

APPLICATION:

Self-contained, spring-operated regulator used for Liquid or gas systems where a 0 to 125 psig adjustable back pressure is desired, such as treaters, free water knockouts, pressure vessels, vent lines on separators, flow treaters, compressor stations, and gas gathering systems

FEATURES:

- Single adjustment
- Single soft seat
- Internal sense line
- Removable valve seat
- Minimum maintenance
- All internal parts can be removed with valve in line

CLASSIFICATIONS:

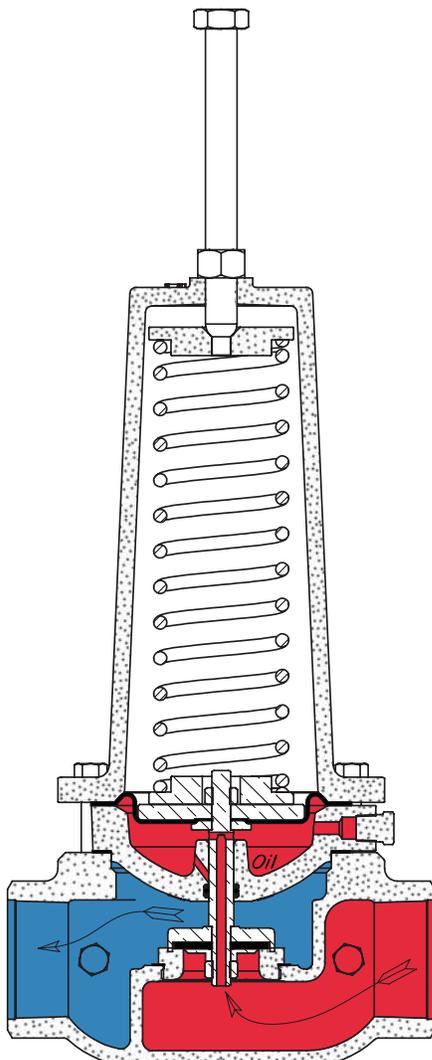
Non-Venting

CERTIFICATIONS:

Canadian Registration Number (CRN):
0C15676.24567890NTY (Ductile)
0C15331.24567890NTY (Steel)

Kimray is an ISO 9001- certified manufacturer.

-  Stem Assembly
-  Upstream Pressure
-  Downstream Pressure



	Standard Configuration Code †	Order Code	Line Size	Connection Type	Oper. Press. psig	Max. W.P. psig ††	Cv	Cf
Ductile	RSB2SADRAS	ALU1	2"	NPT	0-10	300	21.0	0.75
	RSB2ARDRAS	ALW1		150RF		250		
	RSB2GVDRAS	ALV1		GRVD		300		
	RSB2SADRBS	ALU2	2"	NPT	10-20	300	21.0	0.75
	RSB2ARDRBS	ALW2		150RF		250		
	RSB2GVDRBS	ALV2		GRVD		300		
	RSB2SADRCS	ALU4	2"	NPT	20-40	300	21.0	0.75
	RSB2ARDRCS	ALW4		150RF		250		
	RSB2GVDRCS	ALV4		GRVD		300		
	RSB2SADRDS	ALU6	2"	NPT	40-65	300	21.0	0.75
	RSB2ARDRDS	ALW6		150RF		250		
	RSB2GVDRDS	ALV6		GRVD		300		
RSB2SADRFS	ALU9	2"	NPT	65-90	300	21.0	0.75	
RSB2ARDRES	ALW9		150RF		250			
RSB2GVDRES	ALV9		GRVD		300			
Steel	RSB2SADRFS	ALU12	2"	NPT	80-125	300	21.0	0.75
	RSB2ARDRFS	ALW12		150RF		250		
	RSB2GVDRFS	ALV12		GRVD		300		
	RSB3SADRFS	ENU5	3"	NPT	10-75	300	34.0	0.82
	RSB3ARDRFS	ENZ5		150RF		250		
	RSB2ARWRAS	ALY1	2"	150RF	0-10	285	21.0	0.75
	RSB2ARWRBS	ALY2			10-20			
	RSB2ARWRCS	ALY4			20-40			
	RSB2ARWRDS	ALY6			40-65			
	RSB2ARWRFS	ALY9			65-90			
	RSB2ARWRFS	ALY12			80-125			

