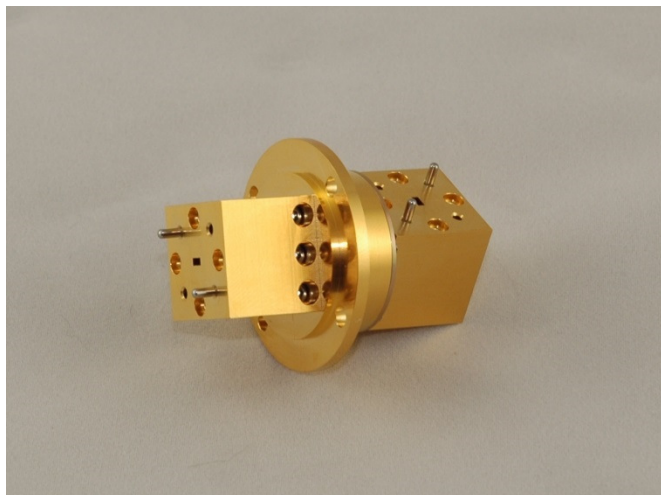


WAVEGUIDE ROTARY JOINT



DESCRIPTION:

The Waveguide Rotary Joint allows the transmission of RF signals from stationary to 360° rotating rectangular waveguide. Common applications include scanning antennas of any kind used in radar and radiometer systems.

Input and Output ports are available in straight to straight, right angle to straight, straight to right angle, and right angle to right angle variations. There is

FEATURES:

- 360° Continuous rotation
- Straight and right-angle ports available
- Low insertion loss
- 50 – 105 GHz wideband operation

APPLICATIONS:

- Mechanically scanned antennas
- Automatic test equipment (ATE)
- Axial ratio measurement

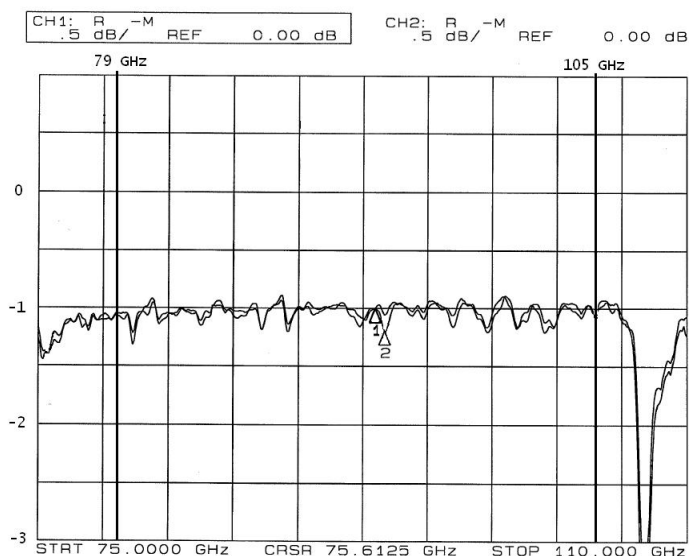
also an extended straight port available on the flange end, as well as a circular waveguide design.

The unit may be installed by four 0.125" through holes. These will be placed around the mounting disc, located in the center of the two ports. The flange end of the unit will be anchored with the mounting disc, while the rotating side will be free to move.

ELECTRICAL SPECIFICATIONS:

| | PERFORMANCE | | | UNITS |
|-----------------------|-------------|---------|---------|-------|
| | WRJ-10 | WRJ-12 | WRJ-15 | |
| Frequency Range | 79 – 105 | 60 – 90 | 50 – 75 | GHz |
| Insertion Loss (typ) | 1.1 | 1.0 | 1.0 | dB |
| Input VSWR (typ) | 1.8:1 | 1.5:1 | 1.5:1 | |
| Output VSWR (typ) | 1.8:1 | 1.5:1 | 1.5:1 | |
| Max Power (Watts, CW) | 159 | 252 | 350 | W |

Note: Following data representative of WR-10 and WR-12 models only. WR-15 model data to be added shortly.

