

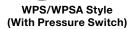
SERIES 1000 DATA SHEETS





# Type Y and Z Systems (1000 Series) 1001A: Class I Enclosure Volumes ≤ 2 ft³ and Class II Enclosure Volumes ≤10 ft³, WPS Only......3 1001B: Class II Enclosure Volumes ≤ 50 ft<sup>3</sup> ......5 1002: Class I Enclosure Volumes ≤ 15 ft<sup>3</sup> ......9 11: Class I Enclosure Volumes $\leq$ 2 ft $^3$ and Class II Enclosure Volumes $\leq$ 10 ft $^3$ , WPS and WPSA .......17 Type Z Systems (1000 Series)

# **SERIES**



Class I ( $\leq$  2 ft<sup>3</sup>) and Class II ( $\leq$  10 ft<sup>3</sup>)

**Model 1001A** 

# **Description**

Model 1001A is an enclosure pressurization or purging system that operates on a supply of compressed instrument air or inert gas. It regulates and monitors pressure within sealed (protected) enclosure(s), in order to prevent combustible dust accumulation or remove and prevent flammable gas or vapor accumulations. In Class II areas, the system maintains a "safe" (1.0") pressure. In Class I areas, the system accomplishes four air exchanges and maintains a "safe" (0.25") pressure. These processes reduce the hazardous (classified) area rating within the enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4.

# **Operation**

In accordance with system instructions, start-up requires air supply to be engaged and enclosure power to be deenergized. In Class II areas, all dust must be removed from the enclosure(s). The enclosure protection vent (if used) must be tested and enclosure(s) must be sealed. The enclosure pressure control regulator is then used to set a safe reading on the enclosure pressure gauge. In Class II areas, power can be energized when safe pressure is stable. In Class I areas, the user must perform an exchange cycle (determined by the safe pressure flow rate-five minutes minimum) before power can be energized. Loss of safe pressure in Class I or II areas requires immediate attention, unless power is deenergized. WPS style systems include an explosion proof differential pressure switch with form "C" contacts for audible or visual alarm systems.

# **System Specifications**

System Dimensions: See page 4 Shipping Weight: LPS - 5 lb / WPS - 10 lb -20 °F to +120 °F Temp. Range: \* 5 - 120 psi Supply Pressure Range: Supply Requirements: Clean air or inert gas Safe Press. (CI/CII): 0.25"/1.0" Safe Press. Flow Rate: \*\* 0.1 - 3.5 SCFH System Supply Fitting: 1/4" tube fitting **Enclosure Supply Fitting:** 1/4" tube fitting 1/4" tube fitting Enclosure Reference Fitting: Switch Setting (CI/CII, Decr):  $0.15"/0.5" \pm 0.02"$ Switch Conduit Port Size: 1/2" FPT Switch Contact Rating

WPS Style: 120 VAC @ 15 A \*\*\* 120 VAC @ 10 A, 125 VDC @ 50 mA WPSA Style:

Switch (WPSA) Power Requirement: 24 VDC @ 3 watts

120 VAC @ 4 watts 240 VAC @ 11 watts

- With EPV-1 Vent 120 psi max. to 5 psi min. Systems installed without Vent must be equipped with redundant regulator set to 5 psi max.
- \*\* Enclosure integrity determines actual flow rate
- \*\*\* Supply voltages 24 VDC and 240 VAC available upon request.

# **Standard Model Applications**

Model Number: 1001A-CI Type Y Designation: Purging System **Enclosure Volume:** 2 ft3 max.

**LPS Style** 

**LPS Style** 

(Less Pressure Switch)

UL & FM Certified: Cl. I, Div. 1,

Group A-D

Rating Reduction: Div. 1 to Div. 2

**WPS Style** 

UL & FM Certified: Cl. I, Div. 1,

Group C&D

Rating Reduction: Div. 1 to Div. 2

**WPSA Style** 

UL & FM Certified: Cl. I, Div. 1,

Group A-D

Rating Reduction: Div. 1 to Div. 2 Model Number: 1001A-CI Type Z Designation:

Purging System **Enclosure Volume:** 2 ft3 max.

**LPS Style** 

UL & FM Certified: Cl. I, Div. 2, Group A-D

Div. 2 to Rating Reduction: Nonhazardous

**WPS Style** 

UL & FM Certified: Cl. I. Div. 2. Group C&D

Rating Reduction: Div. 2 to Nonhazardous

**WPSA Style** 

UL & FM Certified: Cl. I. Div. 2. Group A-D

Rating Reduction: Div.2to Nonhazardous

Model Number: 1001A-CII Type Y Designation: Pressurization System

Enclosure Volume: 10 ft<sup>3</sup> max.

LPS Style

UL & FM Certified: Cl. II, Div. 1,

Rating Reduction:

Group F&G Div. 1 to Div. 2

**WPS Style** UL & FM Certified: Cl. II, Div. 1,

Group F&G Rating Reduction: Div. 1 to Div. 2 Model Number: 1001A-CII Type Z Designation: Pressurization System

Enclosure Volume: 10 ft<sup>3</sup> max.

LPS Style

UL & FM Certified: Cl. II, Div. 2,

Group F&G Div. 2 to Rating Reduction:

Nonhazardous

**WPS Style** 

Cl. II, Div. 2, UL & FM Certified:

Group F&G

Rating Reduction: Div. 2 to

Nonhazardous

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Enclosure
Pressure
Gauge
Enclosure

Reference Inlet

> Venturi Orifice

WPS Style (With Pressure Switch)



LPS Style (Less Pressure Switch)

Pressure Control Regulator Enclosure

**System** 

Supply

**Enclosure** 

Inlet

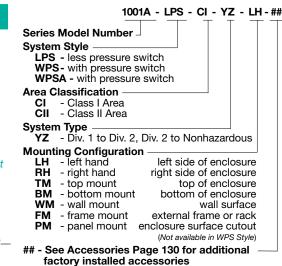
Supply Outlet Mounting Plate

CONNECTION POINTS SHOWN ABOVE IN BOLD TEXT ON SYSTEM DIAGRAM

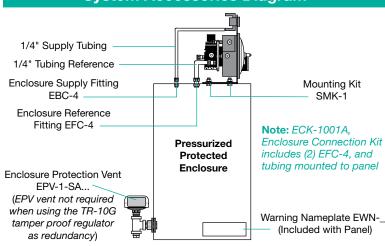
# **Material Specifications**

Regulator Body: Zinc w/Enamel Finish Regulator Handle: Polycarbonate Enclosure Pressure Gauge: Alum. w/Enamel Finish 316 SS Forged Body **Tube Fittings:** 316 SS 1/4" .035 Welded Tubing: System Nameplates: Silk screened Lexan® & SS Fastener Hardware: Alum. & Stainless Steel 316 14 Ga #3 Brush SS Mounting Plate: EXP Pressure Switch Body: Anodized Cast Alum. **Enclosure Warning Nameplate:** Silk screened SS Lexan® is a registered trademark of the General Electric Company

# **Model Number Designations**



# **System Accessories Diagram**



# Model 1001A System Accessories (See accessories page for complete details)

## **FACTORY INSTALLED FITTINGS**

ECK-1001A Enclosure Connection Kit
CONNECTION FITTINGS

EFC-4 1/4" Flush Connector
EBC-4 1/4" Bulkhead Connector
EPC-10 1/2" Pipe Connector
ADDITIONAL ITEMS

ILF-4 1/4" Filter SMK-1, -4 or -6 System Mounting Kit EPSK-1 or -2 Explosion Proof Switch Kit GPSK-1 or -2
RAH
Div. 1 Remote Alarm Horn
RAB-1
Div. 1 Remote Alarm Beacon
RAB-2
Div. 2 Remote Alarm Beacon
LCK
L Fitting Conduit Kit
TCK
T Fitting Conduit Kit

**OPTIONAL ENCLOSURE PROTECTION VENTS** 

EPV-1-SA-00 Straight w/Spark Arrestor EPV-1-SA-90 Rt Angle w/Spark Arrestor

## OPTIONAL HEX KEY REGULATOR HANDLE

TR-10G Tamper Proof Regulator

WARNING NAMEPLATES

EWN-1 Class I Enclosure Warning
EWN-2 Class II Enclosure Warning
ETW Enclosure Temperature Warning

**INSTALLATION & OPERATION MANUAL** 

129-0197 Inst. & Operation Manual

## ONE (1) ENCLOSURE WARNING NAMEPLATE & ONE (1) INSTALLATION & OPERATION MANUAL ARE PROVIDED WITH EACH SYSTEM

Overall System Dimensions						
LPS / WPS	LH - left hand	RH - right hand	TM - top mount	<b>BM</b> - bottom mount	WM - wall mount	FM & PM - surface
Height	7 / 12	7 / 12	7/8	7/8	7 / 12	9 / 14
Width	8/8	8/8	8 / 13.375	8 / 13.375	8/8	10 / 10
Depth	5.5 / 7.25	5.5 / 7.25	5.5 / 7.25	5.5 / 7.25	7.5 / 9.25	5 / 6.5

Dimensions in inches. Mounting dimensions available upon request. FM & PM panel cutout dimensions: LPS - 8h x 9w WPS - 13h x 9w Height & width dimensions reflect mounting plate measurements. Depth dimension reflects overall measurement of system, including components.

Class II (≤ 50 ft³)

# **Description**

Model 1001B is an enclosure pressurization system that operates on a supply of compressed instrument air or inert gas. It regulates and monitors pressure within sealed (protected) enclosure(s), in order to prevent combustible dust accumulation by maintaining a "safe" (1.0") pressure. This process reduces the hazardous (classified) area rating within the enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4.

## **Operation**

In accordance with system instructions, start-up requires air supply to be engaged and enclosure power to be deenergized. Before start-up, all dust must be removed from the enclosure(s). The enclosure protection vent (if used) must be tested and enclosure(s) must be sealed. The enclosure pressure control regulator is then used to set a safe reading on the enclosure pressure gauge. Power can be energized when safe pressure is stable. Loss of safe pressure requires immediate attention, unless power is deenergized. WPS style systems include an explosion proof differential pressure switch with form "C" contacts for audible or visual alarm systems.

