

CHALWYN

DIESEL PROTECTION SYSTEMS

MVX-Series Diesel Engine Shut Down Valves (Integral Manual Closure and Reset Lever Types)

SELECTION, APPLICATION AND MAINTENANCE

ELECTRONIC - HYDRAULIC - SYSTEMS

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Valve Numbers
MVX-300 MVX-500

DESCRIPTION

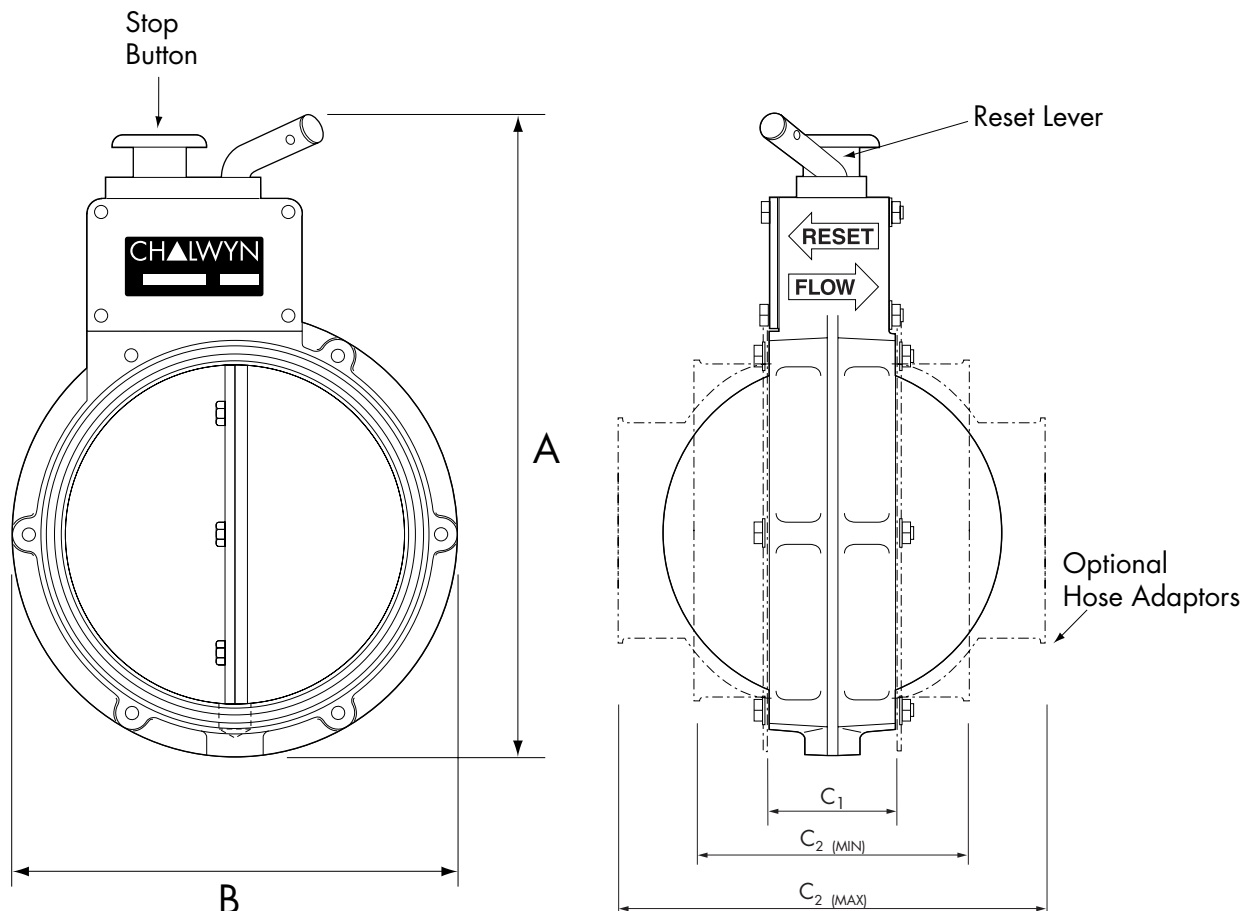
Part of a range of mechanically actuated diesel engine air intake closure valves based on standard Chalwyn slimfit 3" and 5" butterfly valves. Suitable for both hazardous and non-hazardous area applications where valve mounted manual trip and reset controls are required. Available in basic flange mounted form or fitted with hose adaptors or an integral flame trap housing. Body and disc manufactured in corrosion resistant hard anodised aluminium with PTFE coating. Spindle and mechanism made from 316 stainless steel. Main dimensions are:

