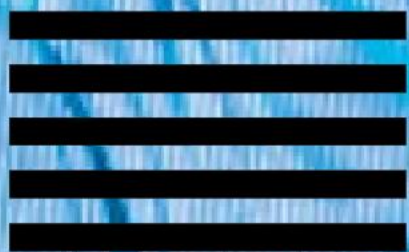


COMBINERS



GENERAL —
CATALOG

FM COMBINERS STAR POINT



**Telecomunicazioni
Ferrara**

antenne e componenti
alta frequenza

PRODUCT WARRANTY

Any product of **Telecomunicazioni Ferrara** is covered by a 12 (twelve) month warranty (standard). **Telecomunicazioni 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 **Telecomunicazioni Ferrara** per indicated procedures.

Warranty shall not include:

1. Connectors;
2. Re-shipment of the unit to **Telecomunicazioni 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 **Telecomunicazioni 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 **Telecomunicazioni Ferrara** and explain the problem. If it is decided to return the unit to the factory, **Telecomunicazioni Ferrara** will mail you a regular authorization with all the necessary instructions to send back 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 Calzolari, 156
44036 Francolino (Ferrara)
ITALY
Tel.: +39 0532 72.40.33
E-M ail: info@telecfe.it

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

CUSTOMER SERVICE AND TECHNICAL ASSISTANCE

The technical assistance is available 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 they 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.

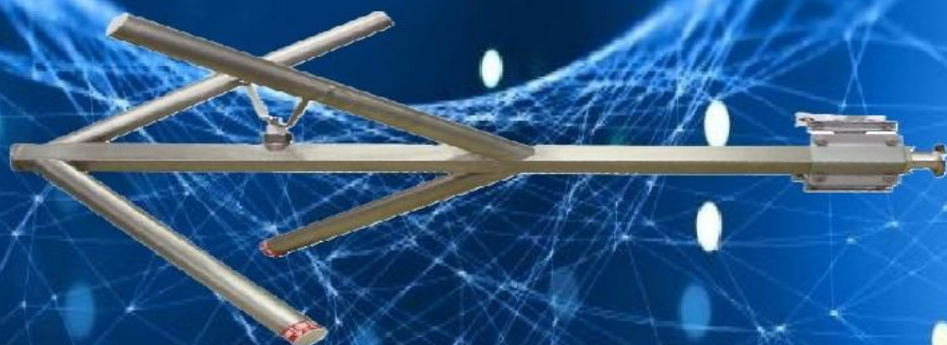
Broadcast solutions



Telecfe



**mail info@telecfe.it
www.telecfe.it
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For over 35 year, antenna , filters combiners accessories has been a benchmark in radio an tv broadcasting technology.



SUMMARY

GENERAL CATALOG

FM COMBINER STARPOINT

2 - 3 - 4 - 5 - 6 CHANNELS INPUT

FM DIPLEXER

2 CAVITY

MODEL FDCSDC01D

- 2 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 ÷ 108 MHz
- STARPOINT TYPE
- OPTION MOUNTING RACK

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.



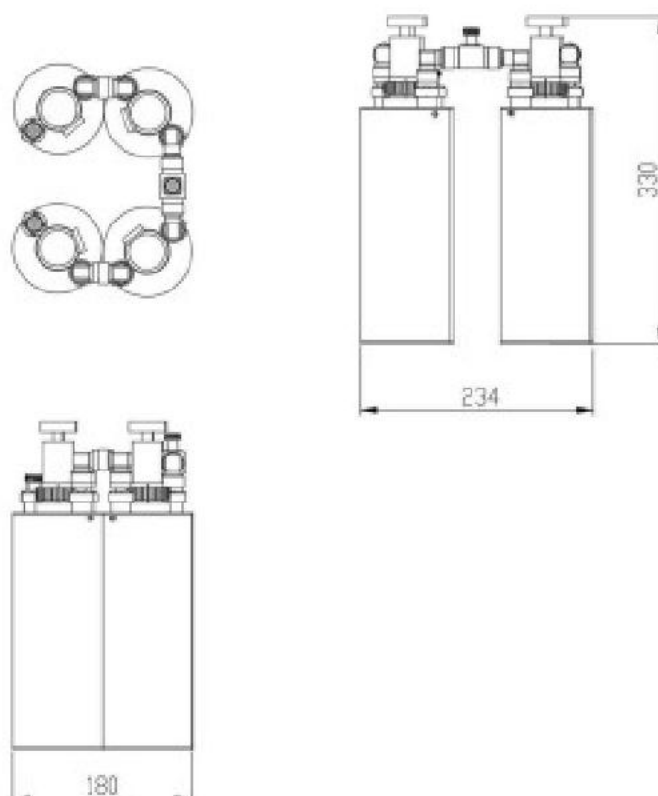
TYPICAL SPECIFICATIONS

Model	FDCSDC01D
Impedance	50 Ohm
Frequency Range	87.5 - 108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.6 – 1.95 dB typical depending adj
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1 MHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	Input N Output N female or 7/16" female
Max Power	100 W \times Channel
Working Temperature	-20°C ÷ +55°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

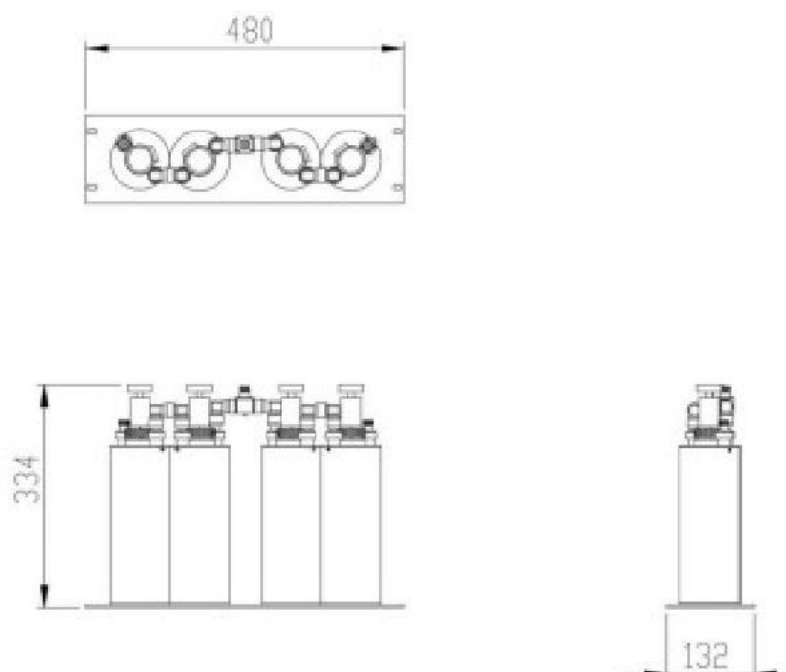


OPTION RACK VERSION

DIMENSIONS STANDARD VERSION (mm)



DIMENSIONS RACK MOUNTING VERSION (mm)

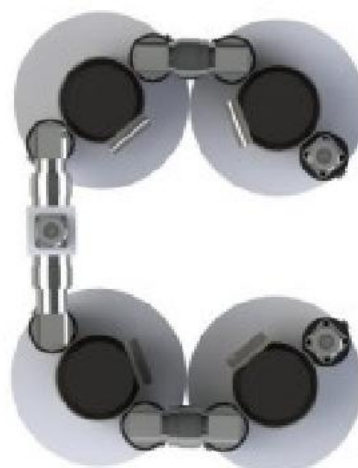


Dimensions

See figure

Net Weight

≅ 12Kg standard 12.5Kg rack version approx.

VIEWS OF THE SYSTEM standard version

VIEWS OF THE SYSTEM rack mounting version



MODEL FDCSDCO1DA

- 2 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 118 ÷ 137 MHz
- AIR BAND
- STARPOINT TYPE
- OPTION MOUNTING RACK



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.

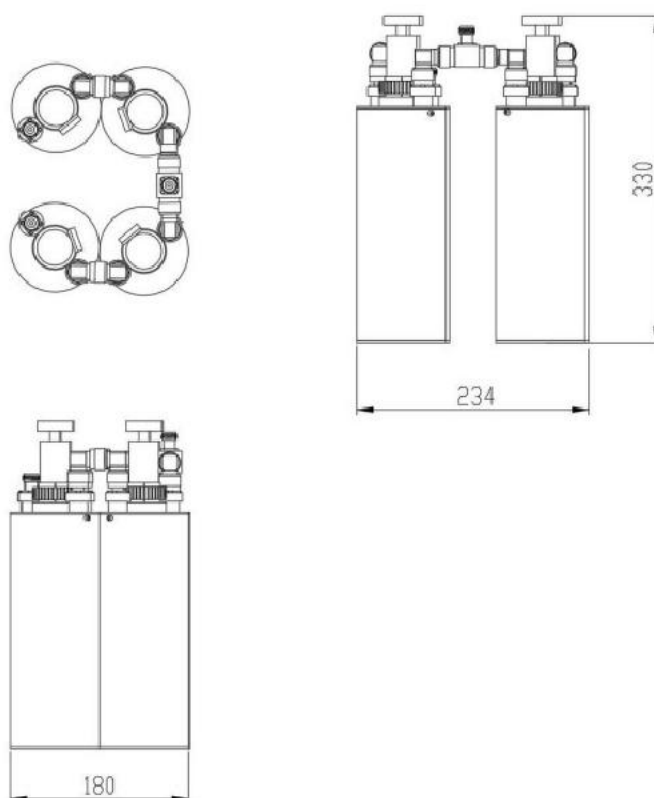
TYPICAL SPECIFICATIONS

Model	FDCSDCO1DA
Impedance	50 Ohm
Frequency Range	118 - 137 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.6 – 1.95 dB typical depending adj
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1 MHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	Input N Output N female or 7/16" female
Max Power	100 W \times Channel
Working Temperature	-20°C ÷ +55°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

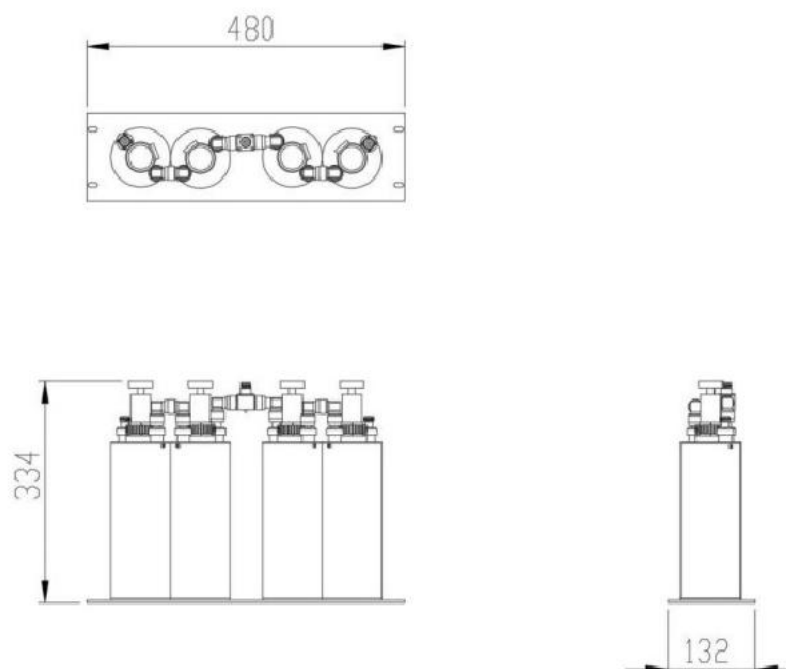


OPTION RACK VERSION

DIMENSIONS STANDARD VERSION (mm)



DIMENSIONS STANDARD VERSION (mm)



Dimensions

See figure

Net Weight

≅ 12Kg standard 12.5Kg rack version approx.

VIEWS OF THE SYSTEM standard version



VIEWS OF THE SYSTEM rack mounting version



MODEL FDCSDC2

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

Model	Connector	Connector	Input	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

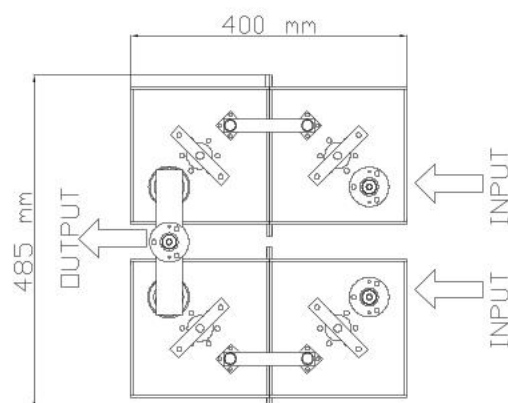
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass

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

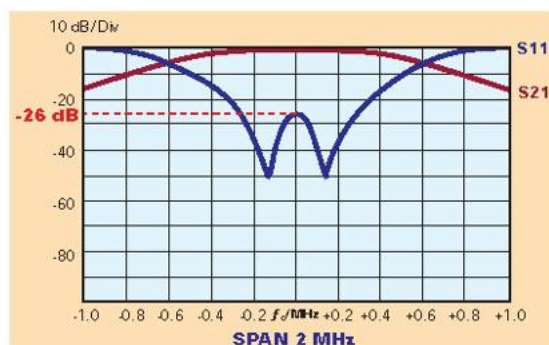
Model	FDCSDC2 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
150 KHz	1:1.1 max
Insertion Loss	at f_0 0.25 dB max
150Khz	≤ -26 dB
2MHz	≥ 30 dB
No. of input	2
No. of output	1
Connectors standard	Input 7/8" (See table) Output 7/8" OPTION 1+5/8"
Max Power	2KW · 2 CHANNELS
Working Temperature	-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



MODEL FDCSDC2R

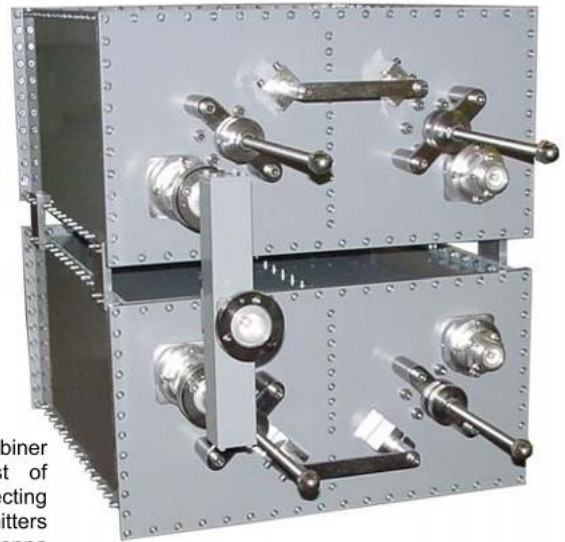
- COMBINER 2 CHANNEL
- TYPE STAR POINT
- FM BAND 87.5-108 MHz
- BAND II
- RACK VERSION (option)
- OPTION

Model	Connector	Connector	Input	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

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.

The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned



TYPICAL SPECIFICATIONS

Model	FDCSDC2R
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
150 KHz	1:1.1 max
Insertion Loss	at f_0 0.25 dB max
150Khz	≤ -26 dB
1,5MHz	≥ 30 dB
Input Number	2
Output Number	1
Standard Connectors	Input 7/8" Output 7/8" (See table)
Max Power	1.5 - 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:

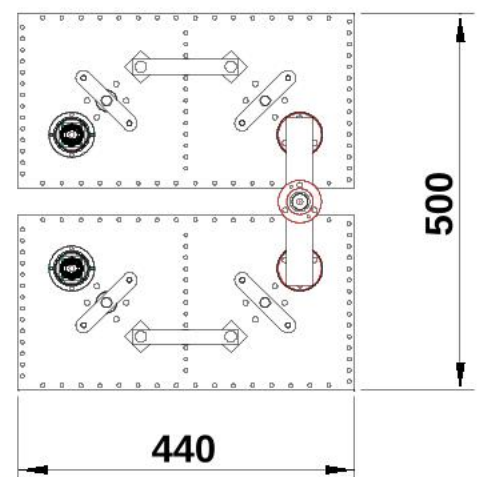
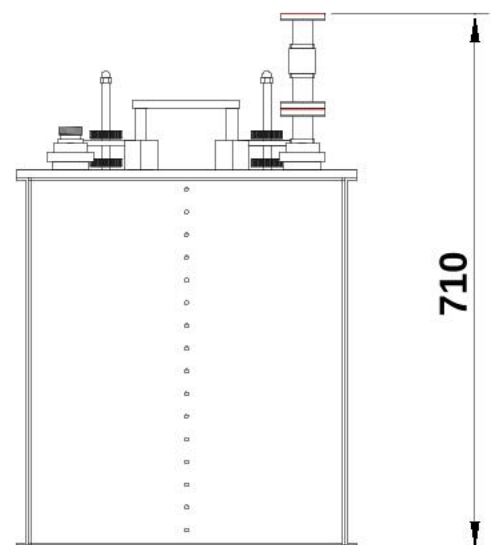
- Distortion – Free Transmission
- Star point system with double pass-band cavity filters (standard configurations)
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

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 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.

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 0.7-0.8 dB typical
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 2.5 MHz	≥ 30 dB
Isolation ± 1.4 MHz	≥ 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 12 μ m thickness)

Features:

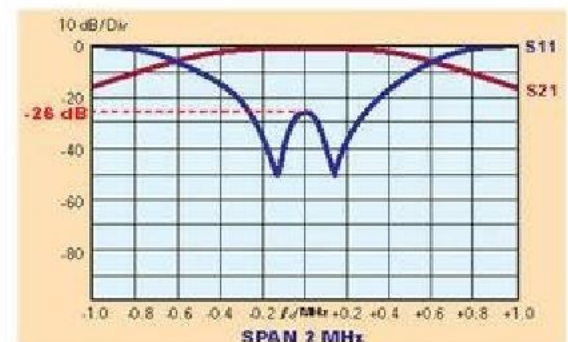
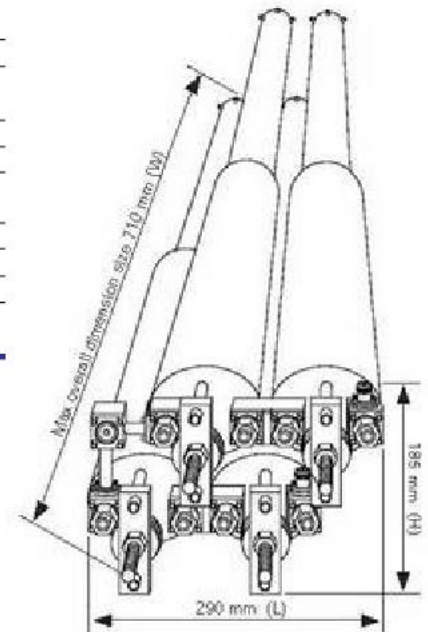
- Distortion – Free Transmission
- Starpoint system with pass stop
- Low loss, high isolation
- Natural convection
- Option whit Rack

No rack version

Dimensions	185×290×710 mm (7.3×11.4×28 inch) (H×L×W)
Net Weight	$\cong 12$ Kg

Rack version (optional)

Panel Size	6 HE (1 HE=44,45 mm)
Net Weight	$\cong 13.5$ Kg



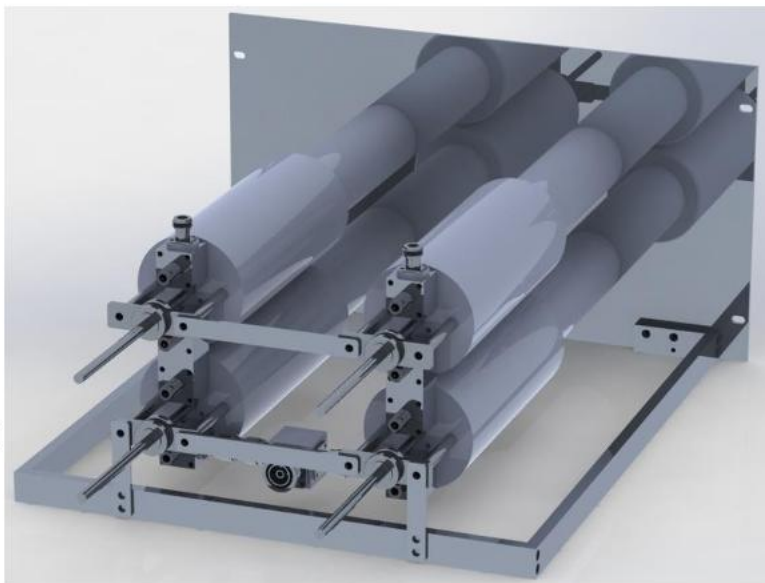
Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FDCSDC03AIR

- 2 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 118 ÷ 137 MHz
- AIR BAND
- 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.

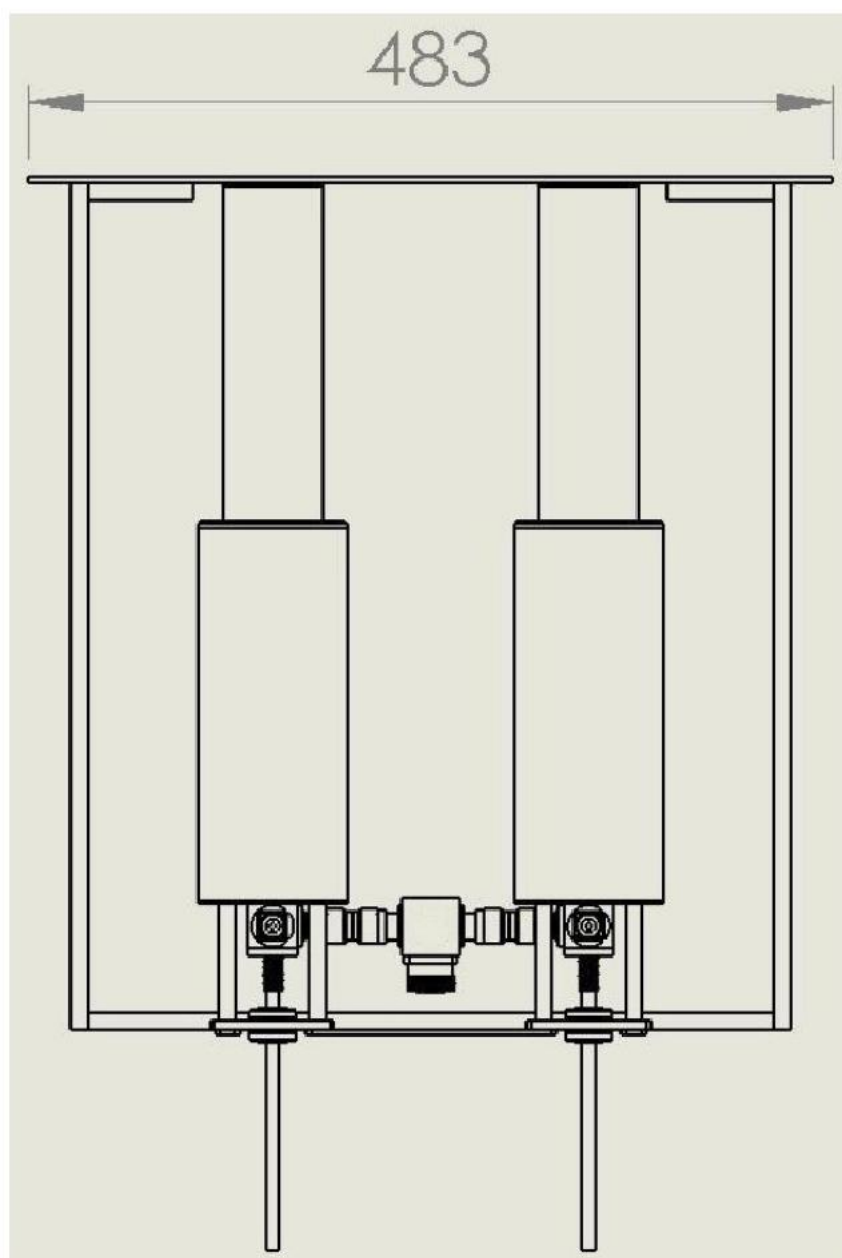
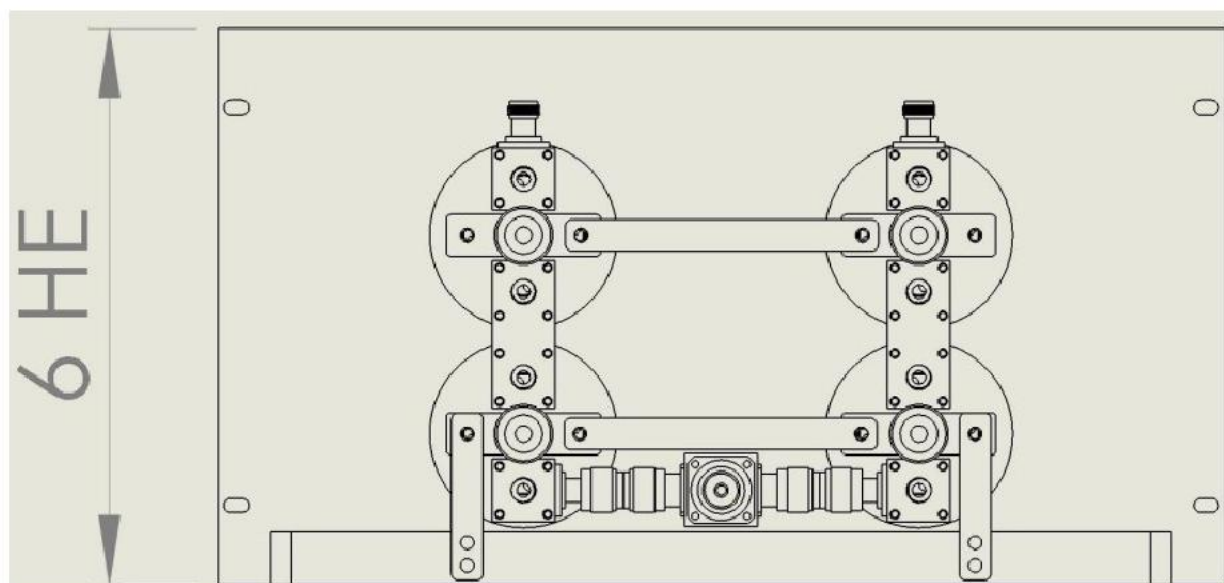
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

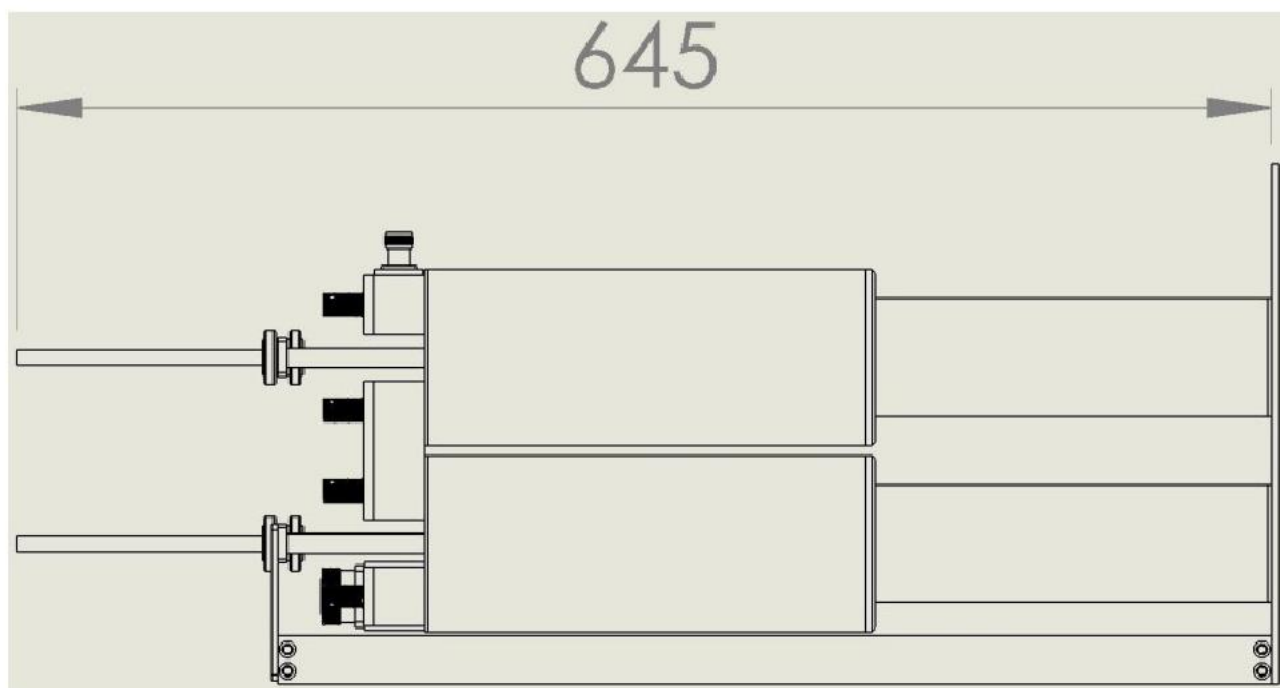


TYPICAL SPECIFICATIONS

Model	FDCSDC03AIR
Impedance	50 Ohm
Frequency Range	118 - 137 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.5 – 0.7 dB typical
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 2 MHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	Input N Output N female or 7/16" female
Max Power	250 W \times Channel
Working Temperature	-20°C ÷ +55°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

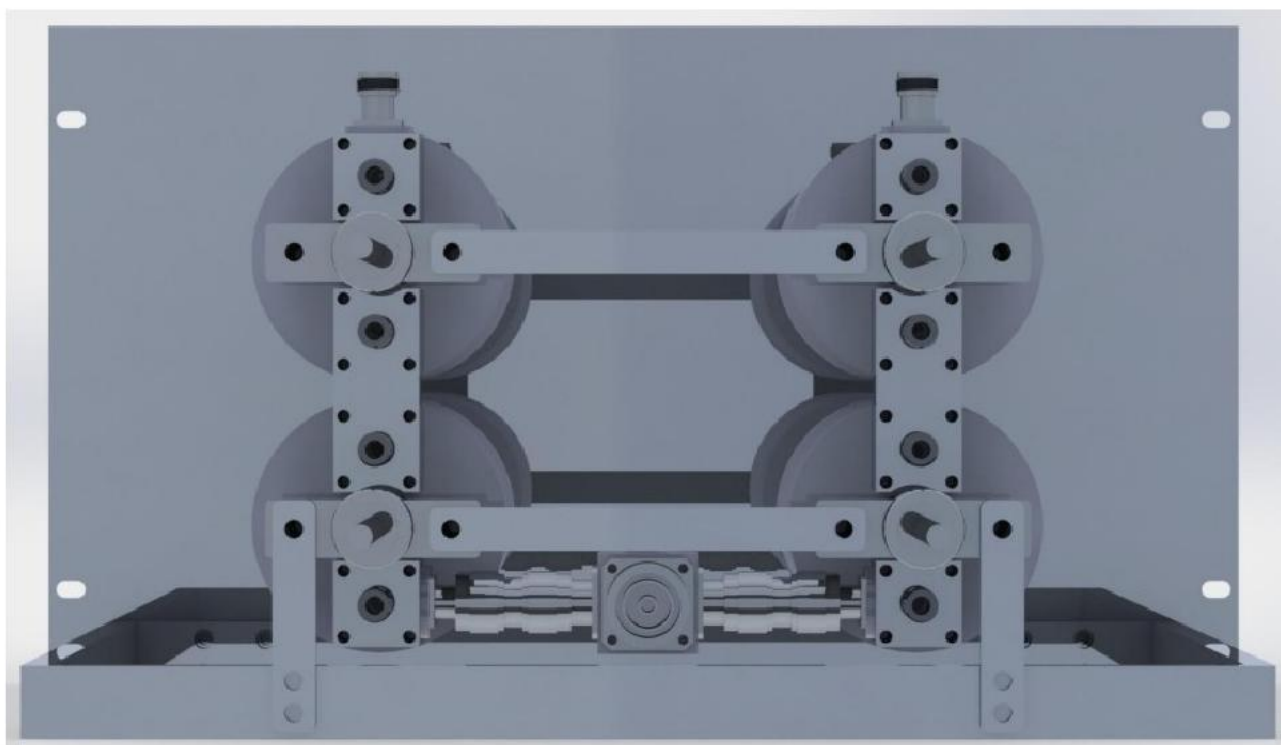
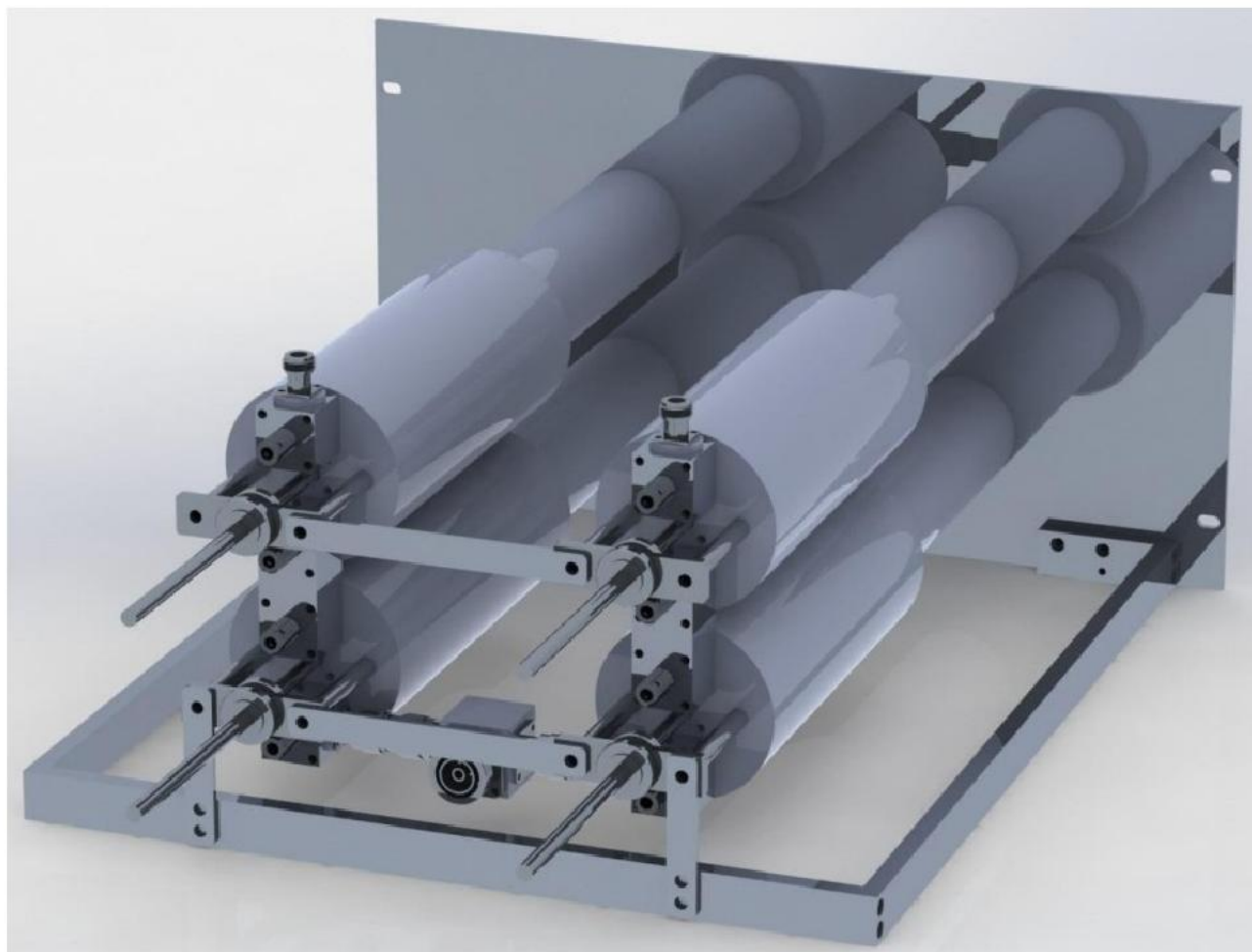
DIMENSIONS (mm)

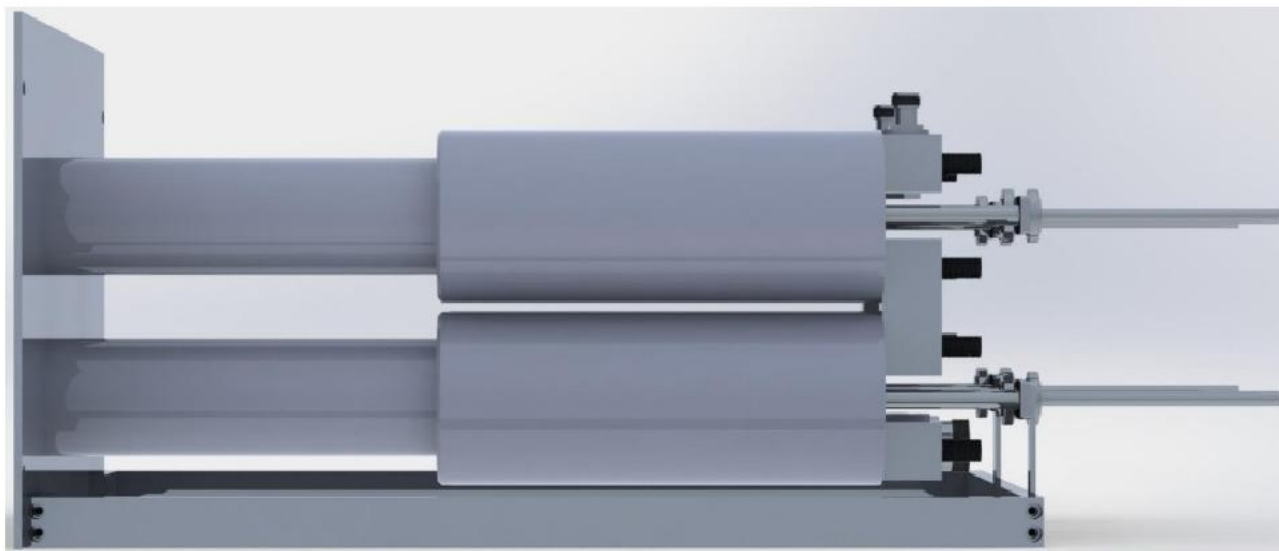


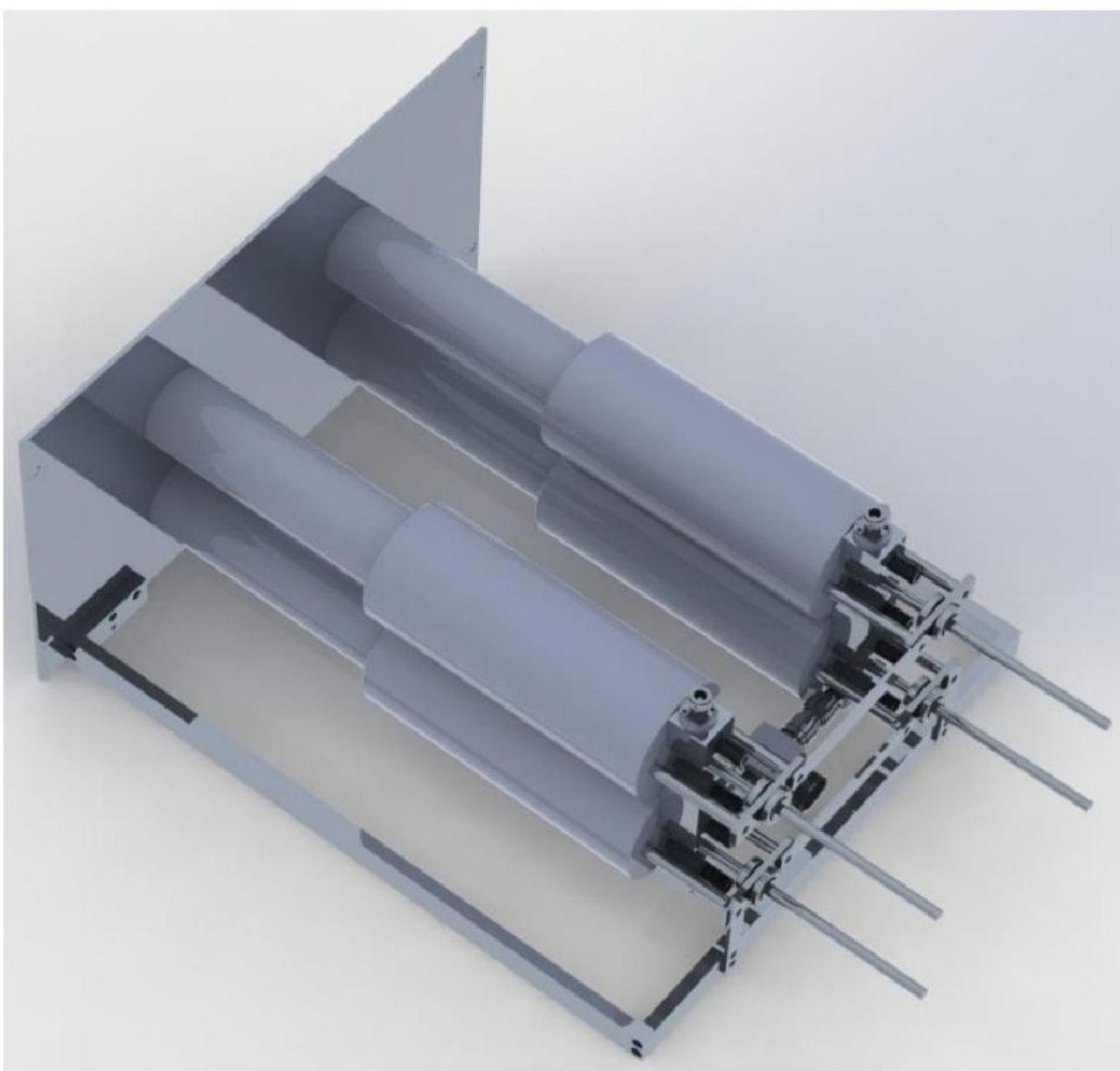
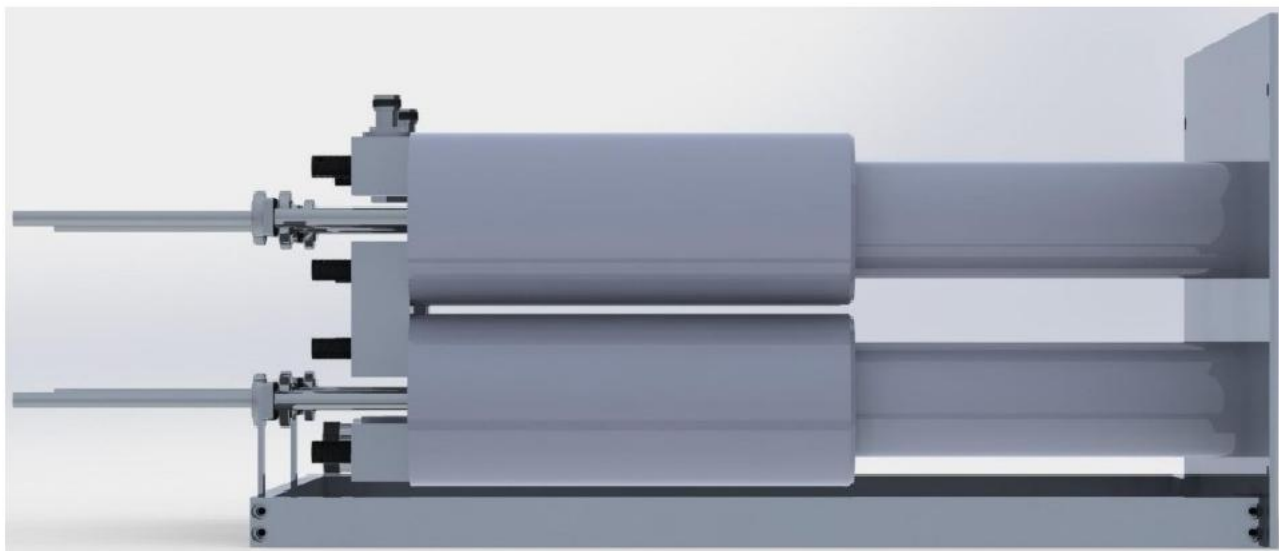


Dimensions	6 HE (266.7 mm approx.) × 483 × 645 (Max size) mm (6 HE (10.5 inch approx.) × 19 × 25.3 (Max size) inch) (H × L × W)
Net Weight	≅ 13.5 Kg approx.

VIEWS OF THE SYSTEM







MODEL FDCSDC03RSV

- 2 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 ÷ 108 MHz
- BAND II
- STARPOINT TYPE
- CUSTOM VERSION REDUCED SIZE



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.

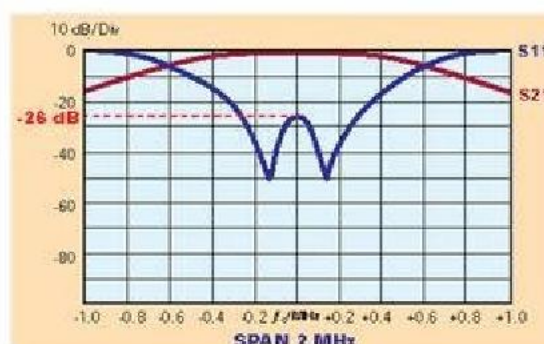
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FDCSDC03RSV – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max Average
Insertion Loss	at f_0 0.5-0.6 dB typical
Return Loss ±150Khz	≤ -26 dB
Isolation ±2 MHz	≥ 30 dB
Input Number	2
Output Number	1
Connectors standard	Input N female Output 7/16" (opt. N -7/8")
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)

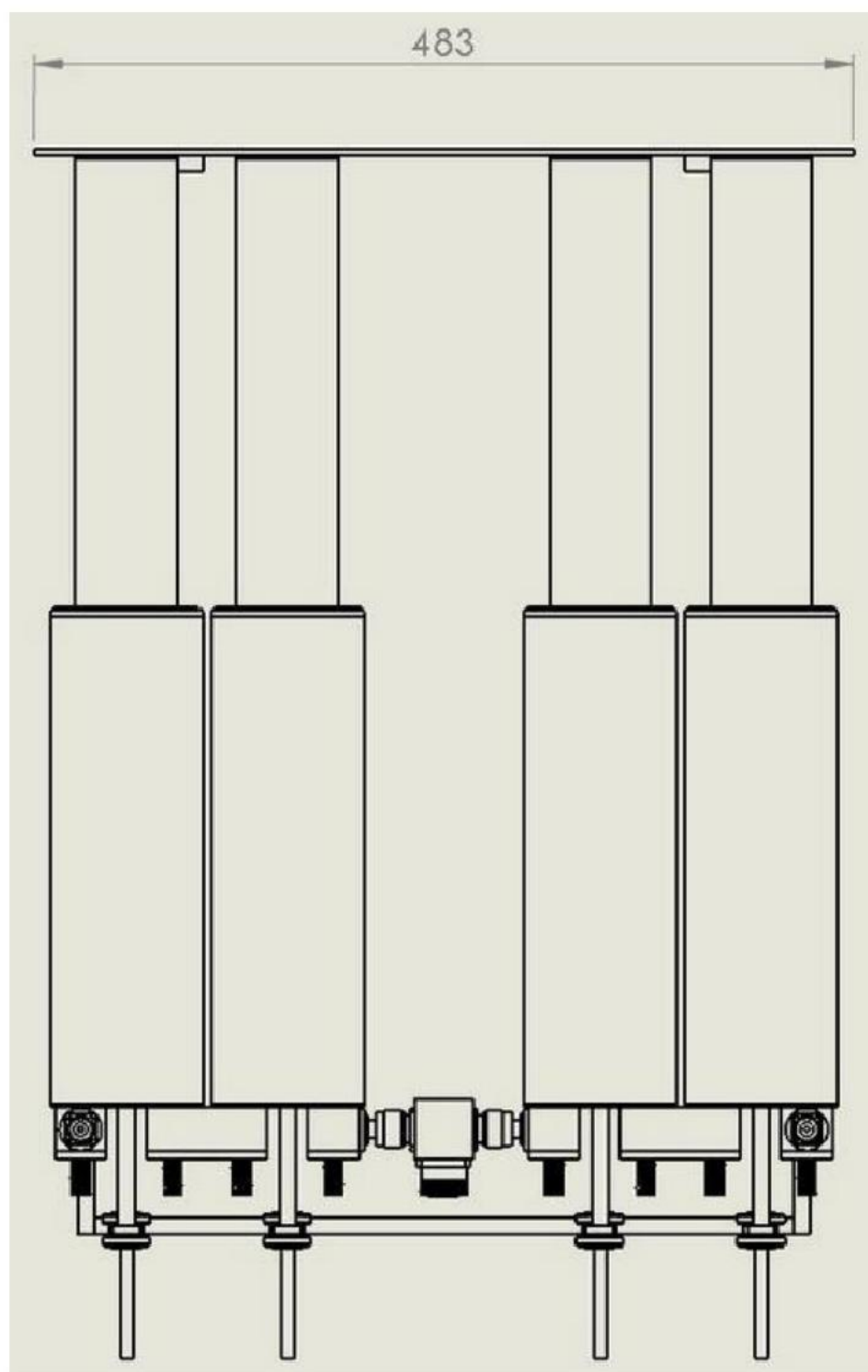
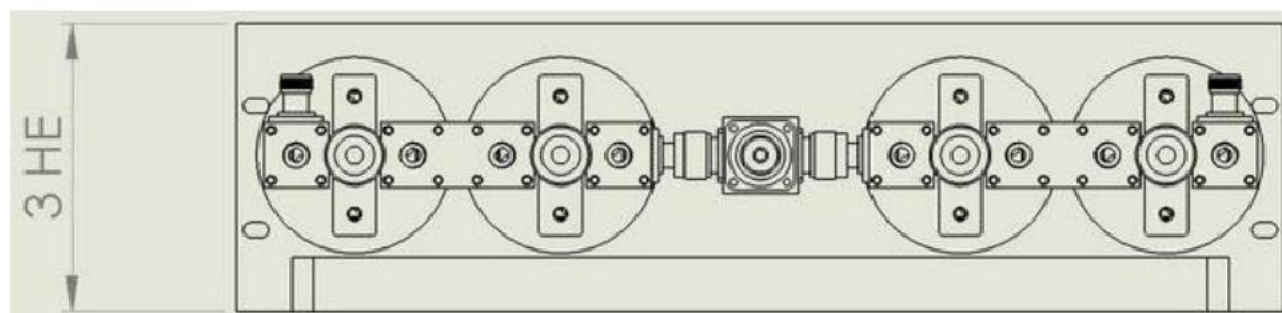
Features:

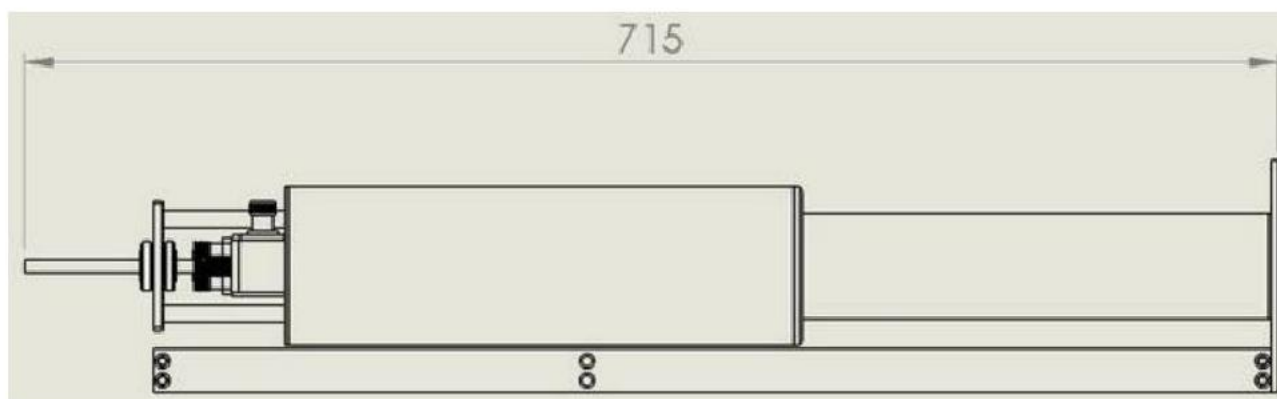
- Distortion – Free Transmission
- Starpoint system with pass stop
- Low loss, high isolation
- Natural convection



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

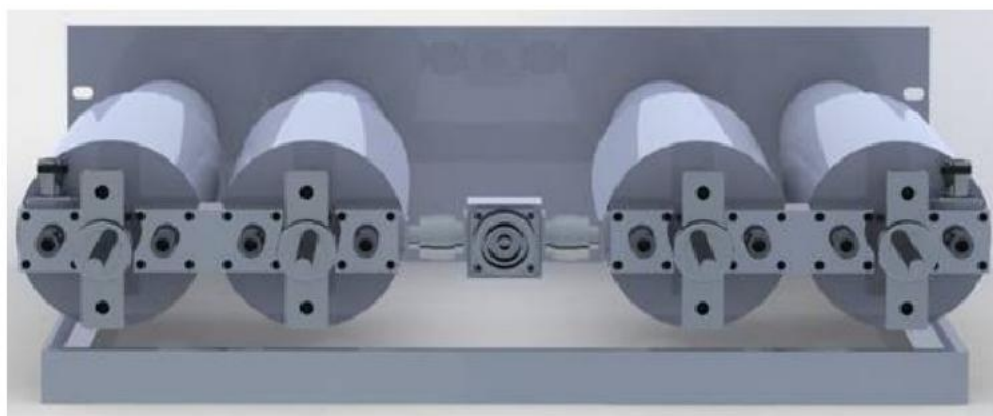
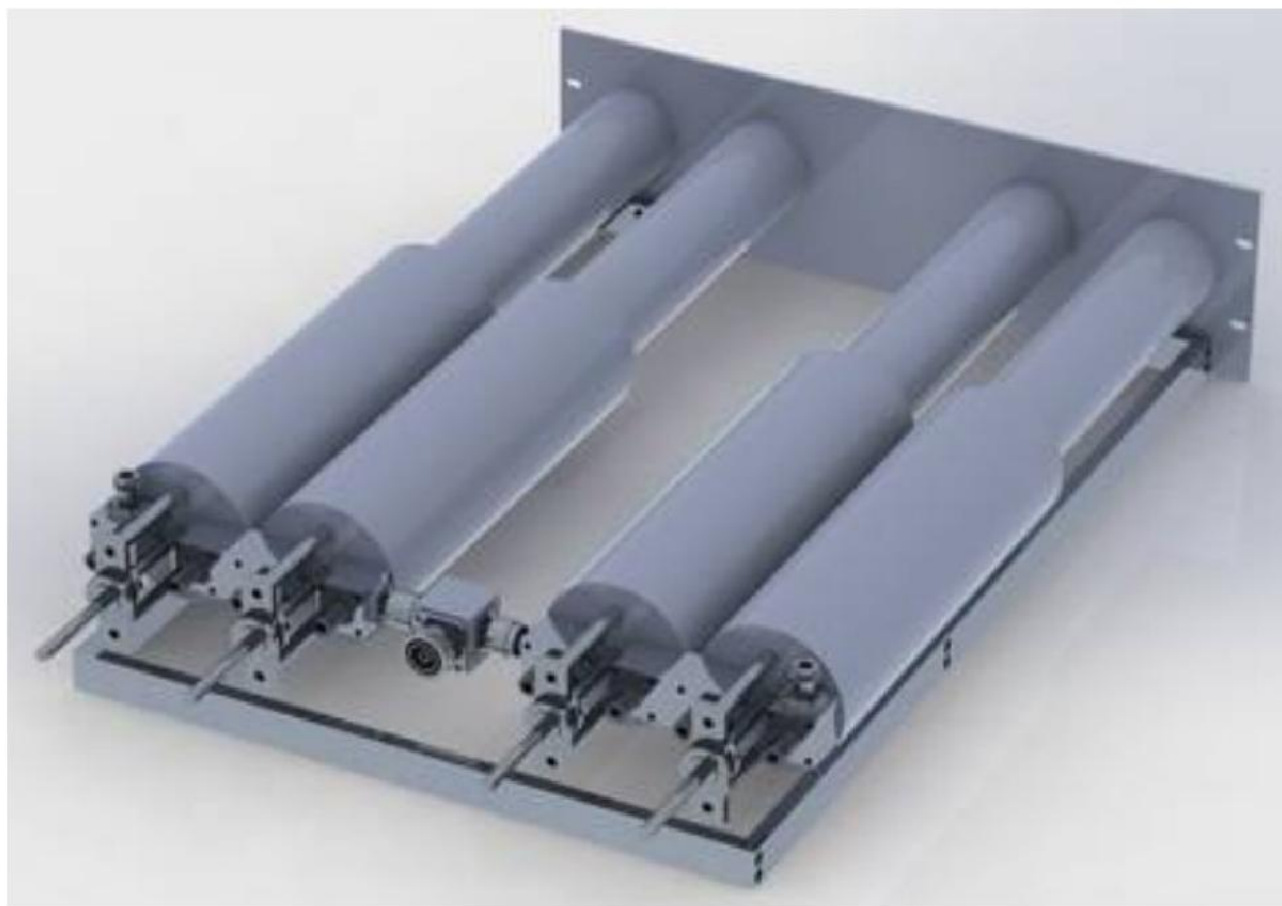
DIMENSIONS (mm)



**Rack version (optional)**

Panel Size	3 HE (1 HE=44,45 mm) (133.35×715(max size)×483 mm) (5.2×28.1(max size)×19 inch)
Net Weight	≅ 13.5 Kg

VIEWS OF THE SYSTEM





TELECOMUNICAZIONI FERRARA SRL

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44100 FRANCOLINO (FERRARA) – ITALY
TEL.: (+39) 0532.72.40.33
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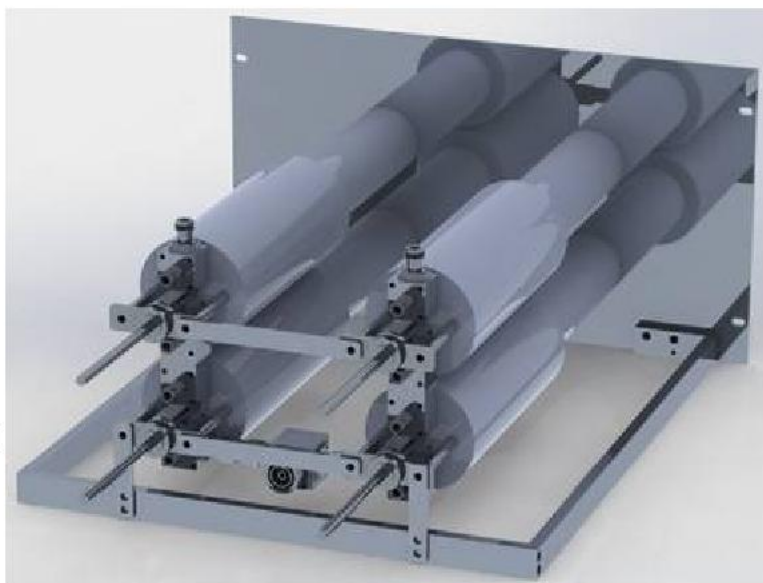
Il fabbricante non è responsabile per danni, perdite di profitto o qualsiasi pretesa da terze parti incorsi, dovuti all'uso di questo manuale o dei prodotti descritti nel presente manuale.

MODEL FDCSDC03TRV

- 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.

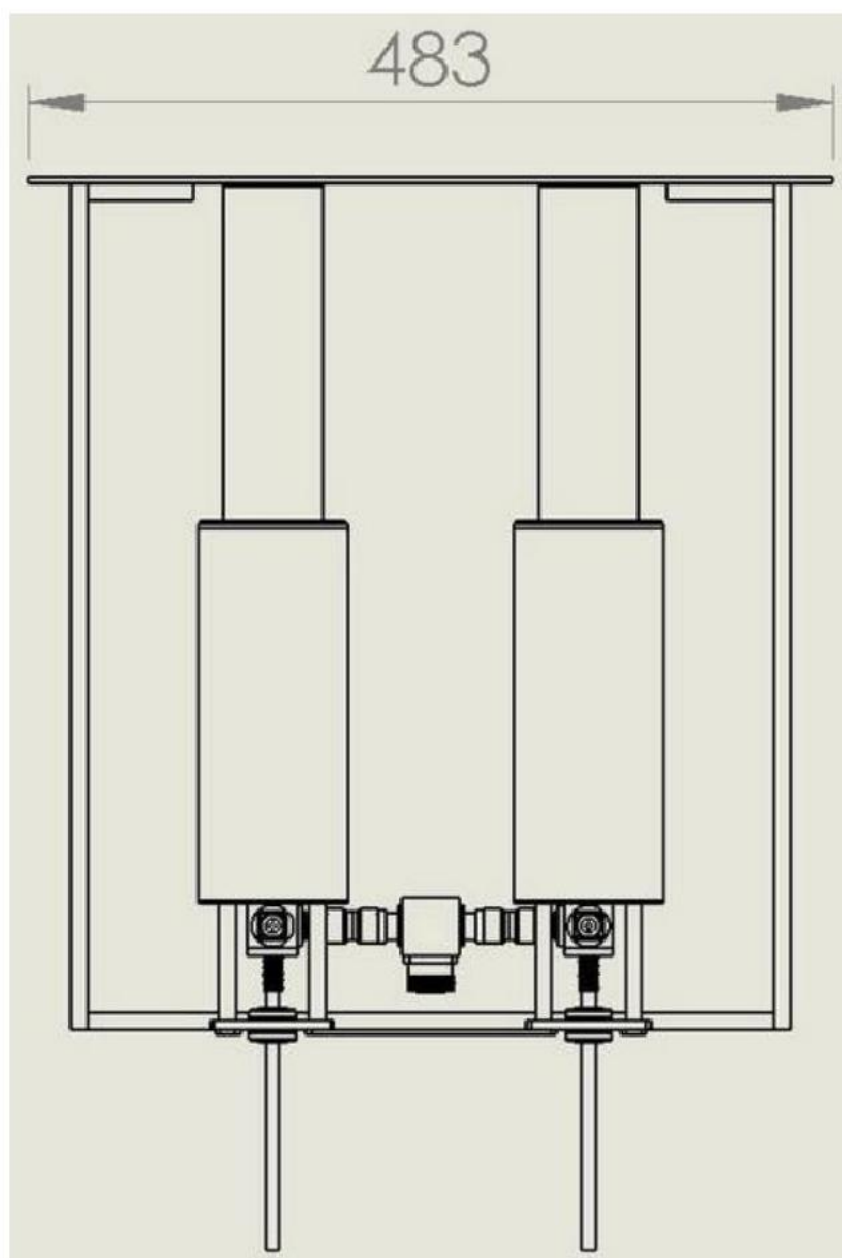
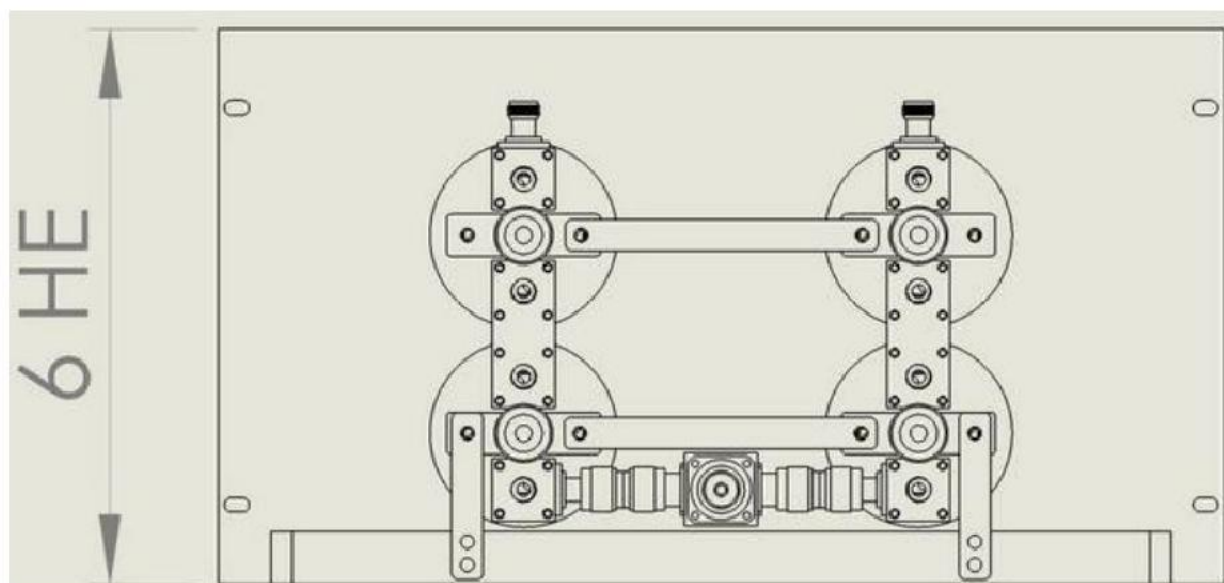
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

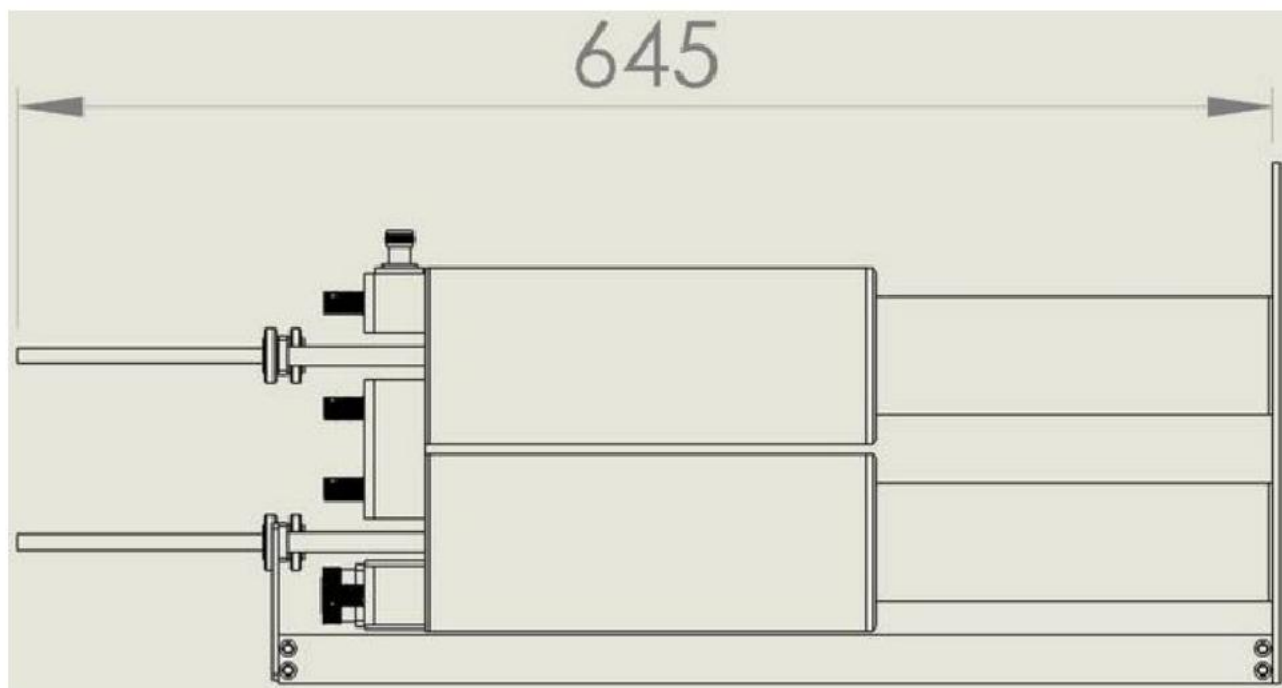


TYPICAL SPECIFICATIONS

Model	FDCSDC03TRV
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.7 – 0.8 dB typical
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 2 MHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	Input N Output 7-16
Max Power	250 W \times Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

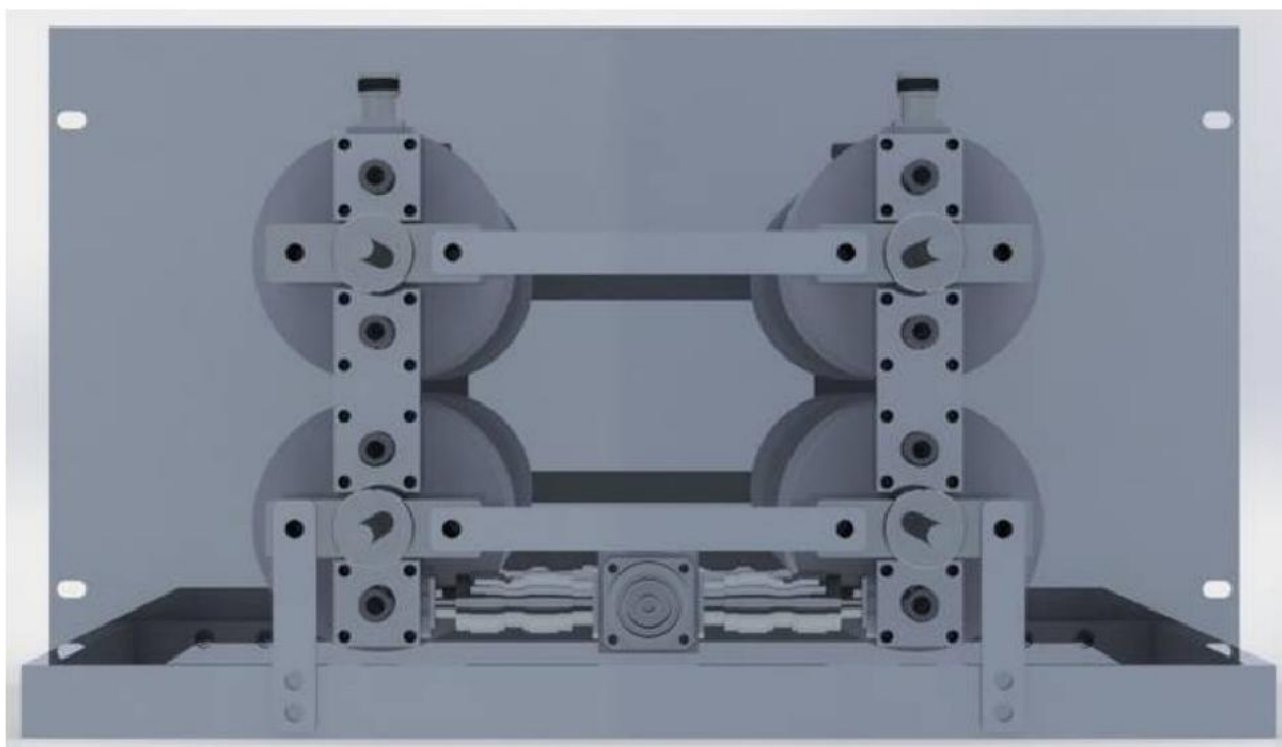
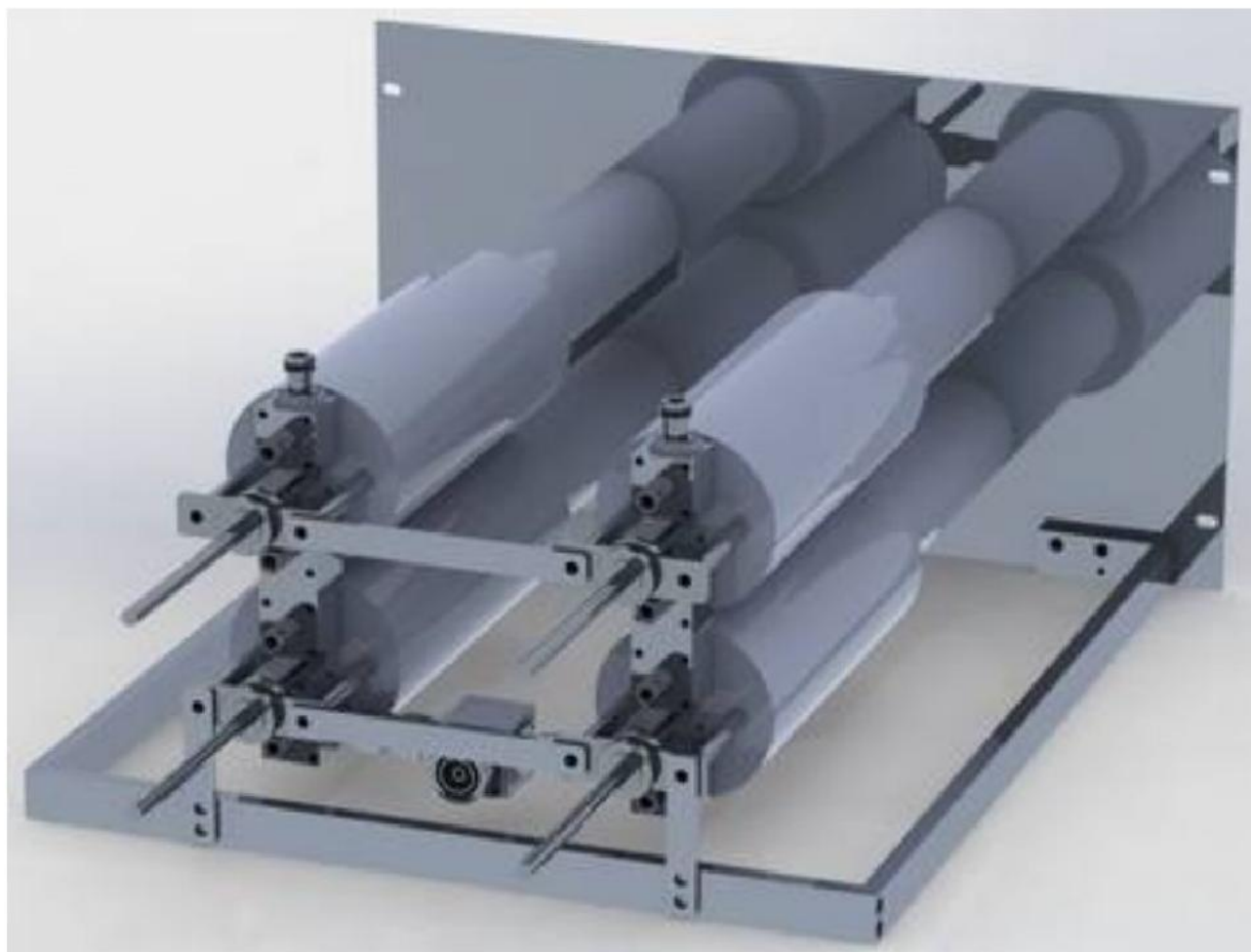
DIMENSIONS (mm)

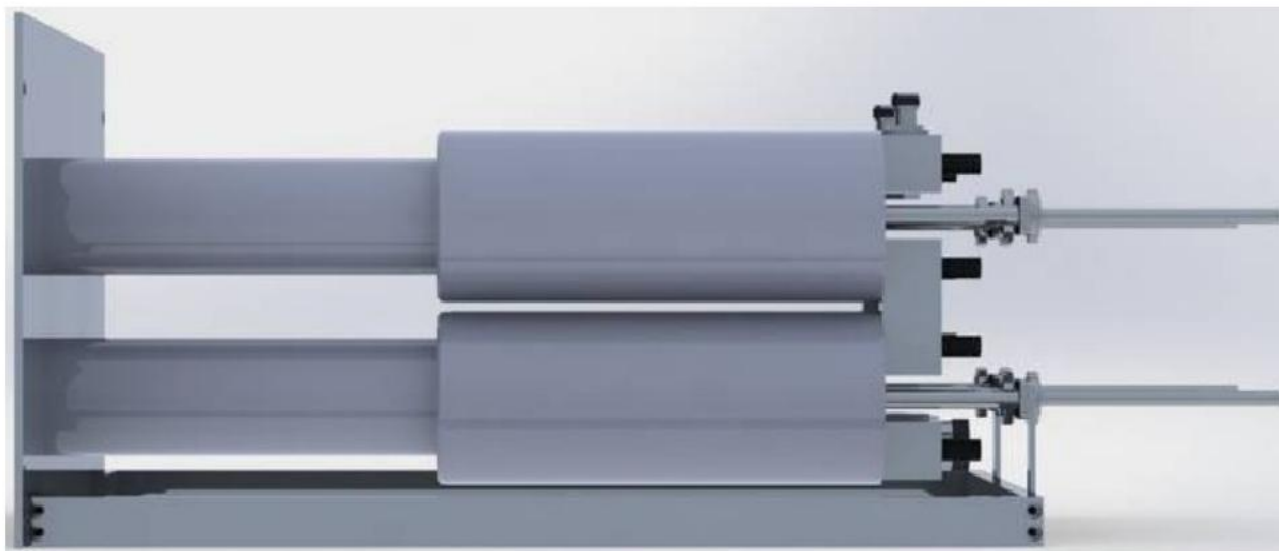


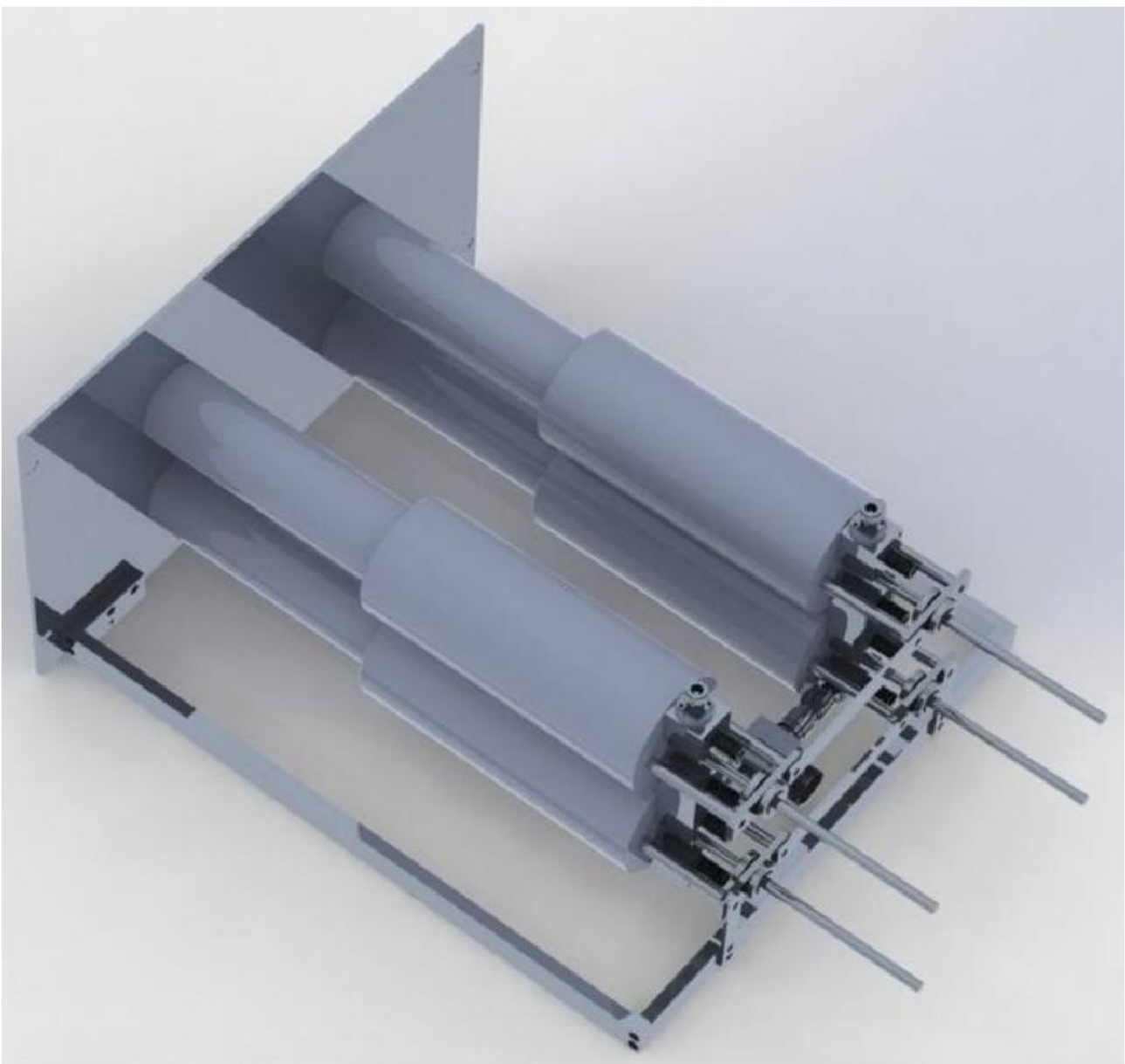
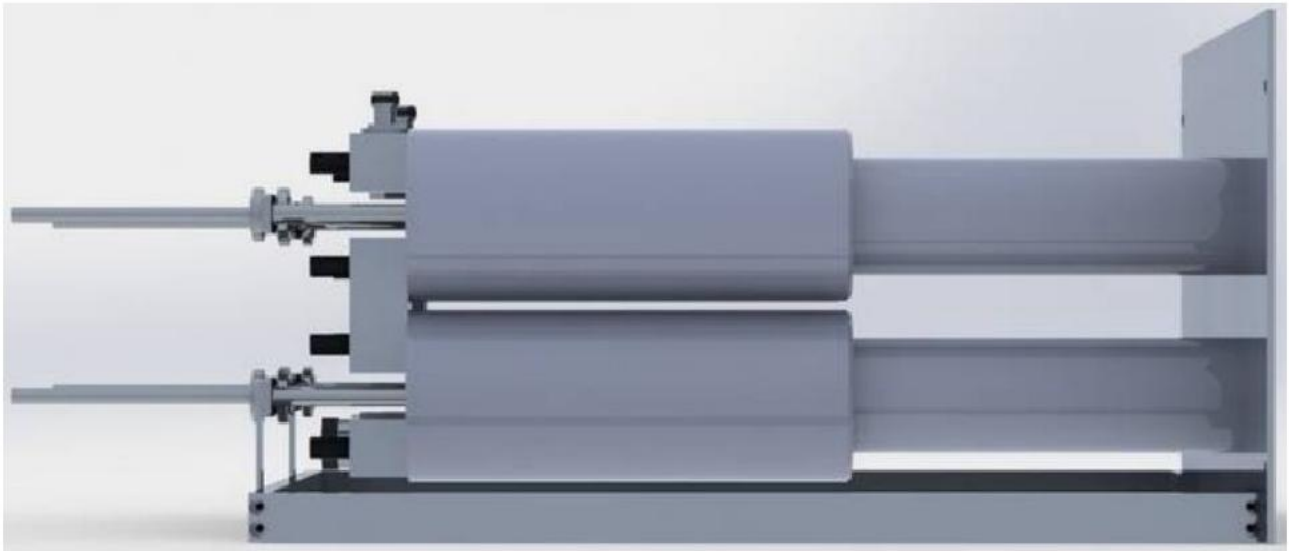


Dimensions	6 HE (266.7 mm approx.) × 483 × 645 (Max size) mm (6 HE (10.5 inch approx.) × 19 × 25.3 (Max size) inch) (H × L × W)
Net Weight	≅ 13.5 Kg approx.

VIEWS OF THE SYSTEM







MODEL FDCSDC3

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

Model	Connector	Connector	Input	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.

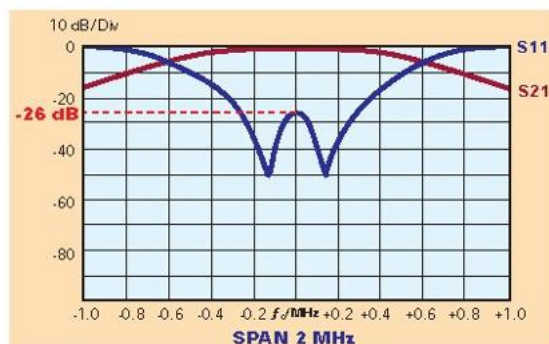
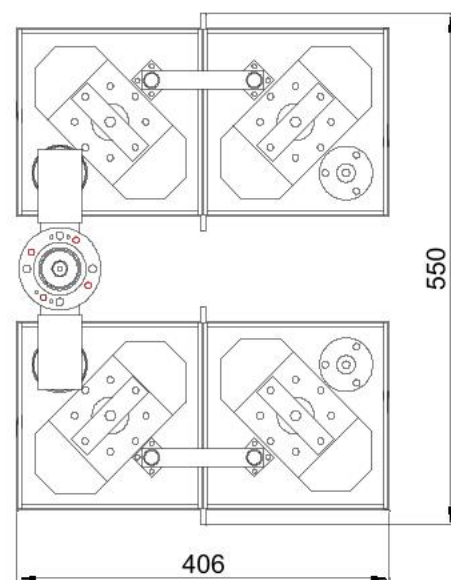
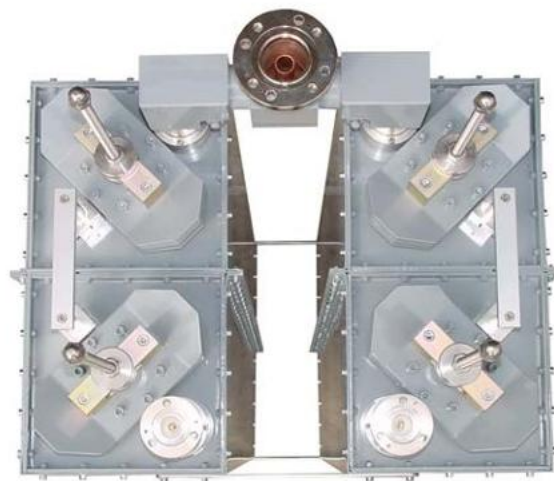
TYPICAL SPECIFICATIONS

Model	FDCSDC3 – Type STAR POINT		
Impedance	50 Ohm		
Frequency Range	87.5-108 MHz		
150 KHz	1.1:1 max		
Insertion Loss	at f_0 0.25 dB max		
150Khz	≤ -26 dB		
1,2MHz	≥ 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	1300(Max size)- 550- 406 mm (51.2(Max size)- 21.6- 16.0 inch) (H- L- W)
Net Weight	≈45 Kg (double cavity)



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

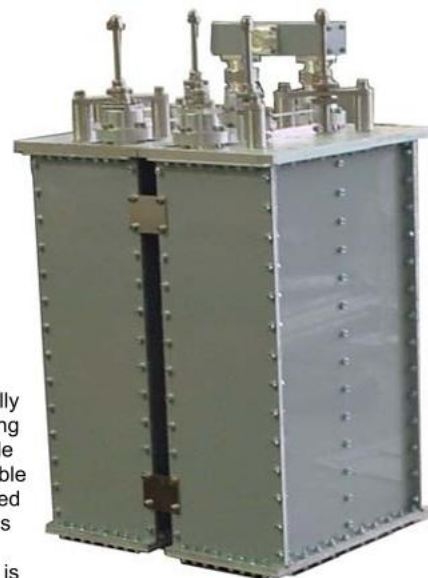
MODEL FDCSDC05

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

Model	Input Connector	Output Connector	Power Input	Power Output
FDCSDC05-1	N	7/16"	500W	1KW
FDCSDC05-2	N	7/8"	500W	1KW
FDCSDC05-3	7/16"	7/16"	500W	1KW
FDCSDC05-4	7/16"	7/8"	500W	1KW
FDCSDC05-5	7/8"	7/8"	500W	1KW

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.

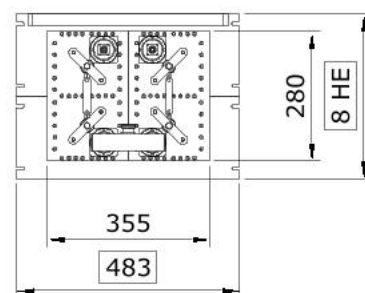
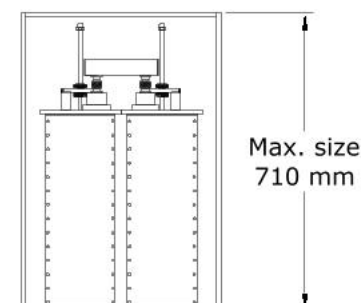


TYPICAL SPECIFICATIONS

Model	FDCSDC05 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.42 dB typical
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.5 MHz	≥ 30 dB
Input Number	2
Output Number	1
Connectors standard	(See table)
Max Power	600W x Channel
Working Temperature	-20°C +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

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



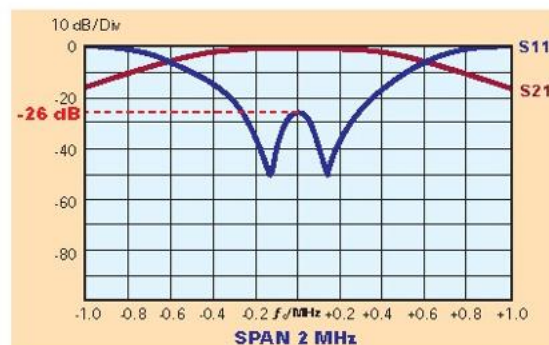
RACK VERSION (OPTION)

No rack version

Dimensions	710 (Max size) 355· 280 mm (27.9 14.0· 11.0 inch) (H· L· W)
Net Weight	≈ 30 Kg

Rack version (optional)

Panel Size	8 HE (1 HE=44,45 mm)
Net Weight	≈ 30 Kg



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

MODEL FDCSDC5

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

Model	Connector	Connector	Input	Output
FDCSDC5-1	7/8"	1+5/8"	5KW	10KW
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
150KHz	1.1:1 max
Insertion Loss	at \int_0 0.15 dB max
150 KHz	≤ -26 dB
1.5 MHz	≥ 30 dB
No. of input	2
No. of output	1
Connectors Standard	1+5/8" Input-Output (See table) option 3+1/8"
Max Power	6KW - 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
- Starpoint system with double pass-band cavity filters (standard configurations)
- Starpoint system with triple pass-band cavity filters
- Starpoint system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

STANDARD VERSION

Dimensions	1400(Max size): 780- 810 mm (55.1(Max size): 30.7- 31.9 inch) (H· L· W)
Net Weight	≈90 Kg

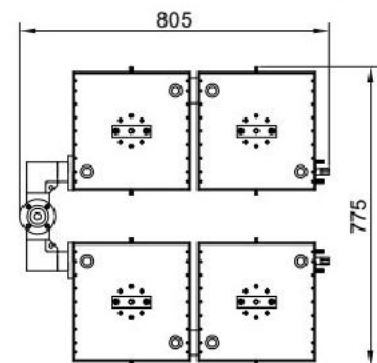
OUT 3+1/8" VERSION

Dimensions	1400(Max size): 830- 800 mm (55.1(Max size): 32.6- 31.5 inch) (H· L· W)
Net Weight	≈92 Kg

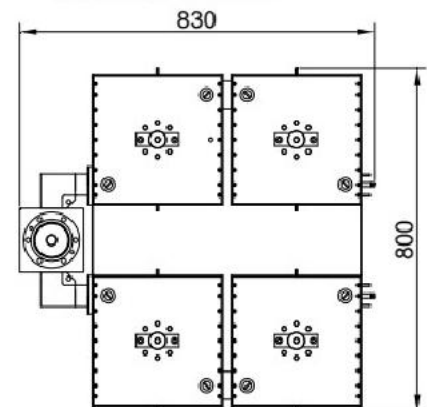
SPECIAL VERSION

Dimensions	2320(Max size): 936- 332 mm (91.3(Max size): 36.8- 13.1 inch) (H· L· W)
Net Weight	≈100 Kg

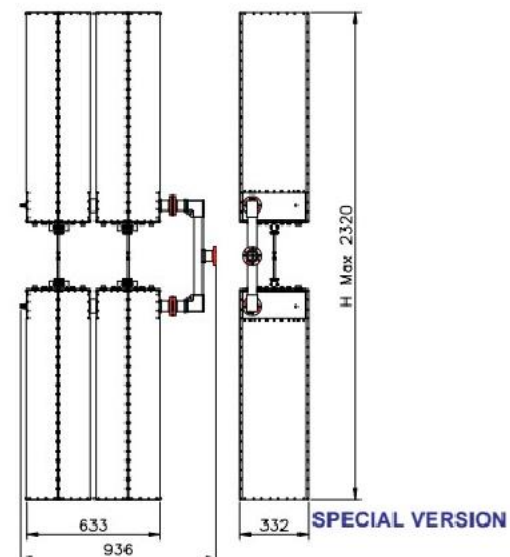
The star combiner basically consist of parallel connecting several transmitters to a single antenna



STANDARD VERSION



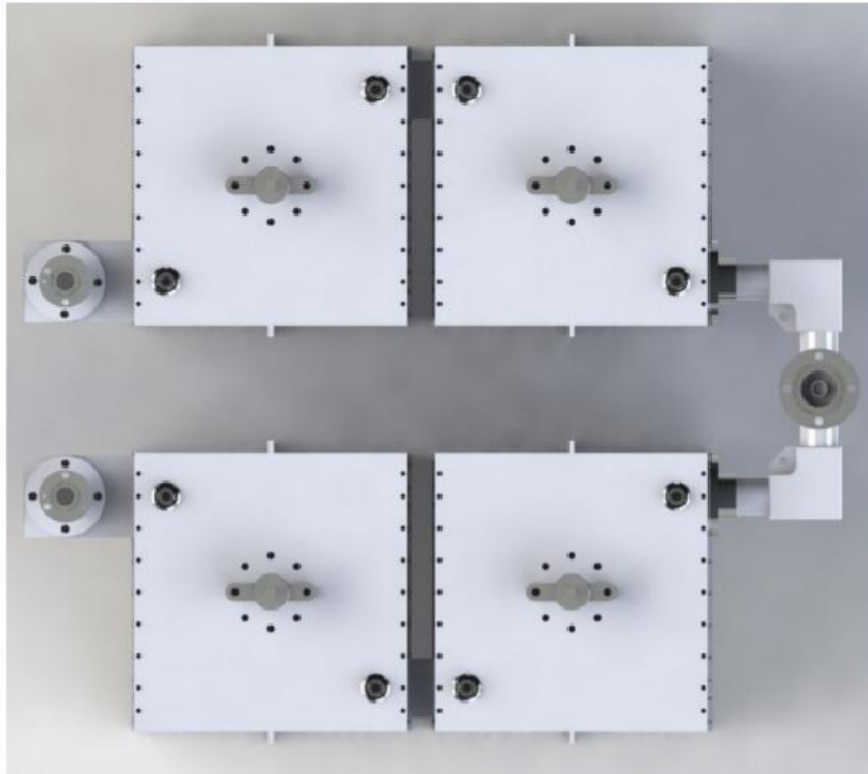
OUT 3+1/8" VERSION

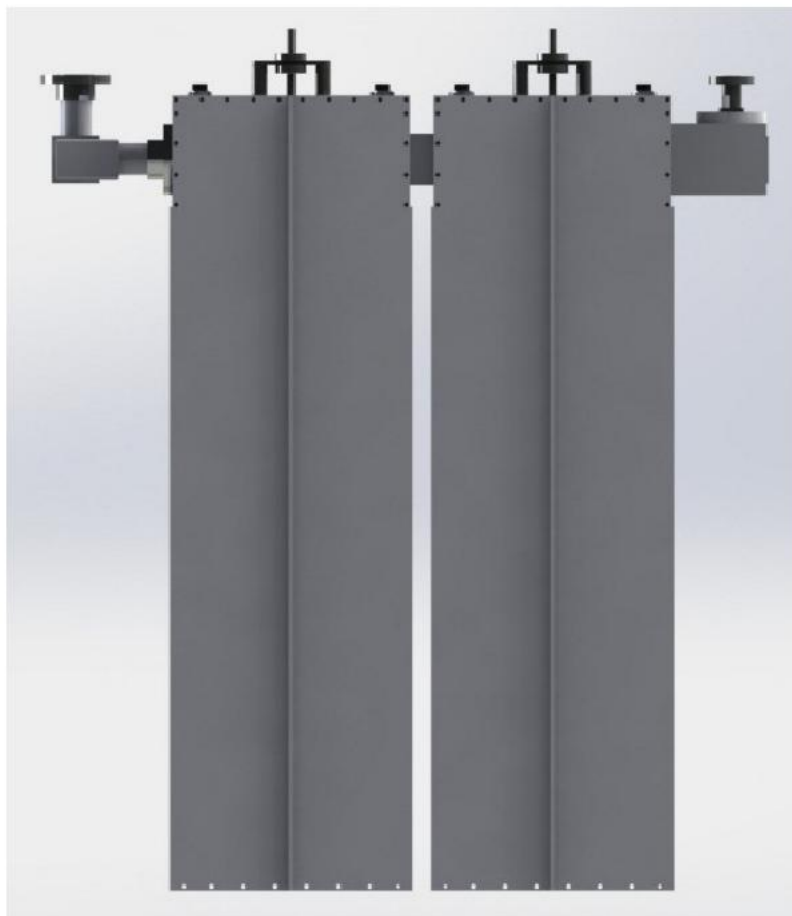
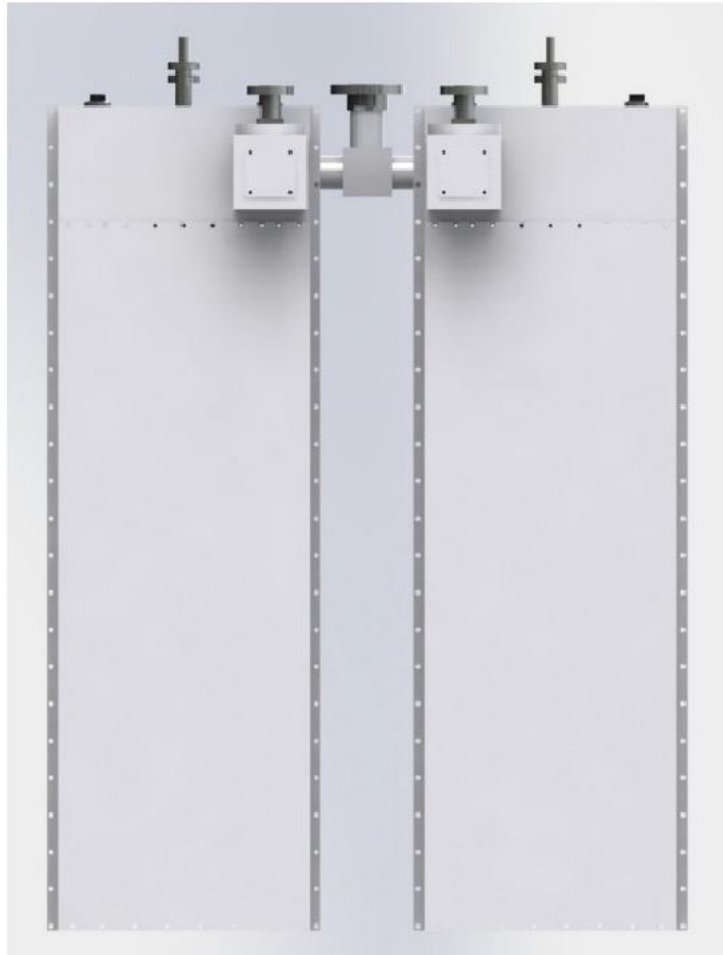


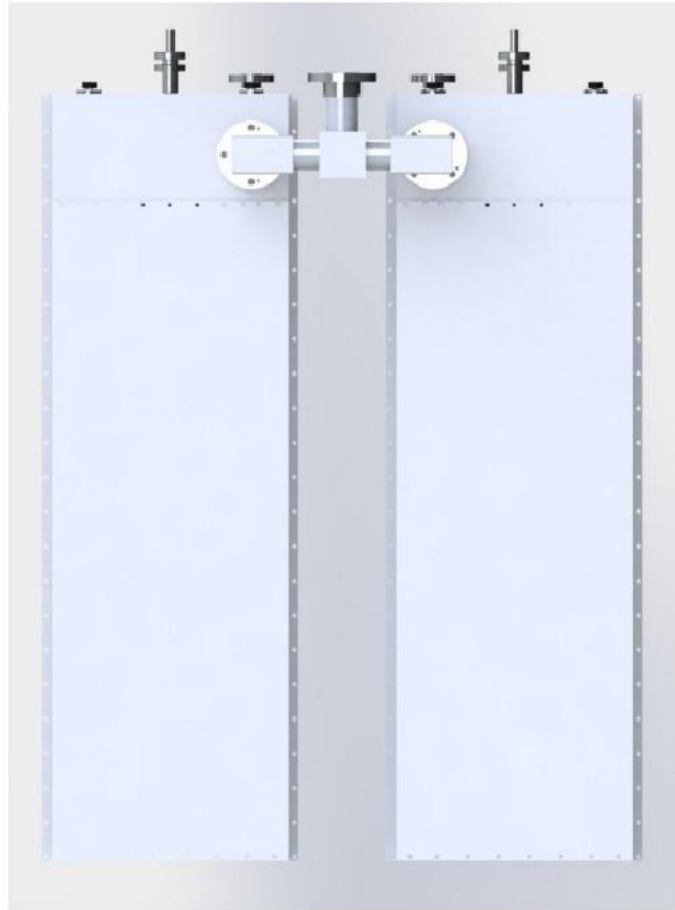
SPECIAL VERSION

"These specifications are subject to change without notice"

VIEWS OF THE SYSTEM STANDARD VERSION

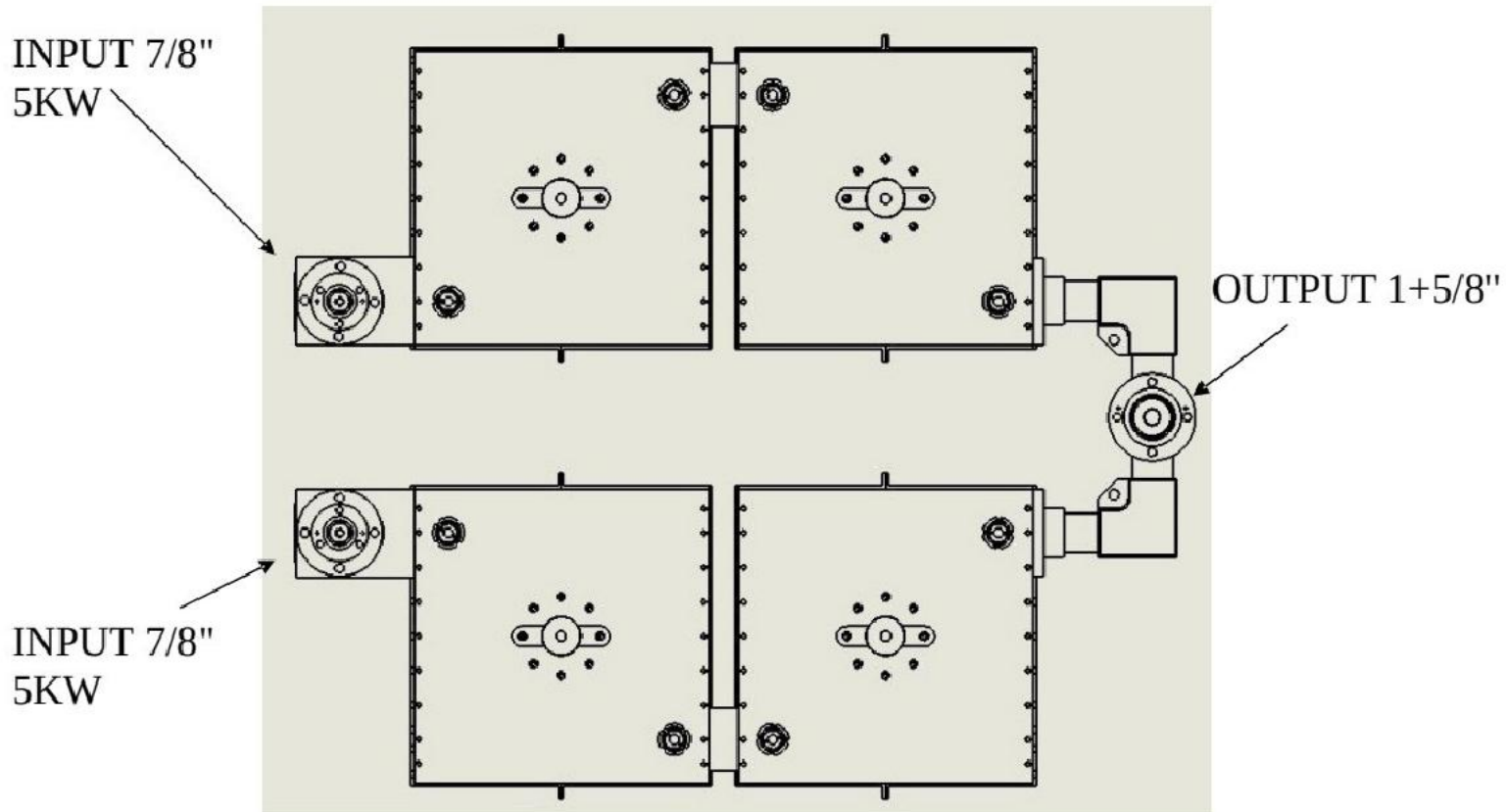








POWER INPUT LAYOUT



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 ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.1 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.5 MHz	≥ 30 dB
Input Number	2
Output Number	1
Connectors	Input 1+5/8" or 3+1/8" Output 3+1/8" option 4+1/2"
Max Power	15KW \times 2 Channels
Working Temperature	-20°C \div +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Bass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

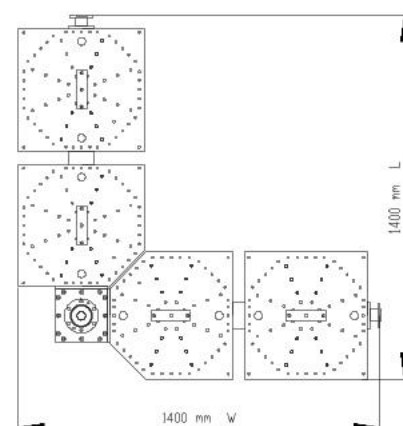
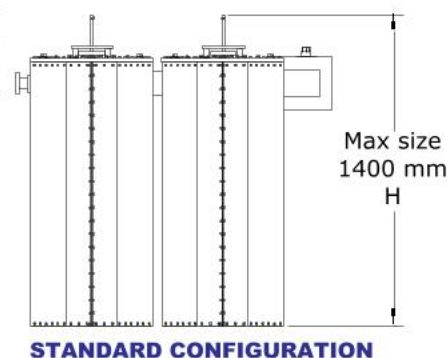
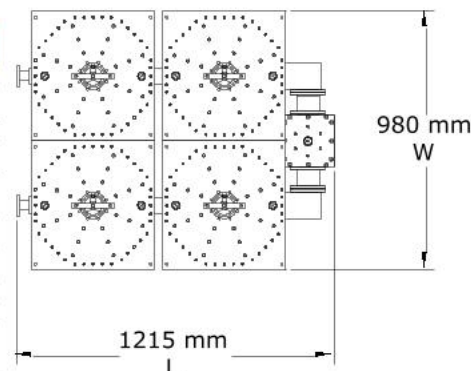
- Distortion – Free Transmission
- Star-point system with double pass-band cavity filters (standard configurations)
- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

STANDARD CONFIGURATION

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

OPTIONAL CONFIGURATION

Dimensions	1400(Max size) \times 1400 \times 1400 mm (55.1(Max size) \times 55.1 \times 55.1 inch) (H \times L \times W)
Net Weight	\cong 150 Kg (double cavity)



OPTIONAL CONFIGURATION

"These specifications are subject to change without notice"

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

DESCRIPTION OF A STARPOINT DIPLEXER

A star-point diplexer is made by parallel circuiting two band pass filters (**FFC10/C**) 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.

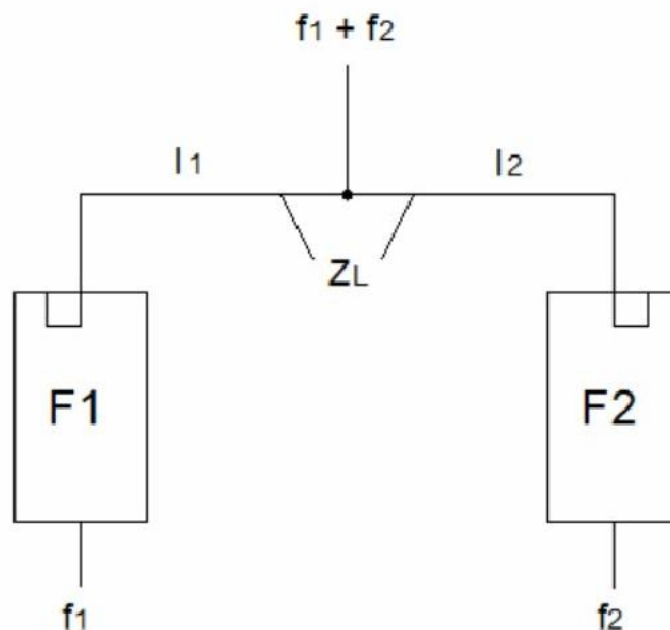


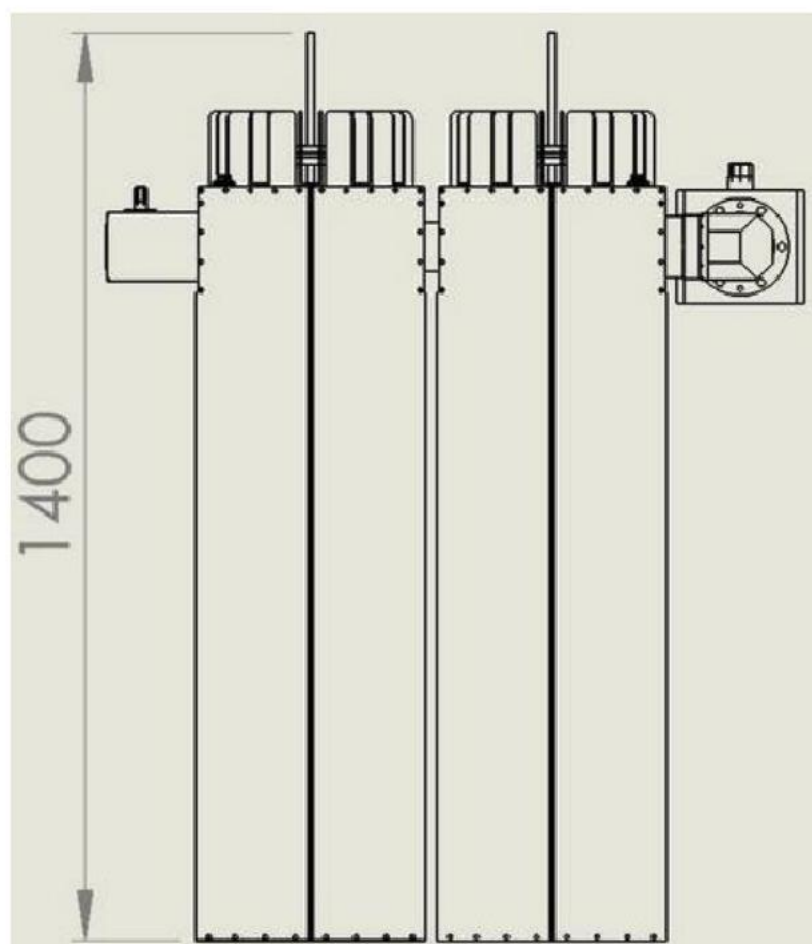
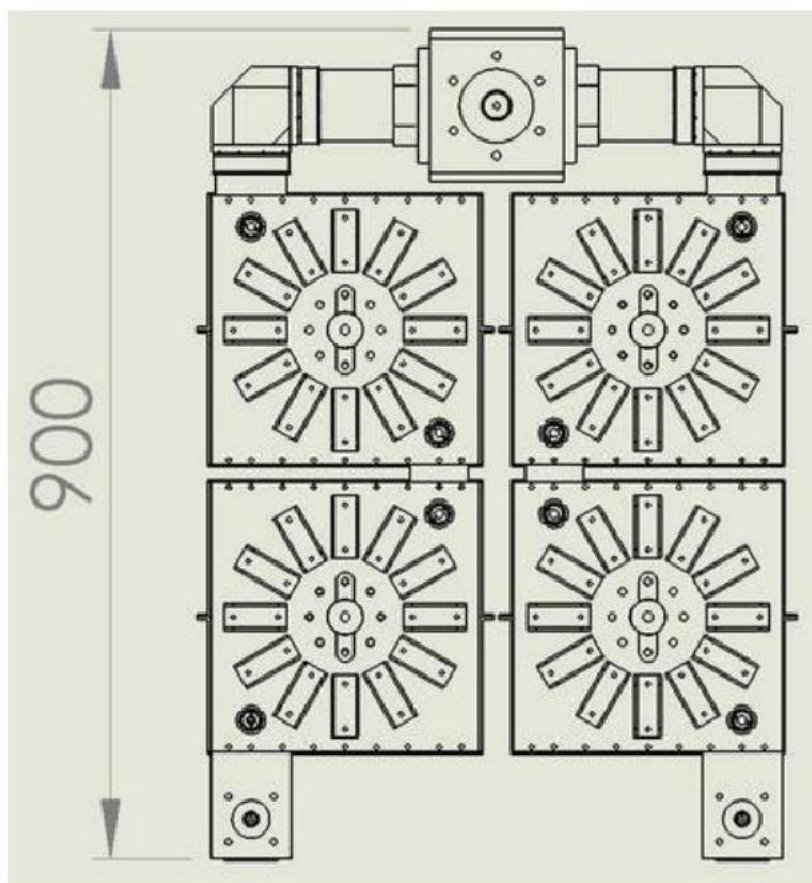
Fig. 1

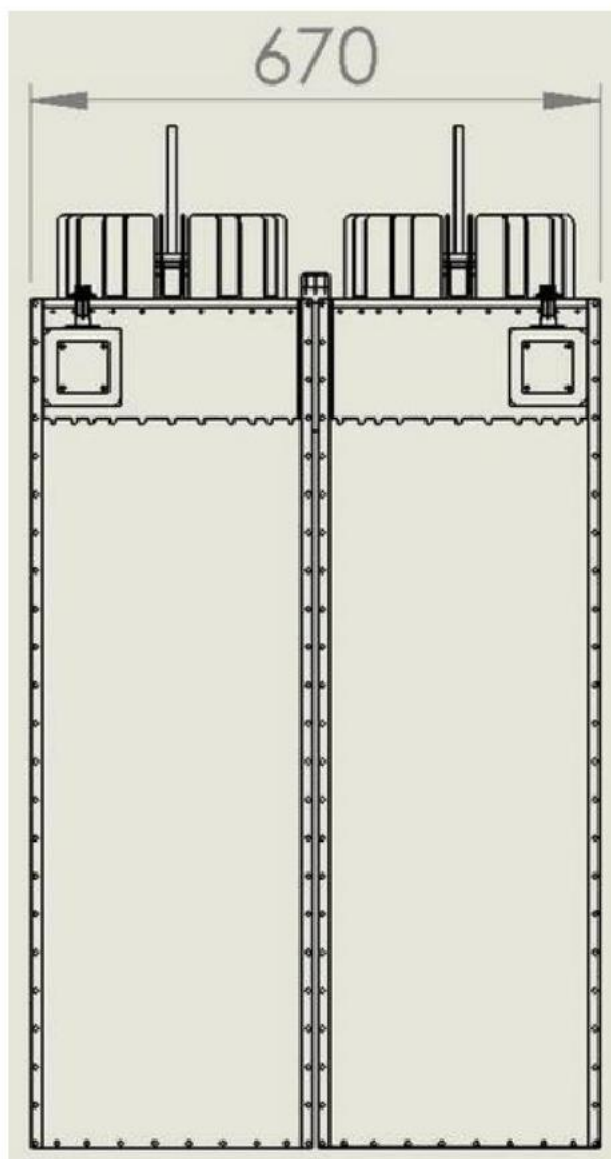
In the diplexer illustrated in Fig.1, filter F1 permits frequency f_1 to pass, whereas filter F2 cuts it off. In relation to frequency f_1 , filter F2 presents a short circuit at its inputs. Via an electrically effective cable length of $\lambda/4$ (made up of l_1 and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F1 presents impedance Z_L at this point. The filter F2 functions in the analog manner in relation to frequency f_2 .

Summary:

The diplexing filter, consisting of two filters (**Model FFC10/C**) and a junction point with defined cable lengths, has two narrow band inputs corresponding to the pass band characteristics of the filters.

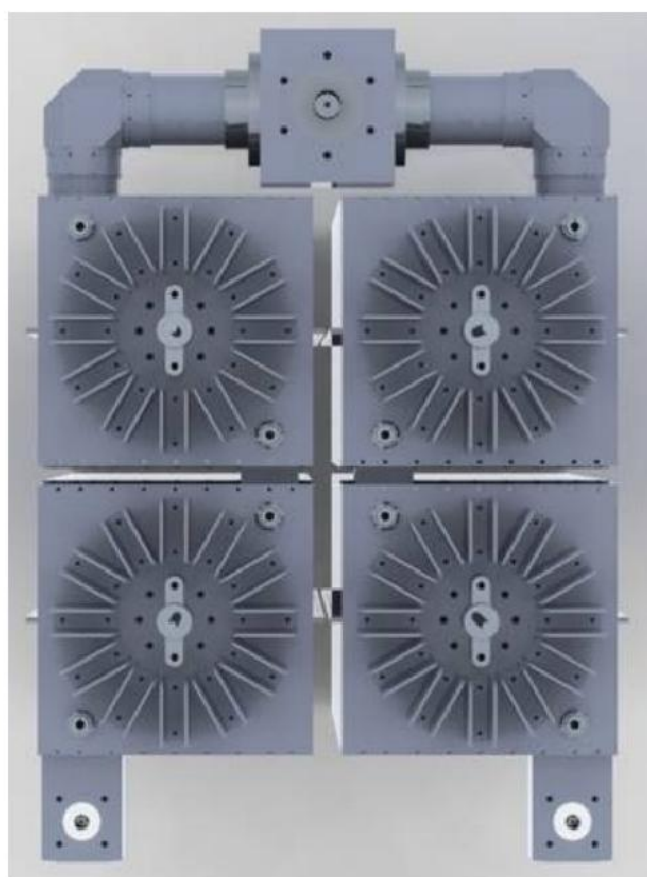
DIMENSIONS (mm)





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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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
150KHz	1.1:1 max
Insertion Loss	at f_0 0.1 dB max
150KHz	≤ -26 dB
1.5MHz	≥ 30 dB
Input Number	2
Output Number	1
Connectors	Input 3+1/8" Output 4+1/2"
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:

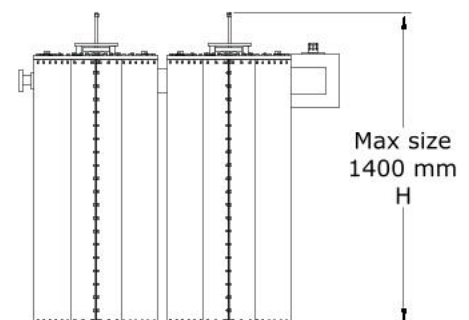
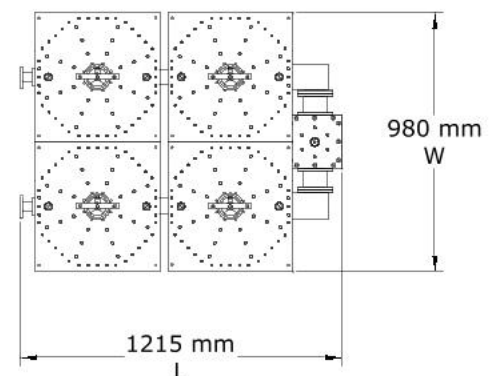
- Distortion – Free Transmission
- Star point system with double pass-band cavity filters (standard configurations)
- Star point system with triple pass-band cavity filters
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

STANDARD CONFIGURATION

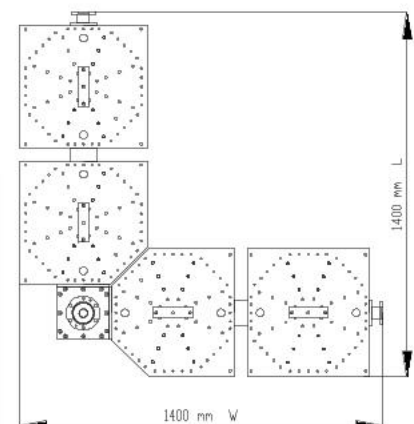
Dimensions	1400(Max size)· 1215· 980 mm (55.1(Max size)· 47.8· 38.6 inch) (H· L· W)
Net Weight	≈ 150 Kg (double cavity)

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)



STANDARD CONFIGURATION



OPTIONAL CONFIGURATION

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.