# System Specifications

System Dimensions: See page 6 Shipping Weight: LPS - 7 lb / WPS - 12 lb Temp. Range: -20 °F to +120 °F Supply Pressure Range: \* 5 - 120 psi Supply Requirements: clean air or inert gas Safe Press. Setpoint: 1.0" \*\* 0.1 - 3.5 SCFH Safe Press. Flow Rate: System Supply Fitting: 3/8" tube fitting **Enclosure Supply Fitting:** 3/8" tube fitting **Enclosure Reference Fitting:** 1/4" tube fitting Switch Setting (Decr): 0.5" ± 0.02" Switch Conduit Port Size: 1/2" FPT Switch Contact Rating: 120 VAC @ 15 A

- \* With EPV-3 Vent 120 psi max. to 5 psi min. Systems installed without Vent must be equipped with redundant regulator set to 5 psi max.
- \*\* Enclosure integrity determines actual flow rate

# **Model 1001B**



**LPS Style** (Less Pressure Switch)



WPS Style (With Pressure Switch)





# **Standard Model Applications**

Model Number: 1001B-CII Type Y Designation: Pressurization System 50 ft<sup>3</sup> max. **Enclosure Volume:** 

LPS Style

UL & FM Certified:Cl. II, Div. 1, Group F&G

Rating Reduction: Div.1 to Div. 2

**WPS Style** 

UL & FM Certified: Cl. II, Div.

Group F&G

Div.1 to Div. 2 Rating Reduction:

Model Number: 1001B-CII Type Z

Designation: Pressurization System 50 ft<sup>3</sup> max. **Enclosure Volume:** 

LPS Style

UL & FM Certified: Cl. II, Div. 2, Group F&G

Rating Reduction: Div. 2 to Nonhazardous

**WPS Style** 

UL & FM Certified: Cl. II, Div. 2,

Group F&G

Rating Reduction: Div. 2 to

Nonhazardous

Pepperl+Fuchs Group



**WPS Style** 

(With Pressure Switch)

**Enclosure** Pressure Gauge

**Enclosure** Reference Inlet

Venturi Orifice

> LPS Style (Less Pressure Switch)

System Supply Inlet

Enclosure Pressure Control Regulator **Enclosure** Supply

Outlet Mounting Plate

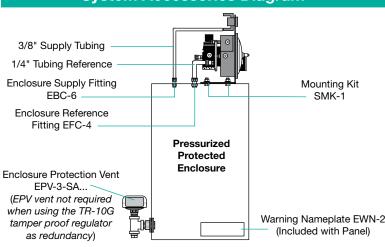
CONNECTION POINTS SHOWN ABOVE IN BOLD TEXT ON SYSTEM DIAGRAM

# **Material Specifications**

Regulator Body: Zinc w/Enamel Finish Regulator Handle: Polycarbonate Enclosure Pressure Gauge: Alum. w/Enamel Finish 316 SS Forged Body **Tube Fittings:** 316 SS 1/4" .035 Welded Tubing: Silk screened Lexan® & SS System Nameplates: Fastener Hardware: Alum. & Stainless Steel 316 14 Ga #3 Brush SS Mounting Plate: EXP Pressure Switch Body: Anodized Cast Alum. **Enclosure Warning Nameplate:** Silk screened SS

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# **System Accessories Diagram**



# **Model Number Designations**

1001B - LPS - CII - YZ - LH - ## Series Model Number -System Style LPS - less pressure switch WPS - with pressure switch **Area Classification** CII - Class II Area **System Type** YZ - Div. 1 to Div. 2, Div. 2 to Nonhazardous **Mounting Configuration** LH - left hand left side of enclosure RH - right hand right side of enclosure top of enclosure TM - top mount BM - bottom mount bottom of enclosure WM - wall mount wall surface external frame or rack - frame mount FΜ - panel mount enclosure surface cutout (Not available in WPS Style) - See Accessories Page 130 for additional factory installed accessories

# Model 1001B System Accessories (See accessories page for complete details)

### **CONNECTION FITTINGS & FILTER**

EFC-4 1/4" Flush Connector EFC-6 3/8" Flush Connector 3/8" Bulkhead Connector EBC-6 EPC-13 1" Pipe Connector ILF-6 3/8" Filter w/Clear Bowl **ADDITIONAL ITEMS** 

ILF-6 3/8" Filter SMK-1, -4 or -6 System Mounting Kit EPSK-2 **Explosion Proof Switch Kit** GPSK-2 General-purpose Switch Kit **RAH** Div. 1 Remote Alarm Horn Div. 1 Remote Alarm Beacon RAB-1 RAB-2 Div. 2 Remote Alarm Beacon LCK L Fitting Conduit Kit TCK T Fitting Conduit Kit

**OPTIONAL ENCLOSURE PROTECTION VENTS** 

Straight w/Spark Arrestor EPV-3-SA-00 EPV-3-SA-90 Rt Angle w/Spark Arrestor

## **OPTIONAL HEX KEY REGULATOR HANDLE**

TR-10G Tamper Proof Regulator

WARNING NAMEPLATES

EWN-2 Class II Enclosure Warning **Enclosure Temperature Warning** FTW **INSTALLATION & OPERATION MANUAL** 

129-0201 Inst. & Operation Manual

#### ONE (1) ENCLOSURE WARNING NAMEPLATE & ONE (1) INSTALLATION & OPERATION MANUAL ARE PROVIDED WITH EACH SYSTEM

Overall System Dimensions						
LPS/WPS	<b>LH</b> - left hand	RH - right hand	TM - top mount	BM - bottom mount	<b>WM</b> - wall mount	FM & PM - surface
Height	7 / 12	7 / 12	7/8	7/8	7 / 12	9 / 14
Width	8.875 / 8.875	8.875 / 8.875	8.75 / 14.25	8.75 / 14.25	8.875 / 8.875	10.875 / 10.875
Depth	6 / 7.25	6 / 7.25	6 / 7.25	6 / 7.25	7.5 / 9.25	4.75 / 6.5

Dimensions in inches. Mounting dimensions available upon request. FM & PM panel cutout dimensions: LPS - 8h x 9.875w WPS - 13h x 9.875w Height & width dimensions reflect mounting plate measurements. Depth dimension reflects overall measurement of system, including components.

Class II (≤ 250 ft³)

# **Description**

Model 1001C is an enclosure pressurization system that operates on a supply of compressed instrument air or inert gas. It regulates and monitors pressure within sealed (protected) enclosure(s), in order to prevent combustible dust accumulation by maintaining a "safe" (1.0") pressure. This process reduces the hazardous (classified) area rating within the enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4.

## **Operation**

In accordance with system instructions, start-up requires air supply to be engaged and enclosure power to be deenergized. Before start-up, all dust must be removed from the enclosure(s). The enclosure protection vent (if used) must be tested and enclosure(s) must be sealed. The enclosure pressure control regulator is then used to set a safe reading on the enclosure pressure gauge. Power can be energized when safe pressure is stable. Loss of safe pressure requires immediate attention, unless power is deenergized. WPS style systems include an explosion proof differential pressure switch with form "C" contacts for audible or visual alarm systems.

# **Model 1001C**



**LPS Style** (Less Pressure Switch)



WPS Style (With Pressure Switch)





# **System Specifications**

System Dimensions: See page 8 Shipping Weight: LPS - 7 lb / WPS - 12 lb Temp. Range: -20 °F to +120 °F Supply Pressure Range: \* 5 - 120 psi Supply Requirements: clean air or inert gas Safe Press. Setpoint: 1.0" Safe Press. Flow Rate: \*\* 0.1 - 3.5 SCFH System Supply Fitting: 1/2" tube fitting **Enclosure Supply Fitting:** 1/2" tube fitting 1/4" tube fitting **Enclosure Reference Fitting:** 0.5" ± 0.02" Switch Setting (Decr): Switch Conduit Port Size: 1/2" FPT Switch Contact Rating: 120 VAC @ 15 A

- With EPV-4 Vent 120 psi max. to 5 psi min. Systems installed without Vent must be equipped with redundant regulator set to 5 psi max.
- \*\* Enclosure integrity determines actual flow rate

# **Standard Model Applications**

Model Number: 1001C-CII Type Y Designation: Pressurization System 250 ft<sup>3</sup> max. **Enclosure Volume:** 

**LPS Style** 

UL & FM Certified: Cl. II, Div. 1, Group F&G Rating Reduction: Div.1 to Div. 2

**WPS Style** 

UL & FM Certified: Cl. II, Div. 1, Rating Reduction:

Group F&G Div.1 to Div. 2

Model Number: 1001C-CII Type Z Designation: Pressurization System

250 ft<sup>3</sup> max. **Enclosure Volume:** 

**LPS Style** 

UL & FM Certified: Cl. II, Div. 2, Group F&G

Rating Reduction: Div. 2 to Nonhazardous

**WPS Style** 

UL & FM Certified: Cl. II, Div. 2, Group F&G

Rating Reduction: Div. 2 to

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**SERIES** 

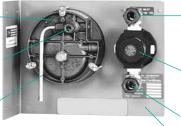


**Enclosure** Pressure Gauge

Enclosure Reference Inlet

Venturi Orifice

WPS Style (With Pressure Switch)



LPS Style (Less Pressure Switch)

