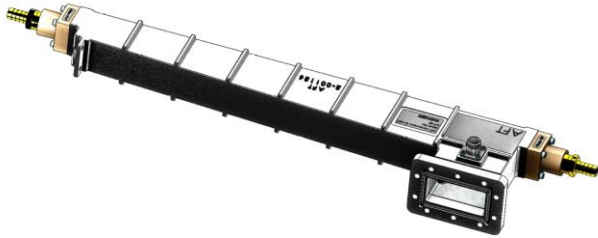


Water Load CPR284F


- RF absorption & cooling by water
- Water is guided in a rugged high-quality quartz glass tube
- Excellent peak & average power capability
- High reliability & long life-time
- Free of maintenance & wear parts
- RoHS compliant
- Designed for S-band LINAC applications

Parameter	Value			
Footprint Drawing No.	FP-10072623			
Product Type	RF Load			
Configuration	Water Load			
Center Frequency f_0	2856 MHz or 2998 MHz			
Bandwidth BW	± 10 MHz			
Input Power	Options:	Xp = 1	Xp = 2	Xp = 3
Input Peak Power		20 MW	15 MW	10 MW
Input Average Power		15 kW	30 kW	60 kW
Return Loss	≥ 30 dB			
VSWR	< 1.065			
RF Waveguide	WR284			
RF Flanges / Connectors	CPR284F, flat, 10 holes $\varnothing 6.5$ mm			
RF Coupling Probes	1x non-directional coupling probe at input			
	Coupling: $-60\text{dB} \pm 2\text{dB}$, Connector type: N-female			
Cooling System	demineralized water			
Water Tube Materials	Stainless steel, quartz glass			
Water Connectors	2x $\frac{1}{2}$ " hose barb fittings, stainless steel			
Water Inlet Temperature (nominal)	selectable between 20°C and 40°C			
Water Inlet Temperature Range	$\pm 5^\circ\text{C}$			
Water Flow Rate	≥ 900 l/h (15kW)	≥ 1800 l/h (30kW)	≥ 3600 l/h (60kW)	
Water Pressure Drop	< 2 bar @ minimum flow rate			
Water Inlet Pressure	≤ 10 bar			
Water Leak Test Pressure	15 bar for 10min			

Water Load CPR284F

Waveguide Dielectric Filling Gas	SF6	
Gas Pressure	nominal:	3 bar absolute
	maximum :	4 bar absolute
Gas Leak Rate (Helium)	< 5·10 ⁻⁴ mbar l/s	
	tested with Helium pressurization at 2.5 bar gauge	
Ambient Temperature	operating :	10°C to 40°C
	storage :	0°C to 60°C
Relative Humidity	< 80%, non-condensing	
Magnetic Stray Field	device must not be exposed to magnetic stray radiation of >5G	
Body Material	Aluminium	
Surface Finish	none	
Dimensions	see footprint drawing	
Weight	3 kg approximately	
Mounting Orientation	any	

Ordering Code

LW-WR284-01 - Xf - Xp - Xw

Variable	Description	Value Options		
Xf	Center Frequency [MHz]	2856 or 2998		
Xp	Input Power Option	1 : 20MW / 15kW	2 : 15MW / 30kW	3 : 10MW / 60kW
Xw	Water Inlet Temp. [°C]	20 .. 40		

Notes:

- Water quality, temperature, flow, and input pressure need to be controlled carefully according to the specified values. Air bubbles in the cooling channel have to be avoided. The device does not include any sensorics and interlocks for water temperature, flow or pressure.
- Low-Power Acceptance Tests: The following tests will be performed at the AFT factory before shipment: (1) small-signal network analyzer measurements of input return loss vs. frequency at room temperature, (2) water leak test, and (3) He-gas leak rate testing.
- Documentation: An owner's manual is supplied for providing information on the installation, operation and maintenance of the device. The documentation will also include specification, footprint drawing.

As an *option to be ordered separately*, extended documentation is available in terms of a low-power RF test report (viewgraphs S-parameters vs. frequency) or written factory test protocol.

Rev.	Remark	Date	Name
0	Initial	17.09.2015	C. Weil