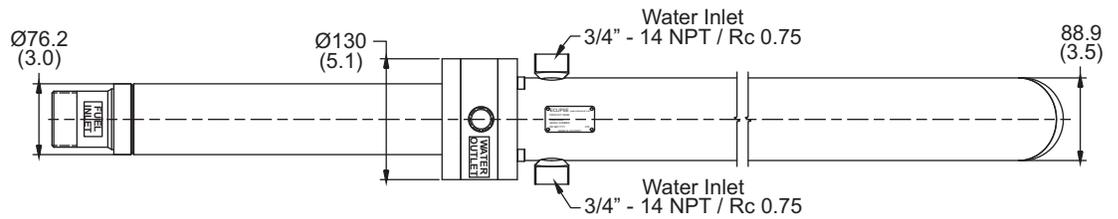
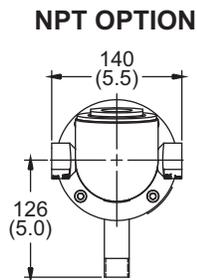
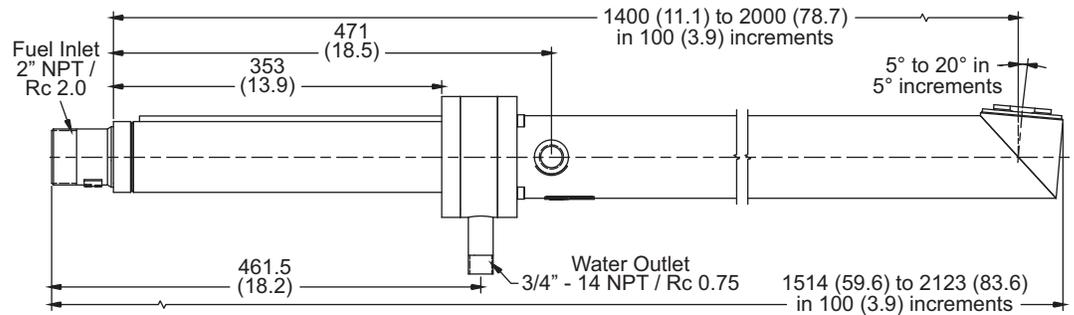
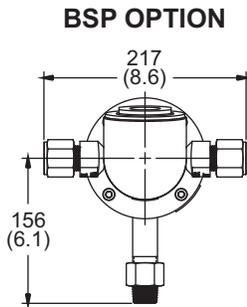


# Eclipse WTPUG Throughport Gas Burners

Version 2

## 3.5" (88.9 mm) Diameter Water Jacket Dimensions in mm (inches)



Parameter	Specification
<b>Burner Capacity, scfh (Nm<sup>3</sup>/h)</b>	15,216 (400) maximum
<b>Gas Pressure, psi (mbar)</b>	3.6 (250) minimum
<b>Burner Length*, inches (mm)</b>	55 to 79 (1400 to 2000)
<b>Burner Diameter, inches (mm)</b>	3.5 (89)
<b>Cooling Water Flow, US gal/min (L/min)</b>	11.9 (45)
<b>Cooling Water Pressure Drop, psi (bar)</b>	9.4 (0.65)
<b>Cooling Water Outlet Temperature, °F (°C)</b>	140 (60) maximum
<b>Cooling Water Temperature Rise, °F (°C)</b>	36 (20) maximum
<b>Water Condition</b>	< 30 ppm hardness < 1 ppm dissolved oxygen pH between 7.5 and 8.5
<b>Nozzle Bore Diameters available, inches (mm)</b>	0.79 (20.0)
	0.89 (22.5)
	0.98 (25.0)
	1.08 (27.5)
	1.18 (30.0)
	1.28 (32.5)
	1.38 (35.0)
	1.48 (37.5)
	1.58 (40.0)
	1.67 (42.5)
1.77 (45.0)	

\*4 inch (100 mm) increments.

- Standard conditions: 1 atmosphere, 70°F (21°C)
- Normal conditions: 1 atmosphere, 32°F (0°C)
- Eclipse reserves the right to change the construction and/or configuration of our products at any time without being obliged to adjust earlier supplies accordingly.

## Nozzle Selection Guide

The nozzle bore diameter for the WTPUG throughport gas burner is selected based on the desired velocity of gas calculated from the required flow rate of each burner. Typical velocities are 60 m/s (197 ft/s), 90 m/s (295 ft/s), and 120 m/s (394 ft/s). Lower velocities result in longer flames.

The following equation is used to determine the required nozzle diameter size based on the flow rate of natural gas through the burner and the desired natural gas velocity.

$$\text{Nozzle Diameter (mm)} = \sqrt{\frac{\text{Flow (Nm}^3\text{/h)}}{\text{Velocity (m/s)}}} \times 18.8$$

$$\text{Nozzle Diameter (inches)} = \sqrt{\frac{\text{Flow (SCFH)}}{\text{Velocity (ft/s)}}} \times 0.226$$

This will produce the ideal diameter of the nozzle. Select the nozzle with a bore diameter that is closest to the calculated ideal diameter for the selected water jacket diameter found in the table above.

