

UF20000/UF35000 Series UHF Band Pass Filters

Features:

- Low loss high power UHF DTV mask filter
- ATSC, DVB-T and ISDB-T
- Tunable for 6, 7, or 8 MHz Channels
- Non-Critical and Critical Masks
- Temperature Compensated

Optional Items:

- Fine-Matchers to optimize system performance
- Directional Couplers to monitor system performance
- Output Switching/Patching to test system performance
- Low Pass Harmonic Filters



The UF35000 is a uniquely designed tunable, high efficiency, waveguide UHF band pass filter. The power handling capability is 20 kW average power with convection cooling. Power handling is increased to 55 kW average power, with the addition of forced air cooling. The filter is tunable and exceptionally efficient.

The filter is a temperature compensated design constructed of silver-plated Invar. The design incorporates a unique system that allows the size of the individual cavities within the filter to be precisely adjusted to achieve resonance. This unique approach simplifies the filter construction, promotes reliability, and contributes to the low insertion loss.

In addition to the unique cavity construction all UF Series band pass filters include multiple cross couplings are provided to increase rejection of transmitter out of band emissions. Six and eight pole designs are available for ATSC 1.0, ATSC3.0, ISDB-T and other COFDM applications. Input and output connections are 6-1/8-inch, 50-ohm, EIA flanged, male.

ERI can provide the UF35000 as a part of a complete RF system. ERI manufactures a broad array of accessory products including directional couplers, coaxial patch panels, motorized coaxial and waveguide switches, liquid cooled RF loads, adjustable fine matchers and low pass filters. These accessory components can be assembled into systems that include support frames for floor or ceiling mounted applications.

