

PrimeFire Forehearth Burners

DATA SHEET

Edition 06.19
Version 1



Figure 1. Straight Nozzle



Figure 2. Tapered Nozzle

Application and Construction

Eclipse, Inc. manufactures nozzles that can be utilized on most standard forehearth burners that use premixed combustion air and gas. Straight and divergent type nozzles are available, see Figures 1 and 2. The nozzles are typically made of type 304 stainless steel, which is good for approximately 1500°F (816°C) under continuous operation without excessive scaling. Other materials are available as options. Typical operating pressures at the nozzle are 8 - 112" w.c. (20 - 279 mbar).

For additional information contact your Eclipse representative. At high temperatures, intergranular attack is one of the main sources for corrosion, especially with the presence of sulphur. Type 446 stainless steel offers best resistance to intergranular attack. The Type 316 stainless steel offers less resistance to intergranular attack, but it is a lot better than Type 304 stainless steel.

If the presence of sulphur or other aggressive agents (i.e. chloride) is not predominate, then Type 316 stainless steel would be adequate for application.

Special quote is requested for 446 S/S for 5/8" (15.875 mm) diameter, due to material availability and higher cost.

Cr = Chromium
Ni = Nickel
Mo = Molybdenum

Model No. Designation

01N	-	S	-	CT	-	250	-	304	-	S
1		2		3		4		5		6

- 1) Index Number - Nozzles
- 2) Style: S - Straight
T - Tapered
O - Other
- 3) CT - CTI Manufacturer
- 4) Hole Diameter or Throat Diameter in 1/1000" (mm),
i.e. 1/4" = 250
- 5) Type of Stainless Steel, i.e. 304, 310, 316, etc.
- 6) Blank - Standard
S - Special

NOTICE

Combustion equipment can be dangerous to personnel and property if incorrectly installed or operated. Eclipse urges customers to comply with Insurance Underwriters recommendations, National Safety Standards, and to exercise proper care and maintenance in the use of combustion equipment, limit controls and other safety devices.

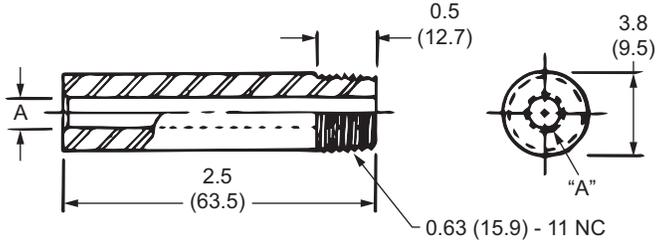


Figure 3. Drawing #1 Straight Nozzle

Table 1 - Nozzle Bore Dimensions (Common Sizes)	
Bore Size	Drill Size
0.187" (4.750 mm)	3/16" (4.76 mm)
0.213" (5.410 mm)	#3
0.218" (5.537 mm)	7/32" (5.56 mm)
0.250" (6.350 mm)	1/4" (6.35 mm)
0.281" (7.137 mm)	9/32" (7.14 mm)
0.312" (7.925 mm)	5/16" (7.94mm)
0.343" (8.712 mm)	11/32" (8.73 mm)
0.375" (9.525 mm)	11/32" (8.73 mm)