Main Dimensions (mm)

| Valve Type | Nominal Bore Diameter | A | B | C ₁ | C ₂ minimum & maximum |
|------------|-----------------------|-----|-------|----------------|-------------------------------------|
| MVX-300 | 76 (3") | 190 | 111.5 | 37.5 | 82.5 to 112.5 |
| MVX-500 | 127 (5") | 246 | 167 | 45.5 | 102.0 to 157.5 |

Hose Adaptor Options

| Valve Type | Hose Adaptor | Hose Adaptor Nozzle Outside Diameter (mm) |
|------------|--------------|-------------------------------------------|
| MVX-300 | HAX-3 Range | Various sizes from 51 (2") to 102 (4") |
| MVX-500 | HAX-5 Range | Various sizes from 89 (3.5") to 152 (6") |



SELECTION

Determine the size and position of the MVX valve to be installed. Within the various constraints imposed in the application the valve should be as generously sized as possible (see also under "Installation").

Select an alternative valve type from the MVX, PVX or SVX range if the following circumstances apply:

- (a) It is not possible to fit the valve in a position where the local manual controls are easily and safely accessible.
- (b) The engine intake pipe layout dictates that more than one shut down valve is required.

Ideally if hose adaptors or an integral intake flame trap housing is to be used, these should be identified and ordered from Chalwyn at the same time as the basic MVX valve.

INSTALLATION

- 1.** In the case of a naturally aspirated engine, the Chalwyn MVX shut down valve should generally be fitted as close to the engine air intake manifold as possible. If an intake flame trap is also fitted, the MVX valve must be installed upstream (air cleaner side) of the flame trap.
- 2.** If the engine is turbocharged, fit the MVX downstream (engine side) of the turbocharger if space permits. Any flame trap must be installed between the MVX valve and engine.
- 3.** When fitting, the air flow arrow on the Chalwyn valve must be observed. The valve may be installed either horizontally or vertically.
- 4.** If hose adaptors are used, the mating hose should be of a re-inforced type, provide adequate support for the valve and prevent excessive vibration. If necessary, additional support brackets mounted from the engine should be considered.
- 5.** Particular care must be taken to ensure the integrity of the intake pipework between the Chalwyn valve and intake manifold. Ideally metal pipework should be used and any gaps kept as short as possible, taking into account any relative movement, and closed by reinforced hose. The possibility of a hose collapse on closure of the shut down valve must be avoided.
- 6.** Any engine crankcase breather connections into the intake system between the MVX valve and engine, or any internal crankcase breather arrangement venting directly into the engine intake ports must be sealed and replaced by an external breather system venting either to atmosphere or to the intake system upstream of the shut down valve. External breather system kits for various engine types are available from Chalwyn.

OPERATION

Prior to starting the diesel engine, the MVX valve must be latched open by rotating the reset lever as indicated by the arrow marked on the valve. Once latched, the reset lever will remain in the latched open position until manually released by the stop button.

To carry out an emergency closure of the MVX intake valve to stop the engine, either press or pull the stop button on the valve. No attempt should be made to restart the engine until the MVX valve is again latched open.

MAINTENANCE

MONTHLY:

Check that the fasteners locating the MVX valve and any associated intake system or support bracket fasteners are securely tightened.

Check that any flexible hoses between the MVX valve and engine are free from damage and suitable for further service.

Run engine, preferably at low idle. Press MVX valve stop button. The engine should stop within a few seconds. If not check intake system between MVX valve and engine for leaks. If engine does not stop with a leak free system remove intake valve and return to Chalwyn for further investigation.

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