Supply Outlet Mountina Plate

System

Supply

Inlet

Enclosure

Pressure

Control

Regulator

**Enclosure** 

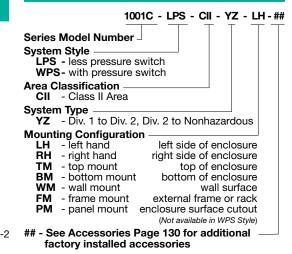
CONNECTION POINTS SHOWN ABOVE IN BOLD TEXT ON SYSTEM DIAGRAM

# **Material Specifications**

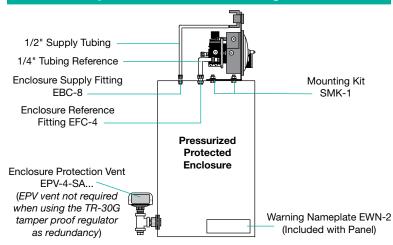
Regulator Body: Zinc w/Enamel Finish Regulator Handle: Polycarbonate Enclosure Pressure Gauge: Alum. w/Enamel Finish 316 SS Forged Body **Tube Fittings:** 316 SS 1/4" .035 Welded Tubing: Silk screened Lexan® & SS System Nameplates: Fastener Hardware: Alum. & Stainless Steel 316 14 Ga #3 Brush SS Mounting Plate: EXP Pressure Switch Body: Anodized Cast Alum. **Enclosure Warning Nameplate:** Silk screened SS

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# **Model Number Designations**



# System Accessories Diagram



# Model 1001C System Accessories (See accessories page for complete details)

#### **CONNECTION FITTINGS & FILTER**

EFC-4 1/4" Flush Connector EFC-8 1/2" Flush Connector EBC-8 1/2" Bulkhead Connector EPC-14 1 1/2" Pipe Connector ILF-8 1/2" Filter w/Clear Bowl **ADDITIONAL ITEMS** 

II F-8 1/2" Filter SMK-1, -4 or -6 System Mounting Kit

EPSK-2 Explosion Proof Switch Kit GPSK-2 General-purpose Switch Kit RAH Div. 1 Remote Alarm Horn RAB-1 Div. 1 Remote Alarm Beacon RAR-2 Div. 2 Remote Alarm Beacon LCK L Fitting Conduit Kit **TCK** T Fitting Conduit Kit **OPTIONAL ENCLOSURE PROTECTION VENTS** 

EPV-4-SA-00 Straight w/Spark Arrestor EPV-4-SA-90 Rt Angle w/Spark Arrestor

## **OPTIONAL HEX KEY REGULATOR HANDLE**

TR-30G **Tamper Proof Regulator** 

**WARNING NAMEPLATES** 

EWN-2 Class II Enclosure Warning **ETW Enclosure Temperature Warning INSTALLATION & OPERATION MANUAL** 

129-0202 Inst. & Operation Manual

#### ONE (1) ENCLOSURE WARNING NAMEPLATE & ONE (1) INSTALLATION & OPERATION MANUAL ARE PROVIDED WITH EACH SYSTEM

Overall System Dimensions						
LPS / WPS	LH - left hand	RH - right hand	TM - top mount	BM - bottom mount	WM - wall mount	FM & PM - surface
Height	7 / 12	7 / 12	7/8	7/8	7 / 12	9 / 14
Width	8.875 / 8.875	8.875 / 8.875	8.75 / 14.25	8.75 / 14.25	8.875 / 8.875	10.875 / 10.875
Depth	6 / 7.25	6 / 7.25	6 / 7.25	6 / 7.25	7.5 / 9.25	4.75 / 6.5

Dimensions in inches. Mounting dimensions available upon request. FM & PM panel cutout dimensions: LPS - 8h x 9.875w WPS - 13h x 9.875w Height & width dimensions reflect mounting plate measurements. Depth dimension reflects overall measurement of system, including components.

# Class I (≤ 15 ft³)

# **Description**

Model 1002 is a Rapid Exchange® purging system that operates on a supply of compressed instrument air or inert gas. It regulates and monitors pressure within sealed (protected) enclosure(s), in order to remove and prevent flammable gas or vapor accumulations. The system accomplishes four air exchanges and maintains a "safe" (0.25") pressure. A Pepperl+Fuchs Model EPV-2 Enclosure Protection Vent is required for proper operation. This process reduces the hazardous (classified) area rating within the enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4.

# Operation

In accordance with system instructions, start-up requires air supply to be engaged and enclosure power to be deenergized. The enclosure protection vent must be tested and the enclosure(s) must be sealed. The enclosure pressure control valve is then used to set a safe reading on the enclosure pressure indicator. When safe pressure is stable, the Rapid Exchange control valve must be fully engaged. Upon completion of the Rapid Exchange cycle, (five minutes minimum) the Rapid Exchange control valve must be disengaged to return to a safe enclosure pressure. Power can then be energized to the protected enclosure(s). Loss of safe pressure requires immediate attention, unless power is deenergized. WPS style systems include an explosion proof differential pressure switch with form "C" contacts for audible or visual alarm systems.

# **Model 1002**



**LPS Style** (Less Pressure Switch)



WPS/WPSA Style (With Pressure Switch)



120 VAC @ 15 A



## System Specifications

System Dimensions: See page 10 LPS - 10 lb / WPS - 15 lb Shipping Weight: -20 °F to +120 °F Temp. Range: Supply Pressure Range: 80 - 120 psi Capacity & Filtration: 1.5 oz @ 20 Micron Supply Requirements: clean air or inert gas Safe Press. Setpoint: 0.25" Safe Press. Flow Rate: \* 0.1 - 3.5 SCFH Exchange Pressure: 3" - 5" Exchange Flow Rate: \*\* 4 SCFM / 240 SCFH Exchange Time: 1 min/ft3 System Supply Port: 1/4" FPT 1/4" tube fitting **Enclosure Supply Fitting: Enclosure Reference Fitting:** 1/4" tube fitting Switch Setting (Decr): 0.15" ± 0.02" Switch Conduit Port Size: 1/2" FPT Switch Contact Rating

WPSA Style: \*\*\* 120/220 VAC, 24 VDC @ 10 A; 125 VDC @ 50 mA Switch (WPSA) Power Requirement: 24 / 120 / 240 VDC @ 3 /4 /11 watts

- \* Enclosure integrity determines actual flow rate
- \*\* With regulator set to 60 psi min. during exchange. Rapid Exchange® is a Registered Trademark of Pepperl+Fuchs.
- \*\*\* Supply voltages 24 VDC and 240 VAC available upon request.

# **Standard Model Applications**

Model Number:	1002 Type Y	Model Number:	1002 Type Z	
Designation:	Purging System		Purging System	
Enclosure Volume:	15 ft <sup>3</sup> max.	Enclosure Volume:	15 ft <sup>3</sup> max	
LPS S	Style	LPS Style		
UL & FM Certified:	Cl. I, Div. 1	UL & FM Certified:	Cl. I, Div. 2,	
	Group A-D		Group A-D	
Rating Reduction:	Div.1 to Div. 2	Rating Reduction:	Div. 2 to	

WPS Style

UL & FM Certified: Cl. I, Div. 1 Group C&D

Div. 1 to Div.2 Rating Reduction:

WPSA Style UL & FM Certified: Cl. I, Div. 1

Group A-D Rating Reduction: Div. 1 to Div. 2

Div.2to Div.1 to Div. 2 Rating Reduction: Nonhazardous

**WPS Style** 

UL & FM Certified: Cl. I, Div. 2, Group C&D

Div.2 to Rating Reduction: Nonhazardous

**WPSA Style** 

UL & FM Certified: Cl. I, Div. 2,

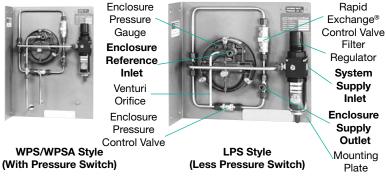
Group A-D Rating Reduction: Div.2to

Nonhazardous

WPS Style:

1000 **SERIES** Type Y

**SERIES** 



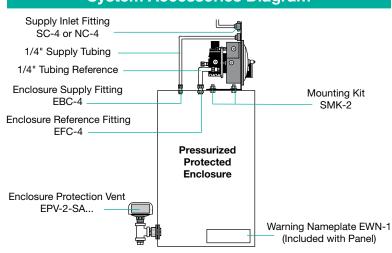
CONNECTION POINTS SHOWN ABOVE IN BOLD TEXT ON SYSTEM DIAGRAM

# **Material Specifications**

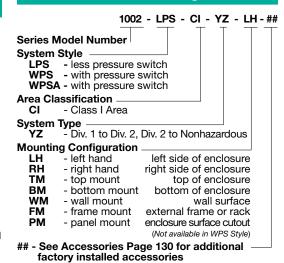
Filter Regulator Body: Zinc w/Enamel Finish Regulator Handle & Bowl: Polycarbonate Enclosure Pressure Gauge: Alum. w/Enamel Finish Poly Case & Brass Tube Rapid Exchange Gauge: Tube Fittings & Valves: 316 SS Forged Body 316 SS 1/4" .035 Welded Tubing: System Nameplates: Silk screened Lexan® & SS Fastener Hardware: Alum. & Stainless Steel Mounting Plate: 316 14 Ga #3 Brush SS EXP Pressure Switch Body: Anodized Cast Alum. **Enclosure Warning Nameplate:** Silk screened SS

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# System Accessories Diagram



# **Model Number Designations**



# Model 1002 System Accessories (See accessories page for complete details)

#### **CONNECTION FITTINGS**

NC-4 1/4" Ninety Connector SC-4 1/4" Straight Connector EFC-4 1/4" Flush Connector EBC-4 1/4" Bulkhead Connector EPC-12 3/4" Pipe Connector

#### **ADDITIONAL ITEMS**

SMK-2 or -8 System Mounting Kit EPSK-1 Explosion Proof Switch Kit GPSK-1 General-purpose Switch Kit RAH Remote Alarm Horn
RAB-1 Div. 1 Remote Alarm Beacon
RAB-2 Div. 2 Remote Alarm Beacon
LCK L Fitting Conduit Kit
TCK T Fitting Conduit Kit

# ENCLOSURE PROTECTION VENTS ONE VENT REQUIRED WITH EACH SYSTEM

EPV-2-SA-00 Straight w/Spark Arrestor EPV-2-SA-90 Rt Angle w/Spark Arrestor

#### **WARNING NAMEPLATES**

EWN-1 Class I Enclosure Warning
ETW Enclosure Temperature Warning
INSTALLATION & OPERATION MANUAL
129-0196 Inst. & Operation Manual

#### ONE (1) ENCLOSURE WARNING NAMEPLATE & ONE (1) INSTALLATION & OPERATION MANUAL ARE PROVIDED WITH EACH SYSTEM

Overall System Dimensions						
LPS / WPS	LH - left hand	RH - right hand	TM - top mount	BM - bottom mount	WM - wall mount	FM or PM - flat panel
Height	10 / 15	10 / 15	10 / 10	10 / 10	10 / 15	12 / 17
Width	11 / 11	11 / 11	11 / 16	11 / 16	11 / 11	13 / 13
Depth	6 / 7.5	6 / 7.5	6 / 7.5	6 / 7.5	7.75 / 9.25	5 / 6.5

Dimensions in inches. Mounting dimensions available upon request. FM & PM panel cutout dimensions: LPS - 11h x 12w WPS - 16h x 12w Height & width dimensions reflect mounting plate measurements. Depth dimension reflects overall measurement of system, including components.



