

# 623 SERIES

# Assist Gas Supply

## 623 SERIES DELIVERY SYSTEM



The 623 Series is an ultra high flow gas delivery system for laser assist gases. Typically these gases are supplied from low pressure (less than 600 PSIG/42 BAR) cryogenic supply systems. The 623 is designed for direct installation to the external vaporizer. The dome-loaded, balanced stem seat design allows for full flow capacity that may be required for the assist or process gases, and ensures constant delivery flow and pressure regardless of supply source inlet pressure fluctuations.

### Advanced Features

<b>UP TO 4500 PSIG (310 BAR)</b>	Liquid or high pressure use
<b>HIGH FLOW DELIVERY REGULATOR</b>	ISOFLOW™ seat design
<b>40-MICRON INTERNAL FILTER</b>	Limits possibility of gas contamination
<b>VARIABLE LINE PRESSURE</b>	Line pressure adjustable on site
<b>WALL MOUNTING BRACKET</b>	Easy Installation
<b>RIGHT AND LEFT HAND INLETS AVAILABLE</b>	Flexible installation options
<b>0-500 PSIG (0-35 BAR)</b>	Lower static loss yields better performance for cryogenic applications

6235002-01-000 shown

### Applications

#### Assist Gases from Cryogenic Supply

Nitrogen and Oxygen  
(Use low inlet models for MVE Laser-Cyl™, TW™ VHP liquid cylinder, MVE Trfecta™, CTR Laser Maid™, and TW™ Laser Pak Systems)

#### Assist Gas Delivery from High Pressure Supply

Air  
Nitrogen  
Oxygen

#### Metal Fabrication On-Site Mixing Systems

Argon  
Carbon Dioxide  
Helium  
Nitrogen  
Oxygen

### Materials

#### Delivery Regulator

Brass barstock body and bonnet  
PTFE seat\* or PCTFE seat†  
PTFE and Viton® (internal)

#### Pilot Regulator

Brass barstock body and bonnet  
PTFE seat\* or PCTFE seat†  
PTFE and Viton® (internal)

#### Tubeing and Tube Fittings

316L stainless steel

#### Pressure Gauges (PSIG/BAR Dual Scale)

Brass (socket)  
Bronze (bourdon tube)  
Brass (case)

\*3000 PSIG (208 BAR)

†4500 PSIG (310 BAR)

### Specifications

**Maximum Inlet Pressure**  
4500 PSIG (310 BAR)

**Temperature Range**  
-40 to 140°F (-40 to 60°C)

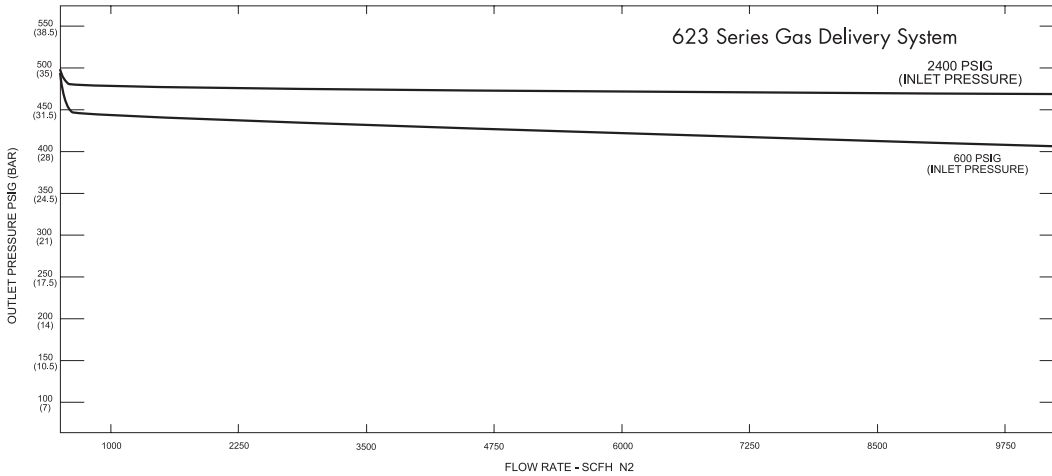
**Maximum Flow (Nitrogen)**  
10,000 SCFH (4700 lpm)

**Inlet Connections**  
½" FPT

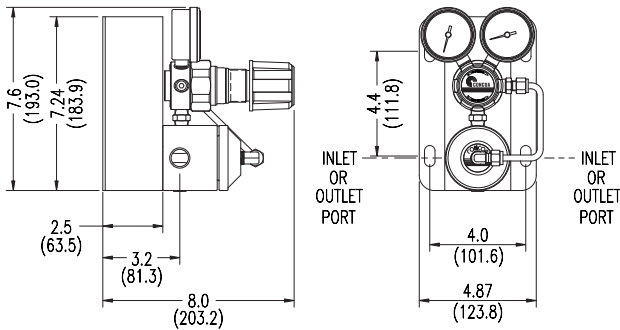
**Outlet Connections**  
½" MPT

**Weight**  
12.6 lbs. (5.7 kg)

### Flow Performance Curves



### Installation Dimensions



### Ordering Information

623	A	B	C	D
<b>Series 623</b>	<b>Outlet Pressure</b>	<b>Inlet Connection</b>	<b>Outlet Connection</b>	<b>Assembly Orientation/ Maximum Inlet Pressure</b>
	2: 0-2000 PSIG (0-136 BAR)	0: 1/2" FPT port	0: 1/2" FPT Port	0: Right hand inlet 600 PSIG (42 BAR)
	5: 0-500 PSIG (0-35 BAR)	1: 1/2" stainless steel compression tube	1: 1/2" stainless steel compression tube	1: Left hand inlet 600 PSIG (42 BAR)
	7: 0-725 PSIG (0-50 BAR)	2: Master Valve with 1/2" FPT	2: Diaphragm valve with 1/2" FPT	2: Right hand inlet 3000 PSIG (210 BAR)
		3: Master Valve with 1/2" Tube	3: Diaphragm valve with 1/2" tube	3: Left hand inlet 3000 PSIG (210 BAR)
		4: 36" (900mm) hose	4: 3/8"-37° JIC male flare	4: Right hand inlet 4500 PSIG (310 BAR)
		5: Master Valve with 36" (900mm) hose		5: Left hand inlet 4500 PSIG (310 BAR)
		6: 72" (1800mm) hose		A: Right hand inlet 600 PSIG (42 BAR)*
		7: Master Valve with 72" (1800mm) hose		B: Left hand inlet 600 PSIG (42 BAR)*
		8: Manifold connector		C: Right hand inlet 3000 PSIG (210 BAR)*
		9: Manifold connector with Master Valve		D: Left hand inlet 3000 PSIG (210 BAR)*
				*Includes Neoprene seat suitable for Carbon Dioxide and Nitrous Oxide service.

### Related Options

Option	Series	Description
Cryogenic liquid hoses	See page 55	Supply liquid gas to vaporizers
Tube trailer hoses	See page 53	Connection from high pressure tube trailer to gas delivery systems