

**CHALWYN**  
by AMOT

**World class diesel engine safety solutions**



**Dispositivi per applicazioni antideflagranti**

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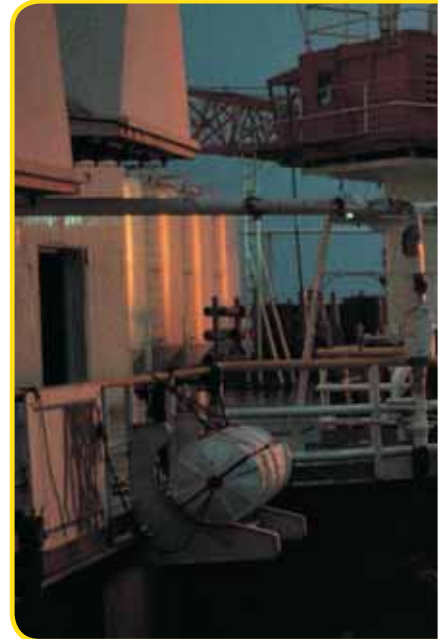
Chalwyn è attualmente una delle aziende leader nella specializzazione in questo settore. I motori diesel sono delle potenziali origini di innesco quando vengono utilizzati in aree con possibile presenza di gas, vapori o polveri combustibili. La deflagrazione indotta può portare a conseguenze catastrofiche per cose, persone ed ambiente.

Questo problema è riconosciuto da molti anni ed ha portato all'introduzione delle valvole di arresto Chalwyn, un dispositivo progettato per arrestare automaticamente ed in maniera sicura il motore diesel allorchè raggiunge un regime di sovravelocità dovuto alla combustione della miscela combustibile aspirata attraverso la presa aria del motore stesso.

A seguito del successo riscontrato su questi prodotti, Chalwyn ha successivamente sviluppato un'ampia gamma di equipaggiamenti di sicurezza per motori diesel.

## Tipiche applicazioni delle soluzioni Chalwyn

- |                       |                         |                         |
|-----------------------|-------------------------|-------------------------|
| - Piattaforme aeree   | - Carri autobotte       | - Motopompe             |
| - Compressori aria    | - Gruppi elettrogeni    | - Macchine trivellazioe |
| - Rifornimento aerei  | - Centraline idrauliche | - Carri spurgo          |
| - Gru                 | - Pompe alta pressione  | - Veicoli               |
| - Veicoli antincendio | - Torri faro            | - Pompe acqua           |
| - Movimento terra     | - Motori marini         | - Motosaldatrici        |
| - Carrelli elevatori  | - Macchine da miniera   |                         |



# Valvole di arresto Chalwyn



Se un gas o un vapore infiammabile viene aspirato da un motore diesel esso agisce come un addizionale e ingovernabile carburante. Ciò può portare il motore ad un regime di sovravelocità incontrollabile con conseguenti e pericolosi danni meccanici e ritorni di fiamma attraverso gli scarichi con possibilità di innesco di esplosione dei gas circostanti.

Quando una miscela infiammabile viene aspirata da un motore diesel non è più possibile arrestare il motore semplicemente chiudendo la mandata di carburante. Per questa ragione occorre installare una valvola sulla aspirazione per assicurare un rapido e sicuro arresto.

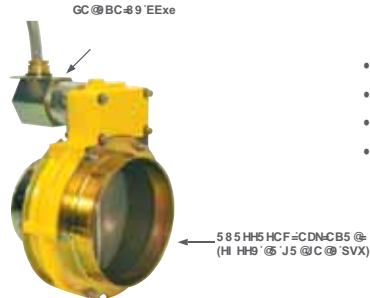
## Caratteristiche e vantaggi

- Adatte ad installazioni US MMS
- Funzionamento semplice – arresto istantaneo
- Arresto Push o pull
- Comando remoto di stop
- Adatto ad applicazioni off-shore
- Versione con doppio cavo di comando
- Realizzazione compatta e leggera
- Montaggio a flangia o tarmite adattatori
- Resistente alla corrosione
- Vasta combinazione di valvole ed adattatori per adattarsi ai diametri dei condotti di aspirazione: da 38mm a 203 mm
- Tenute metallo su metallo, evitano usure dovute all'uso di 'O' ring



