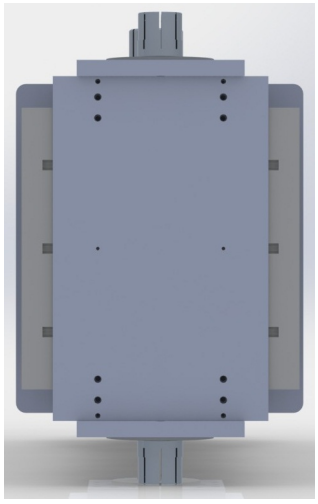


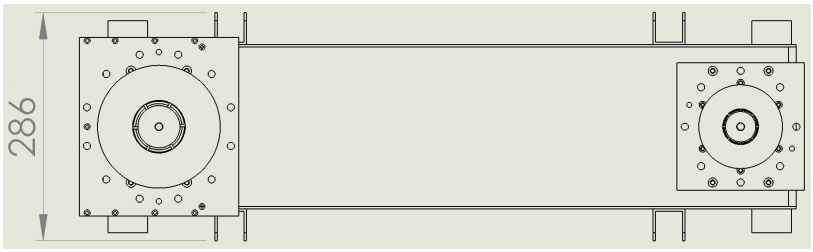


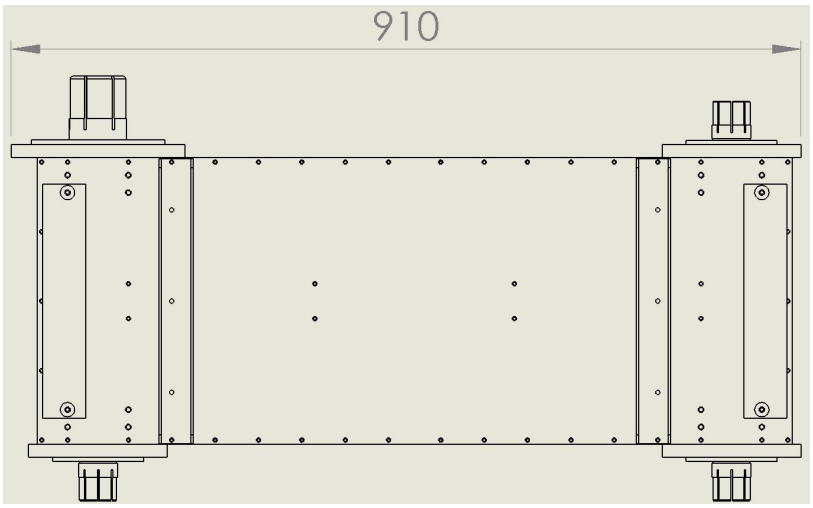


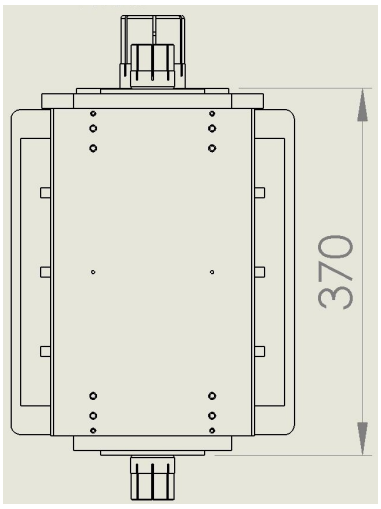
Mechanical specifications for COUP3DB80KW



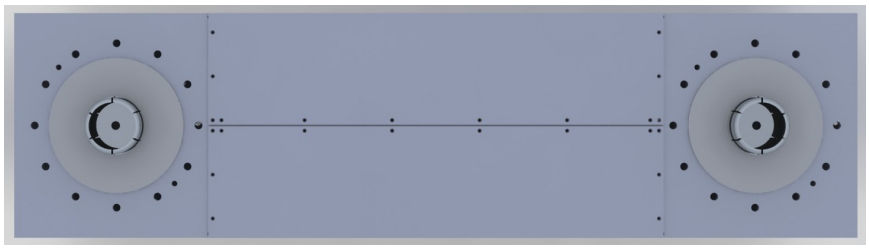


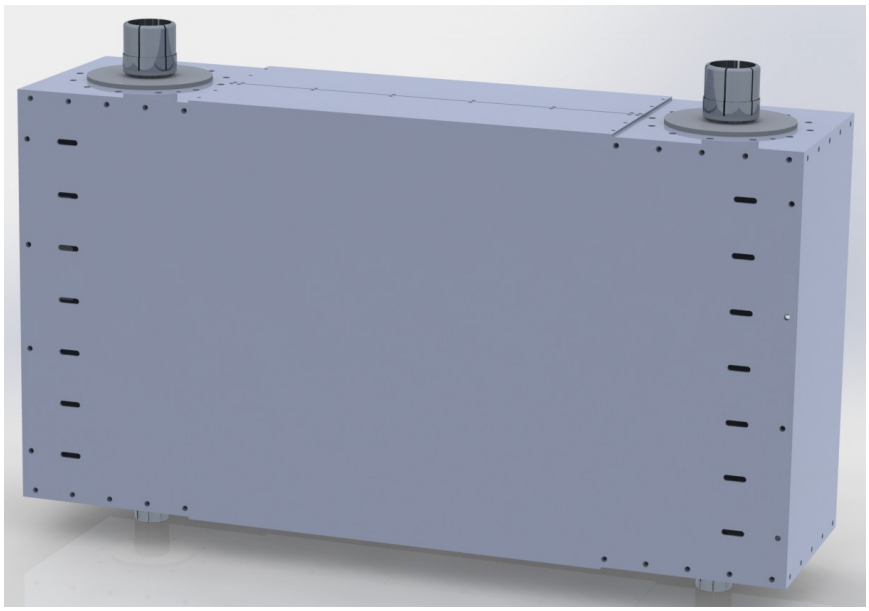


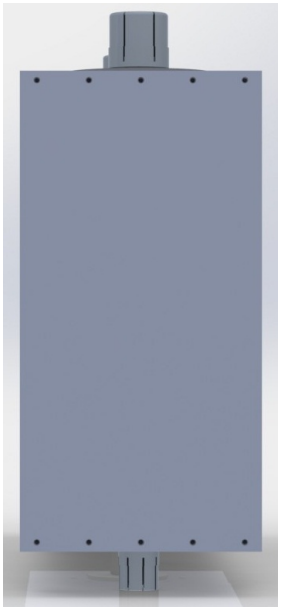


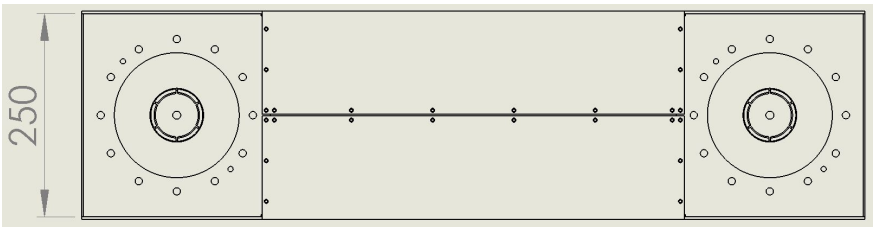


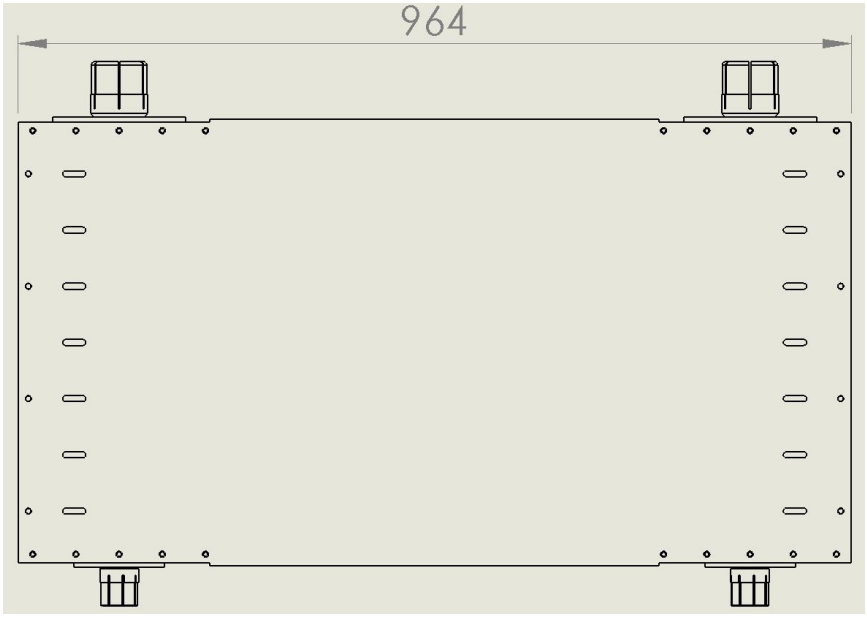
Mechanical specifications for COUP3DB120KW





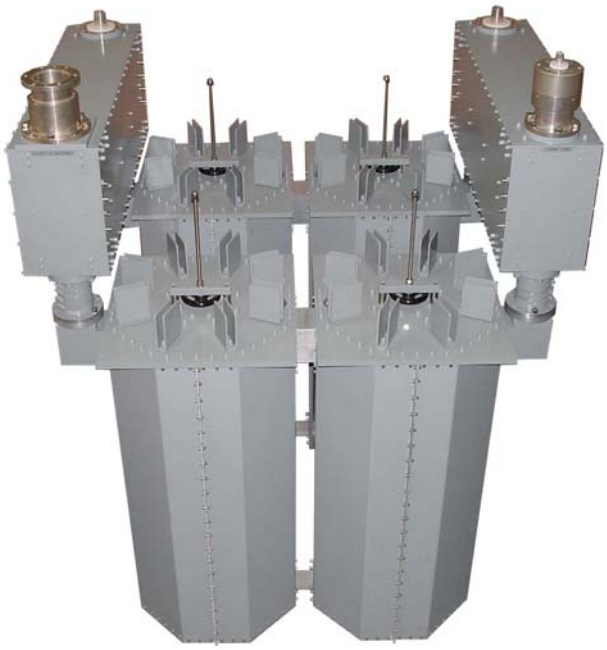






"These specifications are subject to change without notice"

Application



COMBINER DOUBLE BRIDGE

SWITCH
LESS COMBINER

RVRGROUP TELECOMUNICAZIONIFERRARA

COAXIAL CABLES

GENERAL CATALOG

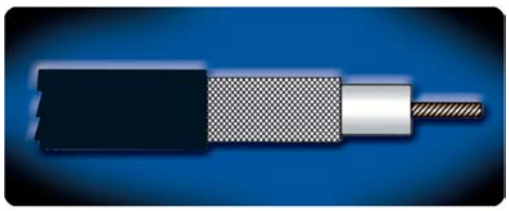
CABLES and ACCESSORIES

Telecomunicazioni Ferrara RVR GROUP

RG213 (RG213 COAXIAL CABLE)

F (MHz)	Attenuation* (dB/100m)	Maximum Average Power Rating* (W)
100	6.2	1000
200	8.8	700
500	14.0	400
1000	26.3	230

*Average values



RG214 (RG214 COAXIAL CABLE)

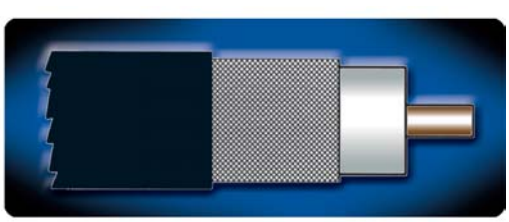
F (MHz)	Attenuation* (dB/100m)	Maximum Average Power Rating* (W)
100	7.5	800
200	11	550
500	17	350
1000	29	200

*Average values

RG218 (RG218 COAXIAL CABLE)

F (MHz)	Attenuation* (dB/100m)	Maximum Average Power Rating* (W)
100	3	3500
200	5	2300
500	8	1300
1000	14.5	780

*Average values



"These specifications are subject to change without notice"

CLX1/4" (foam 1/4" COAXIAL CABLE)

F (MHz)	Attenuation* (dB/100m)	Maximum Average Power Rating* (W)
100	4.5	1500
200	6	1200
500	10	700
1000	15	500

*Average values

CLX1/2" (foam 1/2" COAXIAL CABLE)

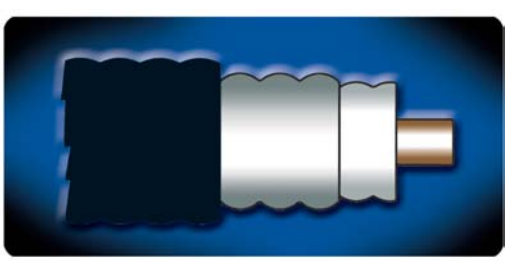
F (MHz)	Attenuation* (dB/100m)	Maximum Average Power Rating* (W)
100	2.3	3400
200	3.3	2000
500	5	1400
1000	7	900

*Average values

CLX7/8" (foam 7/8" COAXIAL CABLE)

F (MHz)	Attenuation* (dB/100m)	Maximum Average Power Rating* (W)
100	1.2	7500
200	1.8	5200
500	3	3000
1000	4.5	1500

*Average values

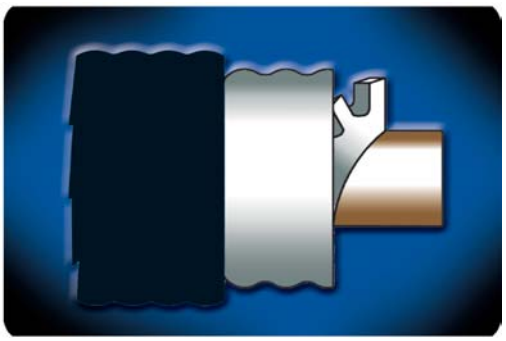


"These specifications are subject to change without notice"

CLX1+5/8” (air 1+5/8” COAXIAL CABLE)

F (MHz)	Attenuation* (dB/100m)	Maximum Average Power Rating* (W)
100	0.7	15000
200	0.9	11000
500	1.5	6500
1000	2.3	4200

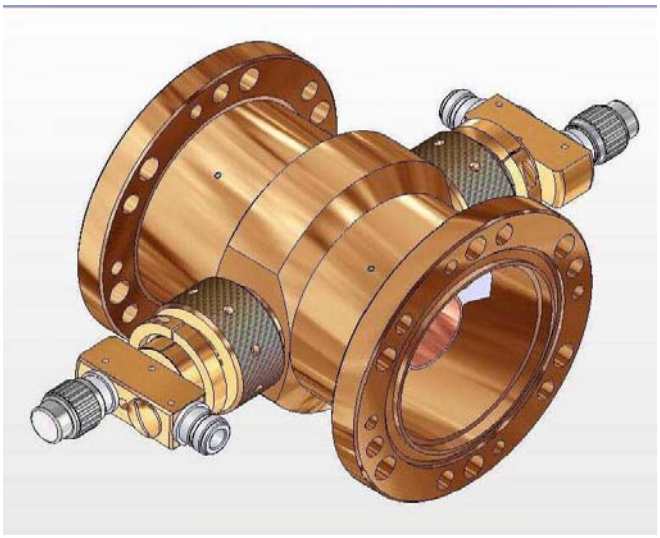
*Average values

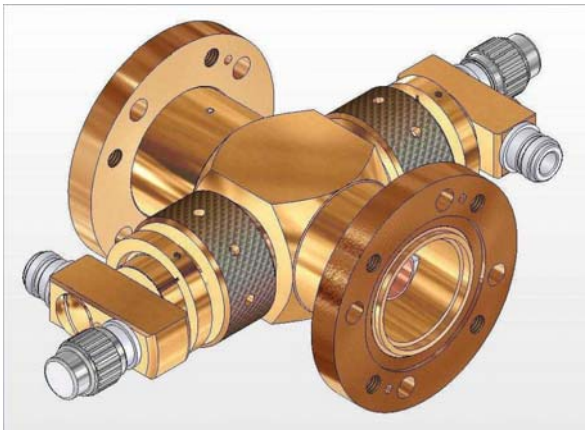


“These specifications are subject to change without notice”

MODEL DIR5-BB#01 - DIR13DD#01 - DIR30EE#01

• DIRECTIONAL COUPLERS





TYPICAL SPECIFICATIONS

Model	DIR5-BB#01	DIR13DD#01	DIR30EE#01
Frequency Range	0,1 ÷ 860 MHz	0,1 ÷ 860 MHz	0,1 ÷ 860 MHz
Directivity	≥ 40dB	≥ 40dB	≥ 40dB
Impedance	50 ohm	50 ohm	50 ohm
Return Loss	≥ 30 dB	≥ 30 dB	≥ 30 dB
Coupling Factor	Settable	Settable	Settable
Working Temperature	-40 ÷ +60°C	-40 ÷ +60°C	-40 ÷ +60°C
Connectors	Input – Output 7/8”	Input - Output 1+5/8”	Input - Output 3+1/8”
Probe Connectors	“N” F	“N” F	“N” F
Max Power	5 KW	13 KW	30 KW

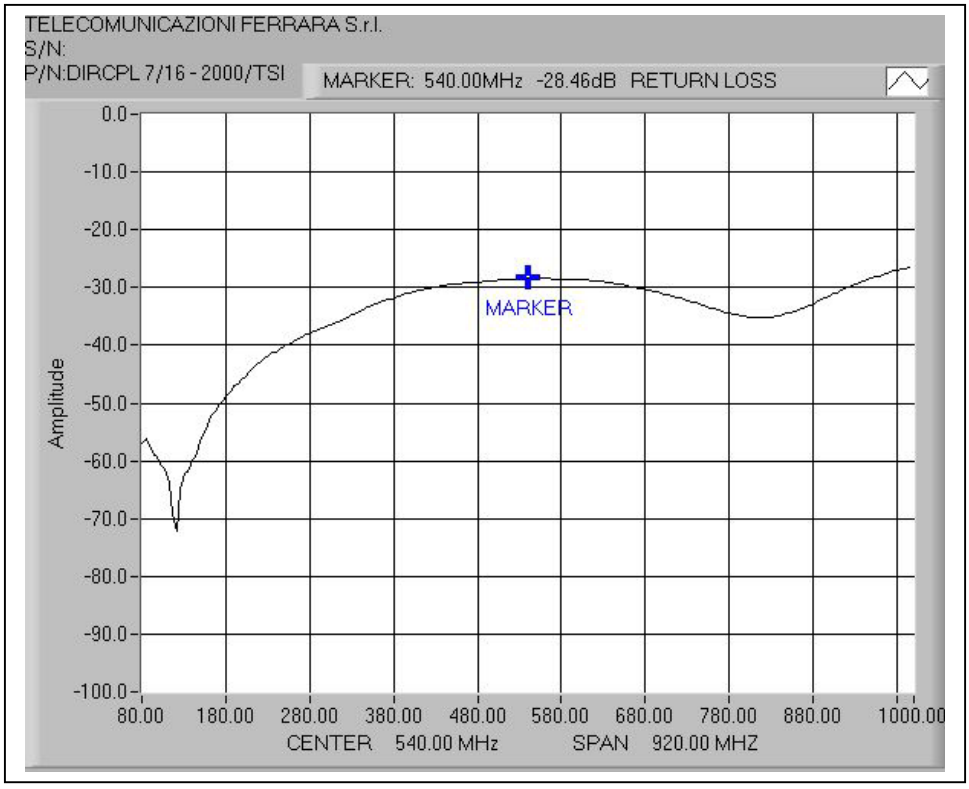
MATERIALS

DIR5-BB#01	Aluminium, Brass, Diclad, Gilding and Silvering (min. 12μm thickness)
DIR13DD#01/DIR30EE#01	Nickel, Silver, PTFE

Model	Dimension	Net Weight
DIR5-BB#01	165×166×57 mm (6.5×6.5×2.2 inch) (H max.×L×W)	≅ 0,5 Kg
DIR13DD#01	249×130×130 mm (9.8×5.1×5.1 inch) (H×L×W)	≅ 3,5 Kg
DIR30EE#01	288×148×148 mm (11.3×5.8×5.8 inch) (H×L×W)	≅ 5,5 Kg

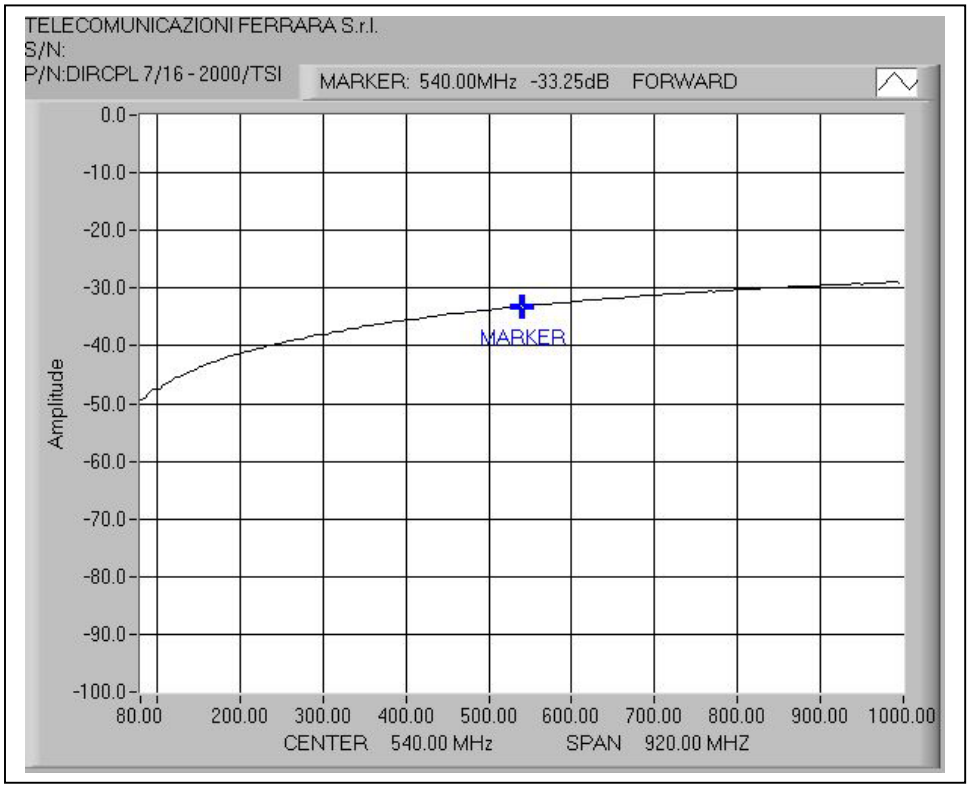
(Data approx.)

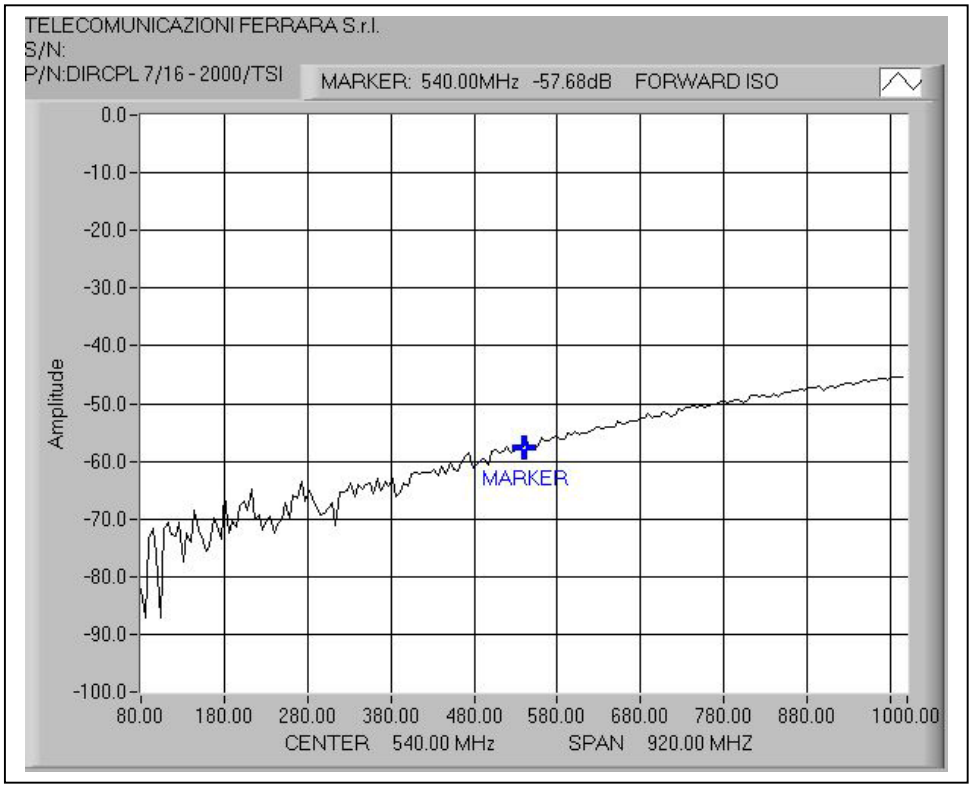
EXAMPLE OF TYPICAL RESPONSES REFERRED MODEL DIR5-BB#01



FULL FREQUENCY RANGE RETURN LOSS

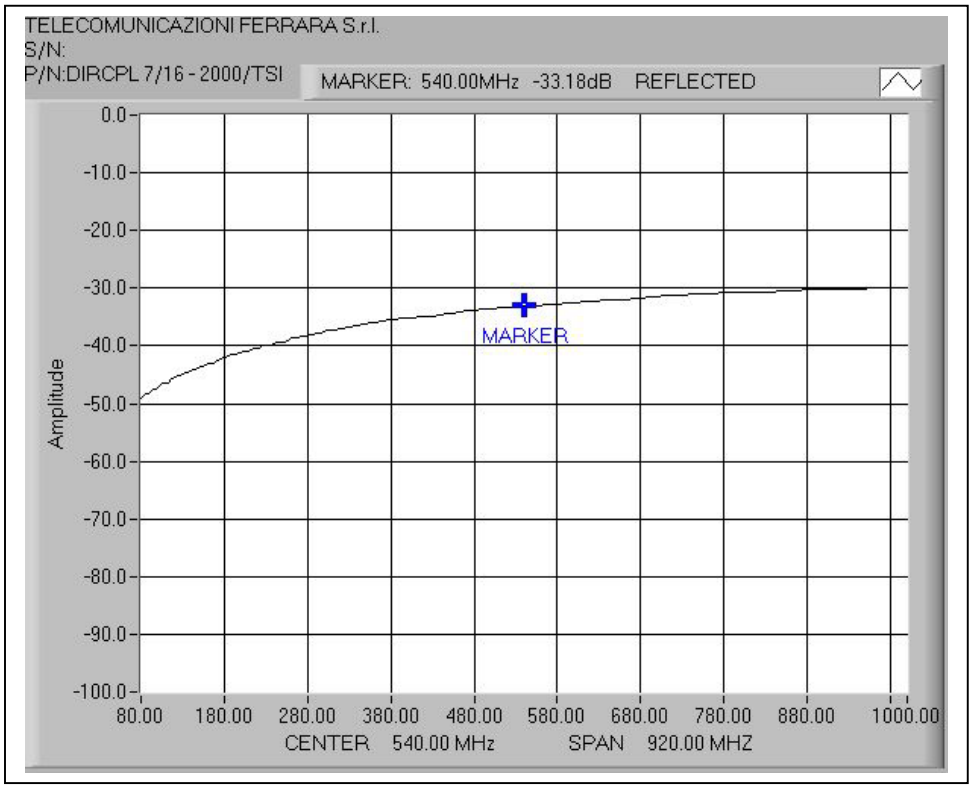
FULL FREQUENCY RANGE FORWARD MEASUREMENT



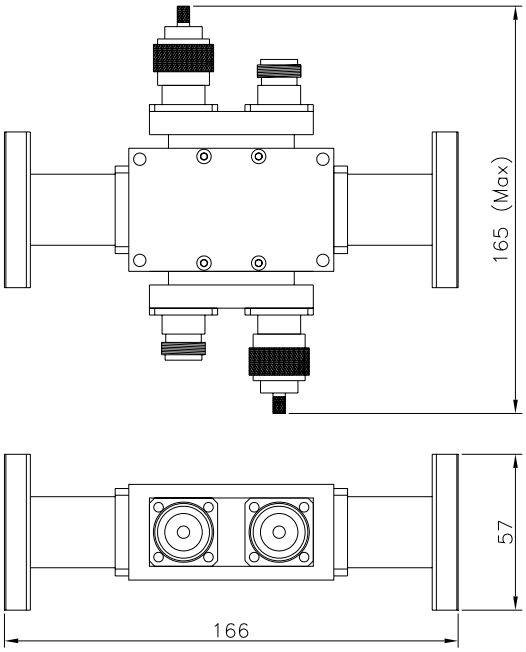


FULL FREQUENCY RANGE FWD DIRECTIVITY MEASUREMENT

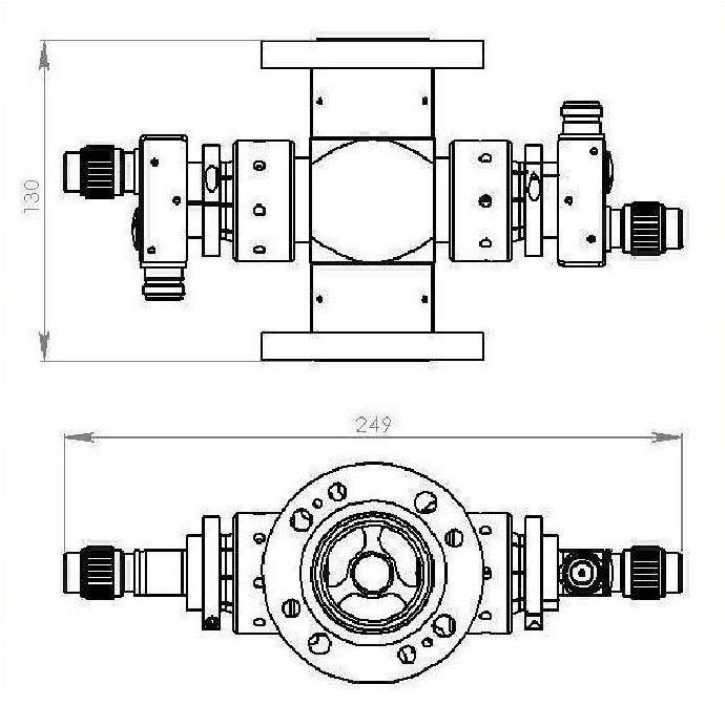
FULL FREQUENCY RANGE REFLECTED MEASUREMENT

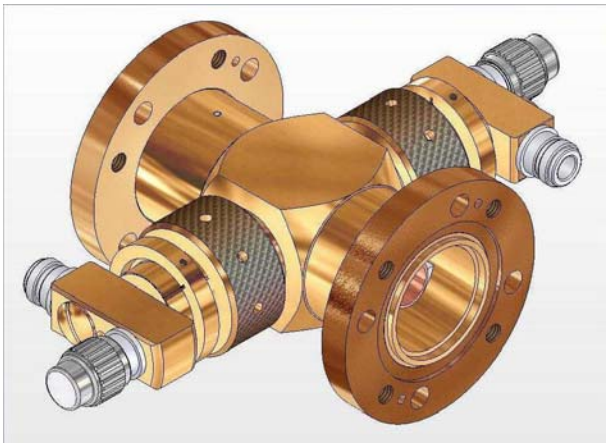


Mechanical specifications for DIR5-BB#01

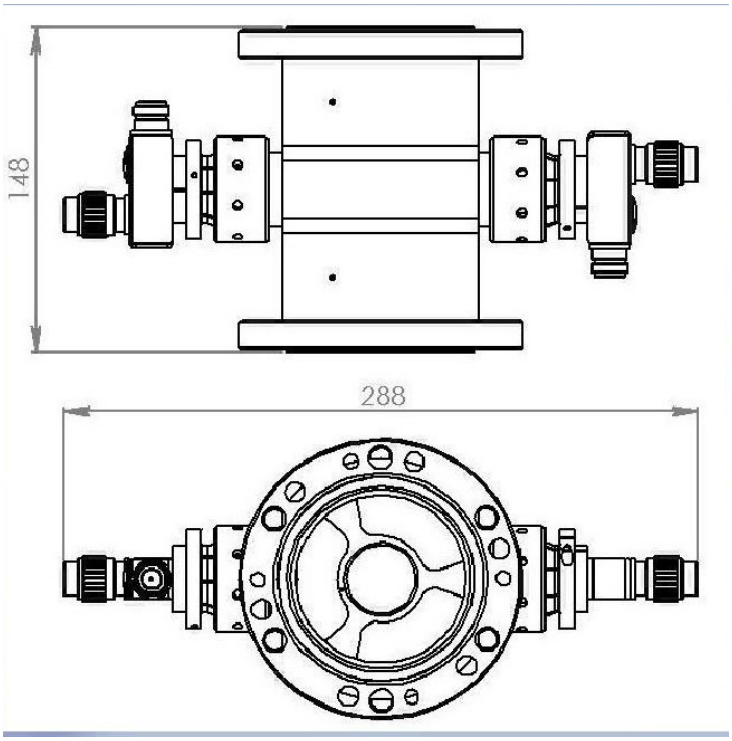


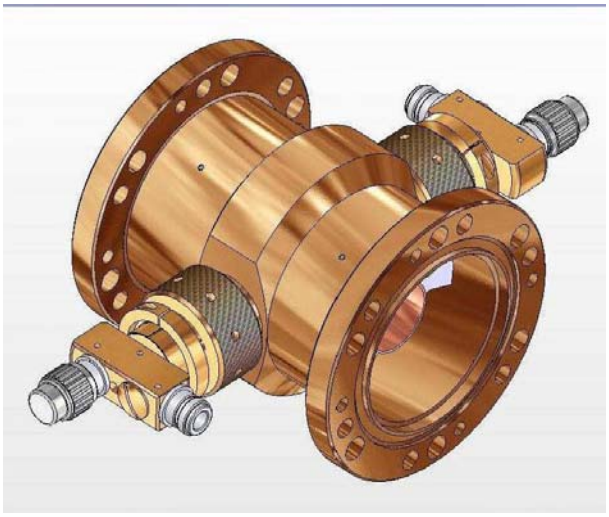
Mechanical specifications for DIR13DD#01



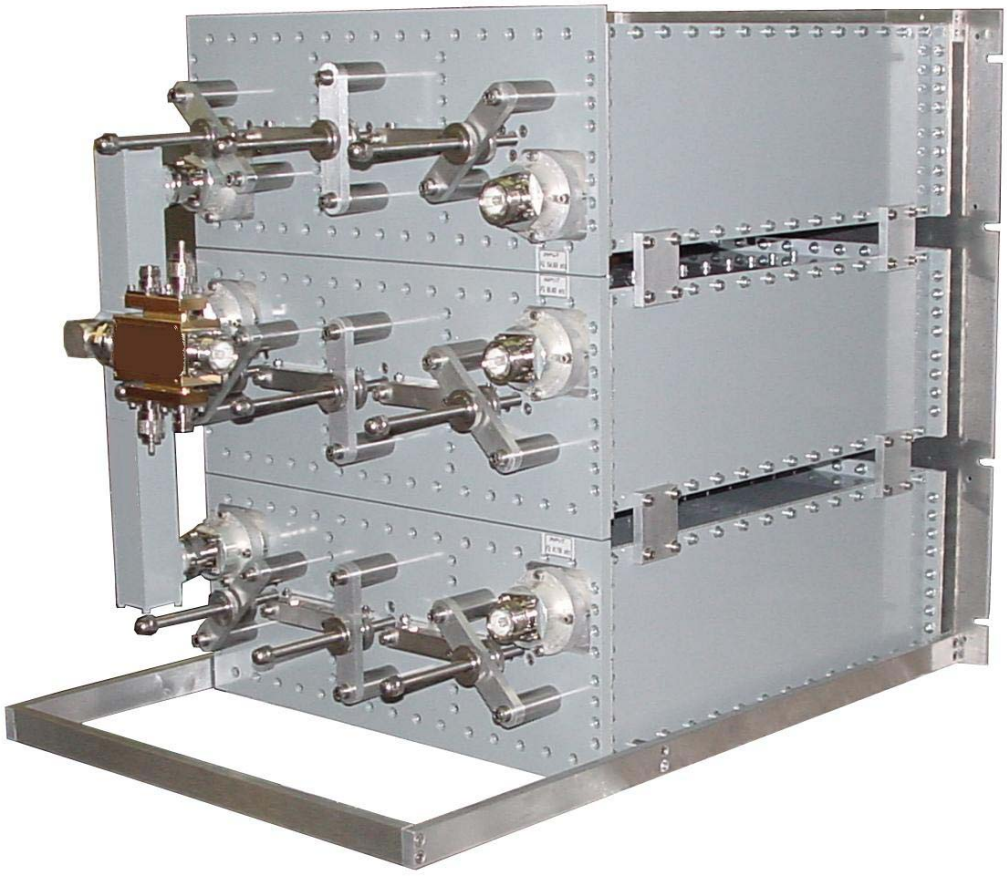


Mechanical specifications for DIR30EE#01





Example Application



COMBINER

MODEL COUPSP05K – COUPSP1K – COUPSP2K – COUPSP12K – COUPSP40K – COUPSP60K

- **STARPOINT**
- **FM BAND 87.5-108 MHz**
- **BAND II**

COUPSP60K

GENERAL SPECIFICATIONS

Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12μm thickness)

TYPICAL SPECIFICATIONS

Model	**COUPSP05K**	**COUPSP1K**	**COUPSP2K**	**COUPSP12K**
Frequency Range	87.5-108 MHz	87.5-108 MHz	87.5-108 MHz	87.5-108 MHz
Impedance	50 ohm	50 ohm	50 ohm	50 ohm
VSWR	1:1.1 max	1:1.1 max	1:1.1 max	1:1.1 max
Insertion Loss	0.02 dB	0.02 dB	0.02 dB	0.01 dB
Return Loss	≤ -30 dB	≤ -30 dB	≤ -30 dB	≤ -30 dB
N° Input	2 – 3 - 4	2 – 3 - 4	2 – 3 - 4	2 – 3 - 4
N° Output	1	1	1	1
Connectors	Input Nf Output Nf - 7/16” - 7/8”	Input Nf Output Nf - 7/16” - 7/8”	Input 7/16” - 7/8” Output 7/16” - 7/8” - 1+5/8”	Input - Output 1+5/8”
Max Power	800W	800W	2 KW with Out 7/16” 5 KW with Out 7/8” 10 KW with Out 1+5/8”	12 KW

TYPICAL SPECIFICATIONS

Model	COUPSP40K	COUPSP60K
Frequency Range	87.5-108 MHz	87.5-108 MHz
Impedance	50 ohm	50 ohm
VSWR ± 150 KHz	1:1.1 max	1:1.1 max
Insertion Loss	0.01 dB	0.01 dB
Return Loss ± 150 KHz	≤ -30 dB	≤ -30 dB
N° Input	2 – 3 - 4	2 – 3 - 4
N° Output	1	1
Connectors	Input – Output 3+1/8”	Input – Output 4+1/2”
Max Power	40 KW	60 KW

COUPSP12K

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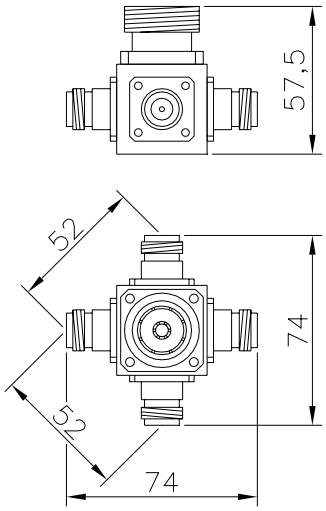
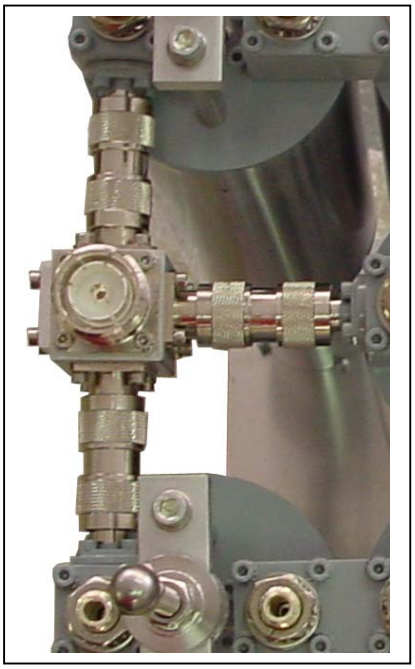
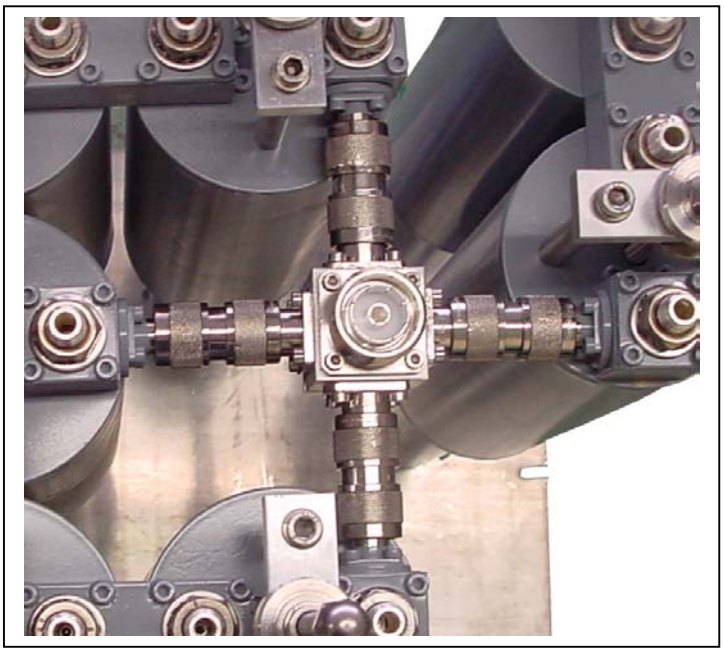
Mechanical specifications for COUPSP05K

EXAMPLE WITH CONNECTORS
IN 4 N - OUT 7/16"



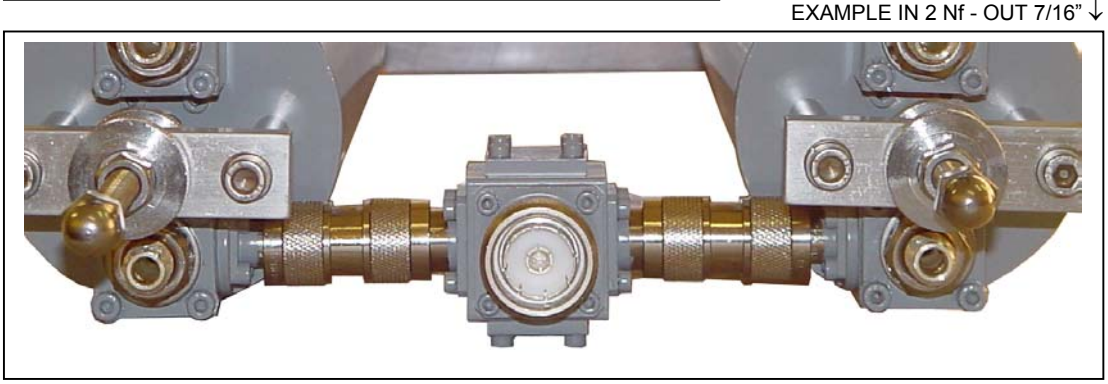


EXAMPLE IN 3 Nf
OUT 7/16”
→



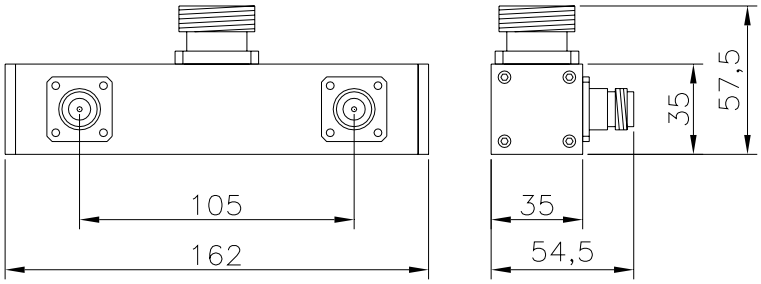
EXAMPLE IN 4 Nf
OUT 7/16”
←

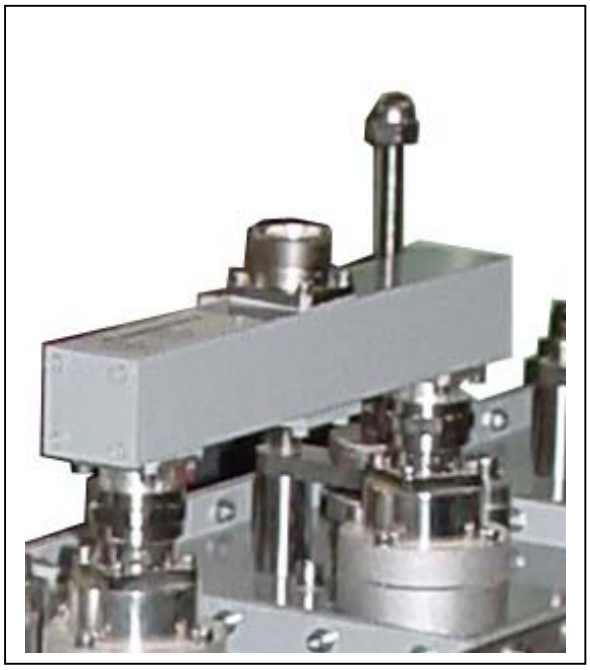
EXAMPLE IN 2 Nf - OUT 7/16” ↓



Mechanical specifications for COUPSP1K (DIPLEXER VERSION)

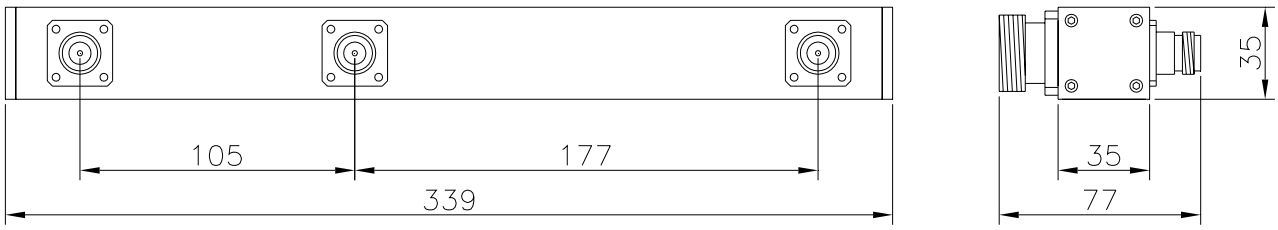
EXAMPLE WITH CONNECTORS
IN N - OUT 7/16"

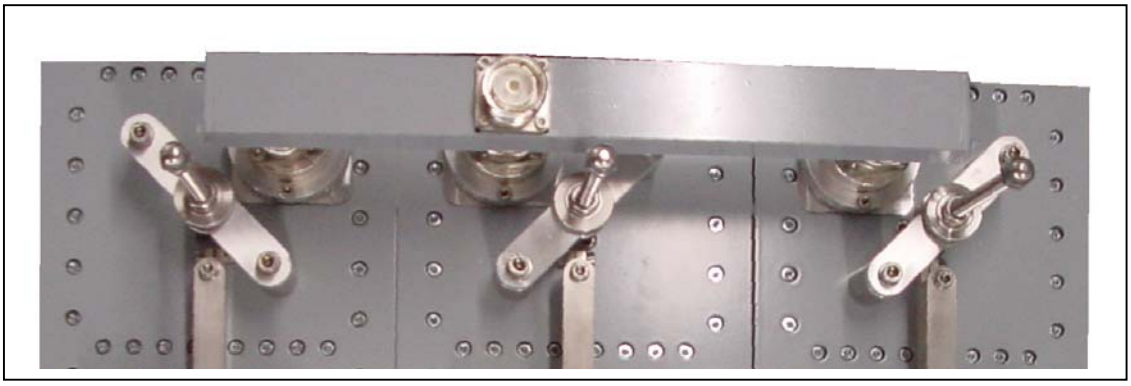




Mechanical specifications for COUPSP1K (TRIPLEXER VERSION)

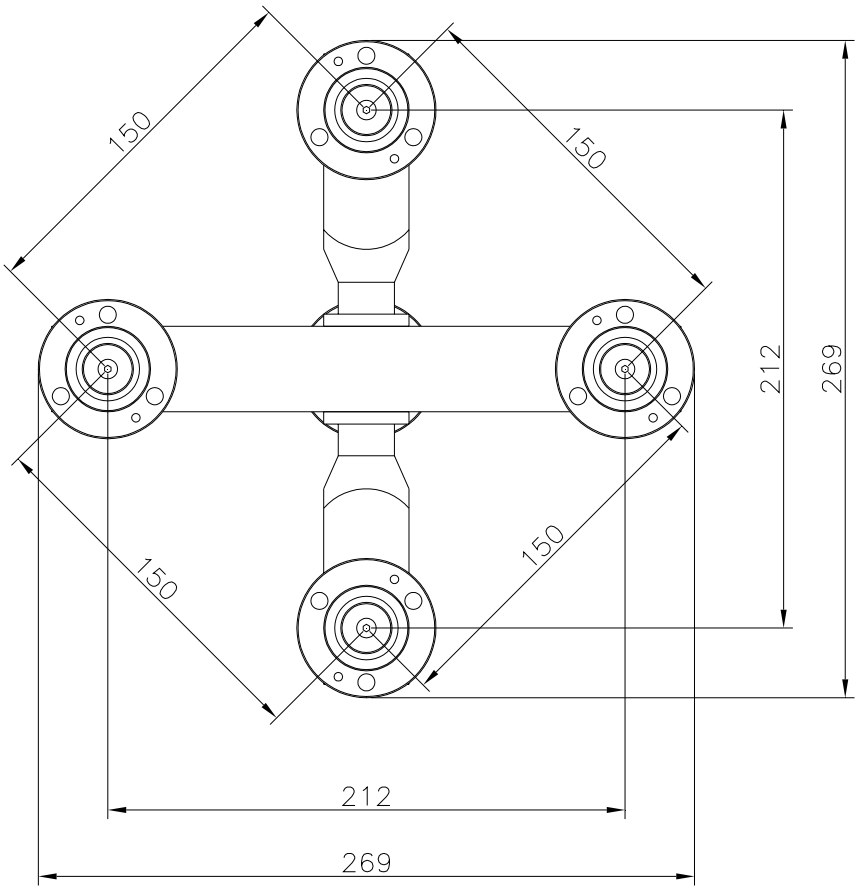
EXAMPLE WITH CONNECTORS
IN N - OUT 7/16"

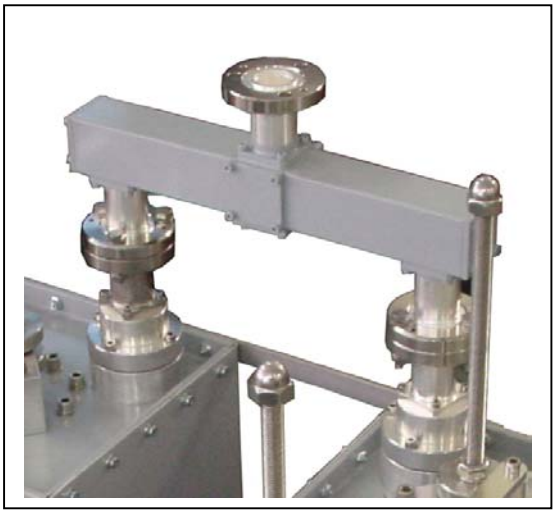




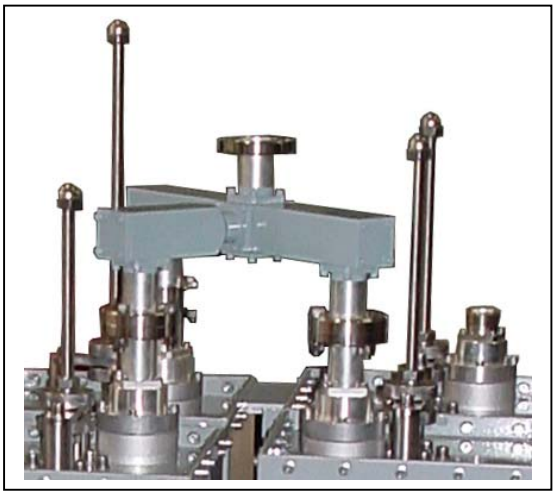
Mechanical specifications for COUPSP2K (STANDARD VERSION)

EXAMPLE WITH CONNECTORS
IN 4 7/8" - OUT 7/8"

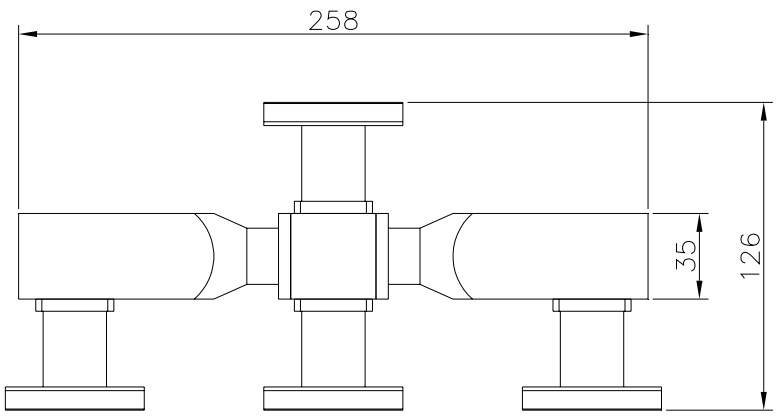




EXAMPLE IN 2 7/8" - OUT 7/8" ↑

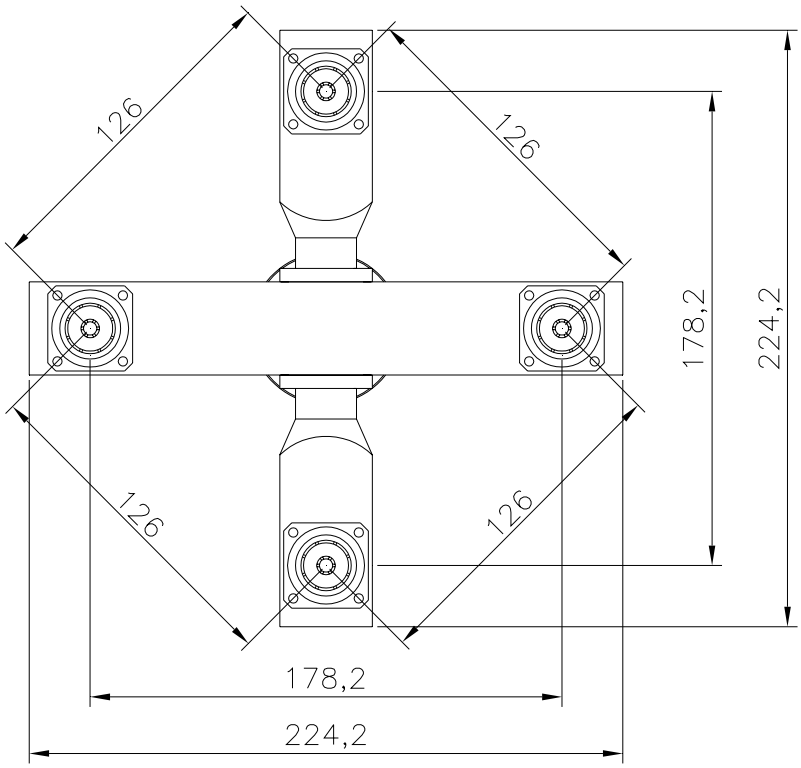


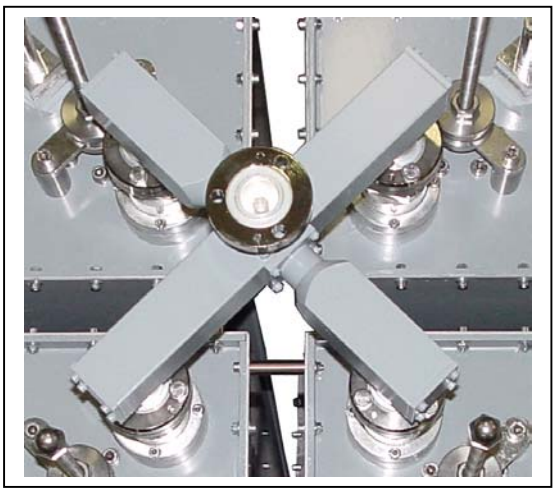
↓ EXAMPLE IN 3 7/8" - OUT 7/8" ↑



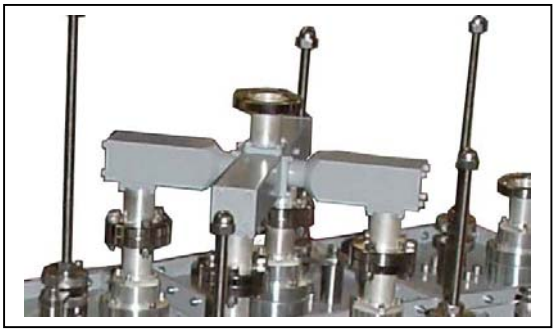
Mechanical specifications for COUPSP2K (COMPACT VERSION)

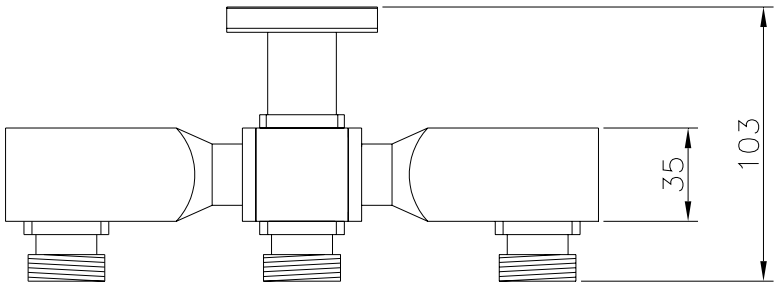
EXAMPLE WITH CONNECTORS
IN 4 7/16" - OUT 7/8"