TYPICAL SPECIFICATIONS

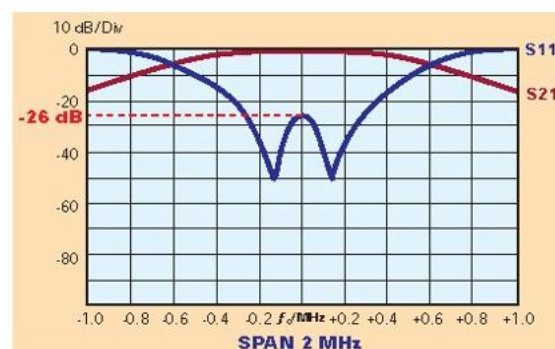
Model	FDCSDC30 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
150KHz	1.1:1 max
Insertion Loss	at f_0 0.1 dB max
150KHz	≤ -26 dB
1.5MHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	Input 3+1/8" Output 4+1/2" (Opt.6+1/8")
Max Power	30KW · 2 CHANNELS
Working Temperature	-20°C +50°C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

Features:

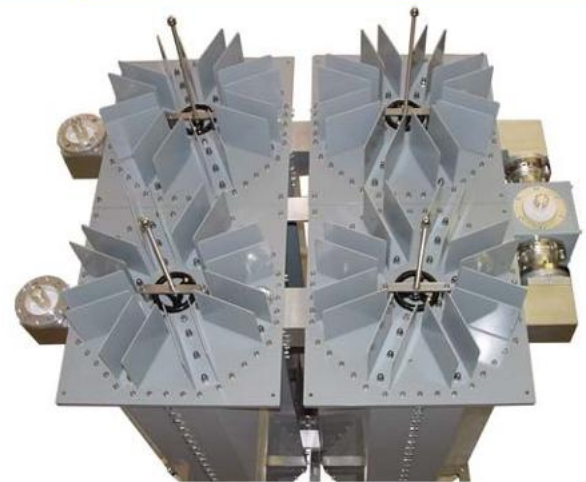
- Distortion – Free Transmission
- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection

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)

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)

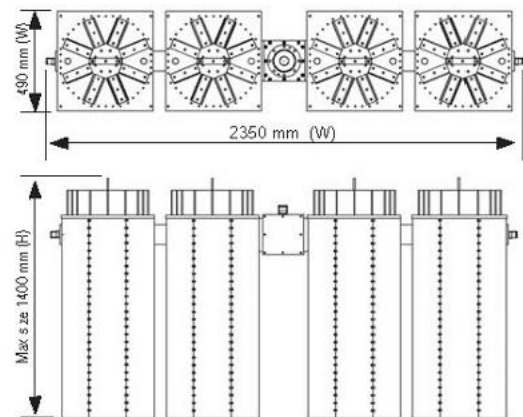


Typical shape of a curves for S11 and S12 parameters for single filter

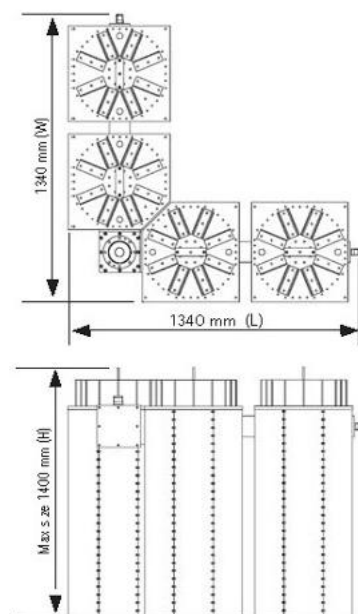


SPECIAL VERSION WITH
OUTPUT CONNECTOR 3+1/8"

Standard Configuration



Optional Configuration



"These specifications are subject to change without notice"

FM DIPLEXER

3 CAVITY

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

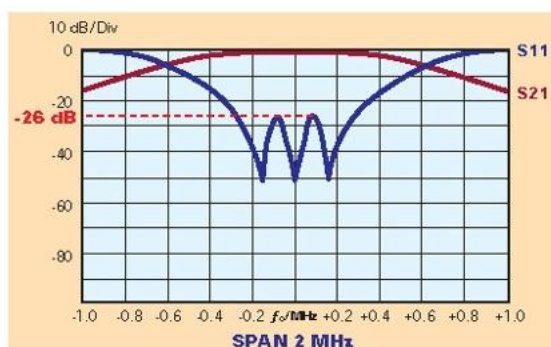
to witch it's connected. The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

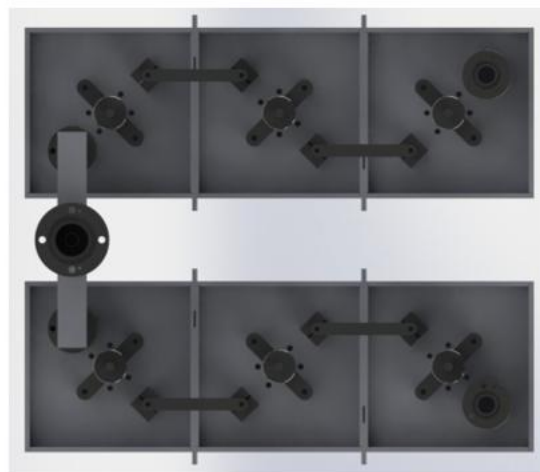
Model	FDCSTC2 – Type STAR POINT		
Impedance	50 Ohm		
Frequency Range	87.5-108 MHz		
VSWR ± 150 KHz	1.1:1 max		
Return Loss ± 150 KHz	≤ -26 dB		
Insertion Loss	at f_0 0.45 dB max		
Isolation ± 1.0 MHz	≥ 30 dB		
Insertion Loss	at f_0 0.33 dB max		
Isolation ± 1.5 MHz	≥ 30 dB		
No. of Input	2		
No. of Output	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 12 μ m thickness)		

Features:

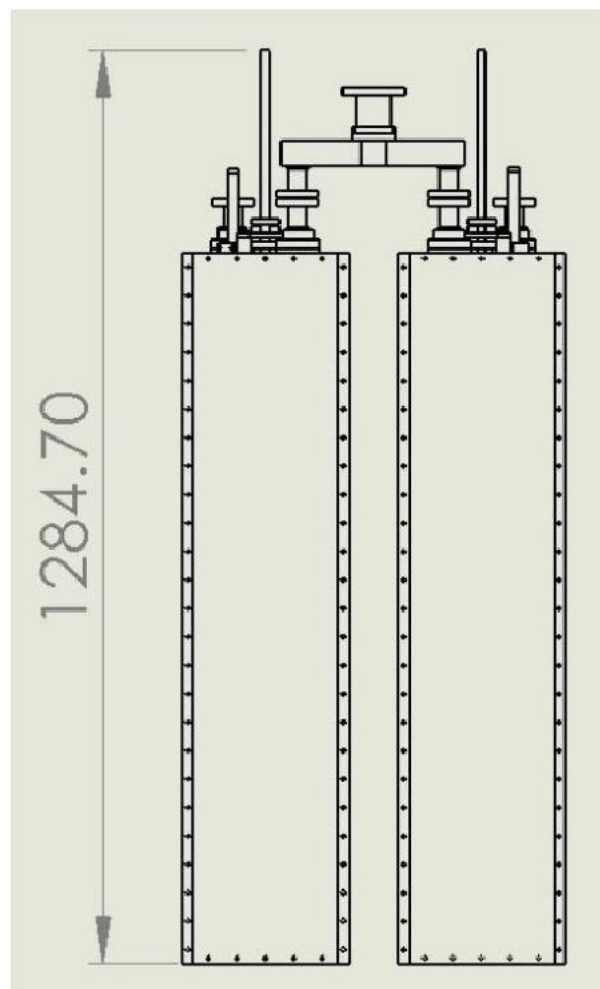
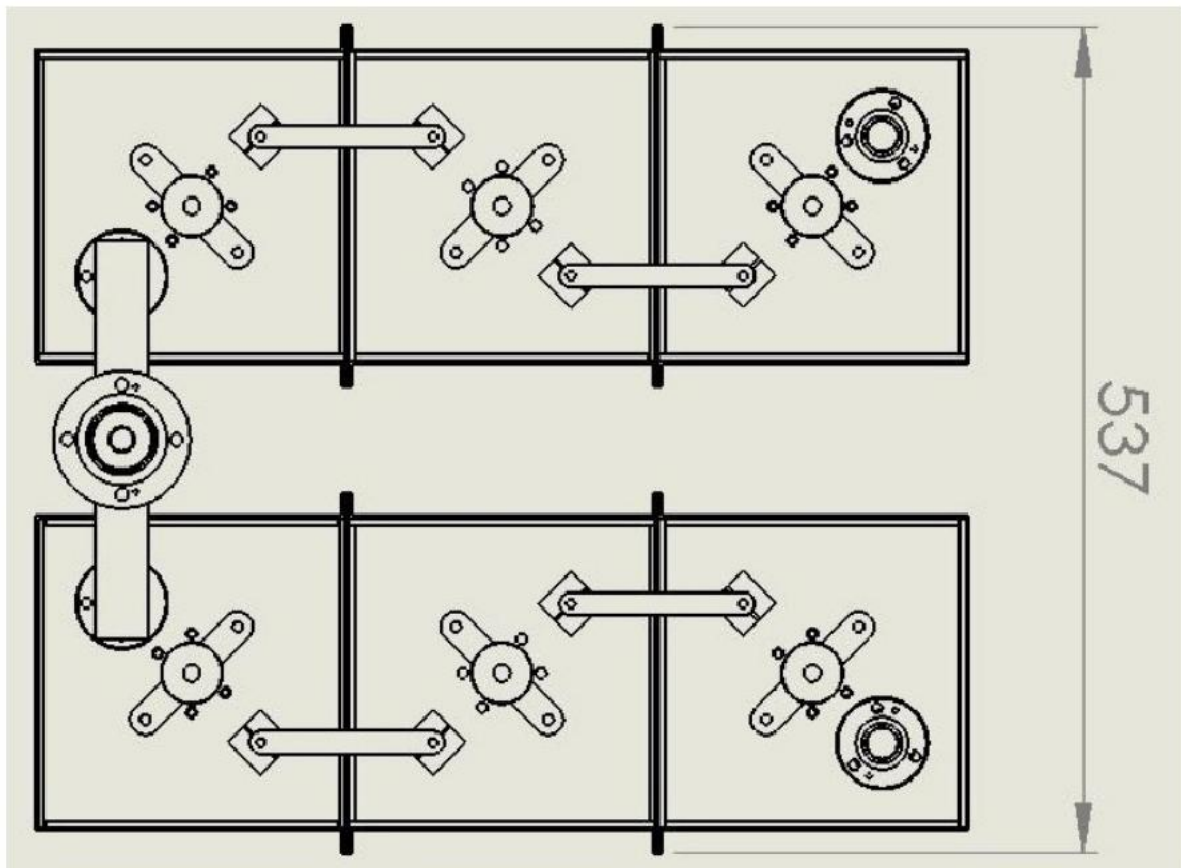
- Distortion – Free Transmission
- Star-point system with triple pass-band cavity filters (standard configurations)
- Star-point system with quadruple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

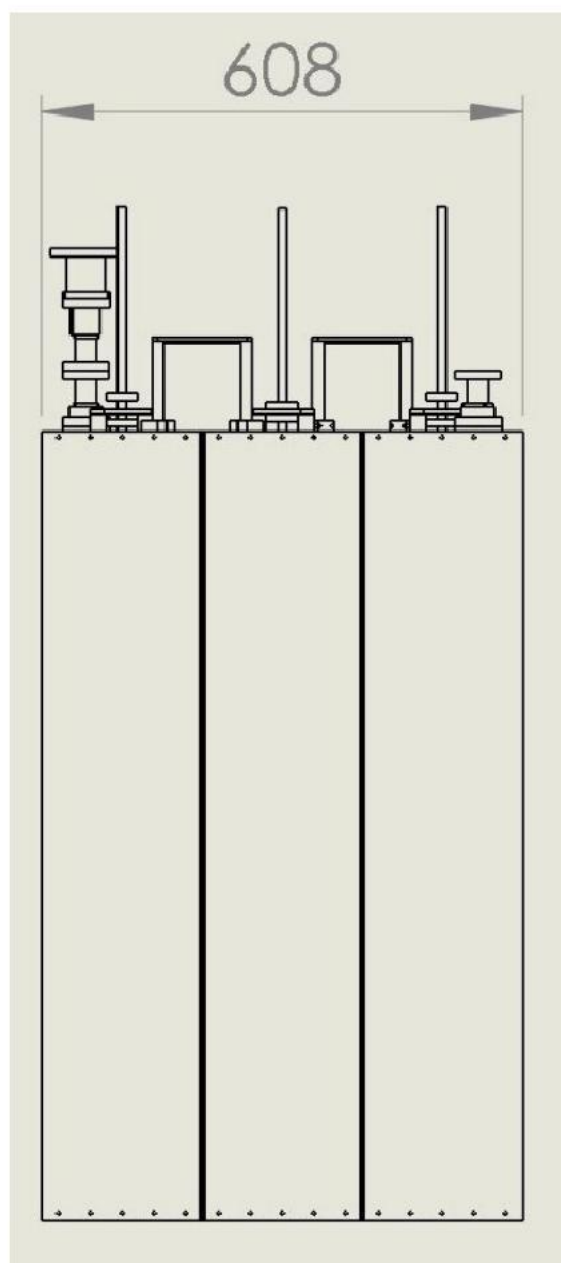


Typical shape of a curves for S11 and S12 parameters for single filter



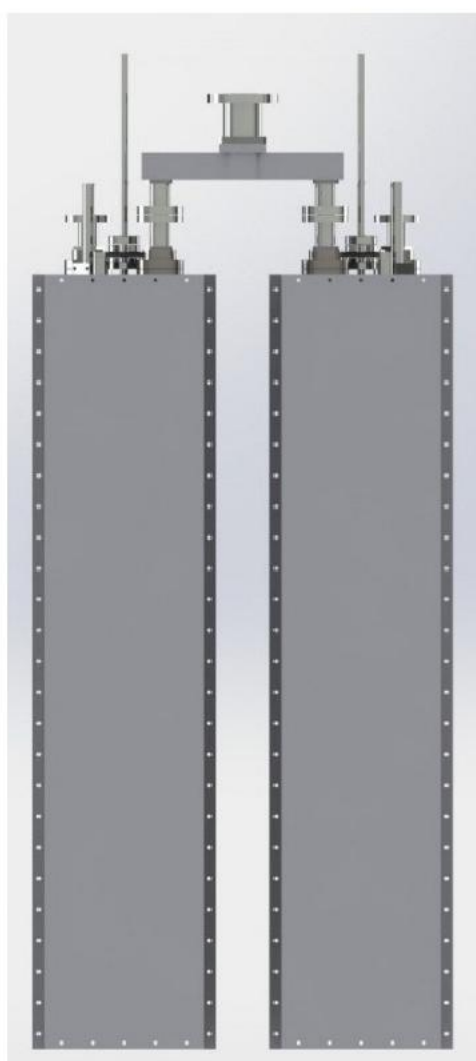
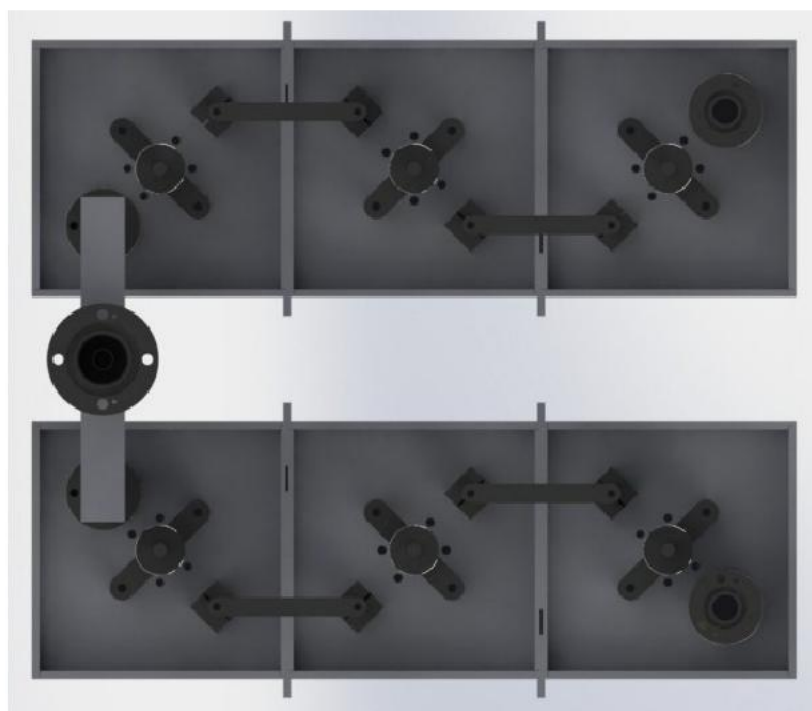
DIMENSIONS

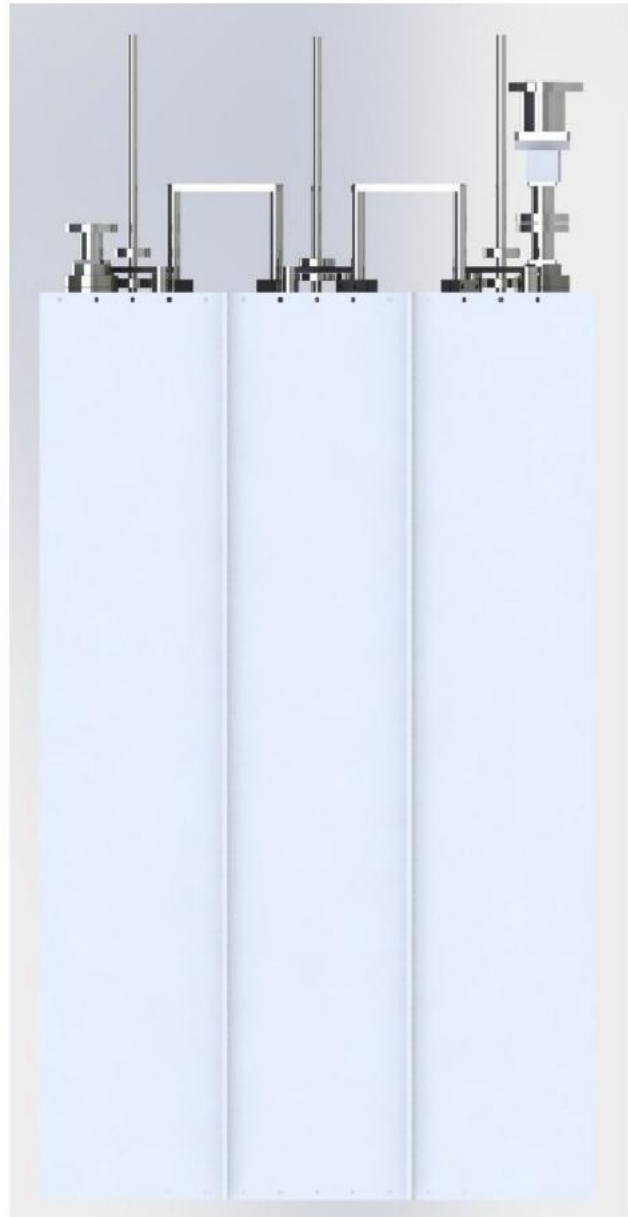
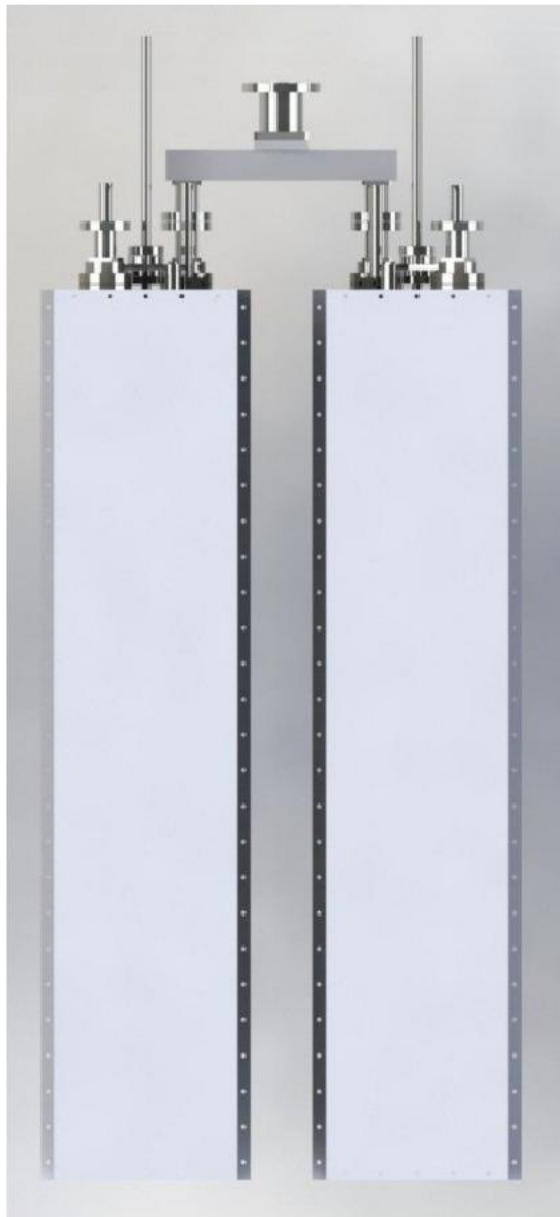




Dimensions	1300(Max size)- 608- 537 mm (51.2(Max size)- 23.9- 21.1 inch) (H- L- W)
Net Weight	≈65 Kg

VIEWS OF THE SYSTEM







MODEL FDCSTC03

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

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

VERSION WITH OPTION RACK

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 ± 150 KHz	≤ -26 dB
Isolation ± 2.5 MHz	≥ 30 dB
Isolation ± 1.4 MHz	≥ 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)

Features:

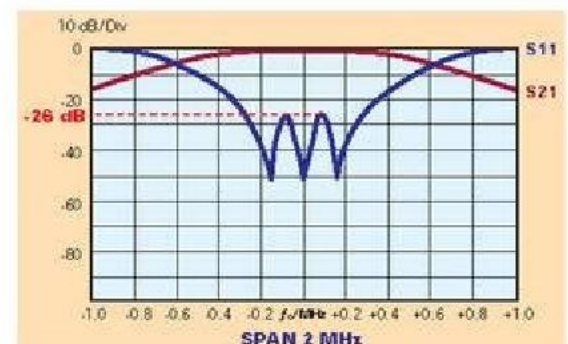
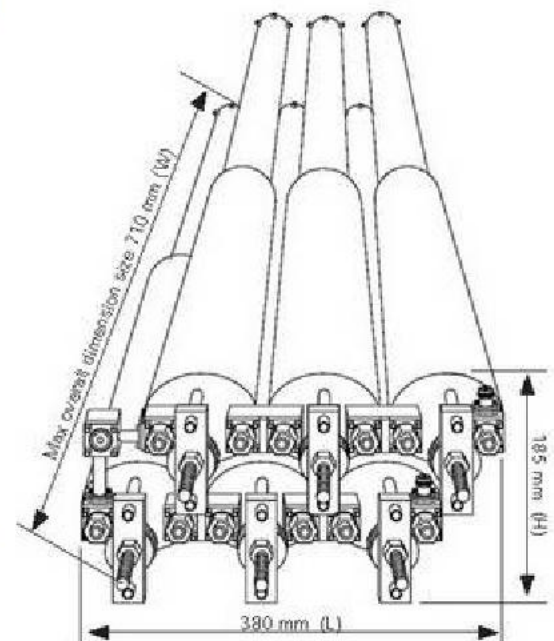
- Distortion – Free Transmission
- Starpoint system with pass stop
- Low loss, high isolation
- Natural convection
- Option whit Rack

No rack version

Dimensions	185×380×710 mm (7.3×11.4×28 inch) (H×L×W)
Net Weight	≅ 18 Kg (triple cavity)

Rack version (optional)

Panel Size	8 HE (1 HE=44,45 mm)
Net Weight	≅ 19.5 Kg (triple cavity)



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

MODEL FDCSTC03RSV

- 2 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 ÷ 108 MHz
- BAND II
- STARPOINT TYPE
- CUSTOM VERSION REDUCED SIZE

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	FDCSTC03RSV – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ±150 KHz	1.1:1 max Average
Insertion Loss	at f_0 0.6-0.7 dB typical
Return Loss ±150Khz	≤ -26 dB
Isolation ±1.5 MHz	≥ 30 dB
Input Number	2
Output Number	1
Connectors standard	Input N female Output 7/16" (opt. N - 7/8")
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)

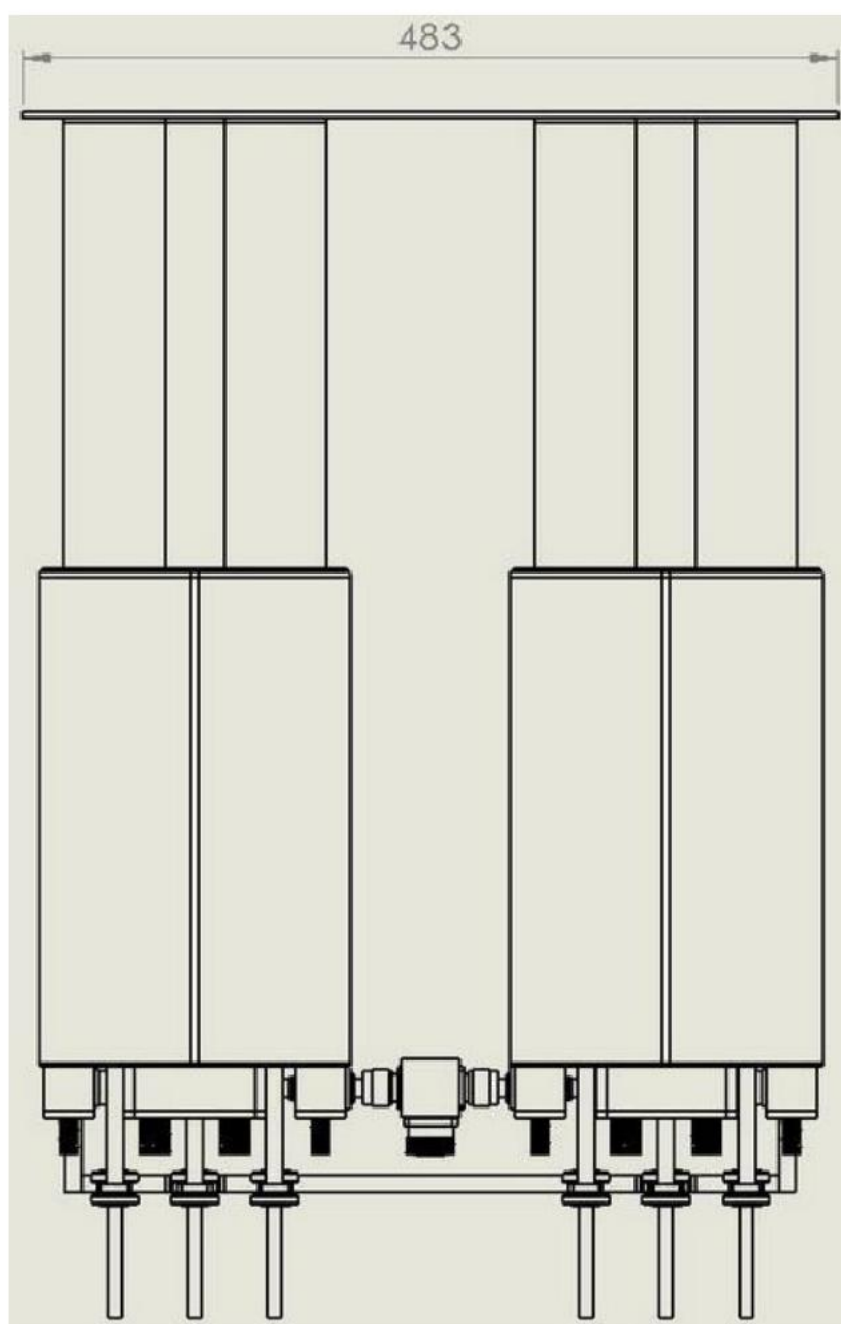
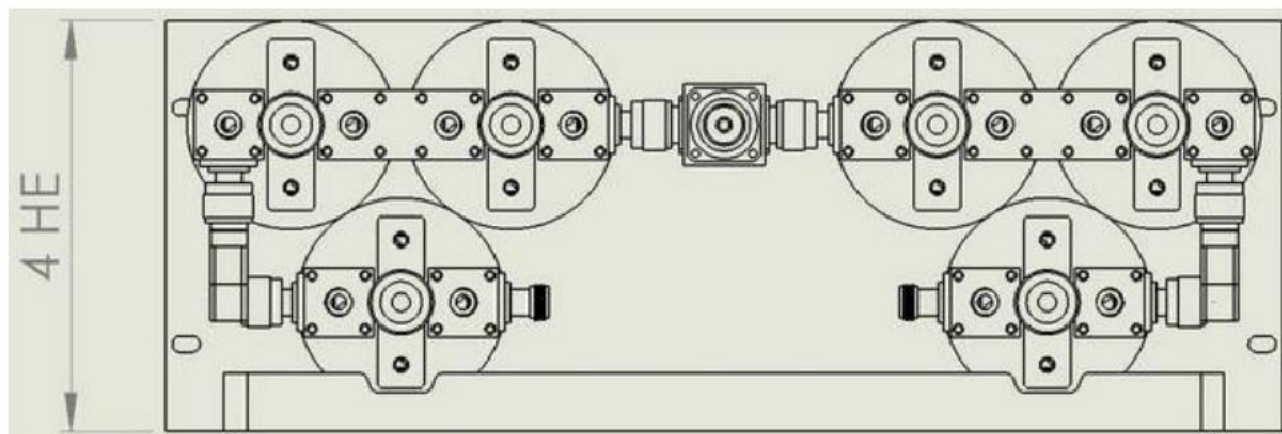
Features:

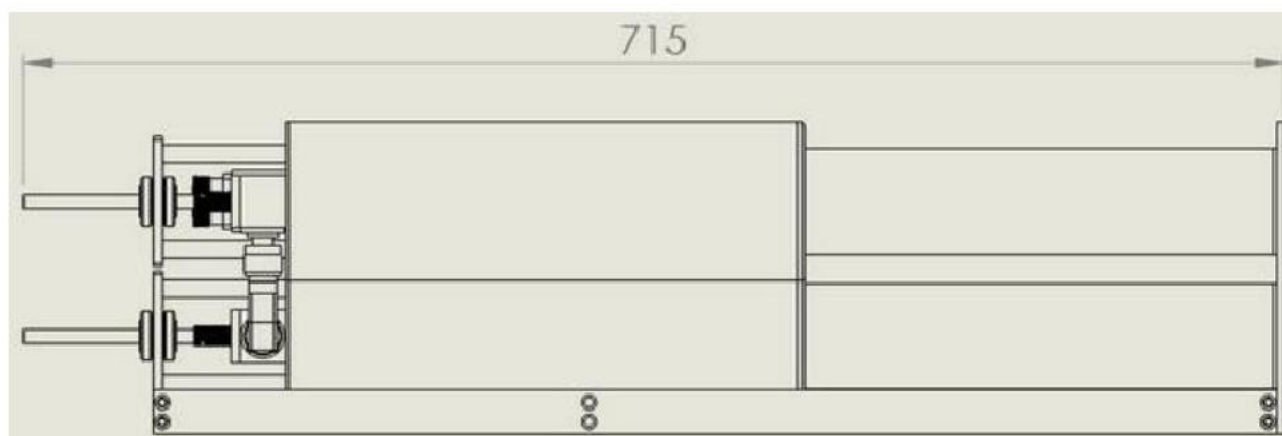
- Distortion – Free Transmission
- Starpoint system with pass stop
- Low loss, high isolation
- Natural convection



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

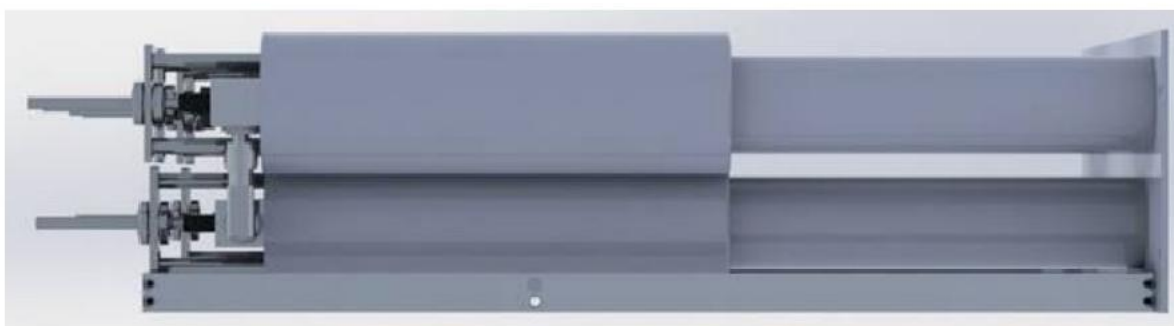
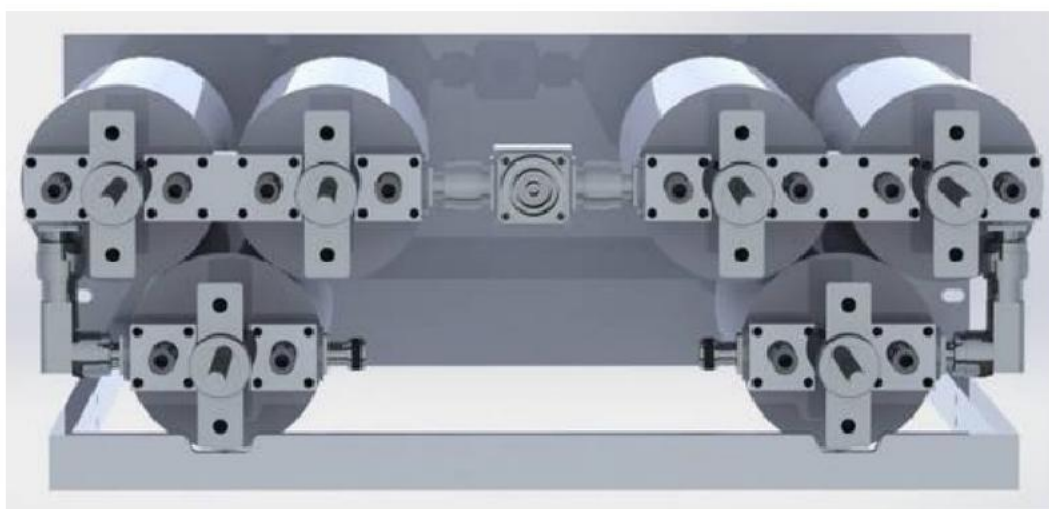
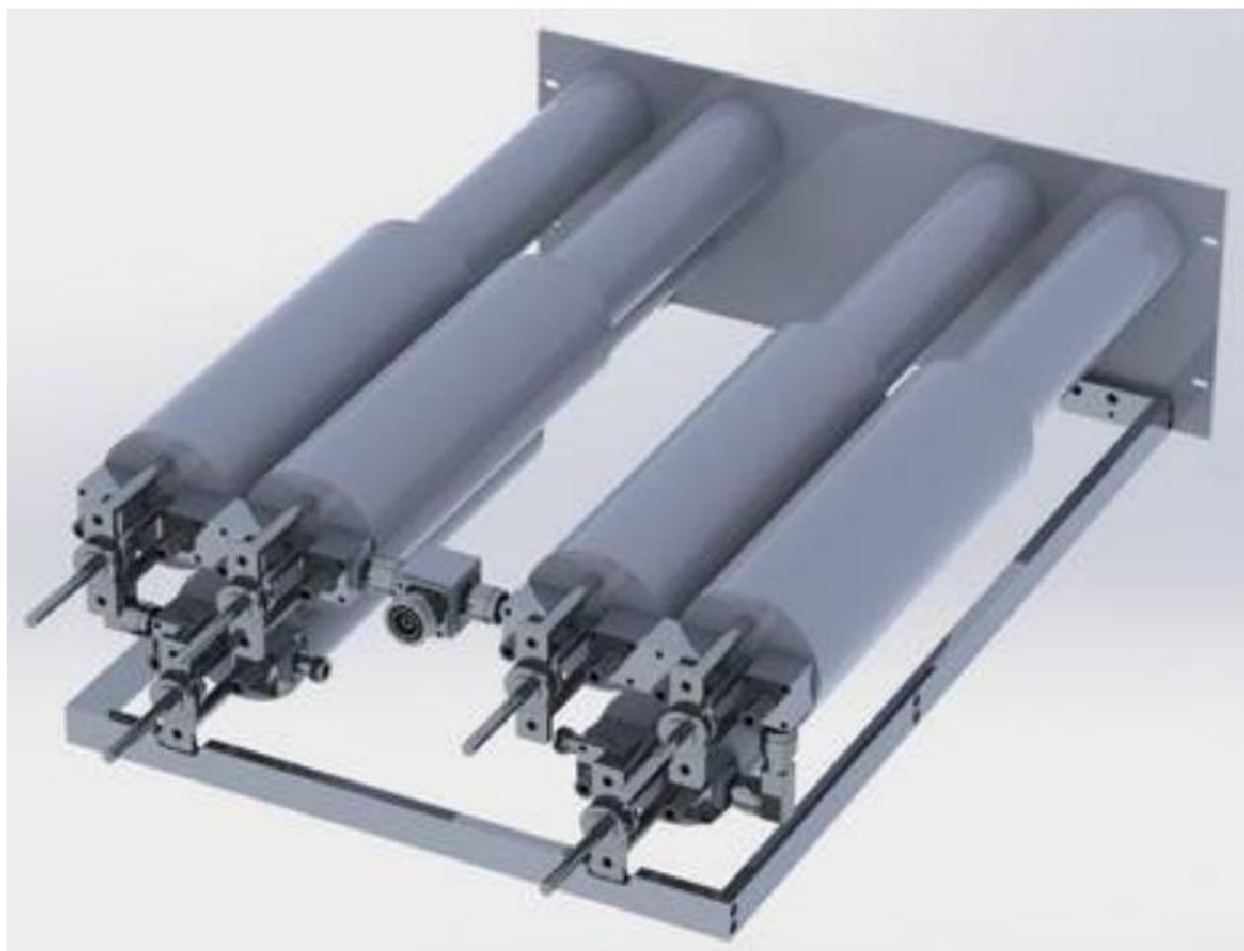
DIMENSIONS (mm)

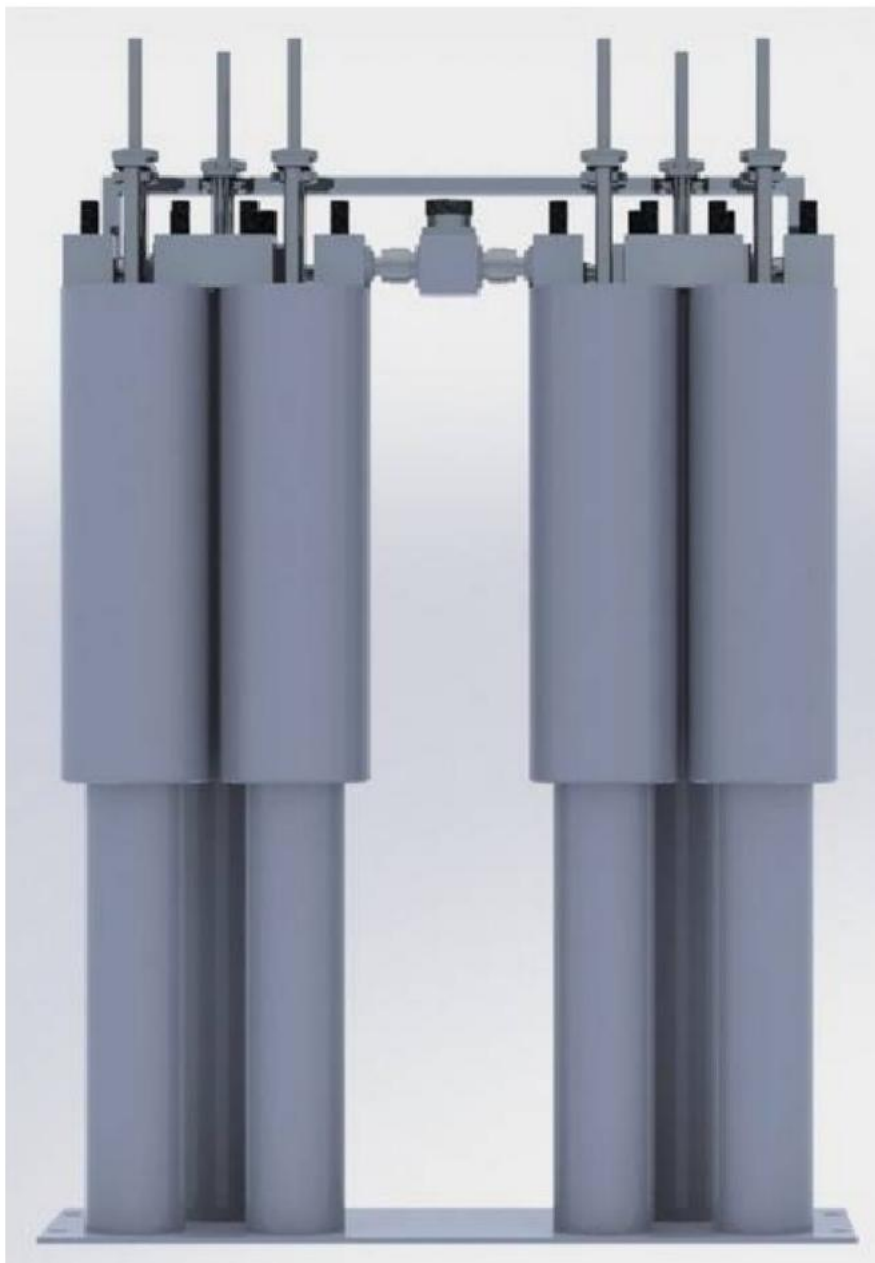


**Rack version (optional)**

Panel Size	4 HE (1 HE=44,45 mm) (177.8×715(max size)×483 mm) (7×28.1(max size)×19 inch)
Net Weight	≅ 19.5 Kg

VIEWS OF THE SYSTEM





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MODEL FDCSTC3

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

Model	Connector	Connector	Input	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.

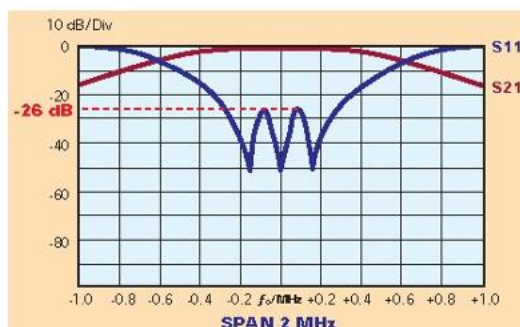
TYPICAL SPECIFICATIONS

Model	FDCSTC3 – Type STAR POINT		
Impedance	50 Ohm		
Frequency Range	87.5-108 MHz		
0 KHz	1.1:1 max		
0Khz	≤ -26dB		
1.2MHz	at f_0 0.45 dB max ≥ 30 dB		
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)		

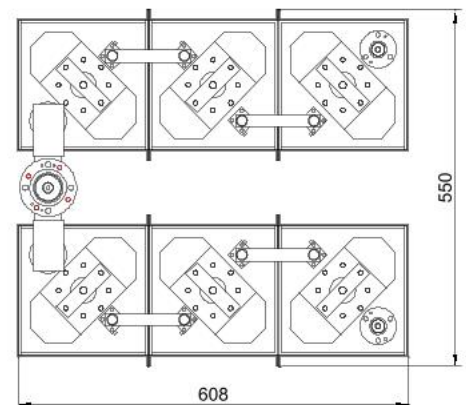
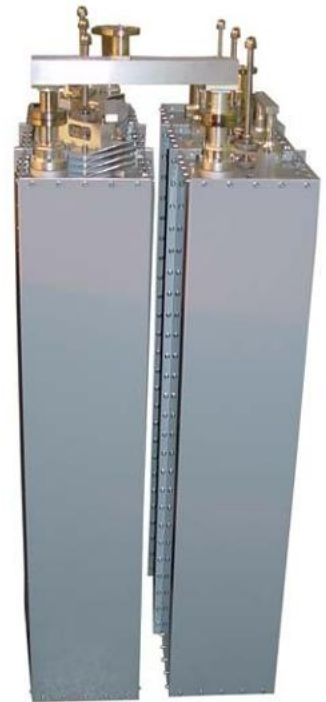
Features:

- 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



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

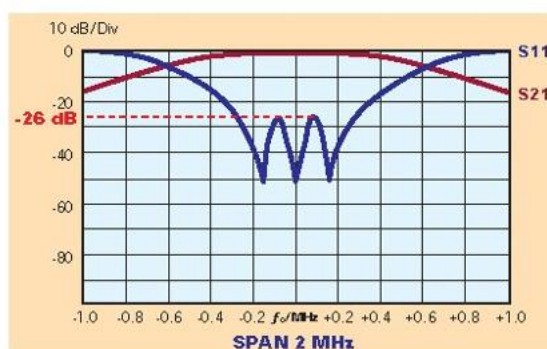
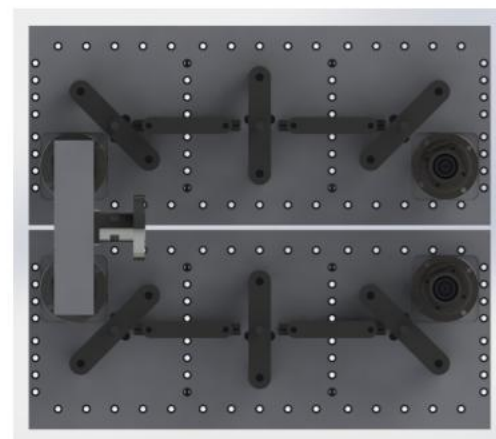
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected. The parallel connection is obtained by means of coaxial lines of determined length, so as provide 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 ± 150 KHz	≤ -26 dB		
Isolation ± 1.6 MHz	≥ 30 dB		
No. Input	2		
No. Output	1		
Connectors standard	Input N Output 7/16 (See table)		
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)		

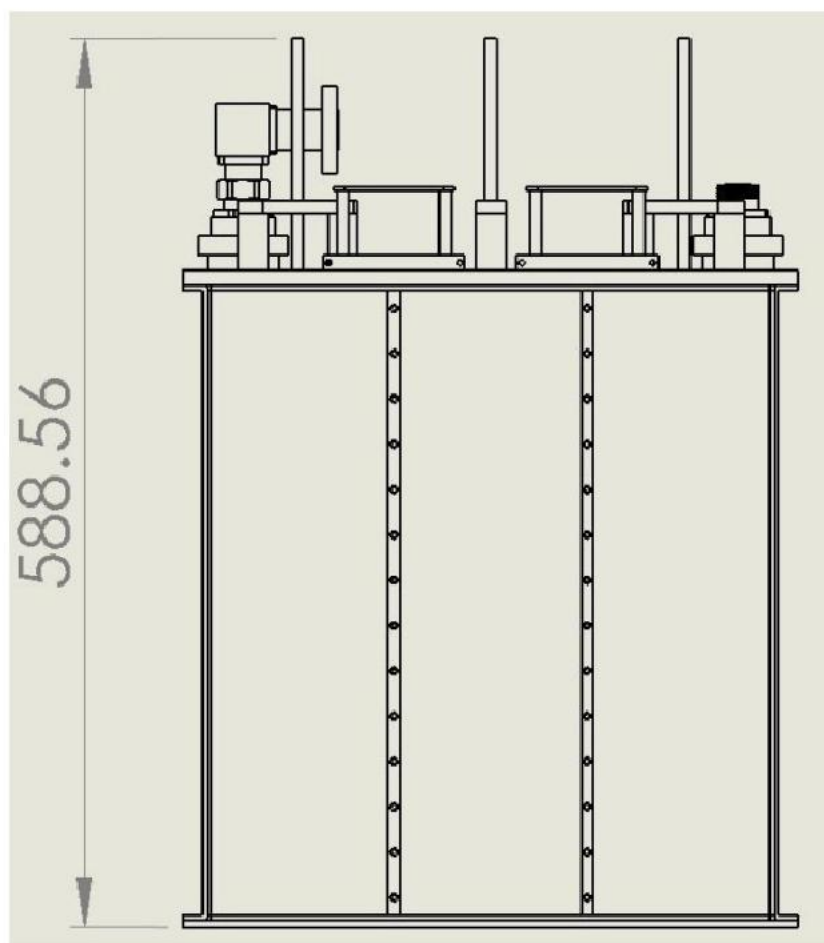
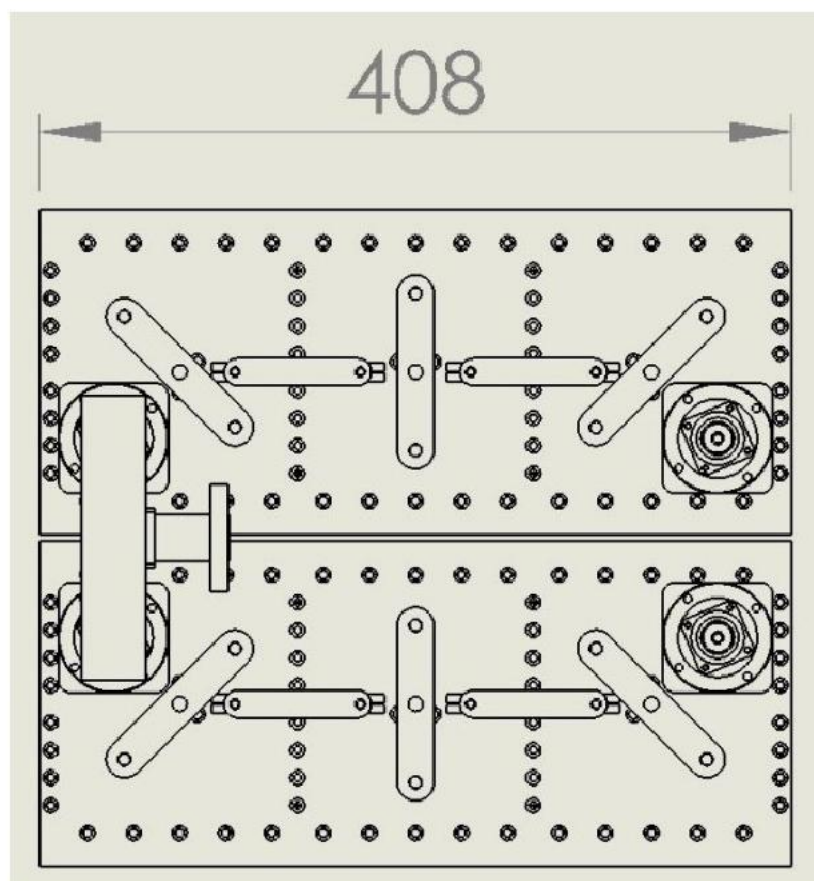
Features:

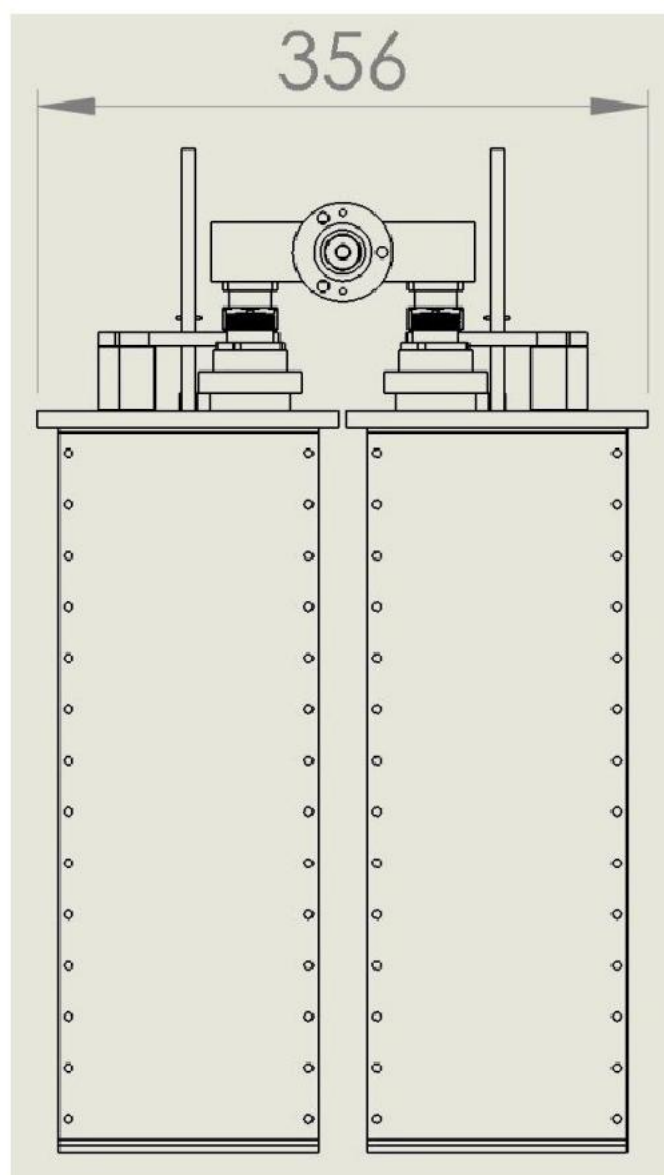
- Distortion – Free Transmission
- Low loss, high isolation
- Natural convection



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

DIMENSIONS



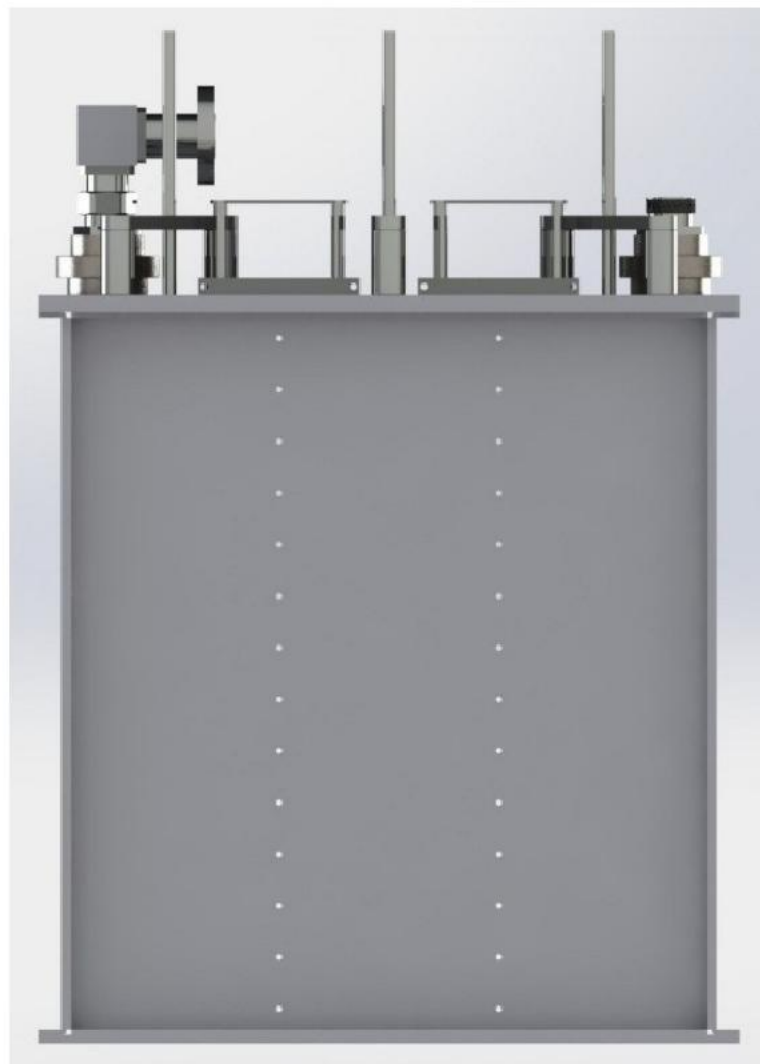
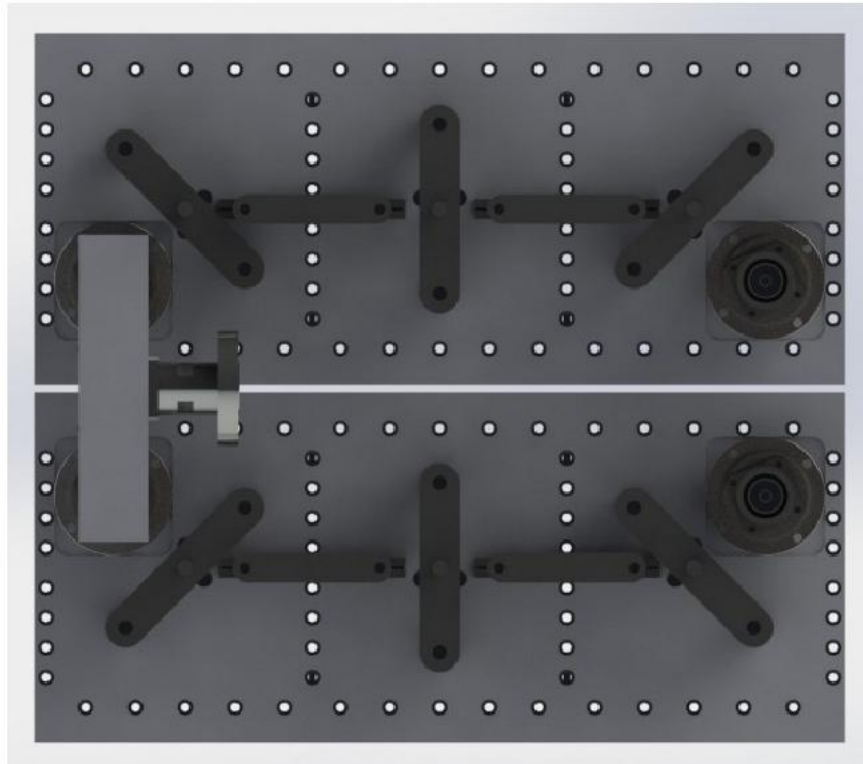
**Standard version**

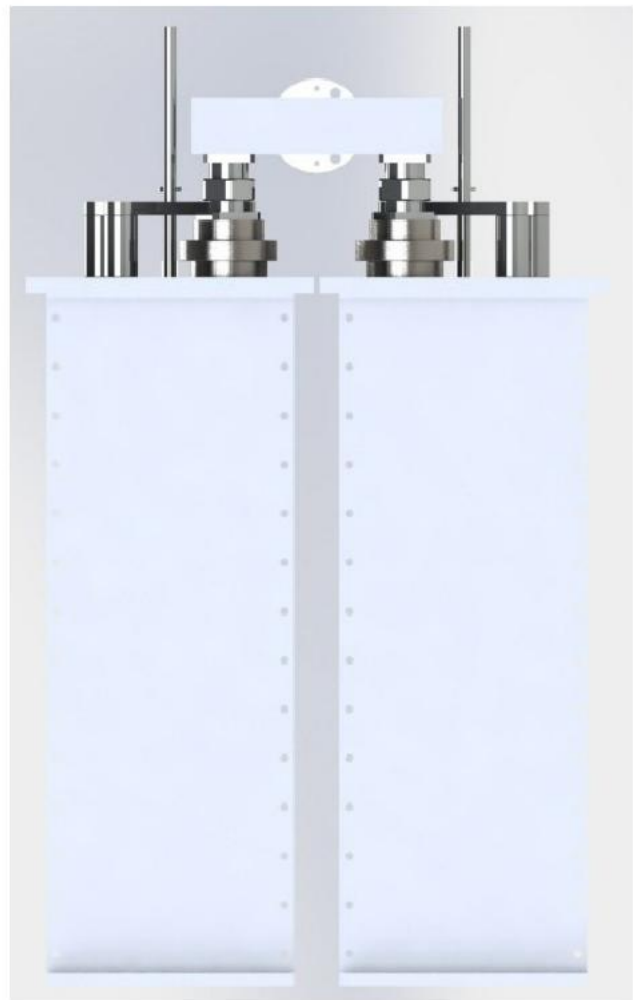
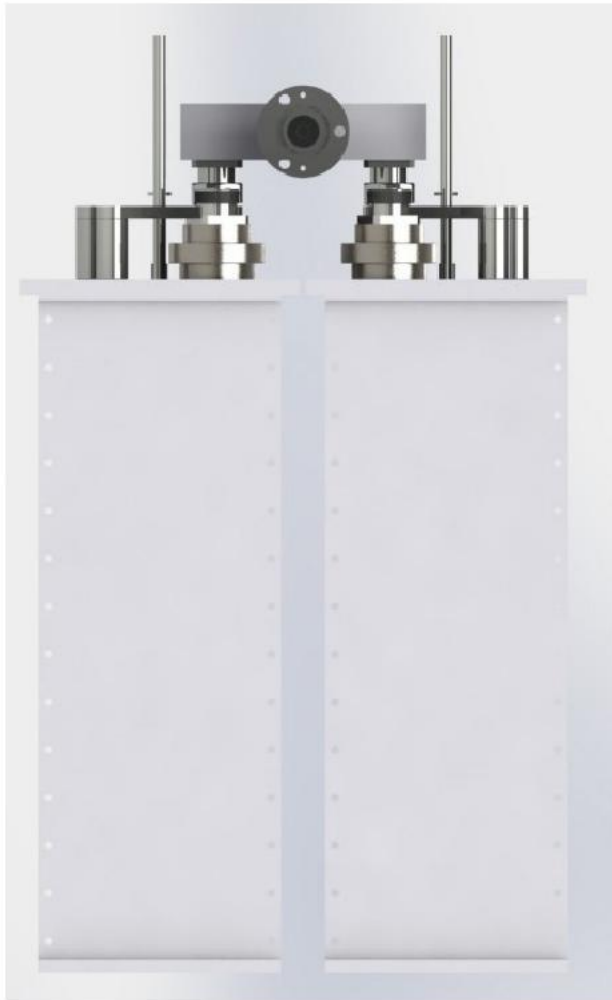
Dimensions	589- 356- 408 mm (23.1- 14- 16 inch) (H- L- W)
Net Weight	≈ 40 Kg

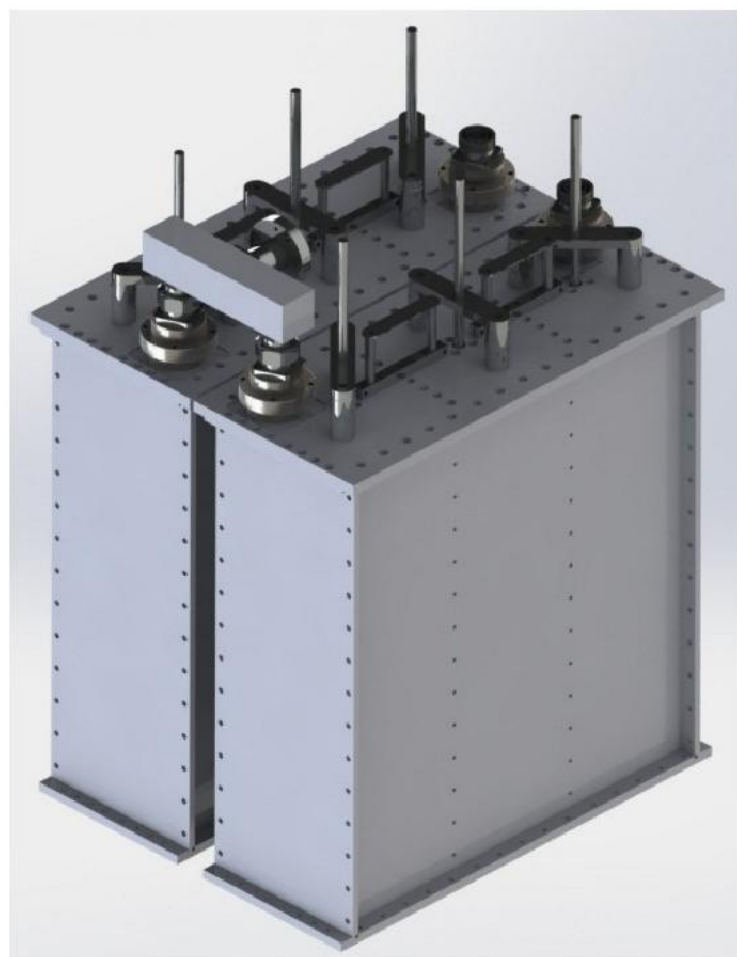
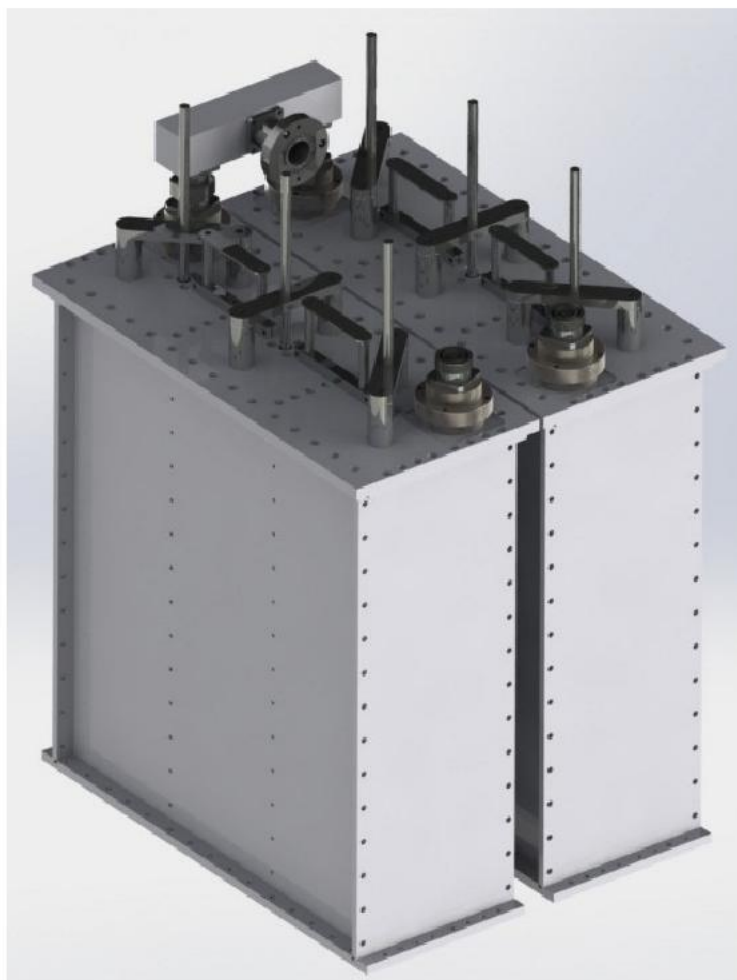
Rack version (optional)

Panel Size	8 HE (1 HE=44,45 mm)
Net Weight	≈ 40 Kg

VIEWS OF THE SYSTEM









MODEL FDCSTC5

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

SPECIAL VERSION WITH
INPUT CONNECTOR
1+5/8" ELBOWS

Model	Input Connector	Output Connector	Input Power	Output Power
FDCSTC5-1	7/8"	1+5/8"	5 kW	10 kW
FDCSTC5-2	1+5/8"	3+1/8" or 1+5/8"	6 kW	12 kW



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	FDCSTC5
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	≤ -26 dB
Isolation ± 1 MHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	See table
Max Power	See table
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

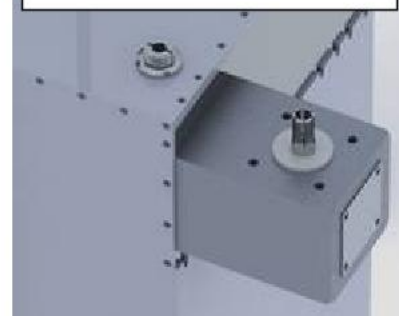
Features:

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

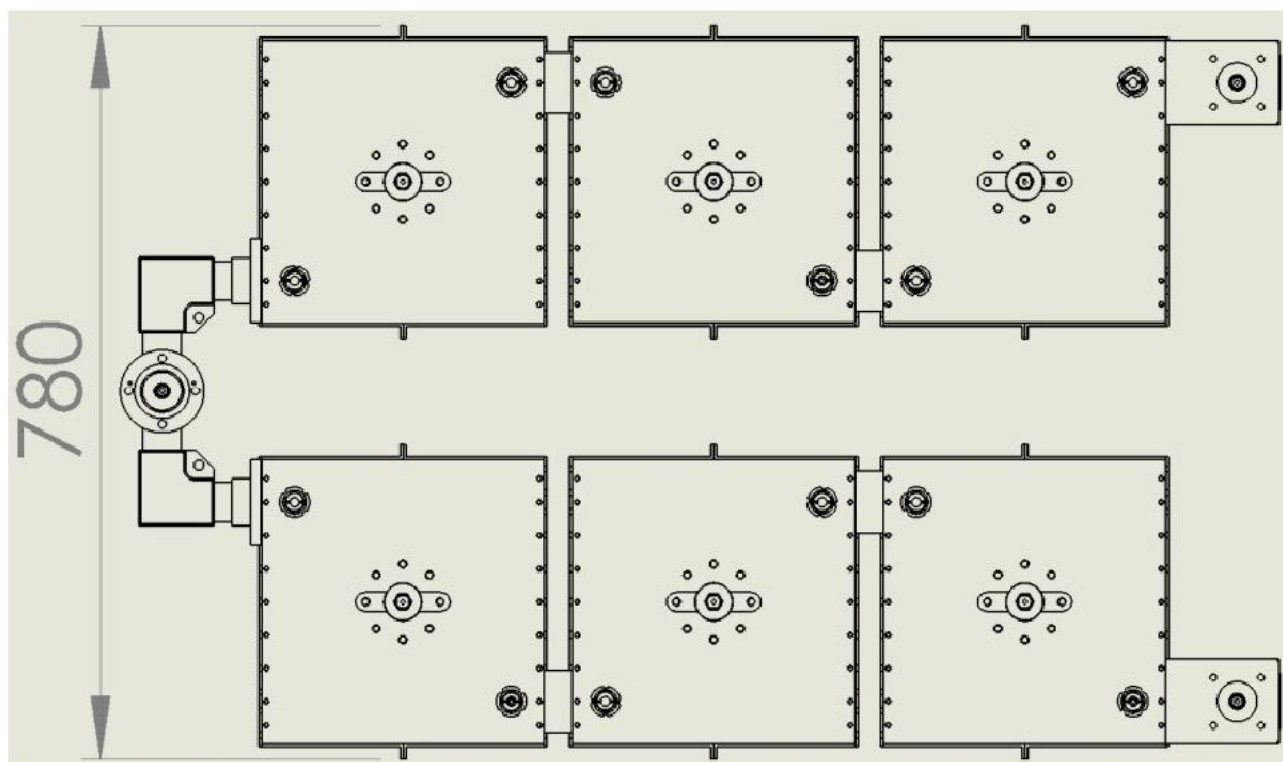
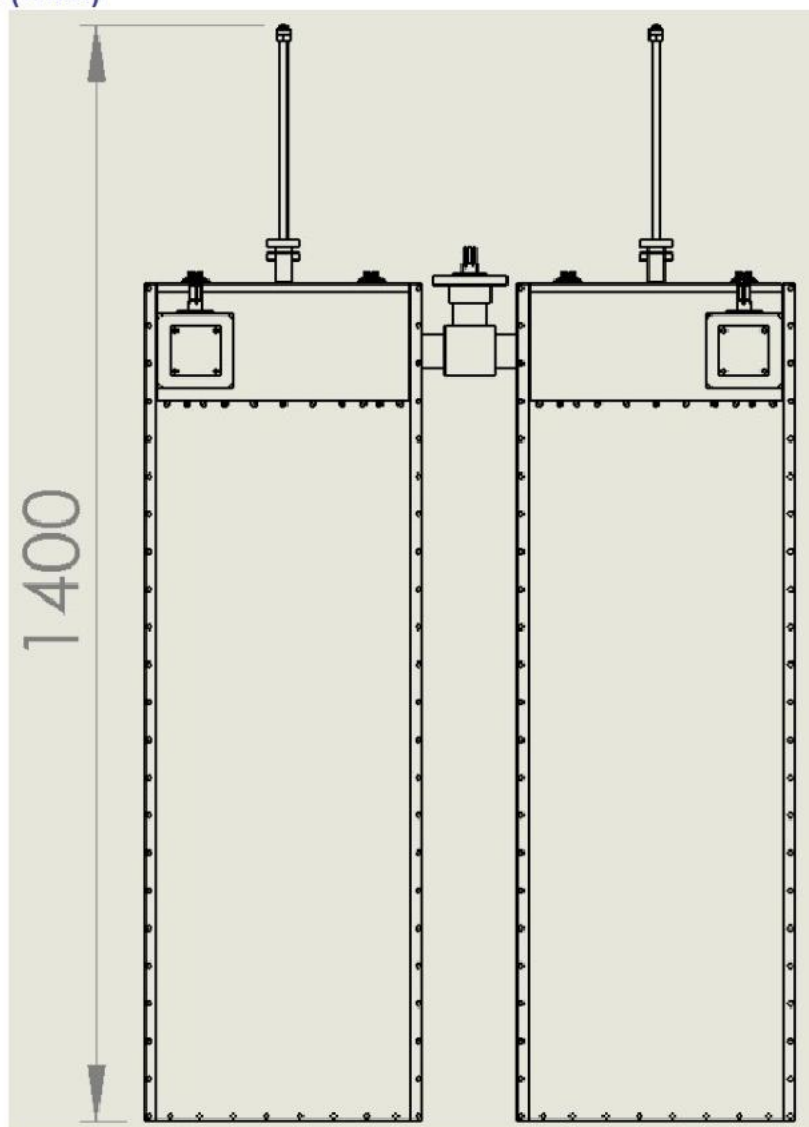
STANDARD VERSION
1+5/8" CONNECTOR

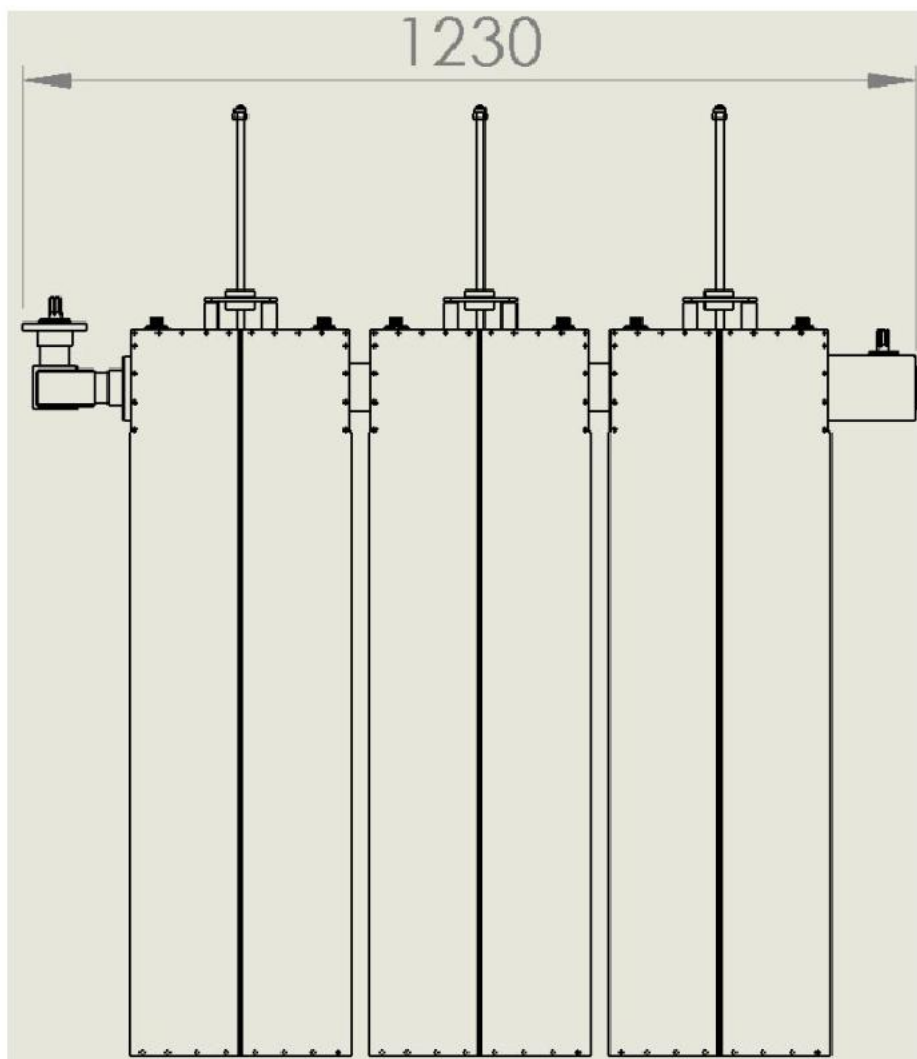


SPECIAL VERSION
WITH ELBOWS 1+5/8"



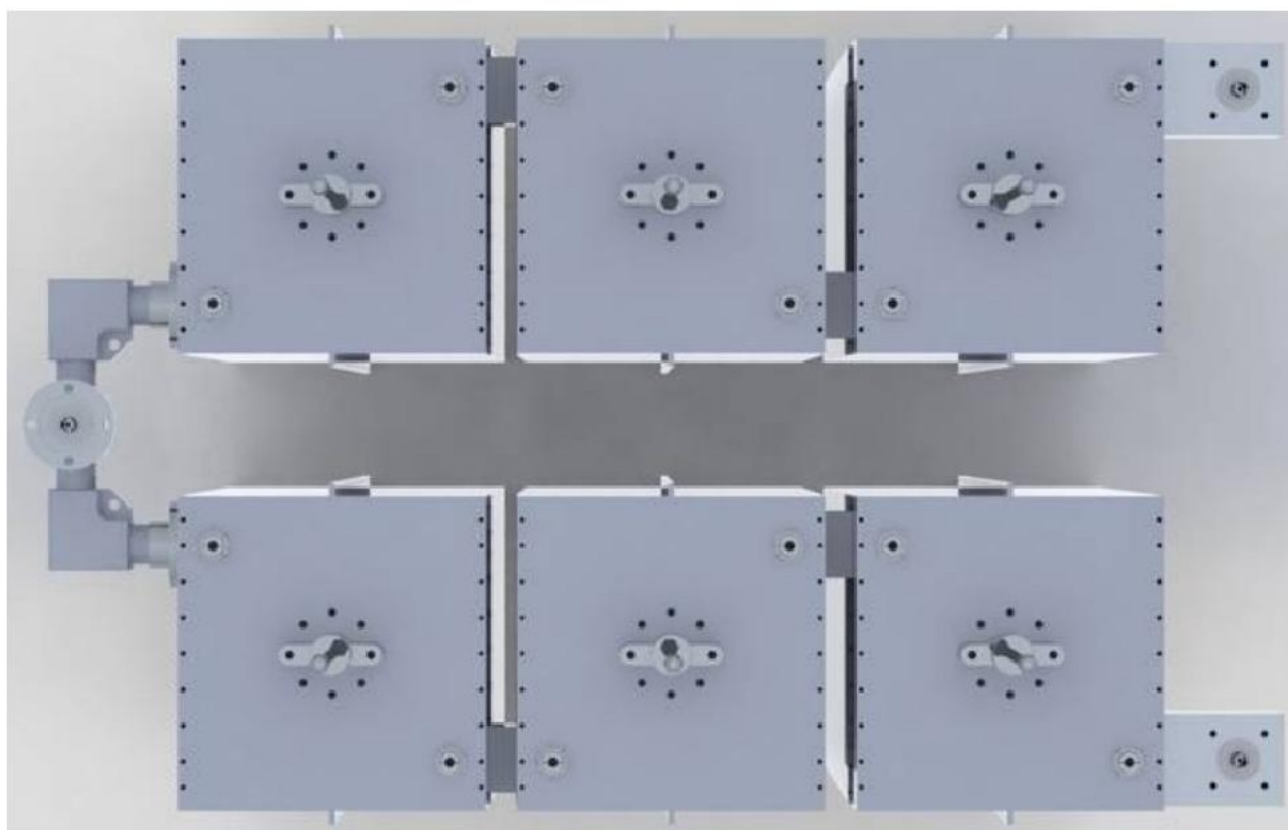
DIMENSIONS (mm)

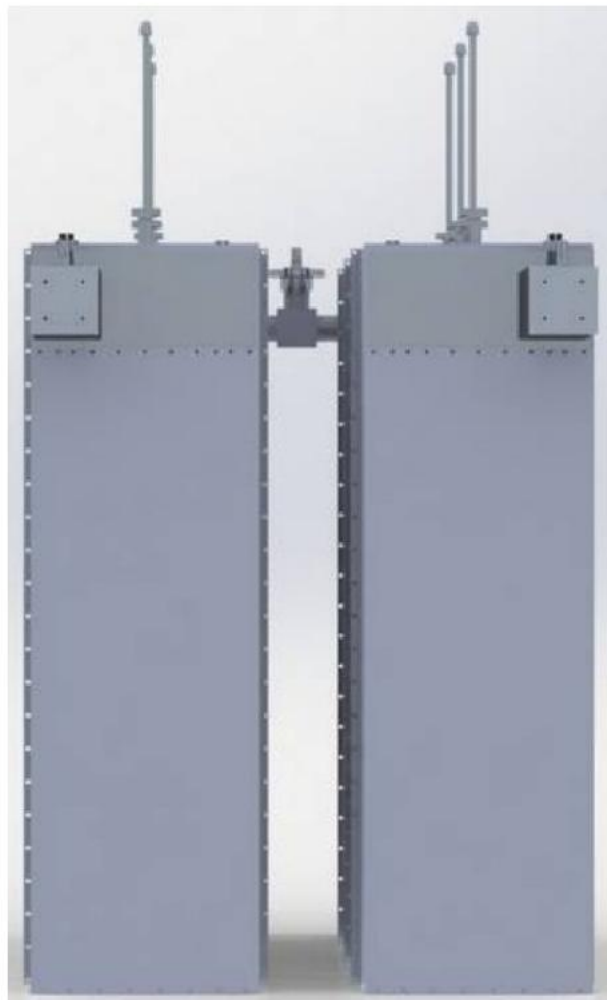
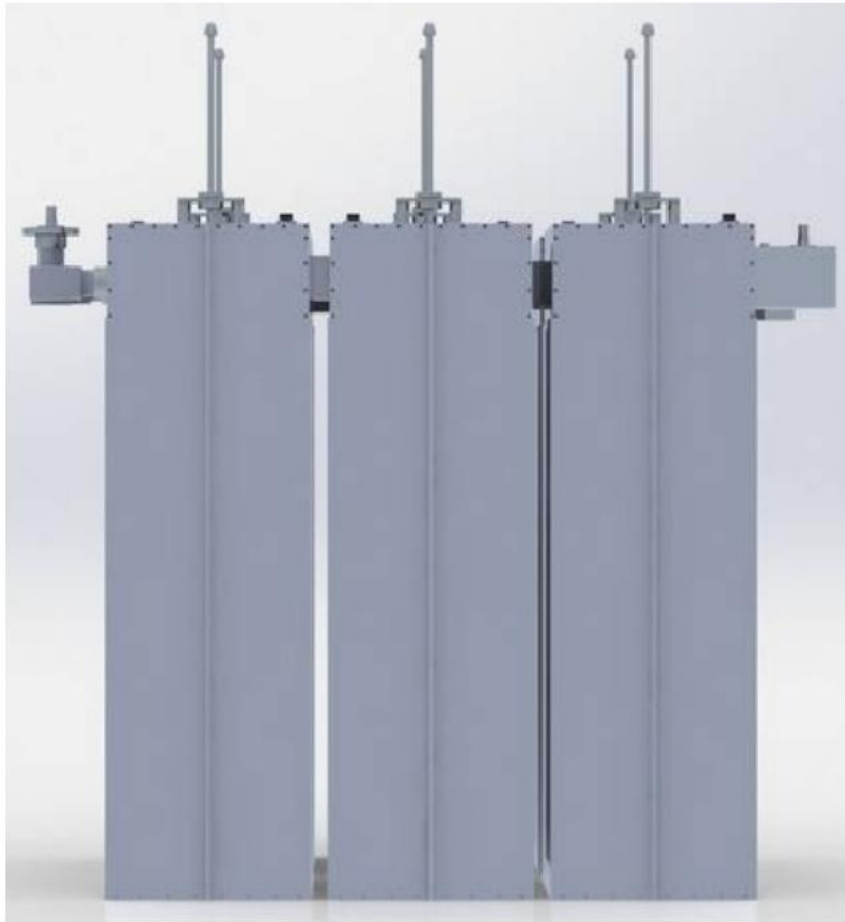


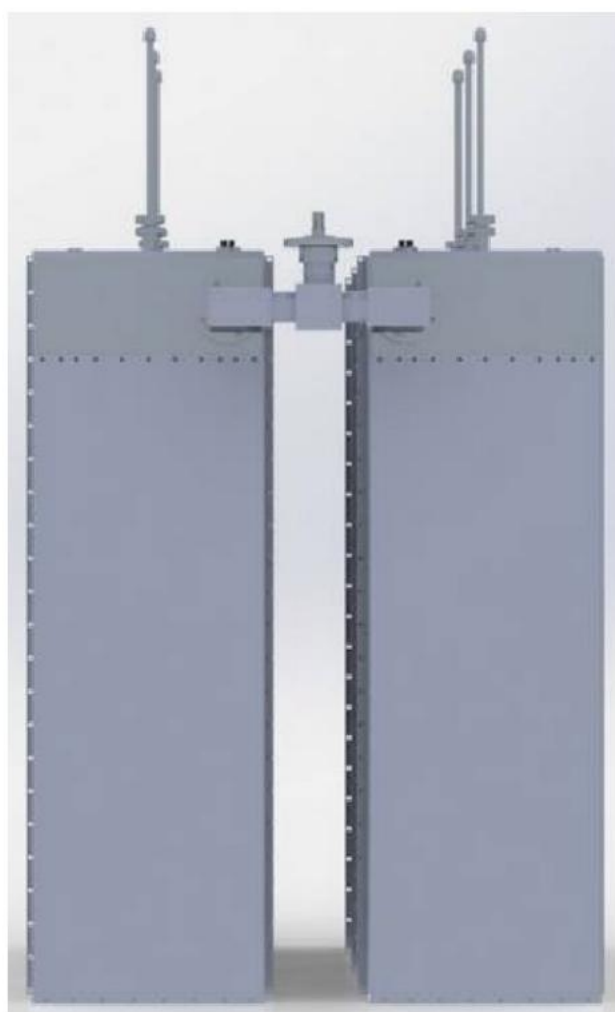


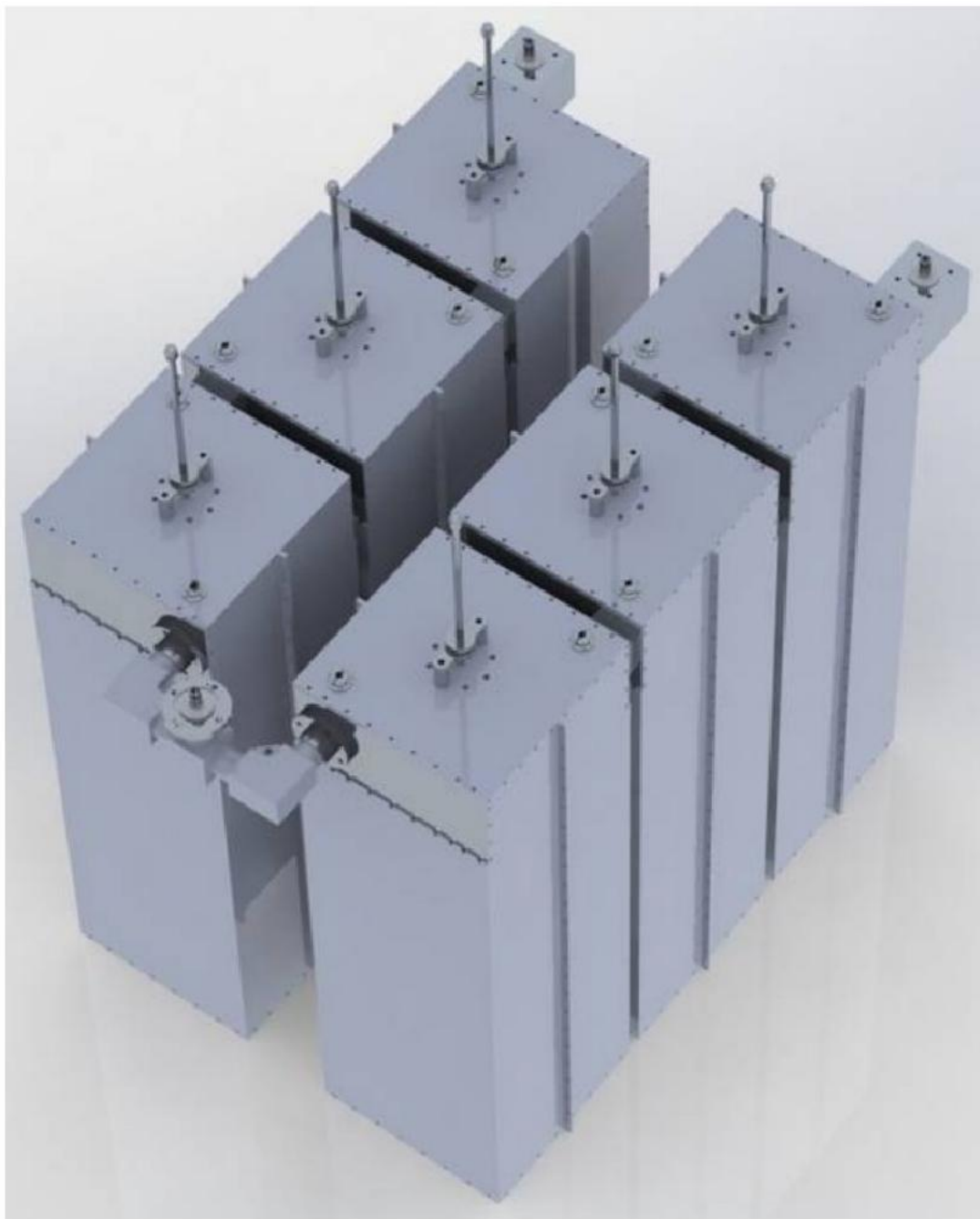
Dimensions	1400 (Max size)×1230×780 mm (55.1(Max size)×48.4×30.7inch) (H×L×W)
Net Weight	≅ 120 Kg approx.

VIEWS OF THE SYSTEM









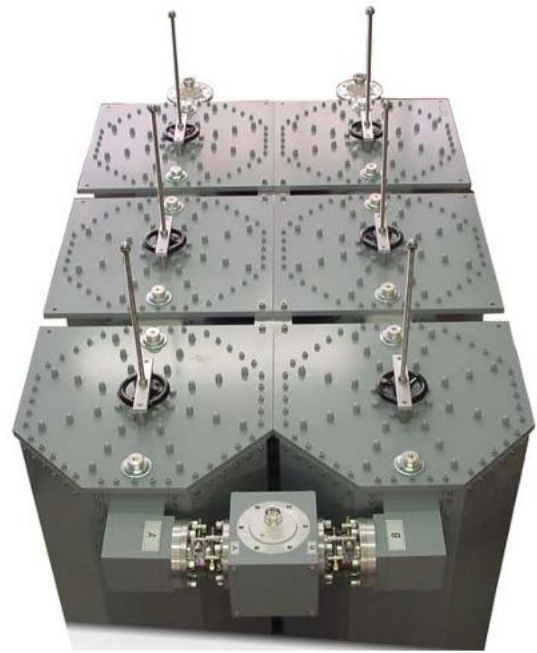
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- *COMBINER 2 CHANNELS*
- *TYPE STAR POINT*
- *FM BAND 87.5 108 MHz*
- *BAND II*
- *MOD. FDCSTC10*



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	FDCSTC10 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR $\pm 150\text{KHz}$	1.1:1 max
Insertion Loss	at f_0 0.18dB max
Return Loss $\pm 150\text{KHz}$	$\leq -26\text{dB}$
Isolation $\pm 1\text{MHz}$	$\geq 30\text{ dB}$
Input Number	2
Output Number	1
Connectors	Input 3+1/8" Output 3+1/8"
Max Power	10KW · 2 Channels
Working Temperature	-20°C +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μm 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

Description of a star-point diplexer

A star-point diplexer is made by parallel circuiting two band pass filters (**FFC10**) 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.

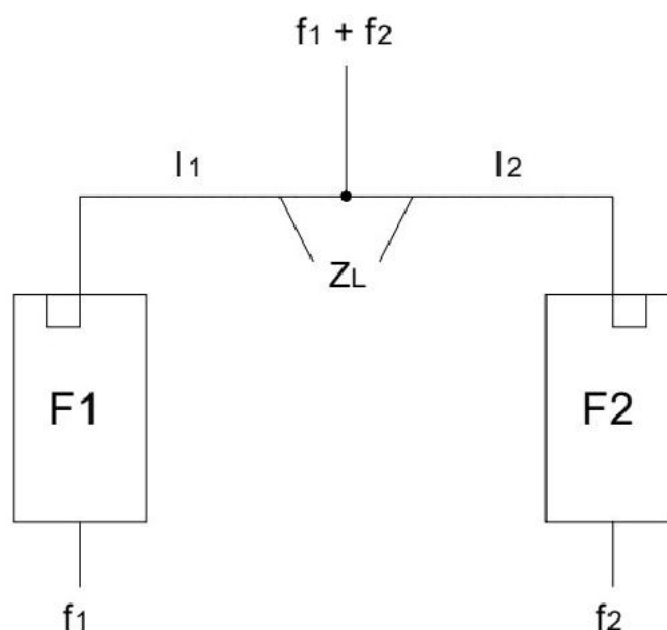
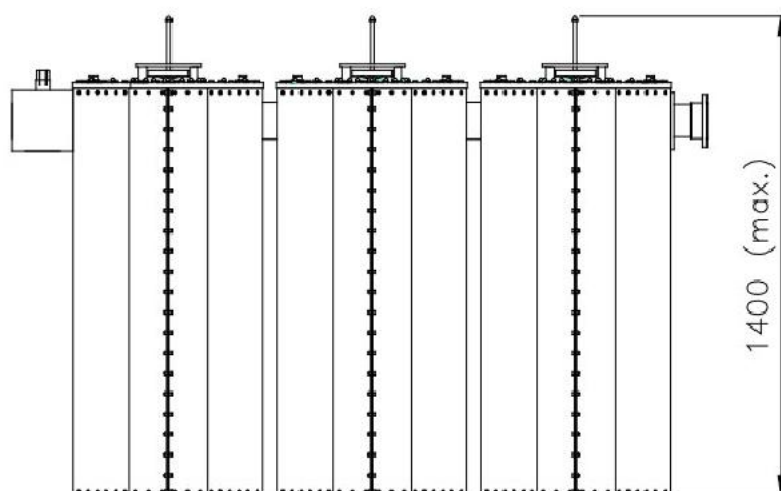
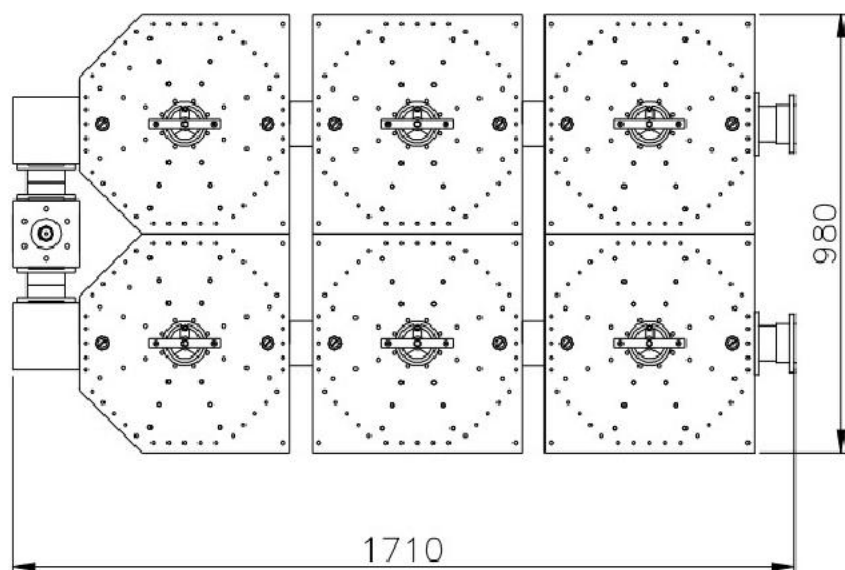


Fig. 1

In the diplexer illustrated in Fig.1, filter F1 permits frequency f_1 to pass, whereas filter F2 cuts it off. In relation to frequency f_1 , filter F2 presents a short circuit at its inputs. Via an electrically effective cable length of $\lambda/4$ (made up of l_1 and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F1 presents impedance Z_L at this point. The filter F2 functions in the analog manner in relation to frequency f_2 .

Summary:

The diplexing filter, consisting of two filters (**Model FFC10**) and a junction point with defined cable lengths, has two narrow band inputs corresponding to the pass band characteristics of the filters.



Dimensions	1400(Max size)· 1710 x 980 mm 55,1(max) x 67,3x38,6 inch (H · L · W)
Net Weight	≈ 180 Kg



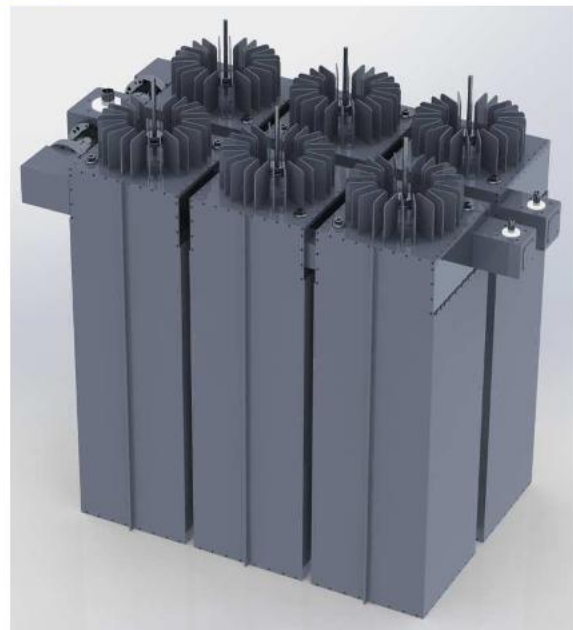
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MODEL FDCSTC10C#01

- 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 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.

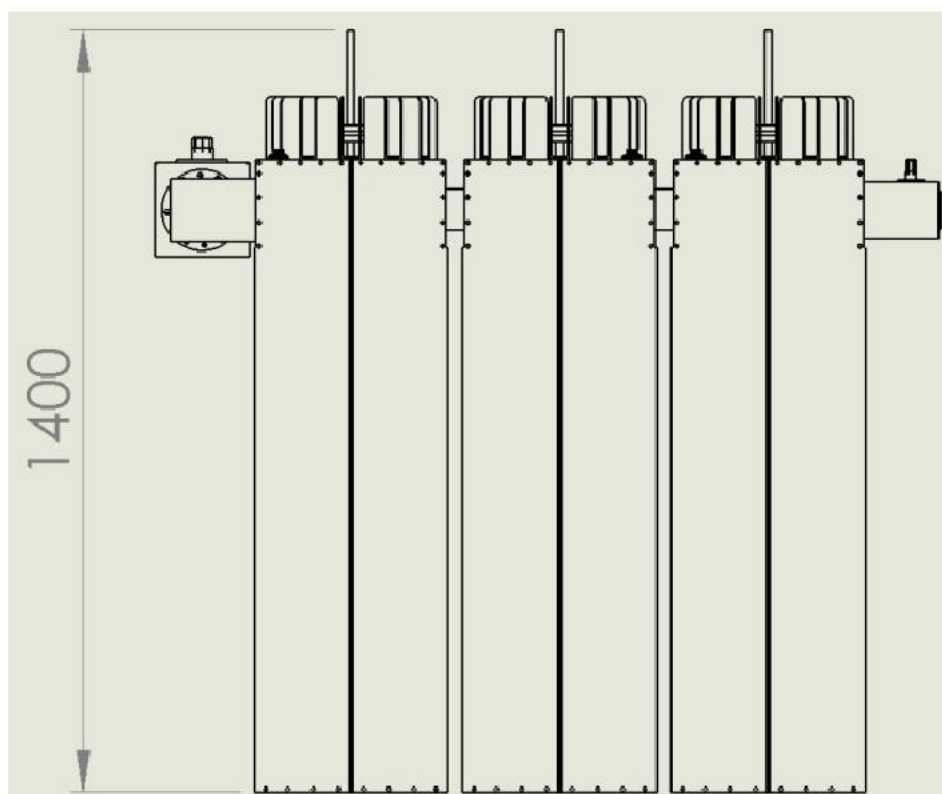
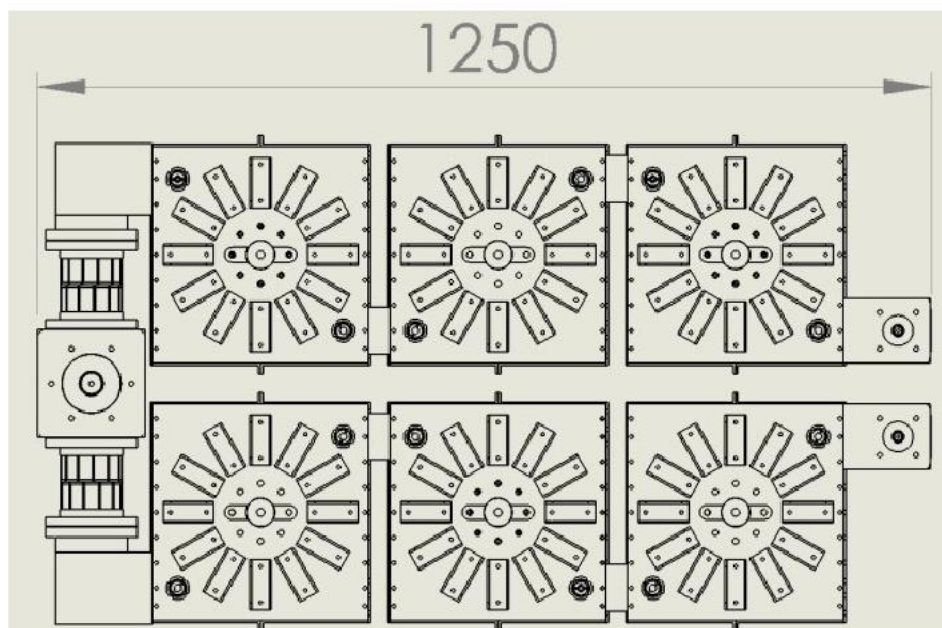
TYPICAL SPECIFICATIONS

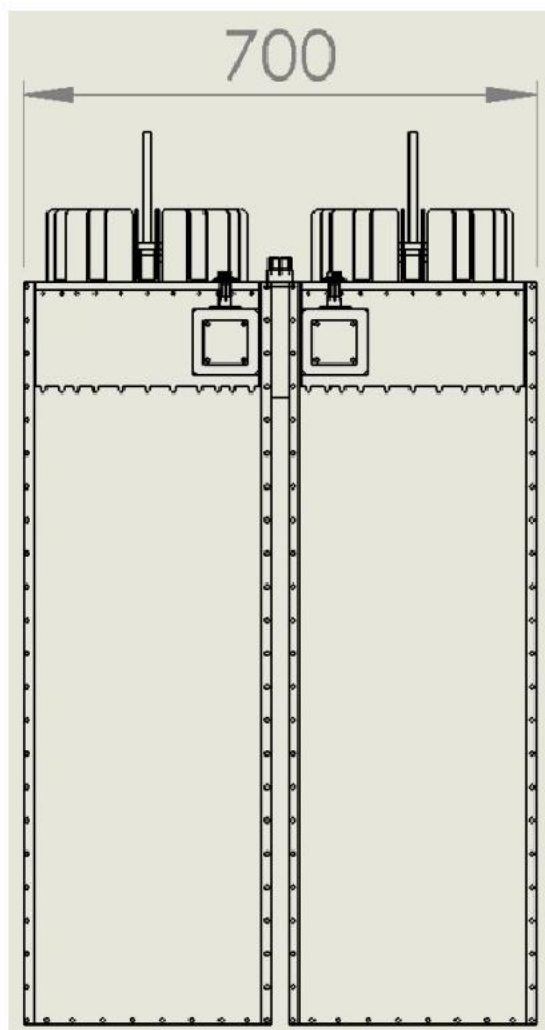
Model	FDCSTC10C#01 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150KHz	1.1:1max
Insertion Loss	at f_0 0.25 dB max
Return Loss ± 150KHz	≤ -26 dB
Isolation ± 1MHz	≥ 30 dB
Input Number	2
Output Number	1
Connectors standard	Input 1+5/8" - Output 3+1/8"
Max Power	10KW · 2 Channels
Working Temperature	-20°C +60°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

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

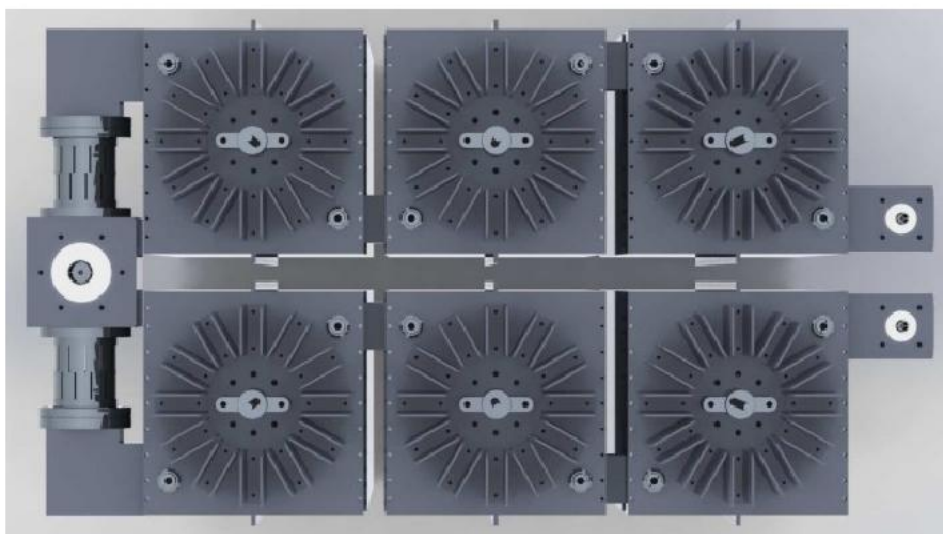
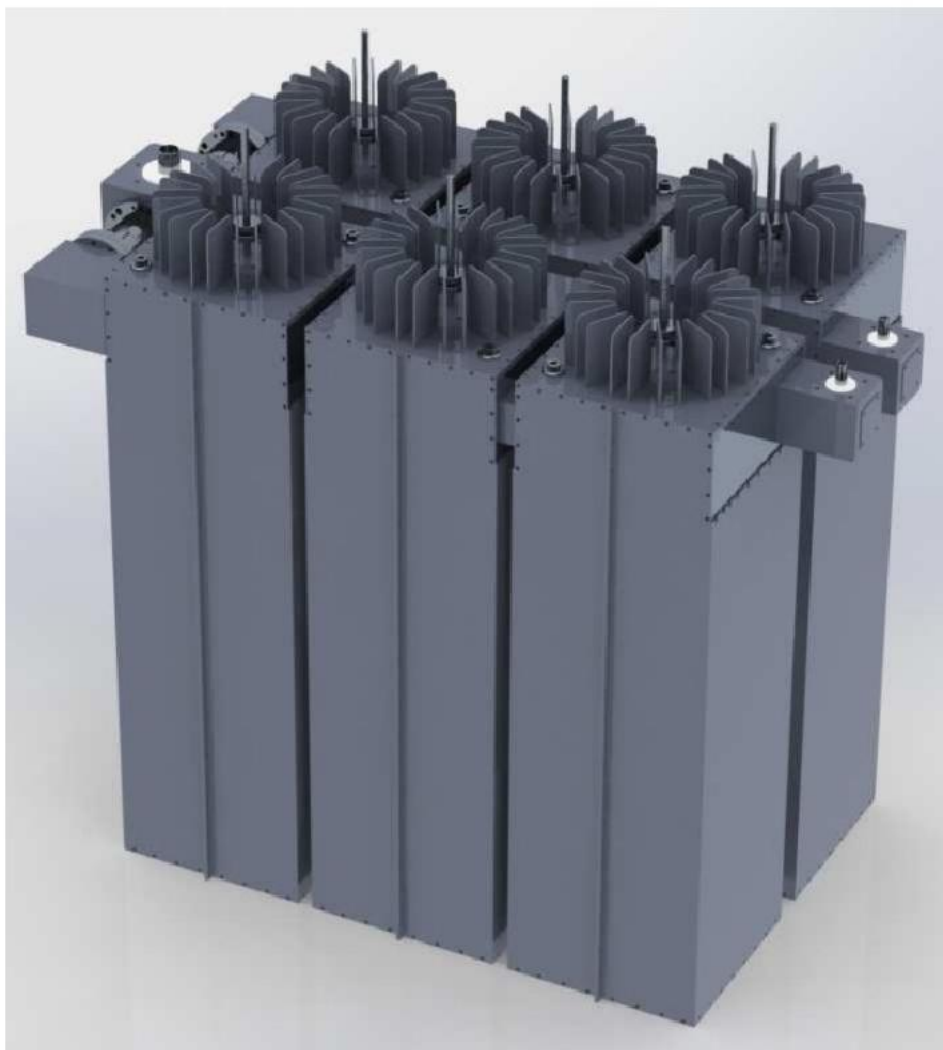
DIMENSIONS (mm)

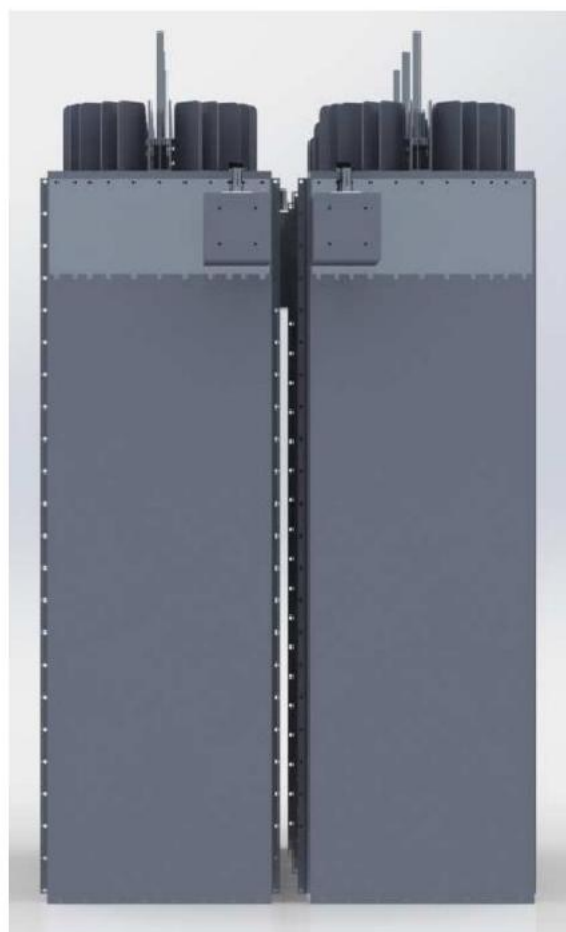




Dimensions	1400 (Max size) · 1250 · 700mm (55.1(Max size) · 49.2 · 27.5 inch) (H · L · W)
Net Weight	≈190 Kg Approx.

VIEWS OF THE SYSTEM









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- *COMBINER 2 CHANNELS*
- *TYPE STAR POINT*
- *FM BAND 87.5 108 MHz*
- *BAND II*
- *MOD. FDCSTC20*



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	FDCSTC20 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR $\pm 150\text{KHz}$	1.1:1 max
Insertion Loss	at f_0 0.1 dB max
Return Loss $\pm 150\text{KHz}$	$\leq -26\text{dB}$
Isolation $\pm 1\text{MHz}$	$\geq 30\text{ dB}$
Input Number	2
Output Number	1
Connectors	Input 3+1/8" Output 4+1/2"
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

Description of a star-point diplexer

A star-point diplexer is made by parallel circuiting two band pass filters (**FFC20**) 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.

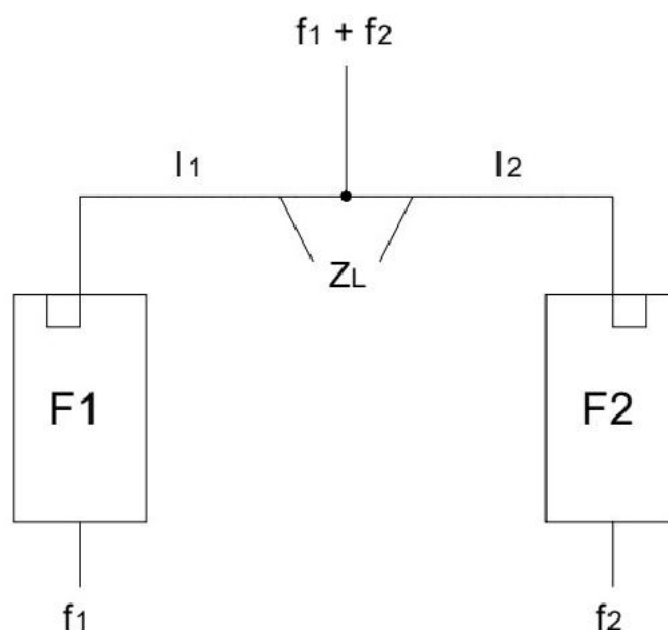
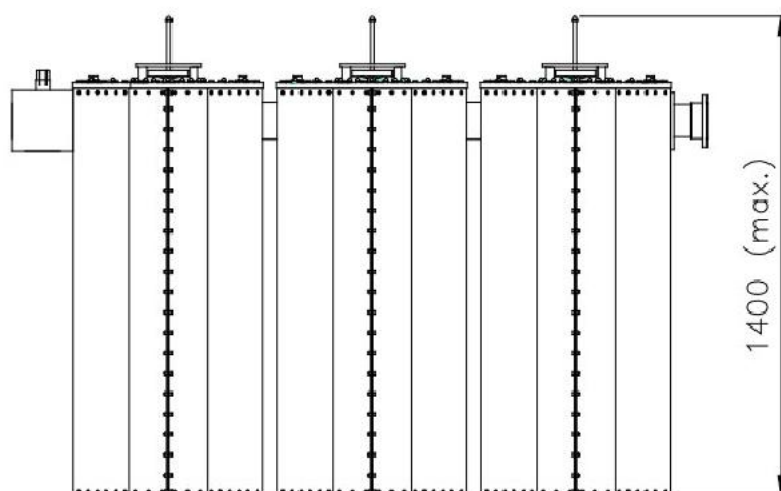
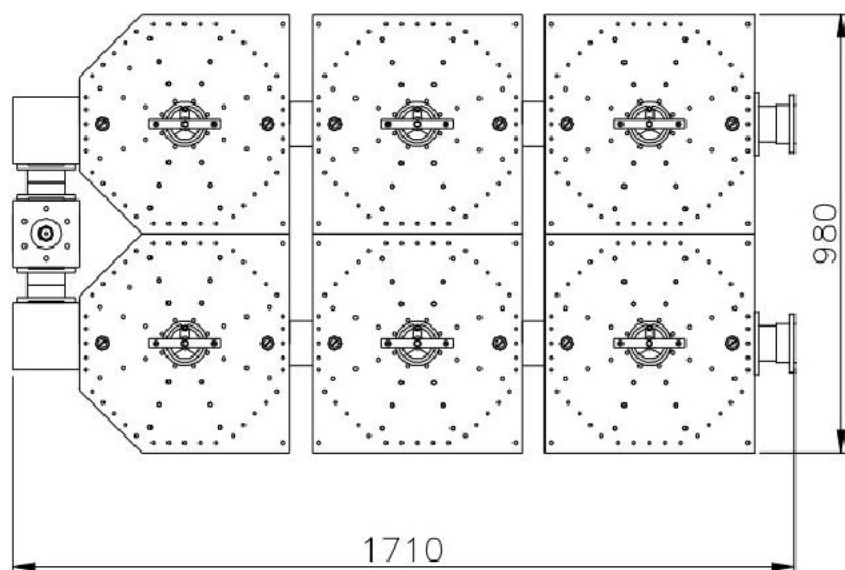


Fig. 1

In the diplexer illustrated in Fig.1, filter F1 permits frequency f_1 to pass, whereas filter F2 cuts it off. In relation to frequency f_1 , filter F2 presents a short circuit at its inputs. Via an electrically effective cable length of $\lambda/4$ (made up of l_1 and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F1 presents impedance Z_L at this point. The filter F2 functions in the analog manner in relation to frequency f_2 .

Summary:

The diplexing filter, consisting of two filters (**Model FFC20**) and a junction point with defined cable lengths, has two narrow band inputs corresponding to the pass band characteristics of the filters.



Dimensions	1400(Max size)· 1710 x 980 mm 55,1(max) x67,3x38,6 inch (H· L· W)
Net Weight	≈180 Kg



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FM DIPLEXER

4 CAVITY

- *COMBINER 2 CHANNELS*
- *TYPE STAR POINT*
- *FM BAND 87.5 - 108 MHz*
- *BAND II*
- *MOD. FDCSQC2*



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.

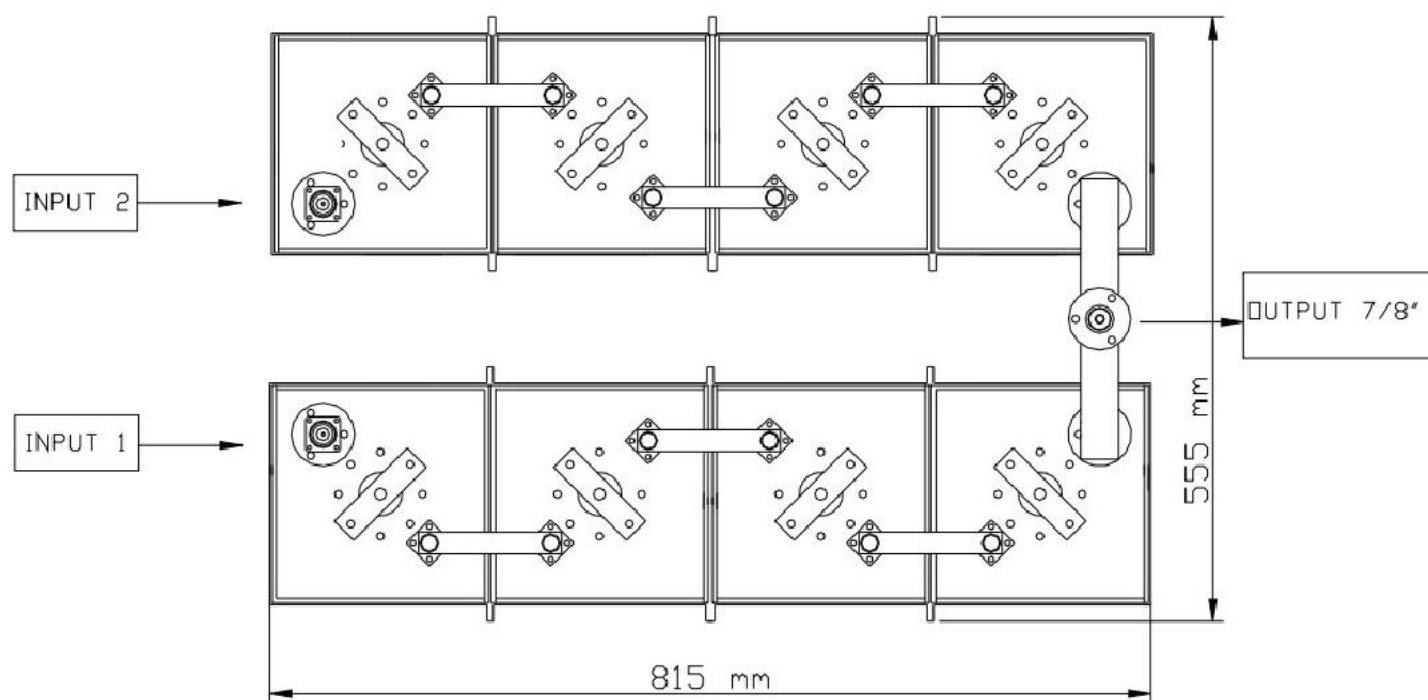
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FDCSQC2 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Return Loss ± 150 KHz	≤ -26 dB
Insertion Loss	at f_0 0.5-0.8 dB max
Isolation ± 800 KHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	Input 7/16" Output EIA 7/8"
Max Power	500-1000W · 2 Channels
Working Temperature	-20°C +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

- Low loss, high isolation
- Distorsion – Free Trasmission
- Natural convection



Dimensions	1300(Maz size)· 815· 555 mm (51.2(Max size)· 32.1· 21.8 inch) (H· L· W)
Net Weight	≈95 Kg

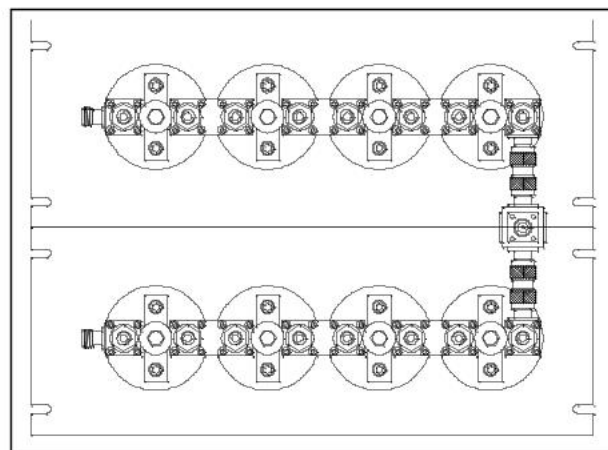


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- *COMBINER 2 CHANNELS*
- *TYPE STAR POINT*
- *FM BAND 87.5 ÷ 108 MHz*
- *BAND II*
- *MOD. FDCSQC03*
- *OPTION*

VERSION WITH OPTION RACK

Model	Input Connector	Output Connector	Power Input	Power Output
FDCSQC03-1	N	7/16"	300W	600W
FDCSQC03-2	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 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	FDCSQC03 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 1.3 dB typical
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 800 KHz	≥ 30 dB
Input Number	2
Output Number	1
Connectors standard	Input N female Output N (See table)
Max Power	300 W X 2 Channels 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
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option whit Rack

Description of a 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.

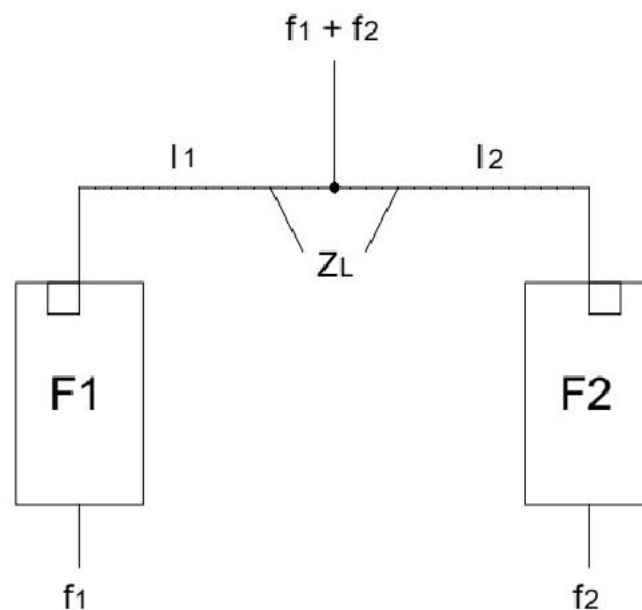
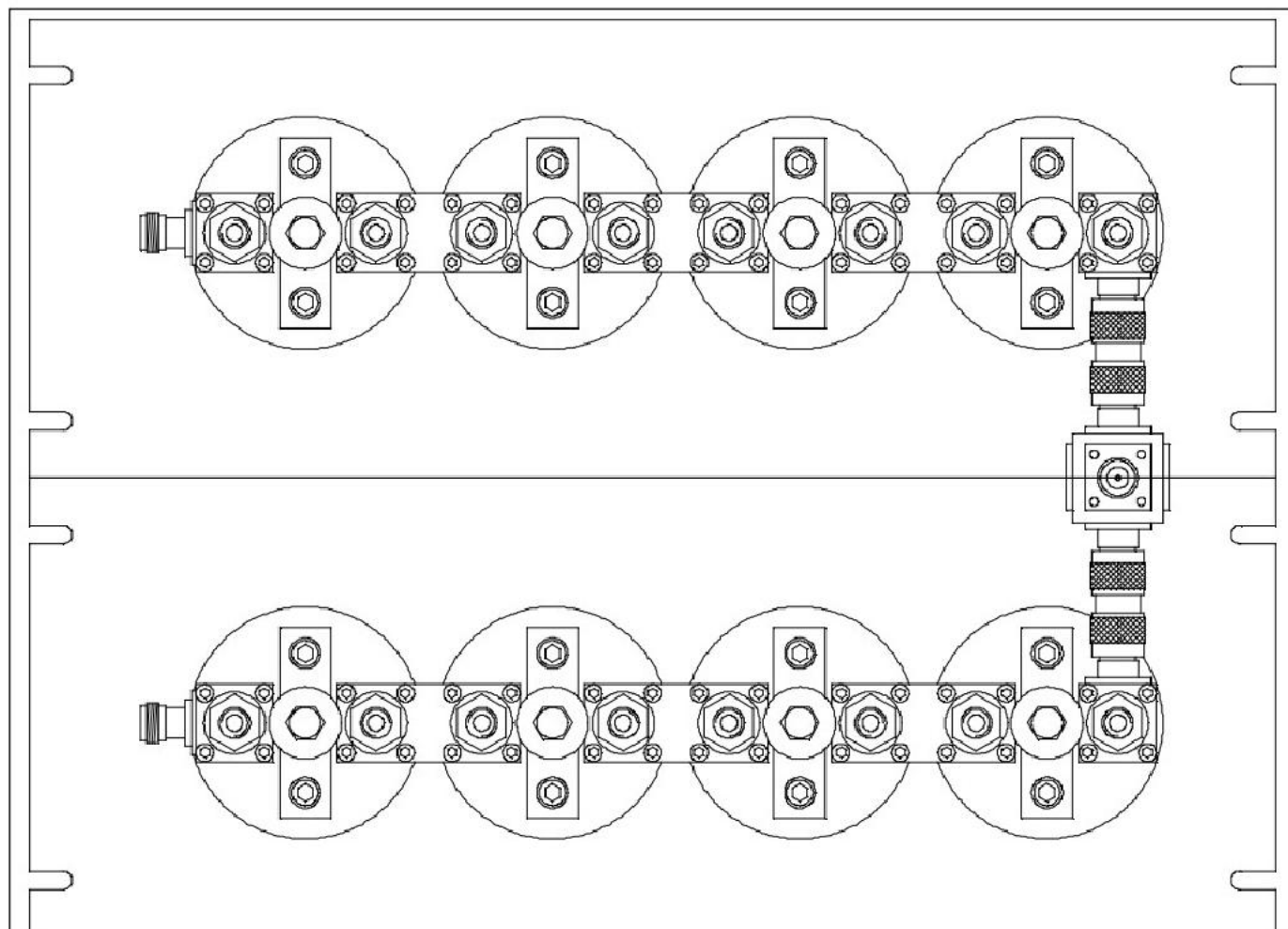


Fig. 1

In the diplexer illustrated in Fig.1, filter F1 permits frequency f_1 to pass, whereas filter F2 cuts it off. In relation to frequency f_1 , filter F2 presents a short circuit at its inputs. Via an electrically effective cable length of $\lambda/4$ (made up of l_1 and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F1 presents impedance Z_L at this point. The filter F2 functions in the analog manner in relation to frequency f_2 .

Summary:

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

**No rack version**

Dimensions	185×425×710 mm (H×L×W)
Weight	≅ 22 Kg (aprox)

Rack version (optional)

Panel Size	8 HE (1 HE=44,45 mm)
Weight	≅ 24 Kg (aprox)

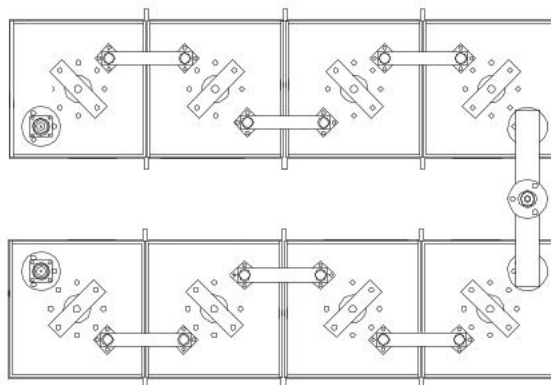


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- *COMBINER 2 CHANNELS*
- *TYPE STAR POINT*
- *FM BAND 87.5 | 108 MHz*
- *BAND II*
- *MOD. FDSCQC3_(STANDARD)*
- *OPTION*



Model	Input Connector	Output Connector	Power Input	Power Output
FDSCQC3-1	7/8"	7/8"	2.5KW	5KW
FDSCQC3-2	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	FDSCQC3 – Type STAR POINT		
Impedance	50 Ohm		
Frequency Range	87.5-108 MHz		
VSWR ± 150 KHz	1.1:1 max		
Return Loss ± 150 KHz	≤ -26 dB		
Insertion Loss	at f_0 0.7 dB max		
Isolation ± 800 KHz	≥ 30 dB		
No. of Input	2		
No. of Output	1		
Connectors Standard	Input 7/8" (See table) Output EIA 1+5/8"		
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. 12 μ m 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

Description of a star-point diplexer

A star-point diplexer is made by parallel circuiting two band pass filters (**FFTC3**) 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.

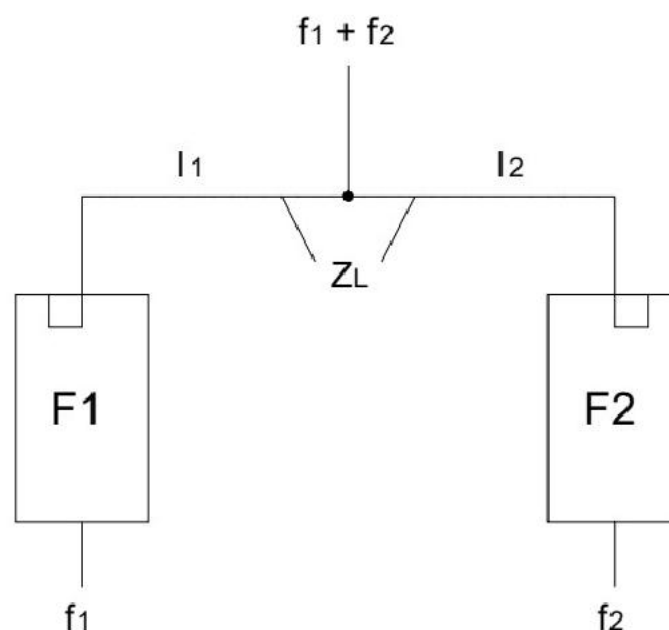
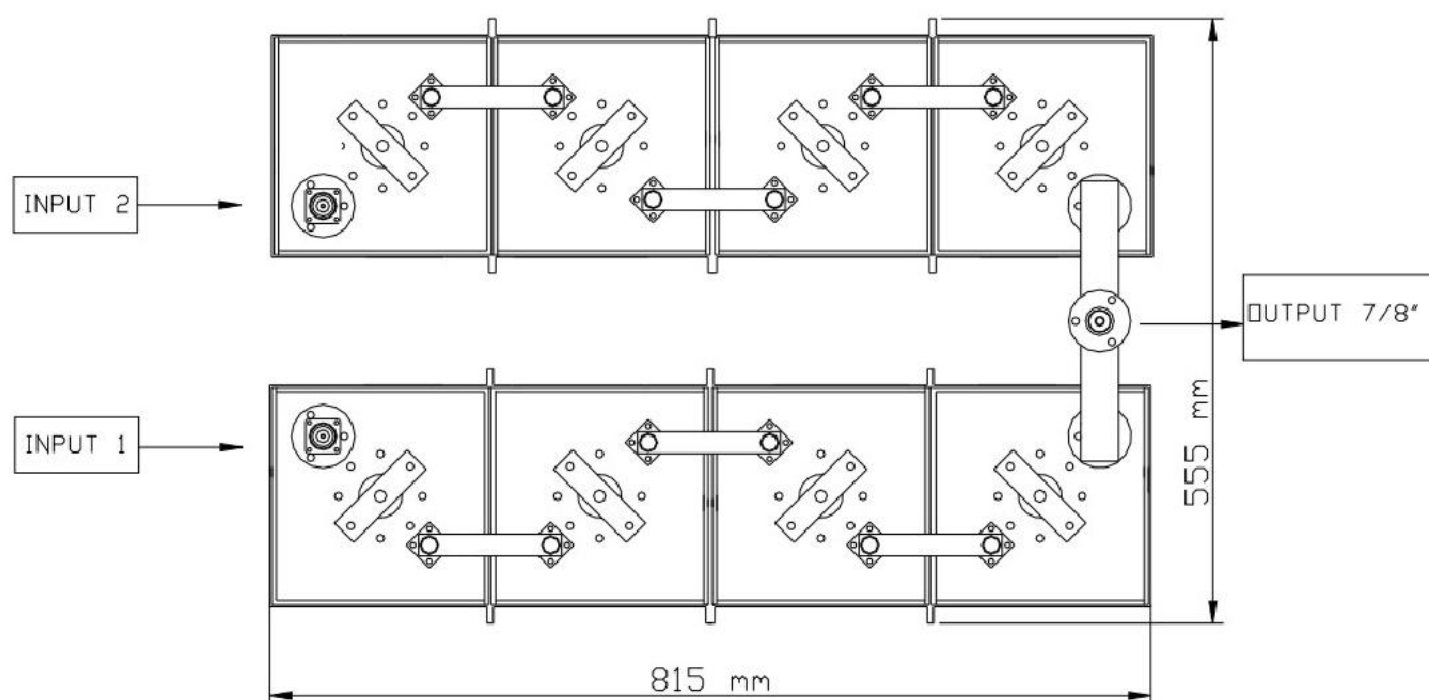


Fig. 1

In the diplexer illustrated in Fig.1, filter F1 permits frequency f_1 to pass, whereas filter F2 cuts it off. In relation to frequency f_1 , filter F2 presents a short circuit at its inputs. Via an electrically effective cable length of $\lambda/4$ (made up of l_1 and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F1 presents impedance Z_L at this point. The filter F2 functions in the analog manner in relation to frequency f_2 .

Summary:

The diplexing filter, consisting of two filters (**Model FFTC3**) and a junction point with defined cable lengths, has two narrow band inputs corresponding to the pass band characteristics of the filters.



