

Electric Actuated Diesel Engine Shutdown Valve

SVX-Series (Hazardous Area)

Overview

Flammable gas or vapor drawn into the intake of a diesel engine acts as an additional uncontrolled fuel supply and can cause uncontrolled engine overspeed followed by mechanical failure or flash back from the intake, resulting in ignition of the surrounding flammable atmosphere. When this occurs, the only certain way to stop the engine is by the operation of an air intake shutdown (shutoff) valve.

The Chalwyn SVX hazardous area series of butterfly air intake shutoff valves are ATEX approved for Zone 1, Gas Group IIB, T4 or Zone 21 hazardous area applications. The 12 and 24VDC valves are designed with "fail safe" actuation. The valve is held open when electrical power is supplied to the solenoid. When power is cut off due to the detection of an engine overspeed condition or cut off for any other reason, the valve will close.



Model SVX-XXX shown

Features & Benefits

- ATEX Zone 1, Group IIB, T4 (135°C) or Zone 21 approved
- "Fail-safe" design – the valve closes on loss of power
- Solenoid is energized to open and hold the valve open
- Available with 12VDC or 24VDC solenoids
- Slim-fit 3", 5", and 8" (76mm, 127mm, and 203mm) valve body
- Basic flange mount with hose adaptors available
- Corrosion resistant valve bodies and discs

Applications

- *Engines operating in Hazardous Areas:
- Offshore Wells
 - Onshore Refineries
 - Stationary Mining Equipment
 - Power Gen Sets

*Not approved for vehicular applications

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Specifications

Standard materials	Valve body and disc	Hard anodized aluminum with PTFE coating
	Spindles and mechanisms	316 stainless steel
Net weight (inc. actuator)	Product weight	2 kg (4.0 lbs)
	Shipping weight	TBA
Intake air temperature range	Standard valve	-30°C to 50°C (-22°F to 122°F)
Ambient air temperature range	Standard valve	-30°C to 50°C (-22°F to 122°F)
Electric solenoid	12VDC or 24VDC	(see How to Order for Models)
Supply voltage	12VDC	Pull current at 23°C : 46 amps Hold current at 23°C : 1.1 amps
	24VDC	Pull current at 23°C : 25 amps Hold current at 23°C : 0.5 amps
Pull coil	Must not be powered for more than 0.5 seconds continuously. A suitable timer circuit must be incorporated to achieve this.	

Note: The control system must include a back-up safety device which de-energizes the pull coil if it is energized for more than 14 seconds continuously.

Actuation Type

Manual Start/Power to Hold Open

Valves are designed for applications where no suitable electrical supply is available during engine start up and a manual override facility is therefore required. Once the protected engine is running and electrical power is available the valve is latched in the open (run) position by the solenoid until power is lost or until the manual emergency shutdown facility is operated.

Power to Run

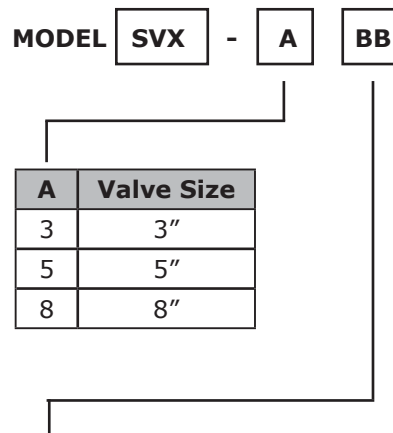
These valves are designed to "fail safe" in that if electrical power is lost for any reason the valve will revert to the closed condition.

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How to Order

Determine the size and position of the SVX valve to be installed. Within the various constraints imposed by the application, the valve should be as generously sized as possible. Check that the valve can be installed such that the electrical cable may be routed away without risk of damage. The standard cable gland entry point is shown on dimensional drawing. An alternative end entry position is available if specified.



BB	Valve Pilot Actuation Method				
	Voltage	Actuation Method	Micro Switch Option	Position Indication Switch	Manual Shut-down
20	12V / 3 Wire	Power to Run	Without	No	No
30	24V / 3 Wire	Power to Run	Without	No	No
40*	12V / 2 Wire	Power to Hold Open	Without	No	Yes
41*	24V / 2 Wire	Power to Hold Open	Without	No	Yes

*Note: Available in 3" and 5" only.

Hose Adaptor Options

If the valve is to be fitted into a hose as opposed to flange mounted, suitable hose adaptors should be selected from the table below and ordered with the valve.