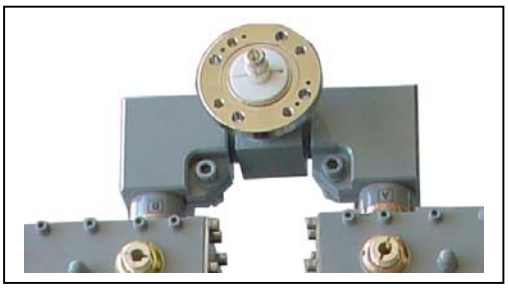


↓ EXAMPLE IN 4 7/8" - OUT 7/8" ↑

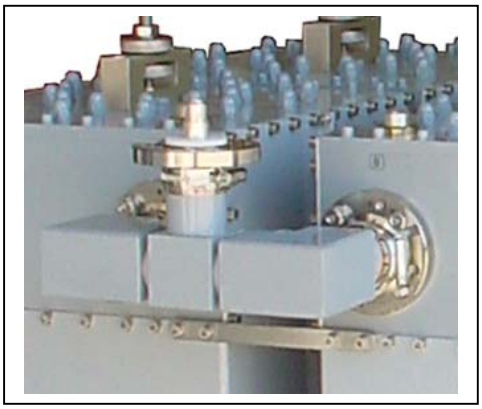




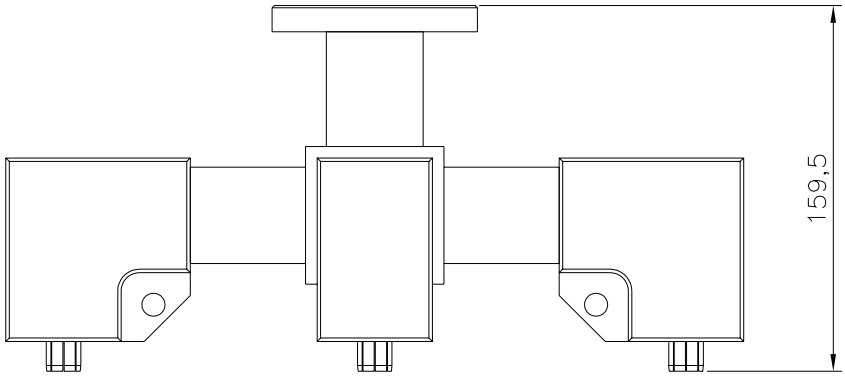
Mechanical specifications for COUPSP12K

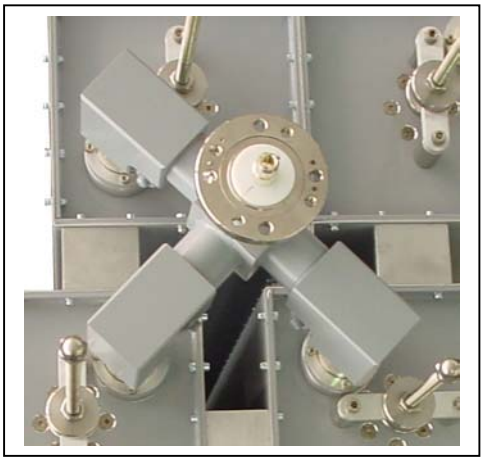


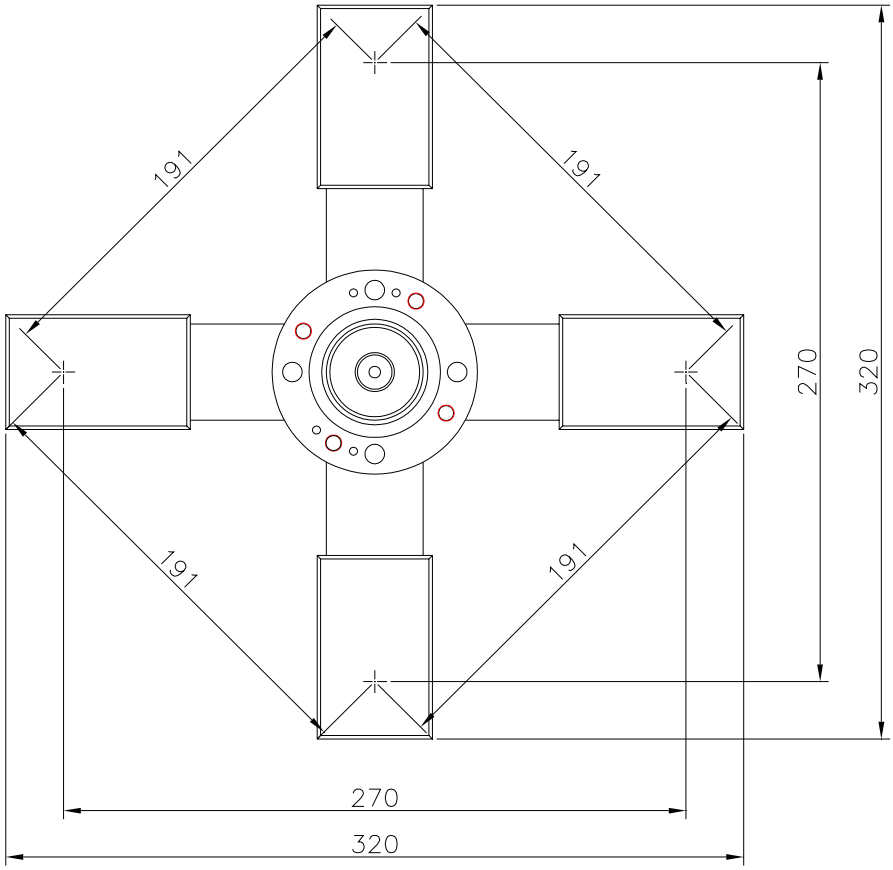
↓ EXAMPLE IN 2 1+5/8" - OUT 1+5/8" ↑



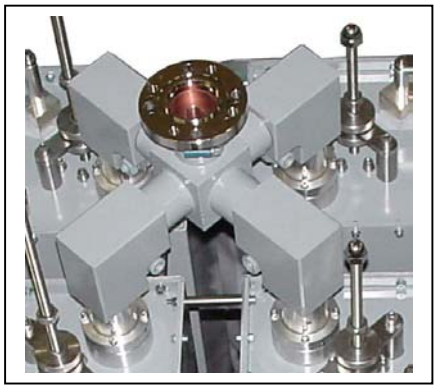
EXAMPLE WITH CONNECTORS
IN 4 1+5/8" - OUT 1+5/8"



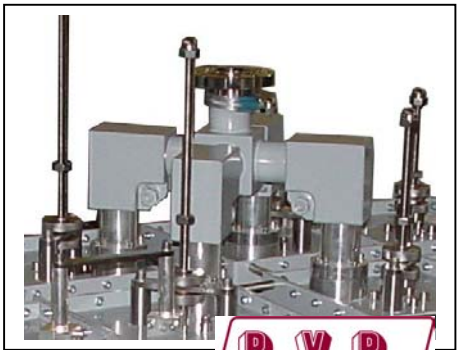




EXAMPLE IN 3 1+5/8" - OUT 1+5/8" ↑

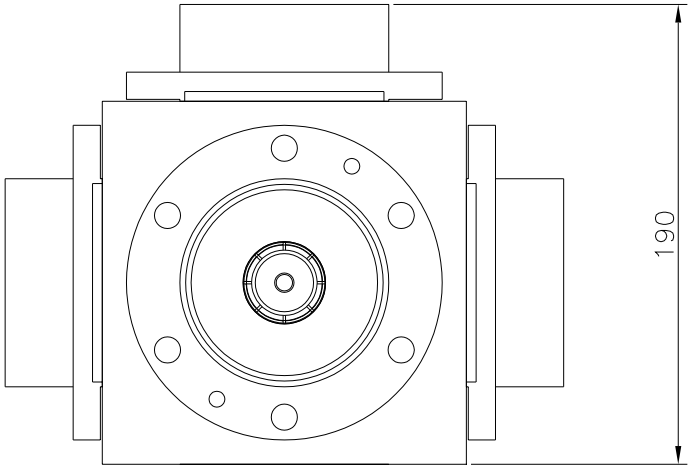


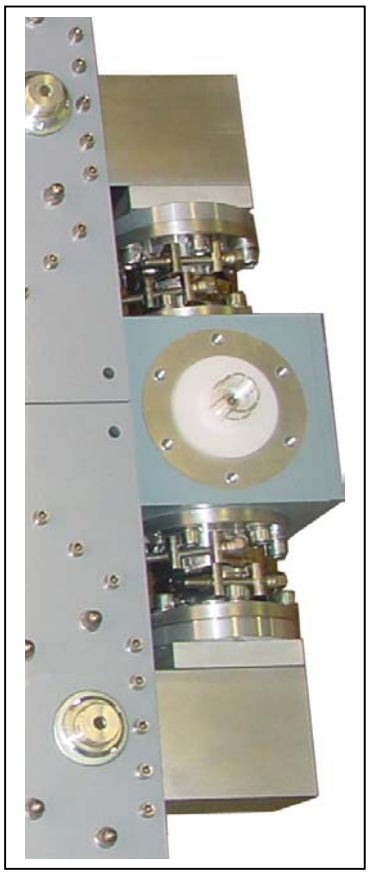
↓ EXAMPLE IN 4 1+5/8" - OUT 1+5/8" ↑



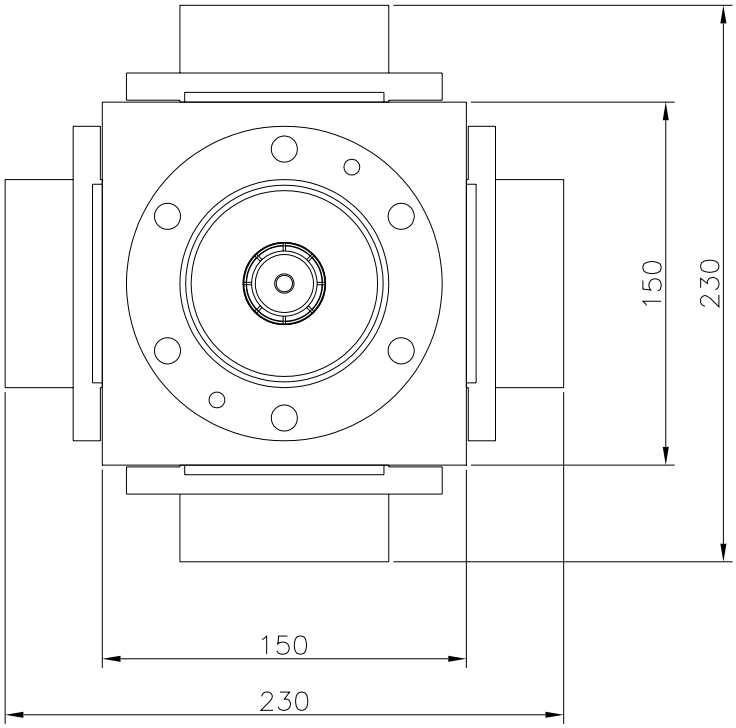
Mechanical specifications for COUPSP40K

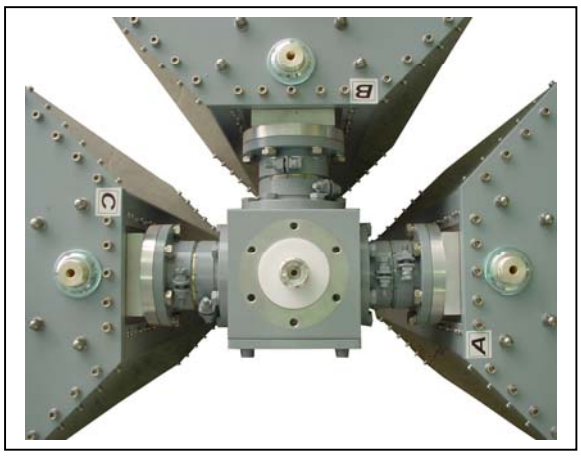
EXAMPLE WITH CONNECTORS
IN 4 3+1/8" - OUT 3+1/8"



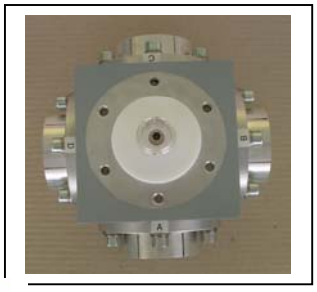


EXAMPLE
IN 2 3+1/8" - OUT 3+1/8"
→

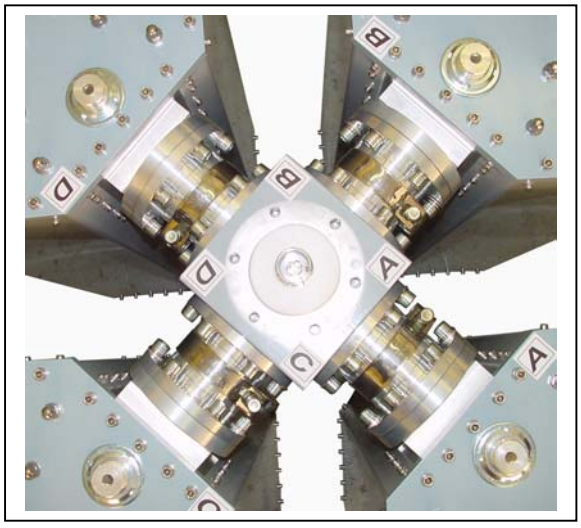




EXAMPLE IN 3 3+1/8" - OUT 3+1/8" ↑

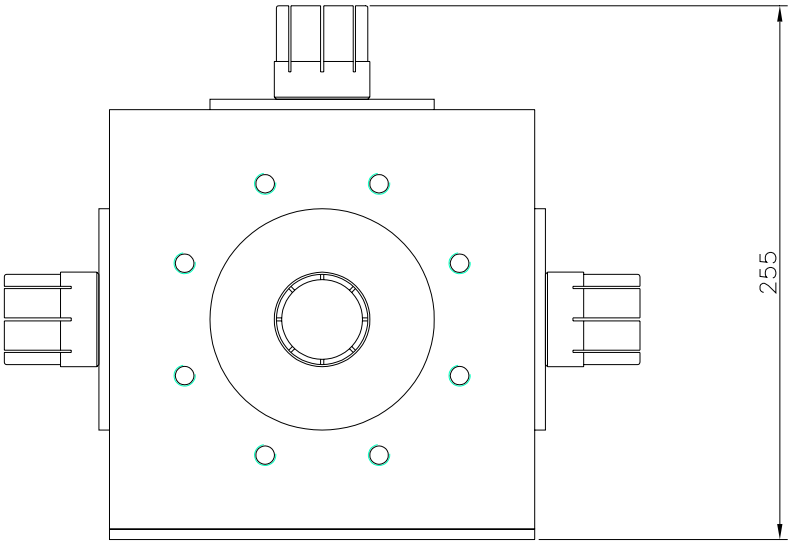


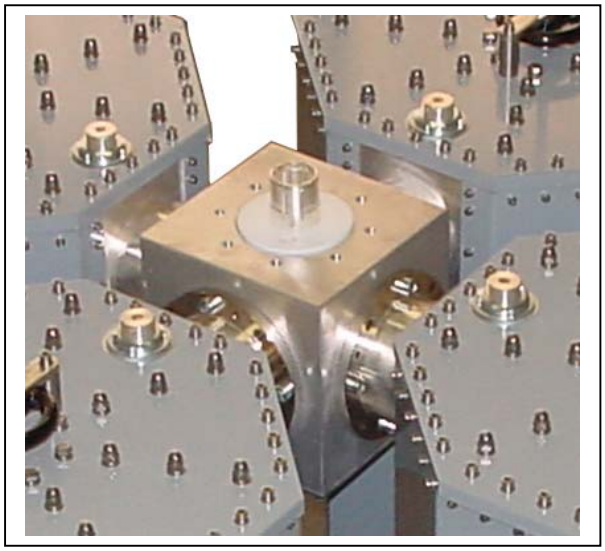
←
EXAMPLE
IN 4 3+1/8" - OUT 3+1/8"
→

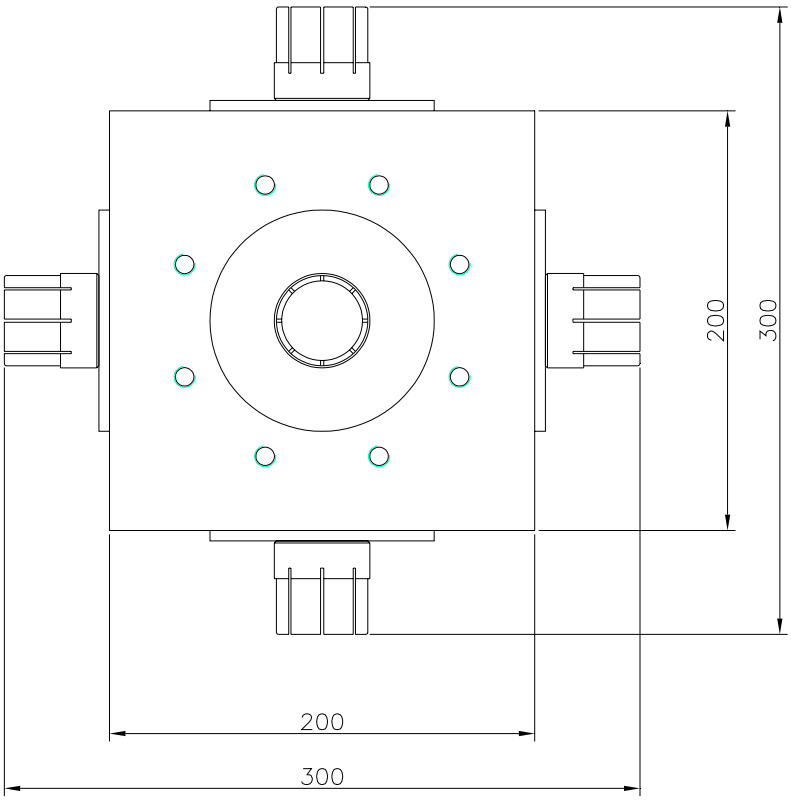


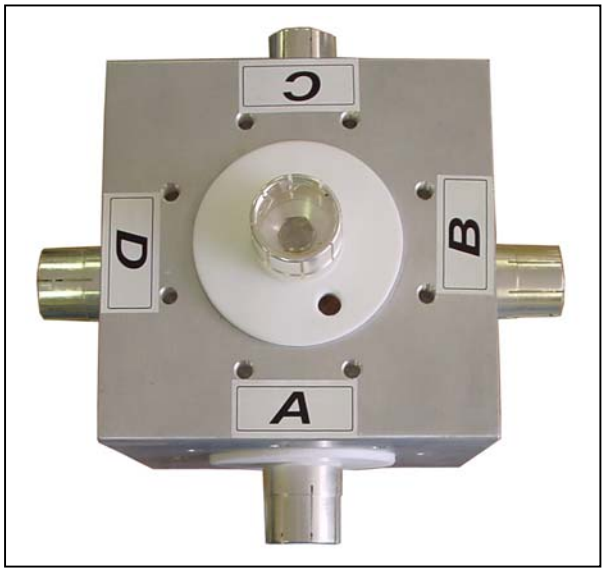
Mechanical specifications for COUPSP60K

EXAMPLE WITHOUT FLANGE WITH CONNECTORS
IN 4 4+1/2" - OUT 4+1/2"

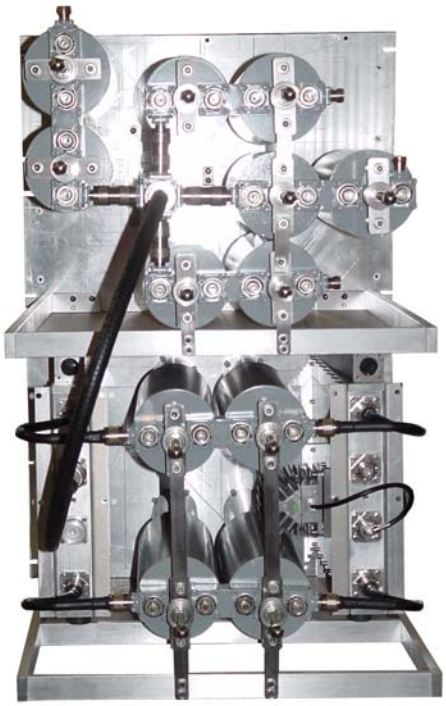


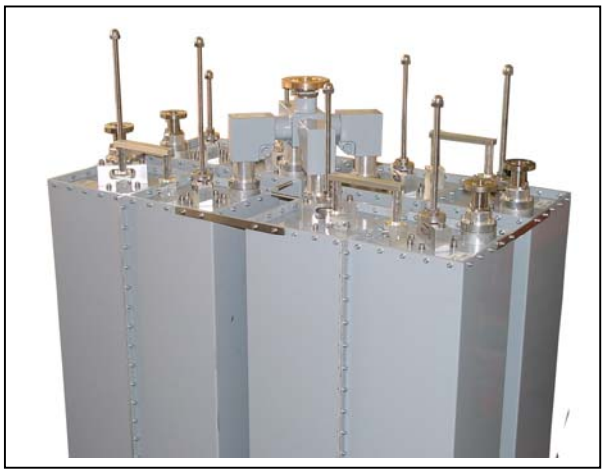


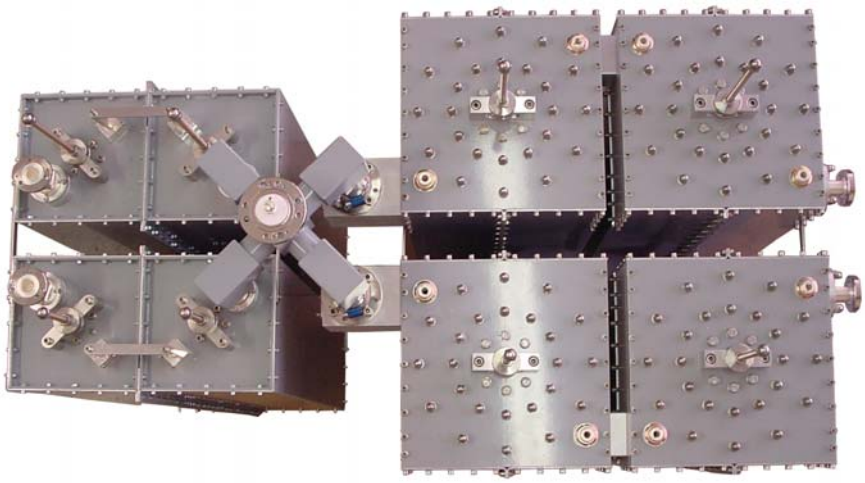




Application

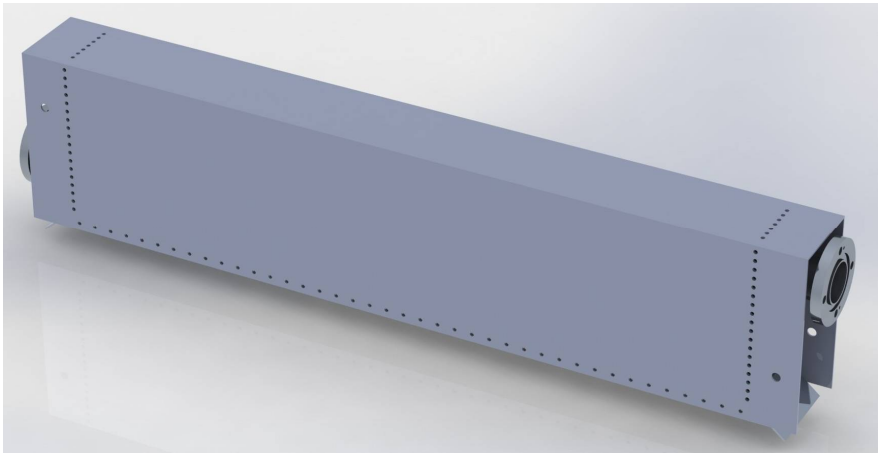






EXAMPLE OF STARPOINT COMBINER

MODEL SP10K – SP20K

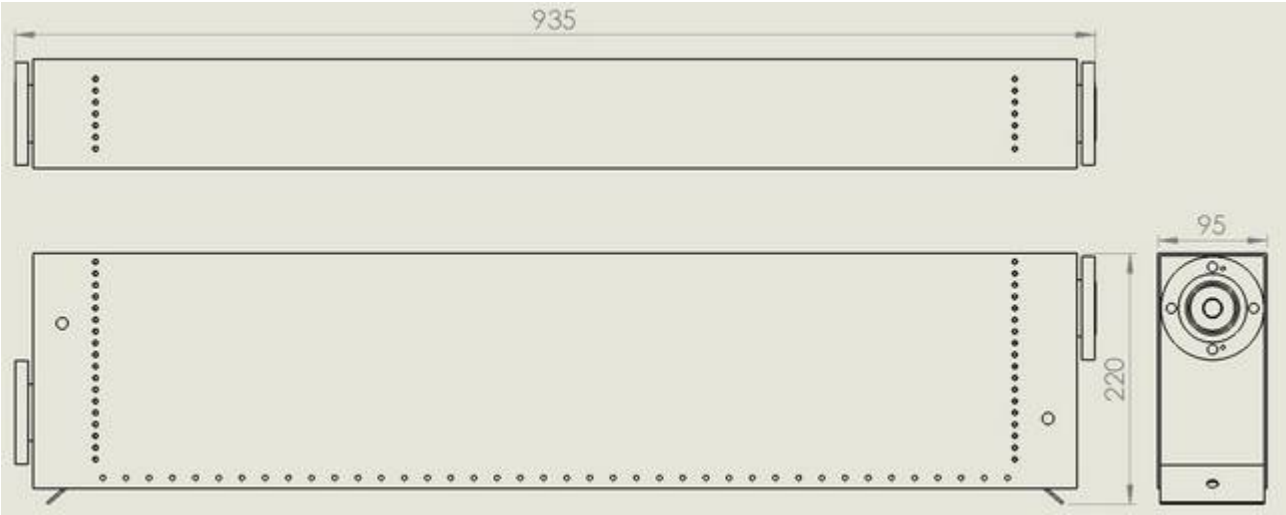


- **SURGE PROTECTOR 10 KW / 20 KW**
- **QUARTER LAMBDA RESONATOR**
- **IMPEDANCE 50 Ohm**
- **FM BAND 87.5÷108 MHz**
- **WATERPROOF AND MAINTENANCE FREE**
- **PROTECTION LEVEL IP44**

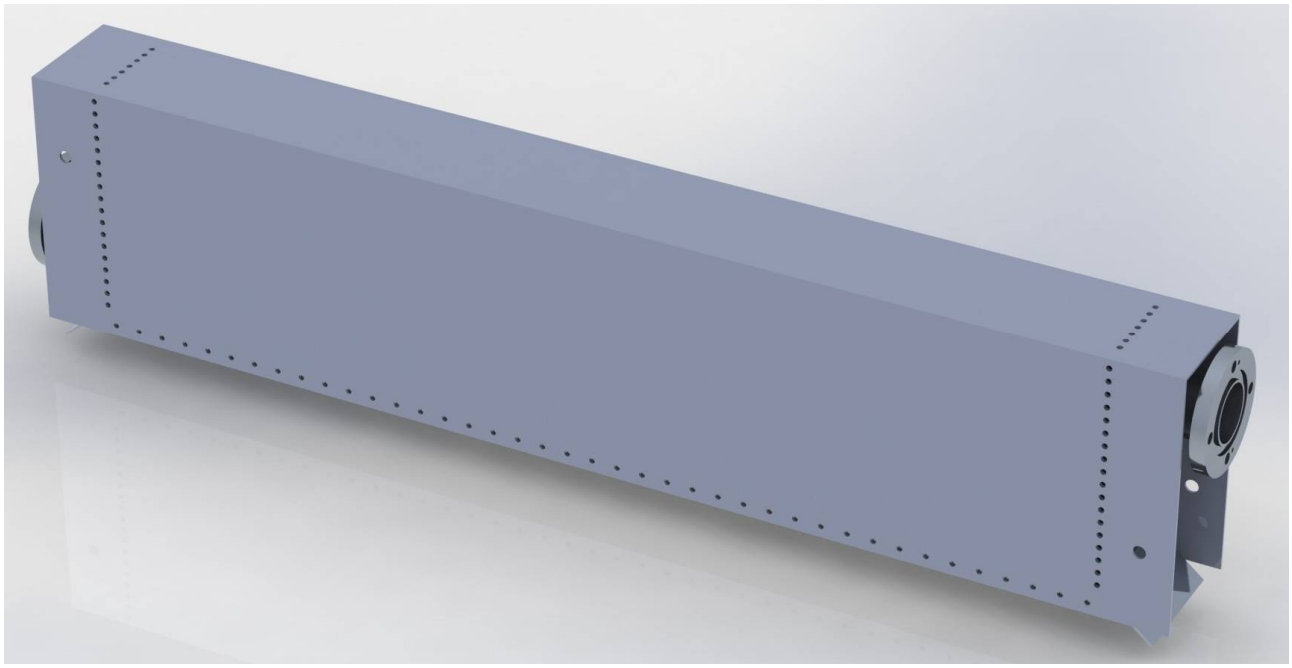
MODEL	INPUT CONNECTOR	OUTPUT CONNECTORS	MAX POWER IN	GROUNDING
SP10K	1+5/8" EIA	1+5/8" EIA	10 KW rms	M12
SP20K	3+1/8" EIA	3+1/8" EIA	20 KW rms	M14

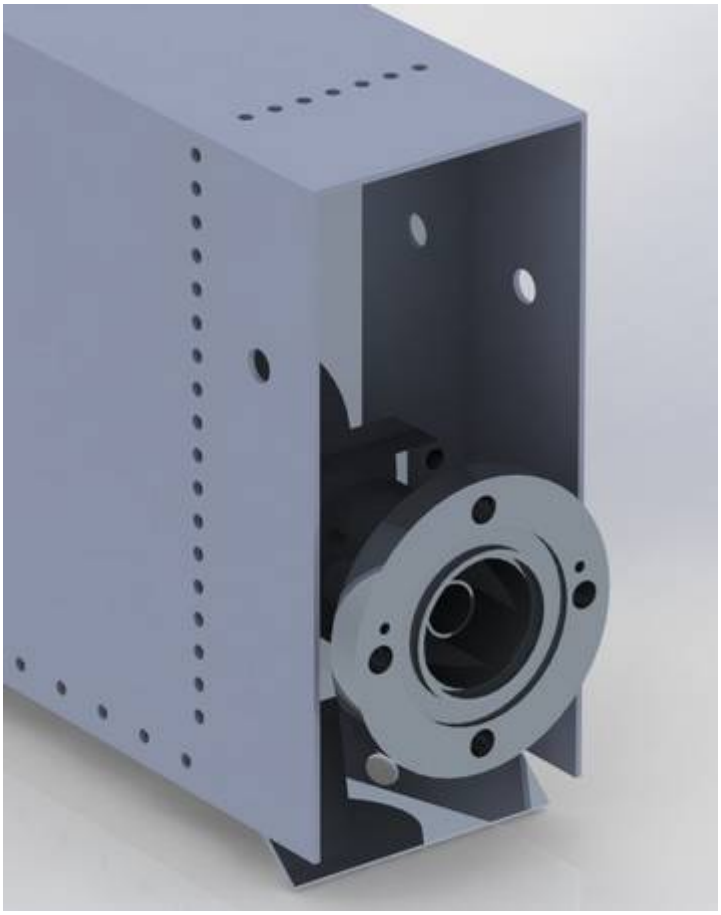
TYPICAL SPECIFICATIONS	
Impedance	50 Ohm
Frequency Range	87.5 ÷ 108 MHz
VSWR	1.10:1 Max
Insertion Loss	0.05 dB Max
Return loss	Better than 26 dB
Length approx.	950 mm
Operating altitude	3.000 meters a.s.l.
Working Temperature	-30°C ÷ +70°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Silvering,

DIMENSIONS (mm)

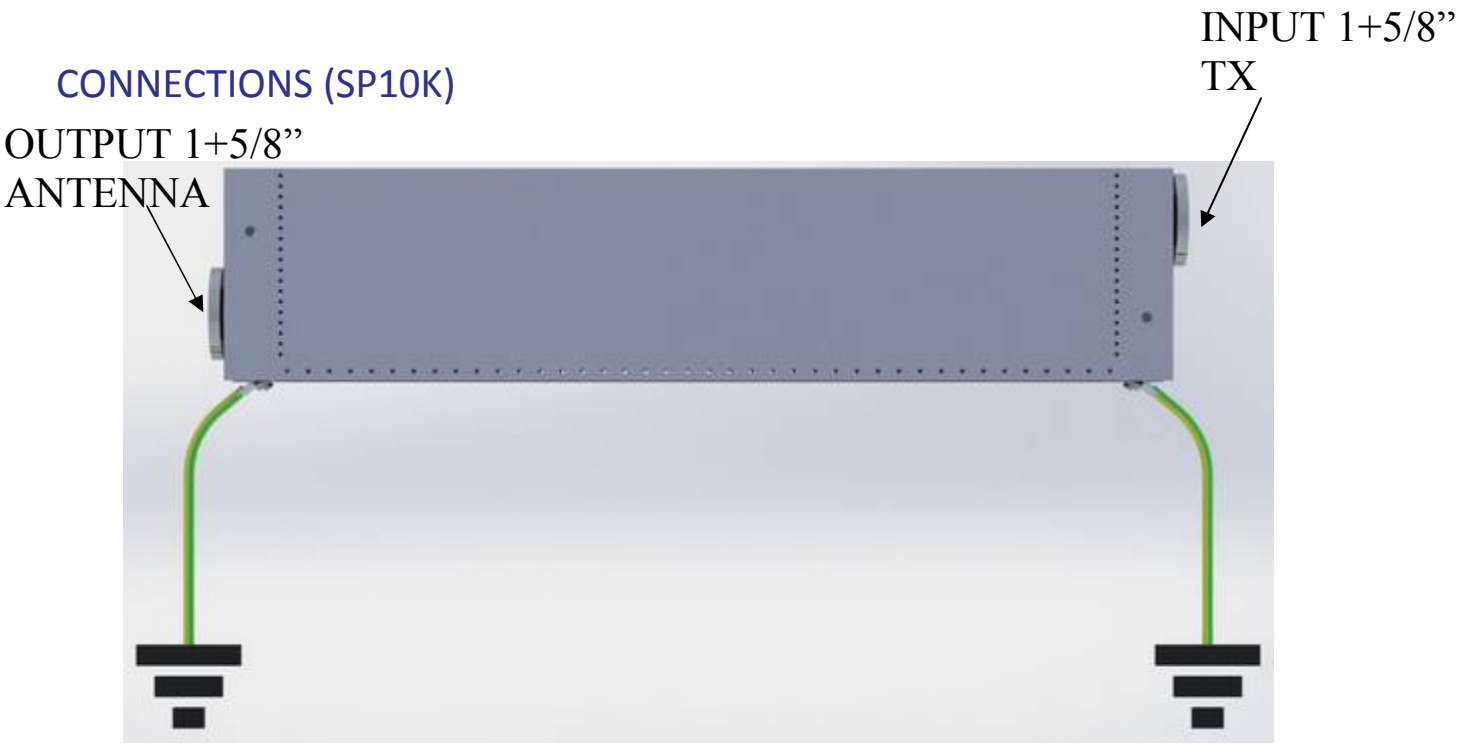


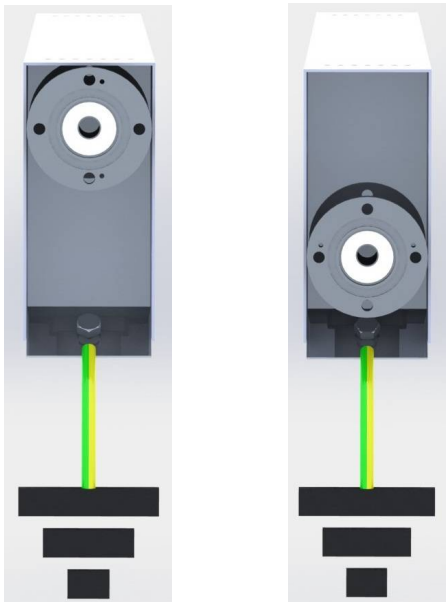
VIEWS OF THE SYSTEM (EXAMPLE SP10K)

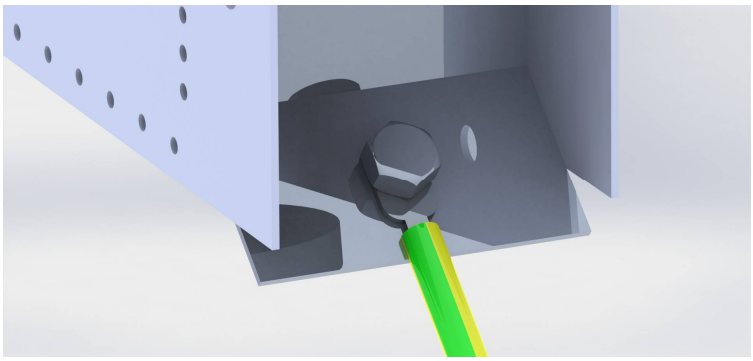




CONNECTIONS (SP10K)







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TELECOMUNICAZIONI FERRARA SRL

Telecfe

PRODUCT CATALOG

Edition 01/12

RF COMPONENTS AND ACCESSORIES

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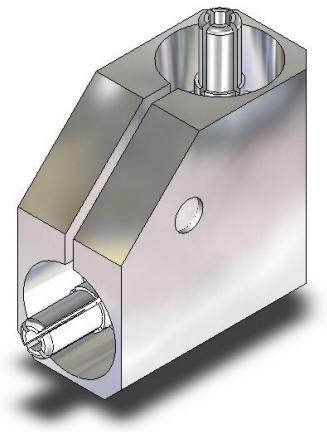
Unflanged Elbows

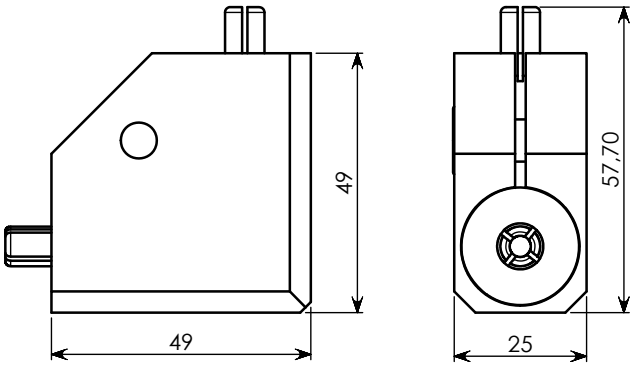
Unflanged Elbow

7/8” (male - male)



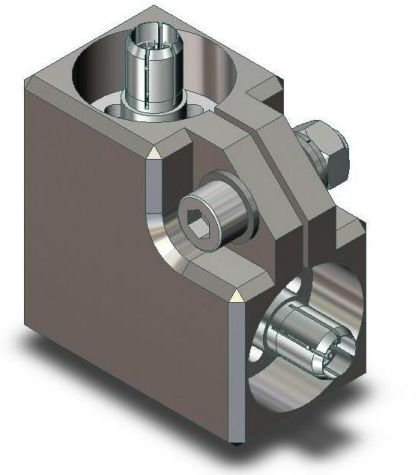
TECHNICAL DATA

Part Number	ADP7878RLAMM
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 7/8”
Impedance	50 Ω
Average power VHF	≤ 5 kW
Average power UHF	≤ 2.6 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Corps / Treatment	Aluminum / Alodine
Inner / Treatment	Phosphor Bronze / Silver plated
Insulator	PTFE
Weight	~ 0.11 Kg



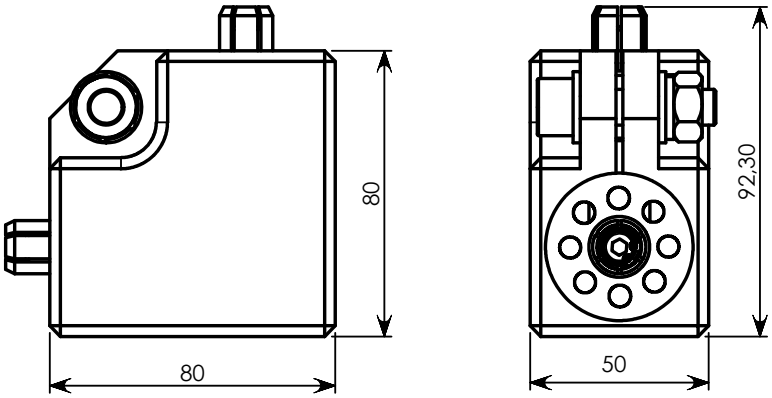
Unflanged Elbow

1+5/8” (male - male)



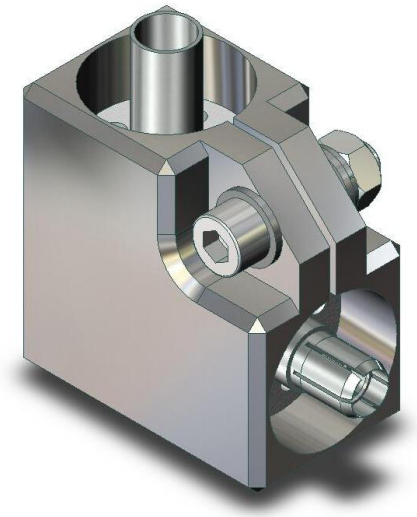
TECHNICAL DATA

Part Number	ADP5858RLAMM
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 1+5/8”
Impedance	50 Ω
Average power VHF	≤ 13 kW
Average power UHF	≤ 7 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Corps / Treatment	Aluminum / Alodine
Inner / Treatment	Phosphor Bronze / Silver plated
Insulator	PTFE
Weight	~ 0.62 Kg



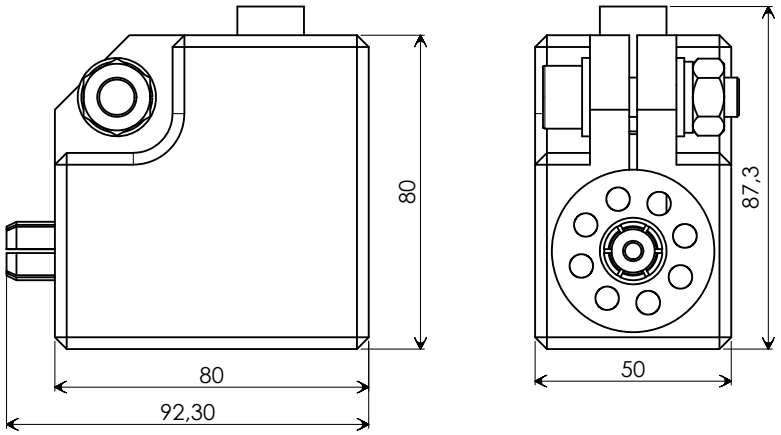
Unflanged Elbow

1+5/8” (male - female)



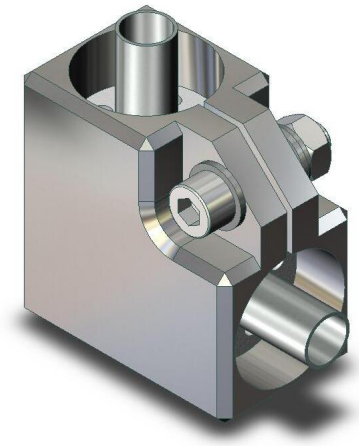
TECHNICAL DATA

Part Number	ADP5858RLAMF
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 1+5/8”
Impedance	50 Ω
Average power VHF	≤ 13 kW
Average power UHF	≤ 7 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Corps / Treatment	Aluminum / Alodine
Inner / Treatment	Phosphor Bronze / Silver plated
Insulator	PTFE
Weight	~ 0.62 Kg



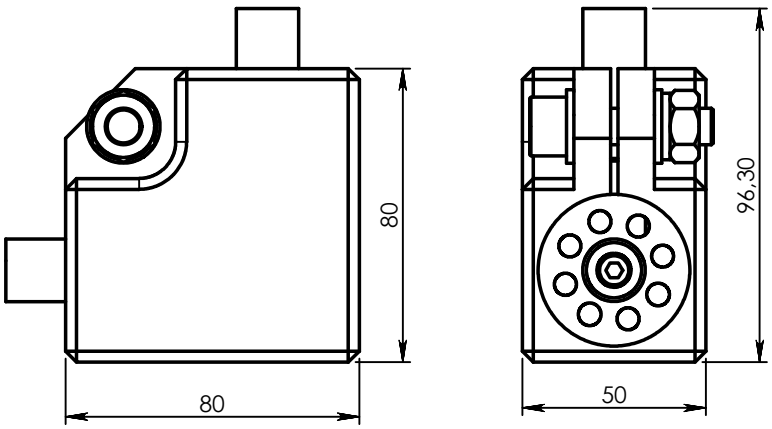
Unflanged Elbow

1+5/8” (female - female)



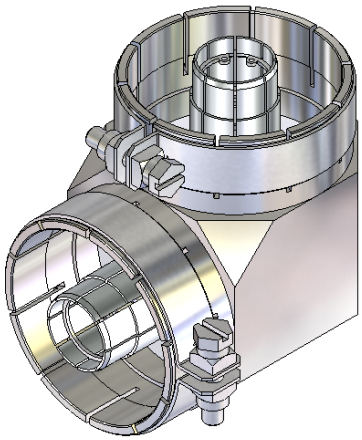
TECHNICAL DATA

Part Number	ADP5858RLAFF
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 1+5/8”
Impedance	50 Ω
Average power VHF	≤ 13 kW
Average power UHF	≤ 7 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Corps / Treatment	Aluminum / Alodine
Inner / Treatment	Phosphor Bronze / Silver plated
Insulator	PTFE
Weight	~ 0.62 Kg



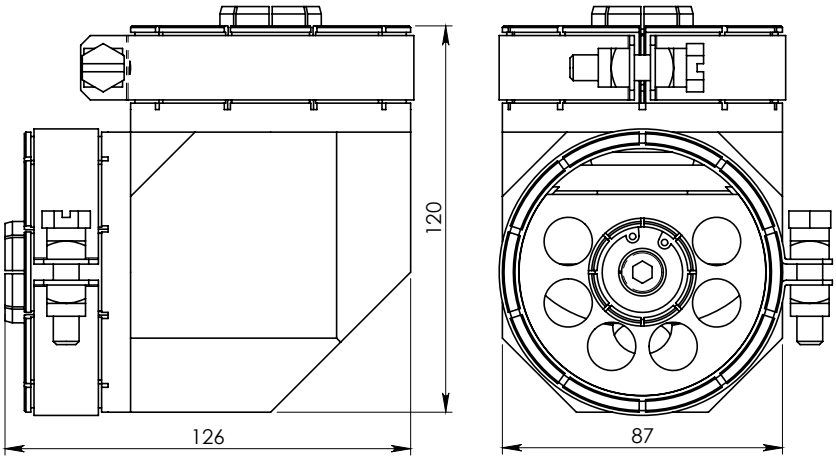
Unflanged Elbow

3+1/8” (male - male)



TECHNICAL DATA

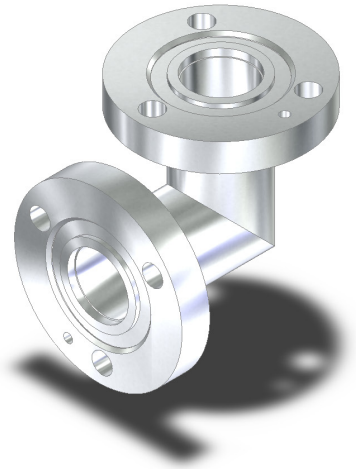
Part Number	ADP318318RLA
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 3+1/8”
Impedance	50 Ω
Average power VHF	≤ 35 kW
Average power UHF	≤ 22 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Corps / Treatment	Aluminum / Alodine
Inner / Treatment	Phosphor Bronze / Silver plated
Insulator	PTFE
Weight	~ 1.54 Kg



Flanged Elbows

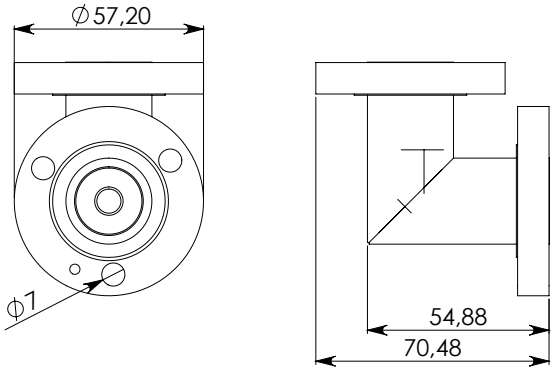
Flanged Elbow

7/8”



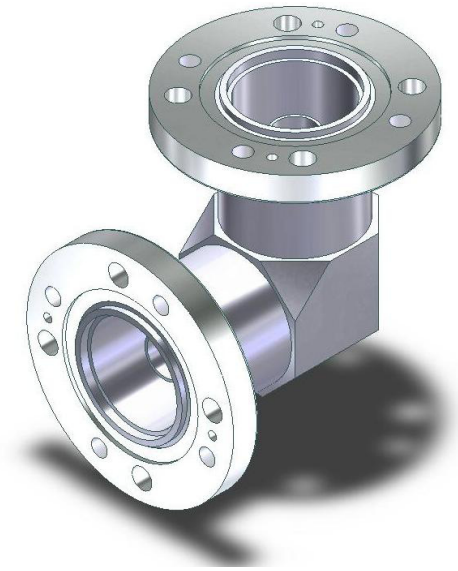
TECHNICAL DATA

Part Number	ADP88
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 7/8”
Impedance	50 Ω
Average power VHF	≤ 5 kW
Average power UHF	≤ 2.6 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Brass / Nickel plating
Corps / Treatment	Brass / Nickel plating
Inner / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 0.47 Kg



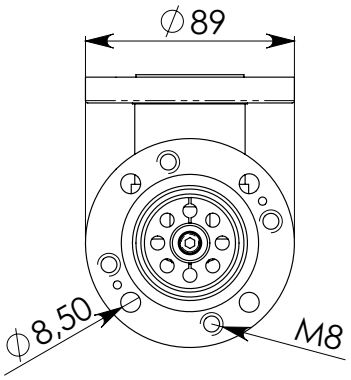
Flanged Elbow

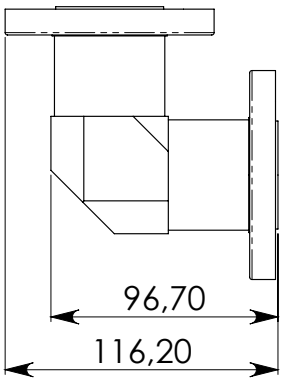
1+5/8”



TECHNICAL DATA

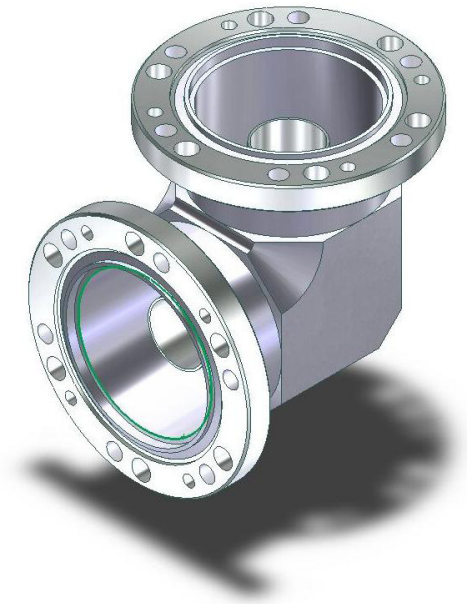
Part Number	ADP158158
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 1+5/8”
Impedance	50 Ω
Average power VHF	≤ 13 kW
Average power UHF	≤ 7 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Brass / Nickel plating
Corps / Treatment	Aluminum / Alodine
Inner / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 1.12 Kg





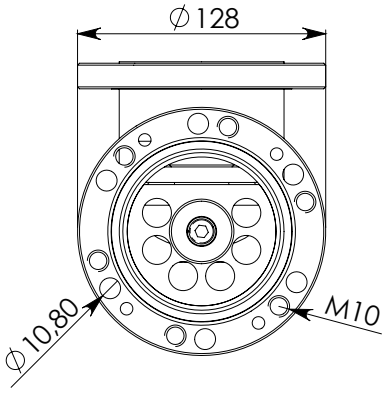
Flanged Elbow

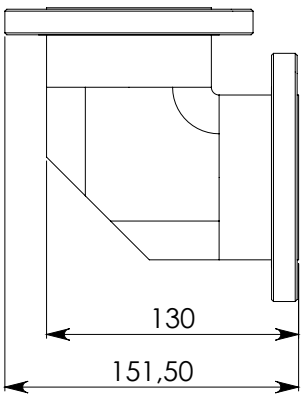
3+1/8”



TECHNICAL DATA

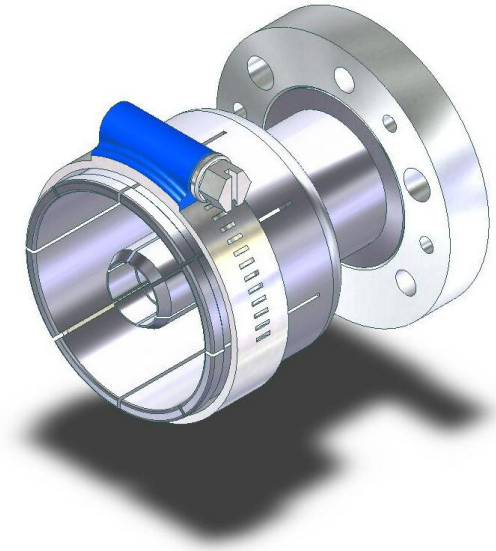
Part Number	**ADP318318**
Frequency Range	**0.1 ÷ 900 Mhz**
Connectors	**EIA 3+1/8”**
Impedance	**50 Ω**
Average power VHF	**≤ 35 kW**
Average power UHF	**≤ 22 kW**
Return Loss	**≥ 32dB**
Operating Temperature Range	**-40 ÷ +70° C**
Flange / Treatment	**Bronze / Nickel plating**
Corps / Treatment	**Aluminum / Alodine**
Inner / Treatment	**Brass / Silver plated**
Insulator	**PTFE**
Weight	**~ 2.30 Kg**





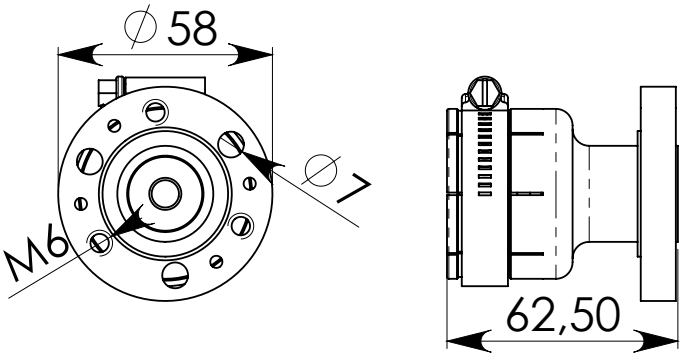
Coaxial Adaptors

7/8” female - 1+5/8” male

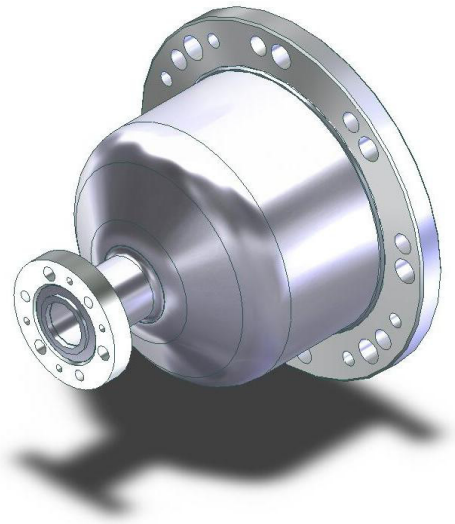


TECHNICAL DATA

Part Number	ADP78RL158
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 7/8” - EIA 1+5/8”
Impedance	50 Ω
Average power VHF	≤ 5 kW
Average power UHF	≤ 2.6 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Brass / Nickel plating
Corps / Treatment	Brass / Nickel plating
Inner / Treatment	Phosphor Bronze / Silver plated
Insulator	PTFE
Weight	~ 0.36 Kg

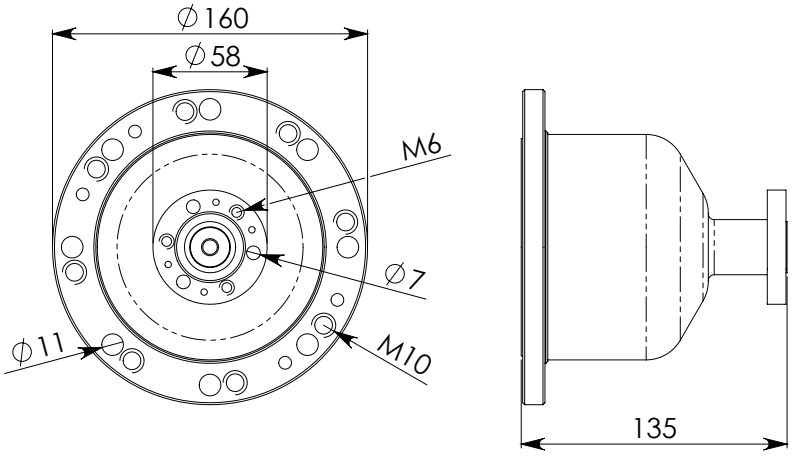


7/8” female - 4+1/2” female

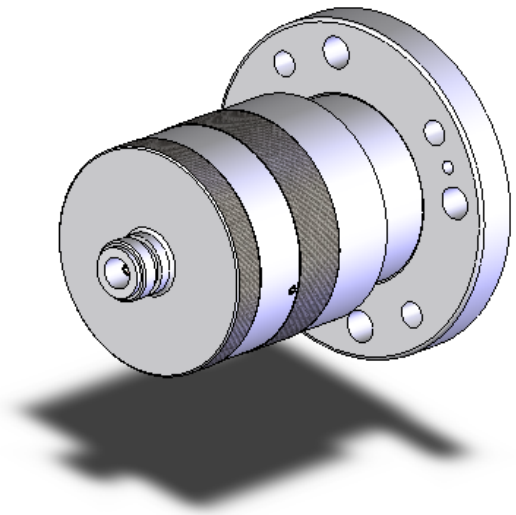


TECHNICAL DATA

Part Number	**ADP41278C**
Frequency Range	**0.1 ÷ 900 Mhz**
Connectors	**EIA 7/8” - EIA 4+1/2”**
Impedance	**50 Ω**
Average power VHF	**≤ 5 kW**
Average power UHF	**≤ 2.6 kW**
Return Loss	**≥ 32dB**
Operating Temperature Range	**-40 ÷ +70° C**
Flange / Treatment	**Brass - Bronze / Nickel plating**
Corps / Treatment	**Aluminium / Alodine**
Inner / Treatment	**Brass / Silver plated**
Insulator	**PTFE**
Weight	**~ 3.37 Kg**