## Valvole di arresto a comando elettrico

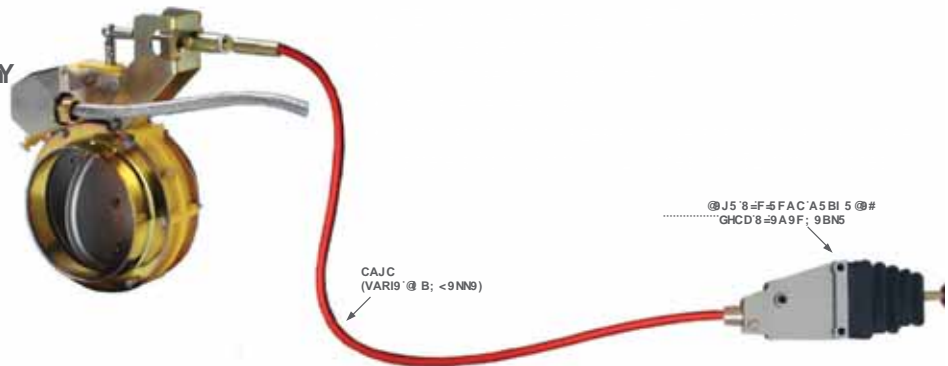
AcXY`c`SVX dYf`UfYU  
WUgg]ZVUHLZ  
bcfa Ua Ybh`W Ji gc



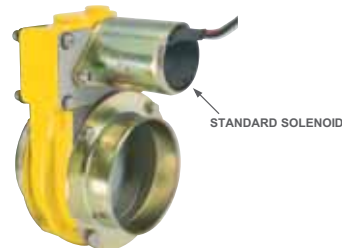
- Approvato ATEX zona 1, IIB, T4
- Solenoide con comando a commutazione esterna
- Chiusura automatica in assenza di alimentazione
- Vasta combinazione di valvole ed adattatori per adattarsi ai diametri dei condotti di aspirazione: da 38mm a 203 mm

AcXY`c`SVX dYf`area  
WUgg]ZVUHLZ]Ufa c`  
a Ubi UYZbcfa Ua Ybh`  
W Ji gc

Disponibile in versione  
per area sicura



AcXY`c`SVX dYf`area  
g]W fUZbcfa Ua Ybh`  
W Ji gc



- Solenoide con comando a commutazione esterna o interna
- Chiusura automatica in assenza di alimentazione
- Microswitch interno per indicazione di stato della valvola (opzione)
- Vasta combinazione di valvole ed adattatori per adattarsi ai diametri dei condotti di aspirazione: da 38mm a 203 mm

AcXY`c`SVX dYf`area  
g]W fUZbcfa Ua Ybh`  
UdYf`c



- Semplice reset manuale
- Solenoide con connessione a due fili (commutazione interna)
- Cavo comando manuale opzionale per test o secondo comando
- Microswitch interno per indicazione di stato della valvola (opzione)
- Vasta combinazione di valvole ed adattatori per adattarsi ai diametri dei condotti di aspirazione: da 38mm a 203 mm

Tutte le valvole SVX sono:

- Disponibili a 12 o 24 volt
- Resistenti alla corrosione
- per montaggio a flangio o con adattatori
- combinabili con valvola di intercettazione carburante FSX-200 per una chiusura simultanea dell'aspirazione e del carburante (vedi pagine seguenti)

