PRODUCT SPECIFICATION

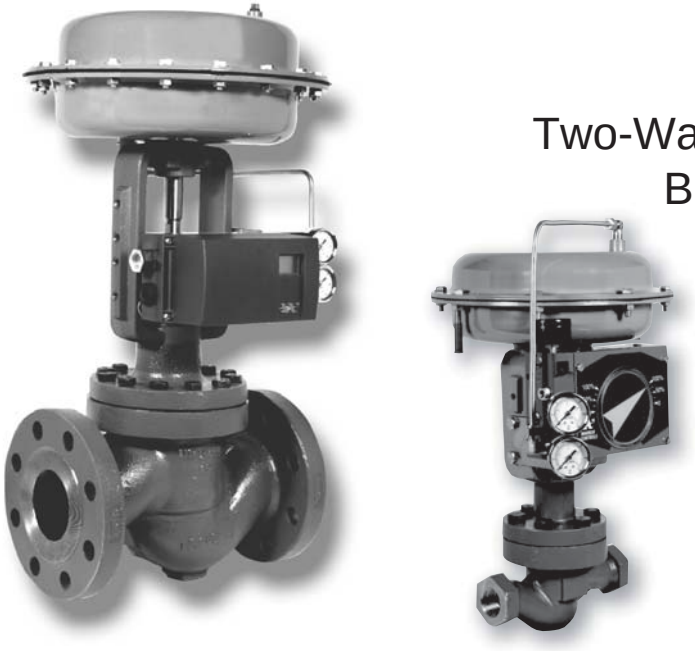
August 2006

PNEUMATIC ACTUATED INDUSTRIAL VALVES

SERIES: 5800 SIZES 1/2 to 4 INCHES

Compact Globe Control Valves

WARREN CONTROLS



Two-Way, Linear, Steel or Stainless Steel Body Valves for Process and Utility Applications

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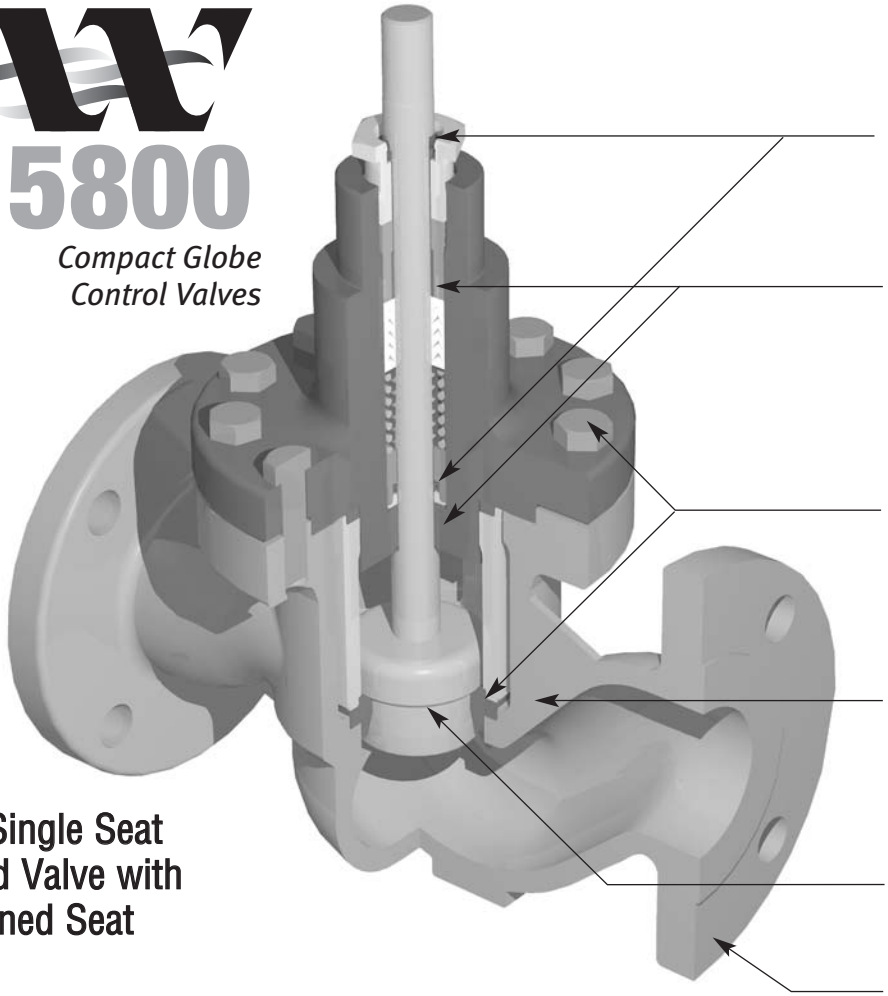
Compact Globe Control Valves



Stem Wipers
provide outstanding packing protection and stem stability.

Standard Dual Point PEEK Bearing Plug Guiding
provides both stability and low friction, resulting in lowest hysteresis and precision control.

Bolted Bonnet and Cage-Retained Seat
make the 5800 ideal for easy access, maintenance, and trim inspection.

Low Profile and Reduced Face to Face Design
offers footprint minimizing valuable space consumption.

Trim Choices Available
include 316SS, 400SS, Alloy 6, PEEK and PTFE.

Rugged Body
with a selection of port reductions.

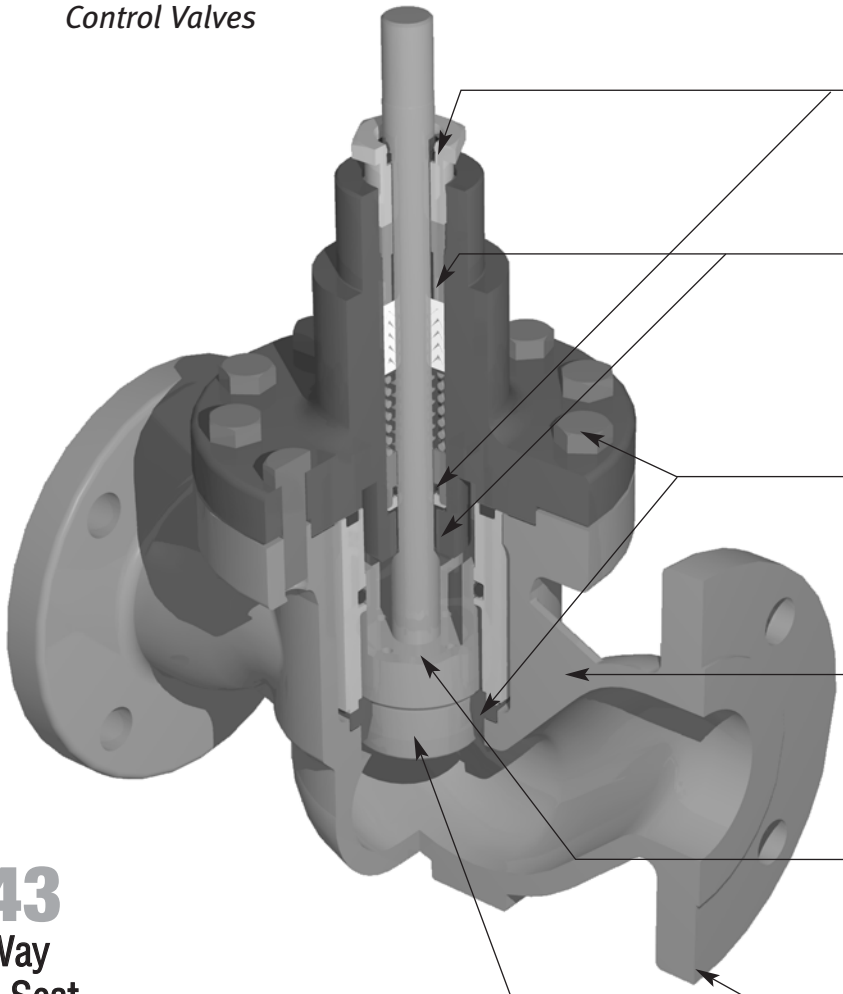
5840
Two-Way Single Seat Unbalanced Valve with Cage-Retained Seat

Description

Warren Controls Series 5800 Compact Globe Control Valves feature rugged high efficiency bodies of steel or stainless steel, with cage-retained seats for ease of maintenance, and a variety of trim materials and port sizes. The equal percentage and linear plugs provide excellent modulating control of a wide variety of fluids. The Series 5800 is ideally suited where value and long life are important objectives for applications including but not limited to the Chemical, Food & Beverage, General Service, Marine, Pulp & Paper, Refining, District Energy and Pharmaceutical Industries with temperatures from –20 to 800°F, severe service, dirty fluids, high pressure drops, and corrosive fluids.

SERIES: 5800

Compact Globe Control Valves



Stem Wipers
provide outstanding packing protection and stem stability.

Standard Dual Point PEEK Bearing Plug Guiding
provides both stability and low friction, resulting in lowest hysteresis and precision control.

Bolted Bonnet and Cage-Retained Seat
make the 5800 ideal for easy access, maintenance and trim inspection.

Low Profile and Reduced Face to Face Design
offers footprint minimizing valuable space consumption.

Cage-Balanced Plug
provides higher shut-offs with smaller actuators.

Rugged Body
with a selection of port reductions.

Trim Choices Available
include 316SS, 400SS, and Alloy 6.

5843
Two-Way Single Seat Cage-Balanced Valve with Cage-Retained Seat

Features & Advantages

Ruggedness and High Performance

Features	Advantages
Compact rugged valve body	Reduces envelope size and weight without sacrificing pressure boundary integrity or high Cv's.
Precision manufactured valve components	Valve bodies machined in single operation in 4 axis computer numerical controlled horizontal machining centers. Bodies and trim components held to exacting geometric tolerances ensuring smooth reliable operation of finished valve.
Body materials	Standard body materials are WCB steel and CF8M stainless steel. Bodies available custom cast in other specialized alloys.
Trim components	Durable rugged plug and seat construction shuts off tightly.
Equal % or Linear plug	Provides exceptional modulating control with 50:1 rangeability.
Reduced ports	Match valve size to line size and capacity to flow requirements. Maximizes performance. Prevents oversized valves. Simplifies piping. Reduces need for reducers or expanders. 1, 2, & 3 sizes reduced trim available.
Trim materials	Alloy 6 wrapped stainless steel trim promotes long dependable service life in applications controlling hard to handle fluids. 316 & 400 stainless steel trim, PEEK & TFE soft seat trim available for ANSI Class VI shut-off in non-corrosive non-erosive service.
Oversized bearings and shafts	Ideal for high pressure drops.
Valve stem to plug connection	Rigid connection provides zero backlash. Assures minimum dead band and hysteresis.
Threaded valve stem connection and split stem connector	Solid actuator interface. Provides zero backlash. Assures minimum dead band and hysteresis.
Factory lubricated packing and valve stem	Minimizes hysteresis from packing friction .
Extension bonnet	Allows for wide range of temperature applications.

Increased Serviceability and Reduced Maintenance

Features	Advantages
Integral valve body flanges	Promote secure valve installations and piping integrity. Easy installation. Eliminate exposed line flange bolting. Shorten alignment and installation time. Many different classes of pipe flanges.
ANSI Standard valve body face to face dimensions and bolt patterns	Simplifies piping designs and layouts for new installations. Minimizes need to change piping in existing installations.
Easy actuator and accessory mounting	Facilitates removal and installation for service and maintenance.
Roller burnished valve stem	Ultra smooth finish minimizes packing wear and maximizes life. Smooth function and minimum stick/slip.
Bonnet and packing nut bearings and stem wiper	Prevent external particles from infiltrating and damaging packing.
Bolted bonnet and cage retained seat	Provides fast easy access to trim. Speeds inspection and maintenance.