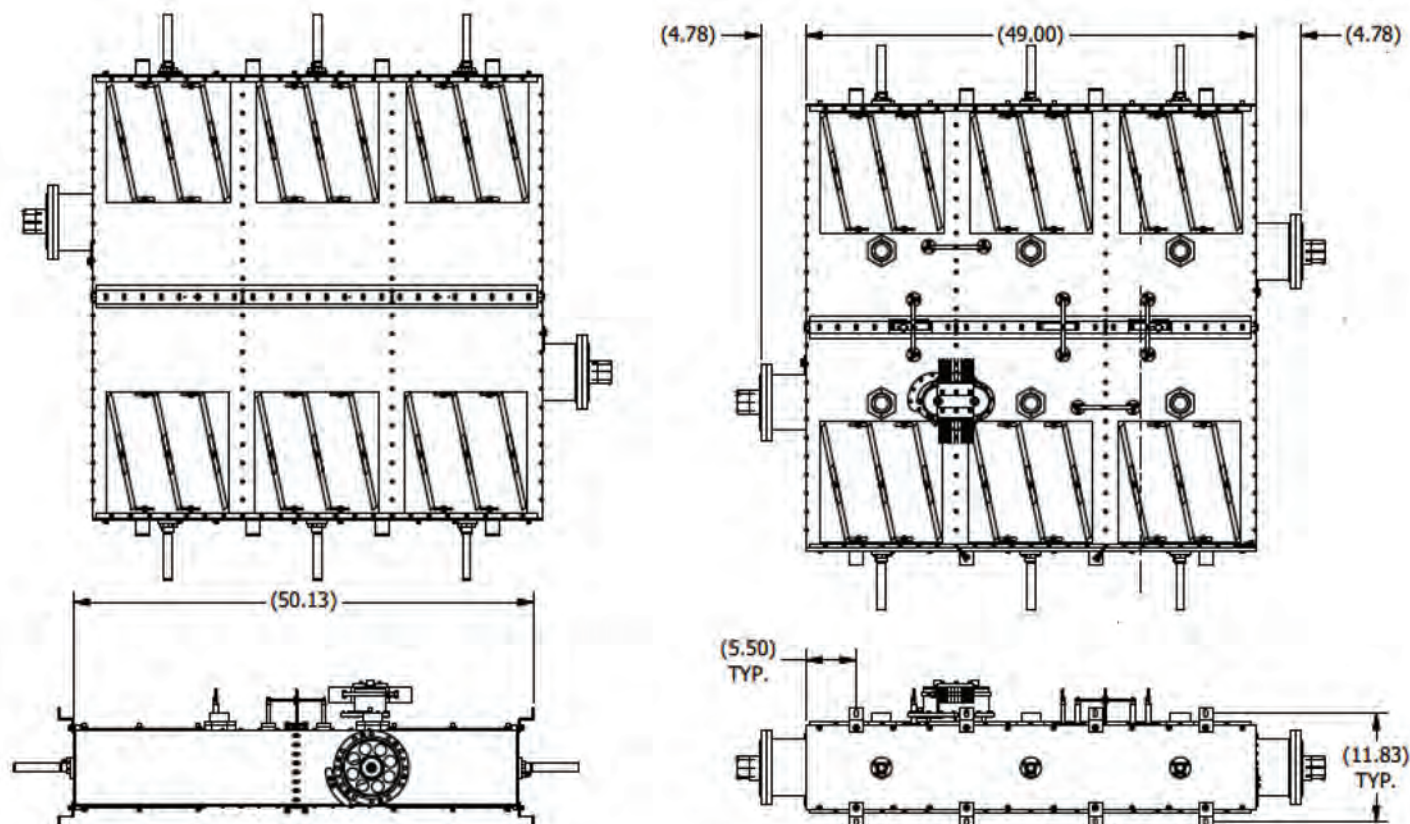


UF20000/UF35000 Series UHF Band Pass Filters

Typical Specifications

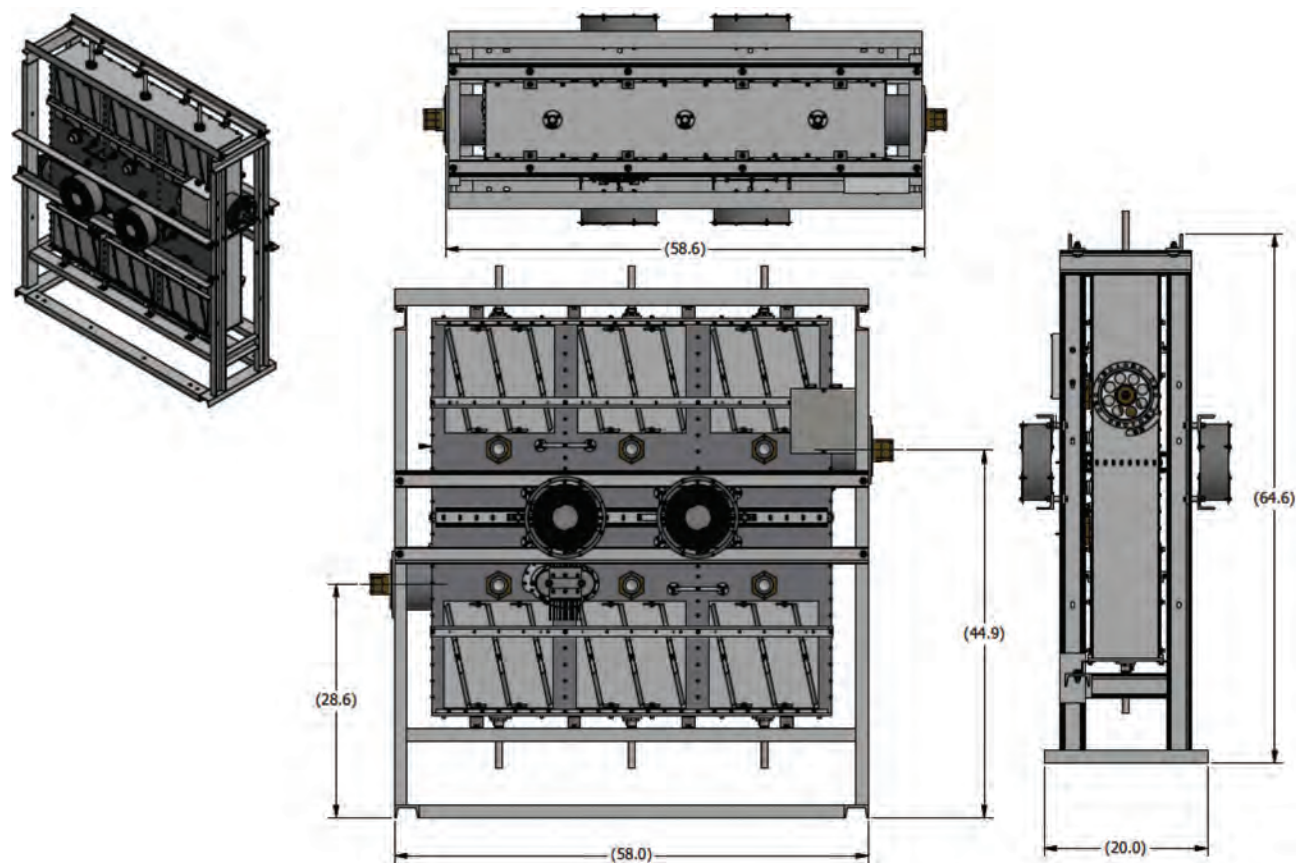
Model:		UF20000-66	UF20000-86	UF35000-66	UF35000-86
Poles:		Six (6)	Eight (8)	Six (6)	Eight (8)
Cooling:		Convection		Forced Air	
Power Handling at Output:		20.0 kilowatts		50.0 kilowatts	40.0 kilowatts
VSWR (Passband), max.:					
ATSC 1.0 (6 MHz)		1.08	1.10	1.08	1.10
ATSC 3.0 (6 MHz)		1.12	1.12	1.12	1.12
ISDB (6 MHz)		1.13	1.13	1.13	1.13
DVB-T (8 MHz)		1.12	1.12	1.12	1.12
DVB-T (7 MHz)		1.12	1.12	1.12	1.12
DVB-T (6 MHz)		1.15	1.15	1.15	1.15
Insertion Loss, Fc:					
ATSC 1.0 (6 MHz)		0.20 dB	0.30 dB	0.20 dB	0.30 dB
ATSC 3.0 (6 MHz)		0.20 dB	0.30 dB	0.20 dB	0.30 dB
ISDB (6 MHz)		0.20 dB	0.30 dB	0.20 dB	0.30 dB
DVB-T (8 MHz)		0.15 dB	0.25 dB	0.15 dB	0.25 dB
DVB-T (7 MHz)		0.20 dB	0.25 dB	0.20 dB	0.25 dB
DVB-T (6 MHz)		0.25 dB	0.30 dB	0.25 dB	0.30 dB
Group Delay:					
ATSC 1.0 (6 MHz)		< 150 nsec	< 400 nsec	< 150 nsec	< 400 nsec
ATSC 3.0 (6 MHz)		< 250 nsec	< 800 nsec	< 250 nsec	< 800 nsec
ISDB (6 MHz)		< 250 nsec	< 400 nsec	< 250 nsec	< 400 nsec
DVB-T (8 MHz)		< 200 nsec	< 400 nsec	< 200 nsec	< 400 nsec
DVB-T (7 MHz)		< 250 nsec	< 500 nsec	< 250 nsec	< 500 nsec
DVB-T (6 MHz)		< 275 nsec	< 450 nsec	< 275 nsec	< 450 nsec
Rejection:					
ATSC (6 MHz)	+/- 3.25 MHz	N/A	> 18 dB	N/A	> 18 dB
	+/- 3.5 MHz	> 0 dB	> 23 dB	> 0 dB	> 23 dB
	+/-9.0 MHz	> 64 dB	> 64 dB	> 64 dB	> 64 dB
ISDB (6 MHz)	+/- 3.15 MHz	> 0 dB	> 15 dB	> 0 dB	> 15 dB
	+/- 4.5 MHz	> 20 dB	> 30 dB	> 20 dB	> 30 dB
	+/-9.0 MHz	> 55 dB	> 65 dB	> 55 dB	> 65 dB
DVB-T (8 MHz)	+/- 4.2 MHz	> 4 dB	> 15 dB	> 4 dB	> 15 dB
	+/- 6.0 MHz	> 20 dB	> 40 dB	> 20 dB	> 40 dB
	+/-12.0 MHz	> 40 dB	> 55 dB	> 40 dB	> 55 dB
DVB-T (7 MHz)	+/- 3.7 MHz	> 3.5 dB	> 15 dB	> 3.5 dB	> 15 dB
	+/- 5.25 MHz	> 18 dB	> 28 dB	> 18 dB	> 28 dB
	+/-10.5 MHz	> 43 dB	> 53 dB	> 43 dB	> 53 dB
DVB-T (6 MHz)	+/- 3.2 MHz	> 4 dB	> 15 dB	> 4 dB	> 15 dB
	+/- 5.0 MHz	> 20 dB	> 40 dB	> 20 dB	> 40 dB
	+/-9.0 MHz	> 40 dB	> 55 dB	> 40 dB	> 55 dB
RF Connectors:		6-1/8-inch, 50-ohm, EIA flanged, male			
Physical Size:					
Length		58.6 inches (1487 mm)	75.0 inches (1905 mm)	58.6 inches (1487 mm)	75.0 inches (1905 mm)
Width		11.8 inches (300 mm)	11.8 inches (300 mm)	11.8 inches (300 mm)	11.8 inches (300 mm)
Height		50.1 inches (1273 mm)	50.1 inches (1273 mm)	50.1 inches (1273 mm)	50.1 inches (1273 mm)
Weight		353 pounds (160.1 kg)	530 pounds (240.2 kg)	373 pounds (169.4 kg)	550 pounds (249.5 kg)
Ambient Temperature		68 to 95 degrees, F		20 to 35 degrees, C	
Storage Temperature		32 to 122 degrees, F		0 to 50 degrees, C	
Ambient/Storage Humidity		95% Relative Humidity, Non-condensing			