# Description

Model 1003 is a Rapid Exchange® purging system that operates on a supply of compressed instrument air or inert gas. It regulates and monitors pressure within sealed (protected) enclosure(s), in order to remove and prevent flammable gas or vapor accumulations. The system accomplishes four air exchanges and maintains a "safe" (0.25") pressure. A Pepperl+Fuchs Model EPV-3 Enclosure Protection Vent is required for proper operation. This process reduces the hazardous (classified) area rating within the enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4.

# **Operation**

In accordance with system instructions, start-up requires air supply to be engaged and enclosure power to be deenergized. The enclosure protection vent must be tested and the enclosure(s) must be sealed. The enclosure pressure control valve is then used to set a safe reading on the enclosure pressure indicator. When safe pressure is stable, the Rapid Exchange control valve must be fully engaged. Upon completion of the Rapid Exchange cycle, (five minutes minimum) the Rapid Exchange control valve must be disengaged to return to a safe enclosure pressure. Power can then be energized to the protected enclosure(s). Loss of safe pressure requires immediate attention, unless power is deenergized. WPS style systems include an explosion proof differential pressure switch with form "C" contacts for audible or visual alarm systems.

# **Model 1003**



LPS Style (Less Pressure Switch)



WPS/WPSA Style (With Pressure Switch)





# System Specifications

System Dimensions: See page 12 LPS - 12 lb / WPS - 17 lb Shipping Weight: -20 °F to +120 °F Temp. Range: 80 - 120 psi Supply Pressure Range: Capacity & Filtration: 3.8 oz @ 40 Micron Supply Requirements: clean air or inert gas Safe Press. Setpoint: 0.25" Safe Press. Flow Rate: \* 0.1 - 3.5 SCFH Exchange Pressure: 3" - 5" Exchange Flow Rate: \*\* 10 SCFM / 600 SCFH **Exchange Time:** 1 min / 2.5 ft3 System Supply Port: 3/8" FPT **Enclosure Supply Fitting:** 3/8" tube fitting 1/4" tube fitting **Enclosure Reference Fitting:** Switch Setting (Decr):  $0.15" \pm 0.02"$ Switch Conduit Port Size: 1/2" FPT Switch Contact Rating 120 VAC @ 15 A

Enclosure integrity determines actual flow rate

\*\* With regulator set to 60 psi min. during exchange. Rapid Exchange® is a Registered Trademark of Pepperl+Fuchs.

WPSA Style: \*\*\* 120/220 VAC, 24 VDC @ 10 A; 125 VDC @ 50 mA Switch (WPSA) Power Requirement: 24 / 120 / 240 VDC @ 3 /4 /11 watts

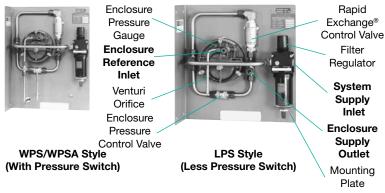
\*\*\* Supply voltages 24 VDC and 240 VAC available upon request.

# Standard Model Applications

Model Number:	1003 Type Y	Model Number:	1003 Type Z		
Designation:	Purging System	Designation:	Purging System		
Enclosure Volume:	75 ft <sup>3</sup> max.	Enclosure Volume:	75 ft³ max.		
LPS S	tyle	LPS S	Style		
UL & FM Certified:	Cl. I, Div. 1,	UL & FM Certified:	Cl. I, Div. 2,		
	Group A-D		Group A-D		
Rating Reduction:	Div. 1 to Div. 2	Rating Reduction:	Div.2to		
WPS S	tyle		Nonhazardous		
UL & FM Certified:	Cl. I, Div. 1,	WPS Style			
	Group C&D	UL & FM Certified:	Cl. I, Div. 2,		
Rating Reduction:	Div. 1 to Div. 2		Group C&D		
WPSA S	Style	Rating Reduction:	Div. 2 to		
UL & FM Certified:	Cl. I, Div. 1,		Nonhazardous		
	Group A-D	WPSA	Style		
Rating Reduction:	Div. 1 to Div. 2	UL & FM Certified:	Cl. I, Div. 2,		
			Group A-D		
		Rating Reduction:	Div.2to		
			Nonhazardous		

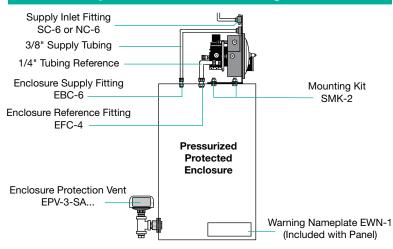
Pepperl+Fuchs Group

**SERIES** 



CONNECTION POINTS SHOWN ABOVE IN BOLD TEXT ON SYSTEM DIAGRAM

# **System Accessories Diagram**



# **Material Specifications**

Filter Regulator Body: Zinc w/Enamel Finish Regulator Handle & Bowl: Polycarbonate Enclosure Pressure Gauge: Alum. w/Enamel Finish Poly Case & Brass Tube Rapid Exchange Gauge: Tube Fittings & Valves: 316 SS Forged Body 316 SS 1/4" & 3/8" .035 Welded Tubing: System Nameplates: Silk screened Lexan® & SS Fastener Hardware: Alum. & Stainless Steel Mounting Plate: 316 14 Ga #3 Brush SS EXP Pressure Switch Body: Anodized Cast Alum. Enclosure Warning Nameplate: Silk screened SS

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# **Model Number Designations**

1003 - LPS - CI - YZ - LH - ## Series Model Number System Style **LPS** - less pressure switch - with pressure switch WPSA - with pressure switch **Area Classification** CI - Class I Area System Type - Div. 1 to Div. 2, Div. 2 to Nonhazardous YΖ **Mounting Configuration** left hand left side of enclosure RH right hand right side of enclosure TM - top mount top of enclosure BM - bottom mount bottom of enclosure WM - wall mount wall surface external frame or rack FΜ frame mount PΜ - panel mount enclosure surface cutout (Not available in WPS Style) ## - See Accessories Page 130 for additional

factory installed accessories

# Model 1003 System Accessories (See accessories page for complete details)

#### **CONNECTION FITTINGS**

NC-6 3/8" Ninety Connector SC-6 3/8" Straight Connector EFC-4 1/4" Flush Connector EFC-6 3/8" Flush Connector EBC-6 3/8" Bulkhead Connector EPC-13 1" Pipe Connector ADDITIONAL ITEMS

SMK-2 or -8 System Mounting Kit EPSK-1 Explosion Proof Switch Kit GPSK-1 General-purpose Switch Kit
RAH Remote Alarm Horn
RAB-1 Div. 1 Remote Alarm Beacon
RAB-2 Div. 2 Remote Alarm Beacon
LCK L Fitting Conduit Kit
TCK T Fitting Conduit Kit
ENCLOSURE PROTECTION VENTS

ENCLOSURE PROTECTION VENTS ONE VENT REQUIRED WITH EACH SYSTEM

EPV-3-SA-00 Straight w/Spark Arrestor EPV-3-SA-90 Rt Angle w/Spark Arrestor

#### **WARNING NAMEPLATES**

EWN-1 Class I Enclosure Warning
ETW Enclosure Temperature Warning
INSTALLATION & OPERATION MANUAL
129-0195 Inst. & Operation Manual

#### ONE (1) ENCLOSURE WARNING NAMEPLATE & ONE (1) INSTALLATION & OPERATION MANUAL ARE PROVIDED WITH EACH SYSTEM

Overall System Dimensions						
LPS / WPS	LH - left hand	RH - right hand	TM - top mount	BM - bottom mount	WM - wall mount	FM or PM - flat panel
Height	12 / 15	12 / 15	12 / 12	12 / 12	12 / 15	14 / 17
Width	11.5 / 11.5	11.5 / 11.5	11.5 / 15.25	11.5 / 15.25	11.5 / 11.5	13.5 / 13.5
Depth	6 / 7.5	6 / 7.5	6 / 7.5	6 / 7.5	7.75 / 9.25	5.75 / 7.25

Dimensions in inches. Mounting dimensions available upon request. FM & PM panel cutout dimensions: LPS - 13h x 12.5w WPS - 16h x 12.5w Height & width dimensions reflect mounting plate measurements. Depth dimension reflects overall measurement of system, including components.



# **Description**

Model 1004 is a Rapid Exchange® purging system that operates on a supply of compressed instrument air or inert gas. It regulates and monitors pressure within sealed (protected) enclosure(s), in order to remove and prevent flammable gas or vapor accumulations. The system accomplishes four air exchanges and maintains a "safe" (0.25") pressure. A Pepperl+Fuchs Model EPV-4 Enclosure Protection Vent is required for proper operation. This process reduces the hazardous (classified) area rating within the enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4.