NOTES:

For standard & optional seals, metals, Cf Cv values, material specifications & dimensions see technical data on pages 06:1 - 06:1V

† For Corrosive service remove last "S" & replace with "C"

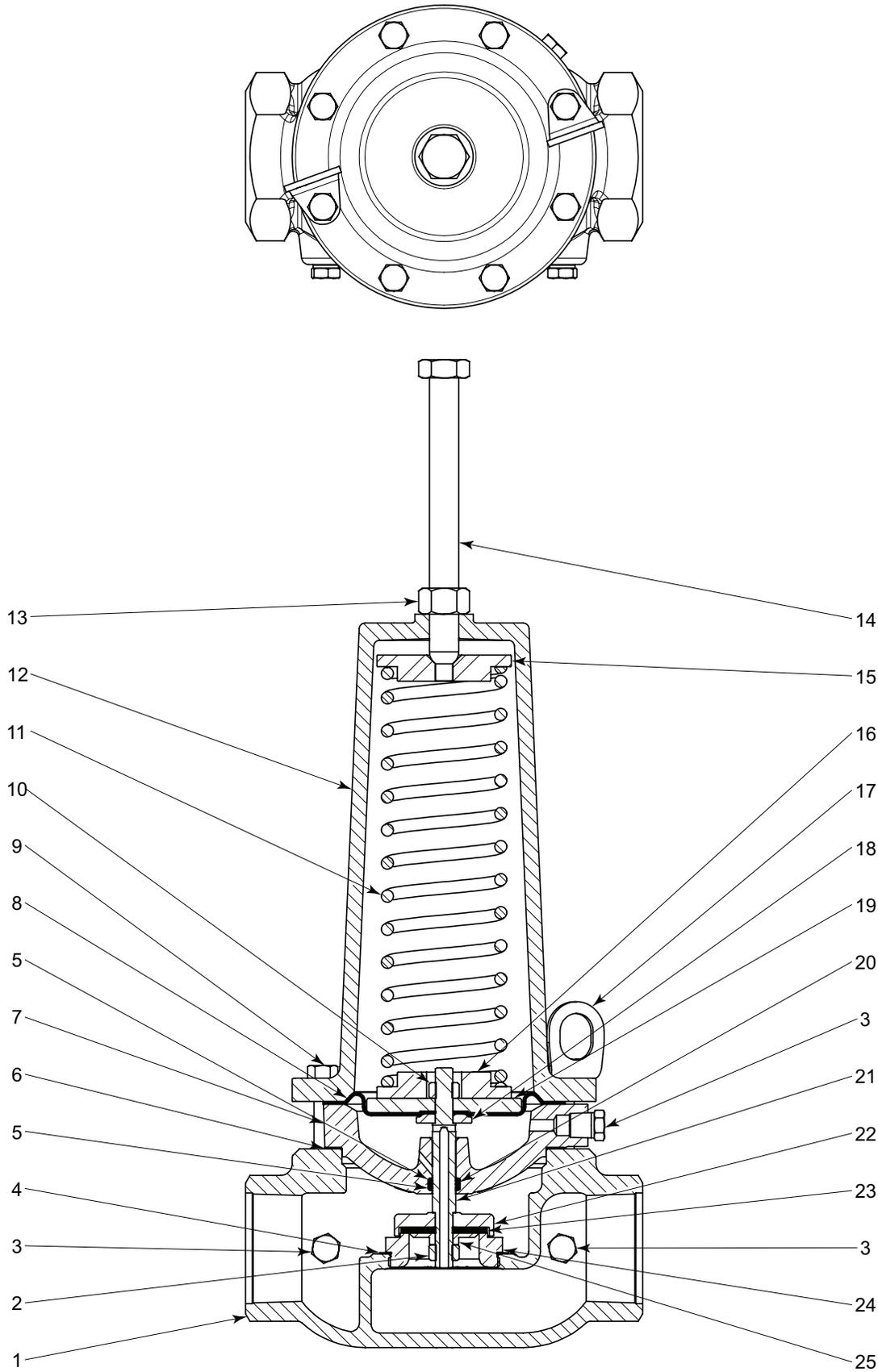
† For code builder see page 06:00.4

†† Max W.P. values based on -20°F to 100°F.

