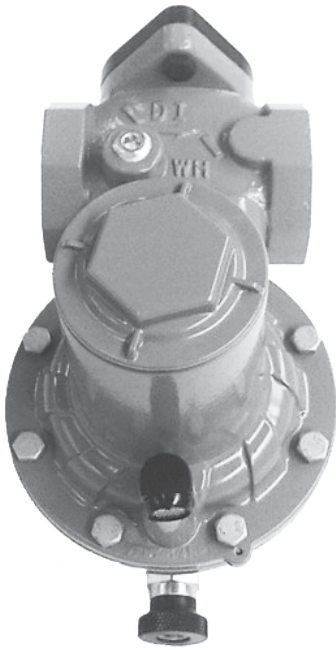
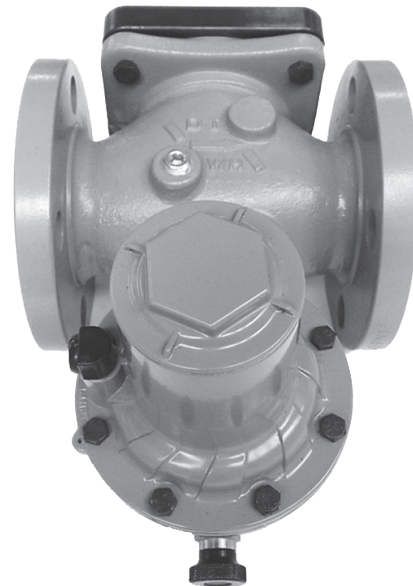


VS100 Series Slam-Shut Device



TYPE VS110



TYPE VS120

Figure 1. VS100 Series Slam-Shut Device

Features

- Medium and High Capacity Body Sizes Available
- Quick Response Time
- Ductile Iron and Steel Body Construction
- Complies with the Pressure Equipment Directive (PED) 2014/68/EU Requirements
- Overpressure and Underpressure trips available
- Modular Body construction allows for adding regulator module in the future with no pipe charges

Introduction

The VS100 Series slam-shut device is designed to shut off the flow of gas to the downstream system in the event of outlet pressure rising above or falling below the predefined levels.

The VS100 Series consists of the following:

- A body with a removable orifice, enclosed by a bonnet.
- A VSX4 or VSX8 Series controller.

VS100 Series

Specifications

The Specifications section lists the specifications for the VS100 Series slam-shut device. The following information is stamped on the label of VS100 Series: Type and Class, Maximum Outlet Pressure and Spring Range. Additional operating information is located on the slam-shut device label.

Available Configurations

See Table 4

Connections

Slam-Shut Vent: 1/4 NPT

External Sensing Line: 1/4 NPT

Body Material

Ductile Iron (GS)

Steel (WCC)

Body Sizes and End Connection Styles

See Table 8

Maximum Allowable Pressure (PS)⁽¹⁾

Differential Strength (DS): 290 psig / 20.0 bar

Integral Strength (IS): 87 psig / 6.0 bar

Specific Maximum Allowable Pressure (PSd)⁽¹⁾

87 psig / 6.0 bar

Maximum Inlet Pressure (P_{u,max})⁽¹⁾

Differential Strength (DS): 16.0 bar / 232 psig

Integral Strength (IS): 6.0 bar / 87 psig

Operating Temperature (TS)⁽¹⁾

PED: -4 to 150°F / -20 to 66°C

Non-PED: -20 to 150°F / -30 to 66°C

Response Time (ta)

< 1 second

Slam-shut Type

DS: Differential Strength

IS: Integral Strength

Functional Class

A: OPSO and UPSO

B: OPSO only

CE Marking

0062

European EN Reference Standard

EN 14382

Orifice Diameter

Medium Capacity Body (MC): 0.75 in. / 19 mm

High Capacity Body (HC): 1.18 in. / 30 mm

Valve Plug Size

Medium Capacity Body (MC) Ø: 0.94 in. / 24 mm

High Capacity Body (HC) Ø: 1.53 in. / 39 mm

Position Indicator

Extended stem visible in center of reset button
refer to VSX4 and VSX8 Series controller
Instruction Manual

Resetting Trip Mechanism

Manually after fault rectification

Casing Material

Aluminum

Pressure Detection

External

Approximate Shipping Weights

See Table 8

Flow Capacity

See Tables 6 and 7

Flow Coefficient and Power Loss

Symbols

Q = Natural gas flow rate in Nm³/h

P_u = Absolute inlet pressure in bar

C_g = Flow rate coefficient

C₁ = Body shape factor

Flow Coefficients

TYPE	ORIFICE		BODY	C _g
	In.	mm		
VS110 (VSX4)	0.75	19	1 NPT	306
			1-1/4 NPT	307
			1-1/2 NPT	321
VS120 (VSX8)	1.18	30	1-1/4 NPT	789
			1-1/2 NPT	840
			2 NPT	856
			NPS 2 Flanged	881

Pressure Drop

$$\Delta P = \frac{P_u - \sqrt{P_u^2 - 4 \left(\frac{Q}{1.05 \times C_g} \right)^2}}{2}$$

Option

Wire Seal: The VS100 Series can be ordered with an optional tamper-proof lock wire to preclude unauthorized access to the adjustment springs.

Reed Switch: An optional remote notification switch can be installed offering the capability to remotely notify the operator should VS100 Series shut off occur. Reed switch is available on the VS120 Series only. Refer to VSX4/8 Instruction Manual, D103127X012 for more information.

