



## Product Data Sheet

# Motor Pressurization System

ATEX Certified Purging and Pressurization System for Large Electrical Machines.

## D258 MOTOR SYSTEM

Hazardous Area classification

ATEX Category G D2, Zone 1 (21), Group IIC T6

## D271 MOTOR SYSTEM

Intrinsically Safe Outputs



### OPERATION

The Motor Purging & Pressurization control system has been specifically designed for use on large electrical machines to be located in a hazardous location.

The system has a High Purge rate to remove the gasses that may be present within the machine prior to start-up. The purge flow rate and duration is normally established by the manufacturer & Notified Body during the machine testing. On completion of High Purge the system switches to Closed Loop Automatic Leakage Compensation. This automatically compensates for pressure variations in the machine which are typically caused during start-up or due to temperature fluctuations. The machine will then continuously operate at a constant pressure offering the Manufacturer considerable savings in time on the test bed & the Plant Operator ease of Commissioning & Operation.

### COMPONENTS

The system has two components. The Control Unit controls air flow and monitors flow & pressure. It also contains the pneumatic logic controlling the purge timer circuits & volt free / dry system status contacts. The Relief Valve (RLV) provides over-pressure protection for the machine enclosure, the purge flow measurement on the outlet and provides the outlet path for the purge airflow via an integral spark arrester.

### FEATURES

- + Entirely pneumatic operation using the same compressed air supply for Purging, Pressurization and Control Logic.
- + Air regulation & filtration provided.
- + ATEX certified [EEx p] to EN 50016, [Ex pD] to IEC 61241-4.
- + User selectable purge flow rates with 5 pre - set ranges from 2,000 NI/min to 6,000 NI/min.
- + User selectable purge time purge time increments up to a maximum of 45-minutes.
- + One design of system may be fitted to a variety of machine frame sizes due to the user selectable options.
- + Closed Loop Automatic Pressurization System (CLAPS) for fully automatic control of the pressure in the machine during start-up and normal operation.
- + Simple installation on to the side of the machine with minimal pipework required between the Control Unit & RLV.
- + Clear visual status indication.
- + Remote alarm contacts.
- + Patented magnetic Relief Valve.

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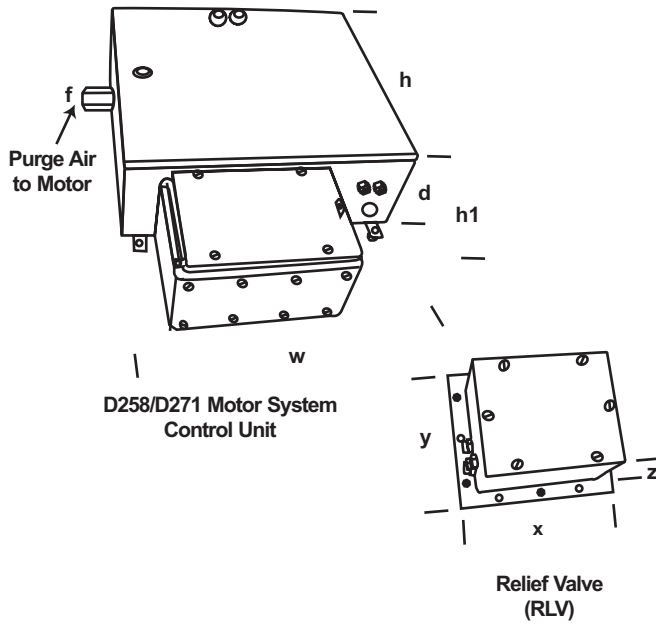
**ATEX**

ISO 9001

# Technical Specification

## Motor Pressurization system

### D258 / D271 Motor System



D258/D271 Motor System  
Control Unit

Relief Valve  
(RLV)

Dimensions/Spec.		D258/D271	
Width	w	18.9"	480mm
Height	h	16.7"	425mm
Height + SJB	h1	24.5"	622mm
Depth	d	7.0"	177mm
Fitting	f	1" NPT	1" NPT
RLV Width	x	13.0"	330mm
RLV Height	y	11.0"	280mm
RLV Depth	z	6.0"	153mm

## OPTIONS

- Intrinsically safe alarm & interlock volt free / dry contacts. The Ex e junction box & terminals are substituted for Ex i equivalents.  
**Order code: D271 MOTOR SYSTEM**
- Air Inlet 1" Ball Valve for local isolation of the system. To suit the larger D258 & D271 systems.  
**Order Code: D258 BALLVV KVP-N250-008**
- Air Inlet "Ex" approved 1" Solenoid Valve for remote isolation of the system. To suit the larger D258 & D271 systems.  
**Order code: D258 SOLVV**
- Extended timer option for additional 60 minute timer.  
**Order code: KGM-PR00-008**
- External manual override switch, supplied loose.  
**Order code: /MO (BOX)**

## CONTROL UNIT SPECIFICATION

### Model number

5XLC/ss/OV/PA/PC/D258

### Type of Operation

Automatic Purging & Leakage Compensation

### Action on Pressure Failure

Alarm and Trip / Disconnect of machine interlocks  
(Alarm Only operation user adjustable)

### Certification

ATEX/EMC

ATEX II 2 (2) G D [EEx p] II

**Purge Time Increments:** 10, 15 and 20 minutes, giving a maximum available period of 45-minutes (60min timer optional)

**Leakage Compensation (LC) capacity**

Up to 1500 NI/min @ 5 barg inlet pressure

### Automatic LC over capacity

+40% of the normal enclosure leakage flow rate

### Compressed Air supply

Clean Dry Oil free Air or Inert Gas.

Min supply pressure 5 barg, Max 16 barg

Supply inlet filter 40µ and regulator fitted

### Process connections

Purge supply: 1" NPT female, recommended supply pipe: 1" I.D min.

Purge outlet to machine: 1" NPT female

Reference points & signals: 1/8" NPT female

### Motor Interlock Contacts

2 pole normally open (DPNO), 4A 250V AC15 ATEX EEx d II T6 or IS

### Alarm contact, Pressure correct / Not correct

1 pole changeover (SPCO), 4A 250V AC15 ATEX EEx d II T6 or IS

### Intermediate pressure / Pre-alarm contact

1 pole changeover (SPCO), 4A 250V AC15 ATEX EEx d II T6 or IS

### Signal Junction Box (SJB)

316L Stainless steel, ATEX II 2 G D [EEx e] II T5 certified, c/w terminals, front access cover & lower removable gland plate

### Enclosure & mounting

Housing & external process connections 316L stainless steel

Wall mounting lugs & spaces provided for fitting to machine

### Weight

D258 Motor System 27 kg 59.4 lb

### Temperature range

-20°C, -4°F to 55°C, 131°F

### System Sensors

Minimum pressure sensor range: 0.5 to 5 mbarg (Default 1.5 mbarg)

Intermediate sensor/pre-alarm range: 2 to 10 mbarg (Default 5 mbarg)

Purging flow sensor set at 8.5 mbarg

Normal working pressure in machine: 10 mbarg maintained by the Closed Loop Automatic Pressure System (CLAPS) sensor

## RELIEF VALVE SPECIFICATION

### Model number

RLV104/ss/FS/D258

**Purge Flow Ranges:** 2000, 3000, 4000, 5000 & 6000 NI/min

User adjustable by fitting the appropriate orifice plate

### Enclosure & mounting

Housing & external process connections 316L stainless steel

Rectangular flat flange mounting to machine

### Weight

Relief Valve 7kg 15.4lb

### Relief Valve

Lift-off range 20 to 50 mbarg (Default 30 mbarg)

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