

APPLICATION:

Self-contained, spring-operated regulator used for liquid or gas systems where a 0 to 85 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:

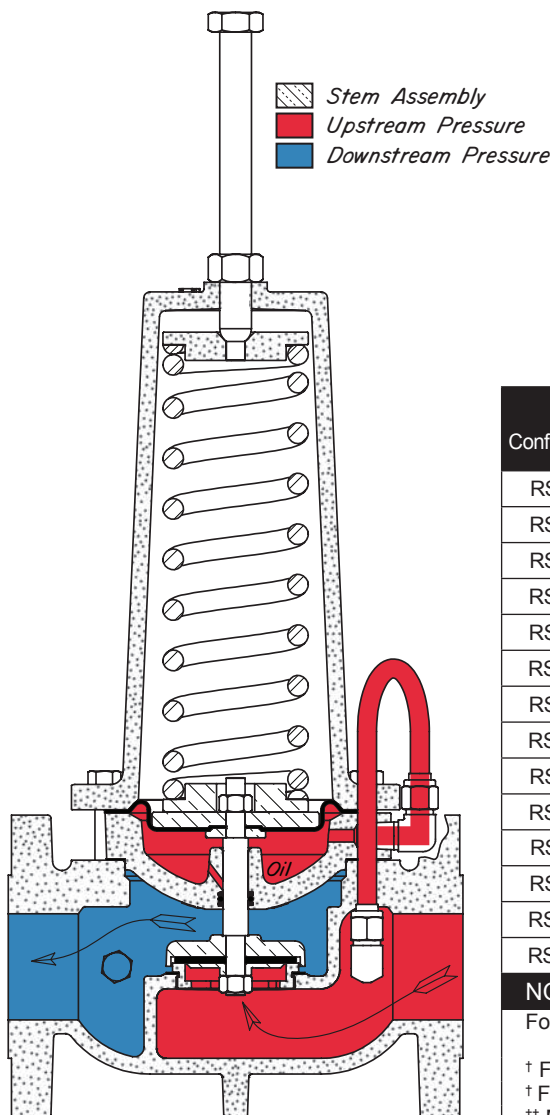
- Single adjustment
- Single soft seat
- Removable valve seat
- Minimum maintenance
- All internal parts can be removed with valve in line

CLASSIFICATIONS:

Non-Venting

CERTIFICATIONS:

Canadian Registration Number (CRN):
 0C15676.24567890NTY (Ductile)
 0C15331.24567890NTY (Steel)
 Kimray is an ISO 9001- certified manufacturer.



Standard Configuration Code †	Order Code	Line Size	Connection Type	Oper. Press. psig	Max. W.P. psig ††	Cv	Cf
RSB2SADFAS	AMU1	2"	NPT	0-10	300	47.0	0.84
RSB2ARDFAS	AMW1		150RF		250		
RSB2SADFBS	AMU2	2"	NPT	10-20	300	47.0	0.84
RSB2ARDFBS	AMW2		150RF		250		
RSB2SADFCS	AMU3	2"	NPT	15-30	300	47.0	0.84
RSB2ARDFCS	AMW3		150RF		250		
RSB2SADFDS	AMU5	2"	NPT	25-50	300	47.0	0.84
RSB2ARDFDS	AMW5		150RF		250		
RSB2SADFES	AMU6	2"	NPT	30-65	300	47.0	0.84
RSB2ARDFES	AMW6		150RF		250		
RSB2SADFFS	AMU8	2"	NPT	40-85	300	47.0	0.84
RSB2ARDFFS	AMW8		150RF		250		
RSB3SADFES	ENU	3"	NPT	10-75	300	117	0.75
RSB3ARDFES	ENZ		150RF		250		

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"