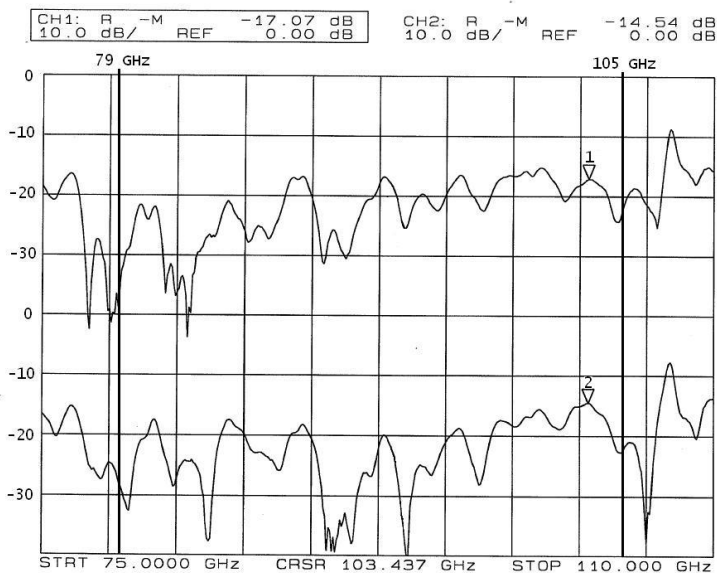


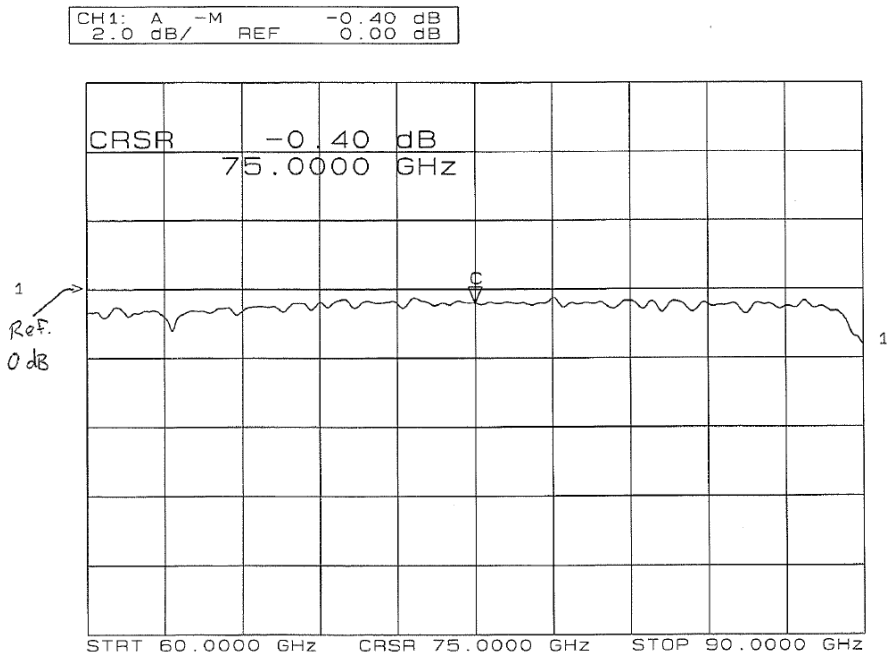
**Typical
Insertion Loss
(WR-10 Model)**