1. The pressure/temperature limits in this Bulletin or any applicable standard limitation should not be exceeded.

VS121	VS122	TS -20/60°C TEMPERATURE CLASS 2 -20/66°C /
VS111	VS112	
PS IS 6 bar DS 20 bar		SHUTOFF TS SEAT DN PN See Table 6
SERIAL NO. 527 LOC 527 = Cluj Manufacturing site JJ MM AN Manufacturing date Ø 19 Steel (WCC) Iron (GS)		TEMP CLASS DOM JJ MM AN FLUID GROUP 1 CAT IV BODY MATL

VSX4L	VSX4H	VSX8L	VSX8H
Std: EN14382 SLAM SHUT PED mfg: Chartres France			
RELAIS RELAY MATL CASE TYPE Wdo OP range over UP	Pu max Max IN P max Max OUT PSD Wdsu UP range	CLASS Wdsu UP range	IS 6 bar DS 16 bar LP 1.5 bar HP 5.5 bar A Min, Min and Max installation B Max installation only
Pressure range following service condition			IS PS 6 bar P _{UTMAX} 6 bar PSD 6 bar DS PS 20 bar P _{UTMAX} 16 bar PSD 6 bar

Figure 2. PED VS100 Series Label

Figure 3. EN 14382 VSX4 and VSX8 Series Label

FISHER ™ FRANCEL SAS Chartres FRANCE		CE II 2 G T
TYPE		
No de Série SERIAL No.		An YEAR
Utilisation INTENDED USE		

Figure 4. Nameplate for explosive atmosphere if ATEX assembled

Table 1. PED Information

TYPE	DESCRIPTION	PED DIRECTORY	FLUID GROUP
VS100	Regulator body with VSX4 or VSX8 Series controller	IV	Groups 1 and 2 according to 2014/68/EU, 1st and 2nd family gas according to EN 437 or other gases (compressed air and nitrogen). The gas must be non-corrosive, clean (filtration on inlet side necessary) and dry.

Table 2. Directive ATEX Information

TYPE	CLASSIFICATION	ATEX ASSEMBLIES	ATEX LABELLING
VSX4 or VSX8	Non-electrical equipment	Not falling under the 2014/34/EU Directive	No
VSX8 with reed contact	Non-electric equipment equipped with an electrical device falling under the scope of the ATEX Directive 2014/34/EU	Constitutes an assembly according to the 2014/34/EU Directive	CE II 2 G T

Table 3. Accuracy According to EN 14382 - VS100 Series

ACCURACY GROUP (AG)	$P_d < 0.507 \text{ psig} / 35 \text{ mbar}$	$0.507 \text{ psig} \leq P_d < 0.87 \text{ psig} / 35 \text{ mbar} \leq P_d < 60 \text{ mbar}$	$0.87 \text{ psig} \leq P_d < 1.5 \text{ psig} / 60 \text{ mbar} \leq P_d < 100 \text{ mbar}$	$P_d \geq 1.5 \text{ psig} / 100 \text{ mbar}$
AG _{min}	30	15	10	5
AG _{max}	10	10		

Note: Stable inlet pressure AG_{min} = AG 10 ($P_d < 0.87 \text{ psig} / 60 \text{ mbar}$) and AG 5 ($P_d > 0.87 \text{ psig} / 60 \text{ mbar}$), AG_{max} = AG 5

Table 4. VS100 Series Configurations

TYPE	BODY SIZE	ORIFICE DIAMETER		CONTROLLER	OVERPRESSURE MONITORING RANGE (W _{do})		UNDERPRESSURE MONITORING RANGE (W _{du})	
		In.	mm		psig	mbar	psig	mbar
VS111	Medium Capacity	0.75	19	VSX4L	0.44 to 23.2	30 to 1600	0.07 to 10.9	5 to 750
VS112				VSX4H	16.0 to 79.8	1100 to 5500	7.25 to 40.6	500 to 2800
VS121	High Capacity	1.18	30	VSX8L	0.44 to 23.2	30 to 1600	0.07 to 10.9	5 to 750
VS122				VSX8H	16.0 to 79.8	1100 to 5500	7.25 to 40.6	500 to 2800

