

8100 Series

Two-way Higher Pressure Valve

Application 1" - 2" Valve

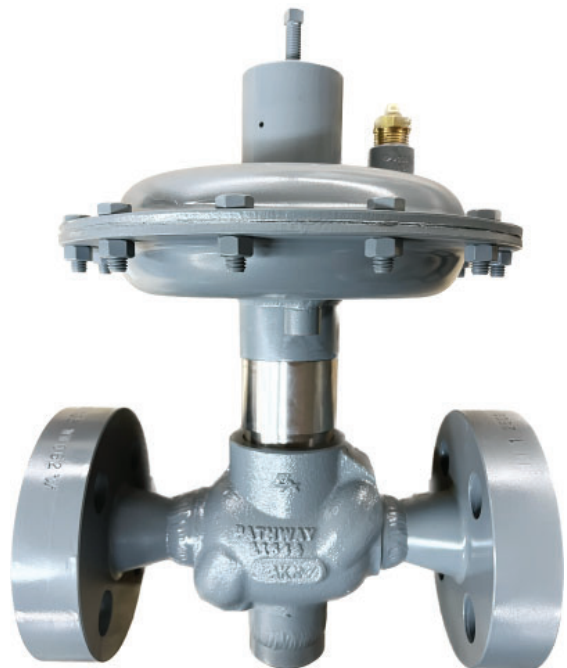
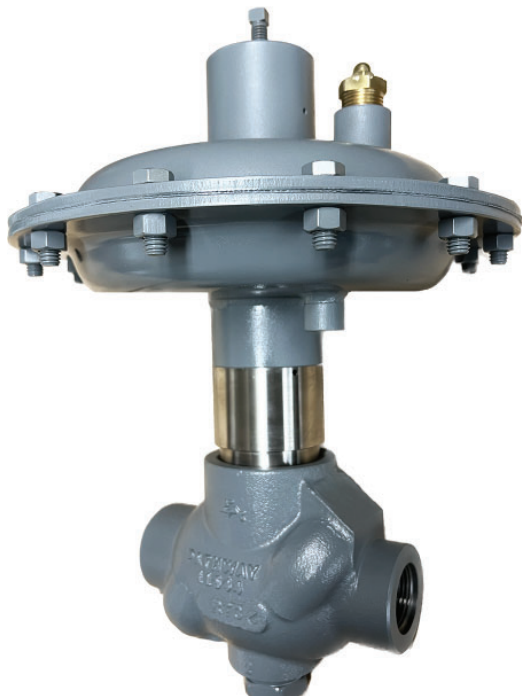
- Used for on-off or throttling control of oil, gas, or water on higher pressure applications
- Oil and gas separators, gas scrubbers and liquid accumulators of any type are typical applications
- Choice of bodies in either carbon steel or 316L SST
- Choice of actuation:
 - Pneumatic operated topworks is available in 3 different sizes with the valve in either a normally open or normally closed position
 - Hydraulic electric actuator
- NACE material packages available

Features and Benefits of the 8100 Series Valve

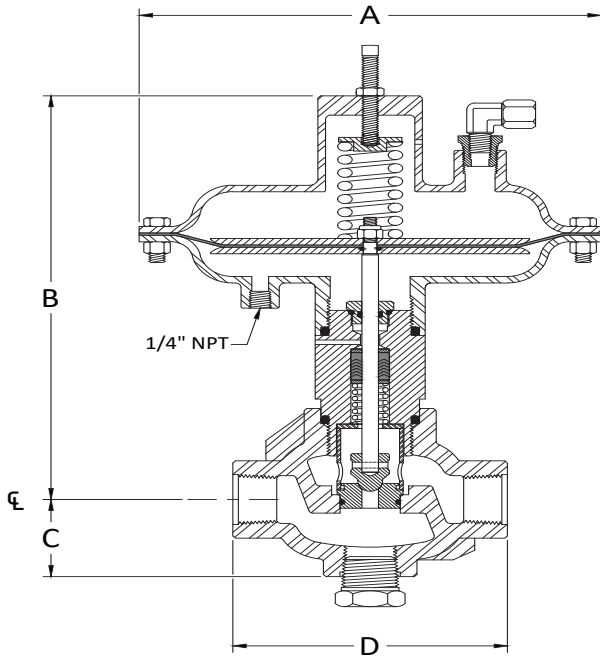
- 17-4 PH SST trim set in variety of sizes; available in carbide, carbide coated or soft trim
- Self lubricating PTFE packing assures a positive seal with low maintenance
- Variety of options for seals and packing gland materials
- In-line serviceability of internal components
- Valve body normally configured for straight through flow; also available for angle flow
- Rebuild kits available for all Pathway valves

Benefits of ALL Pathway Control Products

- Personalized service and support expertise
- Responsive, on-time delivery
- Time-tested & proven design providing dependable, long-term service
- Valves and castings Made in USA



