

Tartarini™ A and B Series and Francel™ Regal 3 Series to Fisher™ CSR Series Regulator Transition Management Guide

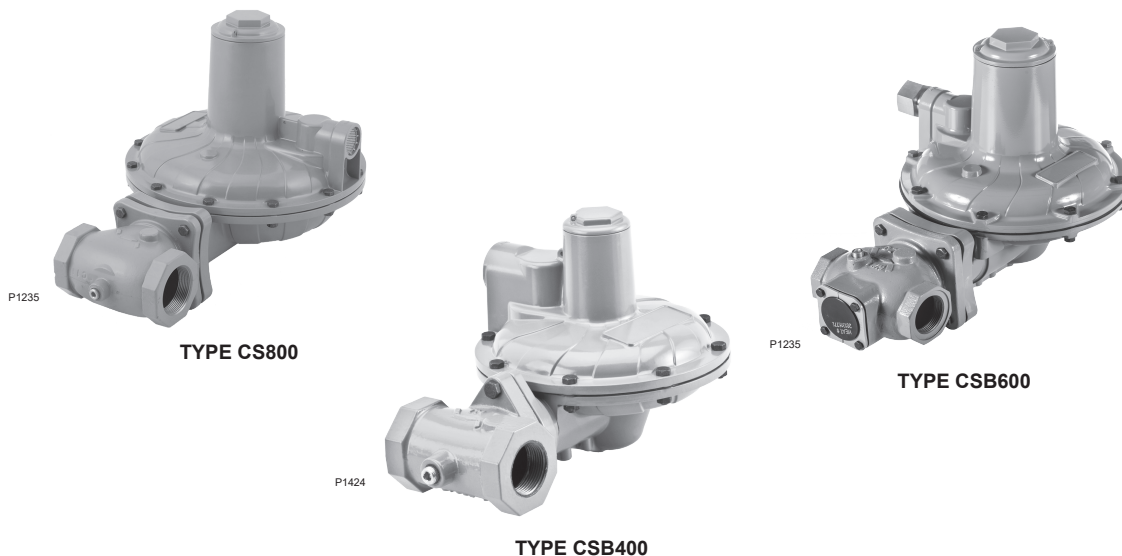


Figure 1. CSR Series

Background

The Fisher™ Commercial Service Regulator (CSR) Series is designed to provide precise, reliable pressure regulation for a wide range of applications. It features a robust design that ensures a steady supply of pressure, regardless of changes to inlet pressure or flow rate. The CSR Series is also easy to install and maintain with minimal disruption to existing processes.

The Fisher CSR Series pressure reducing natural gas regulators have been used globally for over 15 years. The CSR Series offers a number of improvements and upgrades compared to the Tartarini A and B Series. The CSR Series meets or exceeds the Tartarini A/100, A/140 and B/240 Series and Francel Regal 3 Series in pressure rating, flow, accuracy, ease of maintenance and materials of construction. These improvements have resulted in a marked improvement over the legacy A, B and Regal 3 Series.

Table 1. New and Legacy Products Description

NEW PRODUCT	DESCRIPTION	LEGACY PRODUCT
CSR Series	Pressure Reducing	A, B and Regal 3 Series

Purpose

The purpose of this document is to ease the transition of the user from the A/100, A/140, B/240 and Regal 3 Series to the new CSR Series. The transition can be most easily understood through the following categories:

1. **Fit** – Is the installation of this product different?
2. **Form** – Are there any physical changes?
3. **Function** – How is the product different in its operation and performance?

A, B and Regal 3 Series to CSR Series

Table 2. New and Legacy Products Configuration Description

NEW PRODUCT TYPE	DESCRIPTION	LEGACY PRODUCT TYPE
CSR Series: Pressure Reducing Natural Gas Regulator		
Type CS800	0.13 to 1.09 psig / 9.0 to 75 mbar outlet pressures	Type A/102
Type CS804	0.13 to 1.09 psig / 9.0 to 75 mbar outlet pressures with integrated Slam-shut	Type A/109
Type CS820	1.0 to 5.5 psig / 0.07 to 0.38 bar outlet pressures	Type A/102-AP
Type CS824	1.0 to 5.5 psig / 0.07 to 0.38 bar outlet pressures with integrated Slam-shut	Type A/109-AP
Type CS850	4.9 to 10.0 psig / 0.34 to 0.69 bar outlet pressures	N/A
Type CS854	4.9 to 10.0 psig / 0.34 to 0.69 bar outlet pressures with integrated Slam-shut	N/A
Type CSB400	0.25 to 1.45 psig / 17.0 to 100 mbar outlet pressures	Type B/240
Type CSB404	0.25 to 1.45 psig / 17.0 to 100 mbar outlet pressures with integrated Slam-shut	Type B/249
Type CSB420	1.45 to 7.50 psig / 0.1 to 0.52 bar outlet pressures	Type B/240-AP
Type CSB424	1.45 to 7.50 psig / 0.1 to 0.52 bar outlet pressures with integrated Slam-shut	Type B/249-AP
Type CSB450	7.25 to 43.5 psig / 0.5 to 3.0 bar outlet pressures	N/A
Type CSB454	7.25 to 43.5 psig / 0.5 to 3.0 bar outlet pressures with integrated Slam-shut	N/A
Type CSB600	0.13 to 1.6 psig / 9.0 to 110 mbar outlet pressures	Type A/140
Type CSB604	0.13 to 1.6 psig / 9.0 to 110 mbar outlet pressures with integrated Slam-shut	Type A/149
Type CSB620	0.88 to 43.5 psig / 0.06 to 3.0 bar outlet pressures	Type A/140-AP
Type CSB624	0.88 to 43.5 psig / 0.06 to 3.0 bar outlet pressures with integrated Slam-shut	Type A/149-AP

Table 3A. Pressure Comparison

PRESSURE	FISHER CS800 SERIES		TARTARINI A/100 SERIES	
	psig	bar	psig	bar
Maximum Operating Inlet Pressure, $P_{u_{max}}$	125	8.6	116	8.0
Maximum Emergency Operating Inlet Pressure	175	12.1	116	8.0
Body Inlet Pressure Rating, Ps	290	20.0	290	20.0
Maximum Operating Outlet Pressure Over Set Pressure (To Avoid Part Damage)	3.0	0.2	Not Published	
Maximum Emergency Outlet Pressure (Casing Limits), P_{sd}	15.0	1.0	Not Published	
Outlet Set Pressure Ranges, Wd	3.5 in. w.c. to 10 psig	0.009 to 0.69	4.0 in. w.c. to 4.4 psig	0.01 to 0.3

Table 3B. Pressure Comparison (continued)

PRESSURE		FISHER CSB400 SERIES		TARTARINI B/240 SERIES	
		psig	bar	psig	bar
Maximum Operating Inlet Pressure, $P_{u_{max}}$	CSB400	87.0	6.0	87	6.0
	CSB420, CSB450	232	16.0		
Maximum Emergency Operating Inlet Pressure	CSB400	174	12.0	87	6.0
	CSB420, CSB450	290	20.0		
Body Inlet Pressure Rating, Ps		290	20.0	290	20.0
Maximum Operating Outlet Pressure Over Set Pressure (To Avoid Part Damage)	CSB400, CSB420	5.0	0.3	Not Published	
	CSB450	15.0	1.0	Not Published	
Maximum Emergency Outlet Pressure (Casing Limits), P_{sd}		58	4.0	Not Published	
Outlet Set Pressure Ranges, Wd		6.8 in. w.c. to 43.5 psig	0.017 to 3.0	6.0 in. w.c. to 7.25 psig	0.015 to 0.5