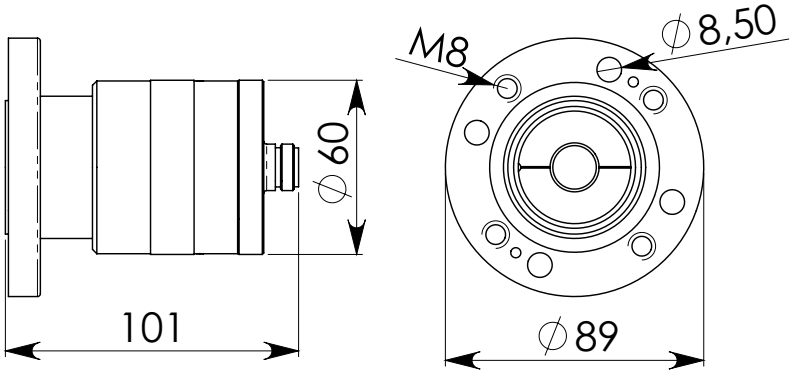


1+5/8” female - N female

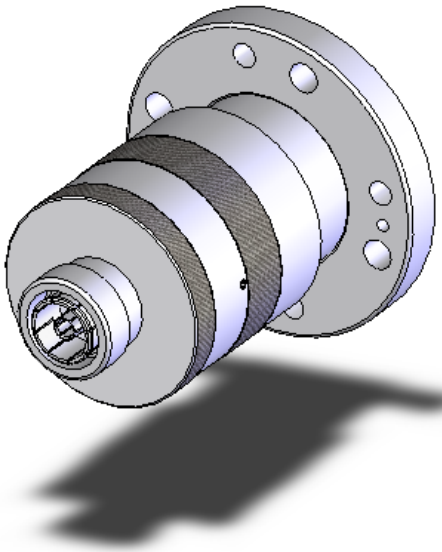


TECHNICAL DATA

Part Number	ADP158NF
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 1+5/8” - N
Impedance	50 Ω
Average power VHF	≤ 500 W
Average power UHF	≤ 300 W
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Brass / Nickel plating
Corps / Treatment	Brass / Nickel plating
Inner / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 1.52 Kg

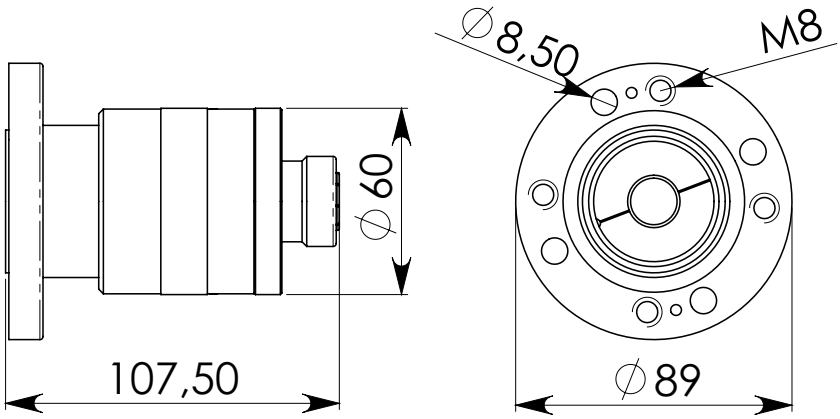


1+5/8” female - 7/16” female

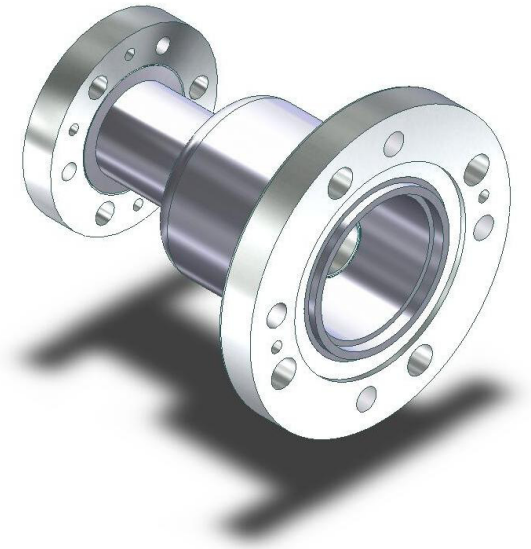


TECHNICAL DATA

Part Number	ADP15816F
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 1+5/8” - DIN 7/16”
Impedance	50 Ω
Average power VHF	≤ 2 kW
Average power UHF	≤ 1.2 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Brass / Nickel plating
Corps / Treatment	Brass / Nickel plating
Inner / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 1.55 Kg

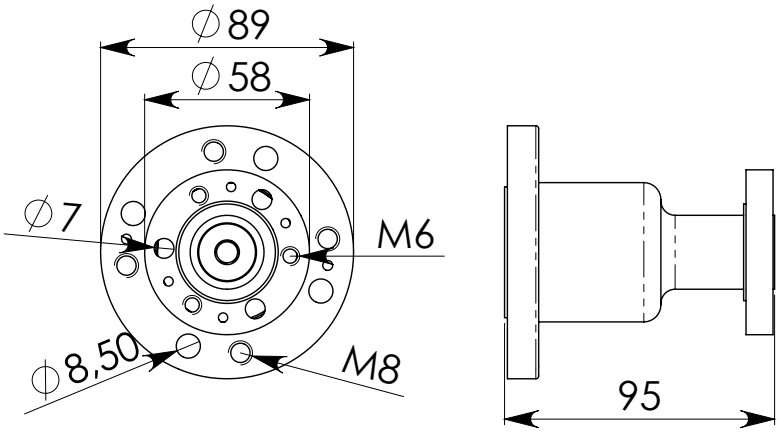


1+5/8” female - 7/8” female

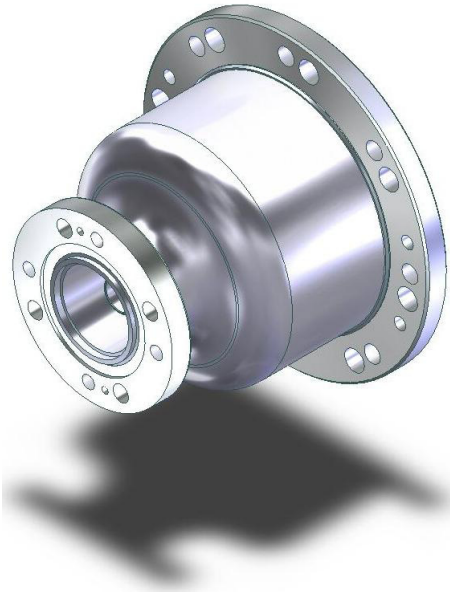


TECHNICAL DATA

Part Number	ADP1588C
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 1+5/8” - EIA 7/8”
Impedance	50 Ω
Average power VHF	≤ 5 kW
Average power UHF	≤ 2.6 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Brass / Nickel plating
Corps / Treatment	Brass / Nickel plating
Inner / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 0.96 Kg

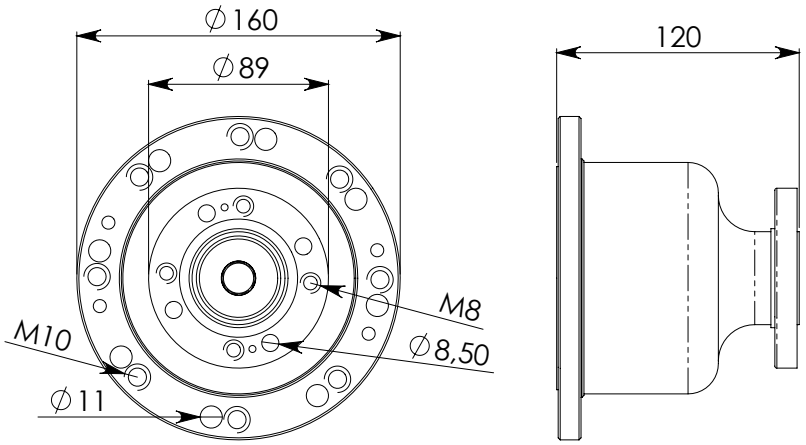


1+5/8” female - 4+1/2” female

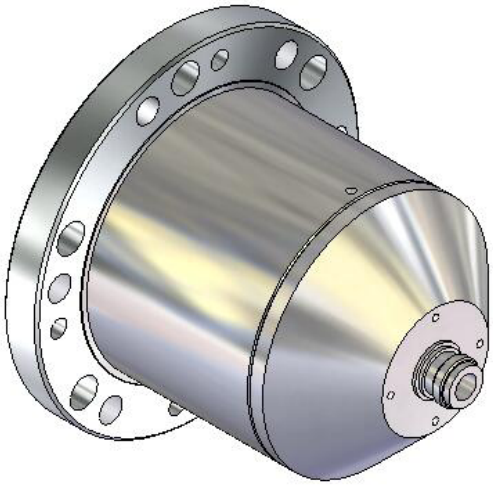


TECHNICAL DATA

Part Number	ADP412158C
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 1+5/8” - EIA 4+1/2”
Impedance	50 Ω
Average power VHF	≤ 13 kW
Average power UHF	≤ 7 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Brass - Bronze / Nickel plating
Corps / Treatment	Aluminium / Alodine
Inner / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 2.01 Kg

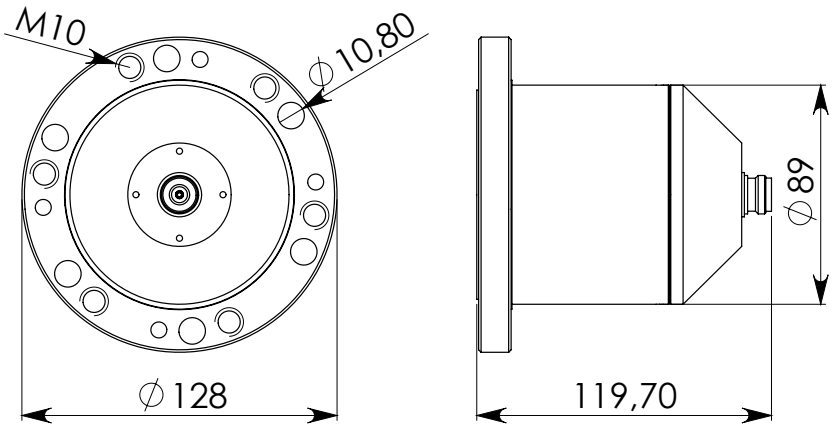


3+1/8” female - N female

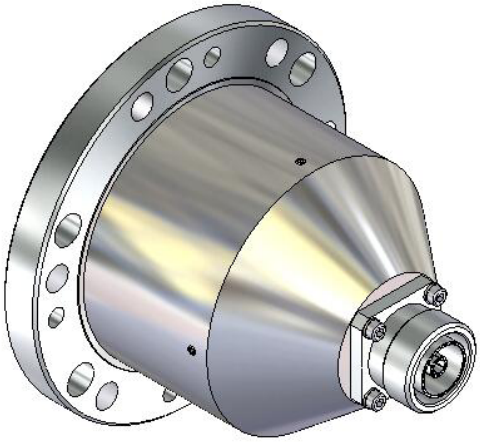


TECHNICAL DATA

Part Number	ADP318NF
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 3+1/8” - N
Impedance	50 Ω
Average power VHF	≤ 500 W
Average power UHF	≤ 300 W
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Bronze / Nickel plating
Corps / Treatment	Aluminium / Alodine
Inner / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 1.5 Kg

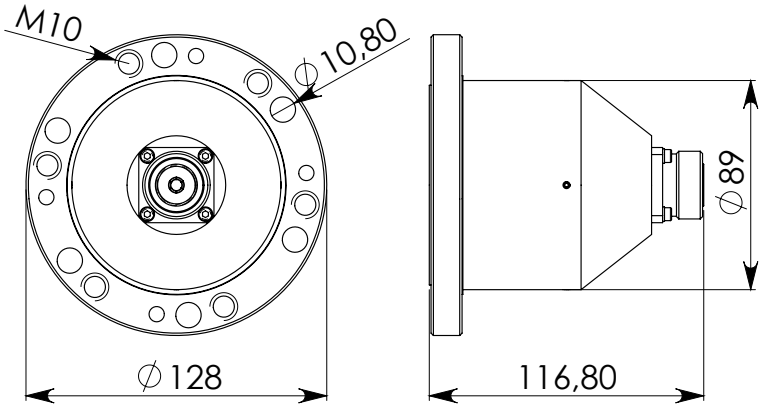


3+1/8” female - 7/16” female

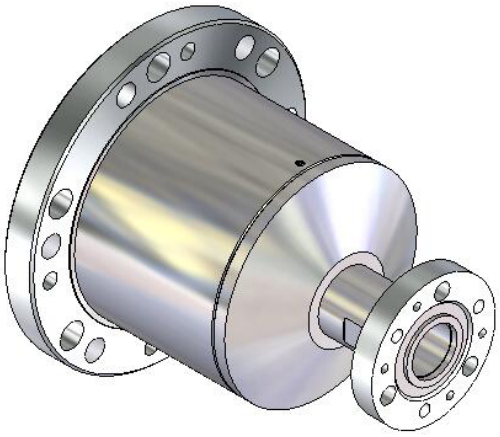


TECHNICAL DATA

Part Number	ADP318716F
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 3+1/8” - DIN 7/16”
Impedance	50 Ω
Average power VHF	≤ 2 kW
Average power UHF	≤ 1.2 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Bronze / Nickel plating
Corps / Treatment	Aluminium / Alodine
Inner / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 1.3 Kg

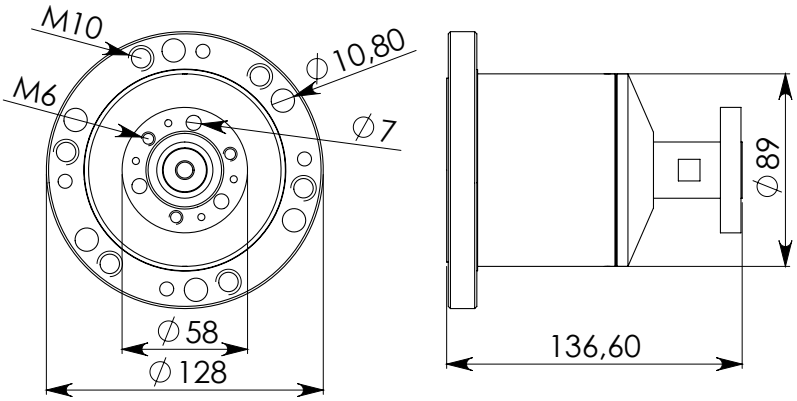


3+1/8” female - 7/8” female

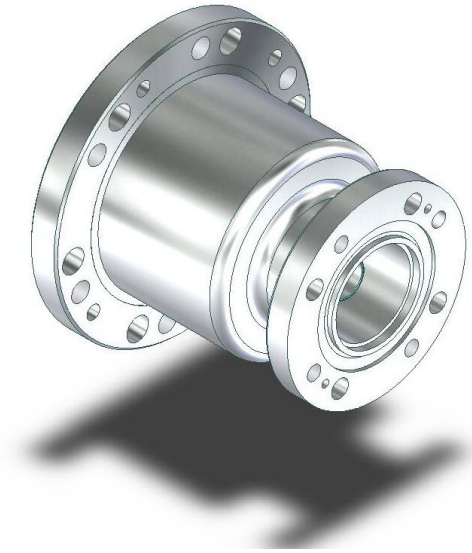


TECHNICAL DATA

Part Number	**ADP31878F**
Frequency Range	**0.1 ÷ 900 Mhz**
Connectors	**EIA 3+1/8” - EIA 7/8”**
Impedance	**50 Ω**
Average power VHF	**≤ 5 kW**
Average power UHF	**≤ 2.6 kW**
Return Loss	**≥ 32dB**
Operating Temperature Range	**-40 ÷ +70° C**
Flange / Treatment	**Bronze - Brass / Nickel plating**
Corps / Treatment	**Aluminium / Alodine**
Inner / Treatment	**Brass / Silver plated**
Insulator	**PTFE**
Weight	**~ 1.5 Kg**



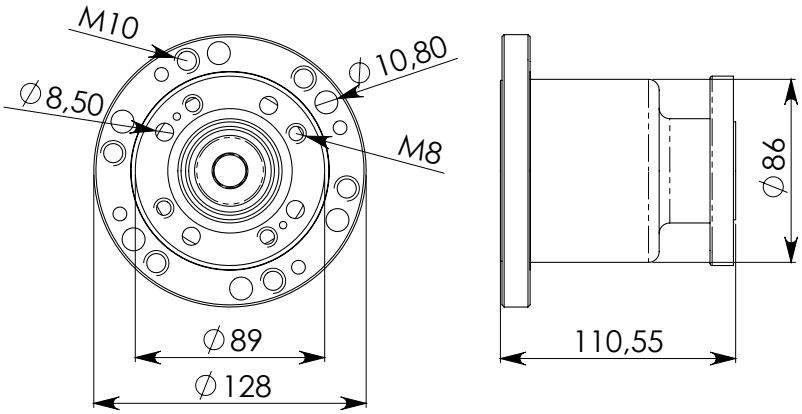
3+1/8” female - 1+5/8” female



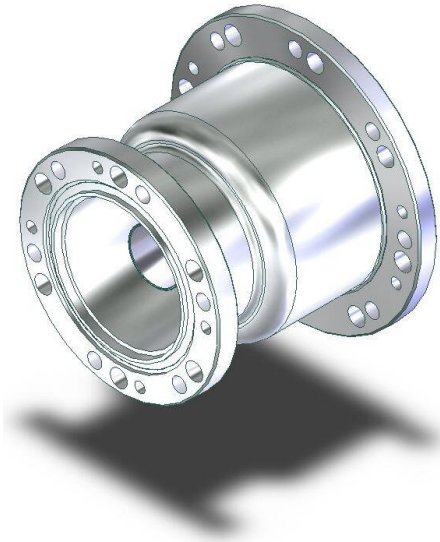
TECHNICAL DATA

Part Number	ADP318158C
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 3+1/8” - EIA 1+5/8”
Impedance	50 Ω
Average power VHF	≤ 13 kW
Average power UHF	≤ 7 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C

Flange / Treatment	Bronze - Brass / Nickel plating
Corps / Treatment	Bronze / Nickel plating
Inner / Treatment	Aluminium / Alodine
Insulator	PTFE
Weight	~ 1.4 Kg

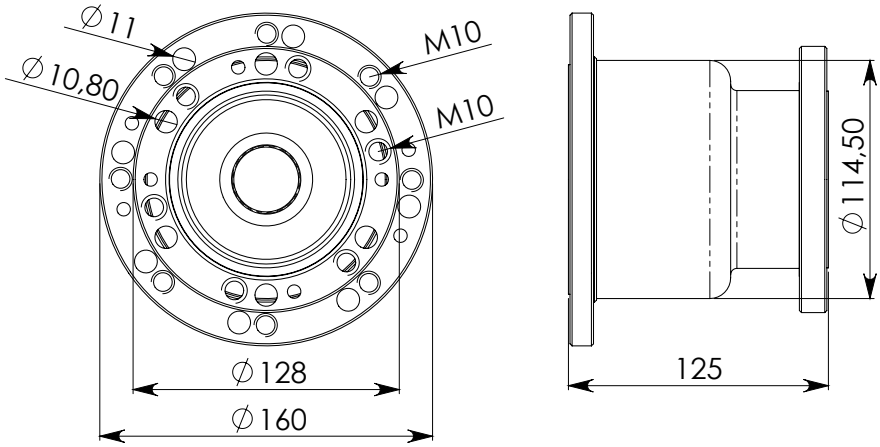


3+1/8” female - 4+1/2” female

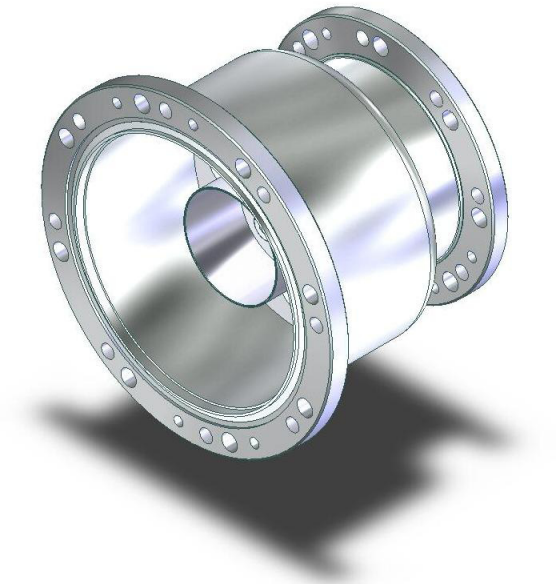


TECHNICAL DATA

Part Number	ADP412318C
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 3+1/8” - EIA 4+1/2”
Impedance	50 Ω
Average power VHF	≤ 35 kW
Average power UHF	≤ 22 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Bronze / Nickel plating
Corps / Treatment	Aluminium / Alodine
Inner / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 2.2 Kg

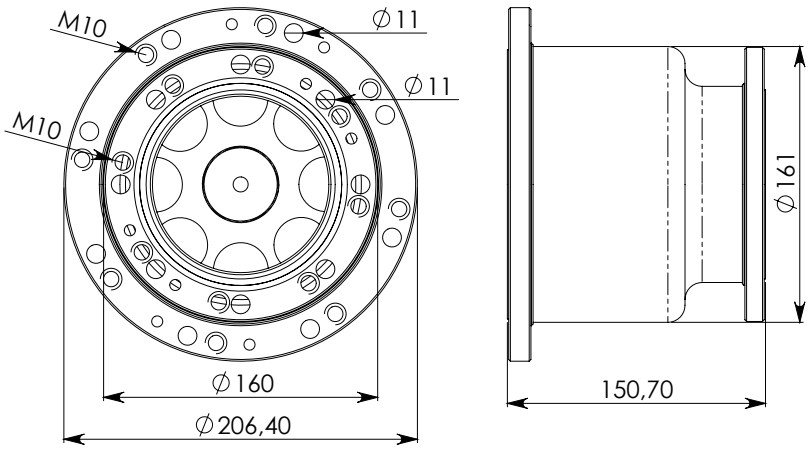


4+1/2” female - 6+1/8” female



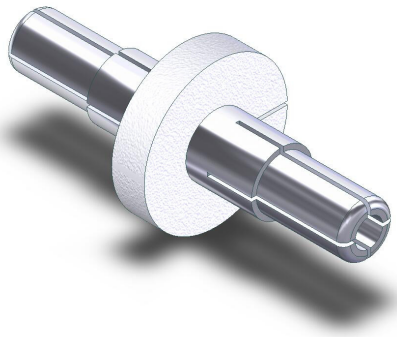
TECHNICAL DATA

Part Number	ADP618412C
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 4+1/2” - EIA 6+1/8”
Impedance	50 Ω
Average power VHF	≤ 40 kW
Average power UHF	≤ 37 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Bronze / Nickel plating
Corps / Treatment	Aluminium / Alodine
Inner / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 3.9 Kg



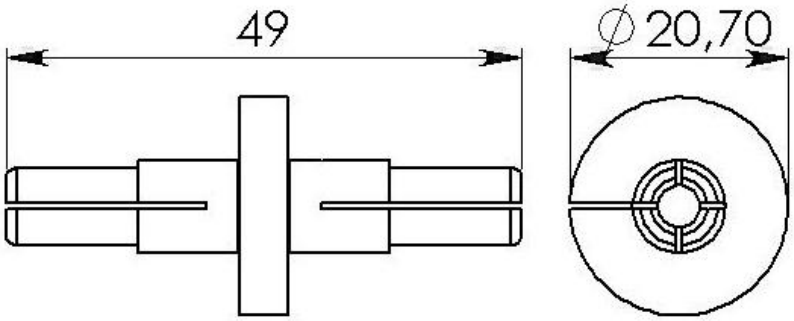
Inners

7/8”



TECHNICAL DATA

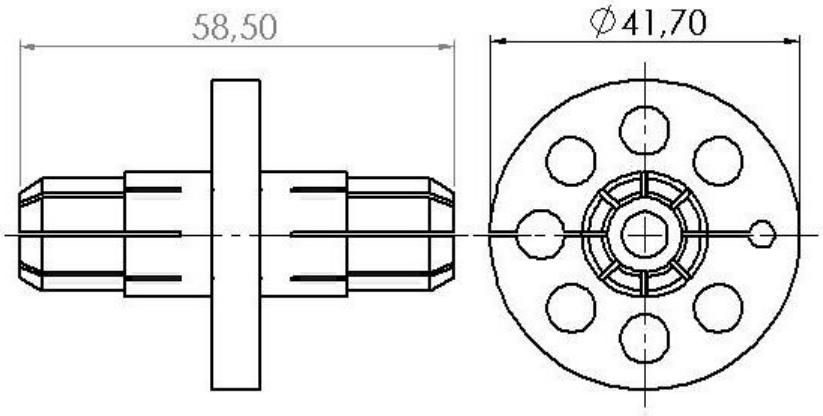
Part Number	CNTF8
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 7/8”
Impedance	50 Ω
Average power VHF	≤ 5 kW
Average power UHF	≤ 2.6 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Inner / Treatment	Phosphor Bronze / Silver plated
Insulator	PTFE
Weight	~ 0.02 Kg



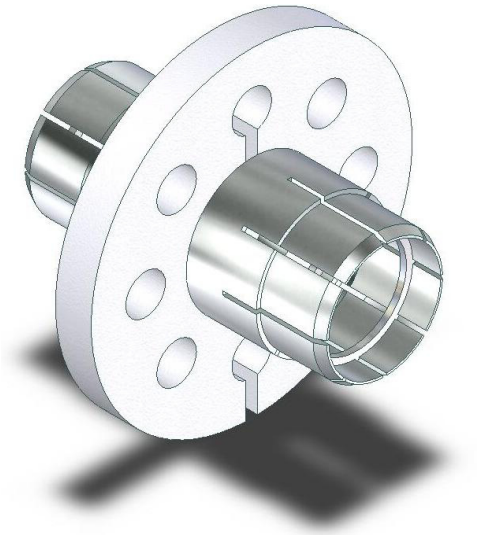
1+5/8”

TECHNICAL DATA

Part Number	CNT158
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 1+5/8”
Impedance	50 Ω
Average power VHF	≤ 13 kW
Average power UHF	≤ 7 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Inner / Treatment	Phosphor Bronze / Silver plated
Insulator	PTFE
Weight	~ 0.06 Kg

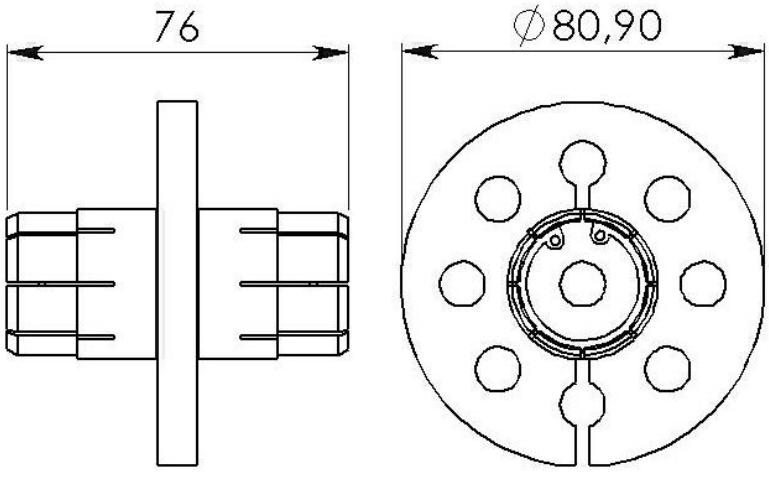


3+1/8”

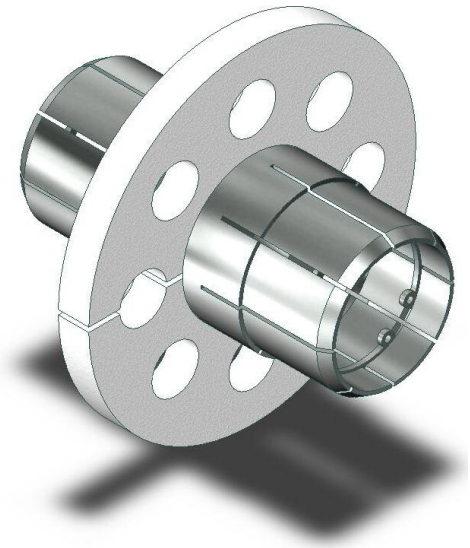


TECHNICAL DATA

Part Number	CNT318
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 3+1/8”
Impedance	50 Ω
Average power VHF	≤ 35 kW
Average power UHF	≤ 22 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Inner / Treatment	Phosphor Bronze / Silver plated
Insulator	PTFE
Weight	~ 0.25 Kg

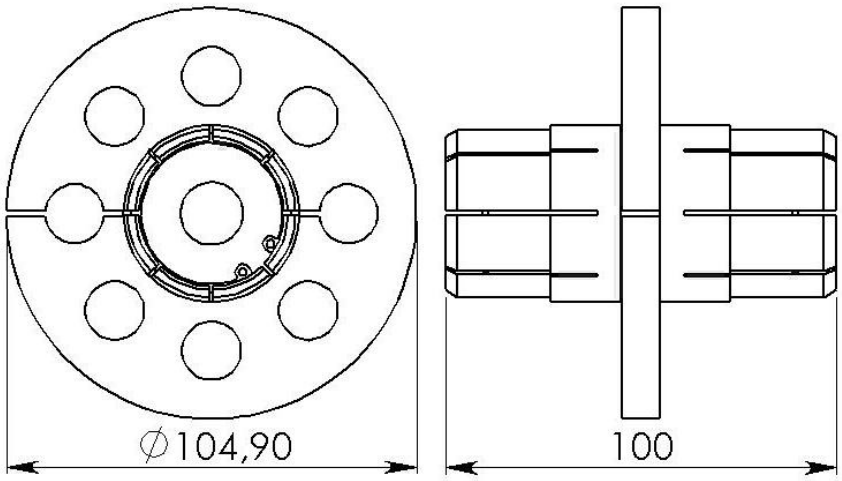


4+1/2”



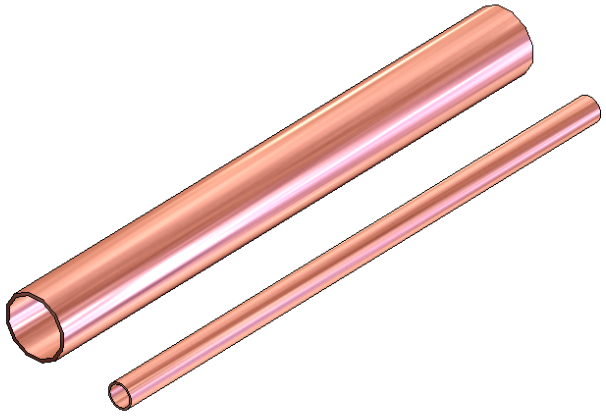
TECHNICAL DATA

Part Number	CNT412
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 4+1/2”
Impedance	50 Ω
Average power VHF	≤ 70 kW
Average power UHF	≤ 37 kW
Return Loss	≥ 32dB
Operating Temperature Range	-40 ÷ +70° C
Inner / Treatment	Phosphor Bronze / Silver plated
Insulator	PTFE
Weight	~ 0.55 Kg



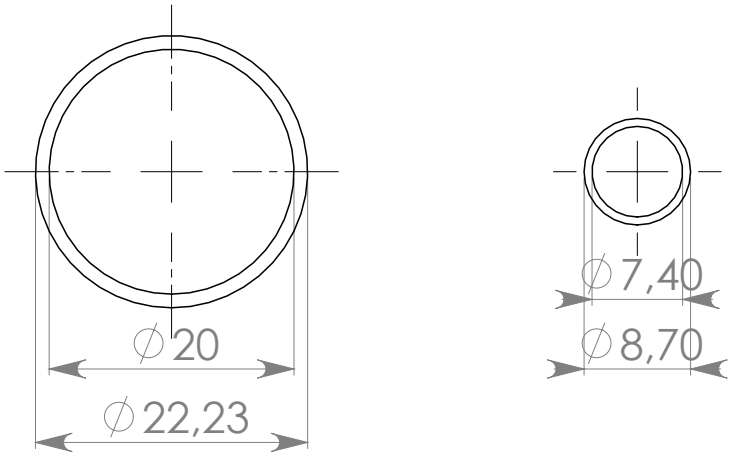
Coaxial Rigid Lines

7/8”

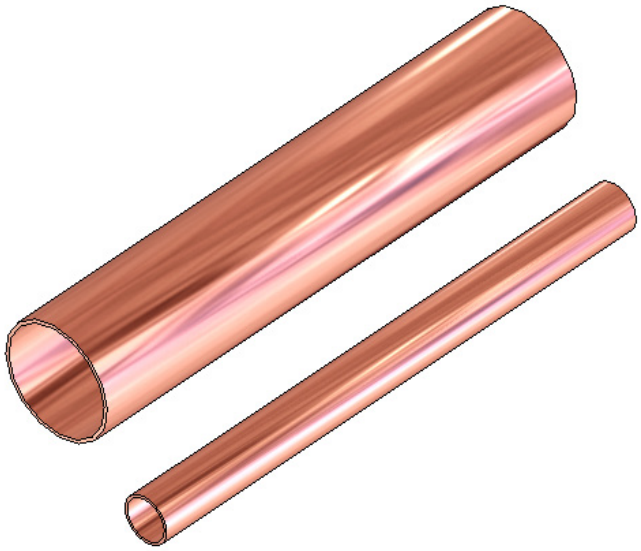


TECHNICAL DATA

Part Number	CCXRL78
Frequency Range	DC/1.5 Ghz
Impedance	50 Ω
Average power VHF	≤ 5 kW
Average power UHF	≤ 2.6 kW
Operating Temperature Range	-40 ÷ +70° C
Inner/Outer conductor	Polished Copper
Lenght	On request
Weight	~ 0.9 Kg/m

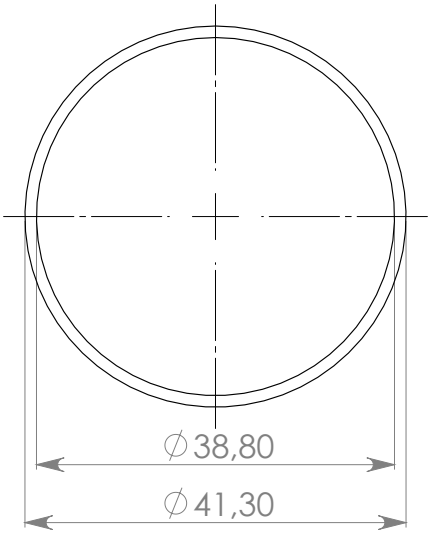


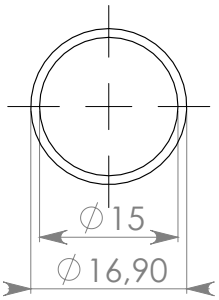
1+5/8”



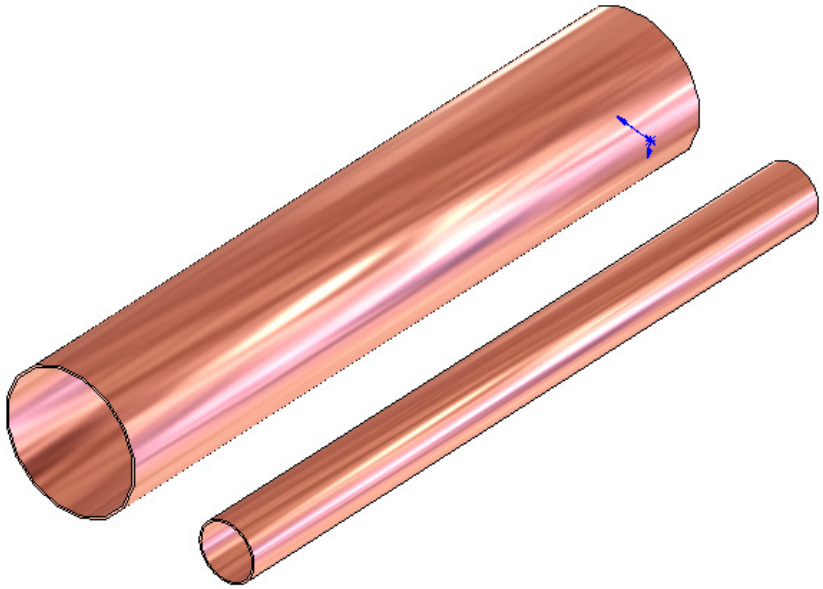
TECHNICAL DATA

Part Number	CCXRL158
Frequency Range	DC/1.5 Ghz
Impedance	50 Ω
Average power VHF	≤ 13 kW
Average power UHF	≤ 7 kW
Operating Temperature Range	-40 ÷ +70° C
Inner/Outer conductor	Polished Copper
Lenght	On request
Weight	~ 2.1 Kg/m



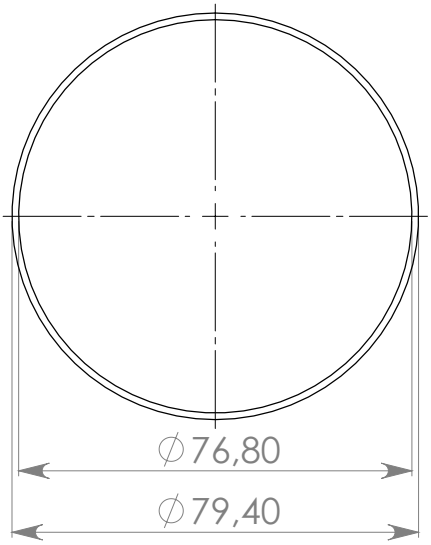


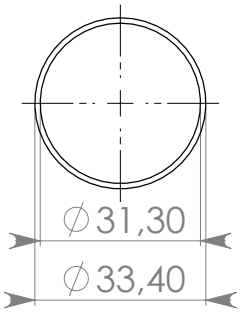
3+1/8”



TECHNICAL DATA

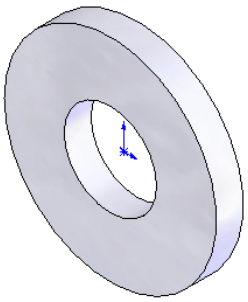
Part Number	CCXRL318
Frequency Range	DC/1.5 Ghz
Impedance	50 Ω
Average power VHF	≤ 35 kW
Average power UHF	≤ 22 kW
Operating Temperature Range	-40 ÷ +70° C
Inner/Outer conductor	Polished Copper
Lenght	On request
Weight	~ 4.0 Kg/m





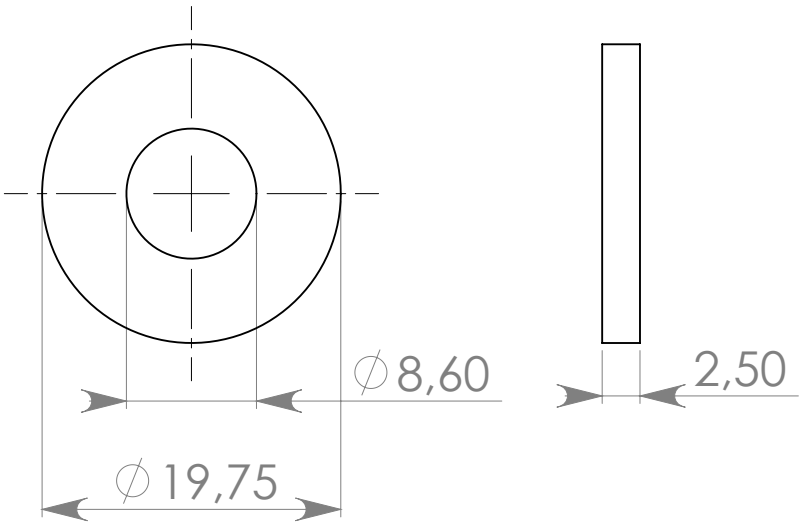
Centering for Rigid Lines

7/8”

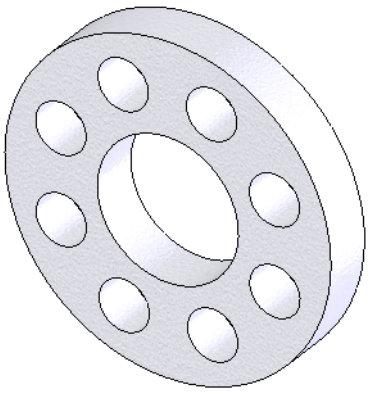


TECHNICAL DATA

Part Number	CENISRL78
Operating Temperature Range	-40 ÷ +70° C
Material	PTFE
Weight	~ 1.3 g

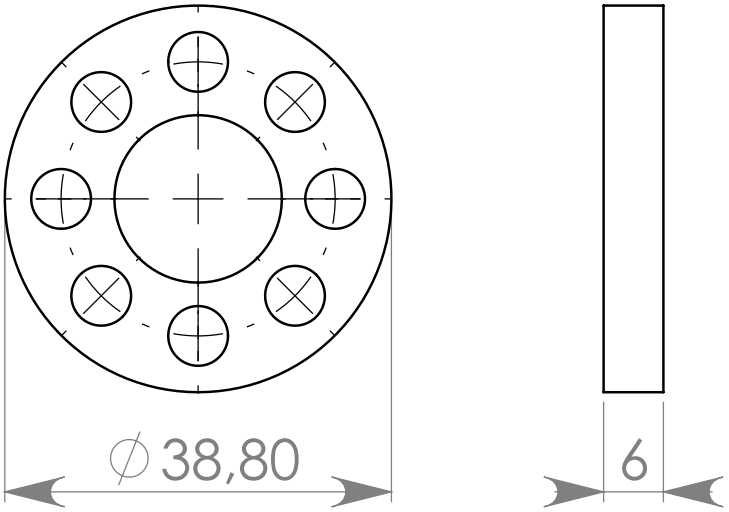


1+5/8”

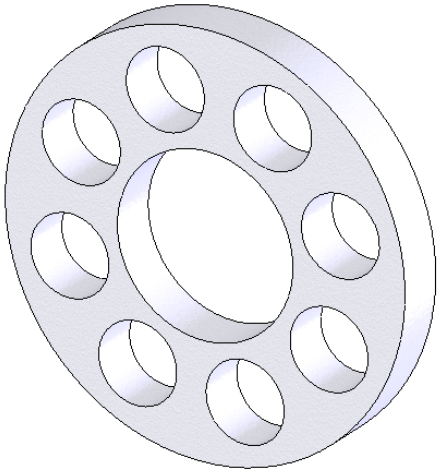


TECHNICAL DATA

Part Number	CENISRL158
Operating Temperature Range	-40 ÷ +70° C
Material	PTFE
Weight	~ 10 g

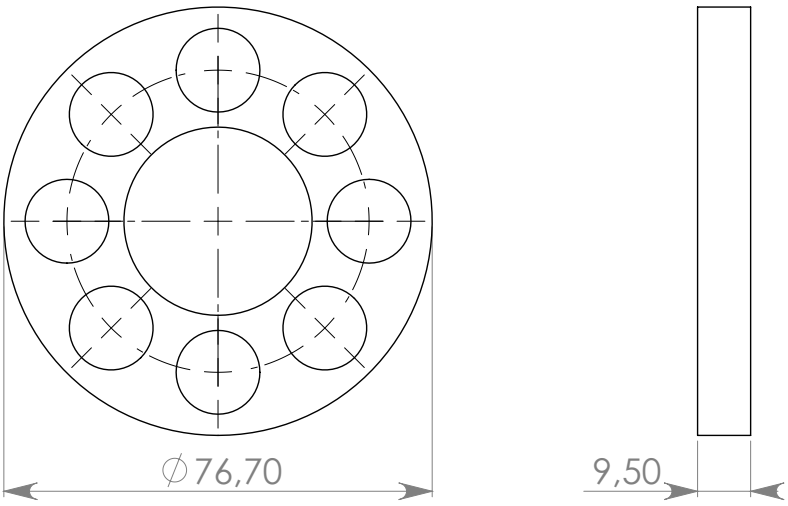


3+1/8”

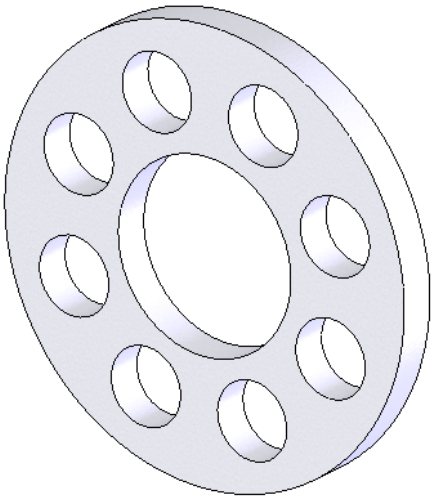


TECHNICAL DATA

Part Number	CENISRL318
Operating Temperature Range	-40 ÷ +70° C
Material	PTFE
Weight	~ 50 g

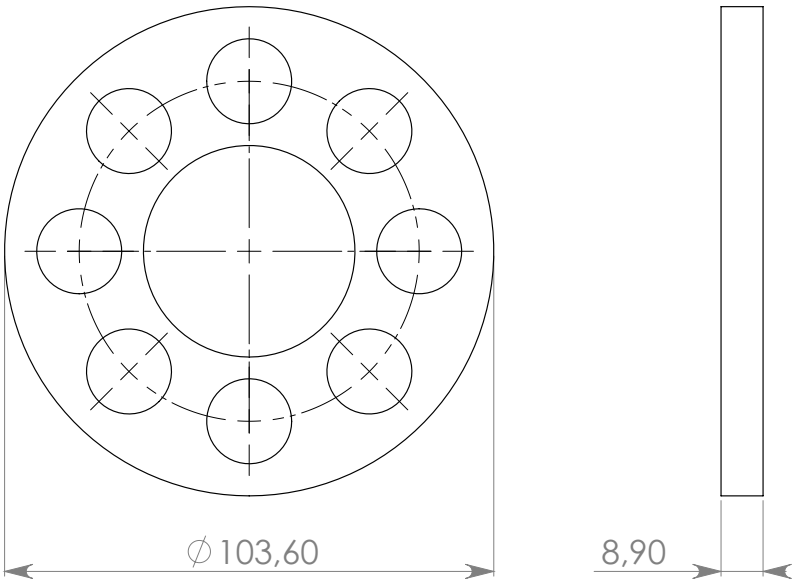


4+1/2”



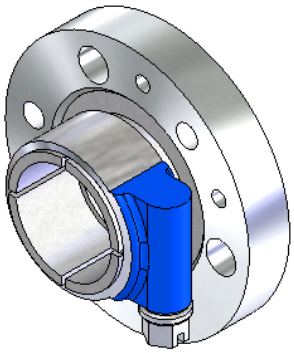
TECHNICAL DATA

Part Number	CENISRL412
Operating Temperature Range	-40 ÷ +70° C
Material	PTFE
Weight	~ 93 g



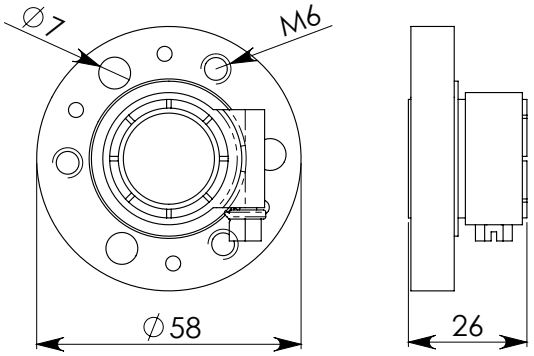
Flanges

7/8”

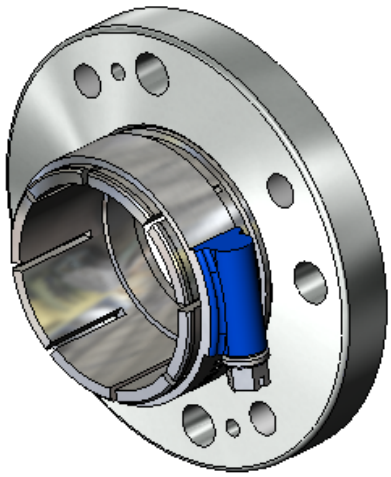


TECHNICAL DATA

Part Number	CNT78FLX78RL
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 7/8”
Impedance	50 Ω
Average power VHF	≤ 5 kW
Average power UHF	≤ 2.6 kW
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Brass / Nickel plating
Corps / Treatment	Aluminium / Alodine
Weight	~ 0.16 Kg

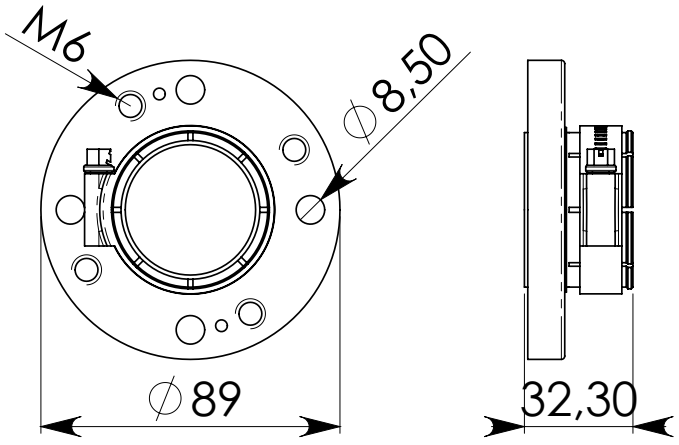


1+5/8”

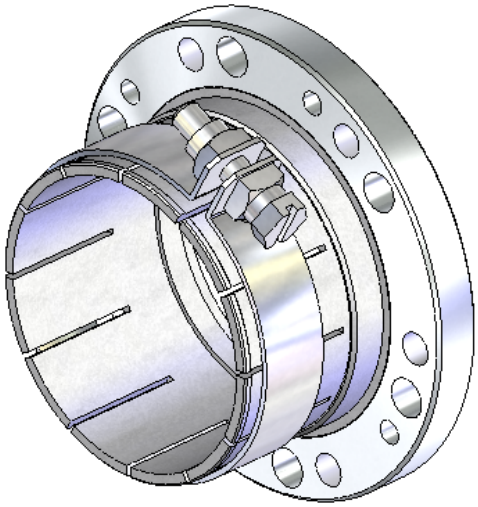


TECHNICAL DATA

Part Number	**CNT58FLX58RL**
Frequency Range	**0.1 ÷ 900 Mhz**
Connectors	**EIA 1+5/8”**
Impedance	**50 Ω**
Average power VHF	**≤ 13 kW**
Average power UHF	**≤ 7 kW**
Operating Temperature Range	**-40 ÷ +70° C**
Flange / Treatment	**Brass / Nickel plating**
Corps / Treatment	**Aluminium / Alodine**
Weight	**~ 0.43 Kg**

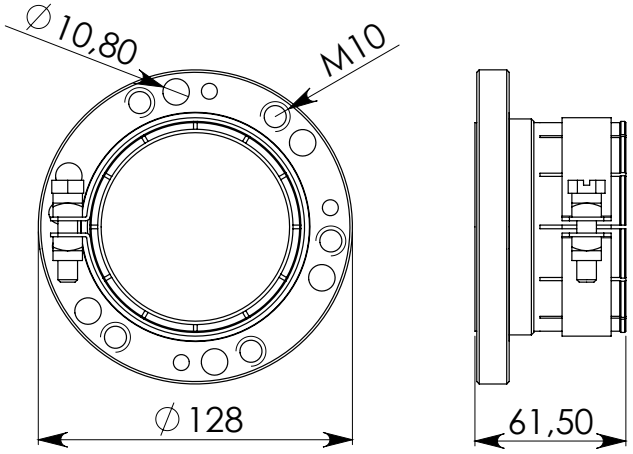


3+1/8”

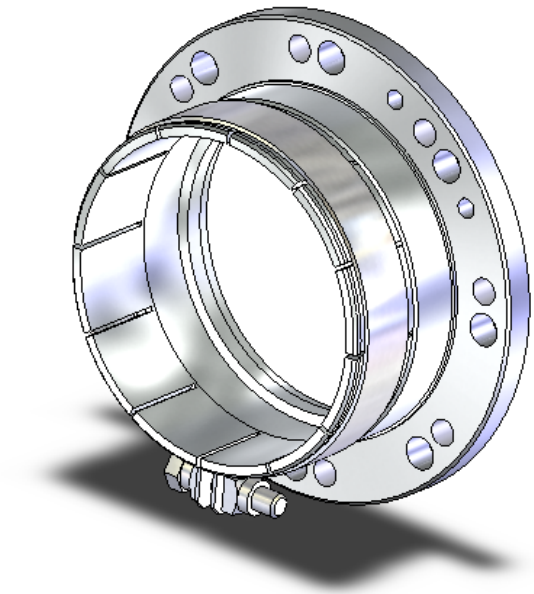


TECHNICAL DATA

Part Number	**CNT18FLX18RL**
Frequency Range	**0.1 ÷ 900 Mhz**
Connectors	**EIA 3+1/8”**
Impedance	**50 Ω**
Average power VHF	**≤ 35 kW**
Average power UHF	**≤ 22 kW**
Operating Temperature Range	**-40 ÷ +70° C**
Flange / Treatment	**Bronze / Nickel plating**
Corps / Treatment	**Aluminium / Alodine**
Weight	**~ 0.82 Kg**

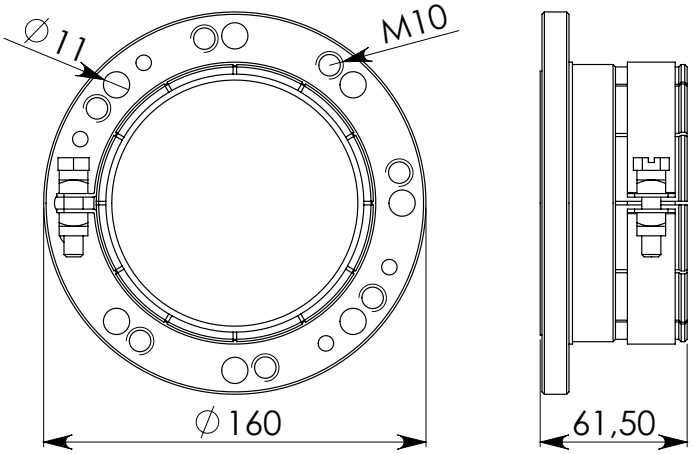


4+1/2”



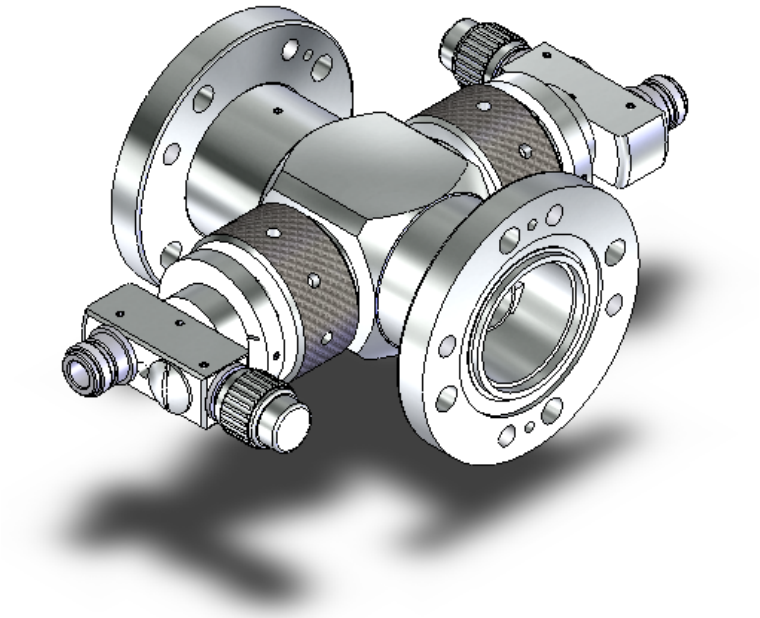
TECHNICAL DATA

Part Number	CNT41FLX41RL
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 4+1/2”
Impedance	50 Ω
Average power VHF	≤ 70 kW
Average power UHF	≤ 37 kW
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Bronze / Nickel plating
Corps / Treatment	Bronze / Nickel plating
Weight	~ 1.5 Kg



Directional Couplers

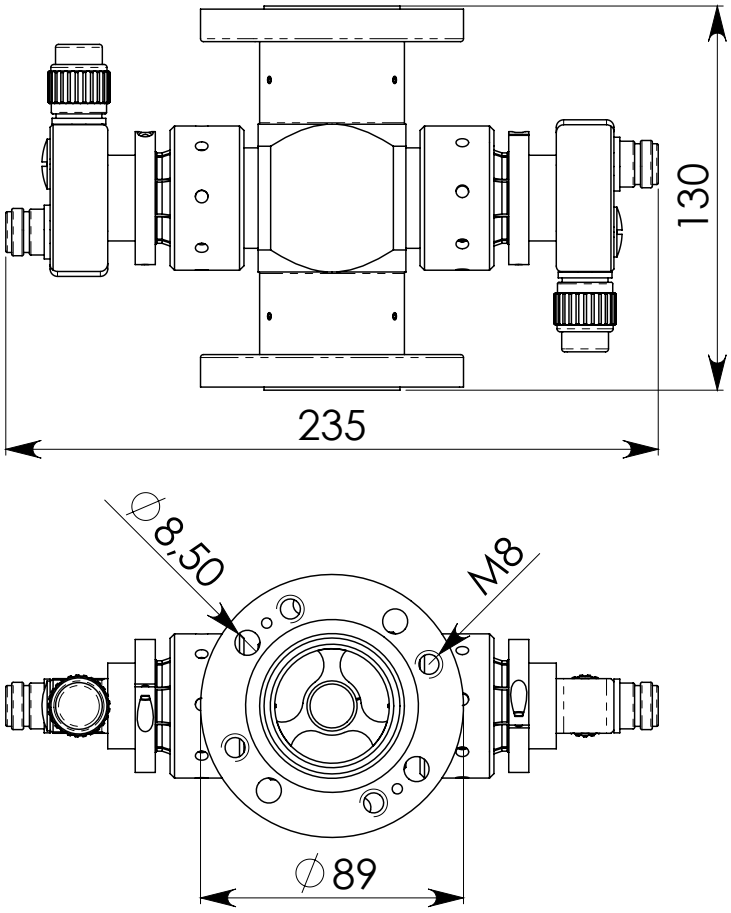
1+5/8” (2 probes)