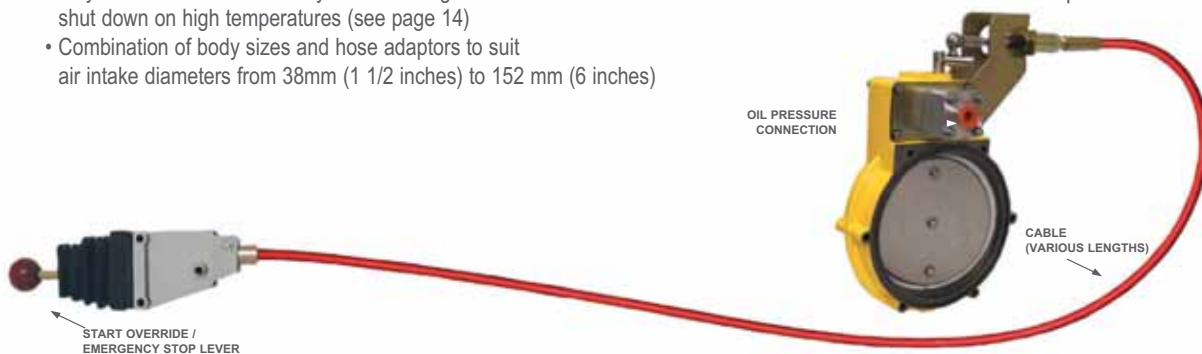
# Chalwyn engine air intake shut down valves

## Manually opened air intake valves with manual closure and automatic closure on loss of oil (or air) pressure signal

- Manually held open until oil (or air) pressure latches
- Direct acting manual emergency stop
- May be combined with Chalwyn sensors to give automatic shut down on high temperatures (see page 14)
- Combination of body sizes and hose adaptors to suit air intake diameters from 38mm (1 1/2 inches) to 152 mm (6 inches)

### HVX valves

see publication CE229



## Air pressure operated intake shut down valves with automatic reset

- 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
- Combination of body sizes and hose adaptors to suit air intake diameters from 38mm (1 1/2 inches) to 203 mm (8 inches)

### PVX models

see publication CE218



## Manual reset air intake shut down valve with air (or oil) pressure and manual shut down

- Simple manual latch to open – air pressure releases valve to close
- Manual shut down via valve mounted stop button or via cable from remote shut down control
- Suitable for drilling rig ESD air system / US MMS offshore installations
- Push or pull remote shut down options with choice of cable lengths
- Build option available without manual shut down
- Combination of body sizes and hose adaptors to suit air intake diameters from 38mm (1 1/2 inches) to 203 mm (8 inches)

### MPX models

see publication CE236



#### All HVX, PVX and MPX valves

- Are of slim, light weight, corrosion resistant construction
- Can be flange or hose mounted
- Are suitable for US MMS and zone 1 or 2 installations
- May be combined with Chalwyn FSX-200 fuel shut down valve to give simultaneous shut down of intake air and diesel fuel (see page 12)

## Automatic overspeed air intake shut down valves

### Basic D models

see publications  
 CE209 (Mini range)  
 CE204 (Bendix range)  
 CE246 (Deutz flanged)  
 CE205 (Spindle range)  
 CE231 (D200)

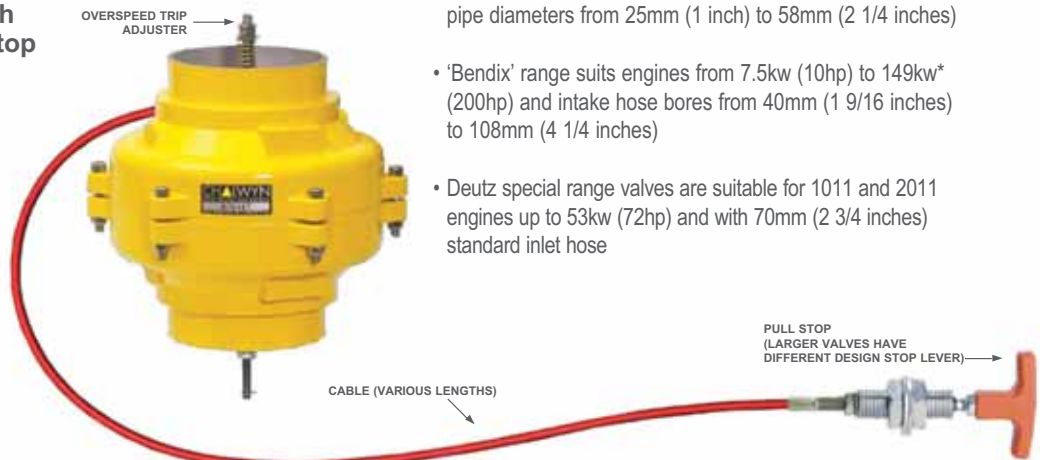
note: overlap between ranges



- Simple cost effective engine shut down on overspeed
- No speed signal or power input needed
- Light weight construction
- Easy to install
- Automatic reset after engine stops
- Low maintenance
- Metal to metal seat seal