VS100 Series

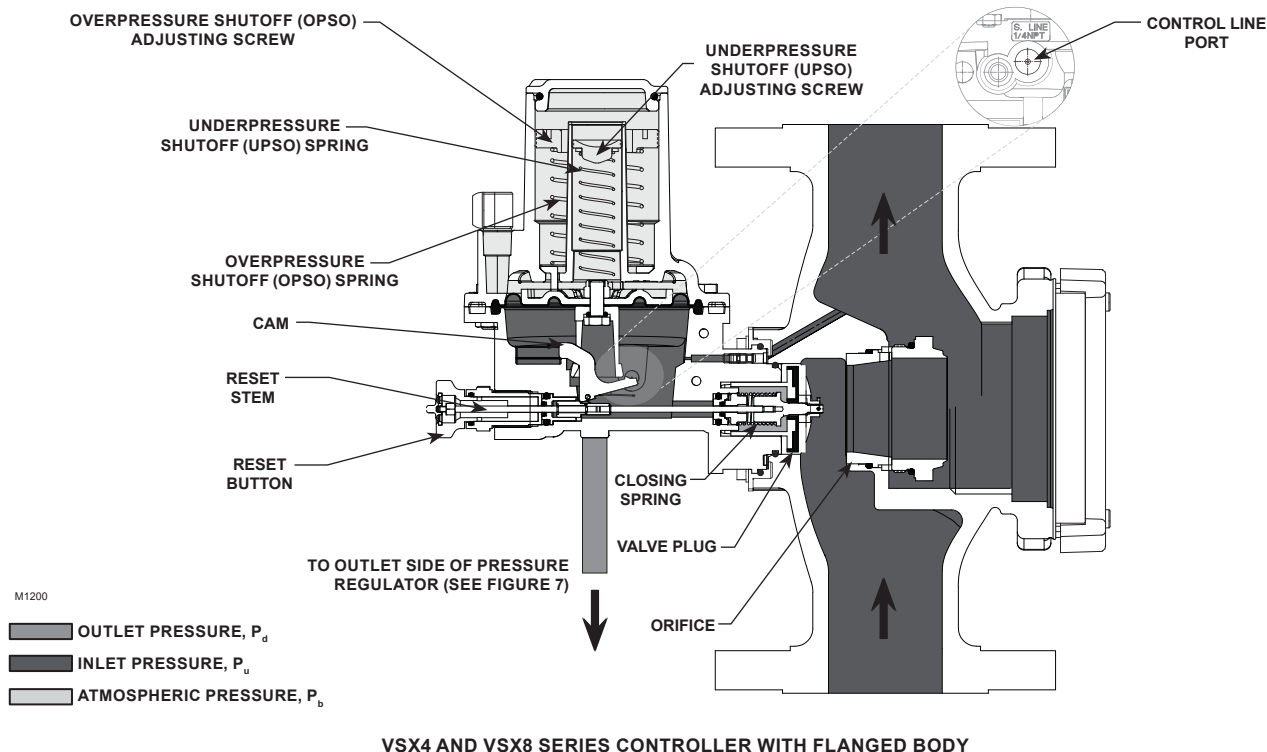


Figure 5. Typical VS100 Series Operational Schematic

Principle of Operation

The pressure in the zone to be protected (generally the pipeline on the outlet side of the pressure regulator and situated after the slam-shut device (see Figure 5) activates the VSX4 and VSX8 Series controller.

The pressure measuring element of the VSX4 and VSX8 Series controller consists of a diaphragm that senses downstream pressure. The downstream pressure is controlled by the regulator. The top side of the VSX4 and VSX8 Series diaphragm encounters the force imposed by the overpressure shut-off spring and underpressure shut-off spring.

When the downstream pressure increases above the overpressure shut-off (OPSO) setting, the diaphragm moves up.

When the downstream pressure decreases below the underpressure shut-off (UPSO) setting, the diaphragm moves down.

Both of these actions result in the rotation of the cam and the release of the reset pin.

The valve plug spring moves the valve plug against the regulator port, stopping the flow of gas.

Before opening the valve plug, an equal pressure balance on inlet and outlet sides is required.

Refer to the VSX4 and VSX8 Series Instruction Manual, Form 5867. Using the reset button, activate the internal bypass, then rearm the valve plug in accordance with the Manual Reset Procedure. Rearming and pressure balancing are achieved at the same time.

Table 5a. Overpressure Shut-off OPSO Ranges Only, psig

REGULATOR		SLAM SHUT DEVICE				
Type	Typical Setpoint	Type (Maximum Operating Inlet)	Over Pressure Shut-off (OPSO)	Factory Set	Spring Part Number	Spring Color
			Set Range	OPSO		
	psig		psig	psig		
VS111 VS121	7 in. w.c.	VSX4L VSX8L (125 psi)	12 to 24 in. w.c.	22 in. w.c.	GF02168X012	Brown
	11 in. w.c.		16 in. w.c. to 1.6 psig	25 in. w.c.	GF02169X012	Red
	14 in. w.c.		24 in. w.c. to 2.8 psig	1.1	GF02170X012	Orange
	1		1.4 to 4.1	2	GF02171X012	Pink
	2		2.0 to 7.3	3.5	GF02172X012	Green
	3		2.0 to 7.3	5	GF02172X012	Green
	5		3.2 to 11.0	7	GF02173X012	Silver
	10		5.8 to 21	12	GF04353X012	Yellow
VS111 VS121	7 in. w.c.	VSX4L VSX8L (232 psi)	12 to 24 in. w.c.	22 in. w.c.	GF02168X012	Brown
	11 in. w.c.		16 in. w.c. to 1.6 psig	25 in. w.c.	GF02169X012	Red
	14 in. w.c.		24 in. w.c. to 2.8 psig	1.1	GF02170X012	Orange
	1		1.4 to 4.1	2	GF02171X012	Pink
	2		2.0 to 7.3	3.5	GF02172X012	Green
	3		2.0 to 7.3	5	GF02172X012	Green
	5		3.2 to 11.0	7	GF02173X012	Silver
	10		5.8 to 21	12	GF04353X012	Yellow
VS112 VS122	15	VSX4H VSX8H (232 psi)	13.1 to 43.5	19	GF02173X012	Silver
	20		13.1 to 43.5	25	GF02173X012	Silver
	30		13.1 to 43.5	35	GF02173X012	Silver
	40		23.2 to 79.8	45	GF04353X012	Yellow

Table 5b. Overpressure Shut-off OPSO Ranges Only, bar

REGULATOR		SLAM SHUT DEVICE				
Type	Typical Setpoint	Type (Maximum Operating Inlet)	Over Pressure Shut-off (OPSO)	Factory Set	Spring Part Number	Spring Color
			Set Range	OPSO		
	bar		bar	bar		
VS111 VS121	17.4 mbar	VSX4L VSX8L (125 psi / 8.62 bar)	29.9 to 59.8 mbar	54.8 mbar	GF02168X012	Brown
	27.4 mbar		39.9 mbar to 0.11 bar	62.3 mbar	GF02169X012	Red
	34.9 mbar		59.8 mbar to 0.19 bar	0.08	GF02170X012	Orange
	0.07		0.10 to 0.28	0.14	GF02171X012	Pink
	0.14		0.14 to 0.50	0.24	GF02172X012	Green
	0.21		0.14 to 0.50	0.34	GF02172X012	Green
	0.35		0.22 to 0.76	0.48	GF02173X012	Silver
	0.69		0.40 to 1.45	0.83	GF04353X012	Yellow
VS111 VS121	17.4 mbar	VSX4L VSX8L (232 psi / 16.0 bar)	29.9 to 59.8 mbar	54.8 mbar	GF02168X012	Brown
	27.4 mbar		39.9 mbar to 0.11 bar	62.3 mbar	GF02169X012	Red
	34.9 mbar		59.8 mbar to 0.19 bar	0.08	GF02170X012	Orange
	0.07		0.10 to 0.28	0.14	GF02171X012	Pink
	0.14		0.14 to 0.50	0.24	GF02172X012	Green
	0.21		0.14 to 0.50	0.34	GF02172X012	Green
	0.35		0.22 to 0.76	0.48	GF02173X012	Silver
	0.69		0.40 to 1.45	0.83	GF04353X012	Yellow
VS112 VS122	1.03	VSX4H VSX8H (232 psi / 16.0 bar)	0.90 to 3.0	1.30	GF02173X012	Silver
	1.38		0.90 to 3.0	1.72	GF02173X012	Silver
	2.07		0.90 to 3.0	2.40	GF02173X012	Silver
	2.76		1.60 to 5.50	3.10	GF04353X012	Yellow

