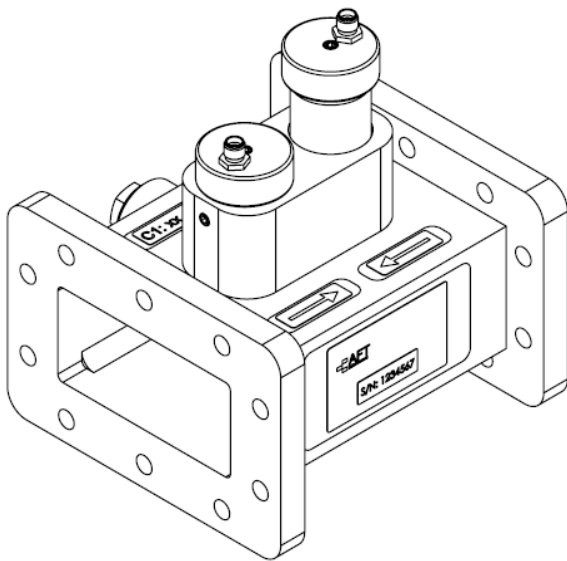


Dual Directional Coupler CPR284 F/G


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

| Parameter | Value |
|--------------------------------|---|
| Footprint Drawing No. | FP-10073077 |
| Product Type | Directional Coupler |
| Configuration | Dual Directional Loop Coupler |
| Center Frequency f_0 | 2856 MHz or 2998 MHz |
| Bandwidth BW | ± 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) | ≤ 0.05 dB |
| Return Loss (in WR284) | ≥ 30 dB |
| Coupling of Port C1 | $X_{c1} \pm 1$ dB, X_{c1} selectable from -50dB to -70dB |
| Coupling of Port C2 | $X_{c2} \pm 1$ dB, X_{c2} selectable from -50dB to -70dB |
| Directivity of C1 and C2 | ≥ 27 dB |
| Directional Sense of C1 and C2 | see Fig. 1 |
| RF Waveguide | WR284 |
| RF Flanges | 1x CPR284F, flat, 10x hole D6.5 1x CPR284G, grooved, 10x hole D6.5 |
| RF Coupling Connectors | 2x SMA female, 50 Ω |

| | | |
|---|---|----------------|
| 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 | |
| | device pressurized with He gas at 2.5 bar gauge | |
| Ambient Temperature | operating : | 10°C to 40°C |
| | storage : | 0°C to 60°C |
| Relative Humidity | < 80%, non-condensing | |
| Body Material | Aluminium | |
| Surface Finish | none | |
| Dimensions | see footprint drawing, length 120mm | |
| Weight | 1.5 kg approximately | |
| Mounting Orientation | any | |
| Accessories included | 1x metallic gasket 1-0002998000-000 | |

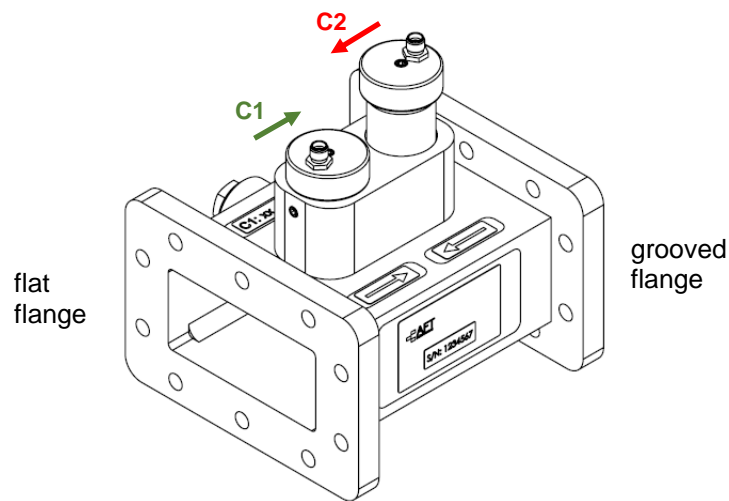


Fig. 1: Location and directional sense of couplers C1 and C2

Ordering Code

DC-WR284-01 - Xf - Xc1 - Xc2

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

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) He-gas leak rate testing.
- 2 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 |
|------|---------|------------|---------|
| 00 | Initial | 24.11.2015 | C. Weil |