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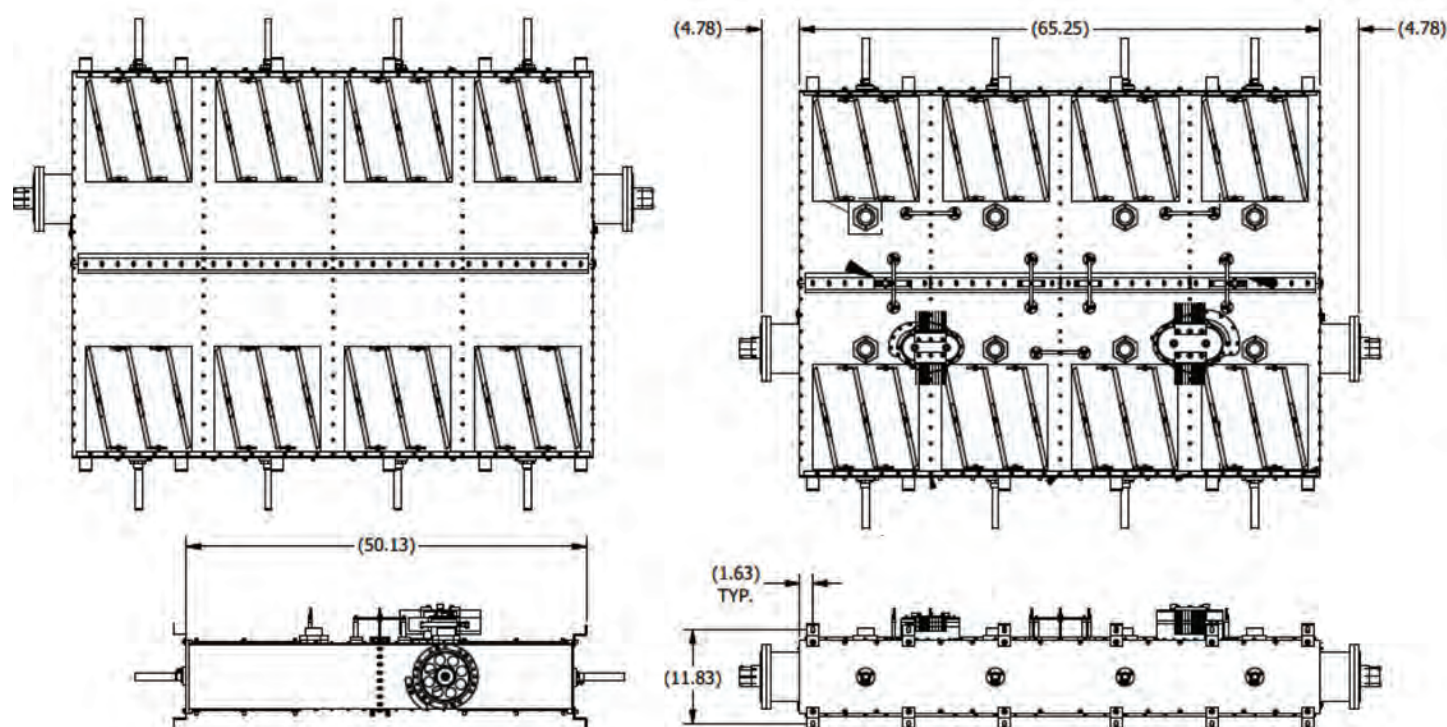
UF35000-66 UHF DTV Mask Filter. Six section model outline drawing. Dimensions shown in inches.