VS100 Series

Table 5c. Overpressure and Underpressure Shut-off OPSO/UPSO Ranges, psig

REGULATOR		SLAM SHUT DEVICE									
Type	Typical Setpoint	Type (Maximum Operating Inlet)	Under Pressure Shut-off (UPSO)	Spring Part Number	Spring Color	Over Pressure Shut-off (OPSO)	Spring Part Number	Spring Color	Factory Set		
			Set Range			Set Range			UPSO	Adjusted	OPSO
						Over UPSO Setpoint				OPSO Range	
	psig		psig	psig	psig	psig					
VS111 VS121	7 in. w.c.	VSX4L VSX8L (125 psi)	3 to 12 in. w.c.	ERAA05835A0	White	16 to 29 in. w.c.	GF02168X012	Brown	3 in. w.c.	19 in. w.c. to 1.2 psig	22 in. w.c.
	11 in. w.c.		3 to 12 in. w.c.	ERAA05835A0	White	16 to 29 in. w.c.	GF02168X012	Brown	6 in. w.c.	22 in. w.c. to 1.3 psig	25 in. w.c.
	14 in. w.c.		4 in. w.c. to 1.1 psig	T14169T0012	Blue	20 in. w.c. to 1.8 psig	GF02169X012	Red	9 in. w.c.	2.1 to 1.0	1.1
	1		10 in. w.c. to 2.3 psig	T14169T0012	Blue	1.2 to 3.2	GF02169X012	Red	14 in. w.c.	1.7 to 3.7	2
	2		10 in. w.c. to 2.3 psig	T14169T0012	Blue	1.2 to 3.2	GF02170X012	Orange	1	2.2 to 4.2	3.5
	3		1.5 to 7.3	T14170T0012	Silver	2.6 to 5.6	GF02171X012	Pink	2	4.6 to 7.6	5
	5		1.5 to 7.3	FA142869X12	Orange Stripe	2.6 to 5.6	GF02171X012	Pink	3	5.6 to 8.6	7
	10		1.5 to 7.3			3.5 to 8.2	GF02172X012	Green	5	8.5 to 13.2	12
VS111 VS121	7 in. w.c.	VSX4L VSX8L (232 psi)	3 to 12 in. w.c.	ERAA05835A0	White	18 to 30	GF02168X012	Brown	3 in. w.c.	21 in. w.c. to 1.2 psig	22 in. w.c.
	11 in. w.c.		3 to 12 in. w.c.	ERAA05835A0	White	18 to 30	GF02168X012	Brown	6 in. w.c.	24 in. w.c. to 1.3 psig	25 in. w.c.
	14 in. w.c.		4 in. w.c. to 1.1 psig	T14169T0012	Blue	25 to 1.9	GF02169X012	Red	9 in. w.c.	1.2 to 2.2	1.1
	1		10 in. w.c. to 2.3 psig	T14169T0012	Blue	1.2 to 3.2	GF02170X012	Orange	14 in. w.c.	1.7 to 3.7	2
	2		10 in. w.c. to 2.3 psig	T14170T0012	Silver	1.2 to 3.2	GF02170X012	Orange	1	2.2 to 4.2	3.5
	3		1.5 to 7.3	FA142869X12	Orange Stripe	2.6 to 5.6	GF02171X012	Pink	2	4.6 to 7.6	5
	5		1.5 to 7.3	FA142869X12	Orange Stripe	2.6 to 5.6	GF02171X012	Pink	3	5.6 to 8.6	7
	10		1.5 to 7.3	FA142869X12	Orange Stripe	3.5 to 8.2	GF02172X012	Green	5	8.5 to 13.2	12
	15		1.5 to 10.9	T14171T0012	Olive	6.7 to 13.5	GF02173X012	Silver	7	13.7 to 20.5	19
VS112 VS122	20	VSX4H VSX8H (232 psi)	7.3 to 29.0	FA142869X12	Orange Stripe	15.2 to 22.8	GF02171X012	Pink	10	25.2 to 32.8	25
	30		7.3 to 29.0	FA142869X12	Orange Stripe	18.1 to 33.4	GF02172X012	Green	15	33.1 to 48.4	35