1. IL @ 0°
2. IL @ 90°

**Typical
Return Loss
(WR-10 Model)**

1. RL @ 0°
2. RL @ 90°



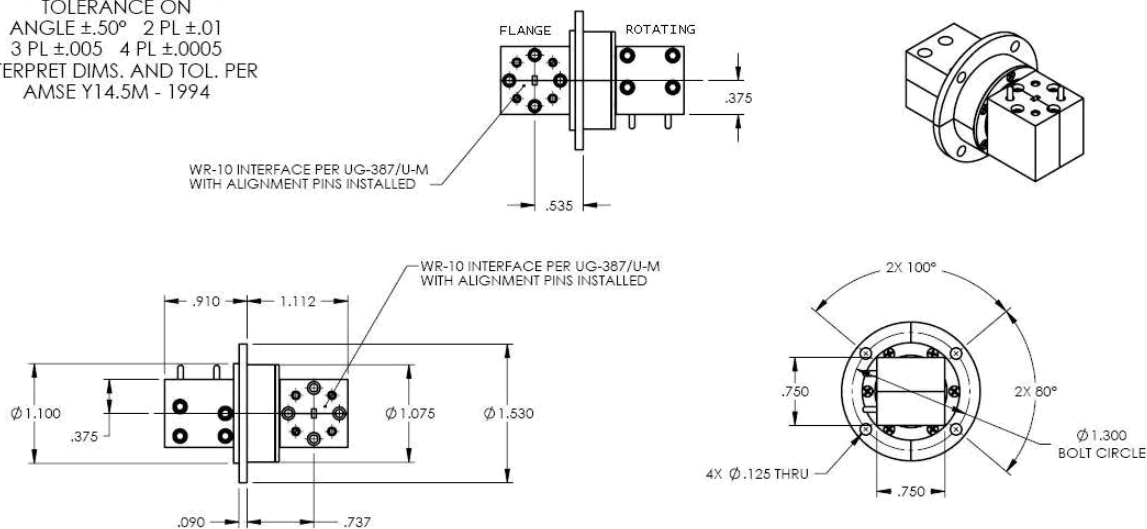


Typical
Insertion Loss –
WRJ-12-RERS0

(WR-12 Model)

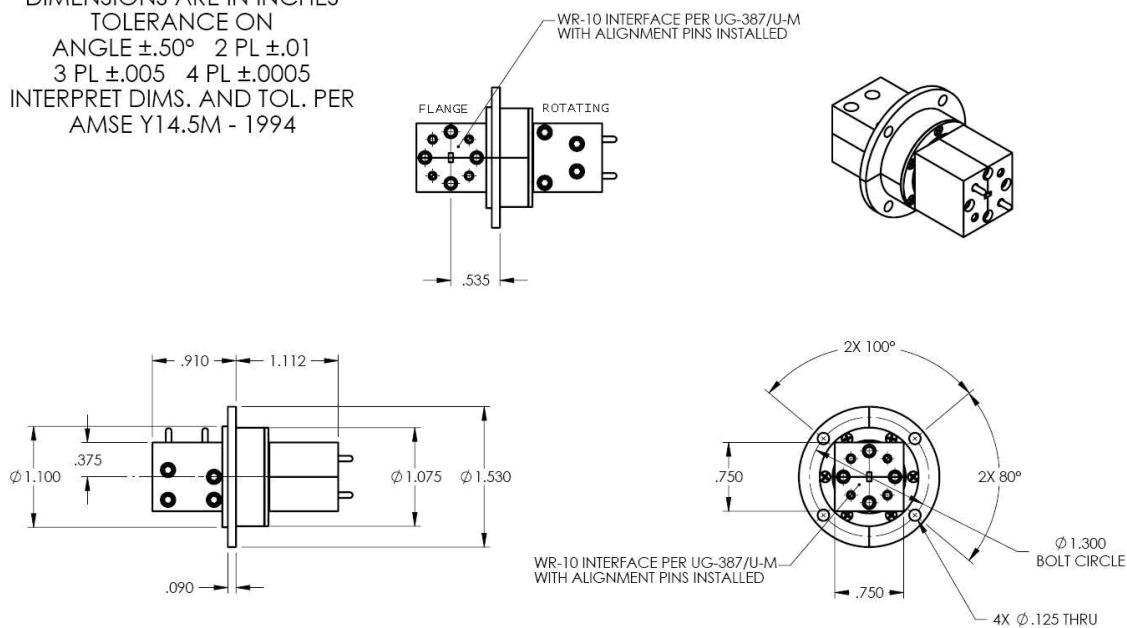
OUTLINE DRAWINGS:

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCE ON
ANGLE $\pm .50^\circ$ 2 PL $\pm .01$
3 PL $\pm .005$ 4 PL $\pm .0005$
INTERPRET DIMS. AND TOL. PER
AMSE Y14.5M - 1994