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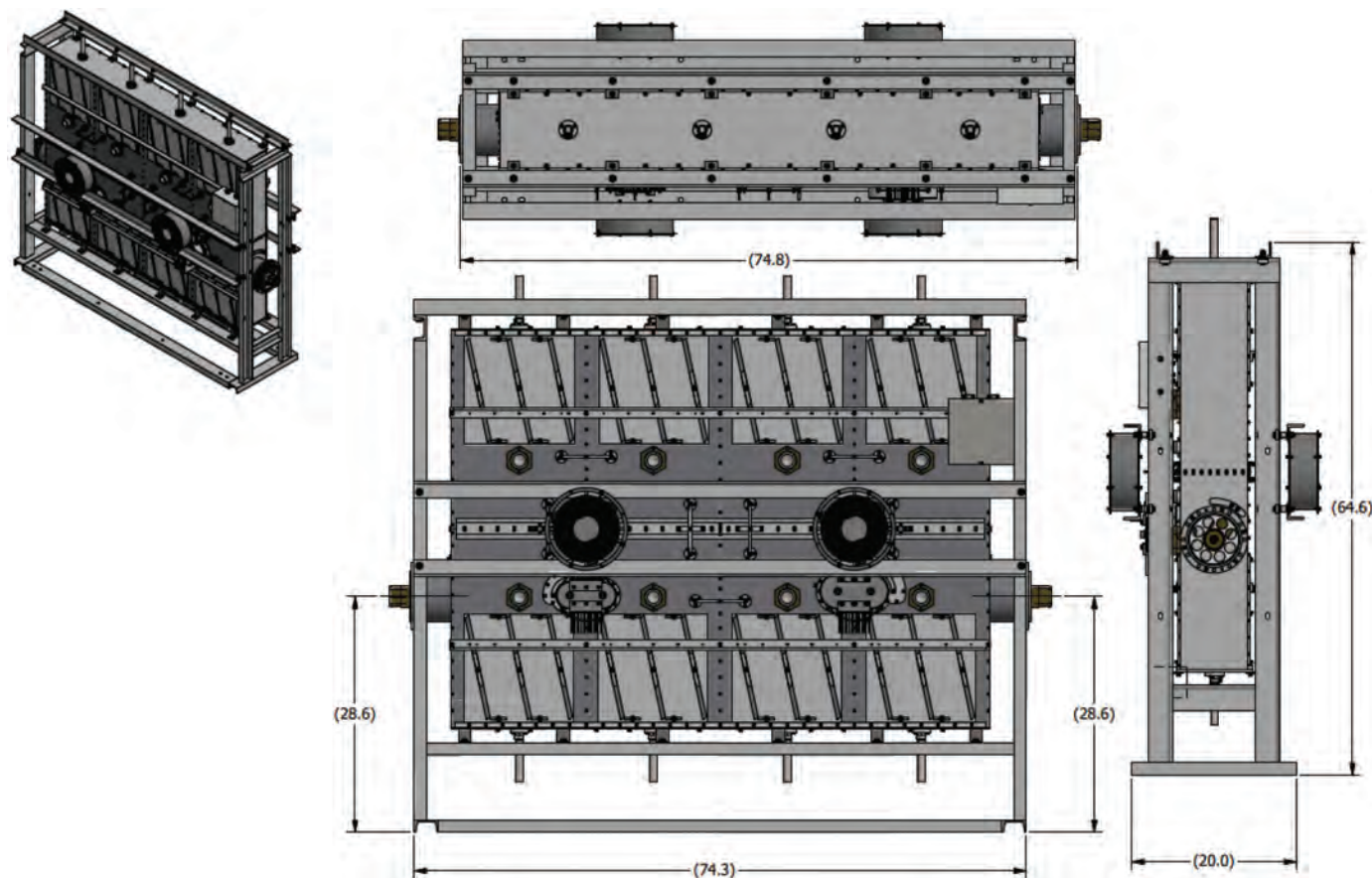
UF35000-66 UHF DTV Mask Filter. Six section model outline drawing shown in optional support frame.
Dimensions shown in inches.