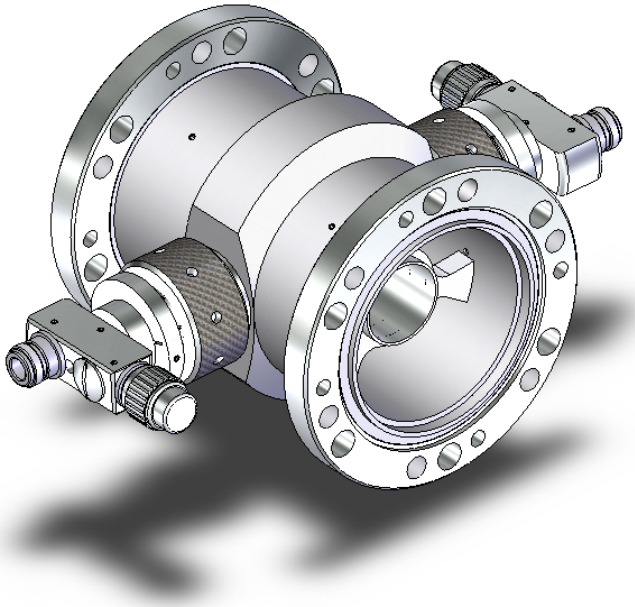
TECHNICAL DATA

Part Number	ACCDIR158DS
Frequency Range	10 ÷ 900 Mhz
In/Out connectors	EIA 1+5/8”
Impedance	50 Ω
Average power VHF	≤ 13 kW
Average power UHF	≤ 7 kW
Coupling factor	-60dB, other values on request
Directivity	> 30dB
Probe connectors	N female
Operating Temperature Range	-40 ÷ +70° C

Flange / Treatment	Brass / Nickel plating
Corps / Treatment	Brass / Nickel plating
Inner / Treatment	Copper / Silver plated
Probe / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 3.2 Kg


130
235
∅8,50
M8
∅89

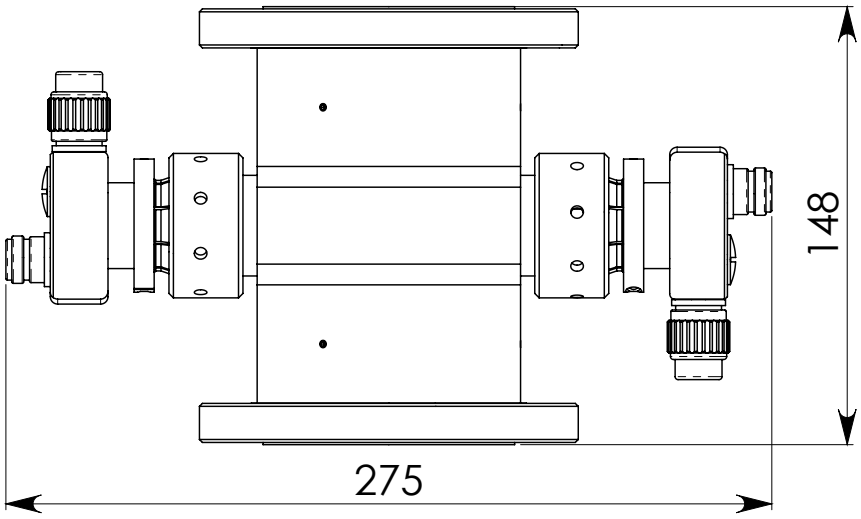
3+1/8” (2 probes)

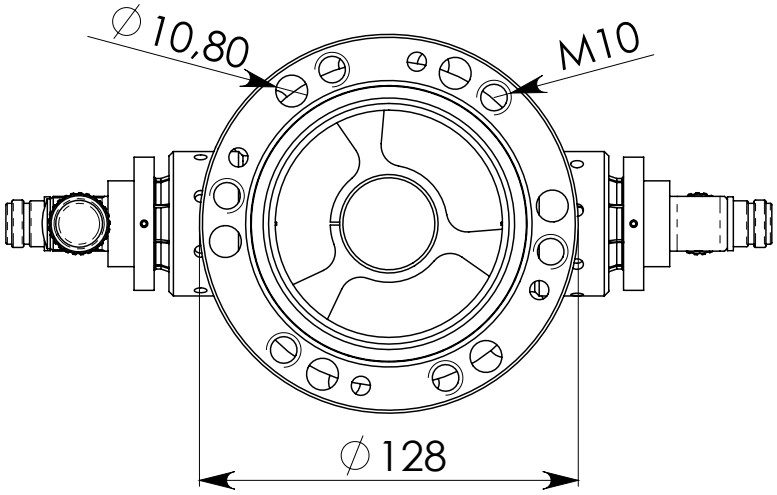


TECHNICAL DATA

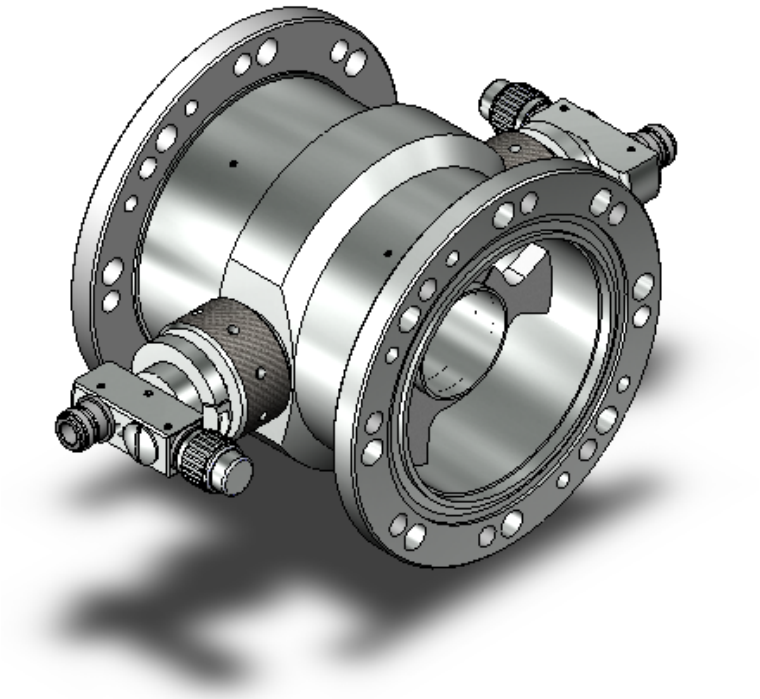
Part Number	ACCDIR318DS
Frequency Range	10 ÷ 900 Mhz
In/Out connectors	EIA 3+1/8”
Impedance	50 Ω
Average power VHF	≤ 35 kW
Average power UHF	≤ 22 kW
Coupling factor	-60dB, other values on request
Directivity	> 30dB
Probe connectors	N female
Operating Temperature Range	-40 ÷ +70° C

Flange / Treatment	Bronze / Nickel plating
Corps / Treatment	Bronze / Nickel plating
Inner / Treatment	Copper / Silver plated
Probe / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 5.4 Kg


148
275


∅ 10,80
M10
∅ 128

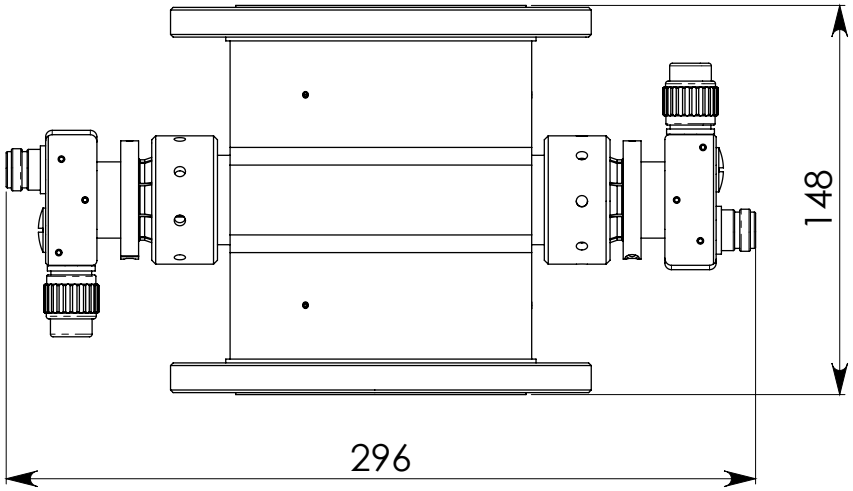
4+1/2” (2 probes)

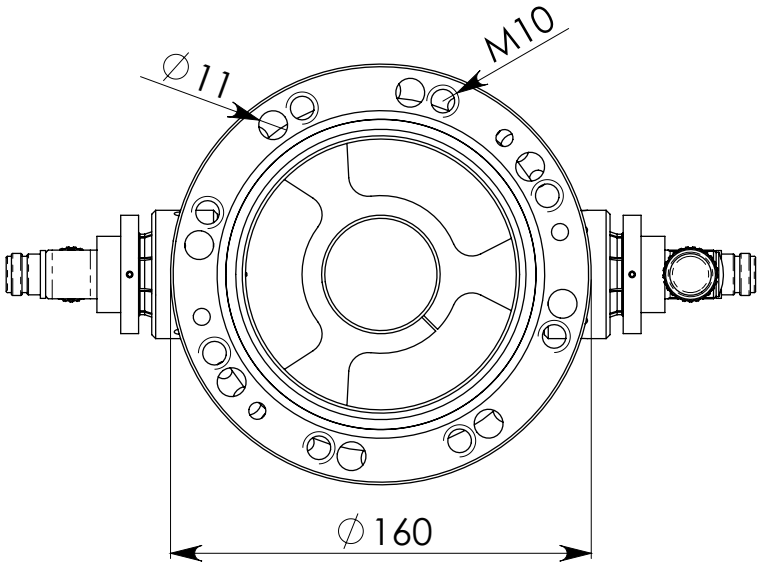


TECHNICAL DATA

Part Number	ACCDIR412DS
Frequency Range	10 ÷ 900 Mhz
In/Out connectors	EIA 4+1/2”
Impedance	50 Ω
Average power VHF	≤ 70 kW
Average power UHF	≤ 37 kW
Coupling factor	-60dB, other values on request
Directivity	> 30dB
Probe connectors	N female
Operating Temperature Range	-40 ÷ +70° C

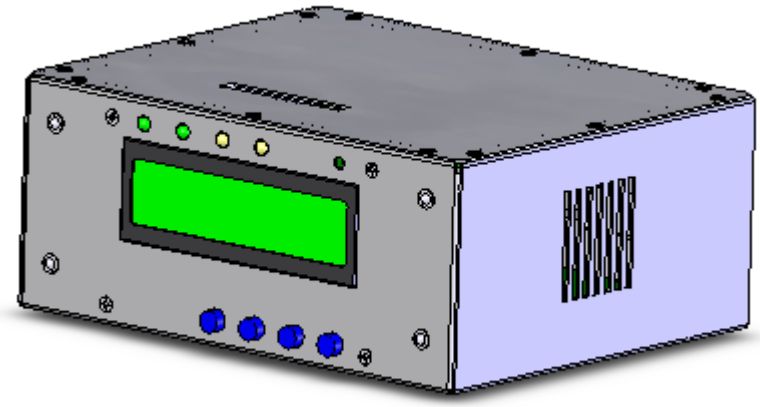
Flange / Treatment	Bronze / Nickel plating
Corps / Treatment	Bronze / Nickel plating
Inner / Treatment	Copper / Silver plated
Probe / Treatment	Brass / Silver plated
Insulator	PTFE
Weight	~ 6.6 Kg


148
296


∅11
M10
∅160

Accessories for Directional Couplers

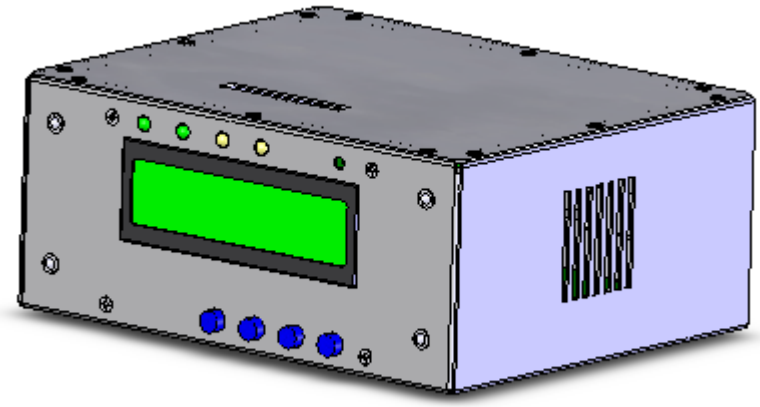
Digital Power Meter FM



TECHNICAL DATA

Part Number	PWRMETER-D1
Operating Voltage	115-230 Vac 50 ÷ 60 Hz
Consumption	< 5 W
Dimensions	85 mm (H) x 200 mm (W) x 167 mm (D)
Forward RF input	
Connector	BNC
Impedance	50 Ω
Input Level / Adjust	10 dBm
Reflected RF input	
Connector	BNC
Impedance	50 Ω
Input Level / Adjust	10 dBm
Remote connector outputs	
Relay contact	80% FWD
Relay contact	50% FWD
Relay contact	50% RFL
Full scale RF input (W)	10-20-50-100-200-500-1K-2K-5K-10K-20K-50K

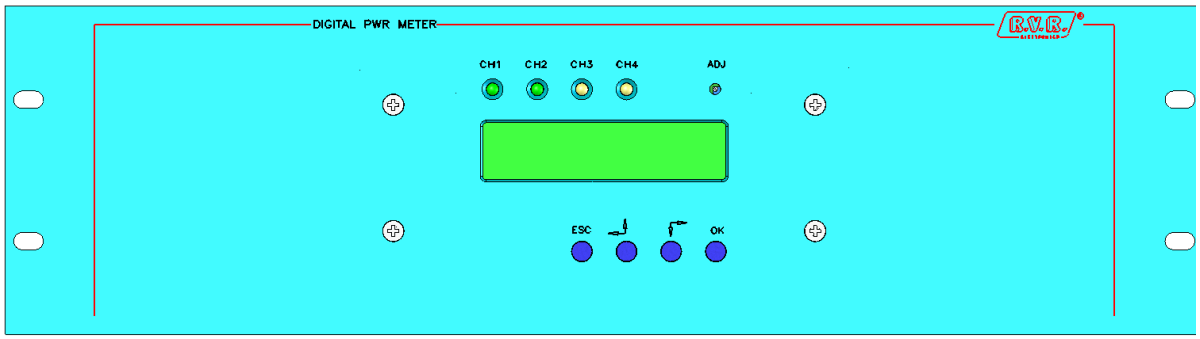
Digital Power Meter TV



TECHNICAL DATA

Part Number	PWRMETER-D2
Operating Voltage	115-230 Vac 50 ÷ 60 Hz
Consumption	< 5 W
Dimensions	85 mm (H) x 200 mm (W) x 167 mm (D)
Forward RF input	
Connector	BNC
Impedance	50 Ω
Input Level / Adjust	10 dBm
Reflected RF input	
Connector	BNC
Impedance	50 Ω
Input Level / Adjust	10 dBm
Remote connector outputs	
Relay contact	80% FWD
Relay contact	50% FWD
Relay contact	50% RFL
Full scale RF input (W)	10-20-50-100-200-500-1K-2K-5K-10K-20K-50K

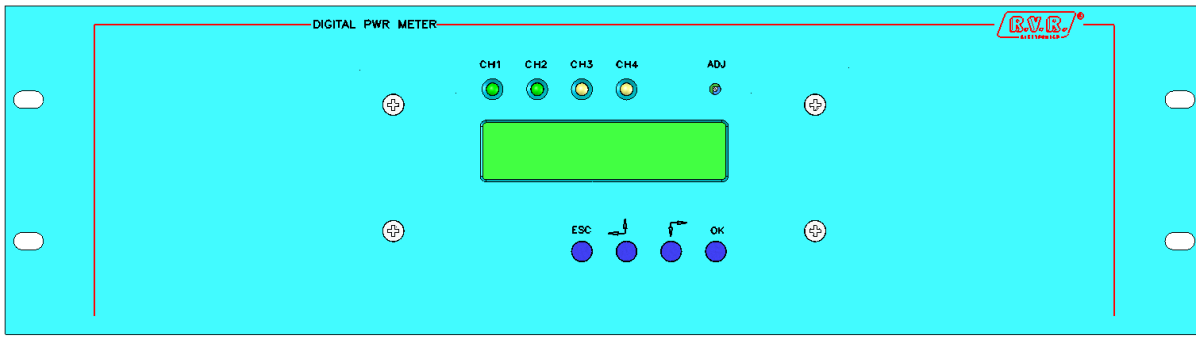
Digital Power Meter FM with panel



TECHNICAL DATA

Part Number	PWRMETER-D1P
Operating Voltage	115-230 Vac 50 ÷ 60 Hz
Consumption	< 5 W
Dimensions	Standard 3-units rack
Forward RF input	
Connector	BNC
Impedance	50 Ω
Input Level / Adjust	10 dBm
Reflected RF input	
Connector	BNC
Impedance	50 Ω
Input Level / Adjust	10 dBm
Remote connector outputs	
Relay contact	80% FWD
Relay contact	50% FWD
Relay contact	50% RFL
Full scale RF input (W)	10-20-50-100-200-500-1K-2K-5K-10K-20K-50K

Digital Power Meter TV with panel

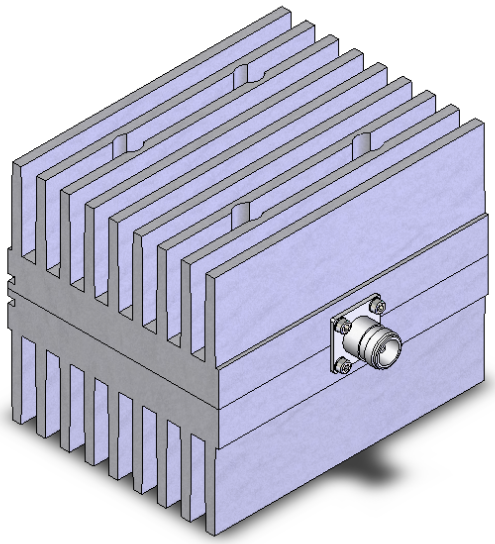


TECHNICAL DATA

Part Number	PWRMETER-D2P
Operating Voltage	115-230 Vac 50 ÷ 60 Hz
Consumption	< 5 W
Dimensions	Standard 3-units rack
Forward RF input	
Connector	BNC
Impedance	50 Ω
Input Level / Adjust	10 dBm
Reflected RF input	
Connector	BNC
Impedance	50 Ω
Input Level / Adjust	10 dBm
Remote connector outputs	
Relay contact	80% FWD
Relay contact	50% FWD
Relay contact	50% RFL
Full scale RF input (W)	10-20-50-100-200-500-1K-2K-5K-10K-20K-50K

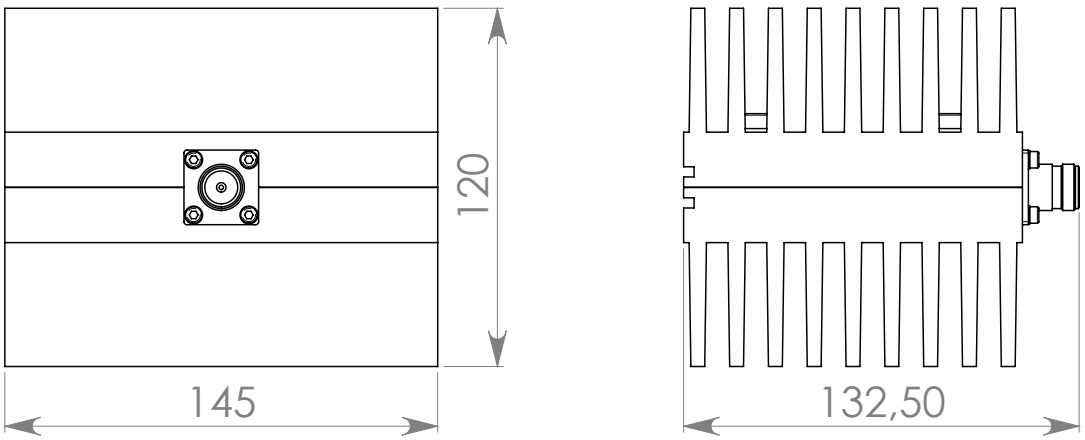
Dummy Load

150 W

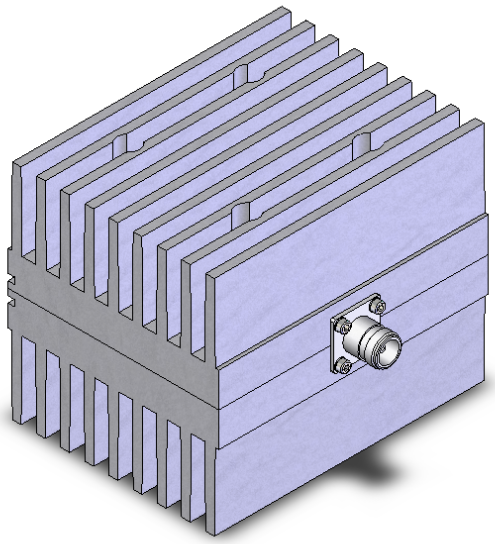


TECHNICAL DATA

Part Number	EDL150-FM
Frequency Range	DC ÷ 108 Mhz
Connections	N female
Impedance	50 Ω
Max power	150 W
Return Loss	> 27dB
Cooling system	Convection
Operating Temperature Range	-10 ÷ +50° C
Blower AC power	N.A.
Weight	3.3 Kg

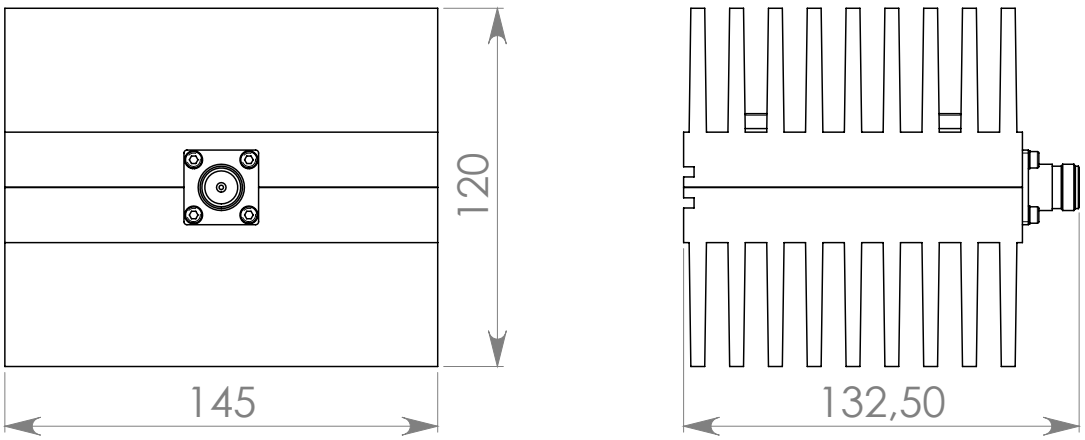


250 W

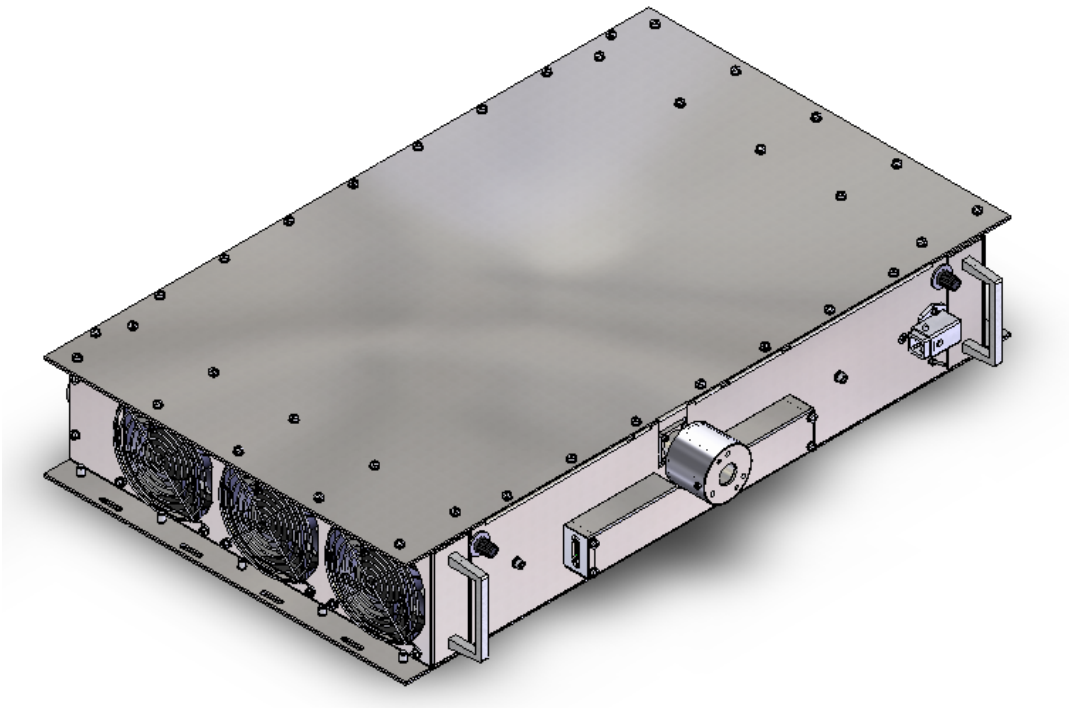


TECHNICAL DATA

Part Number	EDL250-FM
Frequency Range	DC ÷ 108 Mhz
Connections	N female
Impedance	50 Ω
Max power	250 W
Return Loss	> 27dB
Cooling system	Convection
Operating Temperature Range	-10 ÷ +50° C
Blower AC power	N.A.
Weight	3.3 Kg

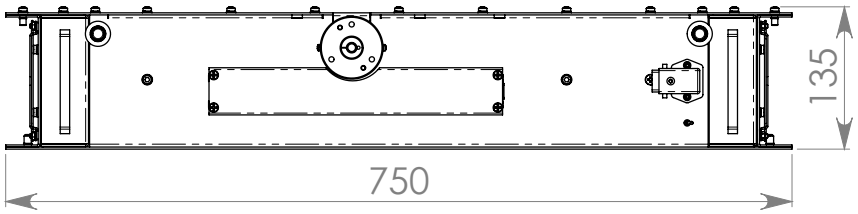


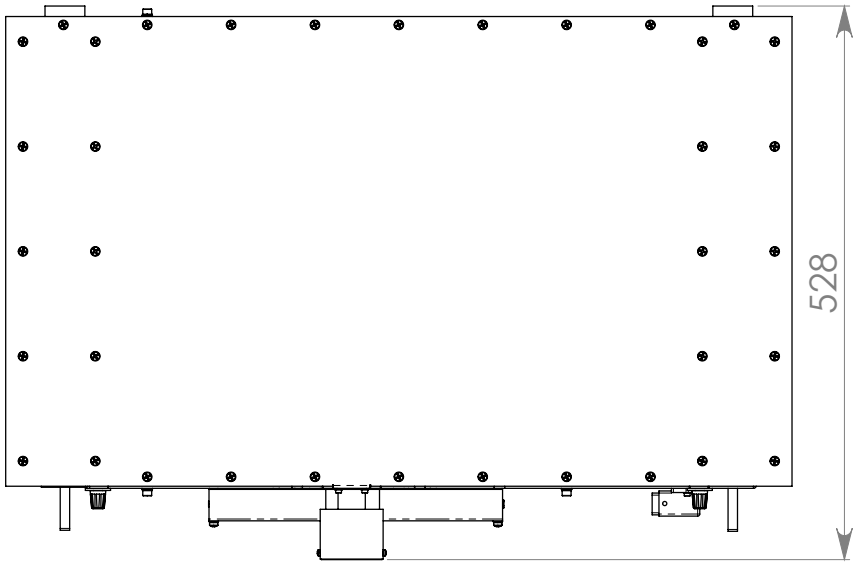
5 Kw FM air forced



TECHNICAL DATA

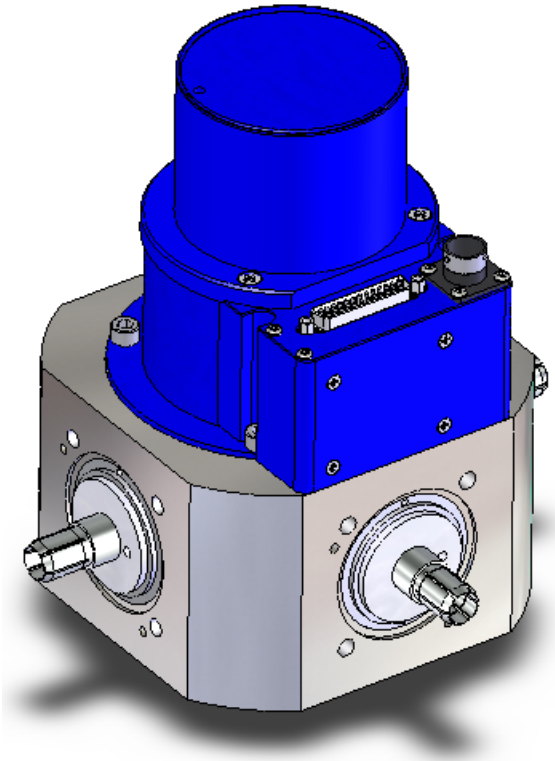
Part Number	EDL5000-FM
Frequency Range	DC ÷ 108 Mhz
Connections	EIA 7/8”
Impedance	50 Ω
Max power	5 kW
Return Loss	> 27dB
Cooling system	Air forced
Operating Temperature Range	-10 ÷ +50° C
Blower AC power	110 or 220 V
Weight	31 Kg

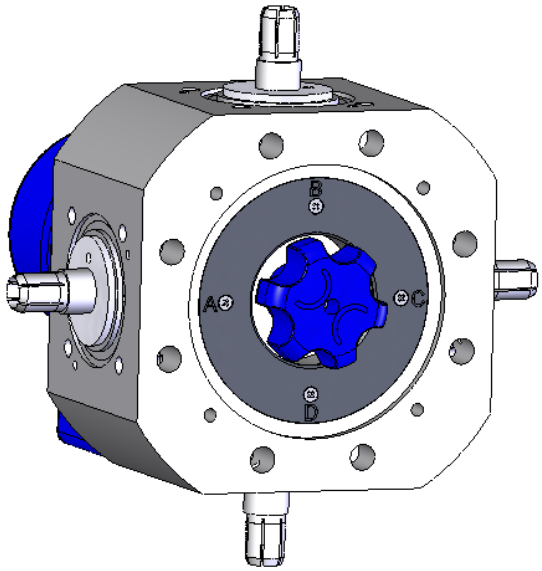

135
750


528

Coaxial Switching Relay

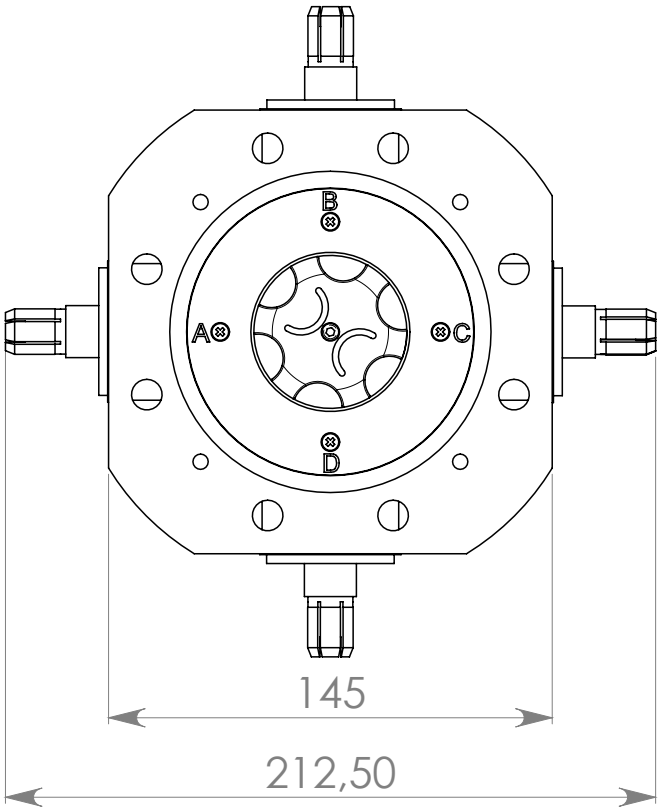
2-Way Coaxial Switching Relay, EIA 1+5/8”

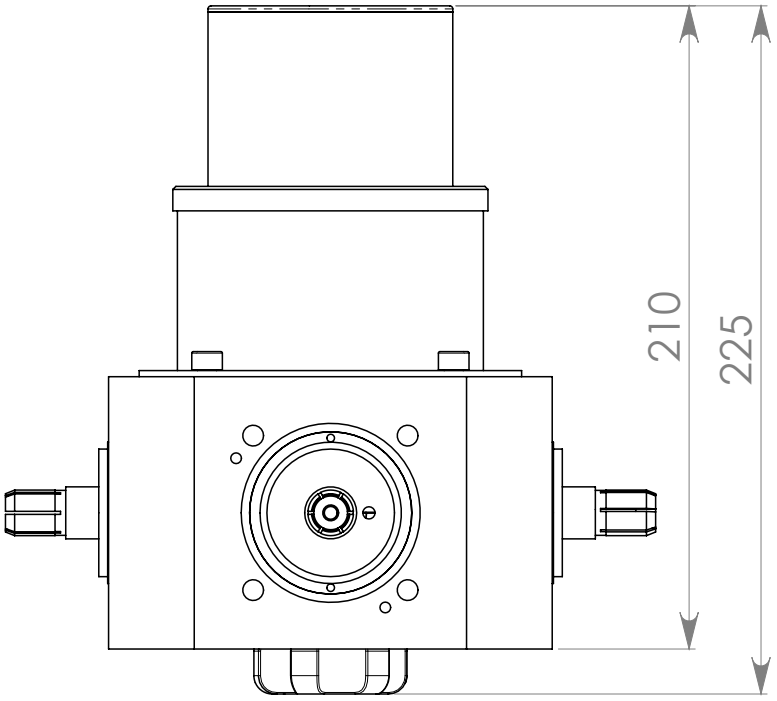




TECHNICAL DATA

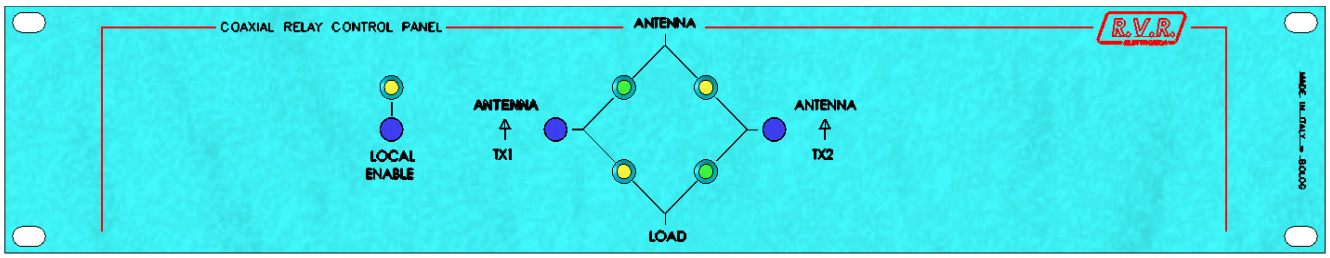
Part Number	RLY158-220-24
Frequency Range	DC ÷ 1 Ghz
Connections	EIA 1+5/8”
Impedance	50 Ω
Average power	≤ 15.0 kW @ 100 MHz ≤ 10.0 kW @ 230 MHz ≤ 5.0 kW @ 860 MHz
Return Loss	≥ 30 dB
Isolation	≤ 75 dB
Operating Voltage	230 VAC ± 10%, 50 ÷ 60 Hz
Control Voltage	12 ÷ 26 VDC
Operating Current	≤ 0.5 A
Switching Time	≤ 1 s
Ambient Temperature	-10 ÷ +50 °C
Weight	ca. 5.0 kg


B
A
C
D
145
212,50


210
225

Accessories for Coaxial Switching Relay

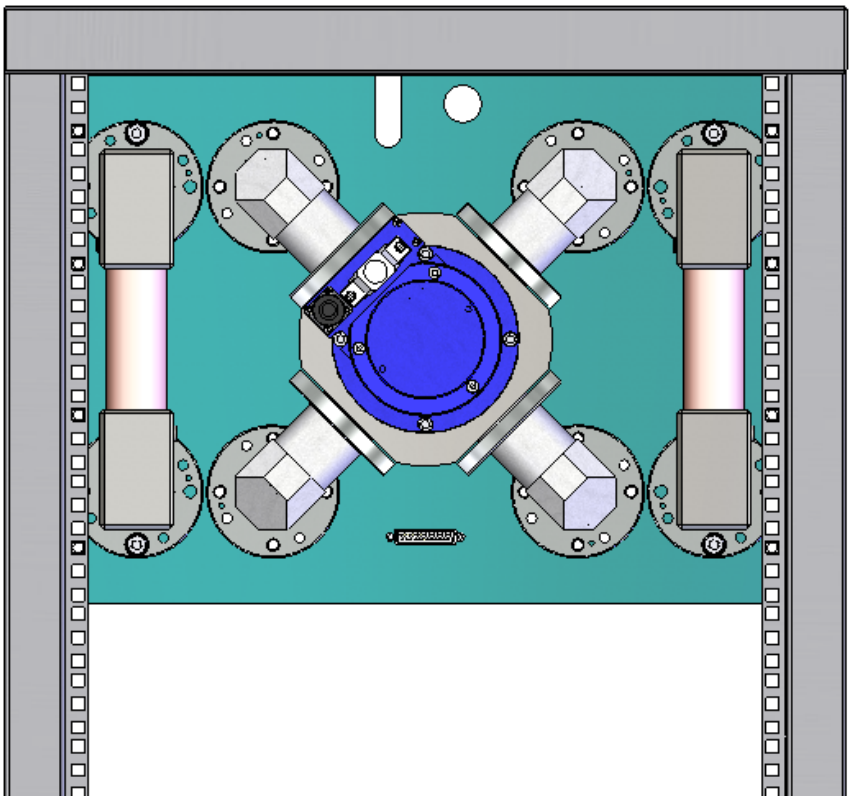
Control Panel for coaxial relay



TECHNICAL DATA

Part Number	KPANCRCP126
Operating Voltage	115-230 VAC ± 10%, 50 ÷ 60 Hz
Out Control Voltage	12 VDC
Dimensions	Standard 2-units rack
Weight	ca. 1 kg

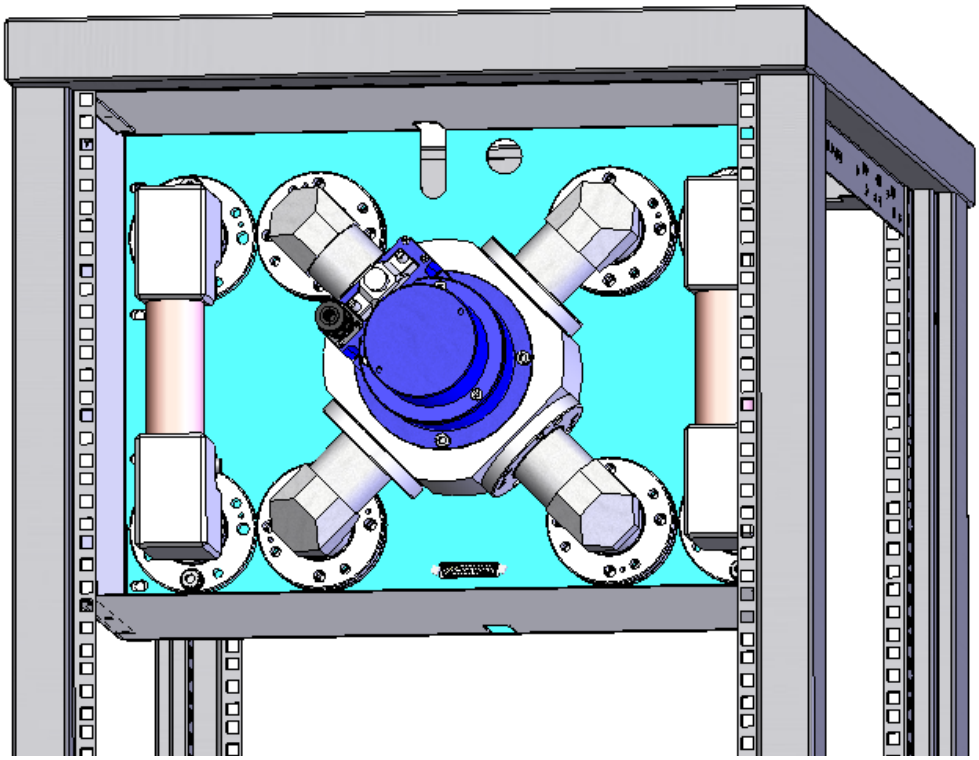
Fast by-pass Patch panel 1+5/8”

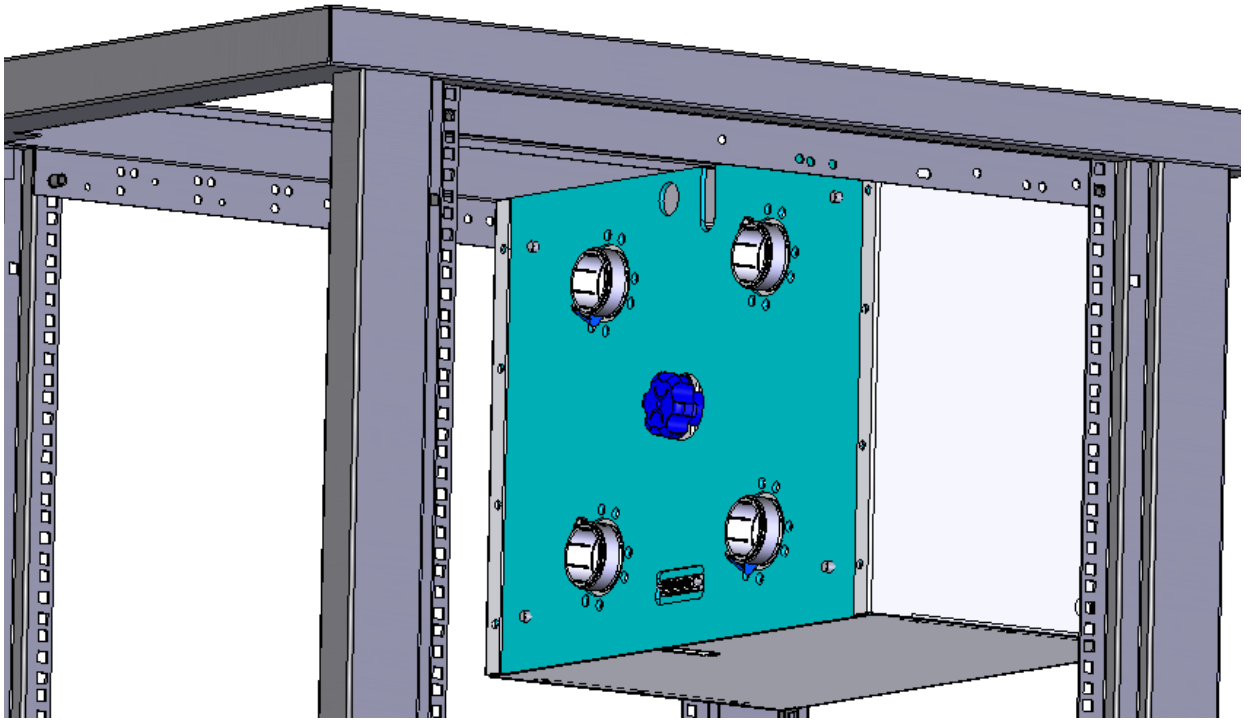


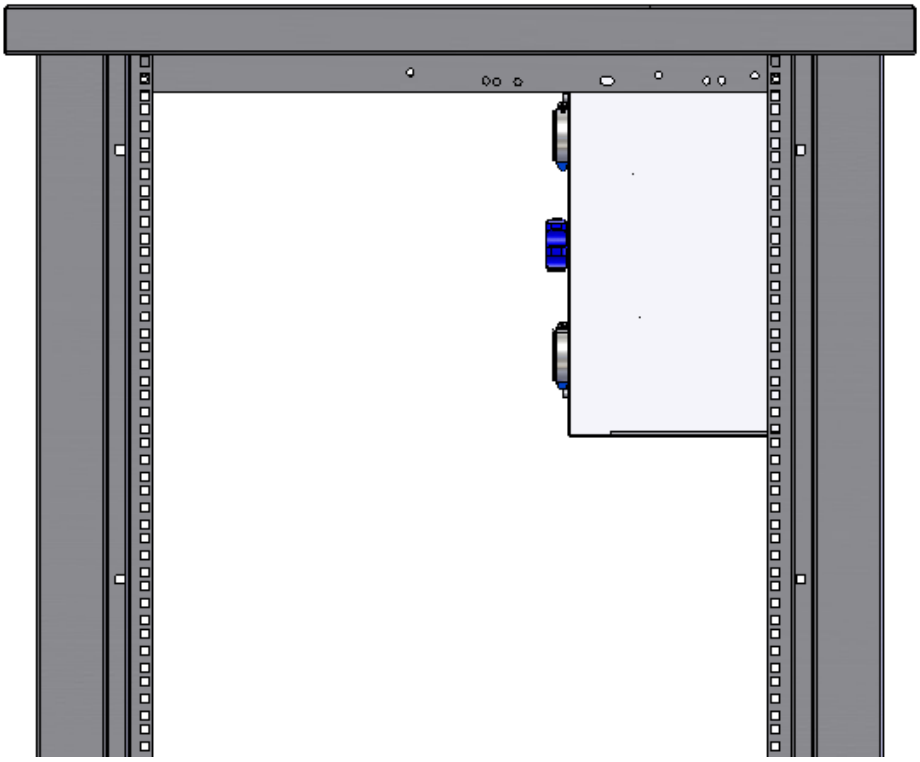
This device permits to by-pass the motorized coaxial relay when the electrical control device and the manual control system, are both in failure.
You can remove the coaxial relay and use instead of it two manuals links that can be connected in the same ports.

TECHNICAL DATA

Part Number	**BYPASSRCOAX158**
Relay connectors	**EIA 1+5/8**
U-links numbers	**2**
U-links size	**EIA 1+5/8”**
Dimensions	**Standard 8-units rack**

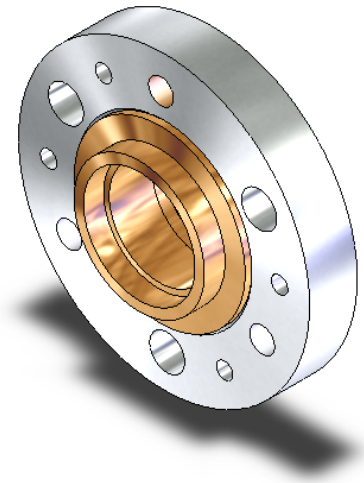






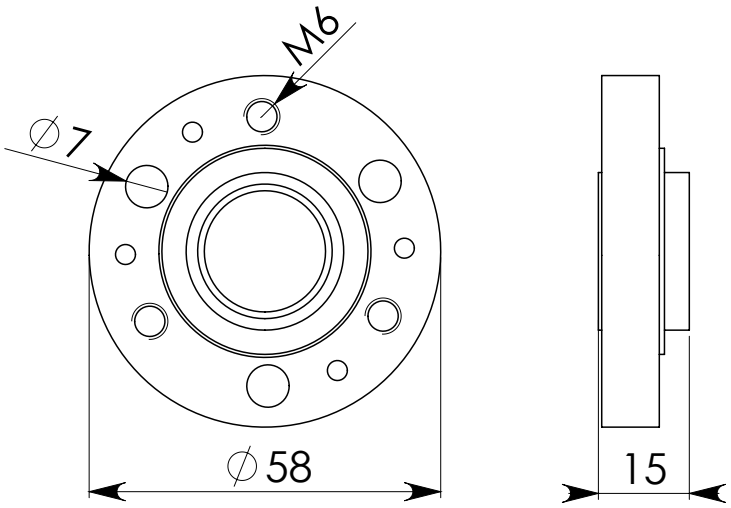
Flanges to weld

7/8”

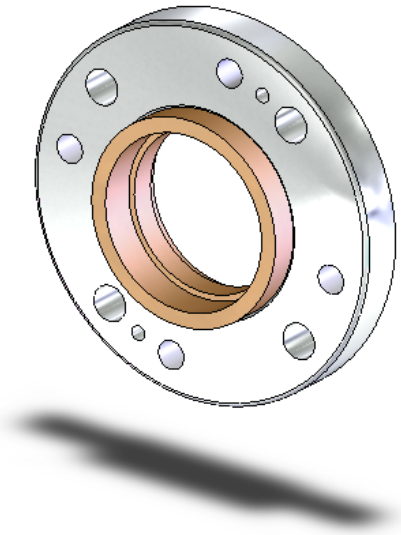


TECHNICAL DATA

Part Number	**CNT78FLS78RL**
Frequency Range	**0.1 ÷ 900 Mhz**
Connectors	**EIA 7/8”**
Impedance	**50 Ω**
Average power VHF	**≤ 5 kW**
Average power UHF	**≤ 2.6 kW**
Operating Temperature Range	**-40 ÷ +70° C**
Flange / Treatment	**Brass / Nickel plating**
Corps / Treatment	**Brass / --**
Weight	**~ 0.17 Kg**

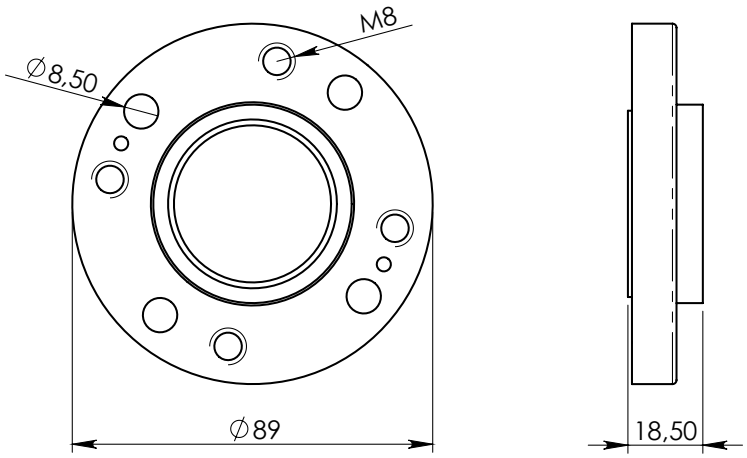


1+5/8”

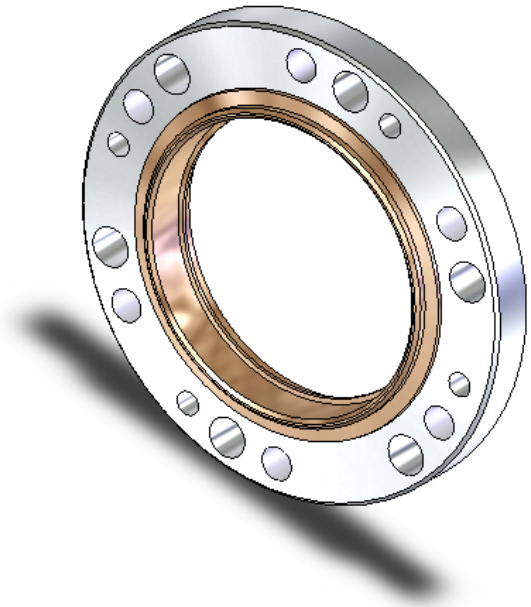


TECHNICAL DATA

Part Number	**CNT58FLS58RL**
Frequency Range	**0.1 ÷ 900 Mhz**
Connectors	**EIA 1+5/8”**
Impedance	**50 Ω**
Average power VHF	**≤ 13 kW**
Average power UHF	**≤ 7 kW**
Operating Temperature Range	**-40 ÷ +70° C**
Flange / Treatment	**Brass / Nickel plating**
Corps / Treatment	**Brass / --**
Weight	**~ 0.44 Kg**

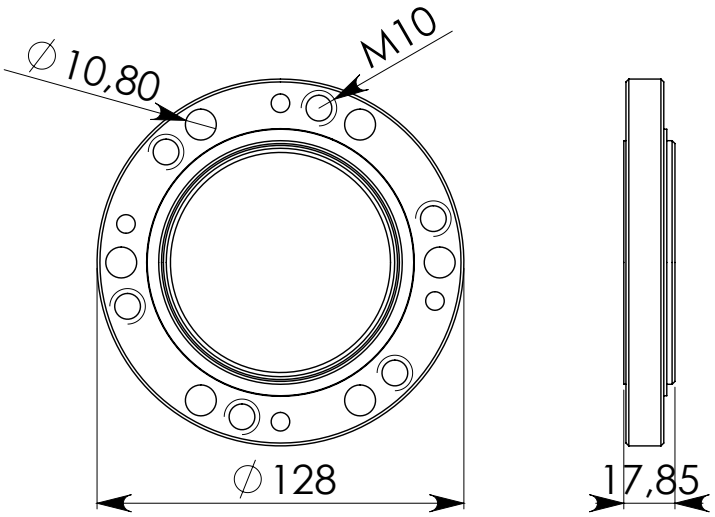


3+1/8”

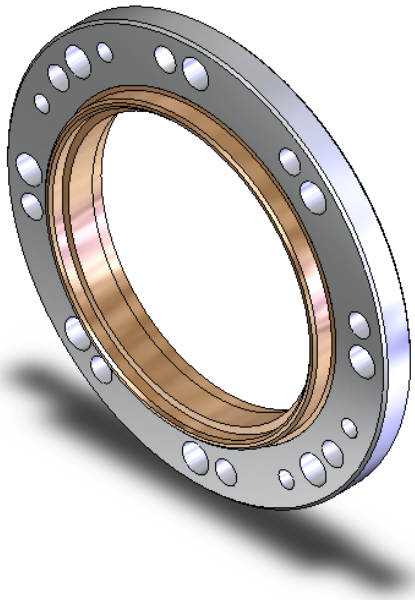


TECHNICAL DATA

Part Number	**CNT18FLS18RL**
Frequency Range	**0.1 ÷ 900 Mhz**
Connectors	**EIA 3+1/8”**
Impedance	**50 Ω**
Average power VHF	**≤ 35 kW**
Average power UHF	**≤ 22 kW**
Operating Temperature Range	**-40 ÷ +70° C**
Flange / Treatment	**Bronze / Nickel plating**
Corps / Treatment	**Bronze / --**
Weight	**~ 0.76 Kg**

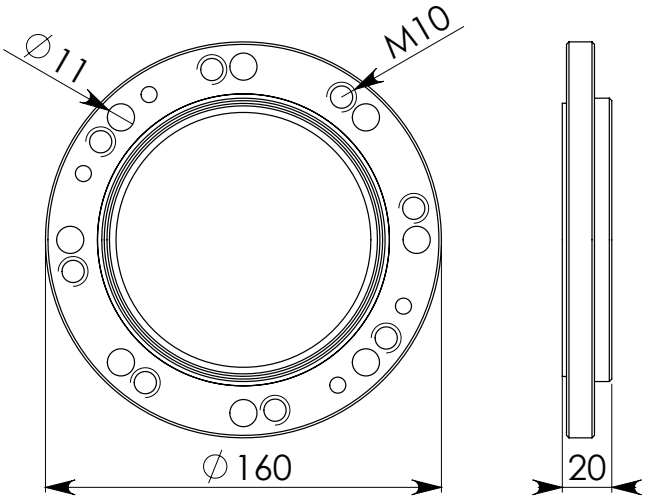


4+1/2”



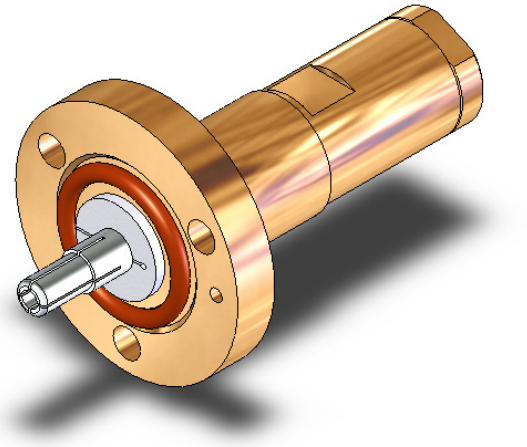
TECHNICAL DATA

Part Number	**CNT12FLS12RL**
Frequency Range	**0.1 ÷ 900 Mhz**
Connectors	**EIA 4+1/2”**
Impedance	**50 Ω**
Average power VHF	**≤ 70 kW**
Average power UHF	**≤ 37 kW**
Operating Temperature Range	**-40 ÷ +70° C**
Flange / Treatment	**Bronze / Nickel plating**
Corps / Treatment	**Bronze / --**
Weight	**~ 1.04 Kg**