Table 5d. Overpressure and Underpressure Shut-off OPSO/UPSO Ranges, bar

REGULATOR		SLAM SHUT DEVICE									
Type	Typical Setpoint	Type (Maximum Operating Inlet)	Under Pressure Shut-off (UPSO)	Spring Part Number	Spring Color	Over Pressure Shut-off (OPSO)	Spring Part Number	Spring Color	Factory Set		
			Set Range			Set Range			UPSO	Adjusted	OPSO
						OPSO Range					
	bar		bar	bar	bar	bar					
VS111 VS121	17.4 mbar	VSX4L VSX8L (125 psi / 8.62 bar)	7.47 to 30.0 mbar	ERAA05835A0	White	39.9 to 72.2 mbar	GF02168X012	Brown	7.47 mbar	47.3 mbar to 0.08 bar	54.8 mbar
	27.4 mbar		7.47 to 30.0 mbar	ERAA05835A0	White	39.9 to 72.2 mbar	GF02168X012	Brown	14.9 mbar	54.8 mbar to 0.09 bar	62.3 mbar
	34.9 mbar		9.96 mbar to 0.76 bar	T14169T0012	Blue	49.8 mbar to 0.12 bar	GF02169X012	Red	22.4 mbar	0.15 to 0.07	0.08
	0.07		24.9 mbar to 0.16 bar	T14169T0012	Blue	0.08 to 0.22	GF02169X012	Red	34.9 mbar	0.12 to 0.26	0.14
	0.14		24.9 mbar to 0.16 bar	T14169T0012	Blue	0.08 to 0.22	GF02170X012	Orange	0.07	0.15 to 0.29	0.24
	0.21		0.10 to 0.50	T14170T0012	Silver	0.18 to 0.39	GF02171X012	Pink	0.14	0.32 to 0.52	0.35
	0.35		0.10 to 0.50	FA142869X12	Orange Stripe	0.18 to 0.39	GF02171X012	Pink	0.21	0.39 to 0.59	0.48
	0.69		0.10 to 0.50			0.24 to 0.57	GF02172X012	Green	0.35	0.59 to 0.91	0.83
VS111 VS121	17.4 mbar	VSX4L VSX8L (232 psi / 16.0 bar)	7.47 to 30.0 mbar	ERAA05835A0	White	44.8 to 74.7	GF02168X012	Brown	7.47 mbar	52.3 mbar to 0.08 bar	54.8 mbar
	27.4 mbar		7.47 to 30.0 mbar	ERAA05835A0	White	44.8 to 74.7	GF02168X012	Brown	14.9 mbar	59.8 mbar to 0.09	62.3 mbar
	34.9 mbar		9.96 mbar to 0.76 bar	T14169T0012	Blue	62.3 mbar to 0.13 bar	GF02169X012	Red	22.4 mbar	0.08 to 0.15	0.08
	0.07		24.9 mbar to 0.16 bar	T14169T0012	Blue	0.08 to 0.22	GF02170X012	Orange	34.9 mbar	0.12 to 0.26	0.14
	0.14		24.9 mbar to 0.16 bar	T14170T0012	Silver	0.08 to 0.22	GF02170X012	Orange	0.07	0.15 to 0.29	0.24
	0.21		0.10 to 0.50	FA142869X12	Orange Stripe	0.18 to 0.39	GF02171X012	Pink	0.14	0.32 to 0.52	0.35
	0.35		0.10 to 0.50	FA142869X12	Orange Stripe	0.18 to 0.39	GF02171X012	Pink	0.21	0.39 to 0.59	0.48
	0.69		0.10 to 0.50	FA142869X12	Orange Stripe	0.24 to 0.57	GF02172X012	Green	0.35	0.59 to 0.91	0.83
VS112 VS122	1.38	VSX4H VSX8H (232 psi / 16.0 bar)	0.10 to 0.75	T14171T0012	Olive	0.46 to 0.93	GF02173X012	Silver	0.48	0.95 to 1.41	1.31
	2.07		0.50 to 2.0	FA142869X12	Orange Stripe	1.05 to 1.57	GF02171X012	Pink	0.69	1.74 to 2.26	1.72
			0.50 to 2.0	FA142869X12	Orange Stripe	1.25 to 2.30	GF02172X012	Green	1.03	2.28 to 3.34	2.41

Capacity Information

Tables 6 and 7 provide natural gas regulating capacities at selected inlet pressures and outlet pressure settings for the VS100 Series, which includes configurations that include the slam-shut device. Flows are in Sm³/h (16°C and 1.01325 bar) and SCFH (60°F and 14.7 psia) of 0.6 specific gravity natural gas.

To determine equivalent capacities for air, propane, butane or nitrogen, multiply the capacity value in

the tables by the following appropriate conversion factor: 0.775 for air, 0.628 for propane, 0.548 for butane or 0.789 for nitrogen. For gases of other specific gravities, multiply the given capacity by 0.775 and divide by the square root of the appropriate specific gravity.

The published capacities were obtained using inlet and outlet piping the same size as the regulator body size.

Table 6. Type VS110 Flow Capacities

INLETPRESSURE		DIFFERENTIALPRESSURE (ΔP)		1 NPT		1-1/4 NPT		1-1/2 NPT	
psig	bar	psi	bar	SCFH	Sm ³ /h	SCFH	Sm ³ /h	SCFH	Sm ³ /h
0.50	0.03	0.25	0.02	1290	36.3	1290	36.3	1359	38.3
0.75	0.05			1300	36.6	1310	36.9	1370	38.6
1	0.07			1310	36.9	1320	37.2	1381	38.9
2	0.14			1350	38.0	1360	38.3	1426	40.2
3	0.21			1390	39.2	1400	39.4	1468	41.4
5	0.34			1470	41.4	1480	41.7	1550	43.7
7	0.48			1550	43.7	1550	43.7	1628	45.9
10	0.69			1650	46.5	1660	46.8	1738	49.0
15	1.03			1810	51.0	1820	51.3	1908	53.7
25	1.72			2100	59.2	2110	59.4	2208	62.2
50	3.45			2690	75.8	2690	75.8	2823	79.5
75	5.17			3170	89.3	3180	89.6	3326	93.7
100	6.90			3580	101	3590	101	3762	106
150	10.3			4290	121	4310	121	4510	127
225	15.5			5180	146	5200	146	5442	153
0.75	0.05	0.5	0.03	1820	51.3	1820	51.3	1912	53.9
1	0.07			1830	51.5	1840	51.8	1928	54.3
2	0.14			1890	53.2	1900	53.5	1991	56.1
3	0.21			1950	54.9	1960	55.2	2051	57.8
5	0.34			2060	58.0	2070	58.3	2167	61.1
7	0.48			2170	61.1	2170	61.1	2277	64.2
10	0.69			2310	65.1	2320	65.4	2433	68.5
15	1.03			2540	71.5	2550	71.8	2673	75.3
25	1.72			2950	83.1	2960	83.4	3097	87.2
50	3.45			3770	106	3790	107	3964	112
75	5.17			4450	125	4460	126	4672	132
100	6.90			5030	142	5050	142	5287	149
150	10.3			6040	170	6060	171	6339	179
225	15.5			7290	205	7310	206	7651	216
2	0.14	1	0.07	2640	74.4	2650	74.6	2774	78.2
3	0.21			2720	76.6	2730	76.9	2861	80.6
5	0.34			2880	81.1	2890	81.4	3027	85.3
7	0.48			3030	85.4	3040	85.6	3185	89.7
10	0.69			3240	91.3	3250	91.5	3407	96.0
15	1.03			3570	101	3580	101	3749	106
25	1.72			4140	117	4160	117	4353	123
50	3.45			5320	150	5340	150	5584	157
75	5.17			6280	177	6300	177	6590	186
100	6.90			7110	200	7130	201	7461	210
150	10.3			8530	240	8560	241	8952	252
225	15.5			10,300	290	10,330	291	10,810	304
7	0.48	5	0.34	6193	174	6213	175	6496	183
10	0.69			6702	189	6724	189	7031	198
15	1.03			7477	211	7501	211	7844	221
25	1.72			8831	249	8860	250	9264	261
50	3.45			11,550	325	11,587	326	12,116	341
75	5.17			13,744	387	13,789	388	14,418	406
100	6.90			15,635	440	15,686	442	16,402	462
150	10.3			18,858	531	18,919	533	19,782	557
225	15.5			22,856	644	22,931	646	23,976	675
12	0.83	10	0.69	9021	254	9050	255	9463	267
15	1.03			9704	273	9736	274	10,180	287
25	1.72			11,722	330	11,760	331	12,297	346
50	3.45			15,720	443	15,771	444	16,491	465
75	5.17			18,912	533	18,973	534	19,839	559
100	6.90			21,644	610	21,715	612	22,705	640
150	10.3			26,277	740	26,362	743	27,565	776
225	15.5			31,996	901	32,101	904	33,565	945