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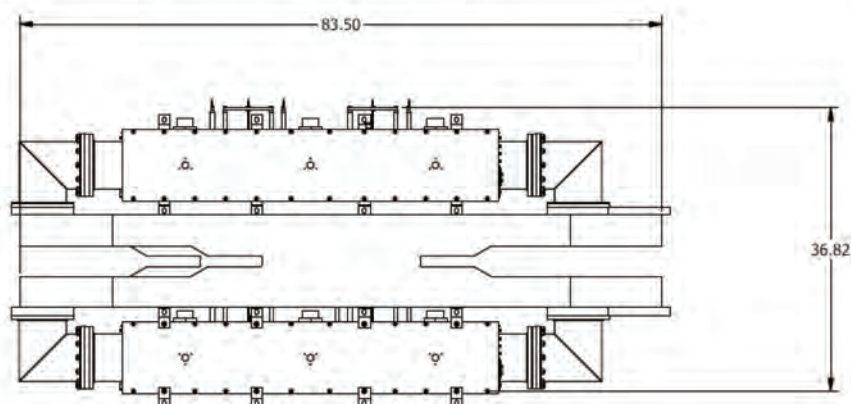
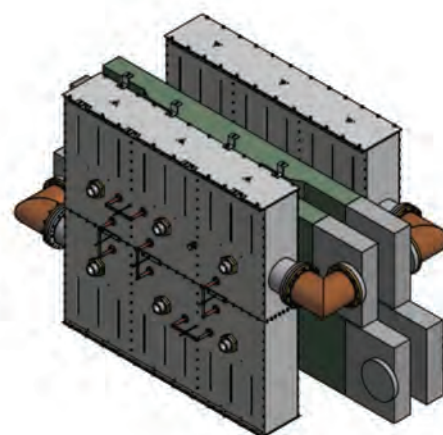
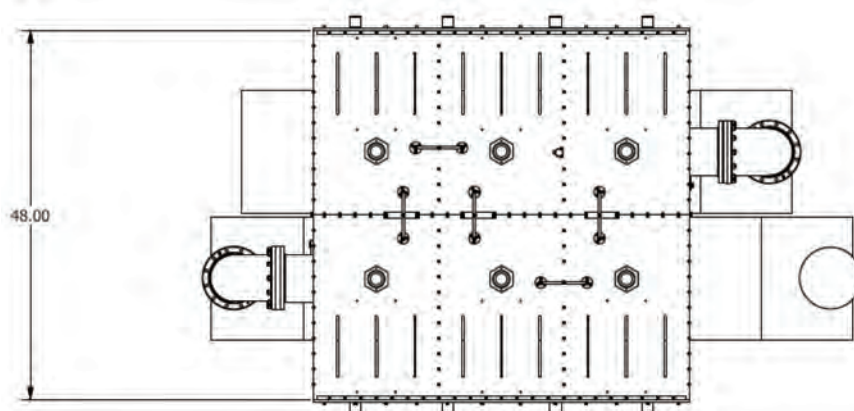
UF35000-86 UHF DTV Mask Filter. Eight section model outline drawing. Dimensions shown in inches.