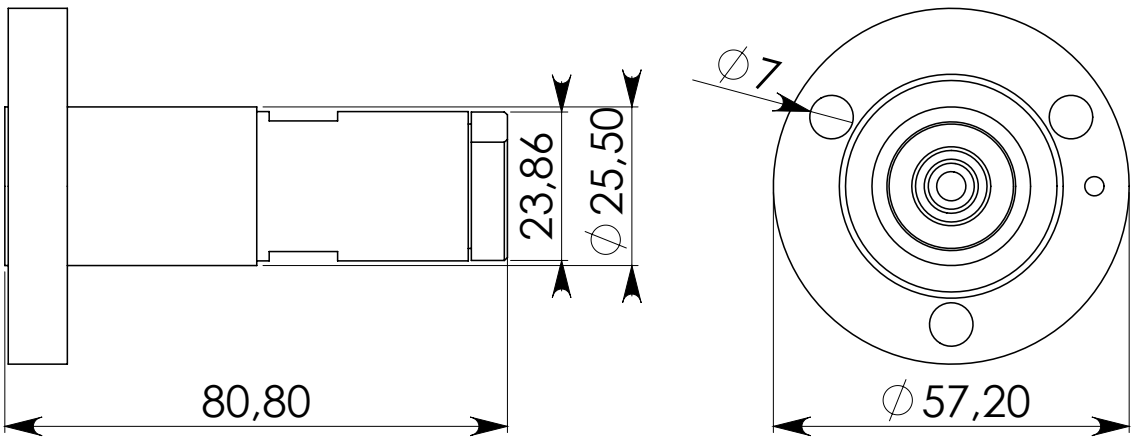
Connectors for RF Cable

7/8” EIA Flange for 1/2” foam cable

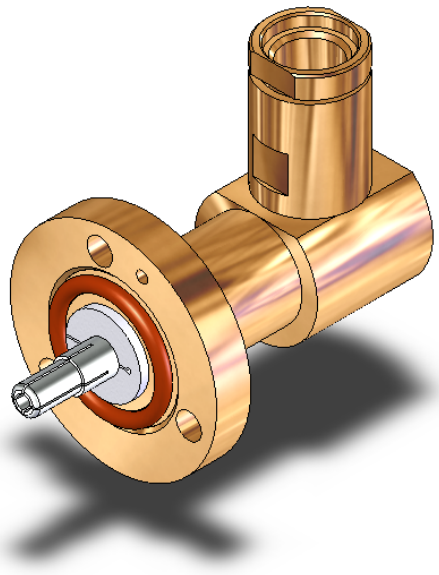


TECHNICAL DATA

Part Number	CNTFL8XCP
Frequency Range	DC ÷ 5 Ghz
Connectors	EIA 7/8”
Impedance	50 Ω
Type of cable to use	1/2” Foam (All cable)
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Brass / Passivation
Corps / Treatment	Brass / Passivation
Inner / Treatment	Brass / Silver plated
Weight	~ 0.4 Kg

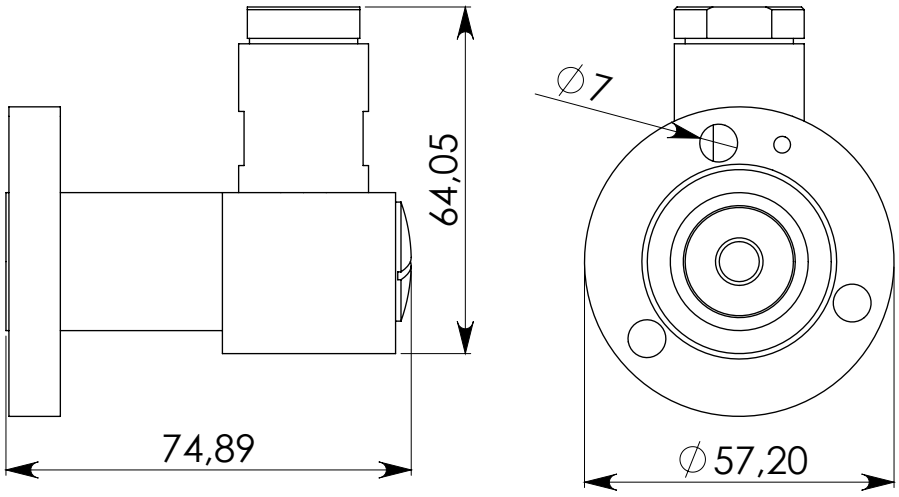


7/8” EIA Flange (90°) for 1/2” foam cable



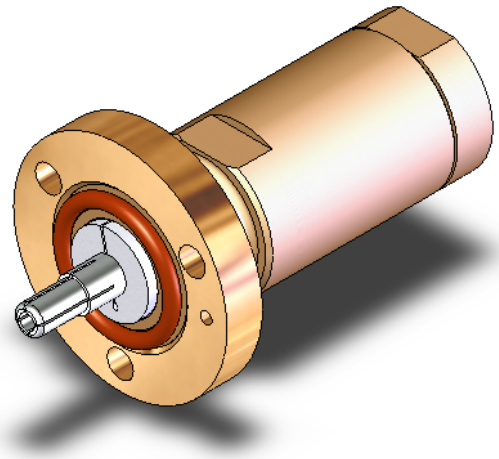
TECHNICAL DATA

Part Number	**CNTFL8XCP90**
Frequency Range	**DC ÷ 5 Ghz**
Connectors	**EIA 7/8”**
Impedance	**50 Ω**
Type of cable to use	**1/2” Foam (All cable)**
Operating Temperature Range	**-40 ÷ +70° C**
Flange / Treatment	**Brass / Passivation**
Corps / Treatment	**Brass / Passivation**
Inner / Treatment	**Brass / Silver plated**
Weight	**~ 0.5 Kg**



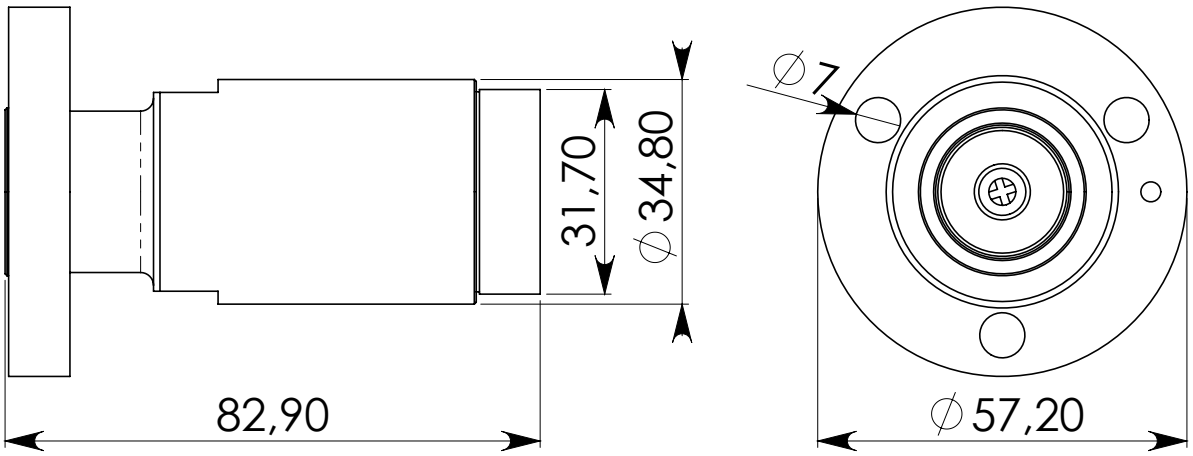
Specifications are subject to change without prior notice

7/8” EIA Flange for 7/8” foam cable

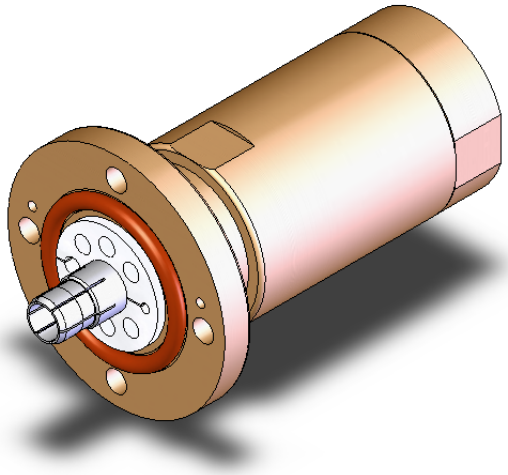


TECHNICAL DATA

Part Number	CNTFL8XC8
Frequency Range	DC ÷ 5 Ghz
Connectors	EIA 7/8”
Impedance	50 Ω
Type of cable to use	7/8” Foam (All cable)
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Brass / Passivation
Corps / Treatment	Brass / Passivation
Inner / Treatment	Brass / Silver plated
Weight	~ 0.5 Kg

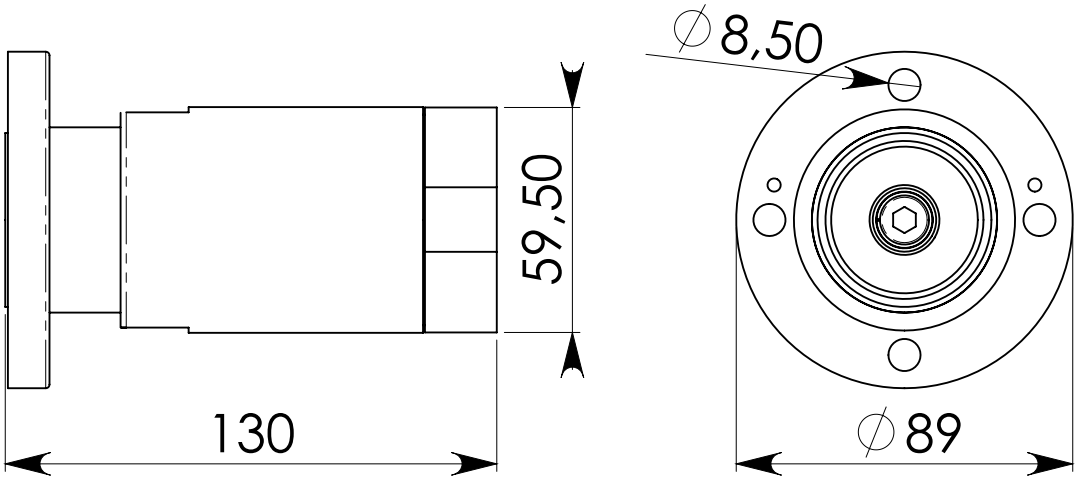


1+5/8” EIA Flange for 1+5/8” foam cable



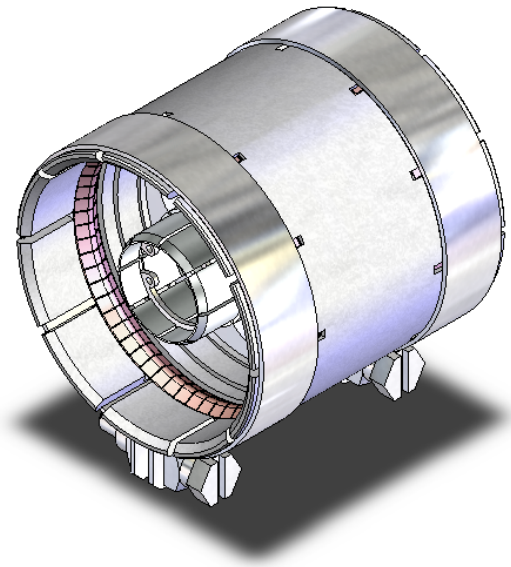
TECHNICAL DATA

Part Number	CNT58FLXC58
Frequency Range	DC ÷ 5 Ghz
Connectors	EIA 1+5/8” (All cable)
Impedance	50 Ω
Type of cable to use	1+5/8” Foam
Operating Temperature Range	-40 ÷ +70° C
Flange / Treatment	Brass / Passivation
Corps / Treatment	Brass / Passivation
Inner / Treatment	Brass / Silver plated
Weight	~ 1.6 Kg



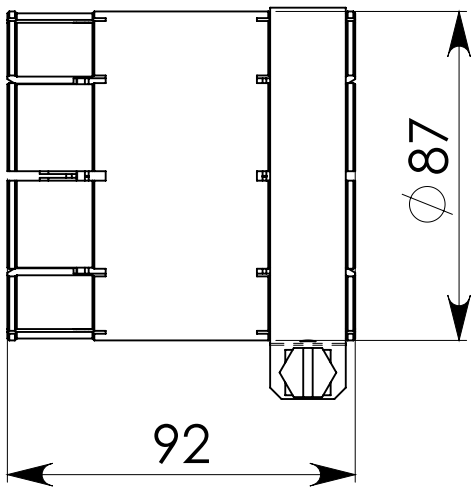
Straight Adaptors

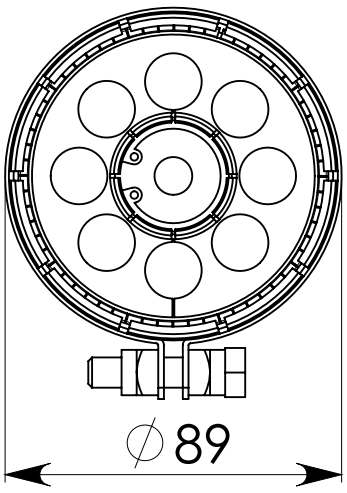
3+1/8” Straight Adaptors (Coupling assembly with inner)



TECHNICAL DATA

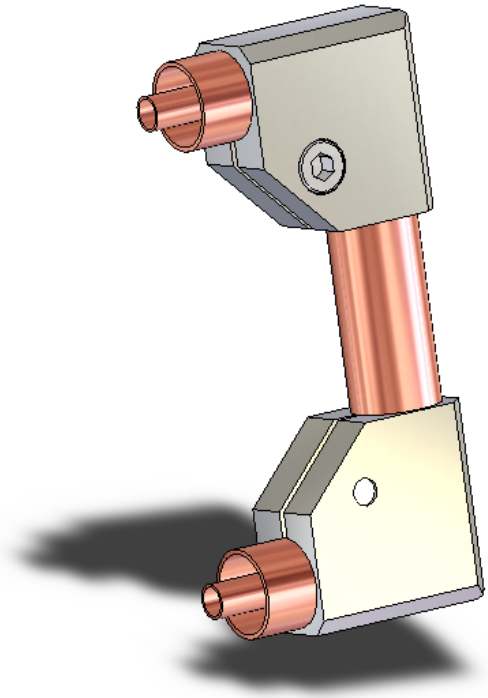
Part Number	ADPGNTRL318
Frequency Range	0.1 ÷ 900 Mhz
Connectors	EIA 3+1/8”
Impedance	50 Ω
Average power VHF	≤ 35 kW
Average power UHF	≤ 22 kW
Operating Temperature Range	-40 ÷ +70° C
Inner / Treatment	Phosphor Bronze / Silver plated
Corps / Treatment	Aluminium / Alodine
Insulator	PTFE
Weight	~ 0.7 Kg

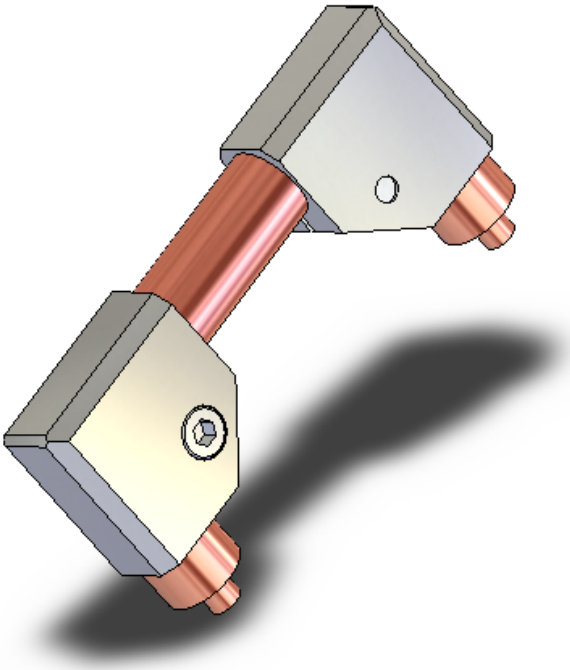




U-Link for Patch Panels

7/8”

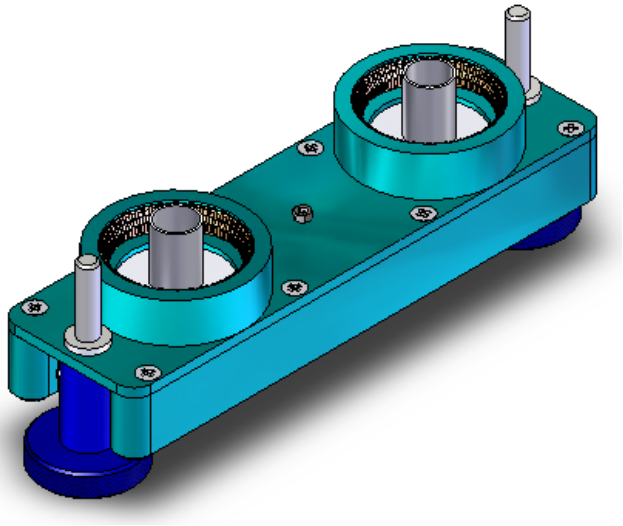




TECHNICAL DATA

Part Number	ULINK78
Frequency Range	0.1 ÷ 900 Mhz
Return Loss	> 30 dB
Impedance	50 Ω
Operating Temperature Range	-10 ÷ +50° C
Weight	~ 0.35 Kg

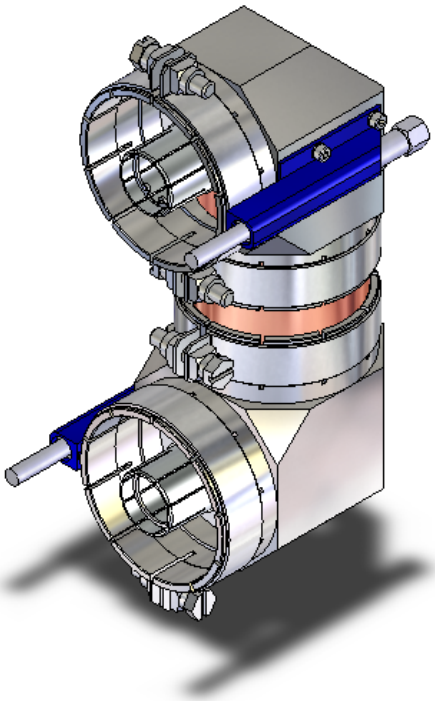
1+5/8”

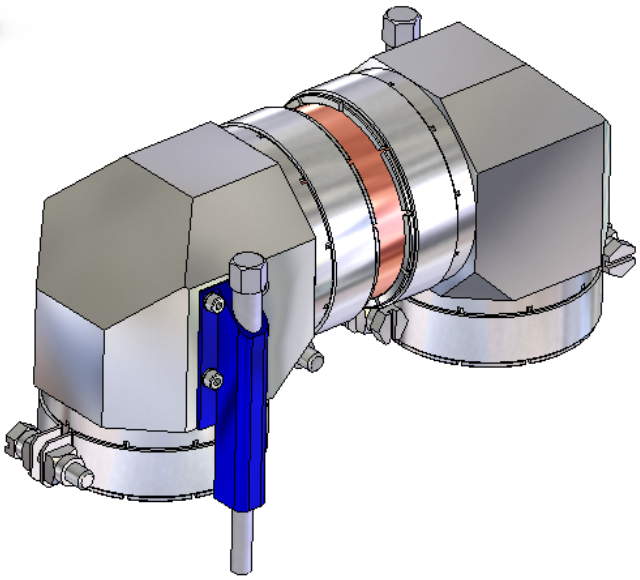


TECHNICAL DATA

Part Number	ULINK158
Frequency Range	0.1 ÷ 900 Mhz
Return Loss	> 30 dB
Impedance	50 Ω
Operating Temperature Range	-10 ÷ +50° C
Weight	~ 1.3 Kg

3+1/8”

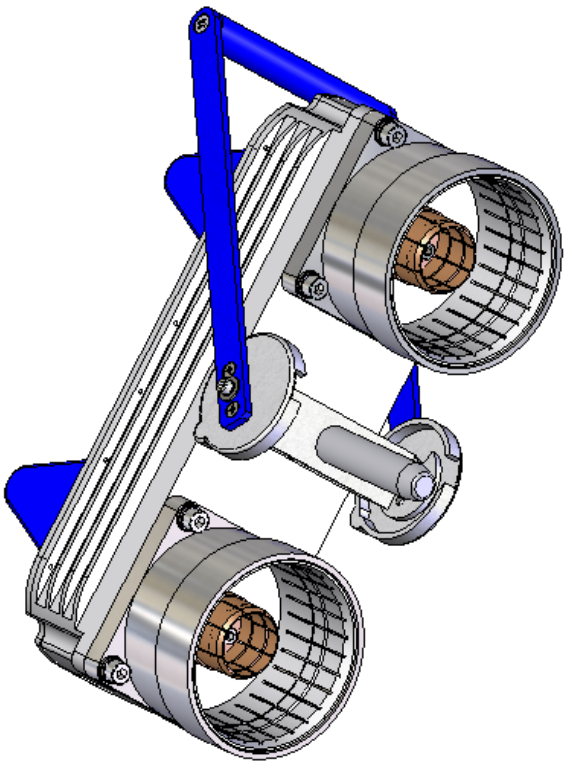




TECHNICAL DATA

Part Number	ULINK318
Frequency Range	0.1 ÷ 900 Mhz
Return Loss	> 30 dB
Impedance	50 Ω
Operating Temperature Range	-10 ÷ +50° C
Weight	~ 3.5 Kg

4+1/2”

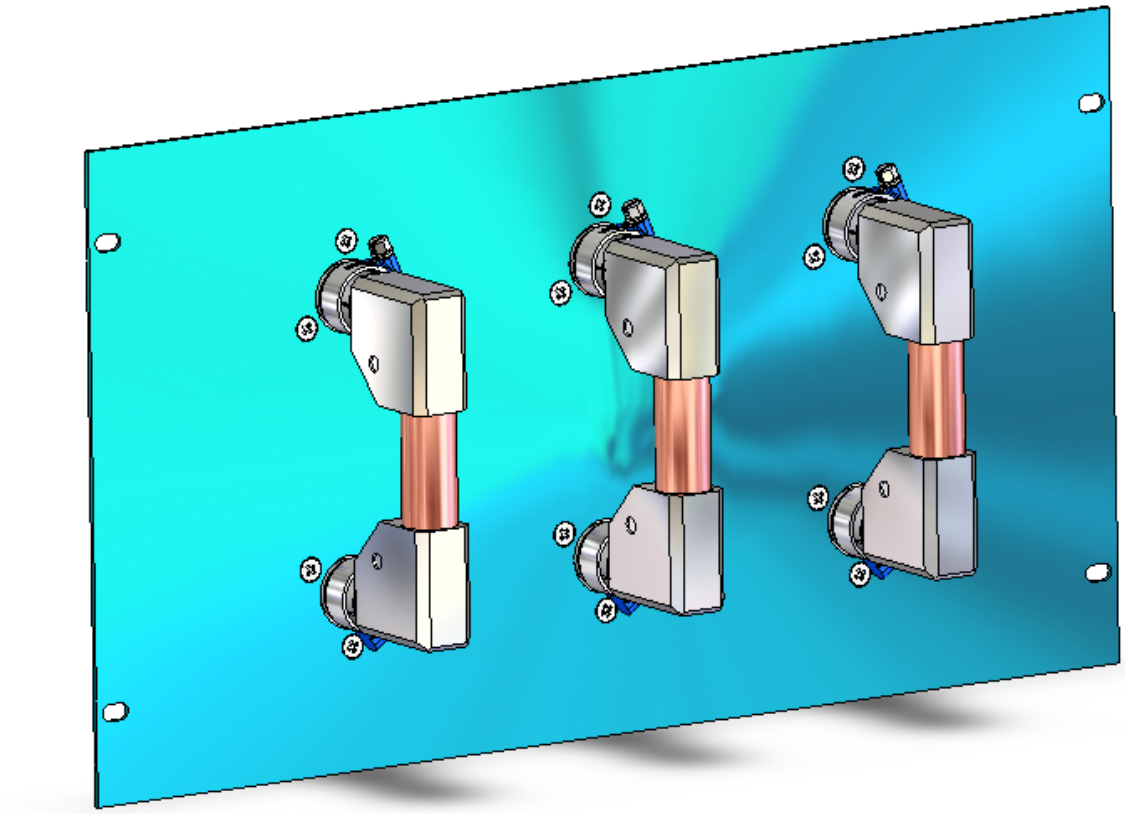


TECHNICAL DATA

Part Number	ULINK412
Frequency Range	0.1 ÷ 900 Mhz
Return Loss	> 30 dB
Impedance	50 Ω
Operating Temperature Range	-10 ÷ +50° C
Weight	~ 8.2 Kg

Patch Panels

7/8” six ports / three U-Links

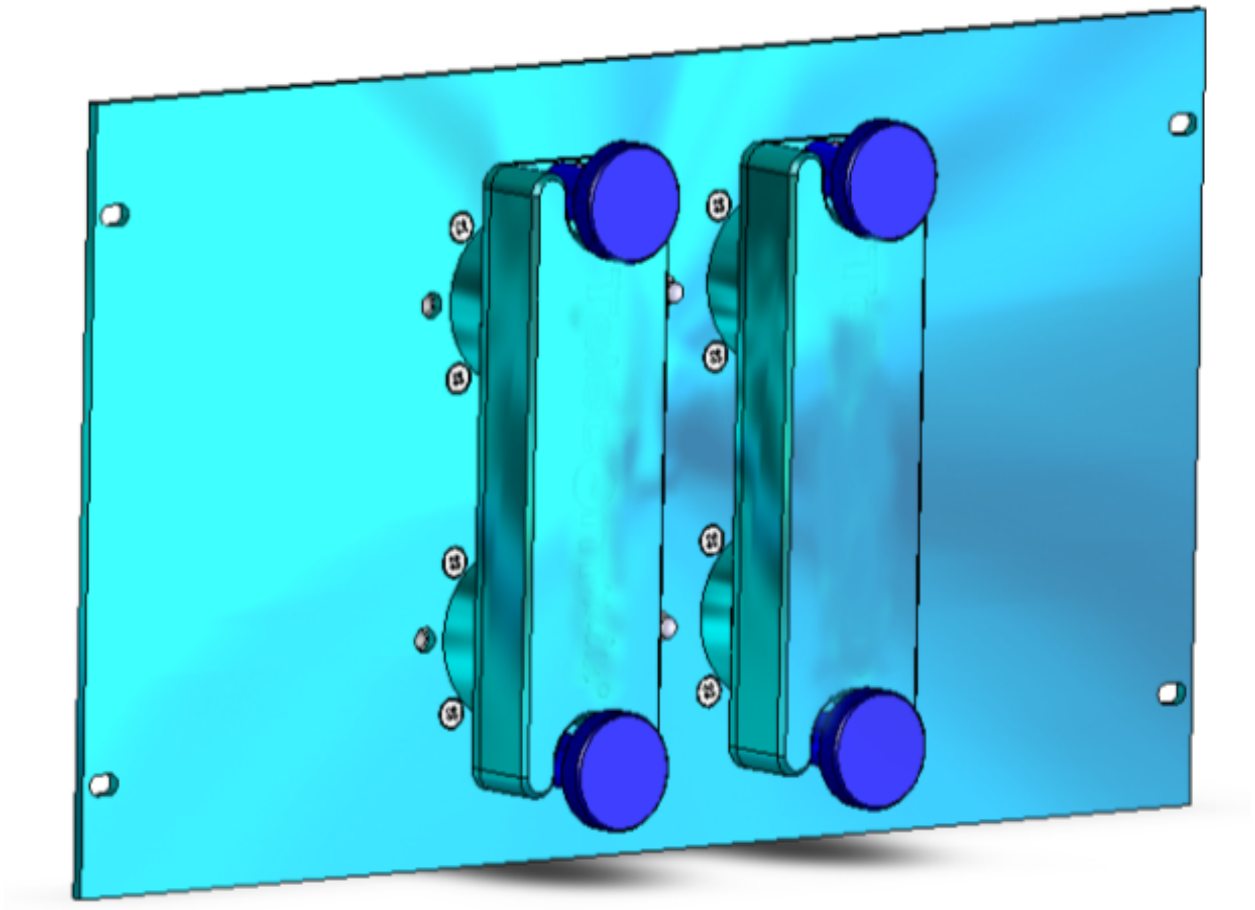


TECHNICAL DATA

Part Number	PCP6-6-3-78
Connector	EIA 7/8”
Ports	6
U-links	3
Dimensions	Standard 6 unit rack

Other models with different configurations are available on request

1+5/8” four ports / two U-Links

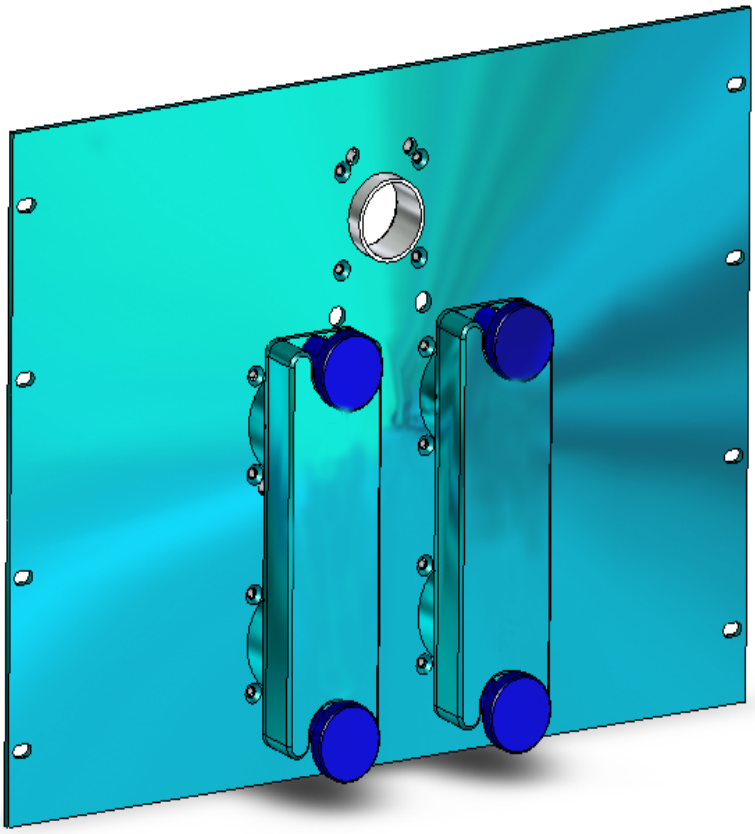


TECHNICAL DATA

Part Number	PCP6-4-2-58
Connector	EIA 1+5/8”
Ports	4
U-links	2
Dimensions	Standard 6 unit rack

Other models with different configurations are available on request

1+5/8” five ports / two U-Links

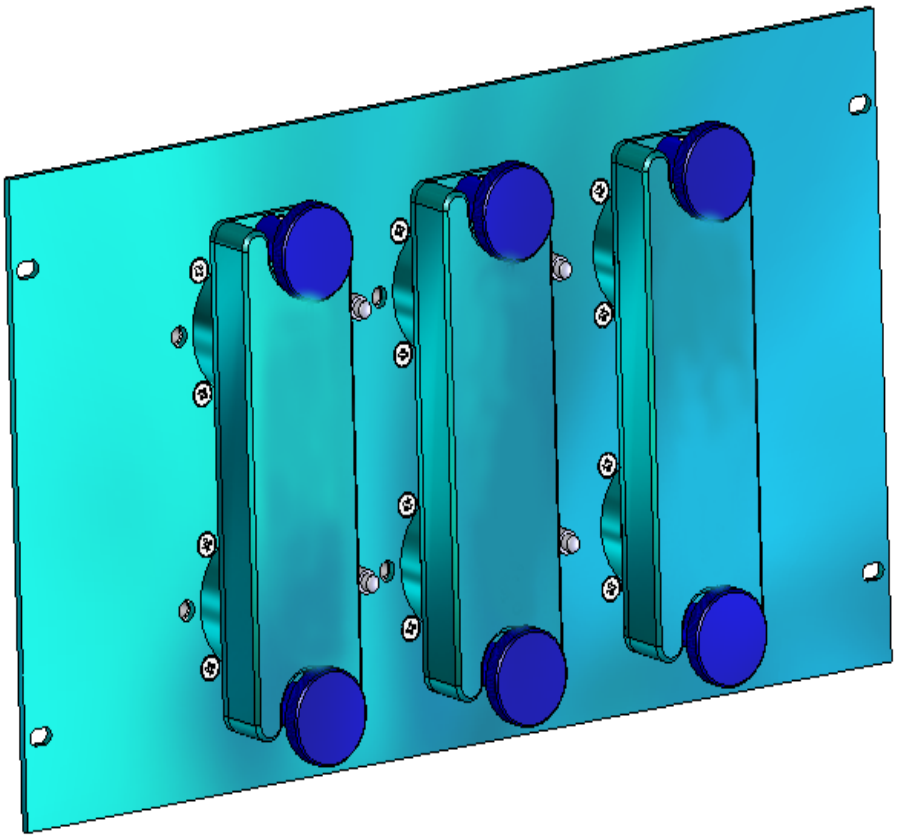


TECHNICAL DATA

Part Number	PCP8-5-2-58
Connector	EIA 1+5/8”
Ports	5
U-links	2
Dimensions	Standard 8 unit rack

Other models with different configurations are available on request

1+5/8” six ports / three U-Links

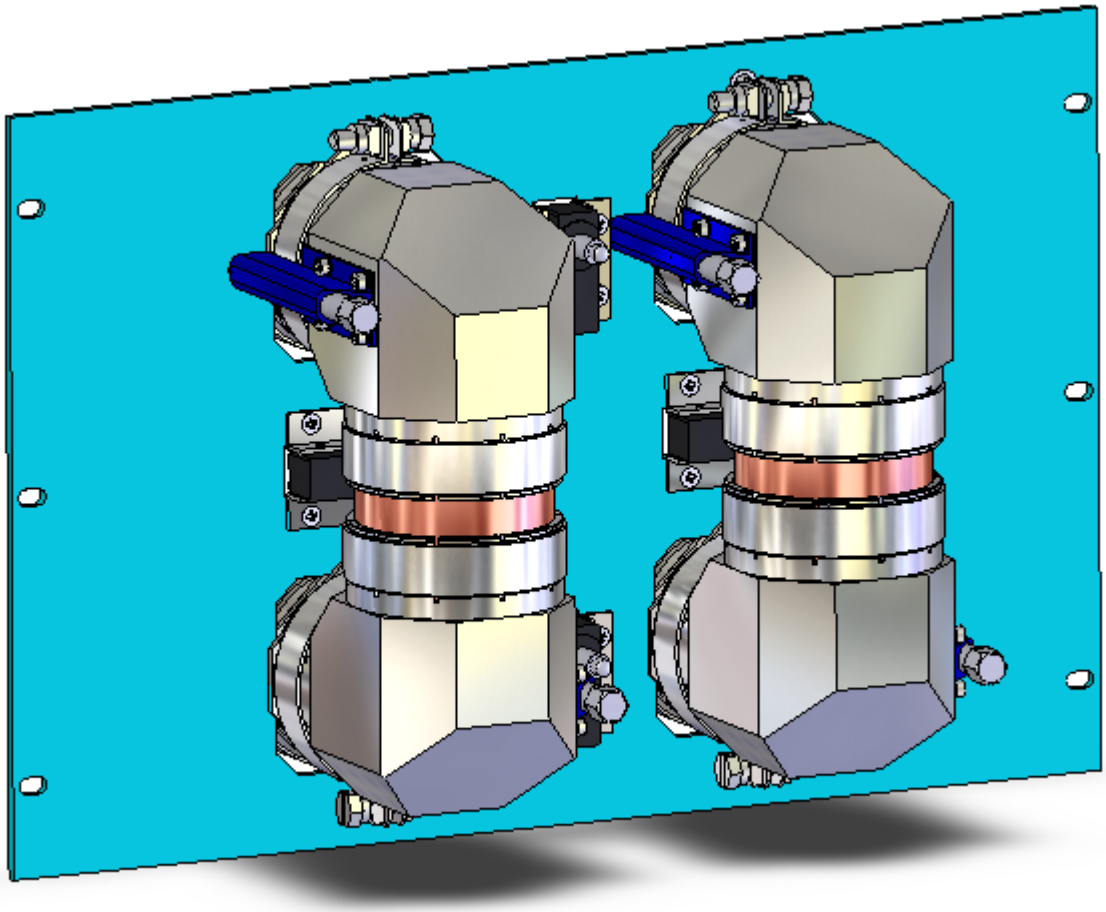


TECHNICAL DATA

Part Number	PCP6-6-3-58
Connector	EIA 1+5/8”
Ports	6
U-links	3
Dimensions	Standard 6 unit rack

Other models with different configurations are available on request

3+1/8” four ports / two U-Links

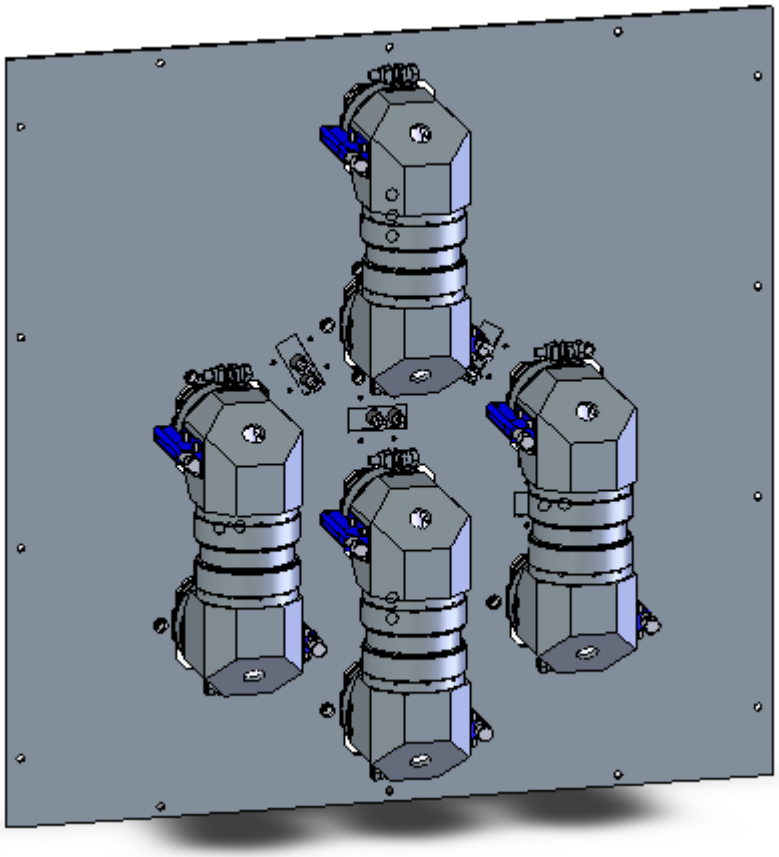


TECHNICAL DATA

Part Number	PCP7-4-2-318
Connector	EIA 3+1/8”
Ports	4
U-links	2
Dimensions	Standard 7 unit rack

Other models with different configurations are available on request

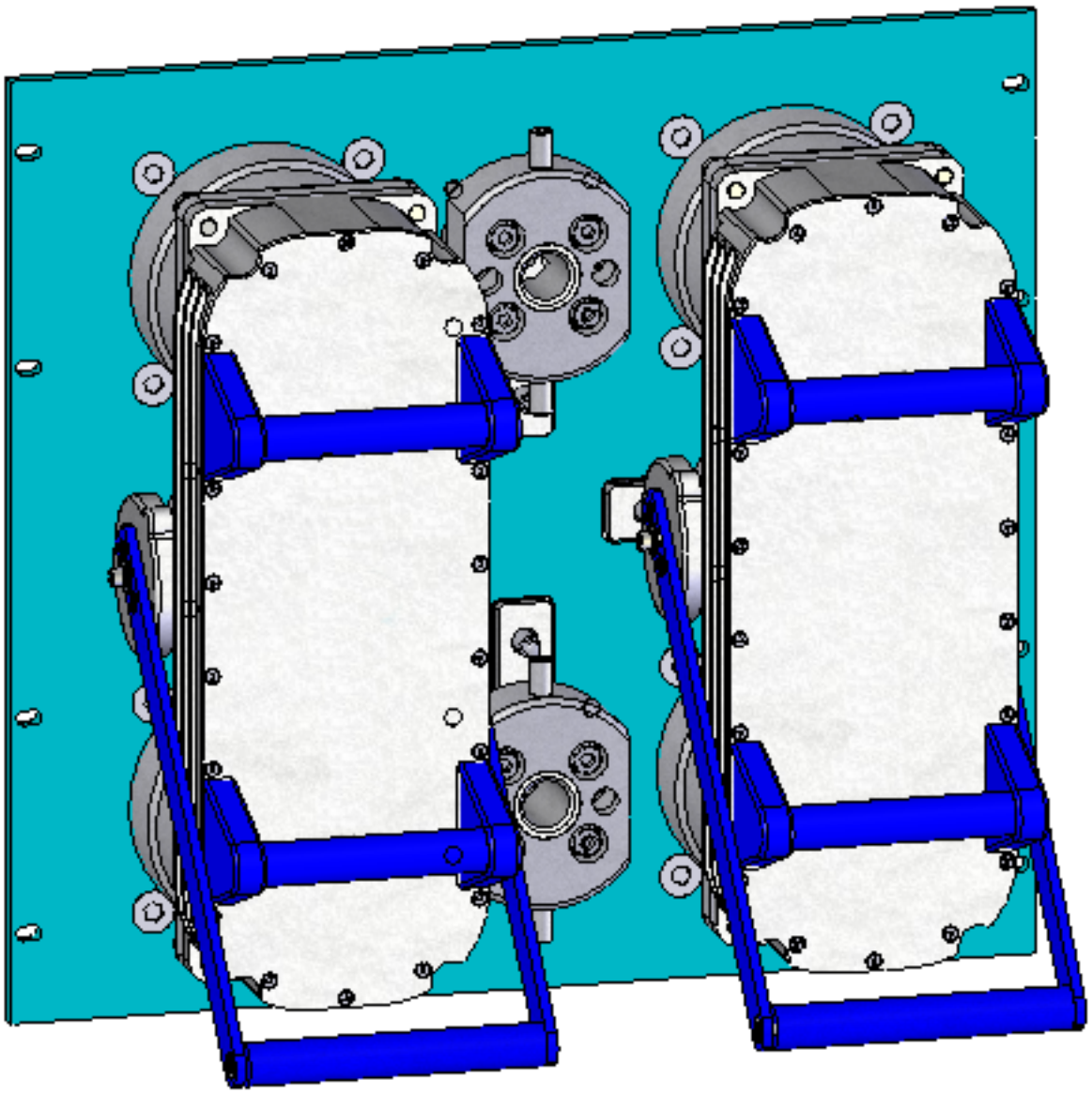
3+1/8” eight ports / four U-Links



TECHNICAL DATA

Part Number	PCP15-8-4-318
Connector	EIA 3+1/8”
Ports	8
U-links	4
Dimensions	670 mm (W) x 672 mm (H)

Other models with different configurations are available on request



Dimensions	Standard 10 unit rack

Other models with different configurations are available on request

TELECOMUNICAZIONI FERRARA SRL
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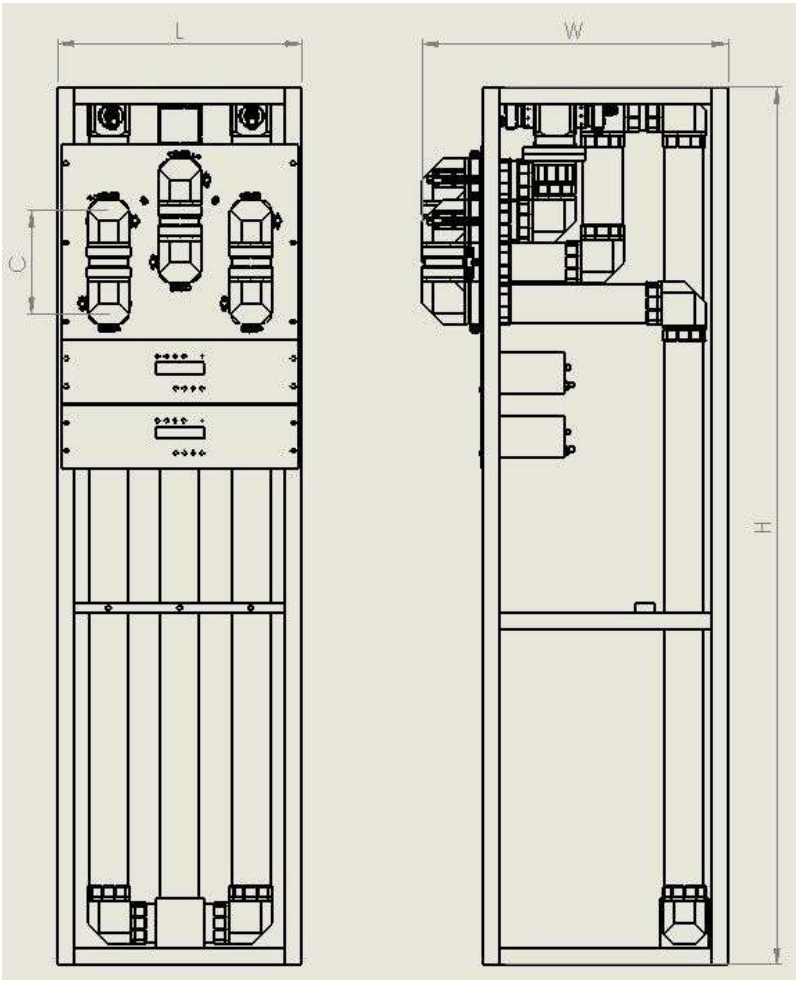
FM SWITCHING UNIT

- **FREQUENCY RANGE 87.5- 108 MHz**
- **IMPEDANCE 50 Ohm**
- **V.S.W.R. IN THE FREQUENCY RANGE ≤ 1.05**

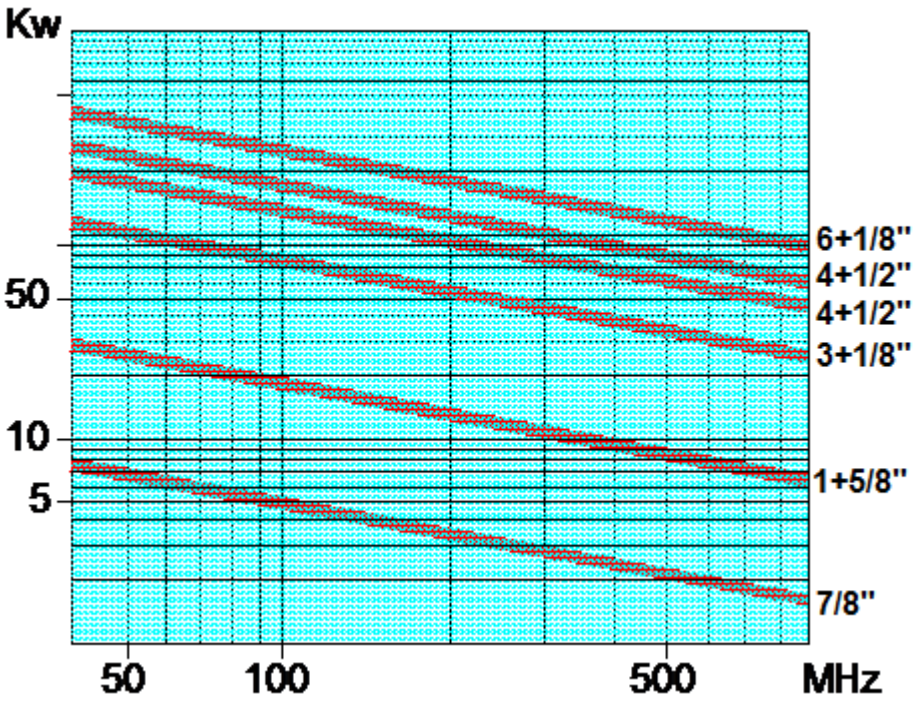
Example of Switching Unit 3+1/8" with Directional Couplers and Power Meters (optionals)



ELECTRICAL AND MECHANICAL CHARACTERISTIC OF THE FM SWITCHING UNIT

CODE	TYPE	U-LINK		PORTS		DIMENSIONS			
		TYPE	Nr.	Nr.	TYPE	C (mm)	L (mm)	H (mm)	W (mm)
TFSWU6158	1+5/8"	1+5/8"	3	6	1+5/8"	112	500	1795	570
TFSWU6318	3+1/8"	3+1/8"	3	6	3+1/8"	168.5	500	1795	630
TFSWU6412	4+1/2"	4+1/2"	3	6	4+1/2"				
TFSWU6618	6+1/8"	6+1/8"	3	6	6+1/8"				

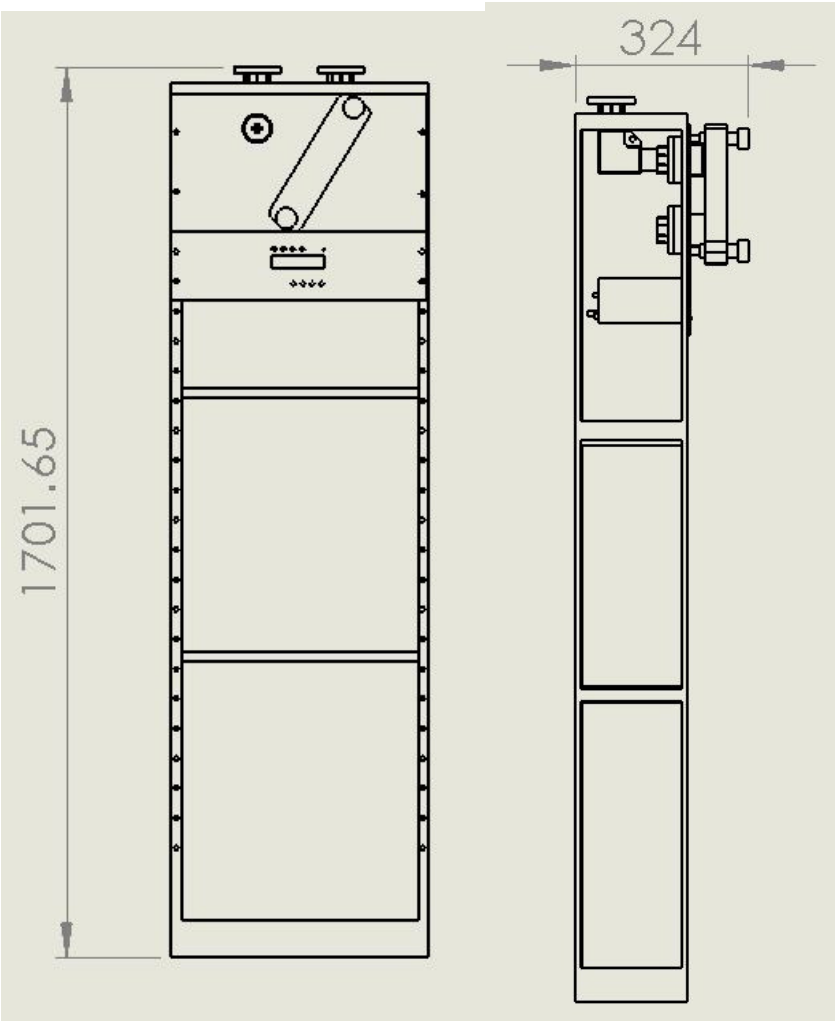
AVERAGE POWER (Ambient temperature = 40°C)

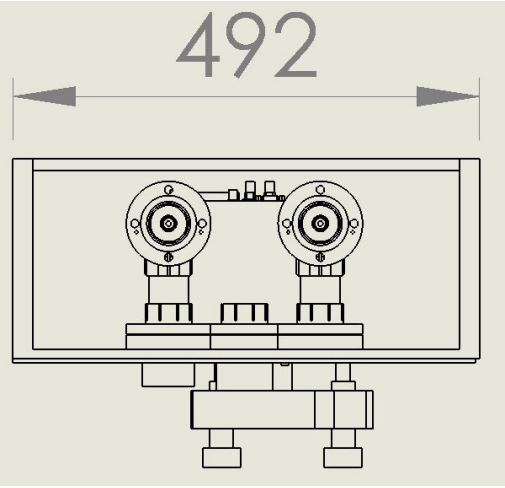


SWITCHING UNIT TFSP158

- **FREQUENCY RANGE 87.5- 108 MHz**
- **IMPEDANCE 50 Ohm**
- **V.S.W.R. IN THE FREQUENCY RANGE ≤ 1.05**
- **WITH MICROSWITCHES IN ALL PORTS**

DIMENSIONS





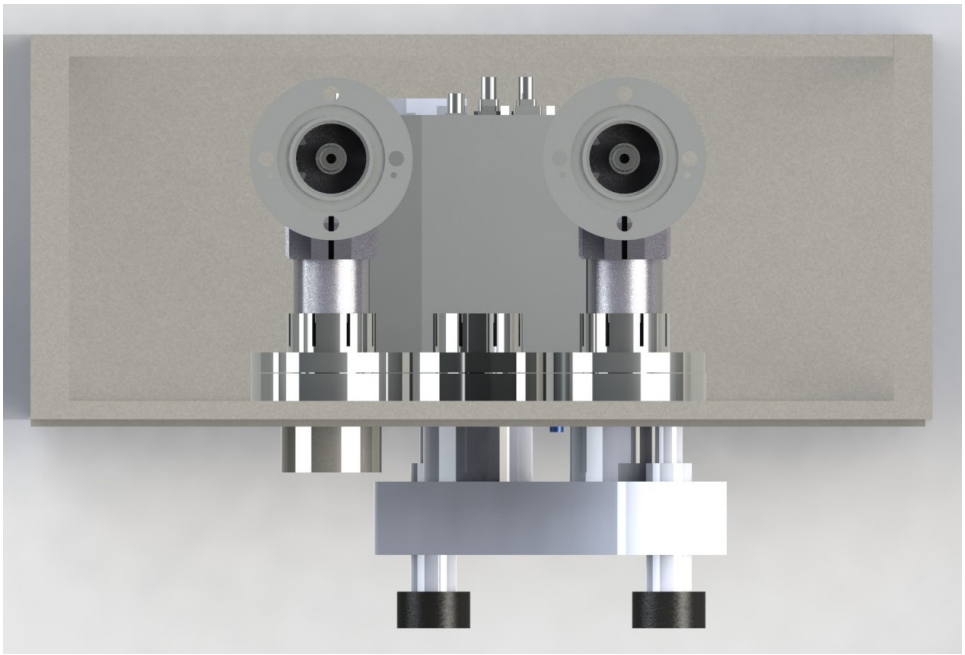
MECHANICAL CHARACTERISTIC OF THE SWITCHING UNIT

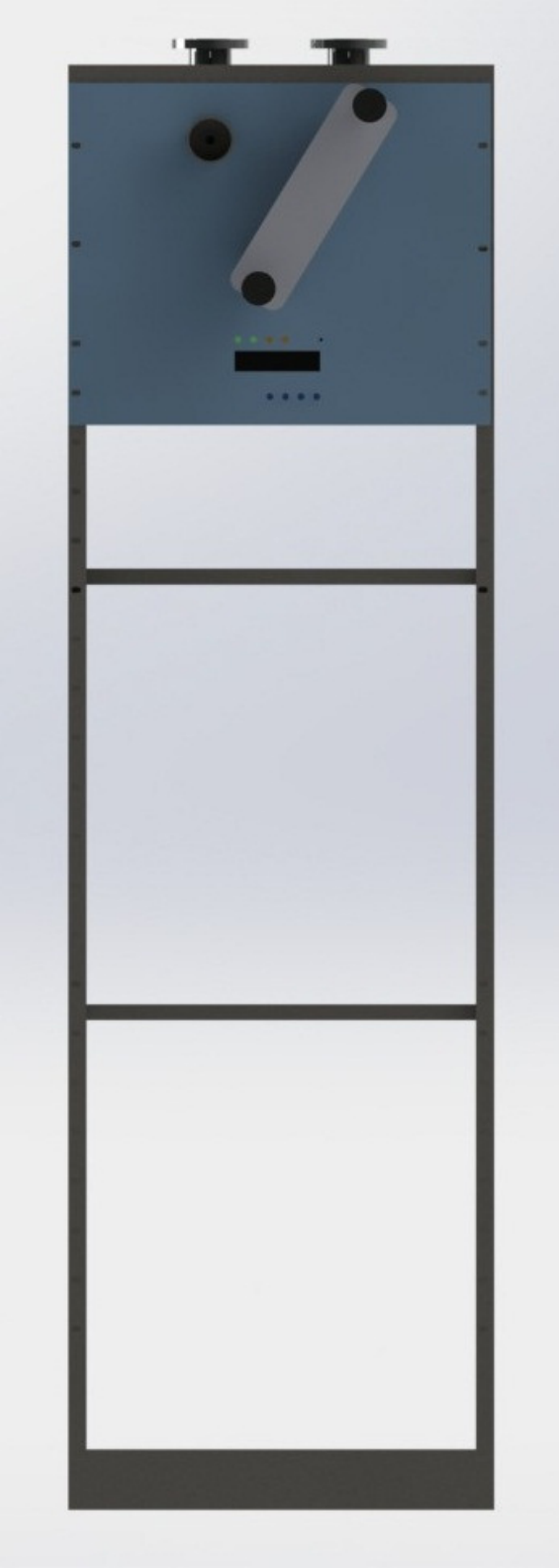
U-LINK		PORTS		DIMENSIONS		
TYPE	Nr.	Nr.	TYPE	L (mm)	H (mm)	W (mm)
1+5/8”	1	2	1+5/8”	492	1702	324