PRESSURE REGULATORS



SPRING LOADED BACK PRESSURE REDUCED PORT MODEL SB PARTS DRAWING



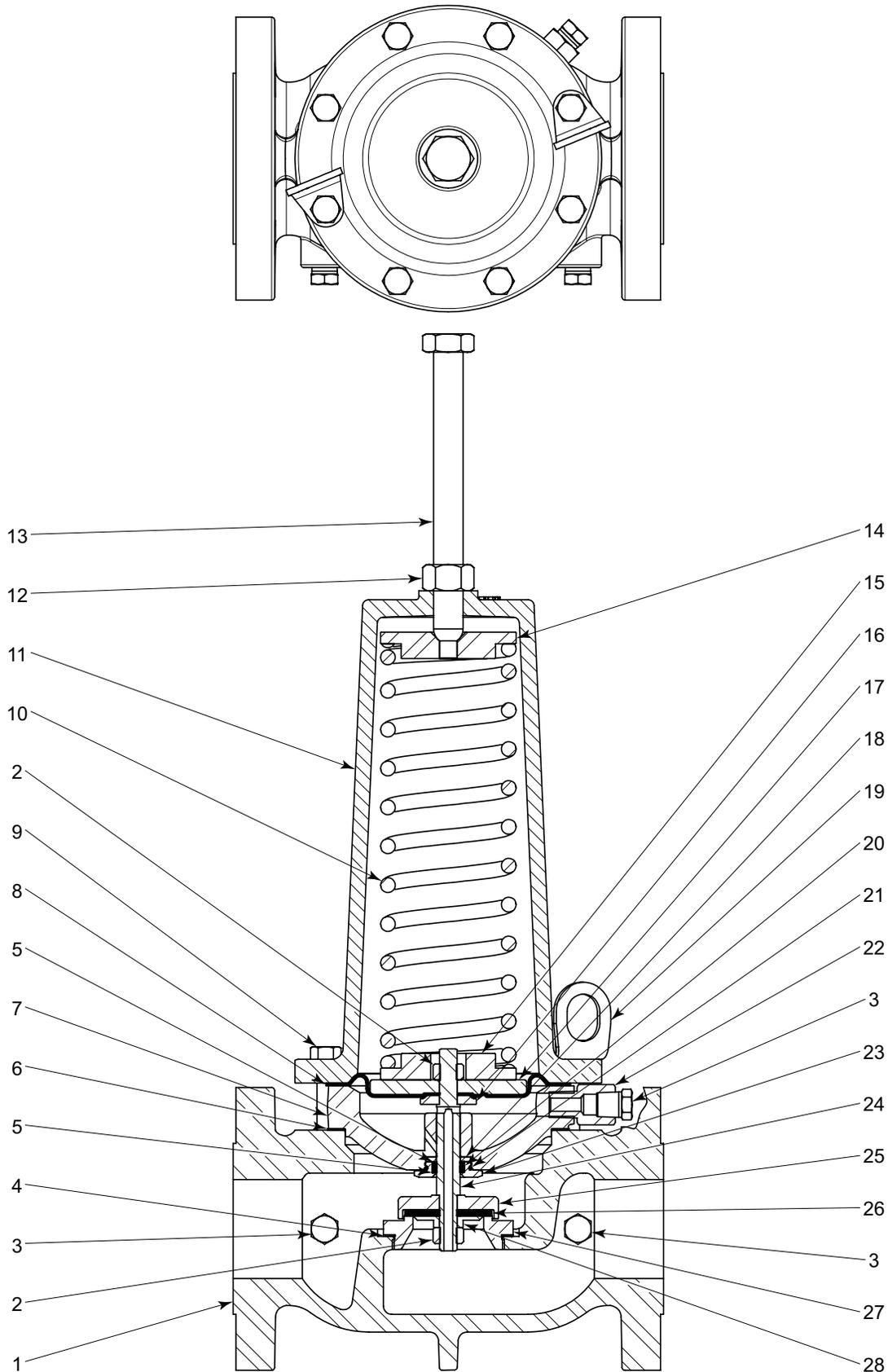
All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