Table 3C. Pressure Comparison (continued)

PRESSURE		FISHER CSB600 SERIES		TARTARINI A/140 SERIES		FRANCEL REGAL 3 SERIES	
		psig	bar	psig	bar	psig	bar
Maximum Operating Inlet Pressure, $P_{u_{max}}$	CSB600	145	10.0	87	6.0	58	4.0
	CSB620	232	16.0				
Maximum Emergency Operating Inlet Pressure		175	12.1	116	8.0	116	8.0
Body Inlet Pressure Rating, Ps		290	20.0	290	20.0	290	20.0
Maximum Operating Outlet Pressure Over Set Pressure (To Avoid Part Damage)		5.0	0.3	Not Published		Not Published	
Maximum Emergency Outlet Pressure (Casing Limits), P_{sd}		58	4.0	Not Published		Not Published	
Outlet Set Pressure Ranges, Wd		3.5 in. w.c. to 58 psig	0.009 to 3.0	6.0 in. w.c. to 7.25 psig	0.015 to 0.5	1.5 to 7.25	0.1 to 1.0

A, B and Regal 3 Series to CSR Series

Table 4A. Detailed Comparison of CSR Series (New Product) and A, B and Regal 3 Series (Legacy Product) Regulators

CATEGORY	CS800 SERIES (NEW PRODUCT)	A/100 SERIES (LEGACY PRODUCT)
End Connection Style	NPT, RP	RP
	CL125 FF, CL150 RF	N/A
	PN 16	N/A
Body Material	Ductile iron and WCC Steel	Ductile cast iron
Actuator Material	ASTM B85-A03800	EN AC 46100 EN 1706
Diaphragm Material	Fabric Reinforced Neoprene	Fabric Reinforced Neoprene
Disk/Pad Material	Aluminum backed Nitrile, per EN549 C1	Aluminum Disk Holder and Nitrile (NBR)
Orifice Material	Aluminum ASTM B211 A96061-T3	Brass CW617N EN 12164.01
Trim and Stem Material	G10500 Steel Lever and Stem	UNI 5867 Steel Lever and Stem
Body and Orifice Size	1/4 in. / 6.4 mm	0.5 in. / 12.7 mm
	3/8 in. / 9.5 mm	0.63 in. / 16.0 mm
	1/2 in. / 13.0 mm	0.77 in. / 19.5 mm
	5/8 in. / 16.0 mm	1.0 in. / 25.4 mm
	3/4 in. / 19.0 mm	----
	7/8 in. / 22.0 mm	----
	1.0 in. / 25.0 mm	----
	1-3/8 in. / 35 mm	----
Control Pressure Range	Type CS800	Type A/100
	3.5 to 6.0 in. w.c. / 9.0 to 15.0 mbar	1.9 to 4.7 in. w.c. / 5.0 to 12.0 mbar
	5.5 to 8.5 in. w.c. / 13.0 to 21.0 mbar	3.6 to 7.2 in. w.c. / 9.0 to 18.0 mbar
	5.5 to 8.5 in. w.c. / 13.0 to 21.0 mbar (Low Inlet Relief Valve)	4.7 to 10.5 in. w.c. / 12.0 to 26.0 mbar
	8.0 to 12.0 in. w.c. / 20.0 to 30.0 mbar	8.0 to 18.0 in. w.c. / 20.0 to 45.0 mbar
	10.0 to 16.0 in. w.c. / 25.0 to 40.0 mbar	14.4 to 30.5 in. w.c. / 36.0 to 75 mbar
	14.0 to 30.0 in. w.c. / 35.0 to 75 mbar	----
	Type CS820	Type A/100-AP
	1.0 to 2.5 psig / 69 to 170 mbar	23.3 to 41.6 psig / 58 to 100 mbar
	1.5 to 3.5 psig / 100 to 241 mbar	0.87 to 2.4 psig / 60 to 168 mbar
	2.5 to 5.5 psig / 170 to 380 mbar	30.5 to 88.6 psig / 76 to 224 mbar
	----	2.9 to 4.4 psig / 200 to 300 mbar
	Type CS850	----
	5.0 to 10.0 psig / 345 to 690 mbar	----
Operating Inlet Pressure, $P_{u\max}$	125 psig / 8.6 bar	116 psig / 8.0 bar
Max Allowable Pressure, PS	175 psig / 12.1 bar	290 psig / 20.0 bar
Temperature Range	-4 to 140 °F / -20 to 60°C (standard)	14 to 140°F / -10 to 60°C (standard)
	Tested to -40°F / -40°C	-4 to 140°F / -20 to 60°C (Low Temperature Version)
Hydrogen Readiness	25% Hydrogen Blend Ready	N/A
	100% Hydrogen Ready	N/A
Approximate Weight		
NPT	25.0 lbs / 11.0 kg	38.0 lbs / 18.0 kg
Flanged	36.0 lbs / 16.0 kg	N/A
Slam-shut Weight Adder	2.2 lbs / 1.0 kg	2.2 lbs / 1.0 kg
Published Flow Capacity (1 bar inlet, 20 mbar set point, AC5)	15,440 SCFH / 435 Nm³/h	7450 SCFH / 210 Nm³/h
Accuracy Class	Accuracy Class AC: Published AC5 and AC10 Lockup SG: Up to 10% Slam-shut Lockup Class AG: +/-5%	Accuracy Class AC: Up to 10% Lockup SG: Up to 10% Slam-shut Lockup Class AG: +/-5%
Certifications	PED Cat I, IV, DVGW, EN14382, EN334	PED Cat I, IV, DVGW, EN14382, EN334
Dimensions	See Figure 5 and Table 5	
Options and Features	Integrated optional slam-shut	Integrated optional slam-shut
	Integrated True Monitor	----
	High Capacity Internal Relief	----
	Sealed adjusting screw standard	----
	360 Degree Body Rotation	----

Note: Shaded cells indicate differences between the new and legacy product.

A, B and Regal 3 Series to CSR Series

Table 4B. Detailed Comparison of CSR Series (New Product) and A, B and Regal 3 Series (Legacy Product) Regulators (continued)