Established Features & Quality

Features	Advantages
Linear Control Valve	Combines reciprocating globe valve ruggedness with linear actuators to produce heavy duty automatic throttling control valve which dependably controls fluids in process industries.
Quality valve design & engineering	Components and materials designed and selected to meet or exceed demanding applications, specifications, functional and chemical and temperature compatibility requirements. Product quality built on tried and tested designs and engineering.
Pneumatic diaphragm actuators	Powerful direct or reverse acting spring and diaphragm actuators. Top mounted handwheels available for manual override. Supply pressures to 40 PSIG. Combine actuators with pneumatic accessories to allow for wide variety of control actions.
Pneumatic cylinder actuators	Powerful direct of reverse acting spring and piston actuators. Supply pressures to 120 PSIG. Combine actuators with pneumatic accessories to allow for wide variety of control actions.
Wide variety of accessories	Pneumatic and electro-pneumatic positioners for intrinsically safe, explosion proof, or fail freeze operation. Hart, Profibus PA, and foundation fieldbus inputs available. Position indication switches, I/P's, air filter regulators, and solenoids also available.
Factory testing and set-up	Each control valve undergoes careful set-up and thorough testing by our highly skilled and experienced factory assembly personnel to ensure it is pre-set for its specified service.

2-Way Valves (Control of Liquids, Gases, and Steam)

5840 Two-Way Single Seat Unbalanced Valve with Cage Retained Seat

The 5840 Valve is particularly effective for the control of liquids, gases, and steam. It is a suitable solution for applications with dirty fluids and high pressure drops. ANSI Class IV and VI shut-off.

Sizes:	1/2, 3/4, 1, 1-1/2, 2, 2-1/2, 3, 4 inch
Body:	WCB Steel or CF8M Stainless Steel 300 NPT or 300 Socketweld (1/2 thru 2), 150LB Flange or 300LB Flange (1/2 thru 4)
Trim:	EQ% or Linear, 316 Stainless Steel, TFE, PEEK, or Alloy 6 Wrapped 316 SS, 400 Stainless Steel, Alloy 6 Wrapped 400 SS
Shut-off:	ANSI Class IV (Stainless Steel and Alloy 6 Trim), ANSI Class VI (TFE and PEEK Trim)
Packing & Bonnet:	TFE V-Ring, Spring Loaded, w/ PEEK Bearings (+32 to 450°F), TFE V-Ring, Spring Loaded, w/Nitronic 60 Bearings (+32 to 450°), Adjustable Graphite w/ PEEK Bearings (+32 to 450°F), Adjustable Graphite w/Nitronic 60 Bearings (+32 to 450°), Adjustable Graphite w/ Graphite Gaskets & Alloy 6 Bearings (+32 to 550°F), Adjustable Graphite w/ Graphite Gaskets, Alloy 6 Bearings & Extension Bonnet (+32 to 800°F)
Temperature:	+32 to 450°F (TFE or PEEK Trim) +32 to 800°F (Stainless Steel or Alloy 6 Trim)
Rangeability:	50:1

Flow direction is reversed when used with Cylinder Actuator Fail Closed

5843 Two-Way Single Seat Caged Balanced Valve with Cage Retained Seat

The 5843 is a balanced valve that is an effective solution for the control of liquids, gases, and steam at higher pressures. It requires less force to operate than unbalanced valves so smaller actuators can be used. Its single seat o-ring seal design facilitates ANSI Class IV shut-off. It is limited to cleaner fluids.

Sizes:	2-1/2, 3, 4 inch
Body:	WCB Steel, CF8M Stainless Steel 150LB Flange or 300LB Flange
Trim:	EQ% or Linear, 316 Stainless Steel, 400 Stainless Steel, Alloy 6 Wrapped 400 SS
Shut-off:	ANSI Class IV (Fluoraz Seal), ANSI Class III (Metal Seal)
Packing & Bonnet:	TFE V-Ring, Spring Loaded, w/ PEEK Bearings and Fluoraz Seal (+32 to 450°F), TFE V-Ring, Spring Loaded, w/Nitronic 60 Bearings and Fluoraz Seal (+32 to 450°), Adjustable Graphite w/ PEEK Bearings and Fluoraz Seal (+32 to 450°F), Adjustable Graphite w/Nitronic 60 Bearings and Fluoraz Seal (+32 to 450°), Adjustable Graphite w/ Graphite Gaskets & Alloy 6 Bearings and Fluoraz Seal (+32 to 500°F), Adjustable Graphite w/ Graphite Gaskets, Alloy 6 Bearings Metal Seal, & Extension Bonnet (+32 to 800°F)
Temperature:	+32 to 800°F (Stainless Steel or Alloy 6 Trim)
Rangeability:	50:1

Body Pressure-Temperature Ratings:

Temperature (F)	150 FLG Steel	300 NPT, SWE, or FLG Steel	150 FLG St Steel	300 NPT, SWE, or FLG St Steel
+32° To 100°F	285	740	275	720
150°	272	707	255	670
175°	266	691	245	645
200°	260	675	235	620
225°	252	670	230	605
250°	245	665	225	590
275°	237	660	220	575
300°	230	655	215	560
325°	222	650	210	548
350°	215	645	205	537
375°	207	640	200	526
400°	200	635	195	515
450°	185	617	182	497
500°	170	600	170	480
550°	155	575	155	465
600°	140	550	140	450
650°	125	535	125	445
700°	110	520	110	430
750°	95	505	95	425
800°	80	410	80	420

Pressure ratings are PSIG

For applications below 32° consult factory

Body Pressure – Temperature Ratings conform to ANSI based on body/flange rating and body material. As the fluid temperature increases, the maximum allowable internal pressure decreases. Verify maximum pressures and temperatures prior to selecting body material and body/flange rating.

Trim Materials	Flowing Differential Pressure Limit
316 Stainless Steel	100 PSID
TFE	100 PSID
PEEK	100 PSID
400 Stainless Steel	200 PSID
Alloy 6	300 PSID

NOTE: Approaching limits for continuous use will reduce trim life. For continuous use, stay within half of rated maximum.

NOTE ON BEARINGS: PEEK Bearings should not be used for temperatures above 450°F or flowing differential pressure above 300 PSIG.

Allowable Seat Leakage Classes

Leakage Class	Maximum Seat Leakage	Test Fluid	Test Pressure	Relative Seat Tightness
Class II	0.5% of rated CV	Water	45 to 60 PSI	1
Class III	0.1% of rated CV	Water	45 to 60 PSI	5
Class IV	0.01% of rated CV	Water	45 to 60 PSI	50
Class V	0.0005 ml/min/inch of trim size/ΔP(PSI)	Water	Max Operating ΔP	300,000
Class VI	Class VI about 0.9 ml/min*	Air	50 PSI	600,000

*Leakage rate varies by valve size, refer to the Standard ANSI/FCI 70.2.

Configuration vs. Performance

5840

Internal Configurations Vs...			Performance		
Trim Material/**Code**	Packing Type/**Code**	Bonnet Construction/**Code**	ANSI Leakage[1]	Fluid	Max Temp[2]
316 Stainless Steel **S**	Teflon V-ring **T**	Standard Bonnet w/PEEK Bearings **S**	Class IV	Non-Corrosive Non-Erosive	450ºF
316 Stainless Steel **S**	Teflon V-ring **T**	Standard Bonnet w/Nitronic 60 Bearings **N**	Class IV	Non-Corrosive Non-Erosive	450ºF
316 Stainless Steel **S**	Graphite **G**	Standard Bonnet w/PEEK Bearings **S**	Class IV	Non-Corrosive Non-Erosive	450ºF
316 Stainless Steel **S**	Graphite **G**	Standard Bonnet w/Nitronic 60 Bearings **N**	Class IV	Non-Corrosive Non-Erosive	450ºF
316 Stainless Steel **S**	Graphite **G**	Standard Bonnet w/Graphite Gaskets & Alloy 6B Bearings **H**	Class IV	Non-Corrosive Non-Erosive	550ºF
316 Stainless Steel **S**	Graphite **G**	Extension Bonnet w/Graphite Gaskets & Alloy 6B Bearings **X**	Class IV	Non-Corrosive Non-Erosive	800ºF
400 Stainless Steel **7**	Teflon V-ring **T**	Standard Bonnet w/PEEK Bearings **S**	Class IV	Non-Corrosive Non-Erosive	450ºF
400 Stainless Steel **7**	Teflon V-ring **T**	Standard Bonnet w/Nitronic 60 Bearings **N**	Class IV	Non-Corrosive Non-Erosive	450ºF
400 Stainless Steel **7**	Graphite **G**	Standard Bonnet w/PEEK Bearings **S**	Class IV	Non-Corrosive Non-Erosive	450ºF
400 Stainless Steel **7**	Graphite **G**	Standard Bonnet w/Nitronic 60 Bearings **N**	Class IV	Non-Corrosive Non-Erosive	450ºF
400 Stainless Steel **7**	Graphite **G**	Standard Bonnet w/Graphite Gaskets & Alloy 6B Bearings **H**	Class IV	Non-Corrosive Non-Erosive	550ºF
400 Stainless Steel **7**	Graphite **G**	Extension Bonnet w/Graphite Gaskets & Alloy 6B Bearings **X**	Class IV	Non-Corrosive Non-Erosive	800ºF
TFE Soft Seats **T**	Teflon V-ring **T**	Standard Bonnet w/PEEK Bearings **S**	Class VI	Non-Corrosive Non-Erosive	450ºF
TFE Soft Seats **T**	Teflon V-ring **T**	Standard Bonnet w/Nitronic 60 Bearings **N**	Class VI	Non-Corrosive Non-Erosive	450ºF
PEEK Soft Seats **T**	Teflon V-ring **T**	Standard Bonnet w/PEEK Bearings **S**	Class VI	Non-Corrosive Non-Erosive	450ºF
PEEK Soft Seats **T**	Teflon V-ring **T**	Standard Bonnet w/Nitronic 60 Bearings **N**	Class VI	Non-Corrosive Non-Erosive	450ºF
Alloy 6 Wrapped 316 SS **6**	Teflon V-ring **T**	Standard Bonnet w/PEEK Bearings **S**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 316 SS **6**	Teflon V-ring **T**	Standard Bonnet w/Nitronic 60 Bearings **N**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 316 SS **6**	Graphite **G**	Standard Bonnet w/PEEK Bearings **S**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 316 SS **6**	Graphite **G**	Standard Bonnet w/Nitronic 60 Bearings **N**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 316 SS **6**	Graphite **G**	Standard Bonnet w/Graphite Gaskets & Alloy 6B Bearings **H**	Class IV	Corrosive and Erosive	550ºF
Alloy 6 Wrapped 316 SS **6**	Graphite **G**	Extension Bonnet w/Graphite Gaskets & Alloy 6B Bearings **X**	Class IV	Corrosive and Erosive	800ºF
Alloy 6 Wrapped 400 SS **8**	Teflon V-ring **T**	Standard Bonnet w/PEEK Bearings **S**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 400 SS **8**	Teflon V-ring **T**	Standard Bonnet w/Nitronic 60 Bearings **N**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 400 SS **8**	Graphite **G**	Standard Bonnet w/PEEK Bearings **S**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 400 SS **8**	Graphite **G**	Standard Bonnet w/Nitronic 60 Bearings **N**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 400 SS **8**	Graphite **G**	Standard Bonnet w/Graphite Gaskets & Alloy 6B Bearings **H**	Class IV	Corrosive and Erosive	550ºF
Alloy 6 Wrapped 400 SS **8**	Graphite **G**	Extension Bonnet w/Graphite Gaskets & Alloy 6B Bearings **X**	Class IV	Corrosive and Erosive	800ºF