# **Operation**

In accordance with system instructions, start-up requires air supply to be engaged and enclosure power to be deenergized. The enclosure protection vent must be tested and the enclosure(s) must be sealed. The enclosure pressure control valve is then used to set a safe reading on the enclosure pressure indicator. When safe pressure is stable, the Rapid Exchange control valve must be fully engaged. Upon completion of the Rapid Exchange cycle, (five minutes minimum) the Rapid Exchange control valve must be disengaged to return to a safe enclosure pressure. Power can then be energized to the protected enclosure(s). Loss of safe pressure requires immediate attention, unless power is deenergized. WPS style systems include an explosion proof differential pressure switch with form "C" contacts for audible or visual alarm systems.

# **Model 1004**



**LPS Style** (Less Pressure Switch)



WPS/WPSA Style (With Pressure Switch)





# System Specifications

System Dimensions:	See page 14
Shipping Weight:	LPS - 15 lb / WPS - 23 lb
Temp. Range:	-20 °F to +120 °F
Supply Pressure Range:	80 - 120 psi
Capacity & Filtration:	8.5oz @ 40 Micron
Supply Requirements:	clean air or inert gas
Safe Press. Setpoint:	0.25"
Safe Press. Flow Rate:	* 0.1 - 3.5 SCFH
Exchange Pressure:	3" - 5"
Exchange Flow Rate:	** 30 SCFM /1800 SCFH
Exchange Time:	1 min / 7.5 ft <sup>3</sup>
System Supply Port:	1/2" FPT
Enclosure Supply Fitting:	1/2" tube fitting
Enclosure Reference Fitting:	1/4" tube fitting
Switch Setting (Decr):	0.15" ± 0.02"
Switch Conduit Port Size:	1/2" FPT
Switch Contact Rating	

WPS Style: 120 VAC @ 15 A WPSA Style: \*\*\* 120/220 VAC, 24 VDC @ 10 A; 125 VDC @ 50 mA

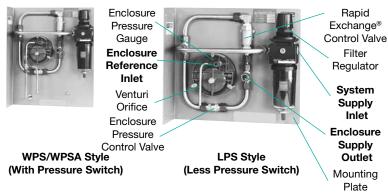
Switch (WPSA) Power Requirement: 24 / 120 / 240 VDC @ 3 /4 /11 watts

- Enclosure integrity determines actual flow rate
- With regulator set to 80 psi min. during exchange. Rapid Exchange® is a Registered Trademark of Pepperl+Fuchs.
- \*\*\* Supply voltages 24 VDC and 240 VAC available upon request.

# **Standard Model Applications**

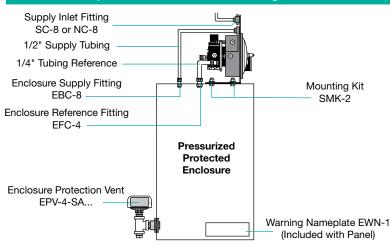
Model Number:	1004 Type Y	Model Number:	1004 Type Z
Designation:	Purging System	Designation:	Purging System
Enclosure Volume:	200 ft <sup>3</sup> max.	Enclosure Volume:	200 ft <sup>3</sup> max.
LPS S	tyle	LPS S	tyle
UL & FM Certified:	Cl. I, Div. 1,	UL & FM Certified:	Cl. I, Div. 2,
of a r w ocranica.	Group A-D		Group A-D
Rating Reduction:	Div. 1 to Div. 2	Rating Reduction:	Div. 2 to
ŭ			Nonhazardous
WPS S	•	WPS S	Style
UL & FM Certified:	Cl. I, Div. 1,		
	Group C&D	UL & FM Certified:	Cl. I, Div. 2,
Rating Reduction:	Div. 1 to Div. 2		Group C&D
ŭ		Rating Reduction:	Div. 2 to
WPSA 9	Style	Ü	Nonhazardous
UL & FM Certified:	Cl. I, Div. 1,	W704	a
	Group A-D	WPSA	
Rating Reduction:	Div. 1 to Div. 2	UL & FM Certified:	Cl. I, Div. 2,
riating ricadotton.	DIV. 1 to DIV. 2		Group A-D
		Rating Reduction:	Div. 2 to
			Nonhazardous

**SERIES** 



CONNECTION POINTS SHOWN ABOVE IN BOLD TEXT ON SYSTEM DIAGRAM

# **System Accessories Diagram**

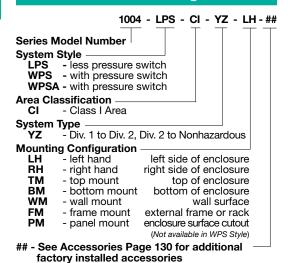


# **Material Specifications**

Filter Regulator Body: Zinc w/Enamel Finish Regulator Handle & Bowl: Polycarbonate Enclosure Pressure Gauge: Alum. w/Enamel Finish Poly Case & Brass Tube Rapid Exchange Gauge: Tube Fittings & Valves: 316 SS Forged Body 316 SS 1/4" & 1/2" .035 Welded Tubing: System Nameplates: Silk screened Lexan® & SS Fastener Hardware: Alum. & Stainless Steel Mounting Plate: 316 14 Ga #3 Brush SS **EXP Pressure Switch Body:** Anodized Cast Alum. **Enclosure Warning Nameplate:** Silk screened SS

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# **Model Number Designations**



# Model 1004 System Accessories (See accessories page for complete details)

# CONNECTION FITTINGS NC-8 1/2" Ninety Connector SC-8 1/2" Straight Connector EFC-4 1/4" Flush Connector EFC-8 1/2" Flush Connector EBC-8 1/2" Bulkhead Connector EPC-14 1 1/2" Pipe Connector ADDITIONAL ITEMS

SMK-2 or 8 System Mounting Kit EPSK-1 Explosion Proof Switch Kit GPSK-1 General-purpose Switch Kit RAH Remote Alarm Horn RAB-1 Div. 1 Remote Alarm Beacon RAB-2 Div. 2 Remote Alarm Beacon LCK L Fitting Conduit Kit TCK T Fitting Conduit Kit ENCLOSURE PROTECTION VENTS ONE VENT REQUIRED WITH EACH SYSTEM

EPV-4-SA-00 Straight w/Spark Arrestor EPV-4-SA-90 Rt Angle w/Spark Arrestor

#### **WARNING NAMEPLATES**

EWN-1 Class I Enclosure Warning
ETW Enclosure Temperature Warning
INSTALLATION & OPERATION MANUAL
129-0203 Inst. & Operation Manual

## ONE (1) ENCLOSURE WARNING NAMEPLATE & ONE (1) INSTALLATION & OPERATION MANUAL ARE PROVIDED WITH EACH SYSTEM

Overall System Dimensions						
LPS / WPS	LH - left hand	RH - right hand	TM - top mount	BM - bottom mount	WM - wall mount	FM or PM - flat panel
Height	12 / 16.25	12 / 16.25	12 / 12	12 / 12	12 / 15	14 / 18.25
Width	13.5 / 13.5	13.5 / 13.5	13.5 / 16.75	13.5 / 16.75	13.5 / 13.5	15.5 / 15.5
Depth	6.75 / 8.25	6.75 / 8.25	6.75 / 8.25	6.75 / 8.25	7.75 / 9.25	6.75 / 8.25
			. = =			

Dimensions in inches. Mounting dimensions available upon request. FM & PM panel cutout dimensions: LPS - 13h x 14.5w WPS - 17.25h x 14.5w Height & width dimensions reflect mounting plate measurements. Depth dimension reflects overall measurement of system, including components.



# **Description**

Model 1005 is a Rapid Exchange® purging system that operates on a supply of compressed instrument air or inert gas. It regulates and monitors pressure within sealed (protected) enclosure(s), in order to remove and prevent flammable gas or vapor accumulations. The system accomplishes four air exchanges and maintains a "safe" (0.25") pressure. A Pepperl+Fuchs Model EPV-5 Enclosure Protection Vent is required for proper operation. This process reduces the hazardous (classified) area rating within the enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4.

## **Operation**

In accordance with system instructions, start-up requires air supply to be engaged and enclosure power to be deenergized. The enclosure protection vent must be tested and the enclosure(s) must be sealed. The enclosure pressure control valve is then used to set a safe reading on the enclosure pressure indicator. When safe pressure is stable, the Rapid Exchange control valve must be fully engaged. Upon completion of the Rapid Exchange cycle, (five minutes minimum) the Rapid Exchange control valve must be disengaged to return to a safe enclosure pressure. Power can then be energized to the protected enclosure(s). Loss of safe pressure requires immediate attention, unless power is deenergized. WPS style systems include an explosion proof differential pressure switch with form "C" contacts for audible or visual alarm systems.

# **Model 1005**



LPS Style (Less Pressure Switch)



WPS/WPSA Style (With Pressure Switch)





# **System Specifications**

System Dimensions: See page 16 LPS - 15 lb / WPS - 25 lb Shipping Weight: -20 °F to +120 °F Temp. Range: 80 - 120 psi Supply Pressure Range: Capacity & Filtration: 8.5 oz @ 40 Micron Supply Requirements: clean air or inert gas Safe Press. Setpoint: 0.25" \* 0.1 - 3.5 SCFH Safe Press. Flow Rate: 3" - 5" Exchange Pressure: \*\* 60 SCFM / 3600 SCFH Exchange Flow Rate: **Exchange Time:** 1 min / 15 ft<sup>3</sup> System Supply Port: 1/2" FPT **Enclosure Supply Fitting:** 1/2" FPT 1/4" tube fitting **Enclosure Reference Fitting:** Switch Setting (Decr): 0.15" ± 0.02" Switch Conduit Port Size: 1/2" FPT Switch Contact Rating 120 VAC @ 15 A

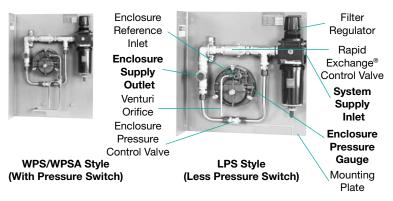
WPSA Style: \*\*\* 120/220 VAC, 24 VDC @ 10 A; 125 VDC @ 50 mA Switch (WPSA) Power Requirement: 24 / 120 / 240 VDC @ 3 /4 /11 watts

- \* Enclosure integrity determines actual flow rate
- \*\* With regulator set to 80 psi min. during exchange Rapid Exchange® is a Registered Trademark of Pepperl+Fuchs, Inc.
- \*\*\* Supply voltages 24 VDC and 240 VAC available upon request.