CATEGORY	CSB400 SERIES (NEW PRODUCT)	B/240 SERIES (LEGACY PRODUCT)
End Connection Style	NPT, RP	RP
	CL125 FF, CL150 RF	N/A
	PN 16	N/A
Body Material	Ductile iron and WCC Steel	Ductile cast iron
Actuator Material	ASTM B85-A03800	EN AC 46100 EN 1706
Diaphragm Material	Fabric Reinforced Neoprene	Fabric Reinforced Neoprene
Disk/Pad Material	Aluminum backed Nitrile, per EN549 C1	Aluminum Disk Holder and Nitrile (NBR)
Orifice Material	Aluminum ASTM B211 A96061-T3	Brass CW617N EN 12164.01
Trim and Stem Material	G10500 Steel Lever and Stem	UNI 5867 Steel Lever and Stem
Body and Orifice Size	0.68 in. / 17.5 mm	0.67 in. / 17.0 mm
Control Pressure Range	Type CSB400	Type B/240
	6.8 to 9.6 in. w.c. / 17.0 to 24.0 mbar	5.3 to 8.9 in. w.c. / 13.0 to 22.0 mbar
	9.6 to 14 in. w.c. / 24.0 to 35.0 mbar	8.0 to 11.6 in. w.c. / 20.0 to 29.0 mbar
	14.0 to 24.1 in. w.c. / 35.0 to 60 mbar	11.6 to 17.0 in. w.c. / 29.0 to 42.0 mbar
	21.7 to 40.0 in w.c. / 54 to 100 mbar	16.0 to 23.0 in. w.c. / 40.0 to 58 mbar
	----	22.0 to 33.0 in. w.c. / 56 to 80 mbar
	Type CSB420	Type B/240-AP
	1.45 to 2.3 psig / 100 to 160 mbar	1.1 to 1.7 psig / 78 to 120 mbar
	2.0 to 4.4 psig / 138 to 300 mbar	1.7 to 2.9 psig / 120 to 200 mbar
	4 to 7.5 psig / 276 to 517 mbar	2.0 to 3.3 psig / 140 to 230 mbar
	Type CSB450	2.9 to 4.8 psig / 200 to 330 mbar
	7.3 to 14.5 psig / 500 mbar to 1.0 bar	4.5 to 5.8 psig / 310 to 400 mbar
	14.5 to 43.5 psig / 1.0 to 3.0 bar	5.7 to 7.5 psig / 390 to 520 mbar
Operating Inlet Pressure, $P_{u_{max}}$	125 psig / 8.6 bar	87 psig / 6.0 bar
Max Allowable Pressure, PS	290 psig / 20.0 bar	290 psig / 20.0 bar
Temperature Range	-4 to 140 °F / -20 to 60°C (standard)	14 to 140°F / -10 to 60°C (standard)
	Tested to -40°F / -40°C	-4 to 140°F / -20 to 60°C (Low Temperature Version)
Hydrogen Readiness	25% Hydrogen Blend Ready	N/A
	100% Hydrogen Ready	N/A
Approximate Weight		
NPT	9.0 lbs / 4.0 kg	7.7 lbs / 3.5 kg
Flanged	9.0 lbs / 4.0 kg	16.5 lbs / 7.5 kg
Slam-shut Weight Adder	2.2 lbs / 1.0 kg	2.2 lbs / 1.0 kg
Published Flow Capacity (1 bar inlet, 100 mbar set point, AC5)	5440 SCFH / 155 Nm³/h	4260 SCFH / 120 Nm³/h
Accuracy Class	Accuracy Class AC: Published AC5 and AC10 Lockup SG: Up to 10% Slam-shut Lockup Class AG: +/-5%	Accuracy Class AC: Up to 10% Lockup SG: Up to 10% Slam-shut Lockup Class AG: +/-5%
Certifications	PED Cat I, IV, DVGW, EN14382, EN334	PED Cat I, IV, DVGW, EN14382, EN334
Dimensions	See Figure 6 and Table 6	
Options and Features	Integrated optional slam-shut	Integrated optional slam-shut
	Integrated True Monitor	----
	Sealed adjusting screw standard	----
	360 Degree Body Rotation	----

Note: Shaded cells indicate differences between the new and legacy product.

A, B and Regal 3 Series to CSR Series

Table 4C. Detailed Comparison of CSR Series (New Product) and A, B and Regal 3 Series (Legacy Product) Regulators (continued)

CATEGORY	CSB600 SERIES (NEW PRODUCT)	A/140 SERIES (LEGACY PRODUCT)	REGAL 3 SERIES (LEGACY PRODUCT)
End Connection Style	NPT, RP	RP	RP
	CL 125FF, CL 150RF	N/A	ISO PN 10
	PN 16	N/A	N/A
Body Material	Ductile iron and WCC Steel	Ductile cast iron	Ductile cast iron
Actuator Material	ASTM B85-A03800	EN AC 46100 EN 1706	EN AC 46100 EN 1706
Diaphragm Material	Fabric Reinforced Neoprene	Fabric Reinforced Neoprene	Fabric Reinforced Neoprene
Disk/Pad Material	Steel backed Nitrile, per EN549 C1	Aluminum Disk Holder and Nitrile (NBR)	Aluminum Disc Holder and Nitrile (NBR)
Orifice Material	Aluminum ASTM B211 A96061-T3	Brass CW617N EN 12164.01	Brass CW617N EN 12164.01
Trim and Stem Material	G10500 Steel Lever and Stem	UNI 5867 Steel Lever and Stem	UNI 5867 Steel Lever and Stem
Body and Orifice Size	1.0 in. / 25.0 mm	1.18 in. / 30.0 mm	----
Control Pressure Range	Type CSB600	Type A/140	Type Regal 3F
	3.5 to 5.6 in. w.c. / 9.0 to 14.0 mbar	4.7 to 8.3 in. w.c. / 12.0 to 21.0 mbar	----
	5.2 to 9.6 in. w.c. / 13.0 to 24.0 mbar	8.0 to 11.6 in. w.c. / 20.0 to 29.0 mbar	----
	8.9 to 15.7 in. w.c. / 22.0 to 39.0 mbar	11.4 to 14.0 in. w.c. / 28.0 to 36.0 mbar	----
	12.8 to 20.1 in. w.c. / 32.0 to 50 mbar	14.0 to 25.0 in. w.c. / 35.0 to 62 mbar	----
	16.9 to 28.1 in. w.c. / 42.0 to 70 mbar	24.0 to 33.0 in. w.c. / 60 to 80 mbar	----
	0.9 to 1.6 psig / 61 to 110 mbar	0.7 to 1.5 psig / 50 to 100 mbar	0.87 to 2.0 psig / 60 to 140 mbar
	Type CSB620	Type A/140-AP	Type Regal 3F
	1.5 to 3.2 psig / 105 to 220 mbar	1.3 to 2.2 psig / 90 to 150 mbar	1.16 to 2.6 psig / 80 to 180 mbar
	3.1 to 5.5 psig / 210 to 380 mbar	2.0 to 3.5 psig / 140 to 240 mbar	1.45 to 4.64 psig / 100 to 320 mbar
	4.6 to 8.3 psig / 320 to 570 mbar	3.3 to 3.9 psig / 230 to 270 mbar	4.35 to 8.0 psig / 300 to 550 mbar
	7.4 to 11.3 psig / 510 to 780 mbar	3.6 to 4.6 psig / 250 to 320 mbar	----
	Type CSB620F and CSB624F	----	----
	3.9 to 4.7 psig / 270 to 325 mbar	----	----
	Type CSB620	Type A/140-QL	Type Regal 3F
	10.2 to 17.3 psig / 0.7 to 1.19 bar	4.4 to 7.3 psig / 300 to 500 mbar	5.8 to 16.0 psig / 400 to 1100 mbar
	15.2 to 39.2 psig / 1.05 to 2.7 bar	----	----
Operating Inlet Pressure, $P_{u_{max}}$	290 psig / 20.0 bar	87 psig / 6.0 bar	58 psig / 4.0 bar
Max Allowable Pressure, PS	290 psig / 20.0 bar	290 psig / 20.0 bar	73 psig / 5.0 bar
Temperature Range	-4 to 140 °F / -20 to 60°C (standard) tested to -40°F / -40°C	14 to 140°F / -10 to 60°C (standard)	-4 to 140°F / -20 to 60°C
	----	-4 to 140°F / -20 to 60°C (Low Temperature Version)	----
Hydrogen Readiness	25% Hydrogen Blend Ready	N/A	N/A
	100% Hydrogen Ready	N/A	N/A
Approximate Weight			
NPT	29.0 lbs / 13.0 kg	33.0 lbs / 15.0 kg	N/A
Flanged	40.0 lbs / 18.0 kg	41.8 lbs / 19.0 kg	40.0 lbs / 18.0 kg
Slam-shut Weight Adder	2.2 lbs / 1.0 kg	2.2 lbs / 1.0 kg	2.2 lbs / 1.0 kg
Published Flow Capacity (4 bar inlet, 300 mbar set point, AC5)	37,470 SCFH / 1060 Nm³/h (CSB600 Series) 60,490 SCFH / 1710 Nm³/h (CSB700 Series)	26,620 SCFH / 750 Nm³/h	24,720 SCFH / 700 Nm³/h
Accuracy Class	Accuracy Class AC: Published AC5 and AC10 Lockup SG: Up to 10% Slam-shut Lockup Class AG: +/-5%	Accuracy Class AC: Up to 10% Lockup SG: Up to 10% Slam-shut Lockup Class AG: +/-5%	Accuracy Class AC: Up to 10% Lockup SG: Up to 10% Slam-shut Lockup Class AG: +/-5%
Certifications	PED Cat I, IV, DVGW, EN14382, EN334	PED Cat I, IV, DVGW, EN14382, EN334	PED Cat I, IV, DVGW, EN14382, EN334
Dimensions	See Figure 7 and 8 and Table 7		
Options and Features	Integrated optional slam-shut	Integrated optional slam-shut	Integrated optional slam-shut
	Sealed adjusting screw standard	----	----
	360 Degree Body Rotation	----	----