5843

Internal Configurations Vs...			Performance		
Trim Material/**Code**	Packing Type/**Code**	Bonnet Construction/**Code**	ANSI Leakage[1]	Fluid	Max Temp[2]
316 Stainless Steel **S**	Teflon V-ring **T**	Standard Bonnet w/PEEK Bearings & Fluoraz Seal **S**	Class IV	Non-Corrosive Non-Erosive	450ºF
316 Stainless Steel **S**	Graphite **G**	Standard Bonnet w/PEEK Bearings & Fluoraz Seal **S**	Class IV	Non-Corrosive Non-Erosive	450ºF
400 Stainless Steel **7**	Teflon V-ring **T**	Standard Bonnet w/PEEK Bearings & Fluoraz Seal **S**	Class IV	Non-Corrosive Non-Erosive	450ºF
400 Stainless Steel **7**	Teflon V-ring **T**	Standard Bonnet w/Nitronic 60 Bearings & Fluoraz Seal **N**	Class IV	Non-Corrosive Non-Erosive	450ºF
400 Stainless Steel **7**	Graphite **G**	Standard Bonnet w/PEEK Bearings & Fluoraz Seal **S**	Class IV	Non-Corrosive Non-Erosive	450ºF
400 Stainless Steel **7**	Graphite **G**	Standard Bonnet w/Nitronic 60 Bearings & Fluoraz Seal **N**	Class IV	Non-Corrosive Non-Erosive	450ºF
400 Stainless Steel **7**	Graphite **G**	Standard Bonnet w/Graphite Gaskets & Alloy 6B Bearings & Fluoraz Seal **H**	Class IV	Non-Corrosive Non-Erosive	500ºF
400 Stainless Steel **7**	Graphite **G**	Extension Bonnet w/Graphite Gaskets & Alloy 6B Bearings & Metal Seal **X**	Class III	Non-Corrosive Non-Erosive	800ºF
Alloy 6 Wrapped 400 SS **8**	Teflon V-ring **T**	Standard Bonnet w/PEEK Bearings & Fluoraz Seal **S**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 400 SS **8**	Teflon V-ring **T**	Standard Bonnet w/Nitronic 60 Bearings & Fluoraz Seal **N**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 400 SS **8**	Graphite **G**	Standard Bonnet w/PEEK Bearings & Fluoraz Seal **S**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 400 SS **8**	Graphite **G**	Standard Bonnet w/Nitronic 60 Bearings & Fluoraz Seal **N**	Class IV	Corrosive and Non-Erosive	450ºF
Alloy 6 Wrapped 400 SS **8**	Graphite **G**	Standard Bonnet w/Graphite Gaskets & Alloy 6B Bearings & Fluoraz Seal **H**	Class IV	Corrosive and Non-Erosive	500ºF
Alloy 6 Wrapped 400 SS **8**	Graphite **G**	Extension Bonnet w/Graphite Gaskets & Alloy 6B Bearings & Metal Seal **X**	Class III	Corrosive and Non-Erosive	800ºF

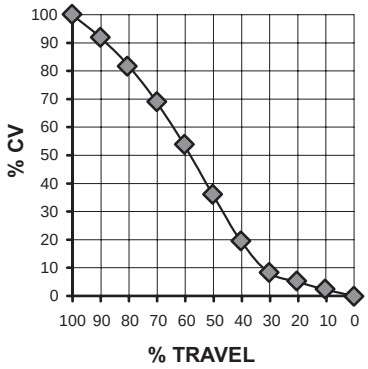
[1] See "Allowable Seat Leakage" on page 4 for definitions of Class III, IV & VI.

[2] For Maximum Temperatures see also Valve Body Pressure-Temperature Ratings and Actuator Temperature Ratings.

Valve				5840 Flow Coefficients (Cv) Two-Way Single Seat Unbalanced Valve with Cage-Retained Seat									
Valve Size(IN)	Trim Size(IN)	Trim Style	Port Size	%Travel 100%	90%	80%	70%	60%	50%	40%	30%	20%	10%
1/2	0.501	EQ%	FULL	4.34	3.89	3.21	2.24	1.15	0.69	0.47	0.34	0.23	0.13
		LINEAR	FULL	4.34	3.91	3.47	3.04	2.60	2.17	1.74	1.30	0.87	0.43
	0.376	EQ%	1SR	2.50	2.24	1.85	1.29	0.66	0.40	0.27	0.20	0.14	0.07
		LINEAR	1SR	2.50	2.25	2.00	1.75	1.50	1.25	1.00	0.75	0.50	0.25
	0.251	EQ%	2SR	1.25	1.12	0.93	0.65	0.33	0.20	0.14	0.10	0.07	0.04
		LINEAR	2SR	1.25	1.13	1.00	0.88	0.75	0.63	0.50	0.38	0.25	0.13
3/4	0.876	EQ%	FULL	11.4	10.2	8.44	5.89	3.02	1.81	1.24	0.89	0.62	0.33
		LINEAR	FULL	11.4	10.3	9.12	7.98	6.84	5.70	4.56	3.42	2.28	1.14
	0.501	EQ%	1SR	5.00	4.48	3.70	2.59	1.33	0.80	0.55	0.39	0.27	0.15
		LINEAR	1SR	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.50	1.00	0.50
	0.376	EQ%	2SR	2.50	2.24	1.85	1.29	0.66	0.40	0.27	0.20	0.14	0.07
		LINEAR	2SR	2.50	2.25	2.00	1.75	1.50	1.25	1.00	0.75	0.50	0.25
	0.251	EQ%	3SR	1.25	1.12	0.93	0.65	0.33	0.20	0.14	0.10	0.07	0.04
		LINEAR	3SR	1.25	1.13	1.00	0.88	0.75	0.63	0.50	0.38	0.25	0.13
1	0.876	EQ%	FULL	12.0	10.8	8.88	6.20	3.18	1.91	1.31	0.94	0.65	0.35
		LINEAR	FULL	12.0	10.8	9.60	8.40	7.20	6.00	4.80	3.60	2.40	1.20
	0.501	EQ%	1SR	5.00	4.48	3.70	2.59	1.33	0.80	0.55	0.39	0.27	0.15
		LINEAR	1SR	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.50	1.00	0.50
	0.376	EQ%	2SR	2.50	2.24	1.85	1.29	0.66	0.40	0.27	0.20	0.14	0.07
		LINEAR	2SR	2.50	2.25	2.00	1.75	1.50	1.25	1.00	0.75	0.50	0.25
	0.251	EQ%	3SR	1.25	1.12	0.93	0.65	0.33	0.20	0.14	0.10	0.07	0.04
		LINEAR	3SR	1.25	1.13	1.00	0.88	0.75	0.63	0.50	0.38	0.25	0.13
1.5	1.251	EQ%	FULL	24.0	21.5	17.8	12.4	6.36	3.82	2.62	1.87	1.30	0.70
		LINEAR	FULL	24.0	21.6	19.2	16.8	14.4	12.0	9.60	7.20	4.80	2.40
	0.876	EQ%	1SR	12.0	10.8	8.88	6.20	3.18	1.91	1.31	0.94	0.65	0.35
		LINEAR	1SR	12.0	10.8	9.60	8.40	7.20	6.00	4.80	3.60	2.40	1.20
	0.501	EQ%	2SR	5.00	4.48	3.70	2.59	1.33	0.80	0.55	0.39	0.27	0.15
		LINEAR	2SR	5.00	4.50	4.00	3.50	3.00	2.50	2.00	1.50	1.00	0.50
2	1.688	EQ%	FULL	43.0	38.5	31.8	22.2	11.4	6.84	4.69	3.35	2.32	1.25
		LINEAR	FULL	43.0	38.7	34.4	30.1	25.8	21.5	17.2	12.9	8.60	4.30
	1.251	EQ%	1SR	24.0	21.5	17.8	12.4	6.36	3.82	2.62	1.87	1.30	0.70
		LINEAR	1SR	24.0	21.6	19.2	16.8	14.4	12.0	9.60	7.20	4.80	2.40
	0.876	EQ%	2SR	12.0	10.8	8.88	6.20	3.18	1.91	1.31	0.94	0.65	0.35
		LINEAR	2SR	12.0	10.8	9.60	8.40	7.20	6.00	4.80	3.60	2.40	1.20
2.5	2.126	EQ%	FULL	65.0	58.2	48.1	33.6	17.2	10.3	7.09	5.07	3.51	1.89
		LINEAR	FULL	65.0	58.5	52.0	45.5	39.0	32.5	26.0	19.5	13.0	6.50
	1.688	EQ%	1SR	43.0	38.5	31.8	22.2	11.4	6.84	4.69	3.35	2.32	1.25
		LINEAR	1SR	43.0	38.7	34.4	30.1	25.8	21.5	17.2	12.9	8.60	4.30
3	2.501	EQ%	FULL	100	89.6	74.0	51.7	26.5	15.9	10.9	7.80	5.40	2.90
		LINEAR	FULL	100	90.0	80.0	70.0	60.0	50.0	40.0	30.0	20.0	10.0
	2.126	EQ%	1SR	65.0	58.2	48.1	33.6	17.2	10.3	7.09	5.07	3.51	1.89
		LINEAR	1SR	65.0	58.5	52.0	45.5	39.0	32.5	26.0	19.5	13.0	6.50
4	3.376	EQ%	FULL	170	152	126	87.9	45.1	27.0	18.5	13.3	9.18	4.93
		LINEAR	FULL	170	153	136	119	102	85.0	68.0	51.0	34.0	17.0
	2.501	EQ%	1SR	100	89.6	74.0	51.7	26.5	15.9	10.9	7.80	5.40	2.90
		LINEAR	1SR	100	90.0	80.0	70.0	60.0	50.0	40.0	30.0	20.0	10.0

Valve				5843 Flow Coefficients (Cv) Two-Way Single Seat Caged Balanced Valve with Cage-Retained Seat									
Valve Size(IN)	Trim Size(IN)	Trim Style	Port Size	%Travel 100%	90%	80%	70%	60%	50%	40%	30%	20%	10%
2.5	2.126	EQ%	FULL	65.0	58.2	48.1	33.6	17.2	10.3	7.09	5.07	3.51	1.89
		LINEAR	FULL	65.0	58.5	52.0	45.5	39.0	32.5	26.0	19.5	13.0	6.50
		EQ%	1SR	43.0	38.5	31.8	22.2	11.4	6.84	4.69	3.35	2.32	1.25
3	2.501	EQ%	FULL	100	89.6	74.0	51.7	26.5	15.9	10.9	7.80	5.40	2.90
		LINEAR	FULL	100	90.0	80.0	70.0	60.0	50.0	40.0	30.0	20.0	10.0
		EQ%	1SR	65.0	58.2	48.1	33.6	17.2	10.3	7.09	5.07	3.51	1.89
		EQ%	FULL	170	152	126	87.9	45.1	27.0	18.5	13.3	9.18	4.93
4	3.376	LINEAR	FULL	170	153	136	119	102	85.0	68.0	51.0	34.0	17.0
		EQ%	1SR	100	89.6	74.0	51.7	26.5	15.9	10.9	7.80	5.40	2.90

2-WAY VALVE TYPICAL FLOW CURVE



Steam Table

Steam Pressure PSIG	Temp. °F	Temp. °C	Sensible Heat BTU/Lb.	Latent Heat BTU/Lb.	Total Heat BTU/Lb.
0	212	100	180	971	1151
10	239	115	207	952	1159
25	266	130	236	934	1170
50	297	147	267	912	1179
75	320	160	290	896	1186
100	338	170	309	881	1190
125	353	178	325	868	1193
150	365	185	339	858	1197
200	387	197	362	838	1200
250	406	208	381	821	1202
300	422	217	399	805	1204
400	448	231	438	778	1216
500	470	243	453	752	1205
600	489	254	475	729	1204

Rectangular Tank Capacity in Gallons

$$\text{Gallons} = \frac{\text{Height x Width x Length (inches)}}{230}$$

or

Gallons = H x W x L (Ft.) x 7.5

Circular Tank Storage Capacity in Gallons

Storage = $6D^2$ x L (Gallons)

Where:
D = Tank Diameter in Feet
L = Length in Feet

Load Sizing Calculations

Glossary of Terms

t = Time in Hours
Cp = Specific Heat of Liquid
S = Specific Gravity of Fluid
W = Weight in Lbs.
ΔT = Temperature Rise or Fall in °F
h_{fg} = Latent Heat of Steam

Conversion Factors

1 Lb. Steam / Hr. =	1000 BTU / Hr.
1 Cubic Meter =	264 U.S. Gallons
1 Cubic Foot Water =	62.4 Lbs.
1 PSI =	2.04 Inches of Mercury
1 PSI =	2.3 Feet of Water
1 PSI =	27.7 Inches of Water
1 U.S. Gallon Water =	231 Cubic Inches
1 U.S. Gallon Water =	8.33 Lbs.