ITEM	QTY.	DESCRIPTION	PART NUMBER			
			STANDARD		CORROSIVE	
			2 INCH	3 INCH	2 INCH	3 INCH
1	1	Body				
		NPT Thru	1709	----	1709 ‡	----
		150RF Thru	1913	1914	1913 ‡	1914 ‡
		Grooved Thru	2964	----	2964 ‡	----
2	1	Nut *	173		173SS6	
3	3	Plug	699		699SS6	
4	1	Gasket *	276	277	276	277
5	2	Back Up *	149T	150T	149T	150T
6	1	Gasket *	196	197	196	197
7	1	Lower Housing	1704	1632	1704 ‡	1632 ‡
8	1	Diaphragm *	5369	743	5369	743
9	(QTY)	Bolt	965 (8)	907 (10)	965 (8)	907 (10)
10	1	Nut	173	906	173SS6	174SS6
11	1	Spring				
		0-10	5368	----	5368	----
		10-20	5370	----	5370	----
		20-40	5336	----	5336	----
		40-65	2013	----	2013	----
		65-90	5371	----	5371	----
		80-125	4006 & 6763	----	4006 & 6763	----
		10-75	Inner Spring	----	6937	----
	Outer Spring	----	6938	----	6938	
12	1	Bonnet	2031	4581	2031 ‡	4581 ‡
13	1	Nut	1897		1897	
14	1	Adjusting Screw	6911	7546	6911	7546
15	1	Upper Spring Guide	1888	5293	1888	5293
16	1	Lower Spring Guide	2029	5294	2029	5294
17	2	Lifting Ring	7559		7559	
18	1	Lower Diaphragm Plate	323SS6	738	323SS6	738
19	1	Upper Diaphragm Plate	737	733	737	733
20	1	Quad Ring *	154	155	154Q	155
21	1	Valve Stem	3070	4582SS6	3070SS6	4582SS6
22	1	Seat Disc	312	1229	312SS6	1229
23	1	Seat *	310HSN	1230P	310HSN	1230HSN
24	1	Removable Seat	4005K	1219DK	4005K	1219DK
25	1	Ratio Plug	1539SS6		1539SS6	
			‡ Coated Parts available with "E" shell material			
Repair Kits			RYJ	RYN	RYJS6	RYNS6
			* These parts are recommended spare parts and are stocked as repair kits.			

PRESSURE REGULATORS



STEEL SPRING LOADED BACK PRESSURE REDUCED PORT MODEL SB PARTS DRAWING



All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.

ITEM	QTY.	DESCRIPTION	PART NUMBER	
			STANDARD	CORROSIVE
1	1	Body	2468	2468S6 ‡
2	2	Nut	173	173SS6
3	3	Plug	699	699SS6
4	1	Gasket *	276	276
5	2	Back Up *	149T	149T
6	1	Gasket *	196	196
7	1	Lower Housing	2481	2481SS6 ‡
8	1	Diaphragm *	5369	5369
9	8	Bolt	965	965
10	1	Spring		
		0-10	5368	5368
		10-20	5370	5370
		20-40	5336	5336
		40-65	2013	2013
		65-90	5371	5371
		80-125	4006 & 6763	4006 & 6763
11	1	Bonnet	2031	2031 ‡
12	1	Nut	1897	1897
13	1	Adjusting Screw	6911	6911
14	1	Upper Spring Guide	1888	1888
15	1	Lower Spring Guide	2029	2029
16	1	Lower Diaphragm Plate	323SS6	323SS6
17	1	Upper Diaphragm Plate	737	737
18	1	Spacer	4557DS6	4557DS6
19	2	Lifting Ring	7559	7559
20	1	Quad Ring *	154	154Q
21	1	O-Ring *	5225	5225
22	1	Adapter	7244	7244S6
23	1	Retainer	4557ES6	4557ES6
24	1	Valve Stem	3070	3070SS6
25	1	Seat Disc	312	312SS6
26	1	Seat *	310HSN	310HSN
27	1	Removable Seat	4060SS6K	4060SS6K
28	1	Ratio Plug	1539SS6	1539SS6
			‡ Coated Parts available with "E" shell material	
Repair Kits			RYJ	RYJS6
* These parts are recommended spare parts and are stocked as repair kits.				