Dimensions	1300(Max size)· 81· 555 mm (51.2(Max size)· 32.08· 21.85 inch) (H· L· W)
Net Weight	≈ 102 Kg



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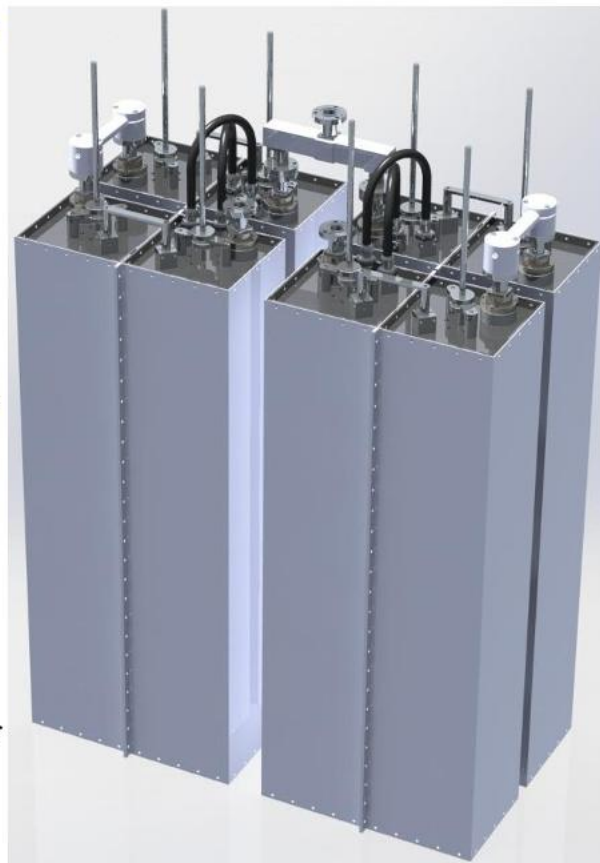
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MODEL FDCSQC3ELF

- **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.



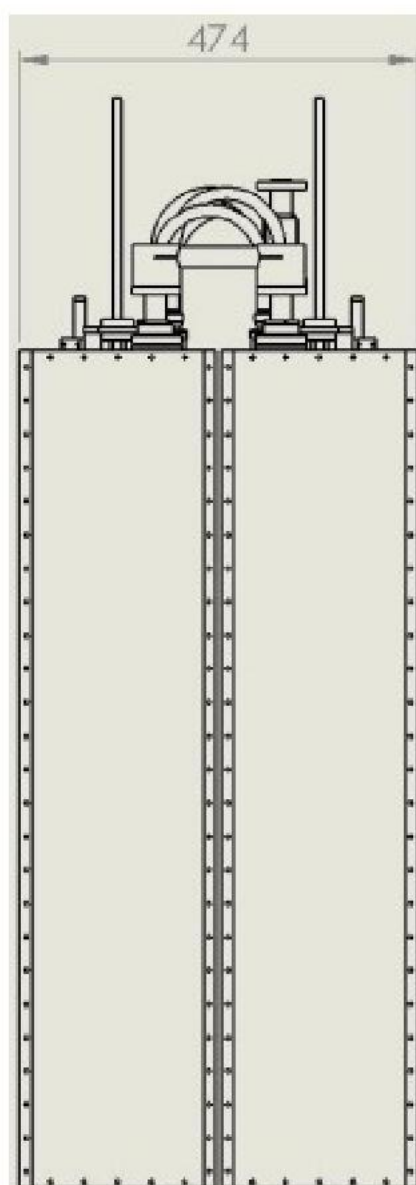
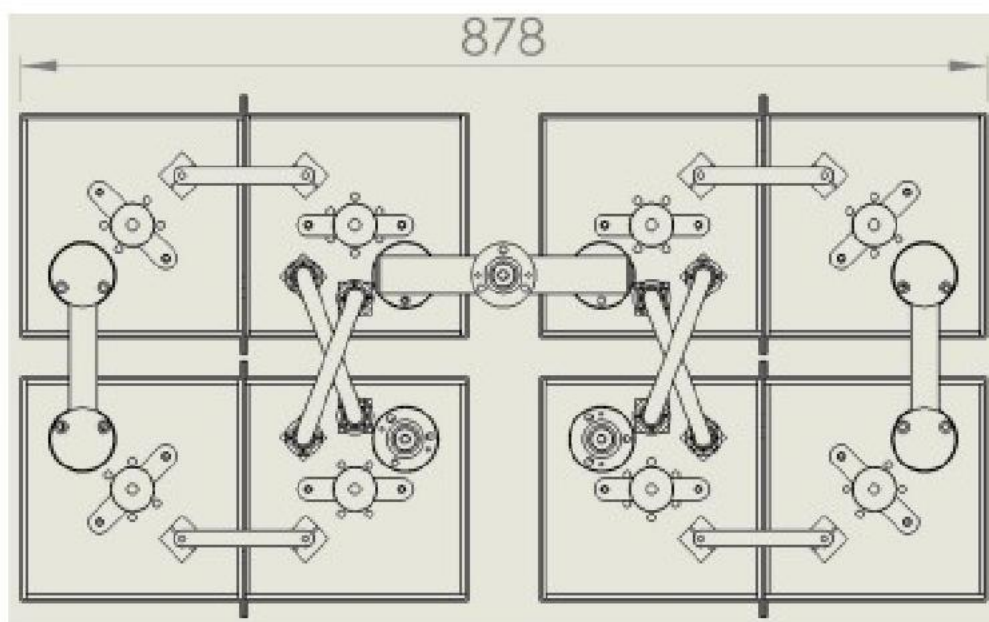
TYPICAL SPECIFICATIONS

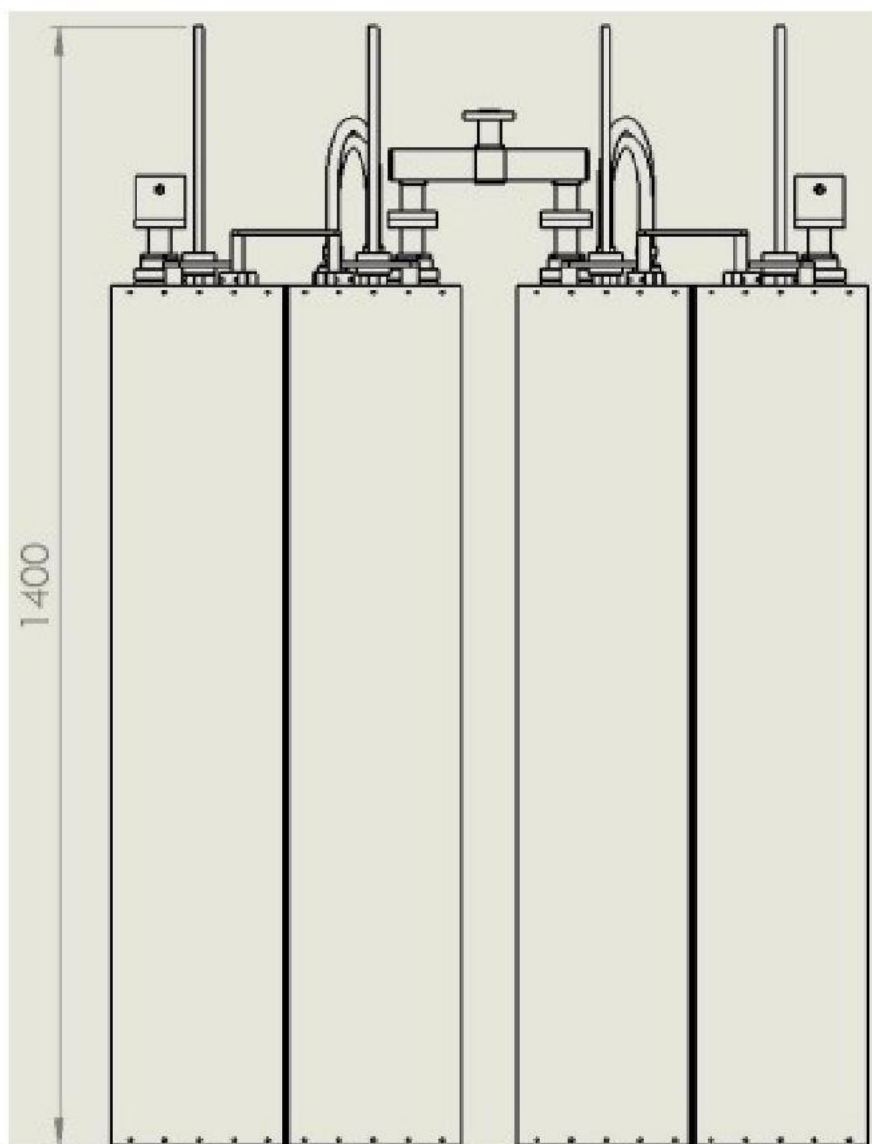
Model	FDCSQC3ELF – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150KHz	1.1:1max
Insertion Loss	at f_0 0.4 ÷ 0.9 dB max (depending by spacing between channels)
Return Loss ± 150KHz	≤ -26 dB
Isolation	Min spacing 500 kHz, see the plots below
N° of input	2
N° of output	1
Connectors Standard	Input 7/8" Output 7/8"
Max Power	1 KW \times 2 Channels
Working Temperature	-20°C ÷ +50°C
Color	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

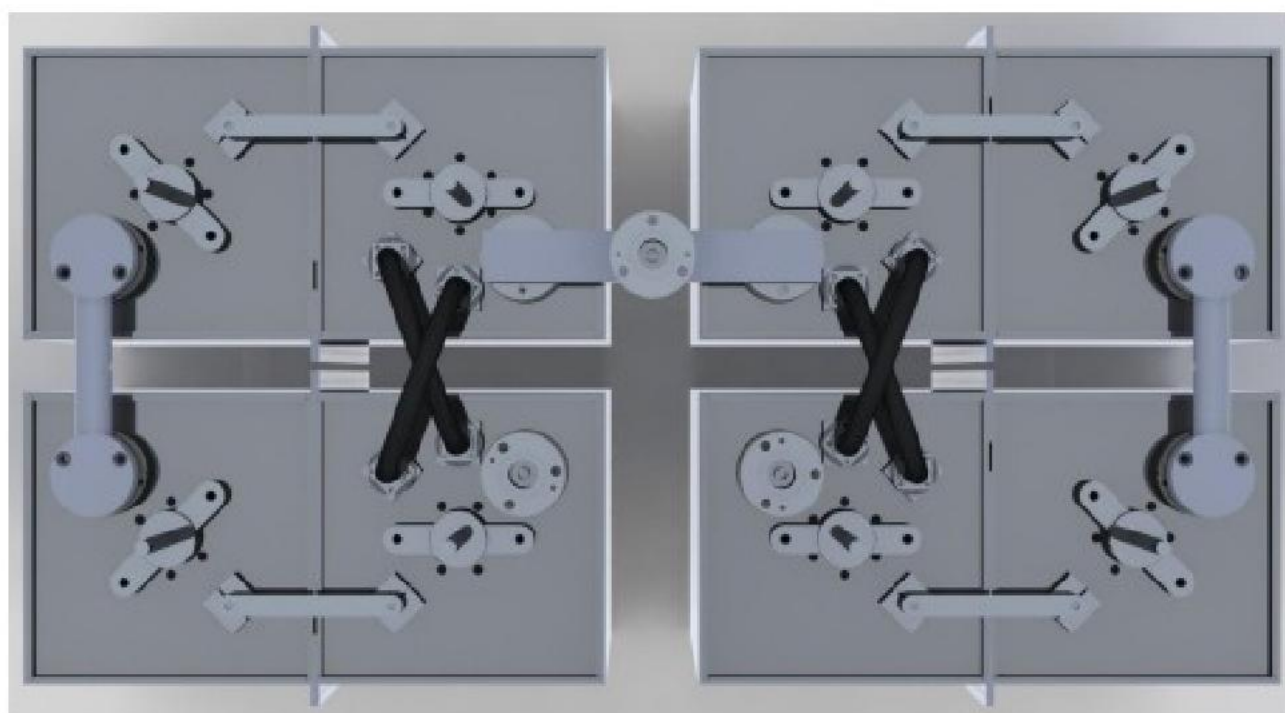
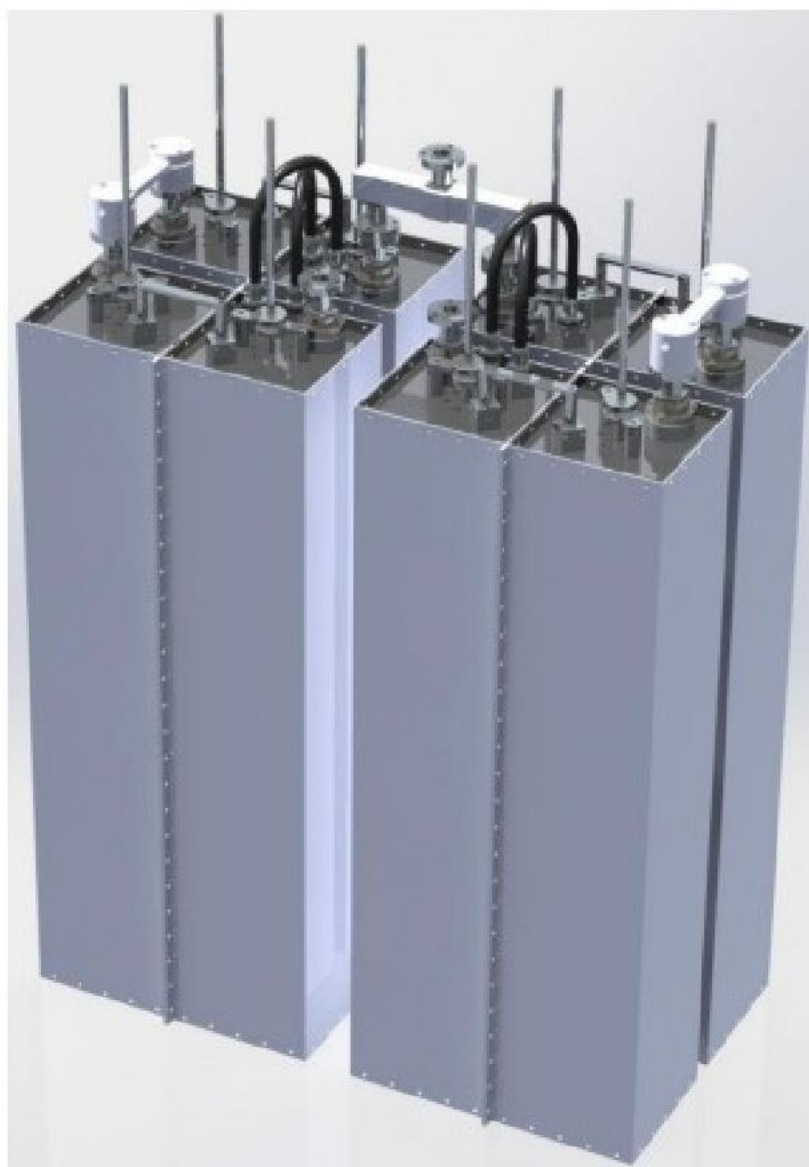
- Distortion – Free Transmission
- Star-point system with quadruple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

DIMENSIONS (mm)

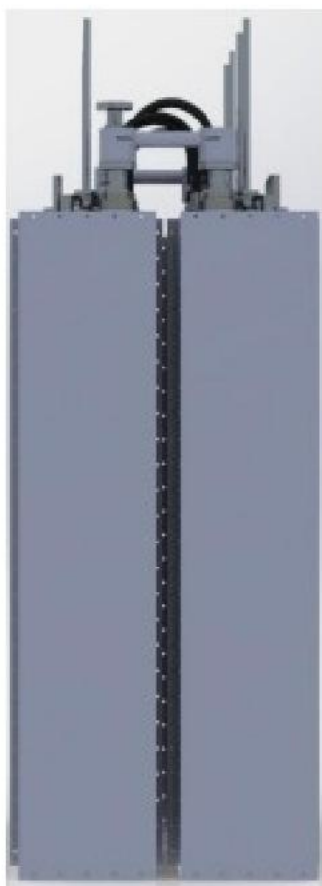


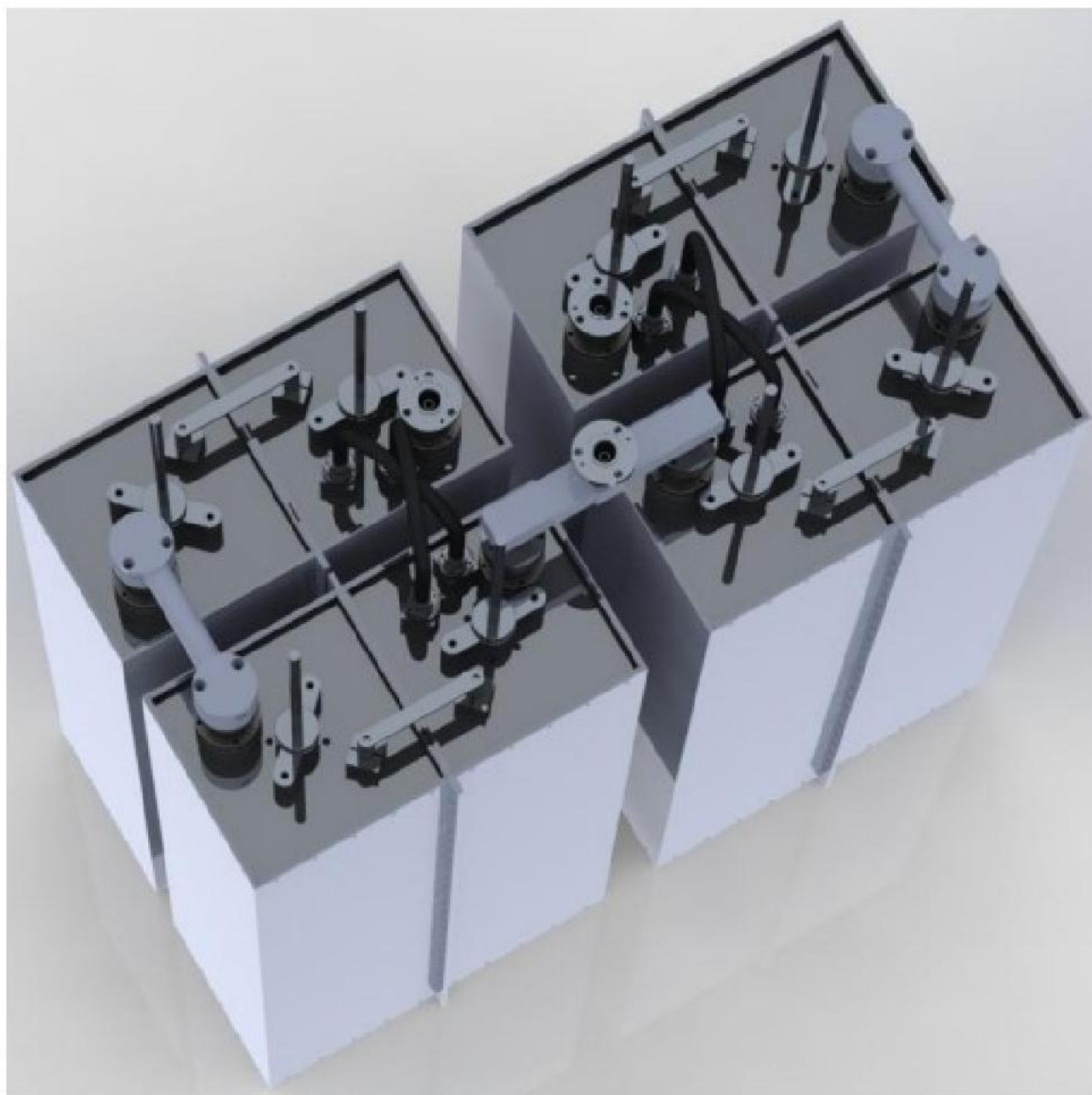


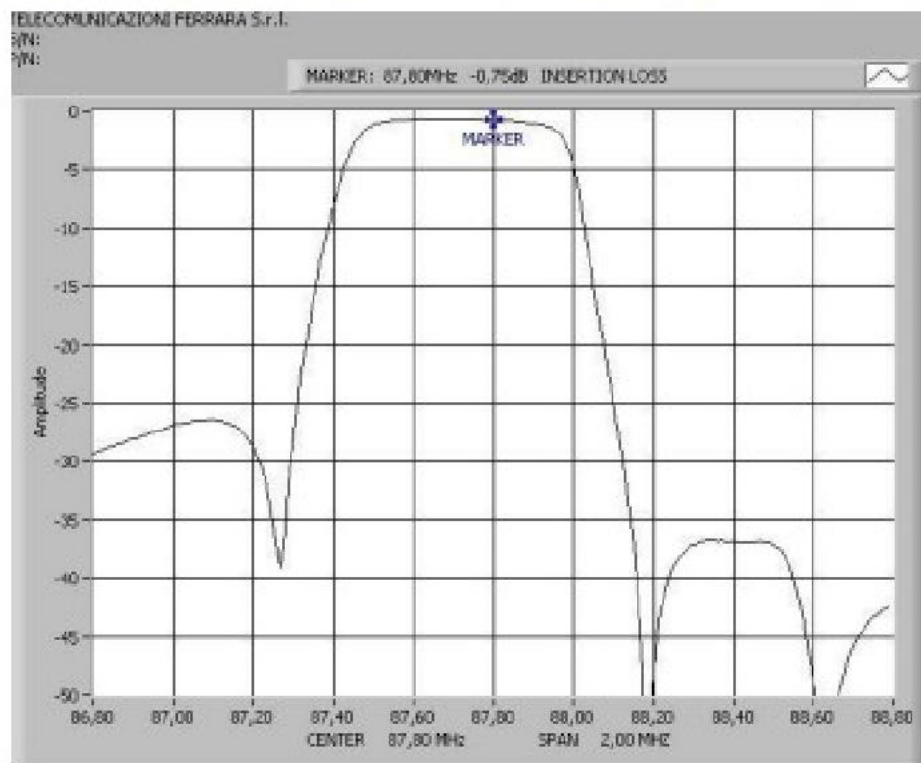
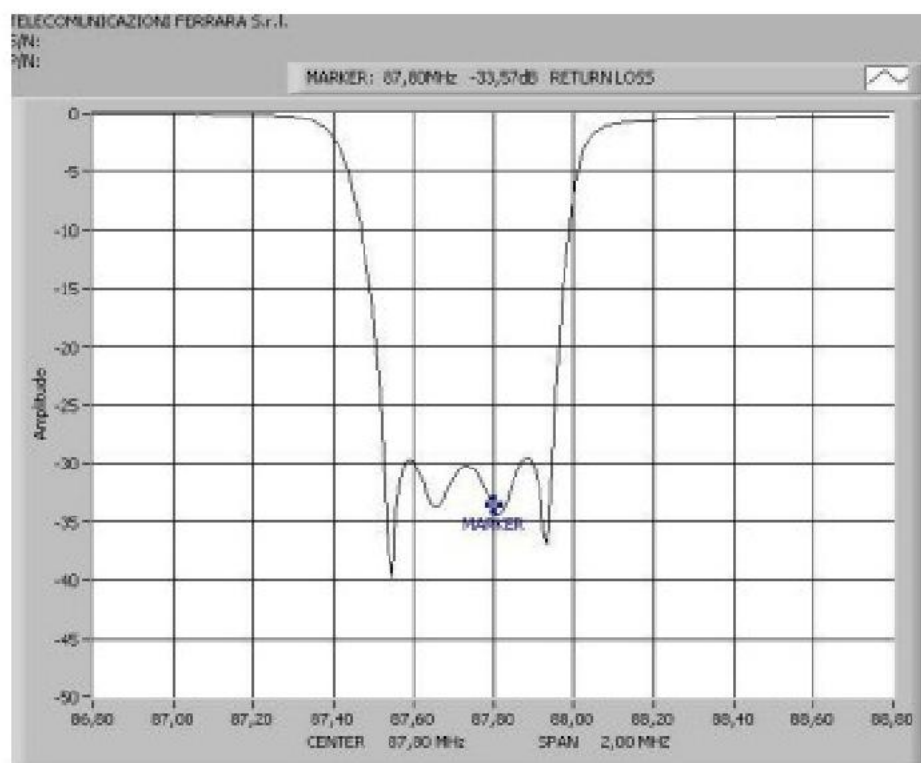
Dimensions	1400(Max size)×878×474 mm (55.1(Max size)×34.5×18.6 inch) (H×L×W)
Net Weight	≈ 100 Kg Approx.

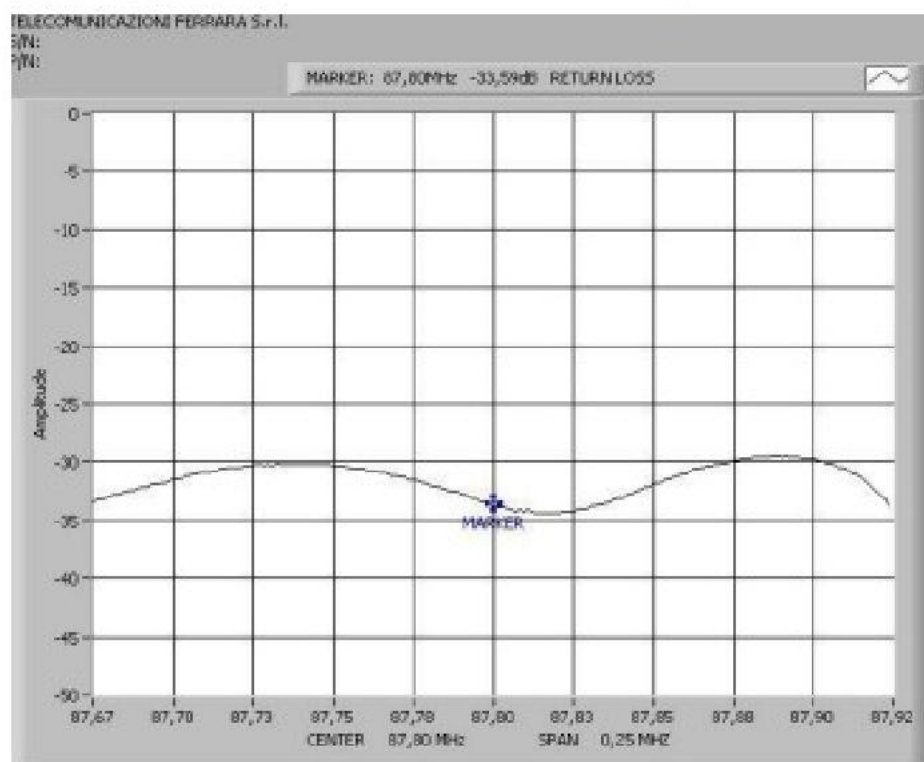
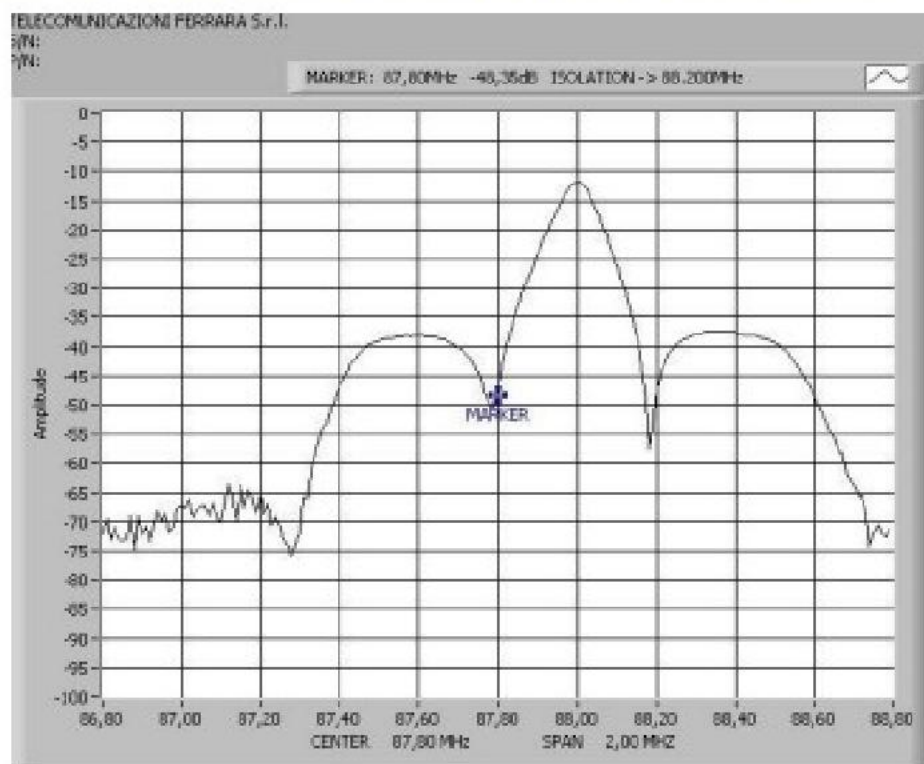
VIEWS OF THE SYSTEM



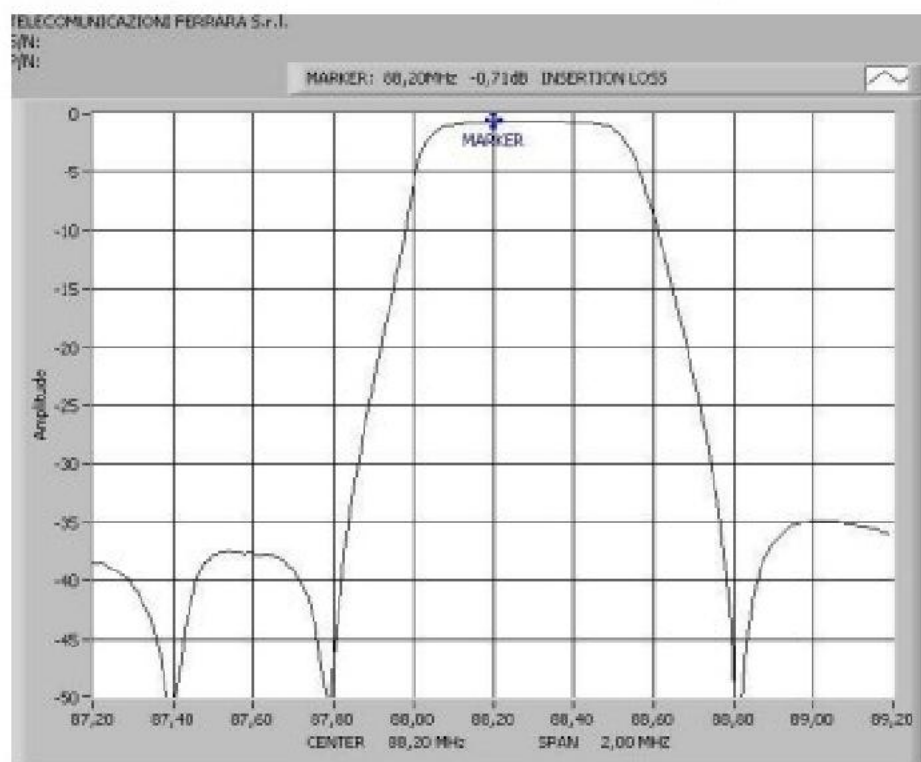




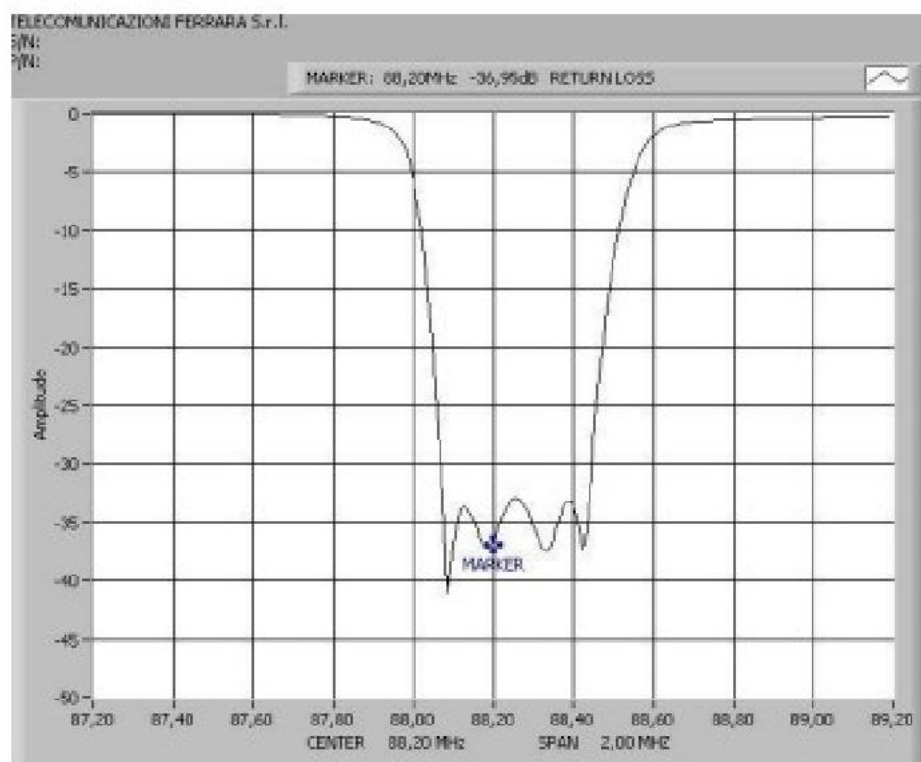
EXAMPLE OF TUNING 400 KHz SEPARATION**FREQ. 87.800 MHz INSERTION LOSS -0.75 dB (SPAN 2 MHz)****FREQ. 87.800 MHz RETURN LOSS -33.57 dB (SPAN 2 MHz)**

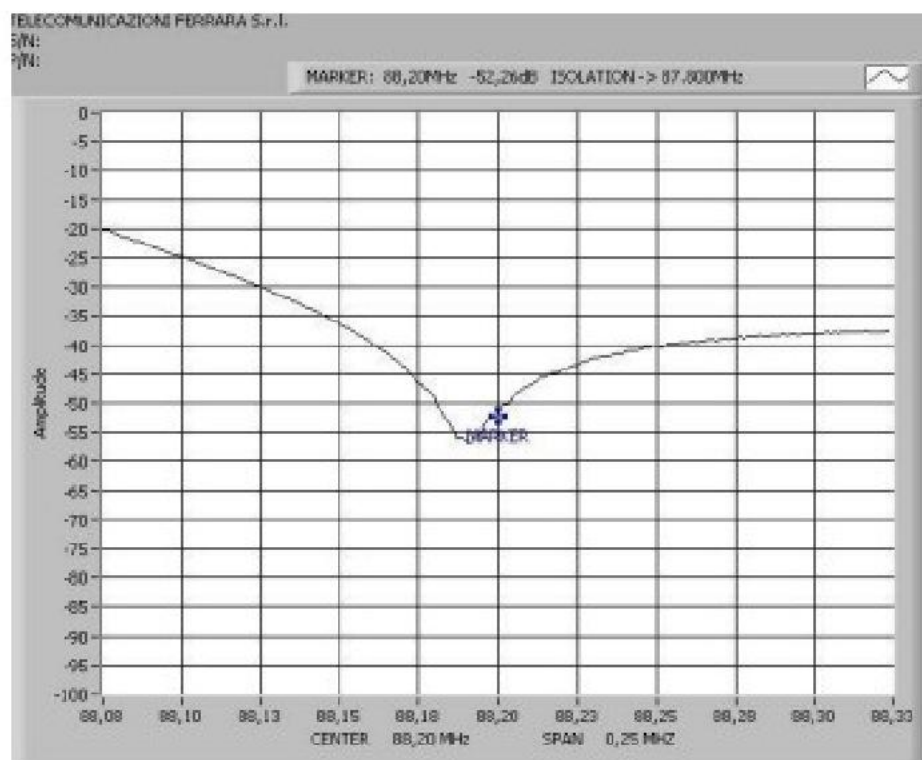
FREQ. 87.800 MHz RETURN LOSS -33.59 dB (SPAN 250 KHz)**FREQ. 87.800 MHz ISOLATION -48.35 dB -> 88.200 MHz**

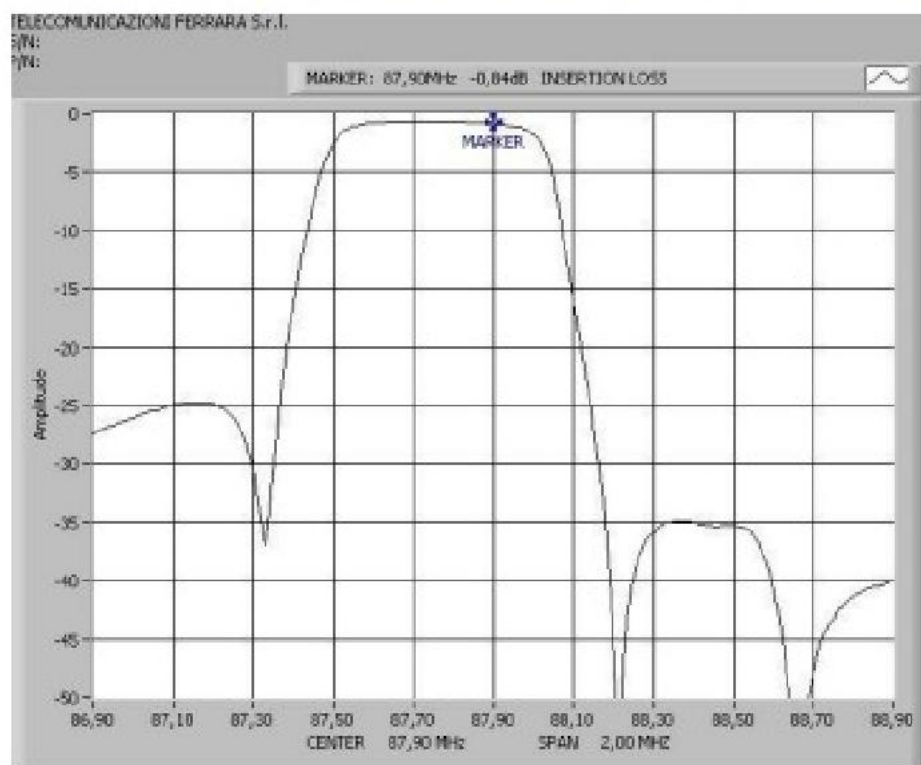
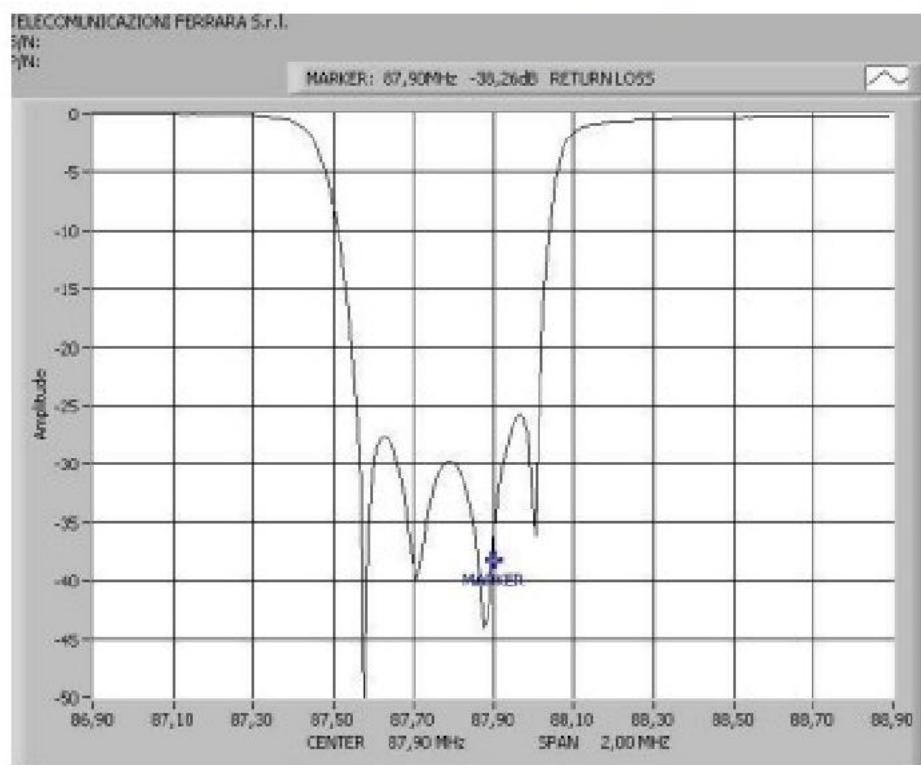
FREQ. 88.200 MHz INSERTION LOSS -0.71 dB (SPAN 2 MHz)



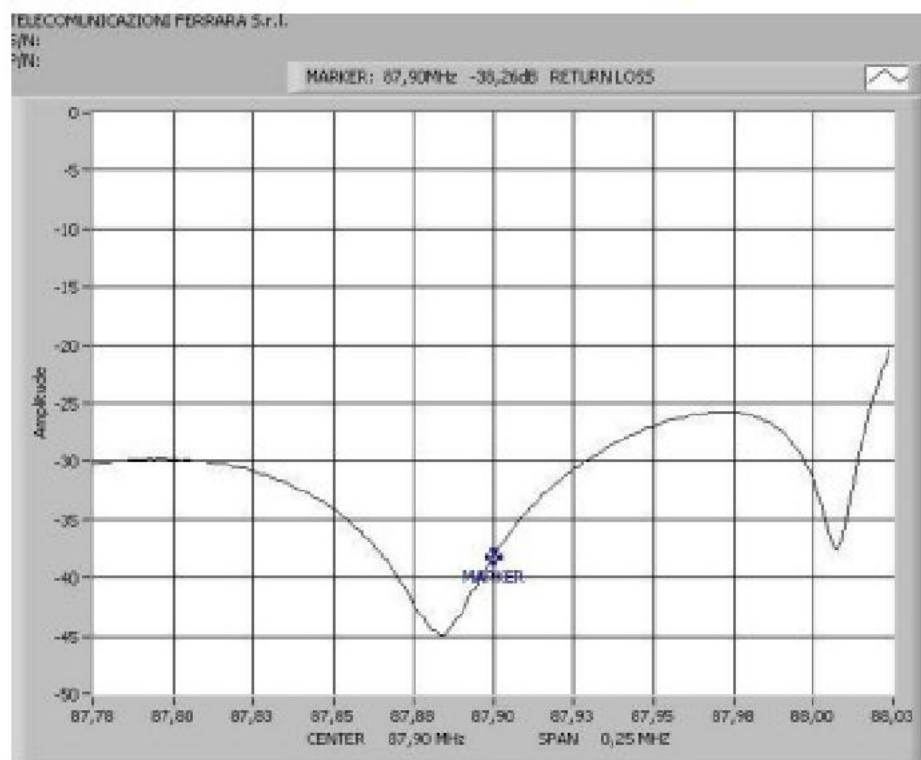
FREQ. 88.200 MHz RETURN LOSS -36.95 dB (SPAN 2 MHz)



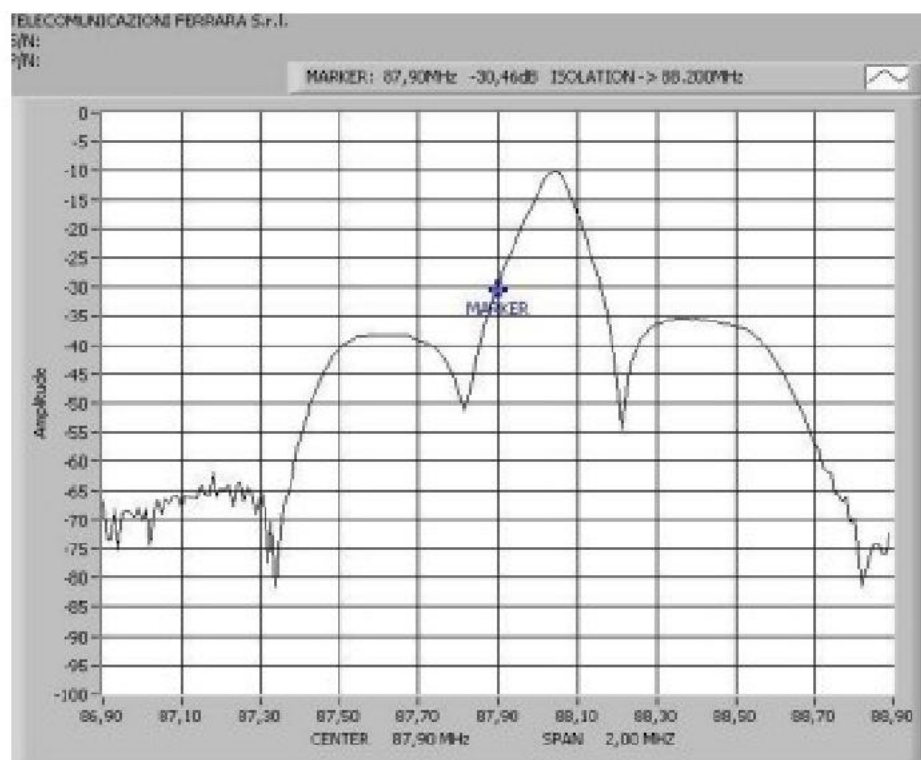
FREQ. 88.200 MHz RETURN LOSS -36.87 dB (SPAN 250 KHz)**FREQ. 88.200 MHz ISOLATION -52.26 dB -> 87.800 MHz**

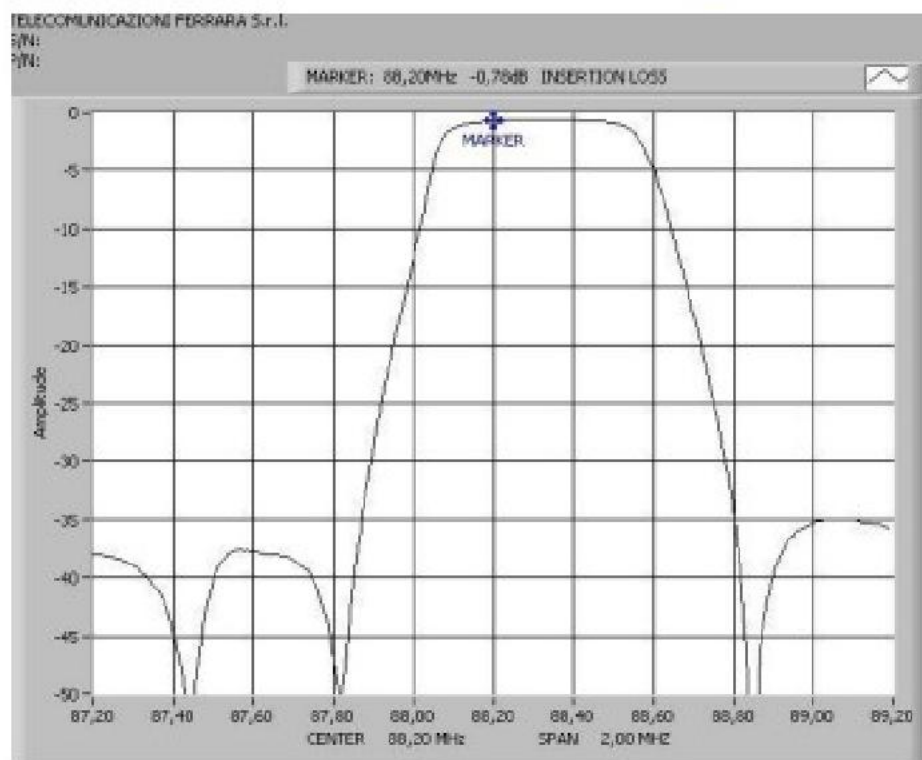
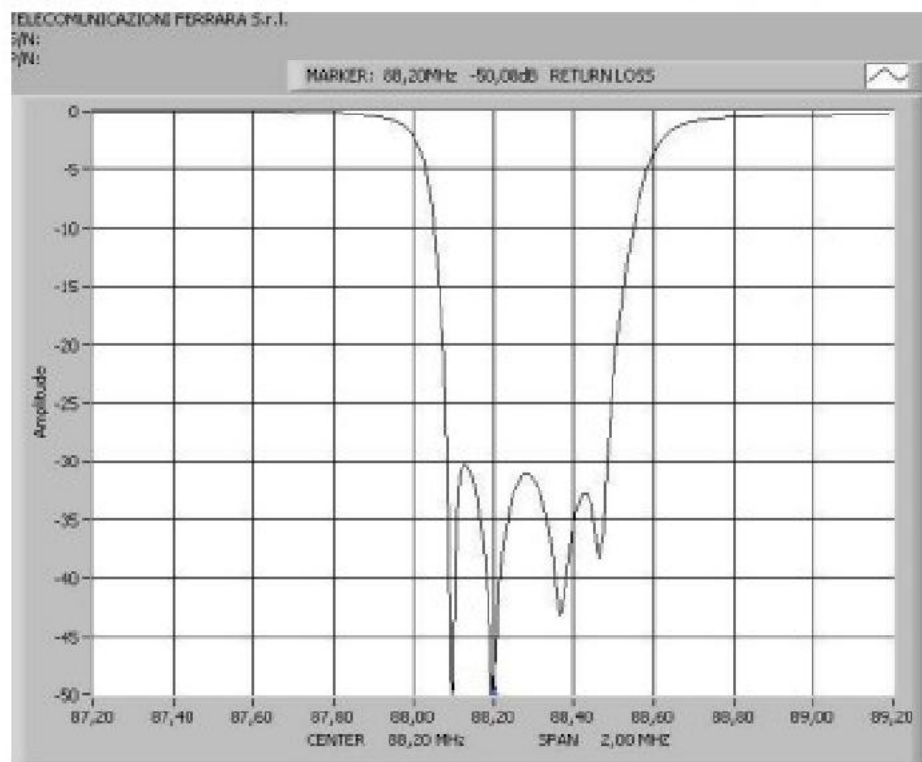
EXAMPLE OF TUNING 300 KHz SEPARATION**FREQ. 87.900 MHz INSERTION LOSS dB -0.84 (SPAN 2 MHz)****FREQ. 87.900 MHz RETURN LOSS -38.26 dB (SPAN 2 MHz)**

FREQ. 87.900 MHz RETURN LOSS dB -38.26 (SPAN 250 KHz)

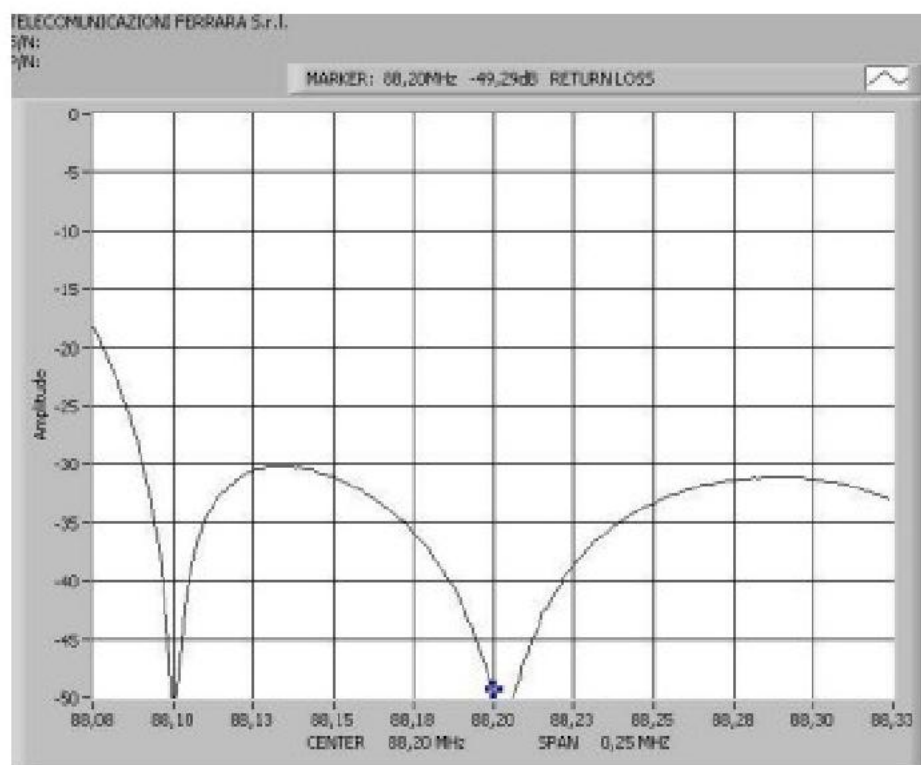


FREQ. 87.900 MHz ISOLATION -30.46 dB -> 88.200 MHz

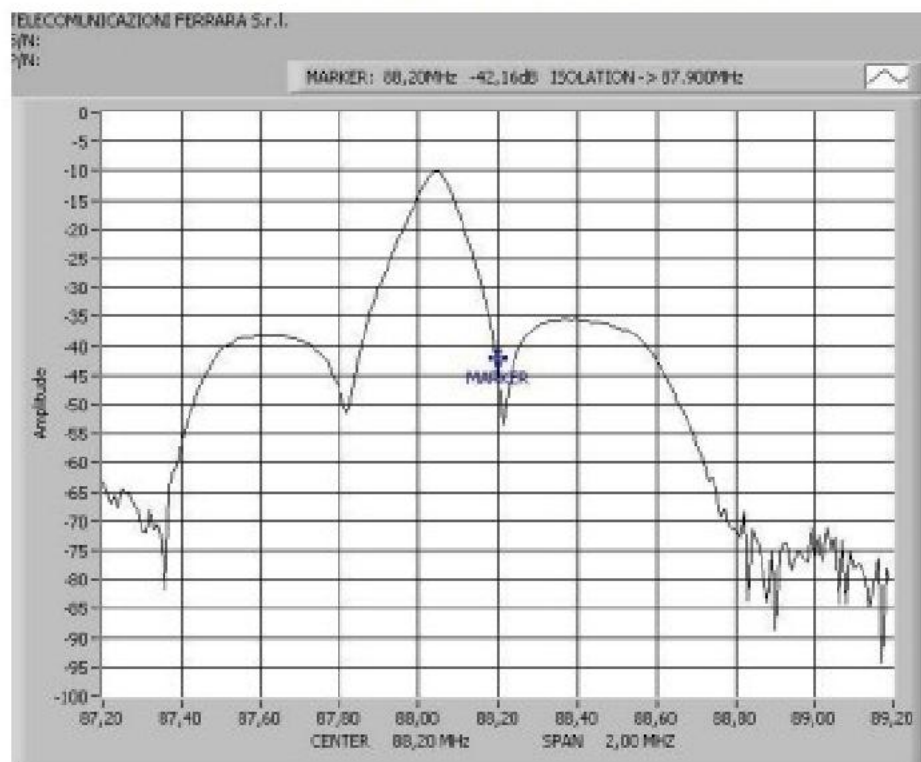


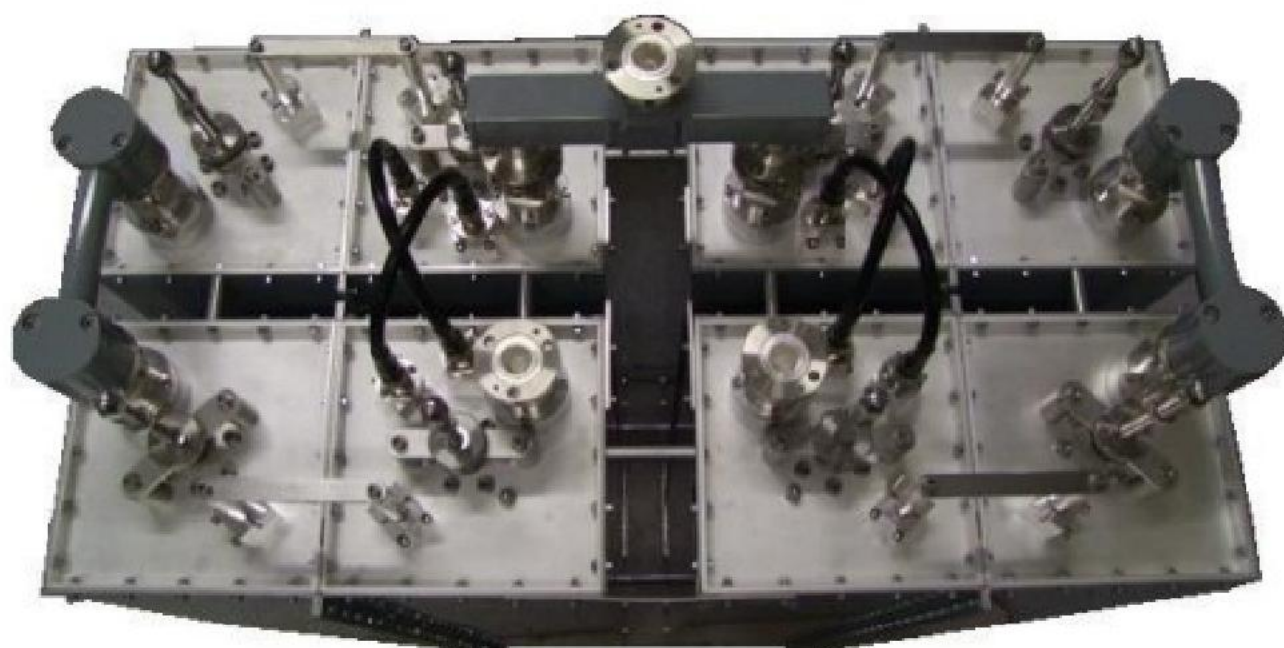
FREQ. 88.200 MHz INSERTION LOSS -0.78 dB (SPAN 2 MHz)**FREQ. 88.200 MHz RETURN LOSS -50.08 dB (SPAN 2 MHz)**

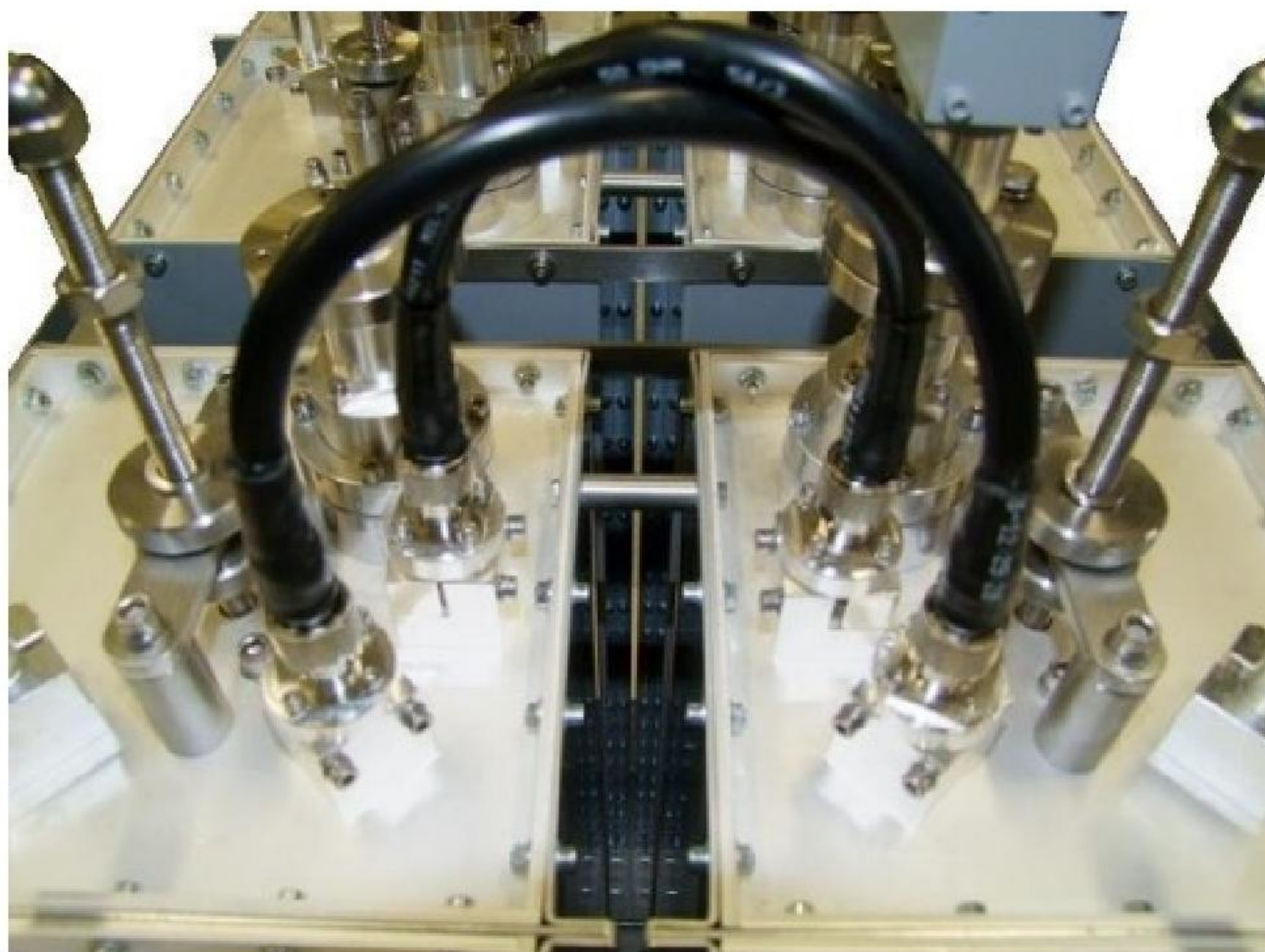
FREQ. 88.200 MHz RETURN LOSS -49.29 dB (SPAN 250 KHz)



FREQ. 88.200 MHz ISOLATION -42.16 dB -> 87.900 MHz



PHOTOS OF THE SYSTEM



MODEL FDCSQC4ELF

- **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.



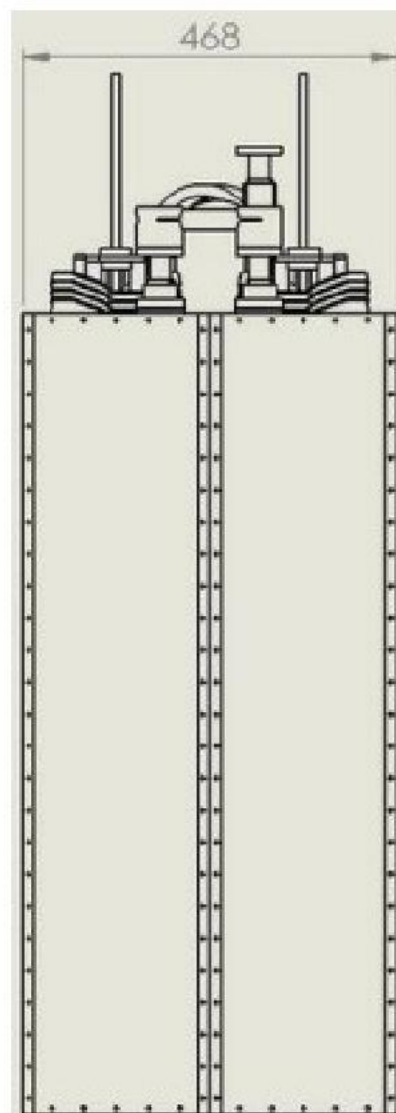
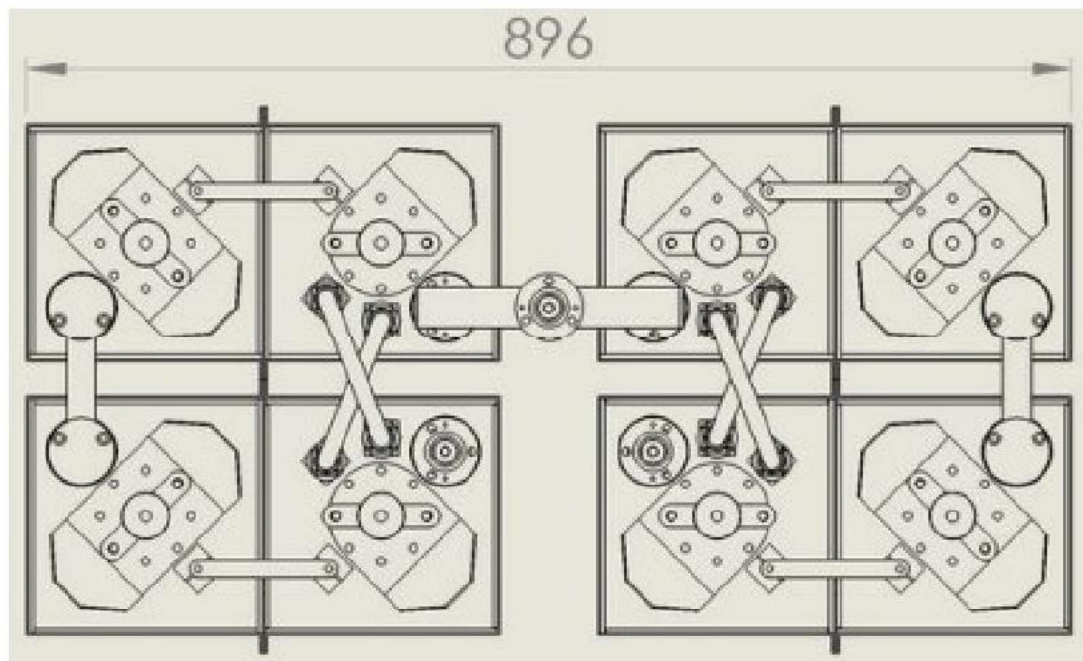
TYPICAL SPECIFICATIONS

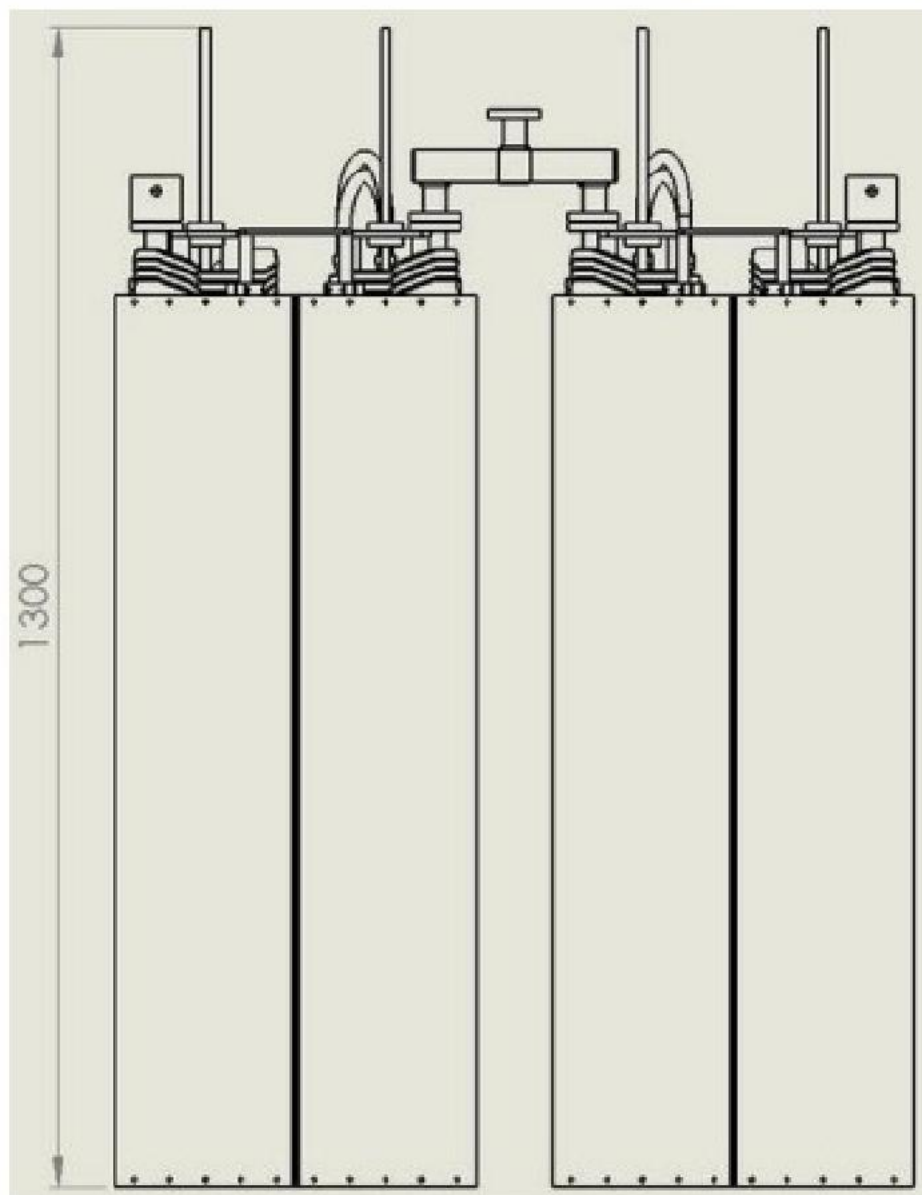
Model	FDCSQC4ELF – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150KHz	1.1:1max
Insertion Loss	at f_0 0.5-1.4 dB max (depending on spacing between channels)
Return Loss ± 150KHz	≤ -26 dB
Isolation ± 300 kHz	≥ 30 dB
N° of input	2
N° of output	1
Connectors Standard	Input 7/8" Output 7/8" (option 1+5/8")
Max Power	1000 W with spacing between channels 300 kHz 2000 W with spacing between channels 600 kHz 3000 W with spacing between channels >700 kHz
Working Temperature	-20°C ÷ +50°C
Color	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

Features:

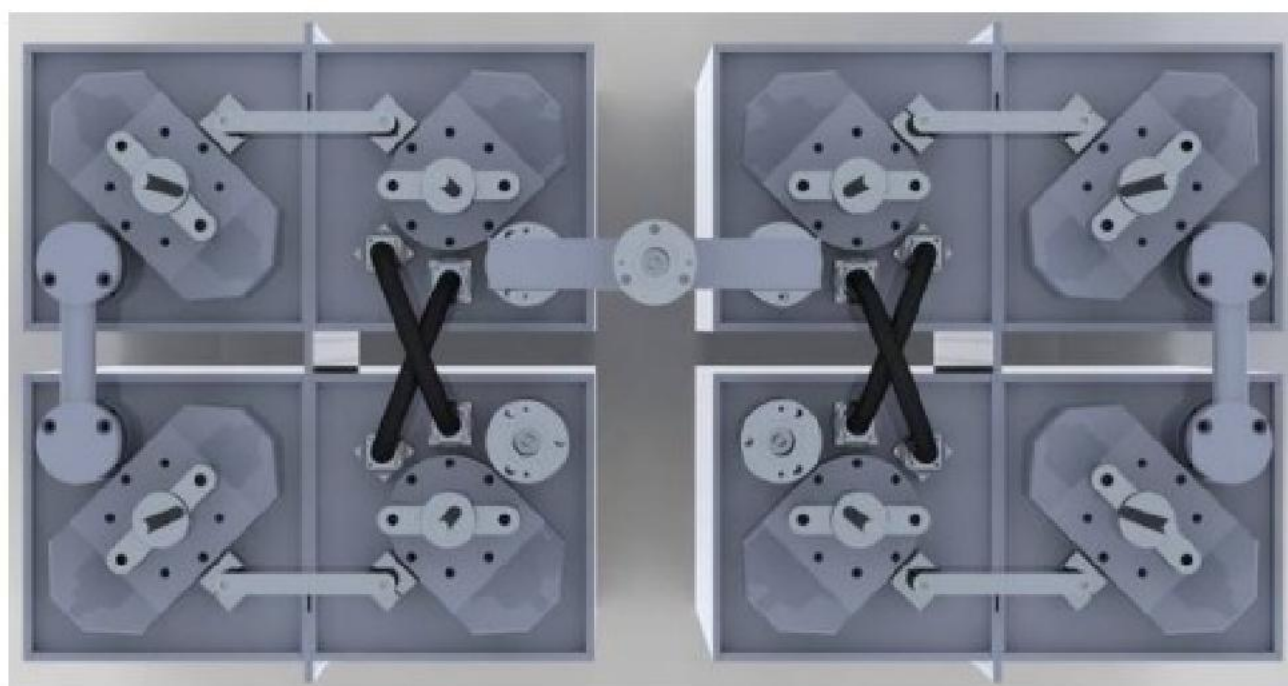
- Distortion – Free Transmission
- Star-point system with quadruple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

DIMENSIONS (mm)



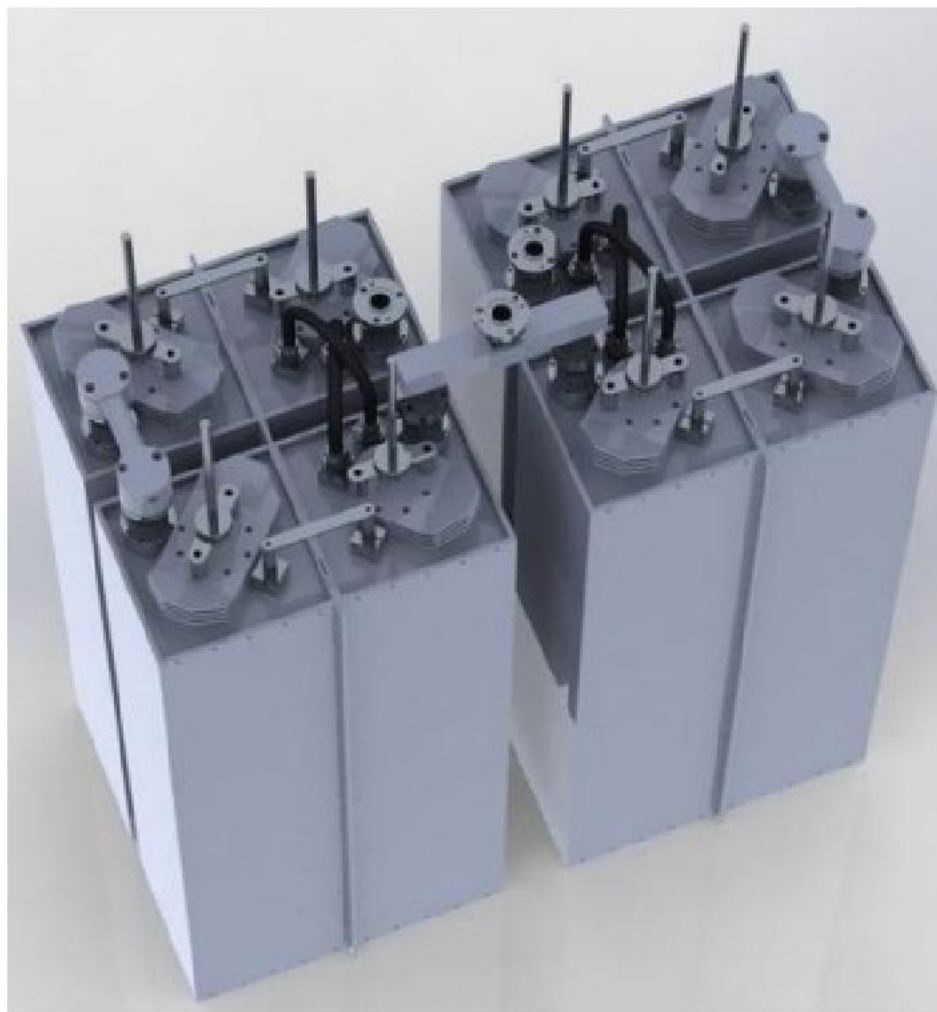


Dimensions	1300(Max size)×896×468 mm (55.1(Max size)×35.2×18.4 inch) (H×L×W)
Net Weight	≈ 110Kg Approx.

VIEWS OF THE SYSTEM







MODEL FDCSQC05ELF

- 2 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 ÷ 108 MHz
- BAND II
- STARPOINT TYPE
- CHANNELS SEPARATION 800 kHz

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.

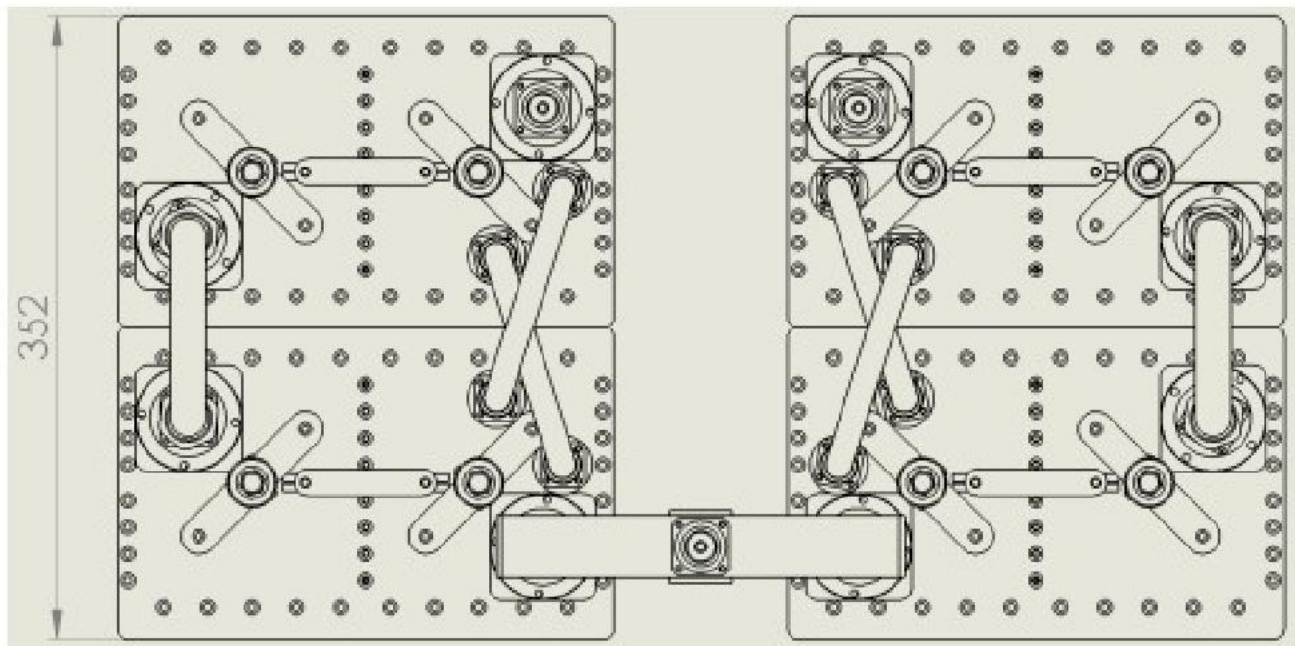
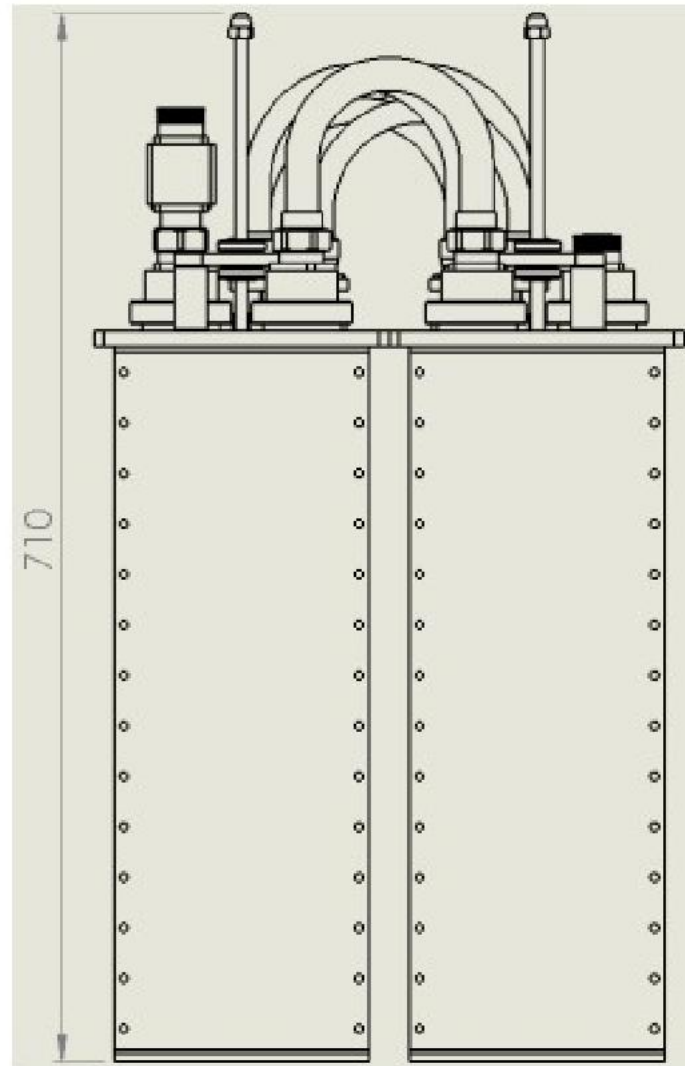
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

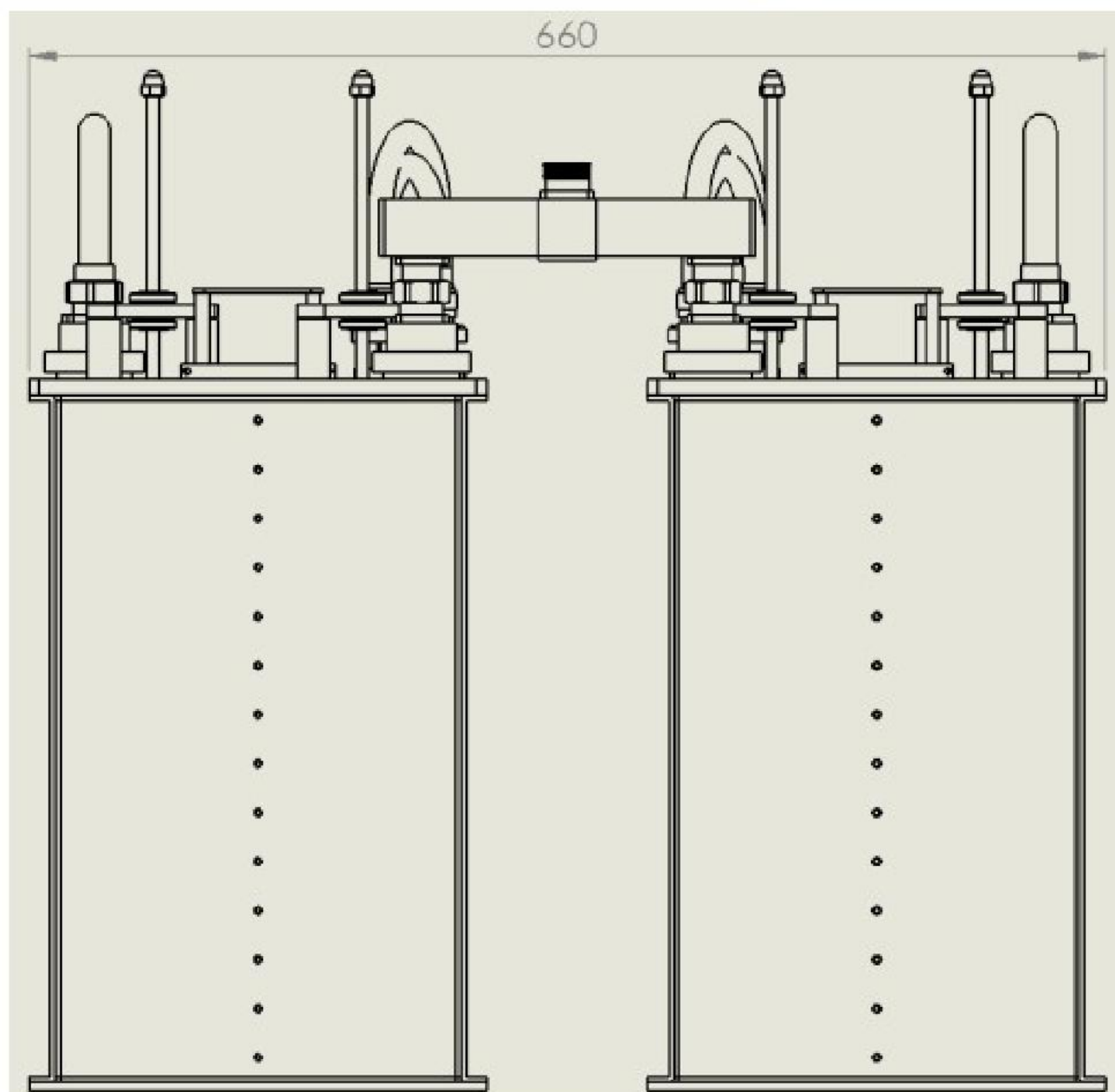


TYPICAL SPECIFICATIONS

Model	FDCSQC05ELF
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.8 ÷ 0.9 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 800 kHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	Input 7-16 Output 7-16
Max Power	250 -500 W \times Channel -depending spacing
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

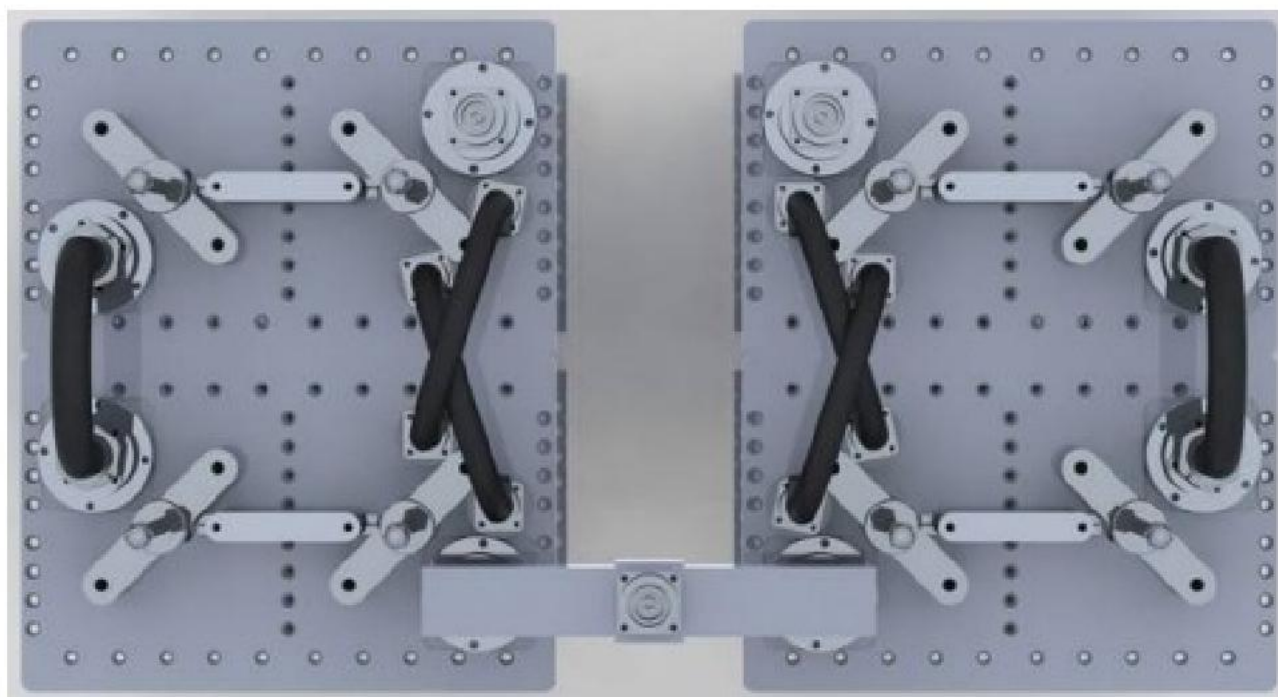
DIMENSIONS (mm)

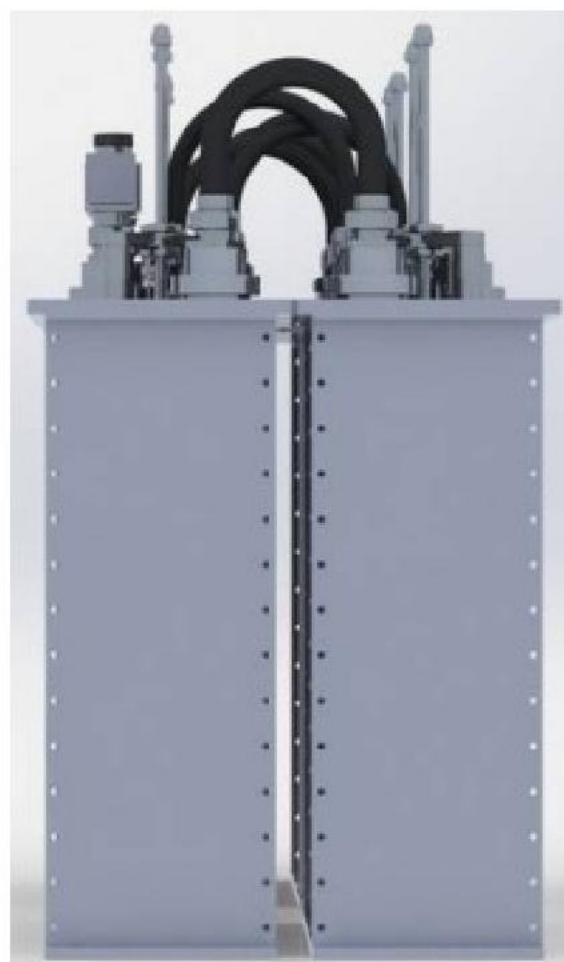


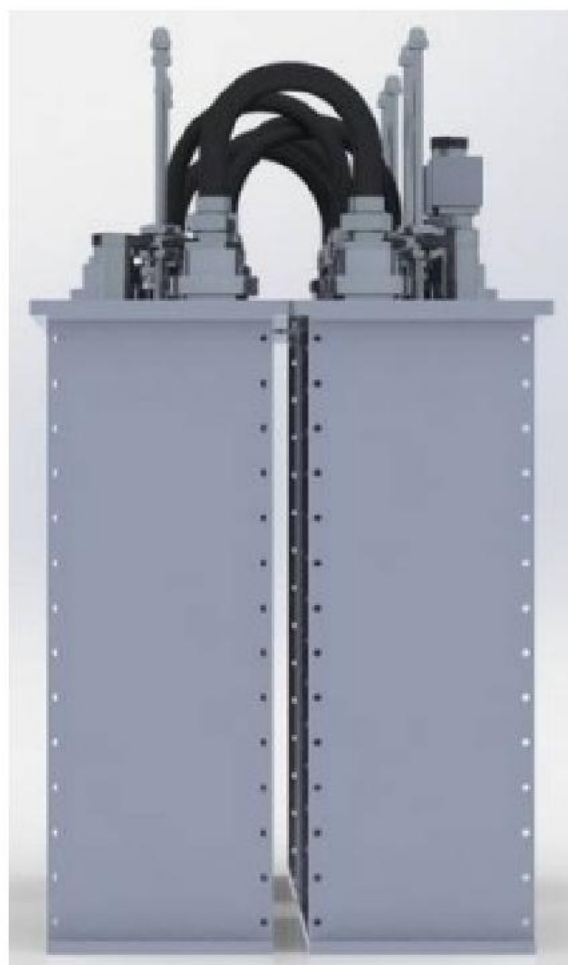


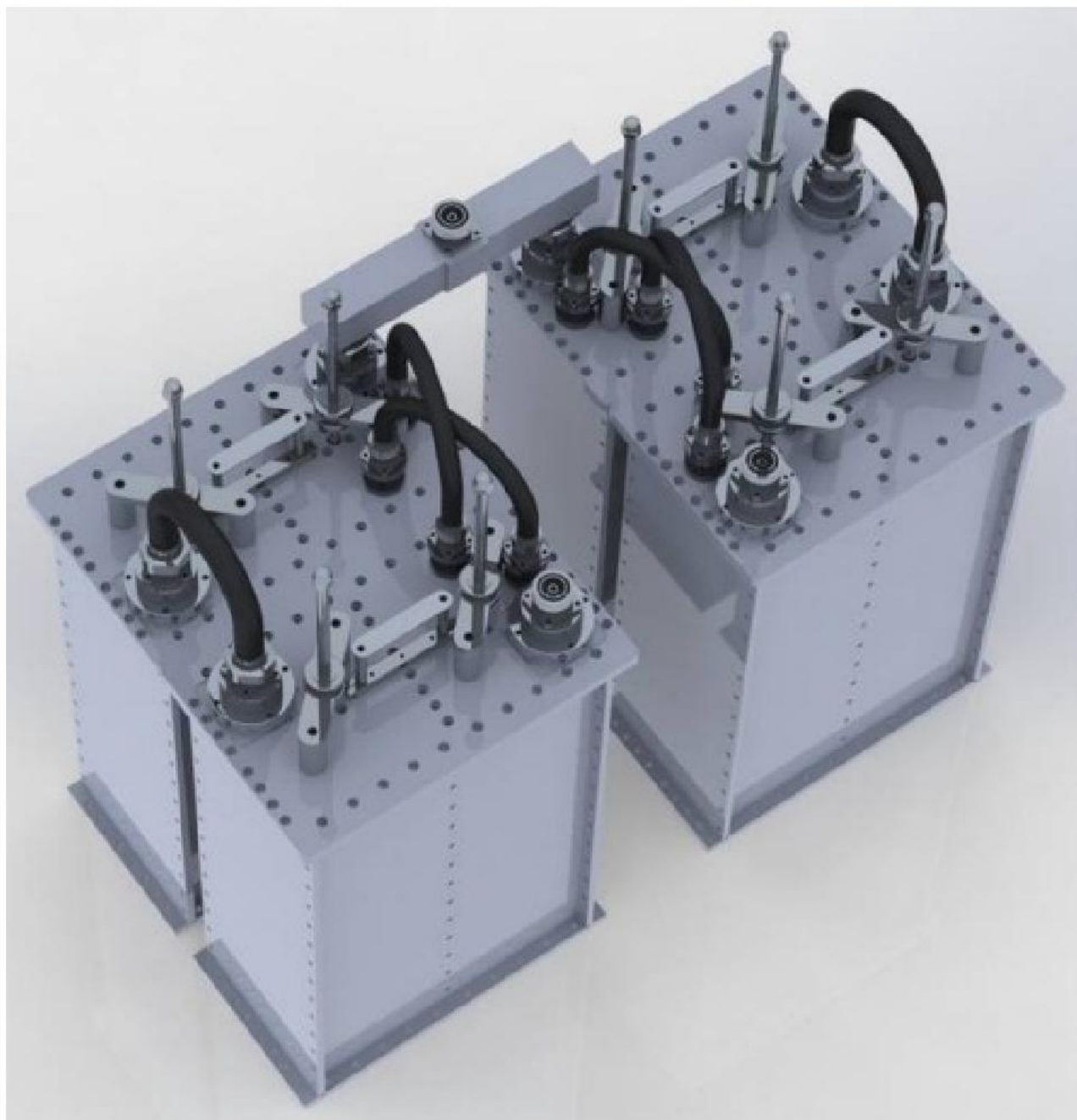
Dimensions	710 (Max size)×660×352 mm (27.9(Max size)×25.9×13.8inch) (H×L×W)
Net Weight	≅ 60 Kg approx.

VIEWS OF THE SYSTEM







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MODEL FDCSQC5ELF

- 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 which it's connected.

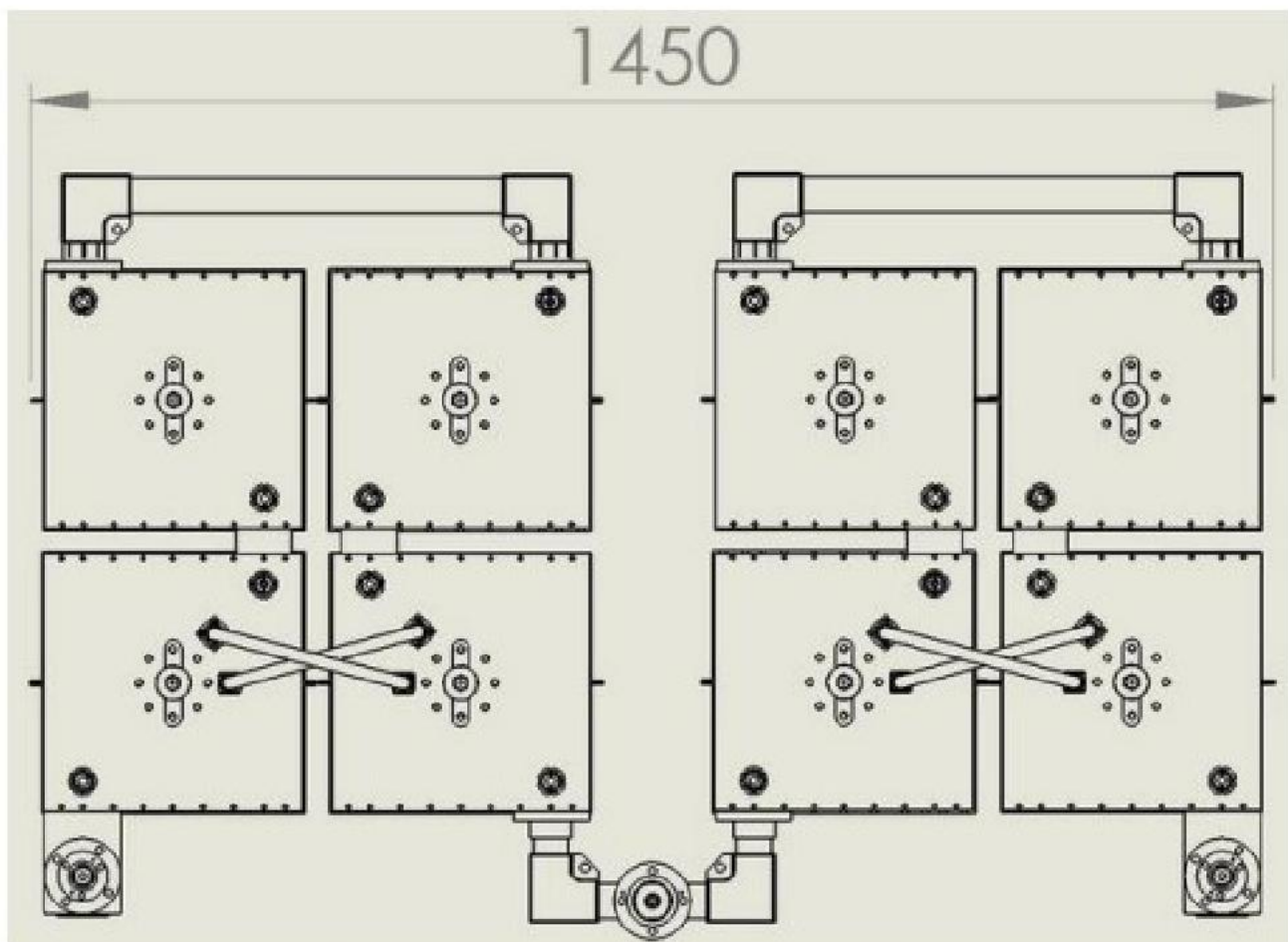
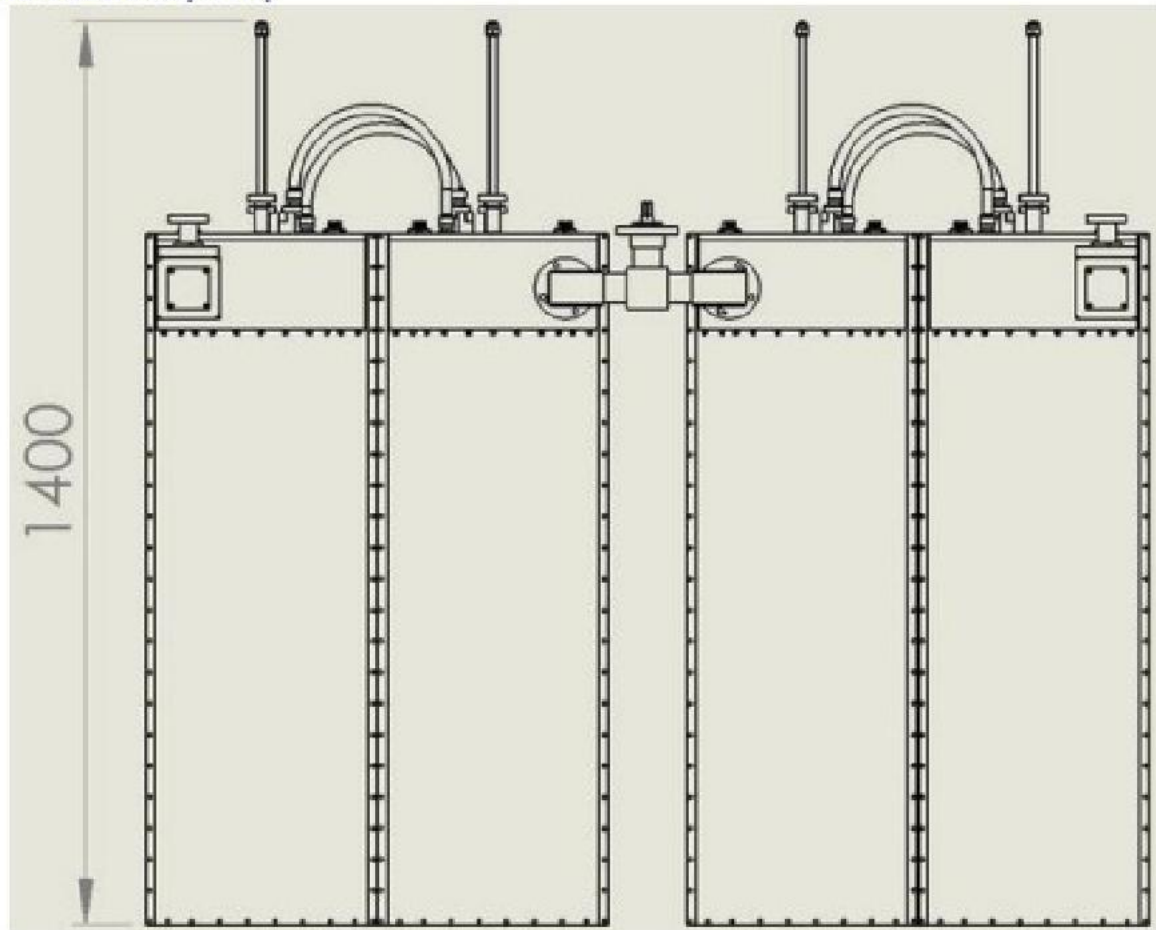
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

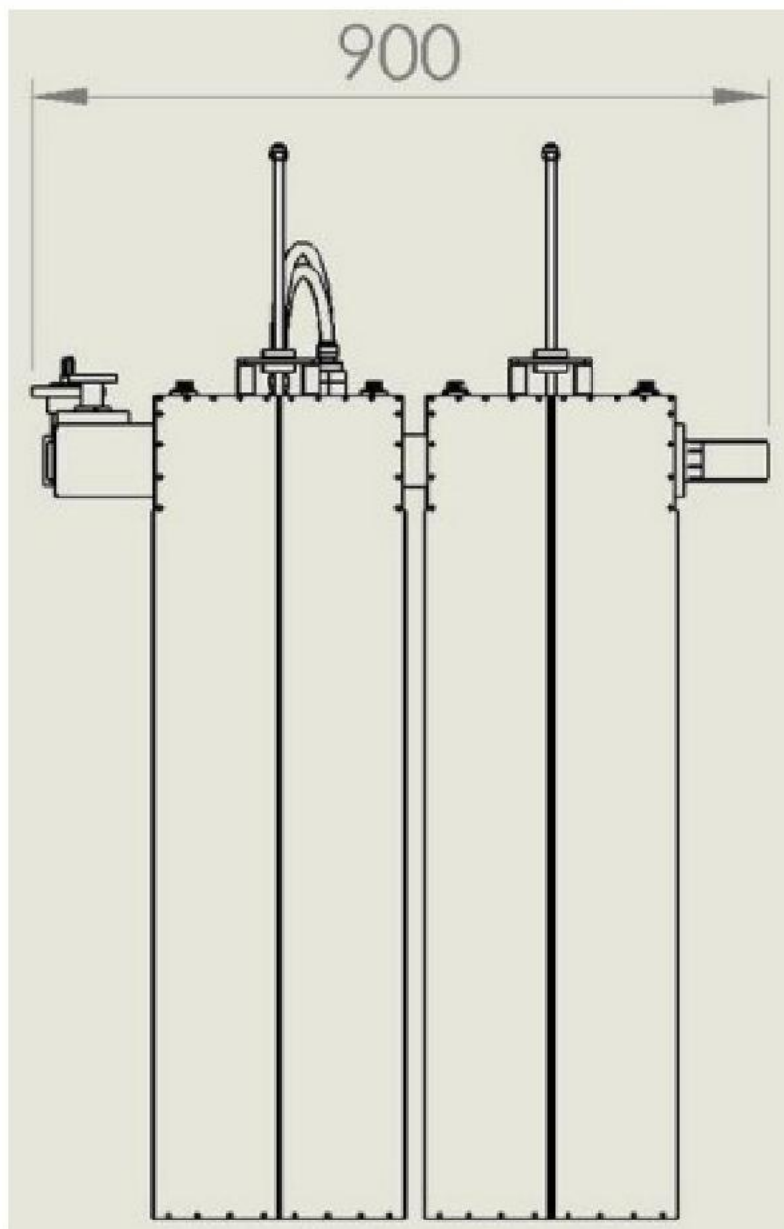


TYPICAL SPECIFICATIONS

Model	FDCSQC5ELF
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 100 KHz	1.1:1 max
Insertion Loss	at f_0 0.6 ÷ 1.2 dB max Channel Spacing 400 kHz
Return Loss ± 100 KHz	≤ -26 dB
Isolation ± 400 MHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	Input 7/8" Output 1+5/8"
Max Power	3 KW \times Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

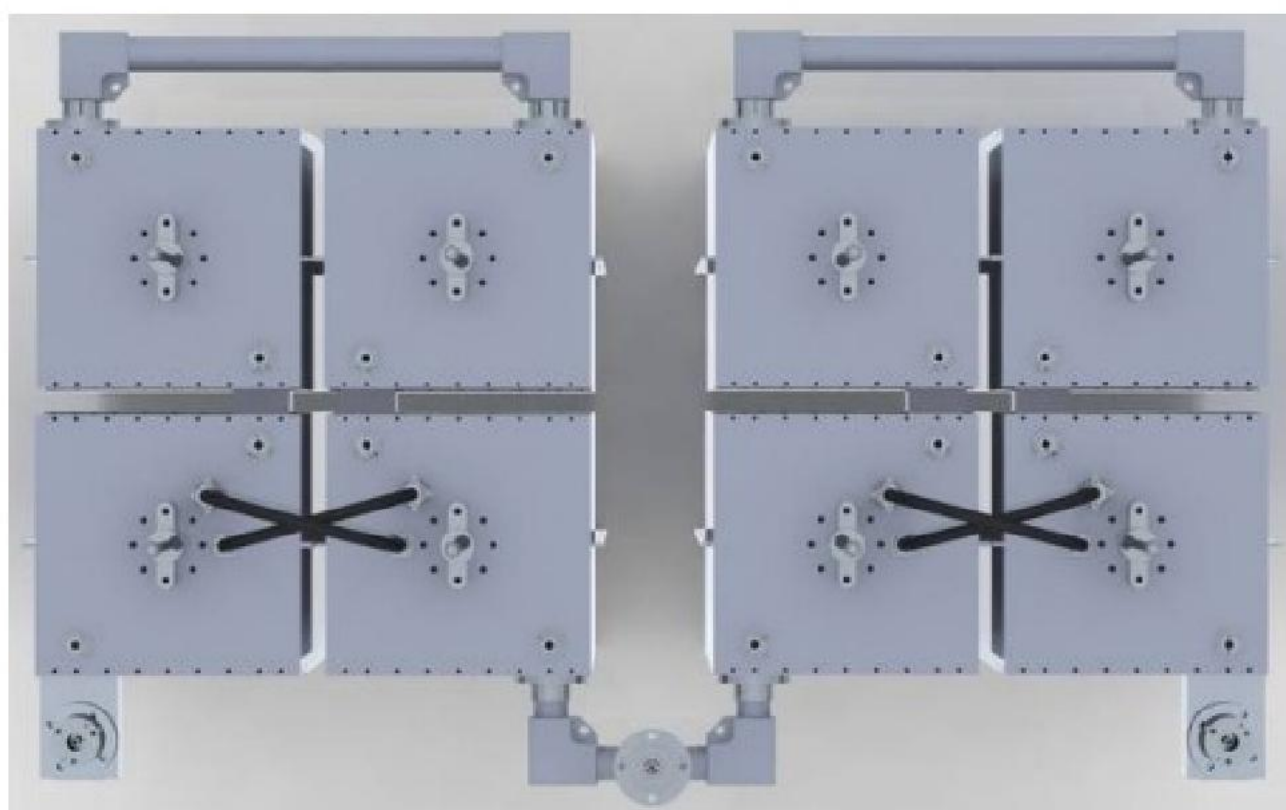
DIMENSIONS (mm)

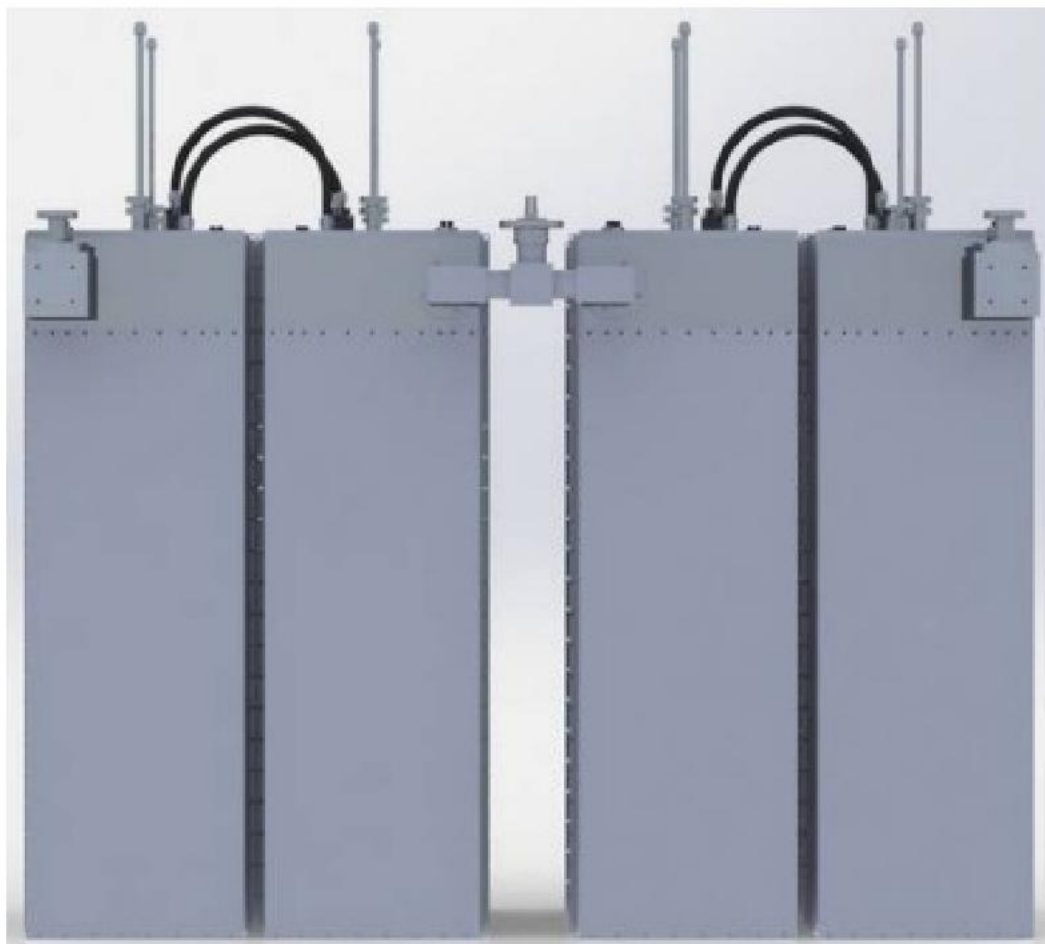


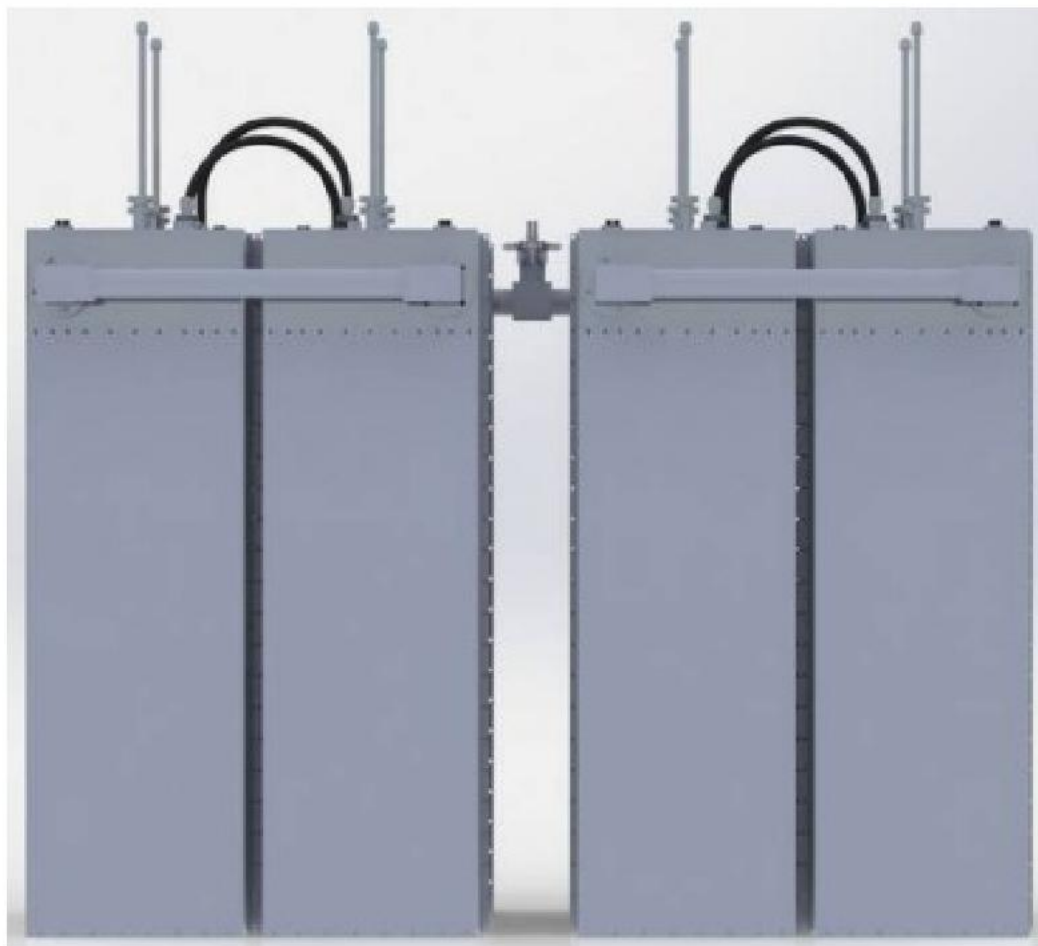


Dimensions	1400 (Max size)×1450×900 mm (55.1(Max size)×57×35.4inch) (H×L×W)
Net Weight	≅ 190 Kg approx.

VIEWS OF THE SYSTEM







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- *COMBINER 2 CHANNELS*
- *TYPE STAR POINT*
- *FM BAND 87.5 – 108 MHz*
- *BAND II*
- *MOD. FDSCQC10*



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	FDSCQC10 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR $\pm 150\text{KHz}$	1.1:1 max
Insertion Loss	at f_0 0.25 – 0.30 dB max
Return Loss $\pm 150\text{KHz}$	$\leq -26\text{dB}$
Isolation $\pm 800\text{KHz}$	$\geq 30\text{ dB}$
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, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

Features:

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

Description of a star-point diplexer

A star-point diplexer is made by parallel circuiting two band pass filters (**FFC10**) 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.

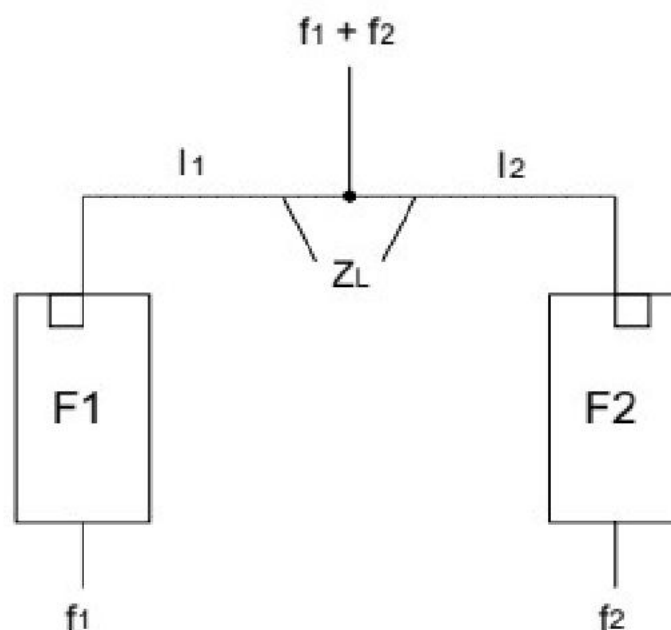
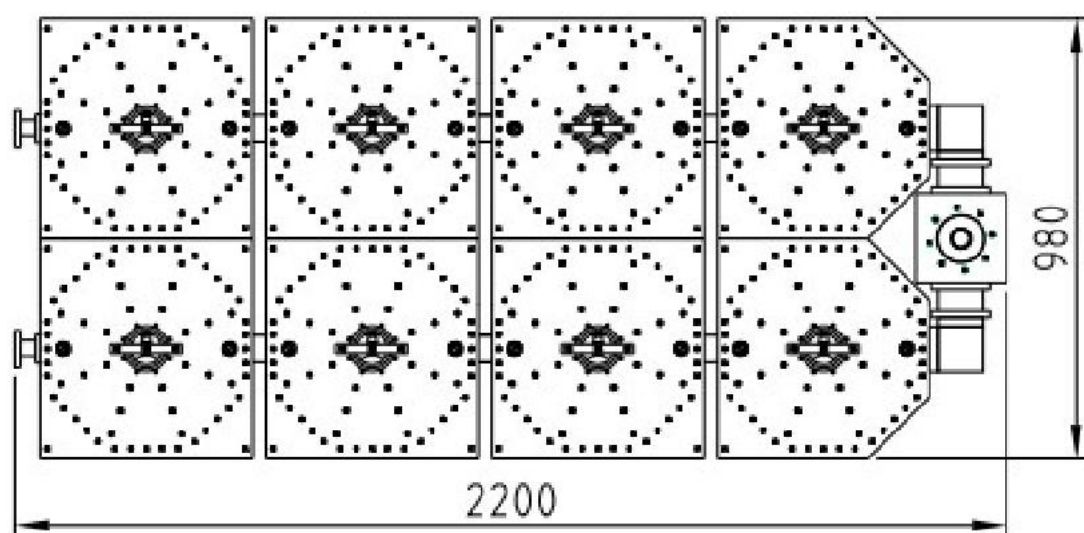


Fig. 1

In the diplexer illustrated in Fig.1, filter F1 permits frequency f_1 to pass, whereas filter F2 cuts it off. In relation to frequency f_1 , filter F2 presents a short circuit at its inputs. Via an electrically effective cable length of $\lambda/4$ (made up of l_1 and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F1 presents impedance Z_L at this point. The filter F2 functions in the analog manner in relation to frequency f_2 .

Summary:

The diplexing filter, consisting of two filters (**Model FFC10**) and a junction point with defined cable lengths, has two narrow band inputs corresponding to the pass band characteristics of the filters.



Dimensions	1400(Max size)- 2200- 980 mm (55.1(Max size)- 86.6- 38.6 inch) (H- L- W)
Net Weight	≈250 Kg



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FM TRIPLEXER

2 CAVITY

MODEL FTCSDC01D

- 3 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 ÷ 108 MHz
- STARPOINT TYPE
- MOUNTING RACK



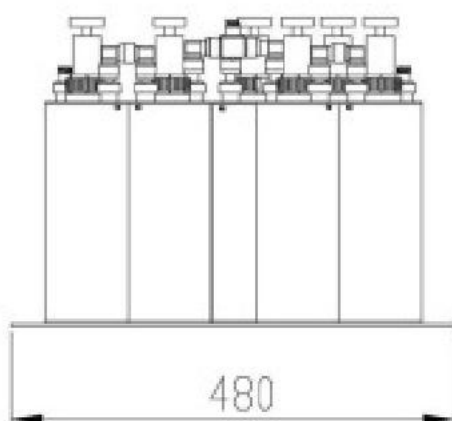
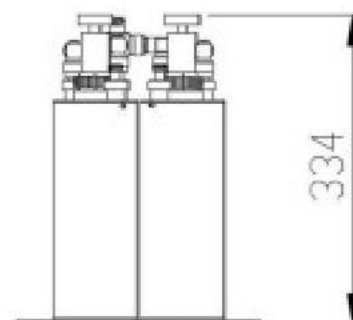
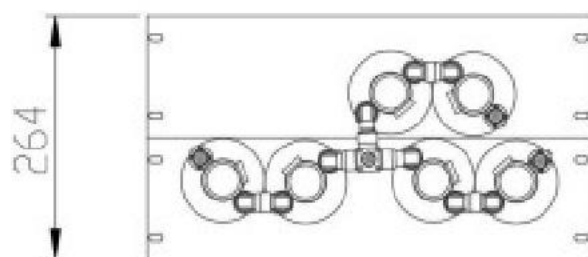
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.

The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FTCSDC01D
Impedance	50 Ohm
Frequency Range	87.5 - 108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.6 – 1.95 dB typical depending adj
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1 MHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	Input N Output N female or 7/16" female
Max Power	100 W \times Channel
Working Temperature	-20°C ÷ +55°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

DIMENSIONS STANDARD VERSION RACK MOUNTING (mm)



Dimensions

See figure

Net Weight

≅ 18.5Kg rack version approx.

VIEWS OF THE SYSTEM standard version rack mounting



MODEL FTCSDC2

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

Model	Connector	Connector	Input	Output
FTCSDC2-1	N	7/16"	600W	1800W
FTCSDC2-2	N	7/8"	600W	1800W
FTCSDC2-3	7/16"	7/16"opt.	7/8600W	1800W
FTCSDC2-4	7/16".....7/8"-1+5/8"opt.2KW		6KW
FTCSDC2-5	7/8"-1+5/8"opt.	7/8-1+5/8"opt	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.

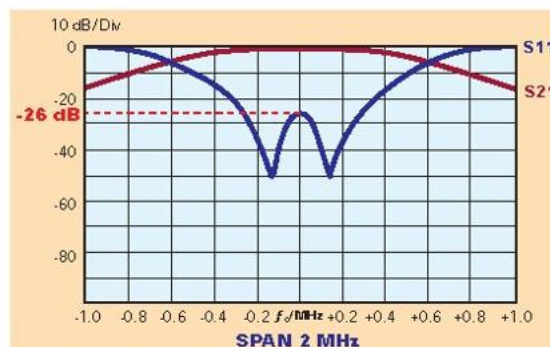
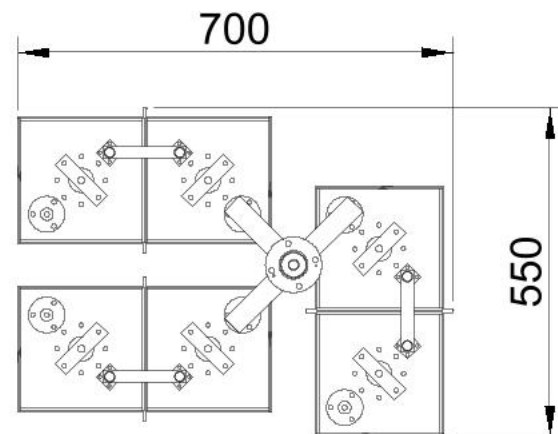
TYPICAL SPECIFICATIONS

Models	FTCSDC2 – Type STAR POINT		
Impedance	50 Ohm		
Frequency Range	87.5-108 MHz		
150KHz	1.1:1 max		
Insertion Loss	at f_0 0.38 dB max		
150KHz	≤ -26 dB		
2MHz	≥ 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



MODEL FTCSDC2R#02

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

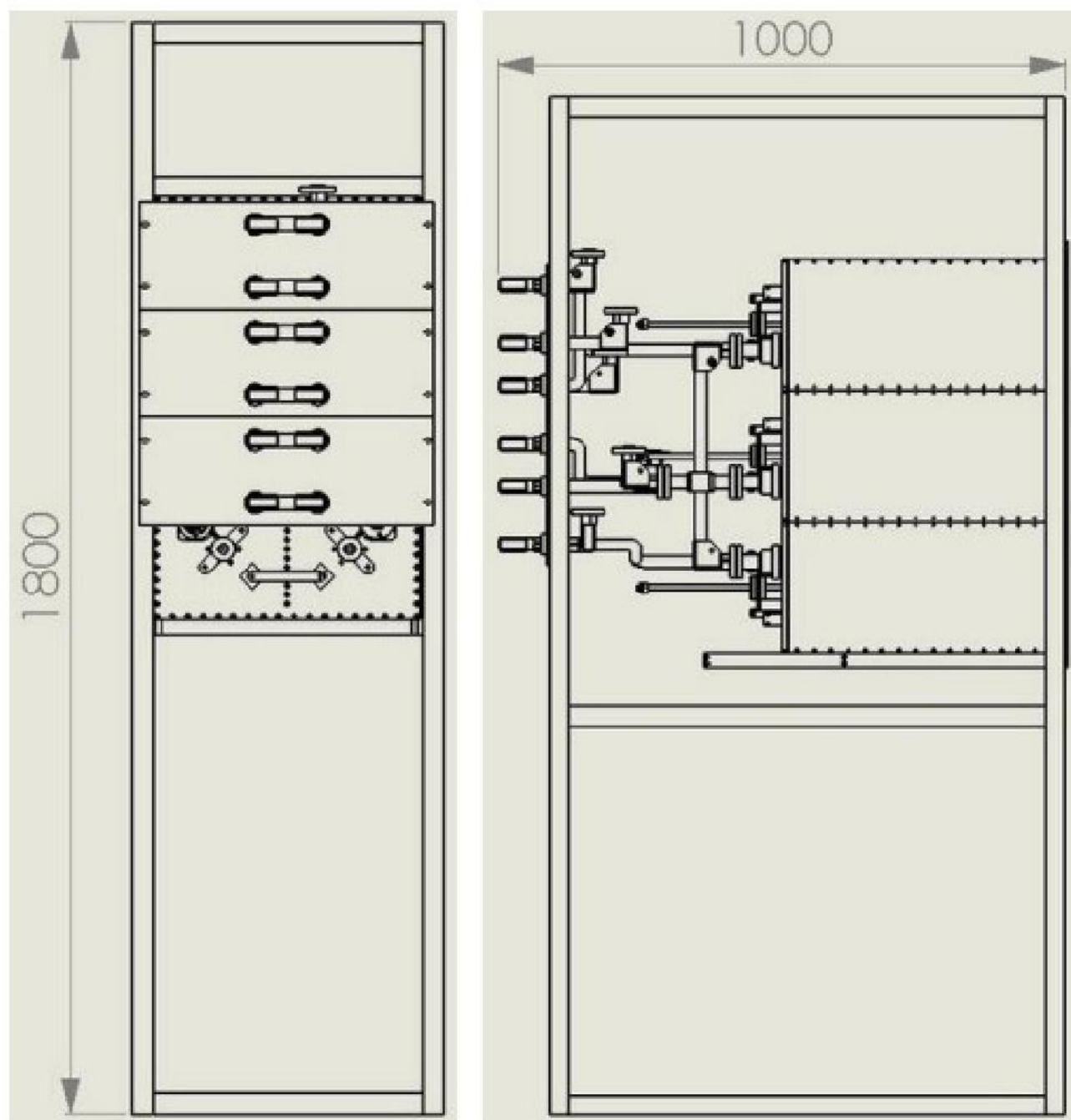
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to which it's connected.