VS100 Series

Table 7. Type VS120 Flow Capacities

INLETPRESSURE		DIFFERENTIALPRESSURE(ΔP)		1-1/4 NPT		1-1/2 NPT		2 NPT		NPS 2 / DN 50 FLANGED	
psig	bar	psi	bar	SCFH	Sm ³ /h	SCFH	Sm ³ /h	SCFH	Sm ³ /h	SCFH	Sm ³ /h
0.50	0.03	0.25	0.02	3340	94.1	3556	100	3624	102	3729	105
0.75	0.05			3368	94.9	3586	101	3654	103	3761	106
1	0.07			3396	95.6	3615	102	3684	104	3791	107
2	0.14			3504	98.7	3730	105	3801	107	3912	110
3	0.21			3609	102	3842	108	3915	110	4030	114
5	0.34			3810	107	4057	114	4134	116	4255	120
7	0.48			4002	113	4260	120	4341	122	4468	126
10	0.69			4273	120	4549	128	4635	131	4771	134
15	1.03			4690	132	4993	141	5088	143	5236	148
25	1.72			5428	153	5779	163	5889	166	6061	171
50	3.45			6939	195	7387	208	7528	212	7748	218
75	5.17			8175	230	8704	245	8869	250	9128	257
100	6.90			9248	260	9845	277	10,033	283	10,326	291
150	10.3			11,085	312	11,802	332	12,027	339	12,378	349
225	15.5			13,377	377	14,241	401	14,513	409	14,936	421
0.75	0.05	0.5	0.03	4701	132	5004	141	5100	144	5249	148
1	0.07			4740	134	5046	142	5142	145	5292	149
2	0.14			4893	138	5209	147	5309	150	5464	154
3	0.21			5042	142	5368	151	5470	154	5630	159
5	0.34			5327	150	5671	160	5779	163	5948	168
7	0.48			5598	158	5960	168	6073	171	6250	176
10	0.69			5981	168	6367	179	6489	183	6678	188
15	1.03			6570	185	6994	197	7128	201	7336	207
25	1.72			7612	214	8104	228	8259	233	8500	239
50	3.45			9742	274	10,372	292	10,570	298	10,878	306
75	5.17			11,484	323	12,226	344	12,459	351	12,823	361
100	6.90			12,994	366	13,834	390	14,098	397	14,509	409
150	10.3			15,581	439	16,589	467	16,905	476	17,398	490
225	15.5			18,807	530	20,022	564	20,404	575	20,999	592
2	0.14	1	0.07	6819	192	7260	205	7398	208	7614	214
3	0.21			7033	198	7487	211	7630	215	7853	221
5	0.34			7441	210	7922	223	8073	227	8308	234
7	0.48			7828	221	8334	235	8493	239	8741	246
10	0.69			8375	236	8916	251	9086	256	9352	263
15	1.03			9215	260	9811	276	9998	282	10,290	290
25	1.72			10,700	301	11,391	321	11,608	327	11,947	337
50	3.45			13,726	387	14,613	412	14,892	419	15,327	432
75	5.17			16,197	456	17,244	486	17,572	495	18,086	509
100	6.90			18,338	517	19,523	550	19,895	560	20,476	577
150	10.3			22,003	620	23,425	660	23,872	672	24,569	692
225	15.5			26,570	748	28,287	797	28,826	812	29,668	836
7	0.48	5	0.34	15,968	450	17,000	479	17,324	488	17,830	502
10	0.69			17,281	487	18,398	518	18,748	528	19,296	544
15	1.03			19,279	543	20,525	578	20,916	589	21,527	606
25	1.72			22,769	641	24,241	683	24,703	696	25,424	716
50	3.45			29,780	839	31,705	893	32,308	910	33,252	937
75	5.17			35,439	998	37,730	1063	38,448	1083	39,571	1115
100	6.90			40,315	1136	42,920	1209	43,738	1232	45,015	1268
150	10.3			48,624	1370	51,767	1458	52,753	1486	54,293	1529
225	15.5	10	0.69	58,932	1660	62,742	1767	63,937	1801	65,804	1854
12	0.83			23,259	655	24,763	698	25,234	711	25,971	732
15	1.03			25,022	705	26,639	750	27,146	765	27,939	787
25	1.72			30,224	851	32,178	906	32,791	924	33,748	951
50	3.45			40,533	1142	43,153	1216	43,975	1239	45,259	1275
75	5.17			48,762	1374	51,914	1462	52,903	1490	54,448	1534
100	6.90			55,808	1572	59,415	1674	60,547	1706	62,315	1755
150	10.3			67,752	1909	72,132	2032	73,506	2071	75,652	2131
225	15.5			82,501	2324	87,833	2474	89,506	2521	92,120	2595