### D-AM models with remote manual stop

see publications  
 CE209 (Mini range)  
 CE207 (Bendix range)  
 CE210 (Spindle range)  
 CE231 (D200)



- 'Mini' range covers engine up to 27kw (36hp) and intake pipe diameters from 25mm (1 inch) to 58mm (2 1/4 inches)
- 'Bendix' range suits engines from 7.5kw (10hp) to 149kw\* (200hp) and intake hose bores from 40mm (1 9/16 inches) to 108mm (4 1/4 inches)
- Deutz special range valves are suitable for 1011 and 2011 engines up to 53kw (72hp) and with 70mm (2 3/4 inches) standard inlet hose

### DF models with integral air cleaner

see publications  
 CE209 (Mini range)  
 CE206 (Bendix range)



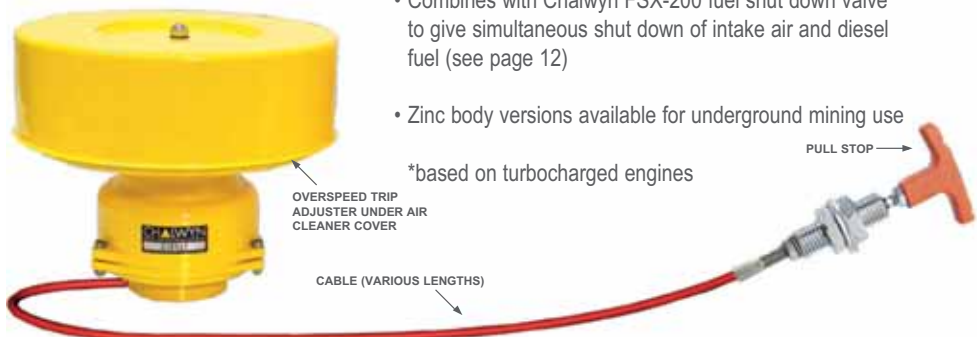
- 'Spindle' range valves are suitable for engines with ratings from 80kw (107hp) to 392kw (525hp) and intake hose bores from 76mm (3 inches) to 154mm (6 1/16 inches)

- D200 range extends up to a maximum engine rating 650kw (805hp) and intake hose bores between 152mm (6 inches) and 229mm (9 inches)

- Suitable for zone 1 or 2 and all US MMS offshore installations

### DF-AM models with remote manual stop and an integral air cleaner

see publications  
 CE209 (Mini range)  
 CE206 (Bendix range)  
 CE207 (Bendix range)



- Combines with Chalwyn FSX-200 fuel shut down valve to give simultaneous shut down of intake air and diesel fuel (see page 12)

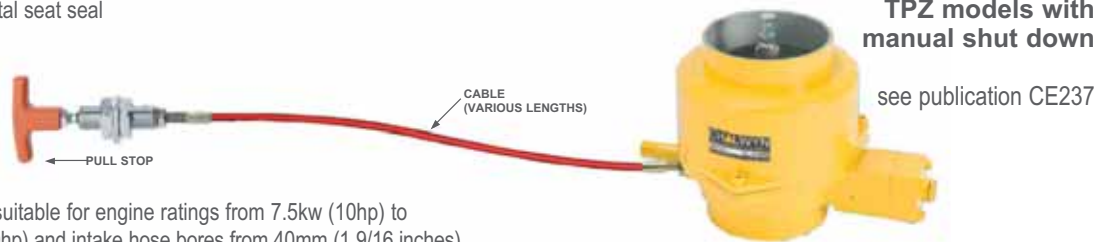
- Zinc body versions available for underground mining use