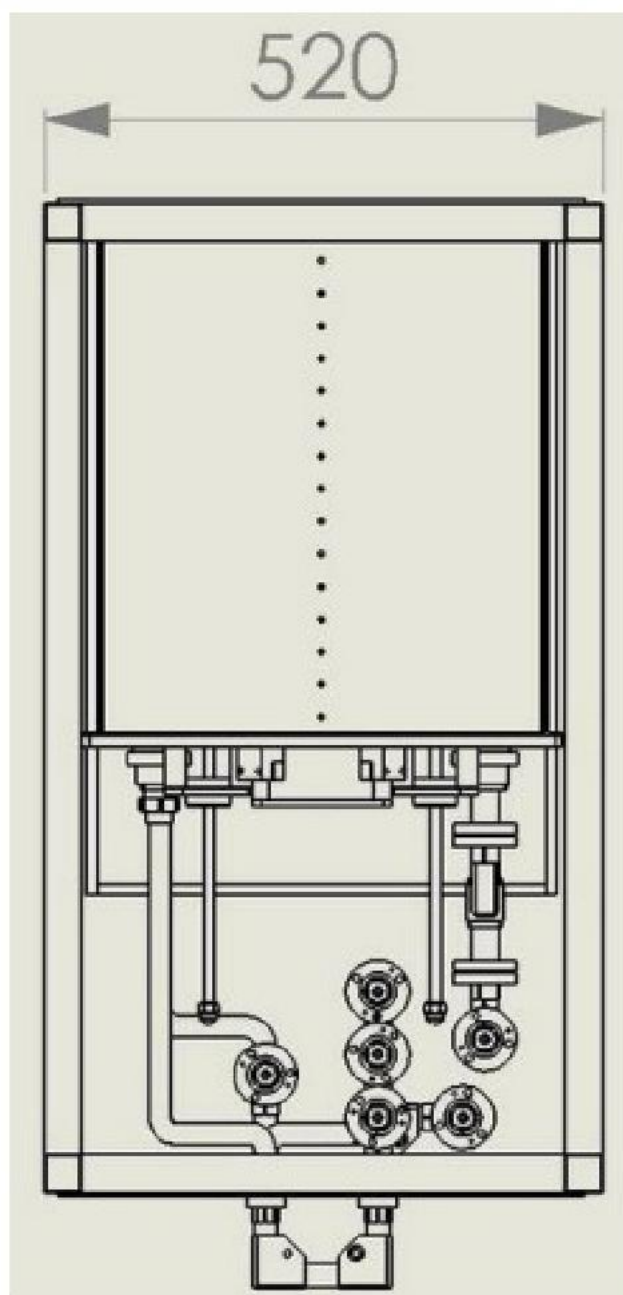
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.



TYPICAL SPECIFICATIONS

Model	FTCSDC2R#02
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	0.3 dB max per Channel
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.5 MHz	≥ 30 dB
No. of Input	3
No. of Output	1
Connectors	Input 7/8" Output 7/8"
Max Power	1 kW \times Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

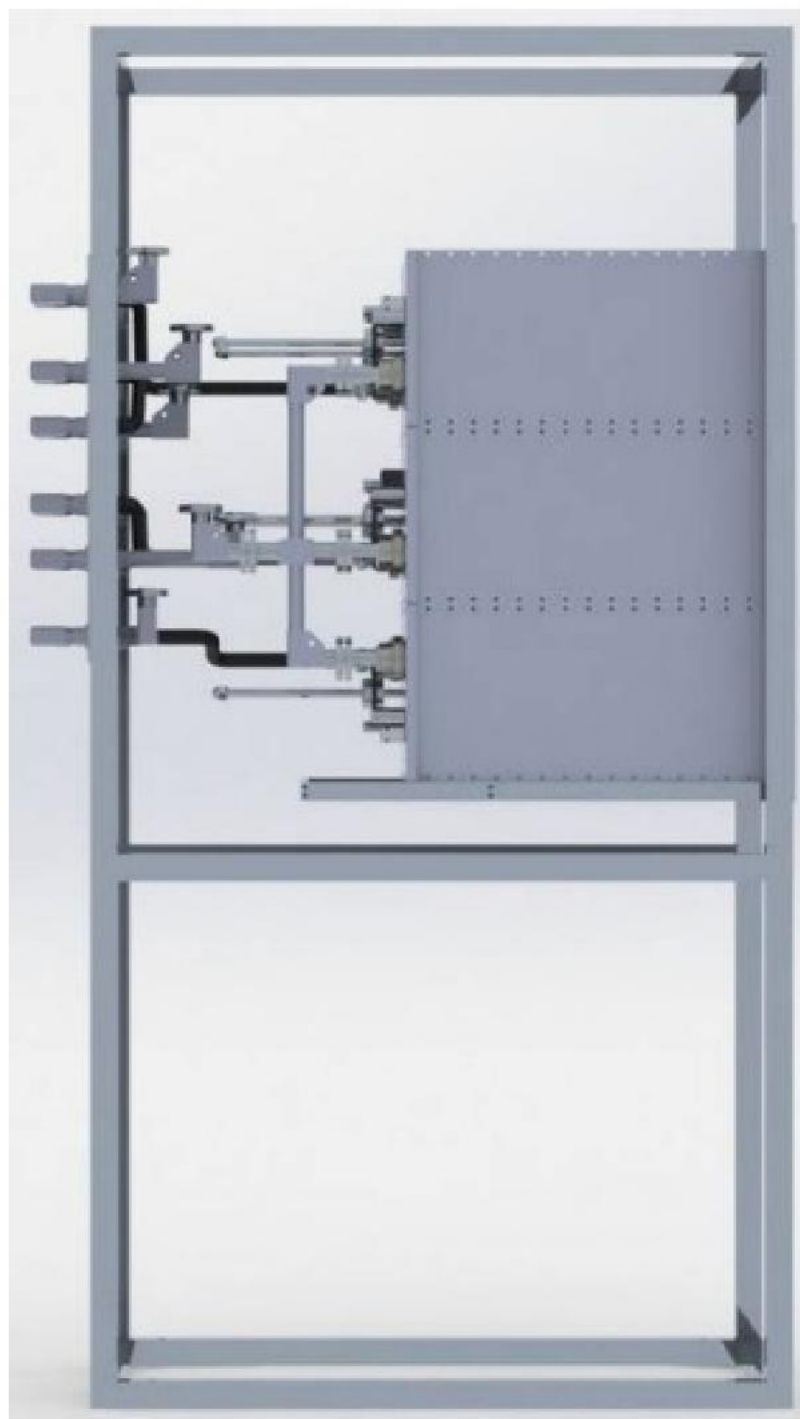
DIMENSIONS (mm)

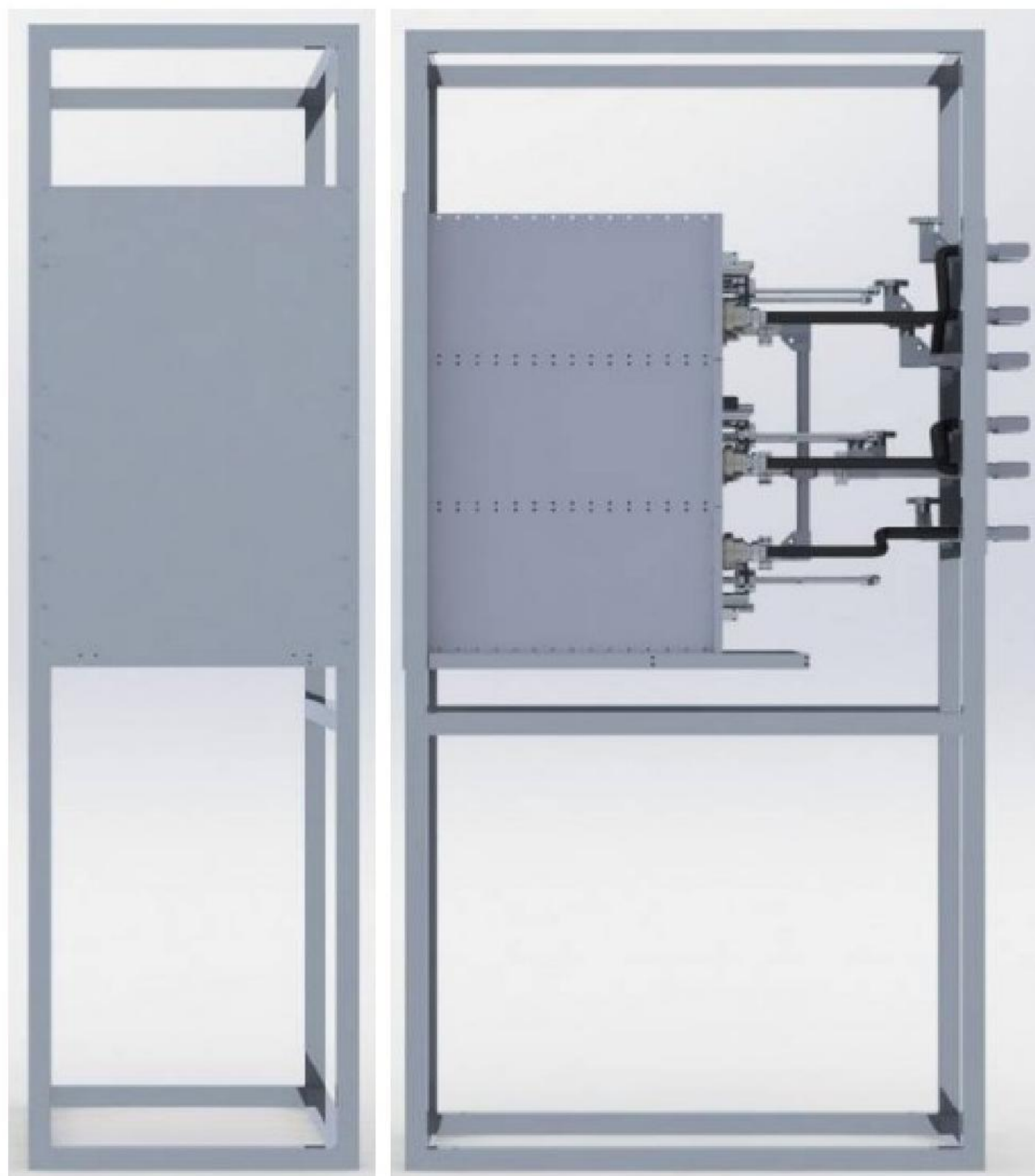


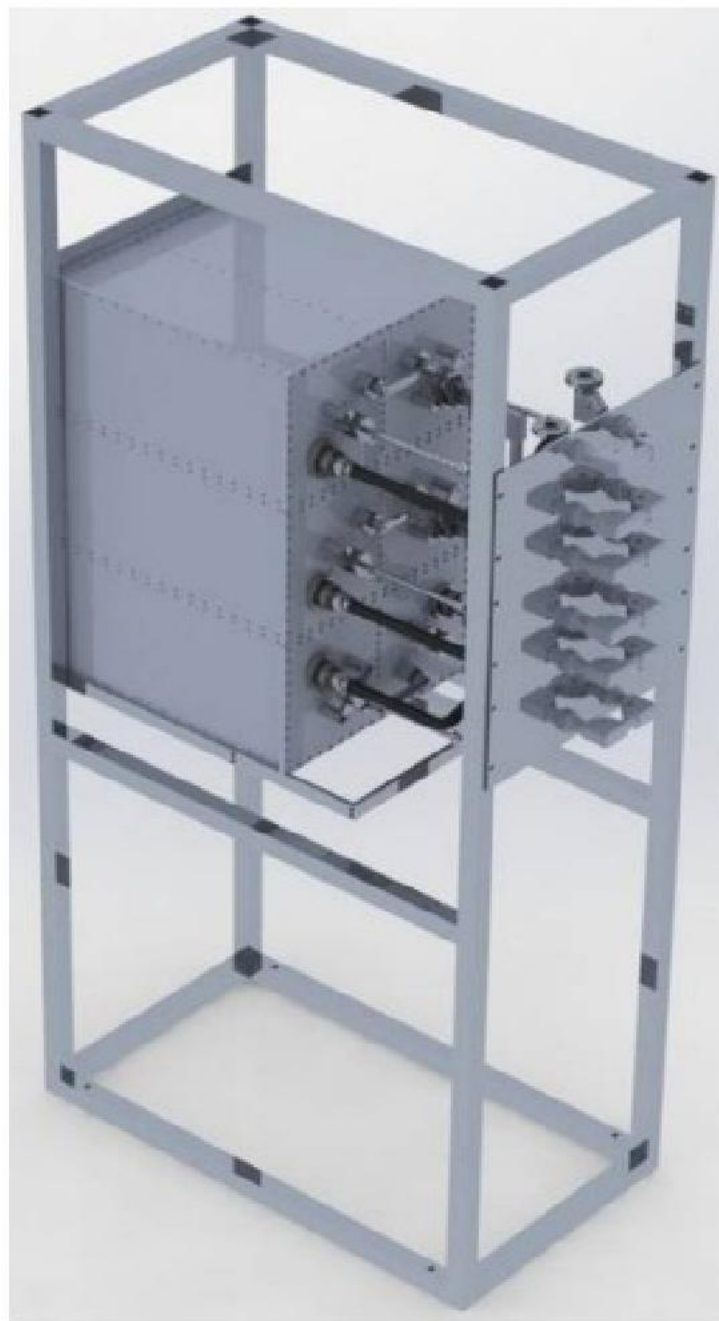
Dimensions	1800 (Max size)×1000×520 mm (70.8(Max size)×33.8×20.4inch) (H×L×W)
Net Weight	≅ 80 Kg approx.

VIEWS OF THE SYSTEM



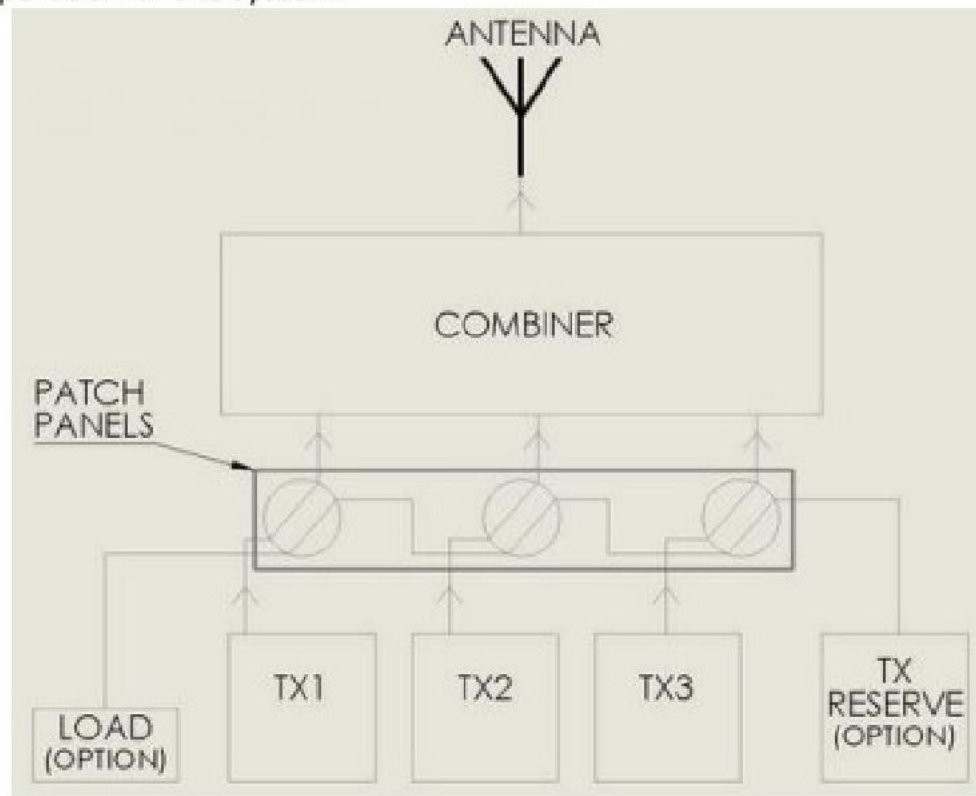




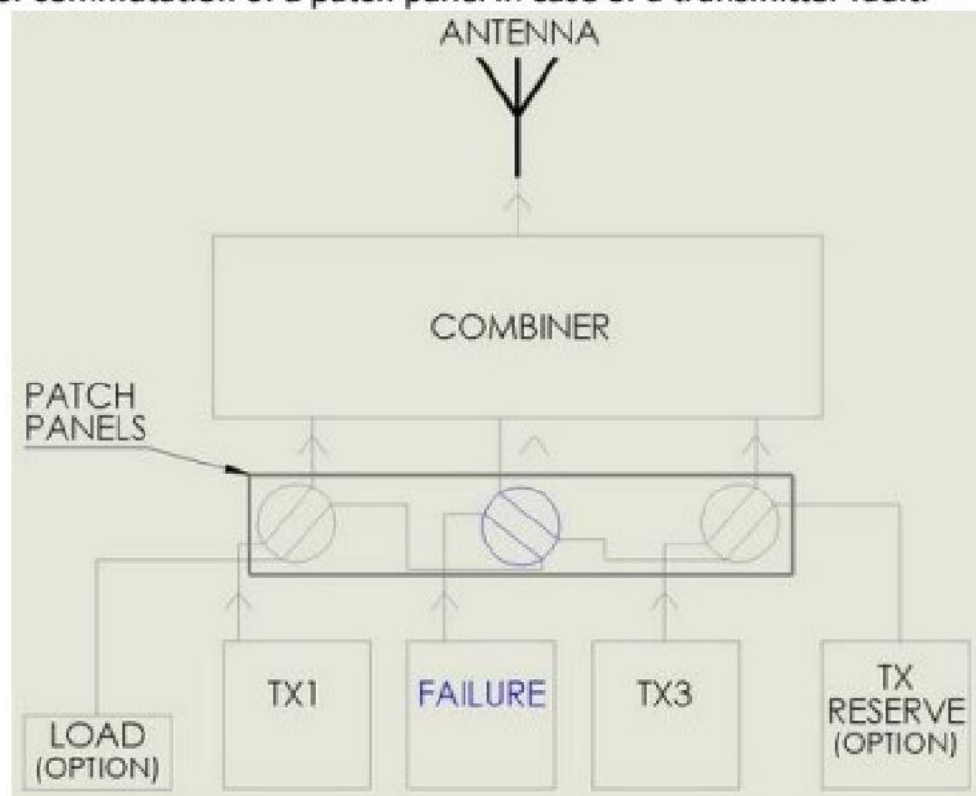


SWITCHING

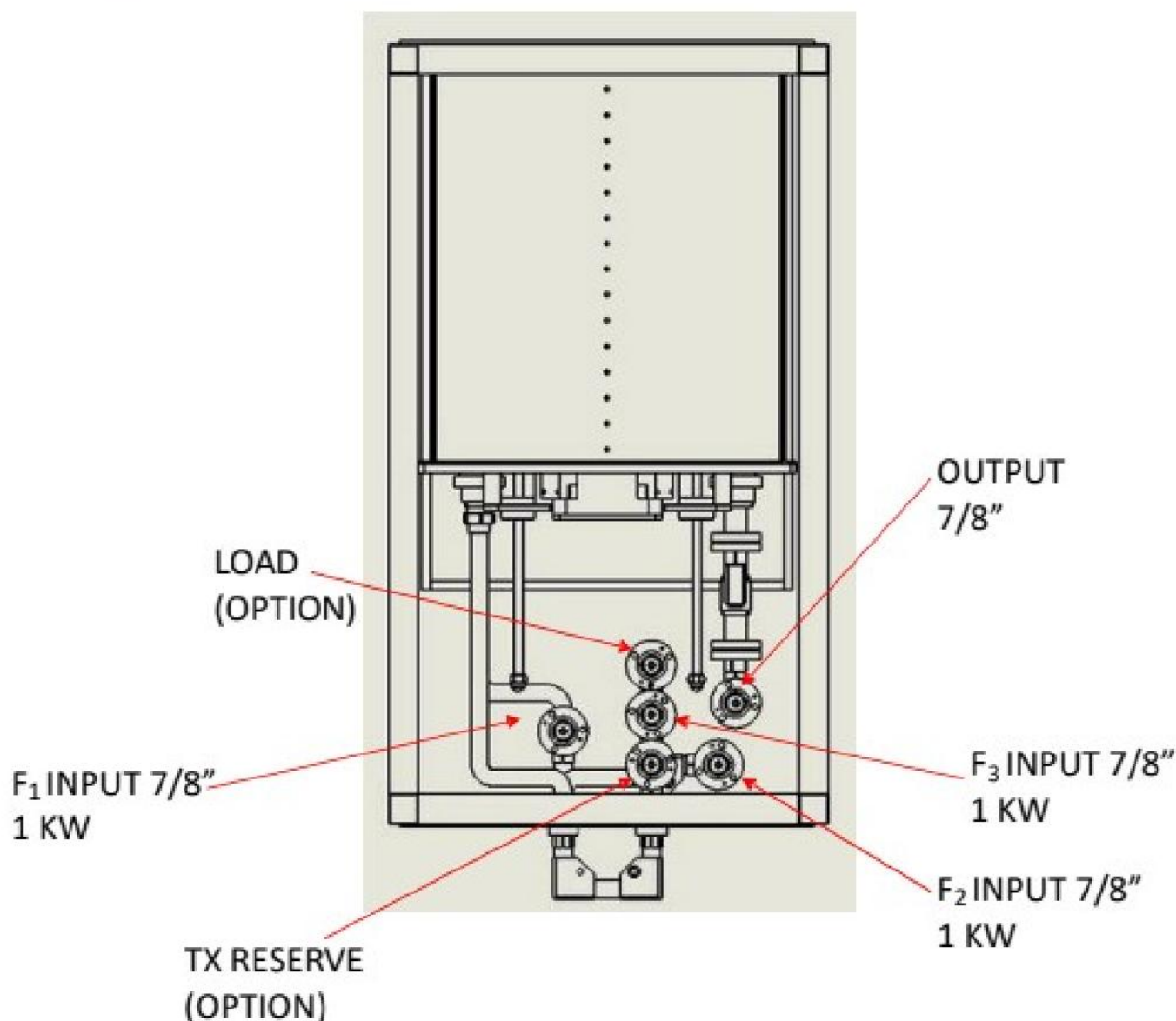
Normal operation of the system:



Example of commutation of a patch panel in case of a transmitter fault:



LAYOUT



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MODEL FTCSDC2R

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

Model	Connector	Connector	Input	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
150 KHz	1:1.1 max
Insertion Loss	at f_0 0.25 dB max
150Khz	≤ -26 dB
1,5MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors Standard	Input 7/8" Output 1+5/8" option 7/8" (See table)
Max Power	1.5KW · 3 CHANNELS output 1+5/8"
Working Temperature	-20°C +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

Features:

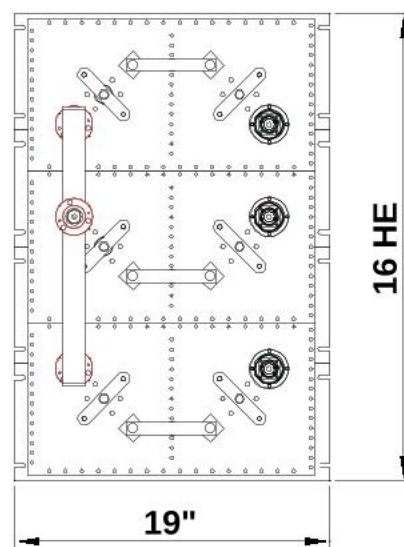
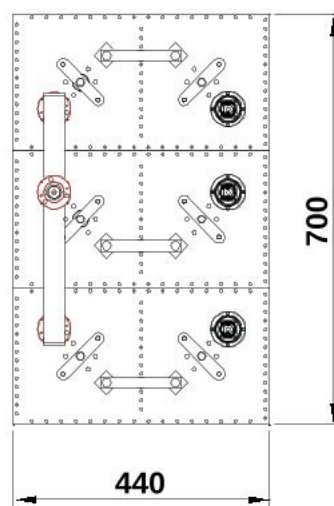
- Distortion – Free Transmission
- Star point system with double pass-band cavity filters
- Star point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer
- Rack version Option

STANDARD VERSION

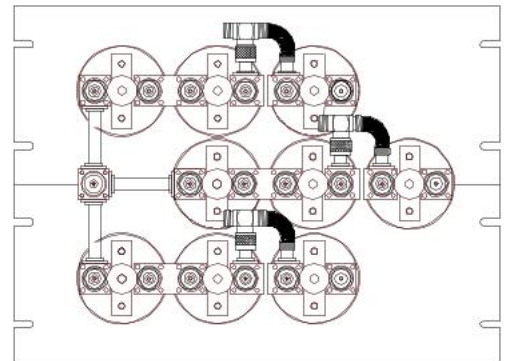
Dimensions	710(Max size)· 700· 440mm (27.9(Max size)· 27.6· 17.3 inch) (H· L· W)
Net Weight	≈60 Kg

VERSION WITH RACK

Dimensions	16 HE (714(H max) (28.1 (Max size) inch))
Net Weight	≈62 Kg



- *COMBINER 3 CHANNELS*
- *DOUBLE CAVITY AND NOTCH*
- *TYPE STAR POINT*
- *FM BAND 87.5 | 108 MHz*
- *BAND II*
- *MOD. FTCSDC03#01*



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#01 – 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 max
Return Loss ± 150 KHz	≤ -26 dB
No. of Input	3
No. of Output	1
Connectors	Input N female Output N female
Max Power	200 W X 3 Channels
Working Temperature	-20°C +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, silver brass, copper, PTFE, stainless steel, silver plated (min 12 μ thickness)

Features:

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

Description of a star-point diplexer

A star-point diplexer is made by parallel circuiting two band pass filters (**FFC03**) 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.

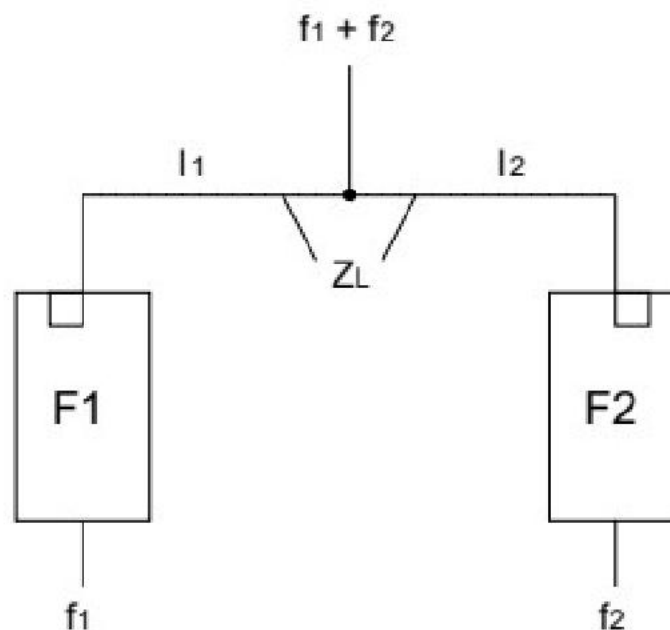
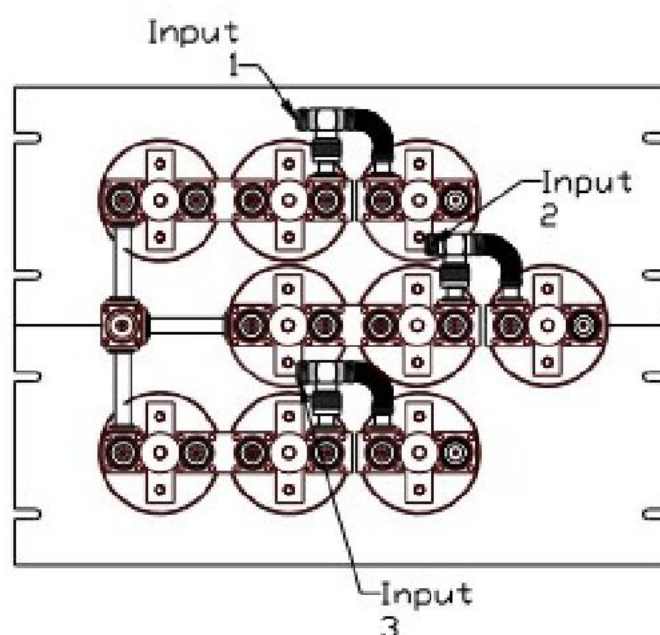


Fig. 1

In the diplexer illustrated in Fig. 1, filter F1 permits frequency f_1 to pass, whereas filter F2 cuts it off. In relation to frequency f_1 , filter F2 presents a short circuit at its inputs. Via an electrically effective cable length of $\lambda/4$ (made up of l_1 and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F1 presents impedance Z_L at this point. The filter F2 functions in the analog manner in relation to frequency f_2 .

Summary:

The diplexing filter, consisting of two filters (**FFC03**) and a junction point with defined cable lengths, has two narrow band inputs corresponding to the pass band characteristics of the filters.

**Rack version**

Panel Size	8 HE (1 HE=44,45 mm)
Net Weight	≈27 Kg

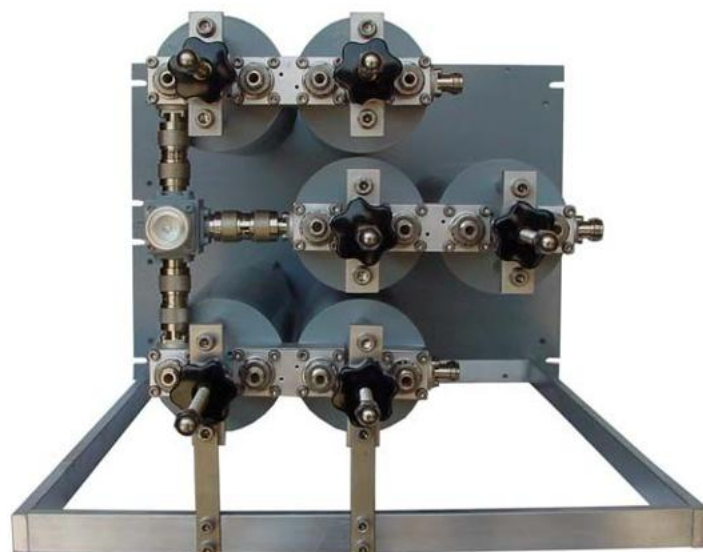


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- *COMBINER 3 CHANNELS*
- *TYPE STAR POINT*
- *FM BAND 87.5 - 108 MHz*
- *BAND II*
- *MOD. FTCSDC03#02 r*



The star combiner basically consists 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 to provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FTCSDC03#02 – Type STAR POINT rack mounting option
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 ± 150 KHz	≤ -26 dB
Isolation ± 2.5 MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors	Input N female Output 7/16"
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 12 μ m thickness)

Features:

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

Description of a Star-point Triplexer

A star-point triplexer is made by parallel circuiting three 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.

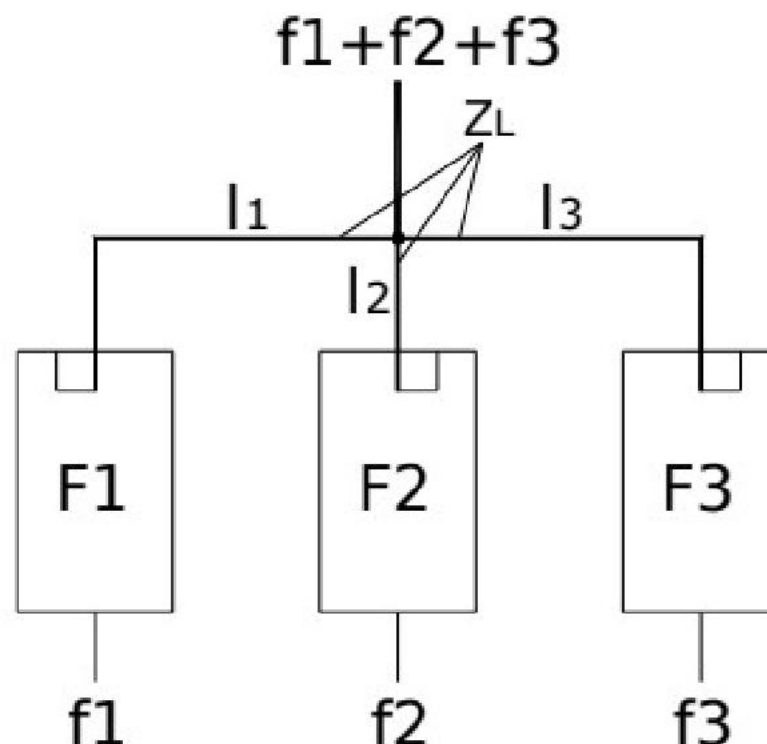
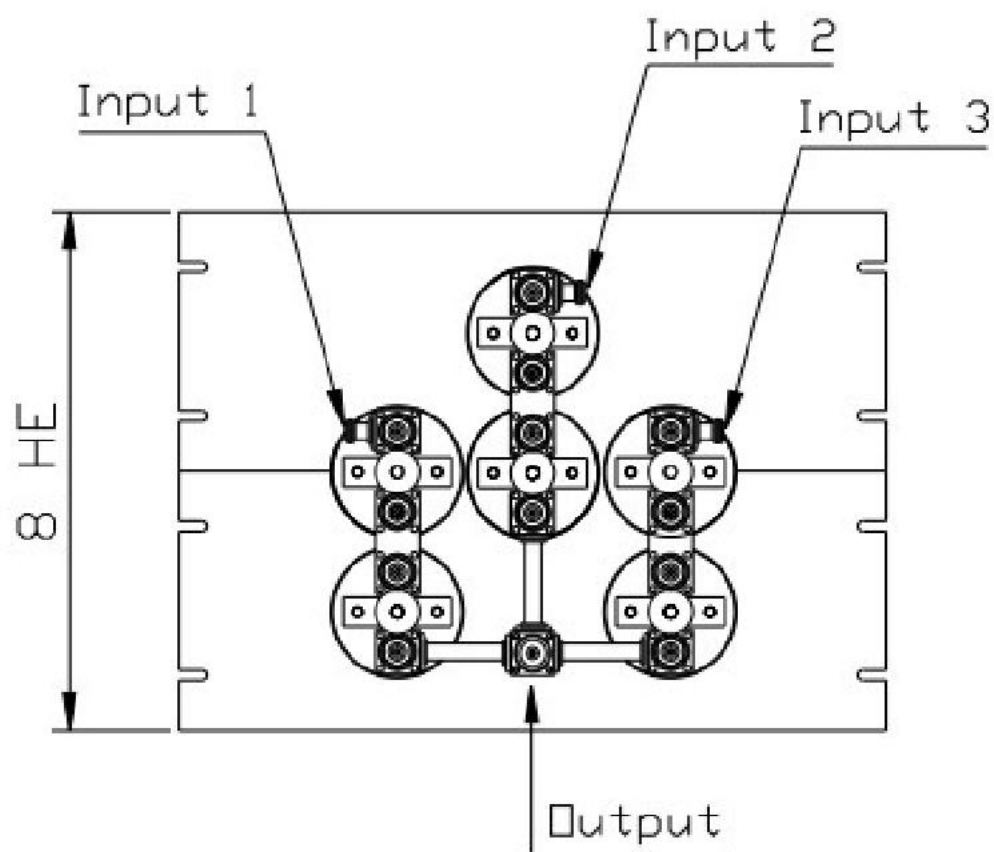


Fig. 1

In the triplexer illustrated in Fig.1 the filter F1 permits at the frequency f_1 to pass, whereas filters F2 and F3 cut it off. In relation to frequency f_1 , the filters F2 and F3 present a short circuit at their inputs and at mode reciprocal. Through an electrically effective cable (made up of l_1 and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F1 presents impedance Z_L at this point. The filters F2 and F3 function in the analog manner in relation to frequency f_2 and f_3 .

Summary:

The triplexing filter, consisting of three filters and a junction point with defined cable lengths, has three narrow band inputs corresponding to the pass band characteristics of the filters.



Rack version is option

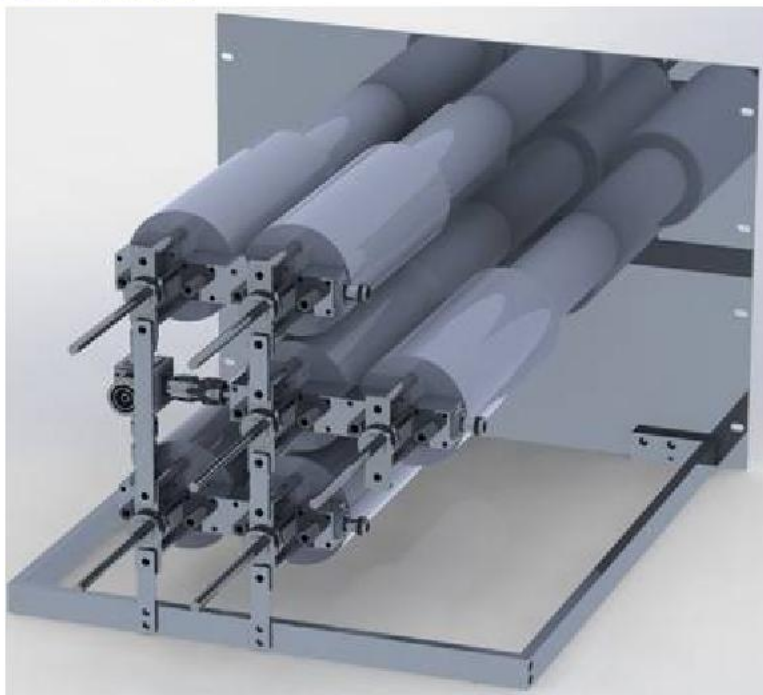
Panel Size	8 HE (1 HE=44,45 mm)
Net Weight	≈20 Kg

MODEL FTCSDC03TRV

- 3 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.

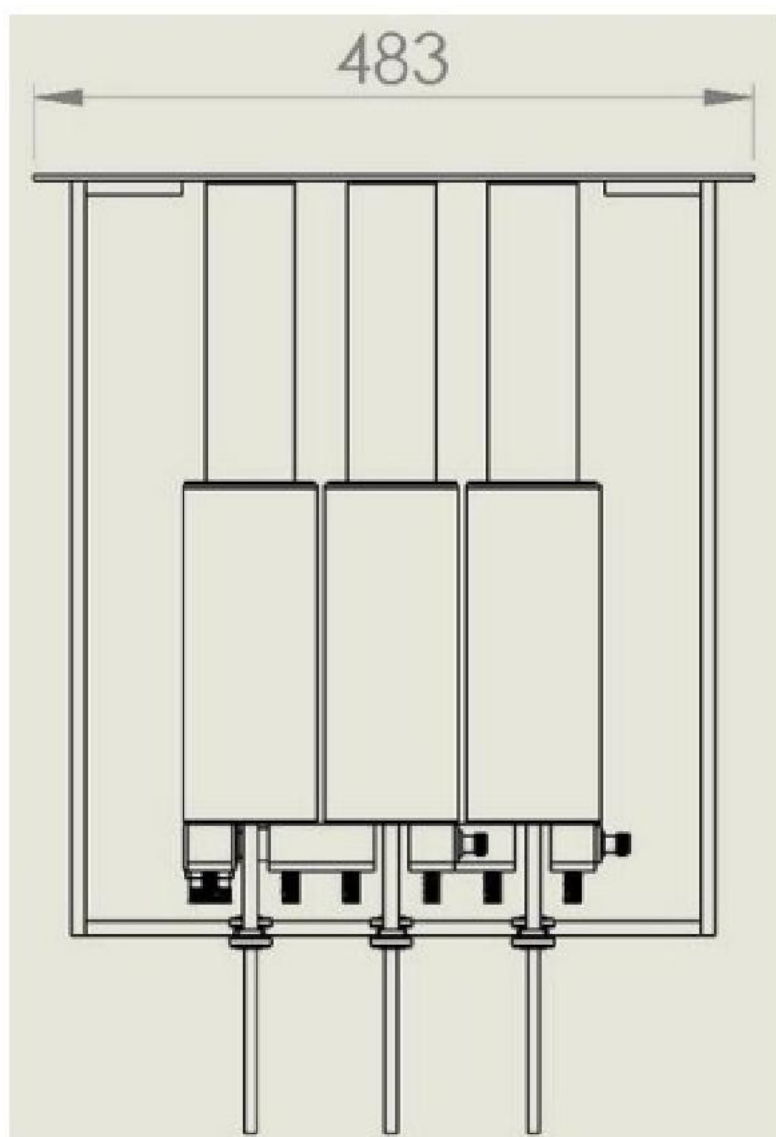
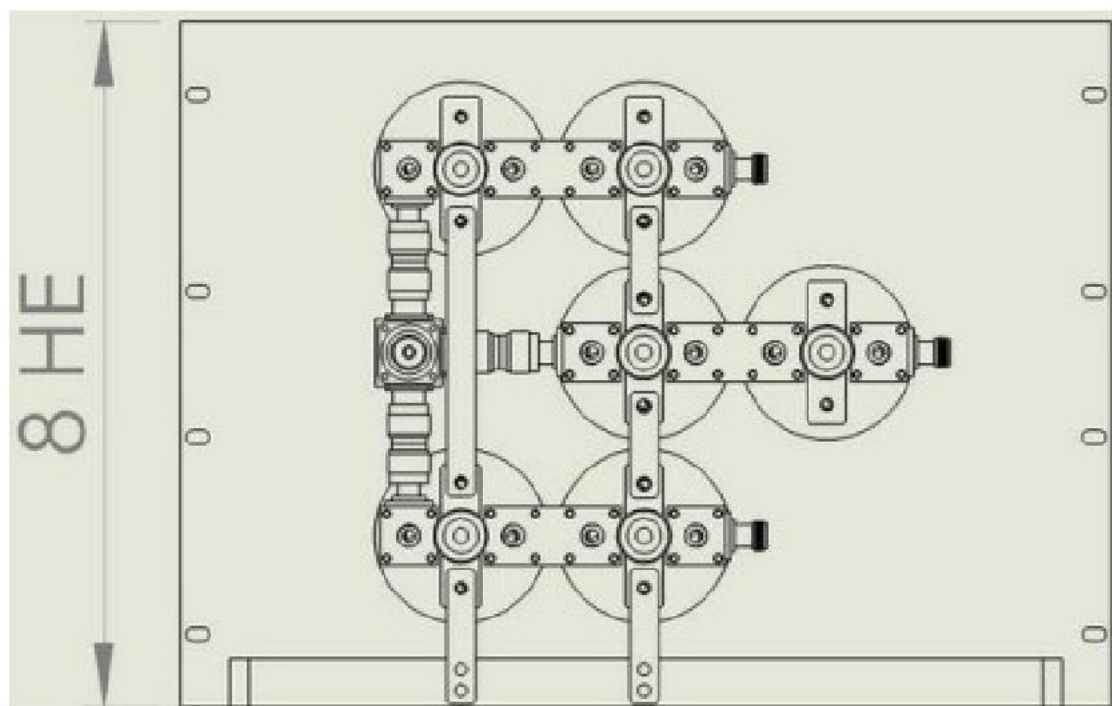
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

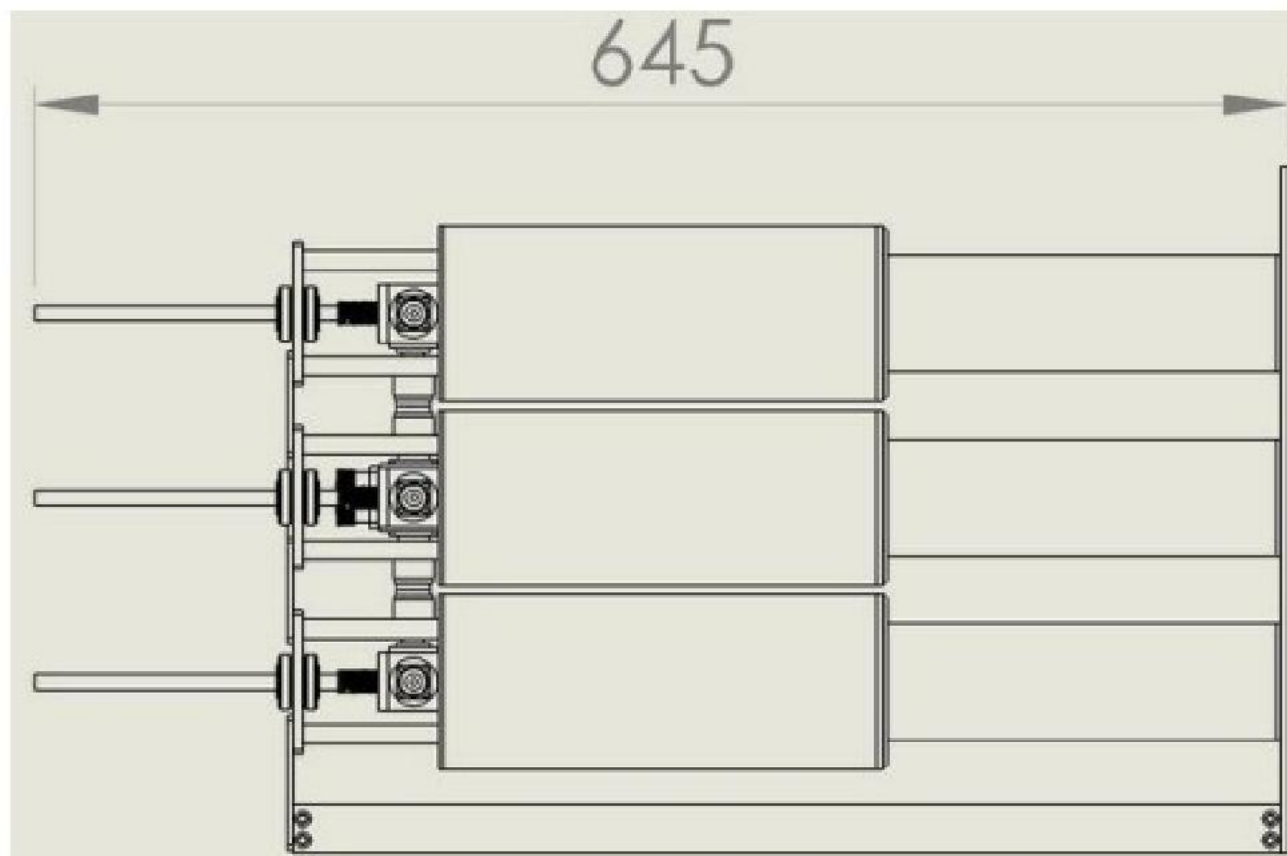


TYPICAL SPECIFICATIONS

Model	FTCSDC03TRV
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 ± 150 KHz	≤ -26 dB
Isolation ± 2 MHz	≥ 30 dB
No. of Input	3
No. of Output	1
Connectors	Input N Output 7-16
Max Power	250 W \times Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

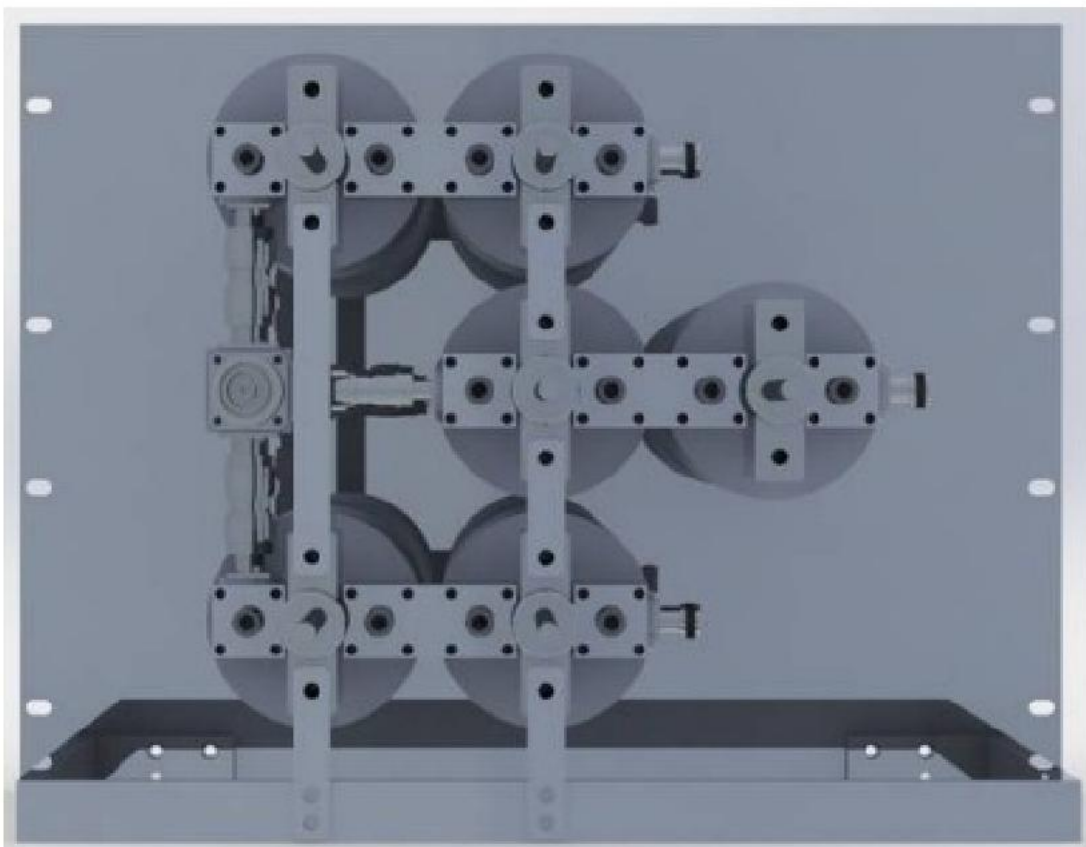
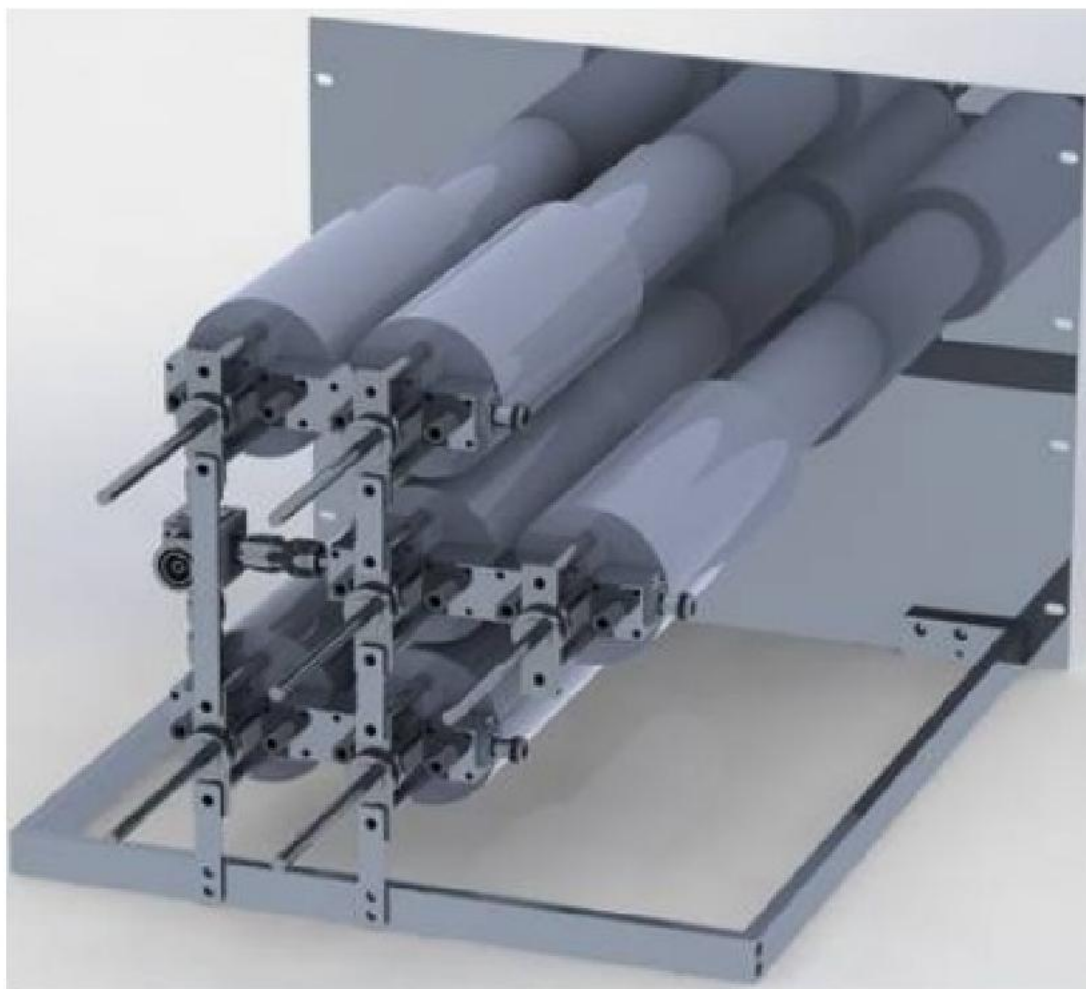
DIMENSIONS (mm)

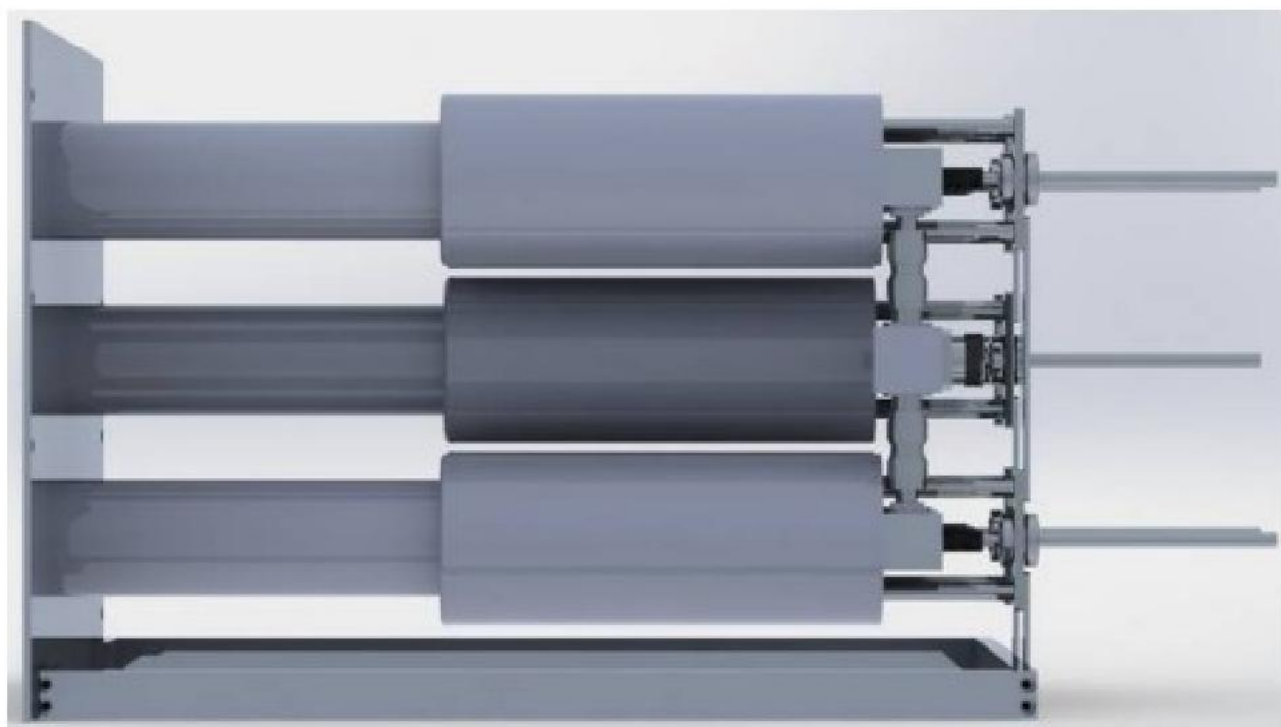


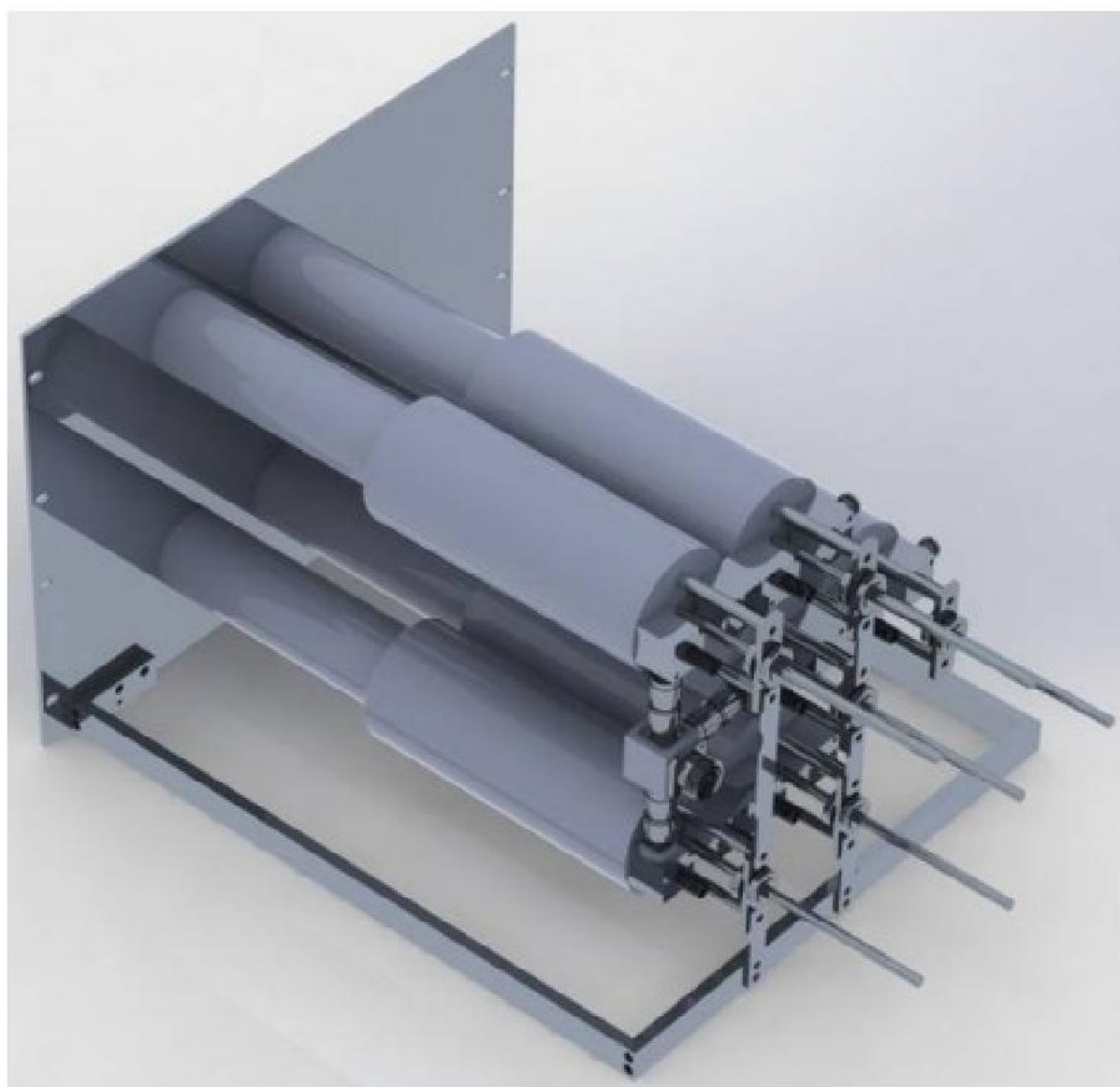
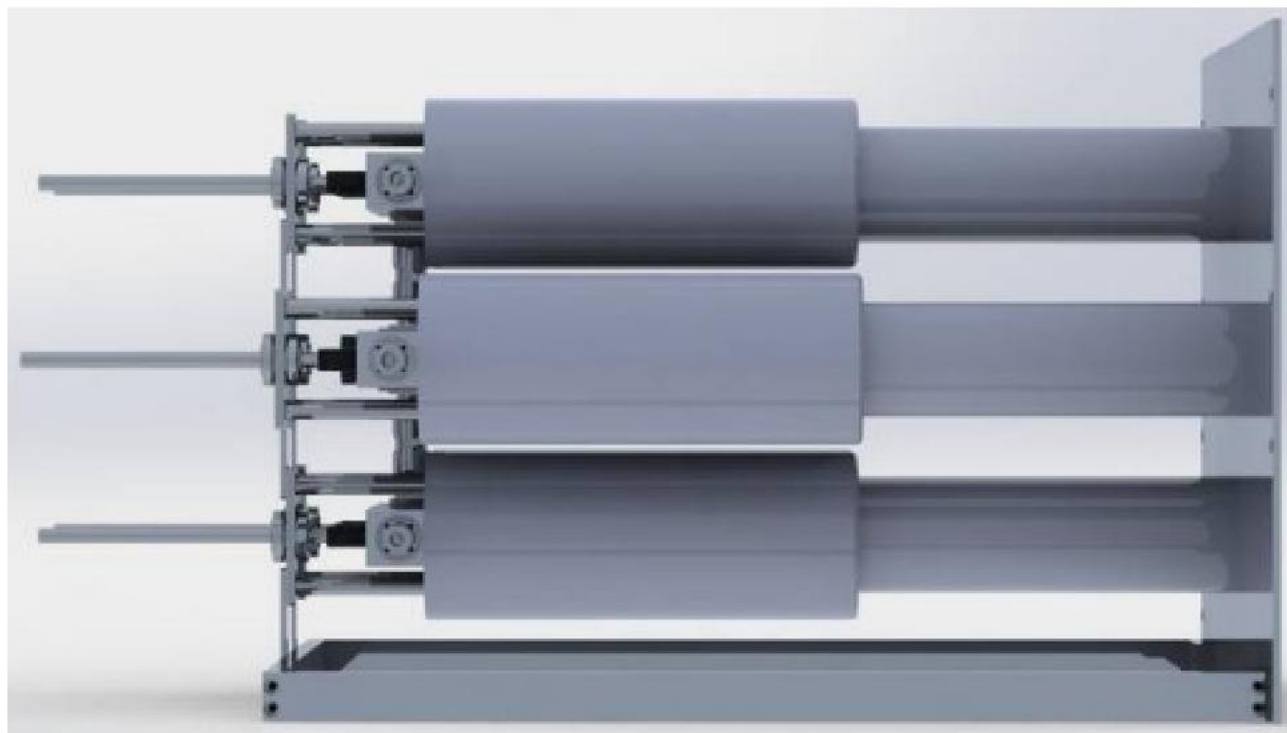


Dimensions	8 HE (355.6 mm approx.) × 483 × 645 (Max size) mm (6 HE (14 inch approx.) × 19 × 25.3 (Max size) inch) (H × L × W)
Net Weight	≅ 19 Kg approx.

VIEWS OF THE SYSTEM







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.

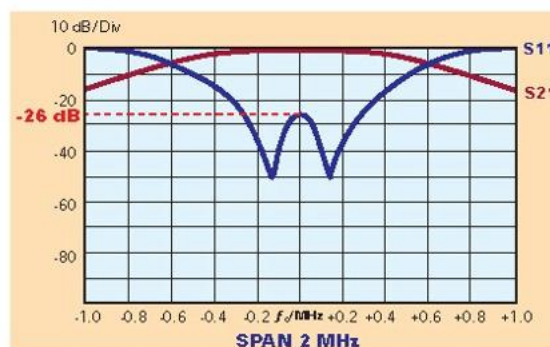
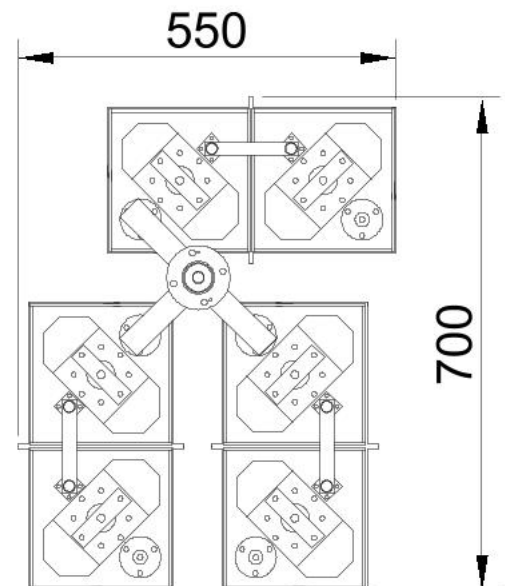
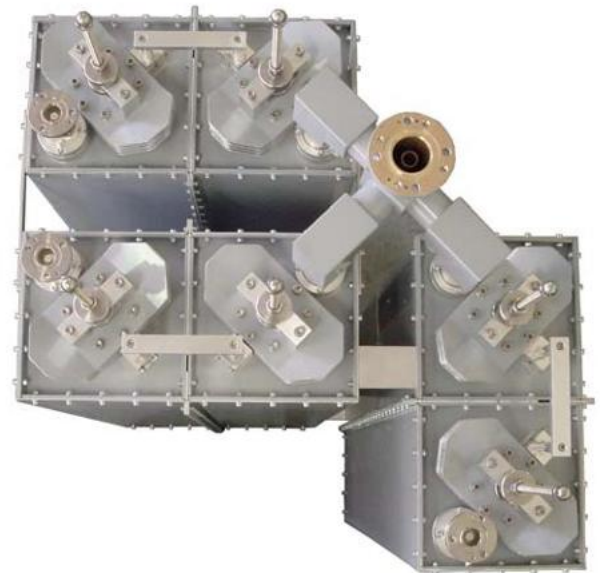
TYPICAL SPECIFICATIONS

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	≤ -26 dB
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 12 μ m 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	≈ 75 Kg



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

MODEL FTCSDC05

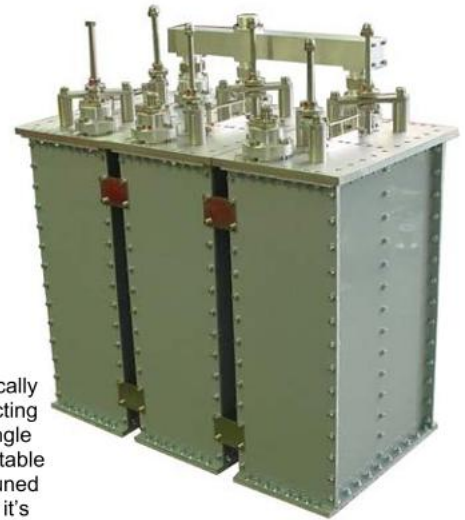
- COMBINER 3 CHANNELS
- TYPE STAR POINT
- FM BAND 87.5 | 108 MHz
- BAND II
- OPTION

Model	Input Connector	Output Connector	Power Input	Power Output
FTCSDC05-1	N	7/16"	500W	1.5KW
FTCSDC05-2	N	7/8"	500W	1.5KW
FTCSDC05-3	7/16"	7/16"	500W	1.5KW
FTCSDC05-4	7/16"	7/8"	500W	1.5KW
FTCSDC05-5	7/8"	7/8"	500W	1.5KW

obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

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



TYPICAL SPECIFICATIONS

Model	FTCSDC05 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.42 dB typical
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 2 MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors standard	(See table)
Max Power	500W x Channels
Working Temperature	-20°C +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

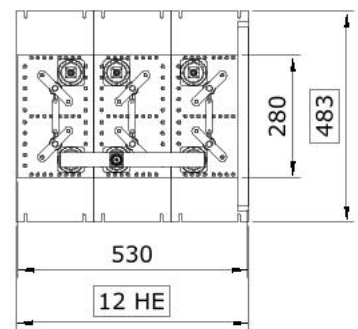
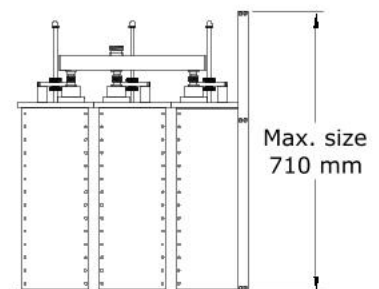
- Distortion – Free Transmission
- Starpoint system with pass stop
- Low loss, high isolation
- Natural convection
- Option whit Rack

No rack version

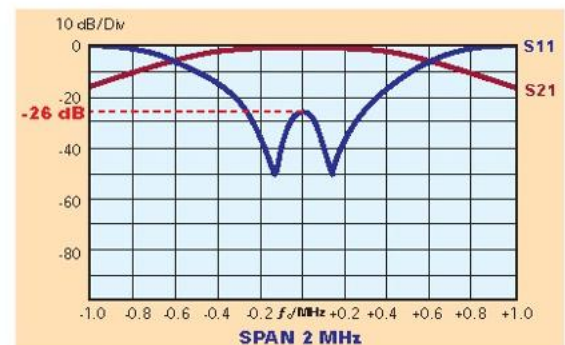
Dimensions	710 (Max size) 530· 280 mm (27.9 20.9· 11.0 inch) (H· L· W)
Net Weight	≈ 45 Kg

Rack version (optional)

Panel Size	12 HE (1 HE=44,45 mm)
Net Weight	≈ 45 Kg



RACK VERSION (OPTION)



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

MODEL FTCSDC5

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

Model	Connector	Connector	Input	Output
FTCSDC5-1	7/8"	1+5/8"	5KW	15KW
FTCSDC5-2	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.

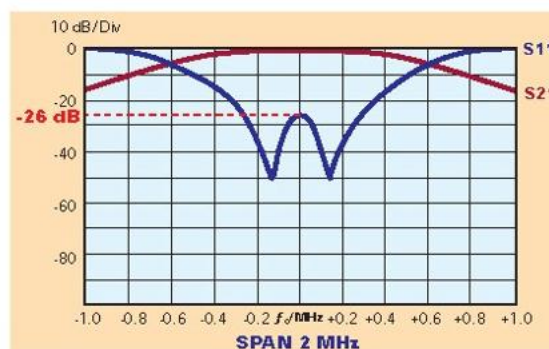
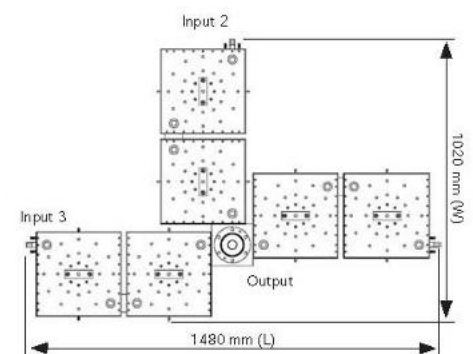
TYPICAL SPECIFICATIONS

Model	FTCSDC5 – Type STAR POINT		
Impedance	50 Ohm		
Frequency Range	87.5-108 MHz		
150 KHz	1.1:1 max		
Insertion Loss	at f_0 0.15 dB max		
150Khz	\leq -26 dB		
1.5 MHz	\geq 30 dB		
Input Number	3		
Output Number	1		
Connectors Standard	Input 1+5/8"	(See table)	
	Output 3+1/8"		
Max Power	6KW · 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

Dimensions	1400(Max size)- 1480- 1020 mm (55.1(Max size)- 58.3- 40.2 inch) (H- L- W)
Net Weight	≈ 140 Kg



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

MODEL FTCSDC10-1

- COMBINER 3 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.

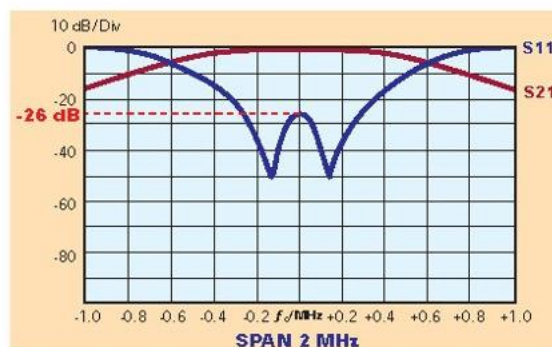


TYPICAL SPECIFICATIONS

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

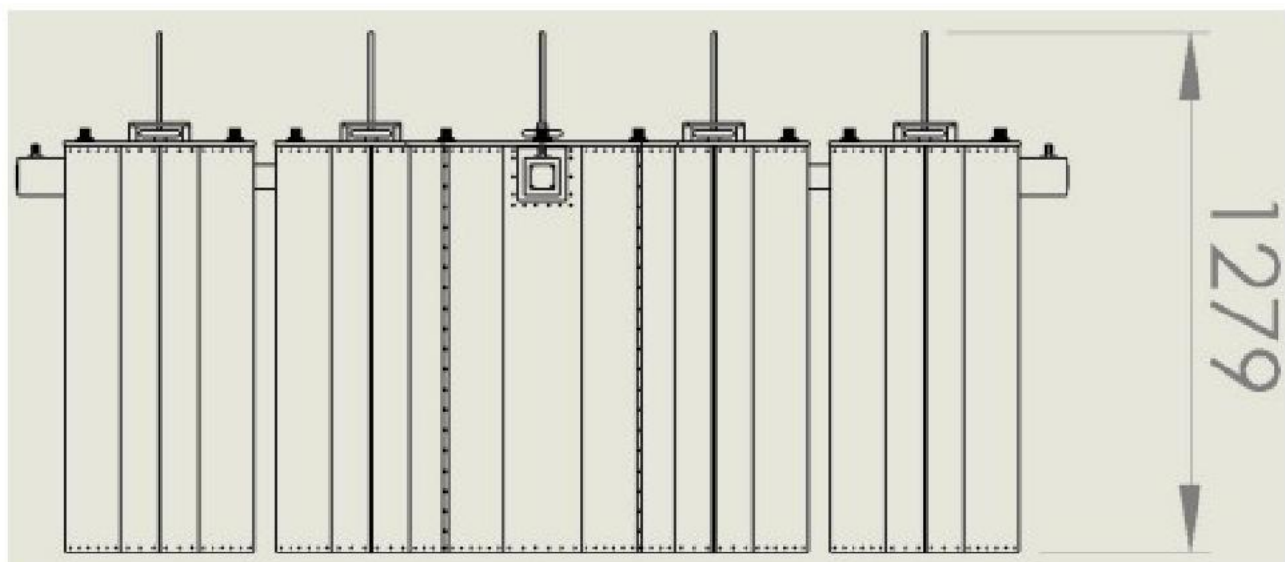
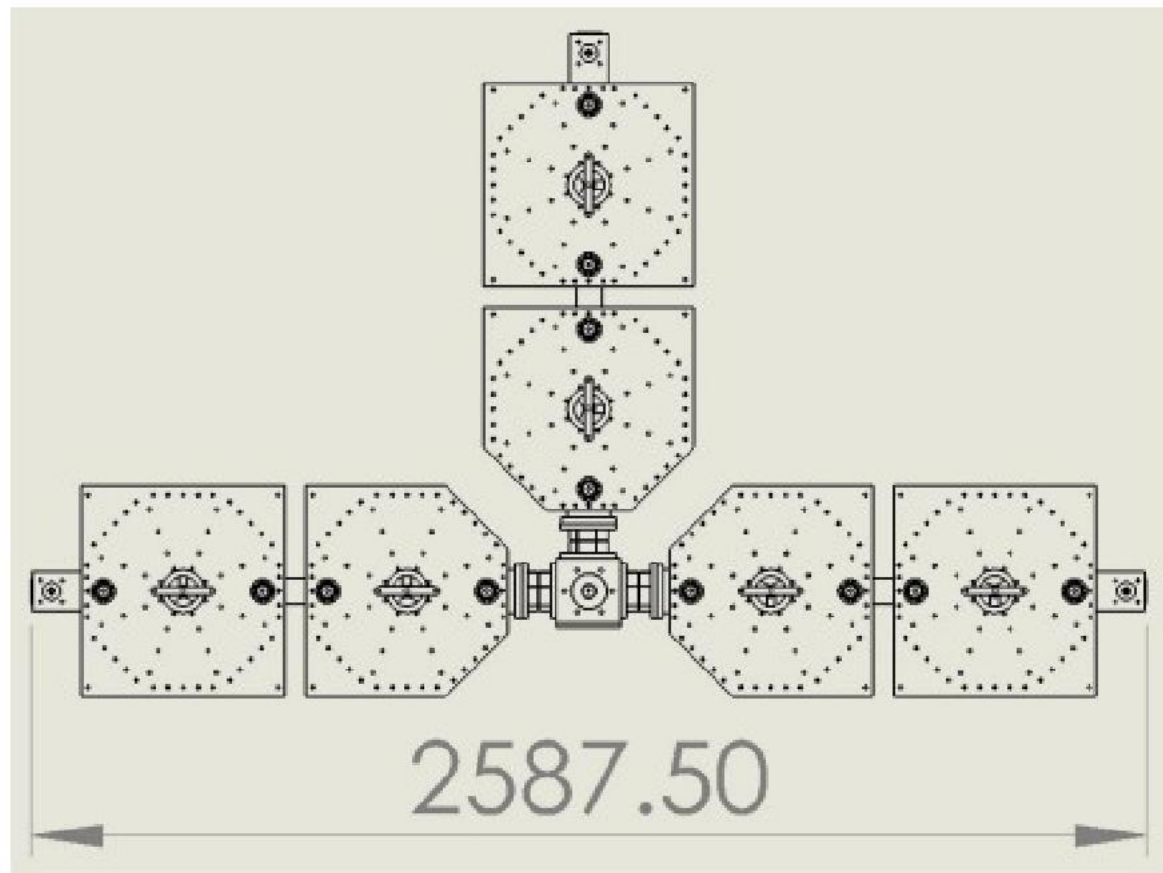
Features:

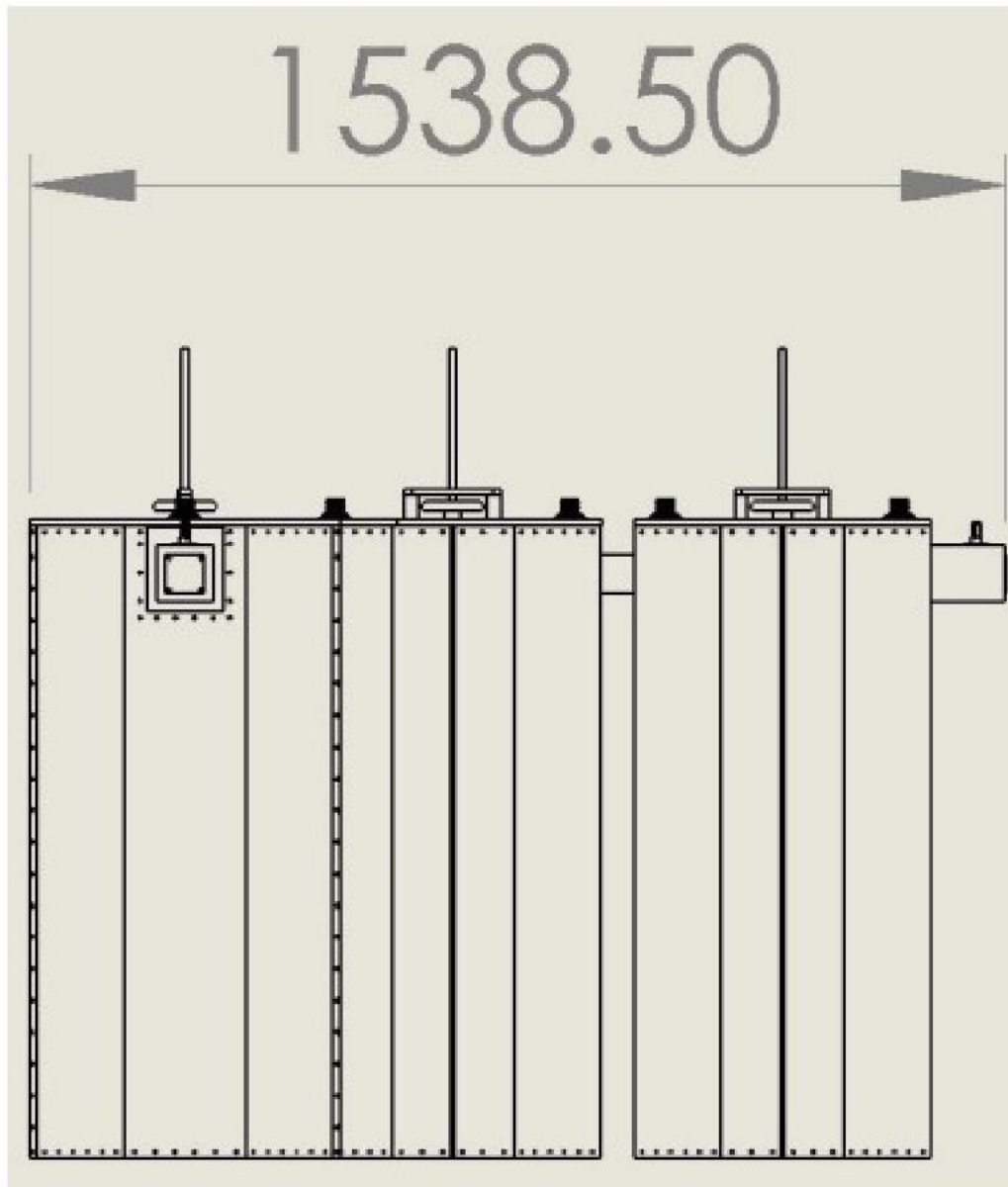
- Distortion - Free Transmission
- Star-point system with double pass-band cavity filters (standard configurations)
- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer



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

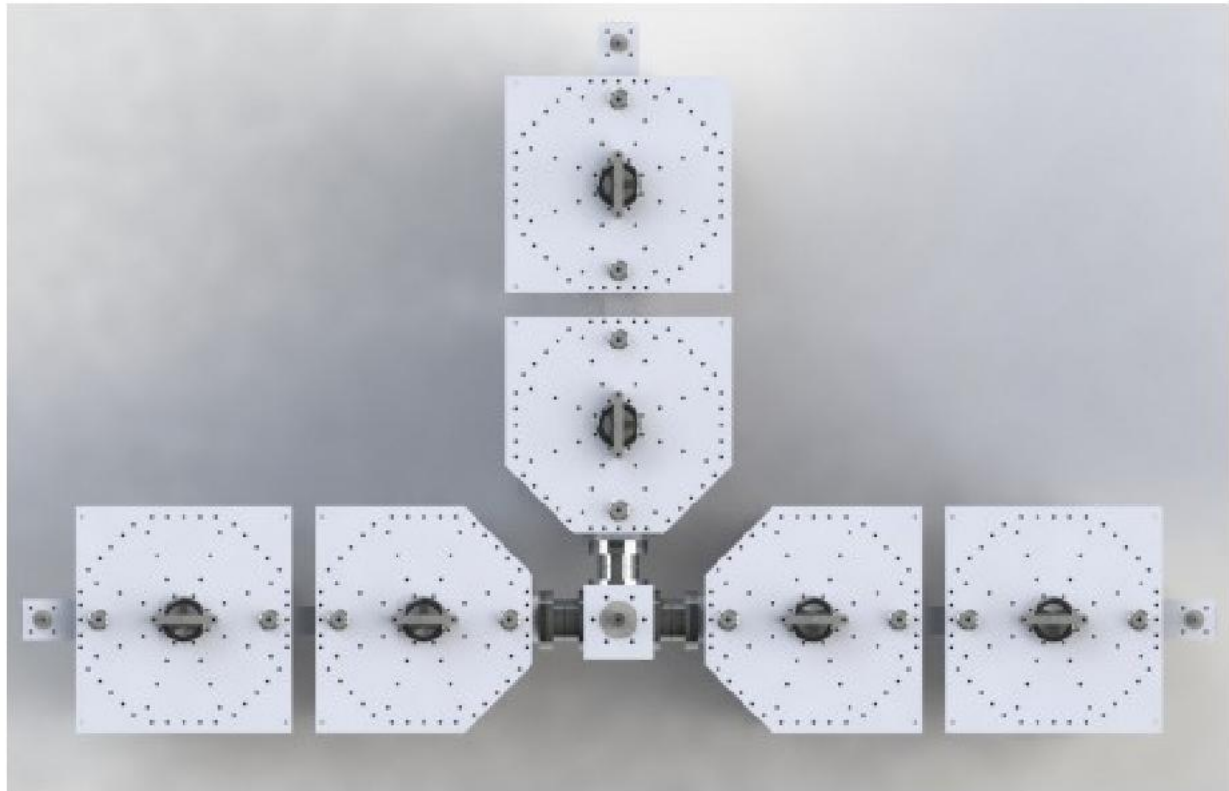
DIMENSIONS (mm)

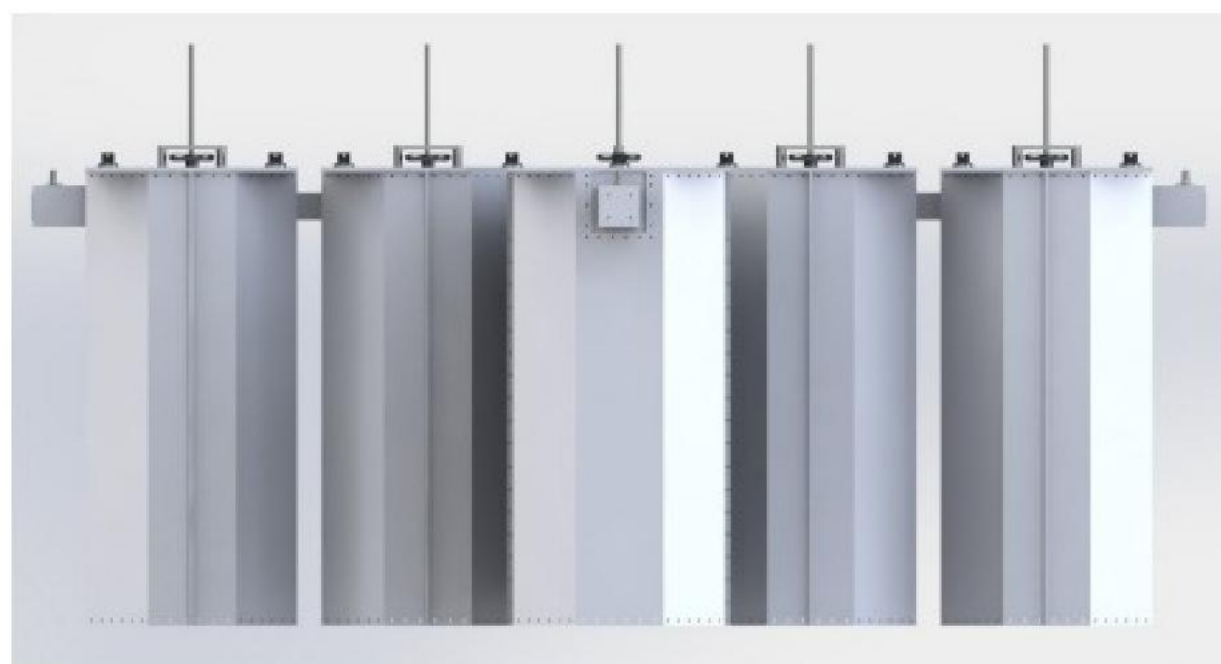


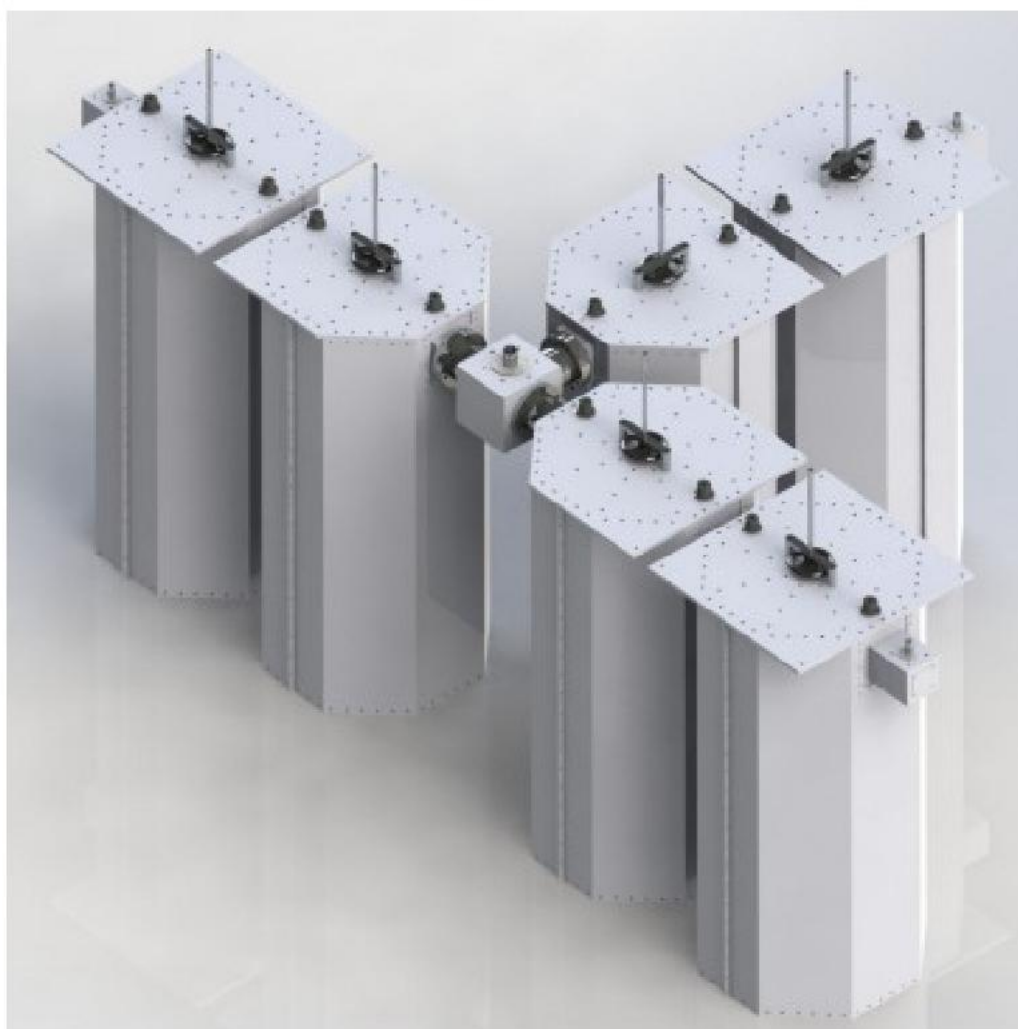


Dimensions	1280(Max size) 25901540mm (50.4(Max size) 60.6 inch) - (HW)
Net Weight	≈ 185 Kg

VIEWS OF THE SYSTEM

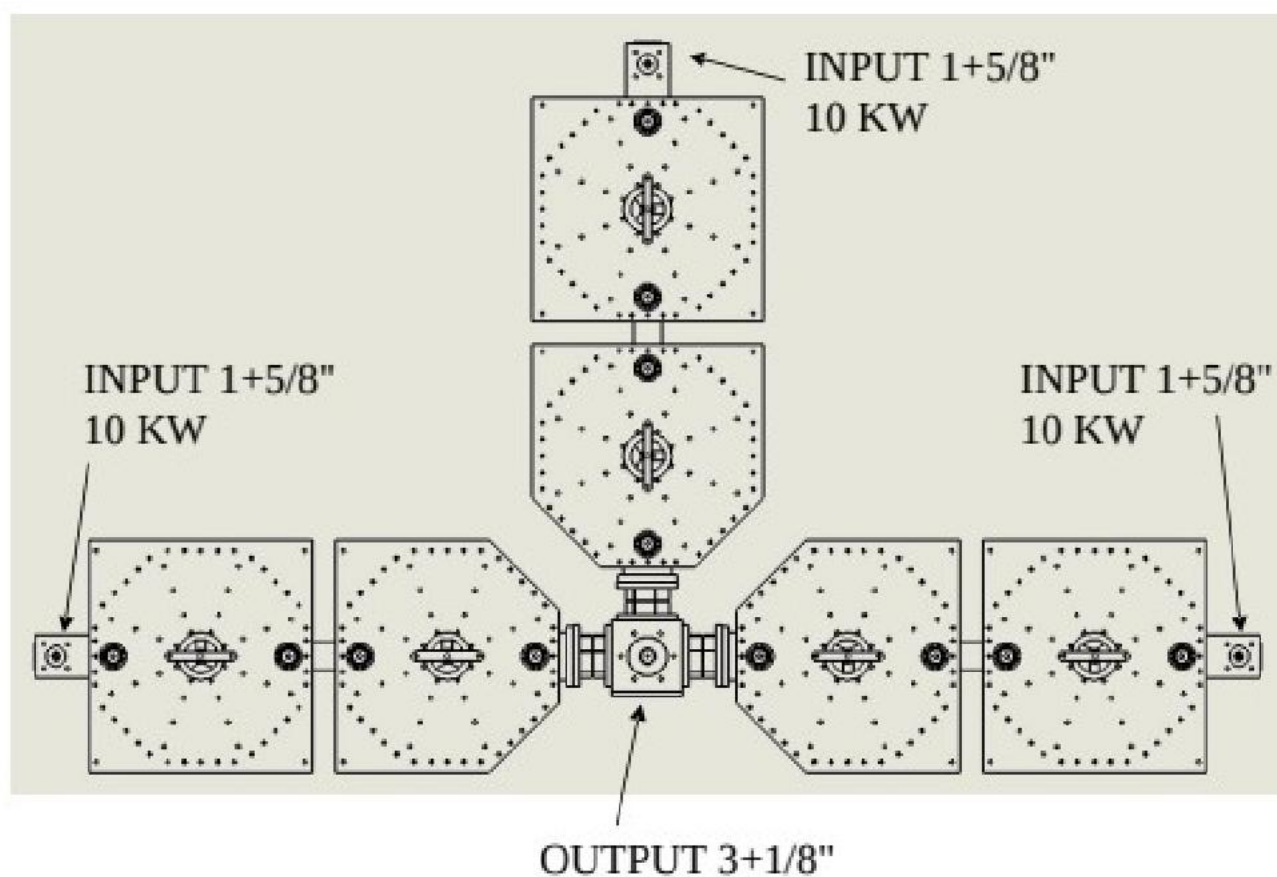








POWER INPUT LAYOUT



MODEL FTCSDC10-2

- COMBINER 2 OR 3 CHANNELS
- TYPE STAR POINT
- FM BAND 87.5-108 MHz
- BAND II
- 2 OR 3 POLE
- TEMPERATURE COMPENSATED
- ADJUSTABLE SELECTIVITY



VERSION 3 CHANNELS DOUBLE CAVITY

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.

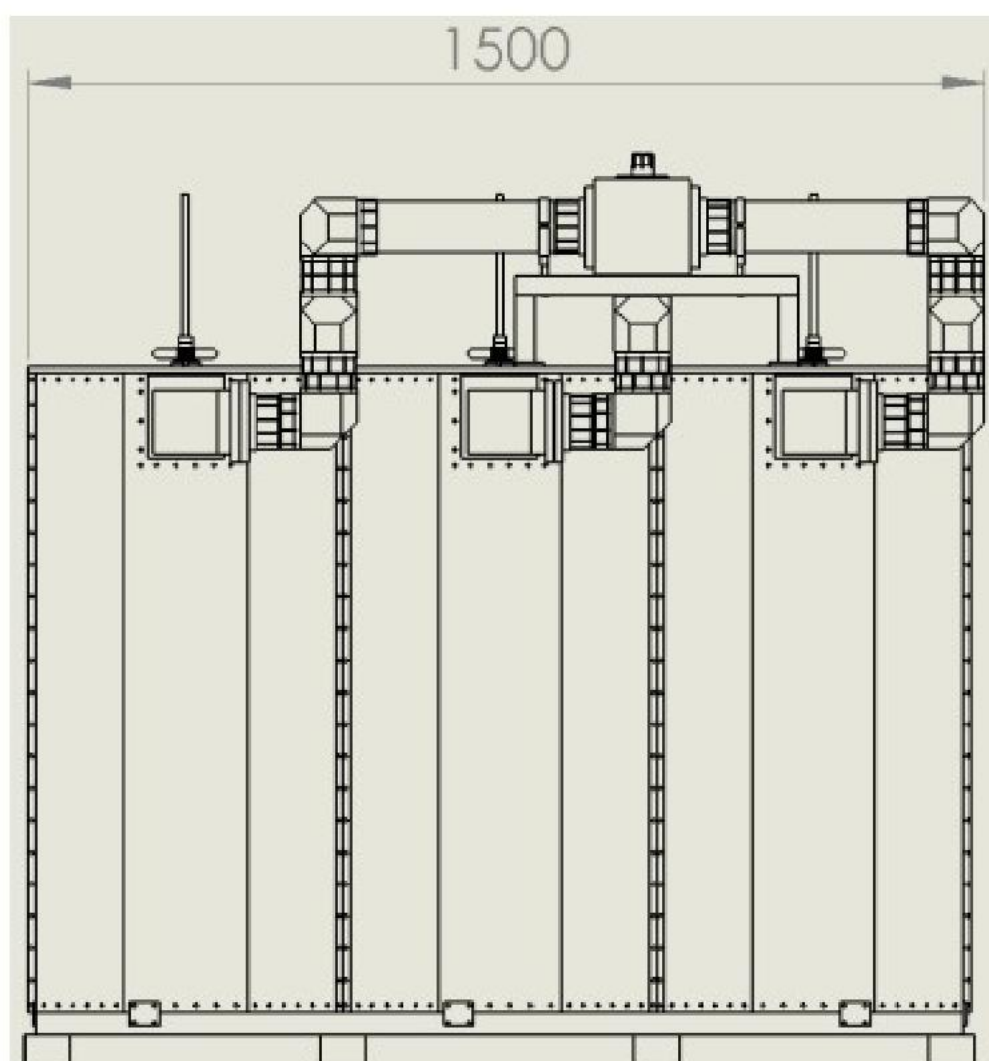
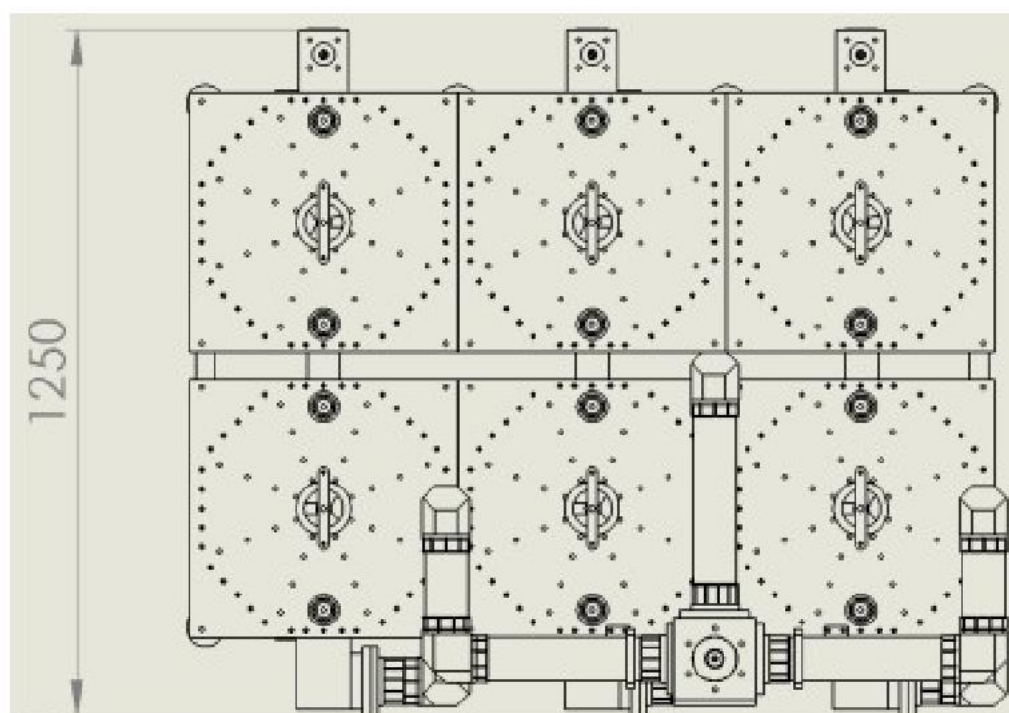
TYPICAL SPECIFICATIONS

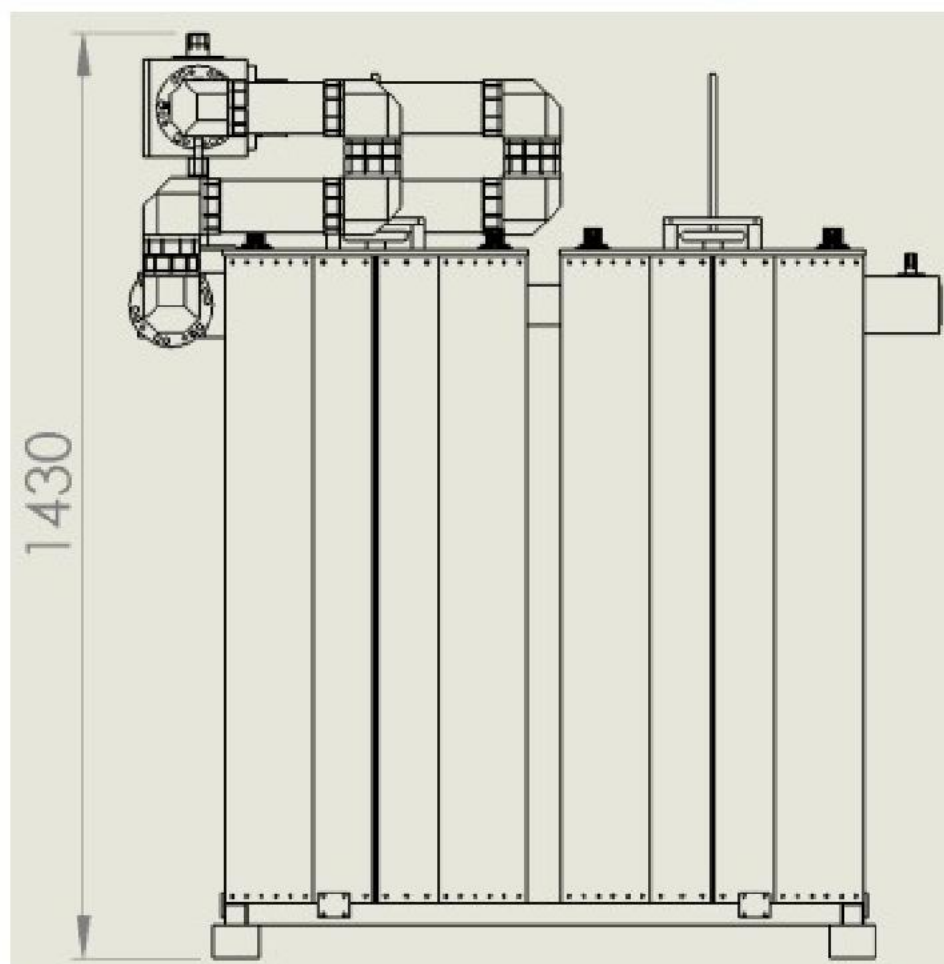
Model	FTCSDC10-2 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150KHz	1.1:1max
Insertion Loss	at f_0 0.18 dB typical
Return Loss ± 150KHz	≤ -26 dB
Isolation ± 1.2MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors standard	Input 1+5/8" - Output 3+1/8"
Max Power	10KW · 3 Channels
Working Temperature	-20°C +60°C
Color	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

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

DIMENSIONS (mm) **VERSION 3 CHANNELS DOUBLE CAVITY**

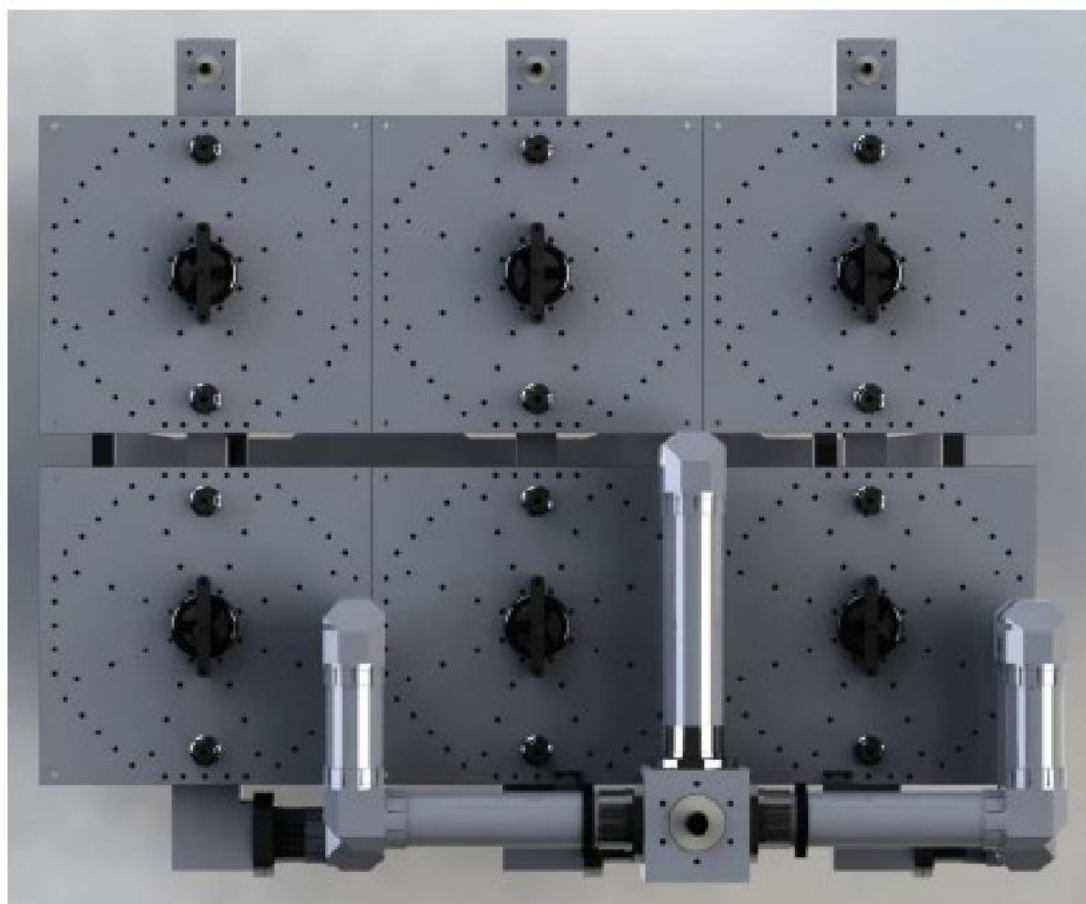




Dimensions	1430 (Max size)- 1500 - 1250mm (56.3(Max size)- 59 - 49.2inch) (H- L- W)
Net Weight	≈ 250 Kg Approx.

VIEWS OF THE SYSTEM VERSION 3 CHANNELS DOUBLE CAVITY









MODEL FTCSDC10-3

- COMBINER 2 OR 3 CHANNELS
- TYPE STAR POINT
- FM BAND 87.5-108 MHz
- BAND II
- 2 OR 3 POLE
- TEMPERATURE COMPENSATED
- ADJUSTABLE SELECTIVITY



VERSION 3 CHANNELS DOUBLE CAVITY

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.

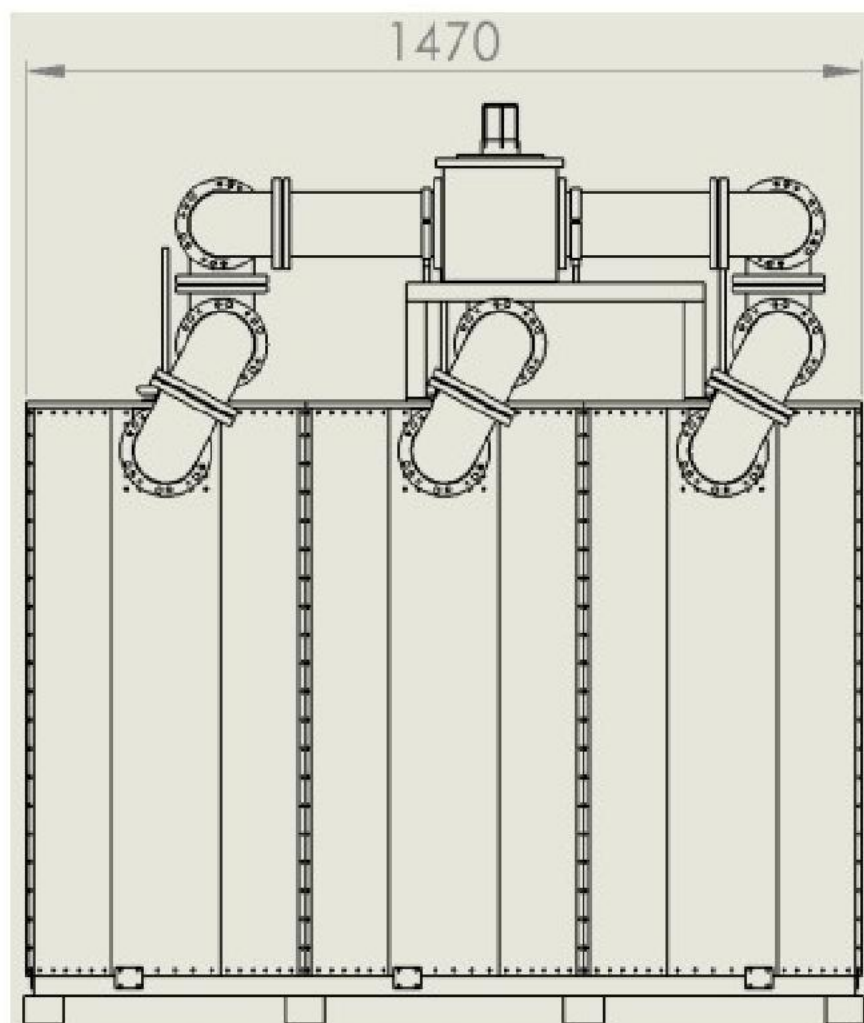
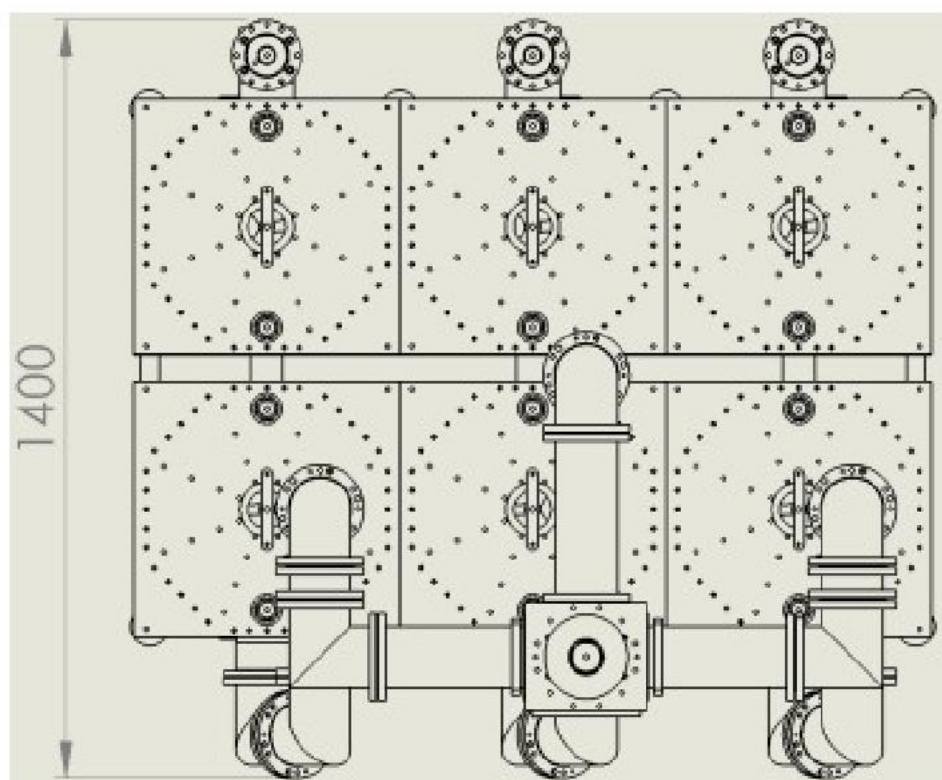
TYPICAL SPECIFICATIONS

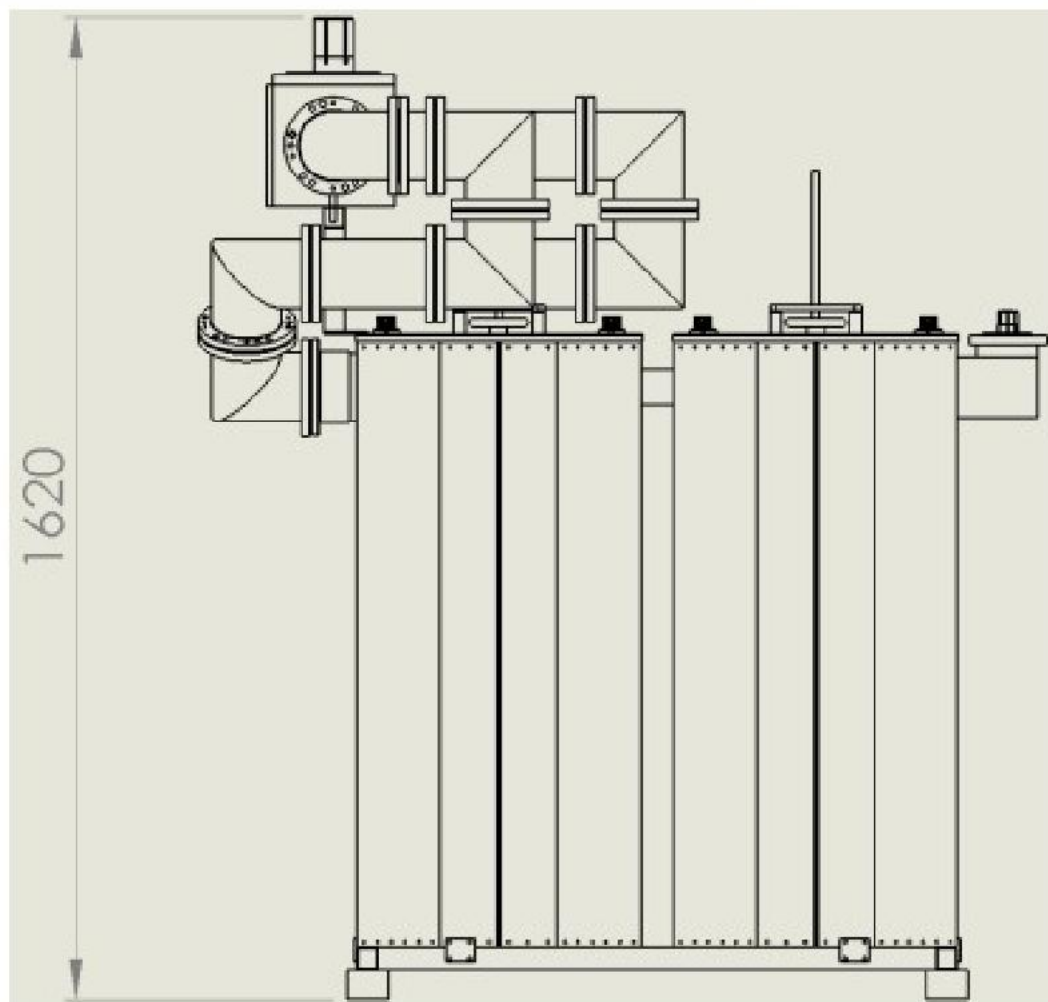
Model	FTCSDC10-3 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150KHz	1.1:1max
Insertion Loss	at f_0 0.18 dB typical
Return Loss ± 150KHz	≤ -26 dB
Isolation ± 1.2MHz	≥ 30 dB
Input Number	3
Output Number	1
Connectors standard	Input 3+1/8" - Output 6+1/8"
Max Power	20KW · 3 Channels
Working Temperature	-20°C +60°C
Color	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

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

DIMENSIONS (mm) VERSION 3 CHANNELS DOUBLE CAVITY

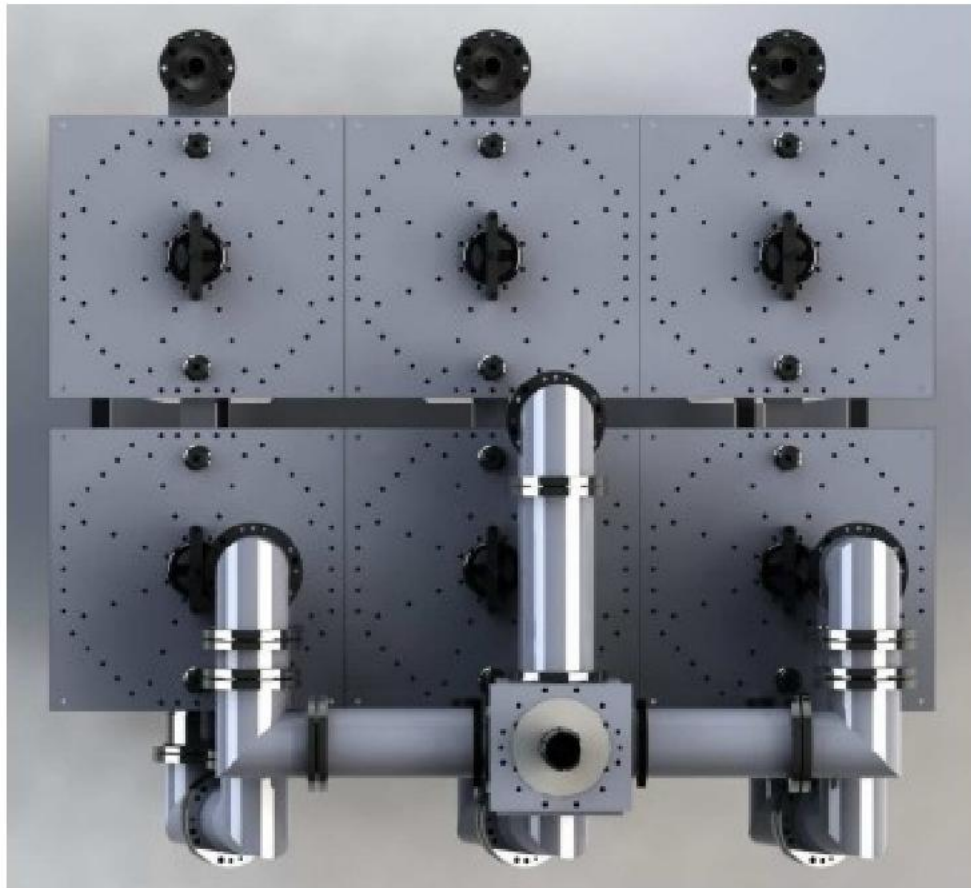


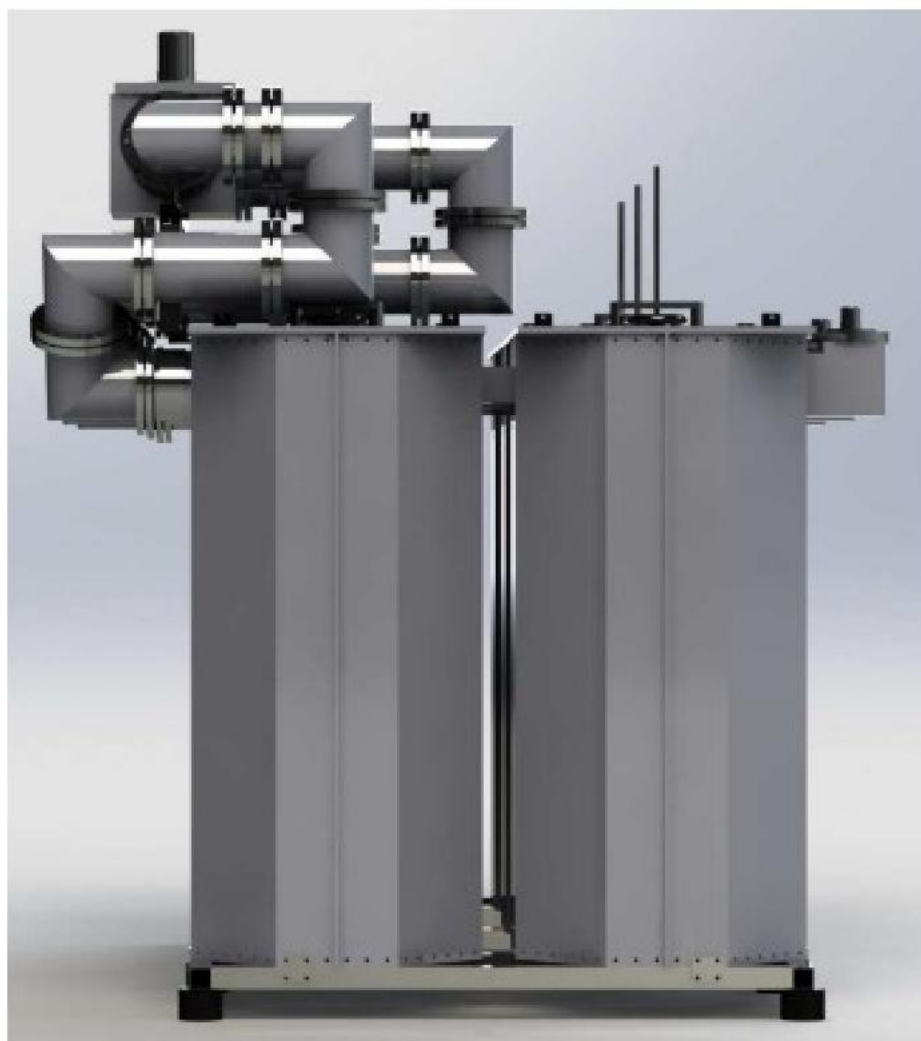


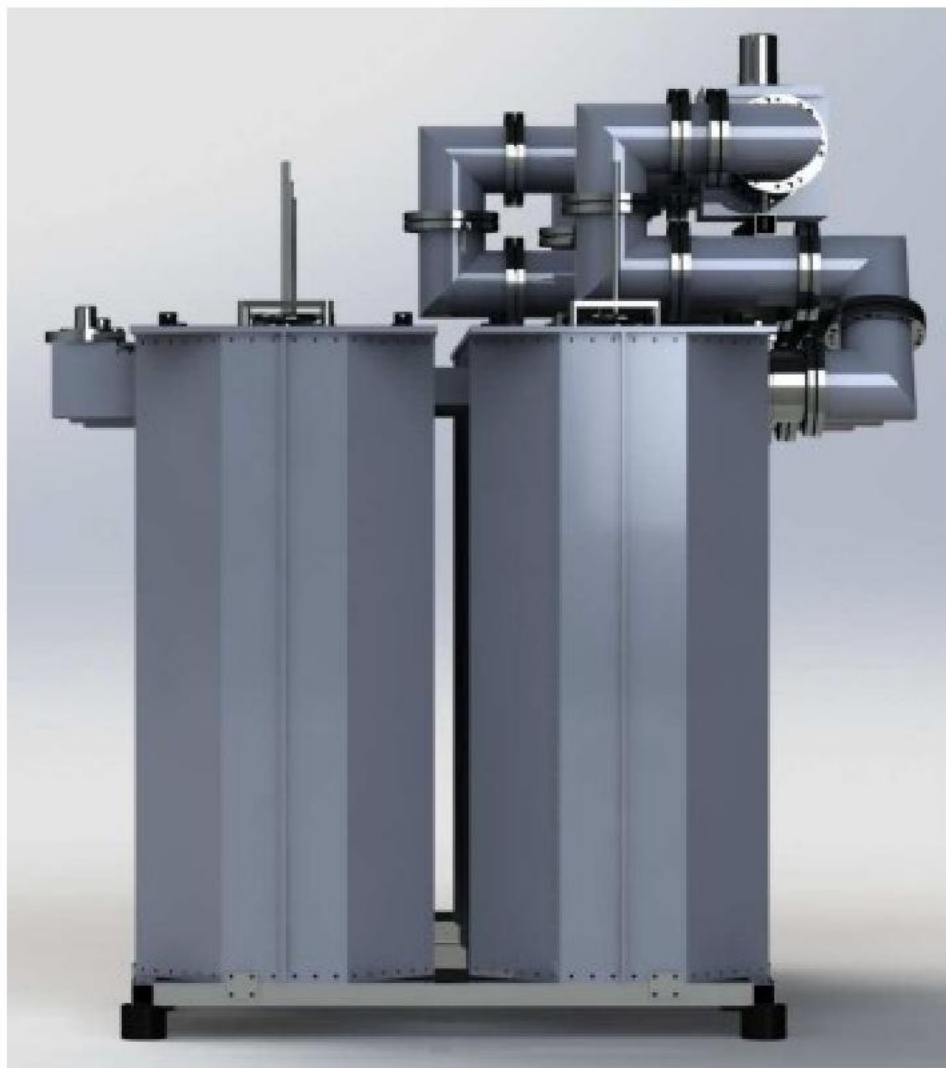
Dimensions	1620 (Max size) · 1470 · 1400mm (63.7(Max size) 57.8 · 55.1inch) (H · L · W)
Net Weight	≈ 290 Kg Approx.

VIEWS OF THE SYSTEM VERSION 3 CHANNELS DOUBLE CAVITY









MODEL FTCSDC10C#01

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



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.

