

Coaxial Launch Adapter, CPR284

GERLING

Model GA2506

The Coaxial Launch Adapter ("CLA") is a versatile device designed to deliver high power microwave energy into a variety of single- or multi-mode cavities for industrial heating applications. The main feature of the CLA is an adjustable center conductor that enables impedance matching under high power operation without the need for an external waveguide tuner. Additional features provide for coupling microwave power directly into pressure vessels, vacuum chambers and high temperature furnaces.

The unique advantage of the CLA is that impedance matching is accomplished directly within the microwave cavity by varying the insertion depth of the center conductor antenna. The antenna can be fabricated using any electrically conductive solid material that is compatible with the heating process. Typical materials include aluminum, brass, copper and stainless steel. For extreme temperature applications, a graphite antenna in conjunction with the optional water cooled center conductor may be suitable.

For pressure or vacuum applications, impedance matching by antenna adjustment is far superior to using an external waveguide tuner. Traditional methods place a waveguide window within the zone of resonance between the cavity and tuner, thereby subjecting the window sealing elements to potentially extreme electric fields and eventual failure due to microwave coupling. To solve this problem, the CLA is available with optional pressure/vacuum seals that are located outside of the zone of resonance, thus greatly reducing or eliminating seal failure due to microwave coupling (*).

Construction materials of the CLA are copper for the center conductor and aluminum for the outer conductor and waveguide. Custom mounting flanges are available for mounting the CLA to standard vacuum flanges.

NOTE: The antenna is ordered separately from the CLA or may be supplied by the customer. Standard and custom designs are available.

General Specifications:

Operating Frequency	2450 MHz +/- 20 MHz
Input Power	6 kW continuous maximum (water cooling recommended above 3 kW)
Input Waveguide	WR284, heavy wall
Input Flange	CPR284F (UG-1725/U)
Antenna Adjustment	1.07 inches (27 mm) travel maximum
Cooling Water Connections	¼ NPT female
Pressure	30 psig (207 kPa) maximum
Vacuum	1 x 10 ⁻⁵ Torr minimum
Microwave Leakage	1 mW/cm ² measured at 5 cm (maximum)
Materials	Waveguide and outer components: Aluminum Antenna mount, Center Conductor, Water connections: Copper Adjustment Collar: Brass Center Conductor Bearing: Alumina O-ring Seals: Viton (static seals); Buna-N (reciprocating seals)
Finish	Aluminum components: Clear chemical conversion coating Copper components: Nickel plate



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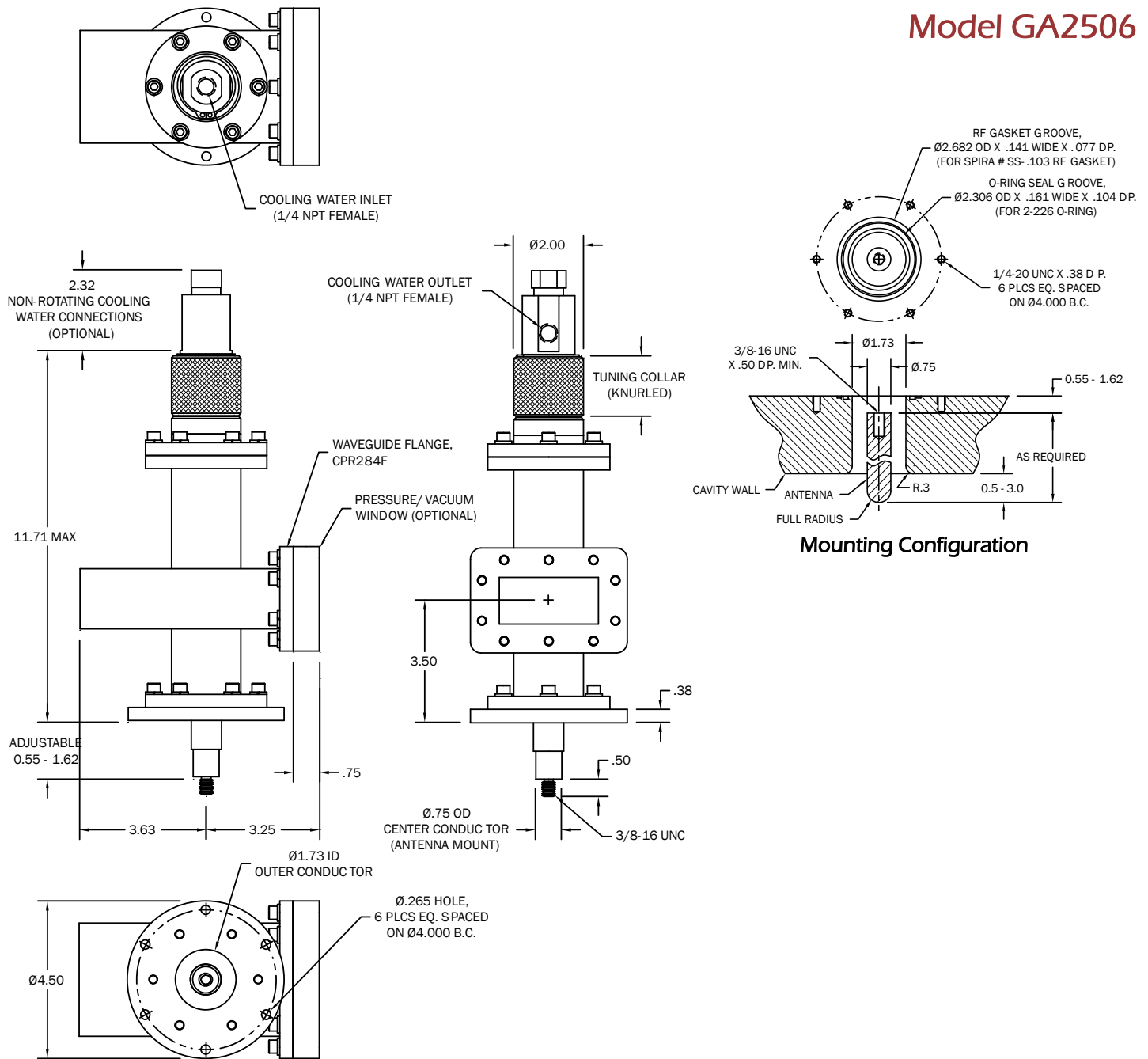
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All dimensions are in inches [millimeters].

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Ordering Information

Description

Coaxial Launch Adapter, Basic Configuration (without water cooling or seals)
 Coaxial Launch Adapter, with Water Cooled Center Conductor
 Coaxial Launch Adapter, with Pressure/Vacuum Seals
 Coaxial Launch Adapter, with Water Cooling and Pressure/Vacuum Seals
 Antenna, Aluminum (-X.XX = overall length in inches)
 Vacuum Chamber Mounting Flange, 6 Inch CF (ConFlat), with Seals

Model/Part Number

GA2506
 GA2506-1
 GA2506-2
 GA2506-3
 913837-X.XX
 913738



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