

Solenoid Valve for Engine Shutdown Systems

Model SVA-200

Typical applications

- Refinery maintenance vehicles
- Road trucks
- Cranes
- Fuel tankers
- Vacuum trucks
- Fire engines
- Mobile drilling rigs
- Aircraft refuelling

Key features and benefits

- Rugged construction for harsh environments
- Separating diaphragm isolates solenoid system from operating air
- Long service life, even in non-lubricating conditions
- Insensitive to contaminated air
- Lockable manual override standard
- Operates on 24 Volt DC signal
- Resistant to vibration



Model SVA-200
24 Volt, 3 Way Air Valve
for pneumatic control
of diesel engine intake
shutdown valves

CHALWYN
by AMOT

www.chalwyn.com

Solenoid Valve for Engine Shutdown Systems

Overview

The direct-acting 3-way solenoid valve has a pivoted armature as the switching method.

This unique valve design hermetically isolates the actuator from the air, making it less sensitive to contaminated air than a plunger-type system and provides a long service life, even in unlubricated applications. The solenoid epoxy encapsulation efficiently dissipates the heat generated by the fluid.

This solenoid valve has been proven in service on road vehicles and is a recommended component in the Chalwyn Electric to Air Diesel Engine Safety Control Systems.

Specification

Port connection	G 1/4" BSP	(Inlet, outlet and exhaust)
Orifice	DN 3.0 mm	
Body and seat materials	Brass and stainless steel 1.4401	
Coil material	Epoxy	
Coil insulation class	H	
Seal material	FKM	
Media	Neutral media, such as compressed air, water, hot air, oxygen, hot oil, per solution	
Air pressure	Up to 10 bar	(140 psi)
Media temperature range	0 to 90°C	(32 to 194°F)
Ambient temperature	max 55°C (131°F) (min. temperature see 'Media Temperature')	
Operating voltage	24 VDC	(12 VDC models available on request)
Voltage tolerance	+/- 10%	
Duty cycle	100% continuous rating	
Electrical connection	Cable plug type 2508 (DIN EN 175301-803 Form A) for Ø 7 mm cable	
Protection class	IP65 with cable plug	
Weight	0.47 kg	(1.03 lbs)
Dimensions	Height: 100 mm(including plug)	
	Width: 46 mm	
	Depth: 34 mm	
Installation	As required, preferably with actuator upright	

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Installation

Mechanical

The SVA-200 has four M4 x 8 mm tapped holes in its base. Mark a pattern 38 mm x 24 mm and drill four of 5 mm holes in the vehicle at a suitable sturdy location. Using four suitable screws attach the SVA-200 to the vehicle.

Electrical

Connect the 24 Volt positive and negative wires in accordance with the paper leaflet supplied. Test the operation by switching the power on briefly and observing the visible action of the swinging arm through the central outlet port.

Air Connections

The vehicle's air supply connects to the inlet. (Normally closed). Suitable 1/4" BSP connectors are available in the Chalwyn SKA-100 kit. The central port is connected to the Chalwyn MPX, PVX or PVA valve. The normally open exhaust port should be connected to the restrictor orifice valve in the SKA-100 kit. This valve should be adjusted so the engine stops before the PVX or PVA valve automatically resets to the normal open position.

Pressing the manual button on the SVA-200 allows checking of the air system without operating the electrical system.

Control System Information

System Selection Guide

Automatic Electric to Pneumatic Overspeed Detection Shutdown System

The automatic electric to pneumatic overspeed detection shutdown system is designed to continuously monitor diesel engine RPM to automatically shut down the engine in the event of an overspeed condition.

The RevGuard Speed Switch monitors engine RPM through either a flywheel-mounted magnetic pickup or a signal from the engine alternator. The RevGuard Speed Switch will immediately activate the 3-way pneumatic solenoid when the engine RPM exceeds a preset level, which pressurizes the Air Intake Shutoff Valve to close.

The system also includes a manual override toggle switch that can be used to manually close the Air Intake Shutoff Valve to check and demonstrate the operation of the air pressure system.

Automatic Electric to Pneumatic RPM Overspeed Detection Shutdown System with Manual Override

12 VDC or 24 VDC Battery Power

Manual Override Toggle Switch

Revised Speed Switch

Pneumatic Actuated Solenoid Air Intake Shutoff Valve

For detailed wiring diagrams please contact Chalwyn

Butterfly Air Intake Shutoff Valve

- Used to shut off intake air to a diesel engine for safe emergency shutdown
- Stems range from 1.12" to 6" diameter
- Pneumatic (optional) reset option
- Optional position sensor switch
- Pneumatic (optional) automatic reset option
- Temperatures from -40°F to 200°F (-40°C to 150°C)

Solenoid Operated Pneumatic Valve

- Used to shut off intake air to a diesel engine for safe emergency shutdown
- 12 or 24 VDC
- Normally open contacts
- Simple On/Off Control without needing a relay
- Closes air flow when energized
- Closes when engine speed falls
- Automatically vents to allow reset of shutoff valve
- Controlled slow venting option

RevGuard Speed Switch

- Monitors engine RPM to shut down a runaway engine if a preset limit
- Accepts either low or high frequency input
- Operates on 12 or 24 VDC systems
- LED trip indicator
- Built-in 30 RPM test button to simulate overspeed
- Compact design for bolted dash mounting

Manual Override Toggle Switch

- Enables an operator to manually close the air intake shutoff valve
- Military grade includes safety thumb guard
- Sliver contacts for durability
- Chalwyn (also included North American market)

Automatic Electric to Pneumatic System Wiring Diagram

Wiring diagram for 12 Volt Chalwyn MPX valve with electric/air solenoid and magnetic pick-up signal

ITEM #	PART NO.	DESCRIPTION
1	2000-2	ELECTRIC PRESURE SW
2	8004-01	TOGGLE SWITCH
3	8041-10V	SOLENOID AIR VALVE
4	8004-01	SPEED SWITCH
5	8041-10V	CHALWYN VALVE
6	1-14000	MAGNETIC PICKUP

IF AUTOMATIC VALVE RESET IS REQUIRED CONSULT CHALWYN FOR PVA SPECIFICATION

Chalwyn has a broad array of fully automatic shutoff systems and manual shutoff systems. Common operating methods include electric, pneumatic, electric/pneumatic, mechanical, or combinations of these mechanisms. The Chalwyn System Selection Guide provides an overview of the most

common types of systems used in applications today. The overview includes a description of the solution, a diagram of the components and includes the functional highlights of the components used in each solution. These overviews will provide the information required to

help you determine the best type of solution for your application.

Download the brochure at www.dieselsafety.com/technicaldownloads



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