Note: Shaded cells indicate differences between the new and legacy product.

A, B and Regal 3 Series to CSR Series

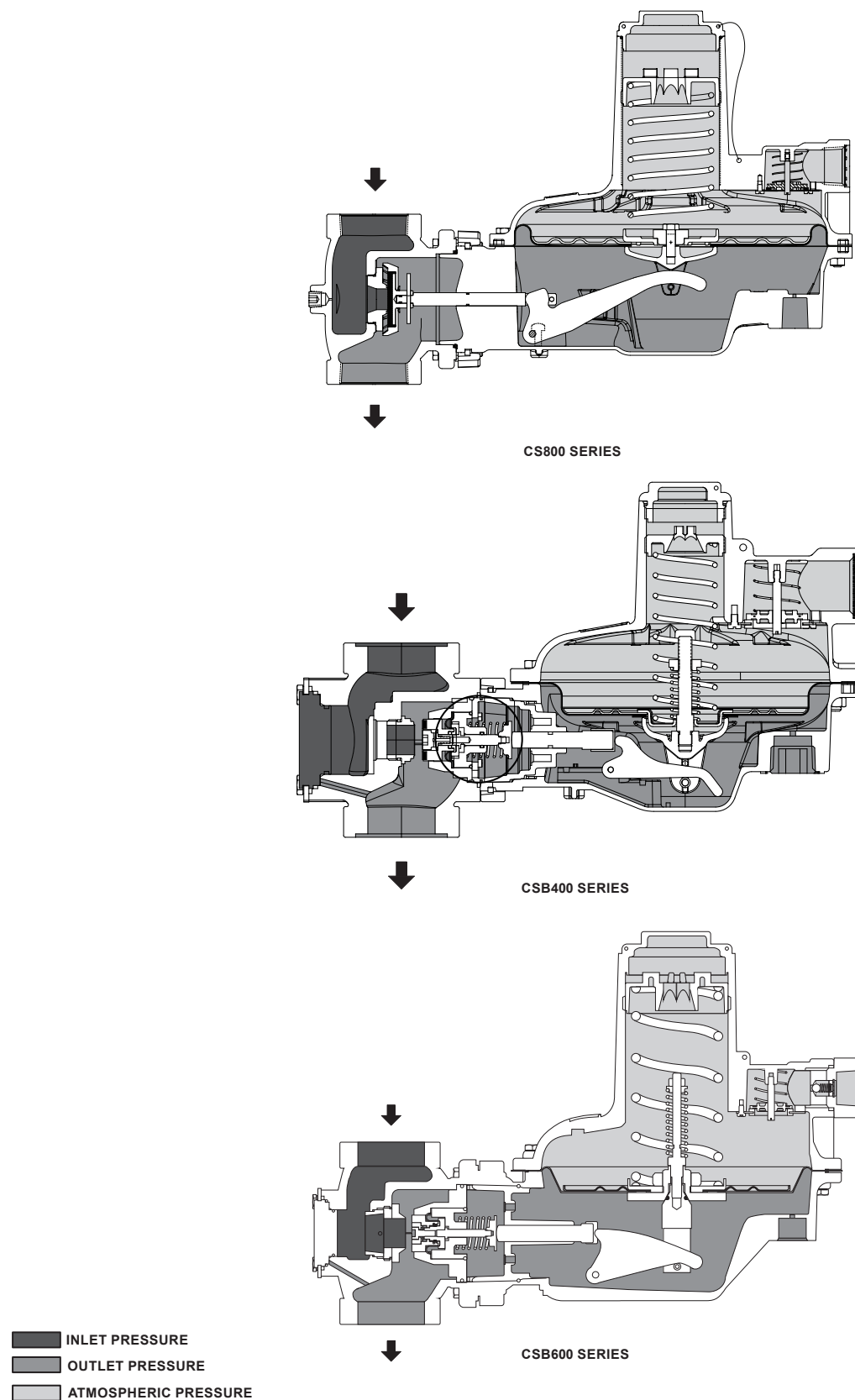
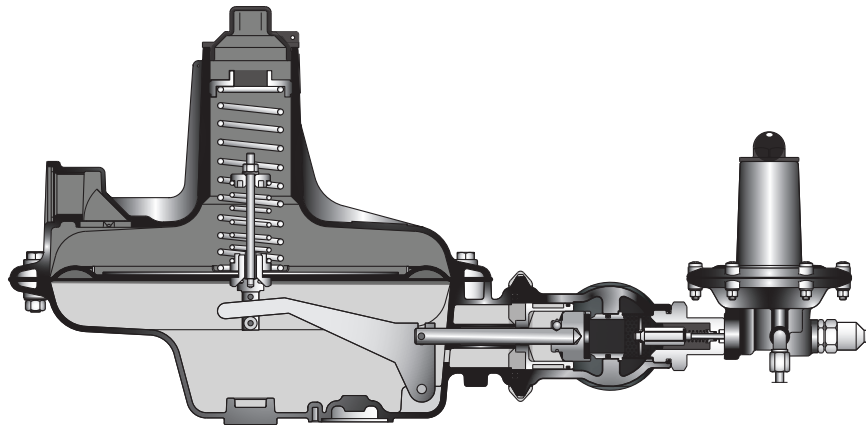
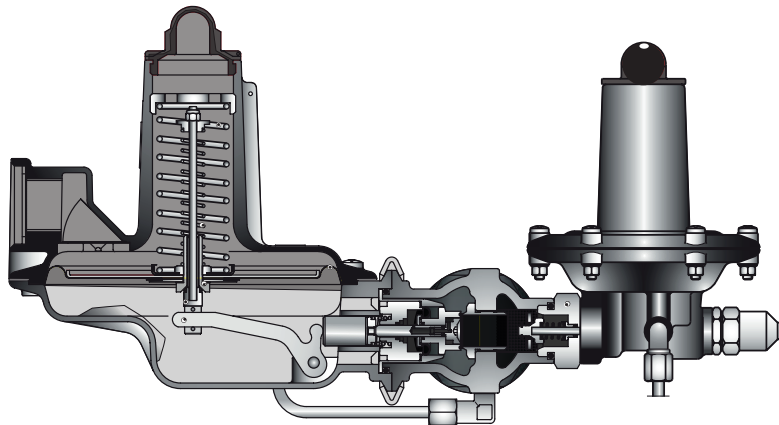