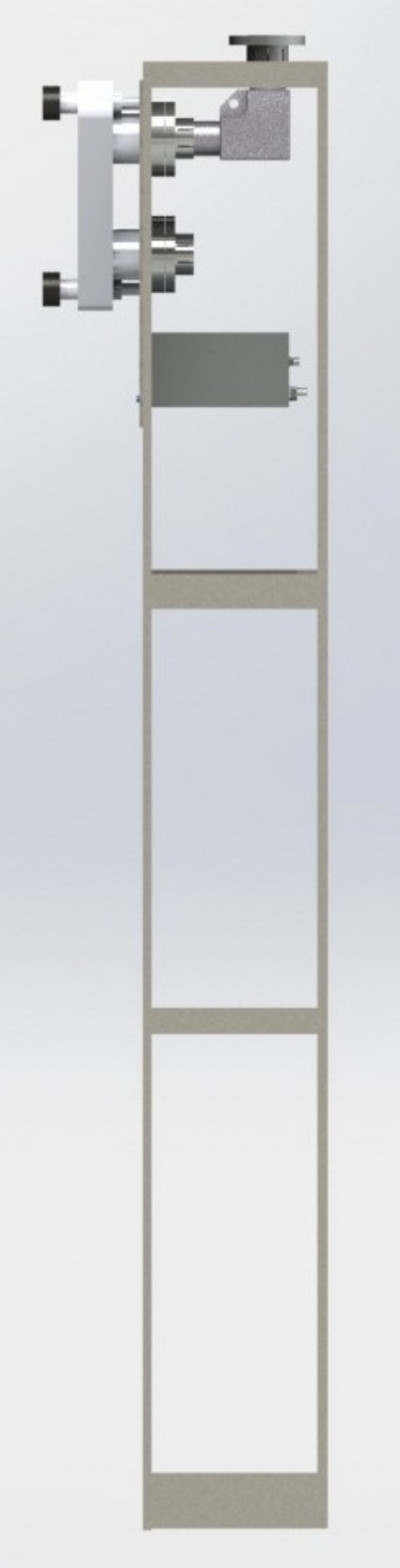
ELECTRICAL CHARACTERISTIC OF THE SWITCHING UNIT

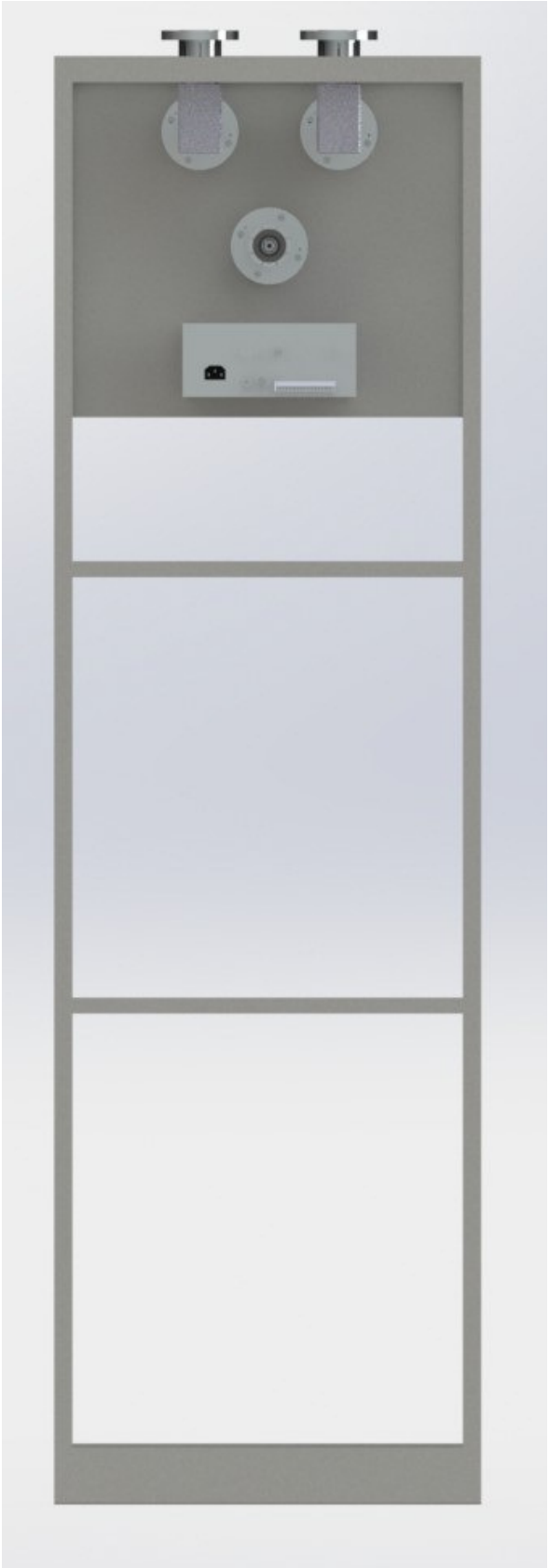
CODICE	TFSP158
Configuration	Patch panel
Frequency range	87-108 MHz
Max input power	Single carrier 15 kW Multi carrier 8 kW
VSWR	≤1.05
Insertion loss	≤0.1 dB
Input connectors	1+5/8”
Output connectors	1+5/8”
Weight	50 kg
Option	Power monitoring system

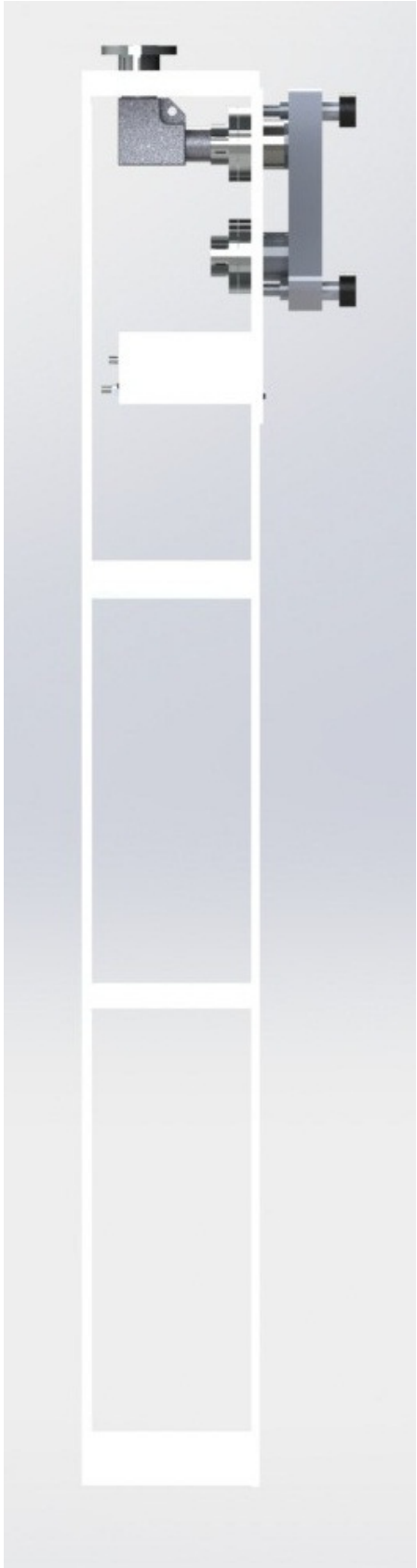
VIEWS OF THE SYSTEM

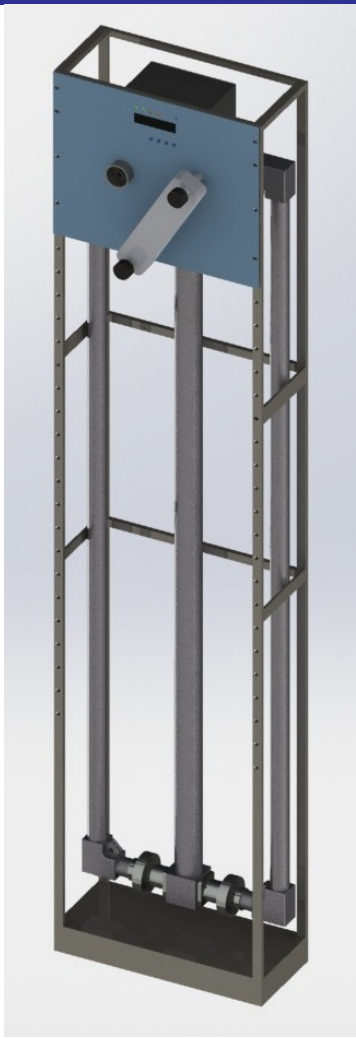








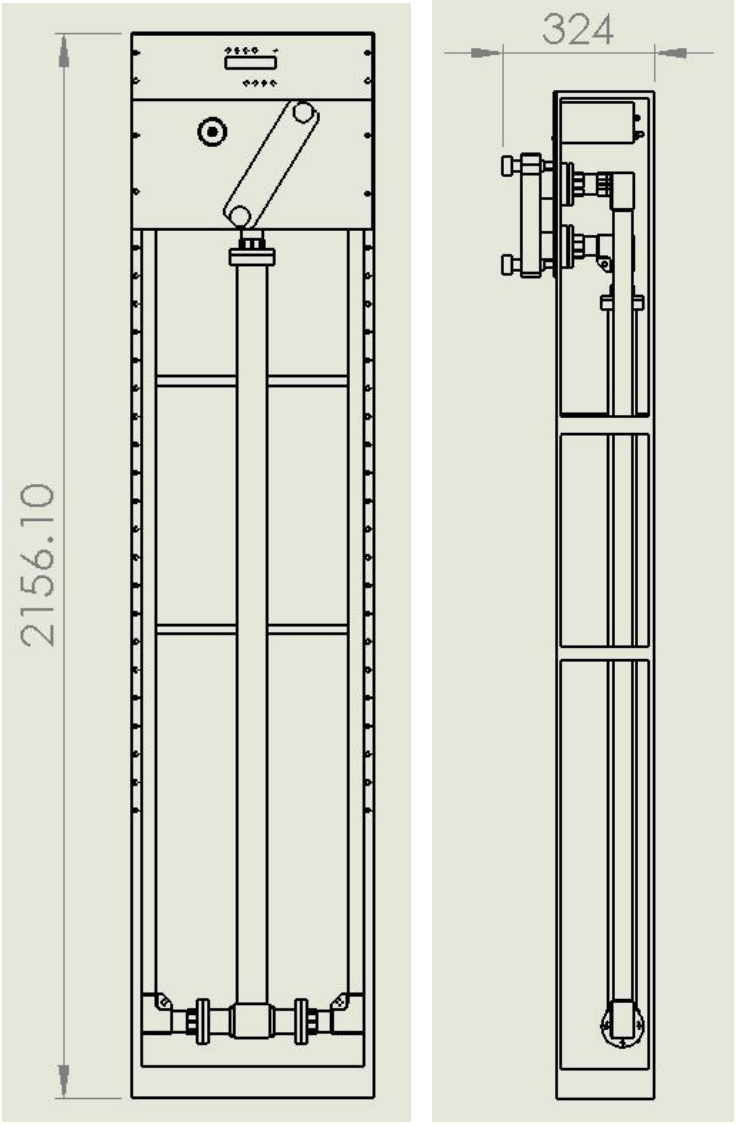


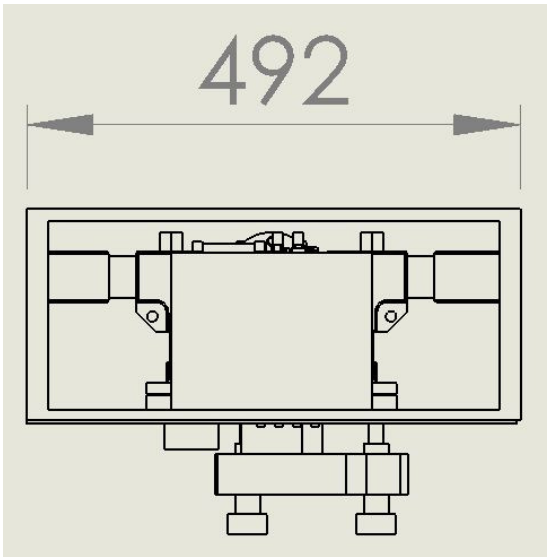


SWITCHING UNIT TFSWU158

- **FREQUENCY RANGE 87.5- 108 MHz**
- **IMPEDANCE 50 Ohm**
- **V.S.W.R. IN THE FREQUENCY RANGE ≤ 1.05**
- **WITH MICROSWITCHES IN ALL PORTS**

DIMENSIONS





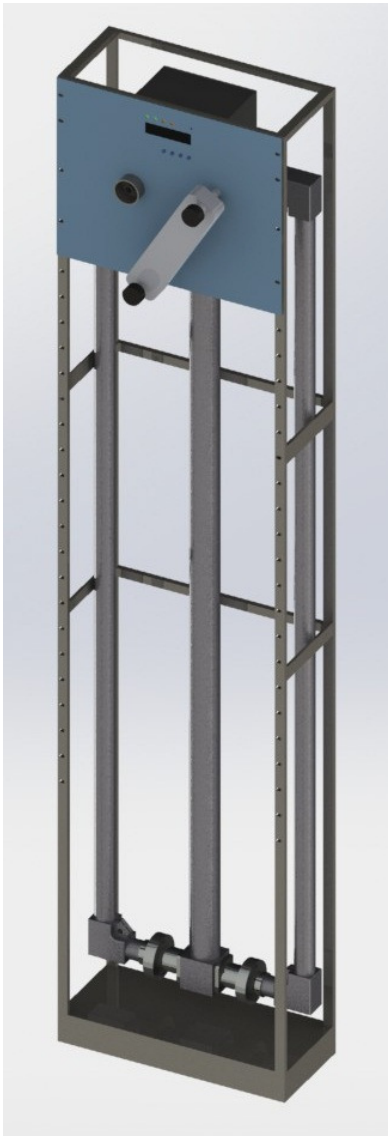
MECHANICAL CHARACTERISTIC OF THE SWITCHING UNIT

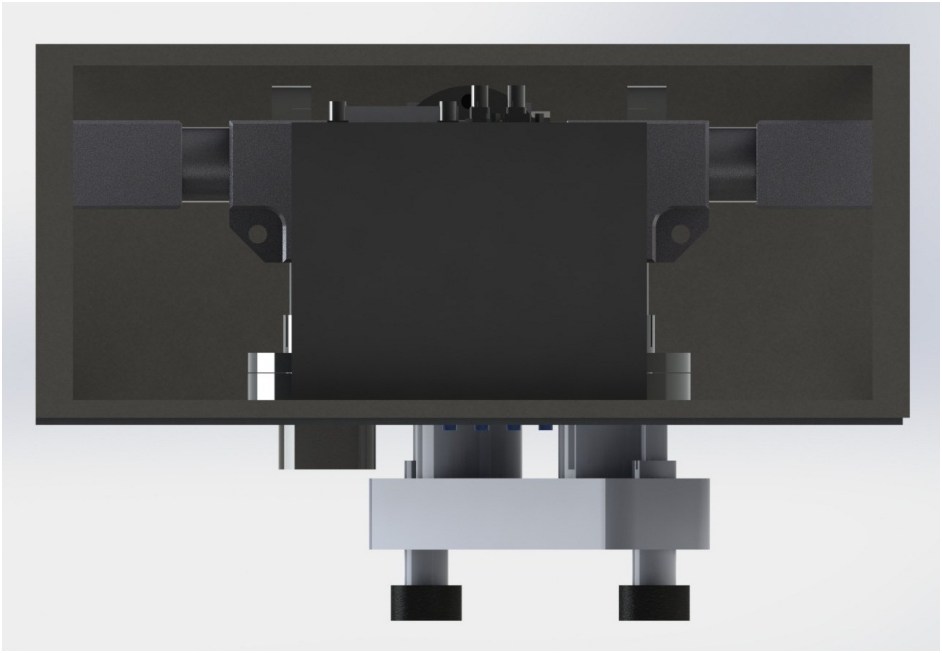
U-LINK		PORTS		DIMENSIONS		
TYPE	Nr.	Nr.	TYPE	L (mm)	H (mm)	W (mm)
1+5/8”	1	2	1+5/8”	492	2157	324

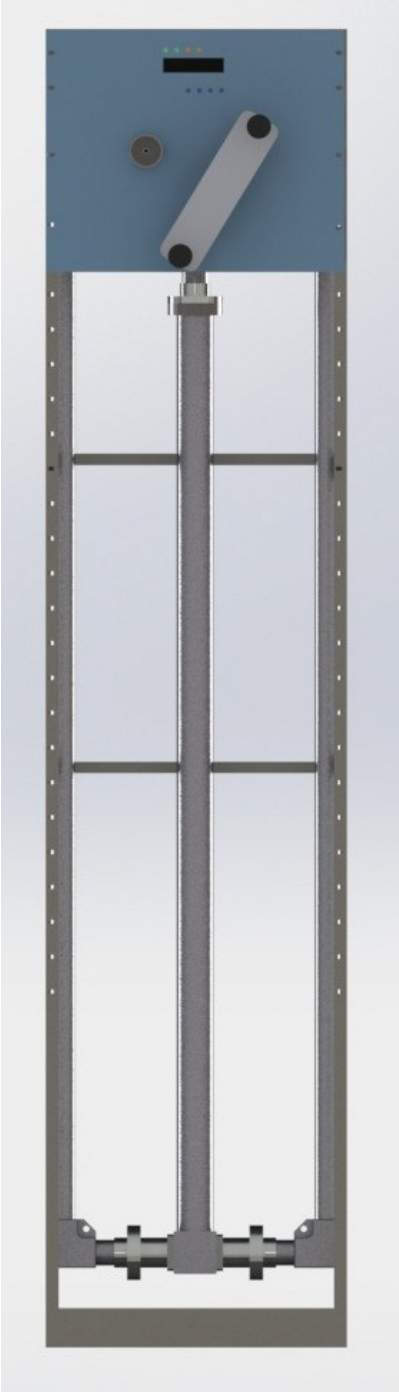
ELECTRICAL CHARACTERISTIC OF THE SWITCHING UNIT

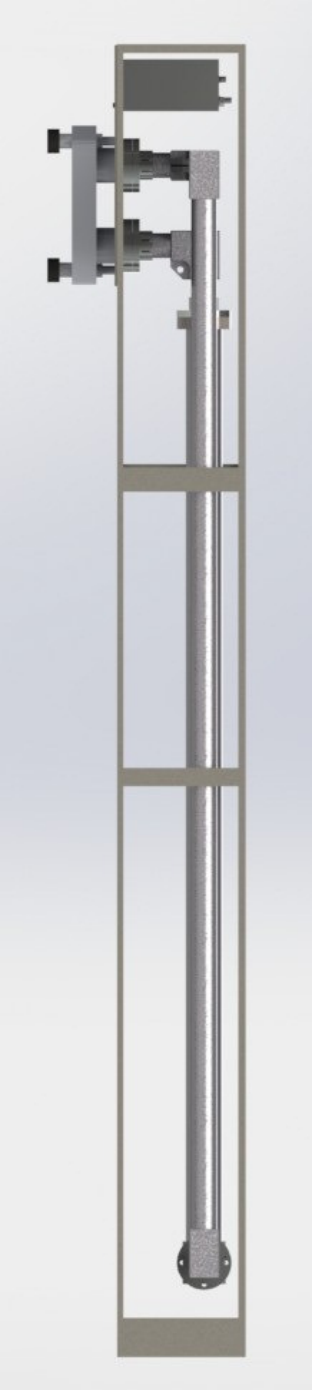
CODICE	TFSWU158
Configuration	Direct split
Frequency range	87-108 MHz
Max input power	Single carrier 15 kW Multi carrier 8 kW
VSWR	≤1.05
Insertion loss	≤0.1 dB
Output phase difference	≤2°
Input connectors	1+5/8”
Output connectors	1+5/8”
Weight	75 kg
Option	Power monitoring system

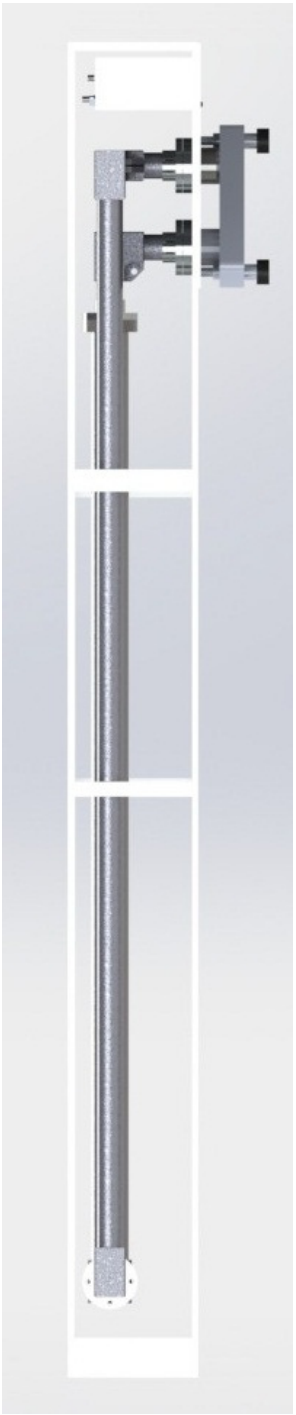
VIEWS OF THE SYSTEM





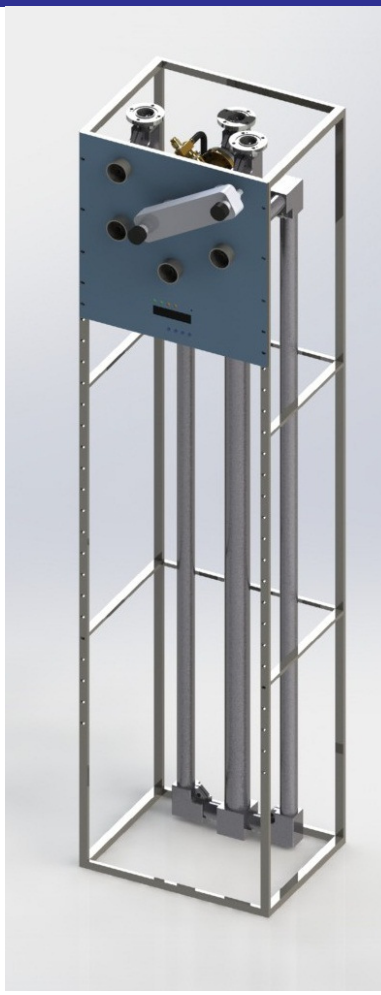






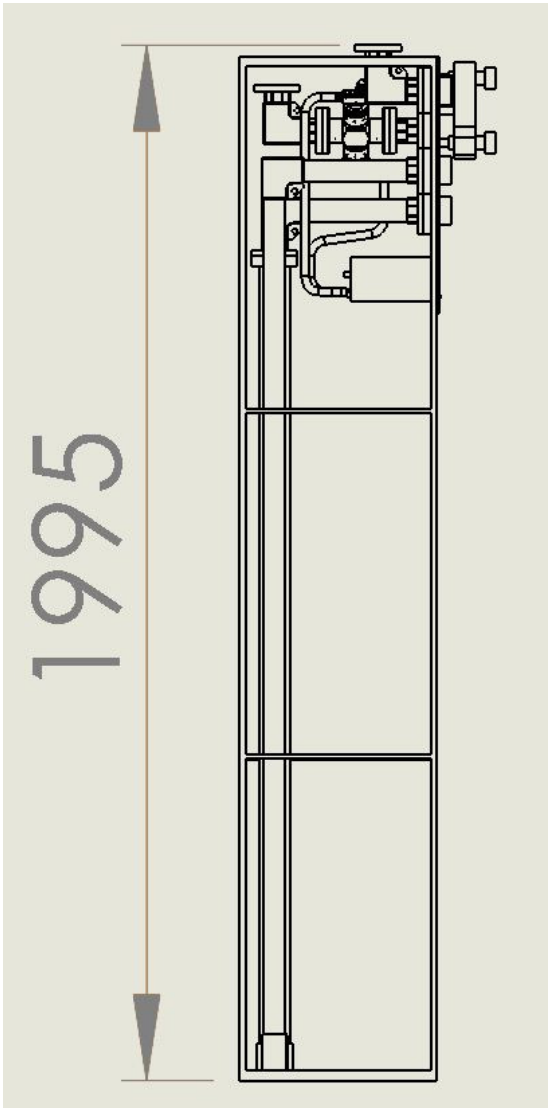
SWITCHING UNIT TFSWU6158

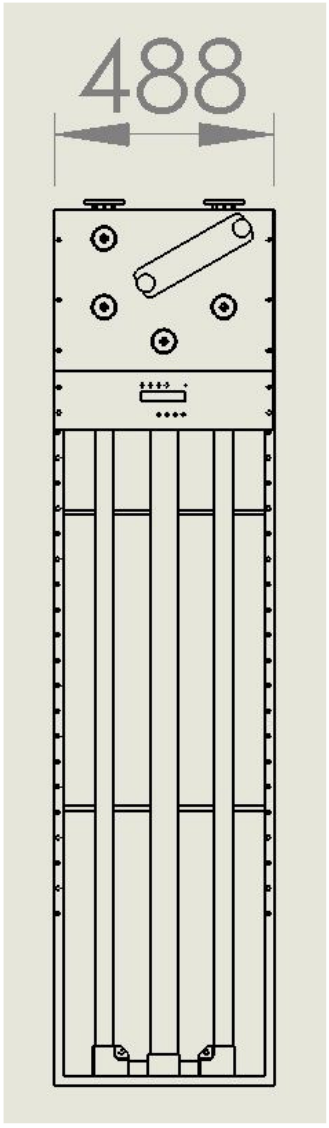
- **FREQUENCY RANGE 87.5- 108 MHz**
- **IMPEDANCE 50 Ohm**
- **V.S.W.R. IN THE FREQUENCY RANGE ≤ 1.05**
- **WITH MICROSWITCHES IN ALL PORTS**
- **OPTION: DIGITAL POWER METER-DIRECTIONAL COUPLER**

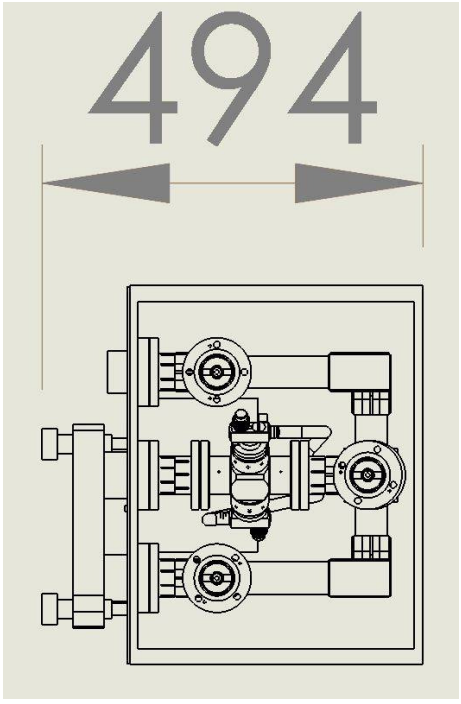


VERSION WITH OPTIONAL DIGITAL POWER METER-DIRECTIONAL COUPLER

DIMENSIONS (mm)



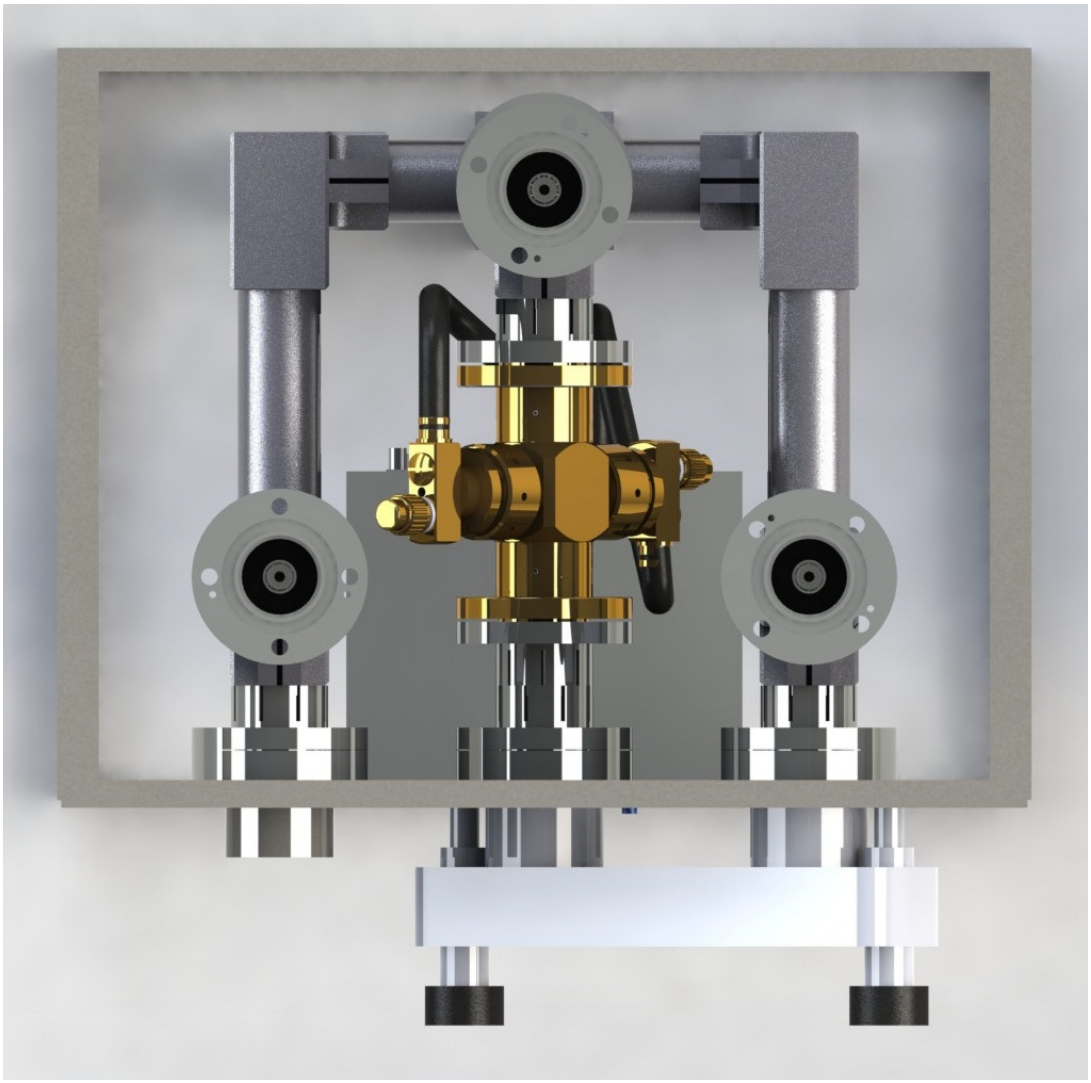


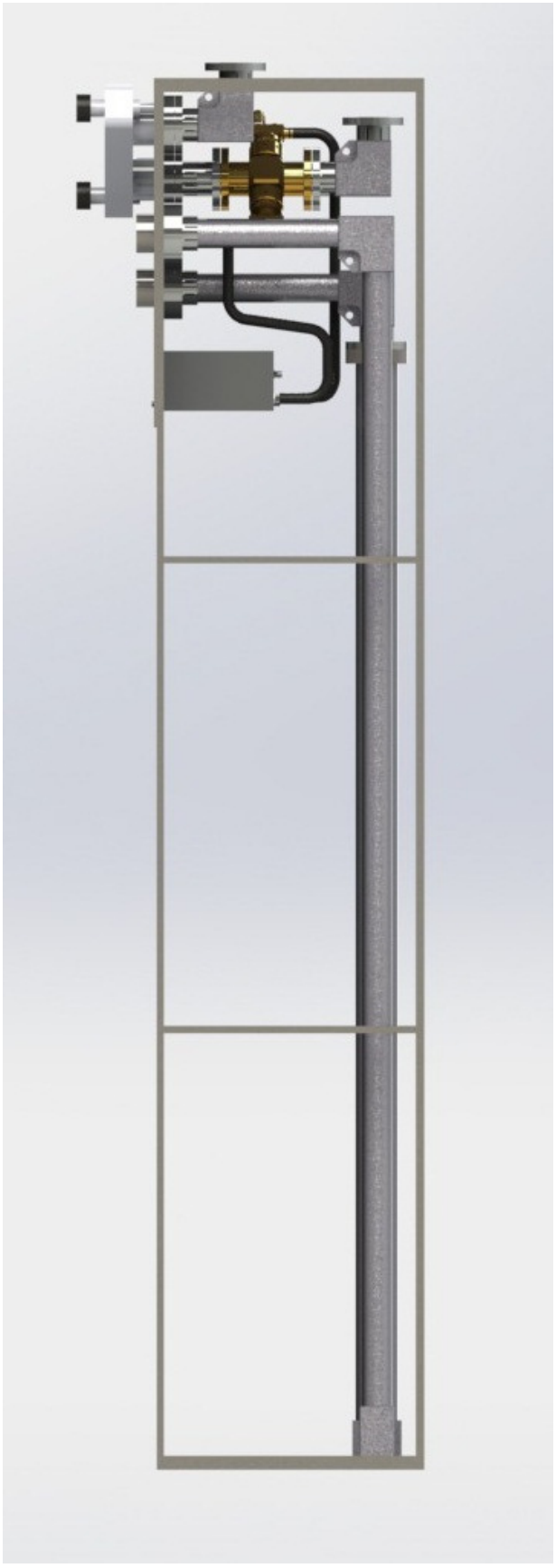


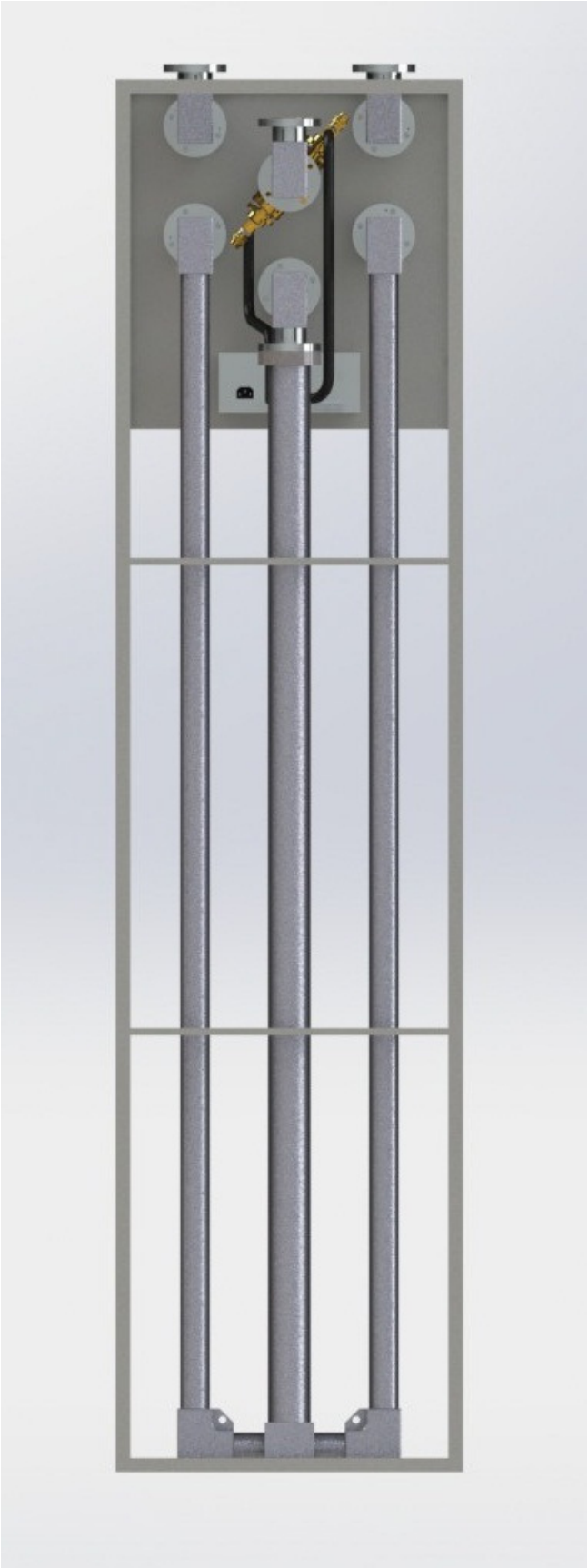
MECHANICAL AND ELECTRICAL CHARACTERISTIC OF THE SWITCHING UNIT

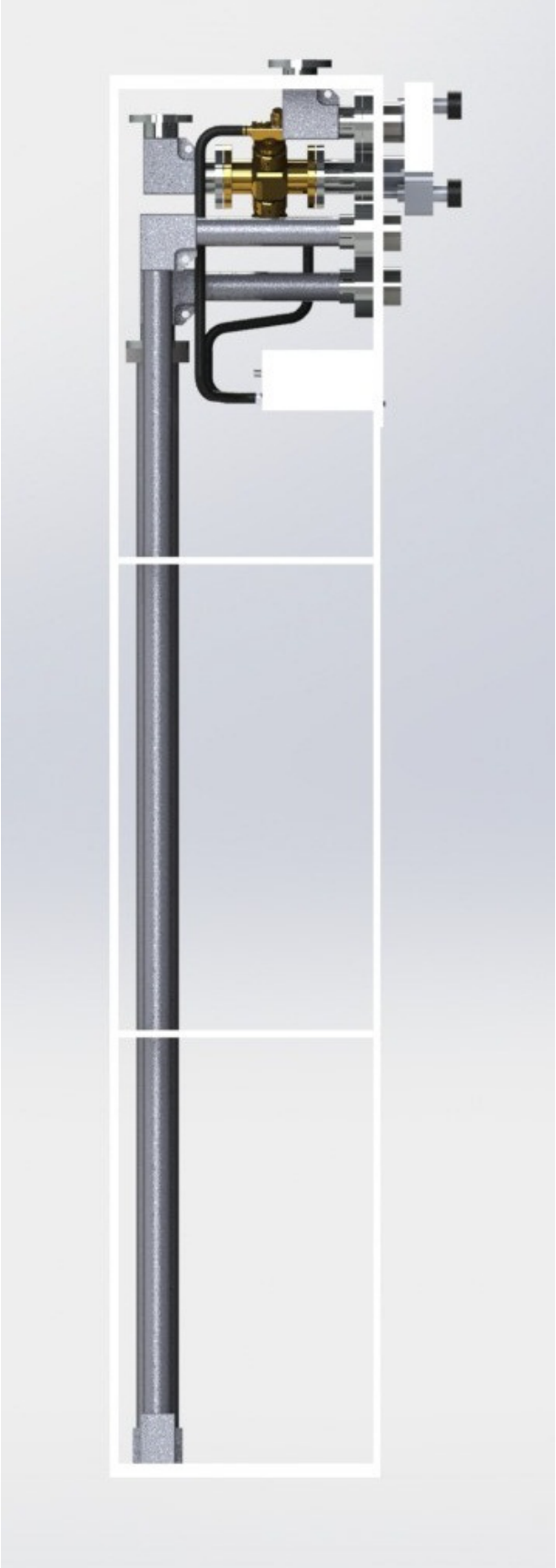
SWITCHING UNIT	TFSWU6158
Patch Panel, manual switchboard	2 pcs.
Frequency band	87.5-108 MHz
Input connector type	1+5/8" EIA
Output connector	2x 1+5/8" EIA
Input and output connector location	Upside feeder connection
Impedance	50 Ω
VSWR	≤ 1.05:1
Insertion loss	≤ 0.1 dB
Separation between inputs	> 65dB
Operation temperature	0 °C - 50 °C
Max power	15 kW rms (98 MHz, ambient +40 °C)
Number of ports	6, with transmitter blocking system
Switch over	U-links-1+5/8" USL-D
Power divider	Symmetric to a half
Phase accuracy at divider outputs	3°
Form	Rack type
Measurement panel (optional)	The metering including meters an dual directional coupler, forward and reflected power
Size	Height 1995 mm, width 488 mm, depth 494 mm
Weight	Approx. 70 kg

VIEWS OF THE SYSTEM **(DIGITAL POWER METER-DIRECTIONAL COUPLER ARE OPTIONAL)**

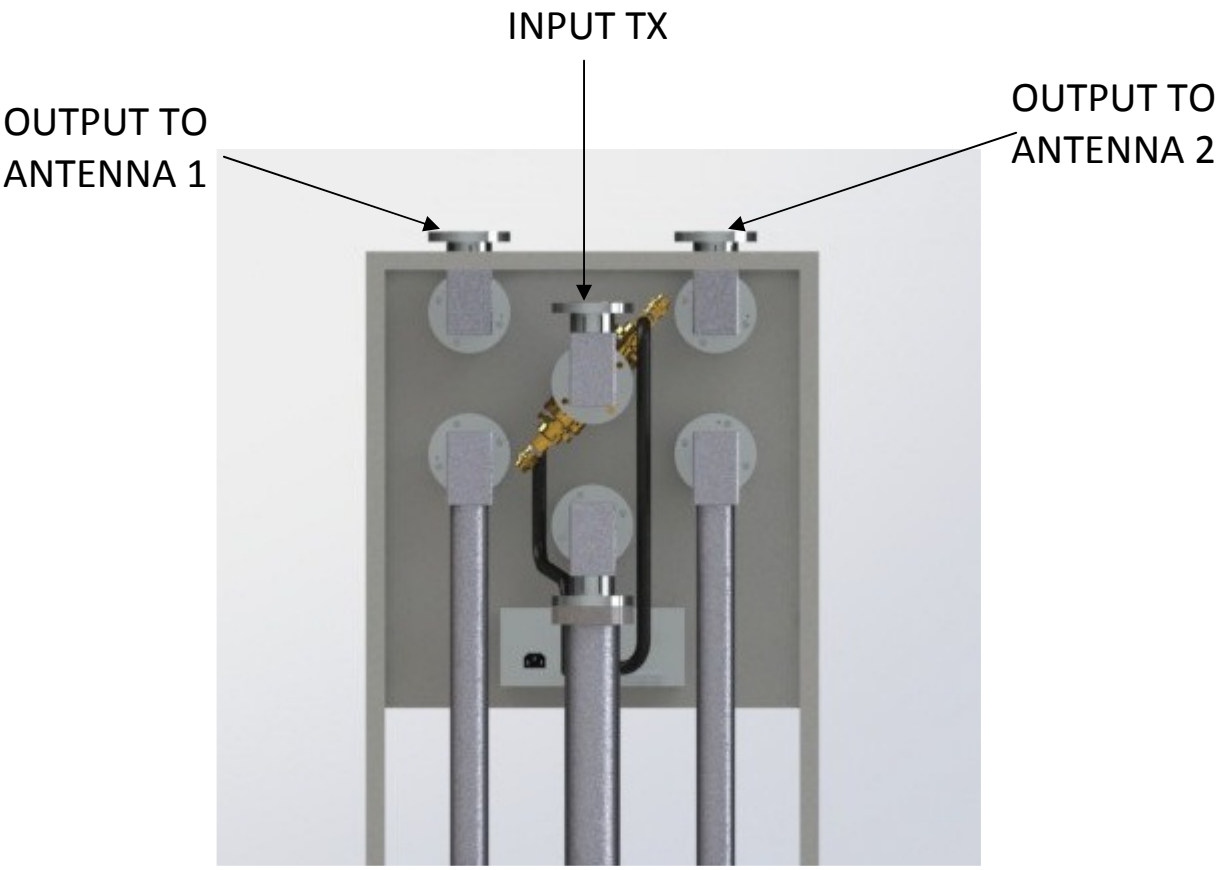




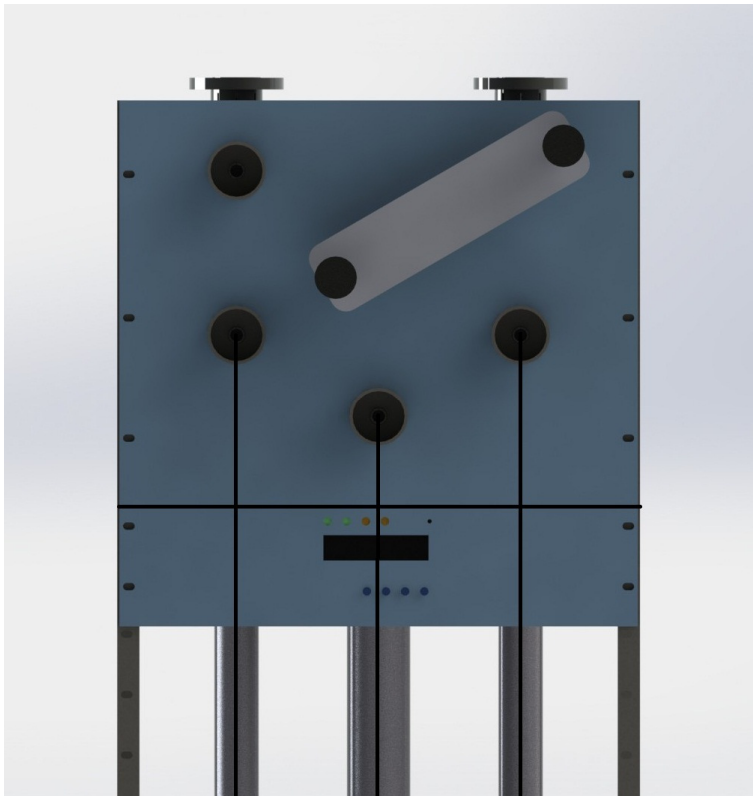




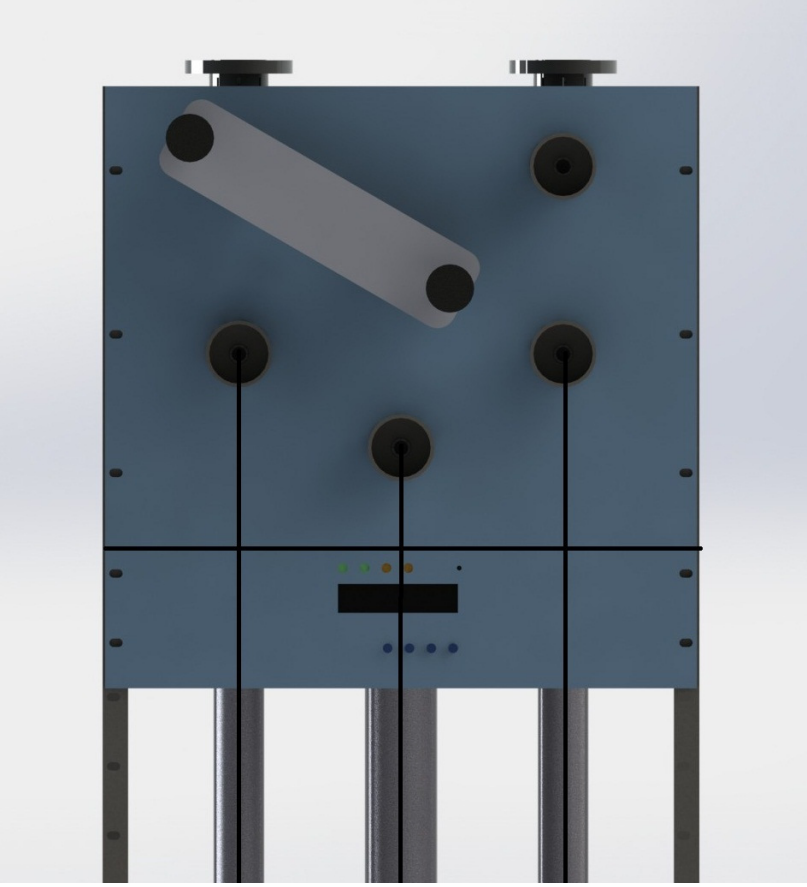
CONFIGURATIONS LAYOUT



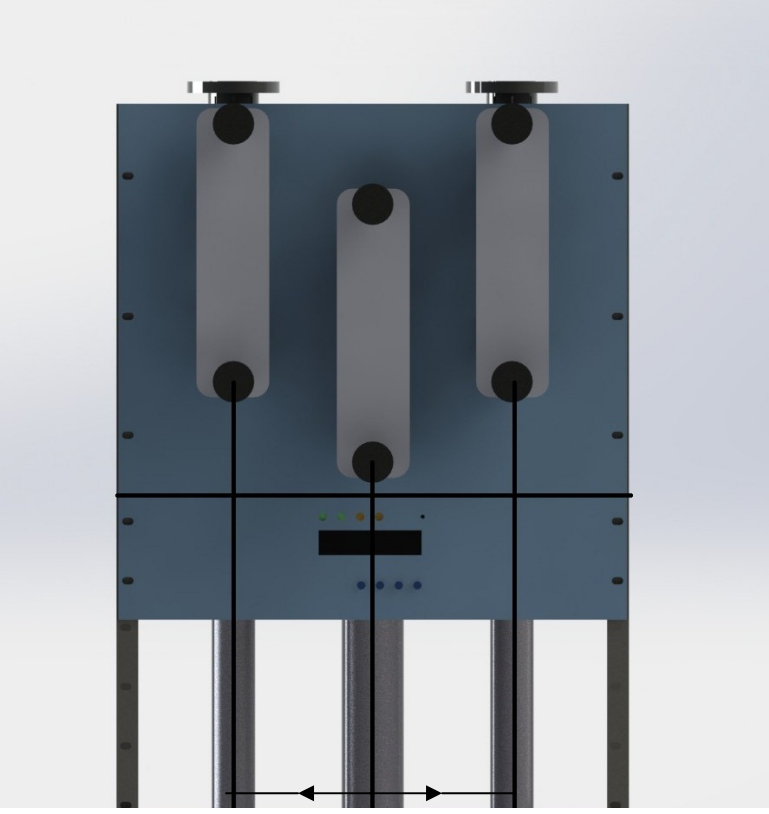
CONFIGURATION 1: OUTPUT TO ANTENNA 1 ONLY



CONFIGURATION 2: OUTPUT TO ANTENNA 2 ONLY



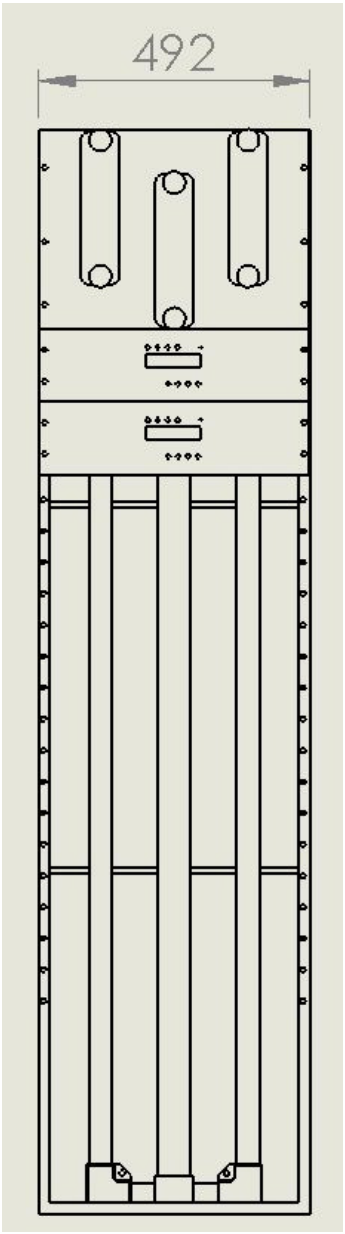
CONFIGURATION 3: OUTPUT TO BOTH ANTENNAS

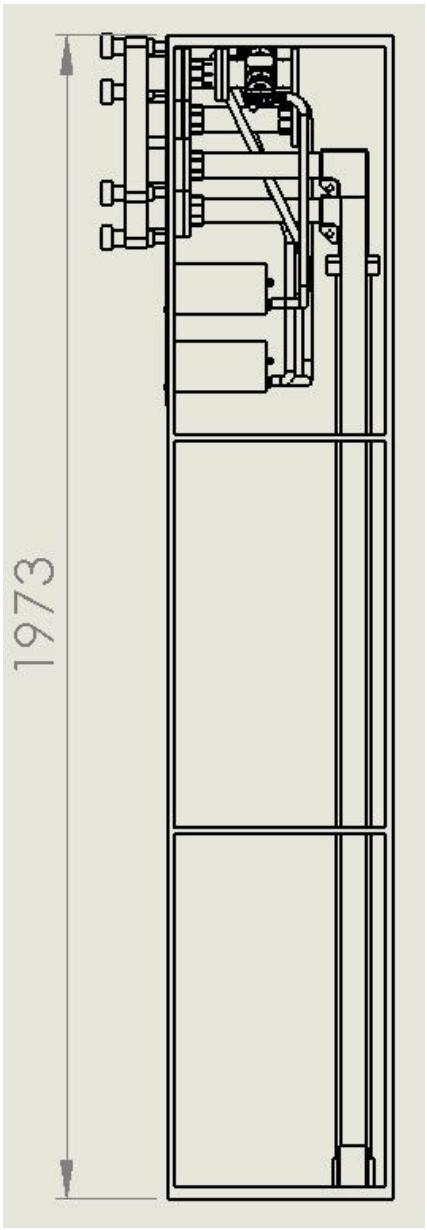


SWITCHING UNIT TFSWU6158-D

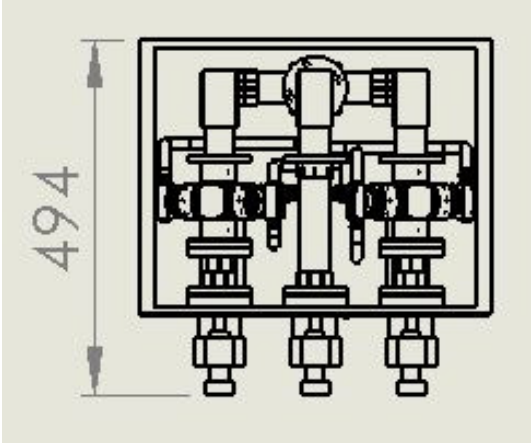
- **FREQUENCY RANGE 87.5- 108 MHz**
- **IMPEDANCE 50 Ohm**
- **V.S.W.R. IN THE FREQUENCY RANGE ≤ 1.05**
- **WITH MICROSWITCHES IN ALL PORTS**
- **OPTION: DIGITAL POWER METERS-DIRECTIONAL COUPLERS**

DIMENSIONS (mm)