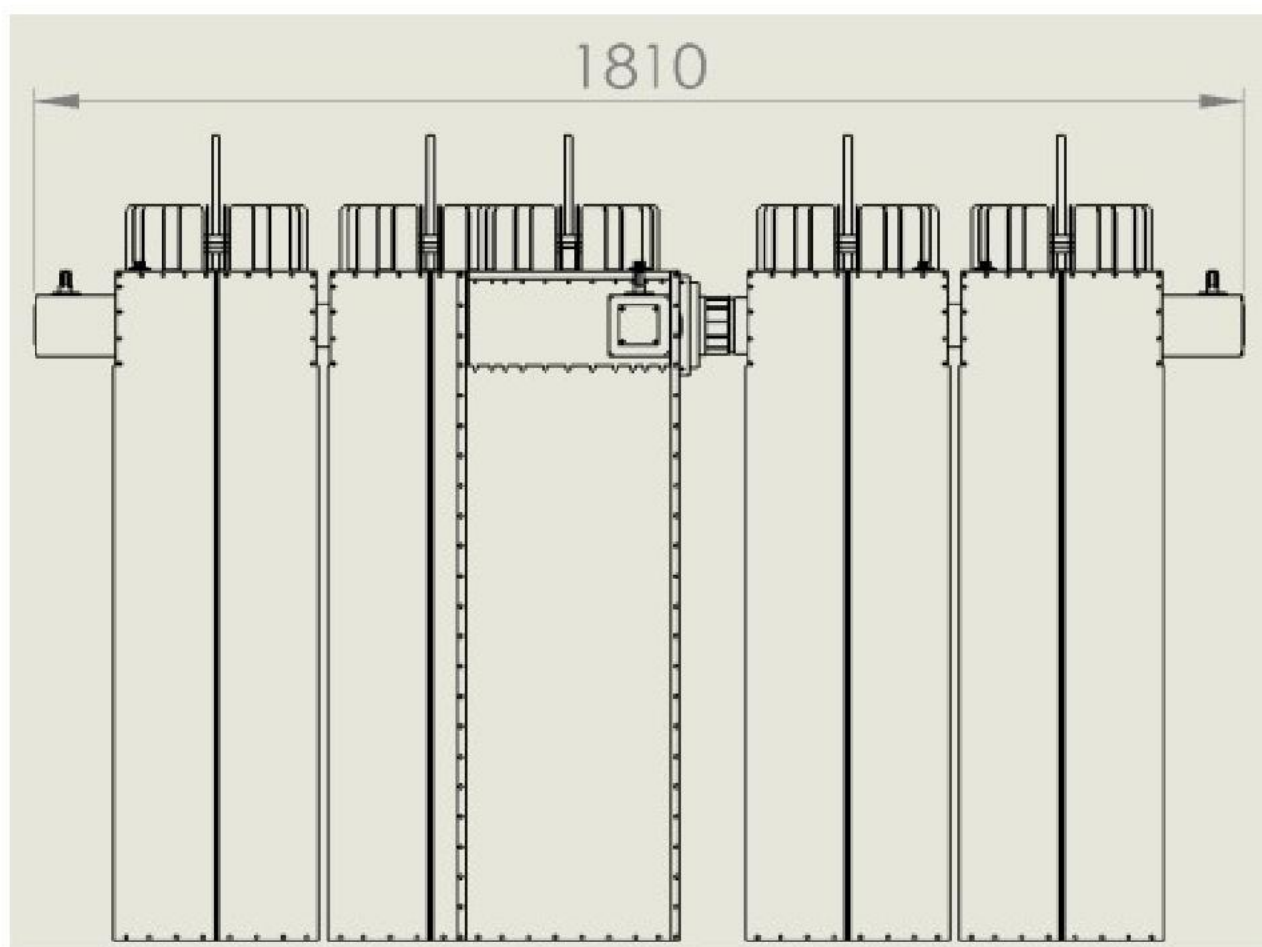
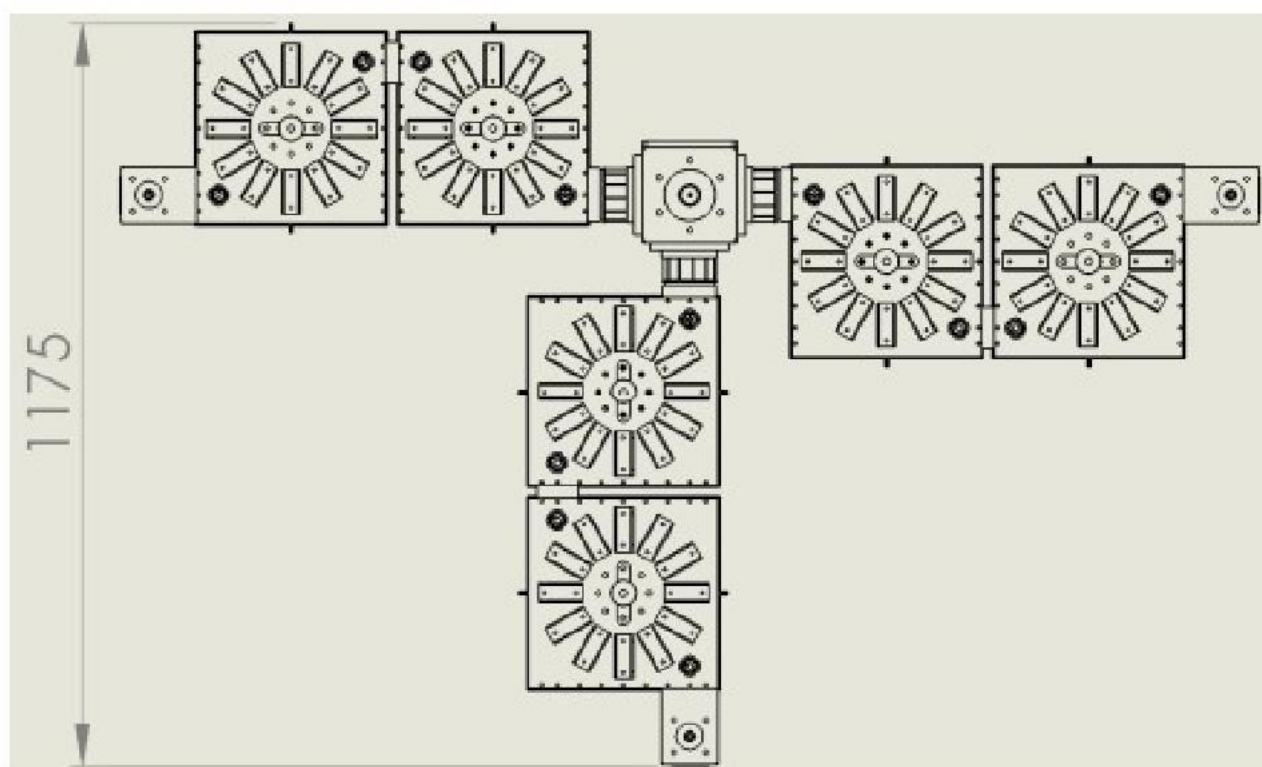
TYPICAL SPECIFICATIONS

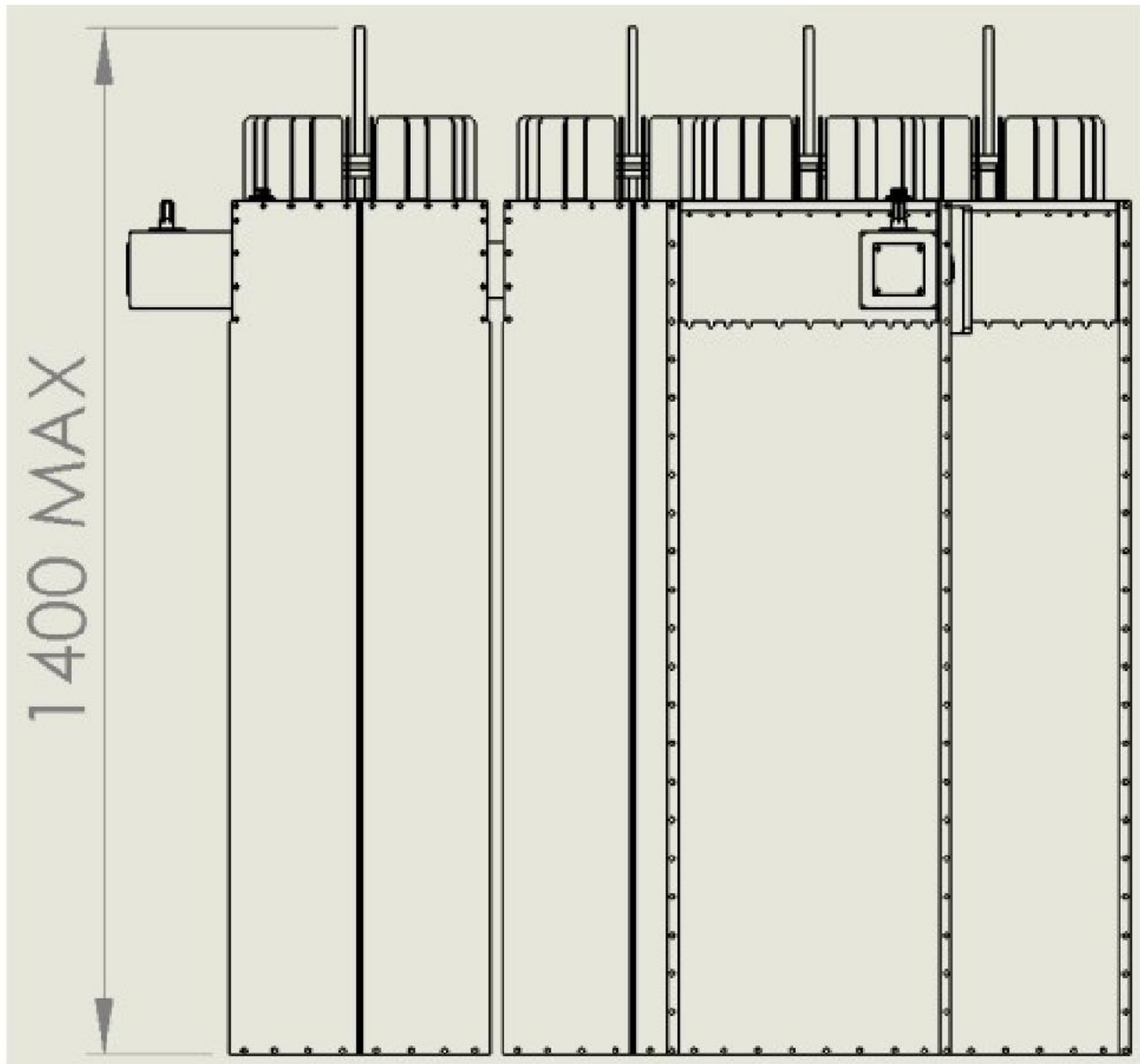
Model	FTCSDC10C#01 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1max
Insertion Loss	at f_0 0.2 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.5 MHz	≥ 30 dB
N° of input	3
N° of output	1
Connectors Standard	Input 1+5/8" Output 3+1/8"
Max Power	10KW · 3 Channels
Working Temperature	-20°C +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m 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

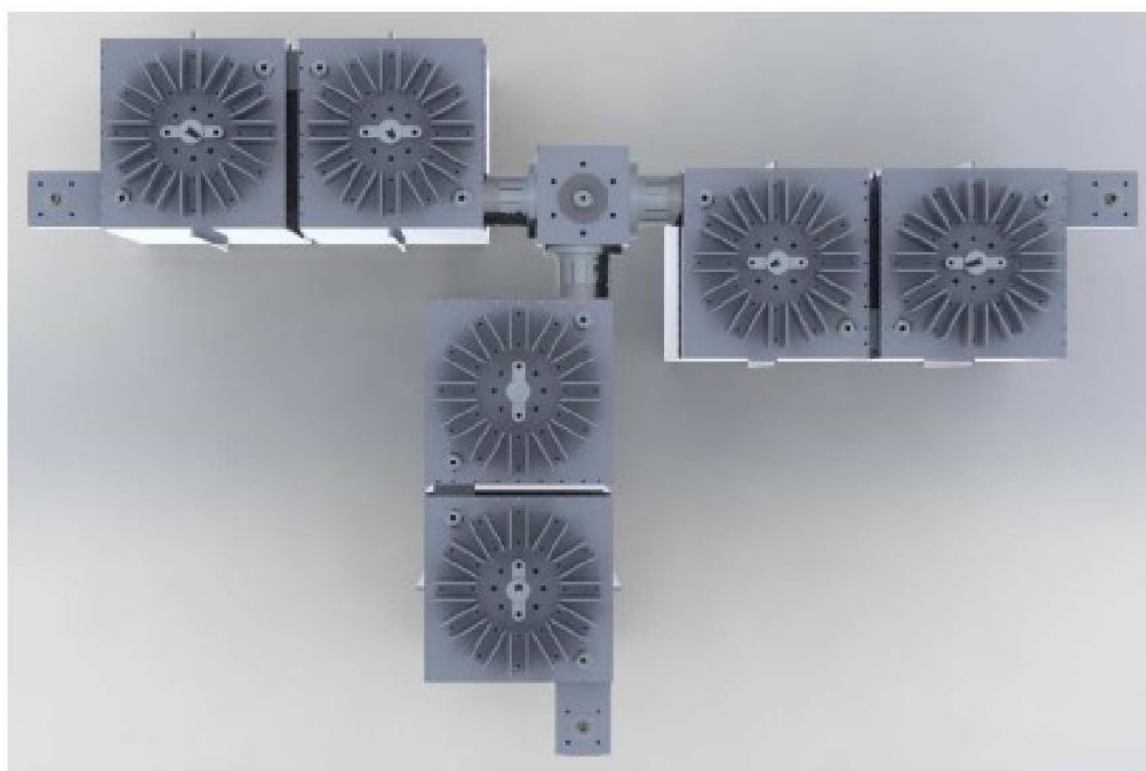
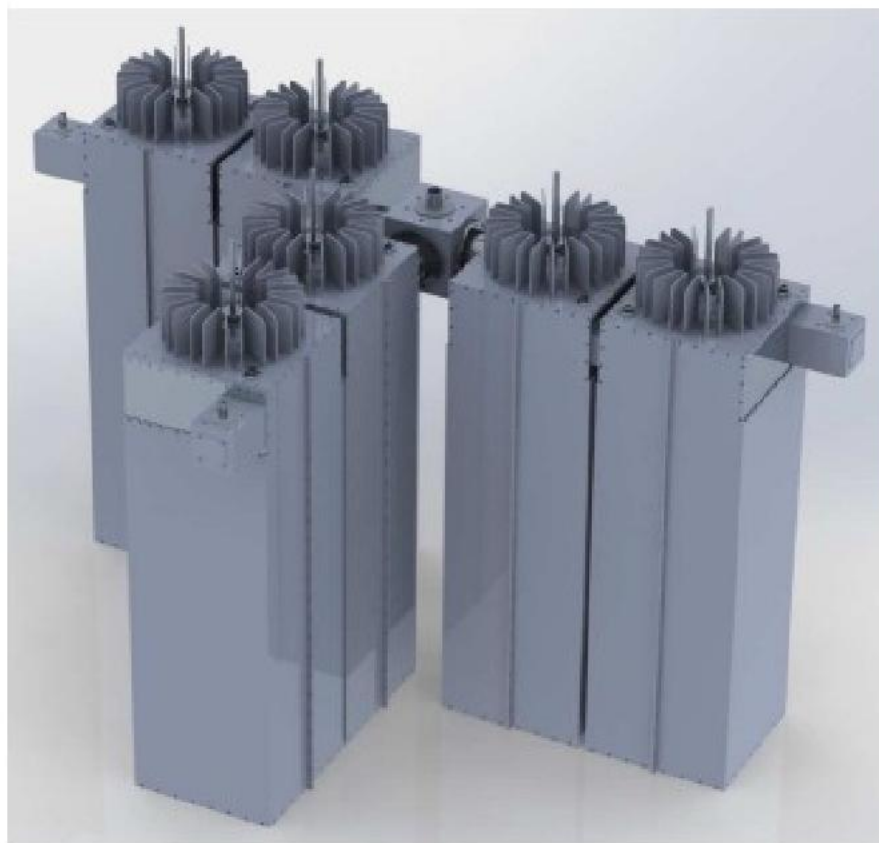
DIMENSIONS (mm)

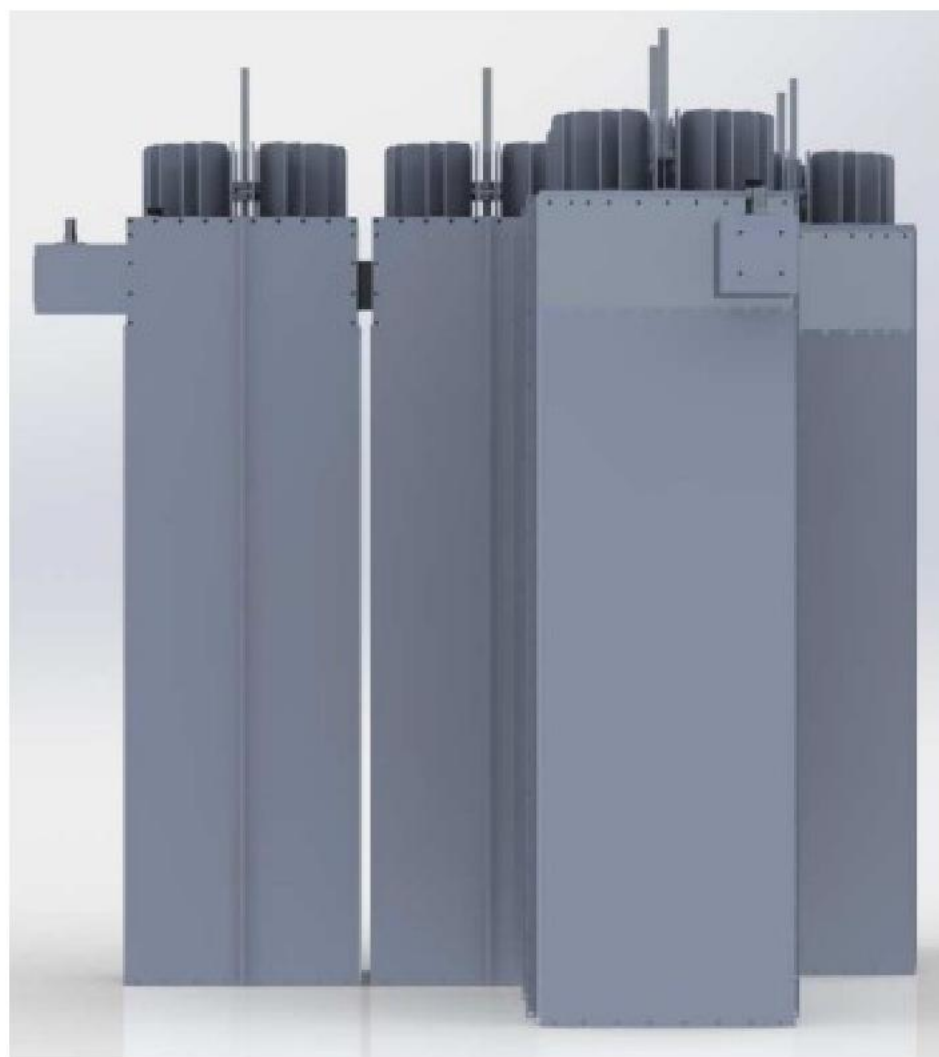
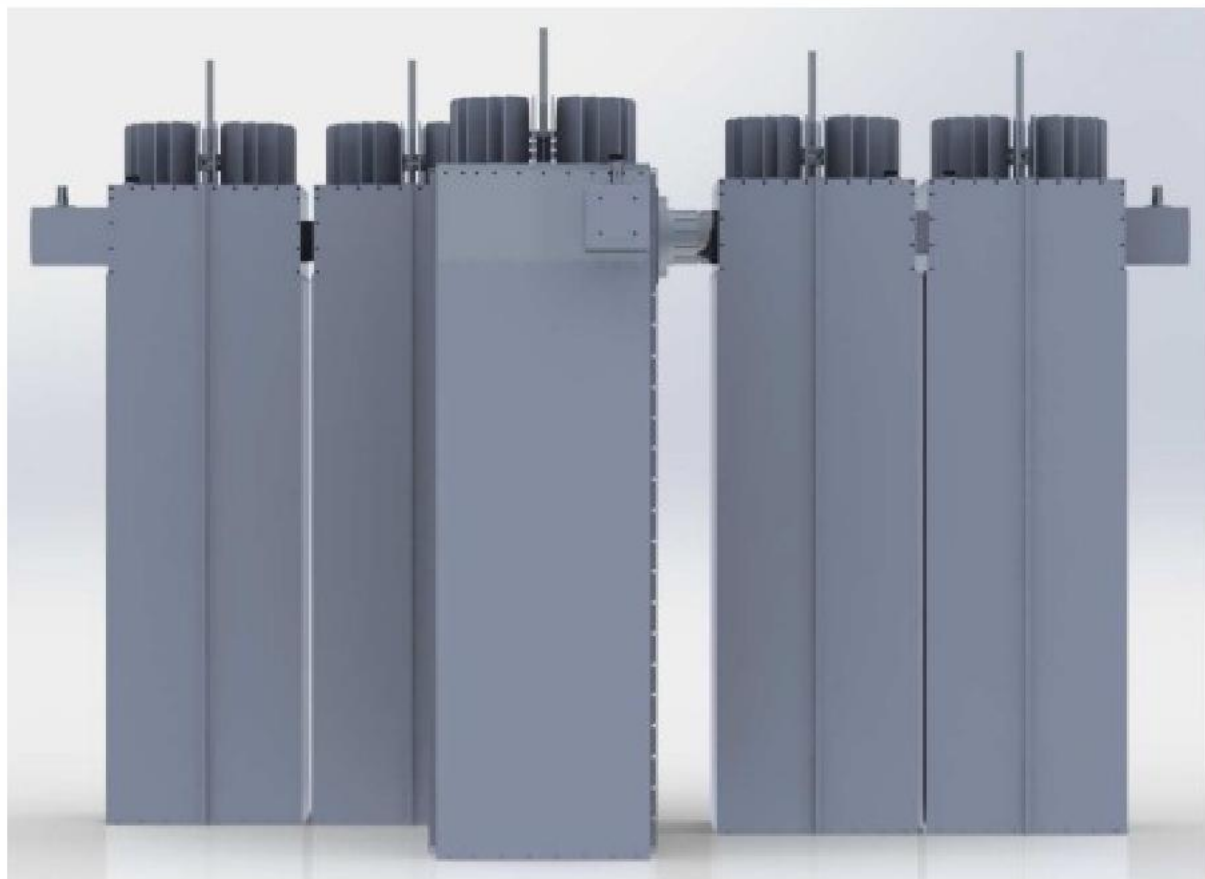


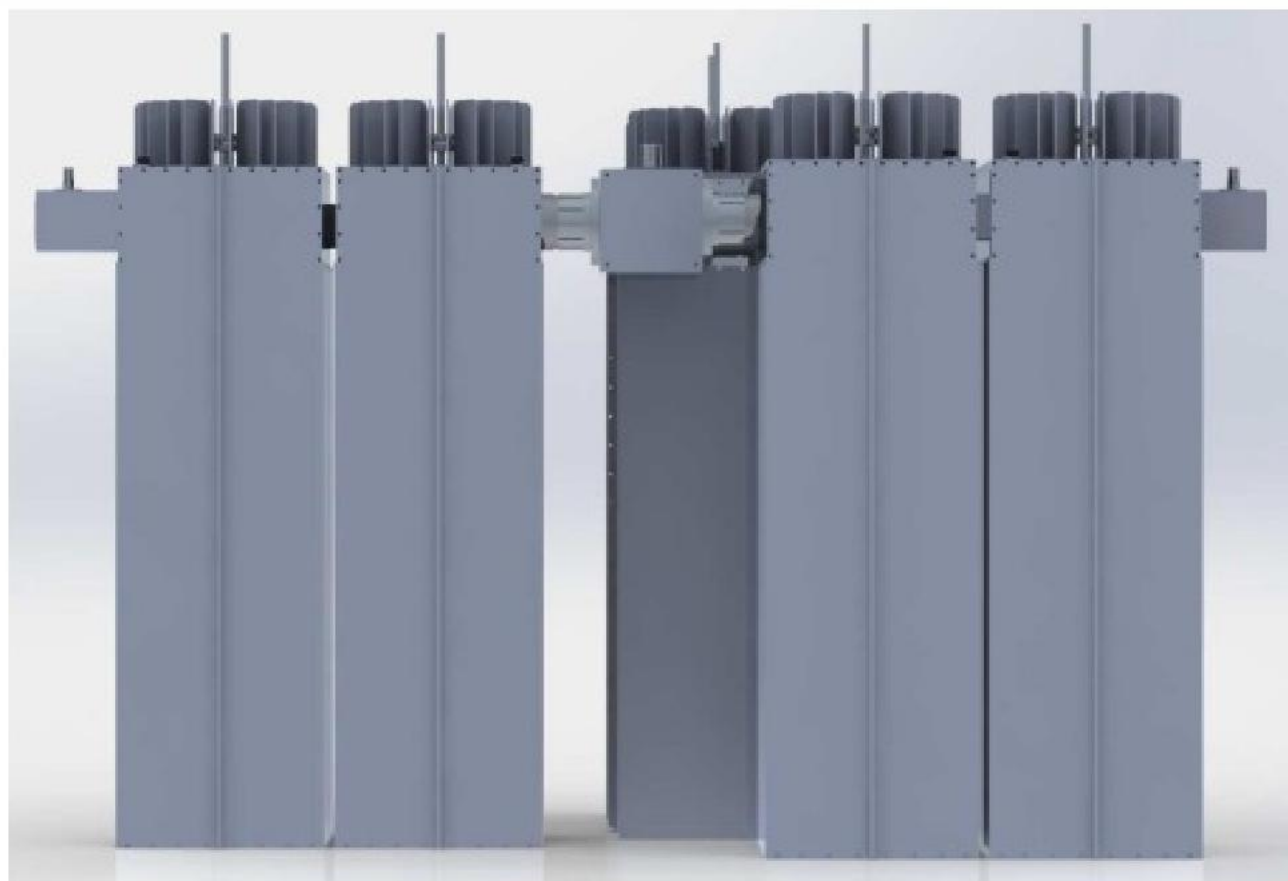


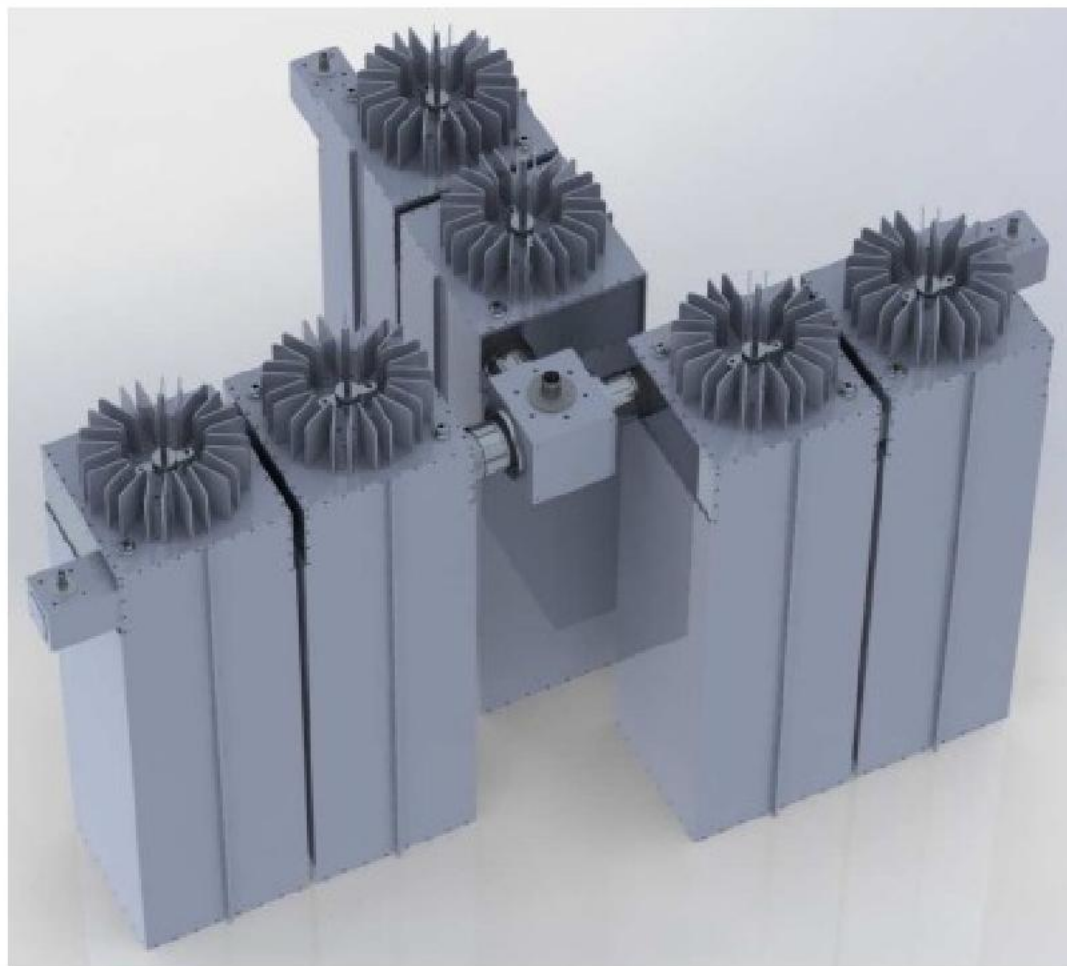
Dimensions	1400(Max size)- 1810- 1175 mm (55.1(Max size)- 71.2- 46.2 inch) (H- L- W)
Net Weight	≈ 150 Kg Approx.

VIEWS OF THE SYSTEM









MODEL FTCSDC20

- 3 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 which it's connected.



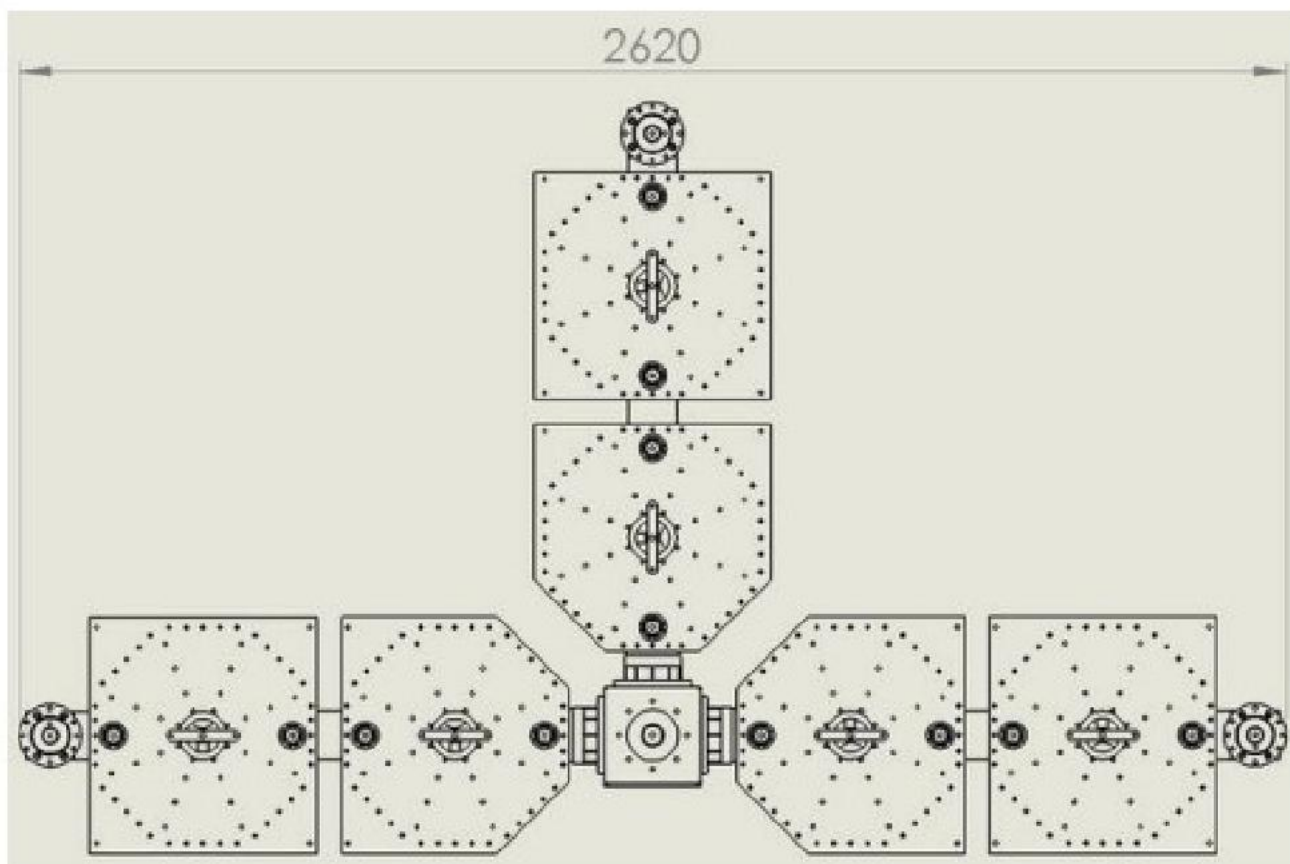
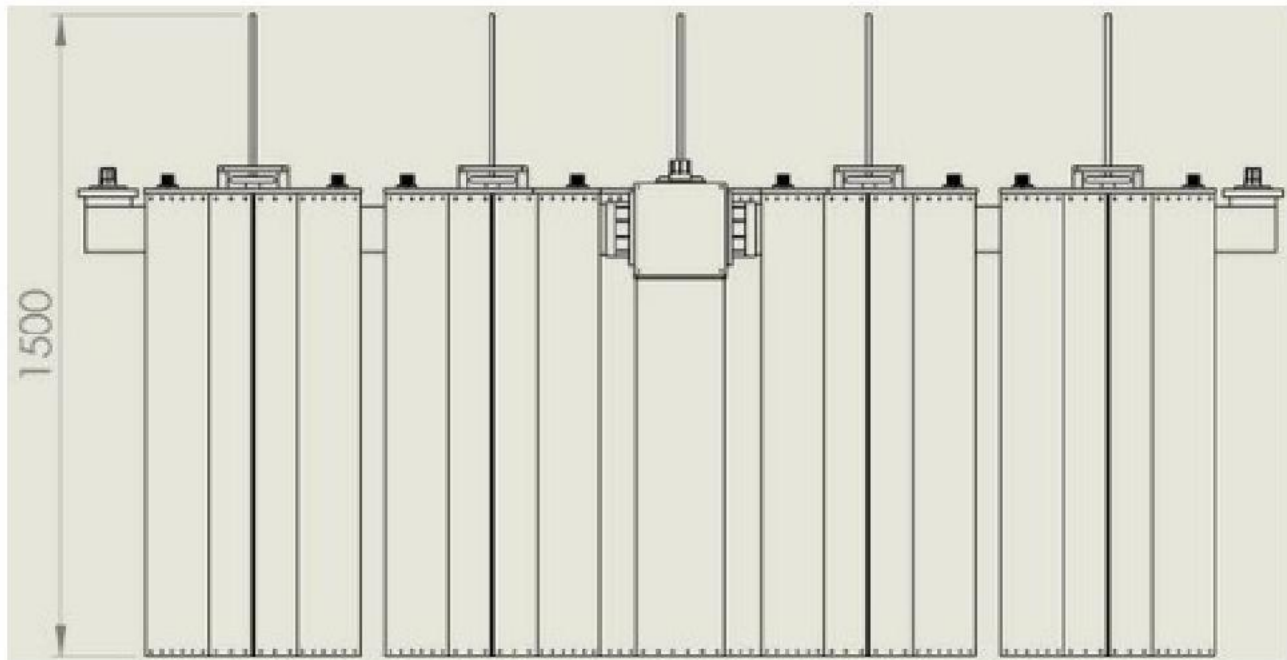
TYPICAL SPECIFICATIONS

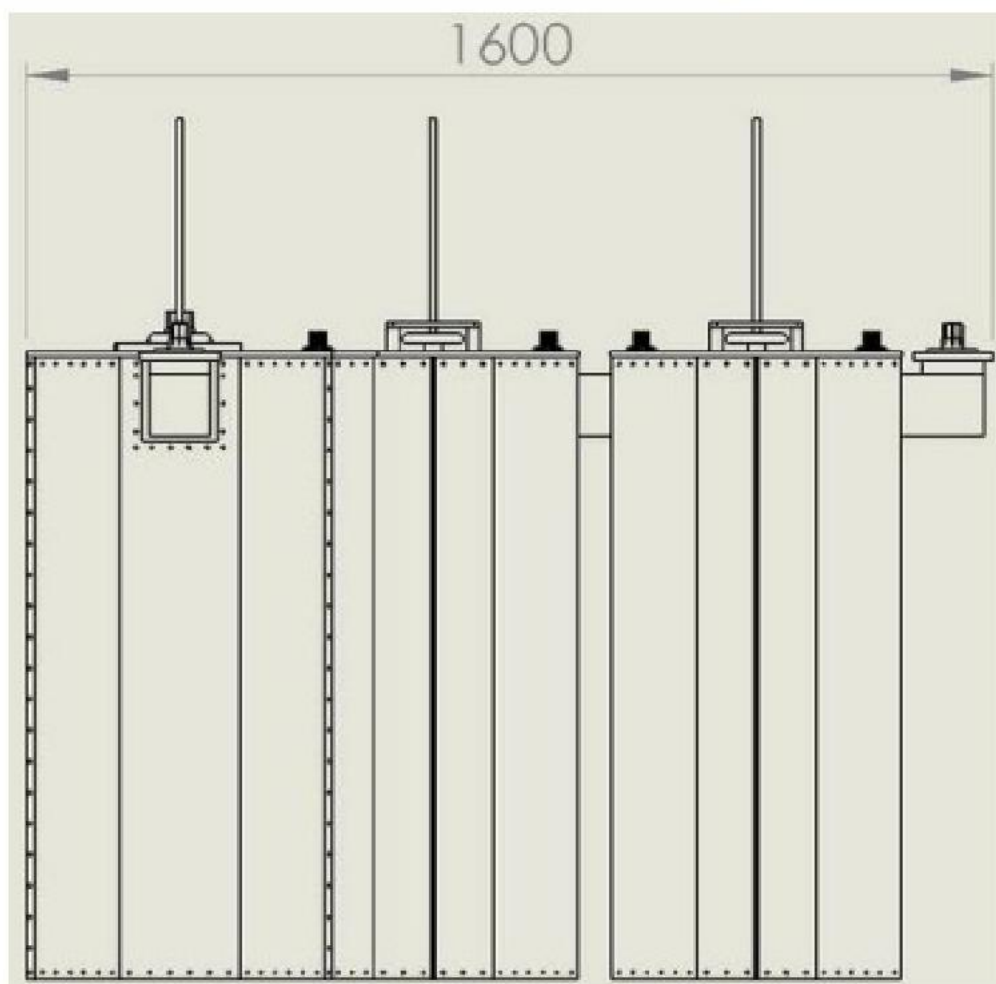
Model	FTCSDC20
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.1 - 0.15 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.2 MHz	≥ 30 dB
No. of Input	3
No. of Output	1
Connectors	Input 3+1/8" option 1+5/8" Output 4+1/2" option 3+1/8"
Max Power	20 KW \times Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

- Distortion – Free Transmission
- Star-Point System with double band-pass cavity filters
- Low Loss, High Isolation
- Natural Convection

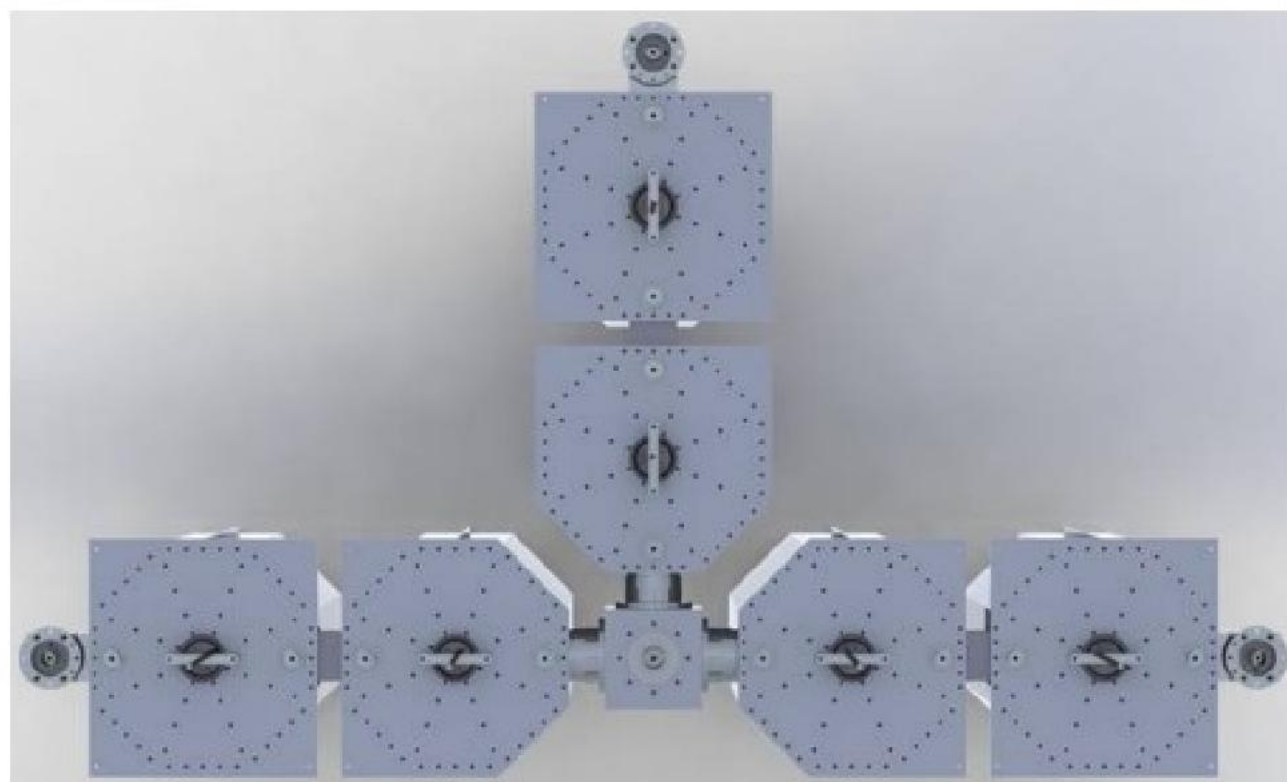
DIMENSIONS (mm)

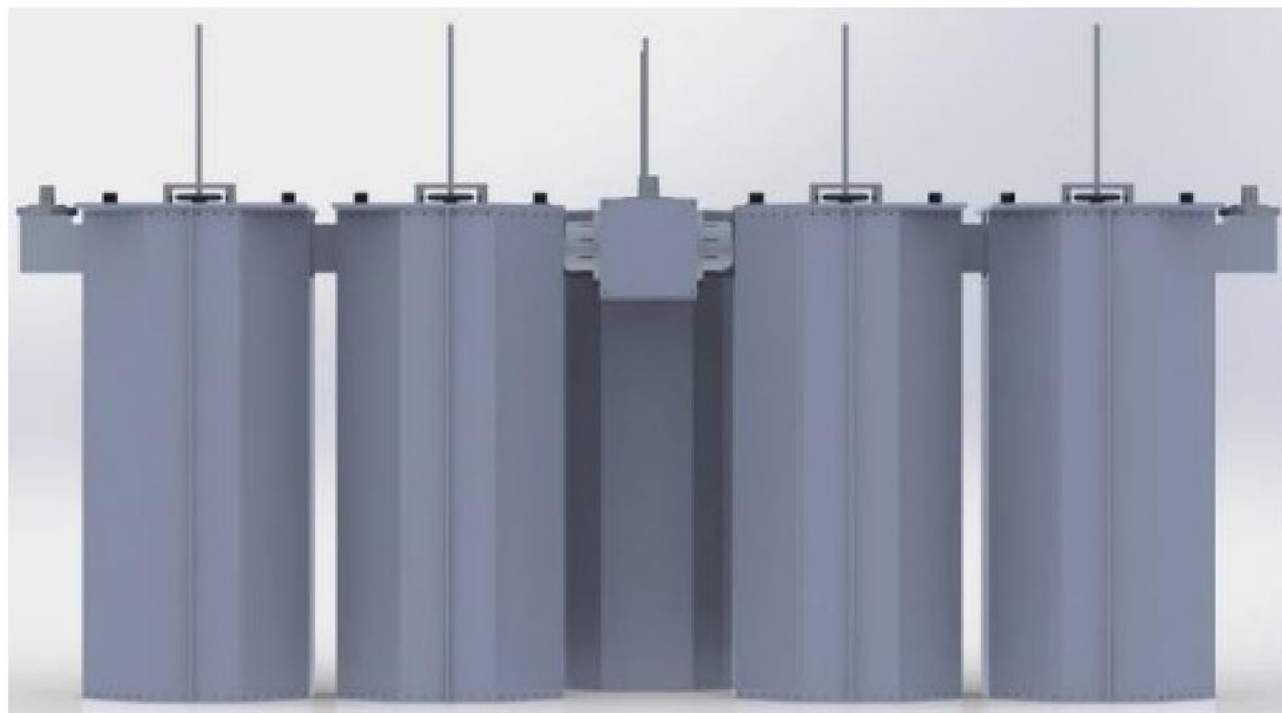




Dimensions	1500 (Max size)×2620×1600 mm (59(Max size)×103.1×63inch) (H×L×W)
Net Weight	≅ 200 Kg approx.

VIEWS OF THE SYSTEM









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FM TRIPLEXER

3 CAVITY

MODEL FTCSTC2

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

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.

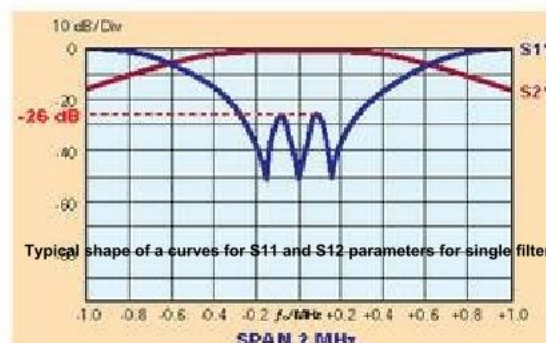
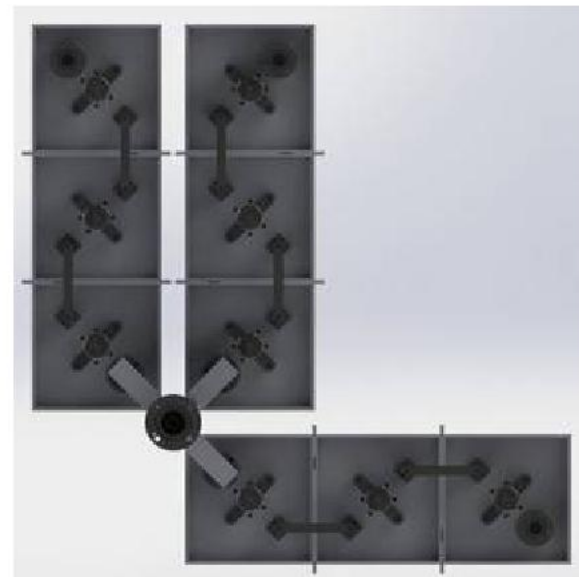
Model	Input Connector	Output Connector	Power Input	Power Output
FTCSTC2-1	N	7/16"	600W	1800W
FTCSTC2-2	N	7/8"	600W	1800W
FTCSTC2-3	7/16"	7/16"	660W	2KW
FTCSTC2-4	7/16"	7/8"	1600W	5KW
FTCSTC2-5	7/8"	1+5/8"	2KW	6KW

TYPICAL SPECIFICATIONS

Models	FTCSTC2 – 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 ± 150 KHz	≤ -26 dB		
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	$-20^{\circ}\text{C} \div +50^{\circ}\text{C}$		
Colour	Enamel gray ral 7001		
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12 μm 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



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.

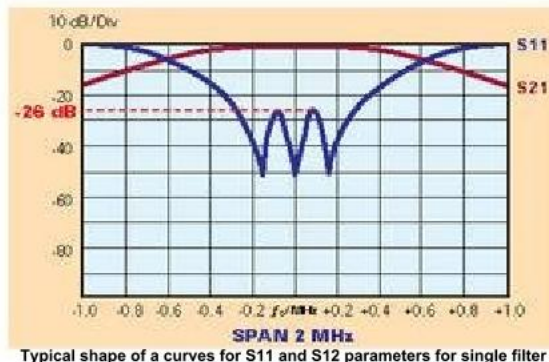
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Models	FTCSTC2 – 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 ± 150 KHz	≤ -26 dB		
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	$-20^\circ\text{C} \div +50^\circ\text{C}$		
Colour	Enamel gray ral 7001		
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12 μm thickness)		

Features:

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



STANDARD VERSION

OPTIONAL VERSION
WITH ALIGNED FILTERS

MODEL FTCSTC03

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



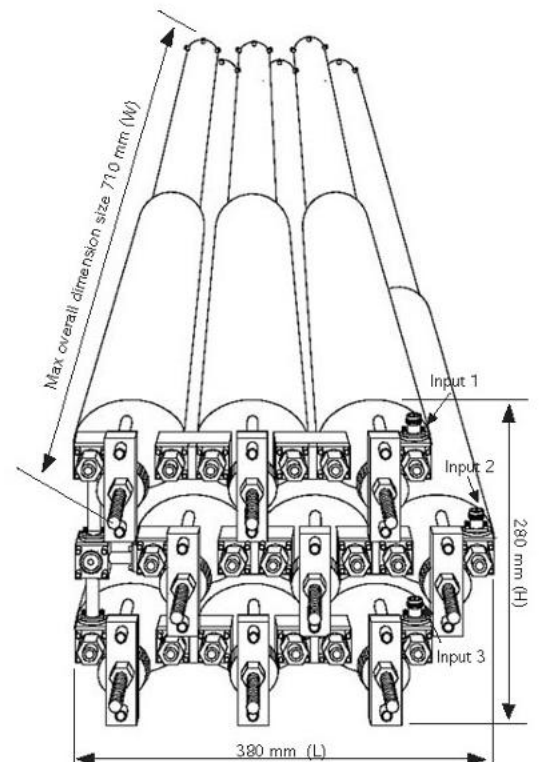
RACK VERSION (OPTION)

TYPICAL SPECIFICATIONS

Model	FTCSTC03 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.8-0.9 dB max (triple cavity)
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.2 MHz	≥ 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. 12 μ m 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



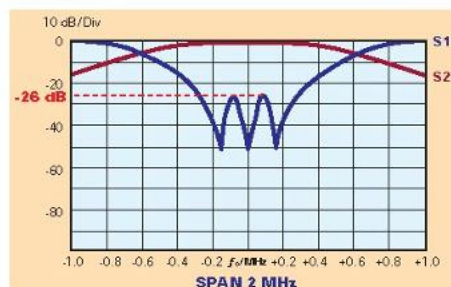
No rack version

Dimensions	280· 380· 710 mm (280· 15· 28 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 S21 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.

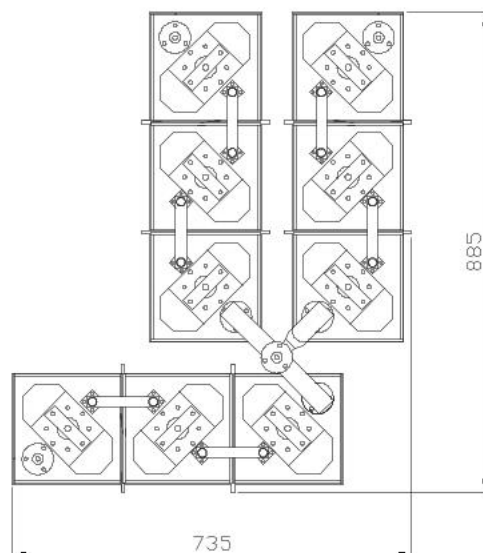
TYPICAL SPECIFICATIONS

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	≤ -26 dB		
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 $+50^{\circ}\text{C}$		
Colour	Enamel gray ral 7001		
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12 μm 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
- 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

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 ± 150 KHz	1.1:1 max		
Insertion Loss	at f_0 0.40 -0.65 dB max		
Return Loss ± 150 Khz	≤ -26 dB		
Isolation ± 1.2 MHz	$\geq 30-35$ dB		
Input Number	3		
Output Number	1		
Connectors Standard	Input N o 7/16" Output 7/16" o 7/8" (See table)		
Max Power	600 W X 3 Channels		
Working Temperature	-20°C $+50^{\circ}\text{C}$		
Colour	Enamel Gray Ral 7001		
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12 μ m 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

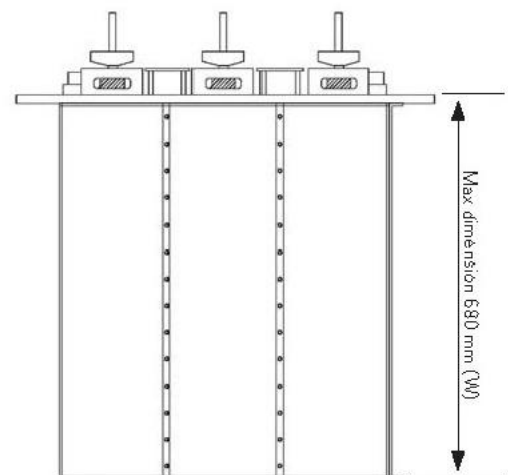
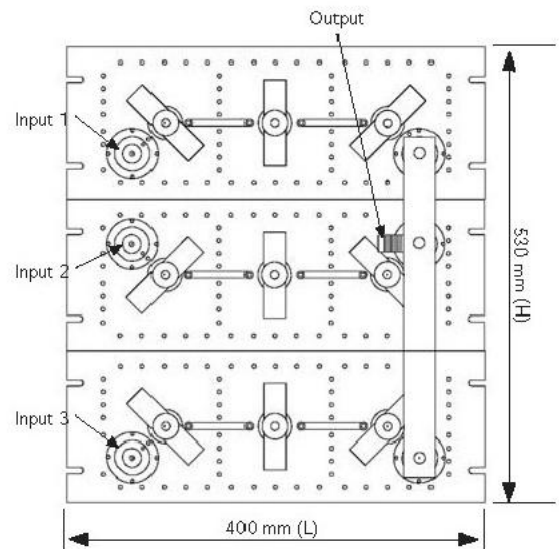
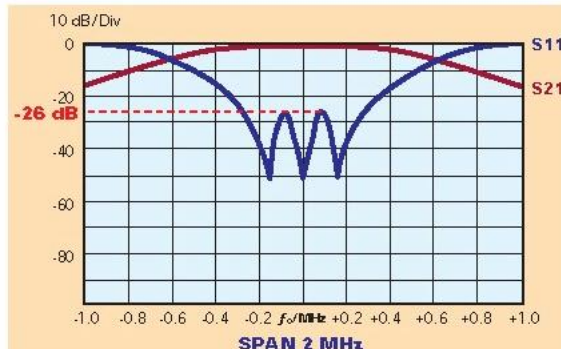
No rack version

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



MODEL FTCSTC5

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

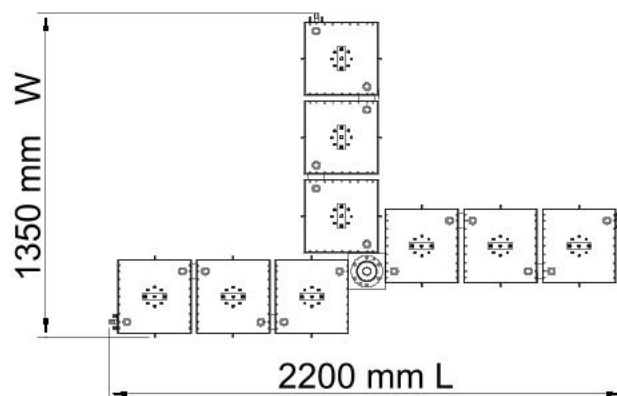


The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.

The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

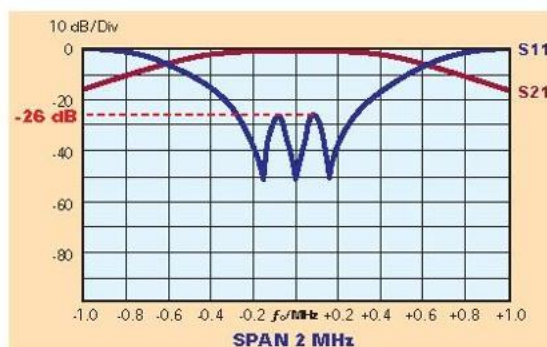
Model	FTCSTC5 – Type STAR POINT	
Impedance	50 Ohm	
Frequency Range	87.5-108 MHz	
VSWR ± 150 KHz	1.1:1 max	
Insertion Loss	at f_0 0.25 dB max	
Return Loss ± 150 KHz	≤ -26 dB	
Isolation ± 1 MHz	≥ 30 dB	
Input Number	3	
Output Number	1	
Connectors Standard	Input 1+5/8" or 7/8" (See table) Output 3+1/8" or 1+5/8"	
Max Power	6KW \times 3 Channels	
Working Temperature	$-20^\circ\text{C} \div +50^\circ\text{C}$	
Colour	Enamel Gray Ral 7001	
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μm 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) \times 2200 \times 1350 mm (55.1(Max size) \times 86.6 \times 53.2 inch) (H \times L \times W)
Net Weight	$\cong 185$ 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	3+1/8"	3+1/8"	10KW	30KW

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.

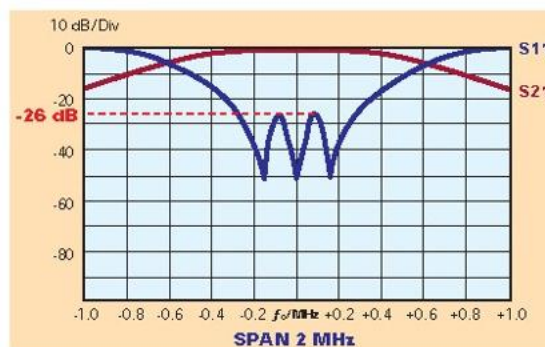
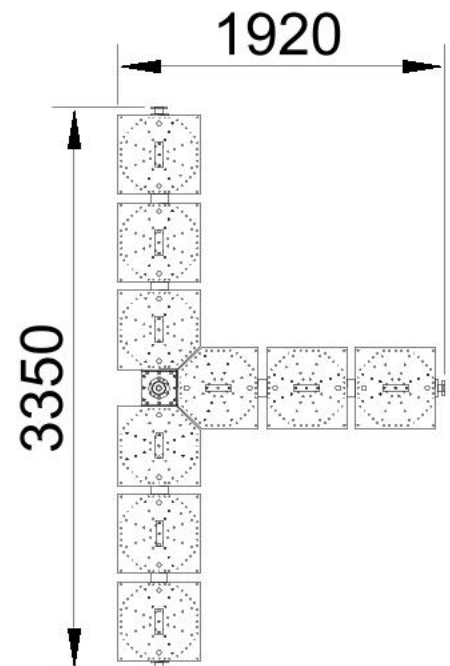
TYPICAL SPECIFICATIONS

Model	FTCSTC10 – Type STAR POINT		
Impedance	50 Ohm		
Frequency Range	87.5-108 MHz		
VSWR $\pm 150\text{KHz}$	1.1:1max		
Insertion Loss	at f_0 0.25 dB max		
Return Loss $\pm 150\text{KHz}$	$\leq -26\text{dB}$		
Isolation $\pm 1\text{MHz}$	$\geq 30\text{ dB}$		
Input Number	3		
Output Number	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 12 μm 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	$\approx 270\text{ Kg}$



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

MODEL FTCSTC10C

- 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.

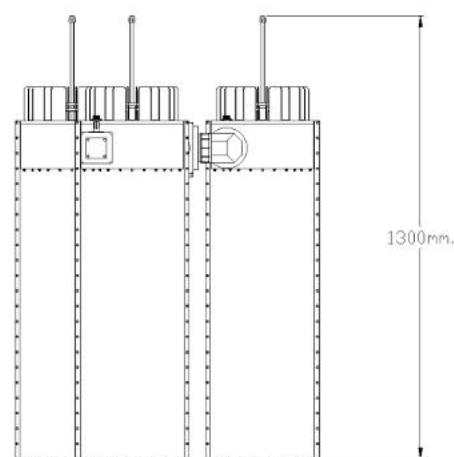
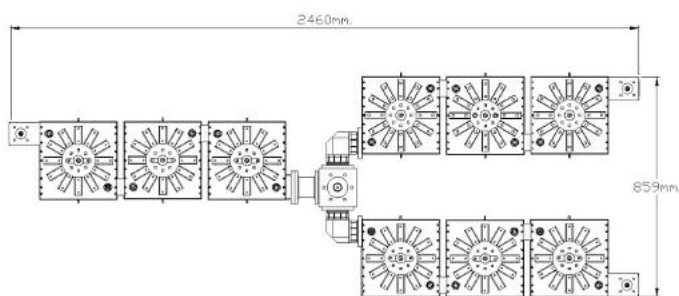
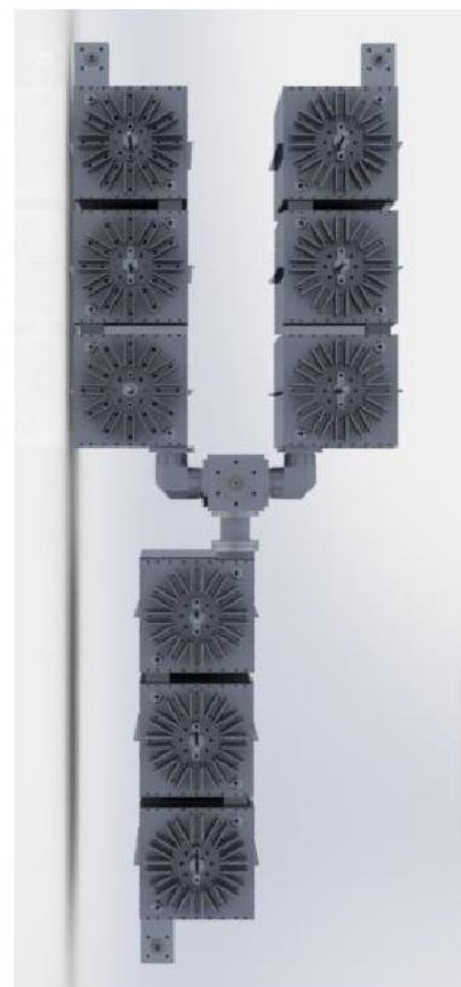
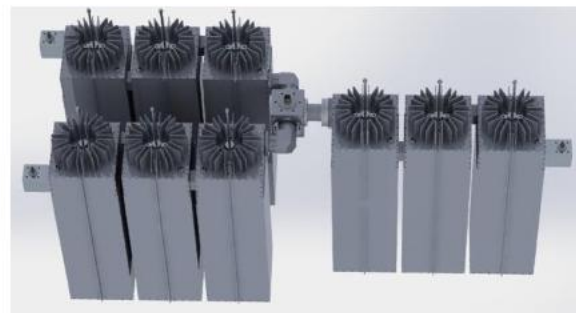
TYPICAL SPECIFICATIONS

Model	FTCSTC10C – Type STAR POINT		
Impedance	50 Ohm		
Frequency Range	87.5-108 MHz		
VSWR $\pm 150\text{KHz}$	1.1:1max		
Insertion Loss	at f_0 0.25-0.27 dB max		
Return Loss $\pm 150\text{KHz}$	$\leq -26\text{dB}$		
Isolation $\pm 1\text{MHz}$	$\geq 30\text{ dB}$		
Input Number	3		
Output Number	1		
Connectors standard	Input 1+5/8" - Output 3+1/8" (See table)		
Max Power	10KW \times 3 Channels		
Working Temperature	$-20^\circ\text{C} \div +50^\circ\text{C}$		
Colour	Enamel gray ral 7001		
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μm 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	1300 x 2460 x 859 mm. (H \times L \times W)
Net Weight	\cong 240 Kg aprox.



MODEL FTCSTC20

- **COMBINER 3 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 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.

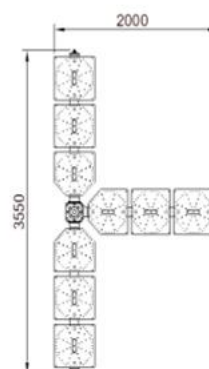


TYPICAL SPECIFICATIONS

Model	FTCSTC20 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR $\pm 150\text{KHz}$	1.1:1max
Insertion Loss	at f_0 0.25 dB max
Return Loss $\pm 150\text{KHz}$	$\leq -26\text{dB}$
Isolation $\pm 1\text{MHz}$	$\geq 30\text{ dB}$
Input Number	3
Output Number	1
Connectors standard	Input 3+1/8" - Output 4+1/2"
Max Power	15KW \times 3 Channels
Working Temperature	-20°C \div +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μm thickness)

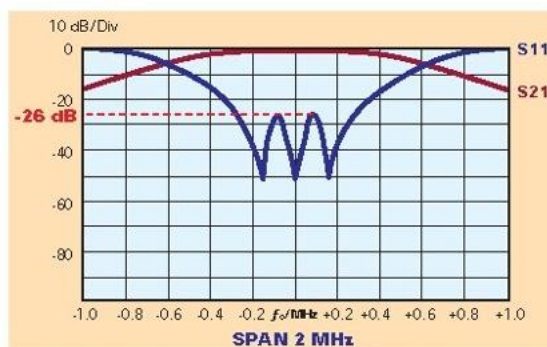
Features:

- 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) \times 3550 \times 2000mm (55.1(Max size) \times 139.7 \times 78.7inch) (H \times L \times W)
Net Weight	\cong 275 Kg

Typical shape of a curves for S11 and S12 parameters



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

FM TRIPLEXER

4 CAVITY

MODEL FTCSQC5ELF

- 3 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 ÷ 108 MHz
- BAND II
- STARPOINT AND DOUBLE BRIDGE TYPE
- IS SUITABLE FOR ANALOG AND IBOC
- FILTER IS TECHNOLOGY CROSS COUPLING



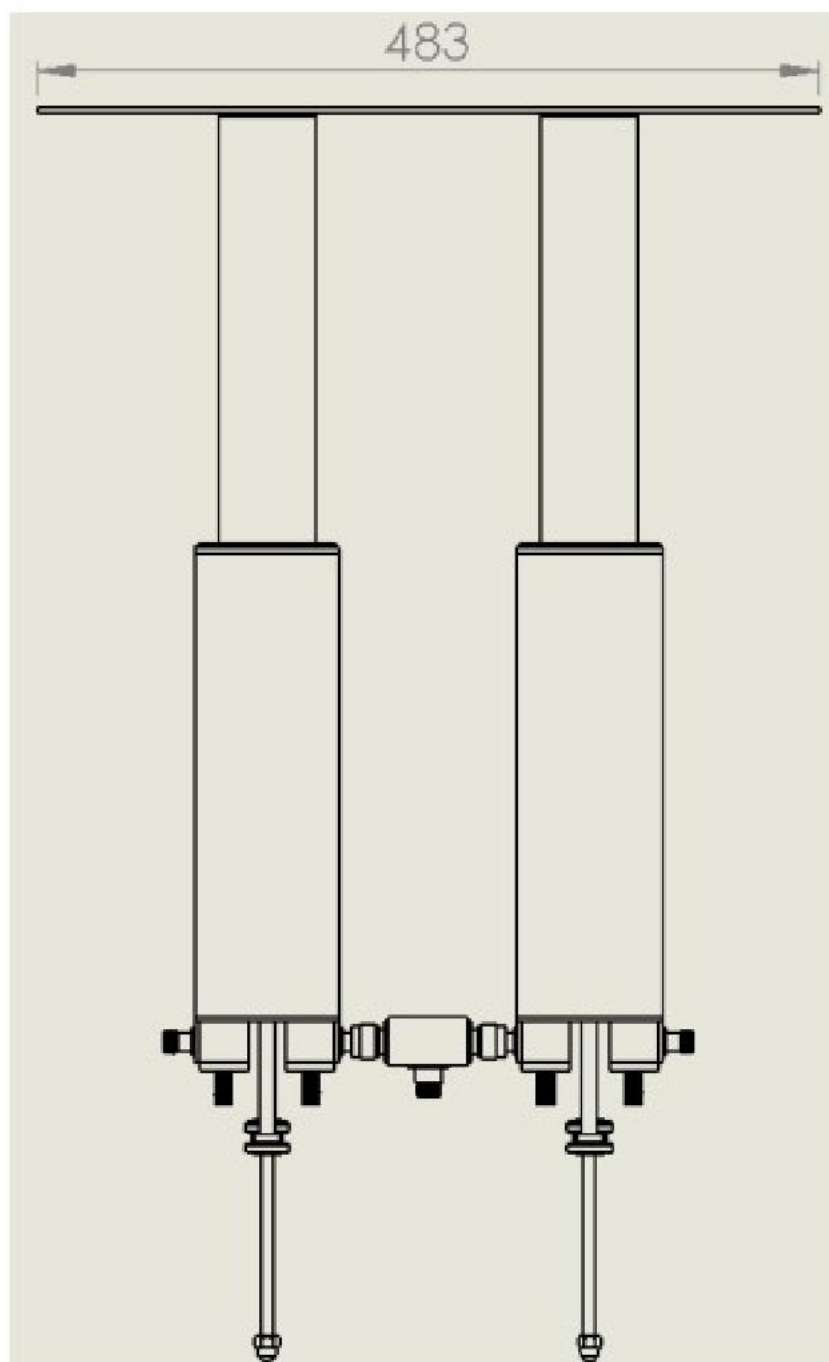
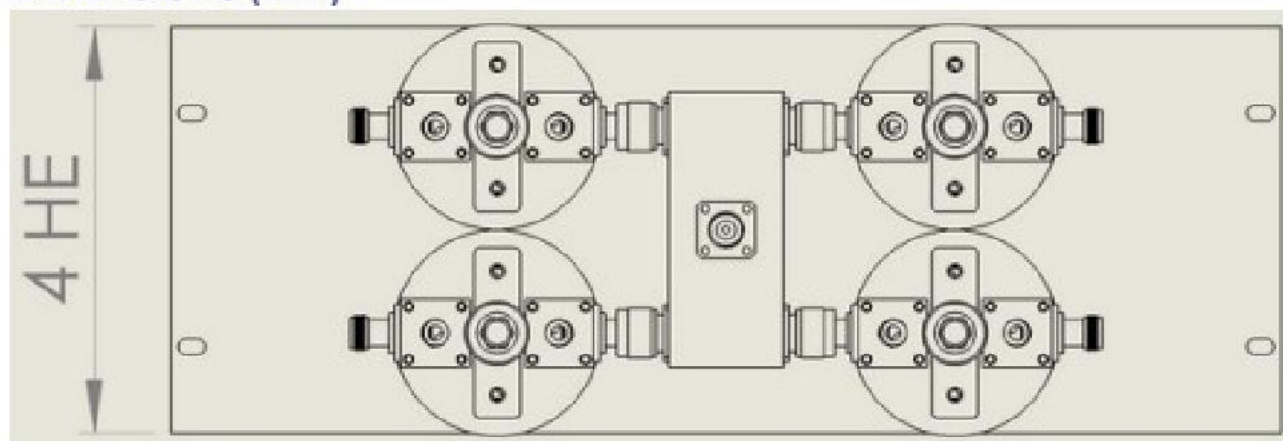
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.

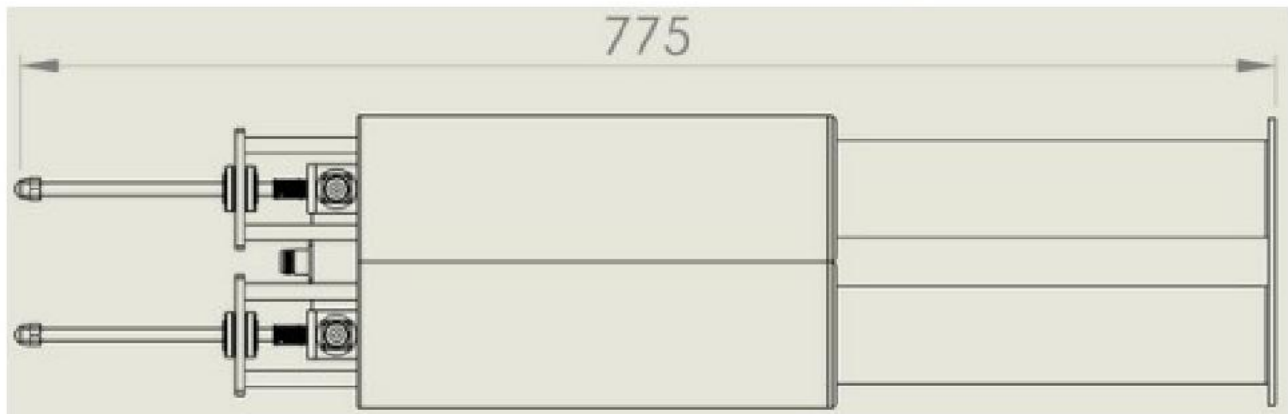
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FTCSQC5ELF
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 200 KHz	1.1:1 max
Insertion Loss	at f0 0.5 - 0.85 dB max
Return Loss ± 200 KHz	≤ -26 dB
Isolation ± 500 KHz	≥ 30 dB
No. of Input	3
No. of Output	1
Connectors	Input. 7/8" Output 1+5/8"
Max Power	1500 W \times Channel digital
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

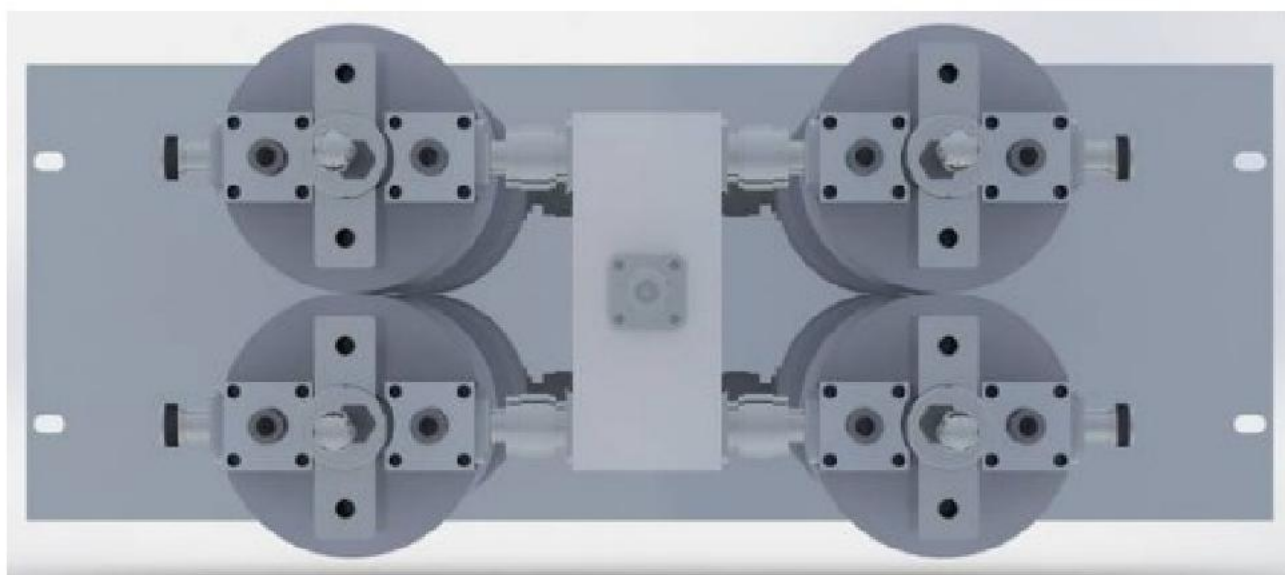
DIMENSIONS (mm)





Dimensions	4 HE (1 HE=44.45 mm) (Max size)×483×775 mm (4 HE(Max size)×19×30.5inch) (H×L×W)
Net Weight	≅ 18 Kg approx.

VIEWS OF THE SYSTEM



**TELECFFE**

BROADCAST SOLUTIONS

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FM QUADRIPLEXER

1 CAVITY

MODEL FQCSSC03RSV

- 4 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 ÷ 108 MHz
- BAND II
- STARPOINT TYPE
- REDUCED SIZE VERSION



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	FQCSSC03RSV
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR \pm 50 KHz	1.1:1 max
Insertion Loss	at f_0 0.3 % 0.5 dB max
Return Loss \pm 50Khz	\leq -26dB
Isolation \pm 3 MHz	\geq 30 dB isolation - spacing 3 MHz
No. of Input	4
No. of Output	1
Connectors	Input N Output N
Max Power	100 W \times Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

FM QUADRIPLEXER

2 CAVITY

MODEL FQCSDC01D

- 4 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 ÷ 108 MHz
- STARPOINT TYPE
- MOUNTING RACK



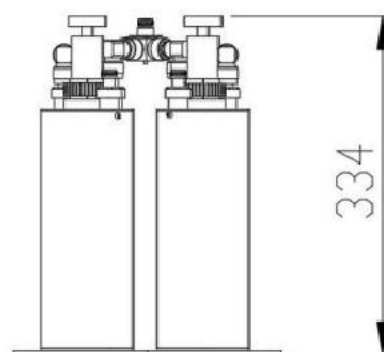
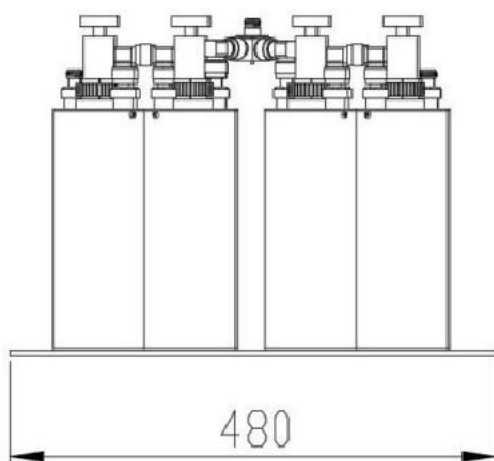
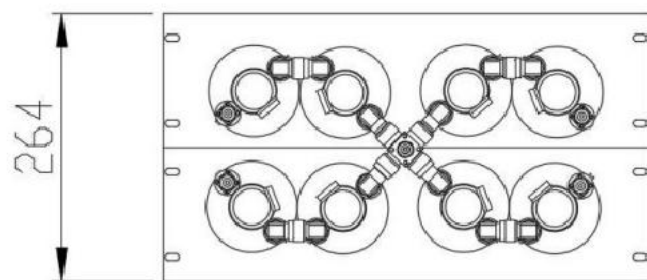
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to witch it's connected.

The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FQCSDC01D
Impedance	50 Ohm
Frequency Range	87.5 - 108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.6 – 1.95 dB typical depending adj
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1 MHz	≥ 30 dB
No. of Input	2
No. of Output	1
Connectors	Input N Output N female or 7/16" female
Max Power	100 W \times Channel
Working Temperature	-20°C ÷ +55°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

DIMENSIONS STANDARD VERSION RACK MOUNTING (mm)



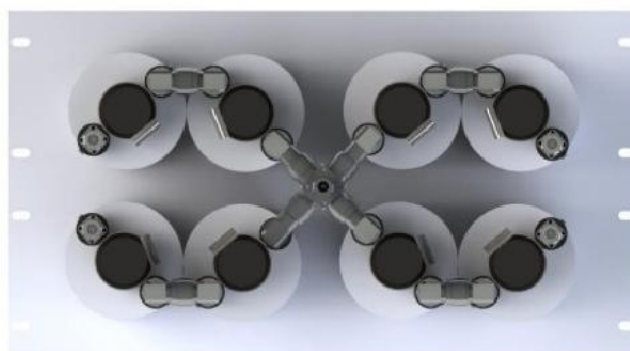
Dimensions

See figure

Net Weight

≅ 25Kg rack version approx.

VIEWS OF THE SYSTEM standard version rack mounting



- *COMBINER 4 CHANNELS*
- *TYPE STAR POINT*
- *FM BAND 87.5 - 108 MHz*
- *BAND II*
- *MOD. FQCSDC2*



The star combiner basically consists 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 to provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FQCSDC2 – 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 ± 150 KHz	≤ -26 dB
Isolation ± 2 MHz	≥ 30 dB
Input Number	4
Output Number	1
Connectors	Input 7/8" (opt. 7/16") Output 1+5/8"
Max Power	2KW · 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

Description of a Star-point Quadriplexer

A star-point Quadriplexer is made by parallel circuiting four 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.

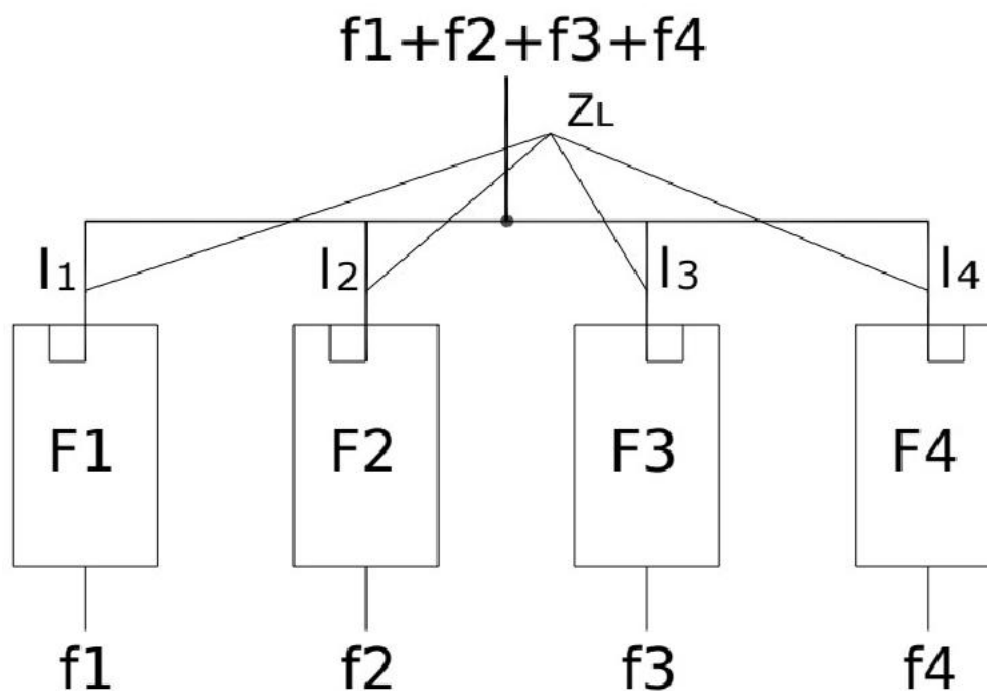
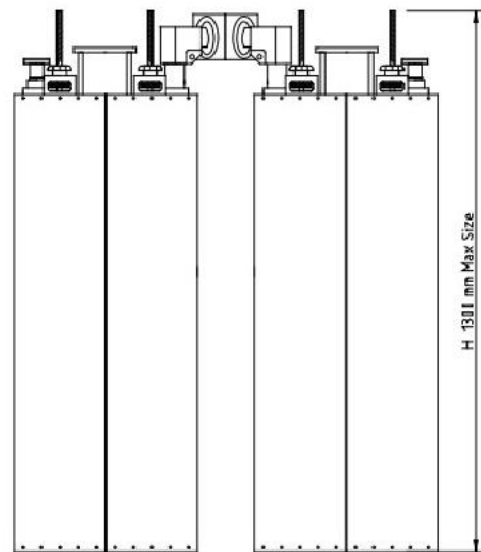
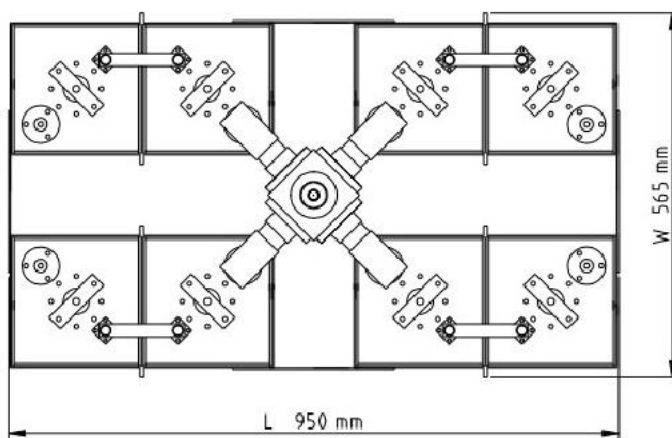


Fig. 1

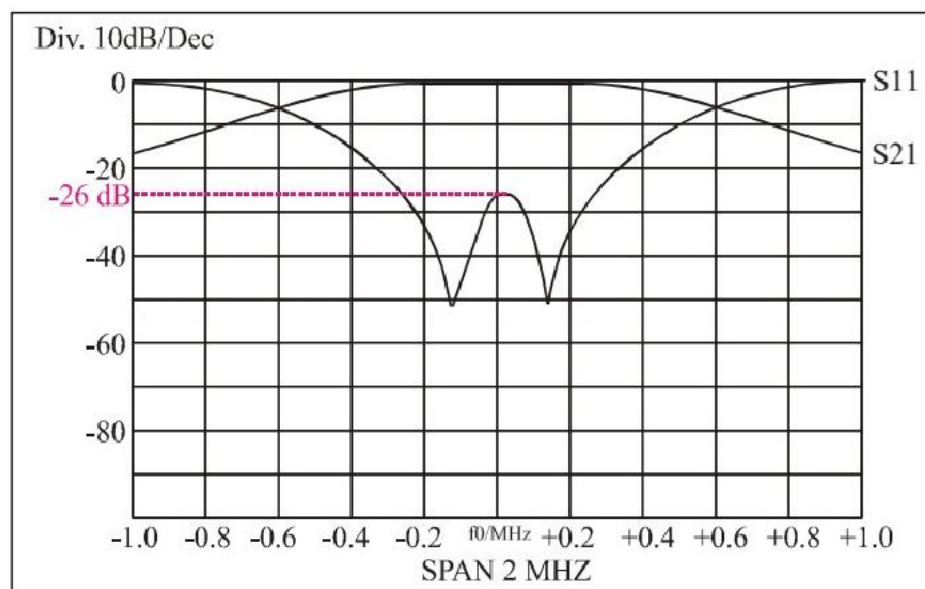
In the Quadriplexer illustrated in Fig.1 the filter F_1 permits at the frequency f_1 to pass, whereas filters F_2 , F_3 and F_4 cut it off. In relation to frequency f_1 , the filters F_2 , F_3 and F_4 present a short circuit at their inputs and at mode reciprocal. Through an electrically effective cable (made up of l_1 and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F_1 presents impedance Z_L at this point. The filters F_2 , F_3 and F_4 function in the analog manner in relation to frequency f_2 , f_3 and f_4 .

Summary:

The Quadriplexing filter, consisting of four filters and a junction point with defined three narrow cable lengths, has four narrow band inputs corresponding to the pass band characteristics of the filters.



Dimensions	1300(Max size)· 950· 565 mm (51.2(Max size)· 37.4· 22.2 inch) (H· L· W)
Net Weight	≈ 100 Kg



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



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MODEL FQCSDC2

- 4 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.



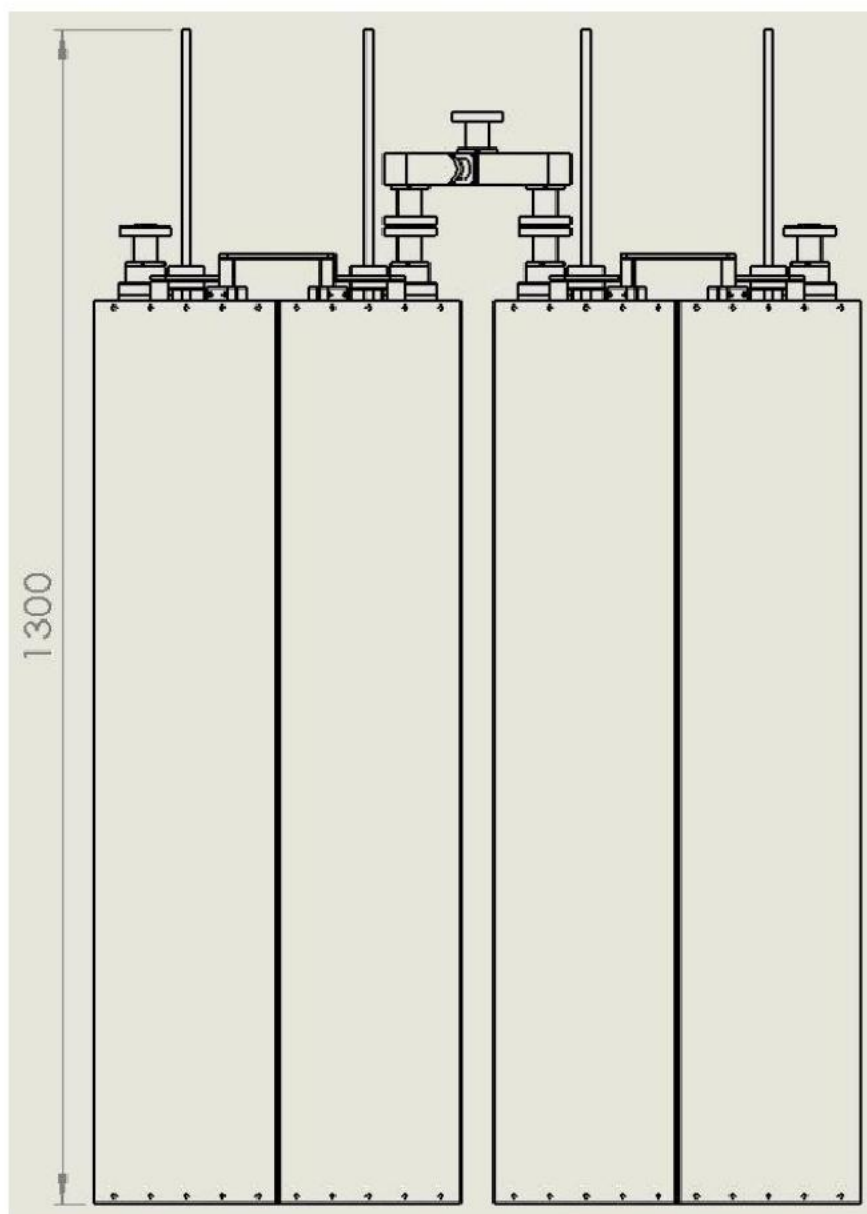
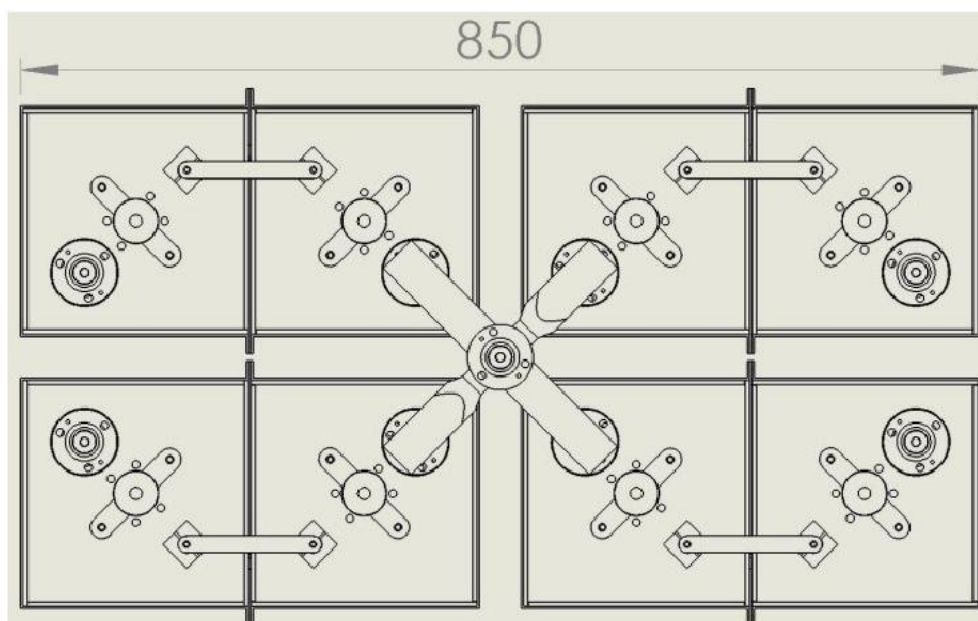
TYPICAL SPECIFICATIONS

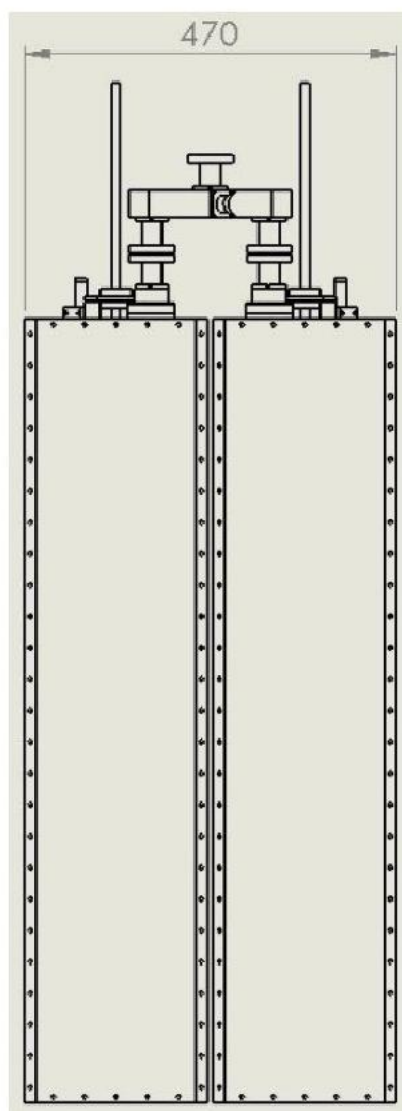
Model	FQCSDC2
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	0.25 - 0.4 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.2 MHz	≥ 30 dB
No. of Input	4
No. of Output	1
Connectors	Input. 7/8" Output 7/8"
Max Power	1 KW \times Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

- Distortion – Free Transmission
- Low Loss, High Isolation
- Natural Convection

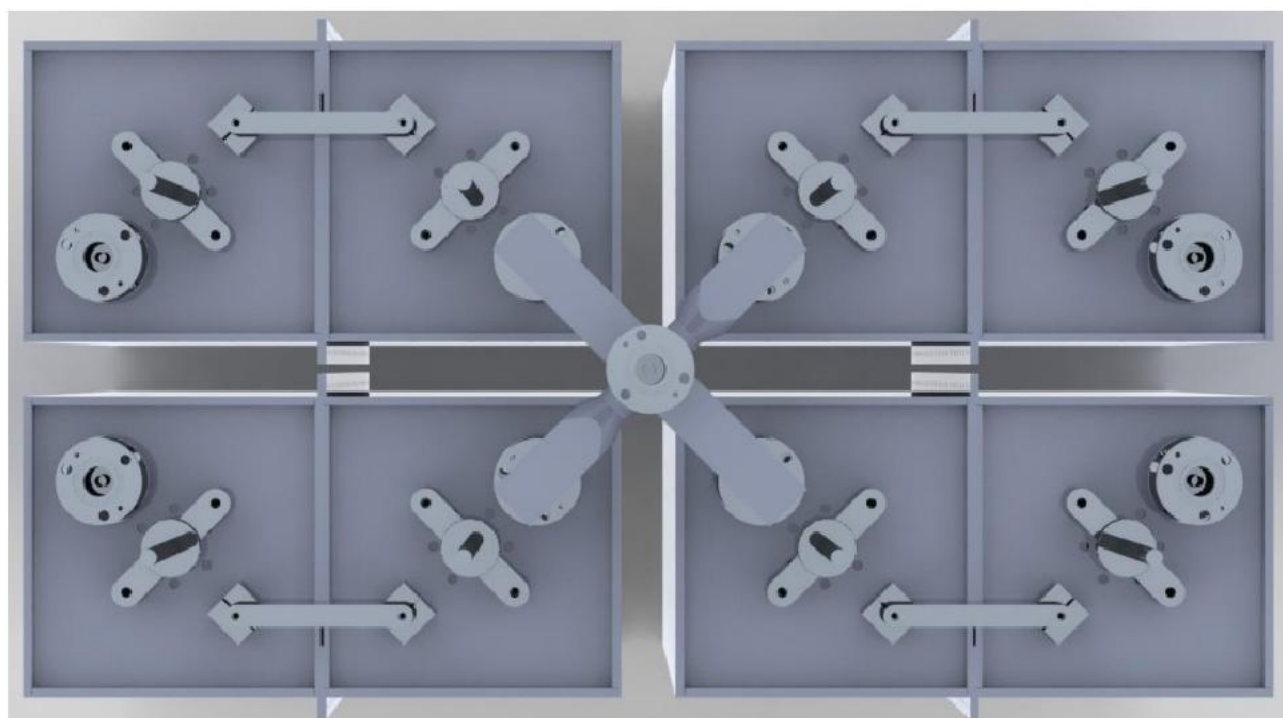
DIMENSIONS (mm)

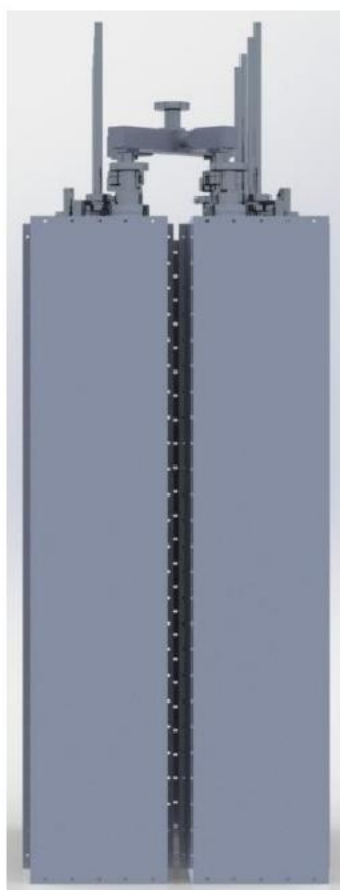


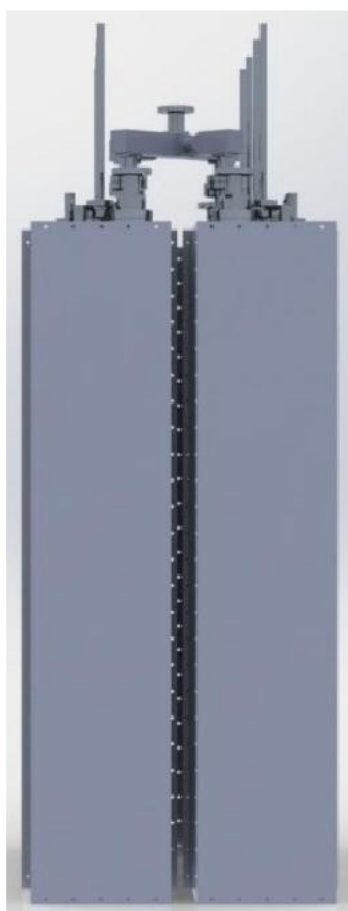


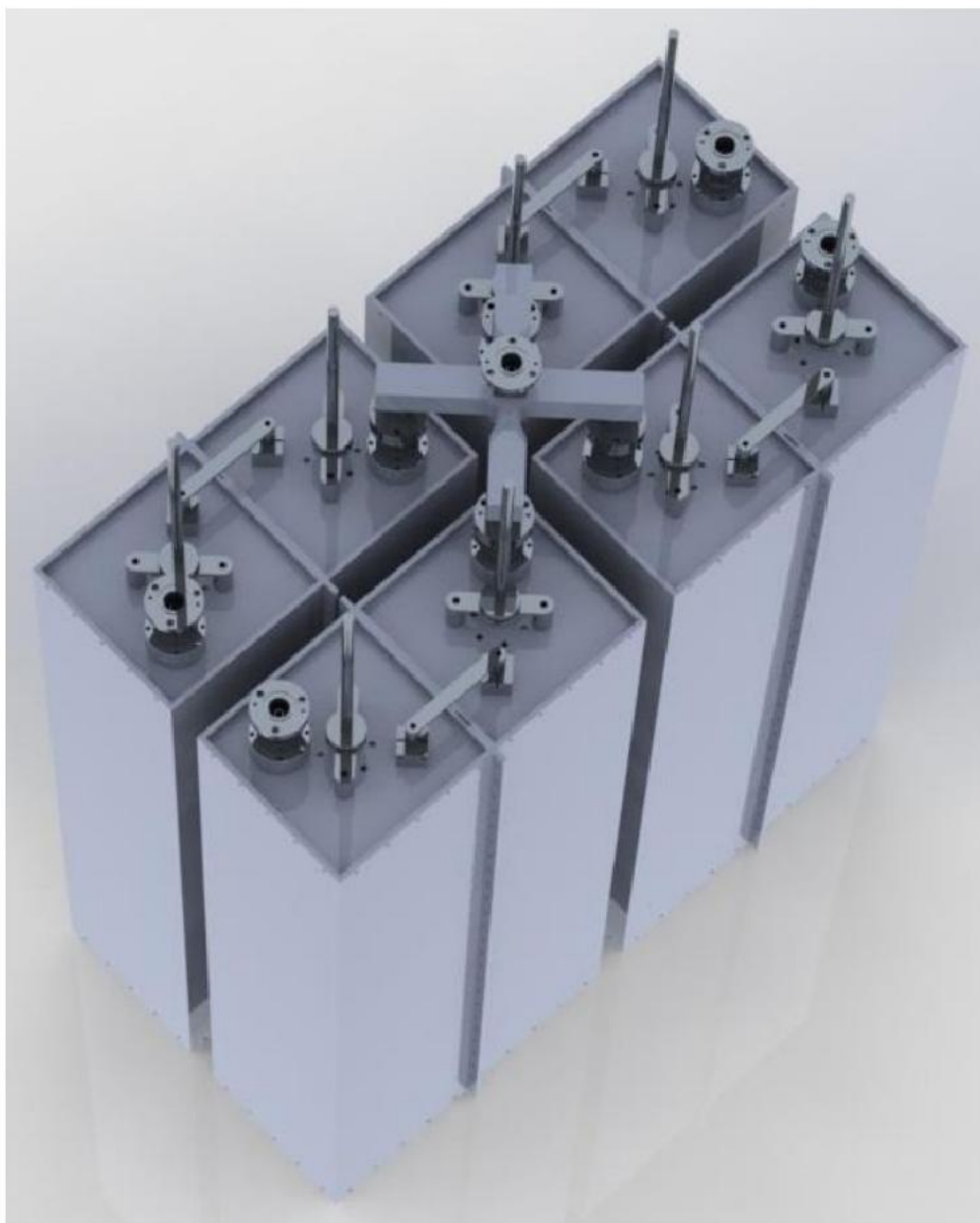
Dimensions	1300 (Max size)×850×470 mm (51.2(Max size)×33.5×18.5 inch) (H×L×W)
Net Weight	≅ 80 Kg approx.

VIEWS OF THE SYSTEM









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MODEL FQCSDC2R

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

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	FQCSDC2R - Star Point Type
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR \pm 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.25 - 0.45 dB max for double cavity Depending of adjustment.
Return Loss \pm 150Khz	≤ -26 dB
Isolation \pm 1.2MHz	≥ 30 dB
Number of Inputs	4
Number of Outputs	1
Connectors	Input 7/16" or 7/8" Output 7/8" Option 1+5/8"
Max Power	1000 - 1500 W x Channel depending of adjustment
Working Temperature	-20°C +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 micron thickness)

Features:

- Distortion - Free Transmission
- Low Loss, High Isolation
- Natural Convection

DESCRIPTION OF A STAR-POINT QUADRIPLEXER

A star-point Quadriplexer is made by parallel circuiting four 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.

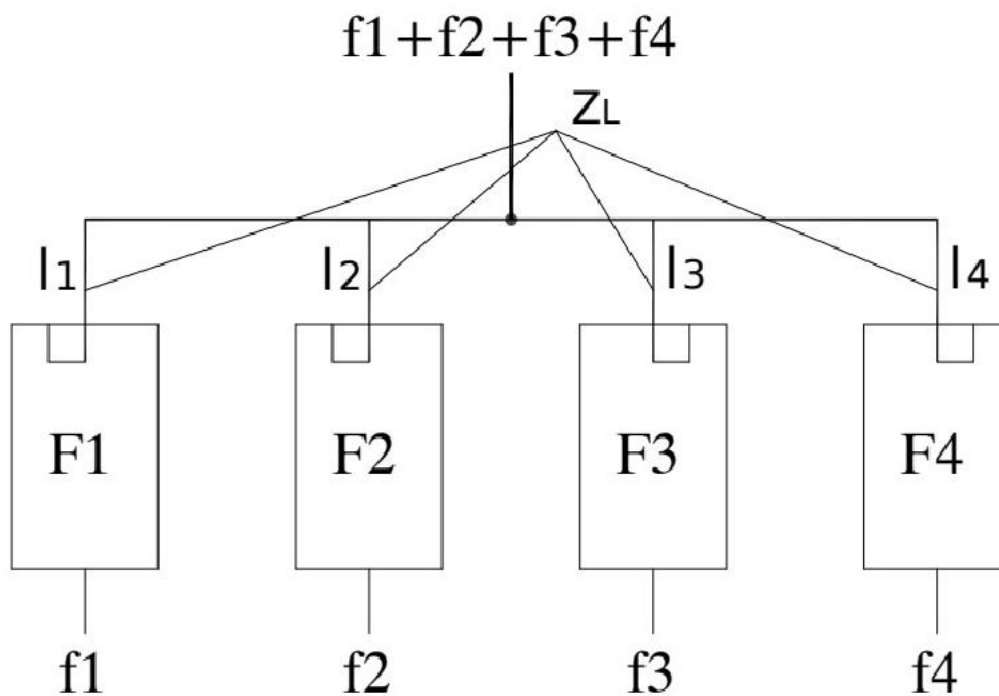


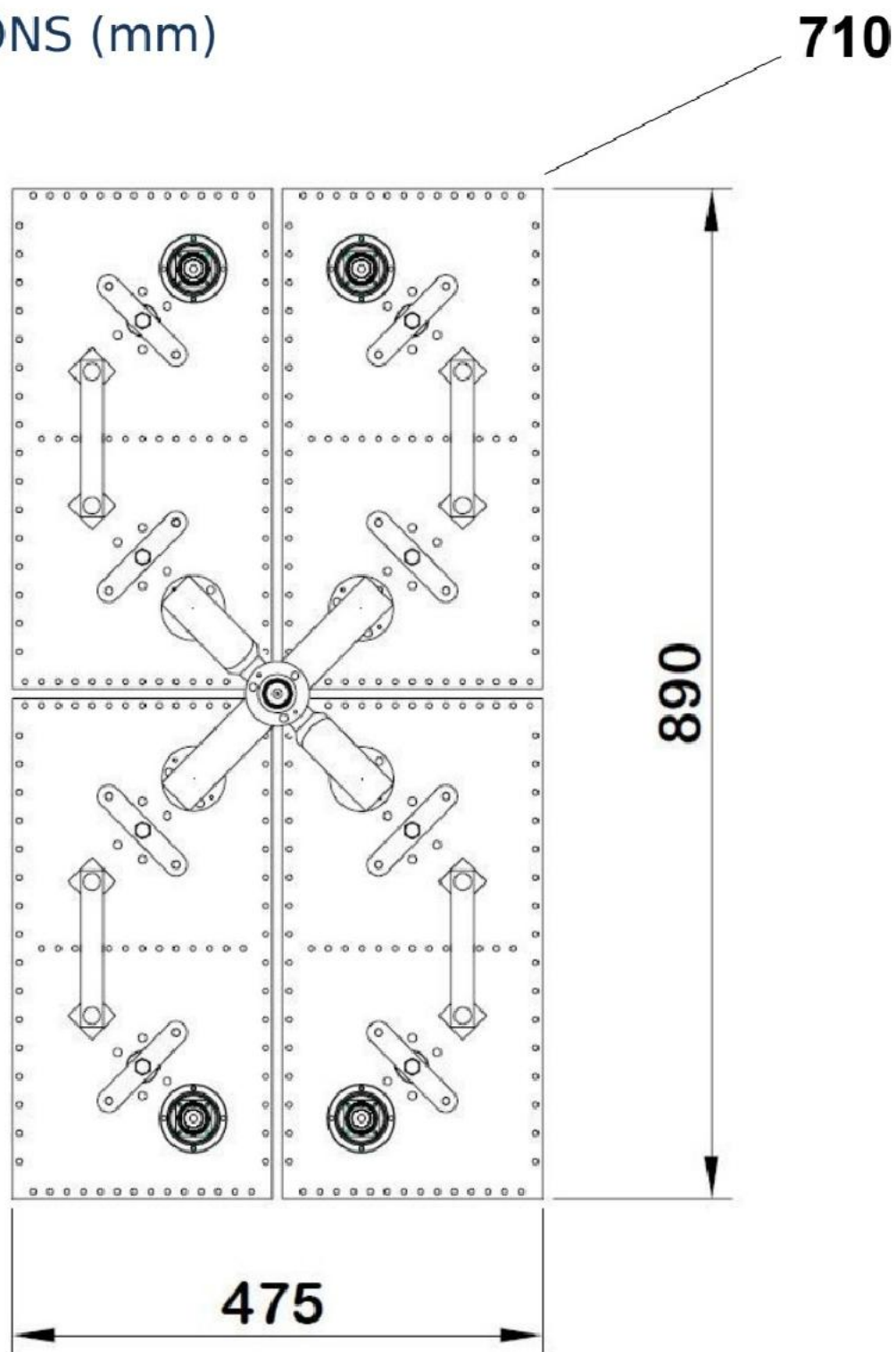
Fig. 1

In the Quadriplexer illustrated in Fig.1 the filter F1 permits at the frequency f_1 to pass, whereas filters F2, F3 and F4 cut it off. In relation to frequency f_1 , the filters F2, F3 and F4 present a short circuit at their inputs and at mode reciprocal. Through an electrically effective cable (made up of l_1 and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F1 presents impedance Z_L at this point. The filters F2, F3 and F4 function in the analog manner in relation to frequency f_2 , f_3 and f_4 .

Summary:

The Quadriplexing filter, consisting of four filters and a junction point with defined three narrow cable lengths, has four narrow band inputs corresponding to the pass band characteristics of the filters.

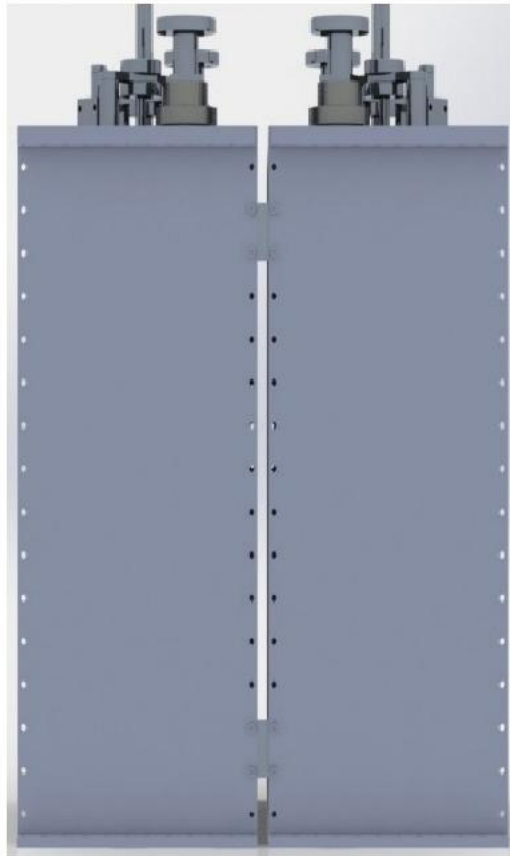
DIMENSIONS (mm)

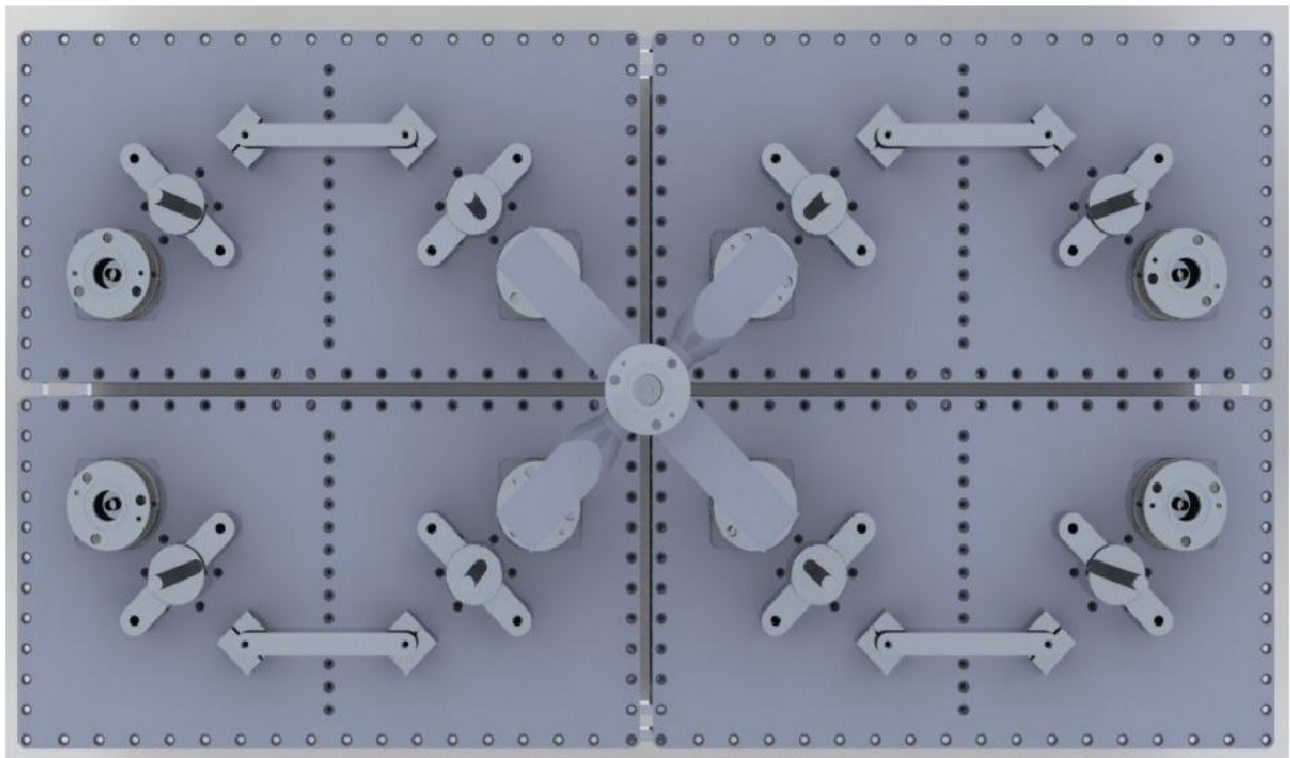


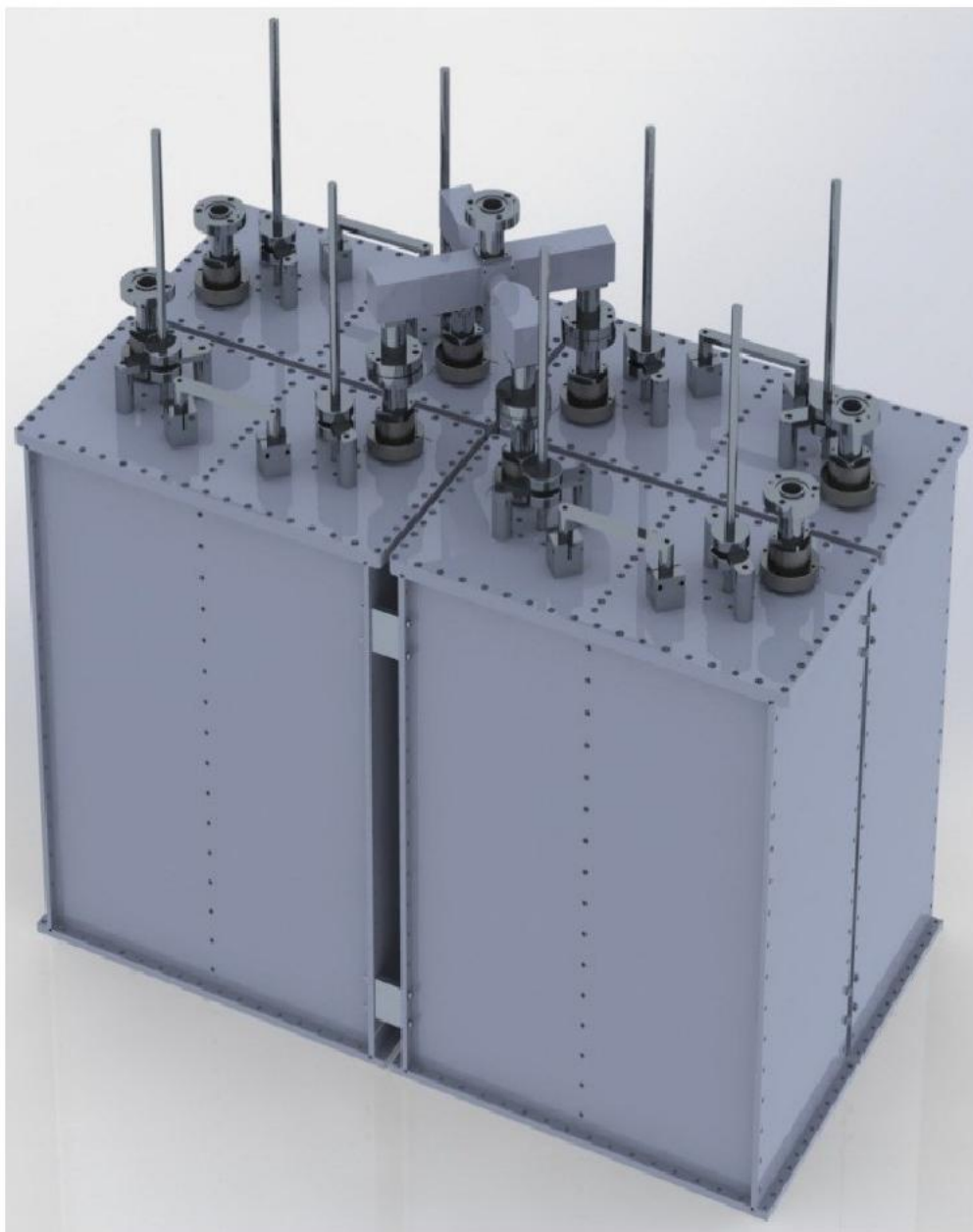
Dimensions	890 (max size) x 710 x 475 mm. (H x L x W)
Net Weight	≈85 kg. Approx.

VIEWS OF THE SYSTEM









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MODEL FQCSDC03

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



VERSION WITH RACK(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.

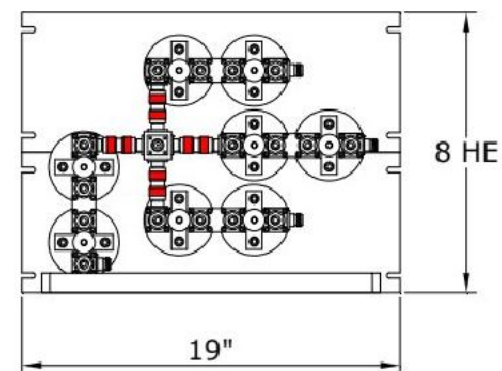
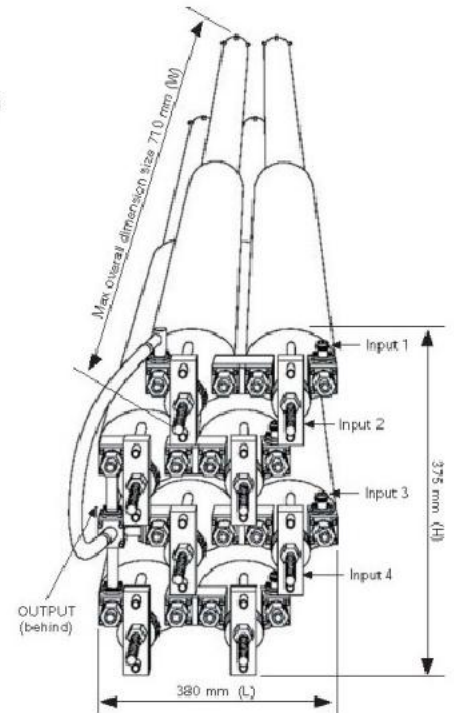
The parallel connection is obtained by means of coaxial lines of determined length, so a provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FQCSDC03 – 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 dB max 0.8 -1dB for spacing 1.3 mhz.		
Return Loss ± 150 Khz	\leq -26 dB		
Isolation ± 2.5 MHz	\geq 30 dB isolation spacing 1.3 mhz.		
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. 12 μ m 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 equaliser



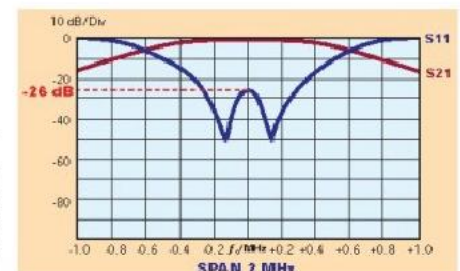
No Rack Version

Dimension	375 x 290 x 710 mm (14.8 x 11.4 x 28 inch) (HxLxW)
Net Weight	≈ 24 Kg

Rack Version

Panel Size	8 HE (1 HE=44,45 mm)
Weight	≈ 24 Kg

Typical shape of a curves for S11 and S21 parameters for single filter



MODEL FQCSDC03RSV

- 4 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 \pm 108 MHz
- BAND II
- STARPOINT TYPE
- REDUCED SIZE VERSION



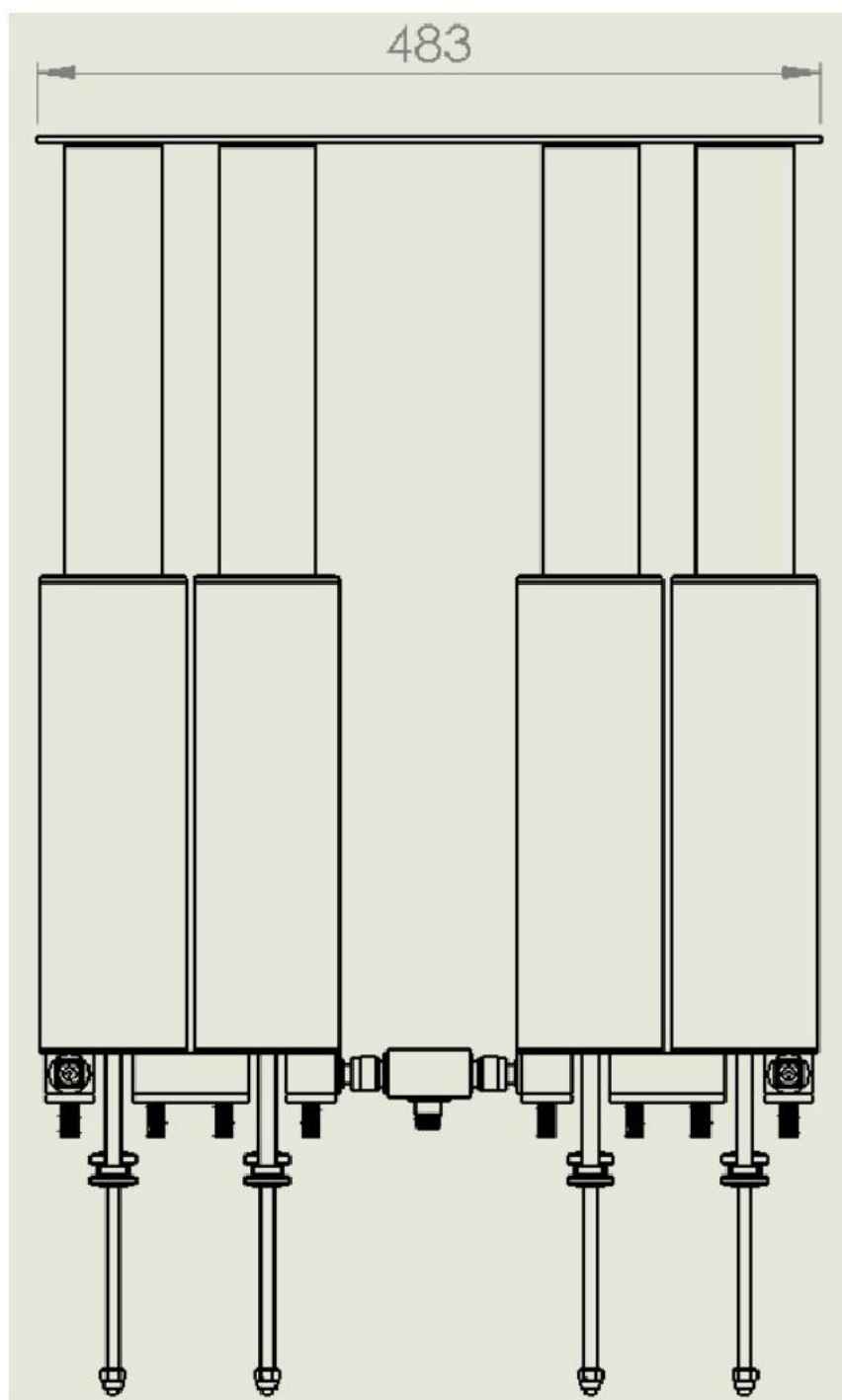
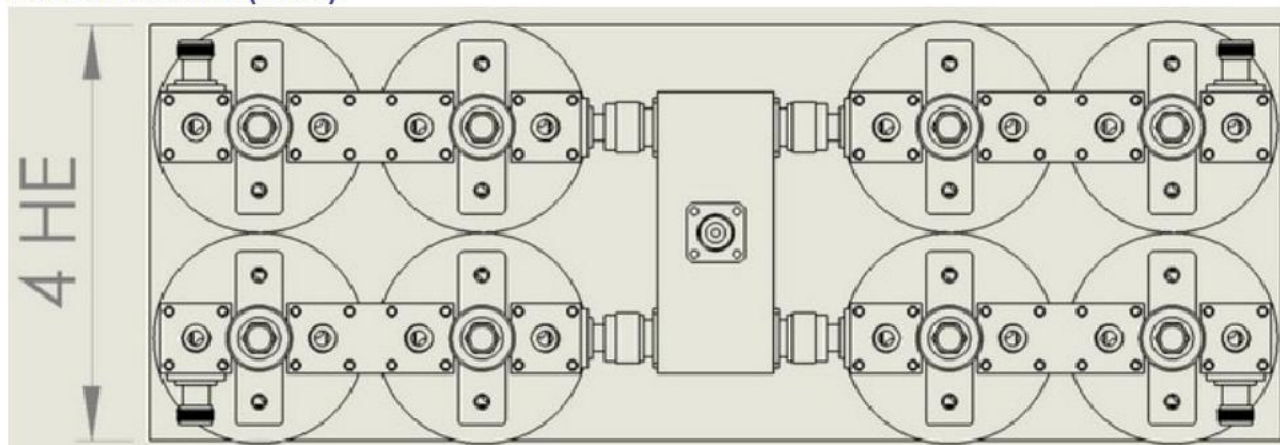
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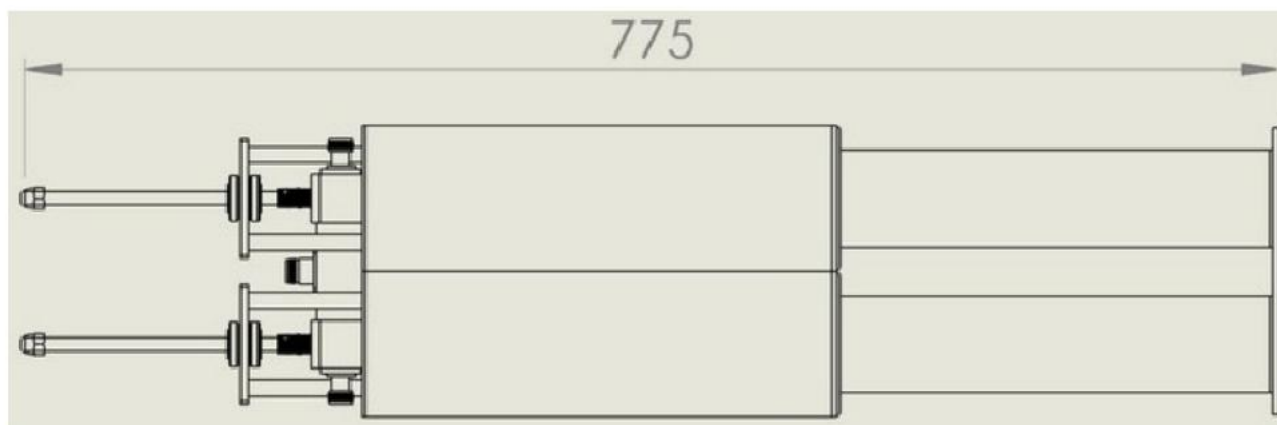
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FQCSDC03RSV
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR \pm 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.6 dB max 0.8 – 1 dB for spacing 1.3 MHz
Return Loss \pm 150Khz	\leq -26dB
Isolation \pm 2.5 MHz	\geq 30 dB isolation spacing 1.3 MHz
No. of Input	4
No. of Output	1
Connectors	Input N Output N
Max Power	150 W \times Channel
Working Temperature	-20°C \div +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

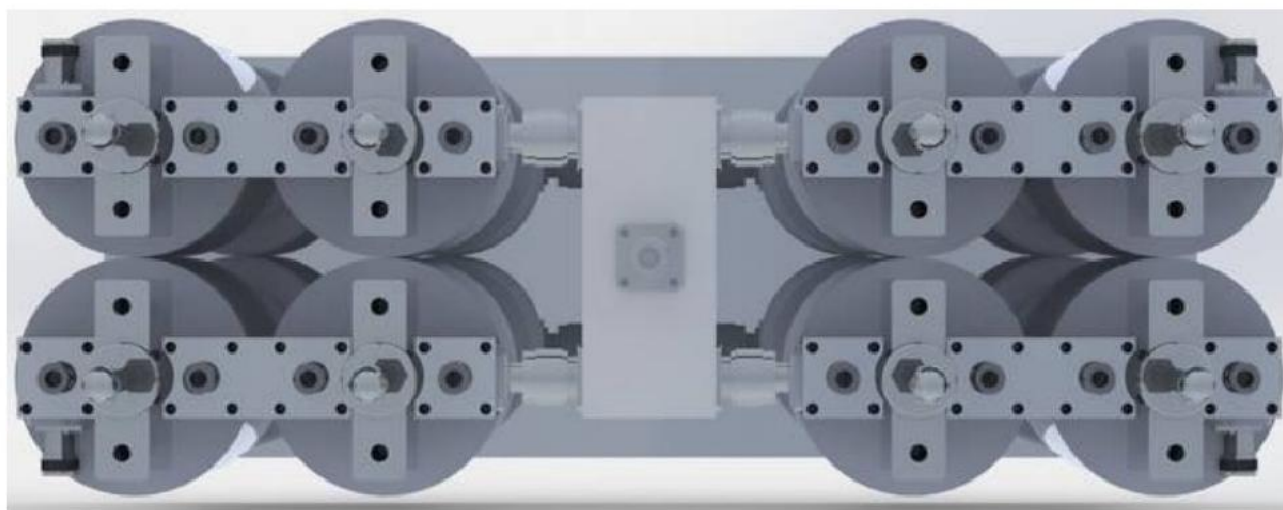
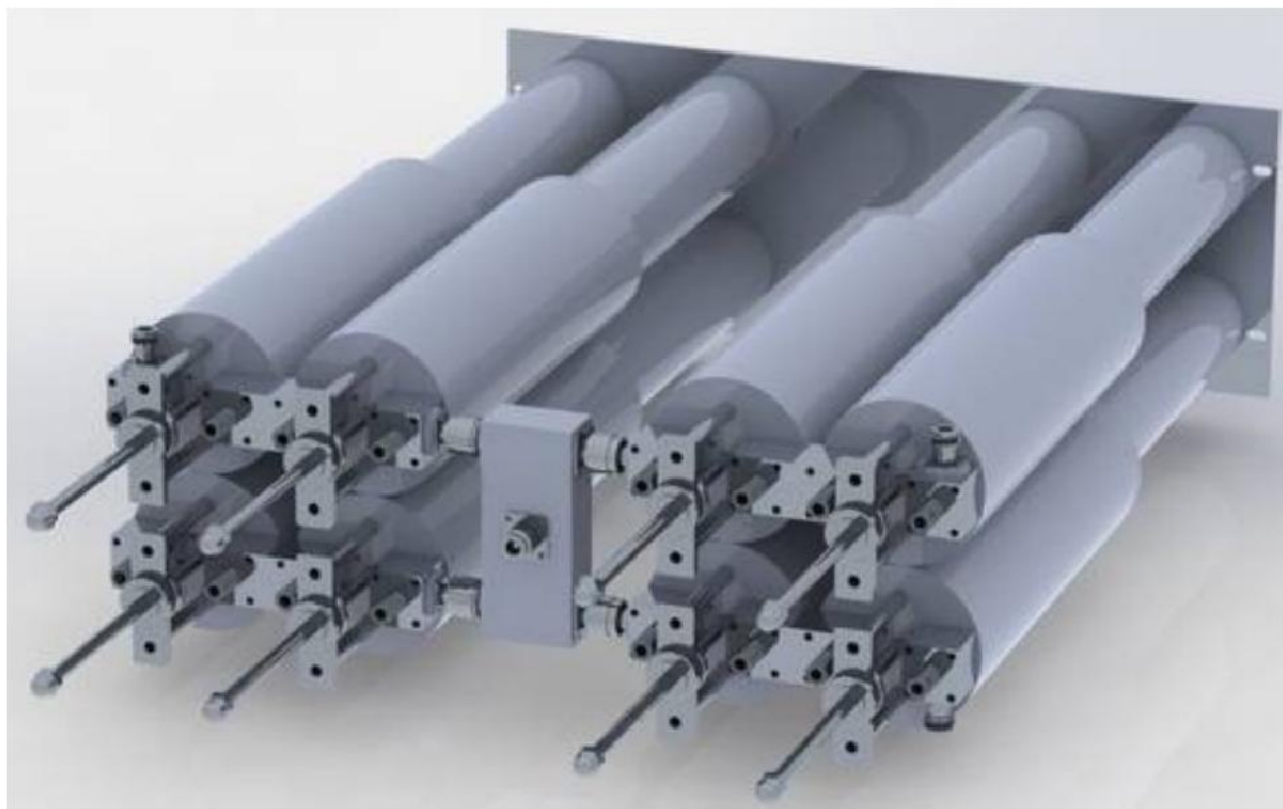
DIMENSIONS (mm)





Dimensions	4 HE (1 HE=44.45 mm) (Max size)×483×775 mm (4 HE(Max size)×19×30.5inch) (H×L×W)
Net Weight	≅ 24 Kg approx.