\*based on turbocharged engines

# Chalwyn engine air intake shut down valves

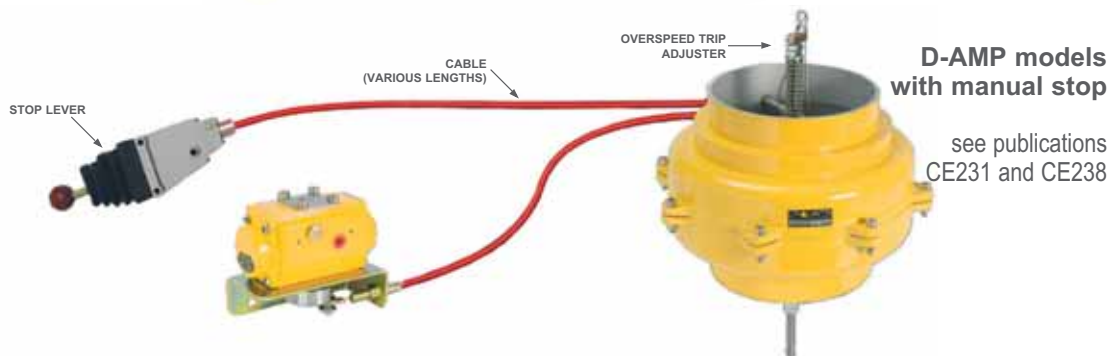
## Air intake valves with automatic shut down on engine overspeed or on application of an air pressure signal

- Simple cost effective valves combining automatic overspeed shut down with air pressure operated shut down
- No speed signal or power input needed
- Light weight construction
- Easy to install
- Easy to adjust
- Automatic reset after engine shuts down and air pressure signal removed
- Low maintenance
- Metal to metal seat seal



- TPZ range suitable for engine ratings from 7.5kw (10hp) to 149kw\* (200hp) and intake hose bores from 40mm (1 9/16 inches) to 108mm (4 1/4 inches)
- D-AP/ D-AMP valves can be selected to suit engine ratings from 80kw (107hp) up to 605kw (805hp) and engine air intake hose bores from 76mm (3 inches) to 229mm (9 inches)
- Suitable for zone 1 or 2 and US MMS offshore installations including air operated ESD systems
- Combines with Chalwyn FSX-200 fuel shut down valve to give simultaneous shut down of intake air and diesel fuel (see page 12)

\*relates to turbocharged engines



# Chalwyn fuel shut down valves

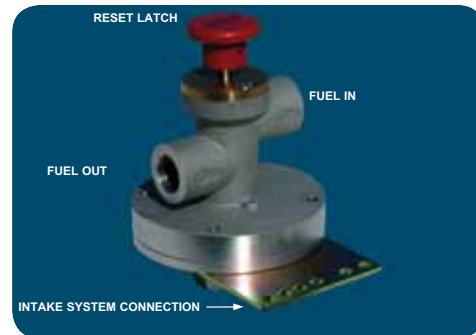
The European standard EN 1834-1:2000 covering diesel engine operation in zone 1 or zone 2 hazardous areas where flammable gas or vapour may exist, requires that both the engine fuel and intake air supply are automatically shut down if engine overspeed occurs.

## Air intake depression operated fuel shut down valve

- Used in conjunction with Chalwyn air intake shut down valves
- Instant closure when intake valve shuts
- Does not require reset following a normal engine shut down
- Kits of parts available for the connection to the air intake valve
- Tamperproof setting
- Light weight

**FSX-200**

see publication CE226



## Oil (or air) pressure operated fuel shut down valve

- Instant closure on loss of oil (or air) pressure signal
- Reset not required following a normal engine shut down
- Can be used in conjunction with other AMOT sensors (see below)
- Tamperproof setting
- Light weight
- Suitable for hazardous area installations