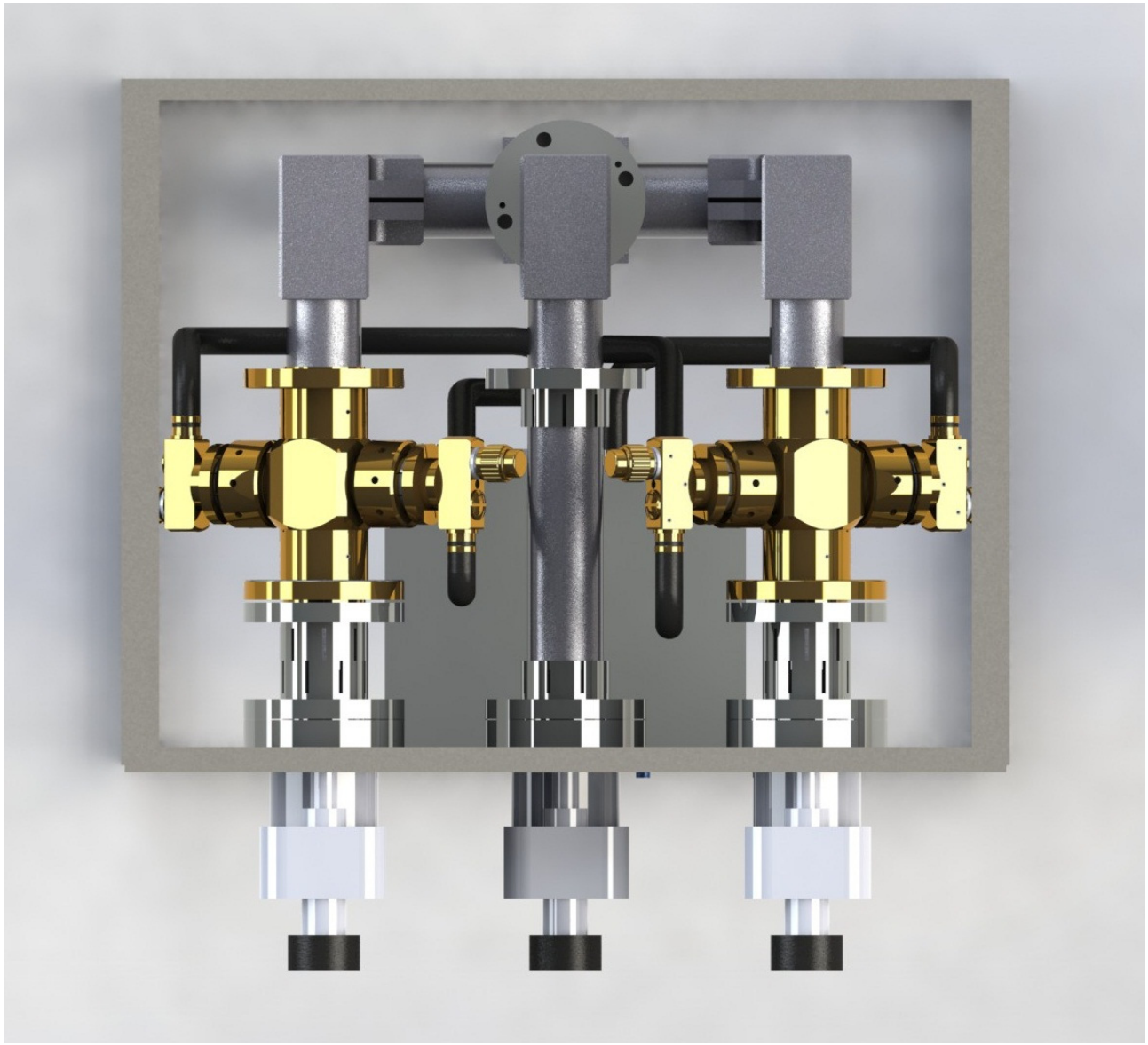
VERSION WITH OPTIONAL DIGITAL POWER METERS-DIRECTIONAL COUPLERS

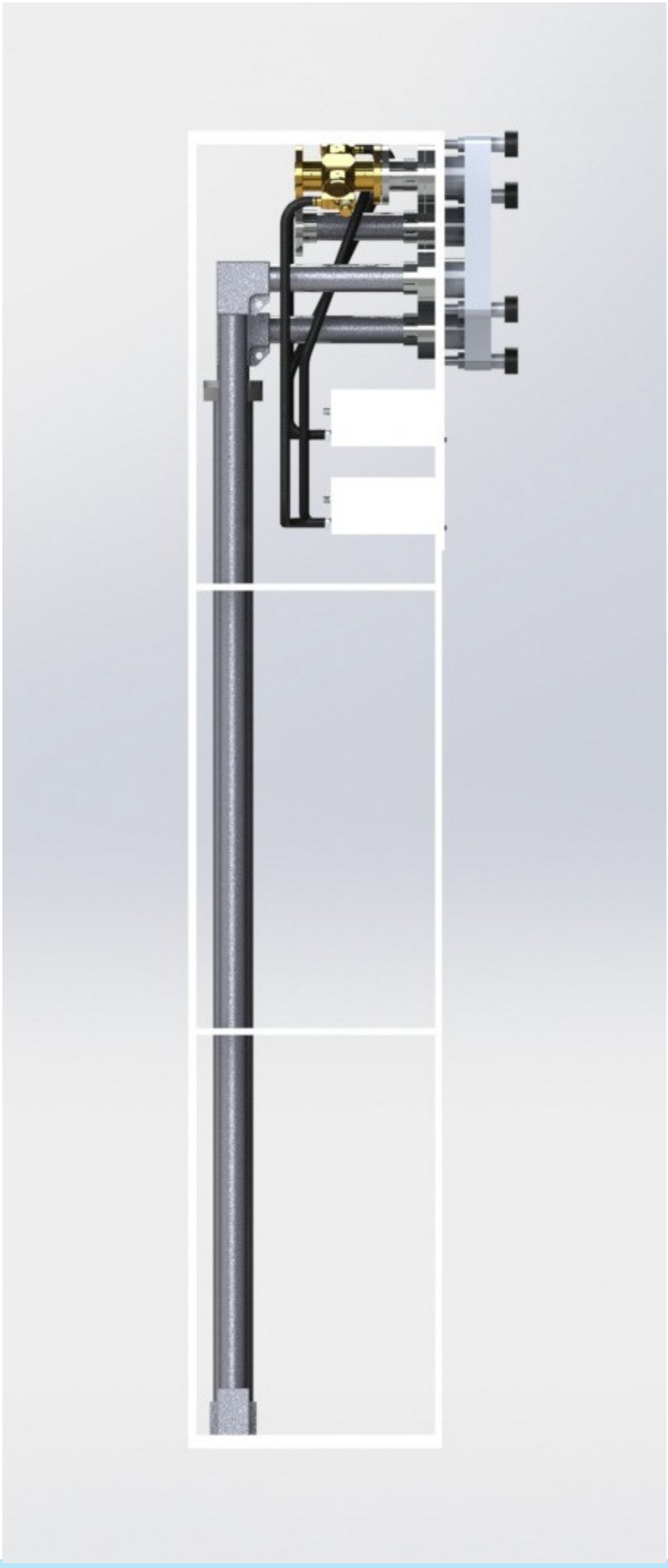


MECHANICAL AND ELECTRICAL CHARACTERISTIC OF THE SWITCHING UNIT

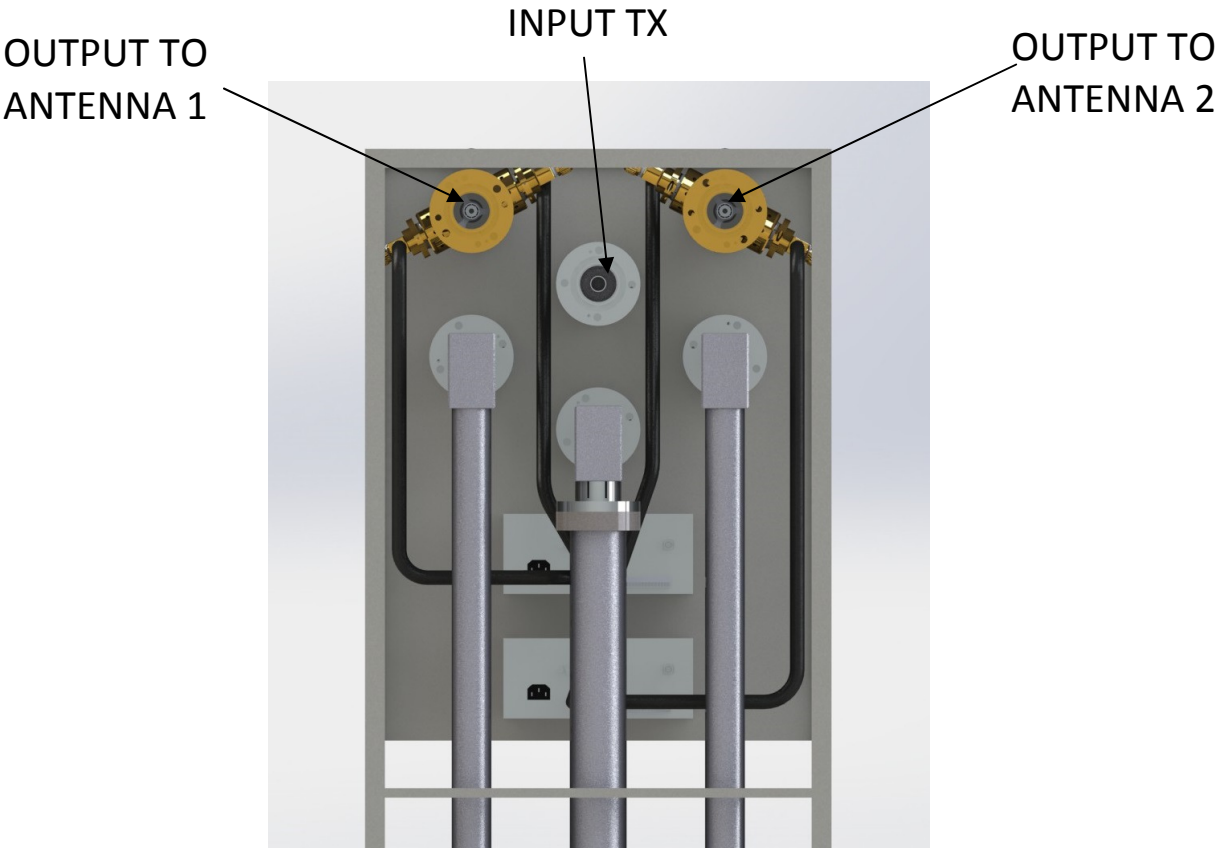
SWITCHING UNIT	TFSWU6158-D
Patch Panel, manual switchboard	1 pcs.
Frequency band	87.5-108 MHz
Input connector type	1+5/8" EIA
Output connector	2x 1+5/8" EIA
Input and output connector location	Upside feeder connection
Impedance	50 Ω
VSWR	≤ 1.05:1
Insertion loss	≤ 0.1 dB
Separation between inputs	> 65dB
Operation temperature	0 °C - 50 °C
Max power	15 kW rms (98 MHz, ambient +40 °C)
Number of ports	6, with transmitter blocking system
Switch over	U-links-1+5/8" USL-D
Power divider	Symmetric to a half
Phase accuracy at divider outputs	3°
Form	Rack type
Measurement panels (optional)	The metering including meters and dual directional couplers, forward and reflected power
Size	Height 1995 mm, width 488 mm, depth 494 mm
Weight	Approx. 76 kg

VIEWS OF THE SYSTEM **(DIGITAL POWER METERS-DIRECTIONAL COUPLERS ARE OPTIONAL)**

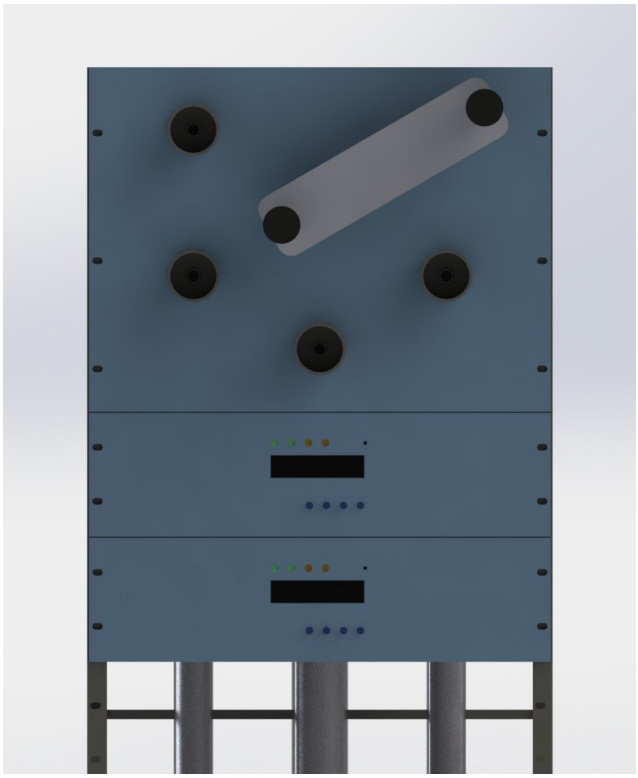




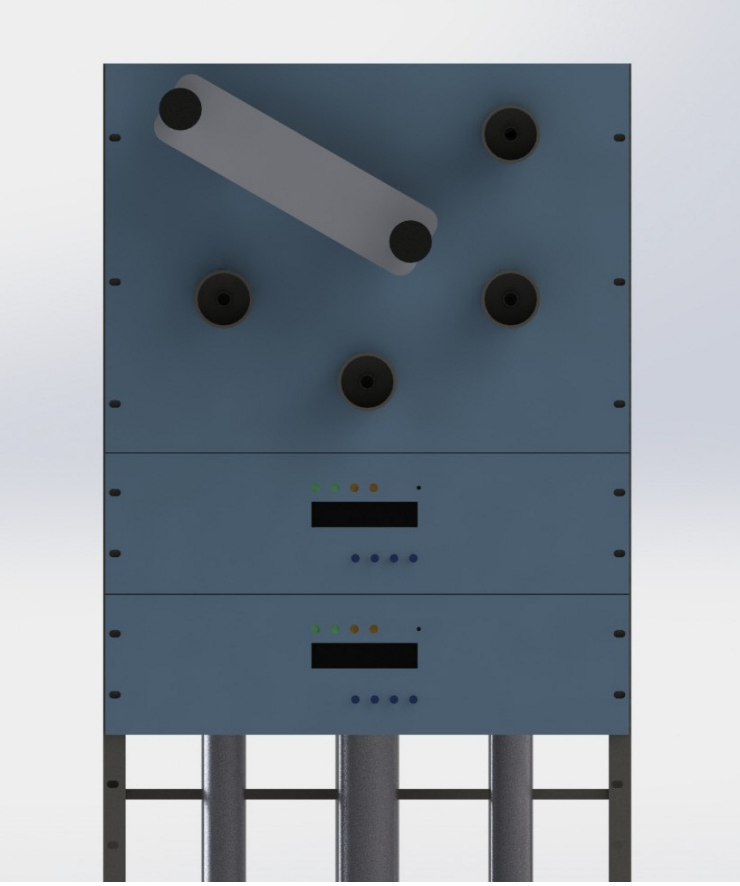
CONFIGURATIONS LAYOUT



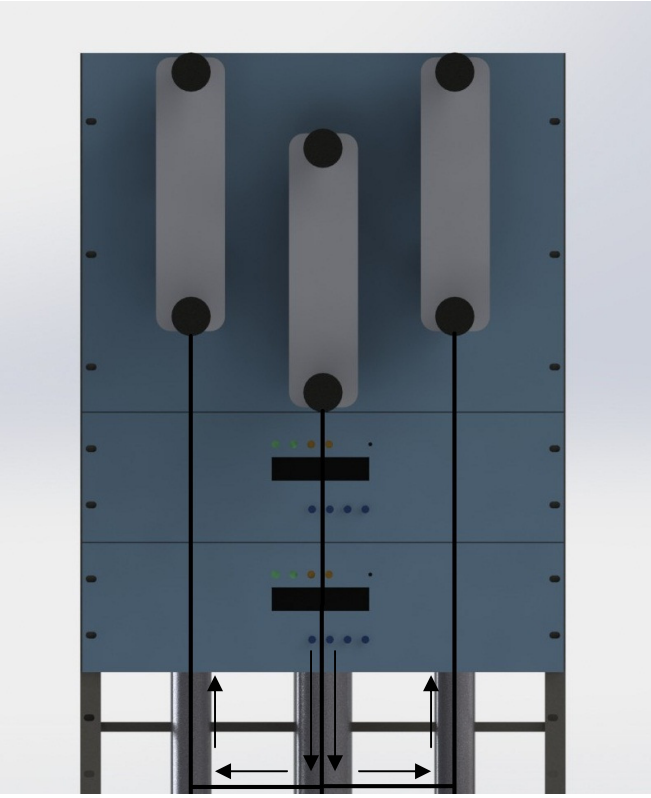
CONFIGURATION 1: OUTPUT TO ANTENNA 1 ONLY



CONFIGURATION 2: OUTPUT TO ANTENNA 2 ONLY



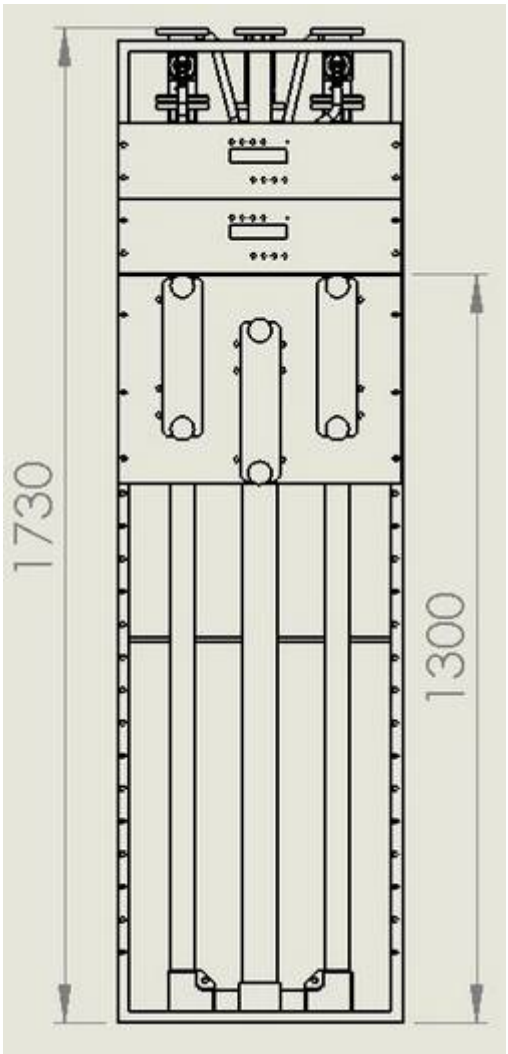
CONFIGURATION 3: OUTPUT TO BOTH ANTENNAS

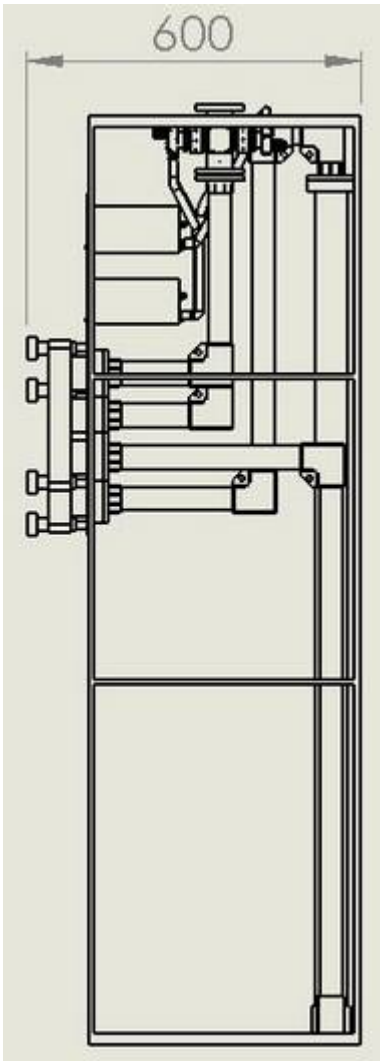


SWITCHING UNIT TFSWU6158-E

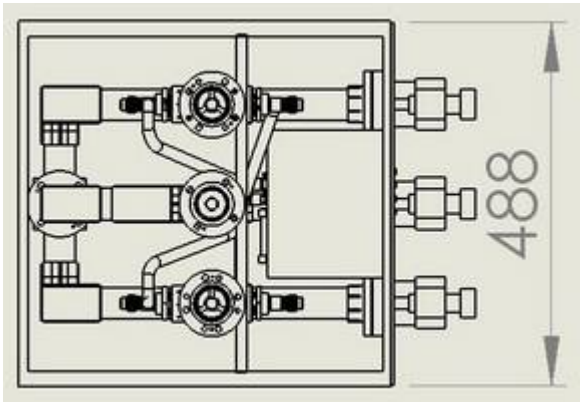
- **FREQUENCY RANGE 87.5- 108 MHz**
- **IMPEDANCE 50 Ohm**
- **V.S.W.R. IN THE FREQUENCY RANGE ≤ 1.05**
- **WITH MICROSWITCHES IN ALL PORTS**
- **OPTION: DIGITAL POWER METERS-DIRECTIONAL COUPLERS**

DIMENSIONS (mm)





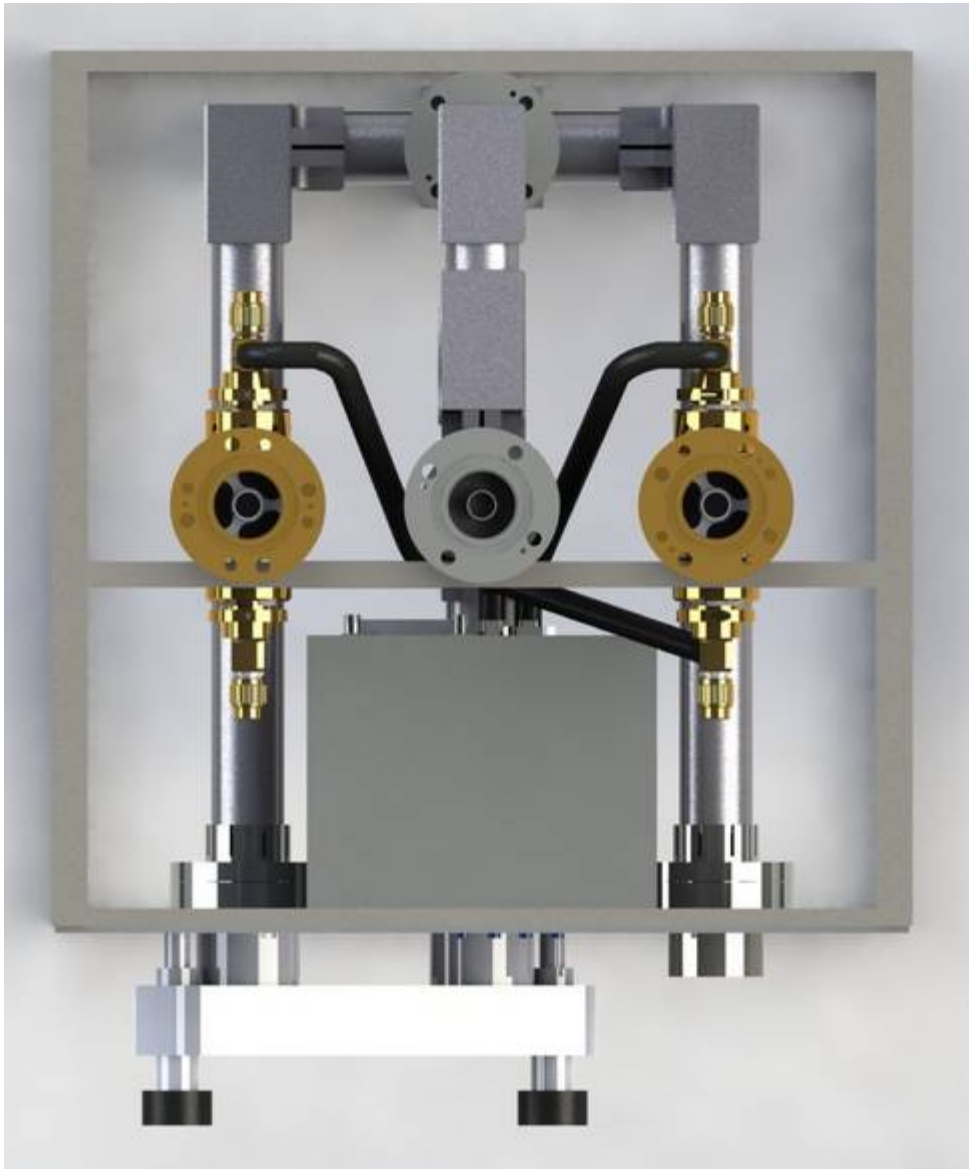
VERSION WITH OPTIONAL DIGITAL POWER METERS-DIRECTIONAL COUPLERS

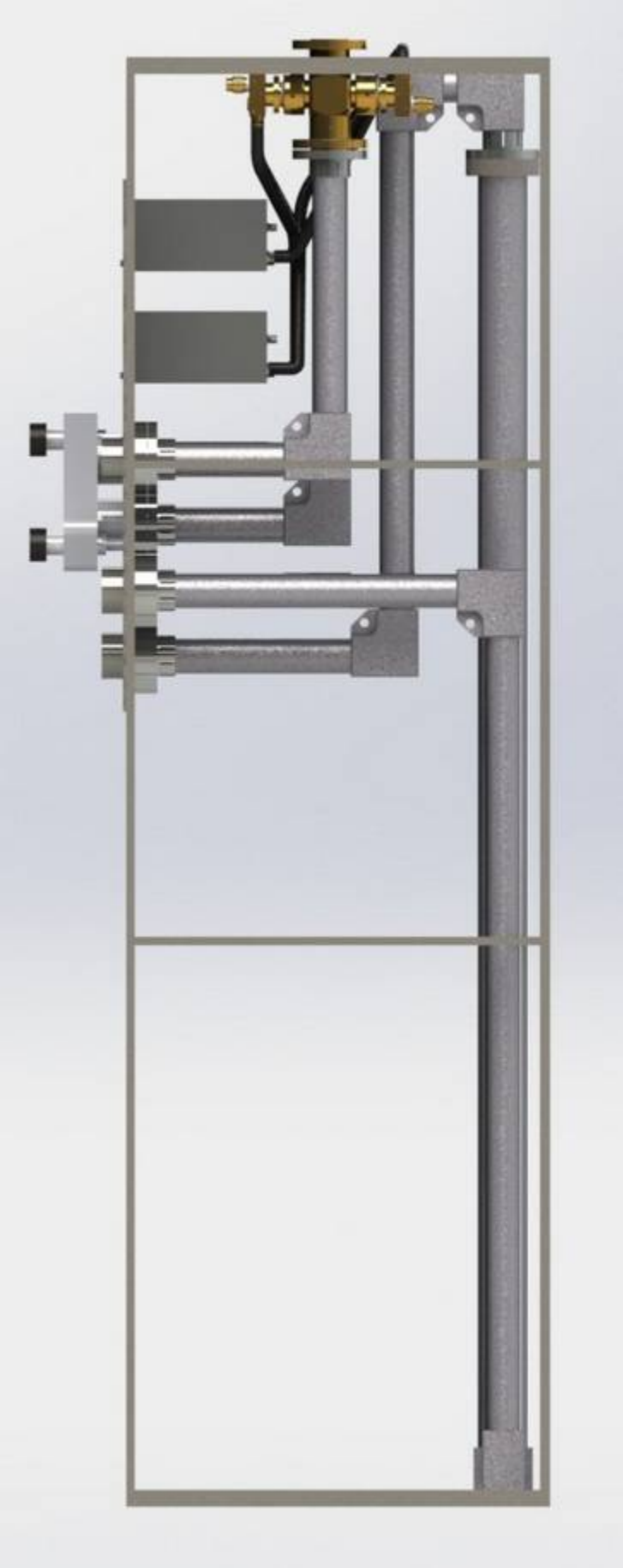


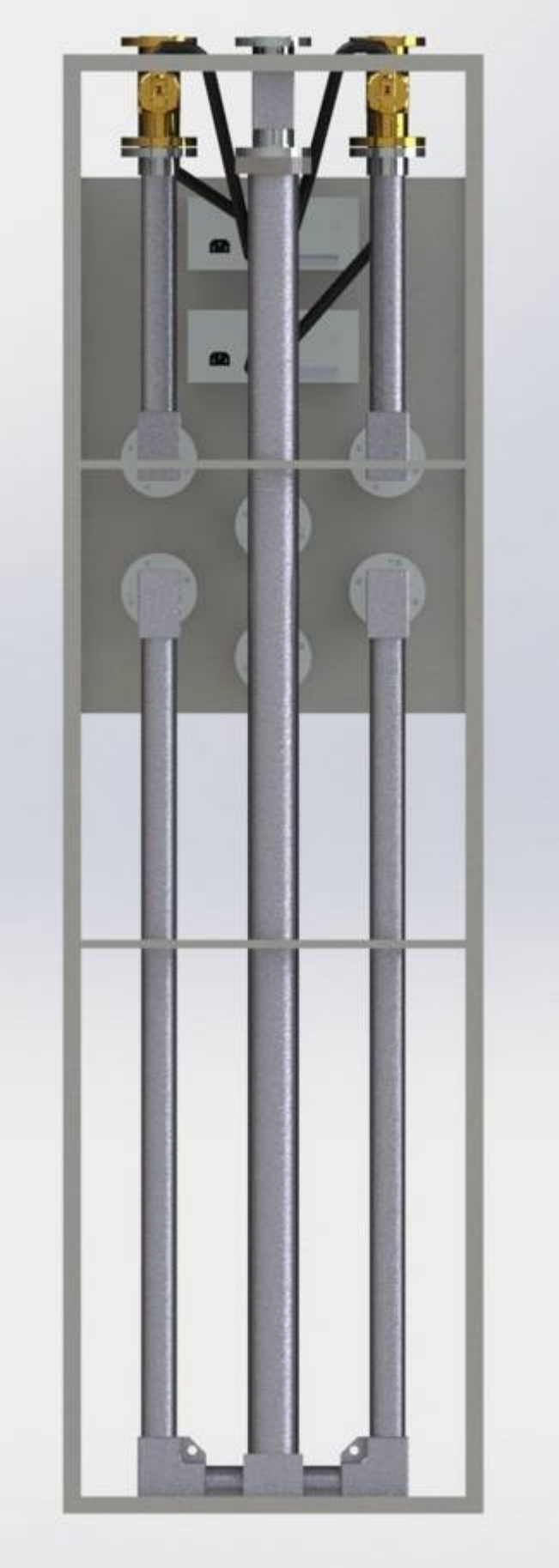
MECHANICAL AND ELECTRICAL CHARACTERISTIC OF THE SWITCHING UNIT

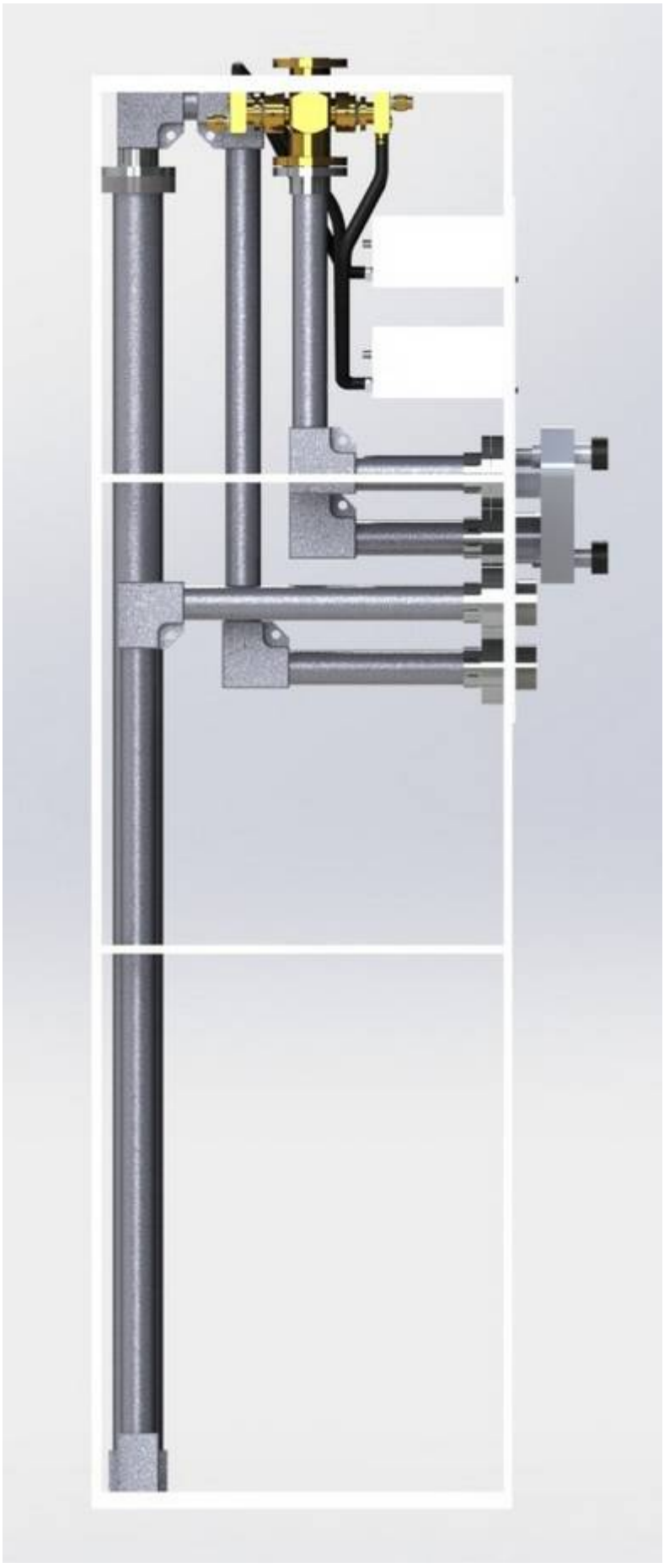
SWITCHING UNIT	TFSWU6158-E
Patch Panel, manual switchboard	1 pcs.
Frequency band	87.5-108 MHz
Input connector type	1+5/8" EIA
Output connector	2x 1+5/8" EIA
Input and output connector location	Upside feeder connection
Impedance	50 Ω
VSWR	≤ 1.05:1
Insertion loss	≤ 0.1 dB
Separation between inputs	> 65dB
Operation temperature	0 °C - 50 °C
Max power	15 kW rms (98 MHz, ambient +40 °C)
Number of ports	6, with transmitter blocking system
Switch over	U-links-1+5/8" USL-D
Power divider	Symmetric to a half
Phase accuracy at divider outputs	3°
Form	Rack type
Measurement panels (optional)	The metering including meters and dual directional couplers, forward and reflected power
Size	Height 1730 mm, width 488 mm, depth 600 mm (68.1X19.2X23.6 inch)
Weight	Approx. 80 kg

VIEWS OF THE SYSTEM **(DIGITAL POWER METERS-DIRECTIONAL COUPLERS ARE OPTIONAL)**

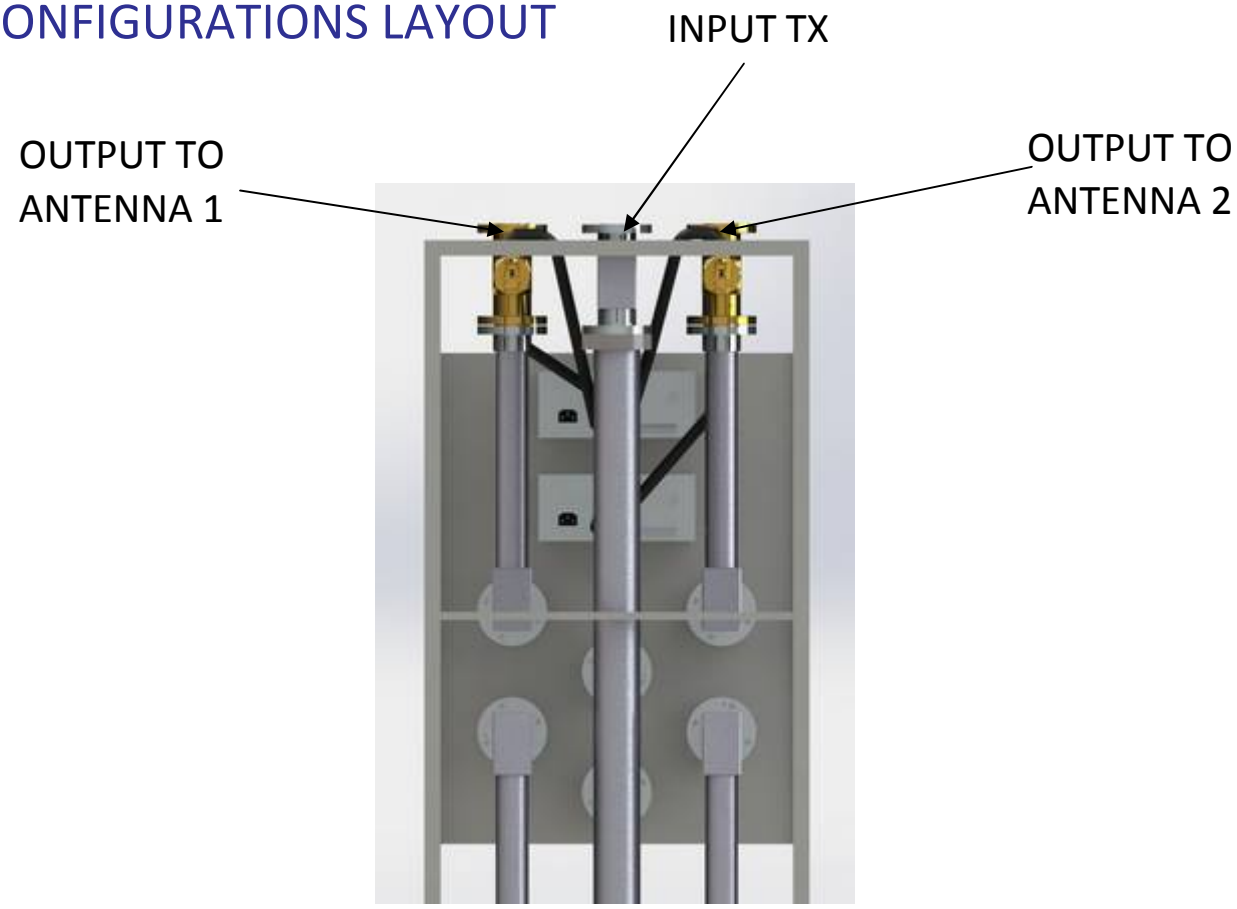








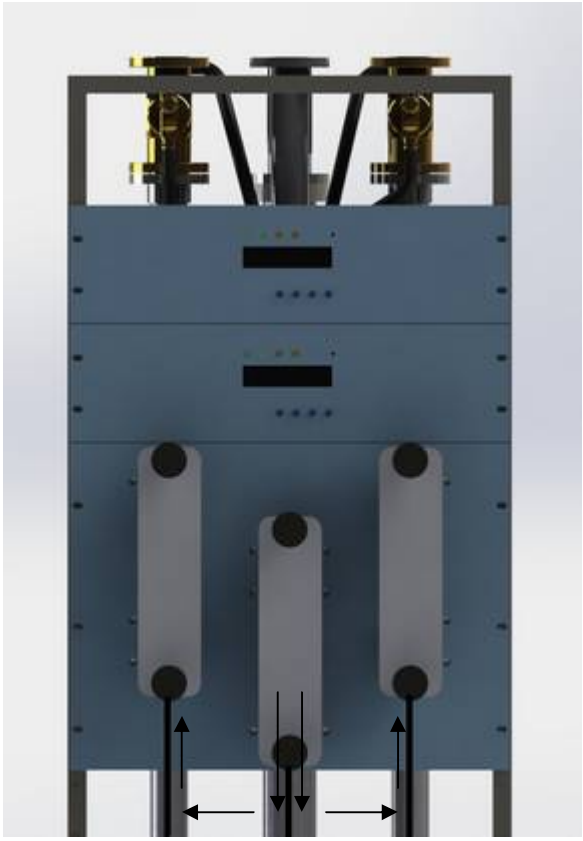
CONFIGURATIONS LAYOUT



CONFIGURATION 1: OUTPUT TO ANTENNA 1 ONLY

CONFIGURATION 2: OUTPUT TO ANTENNA 2 ONLY

CONFIGURATION 3: OUTPUT TO BOTH ANTENNAS

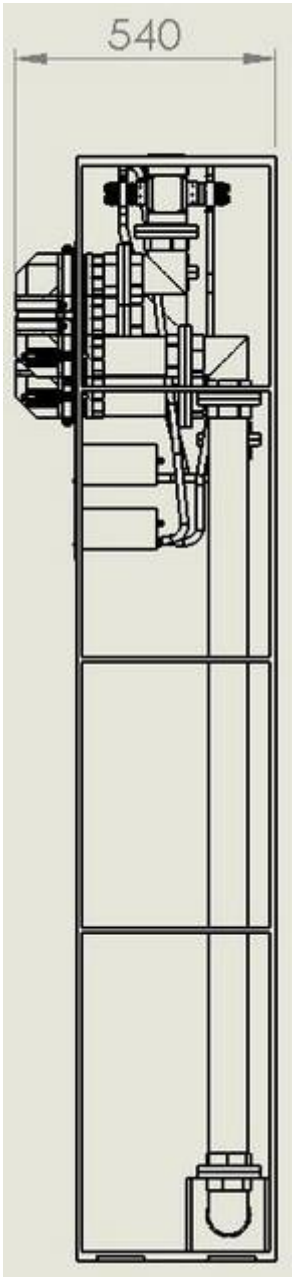


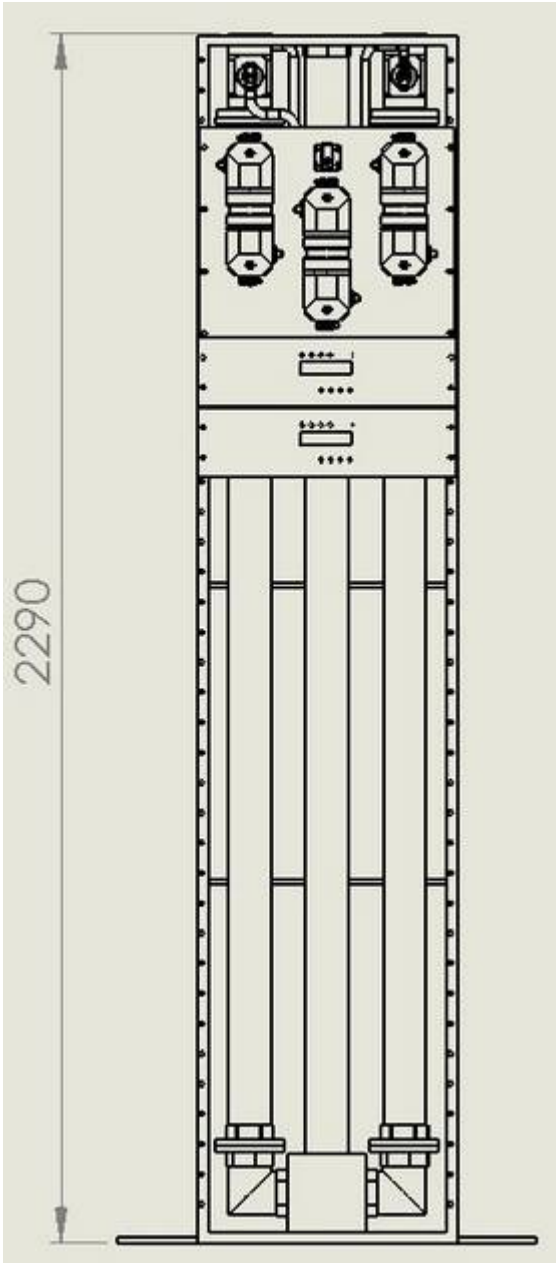
SWITCHING UNIT TFSWU6318

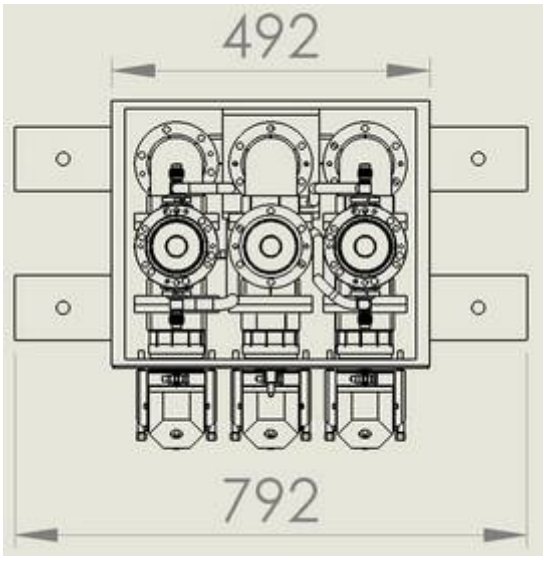
- FREQUENCY RANGE 87.5- 108 MHz
- IMPEDANCE 50 Ohm
- V.S.W.R. IN THE FREQUENCY RANGE ≤ 1.05
- WITH MICROSWITCHES IN ALL PORTS
- OPTION: DIGITAL POWER METERS
- IT'S POSSIBLE CUSTOMER VERSION

VERSION WITH OPTIONAL
DIGITAL POWER METERS

DIMENSIONS (mm)



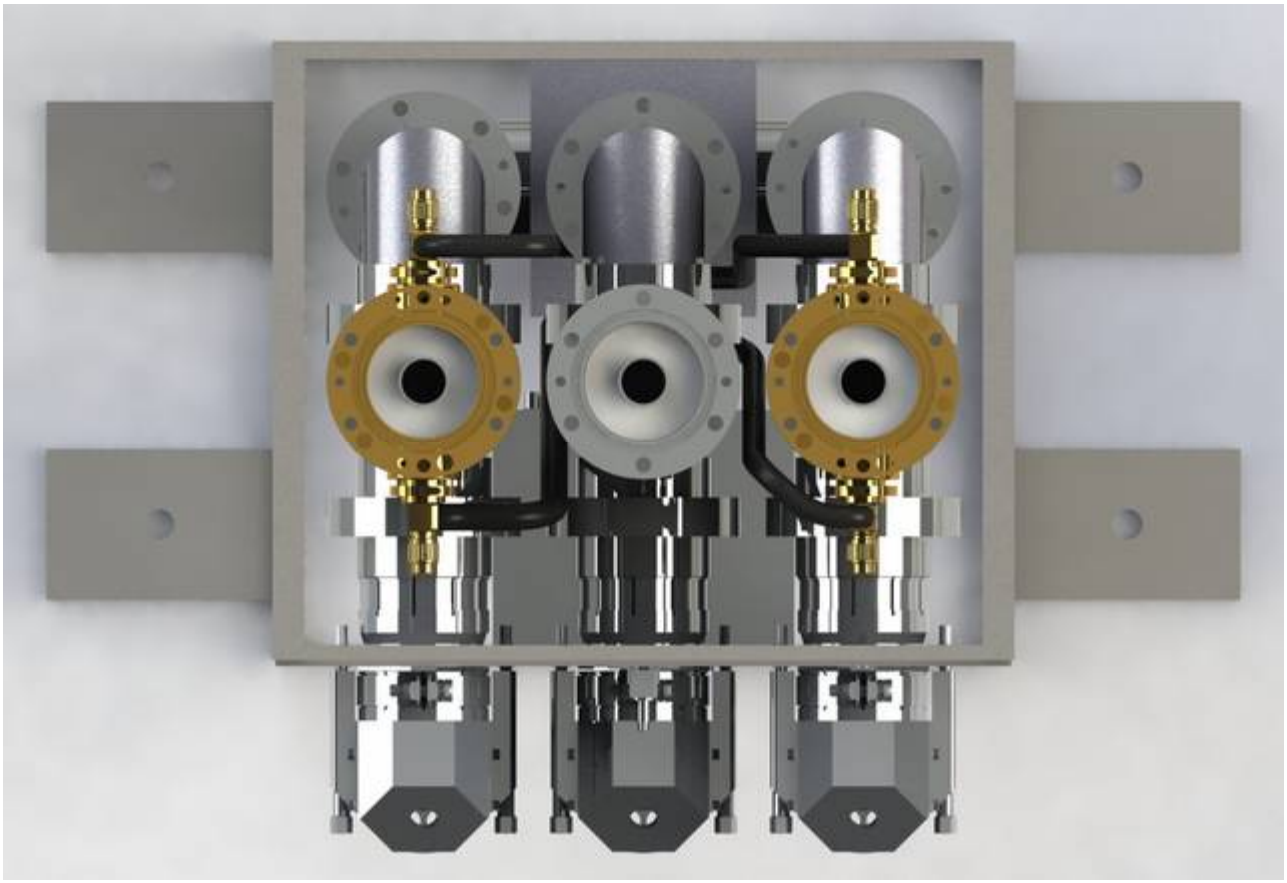




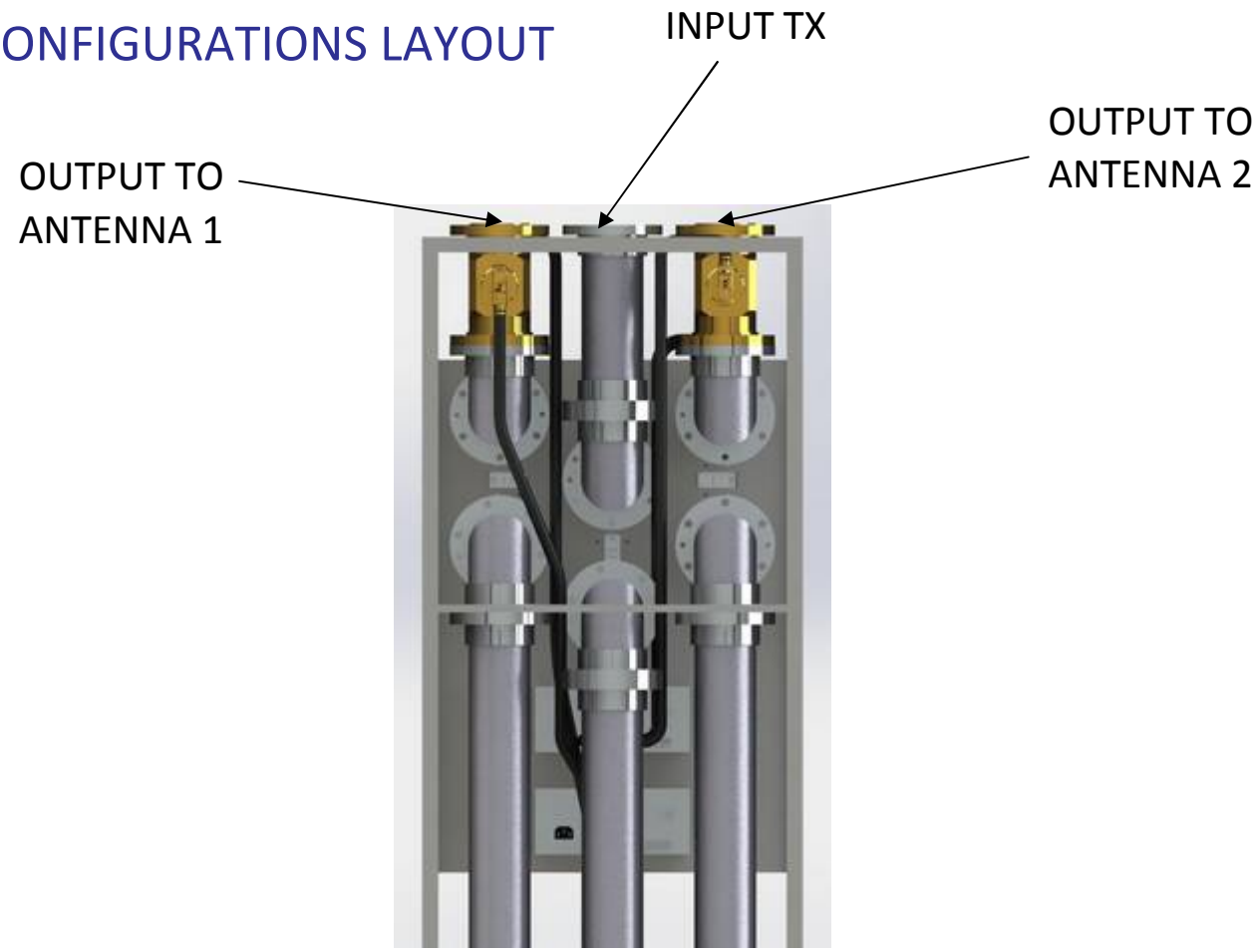
MECHANICAL AND ELECTRICAL CHARACTERISTIC OF THE SWITCHING UNIT

SWITCHING UNIT	TFSWU6318
Patch Panel, manual switchboard	1 pcs.
Frequency band	87.5-108 MHz
Input connector type	3+1/8" EIA
Output connector	2x 3+1/8" EIA
Input and output connector location	Upside feeder connection
Impedance	50 Ω
VSWR	≤ 1.05:1
Insertion loss	≤ 0.1 dB
Separation between inputs	> 65dB
Operation temperature	0 °C - 50 °C
Max power	30 kW rms (98 MHz, ambient +40 °C)
Number of ports	6, with transmitter blocking system
Switch over	U-links-3+1/8" USL-D
Power divider	Symmetric to a half
Phase accuracy at divider outputs	3°
Form	Rack type
Measurement panels (optional)	The metering including meters, forward and reflected power
Size	Height 2290 mm, width 492 mm, depth 540 mm (68.1X19.2X23.6 inch)
Weight	Approx. 95 kg

VIEWS OF THE SYSTEM **(DIGITAL POWER METERS ARE OPTIONAL)**



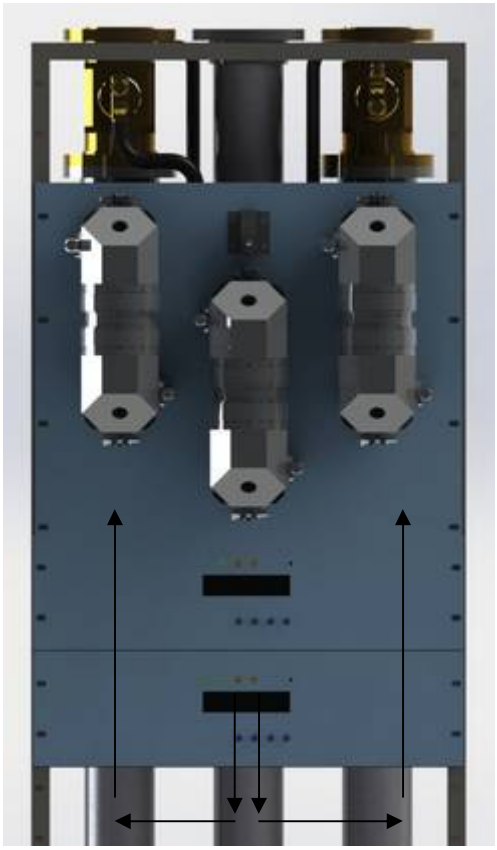
CONFIGURATIONS LAYOUT



CONFIGURATION 1: OUTPUT TO ANTENNA 1 ONLY

CONFIGURATION 2: OUTPUT TO ANTENNA 2 ONLY

CONFIGURATION 3: OUTPUT TO BOTH ANTENNAS



SWITCHING UNIT TFSWU6412

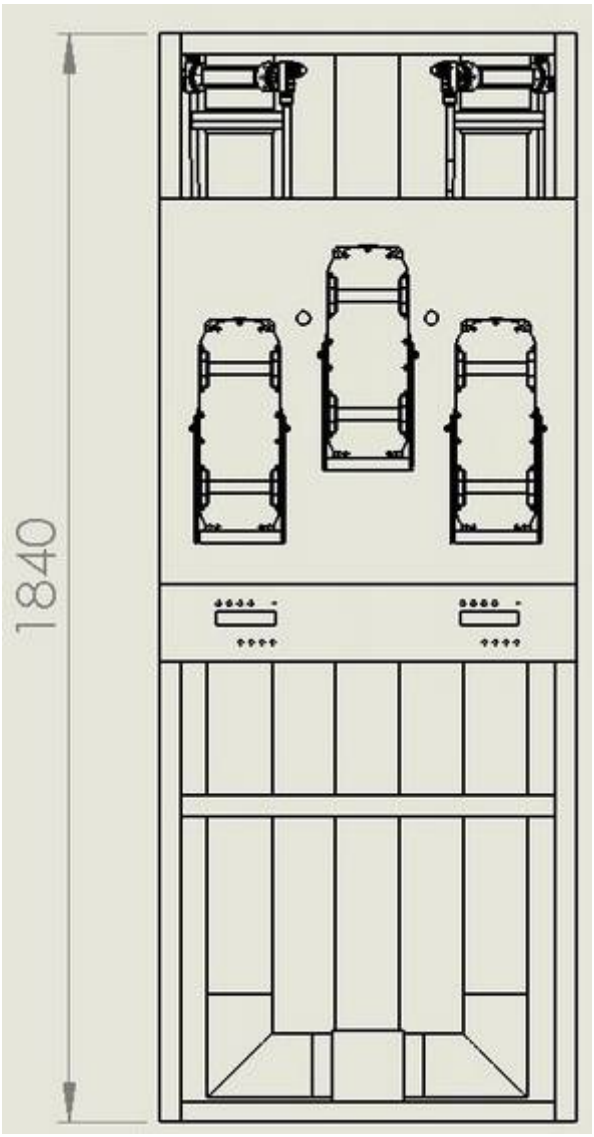
- **FREQUENCY RANGE 87.5- 108 MHz**
- **IMPEDANCE 50 Ohm**
- **V.S.W.R. IN THE FREQUENCY RANGE ≤ 1.05**
- **WITH MICROSWITCHES IN ALL PORTS**
- **OPTION: DIGITAL POWER METERS**
- **IT'S POSSIBLE CUSTOMER VERSION**

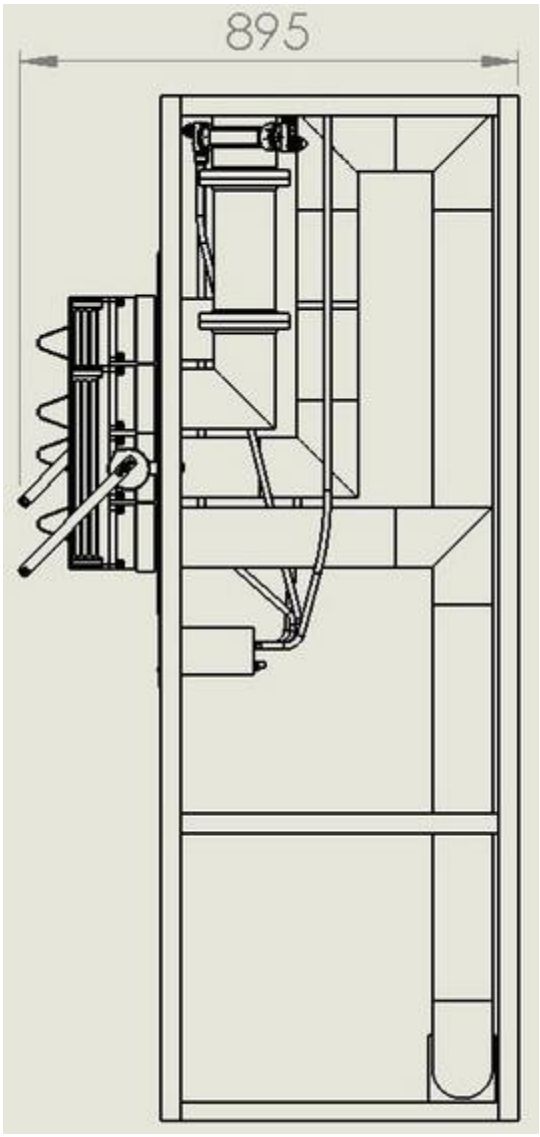
VERSION WITH OPTIONALS
DIGITAL POWER METERS

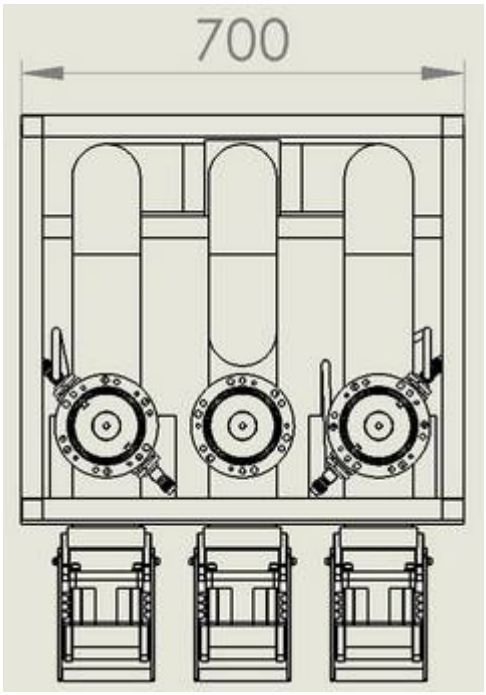
MECHANICAL AND ELECTRICAL CHARACTERISTIC OF THE SWITCHING UNIT

SWITCHING UNIT	TFSWU6412
Patch Panel, manual switchboard	1 pcs.
Frequency band	87.5-108 MHz
Input connector type	4+1/2” EIA
Output connector	2x 4+1/2" EIA
Input and output connector location	Upside feeder connection
Impedance	50 Ω
VSWR	≤ 1.05:1
Insertion loss	≤ 0.1 dB
Separation between inputs	> 65dB
Operation temperature	0 °C - 50 °C
Max power	60 kW rms (98 MHz, ambient +40 °C)
Number of ports	6, with transmitter blocking system
Switch over	U-links-4+1/2" USL-D
Power divider	Symmetric to a half
Phase accuracy at divider outputs	3°
Form	Rack type
Measurement panels (optional)	The metering including meters, forward and reflected power
Size	Height 1840 mm, width 700 mm, depth 895 mm (72.4X27.6X35.2 inch)
Weight	Approx. 200 kg