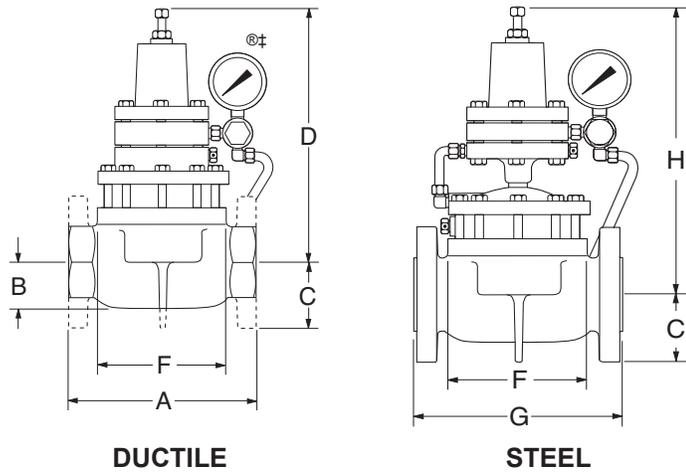
Table 1 - Flow Coefficient(Cv) at % stem travel for Pilot-operated Regulators											
1" Pressure Regulator											
Trim Size in.(mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
1/2 in (12mm) Reduced	0.75	0.4	0.7	0.9	1.3	1.8	2.5	3.2	3.9	4.5	5
1 in (25mm) Full Port	0.74	1.1	1.8	2.4	3.4	4.8	6.6	8.5	10.2	11.9	13.2
2" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
1 1/4 in (31 mm) Reduced	0.75	1.8	2.8	3.9	5.4	7.7	10.5	13.6	16.2	19.0	21.0
2 in Removable Full Port *	0.84	4.0	6.2	8.6	12.1	17.2	23.5	30.4	36.3	42.5	47.0
2 in (50 mm) Full Port *	0.75	4.4	6.9	9.5	13.4	19.1	26.0	33.6	40.2	47.0	52.0
3" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
1 5/8 in (66 mm) Reduced	0.82	2.9	4.5	6.2	8.8	12.5	17.0	22.0	26.3	30.7	34.0
3 in (76 mm) Full Port	0.75	9.9	15.6	21.5	30.2	42.9	58.6	75.7	90.4	105.7	117.0
4" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
2 in (50 mm) Reduced	0.80	4.7	7.3	10.1	14.2	20.2	27.5	35.6	42.5	49.7	55.0
4 in (100 mm) Full Port	0.75	17.8	27.9	38.6	54.2	77.0	105.2	135.9	162.2	189.8	210.0
6" Pressure Regulator											
Trim Size in. (mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
3 in (76 mm) Reduced	0.80	10.2	16.0	22.0	30.9	44.0	60.1	77.7	92.7	108.4	120.0
6 in (152 mm) Full Port	0.75	40.6	63.8	88.1	123.8	176.0	240.4	310.6	370.7	433.7	480.0

Kimray flow equations conform to ANSI/ISA - 75.01.01-2002
 Kimray inherent flow characteristics conform to ANSI/ISA 75.11.01 -1985