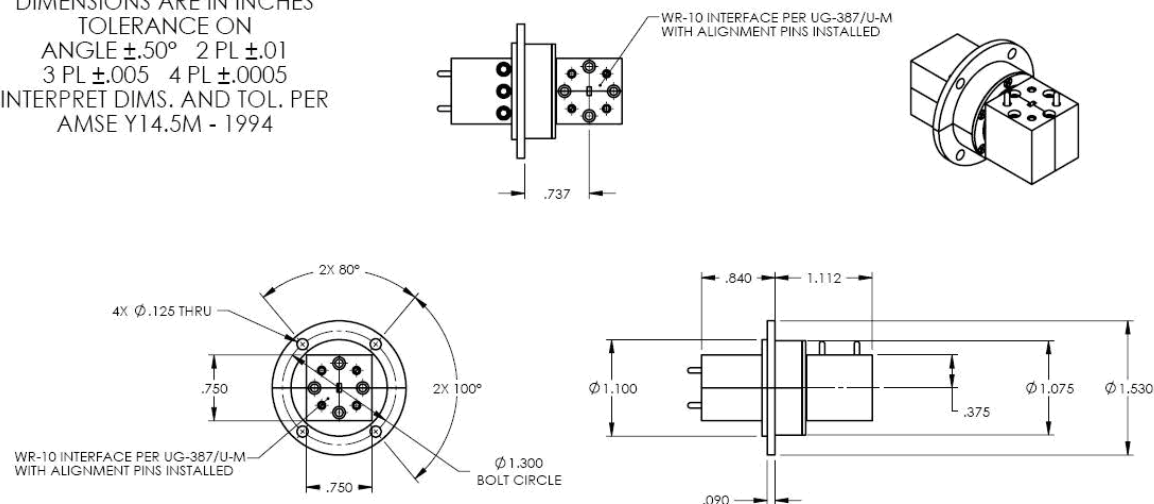
RIGHT ANGLE/RIGHT ANGLE

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCE ON
ANGLE $\pm .50^\circ$ 2 PL $\pm .01$
3 PL $\pm .005$ 4 PL $\pm .0005$
INTERPRET DIMS. AND TOL. PER
AMSE Y14.5M - 1994



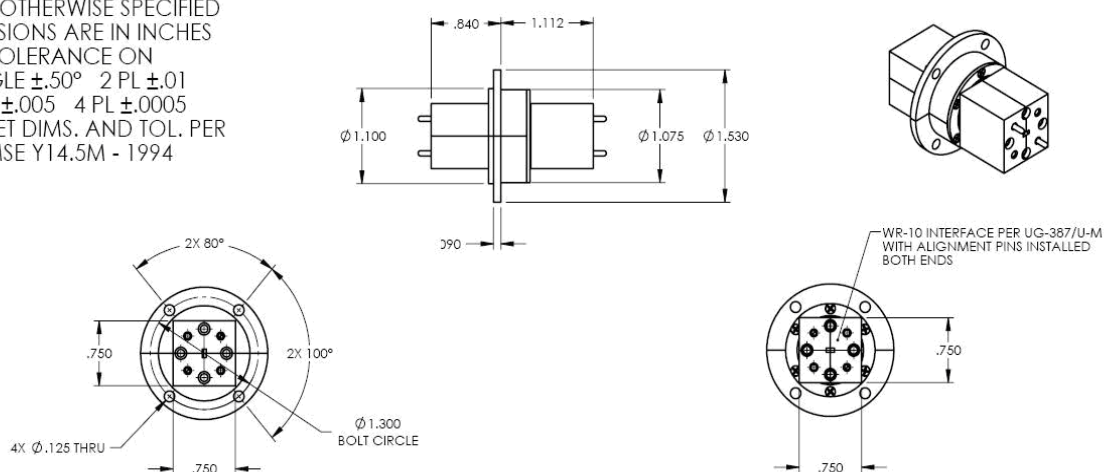
RIGHT ANGLE/STRAIGHT

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCE ON
ANGLE $\pm .50^\circ$ 2 PL $\pm .01$
3 PL $\pm .005$ 4 PL $\pm .0005$
INTERPRET DIMS. AND TOL. PER
AMSE Y14.5M - 1994