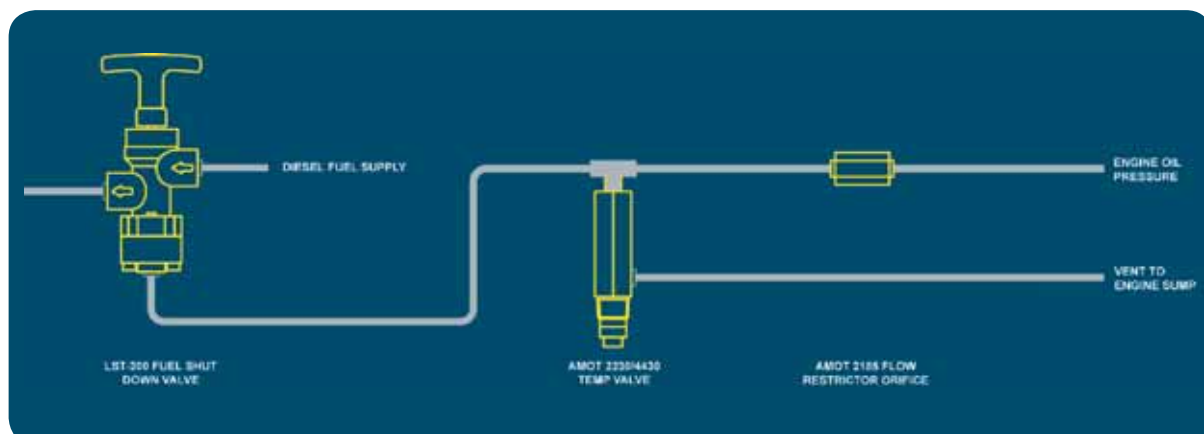
**LST-200**

see publication CE226



## Typical LST-200 valve installation

Example of a simple arrangement to give engine shut down on loss of oil pressure or high coolant temperature





# Chalwyn alternators and spark arrestors

## Flameproof alternators

Standard automotive alternators are a continuous potential source of ignition when fitted to an engine operating in a hazardous area where combustible concentrations of gas, vapour or dust may exist. Always replace with a suitable flameproof type.

- EExd IIB T4 ATEX compliant variants generally applicable to Group II hazardous gas, vapour and dust applications
- EExd I ATEX compliant variants generally applicable to Group I mining applications
- Fits in place of standard alternator
- Standard automotive internal regulation
- Various drive pulley options
- Speed signal output
- Optional gland positions for ease of installation
- Outputs – Group II Types:
  - ASX-200: 12volts / 50 amperes
  - ASX-300: 24volts / 25 amperes
  - ASX-310: 24volts / 25 amperes
  - ASX-400: 24volts / 50 amperes
- Outputs – Group I Types:
  - ASX-220: 12volts / 50 amperes
  - ASX-320: 24volts / 25 amperes

### Battery excited types

#### ASX-200 and ASX-300

see publication CE211

#### ASX-220 and ASX-330

see publication CE244



### Self exciting types

#### ASX-310

see publication CE232

#### ASX-330

see publication CE245



### High output battery excited type

#### ASX-400

see publication CE242



## Exhaust spark arrestors

An exhaust spark arrestor is a key safety requirement for both hazardous area and lower risk diesel engine applications such as forestry or agriculture where a stray spark may cause ignition of combustible material.

Virtually all legislation with respect to the use of diesel engines in hazardous areas includes a mandatory requirement to fit an exhaust spark arrestor.

- Ideal for offshore and corrosive environments
- ATEX compliant for surface and mining applications
- Certified for use in zone 1 and 2 areas
- 100% 316 grade stainless steel construction
- Clamp-on pipe ends standard
- Threaded or flanged connections available to special order
- Vertical or horizontal installation
- Type SSE are non-silencing for end of line or temporary fitting on pipe sizes up to 90mm (3 1/2 inches) using single clamp included
- Type SSL have industrial standard silencing so can replace vehicle silencers or for permanent installation with pipe sizes up to 153mm (6 inches)
- Range sizes covering engine ratings from 7.5kw (10hp) to 373kw (500hp)

### Spark arrestors

see publication CE224