PRESSURE REGULATORS

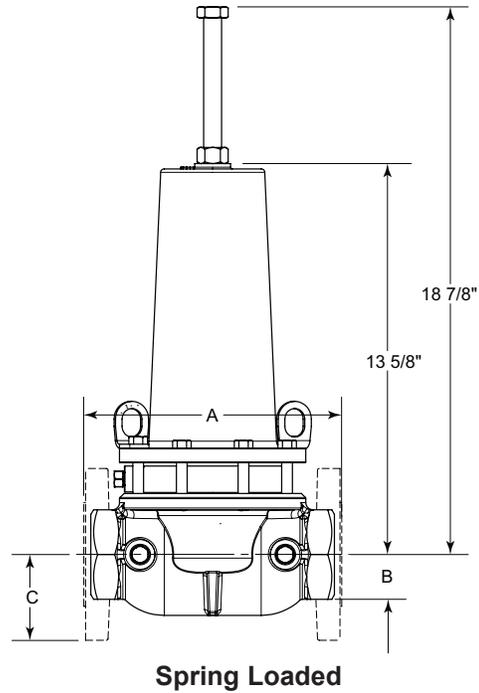
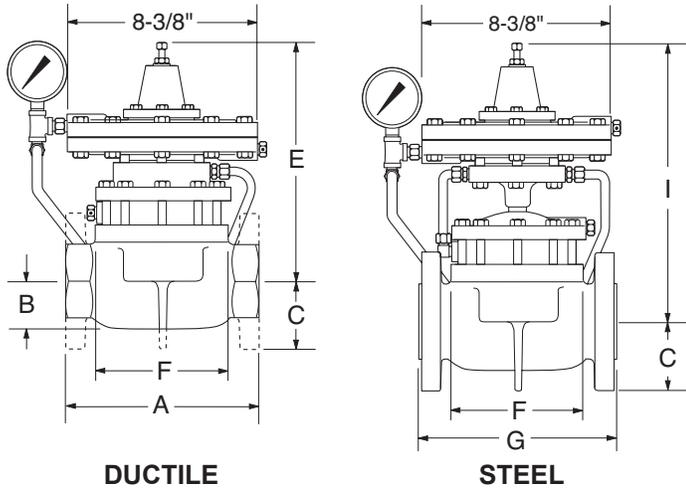


DIMENSIONS



- Back Pressure
- Back Pressure Vacuum
- Liquid Back Pressure
- Pressure Reducing
- Pressure Reducing Vacuum
- Pressure Reducing-Balanced
- Pressure Differential

- Low Pressure Back Pressure
- Ounces Back Pressure To Vacuum
- Ounces Pressure Reducing
- Ounces Pressure Reducing Vacuum
- Vacuum Back Pressure To Vacuum



LINE SIZE	BODY SIZE	A	B	C	D*	E	F	G	H*	I
1"	NPT	4 3/8"	1 1/8"		7 1/2"	11 5/8"	3 1/4"			
	FLANGED	7 1/4"	1 1/8"	2 1/8"	7 1/2"	11 5/8"	3 1/4"			
2"	NPT	8 1/2"	2 1/8"		11 1/2"	10 1/2"	6 1/2"			
	FLANGED	9"		3"	11 1/2"	10 1/2"	6 1/2"	9 1/8"	14 1/2"	14"
	GROOVED	8 3/4"	2 1/8"		11 1/2"	10 1/2"	6 1/2"			
250 S/FGT	NPT							10 1/2"		
	FLANGED							10 3/8"		
3"	NPT	12 1/16"	3 1/16"		13"	12"	8 1/2"			
	FLANGED	12 3/16"		3 3/4"	13"	12"	8 1/2"	12 3/8"	16 1/2"	15 1/2"
4"	NPT	15" 1/16"	4"		14 1/2"	13 3/16"	10 1/2"			
	FLANGED	15 1/16"		4 1/2"	14 1/2"	13 3/16"	10 1/2"	15 1/16"	18 1/2"	16 11/16"
6"	FLANGED	22"		5 1/2"	17"	17 7/8"	16"	21 15/16"	20 1/2"	18 3/8"

FLANGE DIMENSIONS ARE ANSI 125/150 STANDARD. *Add 7/8" to Pressure Reducing Balanced and Up Stream Differential Pressure Regulators for this dimension.

All Pictures shown are for illustration purpose only. Actual product may vary due to product enhancement.
 ‡ Configuration of Back Pressure Control Valve is a trademark of Kimray, Inc.