Heating Water with Steam

Quick Method

$$\text{Lbs./Hr.} = \frac{\text{GPM}}{2} \times \Delta T$$

Accurate Method

$$\text{Lbs./Hr.} = \frac{\text{GPM} \times 500 \times \Delta T}{h_{fg}}$$

Heating or Cooling Water with Water

$$GPM_1 = GPM_2 \times \frac{\text{°F water}_2 \text{ temp. rise or drop}}{\text{°F water}_1 \text{ temp. rise or drop}}$$

Heating or Cooling Water

$$\text{GPM} = \frac{\text{BTU / Hr.}}{\text{(°F water temp. rise or drop)} \times 500}$$

Heating Oil with Steam

$$\text{Lbs./Hr.} = \frac{\text{GPM}}{4} \times \text{(°F oil temp. rise)}$$

Heating Air with Water

$$\text{GPM} = 2.16 \times \frac{\text{CFM x (°F air temp. rise)}}{\text{1000 x (°F water temp. drop)}}$$

Heating Liquids with Steam

$$\text{Lbs./Hr.} = \frac{\text{GPM} \times 60 \times Cp \times W}{h_{fg}} \times \Delta T$$

Heating Liquids in Steam Jacketed Kettles

$$\text{Lbs./Hr.} = \frac{\text{GPM} \times Cp \times S \times 8.33}{h_{fg} \times t} \times \Delta T$$

General Liquid Heating

$$\text{Lbs./Hr.} = \frac{W \times Cp}{h_{fg} \times t} \times \Delta T$$

Heating Air with Steam

$$\text{Lbs./Hr.} = \frac{\text{CFM}}{900} \times \Delta T$$

Valve			Actuator		Shut-Off ΔP Rating Two-Way, Unbalanced with Cage-Retained Seat — 5840							
					Maximum Shut-off ΔP in PSI							
					Fail Closed Reverse Acting				Fail Open Direct Acting			
					Air Signal to Actuator *See "Pneumatic Ranges"...bottom right*				Air Signal to Actuator *See "Pneumatic Ranges"...bottom right*			
Trim Size (IN)	Valve Size (IN)	Plug Travel (IN)	Pneumatic Actuator	Spring Range	Range 1	Range 2	Range 3	Range 4	Range 1	Range 2	Range 3	Range 4
0.251	1/2	3/4	DL49	Low	N/A	740	740	N/A	740	740	740	N/A
	thru			Full	492	740	740	N/A	492	740	740	N/A
	1			High	740	740	740	N/A	740	740	740	N/A
			Cylinder 4"		N/A	N/A	N/A	N/A	740	740	740	740
0.376	1/2	3/4	DL49	Low	N/A	554	740	N/A	740	740	740	N/A
	thru			Full	113	740	740	N/A	113	740	740	N/A
	1			High	740	740	740	N/A	554	740	740	N/A
			Cylinder 4"		N/A	N/A	N/A	N/A	740	740	740	740
0.501	1/2	3/4	DL49	Low	N/A	253	501	N/A	740	740	740	N/A
	thru			Full	4	501	740	N/A	4	501	740	N/A
	1-1/2			High	740	740	740	N/A	253	740	740	N/A
			DL84	Low	N/A	N/A	N/A	N/A	740	740	740	N/A
				Full	N/A	N/A	N/A	N/A	N/A	359	740	N/A
				High	N/A	N/A	N/A	N/A	N/A	359	740	N/A
			Cylinder 4"		N/A	N/A	N/A	N/A	740	740	740	740
0.876	3/4	3/4	DL49	Low	N/A	24	105	N/A	268	430	740	N/A
	thru			Full	N/A	105	187	N/A	N/A	105	740	N/A
	2			High	349	512	593	N/A	24	187	740	N/A
			DL49XR	Xtra-High	674	740	740	N/A	N/A	N/A	N/A	N/A
			DL84	Low	N/A	59	198	N/A	616	740	740	N/A
				Full	N/A	59	198	N/A	N/A	59	740	N/A
				High	616	740	740	N/A	N/A	59	740	N/A
			Cylinder 4"		372	659	740	740	585	740	740	740
1.251	1-1/2	3/4	DL49	Low	N/A	N/A	23	N/A	103	182	701	N/A
	and			Full	N/A	23	63	N/A	N/A	23	541	N/A
	2			High	142	222	262	N/A	N/A	63	581	N/A
			DL49XR	Xtra-High	302	382	422	N/A	N/A	N/A	N/A	N/A
			DL84	Low	N/A	N/A	68	N/A	273	410	740	N/A
				Full	N/A	N/A	68	N/A	N/A	N/A	740	N/A
				High	273	410	478	N/A	N/A	N/A	740	N/A
			DL84XR	Xtra-High	478	615	683	N/A	N/A	N/A	N/A	N/A
			Cylinder 4"		147	323	399	473	258	463	667	740
			Cylinder 6"		570	N/A	N/A	N/A	740	740	N/A	N/A
1.688	2	3/4	DL49	Low	N/A	N/A	N/A	N/A	38	82	366	N/A
				Full	N/A	N/A	16	N/A	N/A	N/A	279	N/A
				High	60	104	126	N/A	N/A	16	201	N/A
			DL49XR	Xtra-High	147	191	213	N/A	N/A	N/A	N/A	N/A
			DL84	Low	N/A	N/A	19	N/A	132	207	695	N/A
				Full	N/A	N/A	19	N/A	N/A	N/A	470	N/A
				High	132	207	244	N/A	N/A	N/A	470	N/A
			DL84XR	Xtra-High	244	319	357	N/A	N/A	N/A	N/A	N/A
			Cylinder 4"		74	177	219	260	123	236	348	460
			Cylinder 6"		313	N/A	N/A	N/A	430	682	N/A	N/A

NOTES:

1) 5840 Seat Closure ANSI Class IV (Stainless Steel or Alloy 6 Trim), ANSI Class VI (TFE or PEEK Trim.)

2) Inlet pressure **cannot** exceed Body Pressure-Temperature Rating.

3) The 3-15 and 1-17 ranges apply to valves with diaphragm actuators and control signals coming directly from I/P transducers with matching ranges. The 0-30 and 0-40 ranges apply to valves with diaphragm actuators and a positioner or an I/P transducer of suitable range. The 0-60, 0-80, 0-100, and 0-120 ranges apply to valves with cylinder actuators and a positioner.

4) N/A indicates that the air signal is not capable of providing any shut-off or it exceeds the actuator's maximum air pressure.

   Maximum air pressure
   DL49 & 49XR…30PSIG
   DL84 & 84XR…30PSIG

5) See Actuators, Positioners, and Accessories section for explanation of spring ranges.

Pneumatic Ranges		
	Diaphragm	Cylinder
Range 1	3-15	0-60
Range 2	1-17	0-80
Range 3	0-30	0-100
Range 4	0-40	0-120

Shut-Off ΔP Ratings

NOTES:

1) 5840 Seat Closure ANSI Class IV (Stainless Steel or Alloy 6 Trim), ANSI Class VI (TFE or PEEK Trim.)

2) Inlet pressure **cannot** exceed Body Pressure-Temperature Rating.

3) The 3-15 and 1-17 ranges apply to valves with diaphragm actuators and control signals coming directly from I/P transducers with matching ranges. The 0-30 and 0-40 ranges apply to valves with diaphragm actuators and a positioner or an I/P transducer of suitable range. The 0-60, 0-80, 0-100, and 0-120 ranges apply to valves with cylinder actuators and a positioner.

4) N/A indicates that the air signal is not capable of providing any shut-off or it exceeds the actuator's maximum air pressure.

   Maximum air pressure
   DL84..... 30 PSIG
   DL115 & 115XR...40 PSIG

5) See Actuators, Positioners, and Accessories section for explanation of spring ranges.

Valve / Actuator — Shut-Off ΔP — 5840

Two-Way Single Seat
Unbalanced with Cage-Retained Seat

Maximum Shut-off ΔP in PSI

Valve			Actuator		Fail Closed Reverse Acting				Fail Open Direct Acting			
					Air Signal to Actuator *See "Pneumatic Ranges"...bottom right*				Air Signal to Actuator *See "Pneumatic Ranges"...bottom right*			
Trim Size (IN)	Valve Size (IN)	Plug Travel (IN)	Pneumatic Actuator	Spring Range	Range 1	Range 2	Range 3	Range 4	Range 1	Range 2	Range 3	Range 4
1.688	2-1/2	1-1/2	DL84	Low	N/A	N/A	8	N/A	121	196	684	N/A
				Full	N/A	N/A	8	N/A	N/A	N/A	458	N/A
				High	121	196	233	N/A	N/A	N/A	458	N/A
			DL115	Low	N/A	N/A	50	50	204	307	740	740
				Full	N/A	N/A	50	50	N/A	N/A	666	740
				High	204	307	358	358	N/A	N/A	666	740
			DL115XR	Xtra-High	N/A	N/A	740	740	N/A	N/A	N/A	N/A
			Cylinder 6"		309	407	503	597	419	671	740	740
			Cylinder 8"		568	738	740	740	740	740	740	740
2.126	2-1/2	1-1/2	DL84	Low	N/A	N/A	N/A	N/A	64	112	419	N/A
	and			Full	N/A	N/A	N/A	N/A	N/A	N/A	277	N/A
	3			High	64	112	135	N/A	N/A	N/A	277	N/A
			DL115	Low	N/A	N/A	20	20	117	182	603	740
				Full	N/A	N/A	20	20	N/A	N/A	408	732
				High	117	182	214	214	N/A	N/A	408	732
			DL115XR	Xtra-High	N/A	N/A	473	473	N/A	N/A	N/A	N/A
			Cylinder 6"		179	257	317	376	252	411	571	730
			Cylinder 8"		358	466	575	682	568	740	740	740
2.501	3	1-1/2	DL84	Low	N/A	N/A	N/A	N/A	39	74	296	N/A
	and			Full	N/A	N/A	N/A	N/A	N/A	N/A	193	N/A
	4			High	39	74	91	N/A	N/A	N/A	193	N/A
			DL115	Low	N/A	N/A	7	7	77	124	428	662
				Full	N/A	N/A	7	7	N/A	N/A	288	522
				High	77	124	147	147	N/A	N/A	288	522
			DL115XR	Xtra-High	N/A	N/A	335	335	N/A	N/A	N/A	N/A
			Cylinder 6"		124	186	229	272	175	290	405	520
			Cylinder 8"		259	336	415	493	410	587	740	740
3.376	4	1-1/2	DL84	Low	N/A	N/A	N/A	N/A	12	31	153	N/A
				Full	N/A	N/A	N/A	N/A	N/A	N/A	97	N/A
				High	12	31	41	N/A	N/A	N/A	97	N/A
			DL115	Low	N/A	N/A	N/A	N/A	33	59	226	354
				Full	N/A	N/A	N/A	N/A	N/A	N/A	149	277
				High	33	59	72	72	N/A	N/A	149	277
			DL115XR	Xtra-High	N/A	N/A	174	174	N/A	N/A	N/A	N/A
			Cylinder 6"		65	102	126	149	87	150	213	276
			Cylinder 8"		142	185	228	271	225	322	419	517

