6000 Control System

Features

- Certified for Class I and Class II, Division I; Zone 1 / Zone 21 to nonhazardous
- Intrinsically safe electrical/pneumatic manifold assembly
- Intrinsically safe user interface for programming and monitoring the system
- Enclosure volume up to 7.1 m³ (250 ft³)
- Control Unit monitors system operation and controls enclosure power
- Universal mounting (brackets included)
- 316L stainless steel Type 4X enclosure

Function

The 6000 series consists of the control unit (EPCU) and user interface (UIC) mounted in a 316L stainless steel Type 4X (IP66) enclosure with the pneumatic solenoid valve mounted on the unit. The EPV-6000 relief vent is separate and is mounted to the enclosure.

The user interface allows programming of up to 4 switch inputs, temperature modules, enclosure power contacts, 2 auxiliary outputs, and various operational functions. Also, the user interface screen allows monitoring and easy configuration.

Among the additional features are inputs for system bypass, enclosure power on/off, temperature overload and activation of Rapid Exchange flow for cooling or auxiliary relay for separate cooling source, and delay power shutdown.

Component kits are available for custom installations.

Connection
### General specifications

**Operating mode**  
manual, semi-automatic, or fully automatic - programmable

**Series**  
6000 Series

**Number of volume exchanges**  
4 to 19

**Hazardous environment**  
gas, dust, gas and dust

### Supply

**Rated voltage**  
AC version: 100 ... 250 VAC / 50 ... 60 Hz / 0.2 A  
DC version: 20 ... 30 VDC / 0.6 A

### Electrical specifications

**Input**

- **Input type**  
  - Input I: 5 V DC @ 2 mA
  - Input II: Temperature inputs
  - Input III: EPV-6000 Vent
  - Input IV: User interface module

**Output**

- **Output I**  
  - AUX 1
- **Output II**  
  - AUX 2

**Pneumatic parameters**

- **Protective gas supply**  
  Instrument grade air or inert gas

- **Pressure requirement**  
  20 ... 120 psig (1.4 ... 8.3 bar) (138 ... 827 kPa) regulated

- **Safe pressure**  
  Gas: 0.25" wc (6.4 mm wc) (0.625 mbar) (62 Pa)
  Dust: 0.65" wc (16.5 mm wc) (1.6 mbar) (162 Pa)
  Gas and Dust: 0.65" wc (16.5 mm wc) (1.6 mbar) (162 Pa)

- **Purge flow rate**  
  Maximum flow rate measurement for enclosure size (enclosure volume:flow rate):
  - < 20 ft³ (0.57 m³): 5, 12 SCFM (141, 340 l/min), or dynamic
  - 20 ... 30 ft³ (0.57 ... 0.85 m³): 5, 12, 20 SCFM (141, 340, 565 l/min), or dynamic
  - > 30 ft³ (0.85 m³): 5, 12, 20, 30 SCFM (141, 340, 565, 850 l/min), or dynamic

- **Purge flow and enclosure pressure rate**  
  With EPV-6000-xx-01, EPV-6000-xx-02:
  - 5 SCFM @ 1.3" wc, (141/ min @ 33 mm wc) (3.3 mbar) (324 Pa)
  - 12 SCFM @ 2.5" wc, (340 l/min @ 64 mm wc) (6.3 mbar) (623 Pa)
  - 20 SCFM @ 3.2" wc, (565 l/min @ 80 mm wc) (8.0 mbar) (800 Pa)
  - 30 SCFM @ 3.6" wc, (850 l/min @ 90 mm wc) (9.0 mbar) (900 Pa)
  - Minimum purge time = 2 min

  With EPV-6000-xx-03, EPV-6000-xx-04:
  - 5 SCFM @ 2.1" wc, (141/ min @ 52.5 mm wc) (5.3 mbar) (525 Pa)
  - 12 SCFM @ 2.7" wc, (340 l/min @ 67.5 mm wc) (6.8 mbar) (675 Pa)
  - 20 SCFM @ 3.9" wc, (565 l/min @ 97.5 mm wc) (9.8 mbar) (975 Pa)
  - Minimum purge time = 2 min

### Ambient conditions

**Flow rate for leakage compensation**

- With EPV-6000-xx-01, EPV-6000-xx-02:
  - 0.6 SCFH (17 l/hr) @ 0.25" (0.63 mbar)
  - 12 SCFH (339 l/hr) @ 0.75" (1.9 mbar)