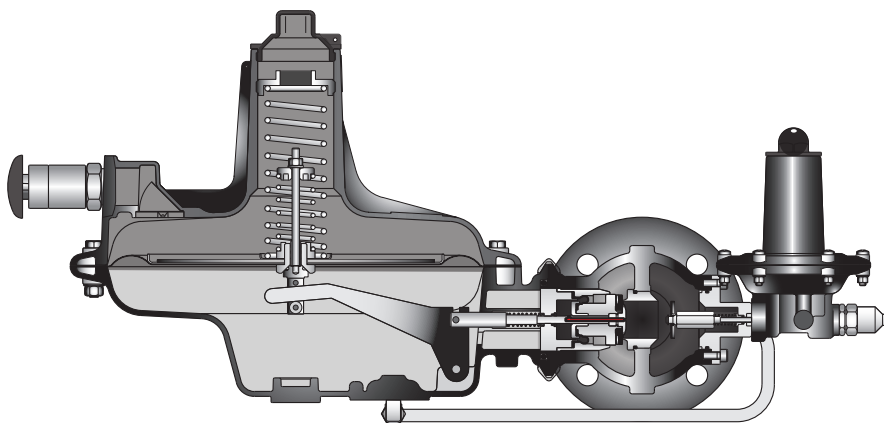
Figure 2. CSR Series Operational Schematics