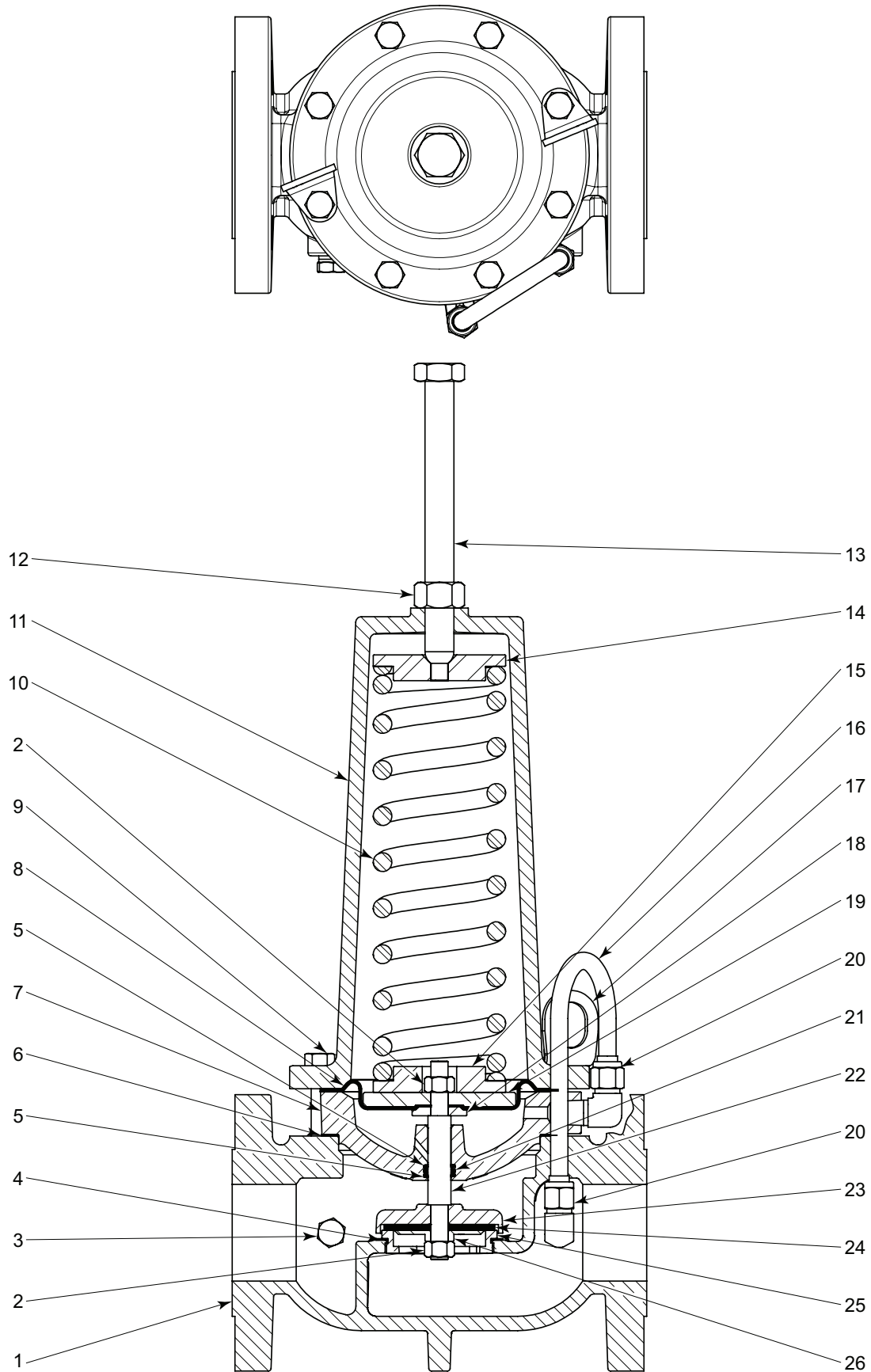
† For code builder see page 06:00.4

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

PRESSURE REGULATORS



SPRING LOADED BACK PRESSURE FULL PORT MODEL SB PARTS DRAWING



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

*SPRING LOADED BACK PRESSURE FULL PORT
MODEL SB PARTS LIST*

ITEM	QTY.	DESCRIPTION	PART NUMBER			
			STANDARD		CORROSIVE	
			2 INCH	3 INCH	2 INCH	3 INCH
1	1	Body				
		NPT Thru	1709	1634	1709 ‡	1634 ‡
		150RF Thru	1913	1914	1913 ‡	1914 ‡
		Grooved Thru	2964	----	2964 ‡	----
2	2	Nut *	173	906	173SS6	174SS6
3	(QTY)	Plug	699 (1)	699 (3)	699SS6 (1)	699SS6 (3)
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	Spring				
		0-10	5368	----	5368	----
		10-20	5370	----	5370	----
		15-30	5336	----	5336	----
		25-50	2013	----	2013	----
		30-65	5371	----	5371	----
		40-85	4006	----	4006	----
	10-75	Inner Spring	----	6937	----	6937
		Outer Spring	----	6938	----	6938
11	1	Bonnet	2031	4581	2031 ‡	4581 ‡
12	1	Nut		1897		1897
13	1	Adjusting Screw	6911	7546	6911	7546
14	1	Upper Spring Guide	1888	5293	1888	5293
15	1	Lower Spring Guide	2029	5294	2029	5294
16	1	Tubing	2996SS	----	2996SS6	----
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	2	Elbow	877	----	877SS6	----
21	1	O-Ring *	154	155	154	155
22	1	Valve Stem	727	6801	727SS6	6801S6
23	1	Seat Disc	159	160	2493SS6	2494SS6
24	1	Seat *	164HSN	165HSN	164HSN	165HSN
25	1	Removable Seat	272K	273K	2496SS6K	2497SS6K
26	1	Ratio Plug	5391	178	5391SS6	3076SS6