- With EPV-6000-xx-03, EPV-6000-xx-04:
  - 0.1 SCFH (2.8 l/hr) @ 0.25" (0.63 mbar)
  - 1 SCFH (28 l/hr) @ 0.75" (1.9 mbar)

**Indicators/settings**

- **LED indicator**  
  Safe pressure: Blue - safe pressure is achieved
  Enclosure power: Green - power on; Red - power off
  Rapid exchange: Blue - purging is running
  System bypass: Yellow - bypass is activated
  Alarm fault: Red (blinking) - any alarm input detected; Red (solid) - 6000 series system fault
### Technical data

#### Ambient temperature
-20 ... 60 °C (-4 ... 140 °F)

#### Storage temperature
-30 ... 80 °C (-22 ... 176 °F)

#### Relative humidity
5 ... 95 %, noncondensing

#### Vibration resistance
5 ... 100 Hz, 1 g, 12 m/s², all axes

#### Impact resistance
30 g, 11 ms, all axes

### Mechanical specifications

<table>
<thead>
<tr>
<th>specification</th>
<th>details</th>
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<tbody>
<tr>
<td>Connection type</td>
<td>Pneumatic: Inlet fitting to manifold: 3/8&quot; NPT (female) Outlet fitting from manifold: 3/8&quot; bulkhead fitting (provided)</td>
</tr>
<tr>
<td>Cable gland</td>
<td>4 - M16 x 1.5 cable gland</td>
</tr>
<tr>
<td>Protection degree</td>
<td>Type 4X, IP6X</td>
</tr>
<tr>
<td>Material</td>
<td>Enclosure: 316L (UNS S31603) stainless steel Manifold valve: anodized 6082 aluminum Fittings: 316L (UNS S31603) stainless steel</td>
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<tr>
<td>Mass</td>
<td>-WH- 11.4 kg (25 lb) -CK- 7.2 kg (16 lb)</td>
</tr>
<tr>
<td>Dimensions</td>
<td>183 x 367.5 x 152.5 mm (7.20 x 14.45 x 6.00 in)</td>
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</tbody>
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### Data for application in connection with Ex-areas

#### EC-Type Examination Certificate
- With EPV-6000-xx-01, EPV-6000-xx-02
  II 2 GD Ex d [ib px] IIC T4 T60 °C
  Sira 09ATEX9337X

- With EPV-6000-xx-01, EPV-6000-xx-02, EPV-6000-xx-03, EPV-6000-xx-04
  II 2 G Ex d [ib px] IIC T4
  DEMKO 07 ATEX 0705753x

### Directive conformity

- Directive 94/9/EC
  - EN 60079-0:2006
  - EN 60079-1:2004 with Corrigendum April 2006
  - EN 60079-11:2007
  - EN 60079-2:2004 with Corrigendum April 2006
  - EN 61241-0:2004
  - EN 61241-1:2004

### International approvals

#### UL approval
- With EPV-6000-xx-01, EPV-6000-xx-02, EPV-6000-xx-03, EPV-6000-xx-04
  cULus
  Class I, Division 1, Groups A, B, C, D
  Class I, Zone 1, Groups IIC T4
  Intrinsically safe when installed per 116-013UL-12

#### CSA approval
- With EPV-6000-xx-01, EPV-6000-xx-02 only
  cCSAus
  Class I, Division 1, Groups A, B, C, D T4
  Class I, Zone 1, Groups IIC T4
  Intrinsically safe when installed per 116-013UL-12

#### IECEx approval
- With EPV-6000-xx-01, EPV-6000-xx-02
  Ex d [ib px] IIC T4 T60 °C
  IECEx CSA09.0007x

- With EPV-6000-xx-01, EPV-6000-xx-02, EPV-6000-xx-03, EPV-6000-xx-04
  II 2 G Ex [ib px] IIC T4
  IECEx UL 08.0003x

### General information

#### Supplementary information
EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.
### Technical data

**6000 Control System**

**Type code/model number**

| 6 | 0 | 0 | 0 | - | D | V | - | S | 2 | - | U | N | - | W | H | - | A | C |

- **Voltage requirement**
  - AC: 100 - 250 VAC
  - DC: 20 - 30 VDC

- **Connection style**
  - WH: with stainless steel housing
  - CK: component kit
  - XD: with Ex de coupling

- **Safety Integrity Level**
  - S2: SIL 2, IEC61508, standard

- **Valve type**
  - DV: digital solenoid valve
  - NV: no valve - digital valve

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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