Pneumatic Ranges		
	Diaphragm	Cylinder
Range 1	3-15	0-60
Range 2	1-17	0-80
Range 3	0-30	0-100
Range 4	0-40	0-120

Valve			Actuator		Shut-Off ΔP Two-Way, Cage Balanced with Cage-Retained Seat — 5843							
					Maximum Shut-off ΔP in PSI							
					Fail Closed Reverse Acting				Fail Open Direct Acting			
					Air Signal to Actuator *See "Pneumatic Ranges"...bottom right*				Air Signal to Actuator *See "Pneumatic Ranges"...bottom right*			
Trim Size (IN)	Valve Size (IN)	Plug Travel (IN)	Pneumatic Actuator	Spring Range	Range 1	Range 2	Range 3	Range 4	Range 1	Range 2	Range 3	Range 4
1.688	2-1/2	1-1/2	DL84	Low	N/A	N/A	N/A	N/A	190	360	740	N/A
				Full	N/A	N/A	N/A	N/A	N/A	N/A	740	N/A
				High	190	360	445	N/A	N/A	N/A	740	N/A
			DL115	Low	N/A	N/A	30	30	378	740	740	740
				Full	N/A	N/A	30	30	N/A	N/A	740	740
				High	378	610	726	726	N/A	N/A	740	740
			DL115XR	Xtra-High	N/A	N/A	740	740	N/A	N/A	N/A	N/A
2.126	2-1/2	1-1/2	DL84	Low	N/A	N/A	N/A	N/A	190	360	740	N/A
	and			Full	N/A	N/A	N/A	N/A	N/A	N/A	740	N/A
	3			High	190	360	445	N/A	N/A	N/A	740	N/A
			DL115	Low	N/A	N/A	30	30	378	740	740	740
				Full	N/A	N/A	30	30	N/A	N/A	740	740
				High	378	610	726	726	N/A	N/A	740	740
			DL115XR	Xtra-High	N/A	N/A	740	740	N/A	N/A	N/A	N/A
2.501	3	1-1/2	DL84	Low	N/A	N/A	N/A	N/A	125	267	740	N/A
	and			Full	N/A	N/A	N/A	N/A	N/A	N/A	740	N/A
	4			High	125	267	338	N/A	N/A	N/A	740	N/A
			DL115	Low	N/A	N/A	N/A	N/A	283	477	740	740
				Full	N/A	N/A	N/A	N/A	N/A	N/A	740	740
				High	283	477	574	574	N/A	N/A	740	740
			DL115XR	Xtra-High	N/A	N/A	740	740	N/A	N/A	N/A	N/A
3.376	4	1-1/2	DL84	Low	N/A	N/A	N/A	N/A	41	178	740	N/A
				Full	N/A	N/A	N/A	N/A	N/A	N/A	658	N/A
				High	41	178	247	N/A	N/A	N/A	658	N/A
			DL115	Low	N/A	N/A	N/A	N/A	193	381	662	740
				Full	N/A	N/A	N/A	N/A	N/A	N/A	740	740
				High	193	381	474	474	N/A	N/A	740	740
			DL115XR	Xtra-High	N/A	N/A	740	740	N/A	N/A	N/A	N/A

Pneumatic Ranges	
	Diaphragm
Range 1	3-15
Range 2	1-17
Range 3	0-30
Range 4	0-40

NOTES:

1) 5843 Seat Closure ANSI Class IV (Stainless Steel or Alloy 6 Trim w/Fluoraz Seal), ANSI Class III (Stainless Steel or Alloy 6 Trim w/Metal Seal).

2) Inlet pressure **cannot** exceed Body Pressure-Temperature Rating.

3) The 3-15 and 1-17 ranges apply to valves with diaphragm actuators and control signals coming directly from I/P transducers with matching ranges. The 0-30 and 0-40 ranges apply to valves with diaphragm actuators and a positioner or an I/P transducer of suitable range.

4) N/A indicates that the air signal is not capable of providing any shut-off or it exceeds the actuator's maximum air pressure.

   Maximum air pressure
   DL84 ……30PSIG
   DL115 & 115XR…40PSIG

5) See Actuators, Positioners, and Accessories section for explanation of spring ranges.

Dimensions & Weights

5840 Dimension (IN)		Valve Size (IN)							
		1/2	3/4	1	1-1/2	2	2-1/2	3	4
A	300THD	7-1/2	7-5/8	7-3/4	9-1/4	10-1/2	N/A	N/A	N/A
	300SWE	7-1/2	7-5/8	7-3/4	9-1/4	10-1/2	N/A	N/A	N/A
	150FLG	7-1/4	7-1/4	7-1/4	8-3/4	10	10-7/8	11-3/4	13-7/8
	300FLG	7-1/2	7-5/8	7-3/4	9-1/4	10-1/2	11-1/2	12-1/2	14-1/2
B		2	2-3/8	2-1/2	3-1/4	3-3/8	4	4-3/8	5-1/4
C	Standard	5	5	5	4-7/8	4-7/8	7	7	7
	Extension Bonnet	10	10	10	9-7/8	9-7/8	14	14	14

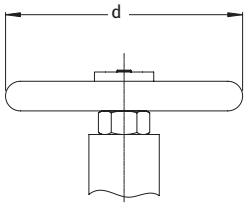
Valve Size (IN)	Weight (LB)							
	Standard				With Extension Bonnet			
	300THD	300SWE	150FLG	300FLG	300THD	300SWE	150FLG	300FLG
1/2	23	23	25	27	27	27	29	31
3/4	23	23	26	30	27	27	30	34
1	24	24	25	29	29	29	29	33
1-1/2	31	31	33	39	35	35	37	43
2	36	36	40	44	40	40	44	48
2-1/2	N/A	N/A	64	74	N/A	N/A	74	84
3	N/A	N/A	77	90	N/A	N/A	87	100
4	N/A	N/A	120	140	N/A	N/A	130	150

Consult factory for drawings, weights, and dimensions of configurations not shown.

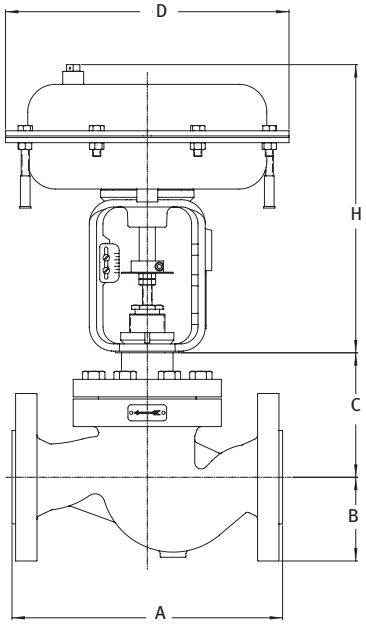
Actual shipping weights may vary.

5843 Dimension (IN)		Valve Size (IN)		
		2-1/2	3	4
A	150FLG	10-7/8	11-3/4	13-7/8
	300FLG	11-1/2	12-1/2	14-1/2
B		4	4-3/8	5-1/4
C	Standard	7	7	7
	Extension Bonnet	14	14	14

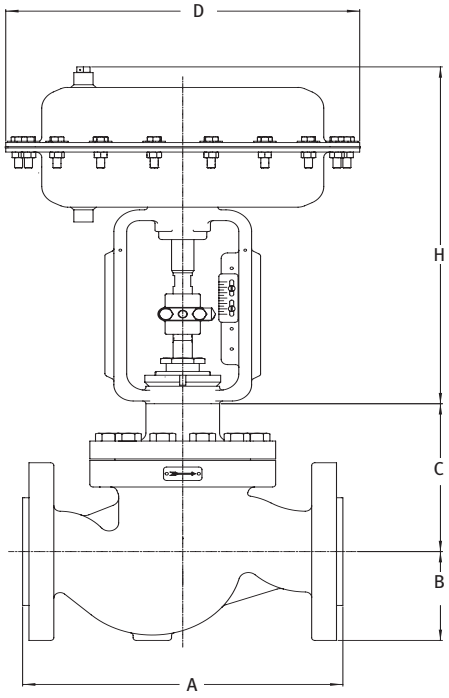
Valve Size (IN)	Weight (LB)			
	Standard		With Extension Bonnet	
	150FLG	300FLG	150FLG	300FLG
2-1/2	65	75	75	85
3	79	92	89	102
4	123	143	133	153



Top mounted handwheel



5800 w/DL49
or 49XR



5800 w/DL84 or
84XR

Actuator	D (IN) Actuator	d (IN) Handwheel	H MAX (IN) STD*	H MAX (IN) With Handwheel	Weight (LB) STD*	Weight (LB) With Handwheel
DL49 Direct	11	6-3/8	12-1/4	16	25	CF
DL49 49XR Reverse	11	6-3/8	11-1/4	13-3/4	25	CF
DL84 Direct	13-7/8	8-1/8	16-3/4	24-1/8	48-1/2	CF
DL84 or 84XR Reverse	13-7/8	8-1/8	15-3/4	24	48-1/2	CF
DL115 Direct	16-3/4	10-1/8	28	37	105	CF
DL115 Reverse	16-3/4	10-1/8	30	45-1/2	CF	CF
DL115XR Reverse	16-3/4	10-1/8	30	45-1/2	CF	CF
4" Cylinder	7-1/8	N/A	14-1/2	N/A	20	N/A
6" Cylinder	10	N/A	18-1/8	N/A	28	N/A
8" Cylinder	12-3/4	N/A	18-1/4	N/A	41	N/A

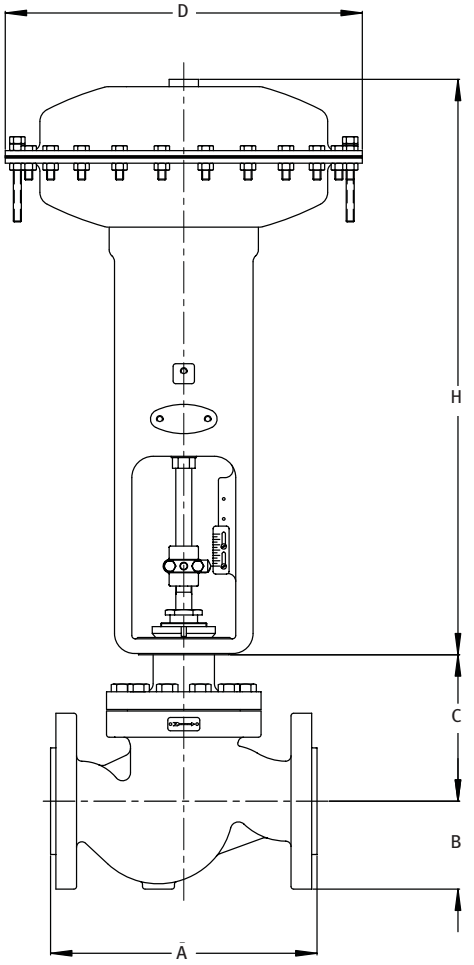
*Includes 1-3/8 inch for air fitting on direct acting diaphragm actuators