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Table 2 - Seal Options		
Part	Standard Material	Optional Material
Seat	HSN	FKM, AFLAS®
O-rings	Nitrile	HSN, FKM, AFLAS®
All Diaphragms	Nitrile	HSN, FKM, AFLAS®

Table 3 - Seal Specifications				
	NITRILE	HIGHLY SATURATED NITRILE	FKM	AFLAS®
Kimray Suffix	-	HSN	V	AF
Resistance	Abrasion	G	G-E	G
	Acid	F	G-E	E
	Chemical	F	F	E
	Cold	G	G	P
	Flame	P	P	E
	Heat	G	E	E
	Oil	G-E	E	E
	Ozone	P	G	G-E
	Set	G	G	G-E
	Tear	F	F	F
	Water/Steam	F	E	P
	Weather	F	G	E
	CO2	F-G	G	G
	H2S	P	F	P
	Methanol	F	E	P
Properties	Dynamic	G	G	G
	Electrical	F	F	G-E
	Impermeability	G	G	G
	Tensile Strength	G	G-E	G
Temp. Range	-20° to +250°F	-20° to +300°F	-15° to +400°F	+15° to +450°F
	-29° to +121°C	-29° to +149°C	-26° to +204°C	-9° to +232°C
RATINGS: P-POOR, F-FAIR, G-GOOD, E-EXCELLENT				

Table 4 - Material Options

Part Description	Valve Size	Standard Material	Corrosive Material
Ratio Plug	1" & 2"	316 Powdered Metal SS-316NI-25	
	1" & 2" Reduced Trim	Alloy Steel (ASTM A108)	316SS (ASTM A479)
	3"	Powdered Metal F-008	316SS (ASTM A479)
	4" & 6"	Ductile (ASTM A395)	316SS (ASTM A479)
Seat Disc	1"	Powdered Metal F-008	316SS (ASTM A479)
	2", 3" & 4"	Ductile (ASTM A395)	316SS (ASTM A351 CF8M)
	6"	Ductile (ASTM A395)	316SS (ASTM A 240)
Stem	1" thru 6"	303SS (ASTM A582)	316SS (ASTM A479)
Body	1" thru 6"	Ductile (ASTM A395)	Ductile (ASTM A395) + Kimcoat
	2" thru 6"	WCB (ASTM A216)	WCB (ASTM A216) + Kimcoat
Tubing	1" thru 6"	304SS (ASTM A249)	316SS (ASTM A213)
Removable Seat	2" thru 6" Ductile Body	Ductile (ASTM A395)	316SS (ASTM A351 CF8M)
	2" thru 6" Steel Body	316SS (ASTM A351 CF8M)	

PRESSURE REGULATORS



CODE BUILDER SPRING LOADED R SERIES

Series:

R = Pressure Regulator

Model:

SB = Spring Loaded BP

Line Size:

2 = 2 NPS

3 = 3 NPS

End Connection:

SA = FNPT

AR = 150RF Flange

GV = Grooved (2 NPS only)

Shell Material:

D = Ductile Iron

E = Ductile Iron w/Coating

W = Steel (WCB)

X = Steel (WCB) w/Coating

Inner Valve Size:

F = Full Port

R = Reduced Port

Control Range:

Service Type:

S = Standard

C = Corrosive

		Full Port	Reduced Port	
Spring Loaded	2"	A =	0-10 psig	0-10 psig
		B =	10-20 psig	10-20 psig
		C =	15-30 psig	20-40 psig
		D =	25-50 psig	40-65 psig
		E =	30-65 psig	65-90 psig
		F =	40-85 psig	80-125 psig
	3"	G =	10-75 psig	N/A

R SB 2 SA D F A S

Options: Additional cost and lead times will apply
If multiple options required input in sequential order
Leave blank if no options required

- 1 = NACE Certification (Corrosive Option Only)
- 2 = Hydrostatic Test Certification
- 3 = MTR (Shell Components)
- A = AFLAS Elastomers
- H = HSN Elastomers
- V = FKM Elastomers
- X = Export (Hydrostatic test, MTR & 3.1)

Not all selections available on all products listed.
See product pages 06:100.1 - 06:100.11 for available options