



- RF absorption & cooling by water
- Excellent peak & average power capability
- High reliability & long life-time
- Free of maintenance & wear parts
- RoHS compliant
- Designed for X-band LINAC applications

Parameter	Value
Footprint Drawing No.	FP-10074172
Product Type	RF Load
Configuration	Water Load
Center Frequency f_0	9300 MHz
Bandwidth BW	± 20 MHz
Input Power	
Input Peak Power	2.5 MW
Input Average Power	2.5 kW
Return Loss	≥ 30 dB
VSWR	< 1.065
RF Waveguide	WR112
RF Flanges / Connectors	WR112 cover flange, UG-51/U, with 4x 8-32 UNC-28 threads
Cooling System	demineralized water
Water Tube Materials	Stainless steel
Water Connectors	2x 1/4" hose barb fittings, stainless steel
Water Inlet Temperature (nominal)	selectable between 20°C and 40°C
Water Inlet Temperature Range	$\pm 2^\circ\text{C}$
Water Flow Rate	≥ 300 l/h
Water Pressure Drop	< 2 bar @ minimum flow rate
Water Inlet Pressure	≤ 10 bar
Water Leak Test Pressure	15 bar for 10min

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	
Dimensions	see footprint drawing	
Weight	0.7 kg approximately	
Mounting Orientation	any	

Ordering Code

LW-WR112-01-9300 - Xw

Variable	Description	Value Options
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, an inspection report and RF test results.

Rev.	Remark	Date	Name
00	Initial	23.06.2017	C. Weil
	Footprint drawing no.	27.04.2018	C. Weil
01	Part No., order code, bandwidth, documentation	23.11.2020	C. Weil
	Formal update	03.03.2022	C. Weil