



Control Unit

Relief Valve



## Operation

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

The system delivers a high purge rate for a given duration (as defined by machine designer and Notified Body) prior to start-up, to purge any potentially explosive gases from the machine. After purge, the system automatically switches to leakage compensation mode for normal operation. The Closed Loop Automatic Pressurization System (CLAPS) automatically compensate for pressure variations in the machine during start-up or through temperature variations during operation. The system enables the machine to continuously operate at a set over-pressure, saving considerable time during test and commissioning, and simplifying normal operation.

## Components

The system comprises the Control Unit (CU) and the Relief Valve (RLV). The Control Unit contains the pneumatic logic to monitor and control air flow, pressure and purge timing, and provides the system outputs. The RLV measures purge flow at the outlet and provides over-pressure protection for the machine through a patented magnetically-set exhaust valve with integrated spark arrestor.

On a D758 Motor System, the outputs are volt-free contact closures terminated inside an Ex e junction box. On a D771 Motor System they are suitable for connection to intrinsically safe circuits.

# Motor Pressurization System

IECEX, ATEX & INMETRO Certified Purging and Pressurization System for large Electrical Machines.

## D758 MOTOR SYSTEM

## D771 MOTOR SYSTEM

## Features

- + **Simple Order Code**  
One model number defines Control Unit (CU) and Relief Valve (RLV)
- + **User Selectable Settings(\* default)**  
5 pre-set selectable purge flow rates (2000\*/3000/4000/5000/6000 NI/min)  
1 -99\* minute purge time (-0/+3 seconds tolerance)  
Suits a wide variety of machine frames sizes
- + **Clear Visual Status Indication**  
Local indicators for "Alarm/Pressurized" and "Purging"
- + **Continuous Operation through Closed Loop Automatic Pressurization System (CLAPS)**  
Eliminates spurious trips on start-up or load change
- + **316L Stainless Steel enclosure & fittings**  
Excellent resistance to corrosion for harsh environments
- + **Full Compliance with Standards**  
Direct purge flow measurement at Relief Valve exhaust orifice
- + **Global Approvals**  
IECEX & ATEX certified Ex [pxb] to IEC/EN 60079-2 for gas and dust applications.  
INMETRO certified Ex [pxb]  
ABNT NBR IEC 60079-2, for gas and dust applications.

## Explosion Protection

Hazardous Area classification:

IECEX, INMETRO Zone 1, Group IIC T6 Gb  
IECEX, INMETRO Zone 21, Group IIIC T95°C Db

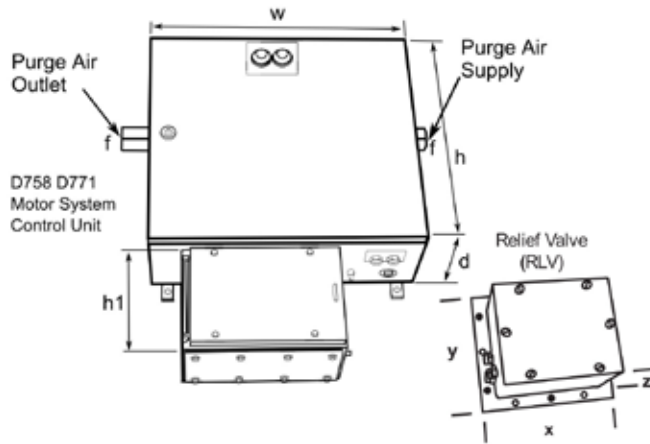
ATEX Category 2 G, Zone 1, Group IIC T6 Gb  
ATEX Category 2 D, Zone 21, Group IIIC T95°C Db

Ambient Temperature: -20°C to +55°C (4°F to 131°F)

MPS758/771 06-16



## TECHNICAL SPECIFICATION



Dimensions/Spec.		D758 & D771	
Width	w	18.90"	480mm
Height	h	16.73"	425mm
Height + SJB	h1	24"	609mm
Depth	d	7.0"	177mm
Fitting	f	1" NPT (F)	
RLV Width	x	13.0"	330mm
RLV Height	y	11.0"	280mm
RLV Depth	z	5.4"	136mm
CU Weight		27kg	60lb
RLV Weight		7 kg	15.4lb

### Enclosure & Mounting:

Housing & external process connections 316L stainless steel. Wall mounting lugs & spacer provided for fitting to machine.

### Process Connections:

Purge Supply: 1" NPT (F), recommended supply pipe: 1" I.D min. Purge outlet to machine: 1" NPT (F).  
Reference point & signals: 1/8" NPT (F).

**Compressed Air Supply:** Clean Dry Air or Inert Gas.  
Minimum supply pressure 5 barg. Maximum 16 barg .  
Minimum supply pressure to be maintained during purge.

## TECHNICAL DATA

**Order Code: D758MOTORSYS-E**

**Description: 5XLC/ss/ET/OV/PA/PC/D758**

Purge flow rate, user selectable to: 2,000, 3,000, 4,000, 5,000 & 6,000 NI/min.

Leakage Compensation Capacity: Up to 1,500 NI/min @ 5 barg inlet pressure.

Intrinsically safe Electronic Timer, range 1-99 mins. battery powered

System outputs are volt-free contact closures terminated on Ex e Junction Box, with:  
Power = 250 Vac 4 Amp (AC15) DPNO Ex d IIC T6  
Alarm = 250 Vac 4 Amp (AC15) SPCO Ex d IIC T6  
Intermediate Pressure/Pre-alarm = 250 Vac 4 Amp (AC15) SPCO Ex d IIC T6

Minimum pressure sensor default set at 1.5 mbarg  
Range: 0.5 to 5 mbarg  
Intermediate sensor/pre-alarm default set at 5 mbarg  
Range: 2 to 10 mbarg  
CLAPS sensor default set at 10 mbarg  
Range: 5.0 mbarg to 15 mbarg

### Certification/Approval:

IECEX Zone 1 Ex [pxb] ia IIC T6 Gb  
IECEX Zone 21 Ex [pxb] ia IIIC T95°C Db  
ATEX II 2(2) G Ex [pxb] ia IIC T6 Gb  
ATEX II 2(2) D Ex [pxb] ia IIIC T95°C Db  
INMETRO/TUV Zone 1 Ex [pxb] ia IIC T6 Gb  
INMETRO/TUV Zone 21 Ex [px] ia IIIC T95°C Db

Relief Valve Lift-Off pressure setting: default 30mbarg  
Minimum: 20mbarg, Maximum: 50mbarg

**Order Code: D771MOTORSYS-E**

**Description: 5XLC/ss/ET/OV/IS/PC/D771**

As D758MOTORSYS-E, except:  
System outputs are volt-free contact closures suitable for connection to Intrinsically Safe circuits.

## OPTIONS

- + Air Inlet 1" Ball Valve for local isolation of the system.  
**Order Code: D758BALLVV.**
- + Air Inlet "Ex" approved 1" Solenoid Valve for remote isolation of the system.  
**Order Code: D758SOLVV.**
- + External manual override switch, supplied loose.  
**Order Code: /MO (BOX)**