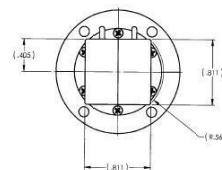
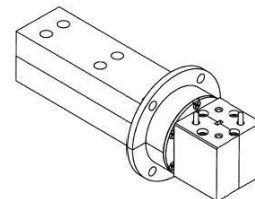
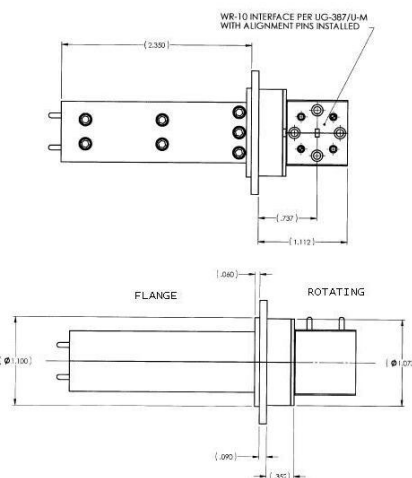
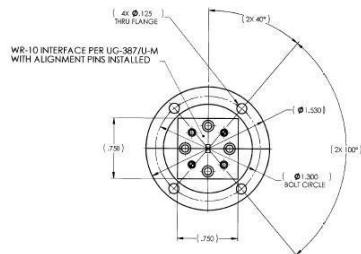
STRAIGHT/RIGHT ANGLE

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCE ON
ANGLE $\pm .50^\circ$ 2 PL $\pm .01$
3 PL $\pm .005$ 4 PL $\pm .0005$
INTERPRET DIMS. AND TOL. PER
AMSE Y14.5M - 1994

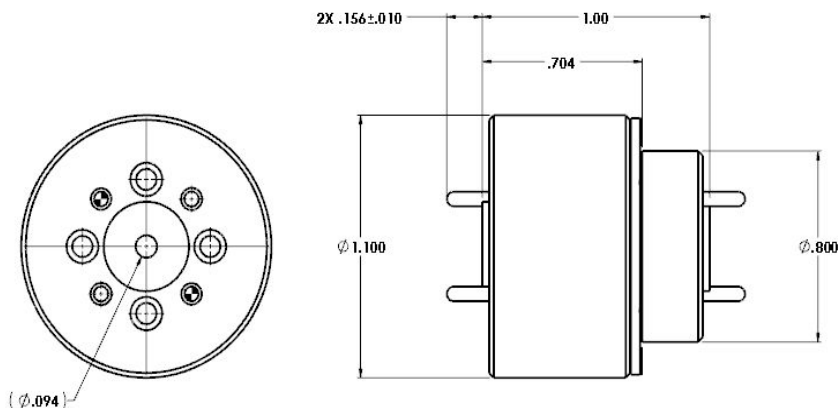


STRAIGHT/STRAIGHT

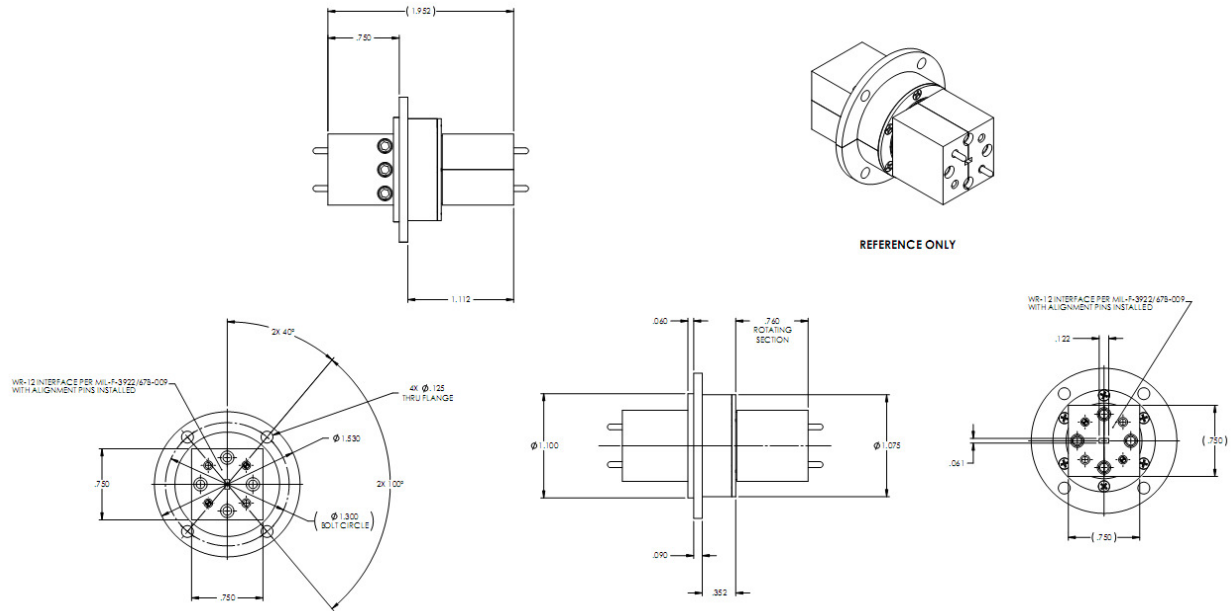
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCE ON
ANGLE $\pm .50^\circ$ 2 PL $\pm .01$
3 PL $\pm .005$ 4 PL $\pm .0005$
INTERPRET DIMS. AND TOL. PER
AMSE Y14.5M - 1994



