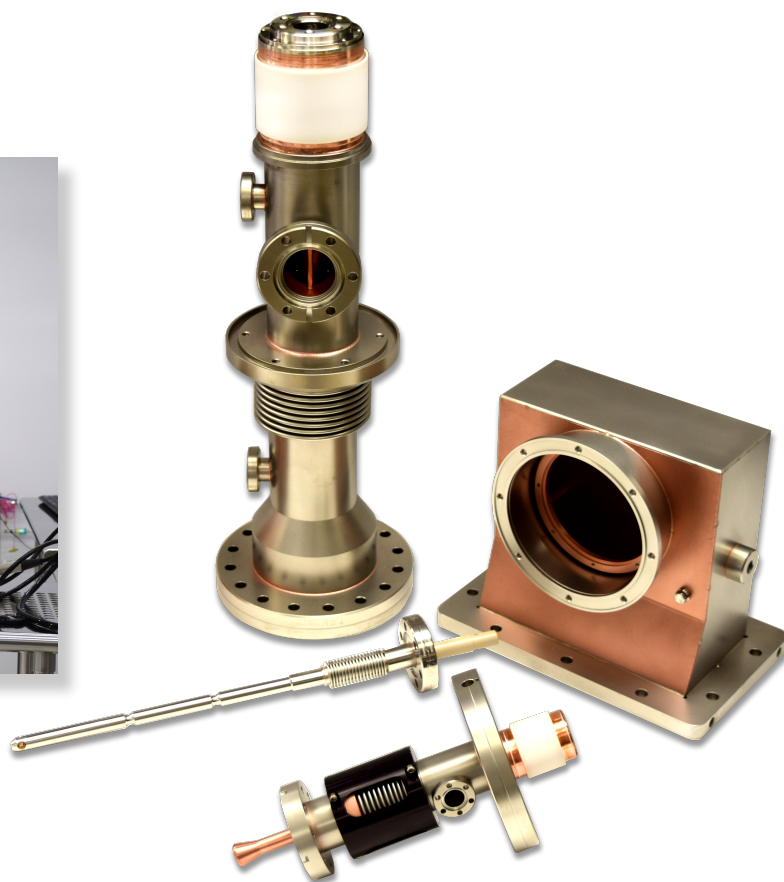


## CPI Electron Device Business - Power Coupler Product Specification



The VWP3126 Fundamental Power Coupler is also known as the XFEL Power Coupler. The VWP3126 Power Coupler utilizes two ceramic cylinders to provide the vacuum interface. The ceramics are coated with titanium nitride to suppress multipactor. RF-conducting surfaces are electroplated with high-RRR copper. The VWP3126 is primarily a brazed and electron-beam welded assembly. The VWP3126 is cleaned and assembled in CPI EDB's class 10 (ISO 4) clean room to XFEL standards before being conditioned at LAL in Orsay, France, assembled onto cryomodules at CEA Saclay, and incorporated into the XFEL accelerator at DESY, in Hamburg, Germany.

### FEATURES:

- Frequency: 1300 MHz
- Peak power: 1110 kW
- Average power: 7.2 kW
- Cooling: Air

### BENEFITS:

- Design is proven in the XFEL accelerator
- Full class 10 (ISO-4) cleaning and assembly at CPI

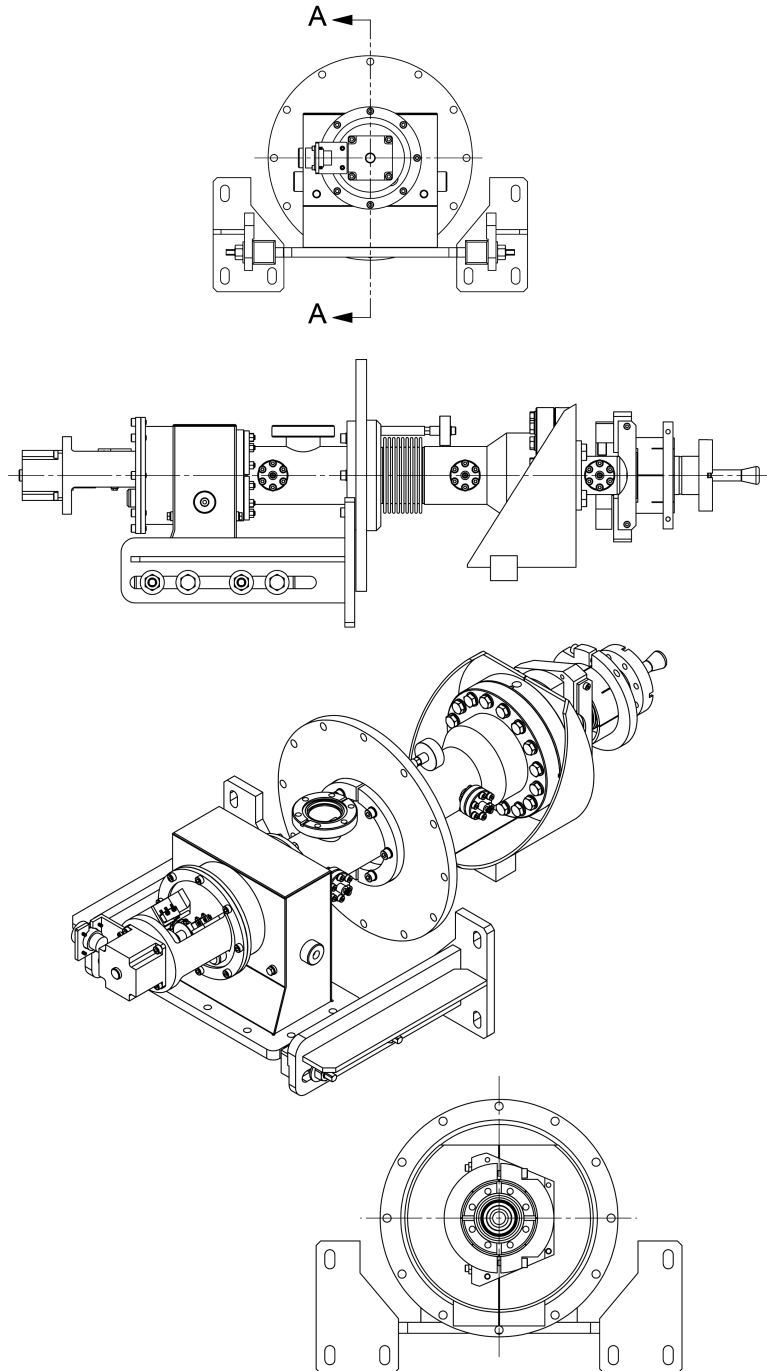
### APPLICATIONS:

- XFEL superconducting linear accelerator

# CPI EDB 1110 kW CW Power Coupler product specification: VWP3126

## 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 <sup>-10</sup> mbar.L /s
External qualify factor	8x10 <sup>5</sup> to 5x10 <sup>6</sup> 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
Aircooling	Warm window cooled at waveguide adaptor and in inner conductor



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



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For more detailed information, please refer to the corresponding CPI EDB technical description if one has been published, or contact CPI EDB. Specifications may change without notice as a result of additional data or product refinement. Please contact CPI EDB before using this information for system design.

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