Face to face dimensions for
NPT & SWE conform to ANSI/ISA S75.03 300# (Sizes 1/2 and 3/4 inch)
and S75.12 Short 300# (Sizes 1 thru 2 inch)
150 & 300FLG conform to ANSI/ISA S75.03

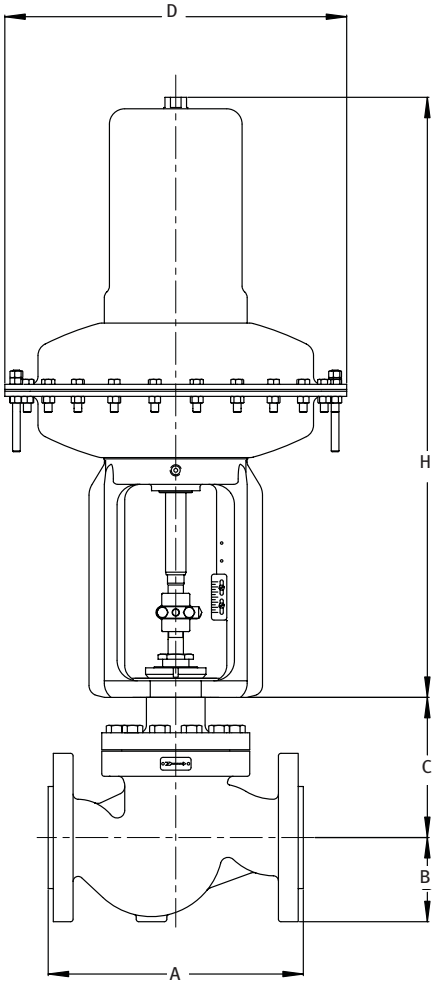
CF = Consult Factory NA = Not Available

Actuator Removal Clearance
Above Actuator on 1/2 thru 2 inch valve allow 4-7/8 inches
Above Actuator on 2-1/2 thru 4 inch valve allow 5-5/8 inches

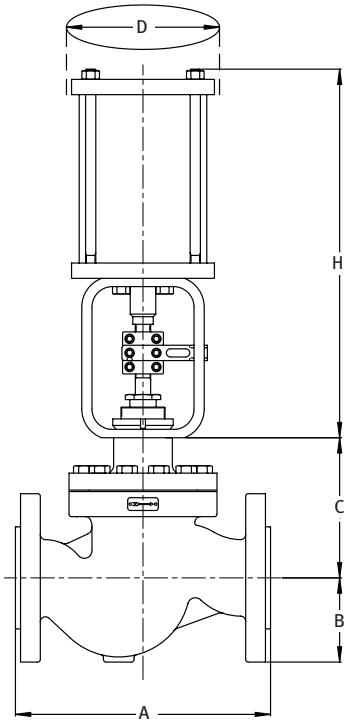
Actual shipping weights may vary.



5800 w/DL115 Direct



5800 w/DL115 or 115XR Reverse



5800 w/CL4, 6, or 8

Diaphragm Actuators

Actuator		Spring Range (PSI)			
Size	Action	Low	Full	High	Xtra-High
DL49	Direct	3-9	4-13	8-12	N/A
DL49	Reverse	4-10	5-14	10-14	N/A
DL84 & DL115	Direct	3-9	3-15	9-15	N/A
DL84 & DL115	Reverse	3-9	3-15	9-15	N/A
DL 49XR, DL84XR & DL115XR	Reverse	N/A	N/A	N/A	See Note
Note: The spring range of XR (eXtended Range) actuators varies with travel. These actuators require positioners or I/P's for modulating control.					

Effective Area: DL49, 49XR (49 Sq In), DL84 & 84XR (84 Sq In)
DL115 & 115XR (115 Sq In)
Springs: DL49, 49XR, 84 & 84XR Multiple
DL115 Single
DL115XR Dual
Max Air Supply: DL49, 49XR, 84 & 84XR 30PSIG
DL115 & 115XR 40PSIG
Air Connections: 1/4 NPT
Diaphragm: Buna-N Fabric Reinforced
Diaphragm Chambers: Steel
Yoke: DL49, 49XR, 84, 84XR, DL115 & 115XR Ductile Iron
Stem: 300 Series Stainless Steel
Finish: DL49, 49XR Epoxy-Coated
DL84, 84XR, 115, & 115XR Acrylic Enamel
Ambient Temperature: DL49, 49XR -20 to 160°F
DL84, 84XR, 115 & 115XR -40 to 180°F
Mounting: Vertical Above or Below Valve
Handwheel: Available on DL49, 49XR, 84, 84XR, 115 & 115XR

Cylinder Actuators

Piston Diameter: 4, 6, & 8 Inch
Springs: Single
Max Air Supply: 120PSIG
Air Connections: 1/4 NPT
Piston: Aluminum
Cylinder: Aluminum
Heads: Aluminum, Black Anodized
Yoke: Steel, Acrylic Painted
Stem: 416 Series Stainless Steel, Hard Chromate Plated
Ambient Temperature: -25 to 250°F
Mounting: Vertical Above or Below Valve
Note: Cylinder Actuators require a positioner for modulating control.

Positioners

Split Ranging with Positioners

Positioners are sometimes used to "Split-Range" two control valves in a parallel configuration within a piping scheme. This technique is used to obtain higher rangeability than could otherwise be achieved with a single control valve. Typically one smaller valve supplying 15% to 35% of total flow is mated with a larger valve supplying 65% to 85% of total flow.

The best-matched pair will each be providing similar rangeability for each respective flow contribution to the manifold. Calculated as maximum flow /minimum controllable flow, the smaller valve should not be attempting to control flow below 5% of stroke. Estimate Cv from Cv tables vs. stroke to calculate this.

Split Ranging with Positioners (Continued)

The chosen positioners would then have a Low Range signal for the smaller valve and a High Range Signal for the larger valve. With this, a single control signal can be sequentially applied to each valve. At mid-signal range, the little valve is completely open while the larger valve is just starting to open. Controlability for wide process set point ranges is dramatically improved.

BLX Models:

BLX Pneumatic

Models: BFP_: Full Range Signal (3-15 PSIG)
BLP_: Low Range Signal (3-9 PSIG)
BHP_: High Range Signal (9-15 PSIG)
Options 2SPDT Limit Switches, 4-20 mA Feedback
Ingress & Corrosion Protection: NEMA, 4X, IP66
Supply Pressure: Pneumatic 145 PSIG Max **Not to exceed actuator rating**
Air Consumption: 0.19 SCFM at 30 PSIG, 0.25 SCFM at 40 PSIG,
0.61 SCFM at 100 PSIG

BLX Electro-Pneumatic

Models: BFE_: Full Range Signal (4-20 mA)
BLE_: Low Range Signal (4-12 mA)
BHE_: High Range Signal (12-20 mA)
Options 2SPDT Limit Switches, 4-20 mA Feedback
Ingress & Corrosion Protection: NEMA, 4X, IP66
Supply Pressure: 21.8 to 145 PSIG **Not to exceed actuator rating**
Air Consumption: 0.21 SCFM at 30 PSIG, 0.28 SCFM at 40 PSIG,
0.69 SCFM at 100 PSIG

BLX Electro-Pneumatic Intrinsically Safe

Models: BFI_: Full Range Signal (4-20 mA)
BLI_: Low Range Signal (4-12 mA)
BHI_: High Range Signal (12-20 mA)
Ingress & Corrosion Protection: NEMA, 4X, IP66
Approvals & Ratings:
FM Intrinsically Safe: Class I II III, Div 1, Groups A,B,C,D,E,F,G.
CSA Intrinsically Safe: Class I, Div 1, Groups A, B, C, D.
Class II, Div 1, Groups E, F, G.
Class III.
Class I, Div 2, Groups A, B, C, D.
Class II, Div 2, Groups E, F, G.
Supply Pressure: 30 to 145 PSIG **Not to exceed actuator rating**
Air Consumption: 0.21 SCFM at 30 PSIG, 0.28 SCFM at 40 PSIG,
0.69 SCFM at 100 PSIG

BLX Electro-Pneumatic Explosion Proof

Models: BFX_: Full Range Signal (4-20 mA)
BLX_: Low Range Signal (4-12 mA)
BHX_: High Range Signal (12-20 mA)
Ingress & Corrosion Protection: NEMA, 4X, IP66
Approvals & Ratings:
FM Intrinsically Safe: Class I II III, Div 1, Groups A,B,C,D,E,F,G.
Non-Incentive: Class I, Div 2, Groups A,B,C.
Explosion Proof: Class I, Div 1, Groups B,C,D.
Class I II III, Div 1, Groups E,F,G.
CSA Intrinsically Safe: Class I, Div 1, Groups A,B,C,D.
Class II, Div 1, Groups E,F,G.
Class III.
Class I, Div 2, Groups A,B,C,D.
Class II, Div 2, Groups E,F,G.

BLX Electro-Pneumatic Explosion Proof (Continued)

Explosion Proof: Class I, Div 1, Groups B,C,D.
Class II, Div 1, Groups E,F,G.
Supply Pressure: 30 to 145 PSIG **Not to exceed actuator rating**
Air Consumption: 0.21 SCFM at 30 PSIG, 0.28 SCFM at 40 PSIG, 0.69 SCFM at 100 PSIG

BLX Electro-Pneumatic Fail Freeze

Models: BFF_: Full Range Signal (4-20 mA)
BLF_: Low Range Signal (4-12 mA)
BHF_: High Range Signal (12-20 mA)
Options 2SPDT Limit Switches, 4-20 mA Feedback
Ingress & Corrosion Protection: NEMA, 4X, IP66
Supply Pressure: 20 to 100 PSIG Max **Not to exceed actuator rating**
Air Consumption: 0.21 SCFM at 30 PSIG, 0.28 SCFM at 40 PSIG, 0.69 SCFM at 100 PSIG

All Models:

Construction: Aluminum Housing with Polyester Powder Coat
Action: Direct or Reverse
Media: Clean Dry Oil Free Air Filtered to 5 micron
Air Connections: 1/4 NPT
Flow Capacity: 9.8 SCFM at 30 PSIG, 13.1 SCFM at 40 PSIG 32.5 SCFM at 100 PSIG
Electrical Connection: 1/2 NPT
Gauges: Input 0-30 PSIG,
Output 0-60 PSIG, Supply 0-60 PSIG, (Diaphragm Actuator),
Output 0-100 PSIG, Supply 0-100PSIG (Cylinder Actuator),
Housing Black Steel Case with Chrome Ring
Ambient Temperature: -40 to 185°F (Except Fail Freeze –4 to 158°F)
Mounting: Yoke Mounted
Limit Switches and Feedback Options are NEMA 4X, IP66 only, and are not suitable for hazardous locations.

Moore 760 Models:

760P Pneumatic

Models: 76P_: Full Range Signal (3-15 PSIG)
Options Limit Switches, 4-20 mA Feedback (*Reduced feedback span for valves with less than 1 inch travel – Call factory for details.*)

760E Electro-Pneumatic

Models: 76E_: Full Range Signal (4-20 mA)
Options Limit Switches, 4-20 mA Feedback (*Reduced feedback span for valves with less than 1 inch travel – Call factory for details.*)
Approvals & Ratings:
FM Intrinsically Safe: Class I, Div 1, Groups A,B,C,D.
Class II, Div 1, Groups E,F,G.
Class III, Div 1.
Non-Incentive: Class I, Div 2, Groups A,B,C,D.
Suitable for: Class II, Div 2, Groups F,G.
Class III, Div 2.
CSA Intrinsically Safe: Class I, Div 1, Groups A,B,C,D.
Class II, Div 1, Groups E,F,G.
Class III, Div 1.
Suitable for: Class I, Div 2, Groups A,B,C,D.
Class II, Div 2, Groups E,F,G.
Class III, Div 2.

