Diesel Engine Shutdown Valve (Pneumatically Actuated)

Models PVA-280, 281
PVA-350, 351
PVA-550, 551

Typical Applications

PVA-280, PVA-350, PVA-550

- Failsafe application to meet 2014/34/EU defined hazardous areas
- Zone 1 and 2 applications to EN 1834
- International offshore platform engine installations

PVA-281, PVA-351, PVA-551

- Petrochemical and LNG refineries
- International areas where non-failsafe is permitted
- Zone 2 fire pump engine offshore applications
- Vehicles with air brakes
- Fuel tankers
- Emergency response vehicles
- Vacuum trucks

3.5” PVA Valve

Key Benefits

- Simple direct air pressure operation
- Build options to either open or close on the application of air pressure
- Automatic reset on loss of air pressure
- Valve status indicator (on top of actuator)
- Slim design with integral metal tube ends to fit three sizes of intake hose
- Can prevent diesel engine overspeed (runaway) when combined with a suitable speed sensing control system
- ATEX & UKEX Certified - II 2 G Ex h IIC T6...T4 Gb X
- Air intake pressures up to 6 bar (87 psi) (max 120°C or 248°F)

DS-PVA-Shutdown-Valve-0912-rev1

Models PVA-280, 281, PVA-350, 351, PVA-550, 551

Description

Pneumatically operated diesel engine air intake closure butterfly valves for either hazardous or non-hazardous areas.

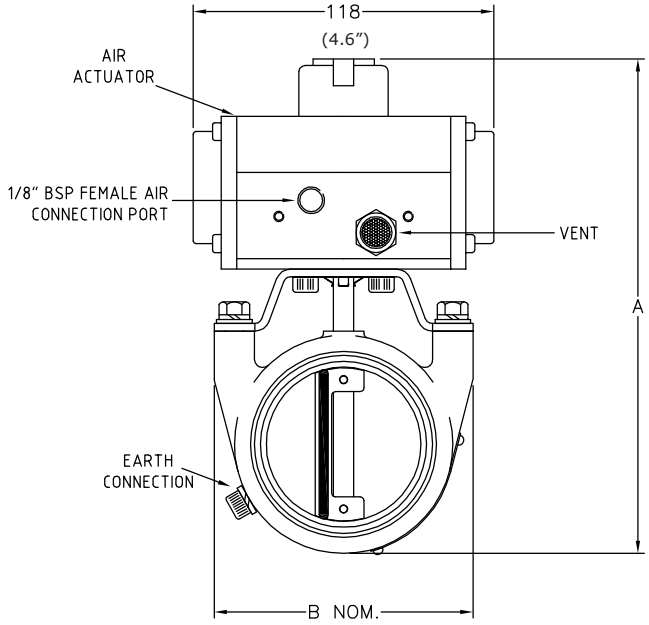
Body and disc manufactured in corrosion resistant aluminum. Valve shaft manufactured in stainless steel. Viton O-rings.

Suitable for salt air offshore environments.

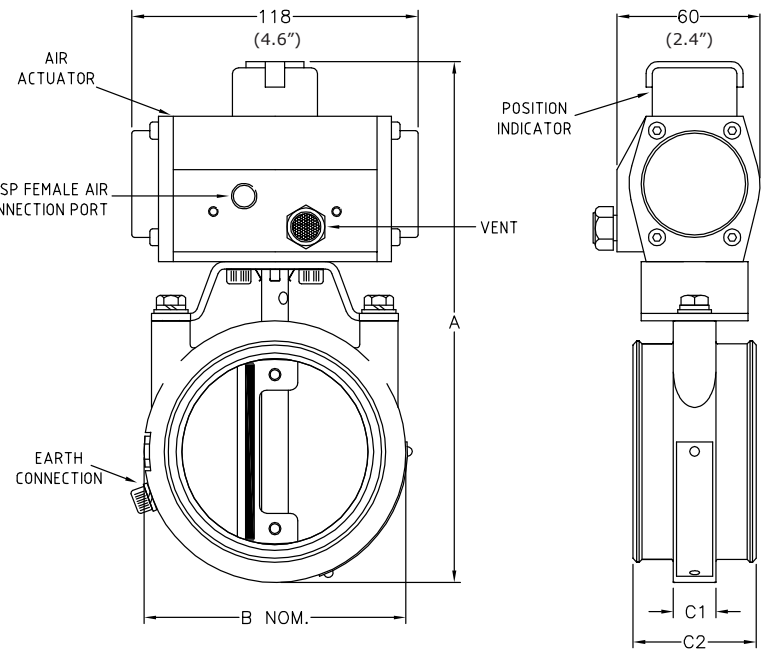
Available in three sizes: 2.8”, 3.5” and 5.5” with integral hose connection ends of these diameters.

Typical PVA Valve Arrangement

PVA-280 and PVA-281



PVA-350, 351 and PVA-550, 551



Dimensions in mm (inches)

Main Dimensions

Valve Type	Hose Connection diameter mm (inches)	A mm (inches)	B mm (inches)	C1 mm (inches)	C2 mm (inches)	Weight kg (lb)
PVA-280	71 (2.8)	200 (7.87)	102 (4)	16 (0.63)	48 (1.875)	1.1 (2.4)
PVA-281						
PVA-350	89 (3.5)	220 (8.66)	108 (4.25)	17.5 (0.69)	51 (2)	1.4 (3.0)
PVA-351						
PVA-550	140 (5.5)	271 (10.67)	159 (6.25)	17.5 (0.69)	64 (2.5)	1.8 (4.0)
PVA-551						

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Selection

Determine the size and position of the PVA valve to be installed. Within the various constraints imposed in the application the valve should be as generously sized as possible. A pneumatic supply must be available to operate this valve type.

