

CL Series UHF Coaxial RF Loads

Features

- Compact Design
- Low Cost per kW
- Low In-channel VSWR
- Low Coolant Pressure Drop
- Insensitive to Temperature
- Failure Resistant Design
- Temperature Stable
- Wide Range of Power Levels



This family of liquid cooled UHF coaxial RF loads offer a proven design for handling high RF power at low cost. Models are available with 3-1/8-inch, 4-1/16-inch and 6-1/8-inch swivel flange female inputs. The loads employ a solution of anti-freeze and water as both coolant and resistive material. The power dissipated by the load heats the solution and is removed by the constant flow.

The loads are extremely rugged because the resistor is liquid and no finger contacts are used. A dielectric transformer on the inner conductor distributes power evenly throughout the coolant and provides exceptional thermal stability over a wide range of temperature and power levels. Each load has a low VSWR across the UHF band. Units are lab-compensated to less than 1.05 VSWR on a specified UHF channel.

These RF loads are compact in length to save space. They are constructed from Aluminum and Stainless Steel and are very light weight. The Models CLx11 are the basic load design. The Models CLx12 include an integrated, externally terminated, adjustable directional coupler at the load input. The Models CLx13 also include an integrated directional coupler and have a fine matching section at the input that allows the load match to be optimized in the field at any operating UHF RF channel.

Ordering Information and Specifications

Model	CL311/312/313		CL411/412/413		CL611/612/613		
Average Power	25 kW		40 kW		72 kW		
Peak Power	440 kW		710 kW		1500 kW		
Frequency Range	470 to 608 MHz		470 to 608 MHz		470 to 608 MHz		
Connector	3-1/8-inch EIA		4-1/16-inch		6-1/8-inch EIA		
Impedance			50-ohm				
Length	CLx11	44.3-in	1124-mm	44.3-in	1124-mm	44.3-in	1124-mm
	CLx12	44.3-in	1124-mm	44.3-in	1124-mm	44.3-in	1124-mm
	CLx13	50.2-in	1275-mm	50.2-in	1275-mm	50.2-in	1275-mm
Weight	CLx11	16.4 lbm	(7.45 kg)	16.7 lbm	(7.56 kg)	20.0 lbm	(9.09 kg)
	CLx12	17.6 lbm	(7.97 kg)	17.8 lbm	(8.07 kg)	21.2 lbm	(9.60 kg)
	CLx13	19.8 lbm	(8.99 kg)	20.2 lbm	(9.14 kg)	24.6 lbm	(11.14 kg)
VSWR	Any TV Channel				1.05 : 1		
	470-608 MHz				1.20 : 1		
Coolant Mixture	40% to 60% solution of antifreeze and water						
Coolant Connections*	3/4-inch GHT or 3/4-inch NPT						
Pressure	80 PSI				560 kPa		
Coolant flow Rate	See Graph						

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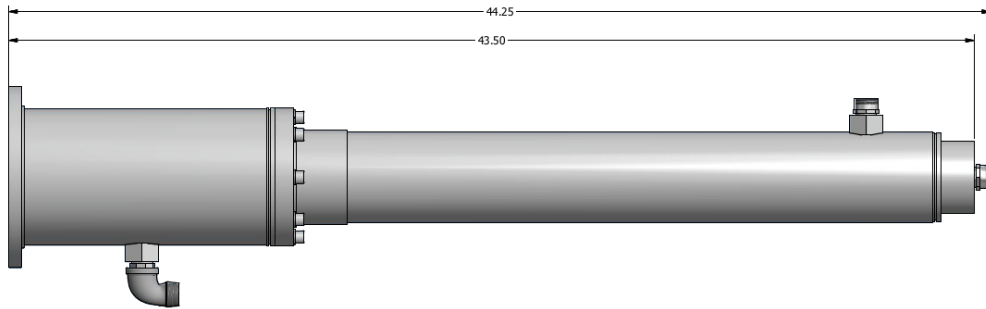
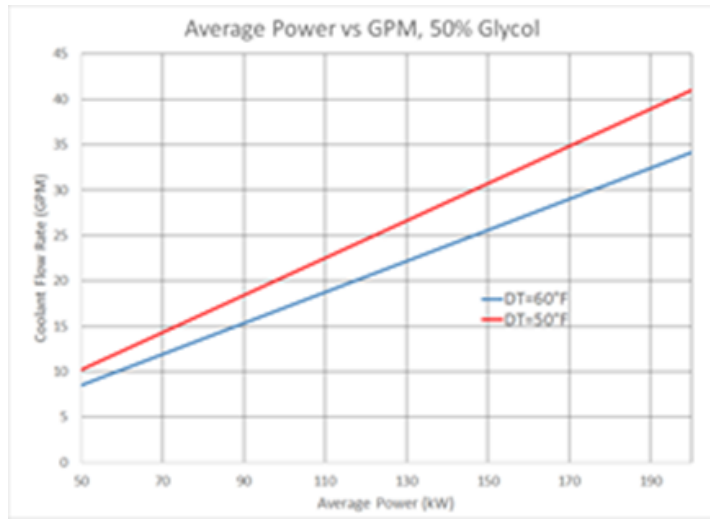
Ordering Information