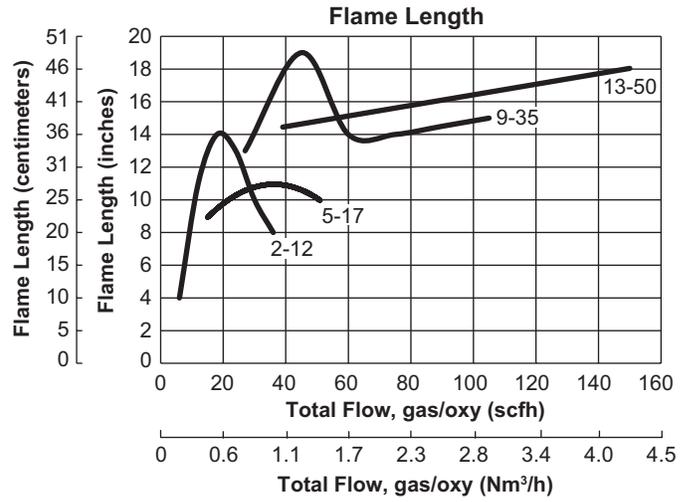


Figure 5. Flame Length

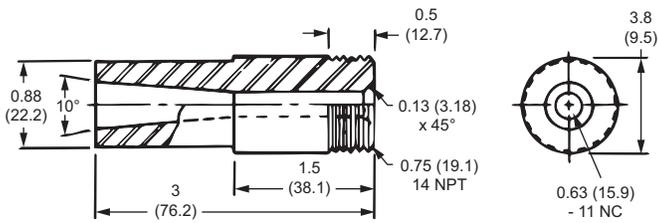


Figure 4. Drawing #2 Tapered Nozzle

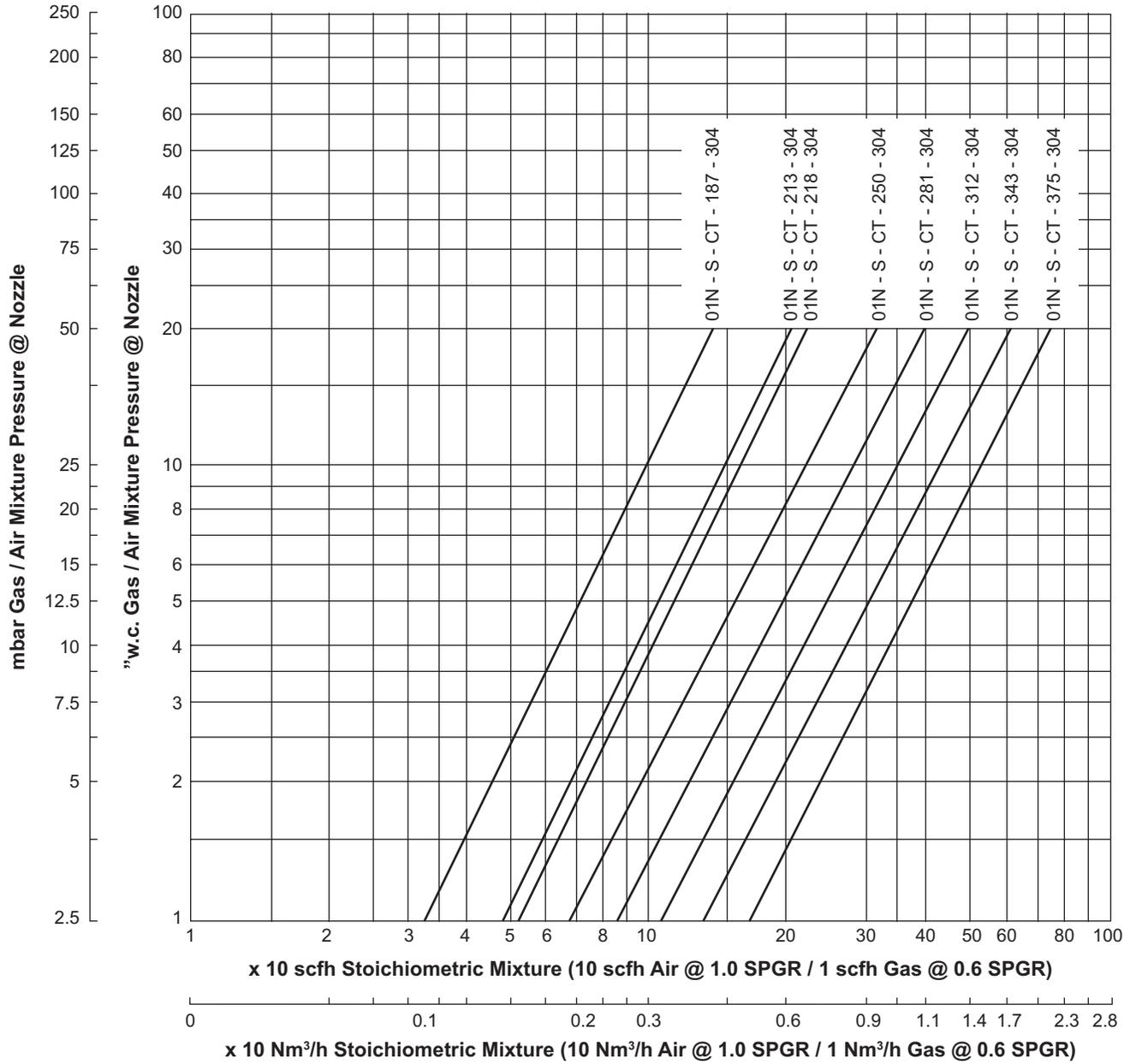


Figure 5. Nozzle Flow Curves

Below find listed some data referencing the type of material to be chosen:

Table 2

Type:	304 S/S	310 S/S	316 S/S	446 S/S
Composition:	19% Cr 10% Ni	25% Cr 20% Ni	1% Cr 12% Ni 2.59 Mo	25% Cr 0% Ni
Heat Resistance: Continuous °F Continuous °C	1700 927	2050 1121	1700 927	1900 1038
Scaling Temperature: Intermediant °F Intermediant °C	1550 843	1900 1038	1550 843	2050 1121
Corrosion Resistance: i.e. (oxidizing)	Good	Better	Best	Better
For Reducing Atmosphere: i.e. (sulphur attack)	Good	Good	Better	Best

For More Information

The Honeywell Thermal Solutions family of products includes Honeywell Combustion Safety, Eclipse, Exothermics, Hauck, Kromschröder and Maxon. To learn more about our products, visit ThermalSolutions.honeywell.com or contact your Honeywell Sales Engineer.

Honeywell Process Solutions

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