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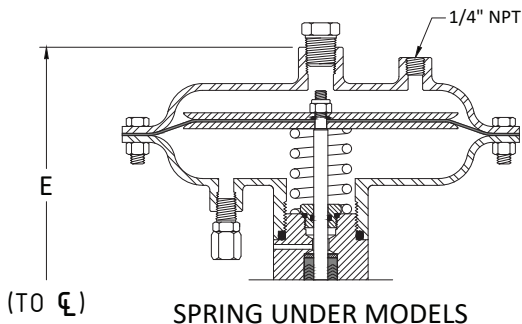


8100-111-12A1 SHOWN

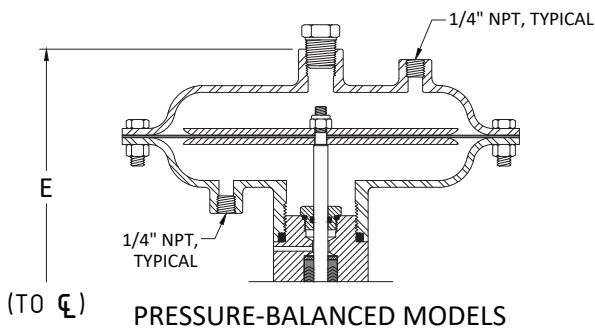
Dimensions					
Size	1" - 23	1" - 45	1" - 62	2" - 45	2" - 62
A	9"	10 ¹ / ₂ "	13 ³ / ₁₆ "	10 ¹ / ₂ "	13 ³ / ₁₆ "
B	8 ¹ / ₂ "	11 ¹ / ₈ "	14 ⁷ / ₈ "	11 ³ / ₁₆ "	15"
C	2 ¹ / ₈ "	2 ¹ / ₈ "	2 ¹ / ₈ "	3 ¹ / ₂ "	3 ¹ / ₂ "
D	6 ¹ / ₄ "	6 ¹ / ₄ "	6 ¹ / ₄ "	7"	7"
E	7 ³ / ₈ "	9 ⁵ / ₈ "	11 ⁵ / ₈ "	9 ⁵ / ₈ "	11 ³ / ₄ "

Flanged Models		
Flange	Face to Face	W.P. @ 100°F
1" 150# RF or RTJ	7"	275 psig
2" 150# RF or RTJ	7 ¹ / ₂ "	275 psig
1" 300# RF or RTJ	7 ¹ / ₄ "	720 psig
2" 300# RF or RTJ	7 ⁷ / ₈ "	720 psig
1" 600# RF or RTJ	7 ³ / ₄ "	1440 psig
2" 600# RF or RTJ	8 ³ / ₈ "	1440 psig
1" 900# RF or RTJ	10 ³ / ₄ "	2160 psig
2" 900# RF or RTJ	14"	2160 psig
1" 1500# RF or RTJ	10 ³ / ₄ "	3600 psig
2" 1500# RF or RTJ	14"	3000 psig
1" 2500# RTJ	12"	6000 psig

Special Face to Face available on flanged and beveled connections.



SPRING UNDER MODELS



PRESSURE-BALANCED MODELS

CAUTION:

Remove spring tension by backing off adjustment screw OR apply air pressure under diaphragm BEFORE removing topworks to prevent damage to trim.

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Specifications

Size:	1" Tee Body	2" Tee Body		
Working Pressure:	6000 psig	3000 psig		
Differential Pressures:	See charts on page 8100-4			
Temperature:	-20°F to +180°F standard; available to +400°F with open yoke			
Topworks:	Pressed steel with nylon reinforced nitrile diaphragm; 50 psig maximum supply pressure.			
Effective Area:	45 sq. in. standard; available in 23 sq. in. or 62 sq. in.			
Cv Factor - Orifice:	Valve Configuration:			
	1" Size		2" Size	
	Angle	Globe	Angle	Globe
¼"	2.3	1.9	2.0	1.8
⅜"	4.6	4.2	4.2	3.7
½"	8.3	7.2	7.4	6.9
¾"	15.0	12.8	16.3	13.9
1"	21.0	16.1	22.8	19.1