# **Standard Model Applications**

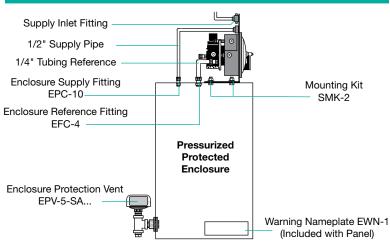
1005 Type Y 1005 Type Z **Model Number:** Model Number: Designation: **Purging System** Designation: Purging System 450 ft3 max. 450 ft<sup>3</sup> max. **Enclosure Volume: Enclosure Volume:** LPS Style **LPS Style** UL & FM Certified: Cl. I, Div. 1, UL & FM Certified: Cl. I, Div. 2, Group A-D Group A-D Rating Reduction: Div. 1 to Div. 2 Rating Reduction: Div. 2 to Nonhazardous **WPS Style WPS Style** UL & FM Certified: Cl. I, Div. 1, Group C&D UL & FM Certified: Cl. I, Div. 2, Rating Reduction: Div. 1 to Div. 2 Group C&D Rating Reduction: Div. 2 to WPSA Style Nonhazardous UL & FM Certified: Cl. I, Div. 1, WPSA Style Group A-D Rating Reduction: Div. 1 to Div. 2 UL & FM Certified: Cl. I, Div. 2, Group A-D Rating Reduction: Div. 2 to Nonhazardous

Pepperl+Fuchs Group



CONNECTION POINTS SHOWN ABOVE IN BOLD TEXT ON SYSTEM DIAGRAM

# System Accessories Diagram

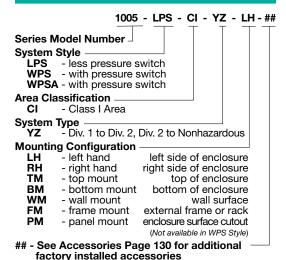


# **Material Specifications**

Filter Regulator Body: Zinc w/Enamel Finish Regulator Handle & Bowl: Polycarbonate Enclosure Pressure Gauge: Alum. w/Enamel Finish Poly Case & Brass Tube Rapid Exchange Gauge: Tube Fittings & Valves: 316 SS Forged Body 316 SS 1/4" .035 Welded Tubing: System Nameplates: Silk screened Lexan® & SS Fastener Hardware: Alum, & Stainless Steel Mounting Plate: 316 14 Ga #3 Brush SS **EXP Pressure Switch Body:** Anodized Cast Alum. **Enclosure Warning Nameplate:** Silk screened SS

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# **Model Number Designations**



# Model 1005 System Accessories (See accessories page for complete details)

#### **CONNECTION FITTINGS**

EFC-4 1/4" Flush Connector EPC-10 1/2" Pipe Connector EPC-15 2" Pipe Connector

## **ADDITIONAL ITEMS**

SMK-2 or -8 System Mounting Kit EPSK-1 **Explosion Proof Switch Kit** GPSK-1 General-purpose Switch Kit **RAH** Remote Alarm Horn

RAB-1 Div. 1 Remote Alarm Beacon RAB-2 Div. 2 Remote Alarm Beacon LCK L Fitting Conduit Kit **TCK** T Fitting Conduit Kit

## **ENCLOSURE PROTECTION VENTS** ONE VENT REQUIRED WITH EACH SYSTEM

EPV-5-SA-00 Straight w/Spark Arrestor EPV-5-SA-90 Rt Angle w/Spark Arrestor

#### WARNING NAMEPLATES

EWN-1 Class I Enclosure Warning **ETW Enclosure Temperature Warning INSTALLATION & OPERATION MANUAL** 129-0204 Inst. & Operation Manual

#### ONE (1) ENCLOSURE WARNING NAMEPLATE & ONE (1) INSTALLATION & OPERATION MANUAL ARE PROVIDED WITH EACH SYSTEM

Overall System Dimensions						
LPS / WPS	LH - left hand	RH - right hand	TM - top mount	BM - bottom mount	WM - wall mount	FM or PM - flat panel
Height	13.5 / 17.75	13.5 / 17.75	14 / 13	14/ 13	15 / 17.75	15.5 / 19.75
Width	13.5 / 13.5	13.5 / 13.5	13.5 / 16.125	13.5 / 16.125	13.5 / 13.5	15.5 / 15.5
Depth	6 / 7.5	6 / 7.5	6 / 7.5	6 / 7.5	7.75 / 9.25	5 / 6.5

Dimensions in inches. Mounting dimensions available upon request, FM & PM panel cutout dimensions; LPS - 14.5h x 14.5w WPS - 18.75h x 14.5w Height & width dimensions reflect mounting plate measurements. Depth dimension reflects overall measurement of system, including components.

# Class I ( $\leq$ 2 ft<sup>3</sup>) and Class II ( $\leq$ 10 ft<sup>3</sup>)

# Description

Model 11 is an enclosure pressurization or purging system that operates on a supply of compressed instrument air or inert gas. It regulates and monitors pressure within sealed (protected) enclosure(s), in order to prevent combustible dust accumulation or remove and prevent flammable gas or vapor accumulations. In Class II areas, the system maintains a "safe" (1.0") pressure. In Class I areas, the system accomplishes four air exchanges and maintains a "safe" (0.25") pressure. These processes reduce the hazardous (classified) area rating within the enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4.

# **Operation**

In accordance with system instructions, start-up requires air supply to be engaged and enclosure power to be deenergized. In Class II areas, all dust must be removed from the enclosure(s). The enclosure protection vent (if used) must be tested and enclosure(s) must be sealed. The enclosure pressure control regulator is then used to set a safe reading on the enclosure pressure gauge. In Class II areas, power can be energized when safe pressure is stable. In Class I areas, the user must perform an exchange cycle (determined by the safe pressure flow rate-five minutes minimum) before power can be energized. Loss of safe pressure in Class I or II areas requires immediate attention, unless power is deenergized. WPS style systems include an explosion proof differential pressure switch with form "C" contacts for audible or visual alarm systems.

# **Specifications**

System Dimensions: See page 18 Shipping Weight: LPS - 5 lb /WPS - 10 lb 40°F to +120°F Temp. Range: Supply Pressure Range: \* 5 - 120 psi Supply Requirements: clean air or inert gas Safe Press. (CI/CII): 0.25" / 1.0" \*\* 0.1 - 3.5 SCFH Safe Press. Flow Rate: System Supply Fitting: 1/4" tube fitting **Enclosure Supply Fitting:** 1/4" tube fitting Enclosure Reference Fitting: 1/4" tube fitting Switch Setting (CI/CII, Decr): 0.15" / 0.5" ± 0.02" Switch Conduit Port Size: 1/2" FPT Switch Contact Rating: 120 VAC @ 15 A

- With EPV-1 Vent 120 psi max. to 5 psi min. Systems installed without Vent must be equipped with redundant regulator set to 5 psi max.
- Enclosure integrity determines actual flow rate

# Model 11

1000

**SERIES** 



**LPS Style** (Less Pressure Switch)



**WPS Style** (With Pressure Switch)





Standard Model Applications						
Model Number:	11-CI Type Y	Model Number:	11-CI Type Z			
Designation: Enclosure Volume:	0 0 ,	Designation: Enclosure Volume:				
LPS S	Style	LPS S	ityle			
UL & FM Certified:	Cl. I, Div. 1, Group A-D	UL & FM Certified:	Cl. I, Div. 2, Group A-D			
Rating Reduction: WPS \$		Rating Reduction:	Div. 2 to Nonhazardous			
UL & FM Certified:	Cl. I, Div. 1,	WPS Style				
Rating Reduction:	Group C&D Div. 1 to Div. 2	UL & FM Certified: Rating Reduction:	Cl. I, Div. 2, Group C&D Div. 2 to Nonhazardous			
Model Number: Designation: Press Enclosure Volume:	urization System	Model Number: Designation: Press Enclosure Volume:	urization System			
LPS S	Style	LPS S	Style			

UL & FM Certified: Cl. II, Div. 1,

Group F&G

Div. 1 to Div. 2 Rating Reduction:

**WPS Style** 

UL & FM Certified: Cl. II, Div. 1, Group F&G Rating Reduction: Div. 1 to Div. 2 UL & FM Certified: Cl. II, Div. 2,

Group F&G

Rating Reduction: Div.2to

Nonhazardous

**WPS Style** 

UL & FM Certified: Cl. II, Div. 2,

Group F&G Rating Reduction: Div.2to

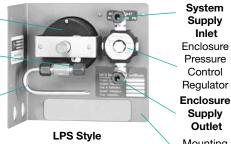
Nonhazardous



Enclosure Pressure Gauge **Enclosure** Reference Inlet Venturi

Orifice

WPS Style (With Pressure Switch)



Mounting (Less Pressure Switch)

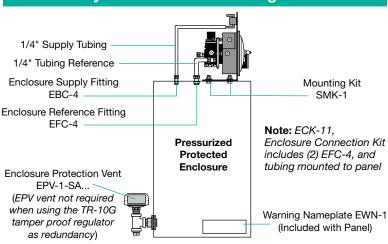
# **Material Specifications**

Regulator Body: Zinc w/Enamel Finish Regulator Handle: Polycarbonate Enclosure Pressure Gauge: **ABS Plastic** 316 SS Forged Body **Tube Fittings:** 316 SS 1/4" .035 Welded Tubing: System Nameplates: Silk screened Lexan® & SS Fastener Hardware: Alum. & Stainless Steel 316 14 Ga #3 Brush SS Mounting Plate: EXP Pressure Switch Body: Anodized Cast Alum. **Enclosure Warning Nameplate:** Silk screened SS

