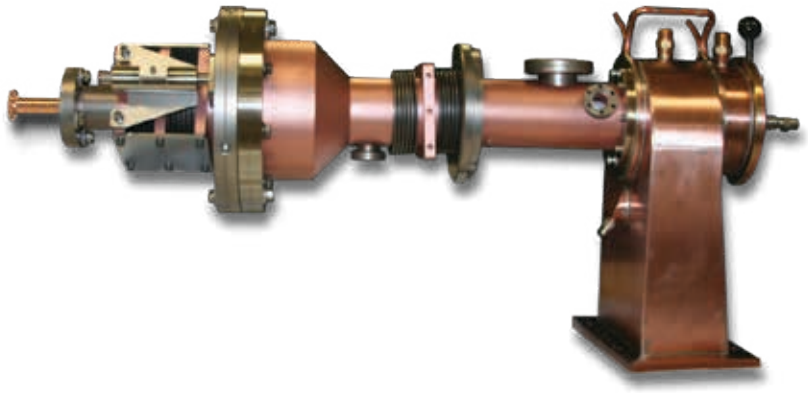
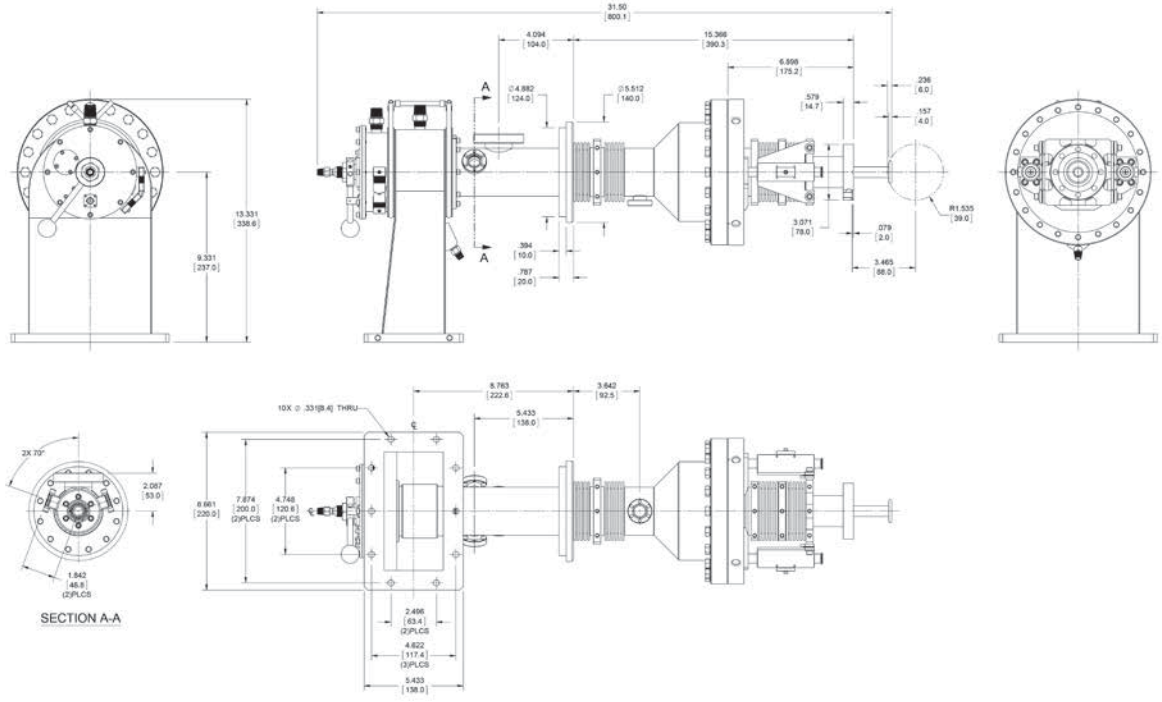
Communications & Power Industries Power Coupler Product Specification



The VWP3113 Fundamental Power Coupler was designed for the University of Beijing. The coupler design is based on a Cornell Power Coupler, with modified coupling, and a 40mm coax diameter. The design utilizes TiN coated multipactor suppression on the Windows, and high RRR copper plating for low RF loss.

FEATURES:
- 55 kW CW
- Air and water cooled
- Waveguide input
- Adjustable coupling
- Double window design
- Inner conductor may be biased



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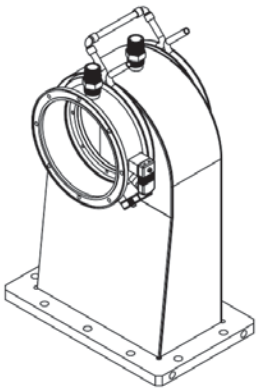
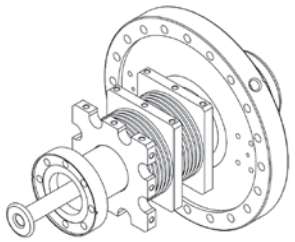
Electrical Parameters

Operating frequency	1.3 GHz
Maximum CW power:	55 kW CW (Design limit) with matched load Tested to 25 kW (CW)
VSWR	≤ 1.15 (Design Value)
Static heat load (2k)	≤ 1 W (Design Value)
Dynamic heat load (2k)	≤ 1 W (Design Value)
Static heat load (80k)	≤ 10 W (Design Value)
Dynamic heat load (80k)	≤ 70 W (Design Value)
Installation transverse offset	> 10 mm
Axial offset	>5 mm
Vacuum leak rate	< 10^{-10} mbar.L/s
External qualify factor	$8x10^5$ to $5x10^6$ variable adjustable
Cold assembly sealing type	TTF-III style aluminum Hex seal 1.752" diameter
Cold assembly outer conductor diameter	40 mm
Water cooling	Waveguide adaptor cooled with filtered water
Air cooling	Warm window cooled at waveguide adaptor and in inner conductor