Dimensions and Weights

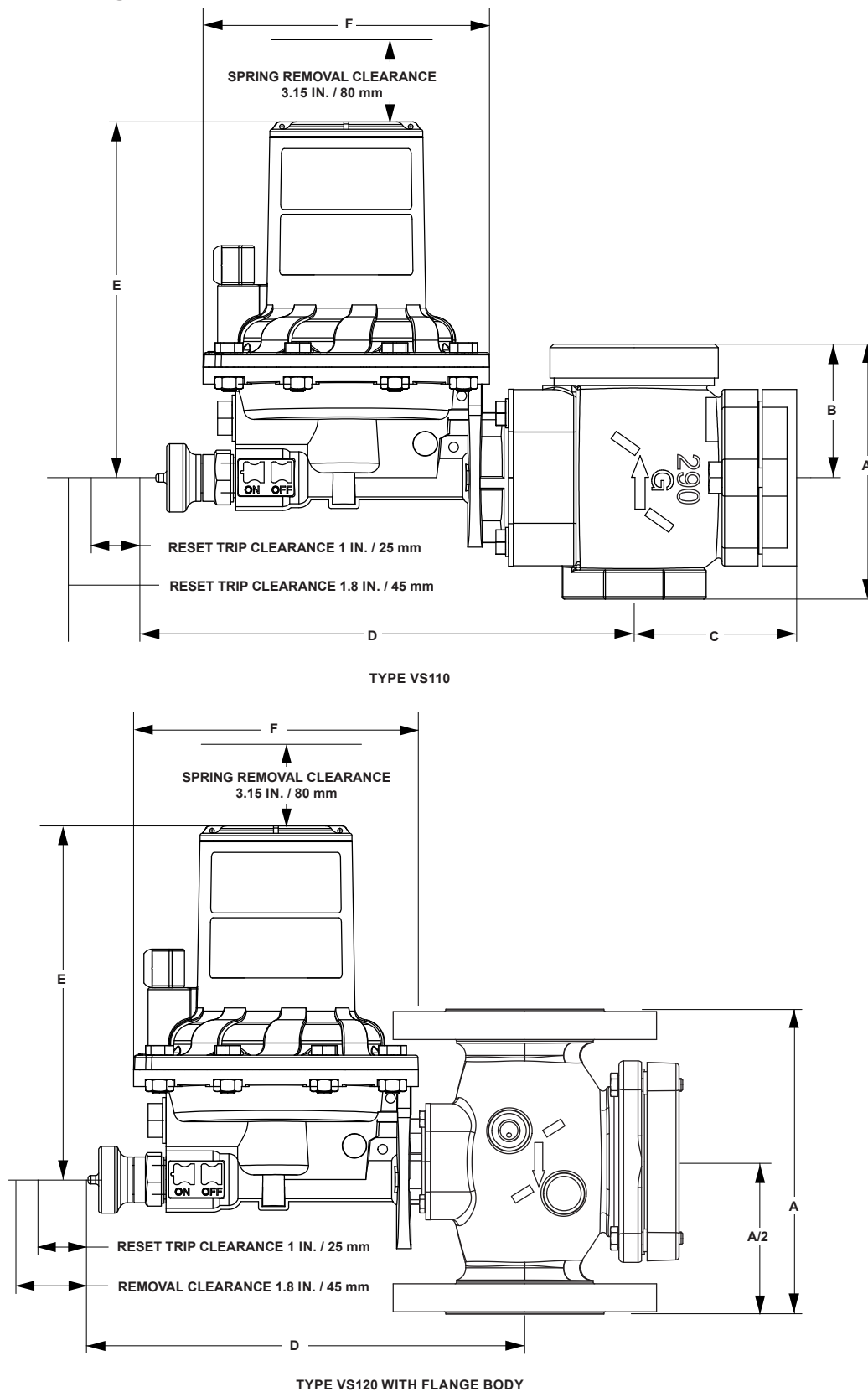


Figure 6. VS100 Series Dimensions

VS100 Series

Table 8. VS100 Series Bodies, Dimensions and Weights

TYPE	BODY MATERIAL	PART NUMBER	INLET SIZE		OUTLET SIZE		END CONNECTION	DIMENSION, In. / mm						WEIGHT	
			NPS	DN	NPS	DN		A	B	C	D	E	F	lbs	kg
VS111 and VS112 (Medium Capacity)	Ductile Iron	GE26482X012	1	25	2-1/4	57	Rp x GAZ	4.1 / 105	2.2 / 55	2.6 / 67	8.1 / 205	5.8 / 147	4.7 / 118	7.3	3.3
		GE26469X012	1-1/4	32	1-1/4	32	Rp	4.5 / 114	2.3 / 57	1.8 / 46.3	8.3 / 210			7.9	3.6
		GE26470X012	1-1/2	40	1-1/2	40	Rp							7.9	3.6
		GE26463X012	1	25	1	25	NPT	3.9 / 100	2.0 / 50					6.8	3.1
		GE26468X012	1	25	1	25	Rp							6.8	3.1
		GE26465X012	1-1/4	32	1-1/4	32	NPT	4.5 / 114	2.3 / 57					7.9	3.6
		GE26466X012	1-1/2	40	1-1/2	40	NPT							7.9	3.6
		GE44902X012	1-1/2	40	1-1/2	40	PN16 Slip-on	7.2 / 184						14.8	6.7
	Steel	GE26463X022	1	25	1	25	NPT	3.9 / 100	2.0 / 50					6.8	3.1
		GE26465X022	1-1/4	32	1-1/4	32	NPT	4.5 / 114	2.3 / 57					7.9	3.6
		GE26466X022	1-1/2	40	1-1/2	40	NPT							7.9	3.6
		GE26468X022	1	25	1	25	Rp	3.9 / 100	2.0 / 50					6.8	3.1
		GE26469X022	1-1/4	32	1-1/4	32	Rp	4.5 / 114	2.3 / 57					7.9	3.6
		GE26470X022	1-1/2	40	1-1/2	40	Rp							7.9	3.6
VS121 and VS122 (High Capacity)	Ductile Iron	GE26306X012	1-1/4	32	1-1/4	32	NPT	6.1 / 155	3.1 / 77.5	3.6 / 91.4	8.4 / 212.7	5.8 / 147	4.6 / 118	15.2	6.9
		ERAA02453A1	1-1/2	40	1-1/2	40	NPT							15.2	6.9
		ERAA02437A1	2	50	2	50	NPT							15.7	7.1
		GE26310X012	1-1/4	32	1-1/4	32	Rp							15.2	6.9
		ERAA03878A1	1-1/2	40	1-1/2	40	Rp							15.2	6.9
		ERAA02715A1	2	50	2	50	Rp							15.7	7.1
		GE48292X012	2	50	2	50	CL125FF x CL150FF	7.5 / 191	3.8 / 95.5					29.1	13.2
		ERAA02711A1	2	50	2	50	CL125FF x CL150FF	10 / 254	5.0 / 127					34.8	15.8
		ERAA02718A1	2	50	2	50	CL125FF x CL150FF	11 / 267	5.3 / 133.5					34.8	15.8
		GE48296X012	2	50	2	50	PN10/16	7.5 / 191	3.8 / 95.5					29.1	13.2
	ERAA02719A1	2	50	2	50	PN10/16	10 / 254	5.0 / 127	34.8					15.8	
	Steel	GE26306X022	1-1/4	32	1-1/4	32	NPT	6.1 / 155	3.1 / 77.5					15.2	6.9
		ERAA02453A2	1-1/2	40	1-1/2	40	NPT							15.2	6.9
		ERAA02437A2	2	50	2	50	NPT							15.7	7.1
		GE26310X022	1-1/4	32	1-1/4	32	Rp							15.2	6.9
		ERAA03878A2	1-1/2	40	1-1/2	40	Rp							15.2	6.9
		ERAA02715A2	2	50	2	50	Rp							15.7	7.1
		ERAA02720A2	2	50	2	50	CL150RF	10 / 254	5.0 / 127					34.2	15.5
ERAA02719A2		2	50	2	50	PN10/16	34.2			15.5					

Ordering Information