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# CONNECTION POINTS SHOWN ABOVE IN BOLD TEXT ON SYSTEM DIAGRAM

# **System Accessories Diagram**



# **Model Number Designations**

11 - LPS - CI - YZ - LH - ## **Series Model Number** System Style LPS - less pressure switch
WPS - with pressure switch Area Classification -- Class I Area CII - Class II Area System Type - Div. 1 to Div. 2, Div. 2 to Nonhazardous YΖ **Mounting Configuration** left side of enclosure LH left hand right side of enclosure RH - right hand TM top mount top of enclosure BM - bottom mount bottom of enclosure **WM** - wall mount wall surface external frame or rack FΜ - frame mount PM - panel mount enclosure surface cutout (Not available in WPS Style) ## - See Accessories Page 130 for additional

factory installed accessories

# Model 11 System Accessories (See accessories page for complete details)

#### **FACTORY INSTALLED FITTINGS & FILTER**

**ECK-11 Enclosure Connection Kit CONNECTION FITTINGS** 

EFC-4 1/4" Flush Connector EBC-4 1/4" Bulkhead Connector EPC-10 1/2" Pipe Connector **ADDITIONAL ITEMS** 

II F-4 1/4" Filter SMK-1, -4 or -6 System Mounting Kit

EPSK-1 or -2 Explosion Proof Switch Kit GPSK-1 or -2 General-purpose Switch Kit **RAH** Div. 1 Remote Alarm Horn RAB-1 Div. 1 Remote Alarm Beacon RAB-2 Div. 2 Remote Alarm Beacon LCK L Fitting Conduit Kit TCK T Fitting Conduit Kit **OPTIONAL ENCLOSURE PROTECTION VENTS** 

EPV-1-SA-00 Straight w/Spark Arrestor EPV-1-SA-90 Rt Angle w/Spark Arrestor

#### **OPTIONAL HEX KEY REGULATOR HANDLE**

TR-10G **Tamper Proof Regulator** 

WARNING NAMEPLATES

EWN-1 Class I Enclosure Warning EWN-2 Class II Enclosure Warning FTW **Enclosure Temperature Warning** 

**INSTALLATION & OPERATION MANUAL** 

129-0207 Inst. & Operation Manual

## ONE (1) ENCLOSURE WARNING NAMEPLATE & ONE (1) INSTALLATION & OPERATION MANUAL ARE PROVIDED WITH EACH SYSTEM

Overall System Dimensions						
LPS / WPS	LH - left hand	RH - right hand	TM - top mount	<b>BM</b> - bottom mount	WM - wall mount	FM & PM - surface
Height	6.25 / 10.75	6.25 / 10.75	6.25 / 8.5	6.25 / 8.5	6.25 / 10.75	8.25 / 12.75
Width	6 / 7.5	6 / 7.5	7.5 / 13.375	7.5 / 13.375	6 / 7.5	8 / 9.5
Depth	5.5 / 7.25	5.5 / 7.25	5.5 / 7.25	5.5 / 7.25	5.5 / 7.25	4.5 / 7

Dimensions in inches. Mounting dimensions available upon request. FM & PM panel cutout dimensions: LPS - 7.25h x 7w WPS - 11.75h x 8.5w Height & width dimensions reflect mounting plate measurements. Depth dimension reflects overall measurement of system, including components.

# Class I ( $\leq$ 2 ft<sup>3</sup>) and Class II ( $\leq$ 10 ft<sup>3</sup>)

## **Description**

Model 1011 is an enclosure pressurization or purging system that operates on a supply of compressed instrument air or inert gas. It regulates and monitors pressure within sealed (protected) enclosures, in order to prevent combustible dust accumulation or remove and prevent flammable gas or vapor accumulations. In Class Il areas, the system maintains a "safe" (1.0") pressure. In Class I areas, the system accomplishes four air exchanges and maintains a "safe" (0.25") pressure. These processes reduce the hazardous (classified) area rating within the enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4.

# **Operation**

In accordance with system instructions, start-up requires air supply to be engaged and enclosure power to be deenergized. In Class II areas, all dust must be removed from the enclosure(s). The enclosure protection vent (if used) must be tested and enclosure(s) must be sealed. The enclosure pressure control regulator is then used to set a safe reading on the enclosure pressure gauge. In Class II areas, power can be energized when safe pressure is stable. In Class I areas, the user must perform an exchange cycle (determined by the safe pressure flow rate-five minutes minimum), before power can be energized. Loss of safe pressure in Class I or II areas requires immediate attention, unless power is deenergized. System installation may be enhanced with a stand-alone Pepperl+Fuchs Model EPSK explosion proof switch kit to provide form "C" contacts for audible or visual alarm systems.

## System Specifications

System Dimensions: See page 20 Shipping Weight: 7 lb -20 °F to +120 °F Temp. Range: \* 5 - 120 psi Supply Pressure Range: Supply Requirements: clean air or inert gas Safe Press. (CI/CII): 0.25" / 1.0" Safe Press. Flow Rate: \*\* 0.1 - 3.5 SCFH System Supply Fitting: 1/4" tube fitting **Enclosure Supply Fitting:** 1/4" tube fitting **Enclosure Reference Fitting:** 1/4" tube fitting

- With EPV-1 Vent 120 psi max. to 5 psi min. Systems installed without Vent must be equipped with redundant regulator set to 5 psi max.
- \*\* Enclosure integrity determines actual flow rate

# **Model 1011**



Front View



# **Standard Model Applications**

Model Number:
Designation: Enclosure Volume: UL Certified:
Enclosure Volume:
UL Certified:

2 ft3 max. Cl. I, Div. 2, Rating Reduction:

Group A-D Div.2to Nonhazardous

1011-CI Type Z

**Purging System** 

Model Number: 1011-CII Type Z

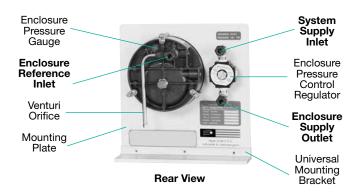
Designation: Pressurization System **Enclosure Volume:** 10 ft<sup>3</sup> max. UL Certified: Cl. II, Div. 2, Group F&G

Rating Reduction: Div. 2 to Nonhazardous

1000 **SERIES** 

Pepperl+Fuchs Group

**SERIES** 



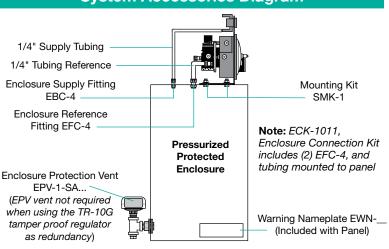
CONNECTION POINTS SHOWN ABOVE IN BOLD TEXT ON SYSTEM DIAGRAM

# **Material Specifications**

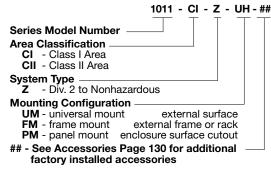
Regulator Body: Brass, Zinc w/Enamel Finish Regulator Handle: Polycarbonate Enclosure Pressure Gauge: Alum. w/Enamel Finish 316 SS Forged Body **Tube Fittings:** 316 SS 1/4" .035 Welded Tubing: System Nameplates: Silkscreen & Lexan® Fastener Hardware: Alum. & Stainless Steel Mounting Plate & Bracket: Anodized Aluminum **Enclosure Warning Nameplate:** Silk screened SS

Lexan® is a registered trademark of the General Electric Company

# System Accessories Diagram



# **Model Number Designations**



FM & PM configuration mounting plates include four (4) 1/4" mounting holes at each corner, on 5/16" centers.

# Model 1011 System Accessories (See accessories page for complete details)

#### **CONNECTION FITTINGS**

1/4" Flush Connector EFC-4 EBC-4 1/4" Bulkhead Connector EPC-10 1/2" Pipe Connector

## **ADDITIONAL ITEMS**

ILF-4 1/4" Filter System Mounting Kit SMK-1 or -4 **Explosion Proof Switch Kit** EPSK-1 or -2

GPSK-1 or -2 General-purpose Switch Kit RAH Div. 1 Remote Alarm Horn RAB-2 Div. 2 Remote Alarm Beacon **OPTIONAL ENCLOSURE PROTECTION VENTS** 

EPV-1-SA-00 Straight w/Spark Arrestor EPV-1-SA-90 Rt Angle w/Spark Arrestor **OPTIONAL HEX KEY REGULATOR HANDLE** 

TR-10G Tamper Proof Regulator

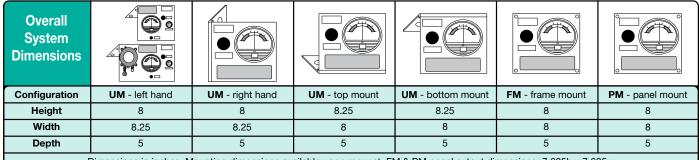
#### **WARNING NAMEPLATES**

EWN-1 Class I Enclosure Warning EWN-2 Class II Enclosure Warning **ETW Enclosure Temperature Warning** 

**INSTALLATION & OPERATION MANUAL** 

129-0205 Inst. & Operation Manual

#### ONE (1) ENCLOSURE WARNING NAMEPLATE & ONE (1) INSTALLATION & OPERATION MANUAL ARE PROVIDED WITH EACH SYSTEM



Dimensions in inches. Mounting dimensions available upon request. FM & PM panel cutout dimensions: 7.625h x 7.625w Height & width dimensions reflect mounting plate measurements. Depth dimension reflects overall measurement of system, including components.