Material Selections

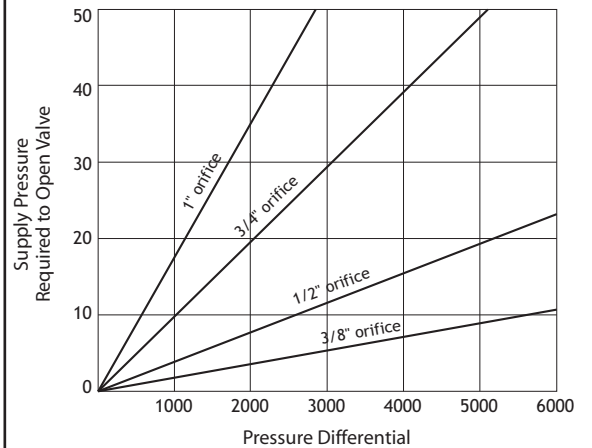
Body:	Cast Steel, ASTM A352 Available in 316L SST (ASTM A351, Grade CF3M)
Seals & Packing:	PTFE V-ring packing, nitrile/brass packing gland, nitrile seals standard; Available in: PTFE V-ring packing, fluorocarbon/brass packing gland, fluorocarbon seals; PTFE V-ring packing, nitrile/316 SST packing gland, nitrile seals, Nitronic 50 stem; PTFE V-ring packing, fluorocarbon/316 SST packing gland, fluorocarbon seals, Nitronic 50 stem
Stem:	303 Stainless steel ; Nitronic 50 available
Trim:	Snap acting or throttling 17-4 PH SST or carbide; acetal soft trim and carbide K coating available
NACE Package:	NACE materials include: 316L SST body and wetted internal components, PTFE V-ring packing, fluorocarbon/316 SST packing gland, fluorocarbon seals, Nitronic 50 stem, 17-4 PH SST trim set (with NACE exception)
Maintenance	
Rebuild Kits:	Rebuild Kits available which include: PTFE V-ring packing, packing gland, seals, trim set, valve stem, lock nut and diaphragm

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Maximum Differential Pressure (psig)

(Flow Over Seat) 45 Square Inch Topworks



For 23 sq. in. topworks, multiply supply pressure by 1.96.
For 62 sq. in. topworks, multiply supply pressure by 0.73.
Maximum trim size on valve with 23 sq. in. topworks is 1/2".

Maximum Pressure Differential (psig) Flow Under Seat

Topworks	23"		45"		62"	
Supply PSIG	20	30	15	21.5	15	21.5
Orifice						
1/4"	1429	4000	2857	6000	3571	6000
3/8"	661	1850	1548	3250	3095	5200
1/2"	446	1250	1024	2150	2054	3450
3/4"	n/a	n/a	476	1000	952	1600
1"	n/a	n/a	298	625	595	1000

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Ordering Chart Example: 8100 - 1 3 C 1 - 1 2 A 2 (#) Option #, see Special Materials & Features below

Select 8100 or 8100SS

8100 VALVE SIZE	
8100	
1	1" Carbon steel body
2	2" Carbon steel body

or

8100SS VALVE SIZE	
8100SS	
1	1" 316L Stainless steel body
2	2" 316L Stainless steel body

CONNECTION	
1	Threaded
3	Flanged - add letter from Flange Chart
4	Beveled for weld

FLANGE CLASS/TYPE CHART	
Add when using connection 3	
A	150# RF
B	300# RF
C	600# RF
D	900# RF
E	1500# RF
F	150# RTJ
G	300# RTJ
H	600# RTJ
J	900# RTJ
K	1500# RTJ
L	2500# RTJ

TOPWORKS	
Diaphragm Operated	
1	Spring on top (45 in ²)- fail closed
2	Spring under (45 in ²)- fail open
3	Pressure balanced (45 in ²)
4	Spring on top (23 in ²)- fail closed; max ½" trim
6	Spring on top (62 in ²)- fail closed
7	Spring under (62 in ²)- fail open
8	Pressure balanced (62 in ²)
9	Spring under (23 in ²)- fail open; max ½" trim
Adaptor for Hydraulic Electric Actuator	
H	Adaptor - Pathway will assign option number unique to the actuator used.

Other (as needed, add to end of model number)	
1	No visual indicator
2	Heavy duty sealed visual indicator
4	Open Yoke (for high temperature or position indicator)
N	NACE material - also choose: Trim Type 3,4 or 1,2,8 9 with 17-PH SST exception Seals & Packing C or D
P	Nickel-plated non-stainless wetted parts
S	Stress relief for welded flanges

SEALS & PACKING	
A	Nitrile/brass packing gland, PTFE V-ring packing, nitrile seals
B	Fluorocarbon/brass packing gland, PTFE V-ring packing, fluorocarbon seals
C	Nitrile/316 SST packing gland, PTFE V-ring packing, nitrile seals, Nitronic 50 stem
D	Fluorocarbon/316 SST packing gland, PTFE V-ring packing, fluorocarbon seals, Nitronic 50 stem
Topworks 4 & 9 do not use PTFE packing as above	

TRIM SIZE	
0	⅛" (available in 17-4 PH SST only)
1	¼"
2	⅜"
3	½"
4	¾" (not with 23" topworks)
6	1" (not with 23" topworks: not in carbide)

TRIM TYPE	
1	Snap acting 17-4 PH SST
2	Throttling 17-4 PH SST
3	Snap acting carbide
4	Throttling carbide
6	Snap acting carbide-K coating
7	Throttling carbide-K coating
8	Snap acting acetal - soft trim
9	Throttling acetal - soft trim

SPECIAL MATERIAL & FEATURES	
5	Used by Pathway to indicate custom material and/or feature Placed in model number in the position it relates to (eg. trim plug, trim seat, etc.). When used, an option number will be assigned by Pathway (see below)
(#)	Option # (in parentheses at end of model number) Pathway will assign option number unique to custom material and/or features