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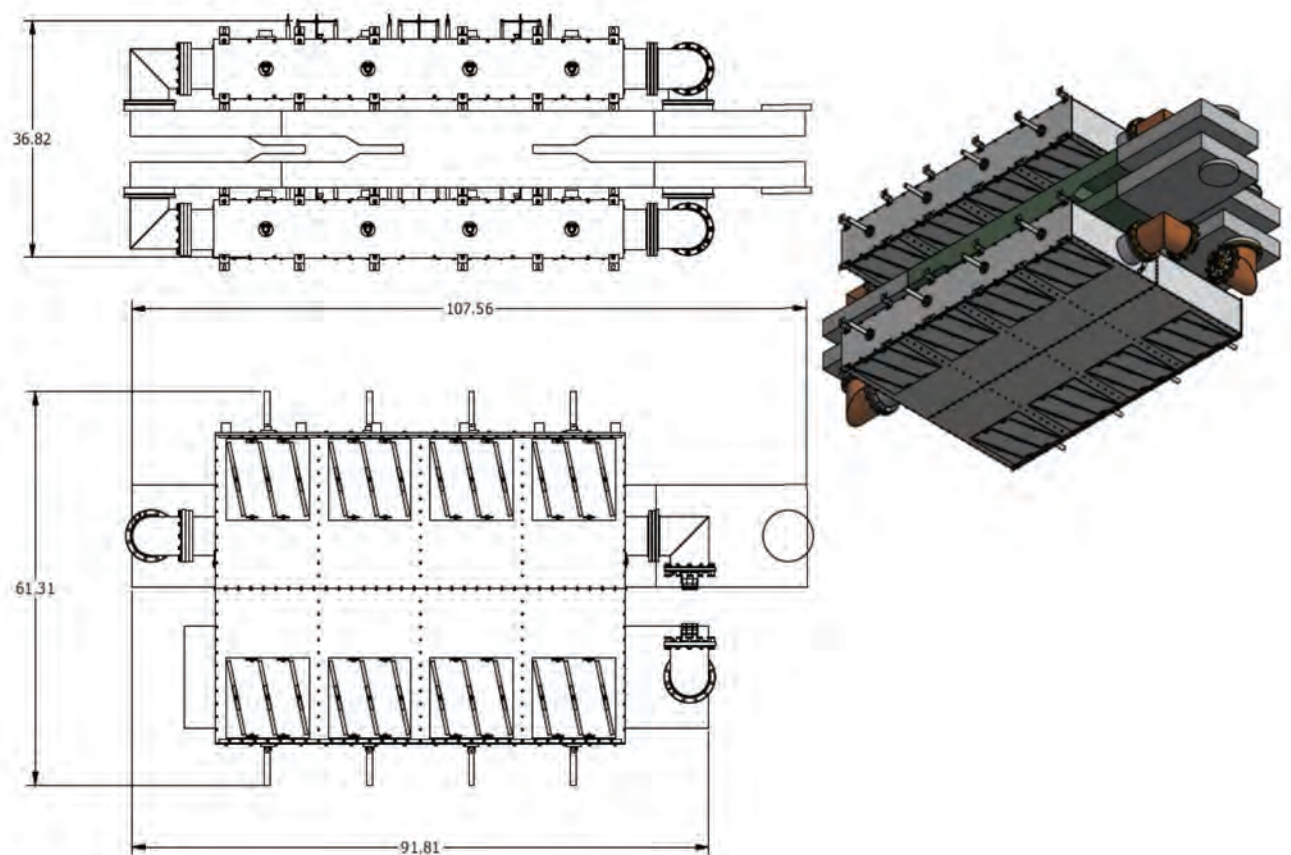
UF35000-86 UHF DTV Mask Filter. Eight section model outline drawing shown in optional support frame.
Dimensions shown in inches.