VIEWS OF THE SYSTEM



**TELECFE**

BROADCAST SOLUTIONS

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MODEL FQCSDC03TRV

- 4 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 \div 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.

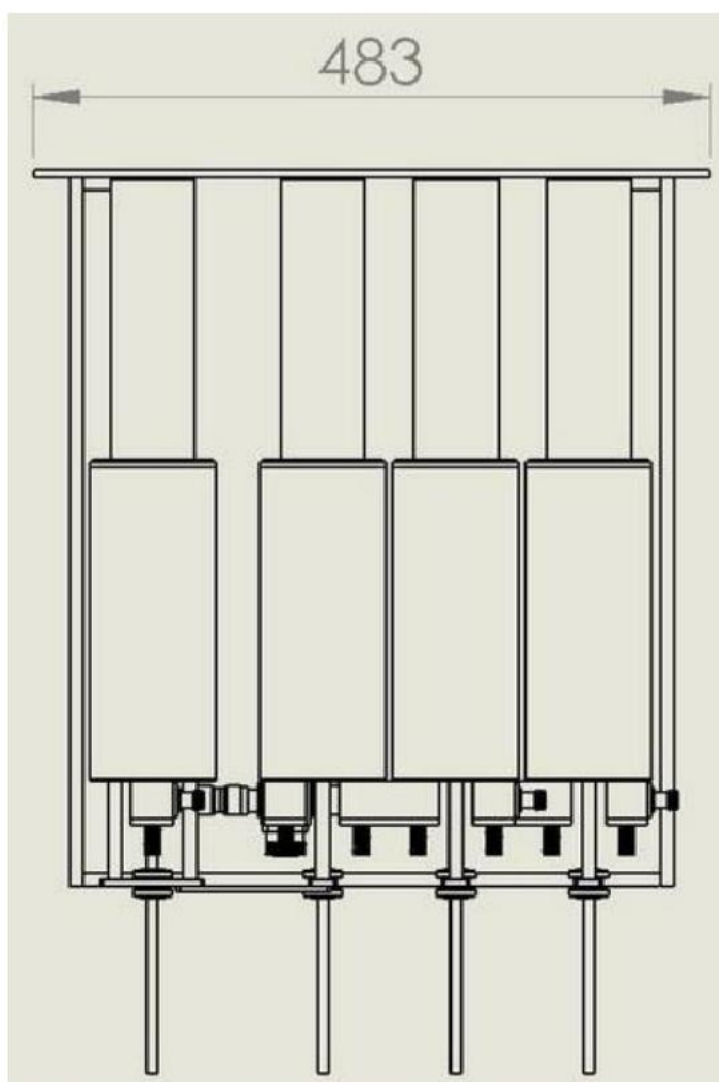
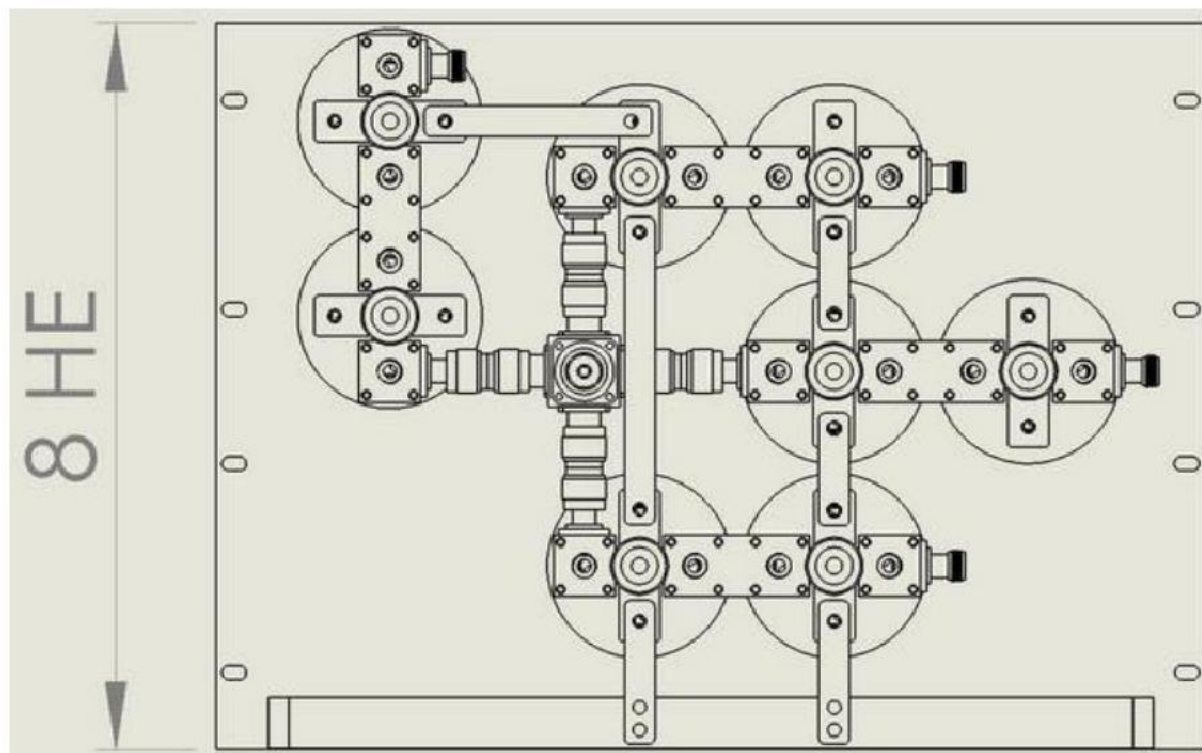
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

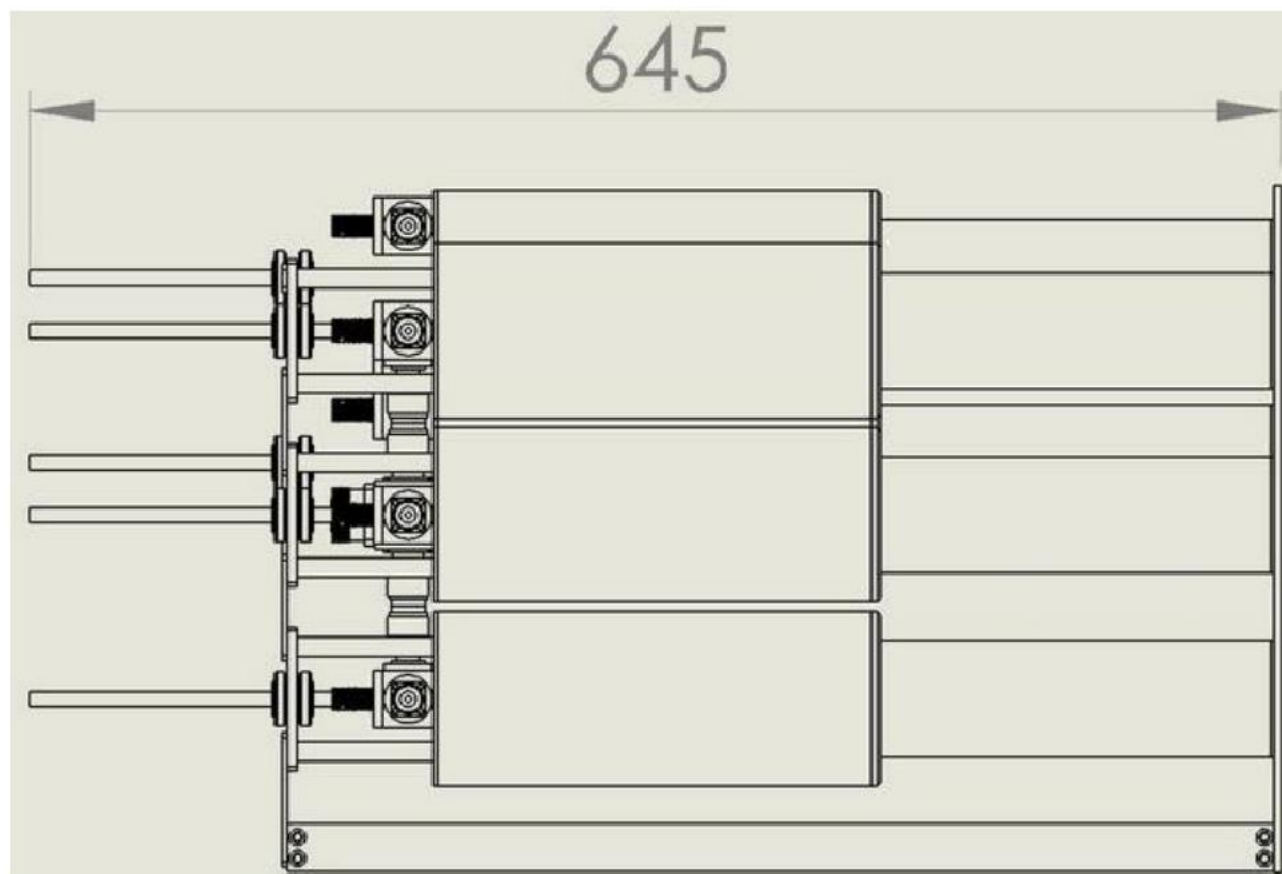


TYPICAL SPECIFICATIONS

Model	FQCSDC03TRV
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR \pm 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.6 dB max
Return Loss \pm 150Khz	\leq -26dB
Isolation \pm 2 MHz	\geq 30 dB
No. of Input	4
No. of Output	1
Connectors	Input N Output 7-16
Max Power	250 W \times Channel
Working Temperature	-20°C \div +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

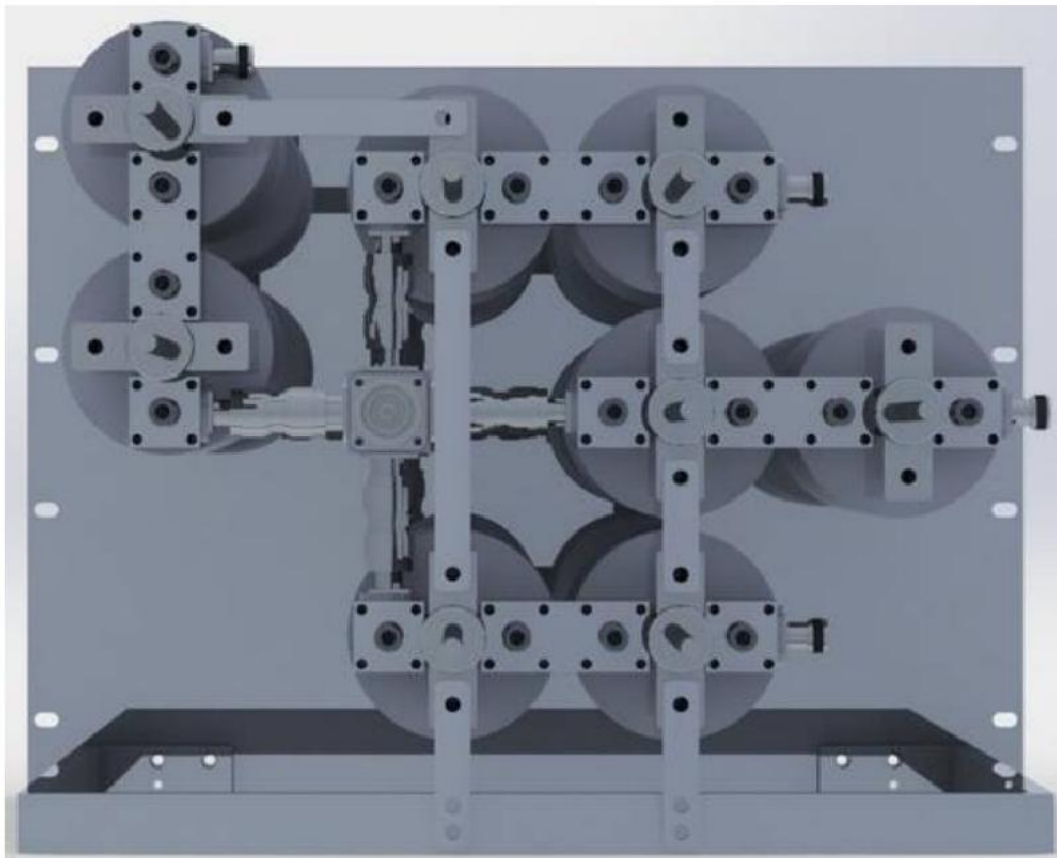
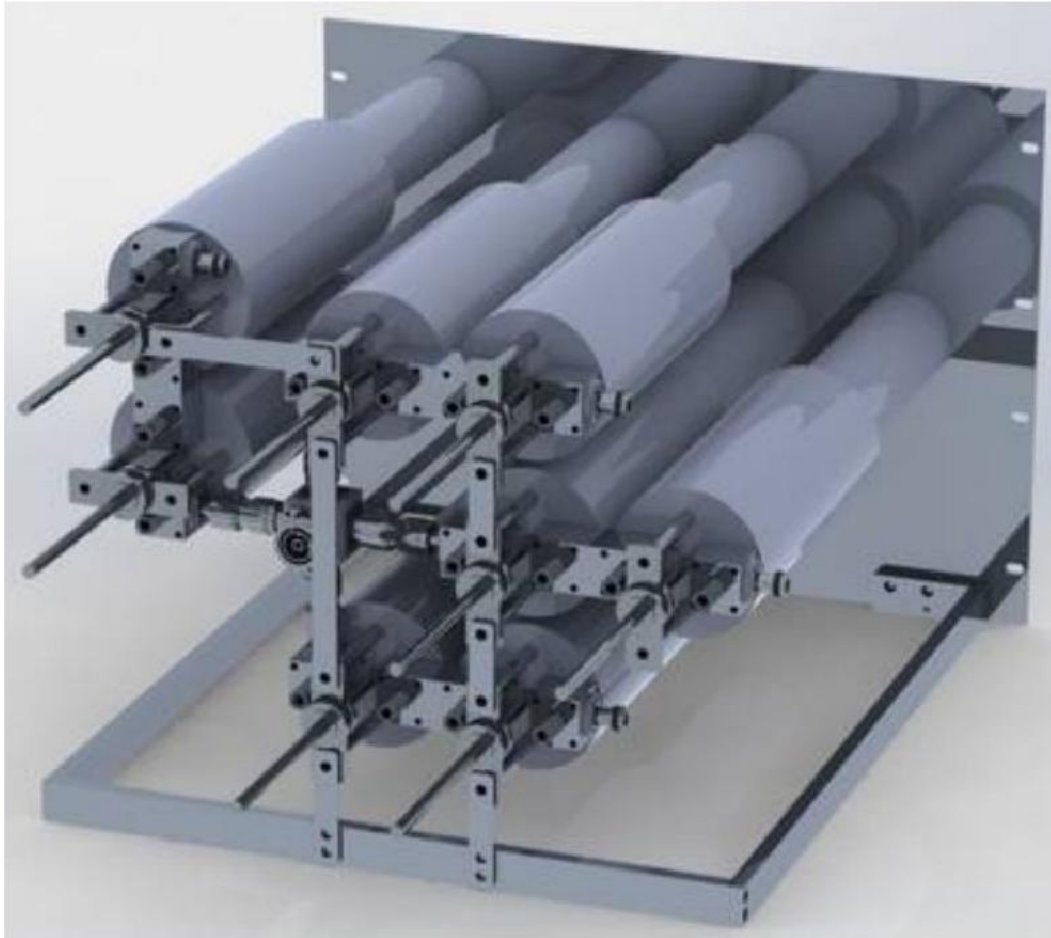
DIMENSIONS (mm)

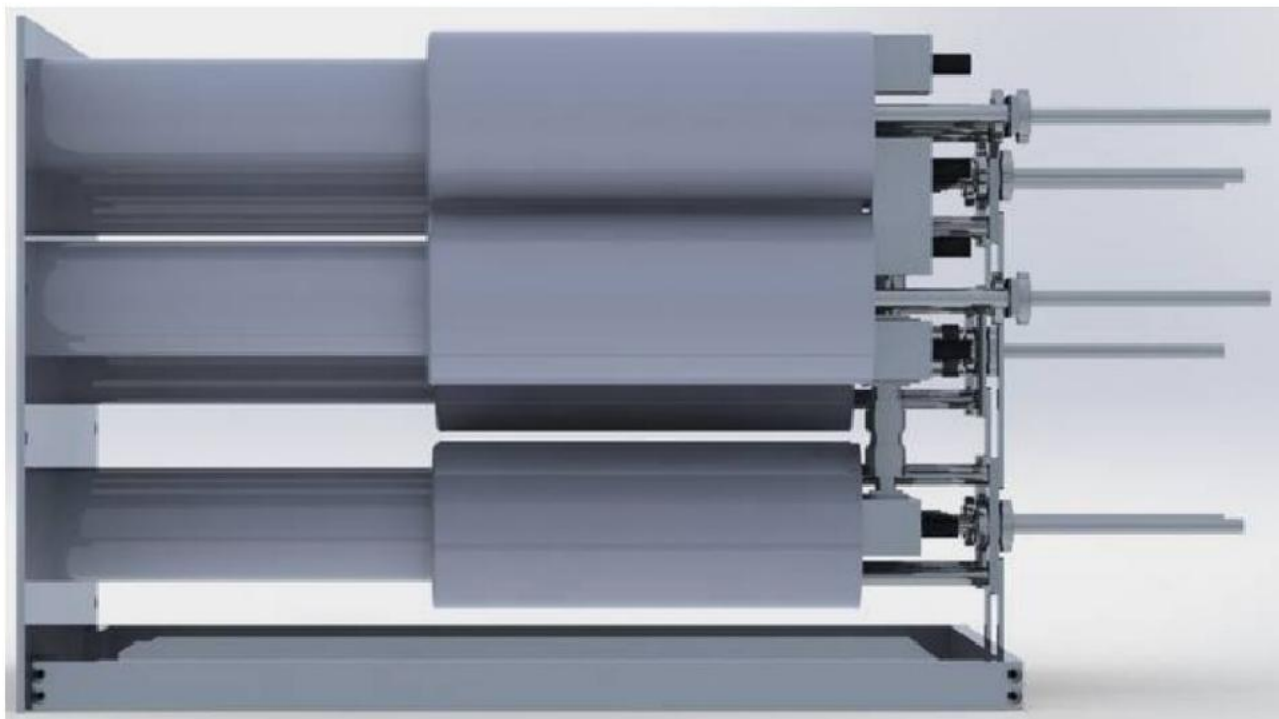


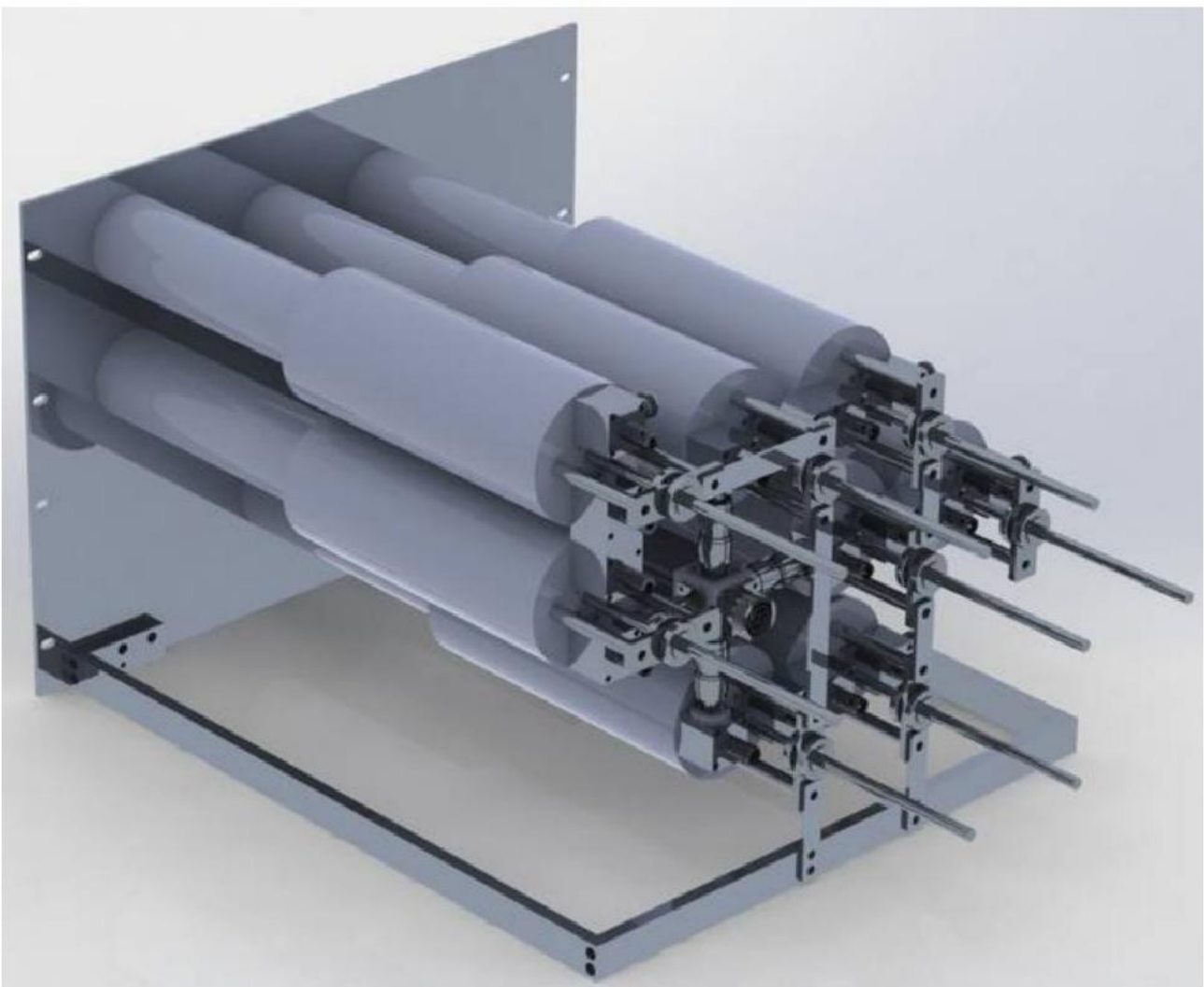
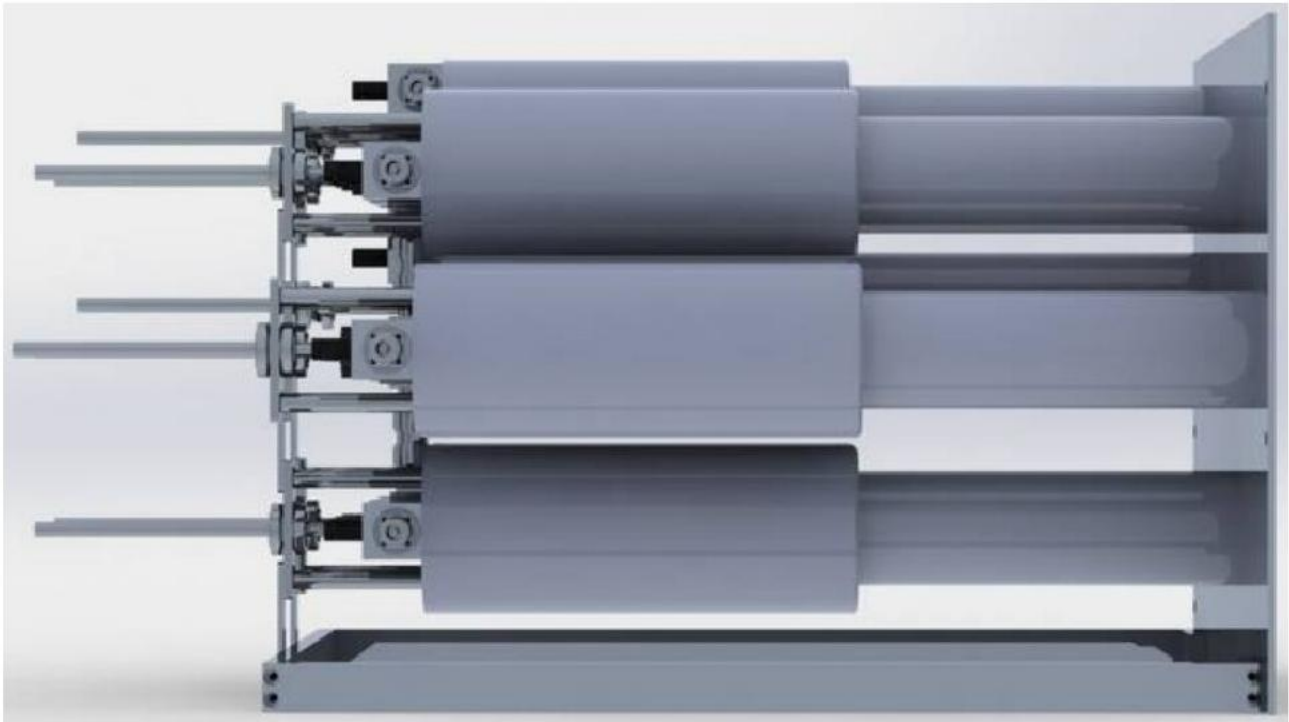


Dimensions	8 HE (355.6 mm approx.) × 483 × 645 (Max size) mm (6 HE (14 inch approx.) × 19 × 25.3 (Max size) inch) (H × L × W)
Net Weight	≅ 25 Kg approx.

VIEWS OF THE SYSTEM







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
FQCSDC3-1	7/8"	7/8"	1.6KW	5KW
FQCSDC3-2	1+5/8"	1+5/8"	3KW	12KW

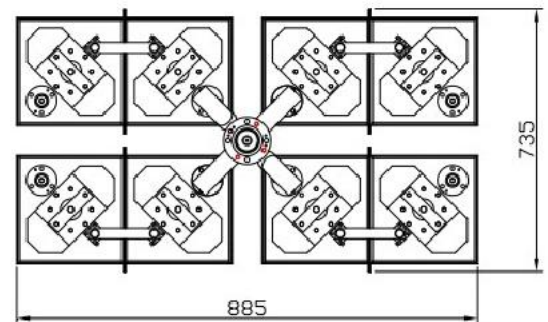
The star combiner basically consist of parallel connecting several transmitters to a single antenna

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

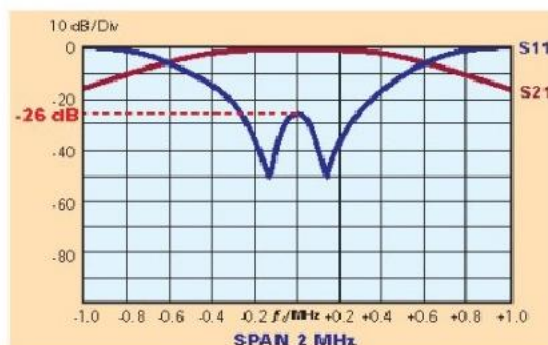
Model	FQCSDC3 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.25 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.4 MHz	≥ 30 dB
Input Number	4
Output Number	1
Connectors	Input 7/8" Output 1+5/8"
Max Power	3KW - 4 Channel
Working Temperature	-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

MODEL FQCSDC05

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

Model	Input Connector	Output Connector	Power Input	Power Output
FQCSDC05-1	N	7/16"	500W	2KW
FQCSDC05-2	N	7/8"	500W	2KW
FQCSDC05-3	7/16"	7/16"	500W	2KW
FQCSDC05-4	7/16"	7/8"	500W	2KW
FQCSDC05-5	7/8"	7/8"	500W	2KW

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	FQCSDC05 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.4-0.6 dB t ytical
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.5 MHz	≥ 30 dB
Input Number	4
Output Number	1
Connectors	(See table)
Max Power	500W x Channel
Working Temperature	-20°C +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

Features:

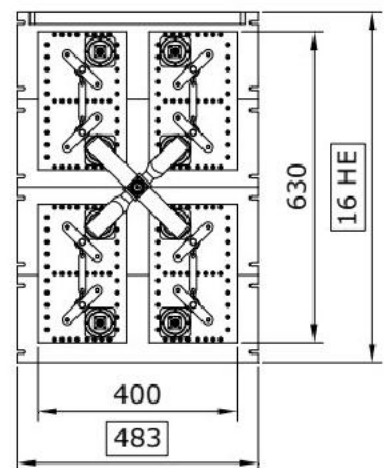
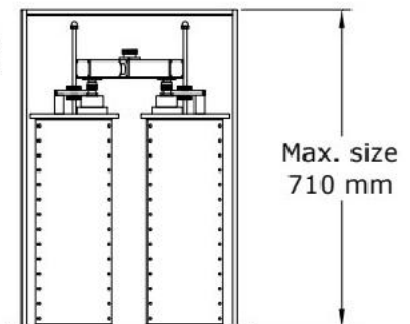
- Distortion – Free Transmission
- Starpoint system with pass stop
- Low loss, high isolation
- Natural convection
- Option whit Rack

No rack version

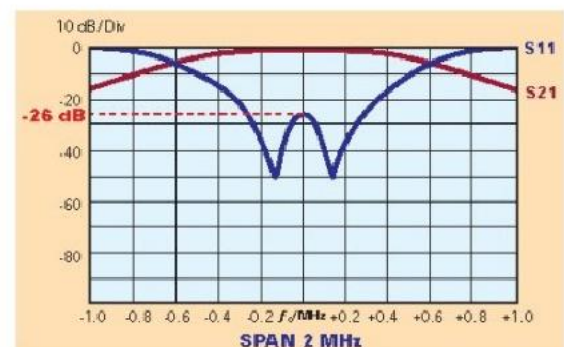
Dimensions	710 (Max size) 630·400 mm (27.9 24.8· 15.7 inch) (H· L· W)
Net Weight	≈60 Kg

Rack version (optional)

Panel Size	16 HE (1 HE=44,45 mm)
Net Weight	≈60 Kg



RACK VERSION (OPTION)



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

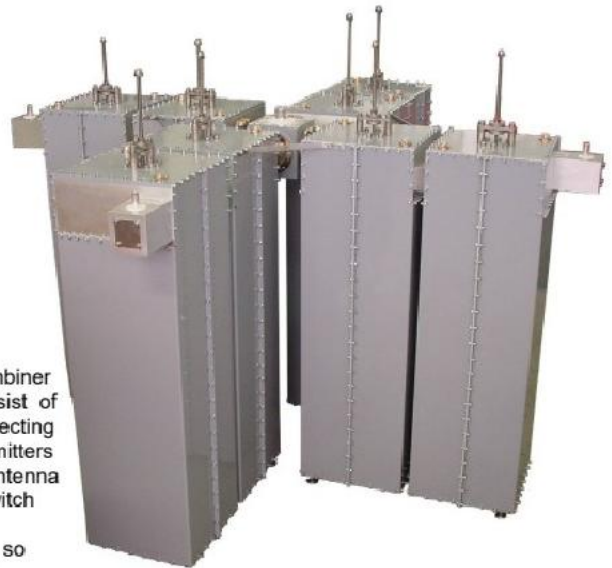
MODEL FQCSDC5

- 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	20KW
FQCSDC5-2	1+5/8"	3+1/8"	5KW	20KW

The star combiner basically consist of parallel connecting several transmitters to a single antenna 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.

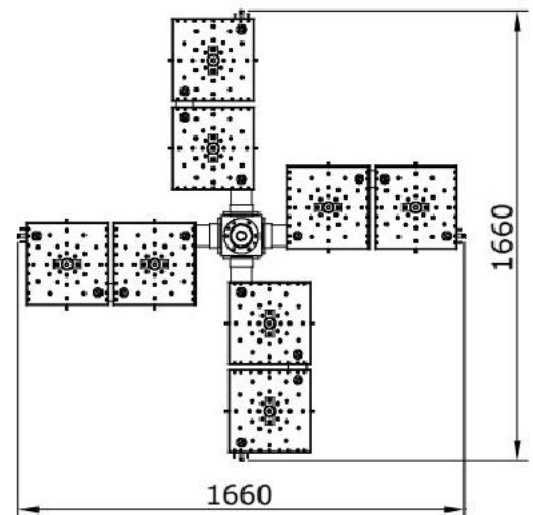


TYPICAL SPECIFICATIONS

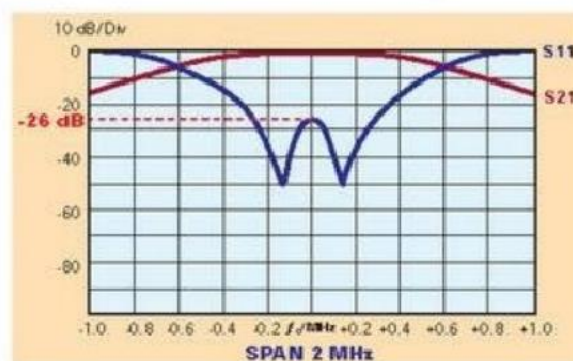
Model	FQCSDC5 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.15 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 2 MHz	≥ 30 dB
No. of Input	4
No. of Output	1
Connectors	Input 1+5/8" Output 3+1/8"
Max Power	5KW \times 4 Channels
Working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

Features:

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



Dimensions	1400(Max size) \times 1660 \times 1660 mm (55.1(Max size) \times 65.3 \times 65.3 inch) (H \times L \times W)
Net Weight	\approx 180 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.

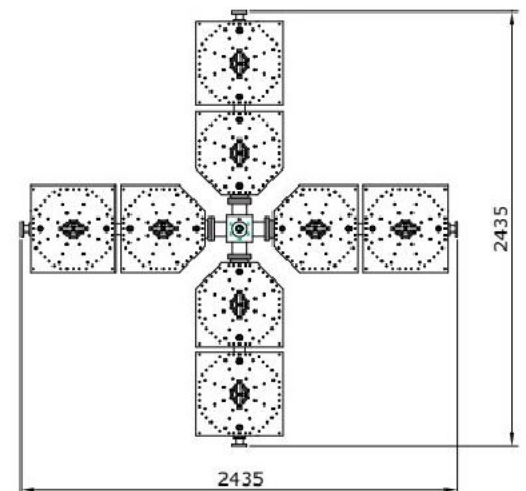
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

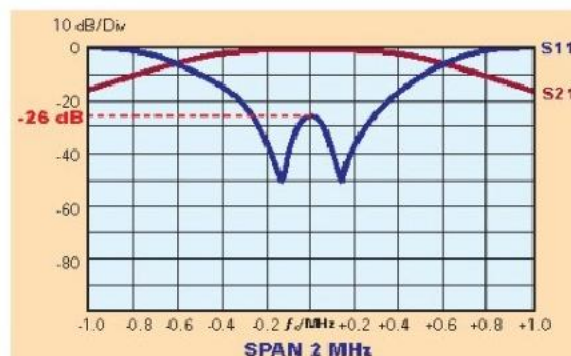
Model	FQCSDC10 – Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150KHz	1.1:1max
Insertion Loss	at f_0 0.1 dB max
Return Loss ± 150KHz	≤ -26 dB
Isolation ± 1.5MHz	≥ 30 dB
Input Number	4
Output Number	1
Connectors	Input 1+5/8" (Opt. 3+1/8") Output 3+1/8" (Opt. 4+1/2")
Max Power	10KW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



MODEL FQCSDC10C#01

- 4 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 which it's connected.

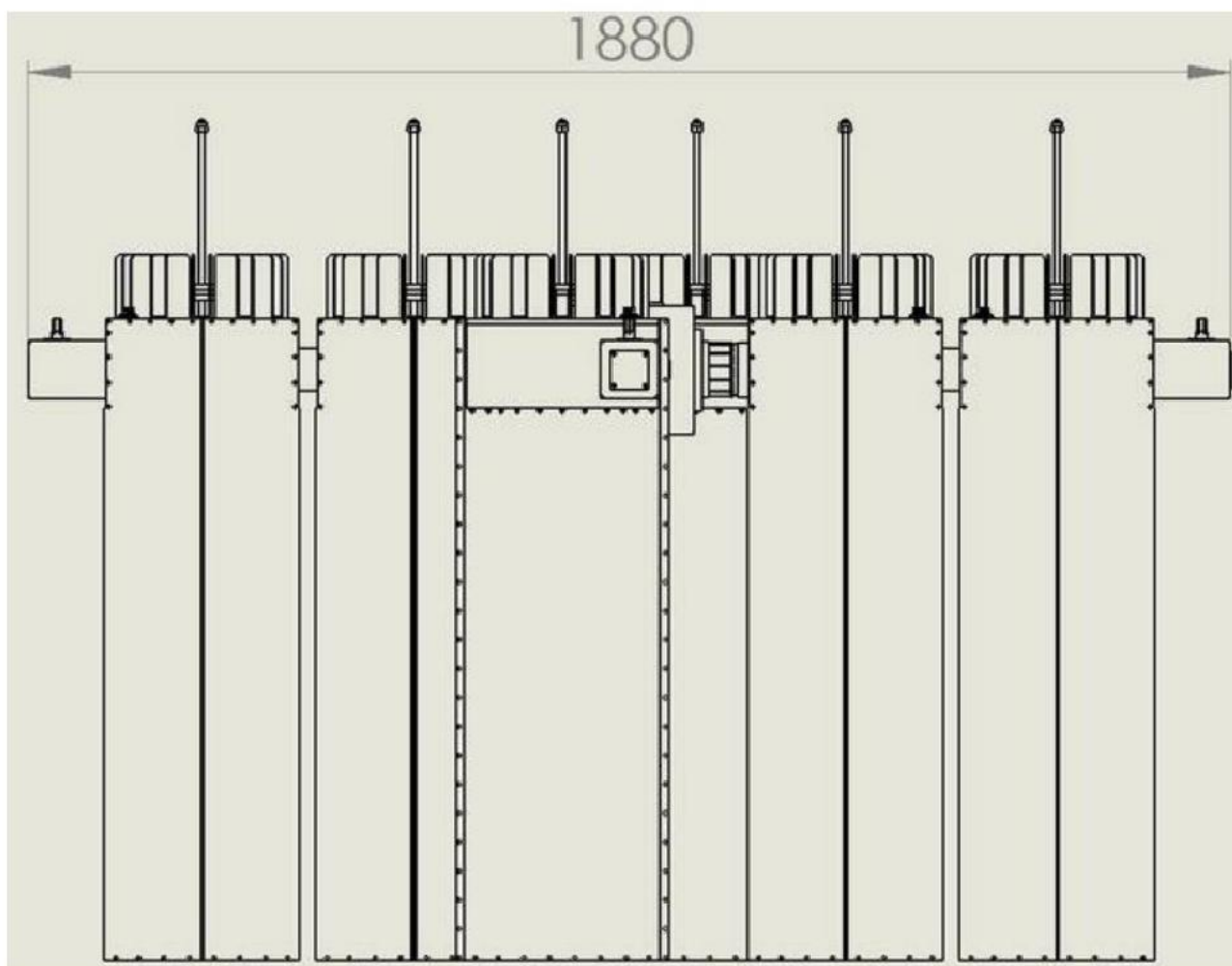
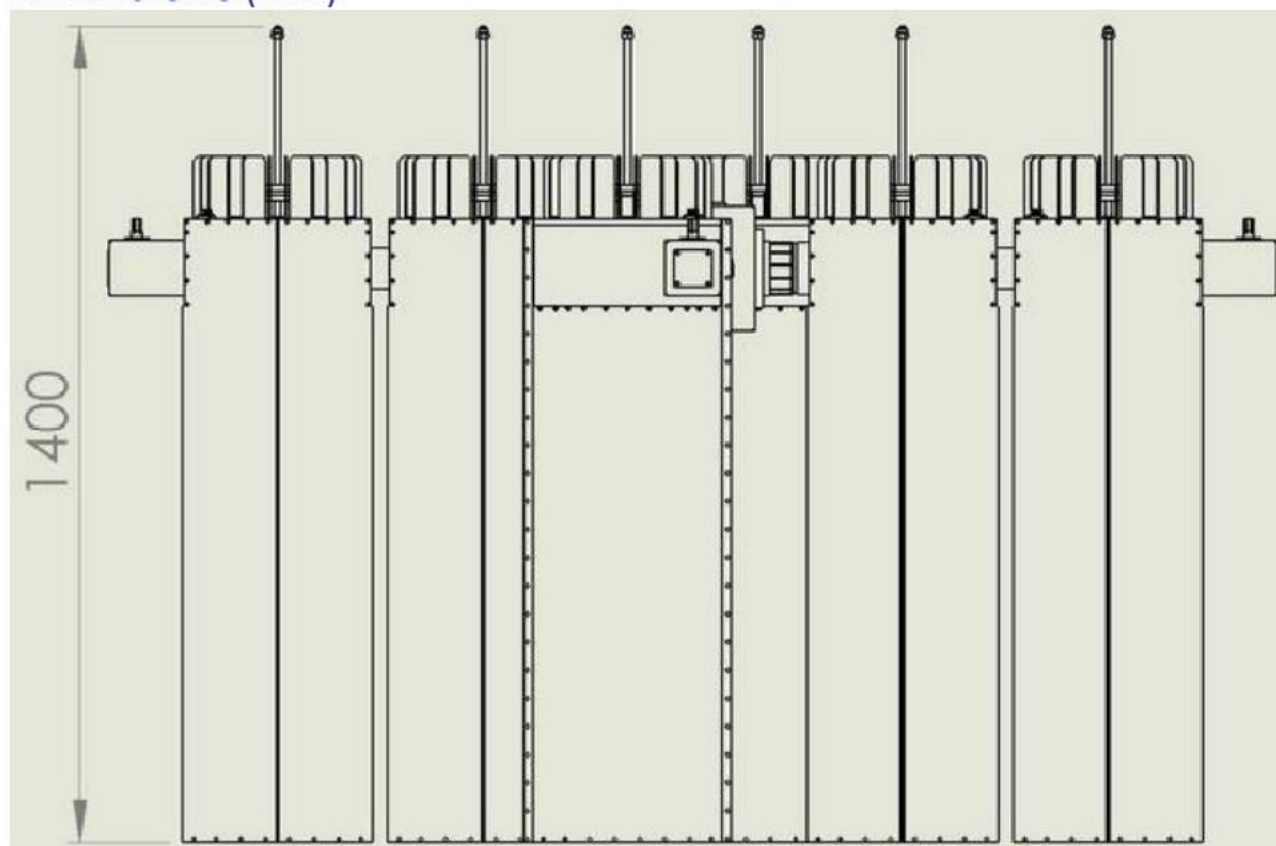
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

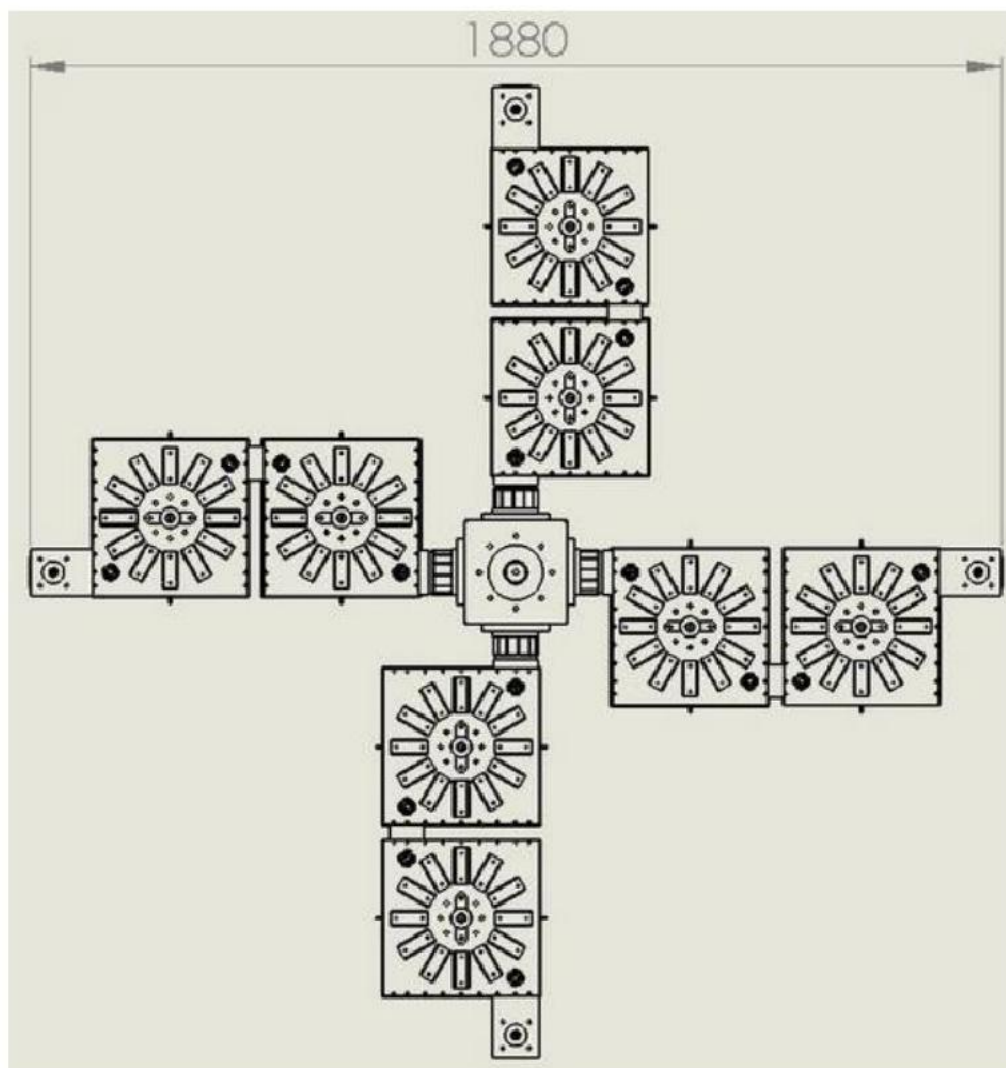


TYPICAL SPECIFICATIONS

Model	FQCSDC10C#01
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
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.3 MHz	≥ 30 dB
No. of Input	4
No. of Output	1
Connectors	Input 1+5/8" (Opt. 3+1/8") Output 4+1/2" (Opt. 3+1/8")
Max Power	10 kW \times Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

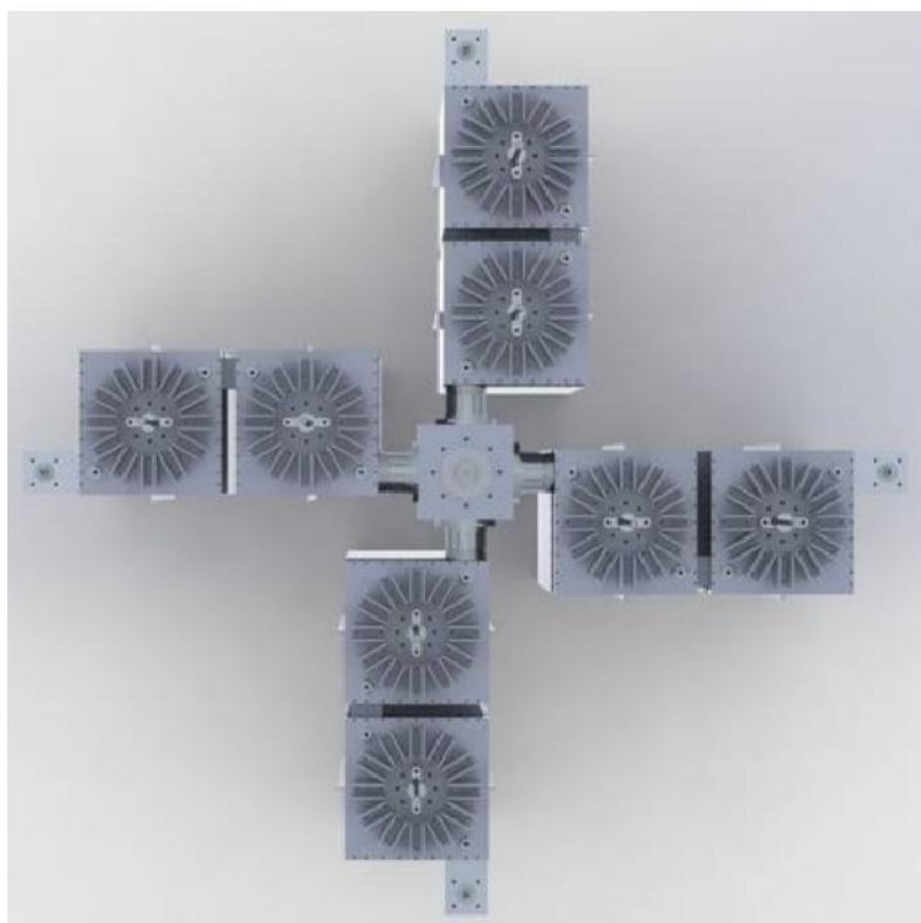
DIMENSIONS (mm)





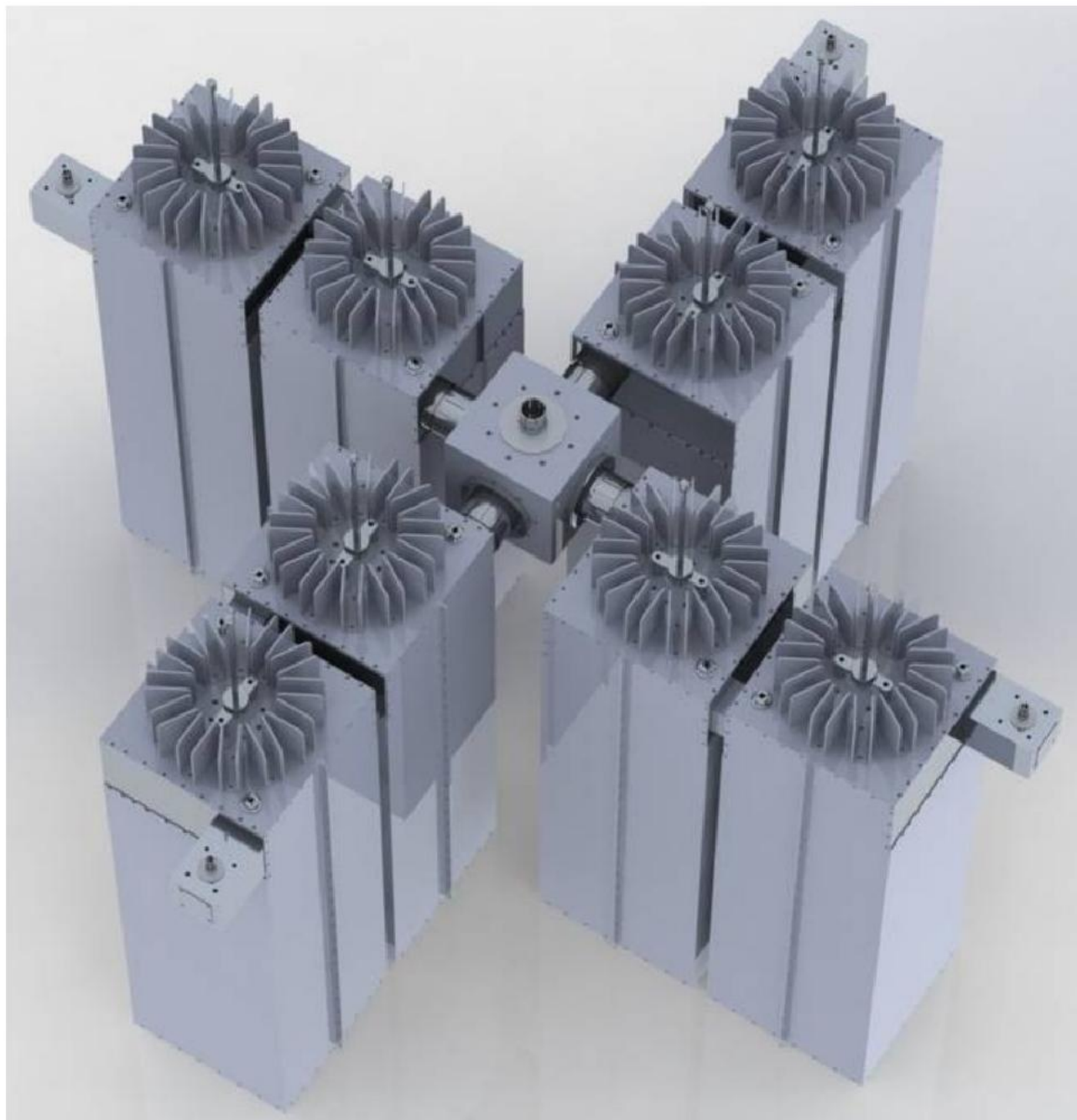
Dimensions	1400 (Max size)×1880×1880 mm (55.1(Max size)×74×74inch) (H×L×W)
Net Weight	≅ 200 Kg approx.

VIEWS OF THE SYSTEM







**TELECFE**

BROADCAST SOLUTIONS

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MODEL FQCSDC15

- 4 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 – 108 MHz
- BAND II



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

TYPICAL SPECIFICATIONS

Model	FQCSDC15 – Star Point 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
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1.5 MHz	≥ 30 dB
Number of Inputs	4
Number of Outputs	1
Connectors	Input 3+1/8" (option 1+5/8") Output 4+1/2" (optional 3+1/8")
Max Output Power 60 KW	15KW Each Channel or 10+10+10+20KW.
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 band-pass cavity filters
- Low Loss, High Isolation
- Natural Convection

Description of a Star-point Quadriplexer

A star-point Quadriplexer is made by parallel circuiting four 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.

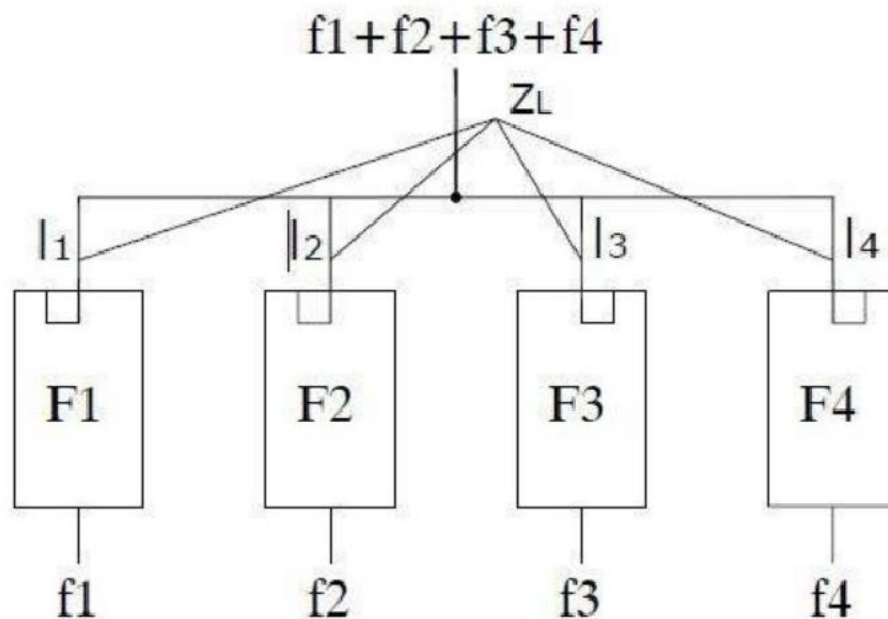


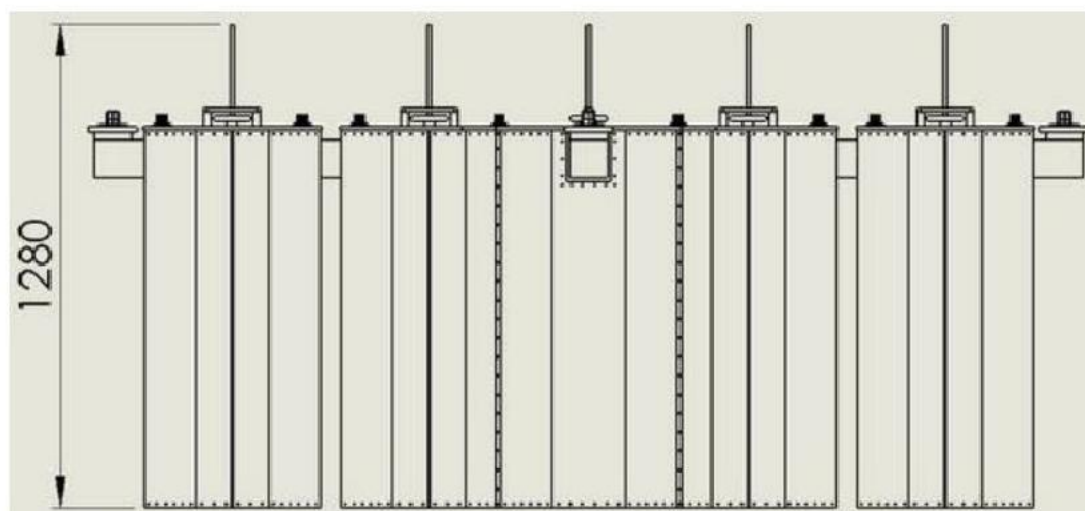
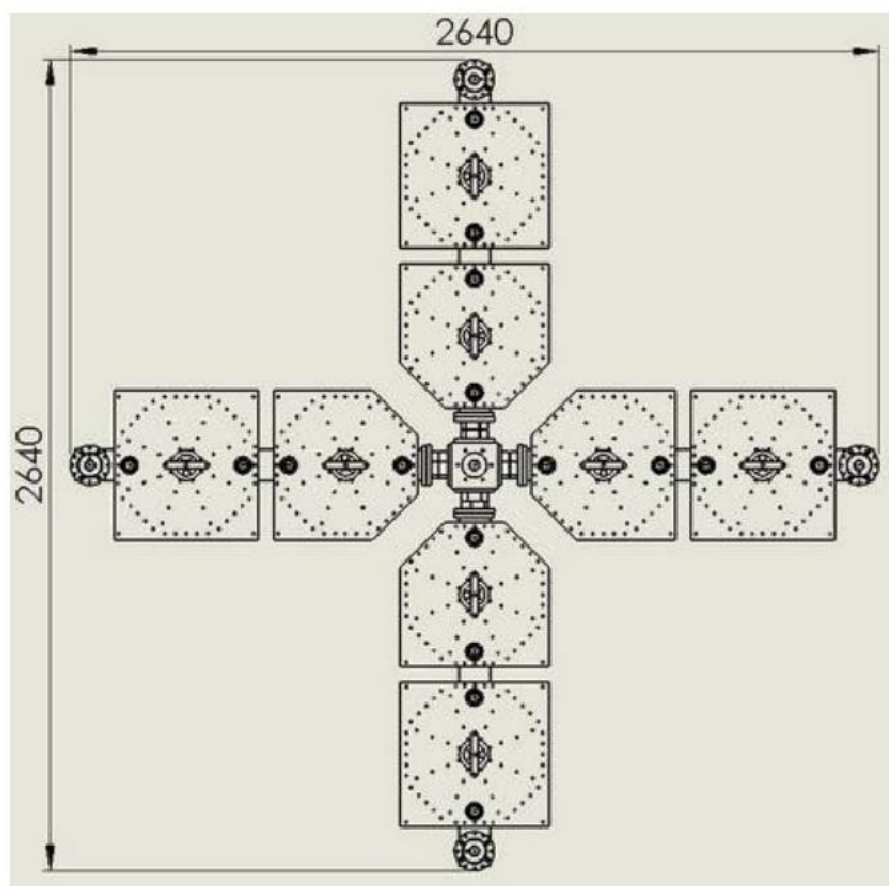
Fig. 1

In the Quadriplexer illustrated in Fig.1 the filter F1 permits at the frequency f_1 to pass, whereas filters F2, F3 and F4 cut it off. In relation to frequency f_1 , the filters F2, F3 and F4 present a short circuit at their inputs and at mode reciprocal. Through an electrically effective cable (made up of the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 filter F1 presents impedance Z_1 at this point. The filters F2, F3 and F4 function in the analog manner in relation to frequency f_2 , f_3 and f_4 .

Summary:

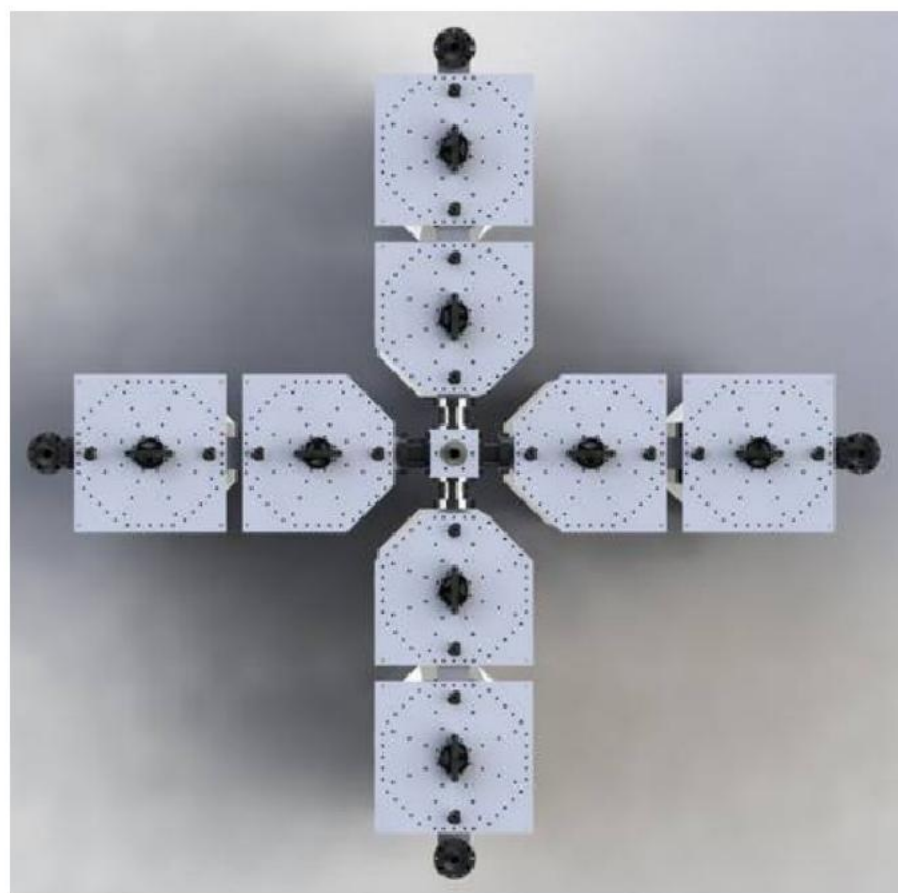
The Quadriplexing filter, consisting of four filters and a junction point with defined three narrow cable lengths, has four narrow band inputs corresponding to the pass band characteristics of the filters.

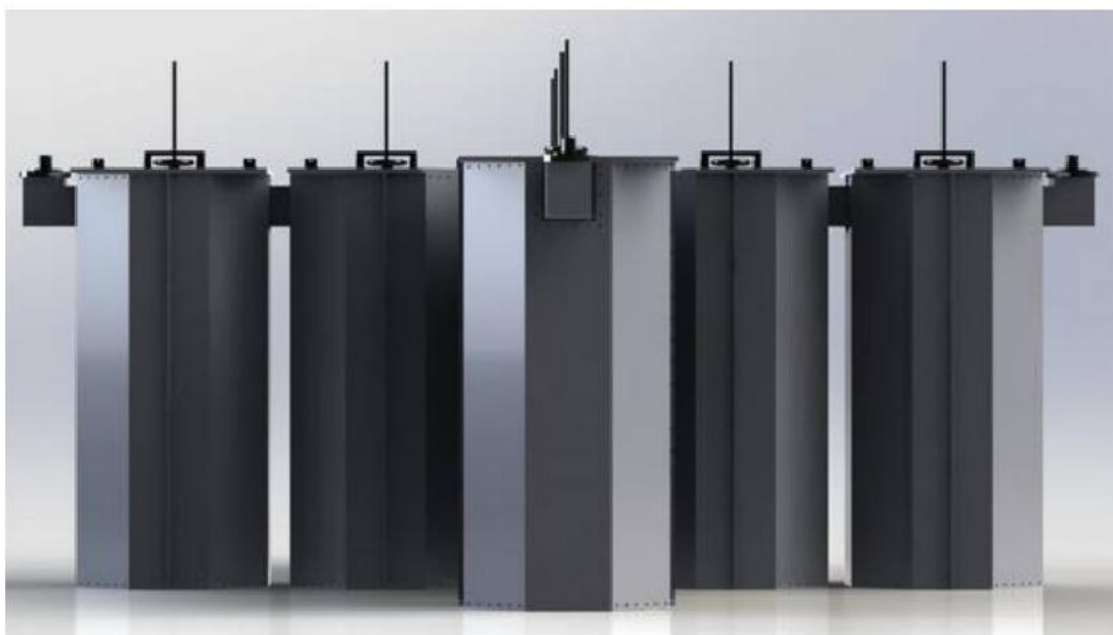
DIMENSIONS (mm)



Dimensions	1280(Max size)×2640×2640mm (50.4(Max size)×103×103 inch) (H×L×W)
Net Weight	≅ 255 Kg

VIEWS OF THE SYSTEM





FM QUADRIPLEXER

3 CAVITY

MODEL FQCSTC2

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

Model	Input Connector	Output Connector	Input Power	Output Power
FQCSTC2-1	N	7-16	500 W	2 kW
FQCSTC2-2	N	7/8"	600 W	2.4 kW
FQCSTC2-3	7-16	7-16	500 W	2 kW
FQCSTC2-4	7-16	7/8"	1 kW	4 kW
FQCSTC2-5	7/8"	1+5/8"	2 kW	8 kW



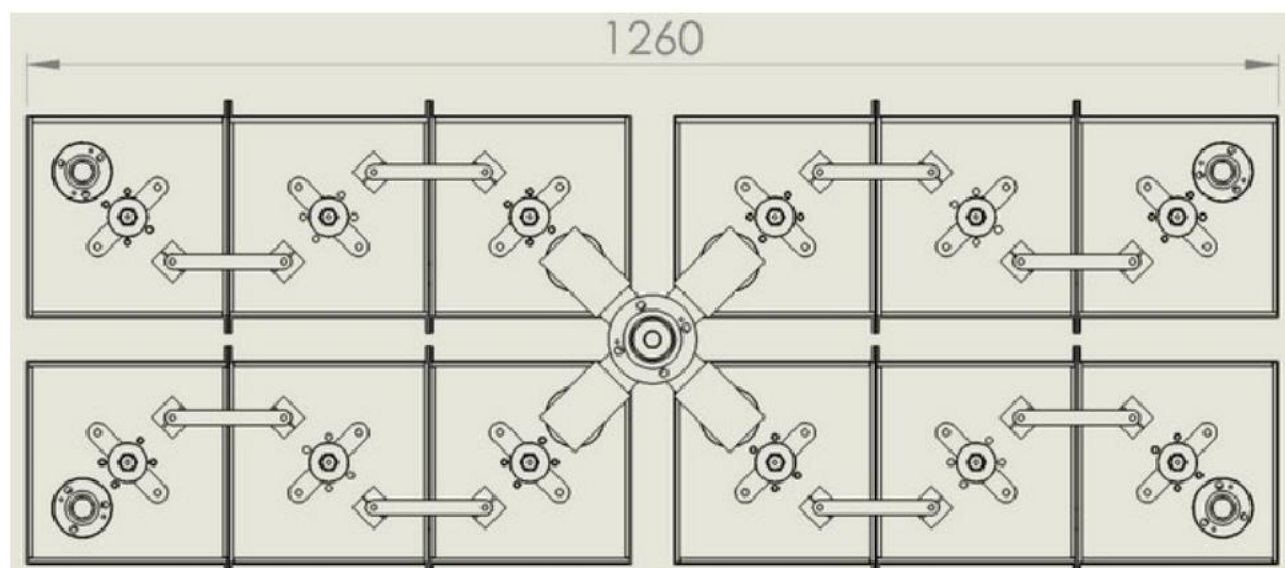
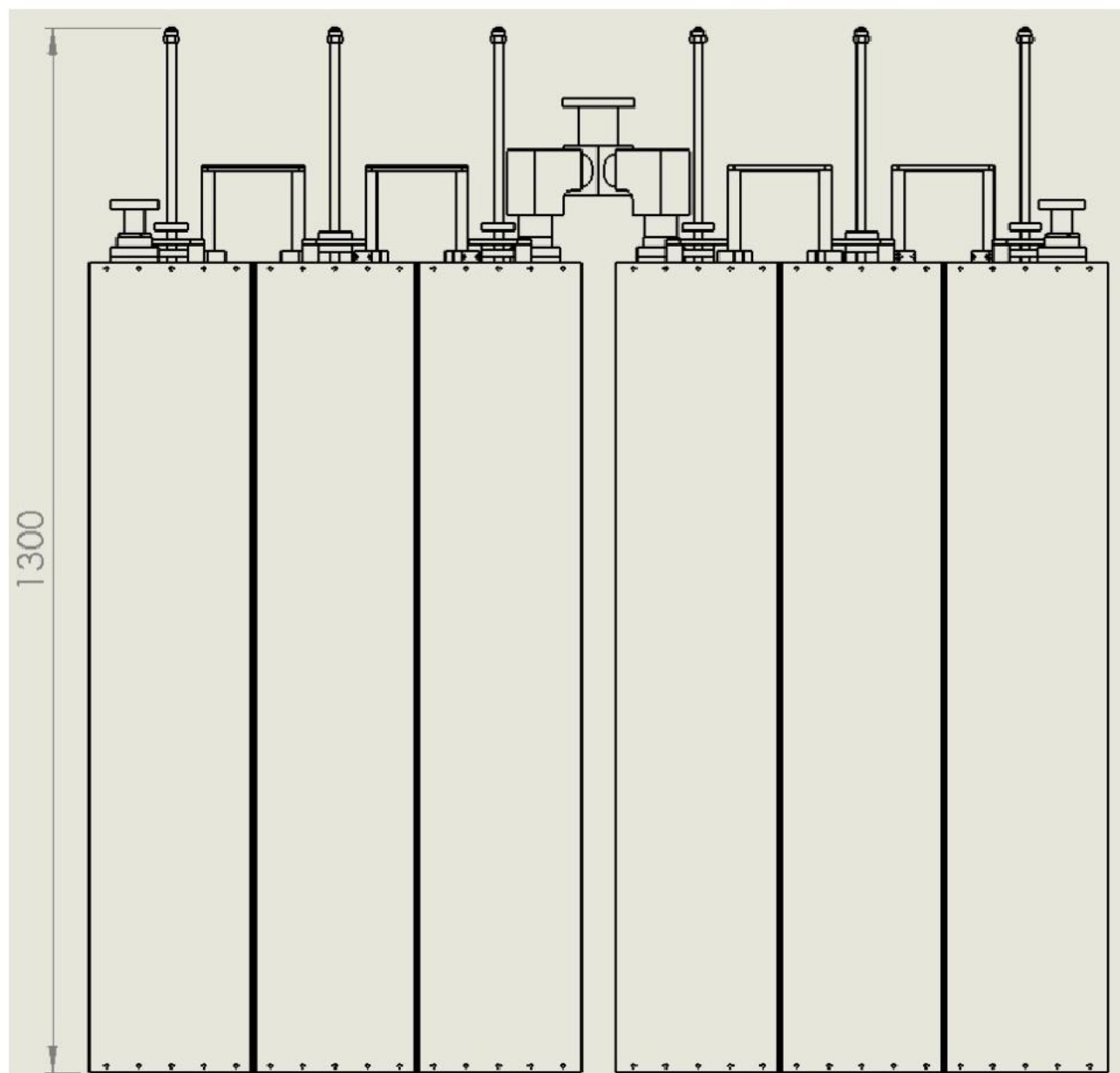
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to which it's connected.

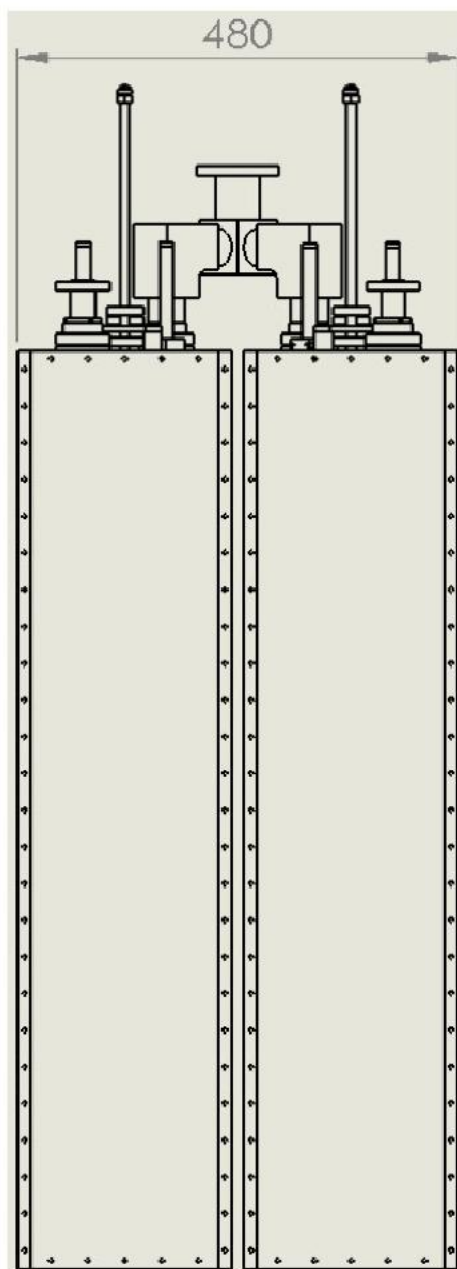
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FQCSTC2
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	≥ 35 dB
No. of Input	4
No. of Output	1
Connectors	See table
Max Power	See table
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

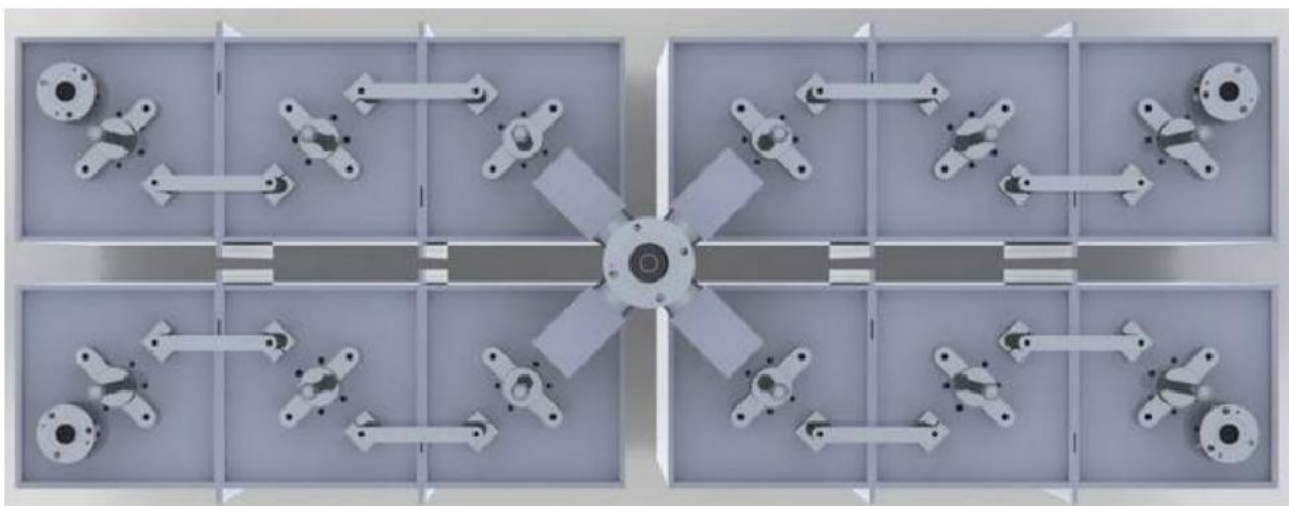
DIMENSIONS (mm)





Dimensions	1300 (Max size)×1260×480 mm (51.1(Max size)×49.6×18.9inch) (H×L×W)
Net Weight	≅ 150 Kg approx.

VIEWS OF THE SYSTEM









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MODEL FQCSTC03

- 4 CHANNELS COMBINER
- STAR POINT TYPE
- FM BAND: 87.5 | 108 MHz
- BAND II
- 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:

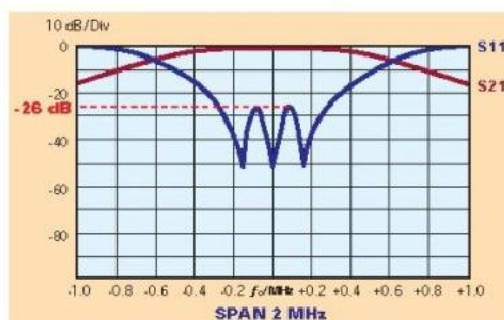
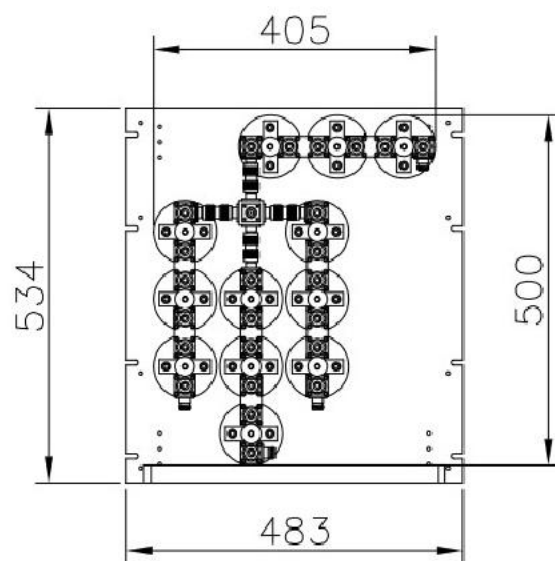
- Distortion – Free Transmission
- Triple Band-Pass Cavity filters
- Low Loss, High Isolation
- Natural convection
- Option whit Rack

No rack version

Dimensions	405- 500- 710 mm (15.9- 19.7- 28 inch) (H- L- W)
Weight	≈ 36 Kg

Rack Version

Panel Size	8 HE (1 HE=44,45 mm) (534- 483 mm (21- 19 inch))
Weight	≈ 36 Kg



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

MODEL FQCSTC3

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

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



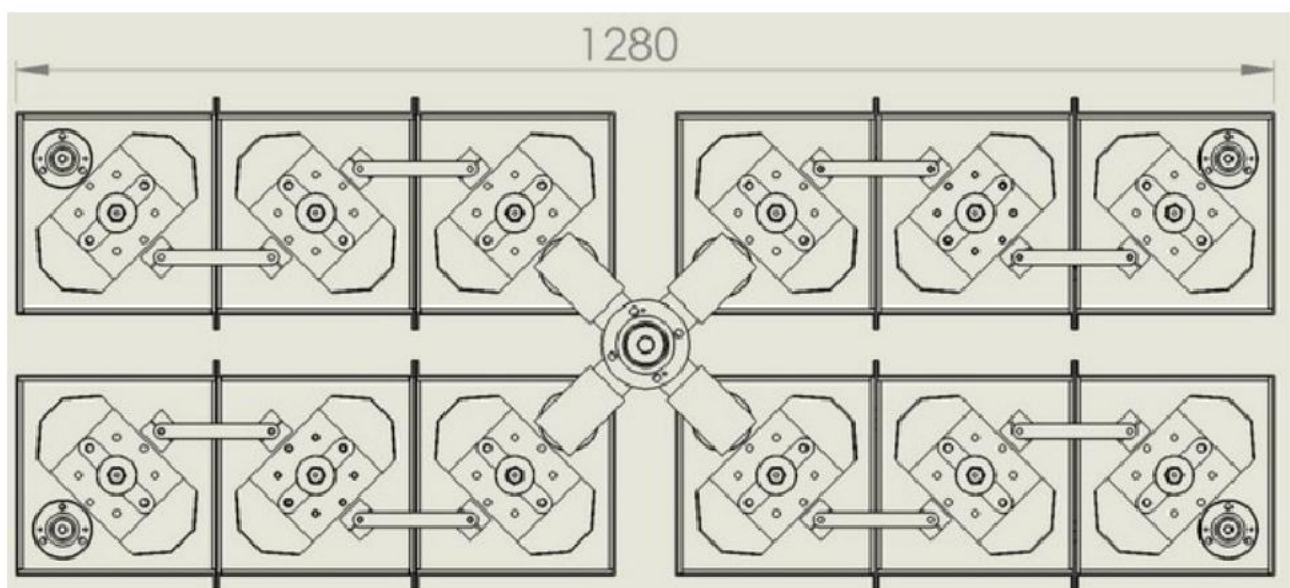
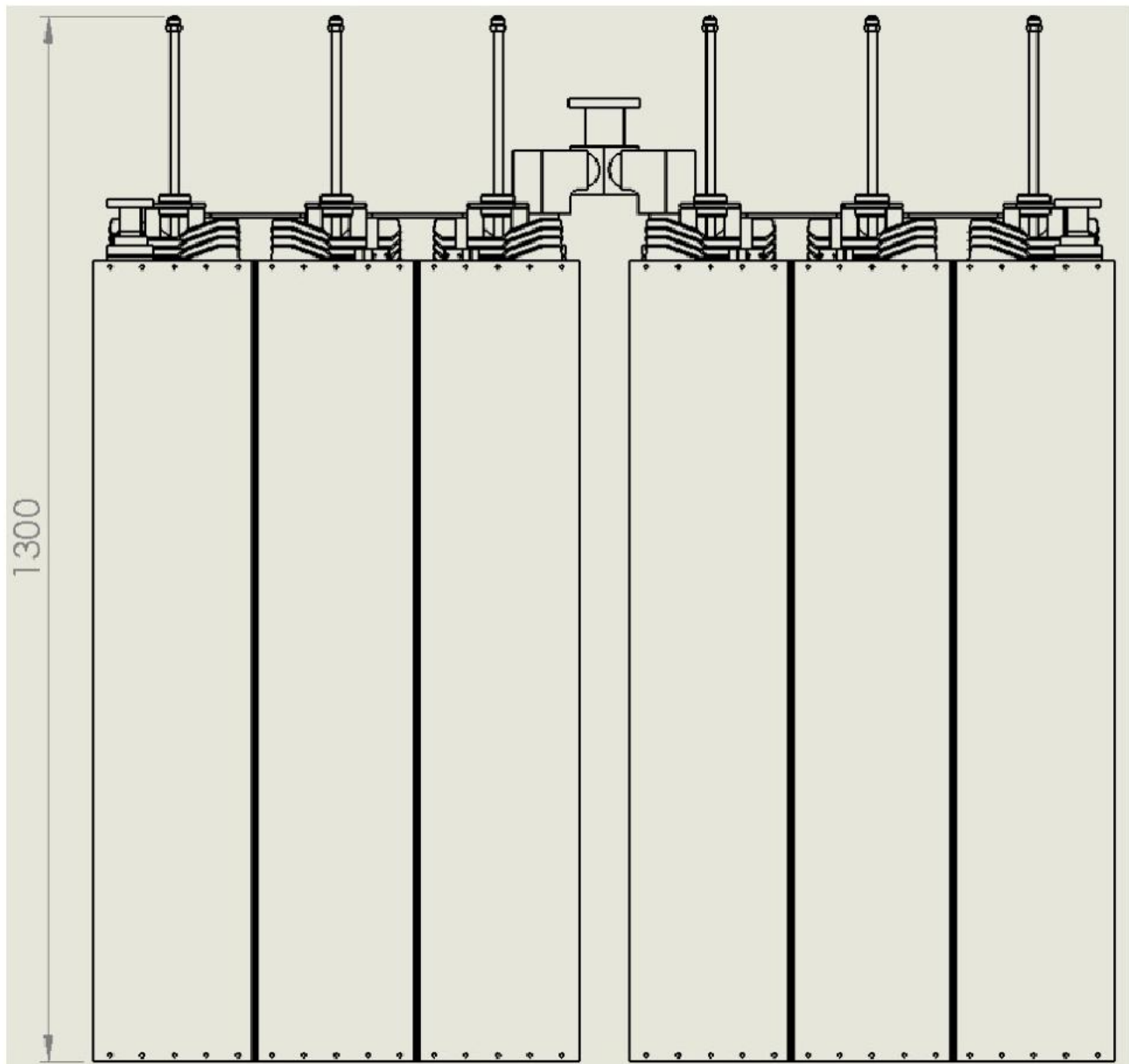
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to which it's connected.

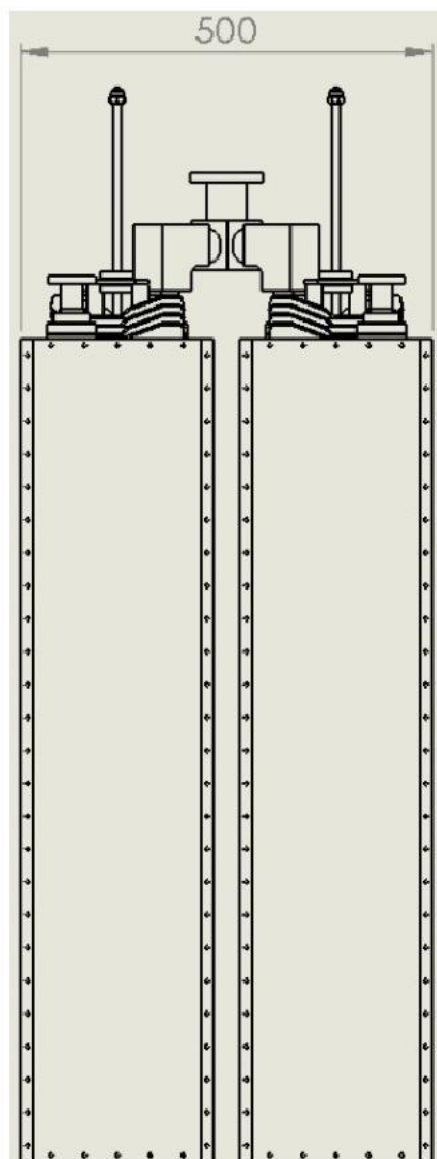
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FQCSTC3
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	≥ 35 dB
No. of Input	4
No. of Output	1
Connectors	See table
Max Power	See table
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

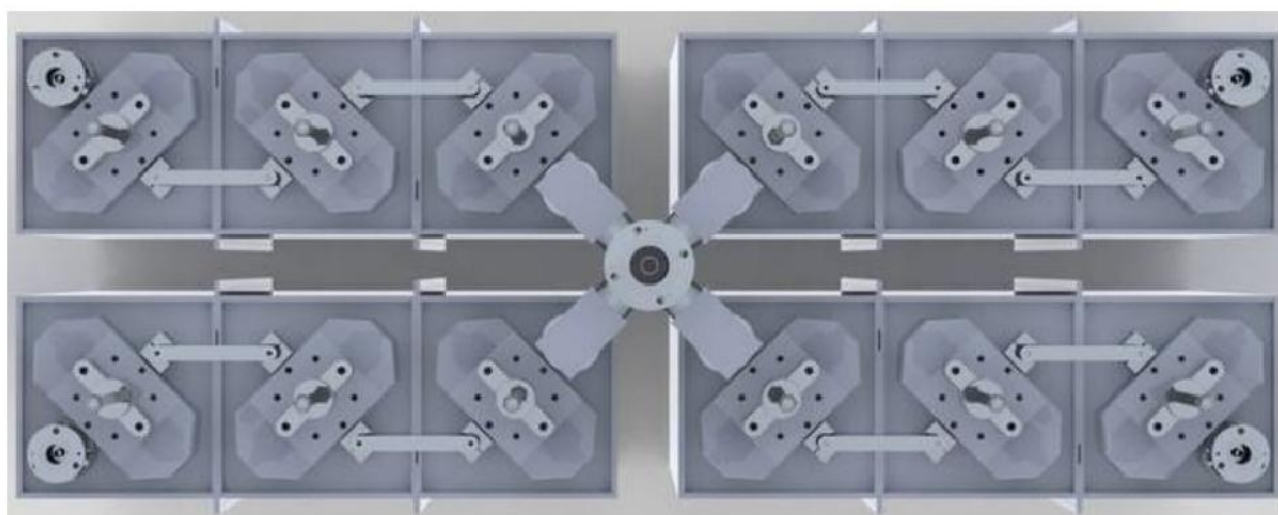
DIMENSIONS (mm)





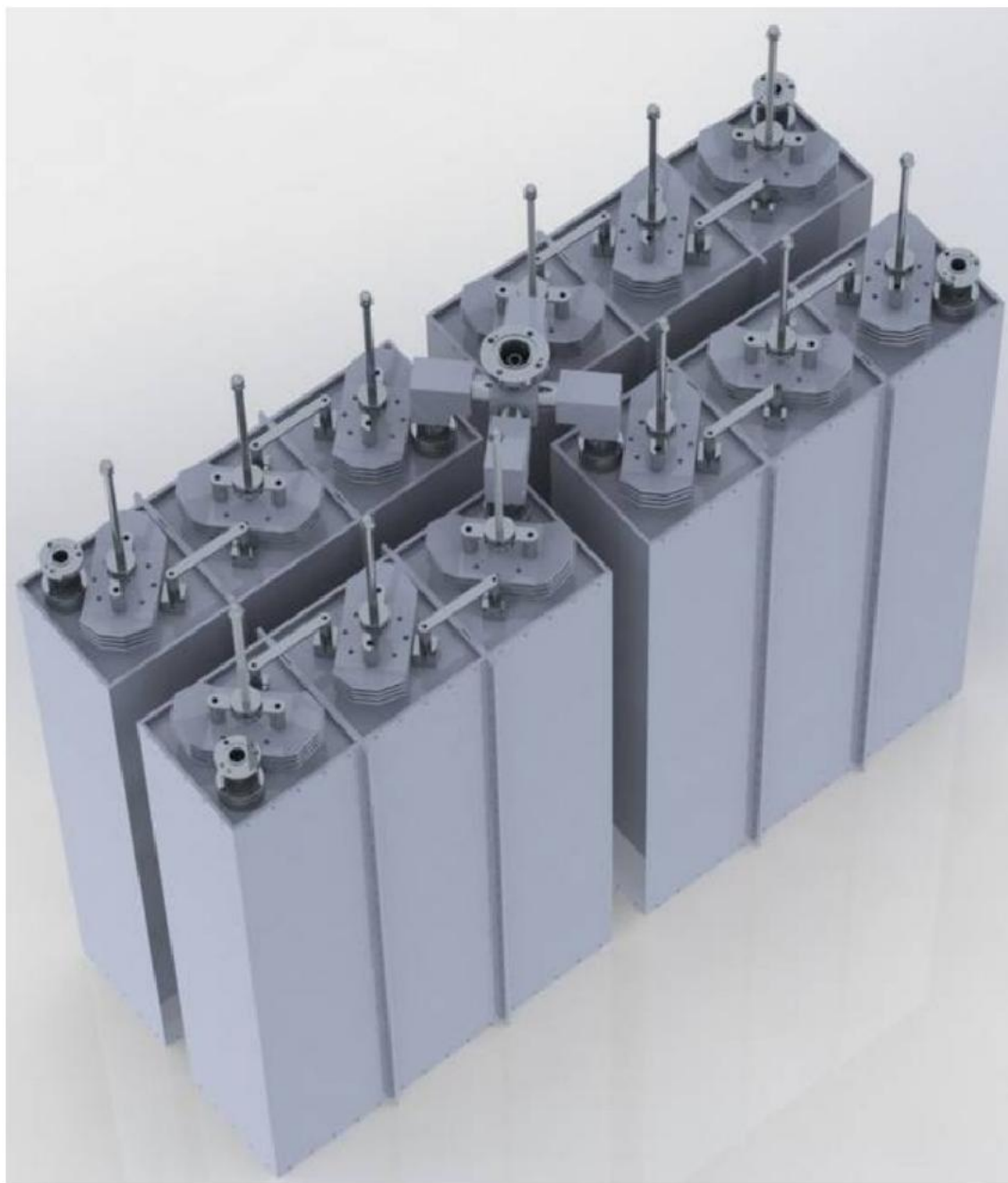
Dimensions	1300 (Max size)×1280×500 mm (51.1(Max size)×50.4×19.6 Inch) (H×L×W)
Net Weight	≅ 150 Kg approx.

VIEWS OF THE SYSTEM









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MODEL FQCSTC05

- COMBINER 4 CHANNELS
- STAR POINT
- FM BAND 87.5 | 108 MHz
- BAND II
- RACK VERSION (OPTIONAL)

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.

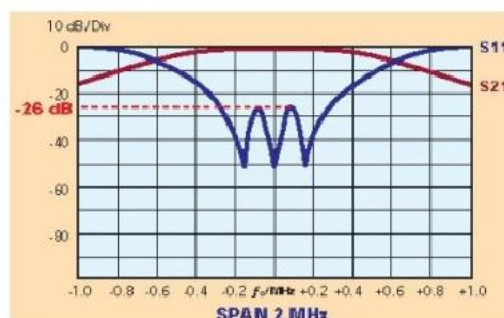
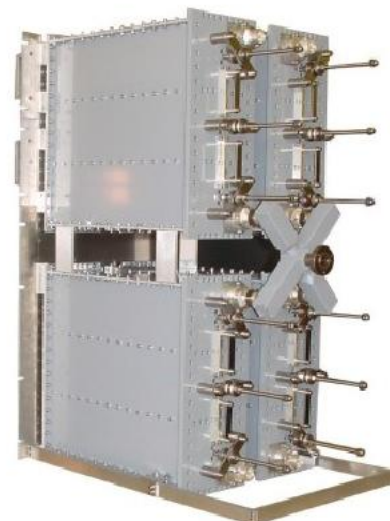
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FQCSTC05 – Type STAR POINT	
Impedance	50 Ohm	
Frequency Range	87.5-108 MHz	
VSWR $\pm 150\text{KHz}$	1.1:1 max	
Insertion Loss	at fo 0.65 dB max	
Return Loss $\pm 150\text{KHz}$	$\leq -26\text{ dB}$	
Isolation $\pm 2\text{MHz}$	$\geq 30\text{ dB}$	
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° $+50^{\circ}$	
Colour	Enamel Gray Ral 7001	
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μm thickness).	

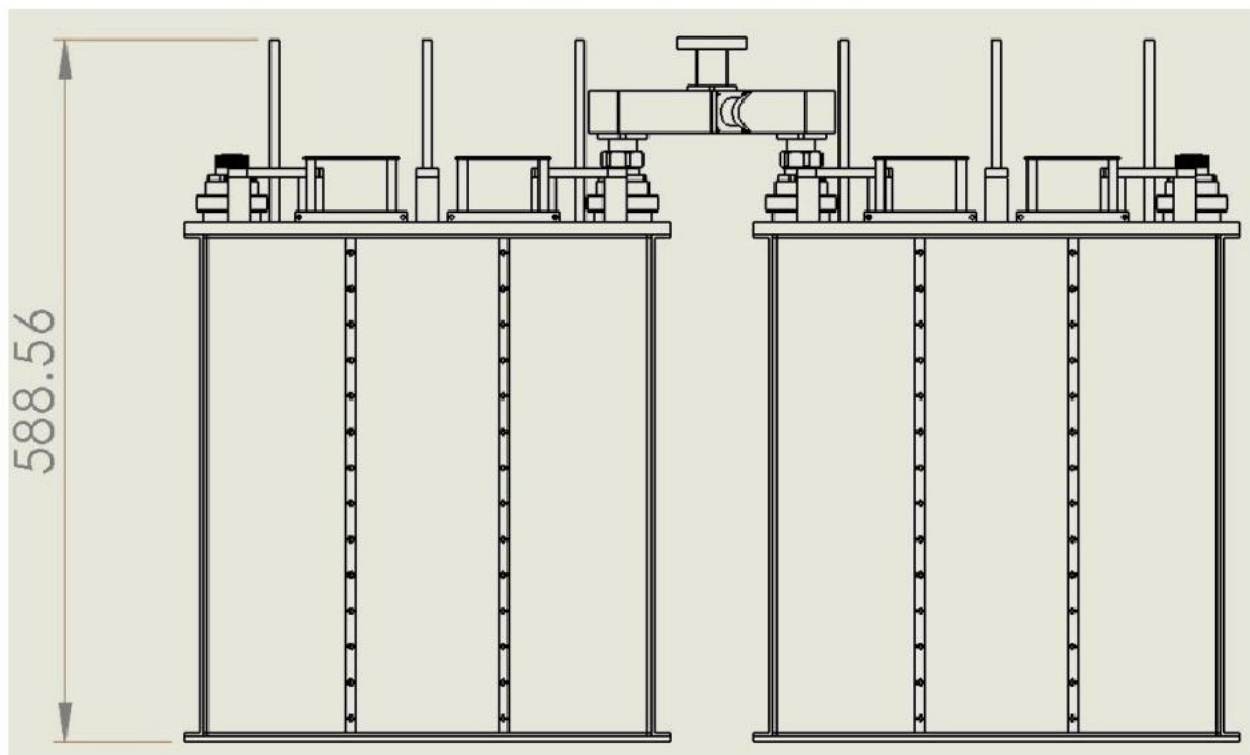
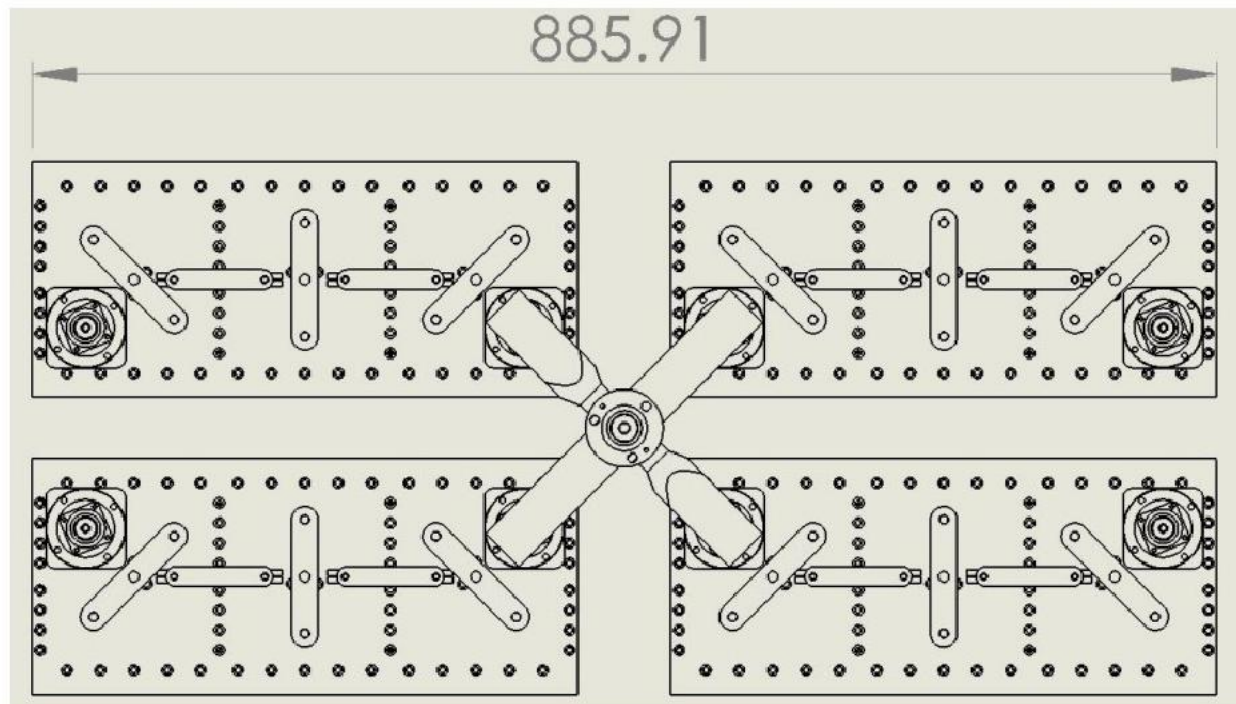
Features:

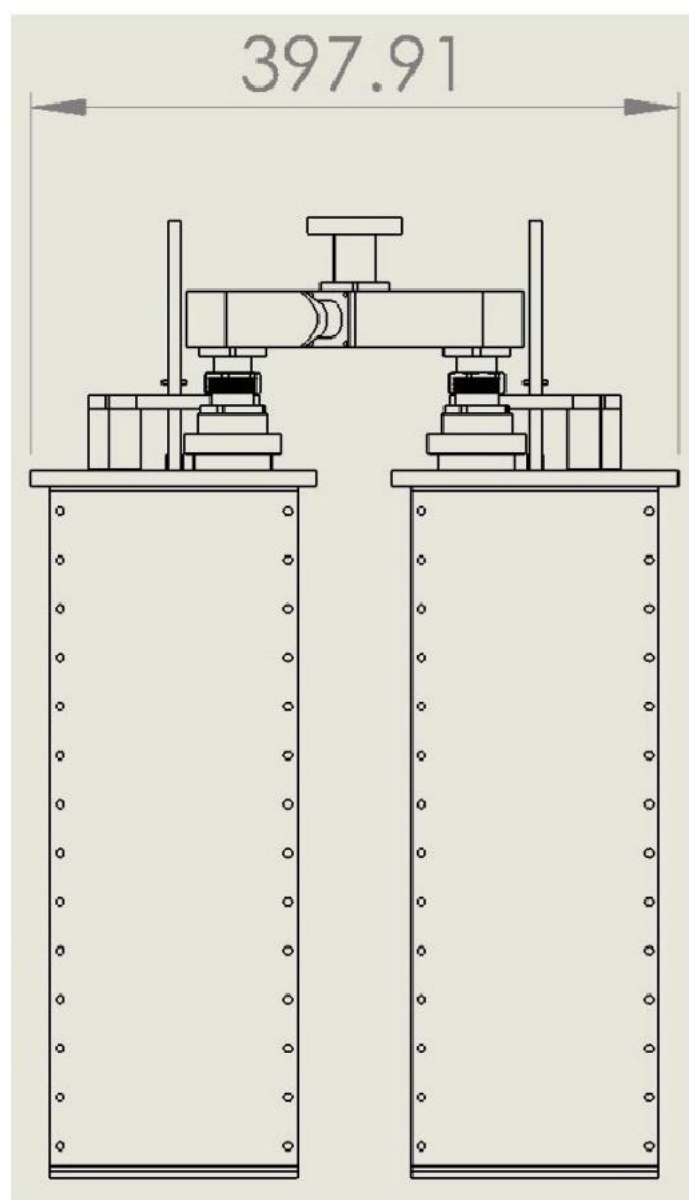
- Star-point system with triple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Modular design



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

DIMENSIONS



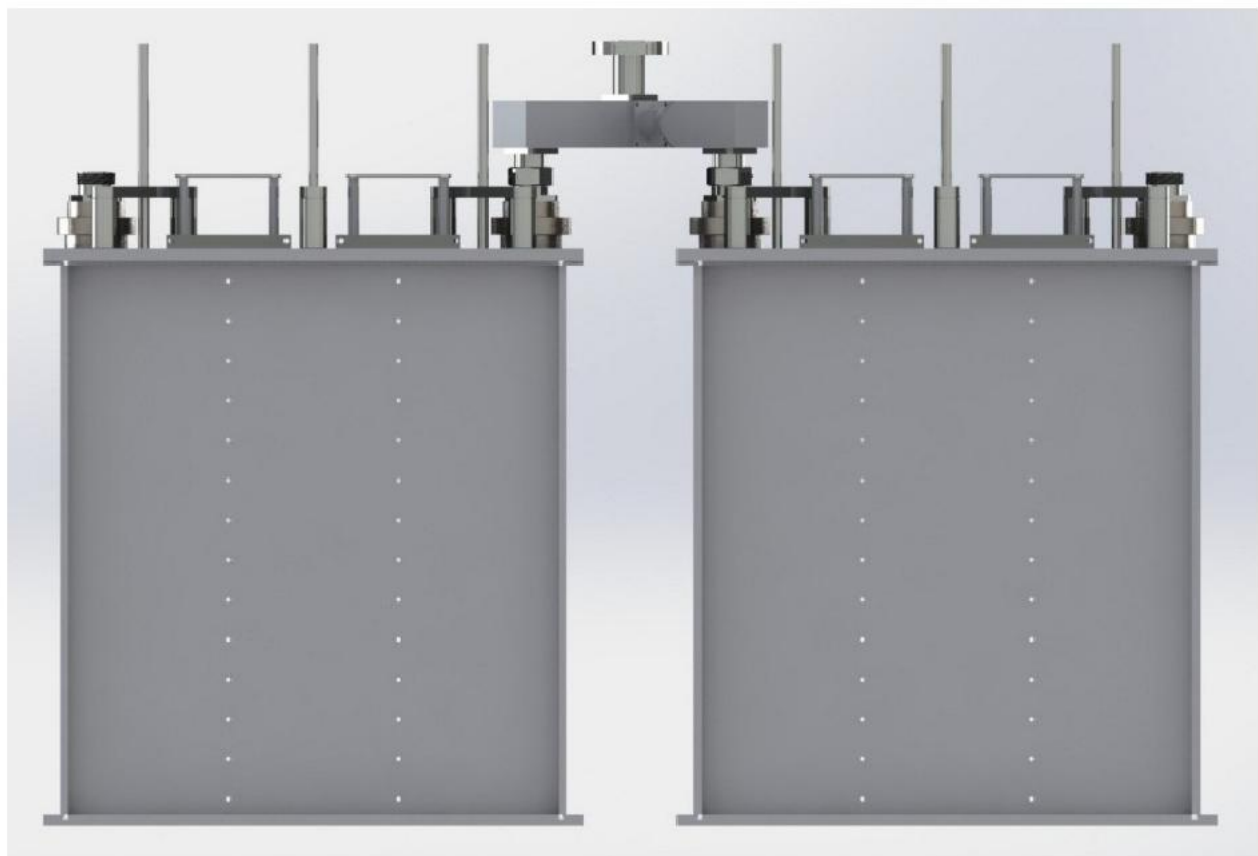
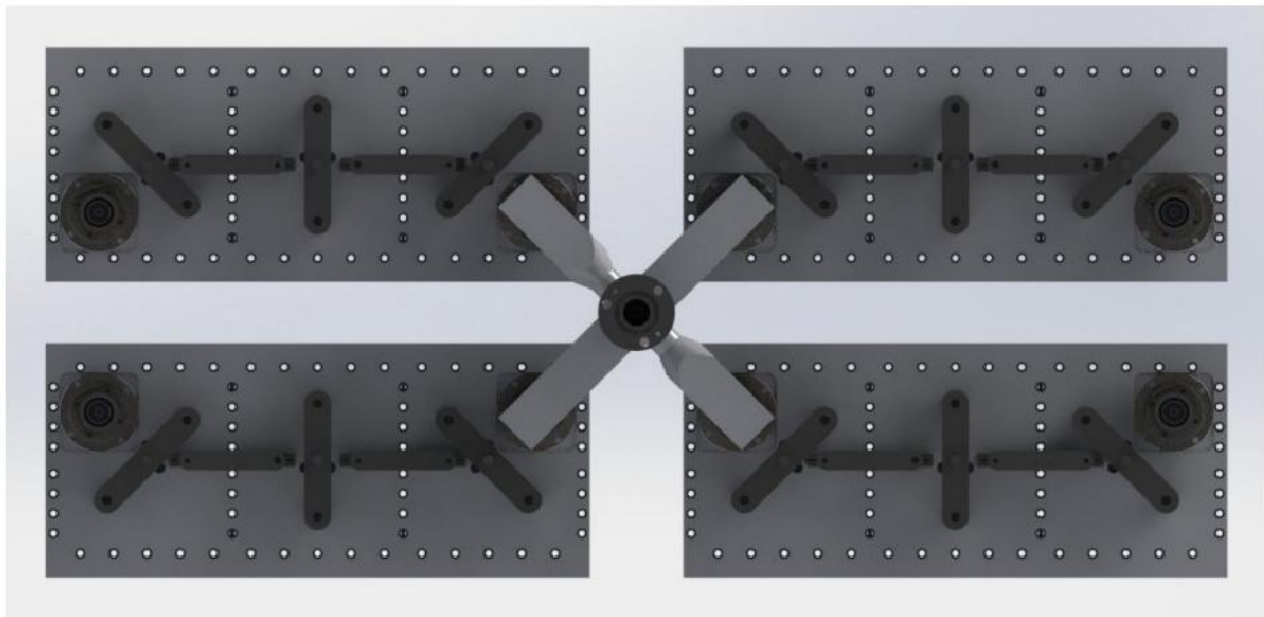
**Combiner size**

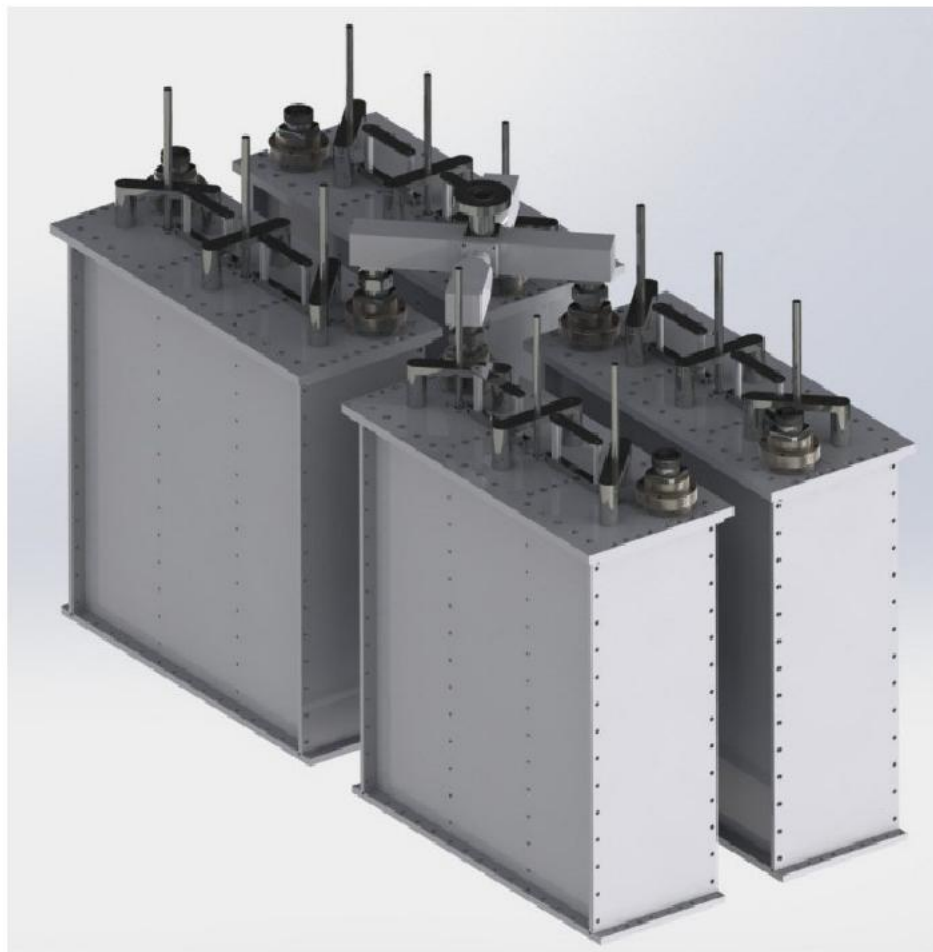
Dimensions	589· 398· 886 mm (23.1· 15.7· 34.8 inch) (H· L· W)
Net Weight	≈ 106 Kg (including hardware mounting Rack)

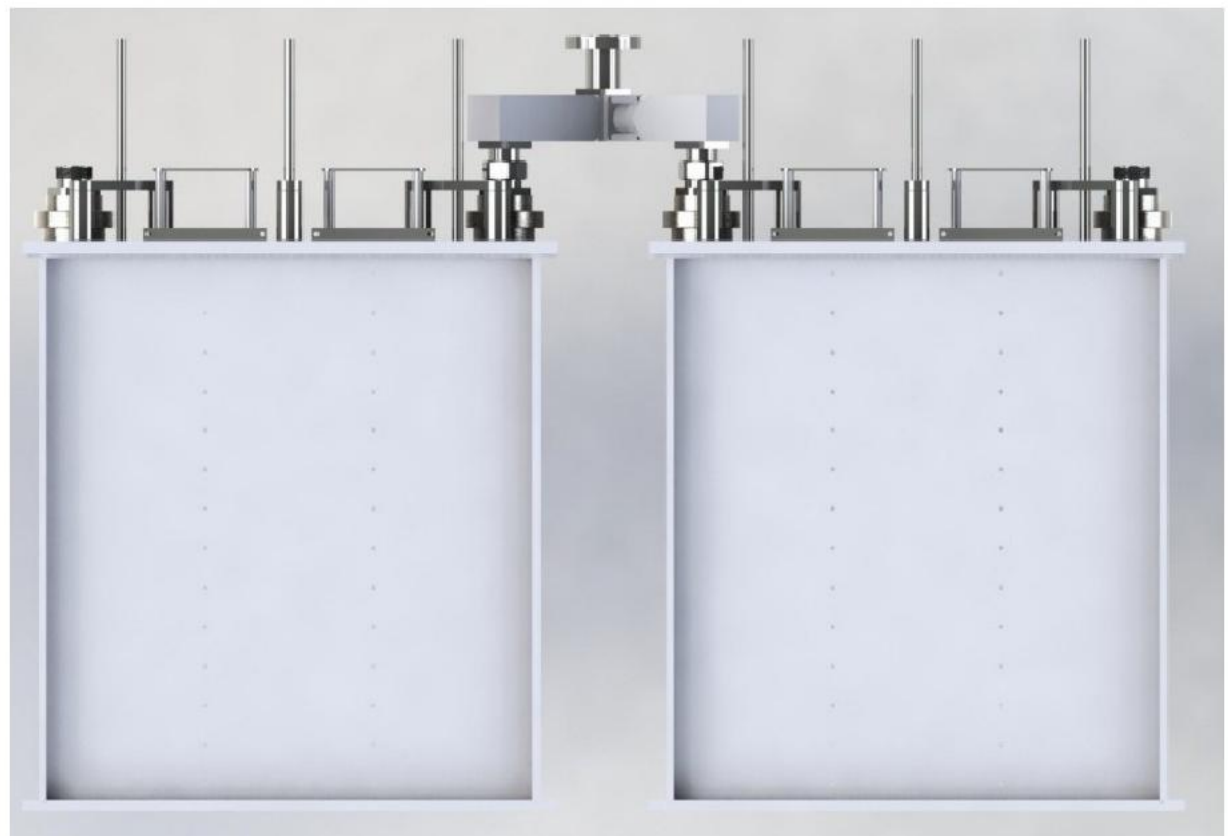
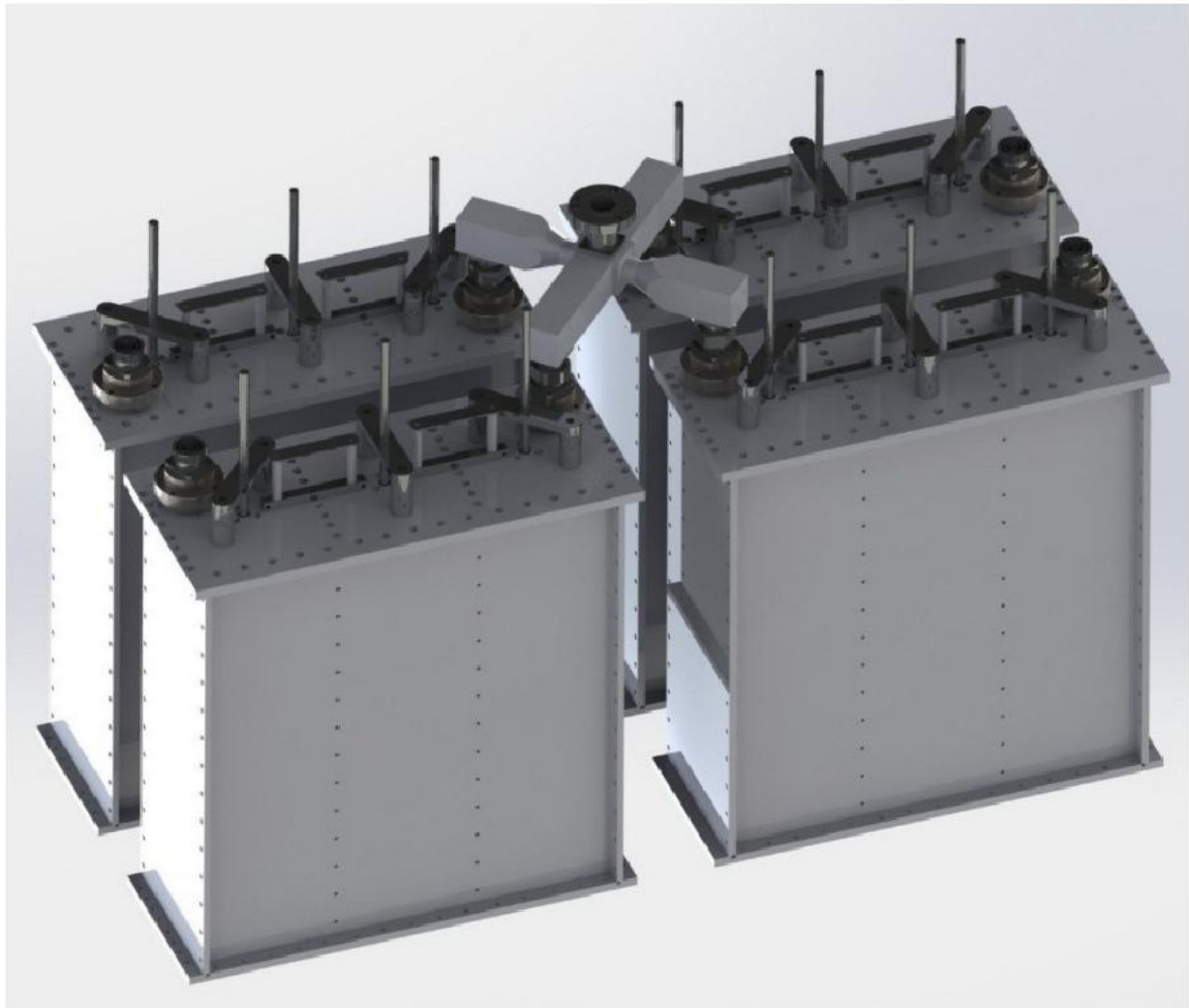
Rack size (OPTIONAL)

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

VIEWS OF THE SYSTEM







MODEL FQCSTC5

- 4 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.