# **Model 1012**



Front View



# **Standard Model Applications**

1012-CI Type Z **Model Number:** Designation: Purging System **Enclosure Volume:** 15 ft<sup>3</sup> max. Cl. I, Div. 2, Group A-D **UL Certified:** Rating Reduction: Div. 2 to Nonhazardous

# **Description**

Model 1012 is a Rapid Exchange® purging system that operates on a supply of compressed instrument air or inert gas. It regulates and monitors pressure within sealed (protected) enclosure(s), in order to remove and prevent flammable gas or vapor accumulations. The system accomplishes four air exchanges and maintains a "safe" (0.25") pressure. A Pepperl+Fuchs Model EPV-2 Enclosure Protection Vent is required for proper operation. This process reduces the hazardous (classified) area rating within the enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4.

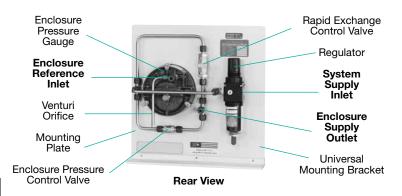
# **Operation**

In accordance with system instructions, start-up requires air supply to be engaged and enclosure power to be deenergized. The enclosure protection vent must be tested and the enclosure(s) must be sealed. The enclosure pressure control valve is then used to set a safe reading on the enclosure pressure indicator. When safe pressure is stable, the Rapid Exchange control valve must be fully engaged. Upon completion of the Rapid Exchange cycle, (five minutes minimum) the Rapid Exchange control valve must be disengaged to return to a safe enclosure pressure. Power can then be energized to the protected enclosure(s). Loss of safe pressure requires immediate attention, unless power is deenergized. System installation may be enhanced with a stand-alone Pepperl+Fuchs Model EPSK explosion proof switch kit to provide form "C" contacts for audible or visual alarm systems.

# **System Specifications**

System Dimensions: See page 22 Shipping Weight: 10 lb -20 °F to +120 °F Temp. Range: 80 - 120 psi Supply Pressure Range: 1.5 oz @ 20 Micron Capacity & Filtration: Supply Requirements: clean air or inert gas Safe Press. Setpoint: 0.25" Safe Press. Flow Rate: \* 0.1 - 3.5 SCFH 3"-5" Exchange Pressure: \*\* 4 SCFM/240 SCFH Exchange Flow Rate: 1 min/ft<sup>3</sup> **Exchange Time:** System Supply Port: 1/4" FPT **Enclosure Supply Fitting:** 1/4" tube fitting **Enclosure Reference Fitting:** 1/4" tube fitting

- Enclosure integrity determines actual flow rate
- With regulator set to 60 psi min. during exchange. Rapid Exchange® is a Registered Trademark of Pepperl+Fuchs.



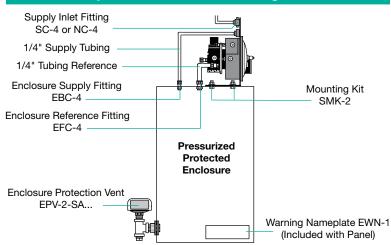
CONNECTION POINTS SHOWN ABOVE IN BOLD TEXT ON SYSTEM DIAGRAM

# **Material Specifications**

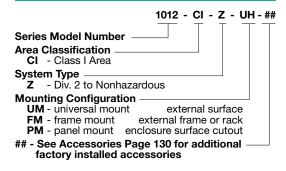
Filter Regulator Body: Zinc w/Enamel Finish Regulator Handle & Bowl: Polycarbonate Enclosure Pressure Gauge: Alum. w/Enamel Finish Poly Case & Brass Tube Rapid Exchange Gauge: Tube Fittings & Valves: 316 SS Forged Body 316 SS 1/4" .035 Welded Tubing: System Nameplates: Silkscreen & Lexan® Fastener Hardware: Alum & Stainless Steel Mounting Plate & Bracket: Anodized Aluminum **Enclosure Warning Nameplate:** Silk screened SS

Lexan® is a registered trademark of the General Electric Company

# **System Accessories Diagram**



# **Model Number Designations**



FM & PM configuration mounting plates include four (4) 1/4" mounting holes at each corner, on 5/16" centers.

# Model 1012 System Accessories (See accessories page for complete details)

#### **CONNECTION FITTINGS**

NC-4
SC-4
1/4" Ninety Connector
SC-4
1/4" Straight Connector
EFC-4
1/4" Flush Connector
EBC-4
1/4" Bulkhead Connector
EPC-12
3/4" Pipe Connector
ADDITIONAL ITEMS

SMK-1 or -4 System Mounting Kit EPSK-1 Explosion Proof Switch Kit GPSK-1 General-purpose Switch Kit RAH Remote Alarm Horn RAB-2 Div. 2 Remote Alarm Beacon

# ENCLOSURE PROTECTION VENTS ONE VENT REQUIRED WITH EACH SYSTEM

EPV-2-SA-00 Straight w/Spark Arrestor EPV-2-SA-90 Rt Angle w/Spark Arrestor

#### **WARNING NAMEPLATES**

EWN-1 Class I Enclosure Warning
ETW Enclosure Temperature Warning
INSTALLATION & OPERATION MANUAL
129-0206 Inst. & Operation Manual

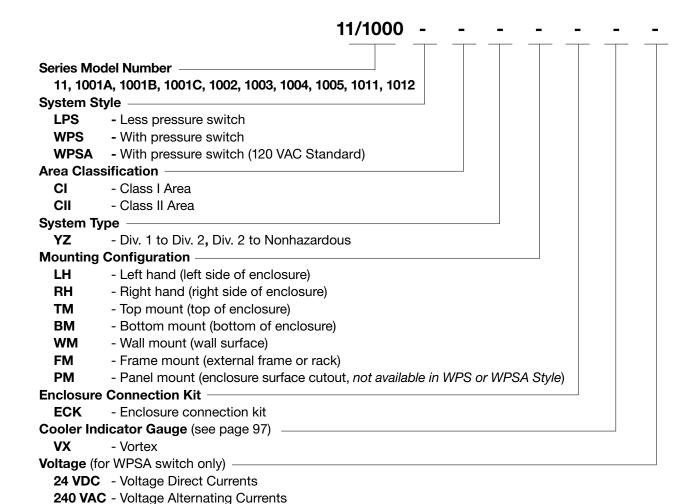
#### ONE (1) ENCLOSURE WARNING NAMEPLATE & ONE (1) INSTALLATION & OPERATION MANUAL ARE PROVIDED WITH EACH SYSTEM

Overall System Dimensions								
Configuration	<b>UM</b> - left hand	UM - right hand	<b>UM</b> - top mount	<b>UM</b> - bottom mount	FM - frame mount	PM - panel mount		
Height	12	12	12.25	12.25	12	12		
Width	12.25	12.25	12	12	12	12		
Depth	5	5	5	5	5	5		
Disconsigns in inches Mounting disconsigns quallable upon vaguest TM 9 DM penal subject disconsigns, 11 COEby 11 COEby								

Dimensions in inches. Mounting dimensions available upon request. FM & PM panel cutout dimensions: 11.625 x 11.625 w Height & width dimensions reflect mounting plate measurements. Depth dimension reflects overall measurement of system, including components. Pepperl+Fuchs supplies purge/pressurization systems custom built to your specifications. To ensure the integrity of your system, certain accessory items must be factory installed.

The Model Number and Accessories Guide identifies those parts that must be included on your purge/pressurization system order.

# 11/1000 Series — Model Number Designations and Accessories Guide



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# **Indicator Gauge**

# Description

The cooler indicator gauge, sometimes called the Vortex indicator gauge, is used on systems were there is cooling required after purging. Normally after the purging cycle, there is a small flow of protective gas required to compensate for leakages, and to keep a constant pressure within the enclosure so that the ingress of hazardous atmosphere cannot get inside the enclosure. This is known as pressurization. If the equipment inside the pressurized enclosure requires cooling, either a higher flow rate of protective gas is required through the pressurization valve, or a second source of cooling gas is introduced into the enclosure. The standard differential pressure gauge will indicate pressurization only up to 0.5 inches (13 mm) water, which may not be enough for cooling indication. The cooler indicator gauge is installed onto the pressurization/purge panel, and allows monitoring of the system during normal operation of the purge/pressurization system.

# **Cooler Indicator Gauge**



Cooler Indicator Gauge (Vortex Indicator Gauge)

# **Special Note**

TO ORDER PURGE/PRESSURIZATION UNITS EQUIPPED WITH A COOLER INDICATION GAUGE, SPECIFY 'VX' IN THE MODEL NUMBER DESIGNATION.

# **Specifications**

#### **OPERATING RANGE**

Full range: 0 to 5 " (0 to 127 mm) water
Low range red: 0 to 0.5 " (0 to 13 mm) water
Safe range green: 0.5 to 1.5 " (13 to 38 mm) water
Cooler/Rapid exchange range yellow: 1.5 to 4.5 " (38 to 114 mm) water
High range red: 4.5 to 5 " (114 to 127 mm) water

#### **BODY COMPONENTS**

Cover: acrylic
Housing: die cast aluminum coated to withstand
168 hour salt spray corrosion test

## TECHNICAL DATA

Maximum overload pressure: 15 psig
Accuracy: ± 2% of full scale
Weight: 1.2 lb (510 g)
Process connection: 1/8" Female NPT duplicate high and
low pressure taps, one pair side, one pair back



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For over a half century, Pepperl+Fuchs has provided new concepts for the world of process automation. Our company sets standards in quality and innovative technology. We develop, produce and distribute electronic interface modules, Human-Machine Interfaces and hazardous location protection equipment on a global scale, meeting the most demanding needs of industry. Resulting from our world-wide presence and our high flexibility in production and customer service, we are able to offer complete individual solutions – wherever and whenever you need us. We are the recognized experts in our technologies – Pepperl+Fuchs has earned a strong reputation by supplying the world's largest process industry companies with the broadest line of proven components for a diverse range of applications.