A/100 SERIES



B/240 SERIES



A/140 SERIES

■ INLET PRESSURE
■ OUTLET PRESSURE
■ ATMOSPHERIC PRESSURE

Figure 3. A and B Series Operational Schematic

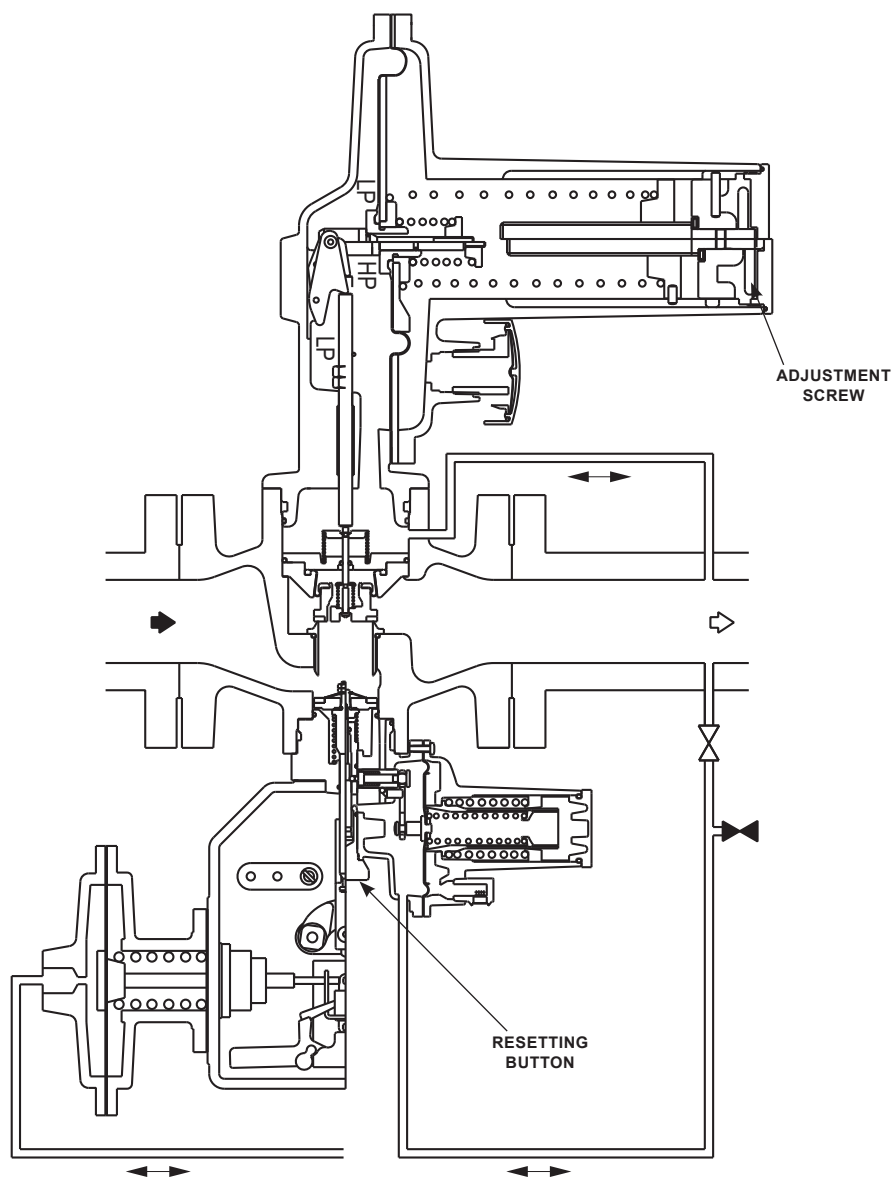


Figure 4. Regal 3 Series Operational Schematic

A, B and Regal 3 Series to CSR Series

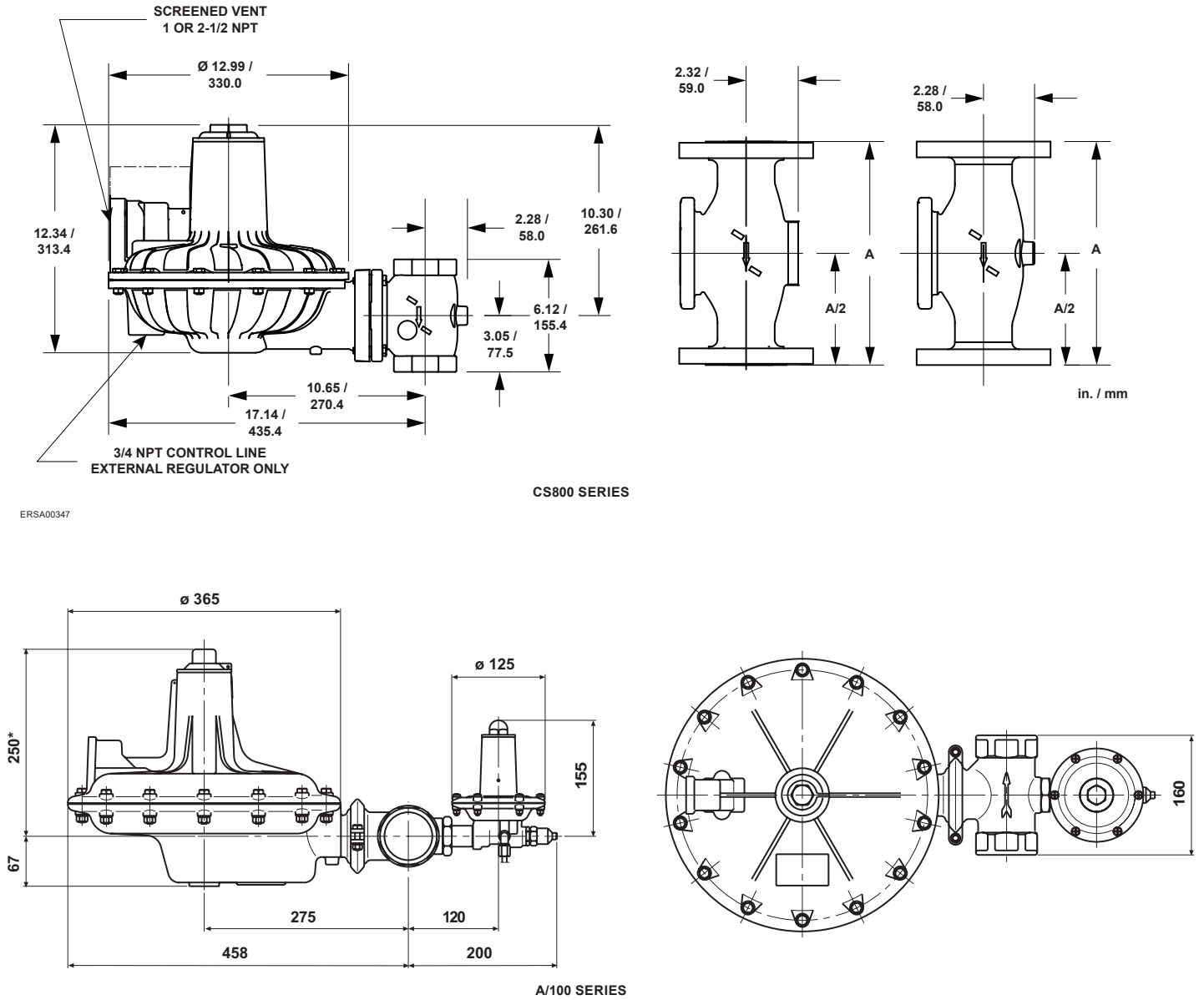


Figure 5. CS800 Series and A/100 Series Dimensions

Table 5. CS800 Series and A/100 Series Dimension Comparison

DIMENSION	CS800 SERIES		A/100 SERIES	
	in.	mm	in.	mm
Middle of Pipe to Center of Closing Cap	10.6	270	10.8	275
Actuator Diameter	13.0	330	14.4	365
Center of Pipe to Farthest Edge	17.1	435	18.0	458
Center of Pipe to Top of Closing Cap	10.3	261	9.8	250
Middle of Pipe to Slam-shut Edge	7.9	201	7.9	200
Reset distance	1.0	25.0	1.0	25.0
PN and CL 150 RF Face to Face	7.5	191	----	----
NPT Face to Face	6.1	155	6.3	160

A, B and Regal 3 Series to CSR Series

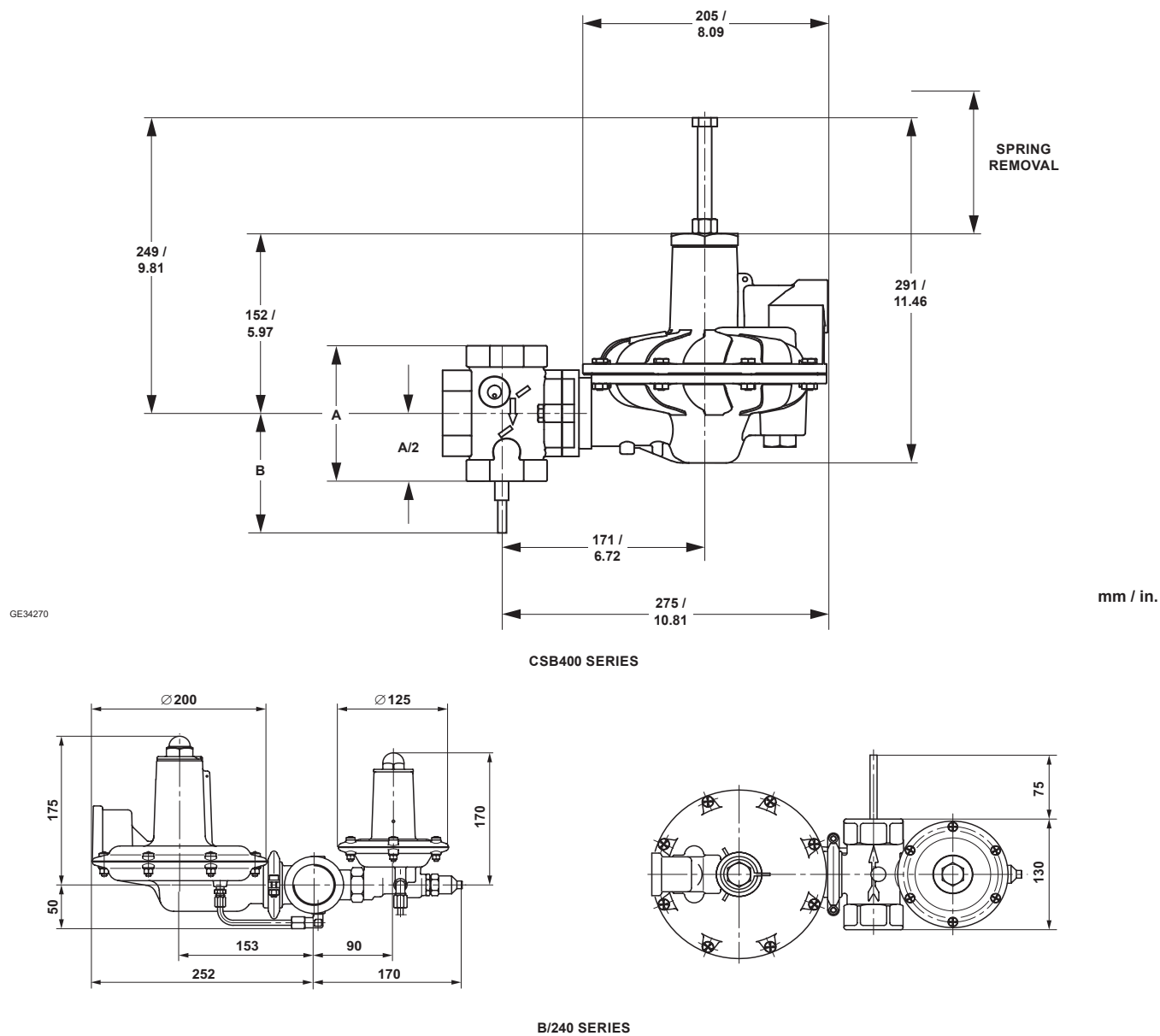
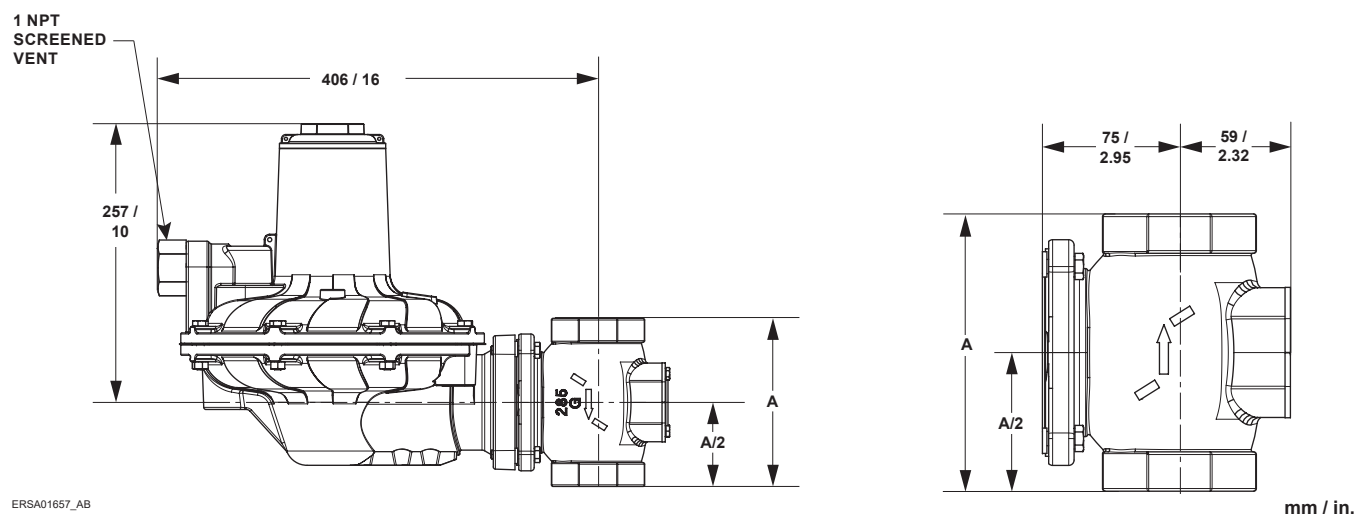