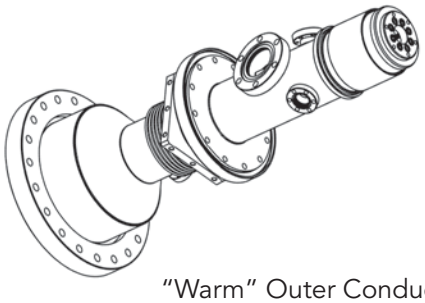
Product can be cleaned in CPI's class 10 clean room after fabrication for an additional charge. If the product is not cleaned in CPI's class 10 clean room, it will need to be done by the customer before the product is conditioned.



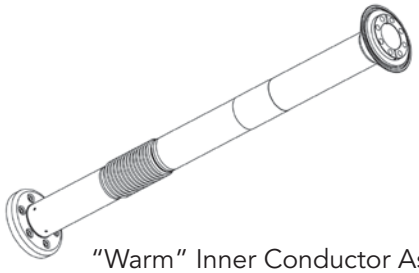
Waveguide Transition Assembly



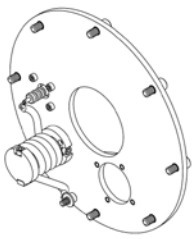
"Cold" Assembly



"Warm" Outer Conductor Assembly



"Warm" Inner Conductor Assembly

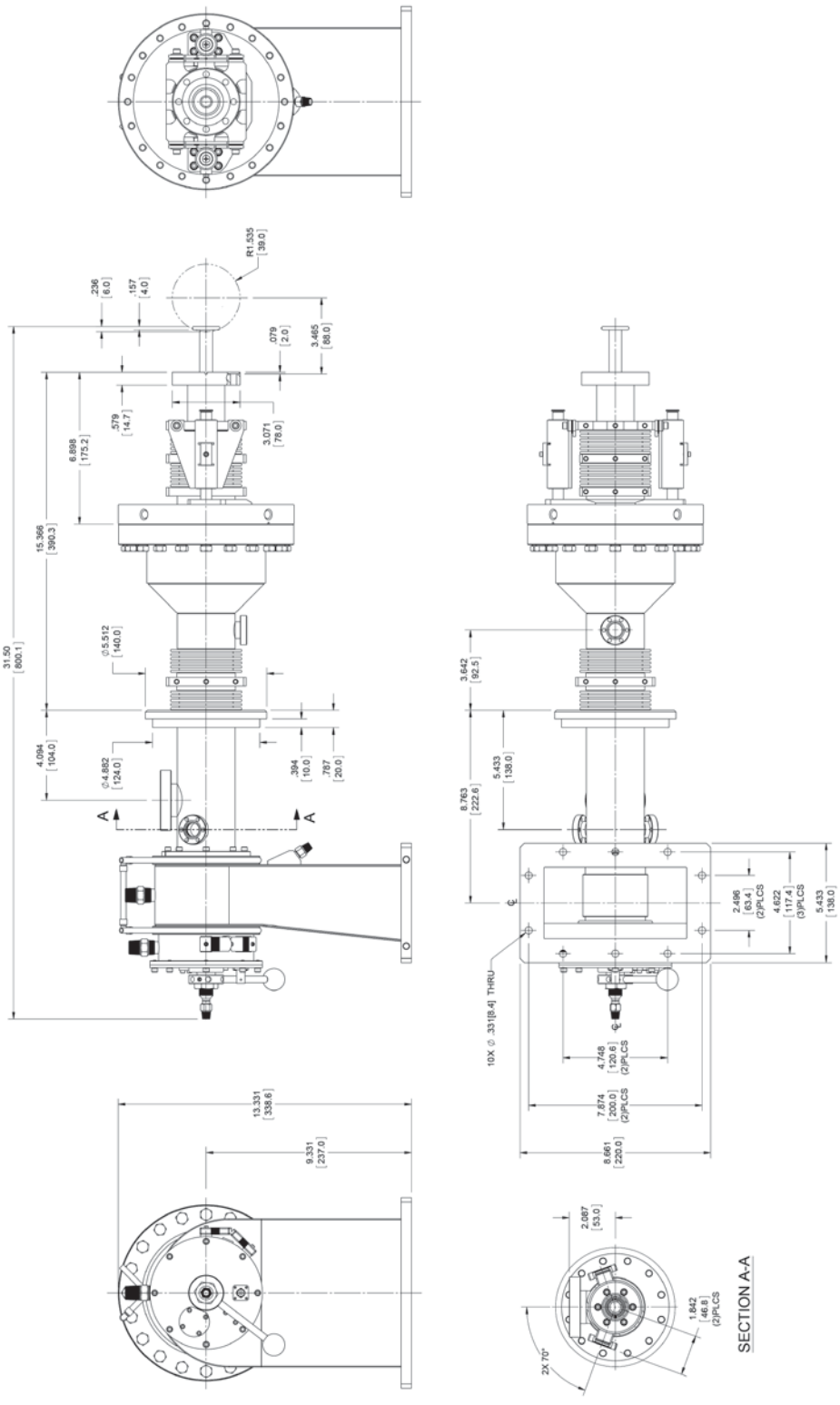


Biasing Assembly

Capacitor Assembly

Note: Product is supplied with a full set of Conflat gaskets RF contact gaskets, coated nuts and bolts, and thermocouples.

CPI 55 kW CW Power Coupler outline drawing: VWP3113



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