



623 Series Delivery System

The 623 Series is an Ultra High Flow gas delivery system for laser purity gases. Typically these gases are supplied from low pressure (less than 600 PSIG/042 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

- **Up to 4,500 PSIG Inlet Available**
Liquid or high pressure use
- **High Flow Delivery Regulator**
ISOFLOW™ seat design
- **40-Micron Internal Filter**
Limits possibility of gas contamination
- **Variable Line Pressure**
Line pressure adjustable on site
- **Wall Mounting Bracket**
Easy installation
- **Right and Left Hand Inlets Available**
Flexible installation options
- **0-500 PSIG Model**
Lower static loss yields better performance for cryogenic applications



623-5002 shown

Applications

Assist Gases from Cryogenic Supply

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

**Requires optional external ambient air vaporizers for maximum flow capacity.*

Assist Gases from High Pressure Supply

Nitrogen and Oxygen
(Use high inlet models with "Gas Paks", cradles, and tube trailers)
Carbon Dioxide
(Neoprene seat required)

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)

Tube and Tube Fittings

316L stainless steel

Pressure Gauges (PSIG/BAR Dual Scale)

Brass (Socket)
Bronze (Bourdon tube)
Brass (Case)

Specifications

Maximum Inlet Pressure

600 PSIG (42 BAR),
3,000 PSIG (210 BAR)
4,500 PSIG (310 BAR)

Temperature Range

-40 to 140°F (-40 to 60°C)

Maximum Flow (Nitrogen)

10,000 SCFH (4700 lpm)

Inlet Connection

½" FPT

Outlet Connection

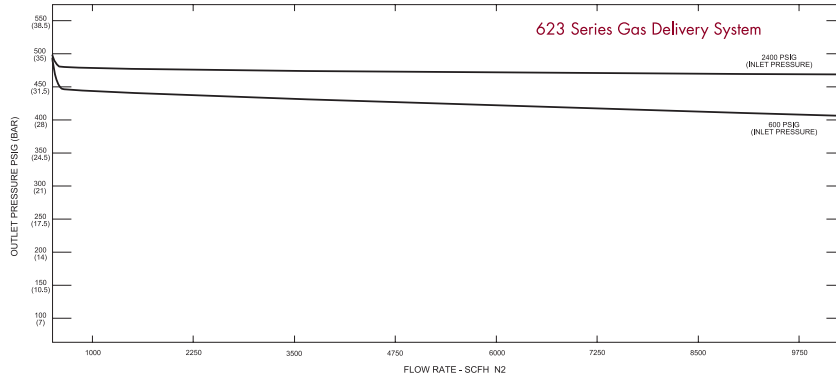
½" FPT

Weight

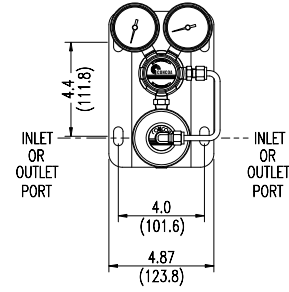
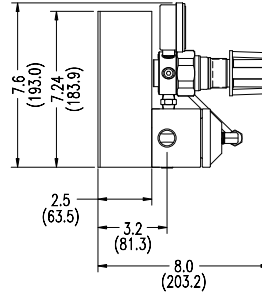
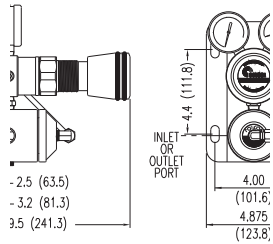
12.6 lbs. (5.7 kg)

*3,000 PSIG (208 BAR) inlet
†4,500 PSIG (310 BAR) inlet

Flow Curves and Installation Dimensions



623-2xxx
623-7xxx
Shown



623-5xxx
Shown

Ordering Information

623	A	B	C	D
Series	Outlet Pressure	Inlet Connection	Outlet Connection	Assembly Orientation/Maximum Inlet Pressure
623	2: 0-2,000 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: Diaphragm Valve 1/2" FPT	2: Diaphragm Valve 1/2" FPT	2: Right Hand Inlet 3,000 PSIG (210 BAR)
		3: Diaphragm Valve 1/2" Tube	3: Diaphragm Valve 1/2" Tube	3: Left Hand Inlet 3,000 PSIG (210 BAR)
		4: 3/8" Pigtail	4: 3/8"-37° JIC Male Flare	4: Right Hand Inlet 4,500 PSIG (310 BAR)
		5: Diaphragm Valve with 3/8" Pigtail		5: Left Hand Inlet 4,500 PSIG (310 BAR)
		6: 7/2" Pigtail		A: Right Hand Inlet 600 PSIG (42 BAR) Neoprene Seat**
		7: Diaphragm Valve with 7/2" Pigtail		B: Left Hand Inlet 600 PSIG (42 BAR) Neoprene Seat**
		8: Manifold Connector*		C: Right Hand Inlet 3000 PSIG (210 BAR) Neoprene Seat**
		9: Manifold Connector with Master Valve*		D: Left Hand Inlet 3000 PSIG (210 BAR) Neoprene Seat**

*Not available with 4,500 PSIG inlet
**Required in CO₂ gas service

Related Options

Options	Series	Description
Cryogenic liquid hoses	See page 57	Supply liquid gas to vaporizers
Tube trailer hoses	See page 56	Connection from high pressure tube trailer to gas delivery systems
Vaporizer	See page 59	Vaporizer specifically designed for use with the 623 gas delivery system