			‡ Coated Parts available with "E" shell material			
Repair Kits			RYJ	RYN	RYJSS6	RYNS6
* These parts are recommended spare parts and are stocked as repair kits.						

**STEEL SPRING LOADED BACK PRESSURE FULL PORT
MODEL SB PARTS LIST**

ITEM	QTY.	DESCRIPTION	PART NUMBER				
			STANDARD		CORROSIVE		
			2 INCH	3 INCH	2 INCH	3 INCH	
1	1	Body	2468	2469	2468 ‡	2469 ‡	
2	2	Nut	173	906	173SS6	174SS6	
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	2481	2482	2481 ‡	2482 ‡	
8	1	Diaphragm *	5369	743	5369	743	
9	(QTY)	Bolt	965 (8)	907(10)	965 (8)	907(10)	
10	1	Spring					
		15-30	5336	----	5336	----	
		25-50	2013	----	2013	----	
		10-75	Inner Spring	----	6937	----	6937
			Outer Spring	----	6938	----	6938
11	1	Bonnet	2031	4581	2031 ‡	4581 ‡	
12	1	Nut	1897		1897		
13	1	Adjusting Screw	6911	7546	6911SS6	7546	
14	1	Upper Spring Guide	1888	5293	1888SS6	5293SS6	
15	1	Lower Spring Guide	2029	5294	2029SS6	5294SS6	
16	1	Lower Diaphragm Plate	323SS6	738	323SS6	738SS6	
17	1	Upper Diaphragm Plate	737	733	737SS6	733SS6	
18	1	Spacer	4557DS6	4564DS6	4557DS6	4564DS6	
19	2	Lifting Ring	7559		7559		
20	1	O-Ring *	154	807	154Q	807	
21	1	O-Ring *	5225	5226	5225	5226	
22	1	Adapter	7244		7244S6		
23	1	Retainer	4557ES6	4564ES6	4557ES6	4564ES6	
24	1	Valve Stem	3070	6801	3070SS6	6801S6	
25	1	Seat Disc	2493SS6	2494SS6	2493SS6	2494SS6	
26	1	Seat *	164HSN	165HSN	164HSN	165HSN	
27	1	Removable Seat	2496SS6K	2497SS6K	2496SS6K	2497SS6K	
28	1	Ratio Plug	177SS6	178	177SS6	3076SS6	
			‡ 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.				