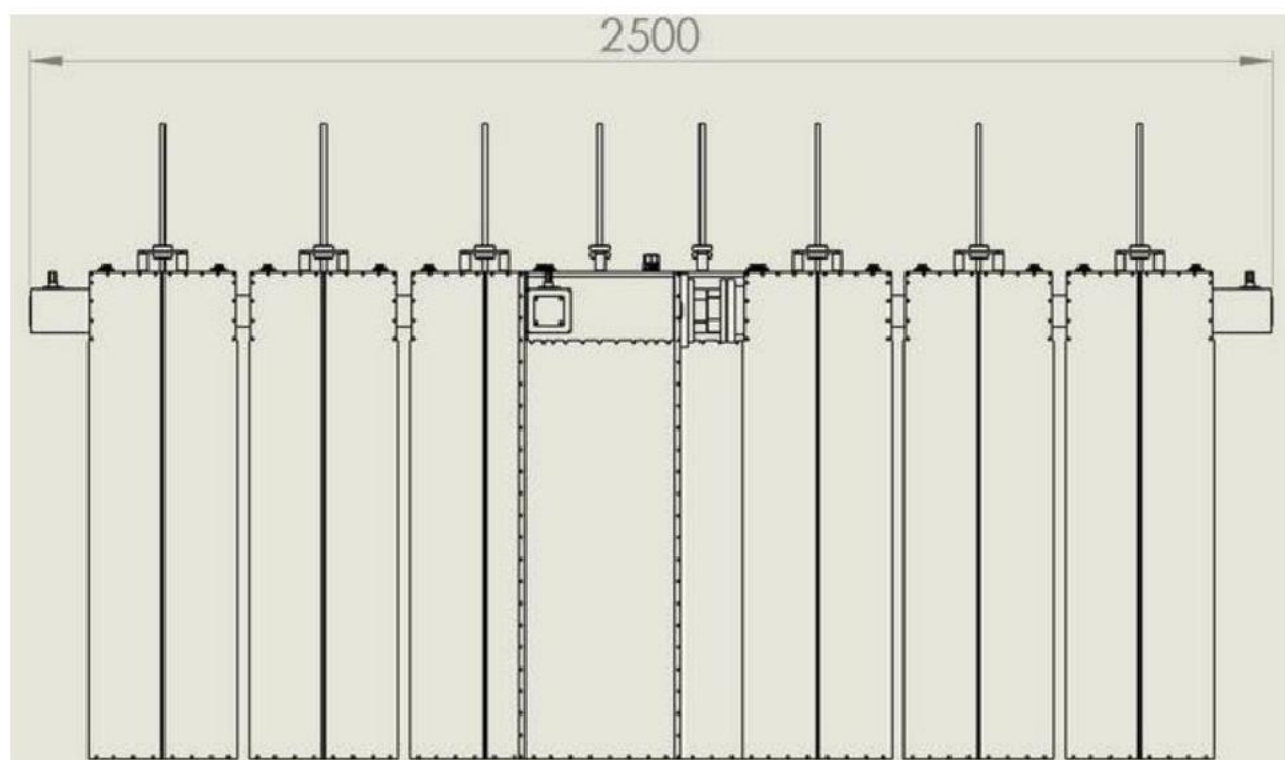
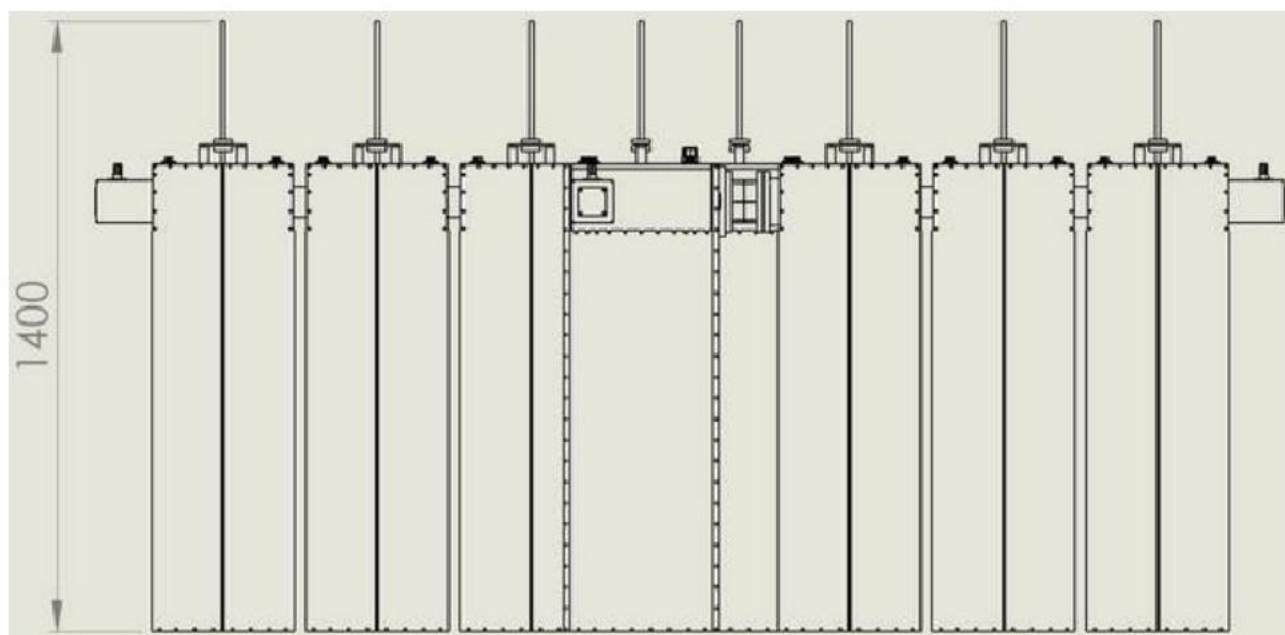


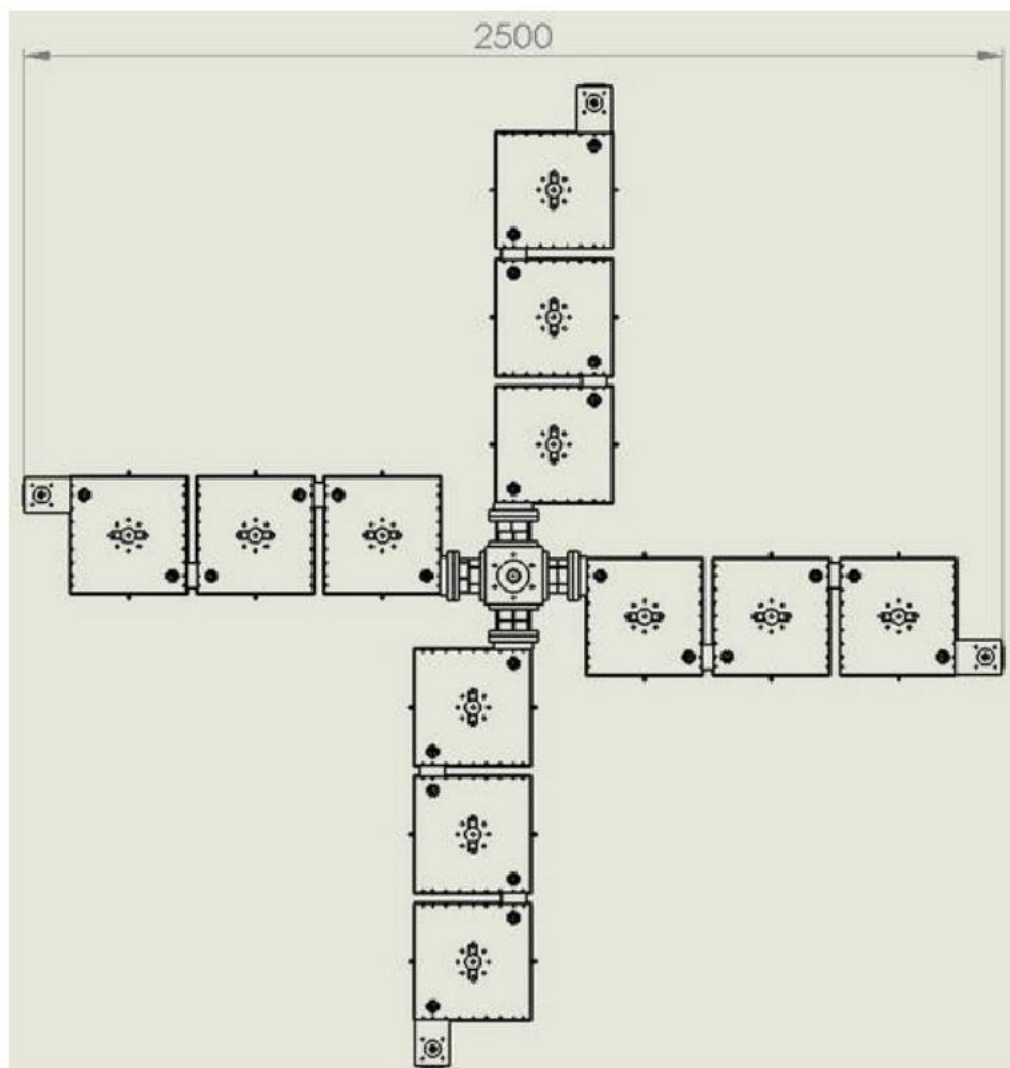
TYPICAL SPECIFICATIONS

Model	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	5 KW × 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:

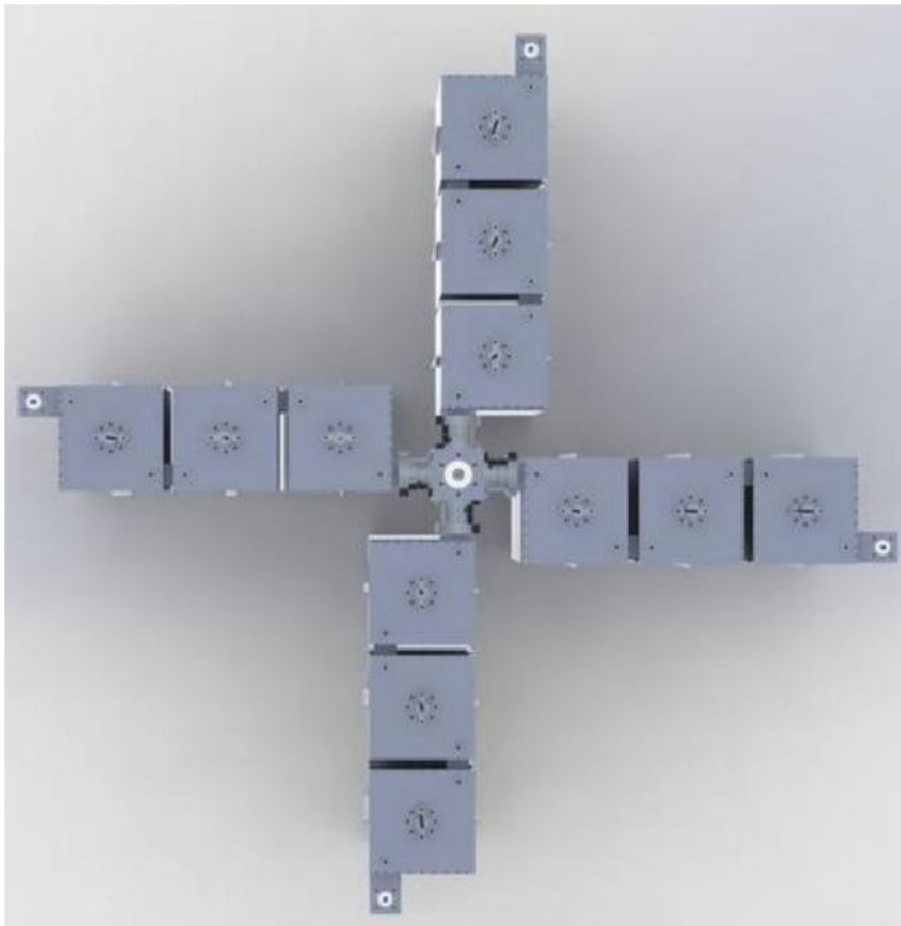
- Distortion – Free Transmission
- Star-point system with triple pass-band cavity filters (standard configurations)
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- OPTION Group delay equaliser

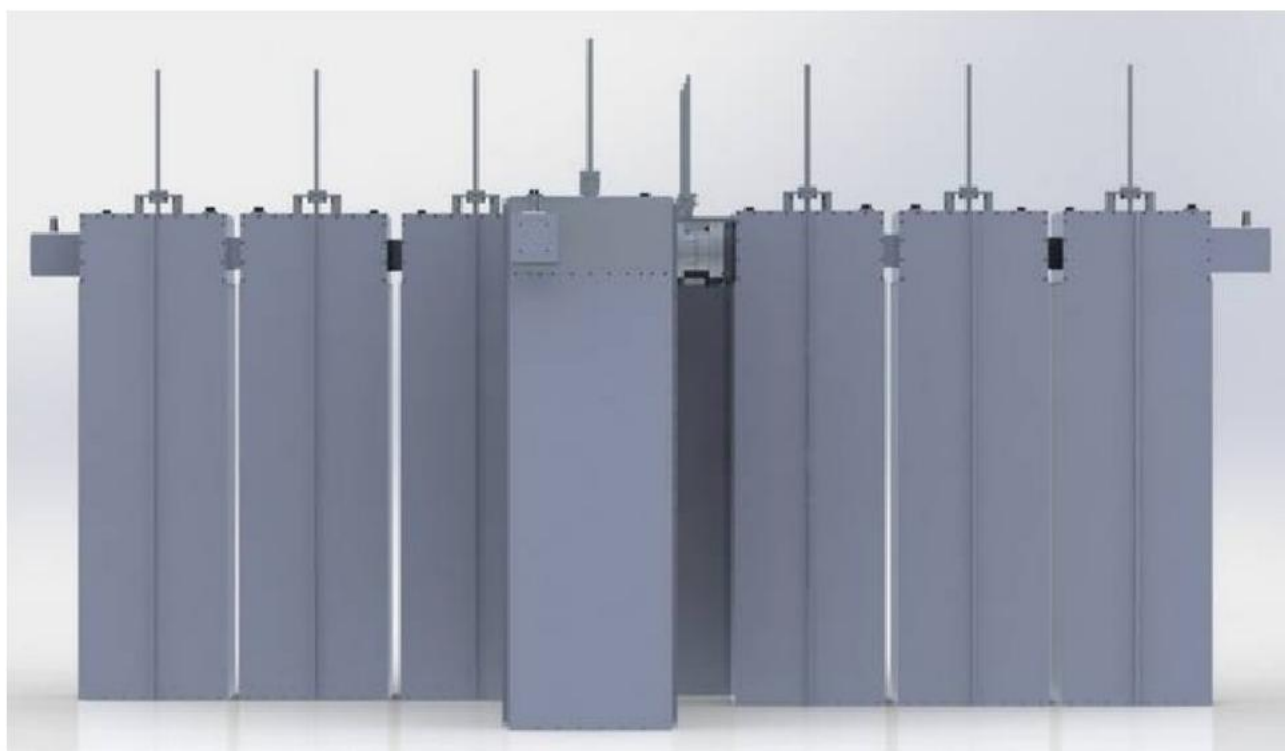
DIMENSIONS (mm)



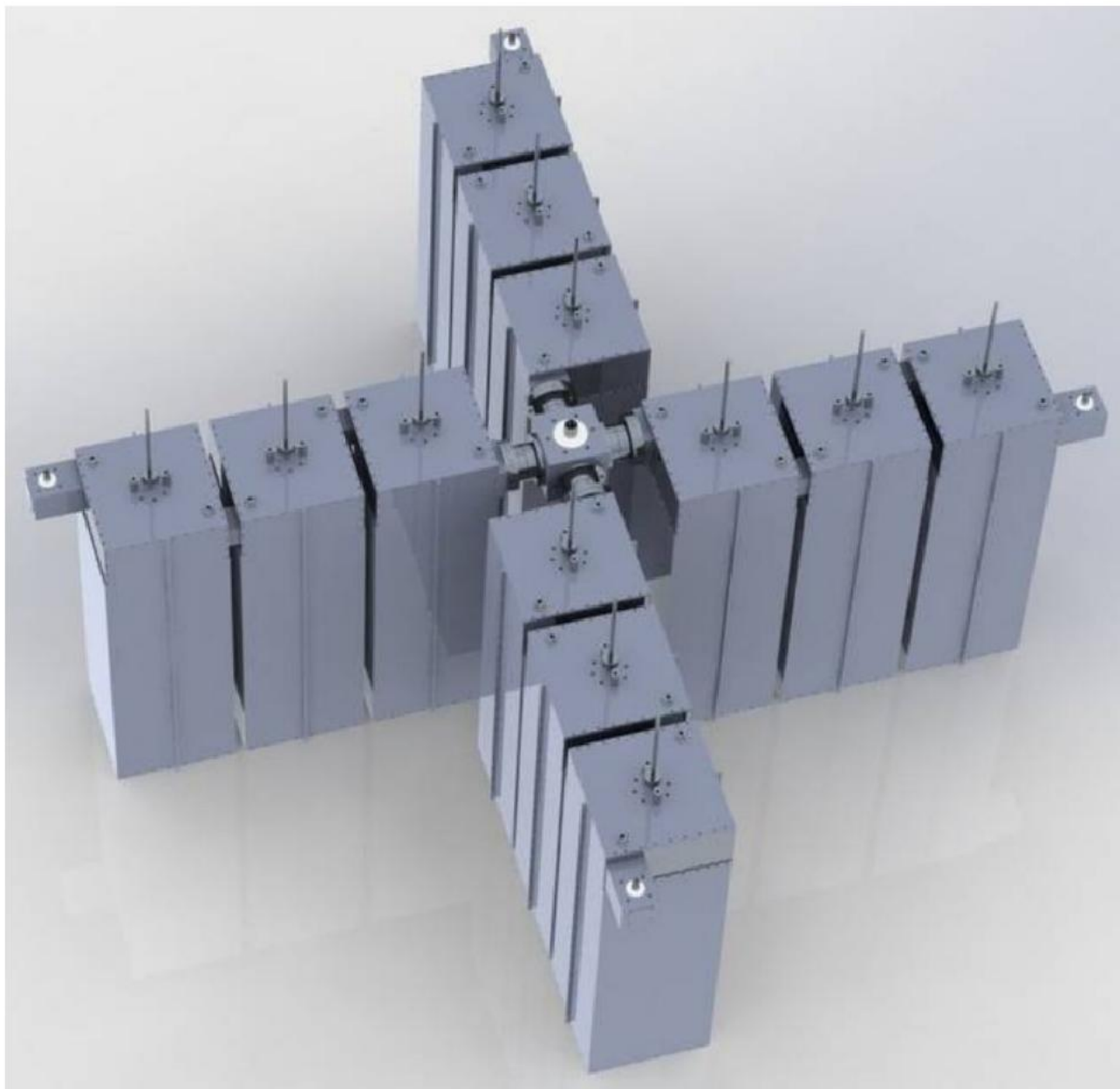
Dimensions	1400 (Max size)×2550×2550 mm (55.1(Max size)×100.4×100.4 inch) (H×L×W)
Net Weight	≅ 295 Kg approx.

VIEWS OF THE SYSTEM









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MODEL FQCSTC10C

- 4 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 \pm 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.



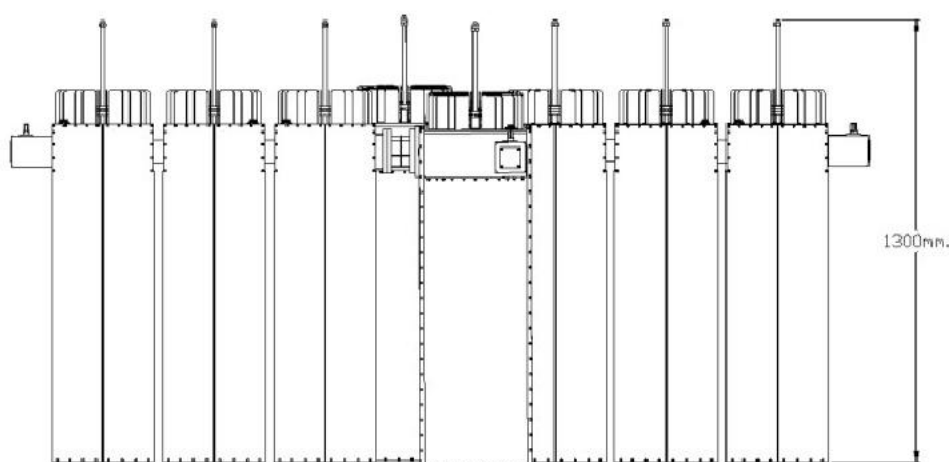
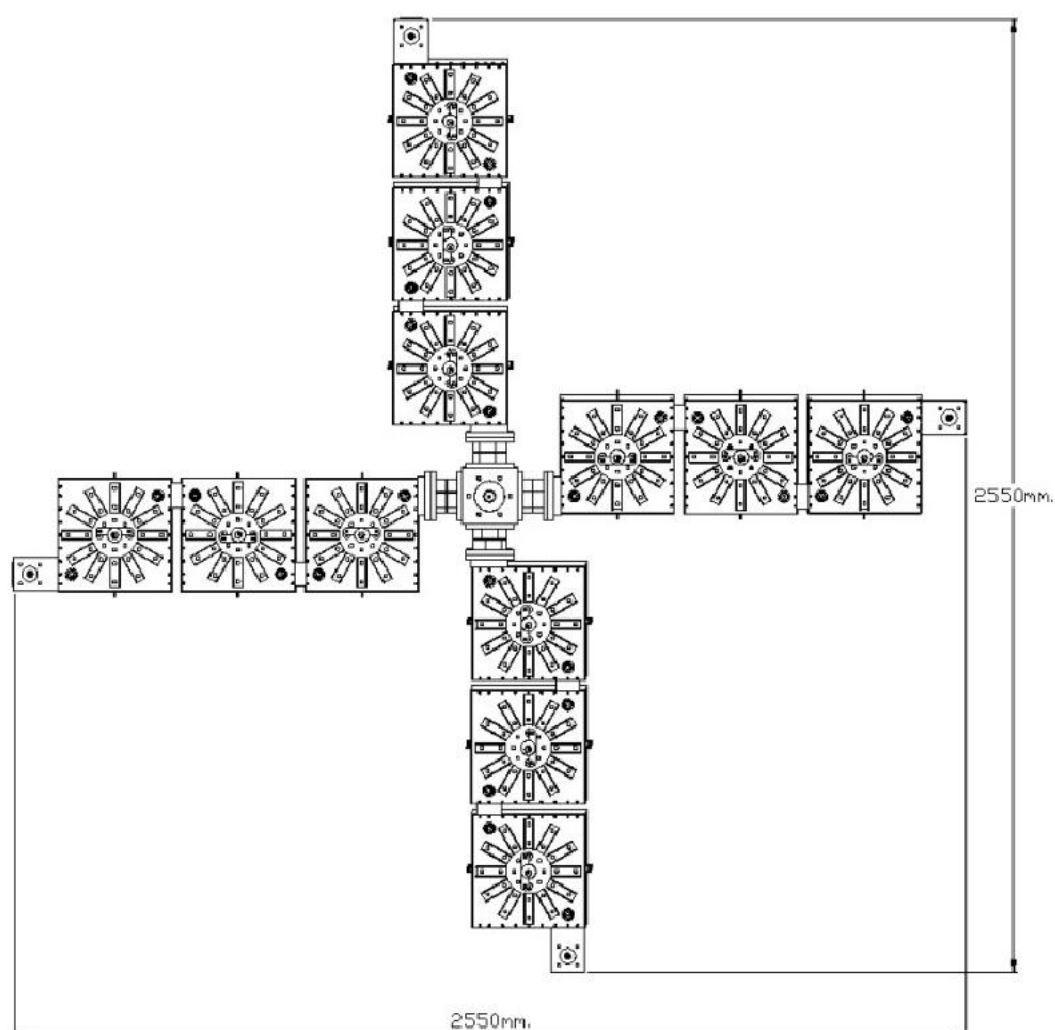
TYPICAL SPECIFICATIONS

Model	FQCSTC10C– Type STAR POINT
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR \pm150 KHz	1.1:1 max
Insertion Loss	at f_0 0.25-0,27 dB max
Return Loss \pm150Khz	\leq -26 dB
Isolation \pm1 MHz	\geq 30 dB
Input Number	4
Output Number	1
Standard Connectors	Input 1+5/8" Output 3+1/8"
Max Power	10 KW \times 4 Channels
Working Temperature	-20°C \div +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

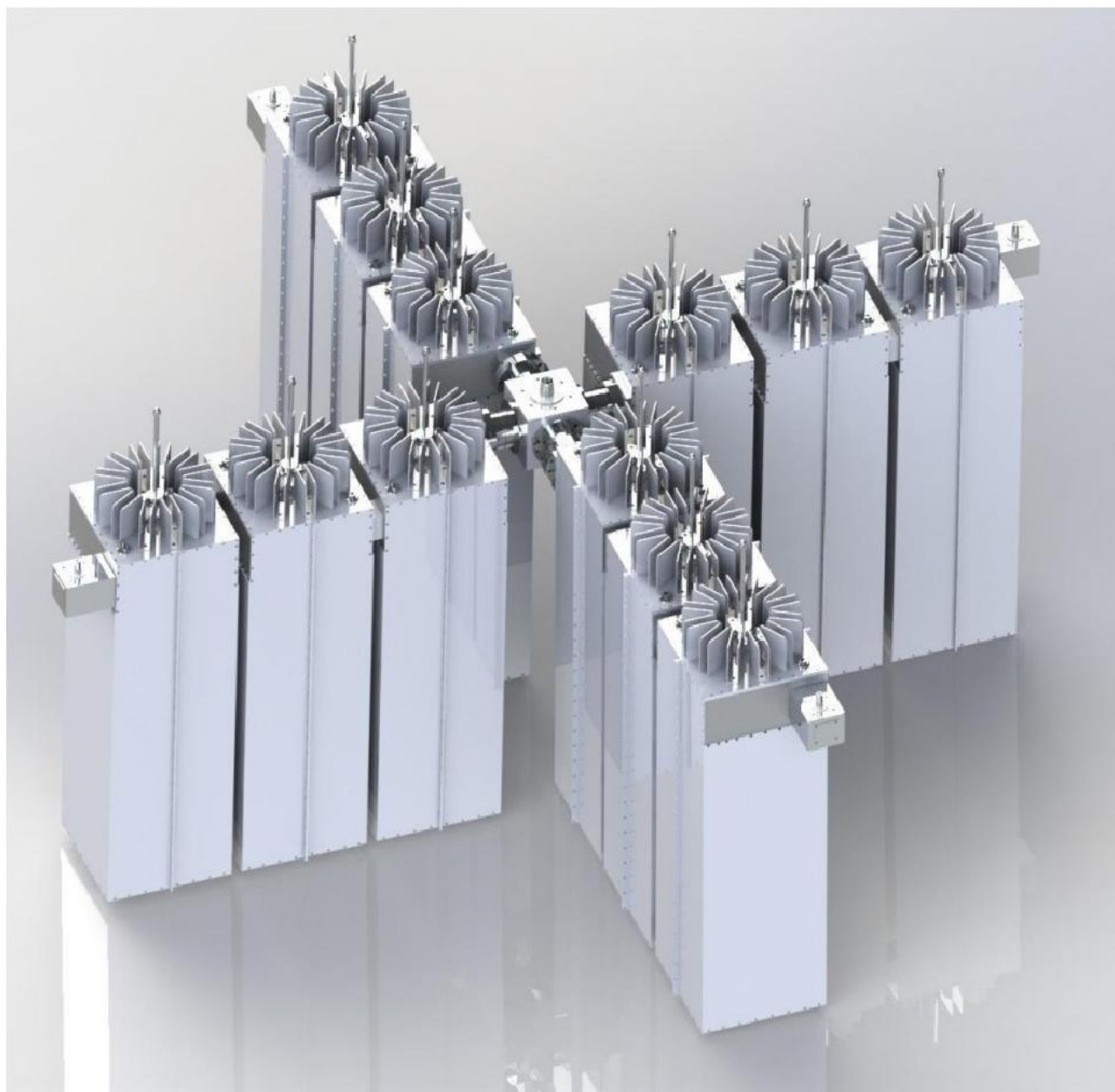
- Distortion – Free Transmission
- Star-point system with triple pass-band cavity filters (standard configurations)
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- OPTION Group delay equaliser

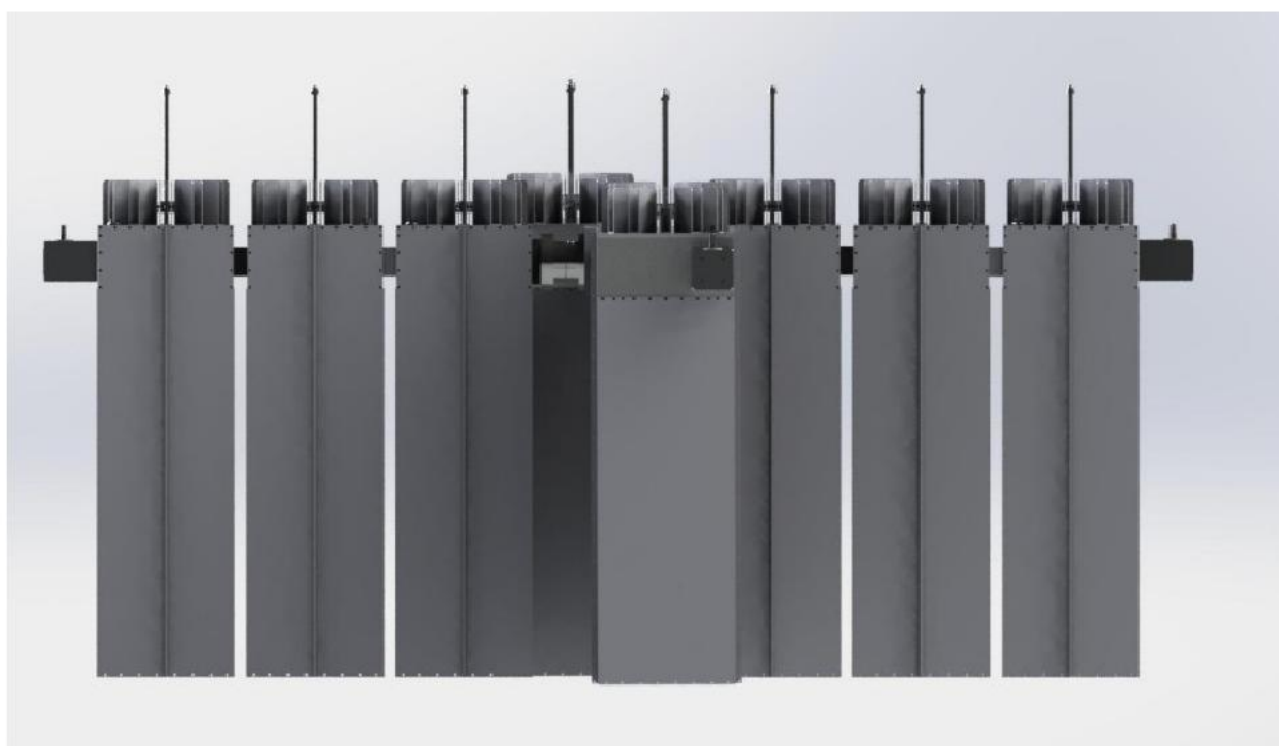
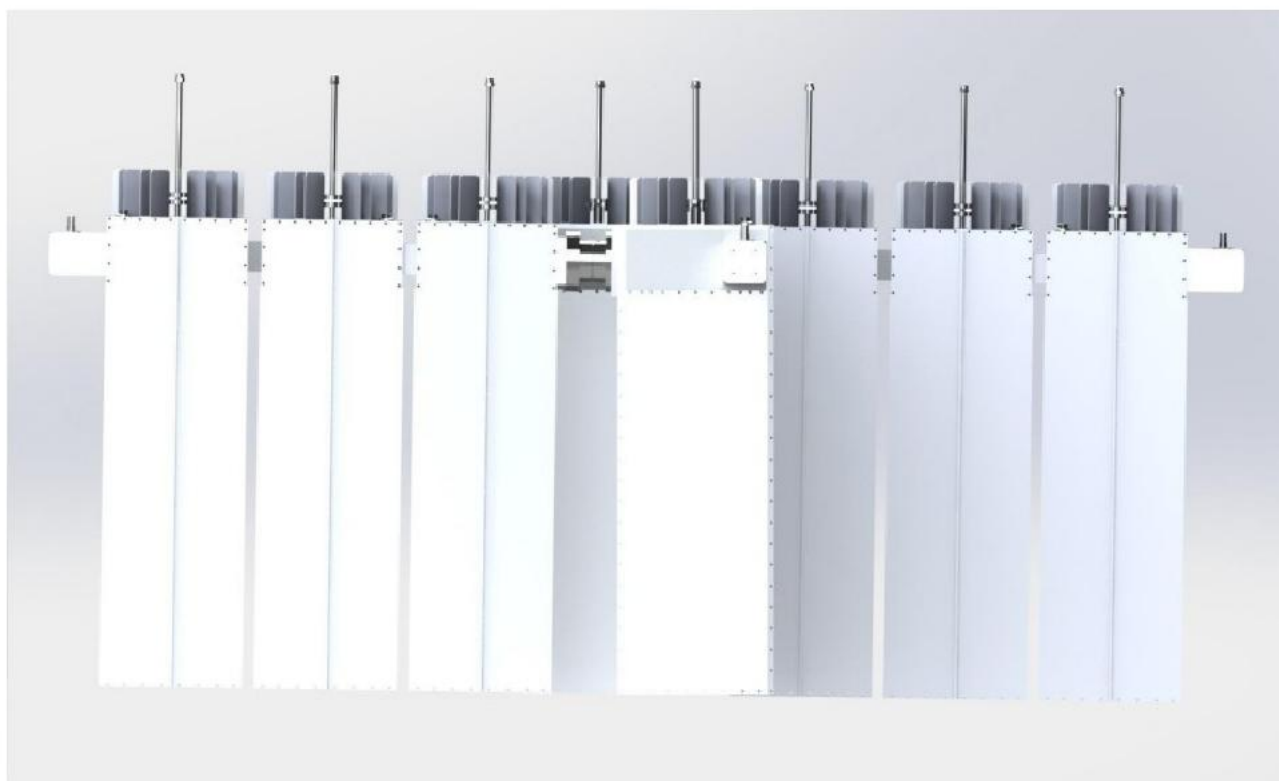
DIMENSIONS (mm)

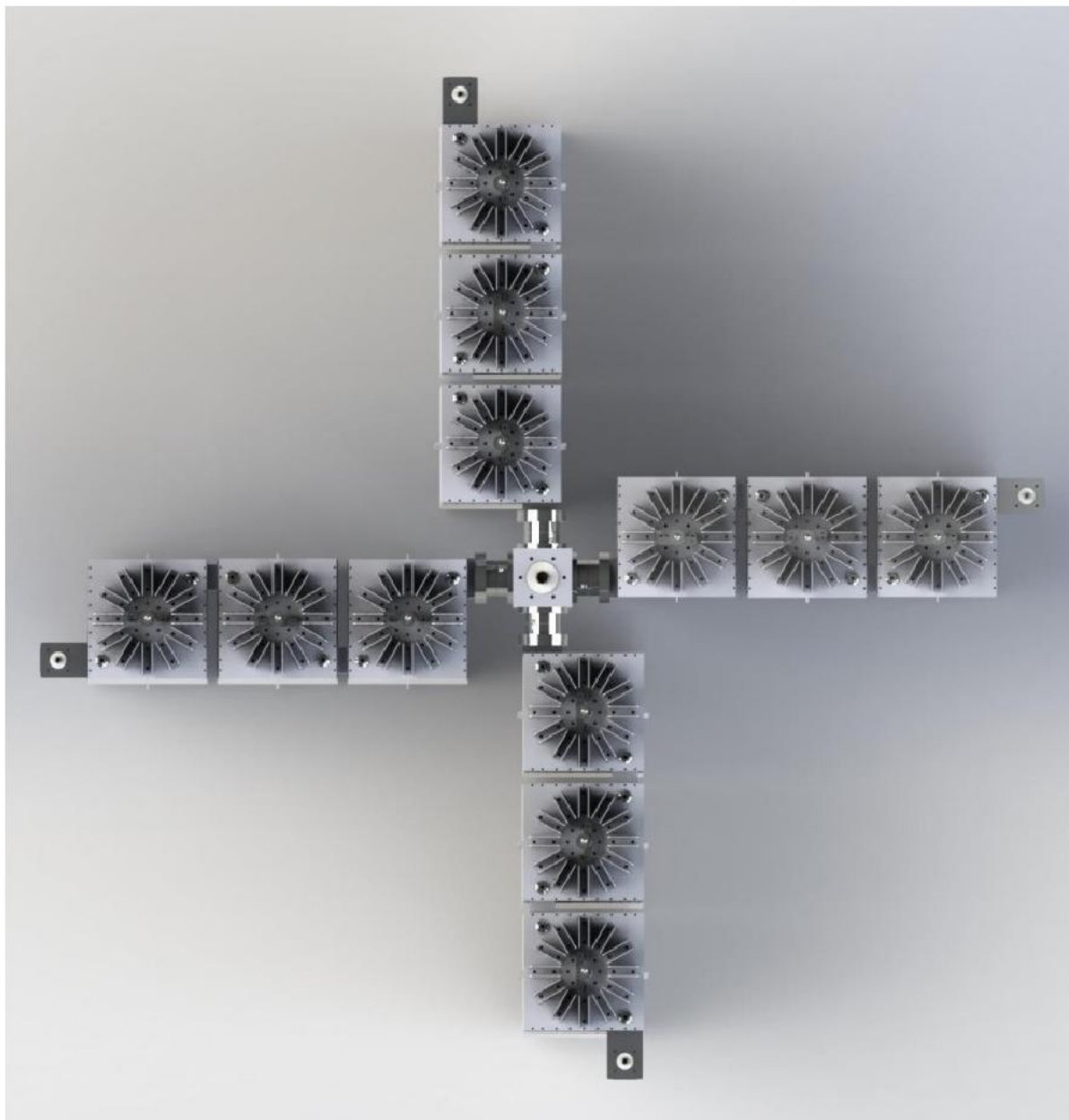


Dimensions	1300 x 2550 x 2550mm, (HxLxW)
Net Weight	≅ 220 Kg approx.

VIEWS OF THE SYSTEM







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- 4 CHANNELS COMBINER
- STAR POINT TYPE
- FM BAND 87.5 | 108 MHz
- BAND II
- MOD. FQCSTC20



VERSION WITH DOUBLE CAVITY

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

TYPICAL SPECIFICATIONS

Model	FQCSTC20 – Star Point Type
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.19 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 1 MHz	≥ 30 dB
Number of Inputs	4
Number of Outputs	1
Connectors	Input 3+1/8" (Opt. 1+5/8") Output 4+1/2"
Max Output Power 60 KW	20KW Each 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 band-pass cavity filters
- Low Loss, High Isolation
- Natural Convection

Description of a Star-point Quadriplexer

A star-point Quadriplexer is made by parallel circuiting four 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.

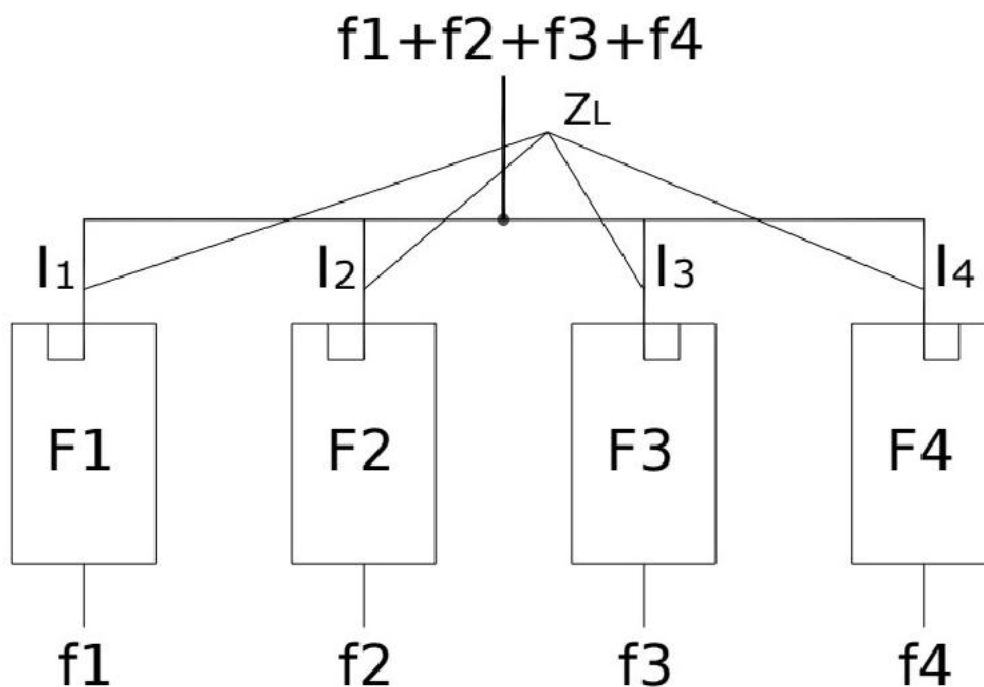
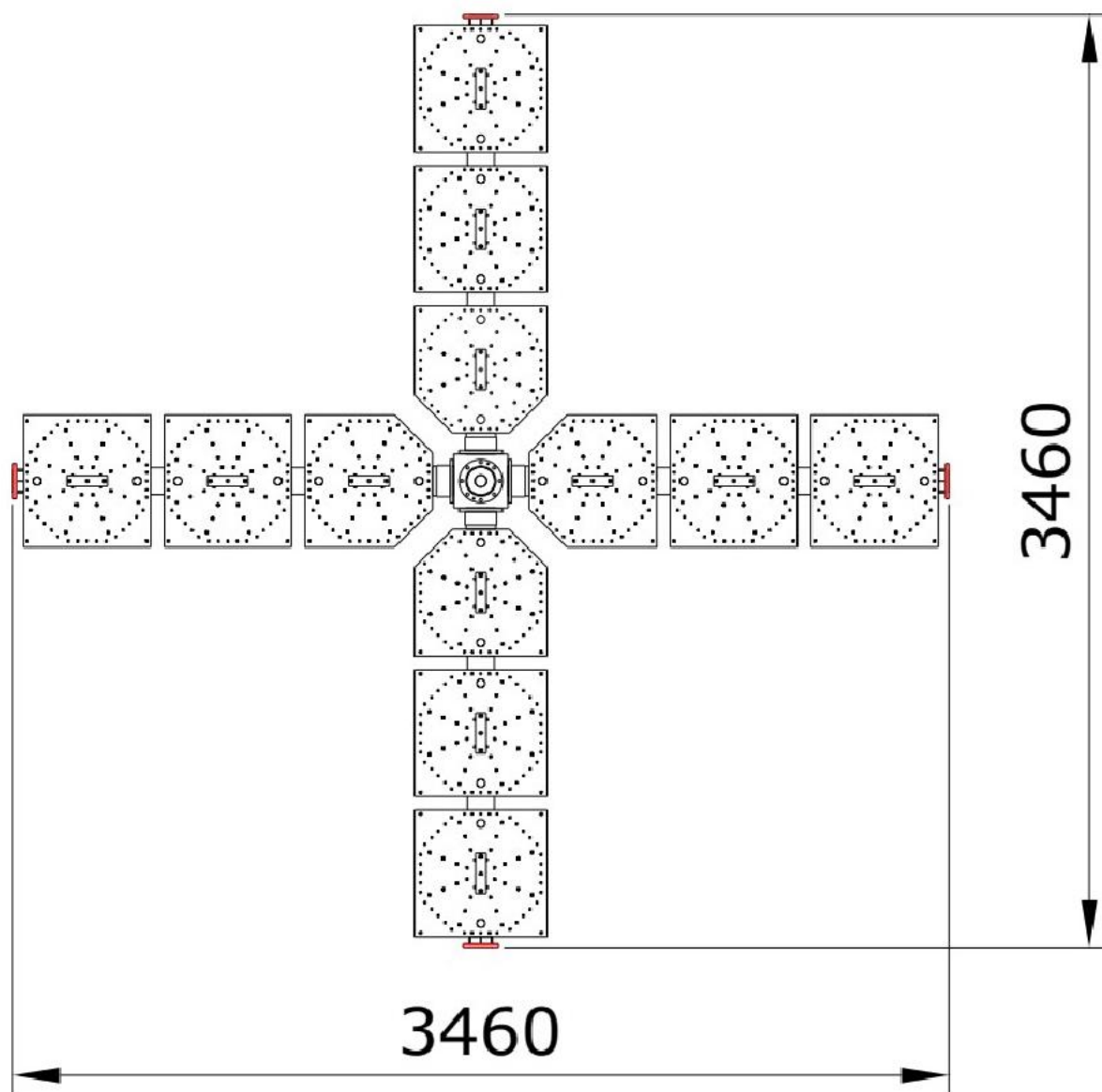


Fig. 1

In the Quadriplexer illustrated in Fig.1 the filter F1 permits at the frequency f_1 to pass, whereas filters F2, F3 and F4 cut it off. In relation to frequency f_1 , the filters F2, F3 and F4 present a short circuit at their inputs and at mode reciprocal. Through an electrically effective cable (made up of l_1 and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F1 presents impedance Z_L at this point. The filters F2, F3 and F4 function in the analog manner in relation to frequency f_2 , f_3 and f_4 .

Summary:

The Quadriplexing filter, consisting of four filters and a junction point with defined three narrow cable lengths, has four narrow band inputs corresponding to the pass band characteristics of the filters.



Dimensions	1400(Max size)- 3460- 3460mm (55.1(Max size)- 136.2- 136.2 inch) (H- L- W)
Net Weight	≈380 Kg



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FM QUADRIPLEXER

4 CAVITY

MODEL FQCSQ10C

- 4 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 – 108 MHz
- BAND II



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

TYPICAL SPECIFICATIONS

Model	FQCSQ10C – Star Point Type
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.28-0.48 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 0.8 MHz	≥ 35 dB
Number of Inputs	4
Number of Outputs	1
Connectors	Input 1+5/8" Output 3+1/8"
Max Output Power 60 KW	6KW Each 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 quadruple band-pass cavity filters
- Low Loss, High Isolation
- Natural Convection

Description of a Star-point Quadriplexer

A star-point Quadriplexer is made by parallel circuiting four 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.

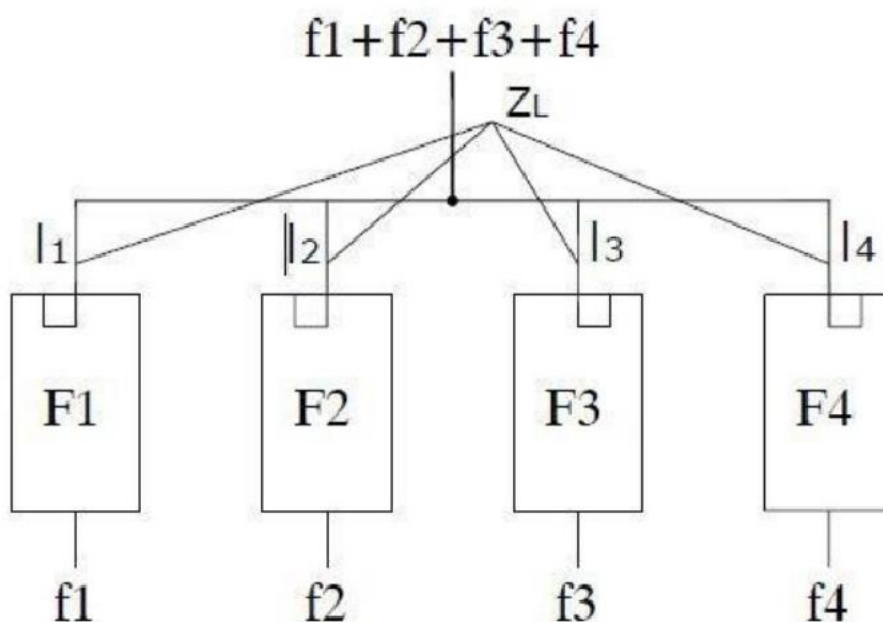


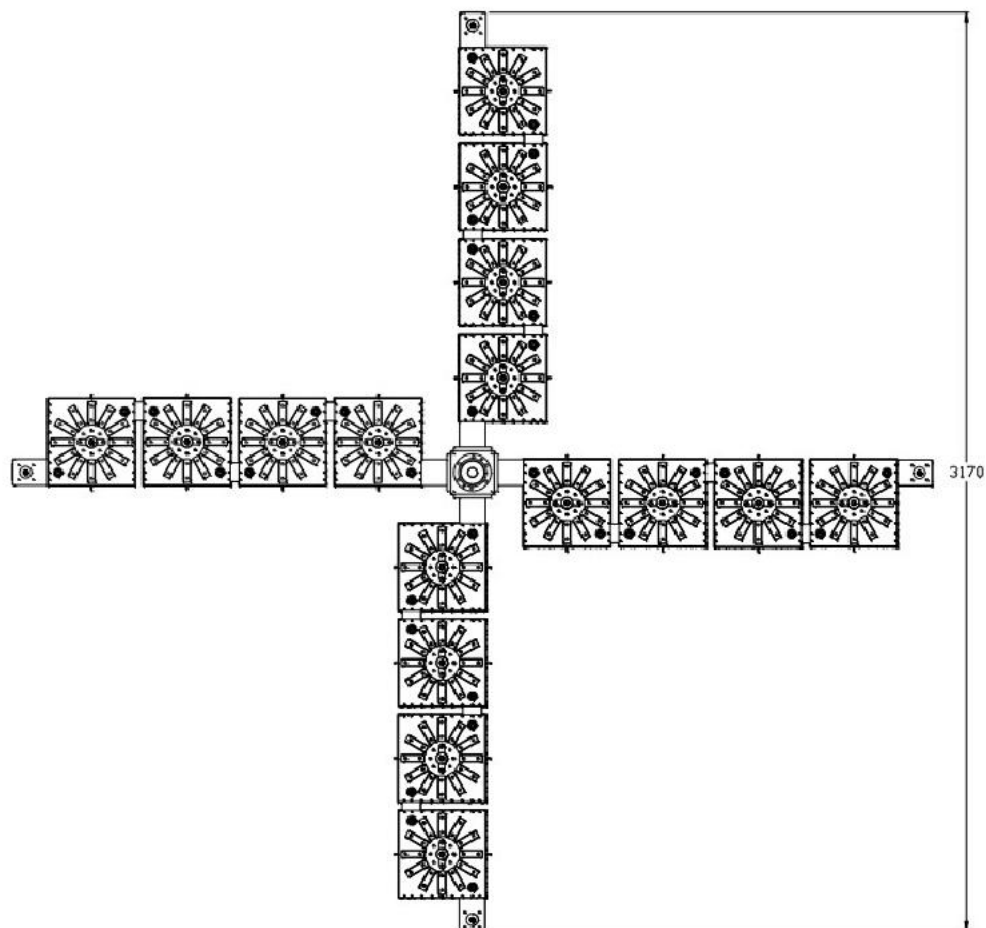
Fig. 1

In the Quadriplexer illustrated in Fig.1 the filter F_1 permits at the frequency f_1 to pass, whereas filters F_2, F_3 and F_4 cut it off. In relation to frequency f_1 , the filters F_2, F_3 and F_4 present a short circuit at their inputs and at mode reciprocal. Through an electrically effective cable (made up of and the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F_1 presents impedance Z_L at this point. The filters F_2, F_3 and F_4 function in the analog manner in relation to frequency f_2, f_3 and f_4 .

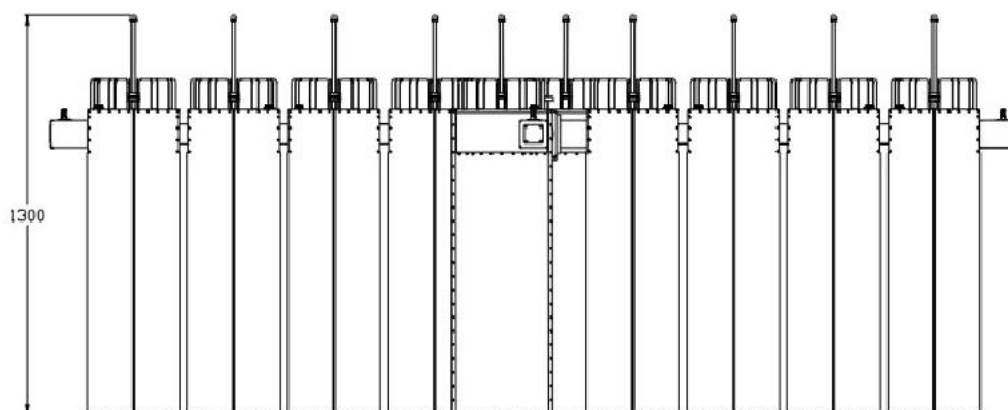
Summary:

The Quadriplexing filter, consisting of four filters and a junction point with defined three narrow cable lengths, has four narrow band inputs corresponding to the pass band characteristics of the filters.

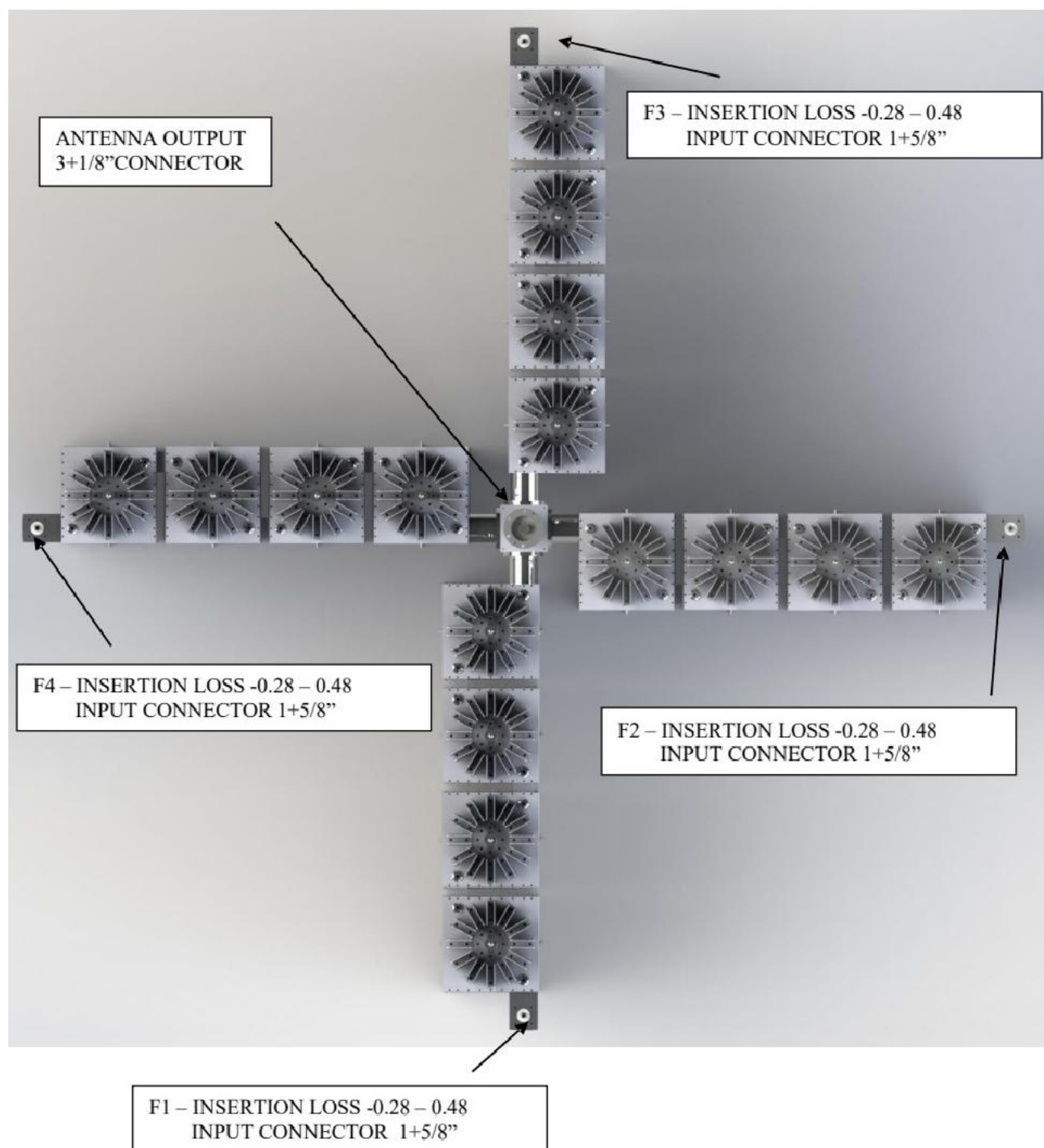
DIMENSIONS (mm)



Dimensions	3170x3170x1300 (LxWxH)
Net Weight	≅ 300 Kg aprox

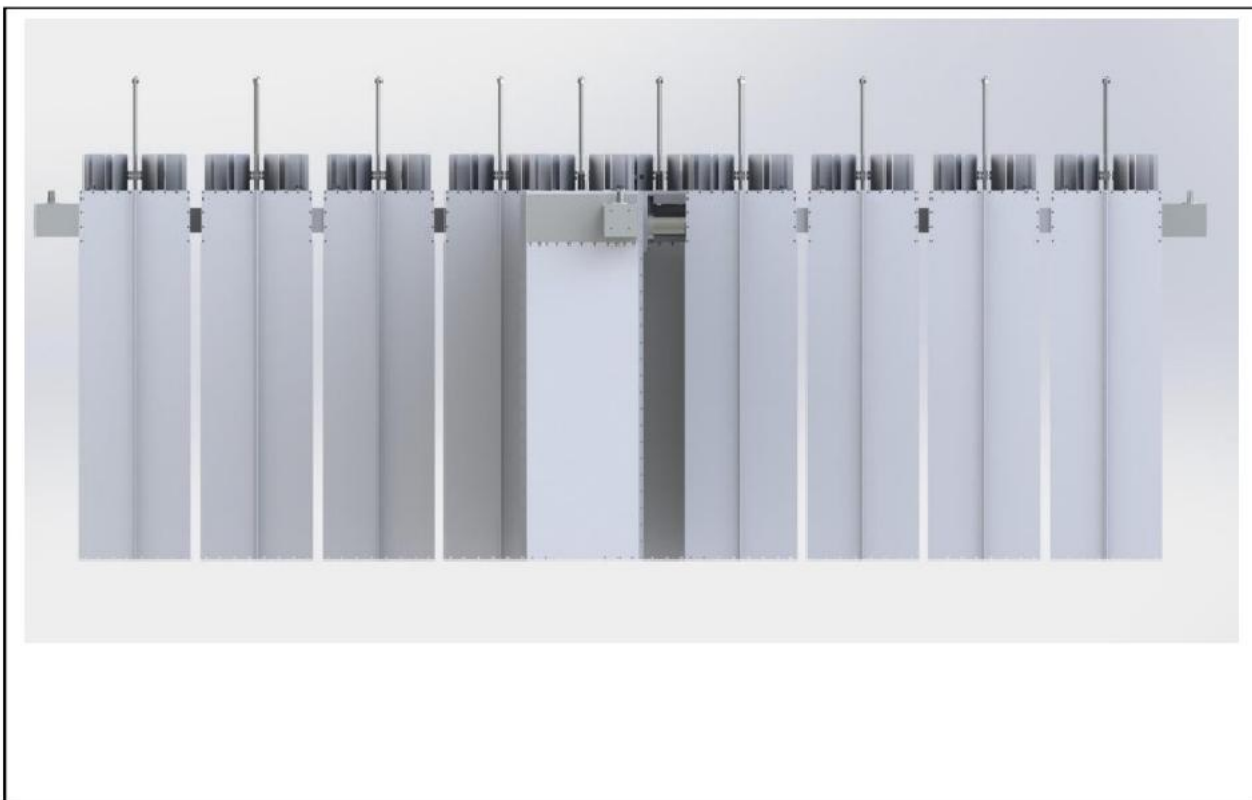


LAYOUT INSERTION LOSS AND TYPE CONNECTORS



VIEWS OF THE SYSTEM



**TELECFE**

BROADCAST SOLUTIONS

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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.



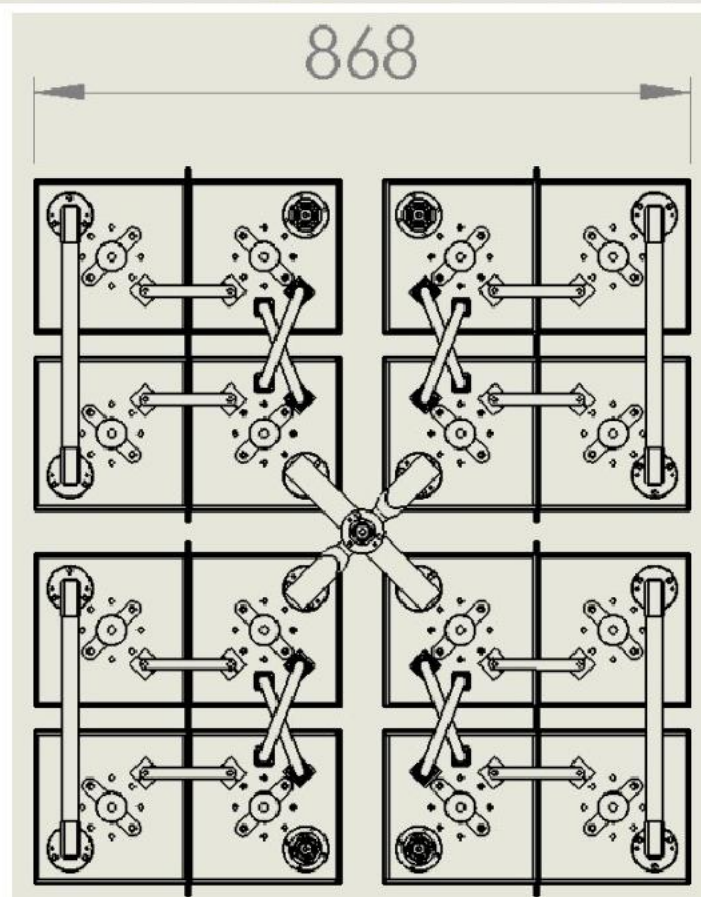
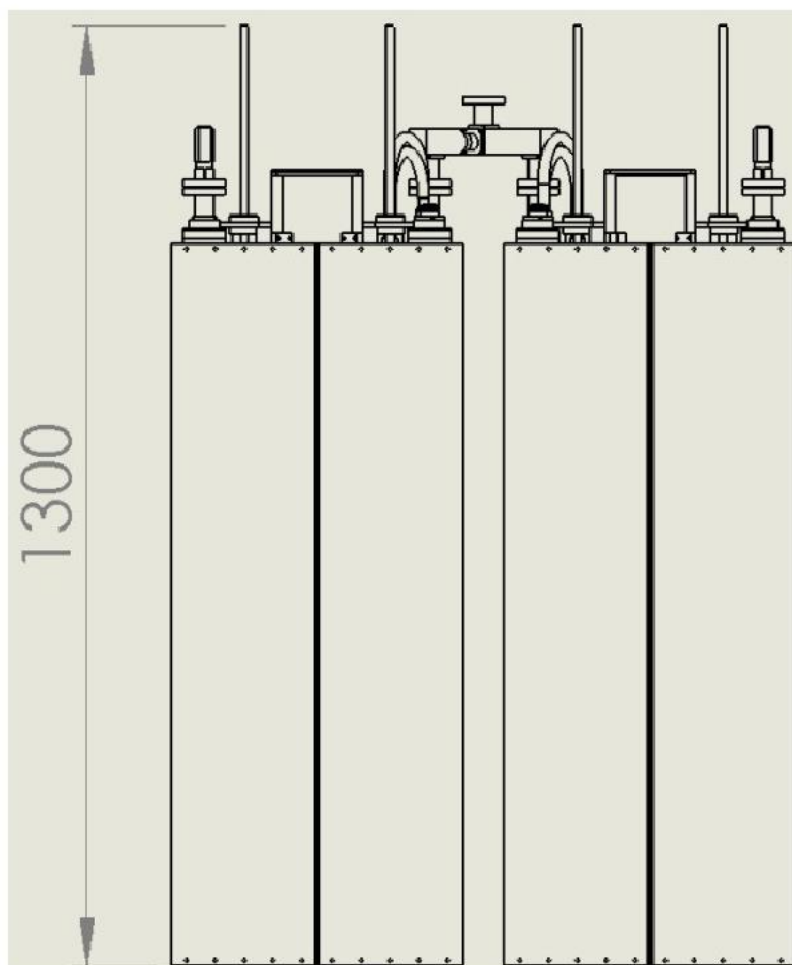
TYPICAL SPECIFICATIONS

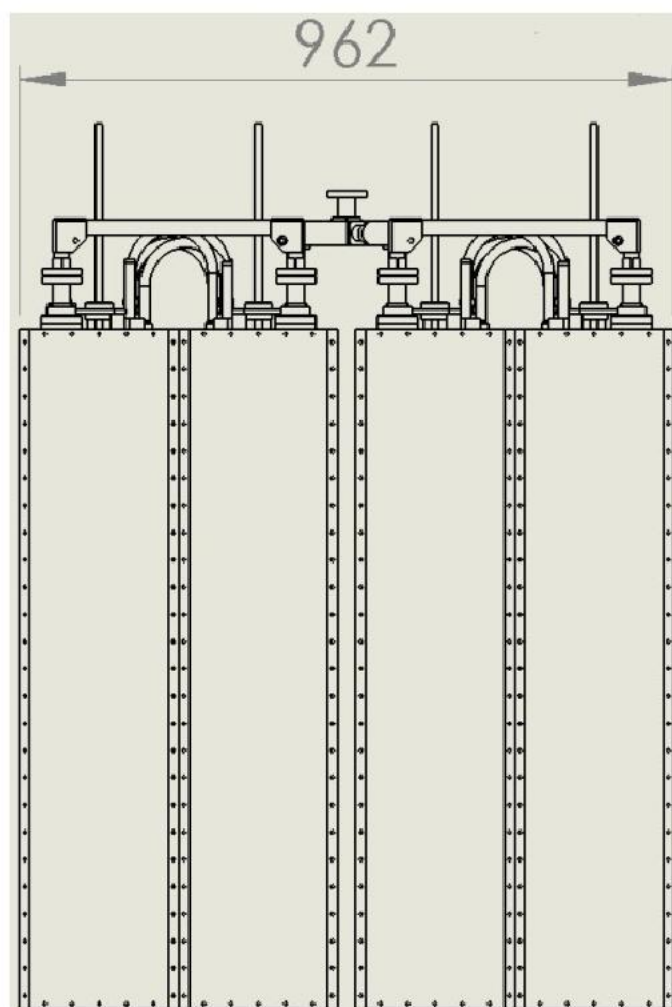
Model	FQCSQC3ELF – Type STAR POINT	
Impedance	50 Ohm	
Frequency Range	87.5-108 MHz	
VSWR ± 150 KHz	1.1:1 max	
Insertion Loss	at f_0 Input $F_1 F_2$	1.0 - 1.2 dB Max (approx.)
	at f_0 Input $F_3 F_4$	1.4 - 1.6 dB Max (approx.)
Return Loss	$F_1 - F_2 \pm 125$ KHz	≤ -26 dB
	$F_3 - F_4 \pm 130$ KHz	≤ -26 dB
Isolation	$F_1 - F_2 \pm 700$ kHz	30 dB min
	$F_3 - F_4 \pm 400$ 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 \times Channel	
Working Temperature	$-20^\circ\text{C} \div +50^\circ\text{C}$	
Color	Enamel gray ral 7001	
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μm thickness)	

Features:

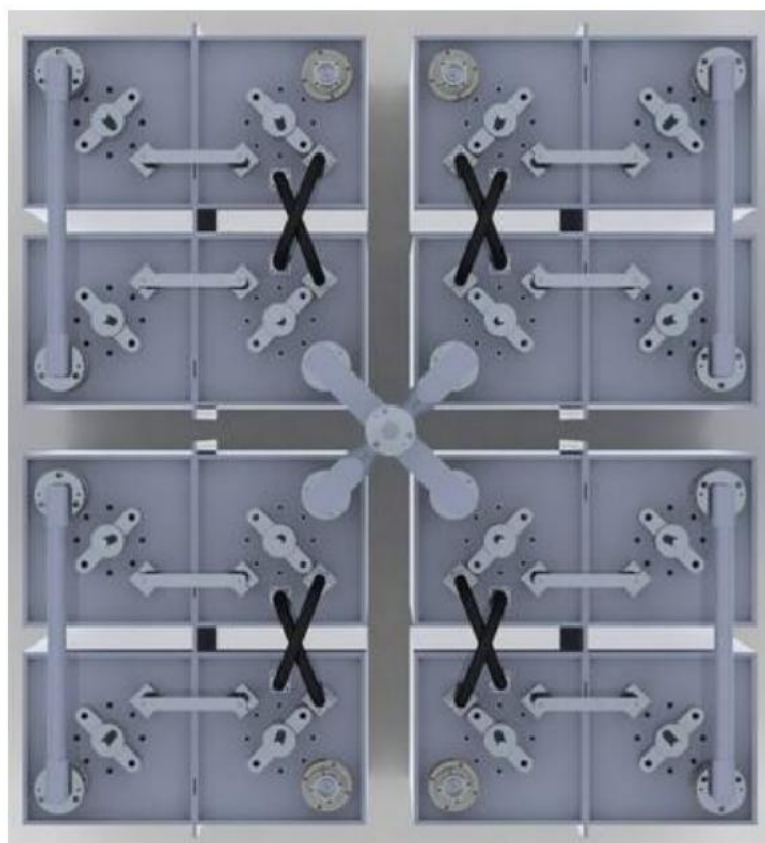
- Distortion – Free Transmission
- Star-point system with quadruple pass-band cavity filters
- Star-point system with pass stop
- Low loss, high isolation
- Natural convection
- Option Group delay equalizer

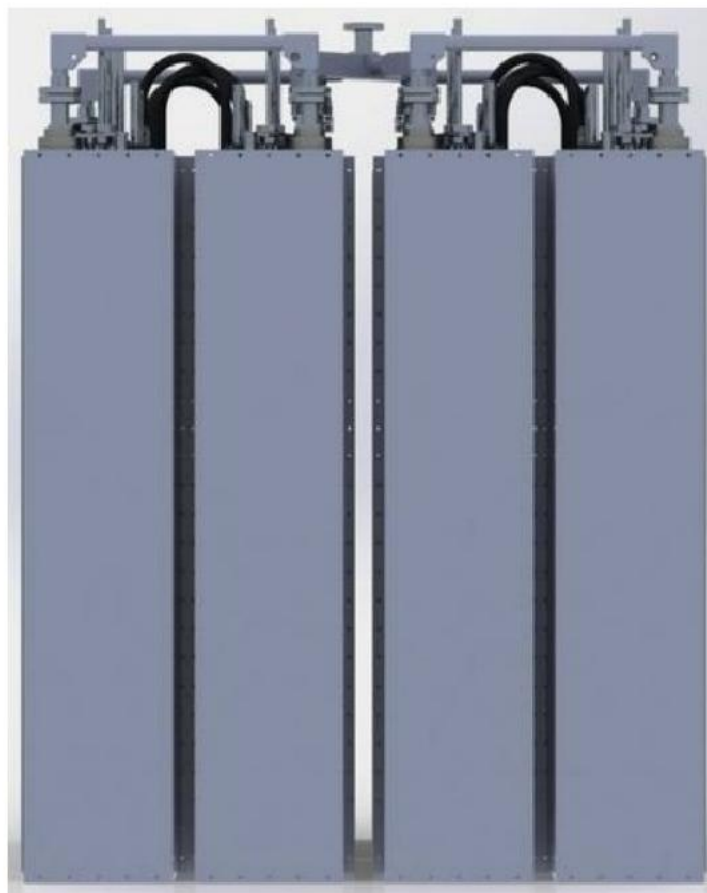
DIMENSIONS (mm)

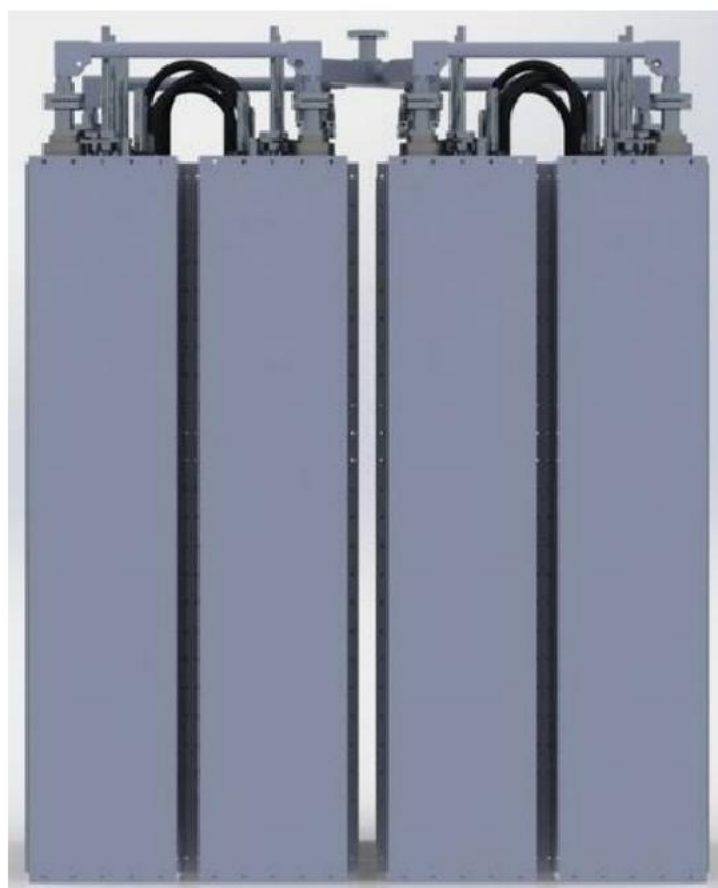


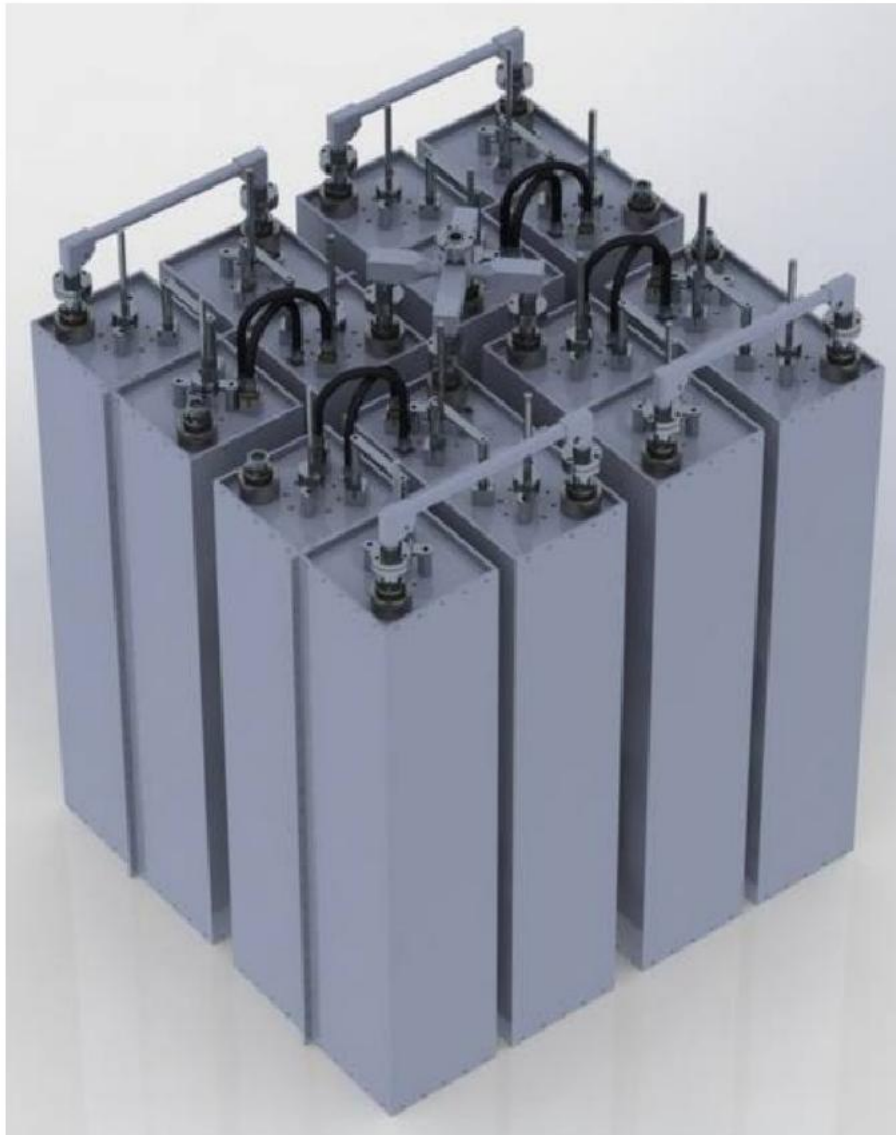


Dimensions	1300(Max size)×962×868 mm (51.1(Max size)×37.8×34.1 inch) (H×L×W)
Net Weight	≅ 200 Kg Approx.

VIEWS OF THE SYSTEM







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MODEL FQCSQC15

- 4 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 – 108 MHz
- BAND II



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

TYPICAL SPECIFICATIONS

Model	FQCSQC15 – Star Point Type
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.18-0.28 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 0.8 MHz	≥ 35 dB
Number of Inputs	4
Number of Outputs	1
Connectors	Input 3+1/8" Output 4+1/2" (optional 3+1/8")
Max Output Power 60 KW	15KW Each Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

Features:

- Distortion – Free Transmission
- Star-Point System with double band-pass cavity filters
- Low Loss, High Isolation
- Natural Convection

Description of a Star-point Quadriplexer

A star-point Quadriplexer is made by parallel circuiting four 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.

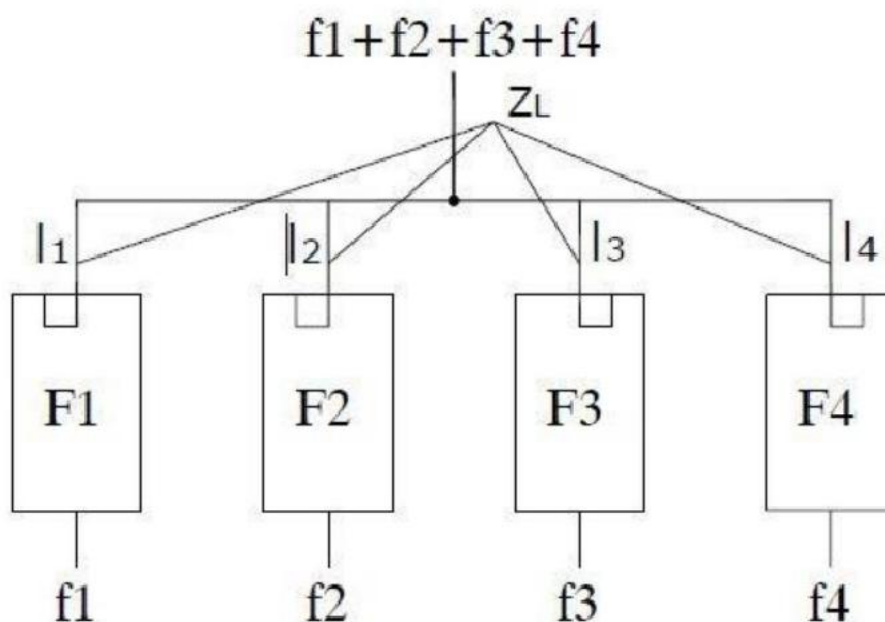


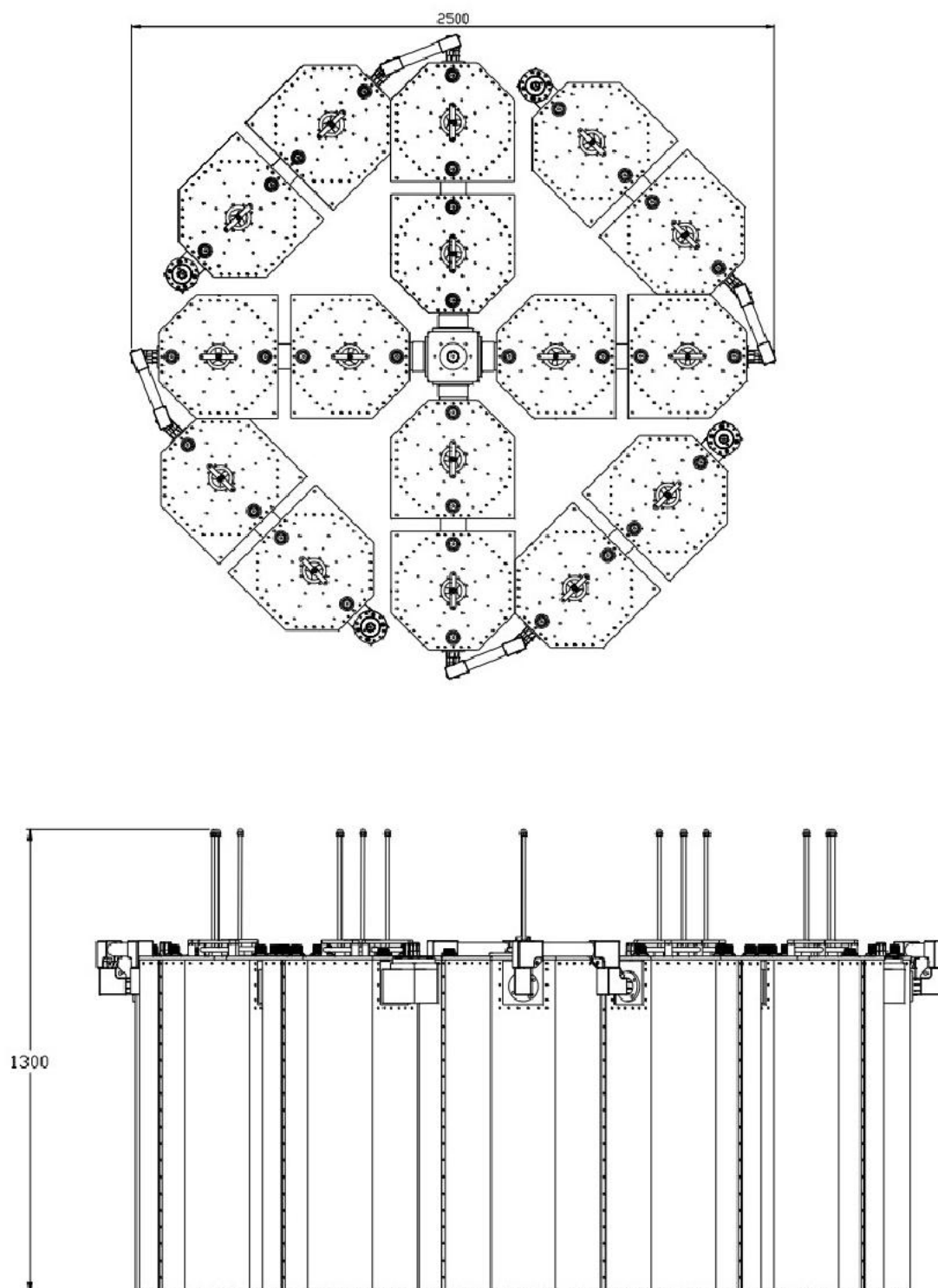
Fig. 1

In the Quadriplexer illustrated in Fig.1 the filter F1 permits at the frequency f_1 to pass, whereas filters F2, F3 and F4 cut it off. In relation to frequency f_1 , the filters F2, F3 and F4 present a short circuit at their inputs and at mode reciprocal. Through an electrically effective cable (made up of the length of the input coupling loop), this shorting circuit is transformed into a very high impedance R_p at the junction point. In contrast, due to the matching of its input impedance for a frequency of f_1 , filter F1 presents impedance Z_L at this point. The filters F2, F3 and F4 function in the analog manner in relation to frequency f_2, f_3 and f_4 .

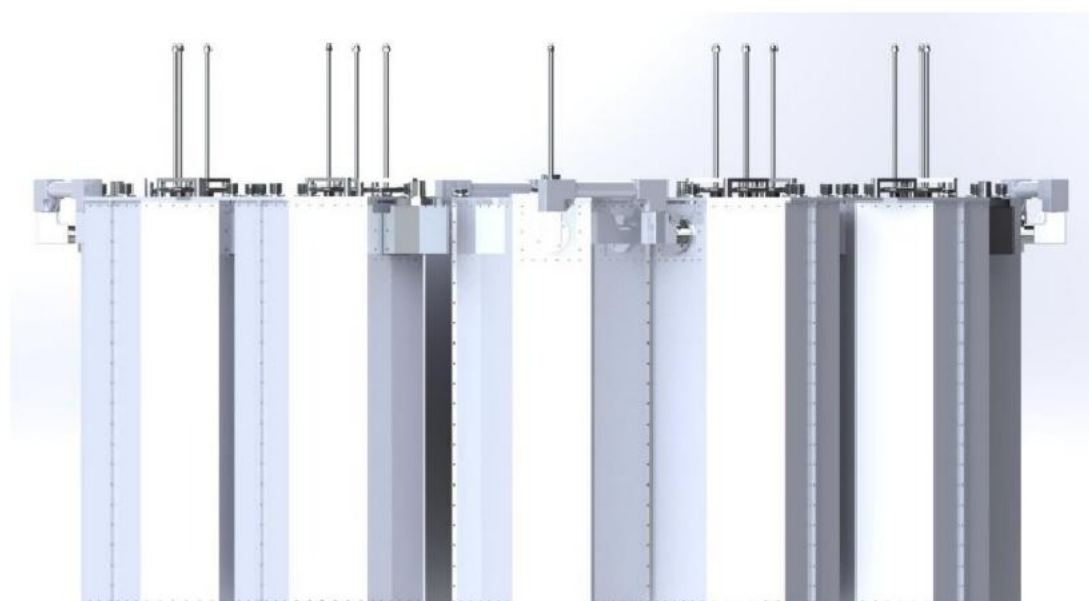
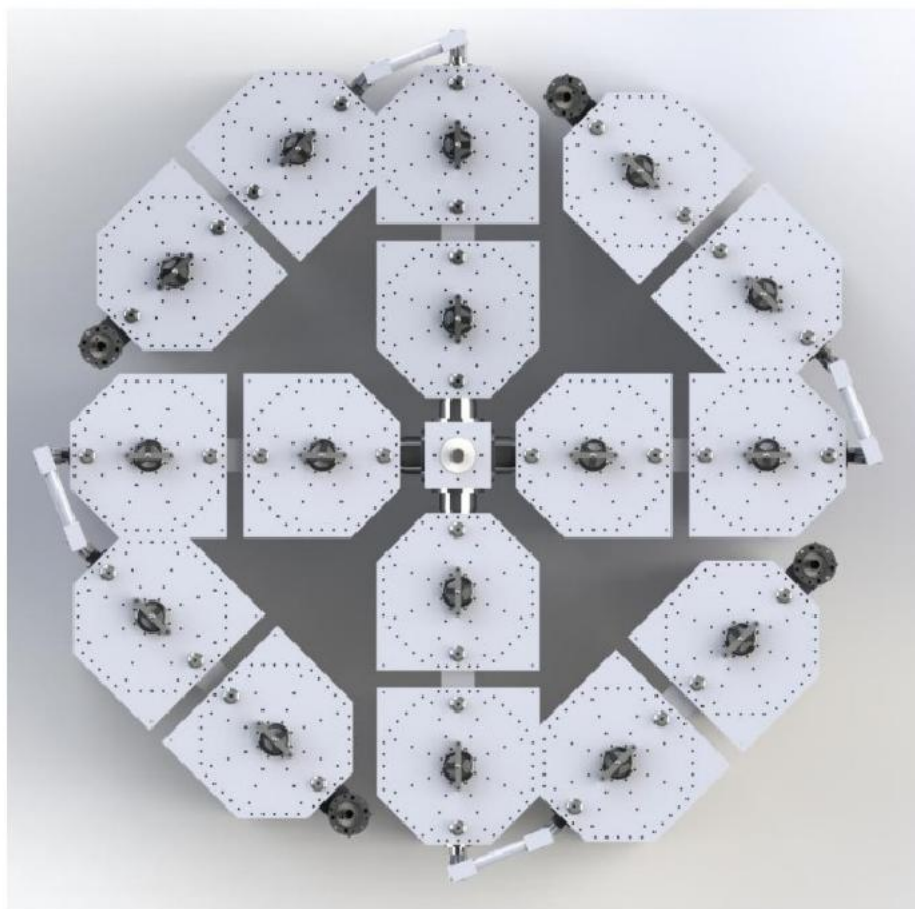
Summary:

The Quadriplexing filter, consisting of four filters and a junction point with defined three narrow cable lengths, has four narrow band inputs corresponding to the pass band characteristics of the filters.

DIMENSIONS (mm)



Dimensions	2500x2500x1300 (LxWxH)
Net Weight	≅ 490 Kg aprox

VIEWS OF THE SYSTEM

FM PENTAPLEXER

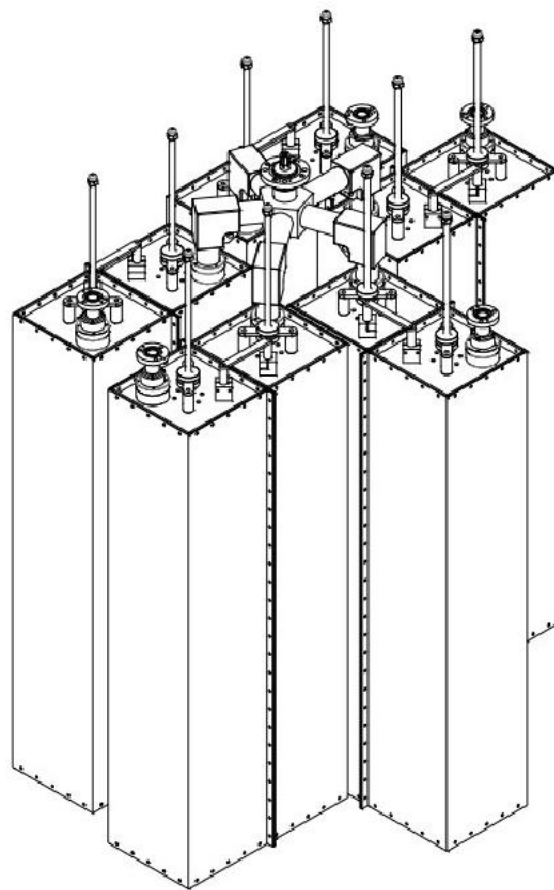
2 CAVITY

MODEL FPCSDC2

- 5 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 \pm 108 MHz
- BAND II
- STARPOINT TYPE

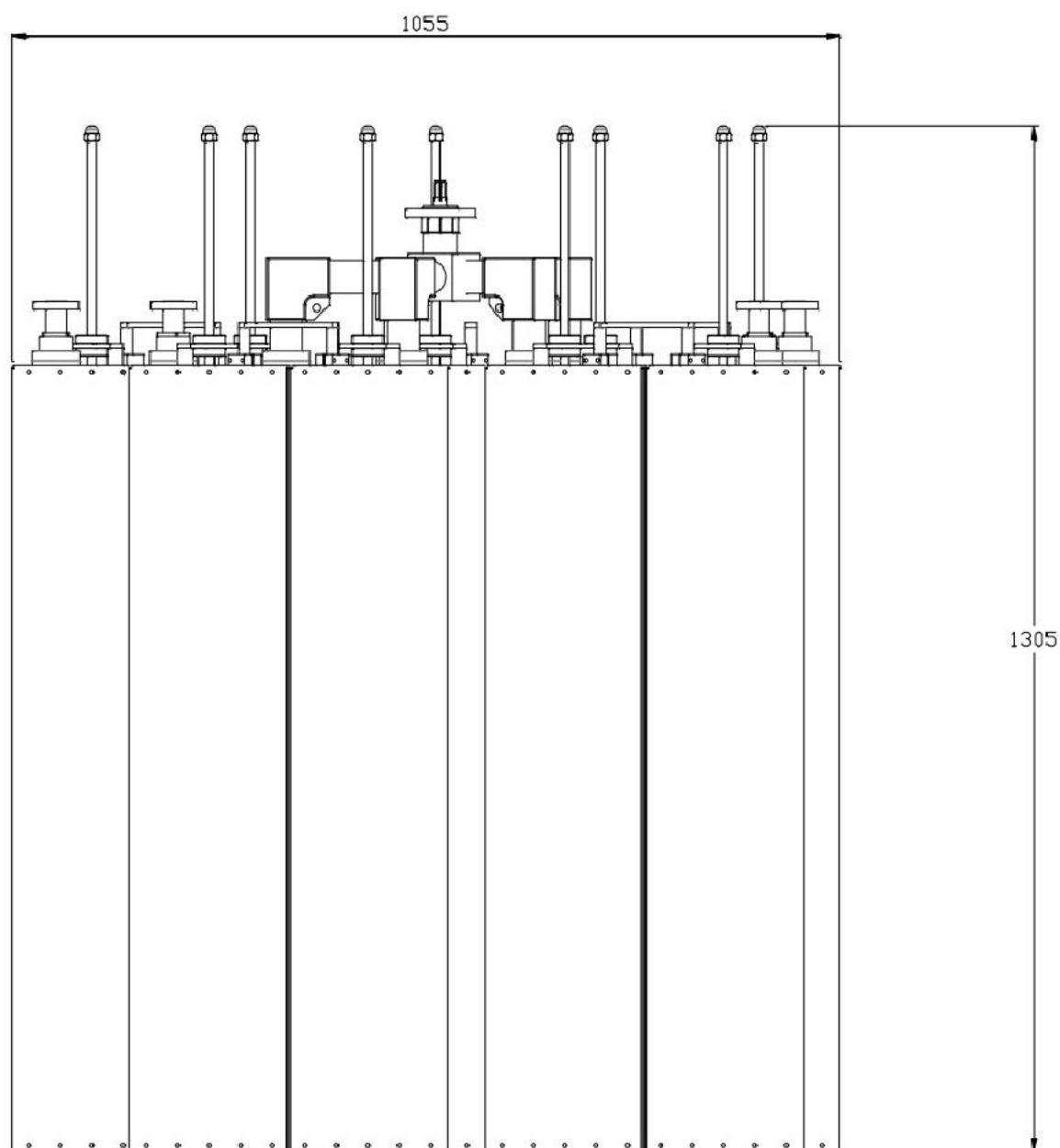
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to which it's connected.

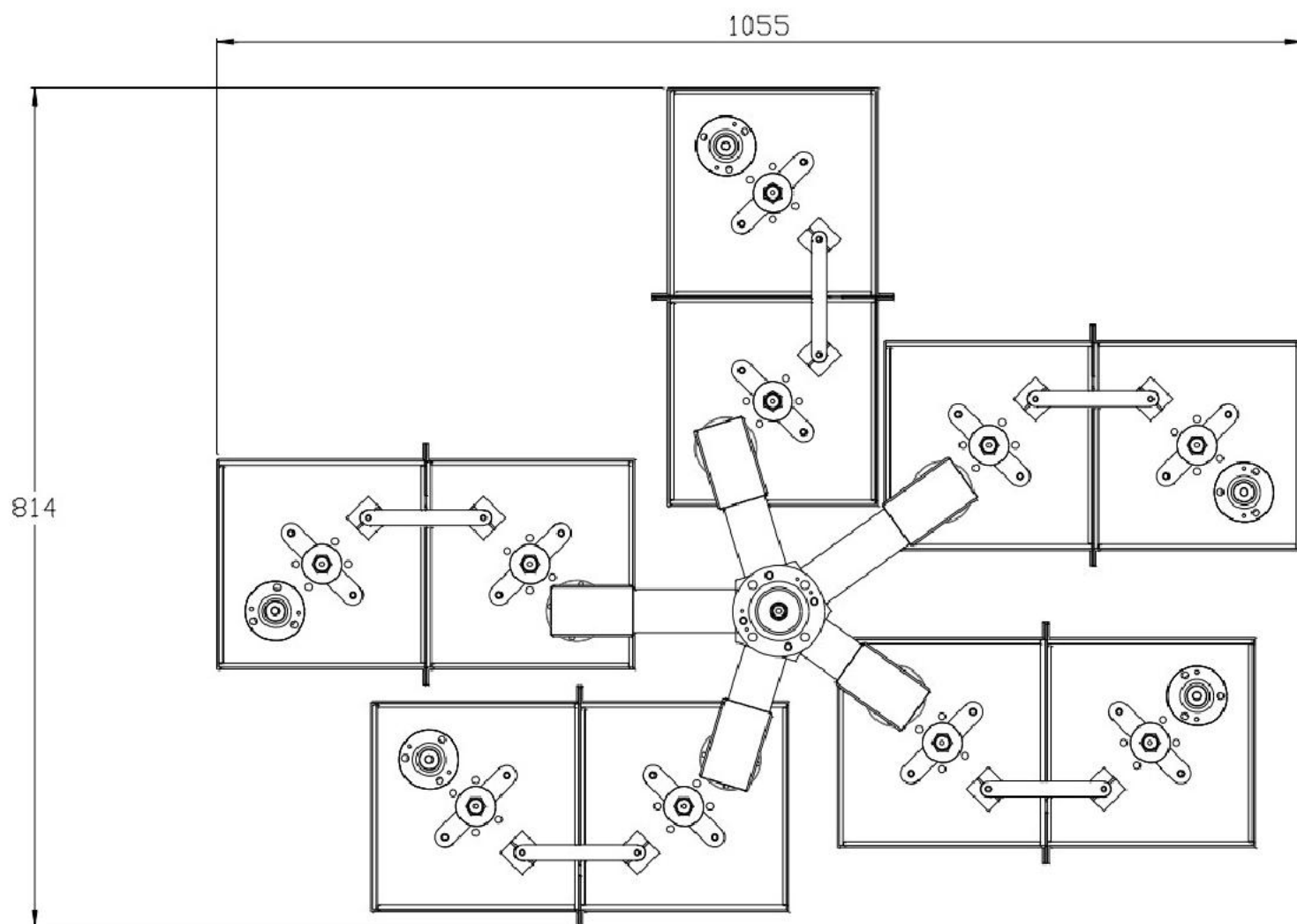
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.



TYPICAL SPECIFICATIONS

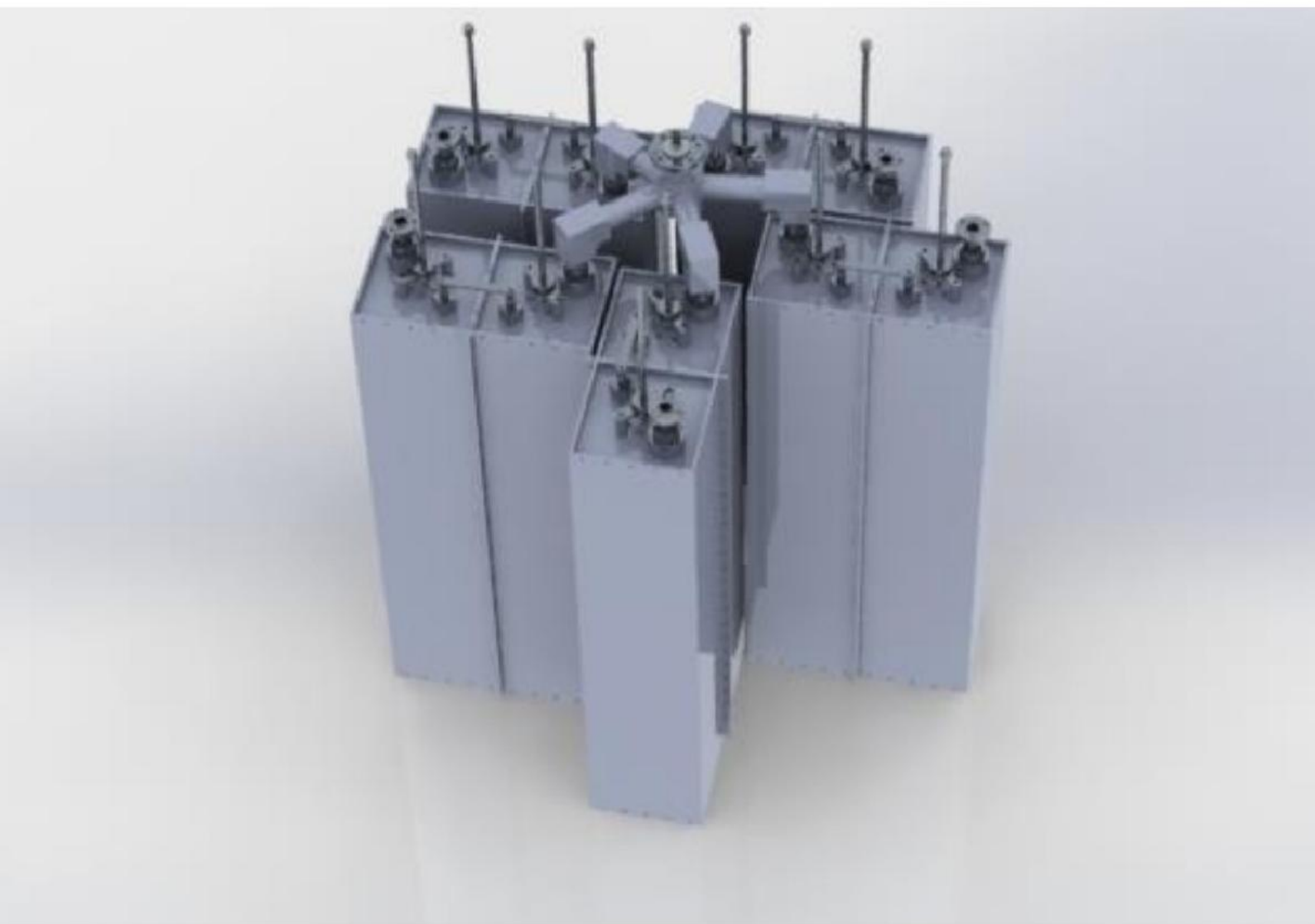
Model	FPCSDC2
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR \pm 150 KHz	1.1:1 max
Insertion Loss at $f_0 \pm 150$ Khz	0.3 dB max
Return Loss	≥ 26 dB
Isolation ± 1.2 MHz	≥ 35 dB
No. of Input	5
No. of Output	1
Connectors	Input 7/8" Output 1+5/8"
Max Power	2 KW \times 5 Channels
Working Temperature	-20°C \div +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

DIMENSIONS (mm)



WEIGHT 160 Kg approx.

VIEWS OF THE SYSTEM



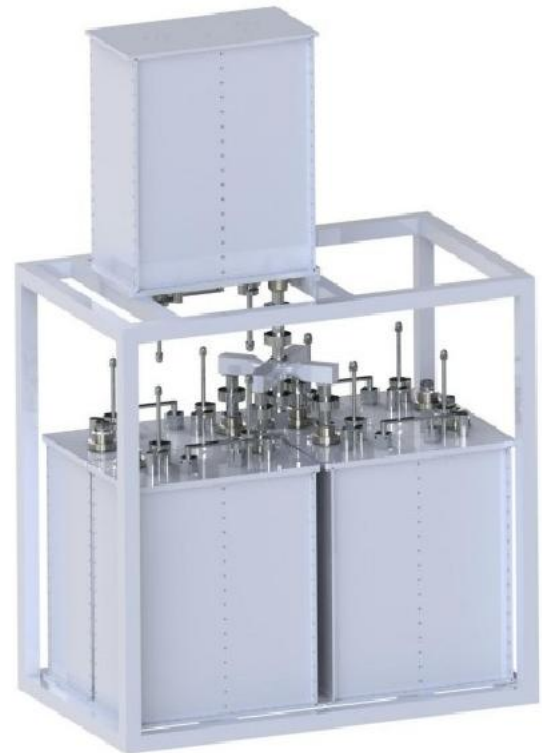


MODEL FPCSDC2R

- 5 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 \pm 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 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.

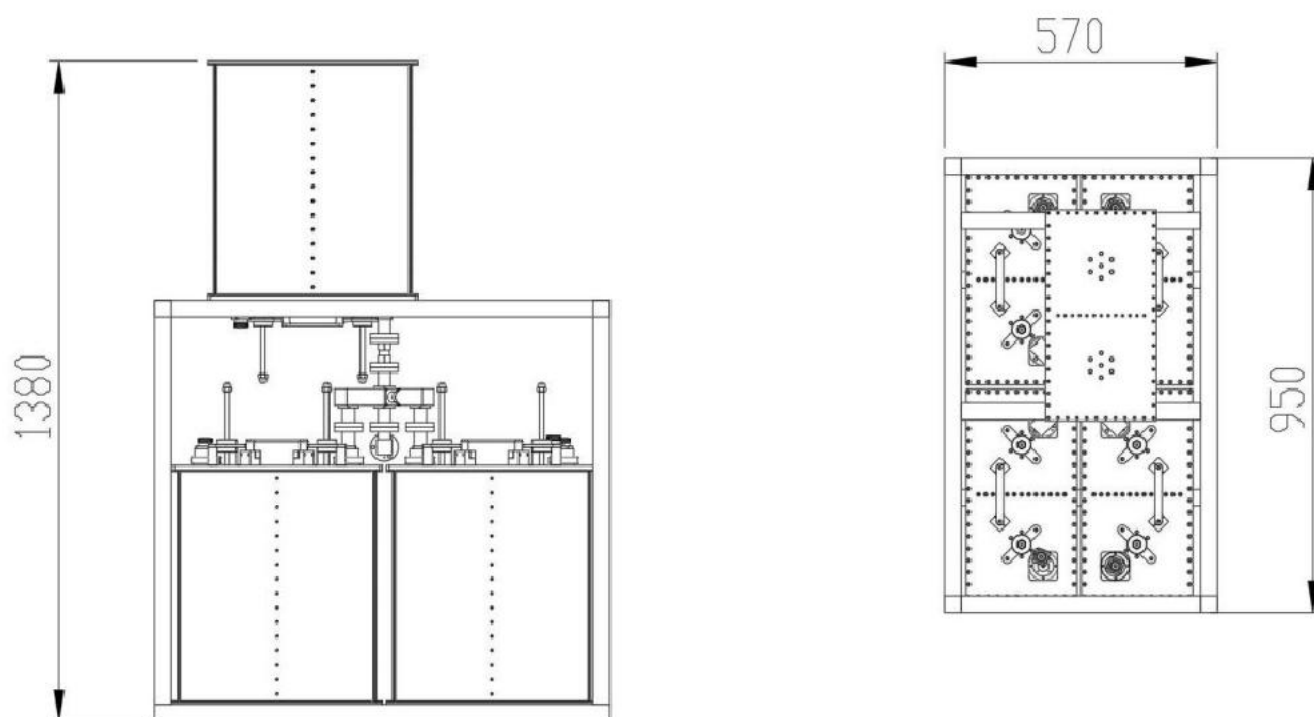


TYPICAL SPECIFICATIONS

Model	FPCSDC2R
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR \pm 150 KHz	1.1:1 max
Insertion Loss at $f_0 \pm 150$ KHz	0.3 dB max
Return Loss	≥ 26 dB
Isolation ± 1.2 MHz	≥ 35 dB
No. of Input	5
No. of Output	1
Connectors	Input 7/16" or 7/8" Output 7/8" or 1+5/8"
Max Power	1 KW \times 5 Channels
Working Temperature	-20°C \div +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

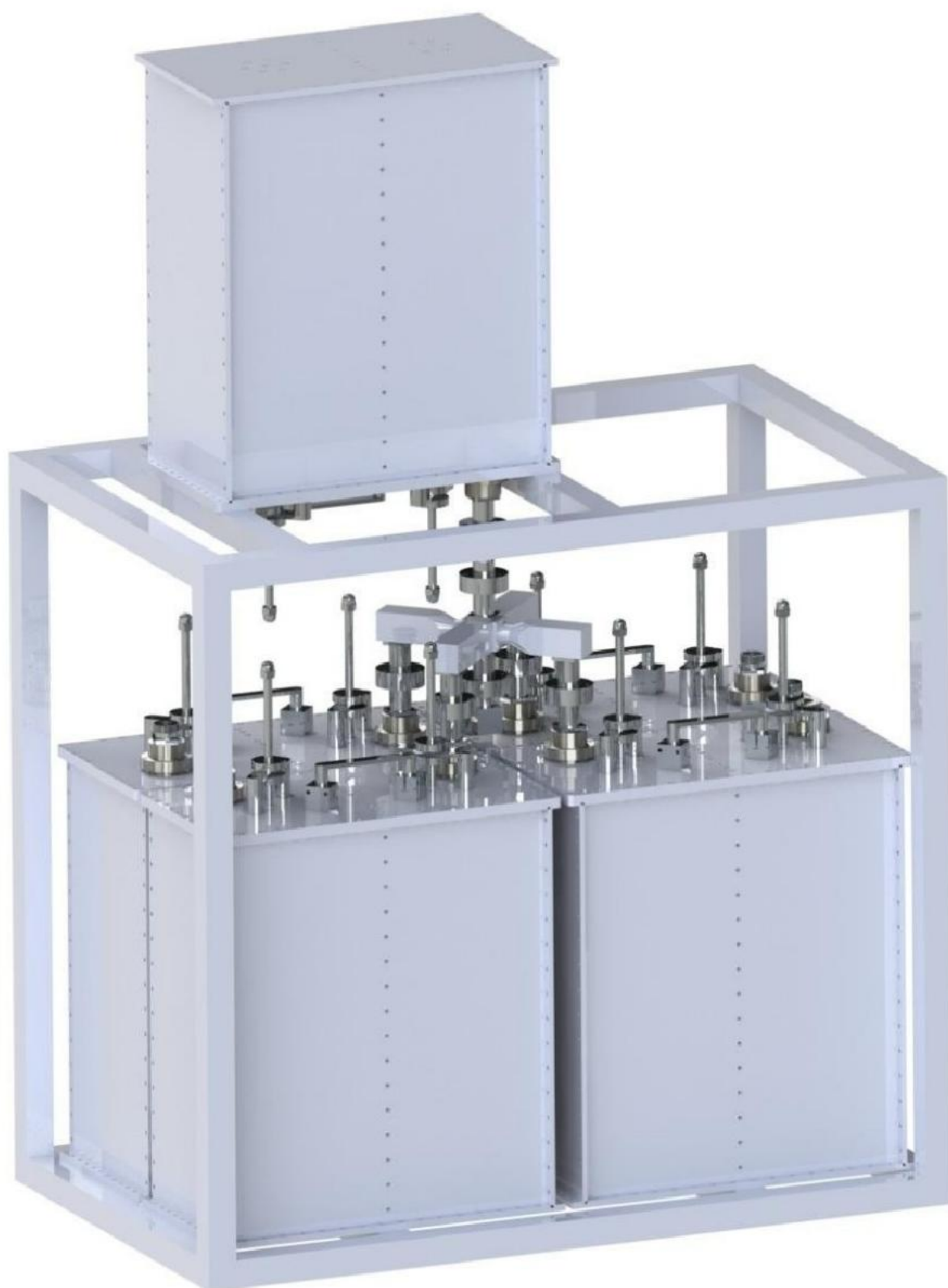
Dimensions	See dimensions
Net Weight	\approx 98 Kg approx.

DIMENSIONS (mm)

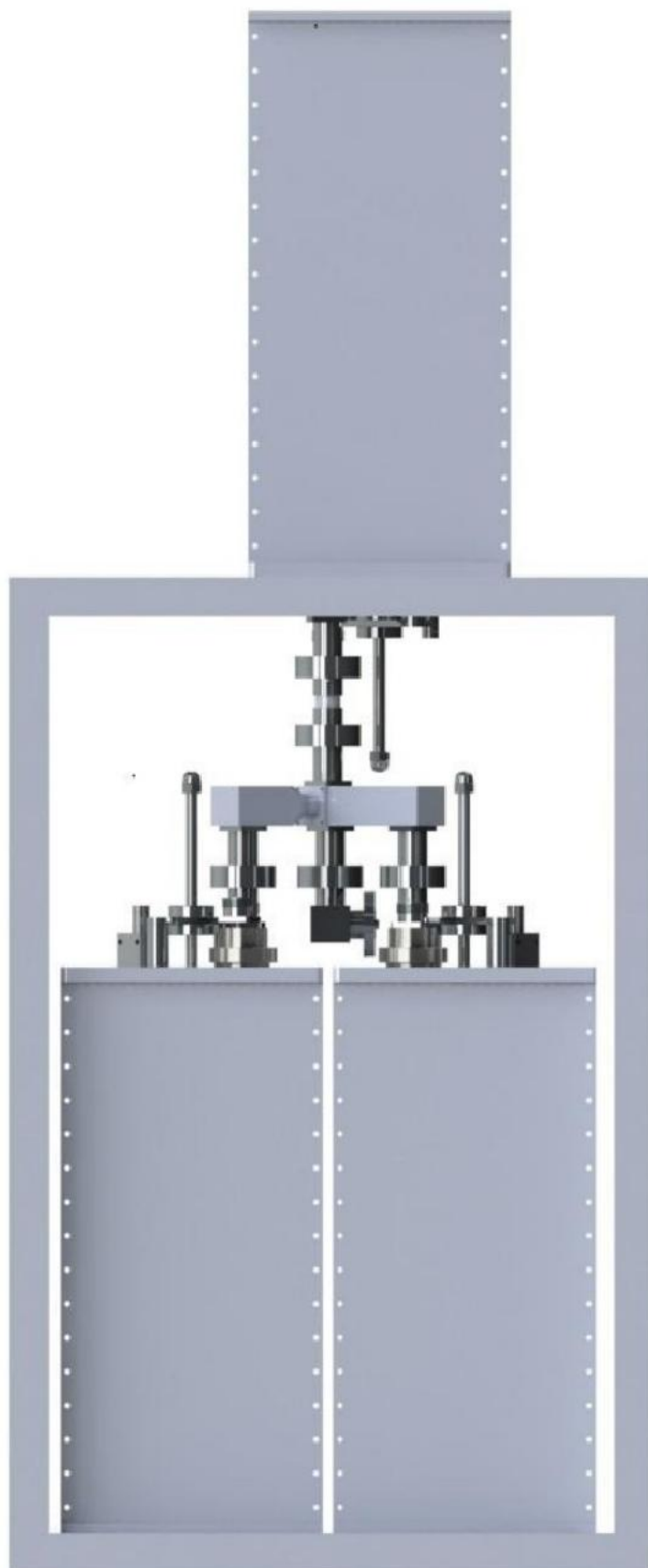


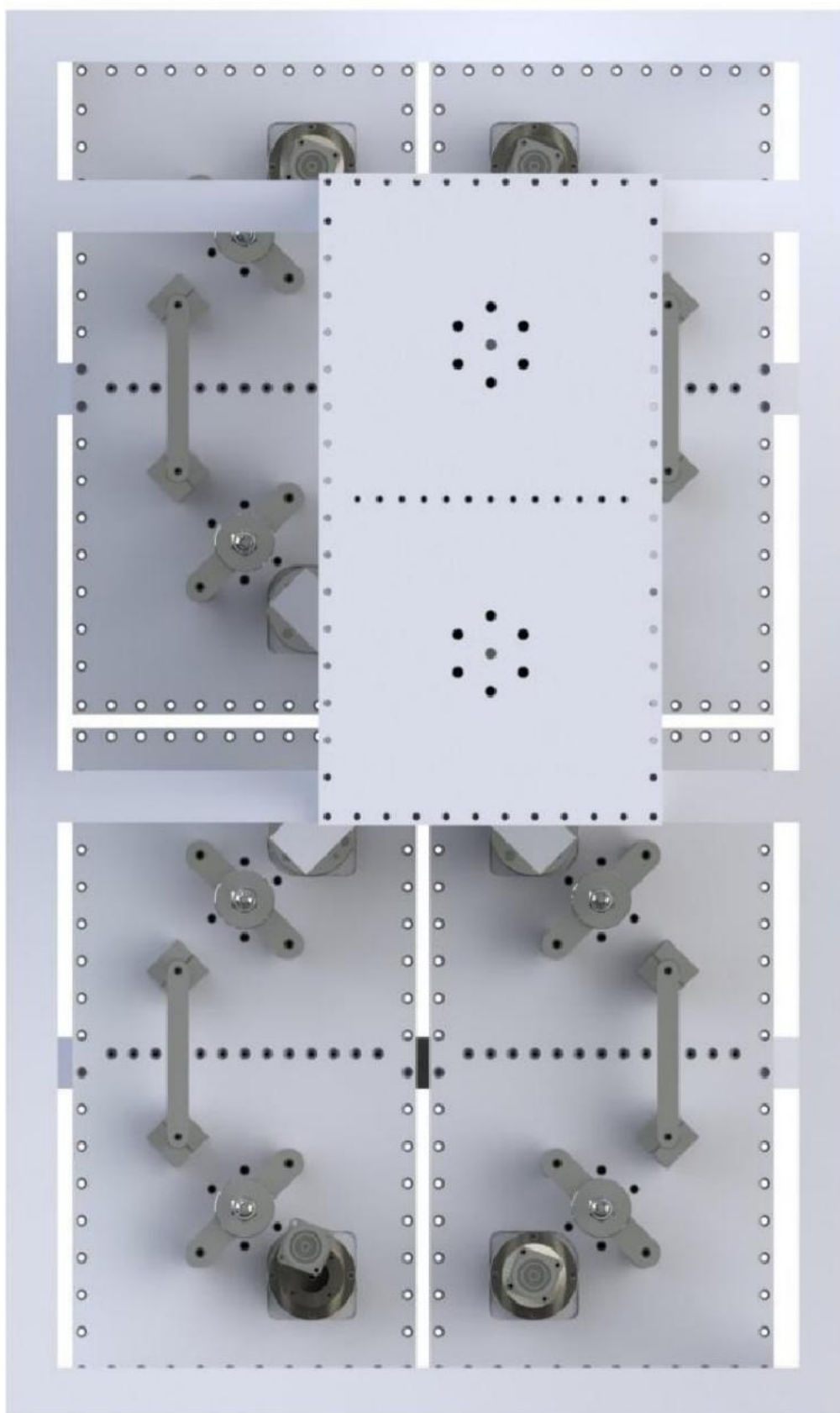
Dimensions	See dimensions
Net Weight	≅ 98 Kg approx.

VIEWS OF THE SYSTEM









MODEL FPCSDC03

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

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.



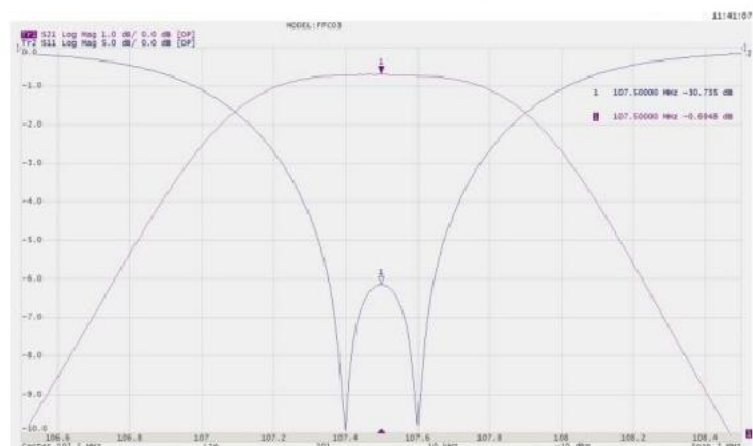
TYPICAL SPECIFICATIONS

Model	FPCSDC03 – Type Star Point
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR $\pm 150\text{Khz}$	1.1:1 max
Insertion Loss	at f_0 0.6-0.8 dB max
Return Loss $\pm 150\text{Khz}$	≤ -26 dB
Isolation $\pm 1.6\text{MHz}$	≥ 30 dB
Number of Inputs	5
Number of Outputs	1
Standard Connectors	Input N female Output 7/16" (option 7/8")
Max Power	300 W x 5 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12µm thickness)

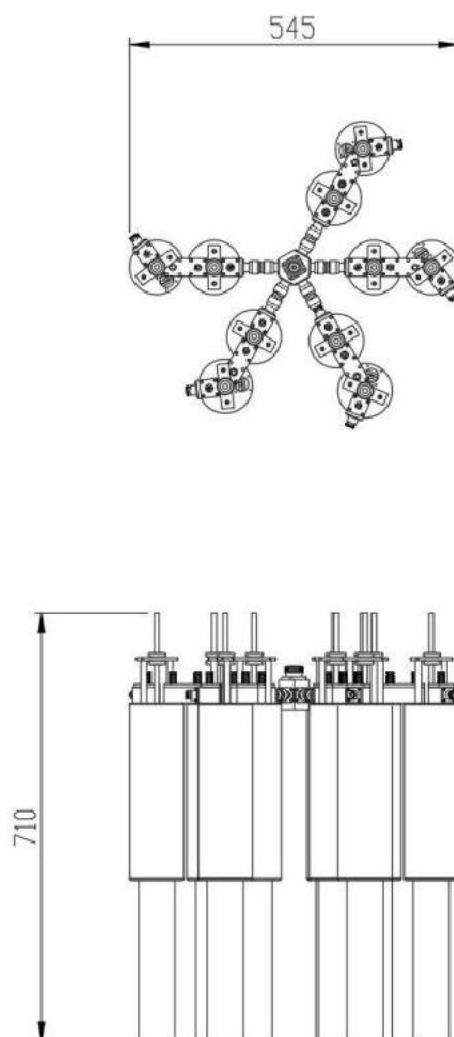
Features:

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

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

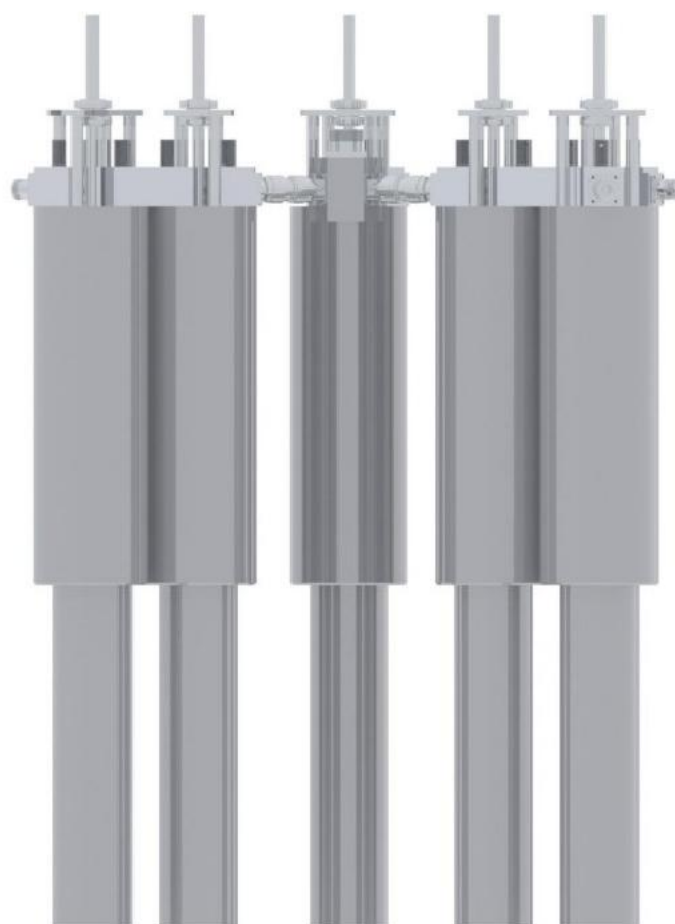


DIMENSIONS (mm)



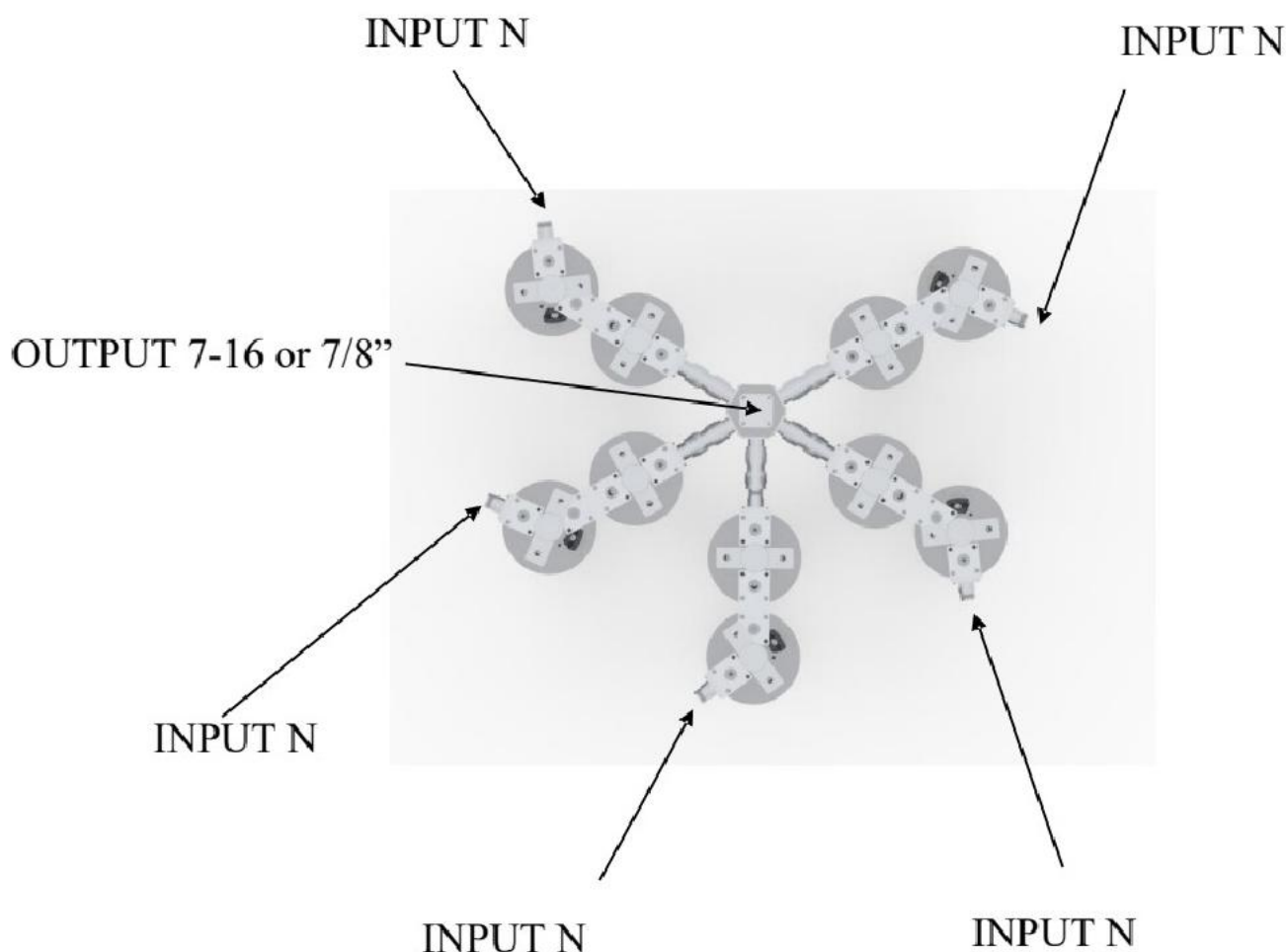
Dimensions	710 X 545 X 545 mm.(H×L×W)
Net Weight	≅ 30 Kg approx.

VIEWS OF THE SYSTEM





INPUT-OUTPUT LAYOUT



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FM PENTAPLEXER

3 CAVITY

MODEL FPCSTC2

- 5 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 \pm 108 MHz
- BAND II
- STARPOINT TYPE



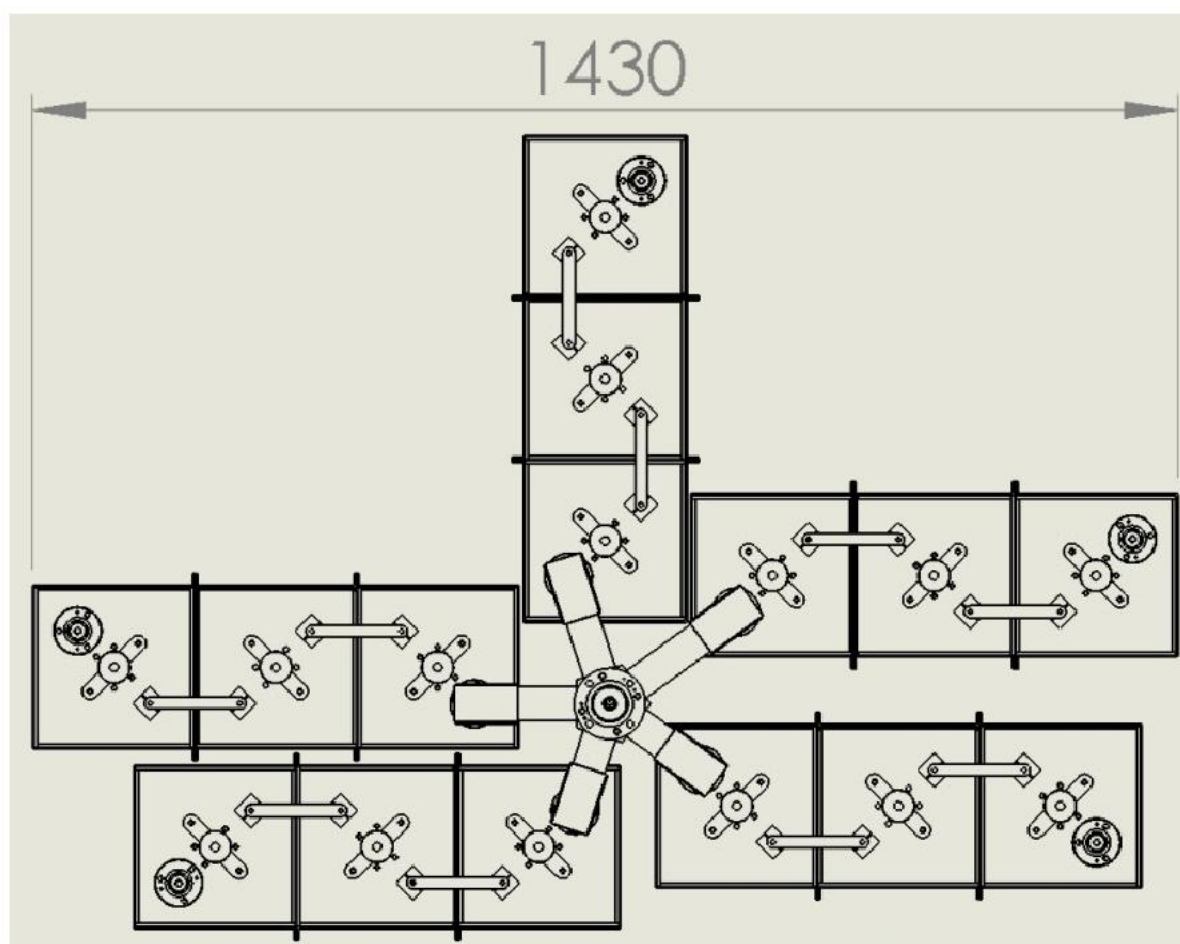
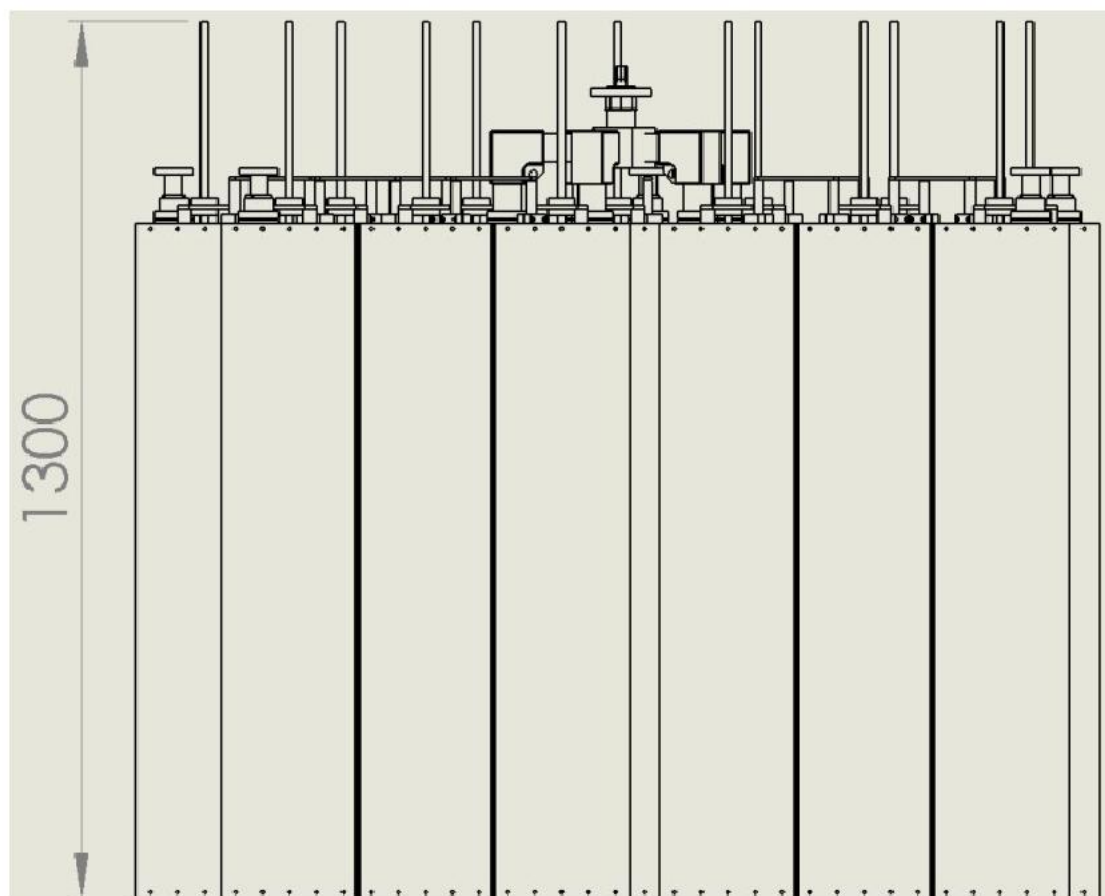
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to which it's connected.