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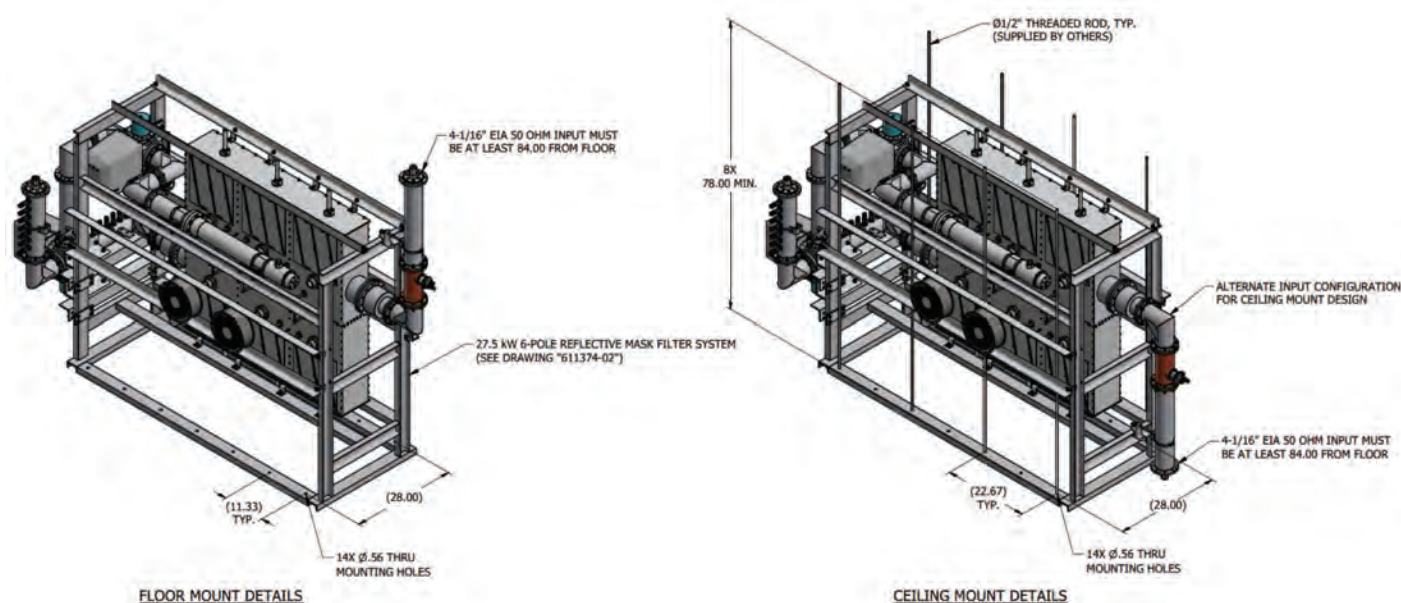
UF35000CI-66 Six (6) Section Filter in Constant Impedance Configuration with wideband WR1600 3 dB hybrids. Hybrid Reject and Ballast Loads not shown. Dimensions shown in inches.

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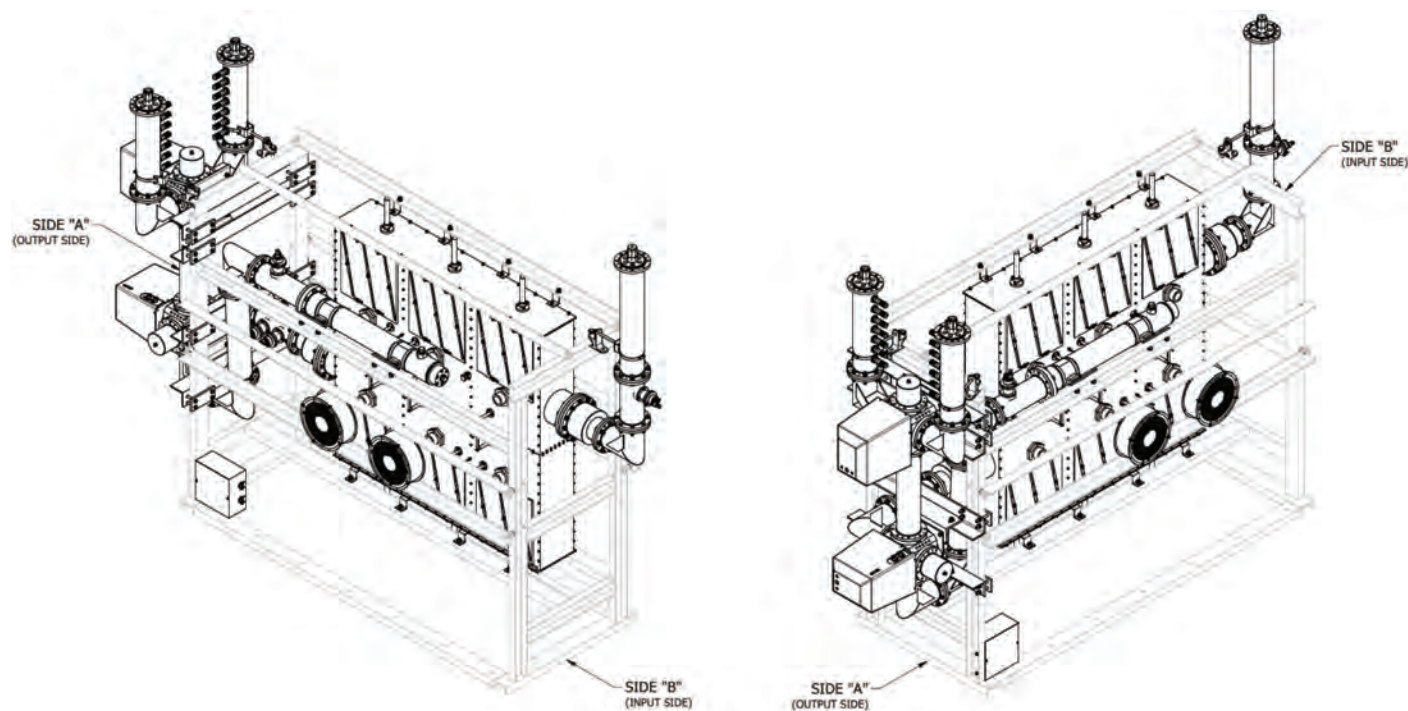
UF35000 Eight (8) Section Filter in Constant Impedance Configuration with wideband WR1600 3 dB hybrids. Hybrid Reject and Ballast Loads not shown. Dimensions shown in inches.