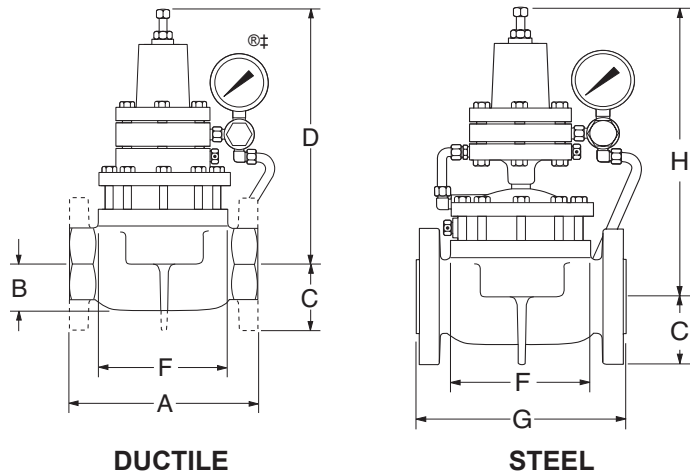
Table 1 - Flow Coefficient(Cv) at % stem travel for Pilot-operated Regulators											
1" Pressure Regulator											
Trim Size in.(mm)	Cf	Valve Opening Percentage									
		10	20	30	40	50	60	70	80	90	100
1/2 in (12mm) Reduced	0.75	0.4	0.7	0.9	1.3	1.8	2.5	3.2	3.9	4.5	5
1 in (25mm) Full Port	0.74	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

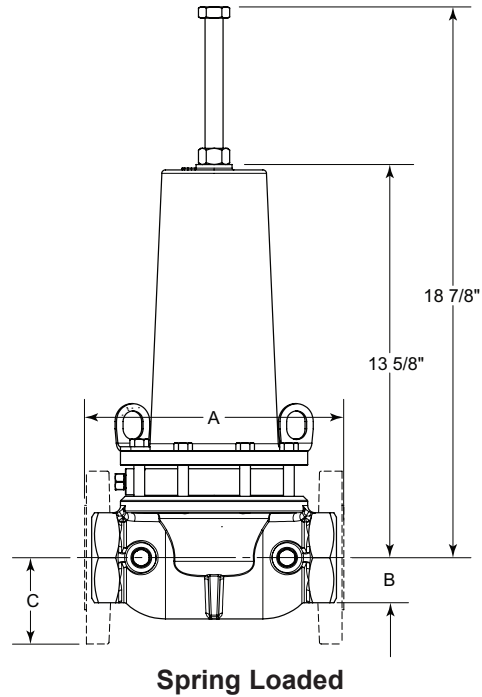
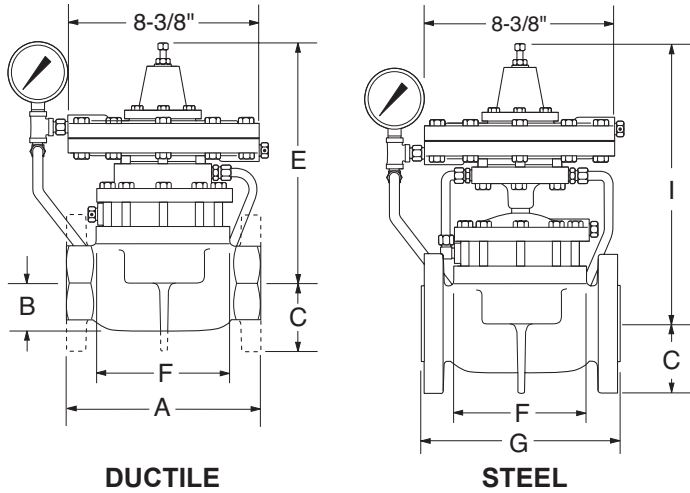


DIMENSIONS



- 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