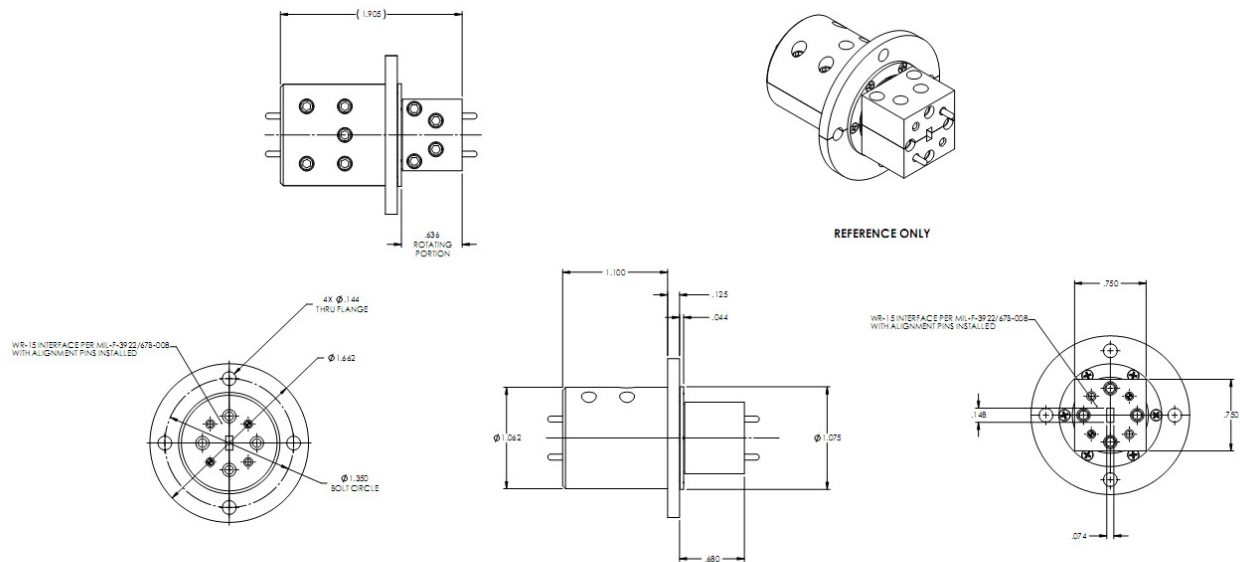
Extended/Right Angle



0.094 Circular



WR-12 straight/straight



WR-15 straight/straight

How To ORDER

| Specify Model Number WRJ-XX-RARB0 |
|--|
| XX = Waveguide Size 15 – WR-15 12 – WR-12 10 – WR-10 |
| A = Flange Side Transition Type ⁽¹⁾ E – end (straight) S – side (right angle) X – extension (straight) C – circular waveguide (only available as WRJ-10-RCRC0) |
| B = Rotating Side Transition Type ⁽¹⁾ E – end (straight) S – side (right angle) C – circular waveguide (only available as WRJ-10-RCRC0) |

(1) WR-15 and WR-12 models currently available only with straight flange transitions. Contact Millitech for alternate versions.