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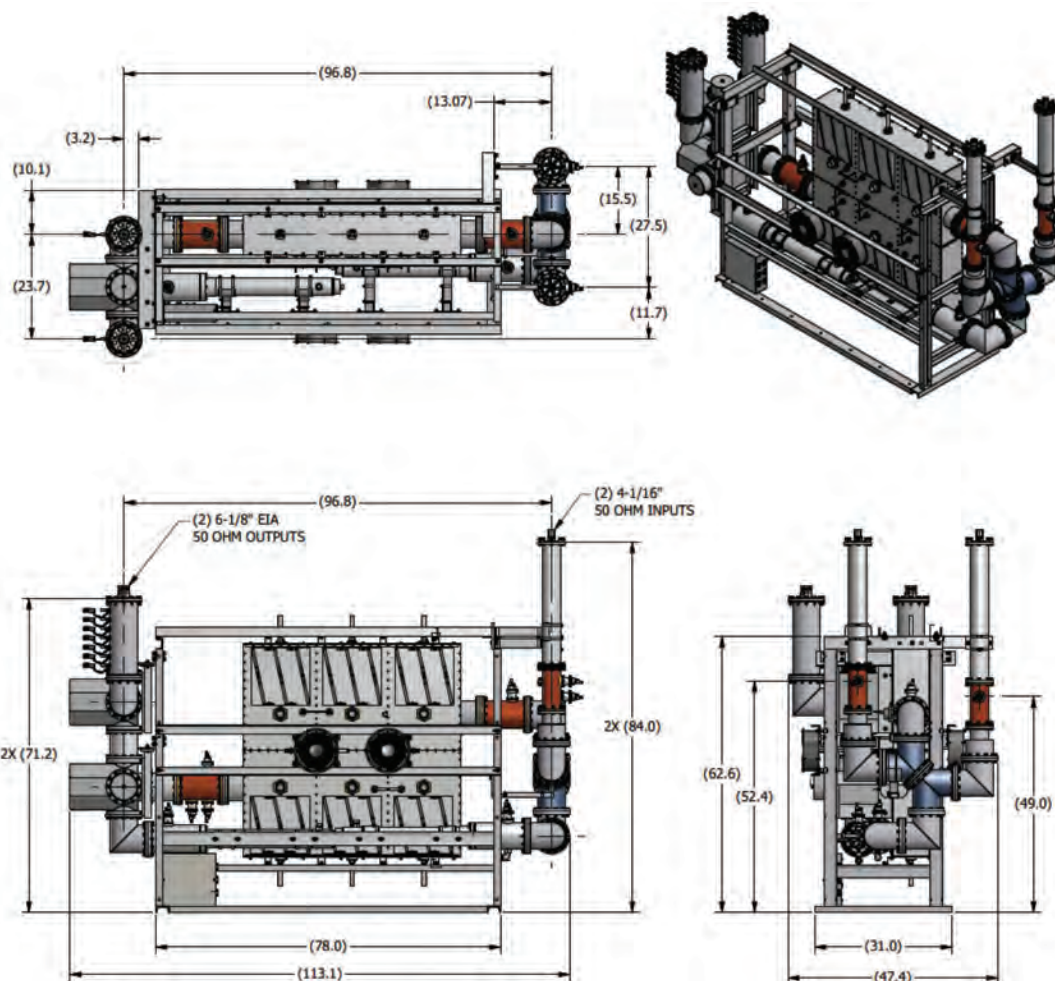
UF35000-66 Six (6) Section UHF Forced Air-Cooled Band Pass Filter shown in optional floor mounted and ceiling hung frames with 4-port Motorized Coaxial Switch, input and output directional couplers and Liquid Cooled Test Load at System Output. Dimensions shown in inches.

UF20000/UF35000 Series UHF Band Pass Filters



UF35000-66 Reflective UHF DTV Mask Filter. Six section model outline drawing shown in optional floor mounted frame with motorized switch at filter output to switch between Antenna and Liquid Cooled Test Load and a second motorized switching between main and auxiliary antennas.

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UF35000-66 Reflective UHF DTV Mask Filter. Six section RF system with optional floor mounted support frame, input and output directional couplers, motorized coaxial switch and test load and motorized switching between main and auxiliary antennas. System also includes a two (2) cabinet power combiner. Dimensions shown in inches.