*Ethylene Glycol coolant is customer supplied (usually included with the UHF transmitter cooling system), such as DOWTHERM SR-1 Heat Transfer Fluid or equivalent.

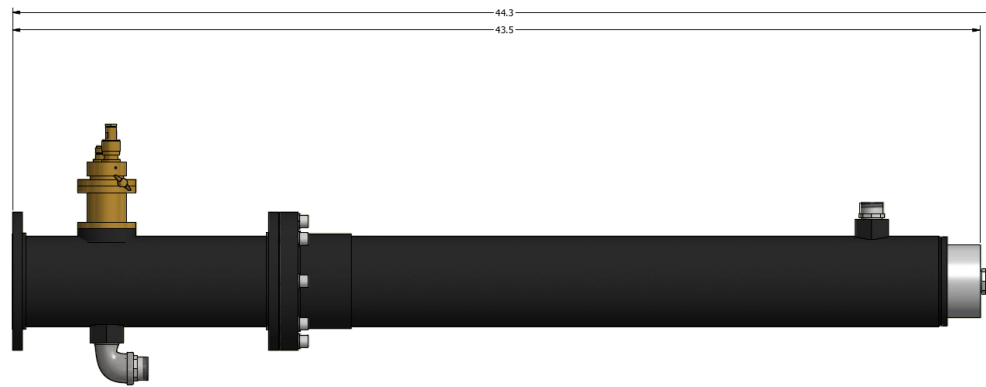
**Other coolant connectors are optionally available. Contact ERI for more information.

Specify with Order:

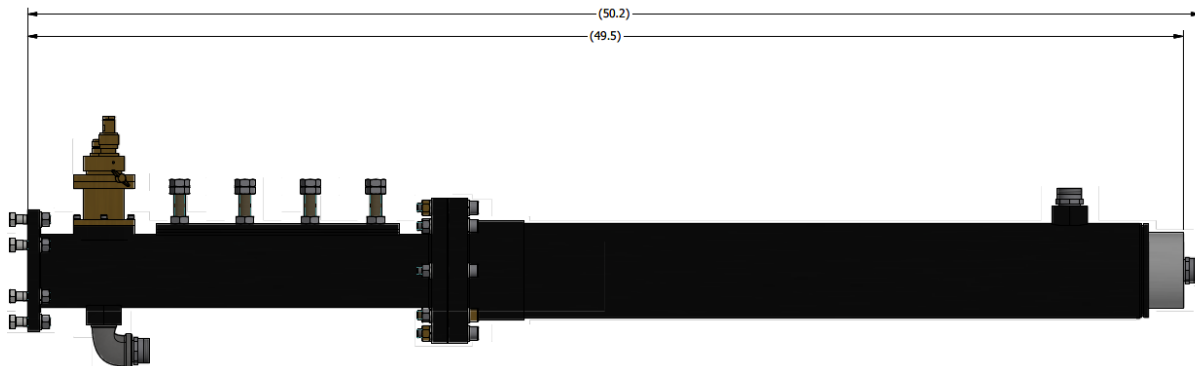
Operating Channel or Frequency
 Directional Coupler Orientation and
 Desired Coupling Level (CLx12 only)



ERI Model CL611 6-1/8-inch Liquid Cooled RF Load. Dimensions shown in inches.



ERI Model CL412 4-1/16-inch Liquid Cooled Load. Dimensions shown in inches.



ERI Model CL313 3-1/8-inch Liquid Cooled RF Load. Dimensions shown in inches.