All Models:

Construction: Aluminum Housing with Epoxy/Polyester Powder Coat
Ingress & Corrosion Protection: NEMA 4, 4X, IP65
Action: Direct or Reverse
Supply Pressure: 150 PSIG Max **Not to exceed actuator rating**
Media: Clean Dry Oil Free Air Filtered to 3 micron
Flow Capacity: 9.0 SCFM
Air Consumption: 0.5 SCFM Typical

All Models (Continued)

Air Connections: 1/4 NPT
Electrical Connection: 3/4 NPT
Gauges: Input 0-30 PSIG,
Output 0-60 PSIG, (Diaphragm Actuator),
Output 0-100 PSIG (Cylinder Actuator),
Housing Black Steel Case with Chrome Ring
Ambient Temperature: 760P -40 to 180°F, 760E –40 to 167°F
Mounting: Yoke Mounted

Siemens SIPART PS2 Models:

Electro-Pneumatic

Models: P24_: Full Range Signal (4-20 mA)
Calibration: Automatic or Manual Commissioning, 3 Input Keys and Two-Line CD
Options: Limit Switches (2 Binary Signal Outputs from Solid State Switching; No Dry Contacts), 4-20mA Feedback

2,3,4, Wire HART

Models: P2H_: Full Range Signal (2-Wire, 4-20 mA; 3 or 4-Wire, 0/4-20 mA)
Calibration: Automatic or Manual Commissioning, 3 Input Keys and Two Line CD, & HART
Options: Limit Switches (2 Binary Signal Outputs from Solid State Switching; No Dry Contacts), 4-20mA Feedback

PROFIBUS PA

Models: P2P_: Signal PROFIBUS PA Protocol Specification IEC 61158-2; Bus Supplied Device
Calibration: Automatic or Manual Commissioning, 3 Input Keys and Two-Line CD & PROFIBUS PA
Options: Limit Switches (2 Binary Signal Outputs from Solid State Switching; No Dry Contacts)

FOUNDATION FIELDBUS

Models: P2F_: Signal Foundation Protocol Specification IEC 61158-2; Bus Supplied Device
Calibration: Automatic or Manual Commissioning, 3 Input Keys and Two-Line CD & Foundation Fieldbus
Options: Limit Switches (2 Binary Signal Outputs from Solid State Switching; No Dry Contacts)

All Models:

Construction: Glass-Fiber-Reinforced Macrolon Housing
Ingress & Corrosion Protection: IP65 to EN 60 529/NEMA 4X
Approvals & Ratings:
FM Intrinsically Safe: Class 1, Div 1, Gr. A,B,C,D,T4,T5 and T6, and Class 1 Zone 1, AEx ib, Group IIC
Non-Incentive: Class 1, Div 2, Gr. A,B,C,D,T4,T5 and T6, and Class 1 Zone 2, Group IIC
Explosion Proof: Class 1, Div 1, Gr. A,B,C,D, T6 and Class 1 Zone 1, Group IIC (Available as a Special, Requires Flameproof Enclosure)
CSA Intrinsically Safe: Class 1, Div 1, Gr. A,B,C,D,T4,T5 and T6, and Class 1 Zone 1, AEx ib, Group IIC
Non-Incentive: Class 1, Div 2, Gr. A,B,C,D,T4,T5 and T6, and Class 1 Zone 2, Group IIC
CENELEEC replaced by ATEX
ATEX Intrinsically Safe: Equipment Group II, Category 2, Atmosphere G EEx ia/ib, IIC, T6
Explosion Protection: Equipment Group II, Category 3, Atmosphere G, EEx nAL [L], IIC, T6
Explosion Proof: Equipment Group II, Category 2 Atmosphere G, EEx d, IIC, T4, T5 and T6 (Available as a Special, Requires Flameproof Enclosure)
Action: Direct or Reverse
Supply Pressure: 20.3 to 101.5 PSIG **Not to exceed actuator rating**
Media: Clean Dry Oil Free Air Filtered to 1 micron. Pressure Dew Point -40 F Below Lowest Ambient Temperature.
Output Flow Capacity: 4.83 SCFM at 29 PSIG (Diaphragm Actuator), 11.30 SCFM at 87 PSIG (Cylinder Actuator)
Air Consumption: 0.00035 SCFM

Siemens (Continued)

Air Connections:	1/4 NPT
Electrical Connection:	1/2 NPT
Gauges:	Supply 0-160 PSIG, Output 0-160 PSIG (Diaphragm Actuator), Output 0-160 PSIG (Cylinder Actuator), Housing Black Steele Case with Chrome Ring
Ambient Temperature:	-22 to 176°F
Mounting:	Yoke Mounted

Position Indication Switches

Proximity Mark 1

Models:	2 SPDT Switches 4 SPDT Switches 6 SPDT Switches 2 SPDT Switches w/ 2K Potentiometer 2 SPDT Switches w/ 4-20 mA Feedback
Construction:	Aluminum Housing, Hard Anodized
Locations:	NEMA 1, 2, 3, 3R, 3S
Ambient Temperature:	-40 to 180°F
Electrical Connection:	3/4 NPT, Terminal Strip
Mounting:	Yoke Mounted

I/P's

Type 500X

Locations:	NEMA 4X
Construction:	Zinc Alloy Base with Aluminum Bonnet, Epoxy Painted
Ranges:	3-9, 9-15, 3-15, 1-17, or 6-30 PSI
Supply Pressure:	Minimum 3 PSIG Above Maximum Output Maximum 100 PSIG **Not to exceed actuator rating**
Flow Capacity:	4.5 SCFM at 25 PSIG,12 SCFM at 100 PSIG
Air Consumption:	0.05 SCFM Midrange Typical
Ambient Temperature:	-20 to 140°F

Type 550X

Locations:	NEMA 4X (IP65)
Construction:	Chromate-treated Aluminum with Epoxy Paint
Ranges:	0-30, or 0-60 PSI
Supply Pressure:	Minimum 5 PSIG Above Maximum Output Maximum 100 PSIG **Not to exceed actuator rating**
Flow Capacity:	12 SCFM at 100 PSIG
Air Consumption:	6.0 SCFH Midrange Typical
Ambient Temperature:	-20 to 150°F

Type 950X

Locations:	NEMA 4X (IP65), Explosion proof
Construction:	Chromate-treated Aluminum with Epoxy Paint
Ranges:	3-15 PSI

IP's (continued)

Supply Pressure:	Minimum 5 PSIG Above Maximum Output Maximum 100 PSIG **Not to exceed actuator rating**
Flow Capacity:	4.5 SCFM at 25 PSIG
Air Consumption:	3.0 SCFH Midrange Typical.
Ambient Temperature:	-40 to 160°F

All Models:

Input:	4-20 mA Field Reversible
Air Connections:	1/4 NPT
Electrical Connection:	1/2 NPT, Pigtail Leads
Media:	Clean Dry Oil Free Air Filtered to 40 micron
Mounting:	Yoke Mounted

Air Filter Regulators

Models:	Type 300, Type 350SS
Output Ranges:	Type 300, 0-30, 0-60, or 0-120 PSIG Type 350SS, 0-100 PSIG
Supply Pressure:	Type 300, 250 PSIG Maximum Type 350SS, 290 PSIG Maximum
Construction:	Type 300, Die-Cast Aluminum with Irridite and Baked Epoxy Paint Type 350SS, 316 Stainless Steel
Gauge:	Type 300, Output, Housing Steel Painted Type 350SS,Output, Housing Stainless Steel
Air Connections:	1/4 NPT
Filter:	Type 300, 40 micron. Type 350SS, 25 micron
Mounting:	Chamber Mounted

Solenoids

Models:	<u>For use with Diaphragm Actuators or Positioners with Cylinder Actuators</u> 8320G184, EF8320G184, 8320G202, EF8320G202 <u>For use with Cylinder Actuators without Positioners</u> 8342G1, EF8342G1, 8342G701, EF8342G701
Construction:	(EF)8320G184, 3-Way Brass (EF)8320G202, 3-Way Stainless Steel (EF)8342G1, 4-Way Brass (EF)8342G701, 4-Way Stainless Steel
Locations:	83206G184, 8320G202, 8342G1, & 8342G701 Watertight, Types 1, 2, 3, 3S, 4, and 4X EF8320G184, EF8320G202, EF8342G1 & EF8342G701 Explosion proof and Watertight, Types 3, 3S, 4, 4X 6, 6P, 7 & 9
Supply:	120VAC
Ambient Temperature:	+32 to 125°F
Air Connections:	1/4 NPT
Electrical Connection:	1/2 NPT, Pigtail Leads
Approvals:	CSA, UL, CE
Mounting:	Chamber Mounted

Air Tubing

Standard:	Copper
Optional:	Stainless Steel

Positioners

Valve Type	Actuator Action	Input Signal: Pneumatic	Input Signal: Electro-Pneumatic	Input Signal: PROFIBUS PA	Input Signal: Foundation Fieldbus	Input Signal: Increasing Signal	Failure Modes: Loss of Signal Valve Fails…[1]	Failure Modes: Loss of Power Valve Fails…[2]	Failure Modes: Loss of Air Supply Valve Fails…
5840 & 43	Direct	3-15 PSI	4-20 mA	PROFIBUS Protocol	Fieldbus Protocol	Closes Valve	Open	Open	Open
	Reverse	3-15 PSI	4-20 mA	PROFIBUS Protocol	Fieldbus Protocol	Opens Valve	Closed	Closed	Closed

[1] Valves with Fail Freeze Positioners Fail in Last Position on Loss of Signal.

[2] PROFIBUS PA or Foundation Fieldbus ONLY.

Positioner Feedback

Valve Type	Actuator Action	Feedback Signal[3]	Signal Increases as
5840 & 43	Direct	4-20 mA	Valve Closes
	Reverse	4-20 mA	Valve Opens

[3] Reduced feedback span for valves with 760 and less than 1 inch travel.

Positioner Limit Switches

Valve Type	Position	Settings: Switch 1	Settings: Switch 2
5840 & 43	Valve Closed	Closed	Open
	Valve Open	Open	Closed

I/P's

Valve Type	Actuator Action	Input Signal	Increasing Signal	Failure Modes: Loss of Signal Valve Fails…	Failure Modes: Loss of Air Supply Valve Fails…
5840 & 43	Direct	As Required For Shut-off	Closes Valve	Open	Open
	Reverse	As Required For Shut-off	Opens Valve	Closed	Closed

SOLENOIDS (without Positioners or I/P's)

Valve Type	Actuator Action	Solenoid Energized	Failure Modes: Loss of Signal Valve Fails…	Failure Modes: Loss of Air Supply Valve Fails…	Failure Modes: Solenoid De-energized Valve Fails…
5840 & 43	Direct	Closes Valve	Open	Open	Open
	Reverse	Opens Valve	Closed	Closed	Closed

If the Solenoid is used with a Positioner or an I/P, refer to the Positioner or I/P listings for factory default settings and failure modes with the solenoid not failed.

Proximity MARK 1 Position Indication Switches Feedback

Valve Type	Actuator Action	Feedback Signal: Potentiometer[4]	Feedback Signal: mA	Feedback Signal Increases as
5840 & 43	Direct	0-350 ohm	4-20 mA	Valve Closes
	Reverse	0-350 ohm	4-20 mA	Valve Opens

[4] Span varies from approx 155 to 350 ohm depending on actuator and travel.