PVA-280, PVA-350 and PVA-550 valves open on the application of air pressure. The 'fail safe' mode of operation of these models makes them suitable for use in zone 1 and 2 hazardous areas.

PVA-281, PVA-351 and PVA-551 close on the application of air pressure. This type of valve and Chalwyn control system is recommended for larger vehicles that have air brakes (see page 4).

The PVA valves are suitable for an ambient temperature range of between -20°C (-4°F) and 60°C (140°F) and a maximum intake air temperature of 120°C (248°F) at 6 bar (87 psi).

Operation

PVA-280, PVA-350 and PVA-550

Prior to engine start, air pressure must be applied to these failsafe PVA valves to open to the engine run position. (Note, the external yellow indicator on the valve shows the position of the valve disc). Air pressure must be maintained between 4 and 6 bar (58 and 87 psi) to hold the intake valve fully open whilst the engine runs.

To carry out an emergency engine stop by closing the air intake valve, close down the air supply and vent the supply line. The valve will fully close once the air supply pressure at the valve falls below 2 bar.

NOTE: The pneumatic supply to the valve must be clean and dry.

PVA-281, PVA-351 and PVA-551

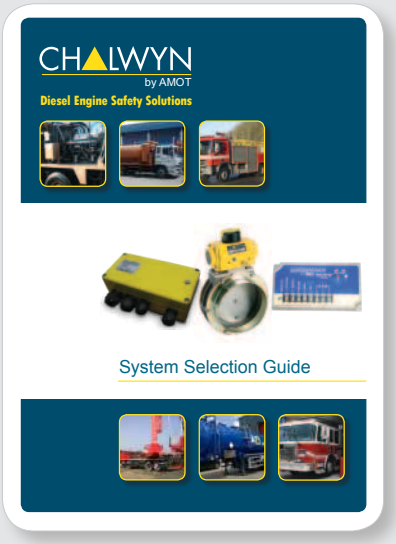
With no air pressure applied to these PVA valves they will be naturally sprung fully open and the engine may be run.

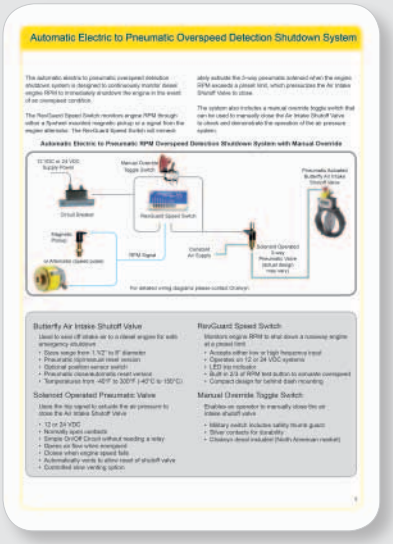
To carry out an emergency stop apply an air pressure of 4 to 6 bar (58 and 87 psi) to close the intake shut down valve.

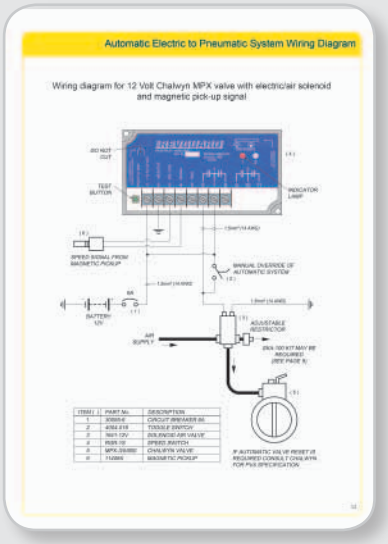
The supply pressure must be vented before attempting to re-start the engine. This venting will happen automatically and at a controlled slow speed when kit SKA-100 and 24 Volt Solenoid SVA-200 are installed and the outlet vent device is adjusted correctly. The PVA valve will then return to open position allowing the engine to run.

Refer to Manual OMMPVA00129 for full installation and maintenance instructions.

Control System Information







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.chalwyn.com/technicaldownloads

For further details of application of Chalwyn PVA valves for vehicles requiring automatic shutdown of overspeed, please contact Chalwyn or your local distributor (www.chalwyn.com/distributor).

Americas

AMOT - USA
Tel: +1 281 940 1800
Fax: +1 713 559 9419
info@amotusa.com

Roda Deaco by AMOT - Canada
Tel: +1 780 465 4429
Fax: +1 780 469 6275
info@rodadeaco.com

Asia Pacific

AMOT - China
Tel: +86 (0)21 6279 7700
Fax: +86 (0)21 5237 8560
shanghai@amot.com

AMOT - Singapore
Tel: +65 6408 6265
Fax: +65 6408 6266
singapore@amot.com

Europe, Middle East and Africa

AMOT - UK
Tel: +44 (0)1284 715739
Fax: +44 (0)1284 715747
sales@chalwyn.com

AMOT - Germany
Tel: +49 (0)40 8537 1298
Fax: +49 (0)40 8537 1331
germany@amot.com

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www.chalwyn.com

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