Figure 6. CSB400 Series and B/240 Series Dimensions

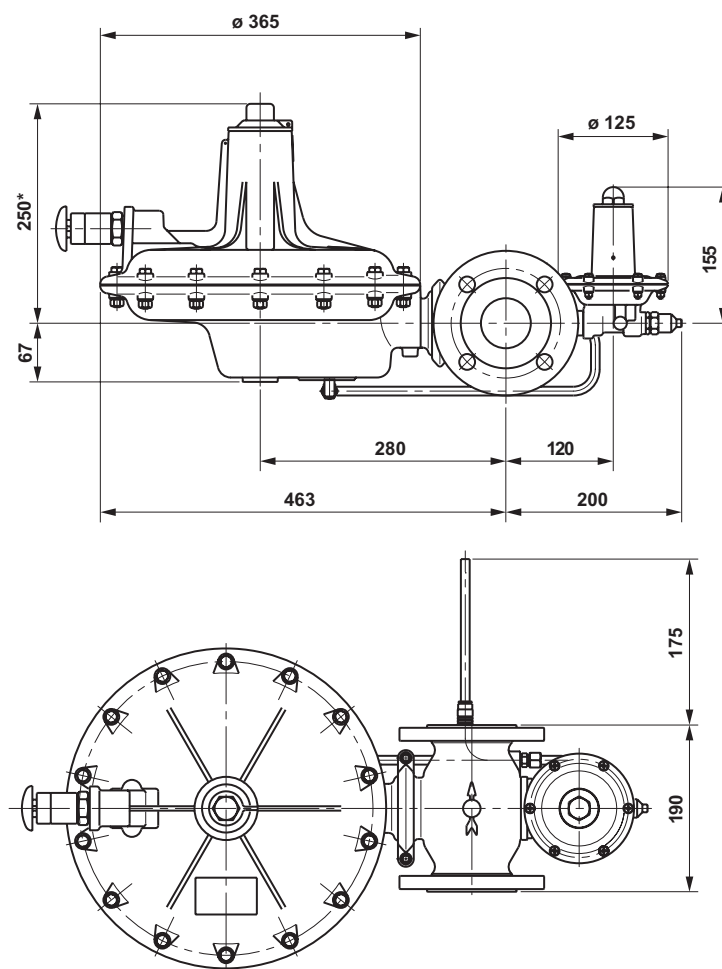
Table 6. CSB400 Series and B/240 Series Dimension Comparison

DIMENSION	CSB400 SERIES		B/240 SERIES	
	in.	mm	in.	mm
Middle of Pipe to Center of Closing Cap	6.8	173	6.0	153
Actuator Diameter	8.1	205	7.9	200
Center of Pipe to Farthest Edge	10.8	275	10.0	253
Center of Pipe to Top of Closing Cap	5.9	151	6.9	175
Middle of Pipe to Slam-shut Edge	8.2	208	6.7	170
Reset distance	1.0	25.0	1.0	25.0
PN and CL 150 RF Face to Face	10.0	254	----	----
NPT Face to Face	5.1	130	5.1	130