76mm (3") Bore Valves	
Adaptor Part Number	To Suit Hose Bore mm (inches)
HAX-320	38 (1 1/2)
HAX-322	44.5 (13/4)
HAX-301	51 (2)
HAX-303	57 (2 1/4)
HAX-304	60 (2 3/8)
HAX-305	63.5 (2 1/2)
HAX-306	67 (2 5/8)
HAX-307	70 (2 3/4)
HAX-309	76 (3)
HAX-312	82.5 (31/4)
HAX-314	89 (3 1/2)
HAX-319	102 (4)

127mm (5") Bore Valves	
Adaptor Part Number	To Suit Hose Bore mm (inches)
HAX-501	89 (3 1/2)
HAX-503	95 (3 3/4)
HAX-505	102 (4)
HAX-507	108 (4 1/4)
HAX-509	114 (4 1/2)
HAX-511	121 (4 3/4)
HAX-513	127 (5)
HAX-518	140 (5 1/2)
HAX-523	152 (6)

203mm (8") Bore Valves	
Adaptor Part Number	To Suit Hose Bore mm (inches)
HAX-807	178 (7)
HAX-808	203 (8)

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Dimensions

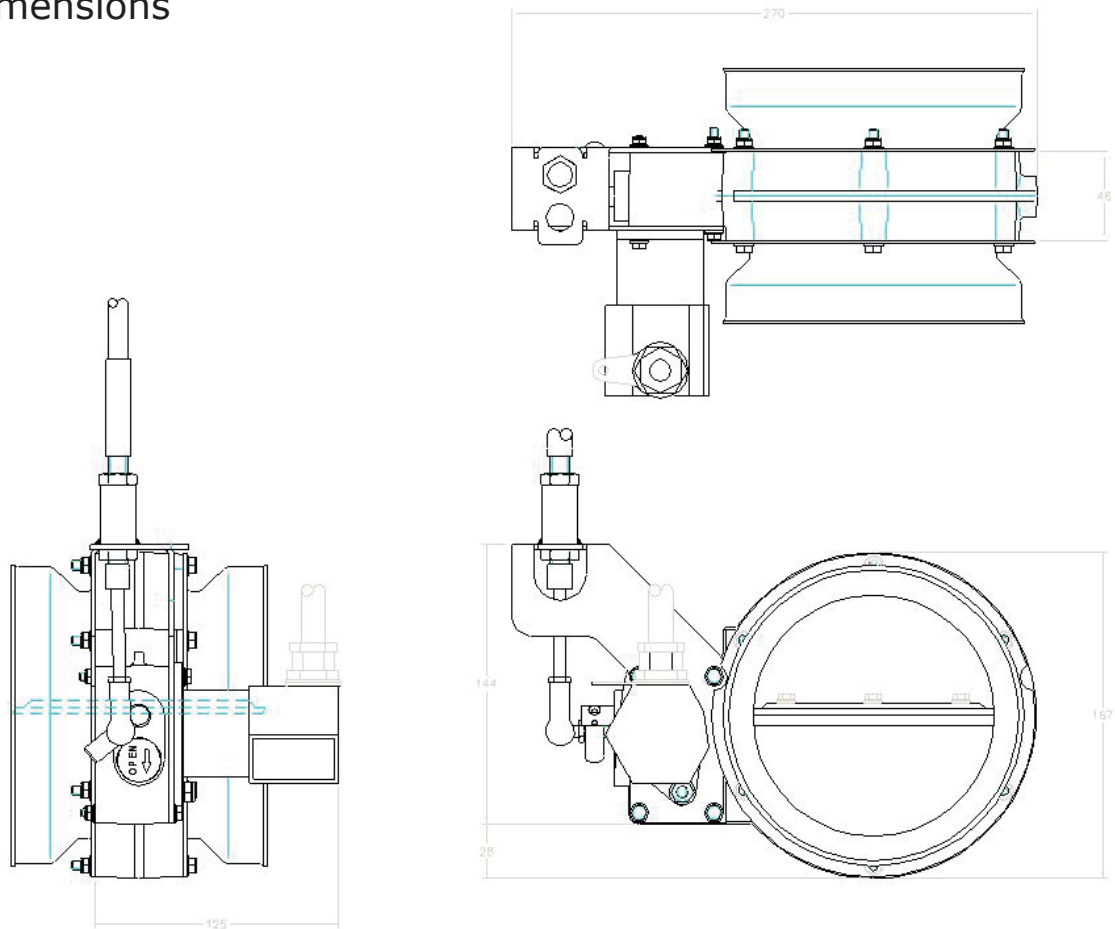


Illustration based on SVX-540

Valve Model	Nominal Bore Diameter	A		B		B1		C1		C2 min & max		D	
		mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
SVX-320, -330	75 (3")	161	6.3	111.5	4.4	NA		37.5	1.5	82.5 to 112.5	3.2 to 4.4	121.5	4.8
SVX-340, -341	76 (3")	213.5	8.4	111.5	4.4	144	5.7	37.5	1.5	82.5 to 112.5	3.2 to 4.4	NA	
SVX-520, -530	127 (5")	217	9.7	167.5	6.6	NA		45.5	1.8	102.0 to 157.5	4.0 to 6.2	125.5	4.9
SVX-540, -541	127 (5")	270	11	167.5	6.6	172	6.8	45.5	1.8	102.0 to 157.5	4.0 to 6.2	NA	
SVX-820, -830	203 (8")	317.5	12.5	257	10.1	NA		56	2.2	136.5 to 185.5	5.4 to 7.3	130.5	5.1

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