

# IMS 2, 3 & 6 kW 2,450 MHz CYLINDRICAL HEATING SYSTEMS

## SYSTEM SPECIFICATIONS:

### Microwave Heater Package

Designed to heat up to 0.75 GPM (3 LPM) pumpable aqueous type product from 35°F to 302°F at 75 psig (2°C to 150°C at 5 barg) maximum system pressure. Depending on the physical properties of the fluid and required heating range, the heating time is typically less than one second.

At a flow rate of 0.25 GPM (1 LPM), the maximum temperature rise for an aqueous fluid is given below:

Power Output:	Maximum Temperature Rise
2 kW	51.5°F (28.6°C)
3 kW	77.2°F (42.9°C)
6 kW	154.4°F (85.8°C)

**Cylindrical Heating Applicator** is fabricated in aluminum. Stainless steel is available as an option.

**Product Heating Tube**, located in the Cylindrical Heating Applicator, is 0.25" (6 mm) ID food grade Alumina Silica with ½" Tri-Clamp ferrules. A 0.375" (9mm) ID tube of Fluoroethylene polymer with ½" Tri-Clamp ferrules is available for low pressure processes.

**Aluminum wave guide** coupled to the 3 and 6 kW generators includes a water-cooled circulator and water load, manual three-stub micrometer tuner, and coupler to measure forward and reverse power using a customer provided power meter. The 2 kW generator is air-cooled.

### Power Supply Unit (PSU)

Fan cooled switch mode type suitable for operating range 32° to 104°F (0° to 40°C)

### Microwave Generator

Variable Output: 0 to 2, 3 or 6 kW maximum output, depending on 2,450 MHz generator size selected, using power from PSU. Supplied with 3/8" Swagelock fittings and internal flow detector switch, the 3 and 6 kW units are supplied with 1" NPT inlet and outlet connections for cooling water. A remote 0 to 10 VDC signal varies the output power supply using a potentiometer located on the face of the manual control pendant.

### Maximum Dimensions and Weights for 6 kW Option:

#### Microwave Heater Package

12.30 inches (312 mm) wide X 32.60 inches (828 mm) deep X 37.90 inches (963 mm) high

**Power Supply Unit**

10.5 inches (267 mm) wide X 19.00 inches (483 mm) deep X 19.00 inches (483 mm) high

**Generator**

8.00 inches (203 mm) wide X 12.00 inches (305 mm) deep X 14.50 inches (368 mm) high

**Generator**

45 lbs (21 kgs)

**Power Supply Unit**

75 lbs (34 kgs)

**Heater Package**

33 lbs (15 kgs)

**UTILITY SPECIFICATIONS:**

**Cooling Requirements:**

2 kW Generator; No cooling water required as unit is air-cooled.

3 kW Generator: 0.9 GPM water at 77° ± 9°F and 70 psig maximum pressure (3.5 LPM 25° ± 5°C and 5 barg maximum pressure).

6 kW Generator 1.8 GPM water at 77° ± 9°F and 70 psig maximum pressure (7.0 LPM 25° ± 5°C and 5 barg maximum pressure).

Water to be at neutral pH with 50 micron maximum particle size.

**Electrical Requirements for Generator and Power Supply Unit:**

208 +/- 10% VAC, 3 Phase, 60 Hertz or

405 +/- 10% VAC, 3 Phase, 50 Hertz.

Maximum Generator Output, kW	Maximum Current, Amps
2	10
3	15
6	30

**SHIPPING AND HANDLING:**

The unit is shipped in three modular pieces. The Generator is free standing but the PSU may be rack mounted.

The Heater Package may require an additional mechanical support depending on customer supplied installation of piping to and from the product heating tube.