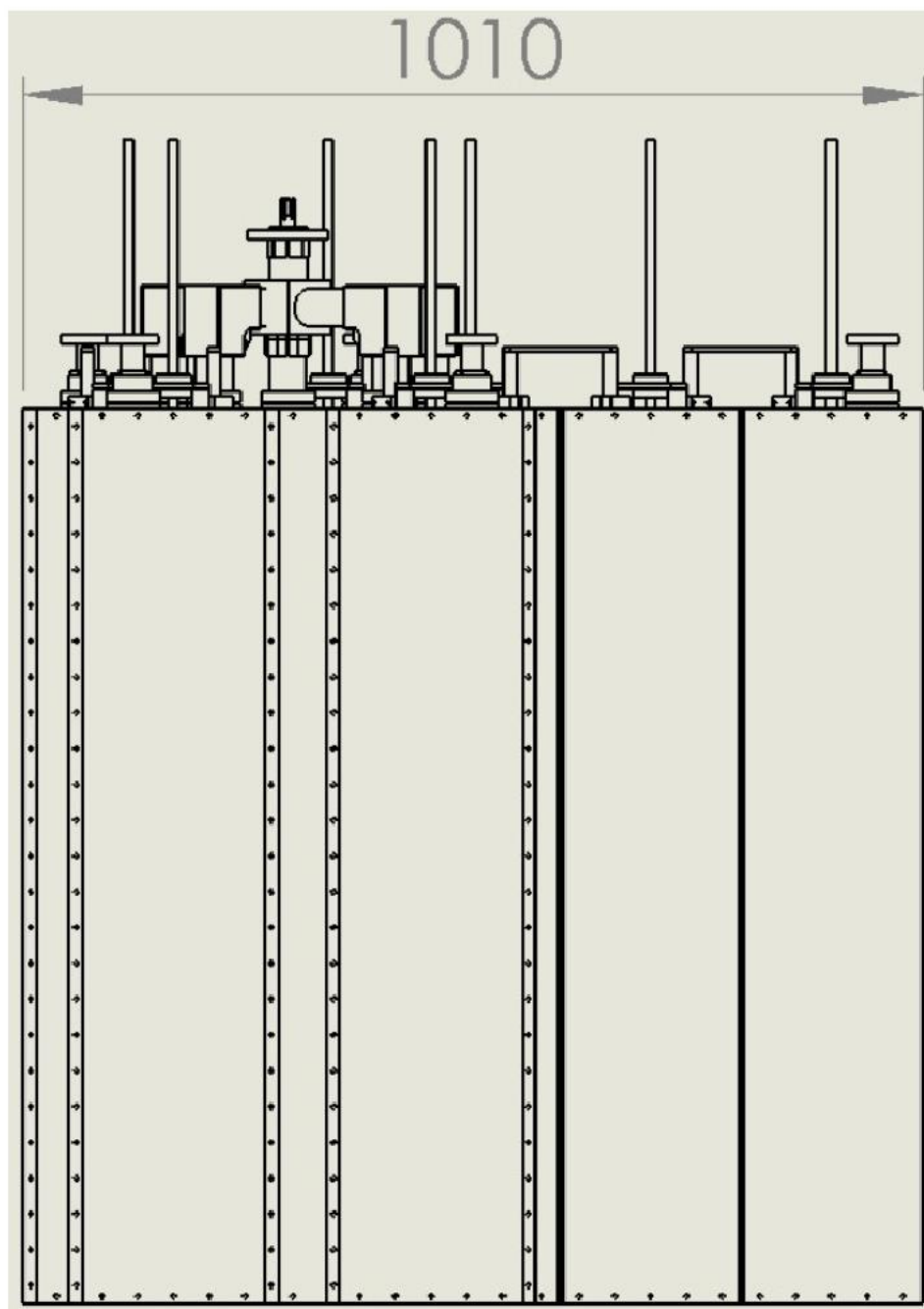
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

Model	FPCSTC2
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR \pm 150 KHz	1.1:1 max
Insertion Loss at $f_0 \pm 150$ Khz	0.6 dB max
Return Loss	≥ 26 dB
Isolation ± 1.2 MHz	≥ 35 dB
No. of Input	5
No. of Output	1
Connectors	Input 7/8" Output 1+5/8"
Max Power	2 KW \times 5 Channels
Working Temperature	-20°C \div +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

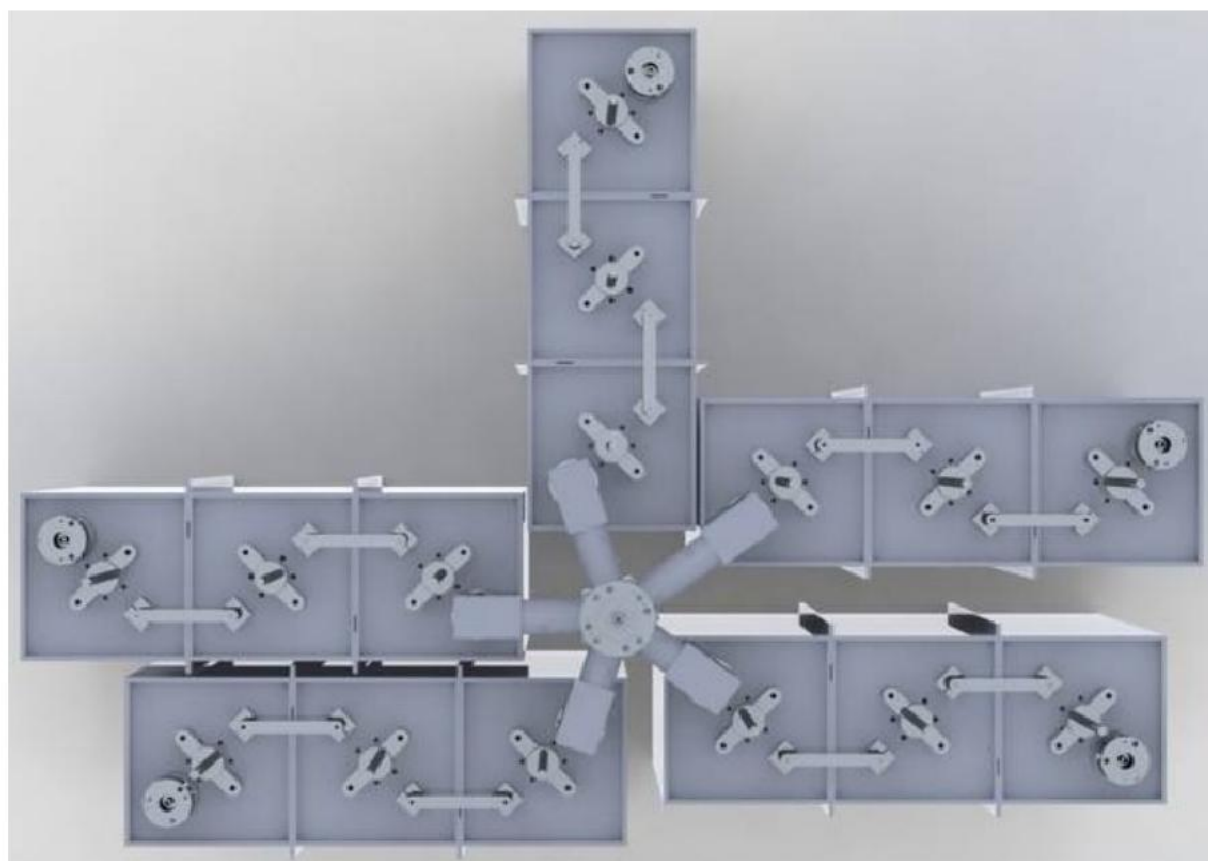
DIMENSIONS (mm)





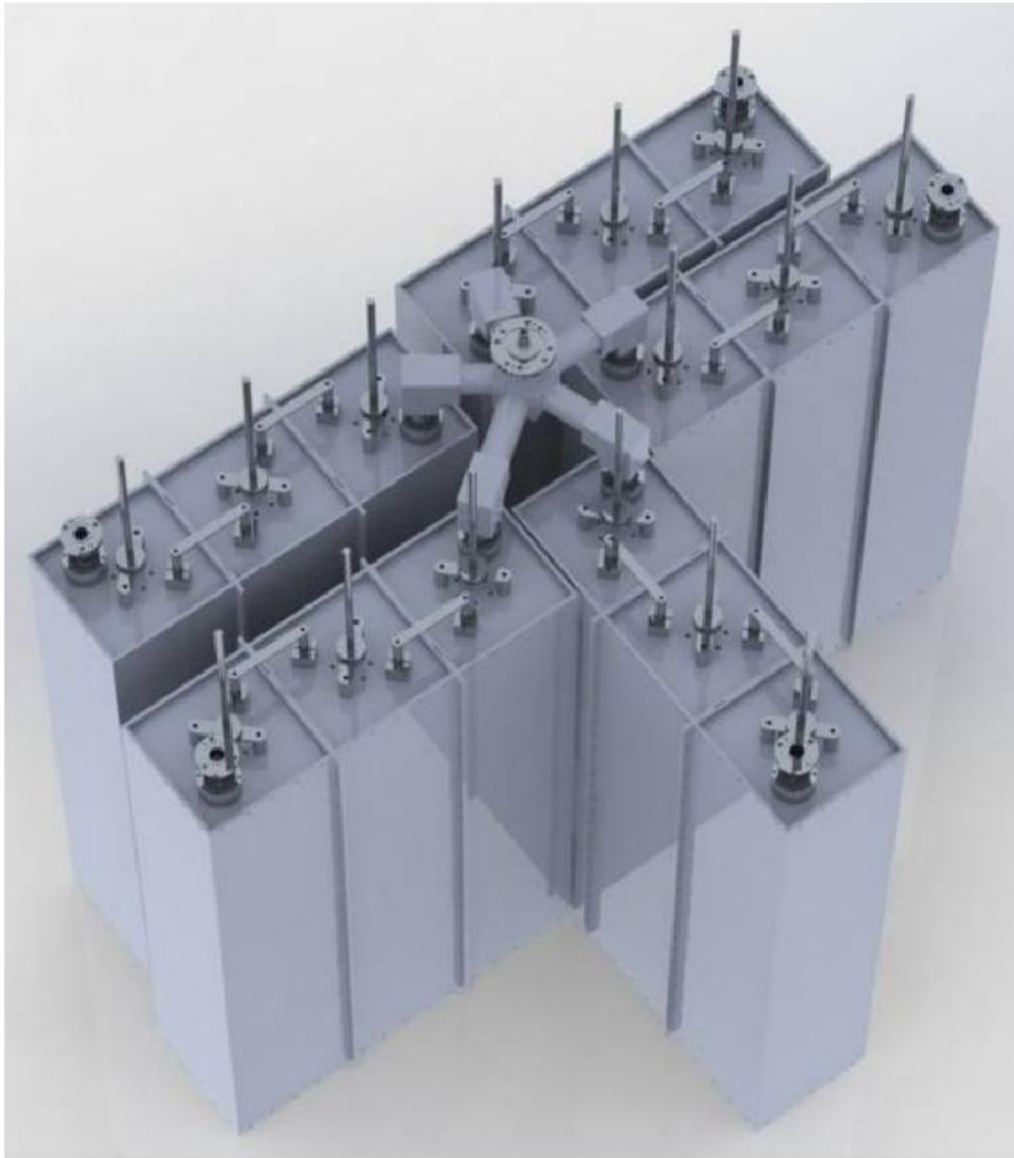
Dimensions	1300 (Max size)×1430×1010 mm (51.1(Max size)×56.3×39.7inch) (H×L×W)
Net Weight	≅ 160 Kg approx.

VIEWS OF THE SYSTEM









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BROADCAST SOLUTIONS
TELECOMUNICAZIONI FERRARA SRL

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MODEL FPCSTC03

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

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.

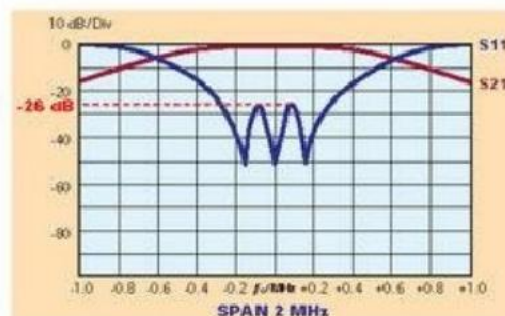


TYPICAL SPECIFICATIONS

Model	FPCSTC03 – Type Star Point
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR $\pm 150\text{KHz}$	1.1:1 max
Insertion Loss	at f_0 0.7-0.9 dB max
Return Loss $\pm 150\text{KHz}$	≤ -26 dB
Isolation $\pm 1.5\text{MHz}$	≥ 30 dB
Number of Inputs	5
Number of Outputs	1
Standard Connectors	Input N female Output 7/16" (option 7/8")
Max Power	150 W x 5 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12 μm thickness)

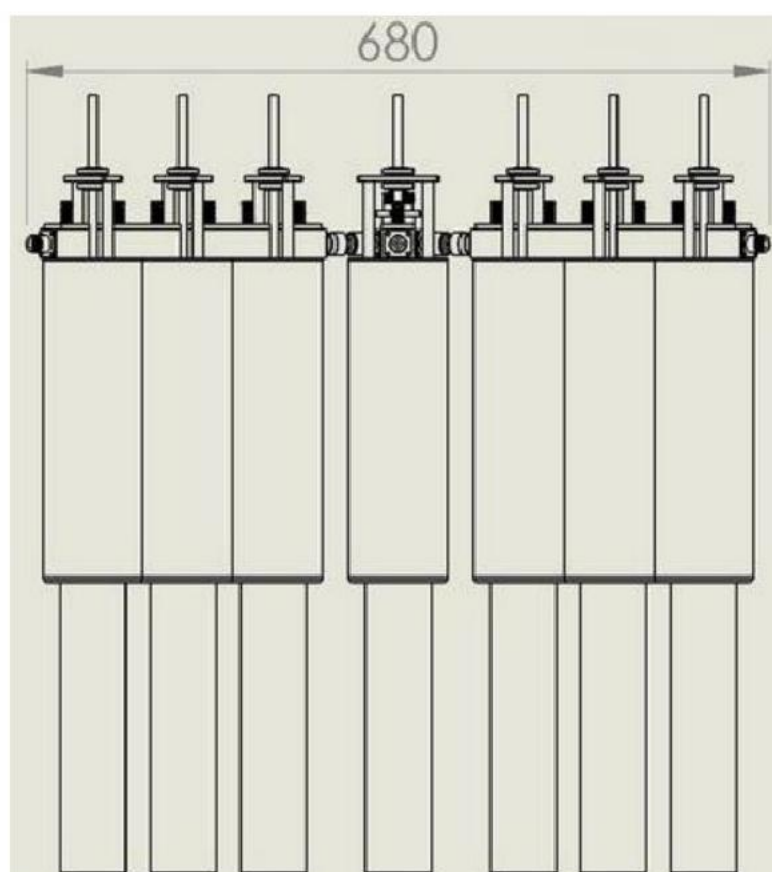
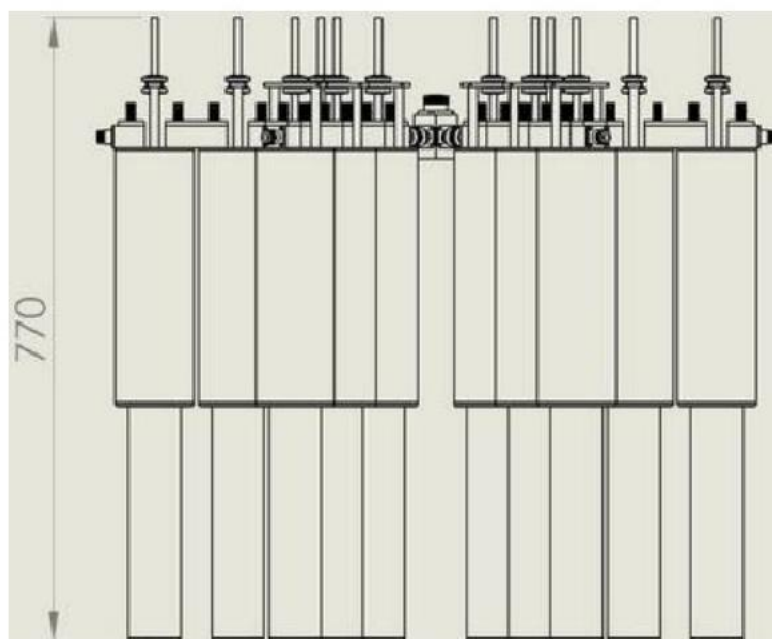
Features:

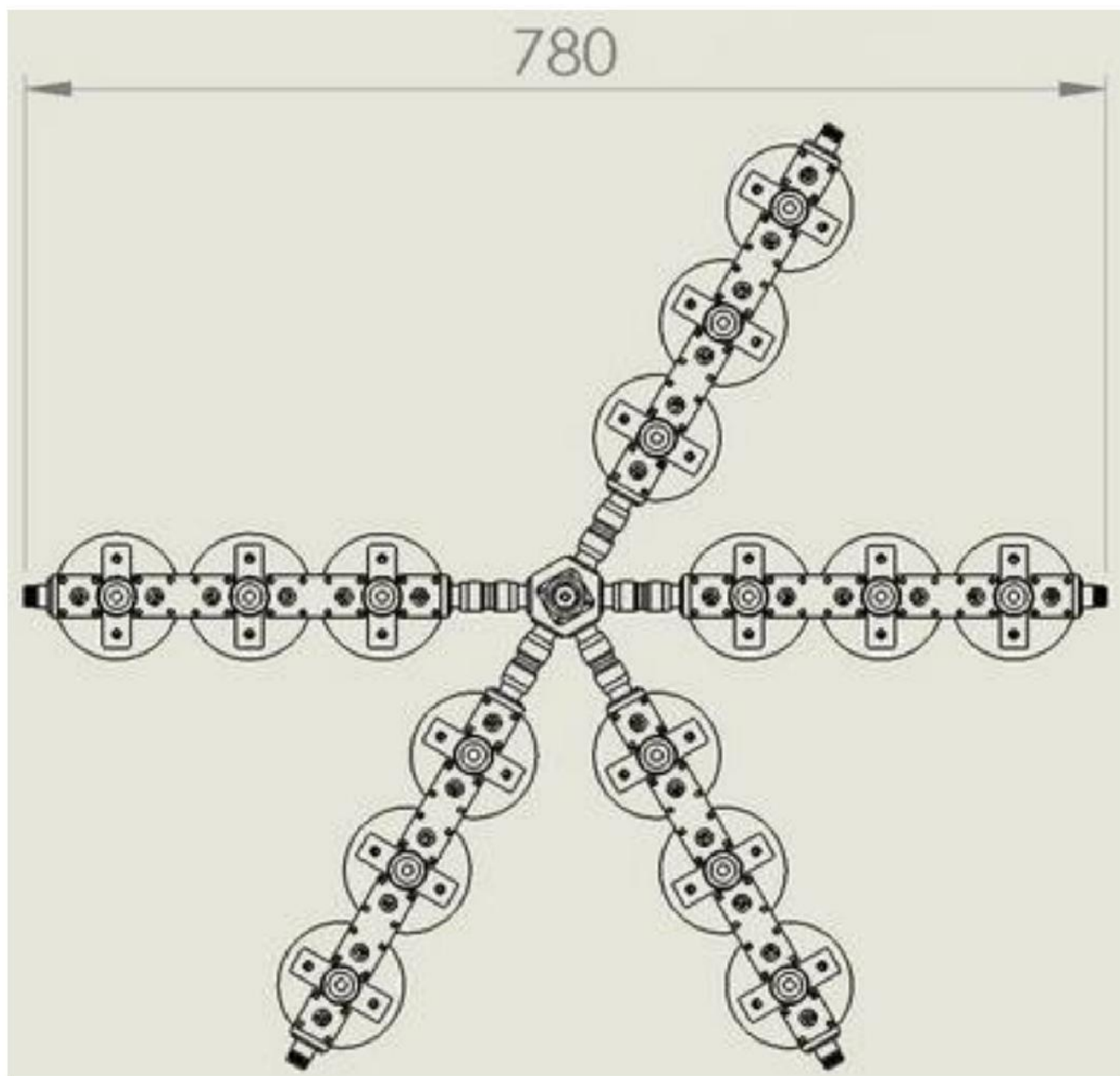
- Distortion – Free Transmission
- Triple Band-Pass Cavity filters
- Low Loss, High Isolation
- Natural convection
- Option whit Rack



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

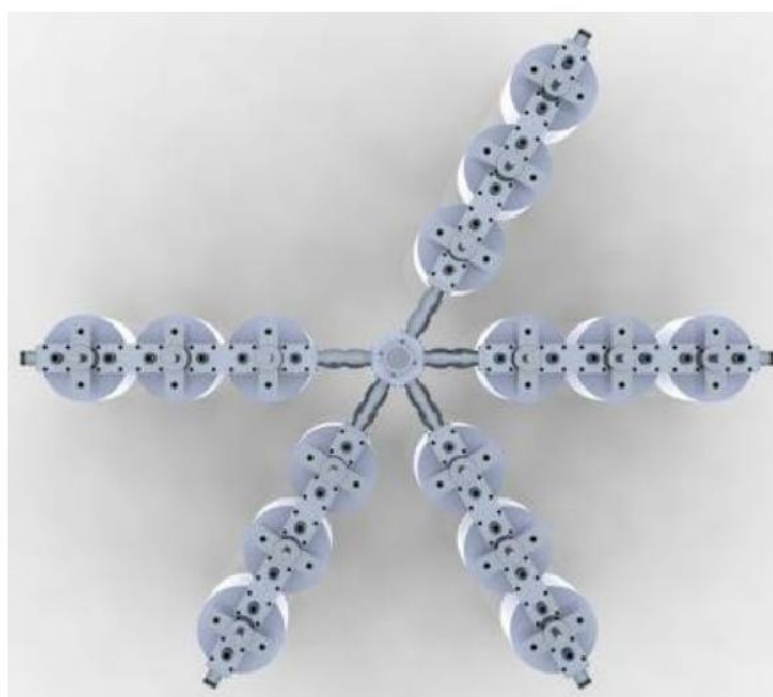
DIMENSIONS (mm)

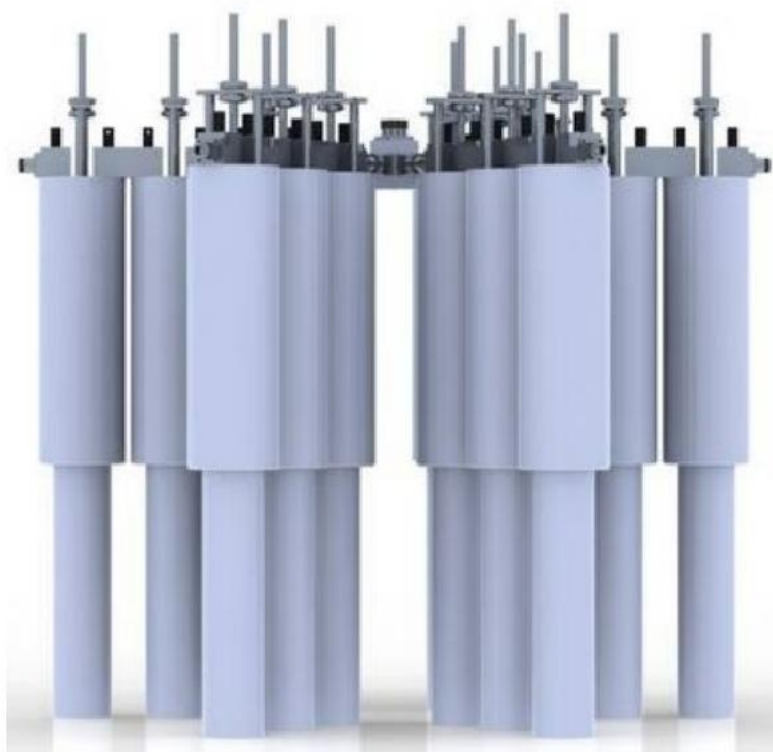


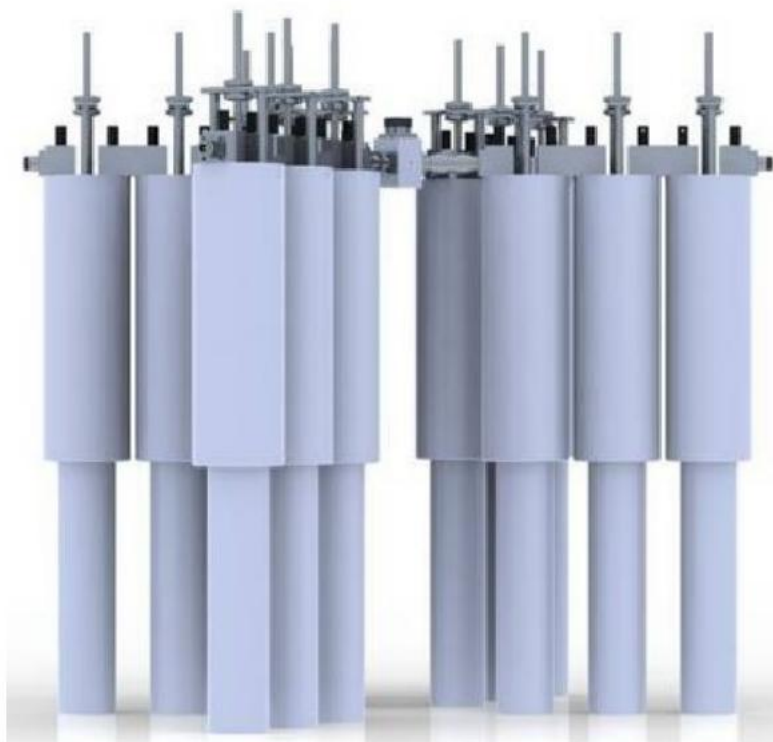


Dimensions	770 (Max size)×780×680 mm (30.3(Max size)×30.7×26.7inch) (H×L×W)
Net Weight	≅ 50 Kg approx.

VIEWS OF THE SYSTEM

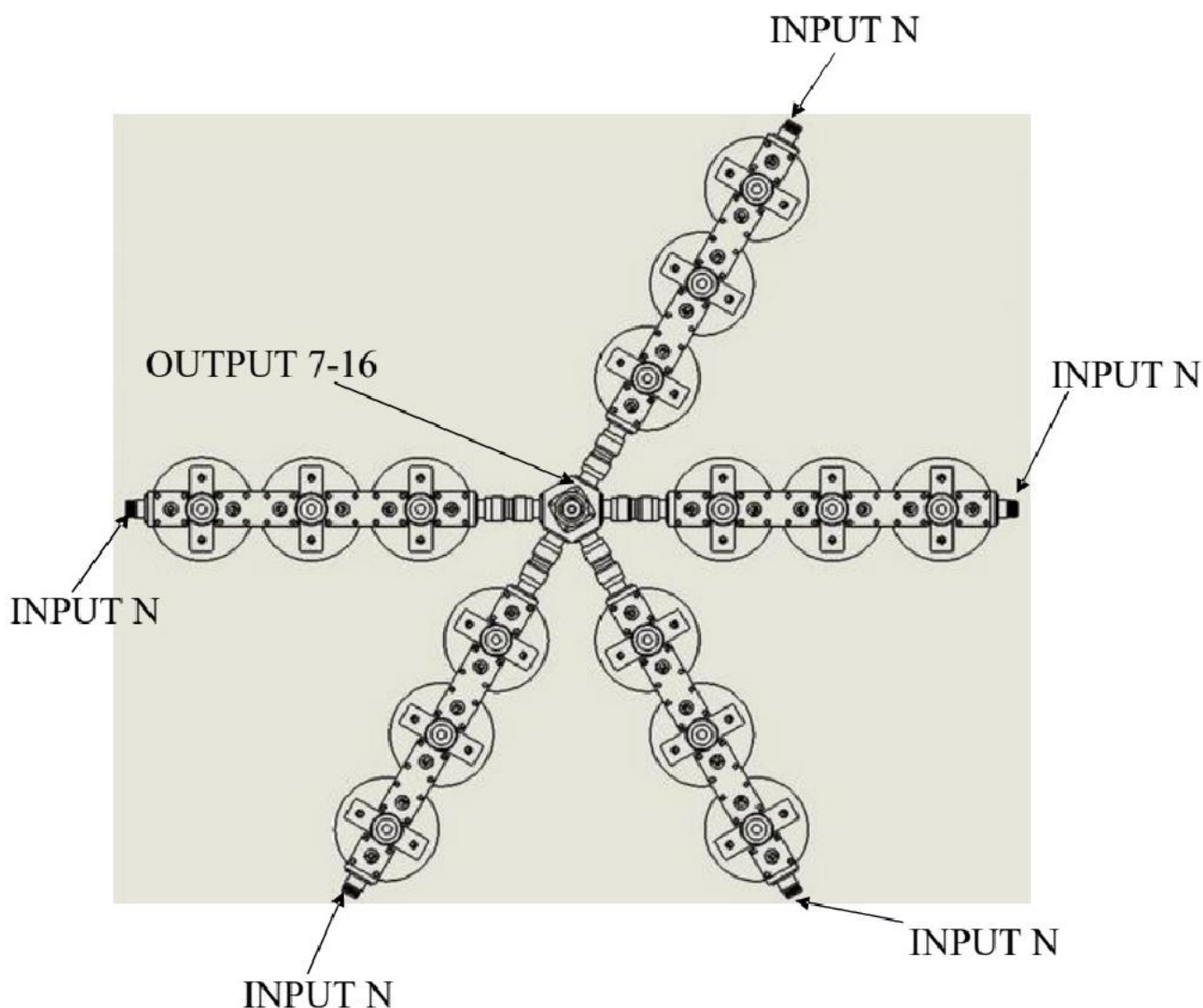








INPUT-OUTPUT LAYOUT



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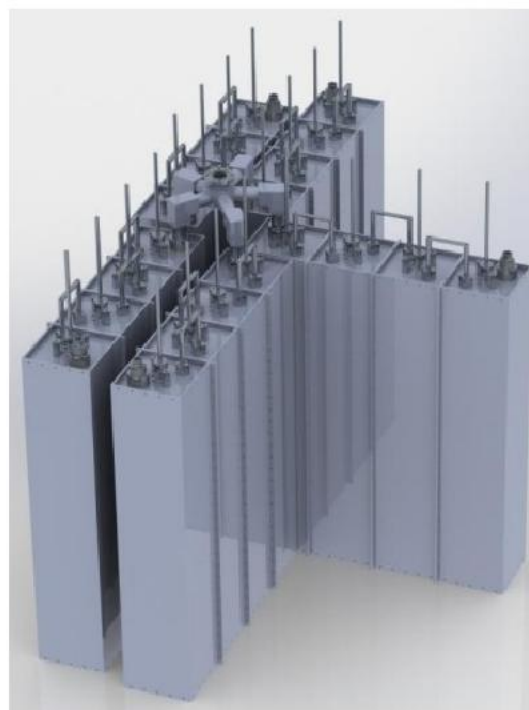
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FM PENTAPLEXER

4 CAVITY

MODEL FPCSQC2

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



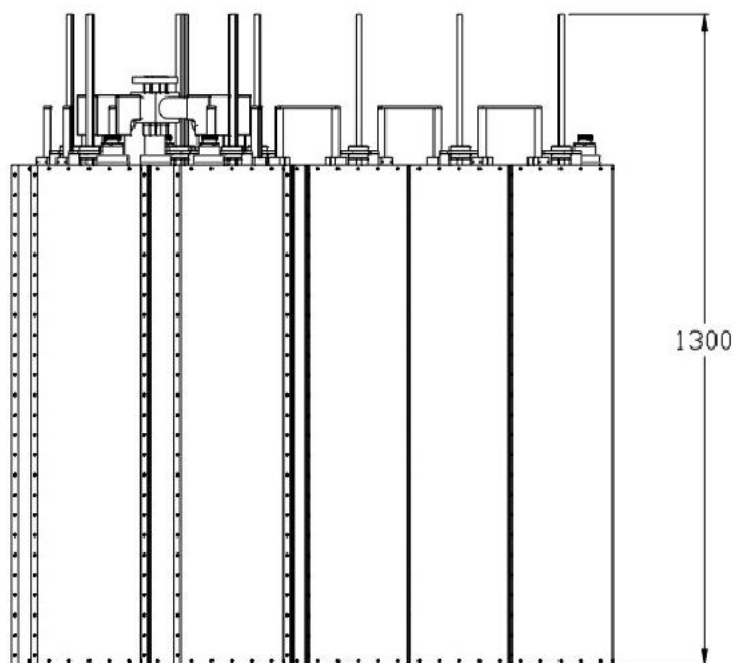
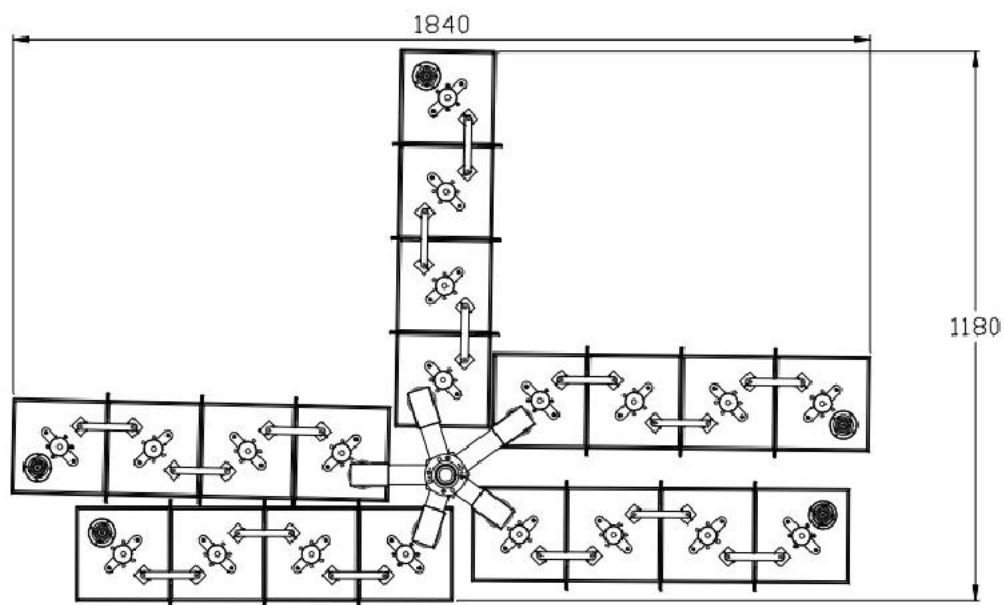
The star combiner basically consist of parallel connecting several transmitters to a single antenna system through suitable band pass filters, each on tuned transmitter frequency to which it's connected.

The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.

TYPICAL SPECIFICATIONS

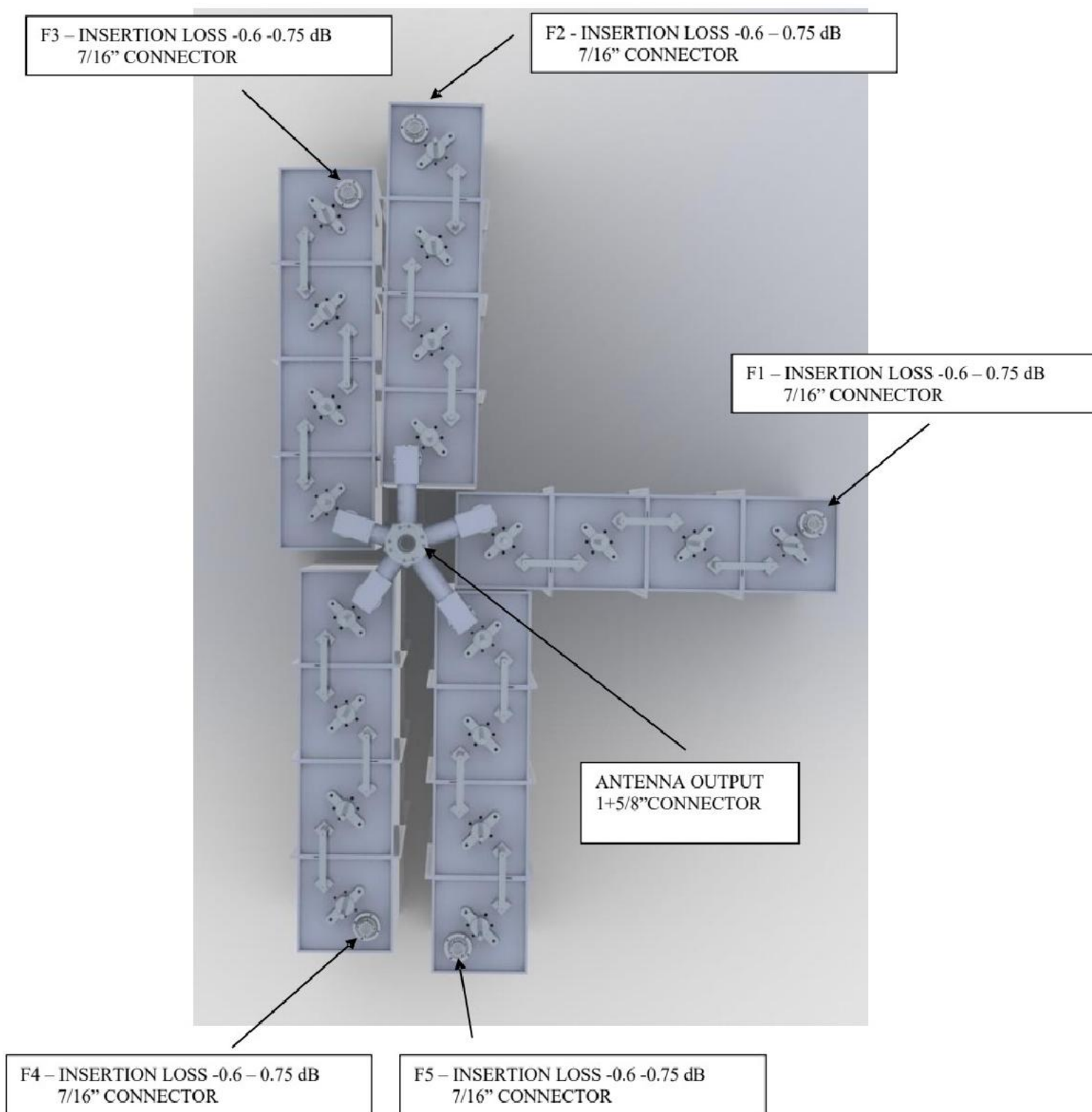
Model	FPCSQC2
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss at $f_0 \pm 150$ KHz	0.6-0.75 dB max
Return Loss	≥ 26 dB
Isolation ± 0.8 MHz	≥ 35 dB
No. of Input	5
No. of Output	1
Connectors	Input 7/16" or 7/8" Output 1+5/8"
Max Power	2 KW \times 5 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

DIMENSIONS (mm)

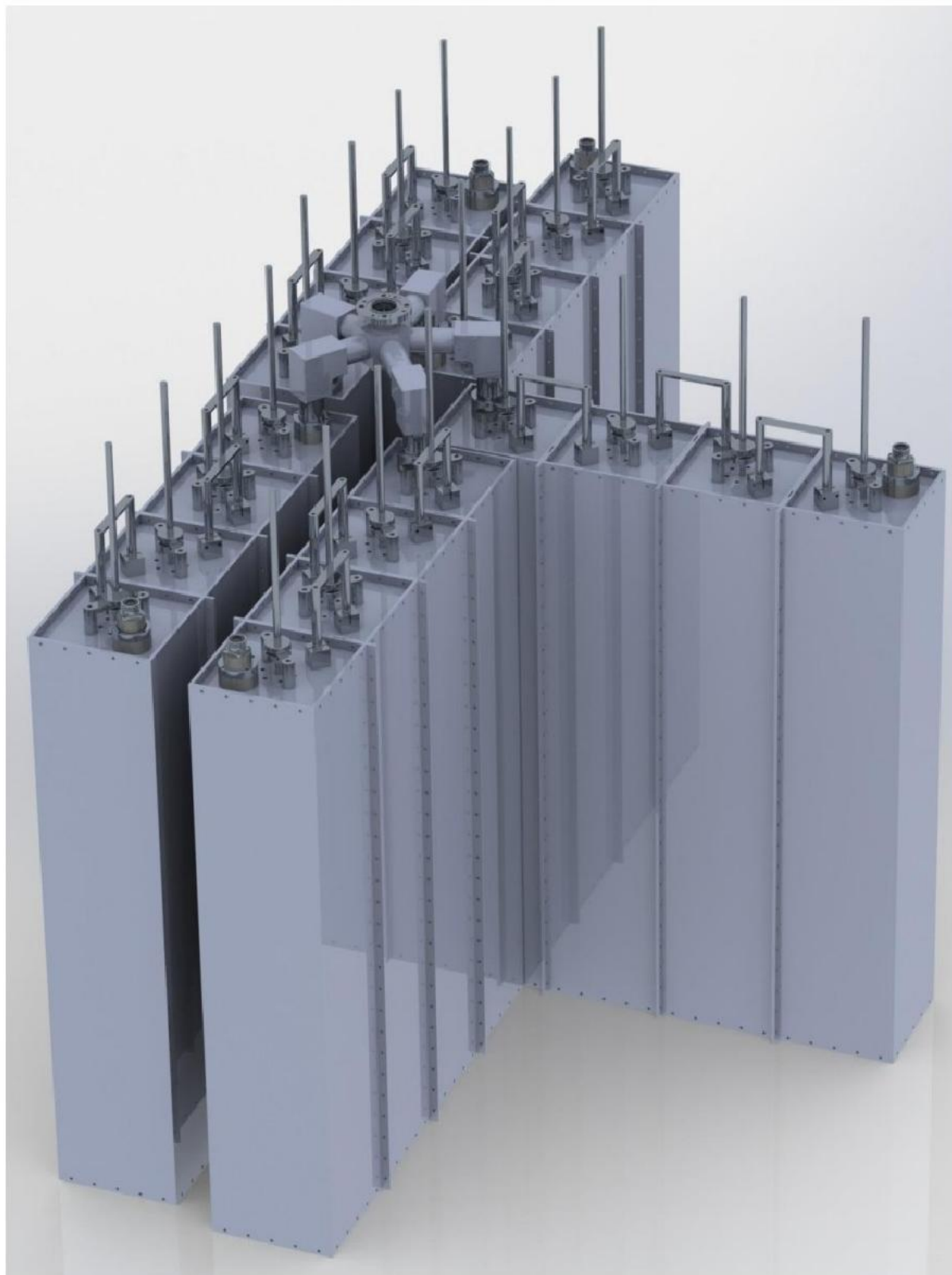


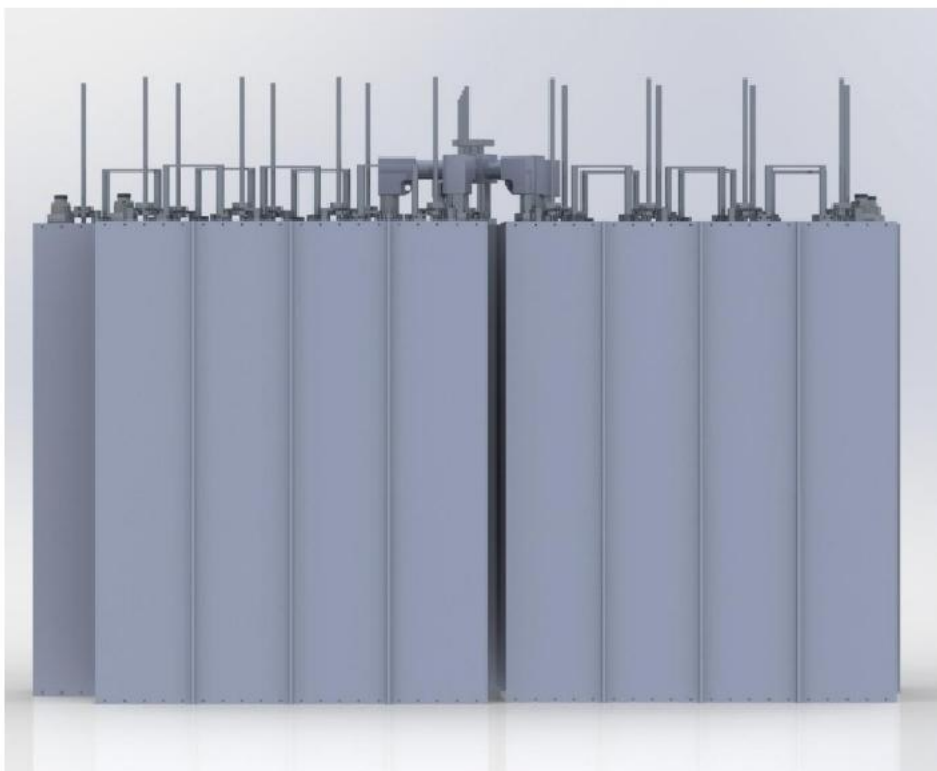
Dimensions	1300 (Max size) × 1840 × 1180 mm (H × L × W)
Net Weight	≅ 230 Kg approx.

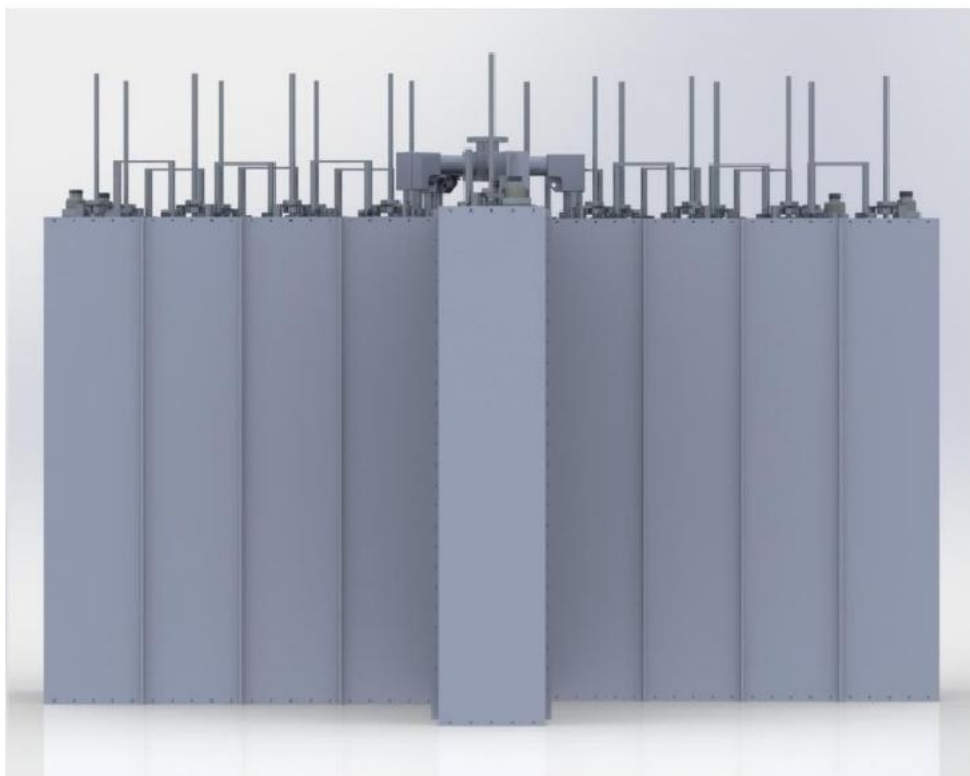
LAYOUT TYPE OF IN-OUT CONNECTOR, INSERTION LOSS



VIEWS OF THE SYSTEM





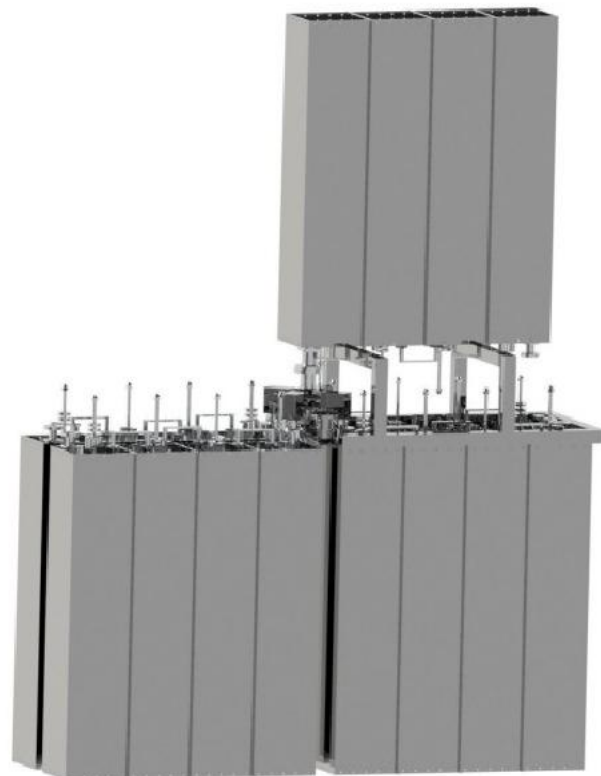


MODEL FPCSQC21

- 5 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 which it's connected.

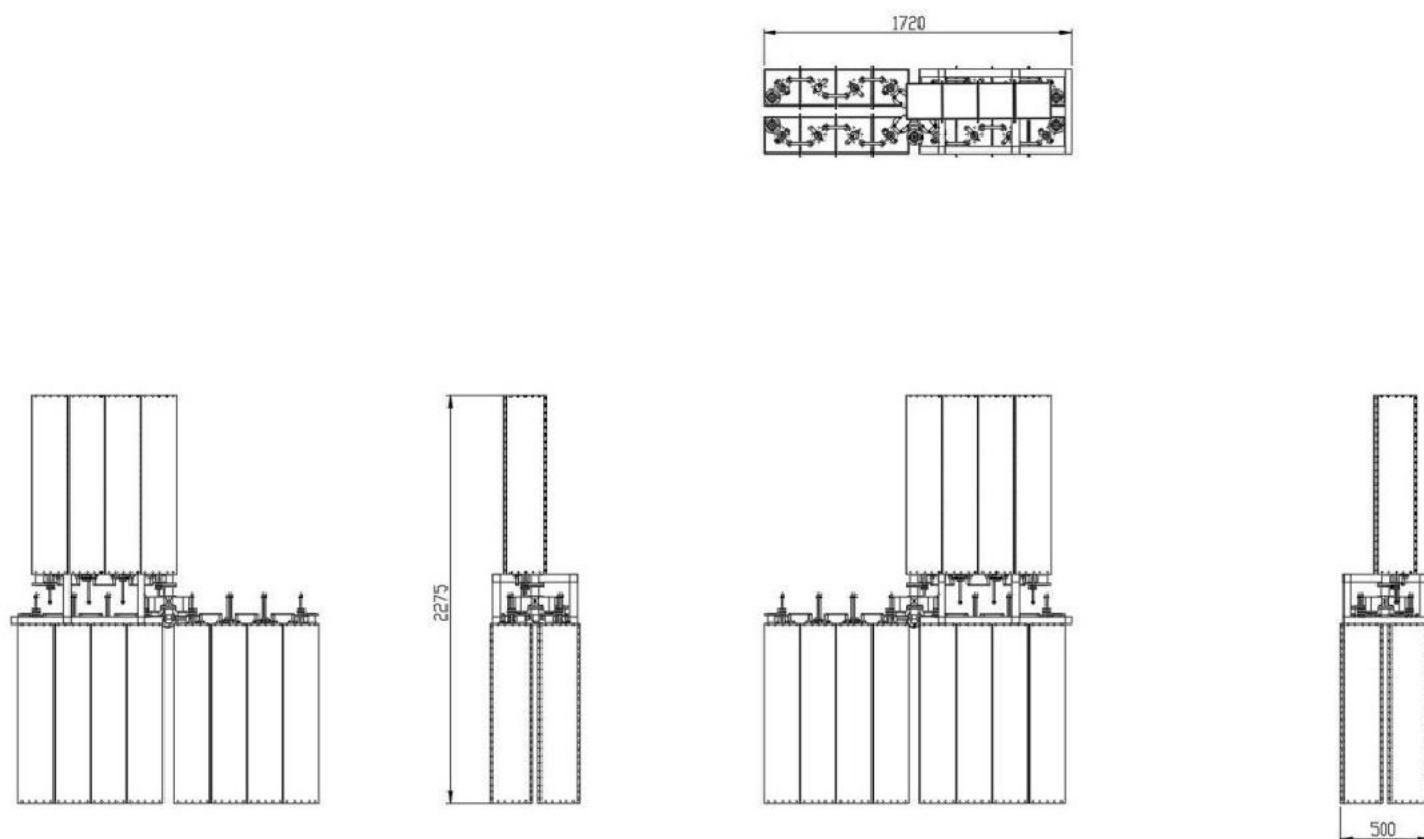
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.



TYPICAL SPECIFICATIONS

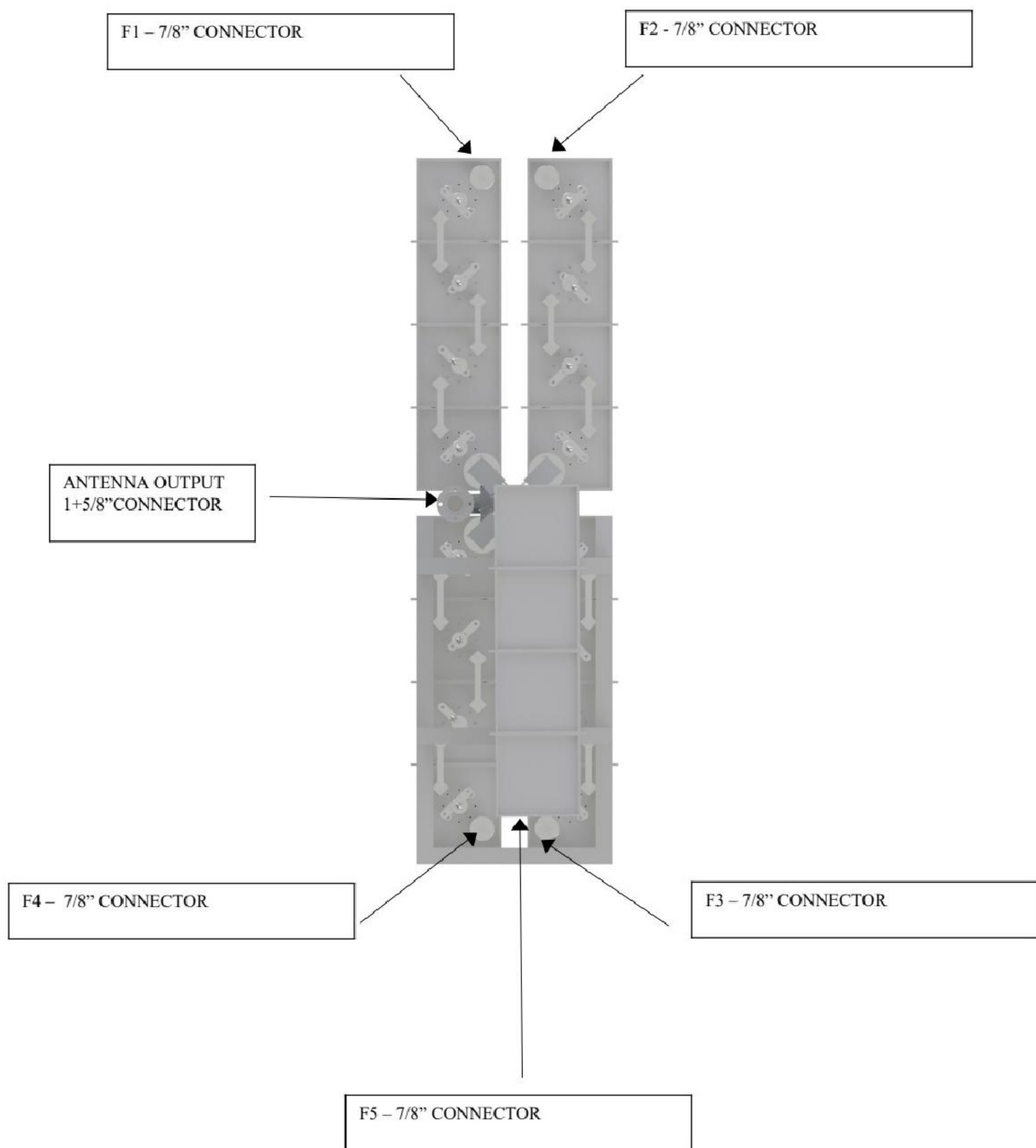
Model	FPCSQC21
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss at $f_0 \pm 150$ KHz	0.9 dB max
Return Loss	≥ 26 dB
Isolation ± 0.8 MHz	≥ 35 dB
No. of Input	5
No. of Output	1
Connectors	Input 7/16" or 7/8" Output 1+5/8"
Max Power	2 KW \times 5 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12µm thickness)

DIMENSIONS (mm)

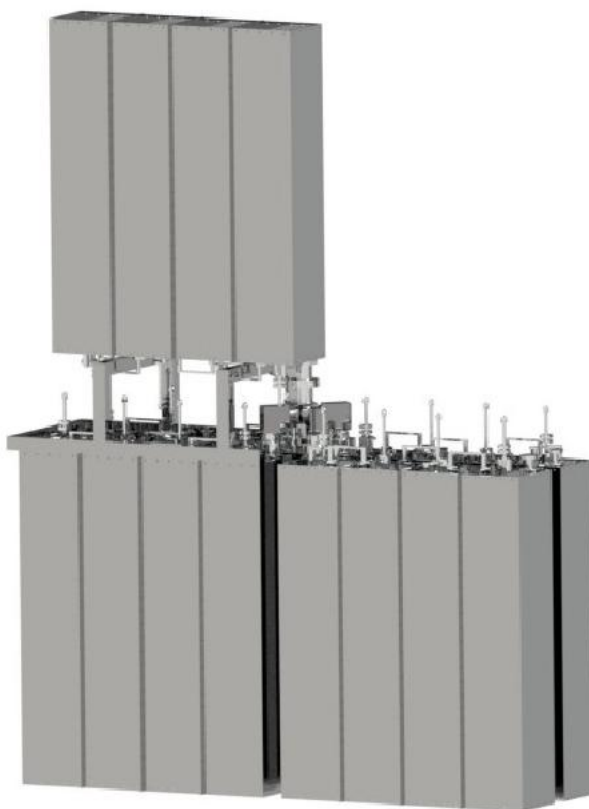


Dimensions	2275 (Max size)×1720×500 mm (H×L×W)
Net Weight	≅ 230 Kg approx.

LAYOUT TYPE OF IN-OUT CONNECTOR



VIEWS OF THE SYSTEM



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MODEL FPCSQC5-6

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

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.



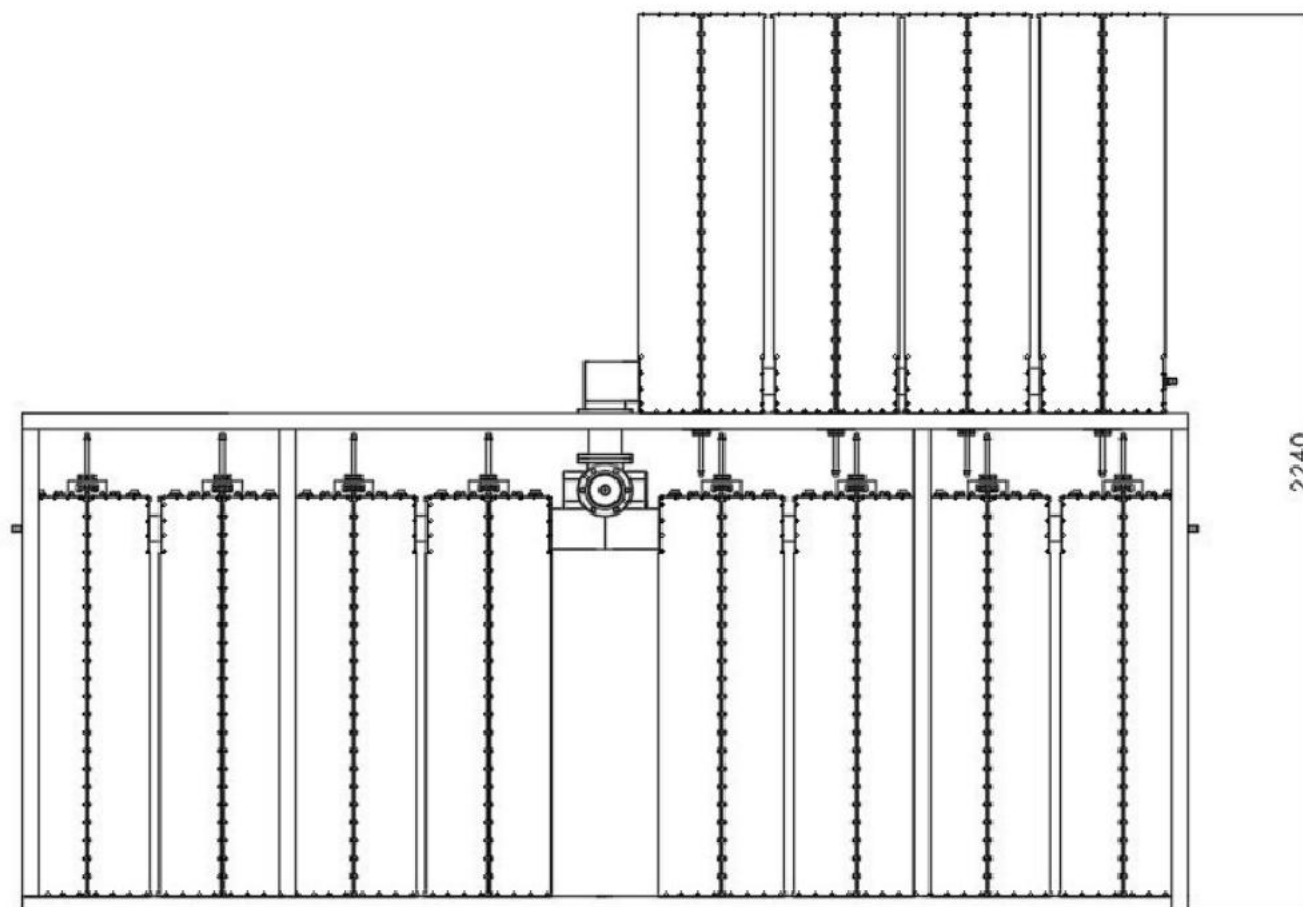
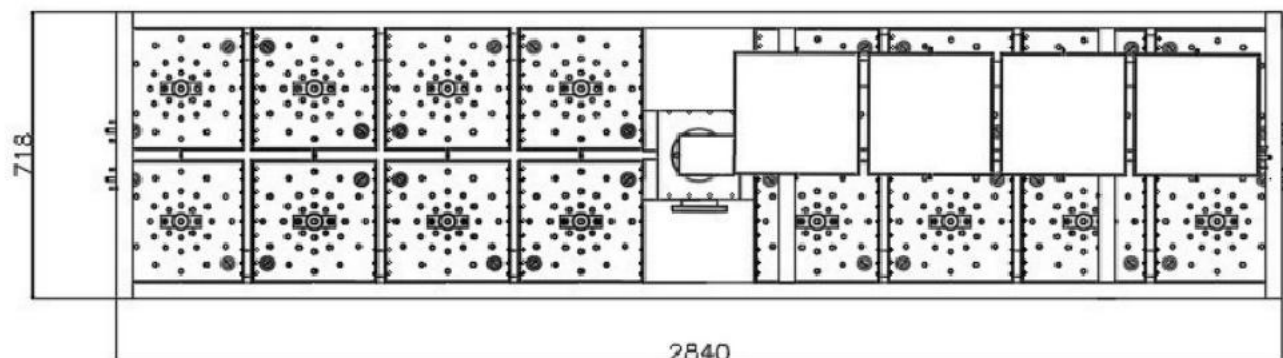
TYPICAL SPECIFICATIONS

Model	FPCSQC5-6 – Type Star Point
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR $\pm 150\text{KHz}$	1.1:1 max
Insertion Loss	at f_0 0.9 dB max
Return Loss $\pm 150\text{KHz}$	≤ -26 dB
Isolation $\pm 800\text{KHz}$	≥ 35 dB
Number of Inputs	6
Number of Outputs	1
Standard Connectors	Input 7/8" female or 1+5/8" female Output 3+1/8"
Max Power	5000 -6000W x 6 Channels – the filters used is 6 – 7 kw power
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
- Quadruple Band-Pass Cavity filters
- Low Loss, High Isolation
- Natural convection
- Option whit Rack

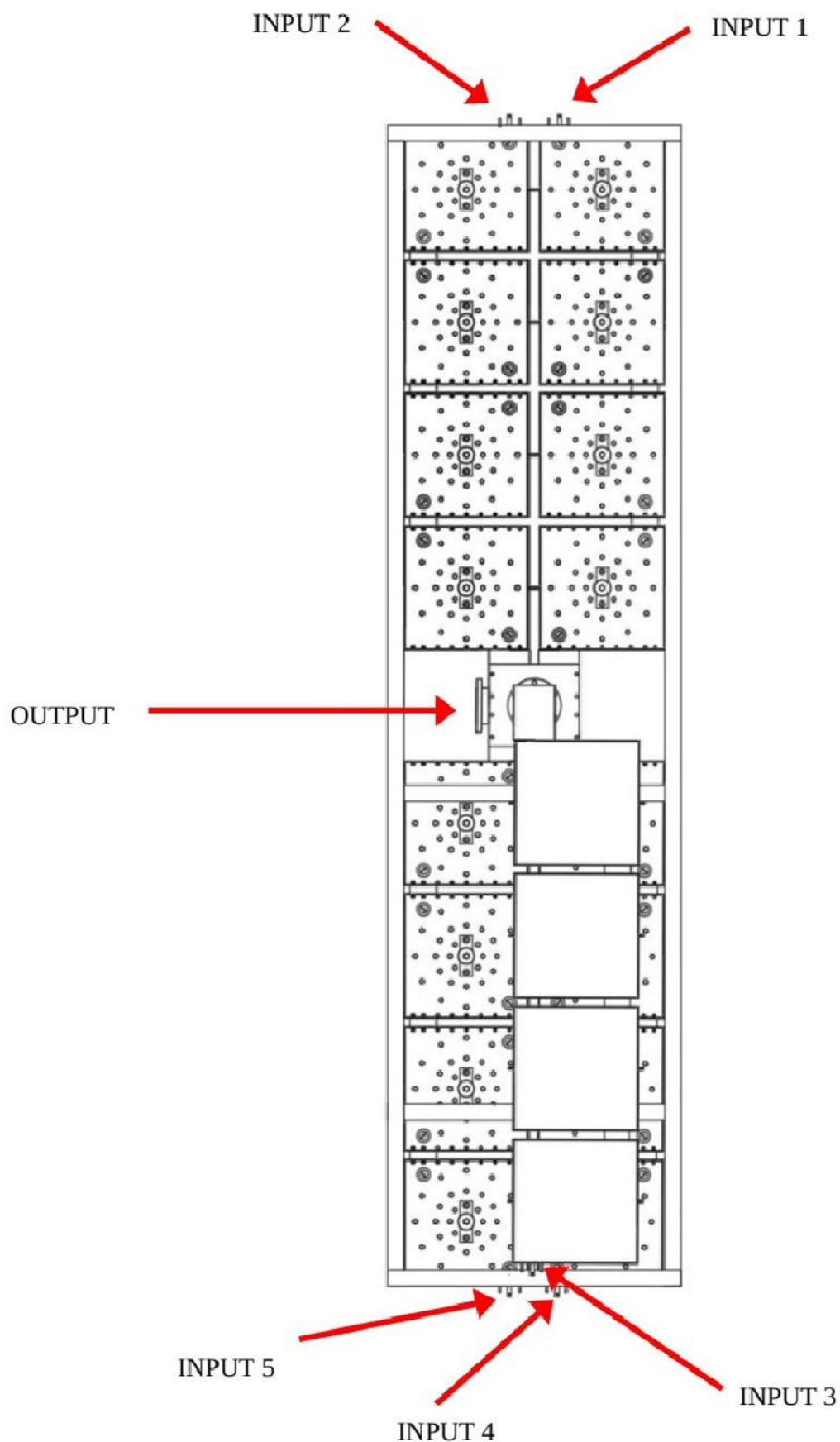
DIMENSIONS (mm)



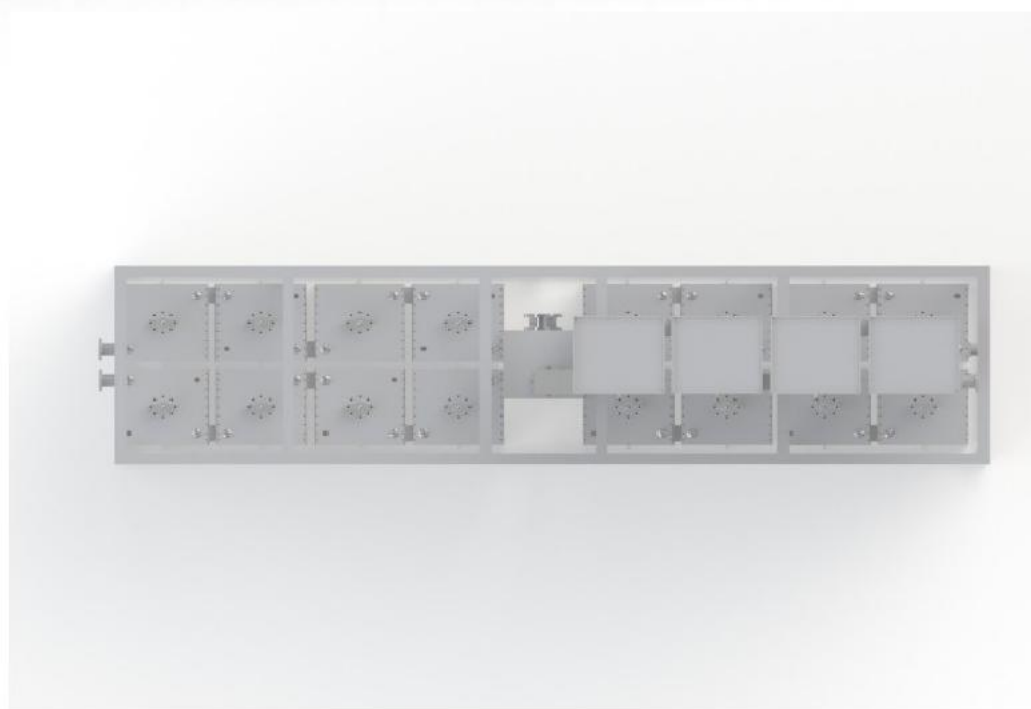
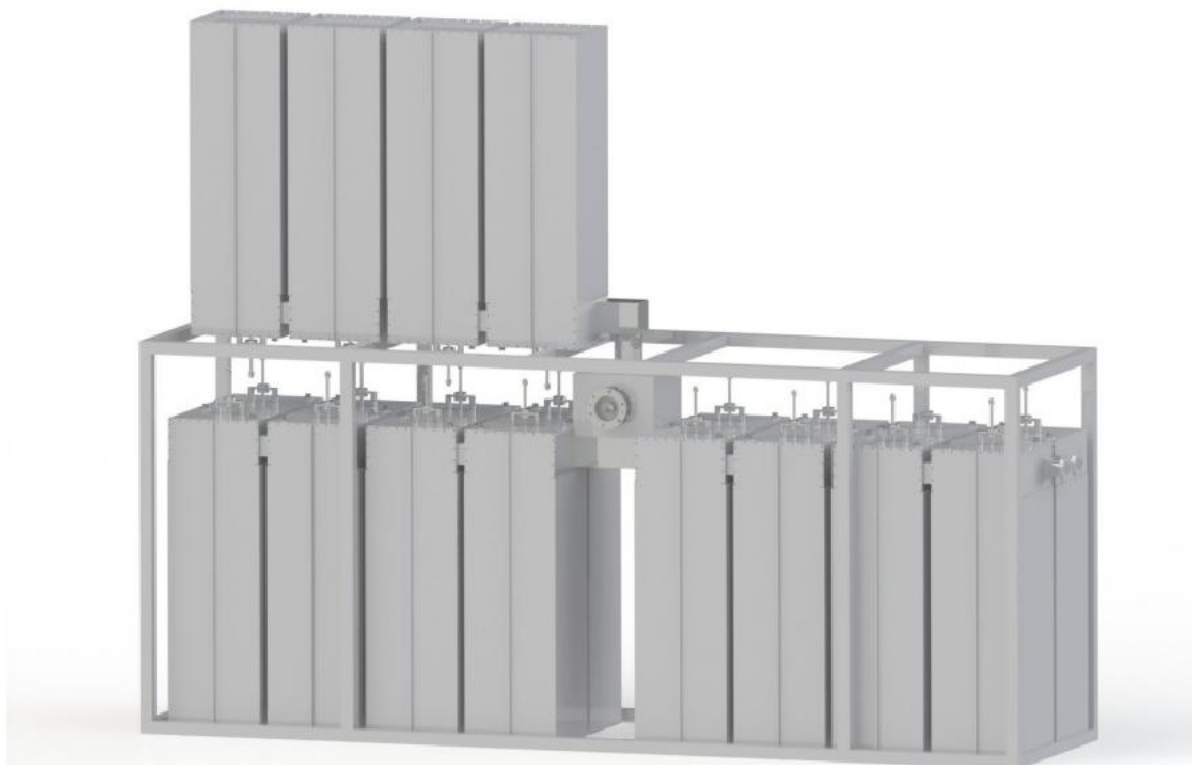
DIMENSIONS AND WEIGHT

Dimensions	2240x2840x718 mm (HxLxW)
Weight	≅ 290 Kg APPROX

INPUT AND OUTPUT



VIEWS OF THE SYSTEM



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FM ESAPLEXER

2 CAVITY

MODEL FECSDC2

- 6 CHANNELS COMBINER
- IMPEDANCE 50 Ohm
- FM BAND 87.5 ÷ 108 MHz
- BAND II
- STARPOINT

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.

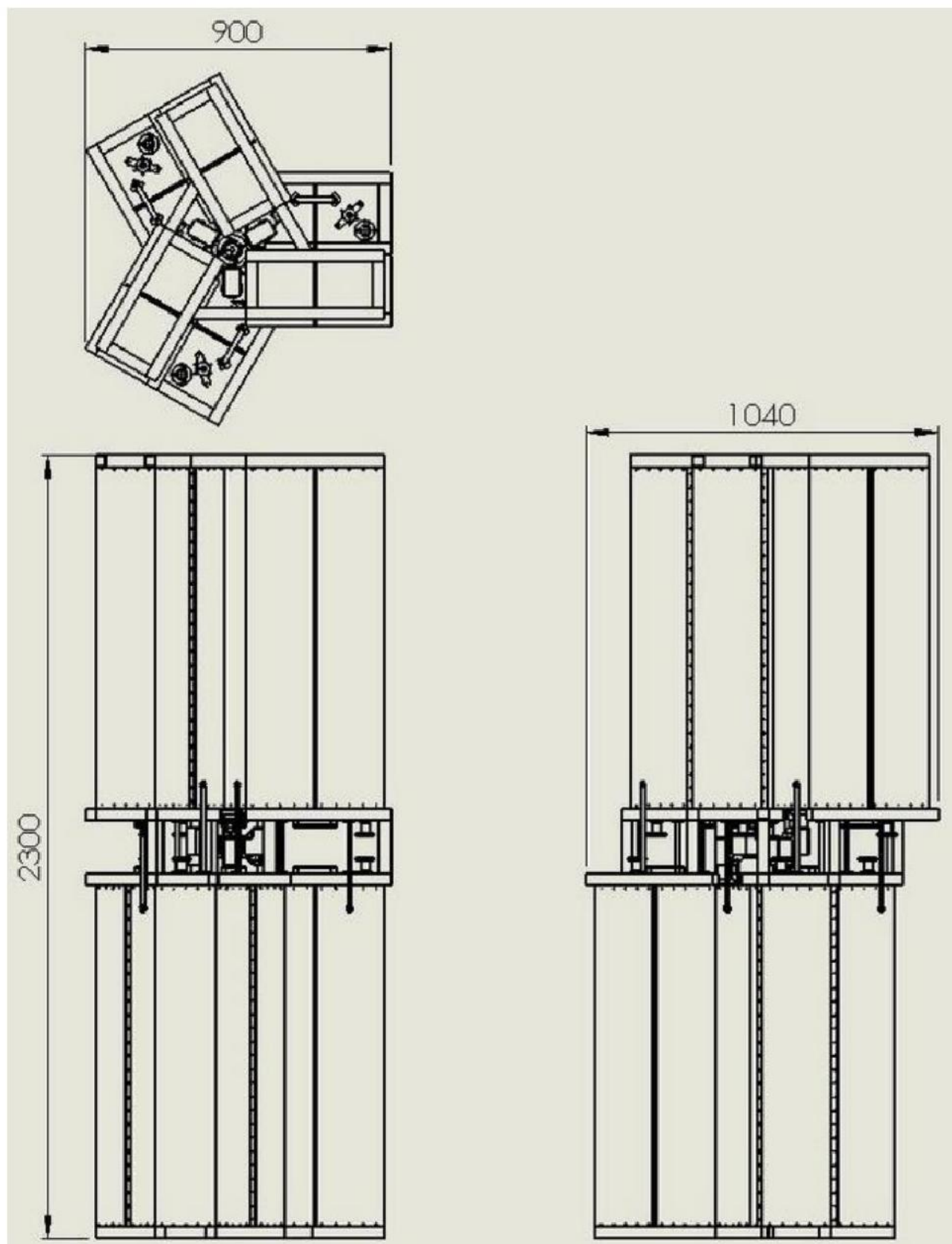
The parallel connection is obtained by means of coaxial lines of determined length, so as provide for adequate isolation between transmitters.



TYPICAL SPECIFICATIONS

Model	FECSDC2
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	≤ -26 dB
Isolation ± 1.5 MHz	≥ 30 dB
No. of Input	6
No. of Output	1
Connectors	Input 7/8" Output 1+5/8"
Max Power	2 KW \times Channel
Working Temperature	-20°C ÷ +50°C
Colour	Enamel gray ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min 12 μ m thickness)

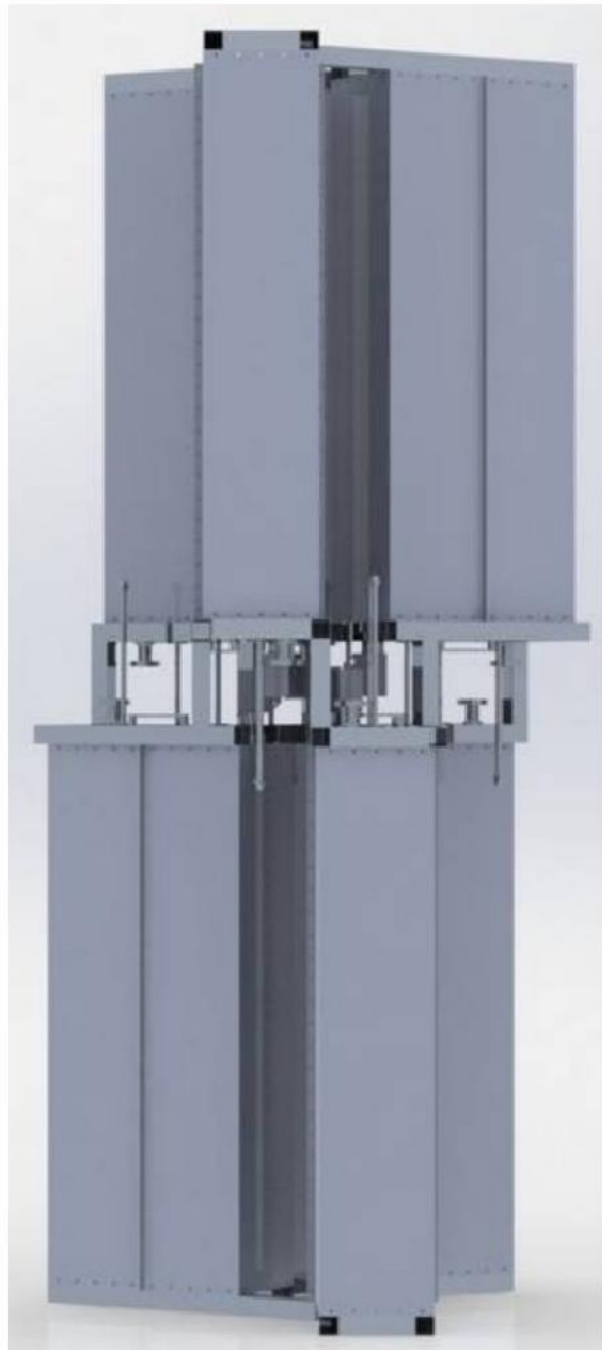
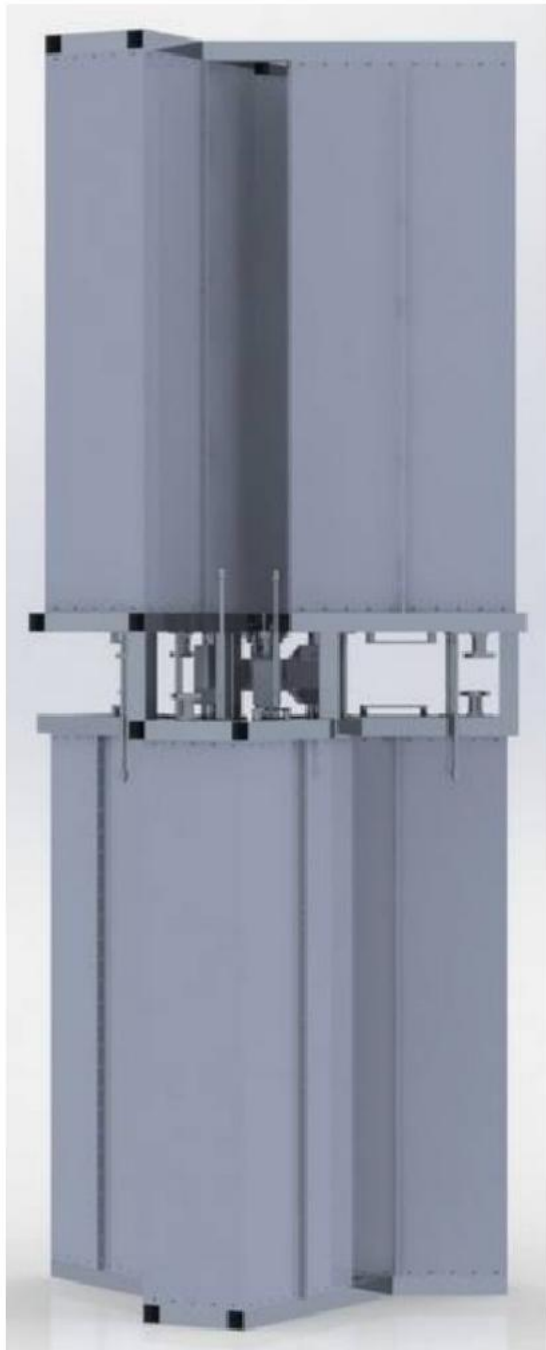
DIMENSIONS (mm)

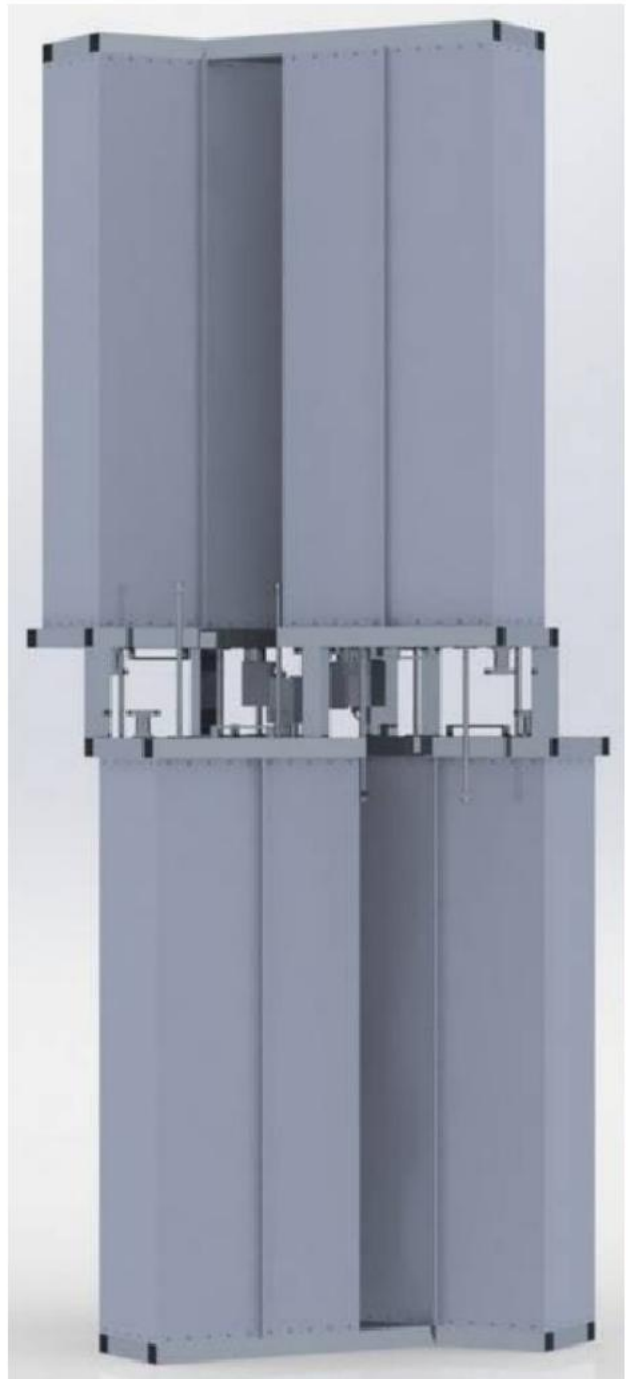
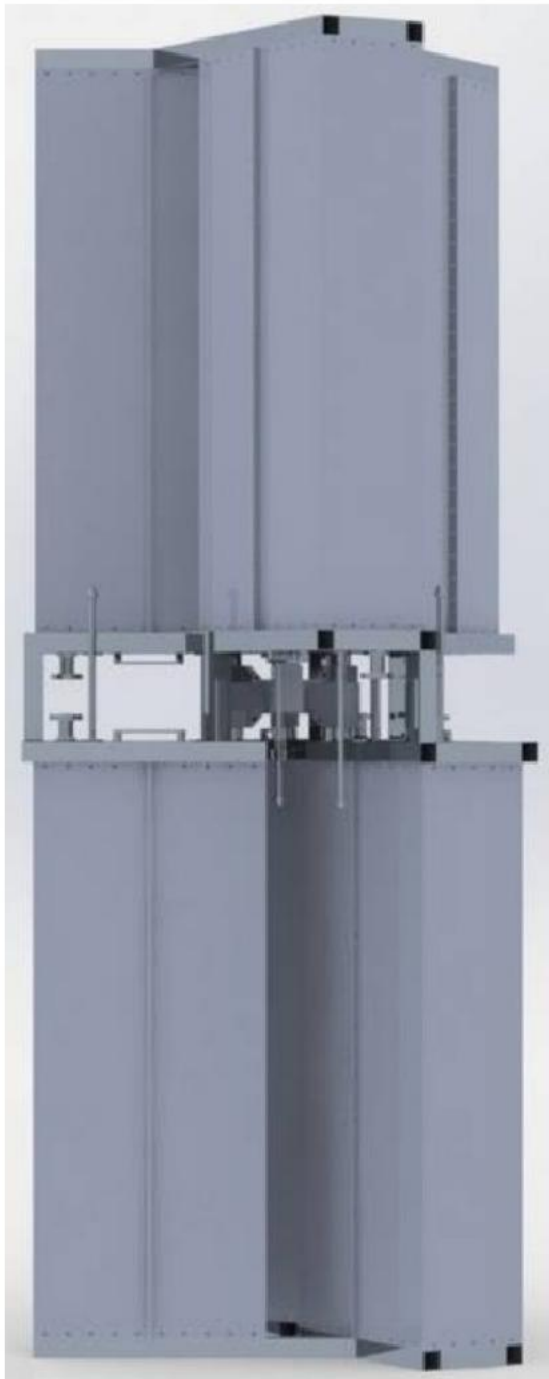


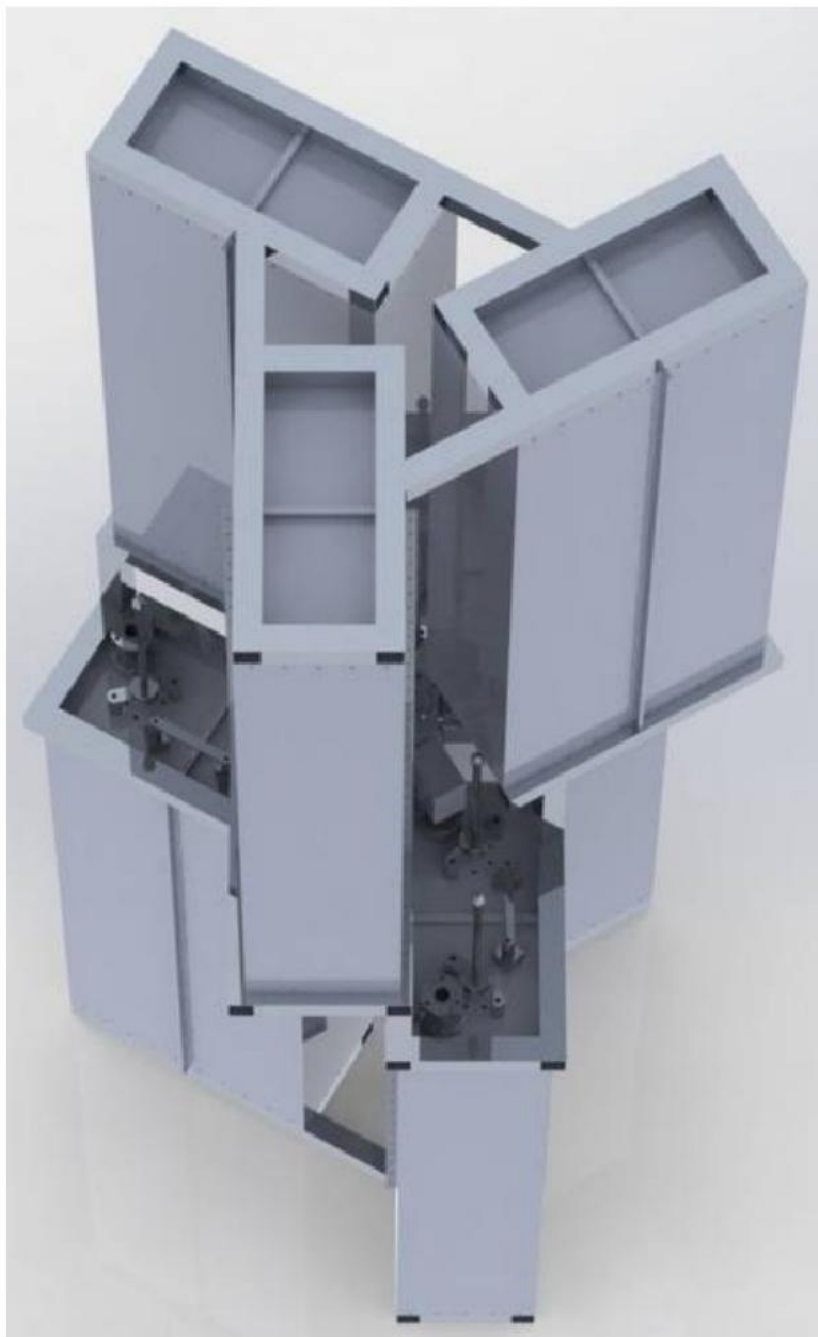
Dimensions	2300×1040×900 mm (90.5×40.9×35.4 inch) (H×L×W)
Net Weight	≅ 140 Kg approx.

VIEWS OF THE SYSTEM









 **TELECFE**
BROADCAST SOLUTIONS
TELECOMUNICAZIONI FERRARA SRL

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FM ESAPLEXER

3 CAVITY

MODEL FECSTC03

- 6 CHANNELS COMBINER
- STAR POINT TYPE
- FM BAND: 87.5-108 MHz
- BAND II
- OPTION

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	FECSTC03 – Type Star Point
Impedance	50 Ohm
Frequency Range	87.5-108 MHz
VSWR ± 150 KHz	1.1:1 max
Insertion Loss	at f_0 0.8-09 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 2 MHz	≥ 30 dB
Number of Inputs	6
Number of Outputs	1
Standard Connectors	Input N female Output 7/8
Max Power	250 W x 6 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12µm thickness)

Features:

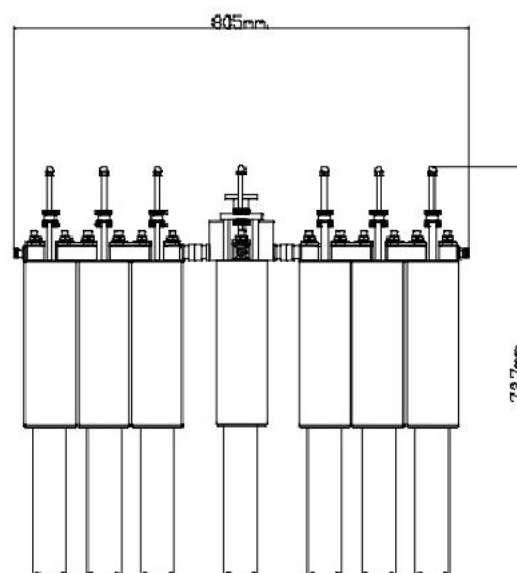
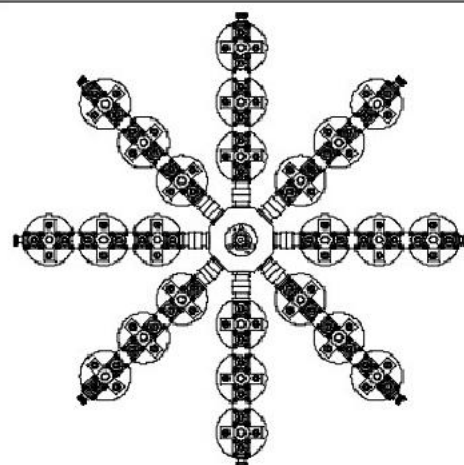
- Distortion – Free Transmission
- Triple Band-Pass Cavity filters
- Low Loss, High Isolation
- Natural convection
- Option whit Rack

No rack version

Dimensions	805×805×730 mm (L×WXH)
Weight	≅ 80 Kg APPROX

Rack Version

Panel Size	NOT DISPOSAL THIS VERSION
Weight	

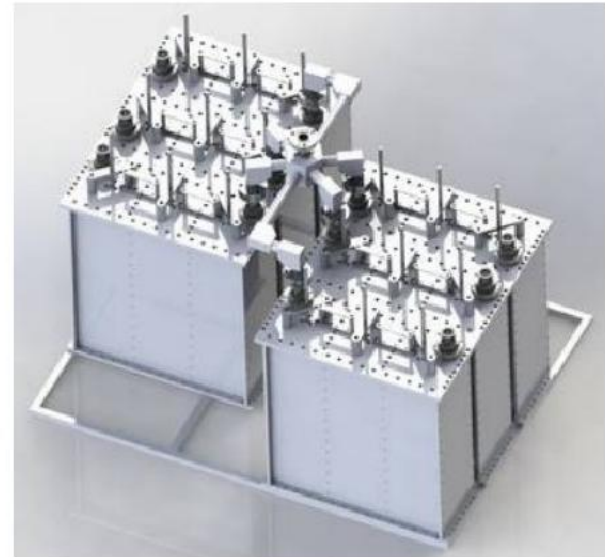


Typical shape of a curves for S11 and S12 parameters for single filter

MODEL FECSTC05

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

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.

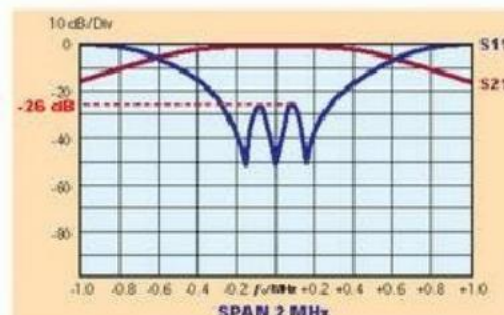


TYPICAL SPECIFICATIONS

Model	FECSTC05 – 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 dB max
Return Loss ± 150 KHz	≤ -26 dB
Isolation ± 2 MHz	≥ 30 dB
Number of Inputs	6
Number of Outputs	1
Standard Connectors	Input 7/16" female Output 7/8"
Max Power	500 W x 6 Channels
Working Temperature	-20°C ÷ +50°C
Colour	Enamel Gray Ral 7001
Materials	Aluminium, Brass, Copper, PTFE, Stainless Steel, Silvering (min. 12µm thickness)

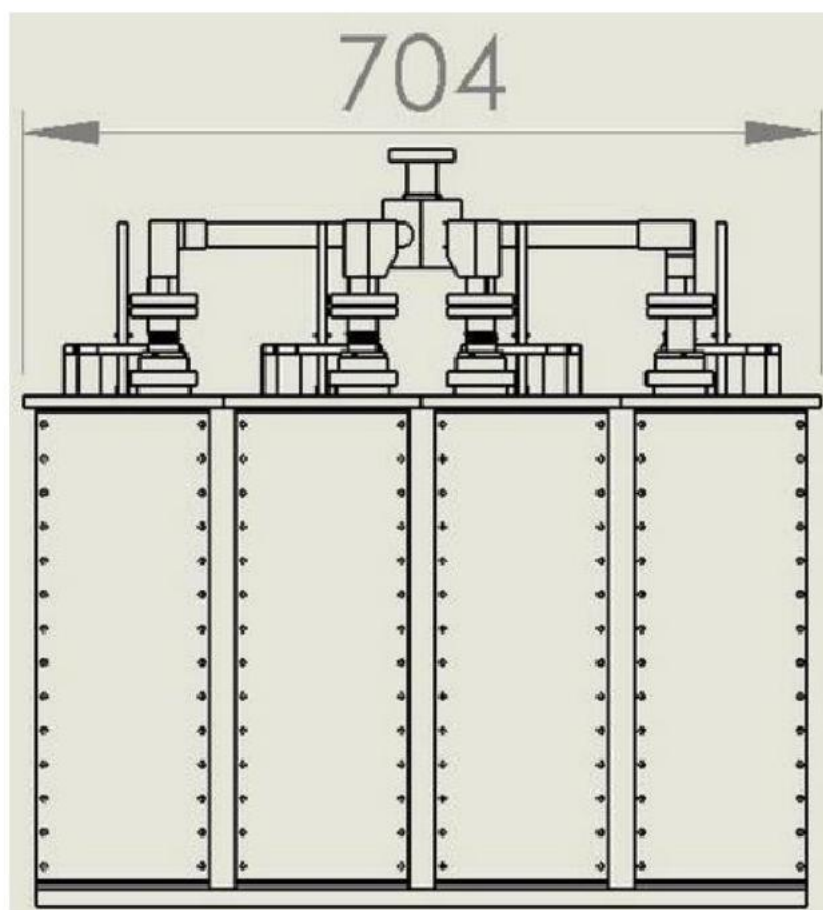
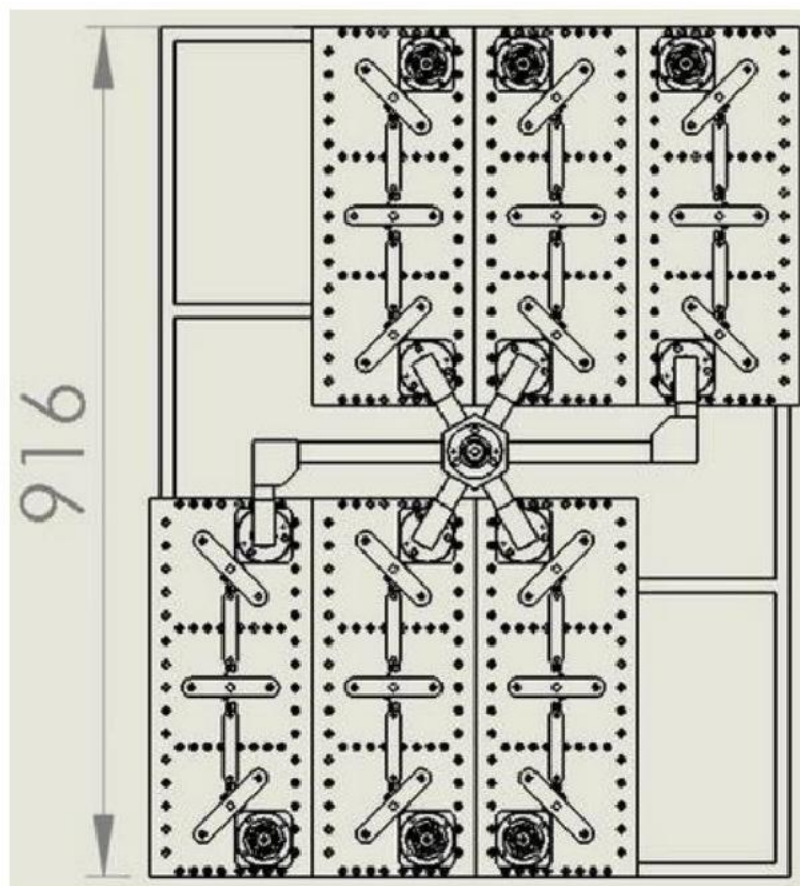
Features:

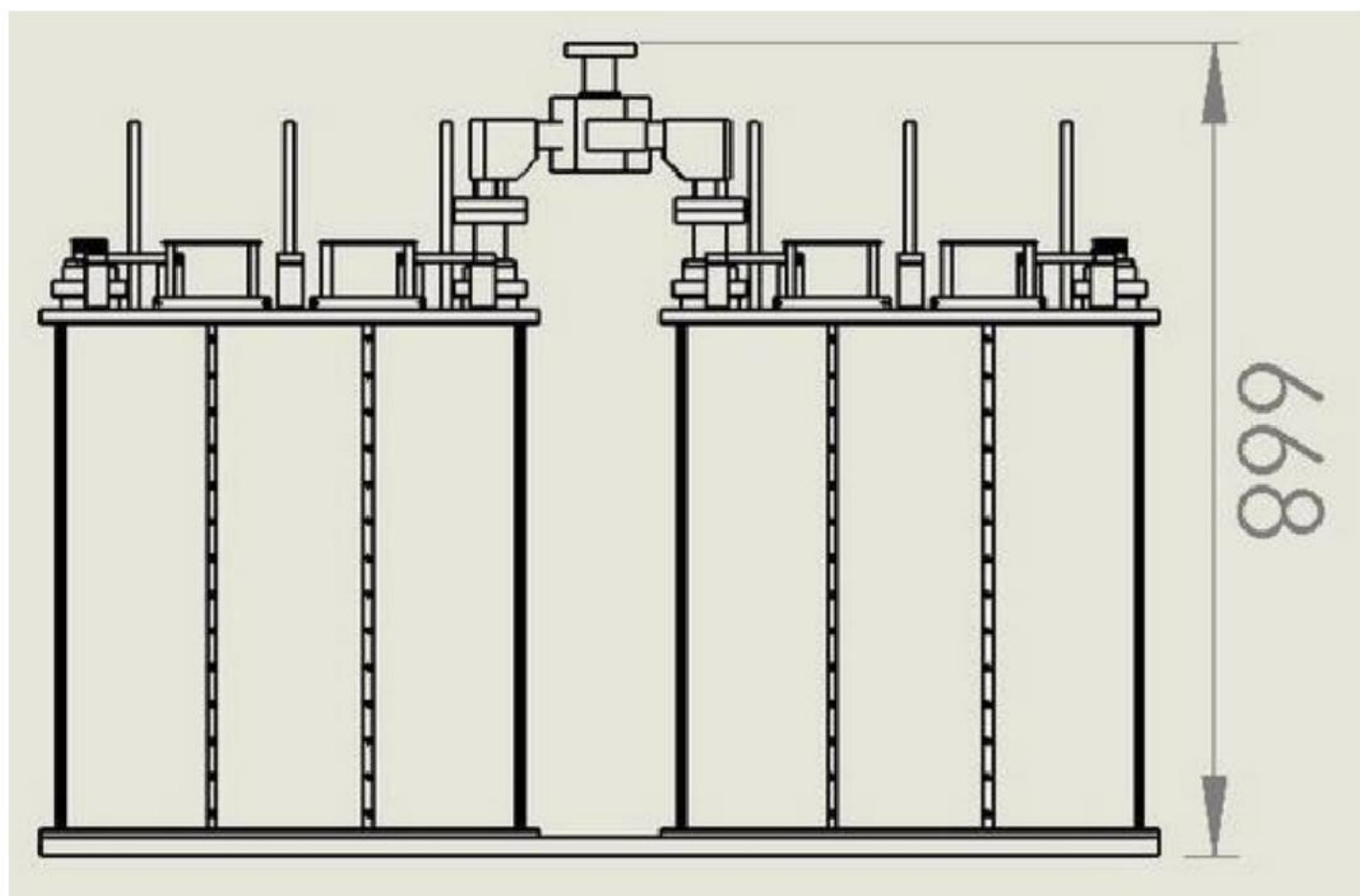
- Distortion – Free Transmission
- Triple Band-Pass Cavity filters
- Low Loss, High Isolation
- Natural convection
- Option whit Rack



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

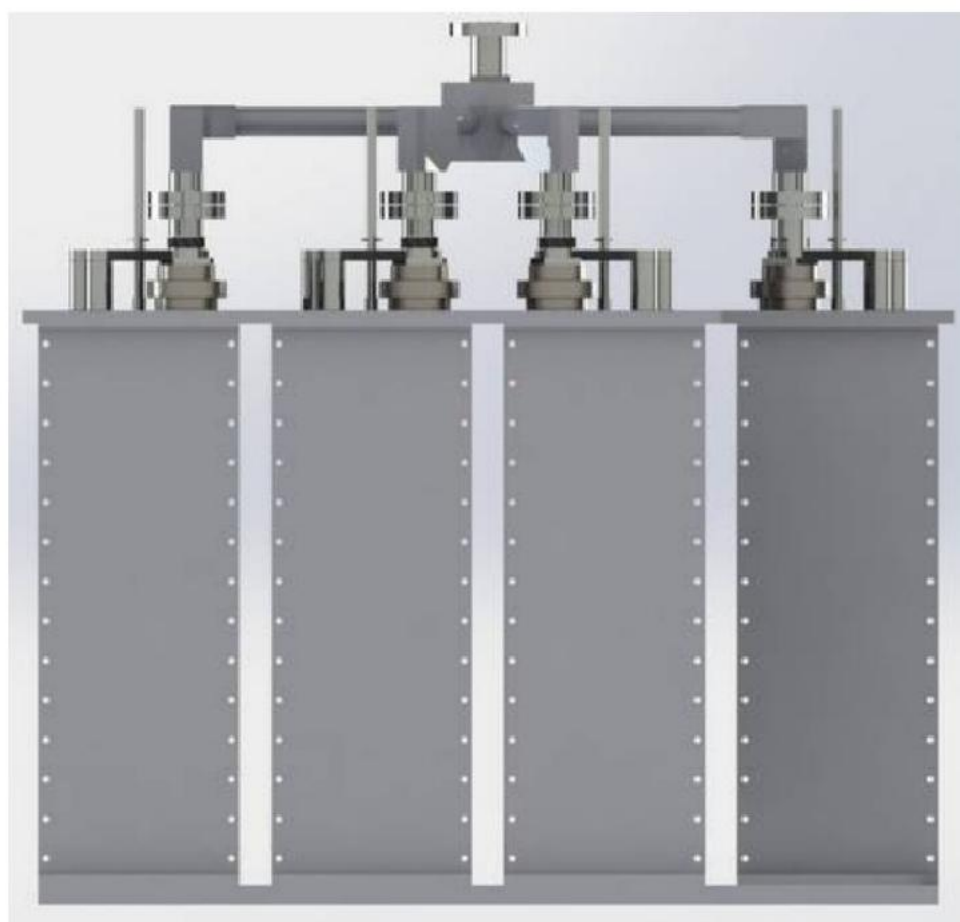
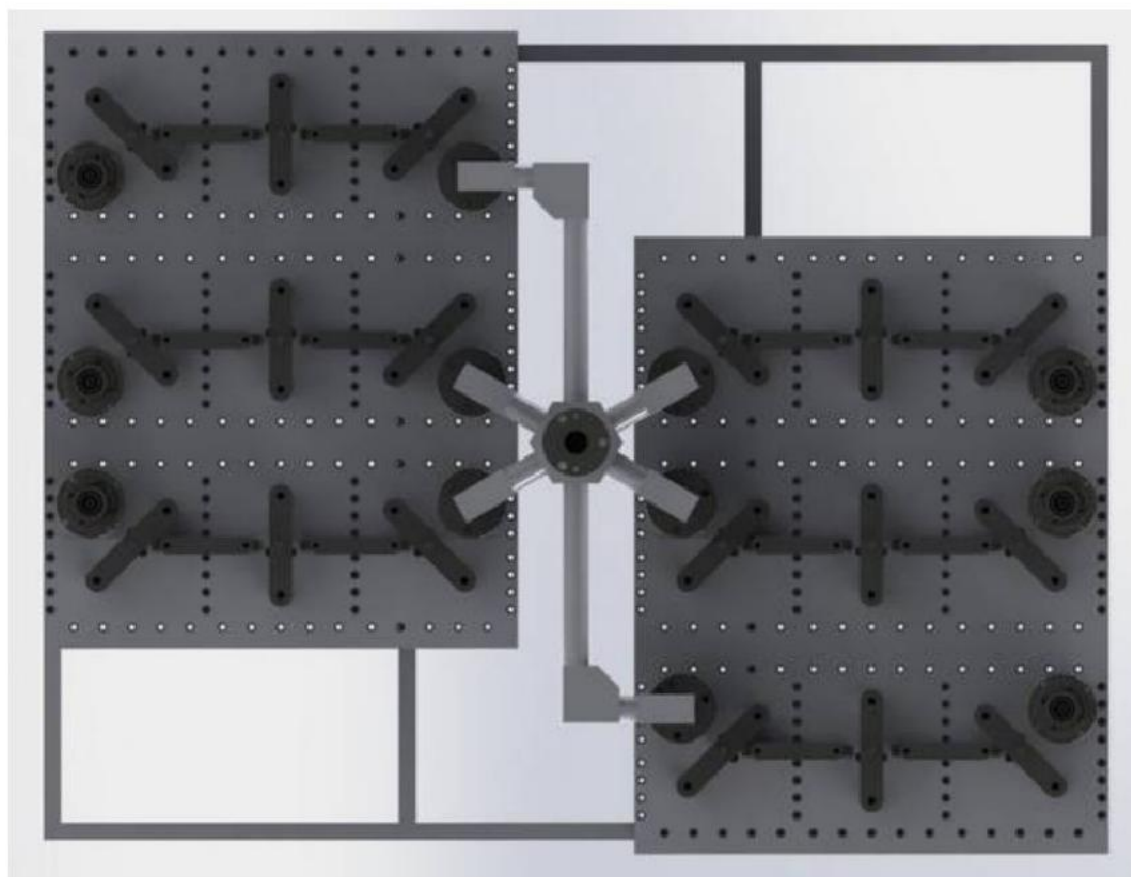
DIMENSIONS (mm)

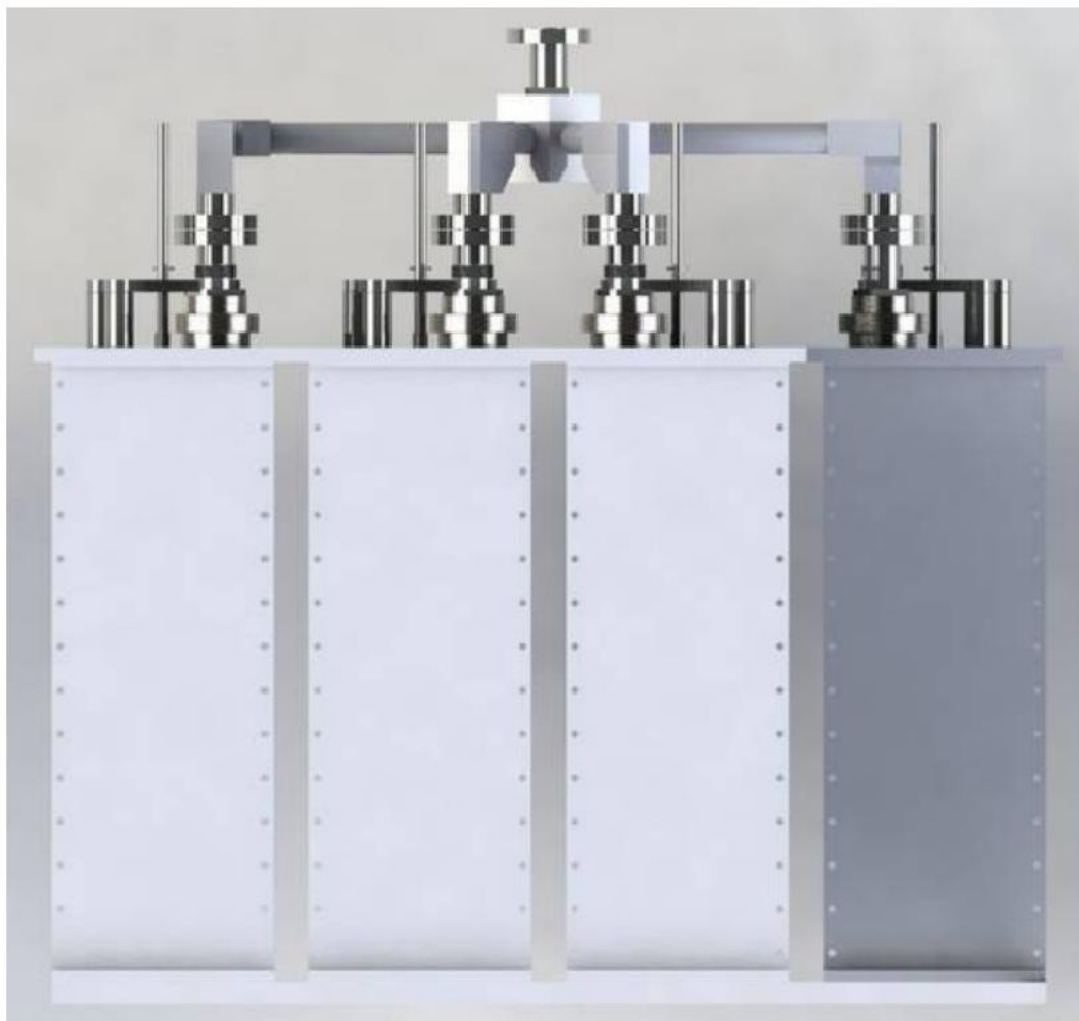


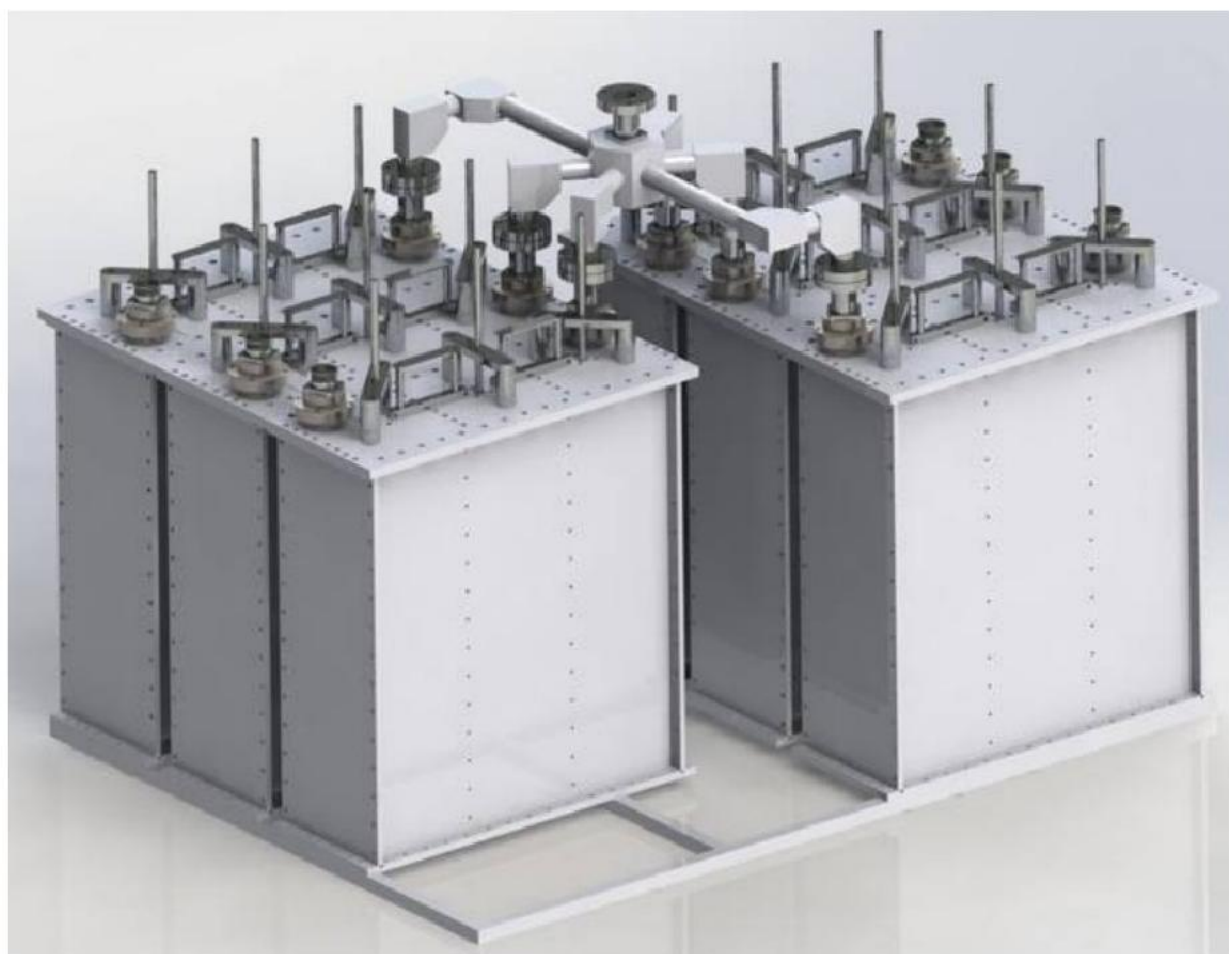
**No rack version**

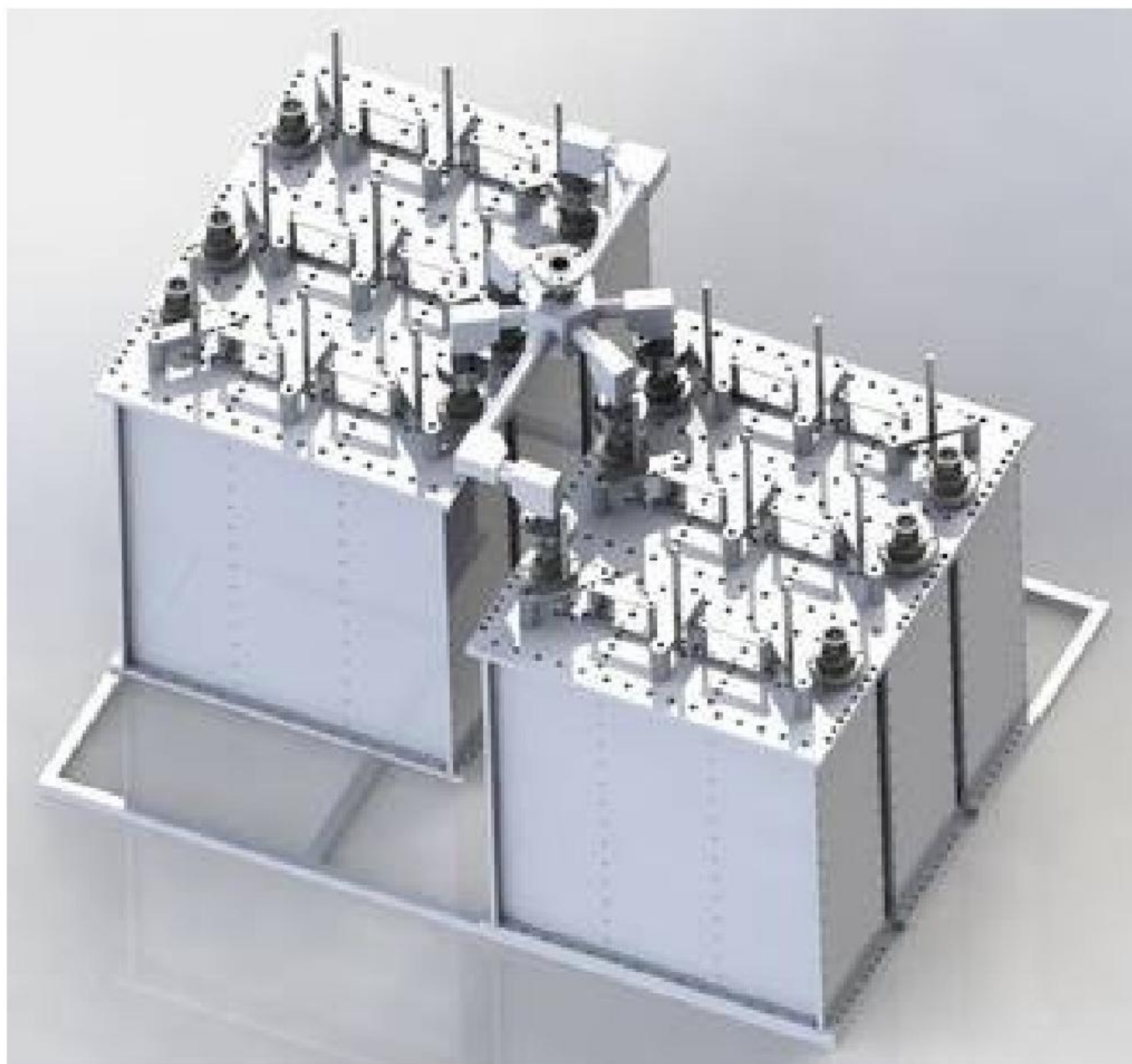
Dimensions	668×916×704 mm (26.2x36x27.7 inch) (H×L×W)
Weight	≅ 160 Kg APPROX

VIEWS OF THE SYSTEM

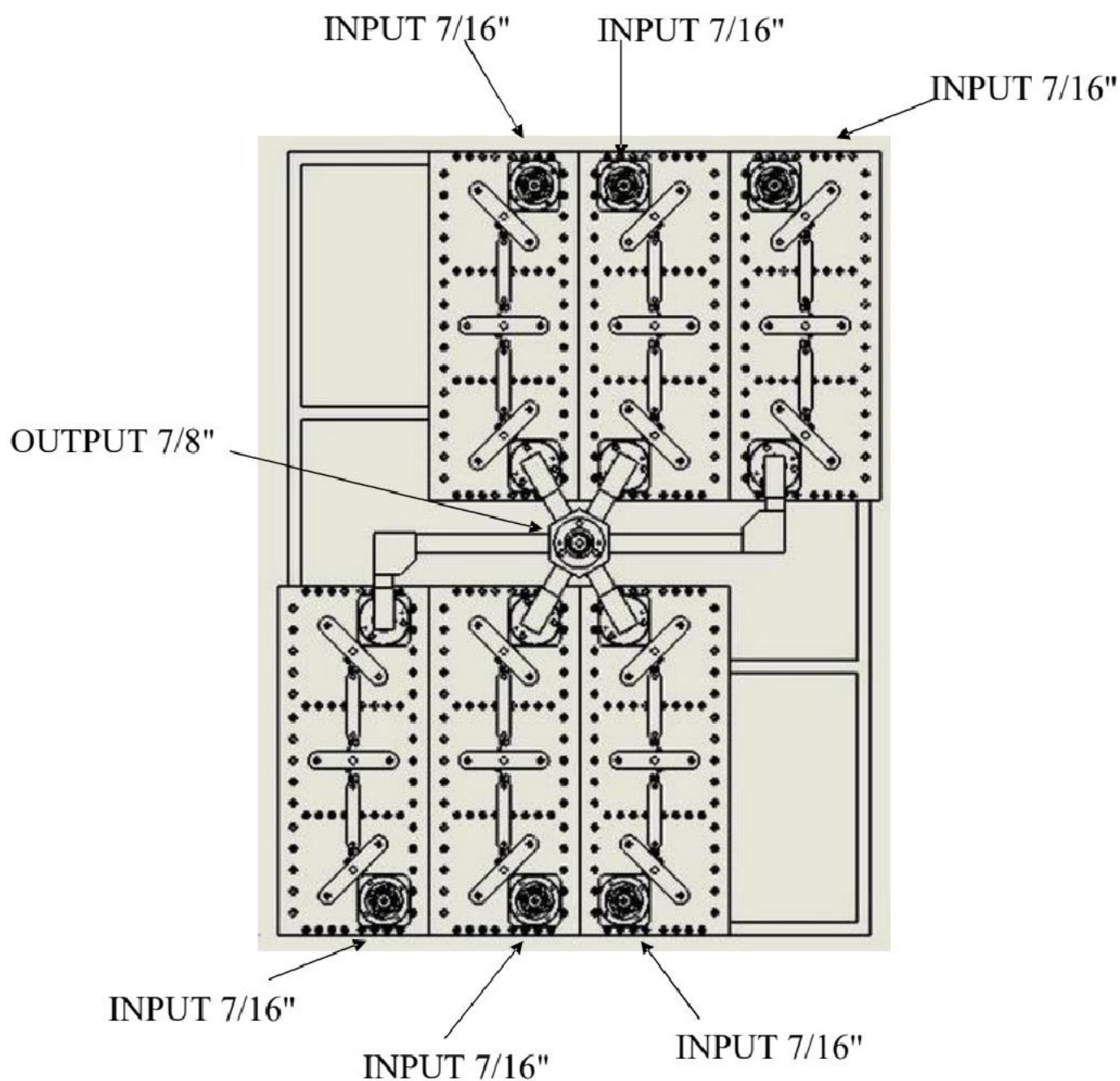








INPUT-OUTPUT LAYOUT



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