

- Compact dual directional loop coupler for precise measurement of forward and reverse RF power
- Coupling coefficient selectable
- High directivity
- High power capability
- Robust design, high reliability
- RoHS compliant
- Designed for S-band LINAC applications

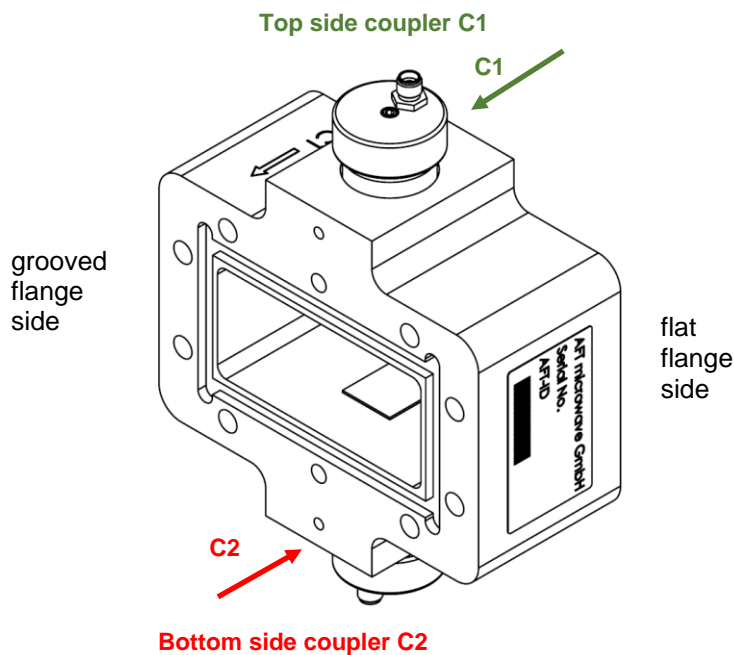
Parameter	Value
Footprint Drawing No.	FP-10076550
Product Type	Directional Coupler
Configuration	Dual Directional Loop Coupler
Center Frequency $f_0$	2856 MHz or 2998 MHz
Bandwidth BW	$\pm 10$ MHz
Forward Power	
Forward Peak Power	20 MW max.
Forward Average Power	15 kW max.
Reverse Power	100% at any phase
Insertion Loss (in WR284)	$\leq 0.05$ dB
Return Loss (in WR284)	$\geq 30$ dB
Coupling of Port C1	Xc1 $\pm 1$ dB, Xc1 selectable from -50dB to -70dB
Coupling of Port C2	Xc2 $\pm 1$ dB, Xc2 selectable from -50dB to -70dB
Directivity of C1 and C2	$\geq 27$ dB
Directional Sense of C1 and C2	see Fig. 1
RF Waveguide	WR284
RF Flanges	1x CPR284F, flat, 9x hole $\varnothing 6.5$ , 1x M6 (center hole) 1x CPR284G, grooved, 9x hole $\varnothing 6.5$ , 1x M6 (center hole)
RF Coupling Connectors	2x SMA female, 50 $\Omega$
Waveguide Dielectric Filling Gas	SF6
Gas Pressure	nominal: 3 bar absolute maximum : 4 bar absolute
Gas Leak Rate (Helium)	$< 5 \cdot 10^{-4}$ mbar l/s

	device pressurized with He gas at 2.5 bar gauge	
<b>Ambient Temperature</b>	operating :	10°C to 40°C
	storage :	0°C to 60°C
<b>Relative Humidity</b>	< 80%, non-condensing	
<b>Body Material</b>	Aluminium	
<b>Surface Finish</b>	none	
<b>Dimensions</b>	length 50.8 mm	
<b>Weight</b>	1.2 kg approximately	
<b>Mounting Orientation</b>	any	
<b>Accessories included</b>	1x metallic gasket 1-0002998000-000	

### Ordering Code

DC-WR284-10 - Xf - Xc1 - Xc2

Variable	Description	Value Options
<b>Xf</b>	Center Frequency [MHz]	<b>2856 or 2998</b>
<b>Xc1</b>	Coupling of Port C1 [dB]	<b>50 to 70</b>
<b>Xc2</b>	Coupling of Port C2 [dB]	<b>50 to 70</b>



**Fig. 1:** Location and directional sense of couplers C1 and C2

**Notes:**

- 1 Low-Power Acceptance Tests: The following tests will be performed at the AFT factory before shipment:
  - (1) small-signal network analyzer measurements of insertion loss, return loss, coupling and directivity all ports/ signal paths vs. frequency at room temperature,
  - (2) visual inspection,
  - (3) He-gas leak rate testing
  
- 2 Documentation: The documentation includes data sheet, footprint drawing, an inspection report and the RF test results as viewgraphs of S-parameters vs. frequency.

Rev.	Remark	Date	Name
00	Initial	26.06.2019	C. Weil
01	Coupler positions	13.08.2019	C. Weil
	Footprint drawing no., Fig. 1, coupling range	10.09.2019	C. Weil
	Coupling range	24.10.2019	C. Weil