When ordering, complete the ordering guide on this page. Refer to the Specifications section on page 2. Review the description to the right of each

specification and the information in each referenced table or figure. Specify your choice whenever a selection is offered.

Ordering Guide

Type (Select One)

- ☐ VS111
- ☐ VS112
- ☐ VS121
- ☐ VS122

Slam-Shut Contoller

- ☐ VSX4L
- ☐ VSX4H
- ☐ VSX8L
- ☐ VSX8H

Body Size and End Connection Style (Select One)

Medium Capacity, Ductile Iron

- ☐ 1 NPT
- ☐ 1-1/4 NPT
- ☐ 1-1/2 NPT
- ☐ NPS 1 / DN 25, Rp x GAZ
- ☐ NPS 1-1/4 / DN 32, Rp
- ☐ NPS 1-1/2 / DN 40, Rp
- ☐ NPS 1 / DN 25, Rp
- ☐ NPS 1-1/2 / DN 40, PN 16 slip-on

Medium Capacity, WCC Steel

- ☐ 1 NPT
- ☐ 1-1/4 NPT
- ☐ 1-1/2 NPT
- ☐ NPS 1 / DN 25, Rp
- ☐ NPS 1-1/4 / DN 32, Rp
- ☐ NPS 1-1/2 / DN 40, Rp

High Capacity, Ductile Iron

- ☐ 1-1/4 NPT
- ☐ 1-1/2 NPT
- ☐ 2 NPT
- ☐ NPS 1-1/4 / DN 32, Rp
- ☐ NPS 1-1/2 / DN 40, Rp
- ☐ NPS 2 / DN 50, Rp
- ☐ NPS 2 / DN 50, CL125 FF x CL150 FF
- ☐ NPS 2 / DN 50, PN 10/16

High Capacity, WCC Steel

- ☐ 1-1/4 NPT
- ☐ 1-1/2 NPT
- ☐ 2 NPT
- ☐ NPS 1-1/4 / DN 32, Rp
- ☐ NPS 1-1/2 / DN 40, Rp
- ☐ NPS 2 / DN 50, Rp
- ☐ NPS 2 / DN 50, CL150 FF
- ☐ NPS 2 / DN 50, PN 10/16

Slam-Shut Trip Pressure Setting

(Select One if applicable)

- ☐ Overpressure (OPSO) trip only
Indicate Overpressure Trip Point _____
- ☐ Over and Underpressure (OPSO/UPSO) trip
Indicate Overpressure Trip Point _____
Indicate Underpressure Trip Point _____

VS100 Series

Ordering Guide (continued)

Regulators Quick Order Guide

***	Readily Available for Shipment
**	Allow Additional Time for Shipment
*	Special Order, Constructed from Non-Stocked Parts. Consult Your local Sales Office for Availability.
Availability of the product being ordered is determined by the component with the longest shipping time for the requested construction.	

Specification Worksheet

Application:

Specific Use _____

Line Size _____

Gas Type and Specific Gravity _____

Gas Temperature _____

Does the Application Require Overpressure Protection?

☐ Yes ☐ No If yes, which is preferred:

☐ Relief Valve ☐ Monitor Regulator ☐ Shutoff Device

Is overpressure protection equipment selection assistance desired? _____

Pressure:

Maximum Inlet Pressure (P_{1max}) _____

Minimum Inlet Pressure (P_{1min}) _____

Downstream Pressure Setting(s) (P_2) _____

Maximum Flow (Q_{max}) _____

Performance Required:

Accuracy Requirements? _____

Need for Extremely Fast Response? _____

Other Requirements: _____

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