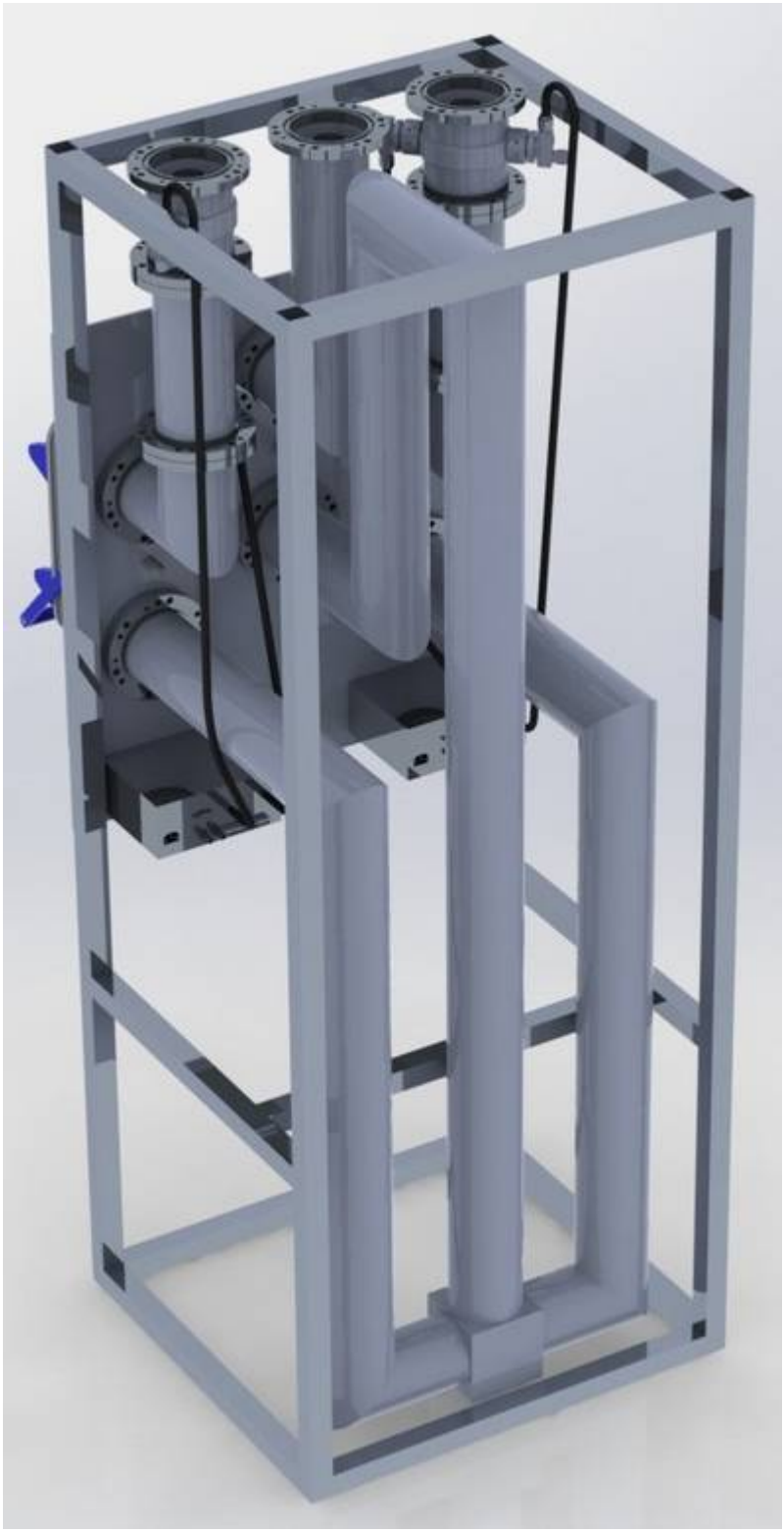
DIMENSIONS (mm)

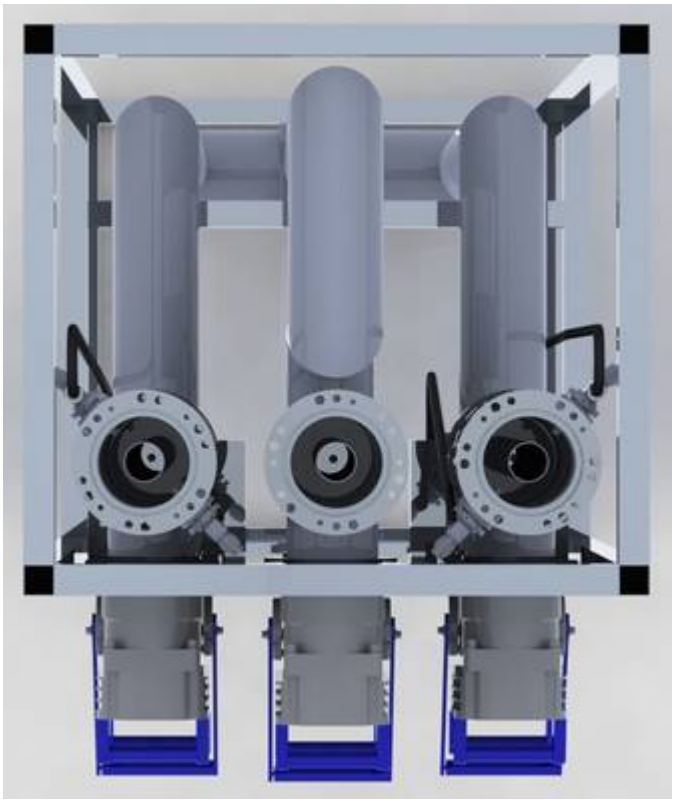


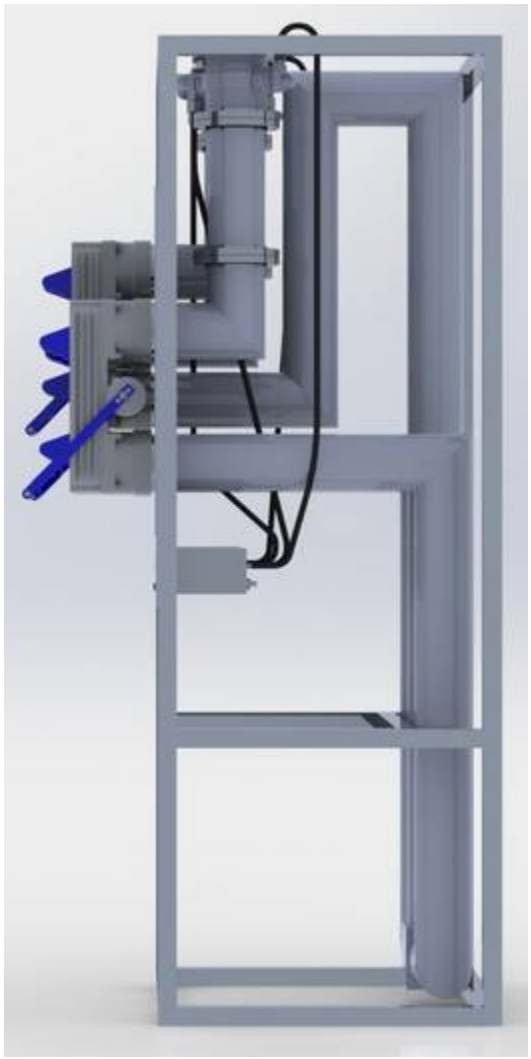


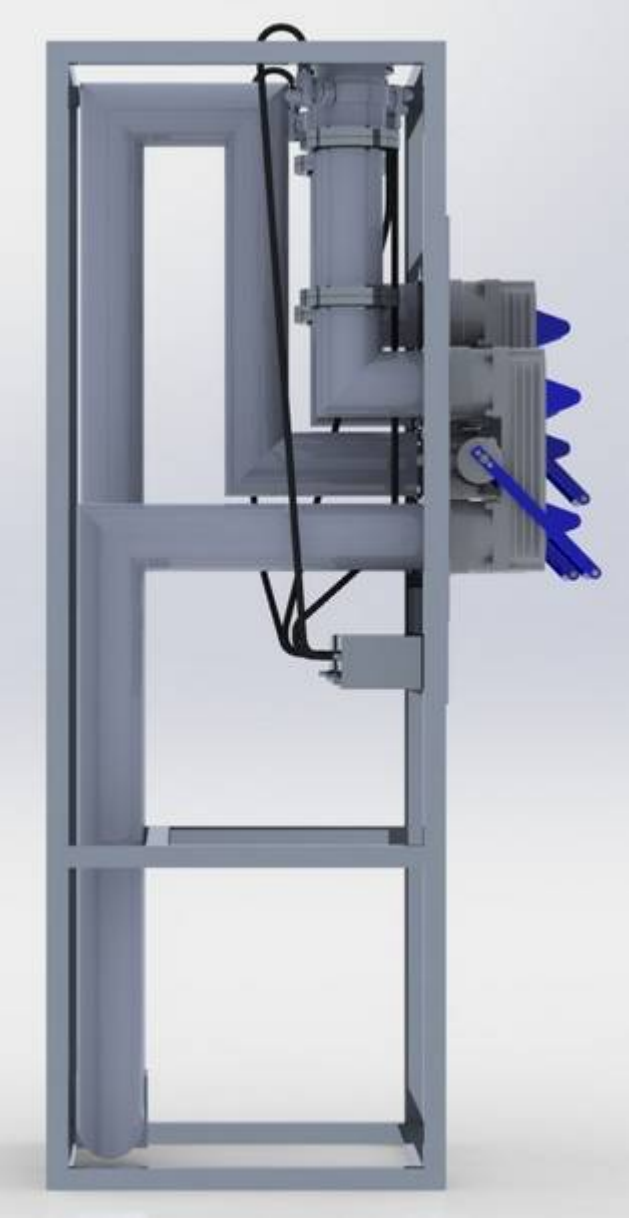


VIEWS OF THE SYSTEM **(DIGITAL POWER METERS ARE OPTIONAL)**

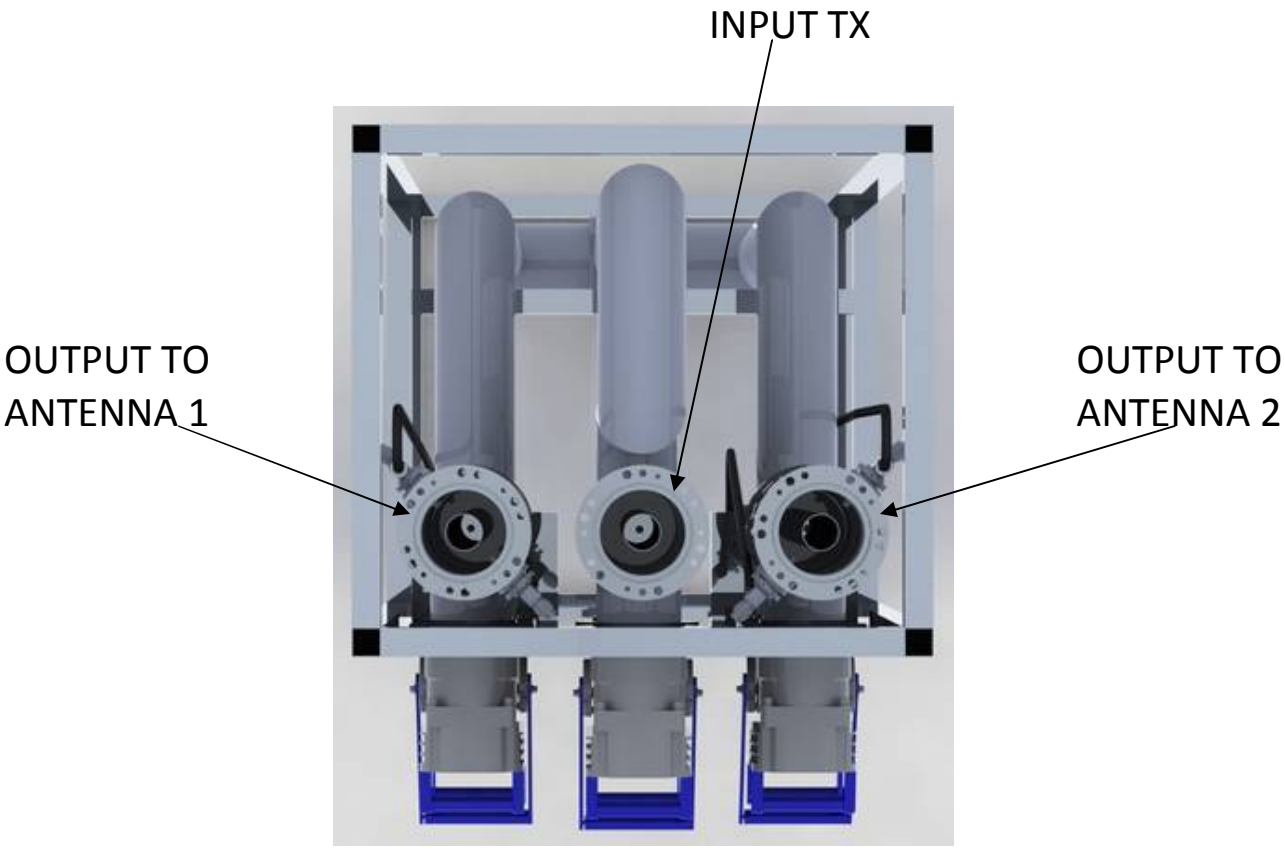








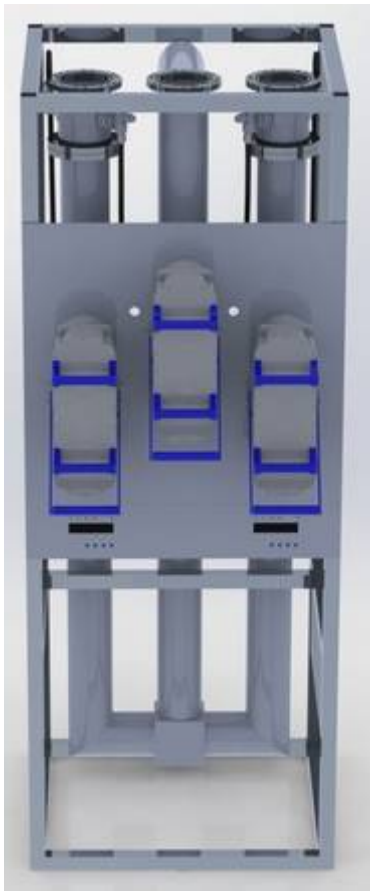
CONFIGURATIONS LAYOUT



CONFIGURATION 1: OUTPUT TO ANTENNA 1 ONLY

CONFIGURATION 2: OUTPUT TO ANTENNA 2 ONLY

CONFIGURATION 3: OUTPUT TO BOTH ANTENNAS



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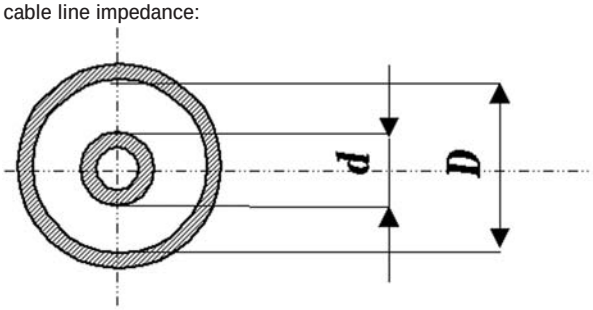
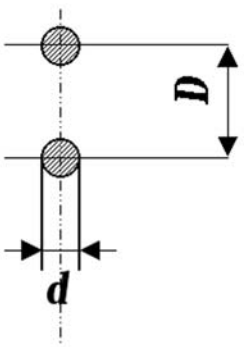
GENERAL PURPOSE DATA AND TABLES

Coaxial cable line impedance:



$$Z_0 = \frac{138}{\sqrt{\varepsilon_r}} \text{ LOG } \frac{D}{d}$$

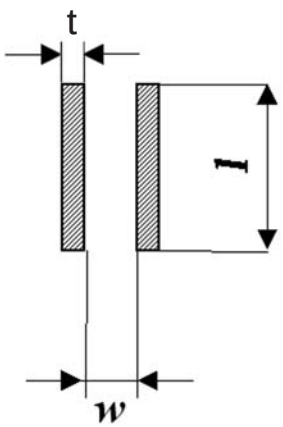
Bifilar line impedance:



$$Z_0 = \frac{276}{\sqrt{\varepsilon_r}} \text{ LOG } \frac{2D}{d}$$

for D >> d

Flat



$$Z_0 \cong \frac{377}{\sqrt{\varepsilon_r}} \frac{W}{1}$$

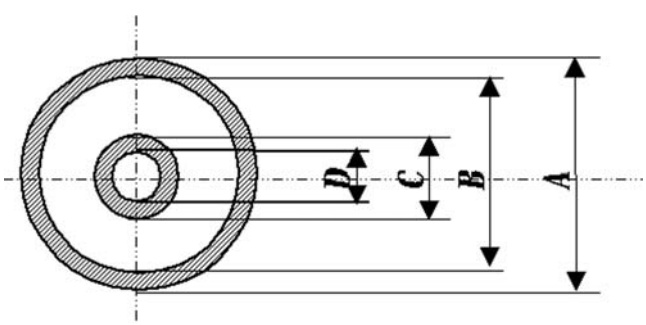
for t << W

Frequency/air wave - length conversion formula:

$\lambda = c/f$

λ = meters ; f = MHz ; c=300

Dimensions of 50 ohm coaxial rigid lines / EIA STANDARD



mm.	A		B		C		D	
Line	Ø	Tol.	Ø	Tol.	Ø	Tol.	Ø	Tol.
7/8"	22.22	±0.06	19.94	±0.06	8.66	±0.05	7.39	±0.05
1 5/8"	41.27	±0.07	38.78	±0.07	16.87	±0.06	14.93	±0.06
3 1/8"	79.4	±0.12	76.88	±0.12	33.4	±0.07	31.26	±0.07
4 1/8"	107	±0.15	104	±0.15	45	±0.1	43	±0.1
6 1/8"	155.57	±0.2	151.9	±0.2	66	±0.1	64	±0.1

Reflection coefficient table

$$VSWR = \frac{1+r}{1-r}$$

r = Reflection coefficient

RETURN LOSS = -20 *Log* r = -10 *Log* r^2

r^2 = Reflected to incident power ratio

VSWR	-20*Log* r -10*Log* r^2	r	r^2
∞	0	1.0000	1.0000
17.391	1	0.8913	0.7943
8.724	2	0.8943	0.631
5.848	3	0.7079	0.5012
4.419	4	0.631	0.3981
3.57	5	0.5623	0.3162
3.01	6	0.5012	0.2512
2.615	7	0.4467	0.1995
2.323	8	0.3981	0.1585
2.1	9	0.3548	0.1259
1.925	10	0.3162	0.1
1.785	11	0.2818	0.0794
1.671	12	0.2512	0.0631
1.577	13	0.2239	0.0501
1.499	14	0.1995	0.0398
1.433	15	0.1778	0.316
1.377	16	0.1585	0.0251
1.329	17	0.1413	0.02
1.288	18	0.1259	0.0158
1.253	19	0.1122	0.0126
1.222	20	0.1	0.01
1.196	21	0.0891	0.0079
1.173	22	0.0794	0.0063
1.152	23	0.0708	0.005
1.135	24	0.0631	0.004
1.119	25	0.0562	0.0032
1.106	26	0.0501	0.0025
1.094	27	0.0447	0.002
1.083	28	0.0398	0.0016
1.074	29	0.0355	0.0013
1.065	30	0.0316	0.001
1.058	31	0.0282	0.0008
1.052	32	0.0251	0.0006
1.046	33	0.0224	0.0005
1.041	34	0.02	0.0004
1.036	35	0.0178	0.0003
1.032	36	0.0158	0.0003
1.029	37	0.0141	0.0002
1.025	38	0.0126	0.0006
1.023	39	0.0112	0.0001
1.02	40	0.01	0.0001
1.018	41	0.0089	0.0001
1.016	42	0.0079	0.0001
1.014	43	0.0071	0.0001
1.013	44	0.0063	0
1.011	45	0.0056	0
1.01	46	0.005	0
1.009	47	0.0045	0
1.008	48	0.004	0
1.007	49	0.0035	0
1.006	50	0.0032	0
1.006	51	0.0028	0
1.005	52	0.0025	0
1.004	53	0.0022	0
1.004	54	0.002	0
1.004	55	0.0018	0
1.003	56	0.0016	0
1.003	57	0.0014	0
1.003	58	0.0013	0
1.002	59	0.0011	0
1.002	60	0.001	0

Voltage and power ratios in dB

Ratio (Down)		dB	Ratio (Up)	
Voltage	Power		Voltage	Power
1.0	1.0	0	1.0	1.0
0.989	0.977	0.1	1.012	1.023
0.977	0.955	0.2	1.023	1.047
0.966	0.933	0.3	1.035	1.072
0.955	0.912	0.4	1.047	1.096
0.944	0.891	0.5	1.059	1.122
0.933	0.871	0.6	1.072	1.148
0.923	0.851	0.7	1.084	1.175
0.912	0.832	0.8	1.096	1.202
0.902	0.813	0.9	1.109	1.23
0.891	0.794	1	1.122	1.259
0.871	0.759	1.2	1.148	1.318
0.851	0.724	1.4	1.175	1.38
0.832	0.692	1.6	1.202	1.445
0.813	0.661	1.8	1.23	1.514
0.794	0.631	2	1.259	1.585
0.776	0.603	2.2	1.288	1.66
0.759	0.575	2.4	1.318	1.738
0.741	0.55	2.6	1.349	1.82
0.724	0.525	2.8	1.38	1.905
0.708	0.501	3	1.413	1.995
0.668	0.447	3.5	1.496	2.239
0.631	0.398	4	1.585	2.512
0.596	0.355	4.5	1.679	2.818
0.562	0.316	5	1.778	3.162
0.531	0.282	5.5	1.884	3.548
0.501	0.251	6	1.995	3.981
0.447	0.2	7	2.239	5.012
0.398	0.158	8	2.512	6.31
0.355	0.126	9	2.818	7.943
0.316	0.1	10	3.162	10
0.282	0.079	11	3.548	12.589
0.251	0.063	12	3.981	15.849
0.224	0.05	13	4.467	19.953
0.2	0.04	14	5.012	25.119
0.178	0.032	15	5.623	31.623
0.158	0.025	16	6.31	39.811
0.141	0.02	17	7.079	50.119
0.126	0.016	18	7.943	63.096
0.112	0.013	19	8.913	49.443
0.1	0.01	20	10	100
0.0562	0.003	25	17.8	320
0.0316	0.001	30	31.6	1000
0.0178	0	35	56.2	3200
0.01	0	40	100	10000
0.0056	0	45	178	32000
0.0032	0	50	316	100000
0.001	0	60	1000	1000000
0.0003	0	70	3160	10000000
0.0001	0	80	10000	100000000
0	0	90	31600	1000000000
0	0	100	100000	10000000000

Conversion table dBm, watt, Volt / 50 ohm

dBm	pW	μV
-90	1	7.071
-89	1.259	7.934
-88	1.585	8.902
-87	1.995	9.988
-86	2.512	11.207
-85	3.162	12.574
-84	3.981	14.109
-83	5.012	15.83
-82	6.31	17.762
-81	7.943	19.929
-80	10	22.361
-79	12.589	25.089
-78	15.849	28.15
-77	19.953	31.585
-76	25.119	35.439
-75	31.623	39.764
-74	39.811	44.615
-73	50.119	50.059
-72	63.096	56.167
-71	79.433	63.021
-70	100	70.711
-69	125.893	79.339
-68	158.489	89.019
-67	199.526	99.881
-66	251.189	112.069
-65	316.228	125.743
-64	398.107	141.086
-63	501.187	158.301
-62	630.957	177.617
-61	794.328	199.29

dBm	μW	mV
-30	1	7.071
-29	1.259	7.934
-28	1.585	8.902
-27	1.995	9.988
-26	2.512	11.207
-25	3.162	12.574
-24	3.981	14.109
-23	5.012	15.83
-22	6.31	17.762
-21	7.943	19.929
-20	10	22.361
-19	12.589	25.089
-18	15.849	28.15
-17	19.953	31.585
-16	25.119	35.439
-15	31.623	39.764
-14	39.811	44.615
-13	50.119	50.059
-12	63.096	56.167
-11	79.433	63.021
-10	100	70.711
-9	125.893	79.339
-8	158.489	89.019
-7	199.526	99.881
-6	251.189	112.069
-5	316.228	125.743
-4	398.107	141.086
-3	501.187	158.301
-2	630.957	177.617
-1	794.328	199.29

dBm	W	V
30	1	7.071
31	1.259	7.934
32	1.585	8.902
33	1.995	9.988
34	2.512	11.207
35	3.162	12.574
36	3.981	14.109
37	5.012	15.83
38	6.31	17.762
39	7.943	19.929
40	10	22.361
41	12.589	25.089
42	15.849	28.15
43	19.953	31.585
44	25.119	35.439
45	31.623	39.764
46	39.811	44.615
47	50.119	50.059
48	63.096	56.167
49	79.433	63.021
50	100	70.711
51	125.893	79.339
52	158.489	89.019
53	199.526	99.881
54	251.189	112.069
55	316.228	125.743
56	398.107	141.086
57	501.187	158.301
58	630.957	177.617
59	794.328	199.29

dBm	nW	μV
-60	1	223.607
-59	1.259	250.891
-58	1.585	281.504
-57	1.995	315.853
-56	2.512	354.393
-55	3.162	397.635
-54	3.981	446.154
-53	5.012	500.593
-52	6.31	561.675
-51	7.943	630.21
-50	10	707.107
-49	12.589	793.387
-48	15.849	890.195
-47	19.953	998.815
-46	25.119	1120.689
-45	31.623	1257.433
-44	39.811	1410.864
-43	50.119	1583.015
-42	63.096	1776.172
-41	79.433	1992.898
-40	100	2236.068
-39	125.893	2508.91
-38	158.489	2815.043
-37	199.526	3158.53
-36	251.189	3543.929
-35	316.228	3976.354
-34	398.107	4461.542
-33	501.187	5005.933
-32	630.957	5616.749
-31	794.328	6302.096

dBm	mW	mV
0	1	223.607
1	1.259	250.891
2	1.585	281.504
3	1.995	315.853
4	2.512	354.393
5	3.162	397.635
6	3.981	446.154
7	5.012	500.593
8	6.31	561.675
9	7.943	630.21
10	10	707.107
11	12.589	793.387
12	15.849	890.195
13	19.953	998.815
14	25.119	1120.689
15	31.623	1257.433
16	39.811	1410.864
17	50.119	1583.015
18	63.096	1776.172
19	79.433	1992.898
20	100	2236.068
21	125.893	2508.91
22	158.489	2815.043
23	199.526	3158.53
24	251.189	3543.929
25	316.228	3976.354
26	398.107	4461.542
27	501.187	5005.933
28	630.957	5616.749
29	794.328	6302.096

dBm	KW	V
60	1	223.607
61	1.259	250.891
62	1.585	281.504
63	1.995	315.853
64	2.512	354.393
65	3.162	397.635
66	3.981	446.154
67	5.012	500.593
68	6.31	561.675
69	7.943	630.21
70	10	707.107
71	12.589	793.387
72	15.849	890.195
73	19.953	998.815
74	25.119	1120.689
75	31.623	1257.433
76	39.811	1410.864
77	50.119	1583.015
78	63.096	1776.172
79	79.433	1992.898
80	100	2236.068
81	125.893	2508.91
82	158.489	2815.043
83	199.526	3158.53
84	251.189	3543.929
85	316.228	3976.354
86	398.107	4461.542
87	501.187	5005.933
88	630.957	5616.749
89	794.328	6302.096
90	1000	7071.068

"These specifications are subject to change without notice"

Deviation ratios at which the carrier or side-band components have zero amplitude

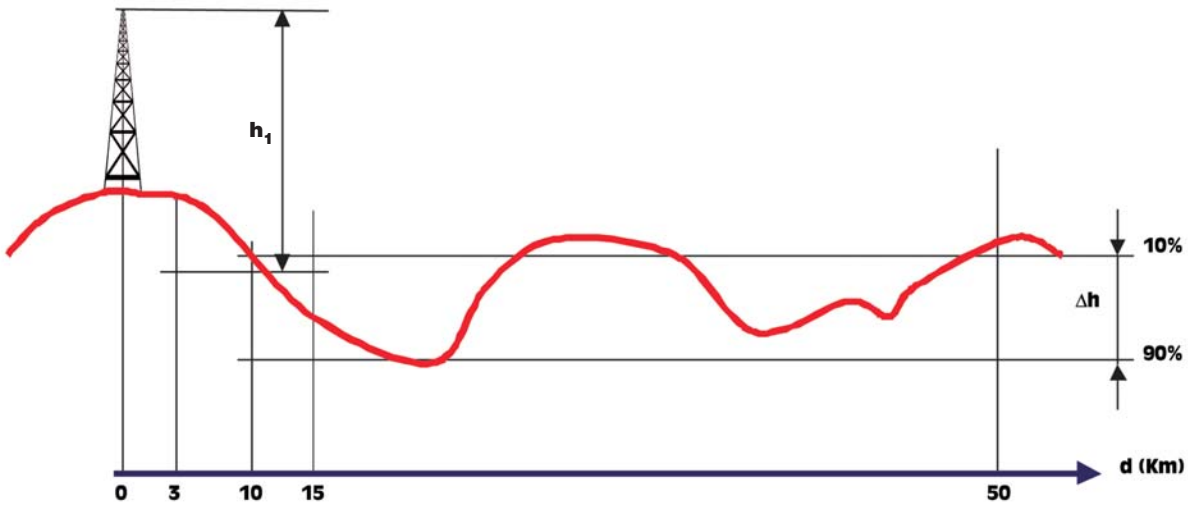
Order of zero point	Deviat. Ratio		Deviat. Ratio	
	Carrier	1ST pair side bands	2ND pair side bands	3RD pair side bands
1	2.405	3.832	5.136	6.390
2	5.520	7.016	8.417	9.761
3	8.654	10.173	11.620	13.015
4	11.792	13.324	14.796	16.223
5	14.931	16.471	17.960	19.409

Modulating frequencies corresponding to deviations at which carrier amplitude is reduced to zero

Carrier 1ST disappearance	Deviat Ratio 2.4048	Carrier 2ND disappearance	Deviat Ratio 5.5201
Freq. deviation KHz	Modul Frequency Hz	Freq. deviation KHz	Modul Frequency Hz
1	416	5	907
2	831	10	1815
3	1247	15	2718
4	1663	20	3625
5	2079	25	4530
6	2494	30	5430
7	2911	35	6340
8	3326	40	7250
9	3742	45	8160
10	4158	50	9070
15	6237	55	9975
20	8316	60	10880
25	10395	65	11780
30	12480	70	12690
35	14550	75	13590

PROPAGATION CURVES ON EARTH SURFACE AS PER C.C.I.R. TABLES

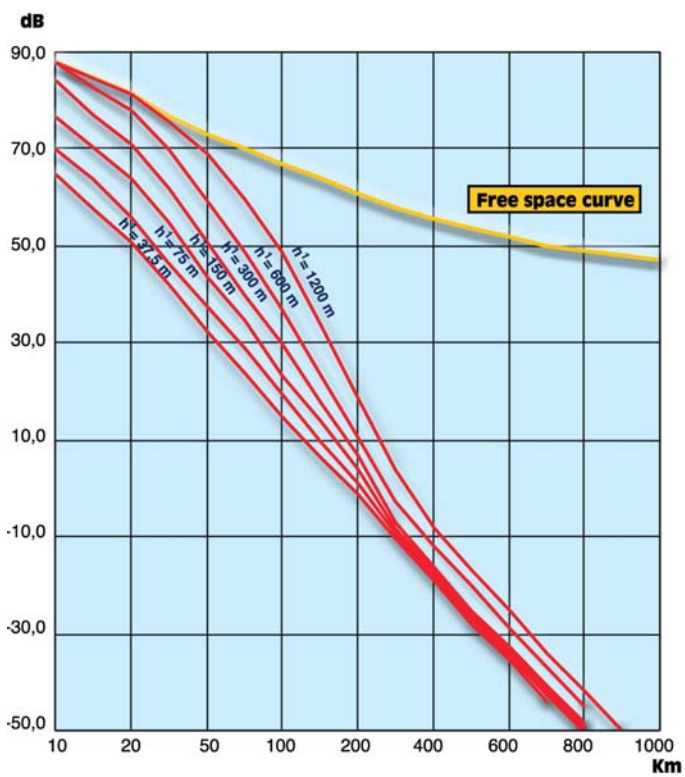
Rural areas = 48 dBμV
Urban areas = 60 dBμV
Large towns = 70 dBμV



h_1 - Equivalent height of the transmitting antenna
(height of the antenna above the average level of the ground between distances of 3 Km and 15 Km from the transmitter).

Δh - Average irregularity factor of the propagation terrain
(difference in the heights exceeded for 10% and 90% of the propagation path in the range 10 Km to 50 Km from the transmitter).

FIELD STRENGTH FOR 1 KW e.r.p.



Frequency: 40 ÷ 250 MHz
Δh = 50 m.

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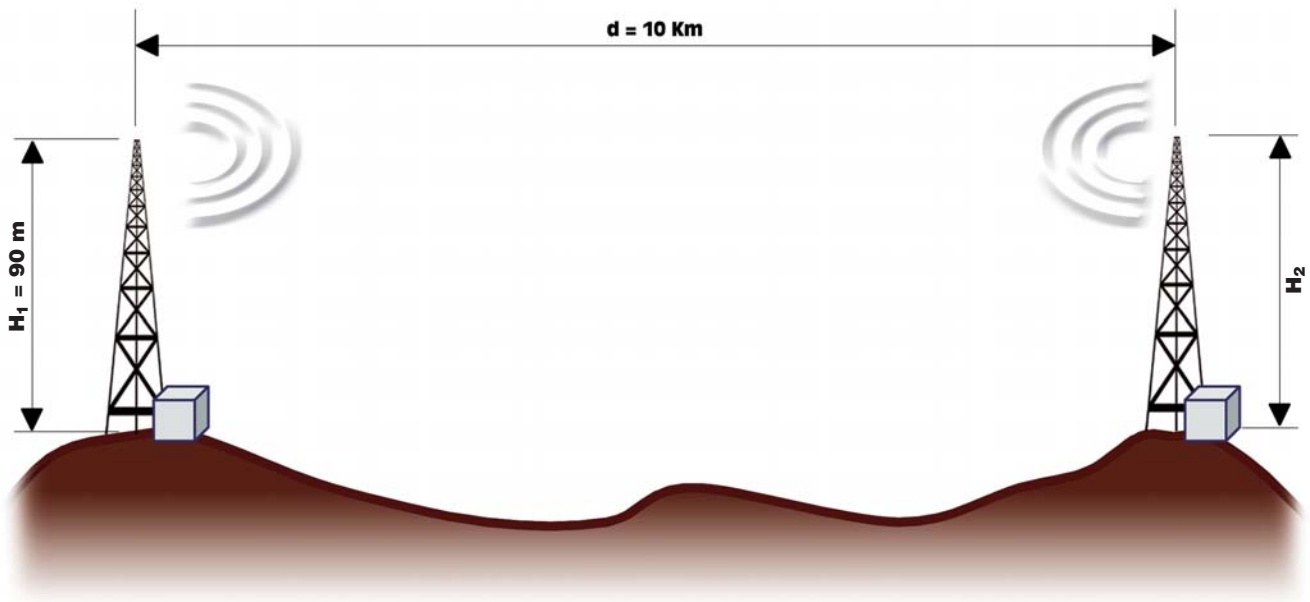
EXAMPLE OF APPLICABLE CALCULATIONS WITH FORMULAS AND DATA

Project input:

Microwave radio-link between studio and transmitter freq. = 900 MHz.
d = 10 Km, H_1 = 90 m (Height of transmitting antenna system).
H_2 = 90 m (Height of receiving antenna system).
P_t = 5 W 37 dBm (Power of radio-link transmitter).
Prmin = -47 dBm (Minimum received power) = 1 mV (50 Ohm).
The feeders are the coaxial cables 1/2" with 100 m. length.

The free-space attenuation is: α_{dB} = 32.4 + 20 log 900 + 20 log 10 = 111.5 dB



Free-space attenuation (dB)

Frequency work (MHz)

Distance (Km)	100	400	800	1000	1200	1400	1800	2000	2400
1	72.4	84.4	90.5	92.4	94	95.3	97.5	98.4	100
2	78.4	90.46	96.5	98.4	100	101.3	103.5	104.4	106
3	81.9	94	100	101.9	103.5	104.9	107	108	109.5
4	84.4	96.5	102.5	104.4	106	107.4	109.5	110.5	112
5	86.4	98.4	104.4	106.4	108	109.3	111.5	112.4	114
6	88	100	106.2	108	109.5	110.9	113	114	115.6
7	89.3	101.3	107.4	109.3	110.9	112.2	114.4	115.3	116.9
8	90.5	102.5	108.5	110.5	112	113.4	115.6	116.5	118
9	91.5	103.5	109.5	111.5	113	114.4	116.6	117.5	119
10	92.4	104.4	110.5	112.4	114	115.3	117.5	118.4	120
15	95.9	108	114	115.9	117.5	118.8	121	121.9	123.5
20	98.4	110.5	116.5	118.4	120	121.3	123.5	124.4	126
25	100.4	112.4	118.4	120.4	121.9	123.3	125.5	126.4	128
30	101.9	114	120	121.9	123.5	124.9	127	128	129.5
35	103.3	115.3	121.3	123.2	124.9	126.2	128.4	129.3	130.9
40	104.4	116.5	122.5	124.4	126	127.4	129.5	130.5	132

ERP (dBm) = Pt (dBm) + Gt (dB) - At (dB) > PRmin + α_{dB} - Gr (dB) + Ar (dB)
Gt, Gr = Gain of transmitting and receiving antenna
At, Ar = Total attenuation of transmitting and receiving system (Typically they are the attenuations of feeders).
At = Ar = 7 dB
Then: Gt = Gr = 21
This gain can be obtained with a 1.8 mt. parabolic antenna.

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TABLES OF CONVERSION FOR MEASUREMENT UNITS

EQUIVALENCE TABLE FOR LENGTH UNIT

Units	yd.	in.	ft.	cm.	m.	km.	stat. mile.	naut. mile.
1 yd	1	36	3	91.44	0.914	—	—	—
1 in	0.028	1	0.083	2.54	0.025	—	—	—
1 ft	0.333	12	1	30.48.	0.305	—	—	—
1cm	0.01	0.39	0.03	1	0.01	—	—	—
1 m	1.094	38.37	3.281	100	1	—	—	0.018
1 km	1094	—	3281	—	—	1	0.621	0.00054
1 stat. mile	1760	—	5280	—	1609	1.609	1	0.869
1 naut. mile	2027	—	6080	—	1852	1.852	1.152	1

in. = Inch; ft. = Foot; yd. = yard; stat. mile = statute mile; naut. mile = nautical mile..

EQUIVALENCE TABLE FOR SQUARE UNIT

Units	sq. yard	sq. inch	sq. foot	$cm.^2$	m^2	km^2	sq mile	acre	a	ha
1 square yard	1	1296	9	8361	0.8361	—	—	—	—	—
1 square inch	—	1	—	6.452	—	—	—	—	—	—
1 square foot	0.1111	144	1	929	0.0929	—	—	—	—	—
1 cm^2	—	0.155	—	1	0.0001	—	—	—	—	—
1 m^2	1.196	1550	10.76	10000	1	—	—	—	0.01	—
1 km^2	—	—	—	—	—	1	0.3861	247.1	10000	100
1 square mile	—	—	—	—	—	2.59	1	640	—	259
1 acre	4850	—	43640	—	4050	—	0.0016	1	—	—
1 a	119.6	—	1076	—	100	—	—	0.0247	1	0.01
1 ha	—	—	—	—	10000	0.01	0.0039	2.47	100	1

EQUIVALENCE TABLE FOR VOLUME UNIT

Units	cu. yard	cu. inch	cu. foot	$cm.^3$	dm^3	U.S. gallon	Imp.gallon	Imp. fl. oz.	U.S. fl. oz.	Imp. pint
1 cubic yard	1	46656	27	—	764.6	202	168.2	26909	25853	1345
1 cubic inch	—	1	—	16.39	0.0164	—	—	0.5768	0.5541	0.0288
1 cubic foot	0.0370	1728	1	—	28.32	7.481	6.232	996.6	957.5	49.83
1 cm^3	—	0.061	—	1	0.001	—	—	0.0353	0.0338	—
1 dm^3	—	61.02	0.035	1000	1	0.2642	0.22	35.2	33.81	1.76
1 US. gallon	—	231	0.1337	3785	3.785	1	0.8327	133.2	128	6.662
1 imp. gallon		277.4	0.1603	4546	4.546	1.201	1	160	153.7	8
1 imp. fl. oz.	—	1.734	—	28.41	0.0284	—	—	1	0.9607	0.05
US. fl. oz.	—	1.805	—	29.57	0.0296	—	—	1.041	1	0.052
1 imp. pint	—	34.68	0.02	568.2	0.5682	0.1501	0.125	20	19.21	1

EQUIVALENCE TABLE FOR WEIGHT UNIT

Units	Lb.	Oz.	stone	g	kg	ton	U.S. cwt	Brit. cwt	U.S. ton	Brit. ton
1 pound	1	16	0.071	453.6	0.453	_	0.01	0.009	—	—
1 ounce	0.0625	1	0.004	28.35	0.028	—	—	—	—	—
1 stone	14	224	1	6350	6.35	0.0063	0.14	0.125	0.007	0.0063
1 g.	—	0.0353	—	1	0.001	—	—	—	—	—
1 kg.	2.205	35.27	0.157	1000	1	0.001	0.022	0.02	0.0011	0.001
1 ton.	2204.6	35274	157.47	—	1000	1	22.05	19.685	1.1023	0.9842
1 US hundredweight	100	1600	7.143	45359	45.36	0.0454	1	0.8929	0.05	0.0446
1 Brit. hundredweight	112	1792	8	50802	50.8	0.0508	1.12	1	0.056	0.05
1 US. ton	2000	32000	142.9	907190	907.2	0.907	20	17.841	1	0.8929
1 Brit. Ton	2240	35840	160	—	1016	1.016	11.2	20	1.12	1

CONVERSION TABLE OF INCHES INTO mm

n.	0	1/16	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16
0	0.0	1.6	3.2	4.8	6.4	7.9	9.5	11.1	12.7	14.3	15.9	17.5	19.1	20.6	22.2	23.8
1	25.4	27.0	28.6	30.2	31.7	33.3	34.9	36.5	38.1	39.7	41.3	42.9	44.4	46.0	47.6	49.2
2	50.8	52.4	54.0	55.6	57.1	58.7	60.3	61.9	63.5	65.1	66.7	68.3	69.8	71.4	73.0	74.6
3	76.2	77.8	79.4	81.0	82.5	84.4	85.7	87.3	88.9	90.5	92.4	93.7	95.2	96.8	98.4	100.0
4	101.6	103.2	104.8	106.4	108.0	109.5	111.1	112.7	114.3	115.9	117.5	119.1	120.7	122.2	123.8	125.4
5	127.0	128.6	130.2	131.8	133.4	134.9	136.5	138.1	139.7	141.3	142.9	144.5	146.1	147.6	149.2	150.8
6	152.4	154.0	155.6	157.2	158.8	160.3	161.9	163.5	165.1	166.7	168.3	169.9	171.5	173.0	174.6	176.2
7	177.8	179.4	181.0	182.6	184.2	185.7	187.3	188.9	190.5	192.1	193.7	195.3	196.9	198.4	200.0	201.6
8	203.2	204.8	206.4	208.0	209.6	211.1	212.7	214.3	215.9	217.5	219.1	220.7	222.3	223.8	225.4	227.0
9	228.6	230.2	231.8	233.4	235.0	236.5	238.1	239.7	241.3	242.9	244.5	246.1	247.7	249.2	250.8	252.4
10	254.0	255.6	257.2	258.8	260.4	261.9	263.5	265.1	266.7	268.3	269.9	271.5	273.1	274.6	276.2	277.8
11	279.4	281.0	282.6	284.2	285.7	287.3	288.9	290.5	292.1	293.7	295.3	296.9	298.4	300.0	301.6	303.2

CONVERSION TABLE OF cm INTO INCHES

cm	0	1	2	3	4	5	6	7	8	9
0	_	0.3937	0.7874	1.1811	1.5748	1.9685	2.3622	2.7559	3.1496	3.5433
10	3.9370	4.3307	4.7244	5.1181	5.5118	5.9055	6.2992	6.6929	7.0866	7.4803
20	7.8740	8.2677	8.6614	9.0551	9.4488	9.8425	10.2362	10.6299	11.0236	11.4173
30	11.8110	12.2047	12.5984	12.9921	13.3858	13.7795	14.1732	14.5669	14.9606	15.3543
40	15.7480	16.1417	16.5354	16.9291	17.3228	17.7165	18.1103	18.5040	18.8977	19.2914
50	19.6851	20.0788	20.4725	20.8662	21.2599	21.6536	22.0473	22.4410	22.8347	23.2284
60	23.6221	24.0158	24.4095	24.8032	25.1969	25.5906	25.9843	26.3780	26.7717	27.1654
70	27.5591	27.9528	28.3465	28.7402	29.1339	29.5276	29.9213	30.3150	30.7087	31.1024
80	31.4961	31.8898	32.2835	32.6772	33.0709	33.4646	33.8583	34.2520	34.6457	35.0394
90	35.4331	35.8268	36.2205	36.6142	37.0079	37.4016	37.7953	38.1890	38.5827	38.9764
100	39.3701	39.7638	40.1575	40.5512	40.9449	41.3386	41.7323	42.1260	42.5197	42.9134

CONVERSION TABLE OF SQUARE FEET INTO m^2

P.q.	0	1	2	3	4	5	6	7	8	9
0	_	0.09290	0.18581	0.27871	0.37161	0.46451	0.55742	0.65032	0.74322	0.83613
10	0.92903	1.02193	1.11483	1.20774	1.30064	1.39354	1.48645	1.57935	1.67225	1.76515
20	1.85806	1.95096	2.04386	2.13677	2.22967	2.32257	2.41547	2.50838	2.60128	2.69418
30	2.78709	2.87999	2.97289	3.06579	3.15870	3.25160	3.34450	3.43741	3.53031	3.62321
40	3.71612	3.80902	3.90192	3.99482	4.08773	4.18063	4.27353	4.36644	4.45934	4.55224
50	4.64514	4.73805	4.83095	4.92385	5.01676	5.10966	5.20256	5.29546	5.38837	5.48127
60	5.57417	5.66708	5.75998	5.85288	5.94578	6.03869	6.13159	6.22449	6.31740	6.41030
70	6.50320	6.59610	6.68901	6.78191	6.87481	6.96772	7.06062	7.15352	7.24642	7.33933
80	7.43223	7.52513	7.61804	7.71094	7.80384	7.89674	7.98965	8.08255	8.17545	8.26836
90	8.36126	8.45416	8.54706	8.63997	8.73287	8.82577	8.91808	9.01158	9.10448	9.19738
100	9.29029	9.38319	9.47609	9.56900	9.66190	9.75480	9.84770	9.94061	10.0335	10.1264

CONVERSION TABLE OF CUBIC YARDS INTO m^3

Y.c.	0	1	2	3	4	5	6	7	8	9
0	_	0.76455	1.52911	2.29366	3.05821	3.82276	4.58732	5.35187	6.11642	6.88098
10	7.64553	8.41008	9.17463	9.93919	10.7037	11.4683	12.2338	12.9974	13.7620	14.5265
20	15.2911	16.0556	16.8202	17.5847	18.3493	19.1138	19.8784	20.6429	21.4075	21.1720
30	22.9366	23.7011	24.4657	25.2302	25.9948	26.7594	27.5239	28.2885	29.0530	29.8176
40	30.5831	31.3467	32.1112	32.8758	33.6403	34.4049	35.1694	35.9340	36.6985	37.4631
50	38.2276	38.9922	39.7568	40.5213	41.2859	42.0504	42.8150	43.5795	44.3441	45.1086
60	45.8732	46.6377	47.4023	48.1668	48.9314	49.6959	50.4605	51.2250	51.9896	52.7542
70	53.5187	54.2833	55.0478	55.8124	56.5769	57.3415	58.1060	58.8706	59.6351	60.3997
80	61.1642	61.9288	62.6933	63.4579	64.2224	64.9870	65.7515	66.5161	67.2807	68.0452
90	68.8098	69.5743	70.3389	71.1034	71.8680	72.6325	73.3971	74.1616	74.9262	75.6907
100	76.4553	77.2198	77.9844	78.7489	79.5135	80.2781	81.0426	81.8072	82.5717	83.3363

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CONVERSION TABLE OF CUBIC FEET INTO dm^3

P.c.	0	1	2	3	4	5	6	7	8	9
0	_	28.3168	56.6336	84.9504	113.267	141.584	169.901	198.218	226.534	254.851
10	283.168	311.485	339.802	368.118	396.435	424.752	453.069	481.386	509.702	538.019
20	566.336	594.653	622.970	651.286	679.603	707.920	736.237	764.554	792.870	821.187
30	849.504	877.821	906.138	934.454	962.771	991.088	1019.40	1047.72	1076.04	1104.36
40	1132.67	1160.99	1189.31	1217.62	1245.94	1274.26	1302.57	1330.89	1359.21	1387.52
50	1415.84	1444.16	1472.47	1500.79	1529.11	1557.42	1585.74	1614.06	1642.37	1670.69
60	1699.01	1727.32	1755.64	1783.96	1812.28	1840.59	1868.91	1897.23	1925.54	1953.86
70	1982.18	2010.49	2038.81	2067.13	2095.44	2123.76	2152.08	2180.39	2208.71	2237.03
80	2265.34	2293.66	2321.98	2350.29	2378.61	2406.93	2435.24	2463.56	2491.88	2520.20
90	2548.51	2576.83	2605.15	2633.46	2661.78	2690.10	2718.41	2746.73	2775.05	2803.36
100	2831.68	2860.00	2888.31	2916.63	2944.95	2973.26	3001.58	3029.90	3058.21	3086.53

CONVERSION TABLE OF CUBIC FEET INTO dm^3

P.c.	0	1	2	3	4	5	6	7	8	9
0	_	28.3168	56.6336	84.9504	113.267	141.584	169.901	198.218	226.534	254.851
10	283.168	311.485	339.802	368.118	396.435	424.752	453.069	481.386	509.702	538.019
20	566.336	594.653	622.970	651.286	679.603	707.920	736.237	764.554	792.870	821.187
30	849.504	877.821	906.138	934.454	962.771	991.088	1019.40	1047.72	1076.04	1104.36
40	1132.67	1160.99	1189.31	1217.62	1245.94	1274.26	1302.57	1330.89	1359.21	1387.52
50	1415.84	1444.16	1472.47	1500.79	1529.11	1557.42	1585.74	1614.06	1642.37	1670.69
60	1699.01	1727.32	1755.64	1783.96	1812.28	1840.59	1868.91	1897.23	1925.54	1953.86
70	1982.18	2010.49	2038.81	2067.13	2095.44	2123.76	2152.08	2180.39	2208.71	2237.03
80	2265.34	2293.66	2321.98	2350.29	2378.61	2406.93	2435.24	2463.56	2491.88	2520.20
90	2548.51	2576.83	2605.15	2633.46	2661.78	2690.10	2718.41	2746.73	2775.05	2803.36
100	2831.68	2860.00	2888.31	2916.63	2944.95	2973.26	3001.58	3029.90	3058.21	3086.53

CONVERSION TABLE OF POUNDS INTO kg

Lbs.	0	1	2	3	4	5	6	7	8	9
0	_	0.4536	0.9072	1.3608	1.8144	2.2680	2.7216	3.1751	3.6287	4.0823
10	4.5359	4.9895	5.4431	5.8967	6.3503	6.8039	7.2575	7.7111	8.1647	8.6183
20	9.0719	9.5254	9.9790	10.4326	10.8862	11.3398	11.7934	12.2470	12.7006	13.1542
30	13.6078	14.0614	14.5150	14.9686	15.4222	15.8757	16.3293	16.7829	17.2365	17.6901
40	18.1437	18.5973	19.0509	19.5045	19.9581	20.4117	20.8653	21.3189	21.7724	22.2260
50	22.6796	23.1332	23.5868	24.0404	24.4940	24.9476	25.4012	25.8548	26.3084	26.7620
60	1699.01	1727.32	1755.64	1783.96	1812.28	1840.59	1868.91	1897.23	1925.54	1953.86
70	1982.18	2010.49	2038.81	2067.13	2095.44	2123.76	2152.08	2180.39	2208.71	2237.03
80	2265.34	2293.66	2321.98	2350.29	2378.61	2406.93	2435.24	2463.56	2491.88	2520.20
90	2548.51	2576.83	2605.15	2633.46	2661.78	2690.10	2718.41	2746.73	2775.05	2803.36
100	2831.68	2860.00	2888.31	2916.63	2944.95	2973.26	3001.58	3029.90	3058.21	3086.53

CONVERSION TABLE OF kg INTO POUNDS

kg	0	1	2	3	4	5	6	7	8	9
0	_	2.205	4.409	6.614	8.818	11.023	13.228	15.432	17.637	19.842
10	22.046	24.251	26.455	26.660	30.865	33.069	35.274	37.479	39.683	41.888
20	44.092	46.297	48.502	50.706	52.911	55.116	57.320	59.525	61.729	63.934
30	66.139	68.343	70.548	72.752	74.957	77.162	79.366	81.571	83.766	85.980
40	88.185	90.389	92.594	94.799	97.003	99.208	101.413	103.617	105.822	108.026
50	110.231	112.436	114.640	116.845	119.050	121.254	123.456	125.663	127.868	130.073
60	132.228	134.482	136.686	138.891	141.096	143.300	145.505	147.710	149.914	152.169
70	154.323	156.528	158.733	160.937	163.142	165.341	167.551	169.756	171.960	174.165
80	176.370	178.574	180.779	182.983	185.188	187.393	189.597	191.802	194.007	196.211
90	198.416	200.620	202.825	205.030	207.234	209.439	211.044	213.848	216.052	218.257
100	220.462	222.667	224.871	227.076	229.281	231.485	233.690	235.894	238.099	240.304

CONVERSION TABLE OF POUNDS/SQUARE INTO kg/cm2

Lbs. p.q.	0	1	2	3	4	5	6	7	8	9
0	_	0.07031	0.14061	0.21092	0.28123	0.35154	0.42184	0.49215	0.56246	0.63276
10	0.70307	0.77338	0.84369	0.91399	0.98430	1.05461	1.12491	1.19522	1.26553	1.33584
20	1.40614	1.47645	1.54676	1.61706	1.68737	1.75768	1.82799	1.89829	1.96860	2.03891
30	2.10921	2.17952	2.24983	2.32014	2.39044	2.46075	2.53106	2.60136	2.67167	2.74198
40	2.81228	2.88259	2.95290	3.02321	3.09351	3.16382	3.23413	3.30443	3.37474	3.44505
50	3.51535	3.58566	3.65597	3.72628	3.79658	3.86689	3.93720	4.00750	4.07781	4.14812
60	4.21843	4.28873	4.35904	4.42935	4.49965	4.56996	4.64027	4.71058	4.78088	4.85119
70	4.92150	4.99180	5.06211	5.13242	5.20273	5.27303	5.34334	5.41365	5.48395	5.55426
80	5.62457	5.69488	5.76518	5.83549	5.90580	5.97610	6.04641	6.11672	6.18702	6.25733
90	6.32764	6.39795	6.46825	6.53856	6.60887	6.67917	6.74948	6.81979	6.89010	6.96040
100	7.03071	7.10102	7.17132	7.24163	7.31194	7.38225	7.45255	7.52286	7.59317	7.66347

CONVERSION TABLE OF kg/cm2 INTO POUNDS/SQUARE

p.q. lbs.	0	1	2	3	4	5	6	7	8	9
0	_	14.223	28.447	42.670	56.893	71.117	85.340	99.563	113.787	128.010
10	142.233	156.456	170.680	184.903	199.126	213.350	227.573	241.796	256.020	270.243
20	284.466	298.690	312.913	327.136	341.360	355.583	369.806	384.030	398.253	412.476
30	426.699	440.923	455.146	469.369	483.593	497.816	512.039	526.263	540.486	554.709
40	568.933	583.156	597.379	611.603	625.826	640.049	654.272	668.496	682.719	696.942
50	711.166	725.389	739.612	753.836	768.059	782.282	796.506	810.729	824.952	839.176
60	853.399	867.622	881.846	896.069	910.292	924.515	938.739	952.962	967.185	981.409
70	995.632	1009.86	1024.08	1038.30	1052.53	1066.75	1080.97	1095.20	1109.42	1123.64
80	1137.87	1152.09	1166.31	1180.54	1194.76	1208.98	1223.21	1237.43	1251.65	1265.88
90	1280.10	1294.32	1308.54	1322.77	1336.99	1351.21	1365.44	1379.66	1393.88	1408.11
100	1422.33	1436.55	1450.78	1465.00	1479.22	1493.45	1507.67	1521.89	1536.12	1550.34

EQUIVALENCE TABLE FOR VELOCITY UNITS

units	cm/s	km/h	miles/h	feet/s	feet/min.	knots
cm/s	1	0.036	0.02237	0.03281	1.9685	0.01943
km/h	27.78	1	0.6214	0.9113	54.68	0.5396
miles/h	44.70	1.609	1	1.467	88	0.8684
feet/s	30.48	1.097	0.6818	1	60	0.5921
feet/min	0.5080	0.01829	0.01136	0.01667	1	0.00987
knots	51.48	1.8532	1.1515	1.6889	101.34	1

EQUIVALENCE TABLE FOR PRESSURE UNITS

units	mbar	bar	atm	at kg/cm2	mm Hg 0°C Torr	mm of water	Pounds for square inches
mbar	1	10^{-3}	$9.87 \cdot 10^{-4}$	$1.02 \cdot 10^{-2}$	0.75	10.2	$1.45 \cdot 10^{-2}$
bar	103	1	0.987	1.02	750.1	10197	14.5
atm	1013	1.013	1	1.033	760	10332	14.7
at.	980.7	0.981	0.968	1	735.6	10^{-4}	14.22
mm Hg at 0°C Torr	1.3333	$1.33 \cdot 10^{-3}$	$0.3 \cdot 10^{-3}$	$1.36 \cdot 10^{-3}$	1	13.6	$1.93 \cdot 10^{-2}$
mm of water	$9.8 \cdot 10^{-2}$	$9.8 \cdot 10^{-5}$	$9.68 \cdot 103$	104	$7.4 \cdot 10^{-2}$	1	$1.42 \cdot 10^{-3}$
Pounds for square inch.	68.94	$6.9 \cdot 10^{-2}$	$6.8 \cdot 10^{-2}$	$7.03 \cdot 10^{-2}$	51.7	703.3	1

"These specifications are subject to change without notice"


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