Limit Switches

Valve Type	Position	Settings: Switch 1, 3, 5	Settings: Switch 2, 4, 6
5840 & 43	Valve Closed	Closed	Open
	Valve Open	Open	Closed

Air Filter Regulators

Actuator	Output Pressure
DL49, 49XR, 84 & 84XR	30PSIG
DL115 & 115XR	40PSIG
4", 6" & 8" Cylinder	100PSIG

Configurations

1. SELECTIONS Please make a selection from each table of OPTIONS below to make a complete model number string.

58□-□□ □□□ □ □ □ □ □ □ □

2. OPTIONS

VALVE BODY

Model	Valve Type	Size	Body Material	End Connection	Trim Style	Trim Material	Trim Cv	Packing Type	Bonnet Construction
58N 1/2"-2" Bodies Diaphragm: 49" or 84" Cylinder: 4" or 6"	**40** Single Seat 2-Way, Unbalanced w/Cage Retained Seat	**050** 1/2 inch	**W** WCB	**F** 150 lb. Flanged	**E** Equal %	**S** 316 Stainless Steel	**F** Full Port	**T** Teflon	**S** PEEK Bearings
58H 2.5"-4" Bodies Diaphragm: 84" or 115" Cylinder: 6" or 8"	**43** Single Seat 2-Way, Cage Balanced w/Cage, Retained Seat	**075** 3/4 inch	**F** CF8M	**G** 300 lb. Flanged	**L** Linear	**T** TFE Soft Seats	**1** 1st Port Reduction	**G** Graphite	**N** Nitronic 60 Bearings
		100 1 inch		**S** NPT Screwed		**P** PEEK Soft Seats	**2** 2nd Port Reduction	**V** Vacuum Service	**H** Alloy 6 Bearings
		150 1-1/2 inch		**W** Socket Weld		**6** Alloy 6 Wrapped 316SS	**3** 3rd Port Reduction		**X** Alloy 6 Bearings w/Ext. Bonnet
		200 2 inch		*NOTE: S and W only available in 1/2" - 2" sizes.*		**7** 400 Stainless Steel	**4** 4th Port Reduction		
		250 2-1/2 inch				**8** Alloy 6 Wrapped 400SS	*NOTE: Check Factory for Availability of Reduced Trims*		
		300 3 inch							
		400 4 inch							

TS *Teflon Packing, PEEK Bearings*
GS *Graphite Packing, PEEK Bearings*
VS *Teflon Packing, PEEK Bearings, Vacuum Service*
TN *Teflon Packing, Nitronic 60 Bearings*
GN *Graphite Packing, Nitronic 60 Bearings*
VN *Teflon Packing, Nitronic 60 Bearings, Vacuum Service*
GH *Graphite Packing and Gaskets, Alloy 6 Bearings*
GX *Graphite Packing and Gaskets, Alloy 6 Bearings, Extention Bonnet*

VALVE TYPE/TRIM MATERIAL COMBINATIONS:

SIZE	TRIM MATERIAL S 316 SS	T TFE Soft Seats	P PEEK Soft Seats	6 Alloy 6/316 SS	7 400 SS	8 Alloy 6/400 SS
050 1/2 inch	40	40	40	40	40	40
075 3/4 inch	40	40	40	40	40	40
100 1 inch	40	40	40	40	40	40
150 1-1/2 in.	40	40	40	40	40	40
200 2 inch	40	40	40	40	40	40
250 2-1/2 in.	40, 43	40	40	40	40, 43	40,43
300 3 inch	40, 43	40	40	40	40,43	40,43
400 4 inch	40, 43	40	40	40	40,43	40, 43

VALVE TYPE/ACTUATOR COMPATIBILITY:

VALVE STYLE	VALVE SIZES	ACTUATORS
Type 5840	1/2"–2"	DL49, Cylinder 4"
Type 5840	1/2"–4"	DL84
Type 5840	3/4"–2"	DL49XR
Type 5840	1-1/2"–2"	DL84XR
Type 5840	1-1/2"–4"	Cylinder 6"
Type 5840	2-1/2"–4"	DL115, DL115XR & Cylinder 8"
Type 5843	2-1/2"–4"	DL84, DL115 & DL115XR

See Shut-Off ΔP Ratings for details.

ACTUATOR

Actuator Series

00 None

DIAPHRAGMS:

49 DL49 (49 Sq.In.)
84 DL84 (84 Sq.In.)
4X DL49XR
8X DL84XR (84 Ext. Rng.) for 58N only
15 DL115 (115 Sq.In.)
5X DL115XR

CYLINDERS:

C1 4" Spring Fail
C2 6" Spring Fail
C3 8" Spring Fail

NOTE : 4X, 5X & 8X Only in Xtra-High Spring Range, Reverse Acting

Action

0 None
R Reverse Stem Fail Down
D Direct Stem Fail Up

Spring Range

0 None
L Low 3-9psi 49D;84; & 115 4-10psi 49R
F Full 3-15psi 84 ; 115 5-14psi 49R; 4-13psi 49D
H High 9-15 psi 84; 115 10-14 psi 49R 8-12 psi 49D
X Xtra-High DL49XR DL84XR & DL115XR

Handwheel

0 None
R Reverse
D Direct

NOTE : Must match action.

FAILURE MODES:

MODE	ACTUATOR ACTION
Closed	Reverse
Open	Direct

ACCESSORIES

Positioners, I/P's & Limit Switches

0000 None

POSITIONERS:

BxP_ BLX Pneumatic
BxE_ BLX ElectroPneumatic
BxI_ BLX ElectroPneu. Intrn. Safe
BxX_ BLX ElectroPneu. Exp. Proof
BxF_ BLX ElectroPneu. Fail Freeze
76P_ Moore760 Pneumatic
76E_ Moore760 Electro-Pneumatic
P24_ Siemens PS2 Electro-Pneumatic
P2H_ Siemens PS2,3,4 Wire HART
P2P_ Siemens PS2 PROFIBUS PA
P2F_ Siemens PS2 FOUNDATION FIELDBUS

x digit spec.
F Full Range Signal, 3-15 PSI or 4-20mA
L Low of Split Range, 3-9 PSI or 4-12mA
H High of Split Range, 9-15 PSI or 12-20mA

4th digit spec.
0 No Additions
L w/Mech. Lmt Swtch's
F w/4-20 Feedback
B w/Swtch's & Feedbck

Note: *L, F & B not available for BxI or BxX*

PROXIMITY SWITCHES:

PX11 Mark 1 Series - 2 ea. SPDT
PX12 Mark 1 Series - 2 ea. SPDT w/2k Pot.
PX13 Mark 1 Series - 2 ea. SPDT w/4-20 Feedback
PX14 Mark 1 Series - 4 ea. SPDT
PX15 Mark 1 Series - 6 ea. SPDT

I/P's *Use with Diaphragm Only*

MAP1 Type 500X I/P, 3-9 PSI
MAP2 Type 500X I/P, 9-15 PSI
MAP3 Type 500X I/P, 3-15 PSI
MAP4 Type 500X I/P, 1-17 PSI
MAP5 Type 500X I/P, 0-30 PSI
MAP6 Type 550X I/P, 0-30 PSI
MAP7 Type 550X I/P, 0-60 PSI-*For 15 or 5X only*
MAP9 Type 950X I/P, 3-15 EXP

Air Filter Regulators

0 None
A Type 300, 0-30 PSI
B Type 300, 0-60 PSI
C Type 300, 0-120 PSI
D Type 350SS, 0-100 PSI

ASCO Solenoids

0 None
A 8320G184 3-Way Brass
B 8320G202 3-Way SS
J 8342G1 4-Way Brass
K 8342G701 4-Way SS
L EF8320G184 3-Way EXP Br.
M EF8320G202 3-Way EXP SS
V EF8342G1 4-Way EXP Br.
W EF8342G701 4-Way EXP SS

Special Options

0 None
S Special Opts or Set-up
T SS Tubing
G SS Tagging
B SS Tubing and Tagging

Note: Standard pneumatic tubing is copper. SS tubing "**T**" is optional.
SS tagging "**G**" (Two lines, 24 characters/line) is optional.
SS tubing and tagging together "**B**" is optional.

ACTUATOR/BODY COMPATIBILITY:

DIAPHRAGM	BODY
49 49 Sq.In. (DL49)	For 58N Bodies
4X DL49XR	For 58N Body
84 84 Sq.In. (DL84)	All Bodies
8X DL84XR	For 58N Bodies
15 115 Sq.In. (DL115)	For 58H Bodies
5X DL115XR	For 58H Bodies
CYLINDERS	
C1 4" Spring Fail	For 58N40 Only
C2 6" Spring Fail	For 58N40 & 58H40 Only
C3 8" Spring Fail	For 58H40 Only

WARREN CONTROLS

ACTUATED INDUSTRIAL VALVES

1800 SERIES
Heavy Globe Control Valves

styles:
- 2-way balanced
- 2-way unbalanced
- 3-way mixing
- 3-way diverting

sizes 1/2 to 12 in.
class 250 & 300
ends 125 FF, 150, 250, 300 RF flg
body Cast Iron, WCB,CF8M, Bronze (ASTM B61)
trim 316 SST, Alloy 6
Cv up to 1649
temp. -20° to 800°F
body limit to 740 psi
shutoff class III, IV
rangeability 50:1

- Heavy Duty
- Severe Service
- High Pressure Differentials
- Corrosive Materials, Liquids, Gases & Steam
- Modulating or On/Off Control

2800 SERIES
Precision Globe Control Valves

styles:
- 2-way unbalanced
- 2-way low flow
- 3-way mixing
- 3-way diverting

sizes 1/2 to 2 in.
class 250 & 300
ends Buttweld, NPT
body Bronze, CF8M
trim Bronze, 316 SST 17-4pH, Alloy 6, TFE, PEEK
Cv up to 40
temp. -20° to 500°F
body limit to 720 psi
shutoff class III, IV, VI
rangeability 50:1

- Economical
- Precision Control
- Suited for Gases, Steam, or Liquids that are Not Viscous or Solids Bearing

2900 SERIES
High Capacity General Purpose Globe Control Valves

styles:
- 2-way balanced
- 2-way unbalanced
- 3-way mixing
- 3-way diverting

sizes 2-1/2 to 10 in.
class 125 & 250
ends 125 FF, 250 RF flg
body Cast Iron
trim Bronze, 300 SS, 17-4pH, Alloy 6
Cv up to 960
temp. -20° to 400°F
body limit to 400 psi
shutoff class II, III, IV
rangeability 50:1

- High Capacity
- General Purpose
- Moderate Pressure Drops
- Compatible Liquids and Gas, Steam & Water
- Modulating or On/Off Control

3800 SERIES
E-Ball Rotary Control Valves

styles:
- 2-way rotary
  - flow to open
  - flow to close

sizes 1 to 8 in.
class 300
ends 150,300 RF flg
body WCB, CF8M, Custom Alloys
trim 316 SST, Alloy 6, Ceramic, TFE, PEEK
Cv up to 1420
temp. -20° to 800°F
body limit to 740 psi
shutoff class IV, IV+, VI
rangeability 100:1

- Eccentric, Segmented Ball
- Well Suited for Erosive Service
- Various Trim Options Include Ceramic for Slurries or Gritty Materials & Teflon® for Class VI Shutoff

5800 SERIES
Compact Globe Control Valves

styles:
- 2-way unbalanced cage retained seat
- 2-way cage balanced cage retained seat

sizes 1/2 to 4 in.
class 300
ends 150,300 RF flg, Socketweld, NPT
body WCB, CF8M, Bronze (ASTM B61)
trim 316 SST, 400 SST, Alloy 6, TFE, PEEK
Cv up to 170
temp. -20° to 800°F
body limit to 740 psi
shutoff class IV, VI
rangeability 50:1

- Highly Efficient, Compact Design
- High Pressure Drops
- Typically Suited for High Force Piston Actuators for Steam, Chemicals & Dirty Fluids

WARREN CONTROLS
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