A, B and Regal 3 Series to CSR Series



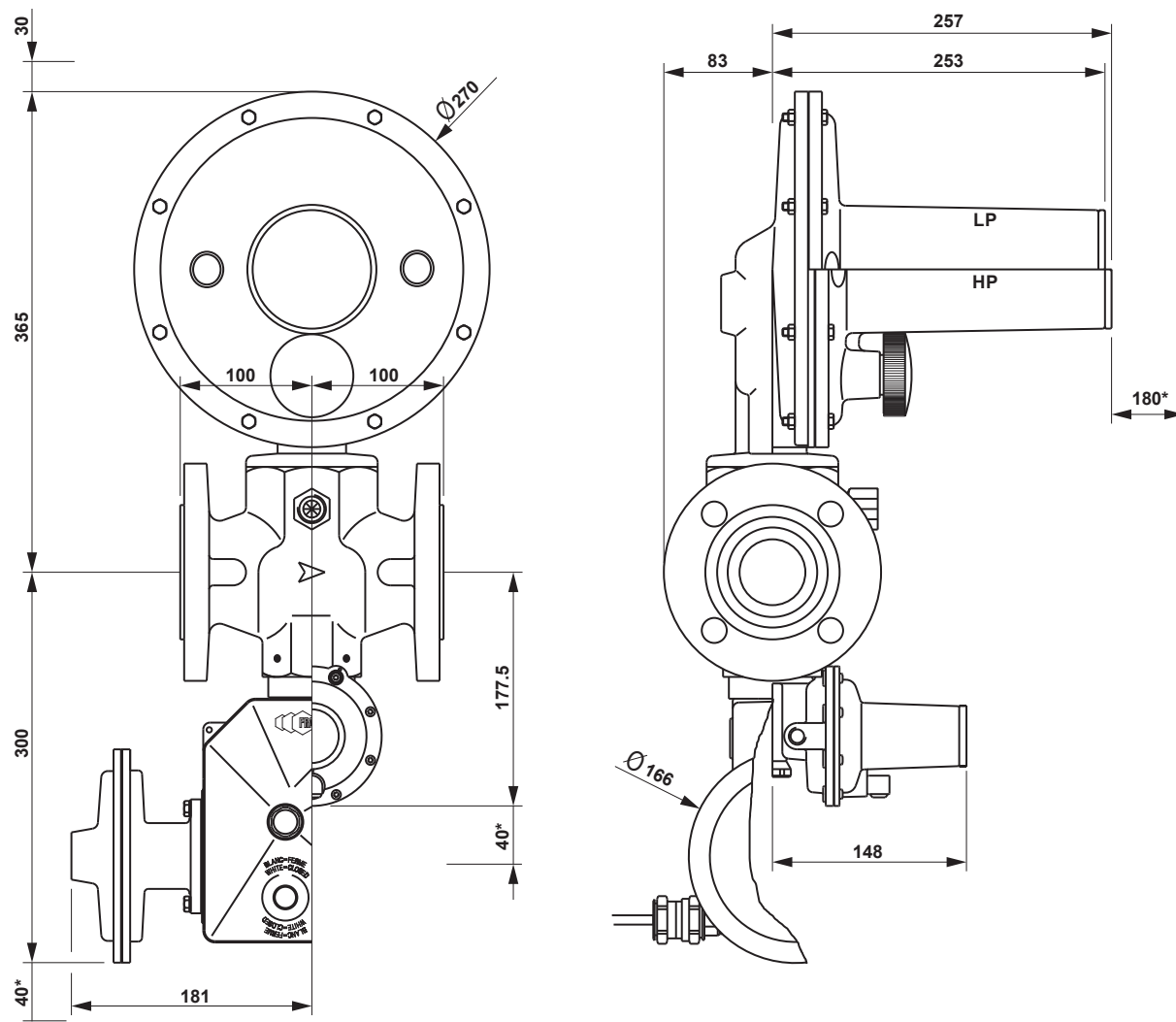
CSB600 SERIES



A/140 SERIES

Figure 7. CSB600 and A/140 Series Dimensions

A, B and Regal 3 Series to CSR Series



REGAL 3 SERIES

Figure 8. Regal 3 Series Dimensions

Table 7. CSB600, A/140 and Regal 3 Series Dimension Comparison

DIMENSION	CSB600 SERIES		A/140 SERIES		REGAL 3 SERIES	
	in.	mm	in.	mm	in.	mm
Middle of Pipe to Center of Closing Cap	10.5	266	11.0	280	9.1	230
Actuator Diameter	11.0	280	14.4	365	10.6	270
Center of Pipe to Farthest Edge	16.0	406	18.2	463	14.4	365
Center of Pipe to Top of Closing Cap	10.0	257	9.8	250	10.0	253
Middle of Pipe to Slam-shut Edge	8.0	203	7.9	200	7.0	177.5
Reset distance	1.0	25.0	1.0	25.0	1.6	40
PN and CL 150 RF Face to Face	7.5	191	7.5	190	7.5	190
NPT Face to Face	6.1	155	----	----	----	----

A, B and Regal 3 Series to CSR Series

Table 8. Repair Kits

SPARE PART KITS	DESCRIPTION	KIT PART NUMBER						
		FISHER			TARTARINI			FRANCEL
		CS800	CSB400	CSB600	A/100	B/240	A/140	REGAL 3
Pad Replacement Kit	Pad or Disk Replacement Part Only	See Types CS800 and CS804 Pad Replacement Tables	ERSA00457A0	GE27088X012	Reg - M0121370X12 SSV - M0241730X12	M2200239X12	M0230360X12	FA181058
Orifice O-ring	O-ring between body and orifice	Included in kit	10A3802X022	GE30397X012	M6010022X12	M6010209X12	M6010179X12	FA400102
Orifice Kit	1/4 in. / 6.4 mm	GE31286X012	----	----	----	----	----	----
	3/8 in. / 9.5 mm	GE31287X012	----	----	----	----	----	----
	1/2 in. / 13.0 mm	GE31288X012	----	----	M0133710X12	----	----	----
	5/8 in. / 16.0 mm	GE31289X012	----	----	M0133720X12	----	----	----
	11/16 in. / 17.0 mm	----	----	----	----	M0238710X12	----	----
	3/4 in. / 19.0 mm	GE31290X012	----	----	M0133730X12	----	----	----
	7/8 in. / 22.0 mm	GE31291X012	----	----	----	----	----	----
	1 in. / 25.0 mm	GE31292X012	GE31321X012	GE32084X012	M0122831X12	----	----	----
	1-3/16 in. / 30.0 mm	----	----	----	----	----	M0238840X12	FA142017
	1-3/8 in. / 35.0 mm	GE31293X012	----	----	----	----	----	----
Balance Port Kit	Balance Assembly Low Pressure	Not Applicable	Internal - GE31196X012 External - ERAA14234A0	GG04072X012	Not Applicable	M2600240X12	M2600248X12	----
	Balance Assembly High Pressure		Not Applicable	ERSA01428A0		----	----	----
Balance Port (Soft Goods Only)	Balance Assembly Low Pressure		----	RCSB600BPX1		----	----	----
	Balance Assembly Medium and High Pressure		----	RCSB620BPX1		----	----	----
Diaphragm Replacement	Diaphragm Assembly	Type CS800/ CS820 - GE29775X012 Type CS850 - GE47296X012	GE31248X012	GE30529X012	M0121310X12	M0206561X12	M0242490X12	FA142033
Full Repair Kit	Regulator only	----	RCSB400X012	RCSB600DAX1	M2200077X12	STD - M2200239X12 AP - M2200240X12	M2200246X12	FA197480
	Regulator and Slam-shut	RVSX4MCX012	RCSB404X012 RVSX4MCX012	RCSB604DAX1 AP - RCSB624DAX1	M2200078X12	STD - M2200243X12 AP - M2200244X12	M2200248X12	----
Slam-shut Repair	Full Repair Kit for VSX4 Assembly	RVSX4MCX012						
	Full Repair Kit for VSX8 Assembly	RVSX8MCX012						

A, B and Regal 3 Series to CSR Series

The following is a discussion covering each of these three elements.

Fit

See Table 5, 6 and 7 for detailed comparison of dimensions between Fisher and legacy Tartarini products. In general the two product families have similar dimensions product envelope dimensions. The Fisher CSR products have a wide range of end connection options such as NPT, BSP, CL 150 RF, CL 150 FF and PN16. This creates more options for fitting installations.

Form

The Fisher CSR products offer the same function, options and features as the out going Tartarini and Francel products. CSR Series offer additional features that are not commonly used in EN334 markets such as True Monitor, Secondary Seats and High Capacity Internal Relief. They also offer the standard features such as balanced trim and slam-shut options.

Temperature ratings are improved with the Fisher CSR products. Fisher products come standard with -20°F / -28°C temperature rating with additional functional testing conducted at -40°F / -40°C. They have been used for more than 10 years in arctic conditions without issues. The Tartarini products in general were rated to 14°F / -10°C with a special pricing option to lower the rating to -4°F / -20°C as needed.

Function

See Tables 4 to 7 for a comparison of the CSR Series features to the legacy Tartarini and Francel products. The Fisher CSR products utilize balanced trim with the same function as the A and B Series balanced Tartarini families. The Fisher CS800 Series is an unbalanced pressure reducing regulator with varying orifice sizes for corresponding inlet pressures, functions using the same principles as the Tartarini A/100 Series.

Conclusion

The Fisher Commercial Service Regulators offer higher operating inlet, operating outlet, matches the body pressure ratings, increased flow capacity, increased accuracy and lower temperature ratings. All the improvements in the products make the Fisher commercial service line a more versatile solution than the outgoing Tartarini A/100, A/140, B/240 and Francel Regal 3 Series. The Fisher commercial service products are a better product solution in function, form and fit.

A, B and Regal 3 Series to CSR Series

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