

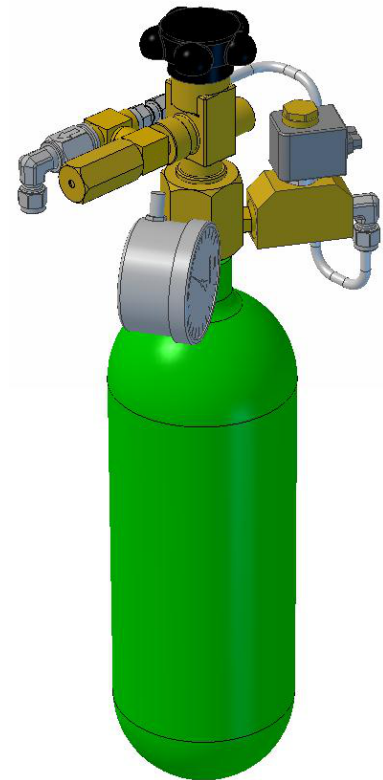
PDS II-C 80MS Pilot

General

The PDS II-C 80MS Pilot is used for remote activation of Fire Eater INERGEN systems.

It supplies pressure to activate SV22 selector valves and discharge valves either directly or via the PDS II Control Pull Unit [308382]. Activation of the valves is done by gas pressure from the PDS bottles to the valves via stainless steel pipes.

The PDS systems can be placed inside the Fire Eater PDS cabinet (items 308202, 308204, 308206)



Specifications

Outlet:

Type: Swagelok style ø6mm stainless steel tube
 Flow way: Ø>1.2mm

Manoswitch:

See datasheet "Ci Manoswitch" for details
 Range: 0- 160 bar

Solenoid:

Power: 6.5 W
 Voltage: 24 VDC
 Connection: AMP super seal 2pole
 IP67
 Cable: IEC60331
 White +ve
 Blue -ve

Materials: See exploded view

Filling:

Agent: Nitrogen
 Pressure: 80 bar @ 15°C

Dimensions:

Height: ~510 mm
 Diameter: 102 mm
 Weight: ~5kg (empty)

Dimensioning

The maximum pipe length must satisfy the equation:

$$L \leq \frac{P_{PDS} \cdot V_{PDS} - P_{act} \cdot (V_{PDS} + V_{act})}{P_{act} \cdot 100 \cdot \frac{\pi}{4} \cdot D_{in}^2}$$

- P_{act} = Required actuator pressure [bar], (SV22 = 35 bar)
- P_{PDS} = Pressure in PDS system [bar]
- D_{in} = Internal diameter of the tube/pipe [cm]
- L = Pipe length [m]
- V_{act} = Volume of actuator [cm³], (SV22 = 8; add 1000 when using delay unit;)
- V_{PDS} = Volume of PDS cylinder [cm³], (std=2000)

Document: 308284 PDS II-C 80MS Pilot		1	Text
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Category: Control inert	Id: MK	3	
	Rev:2015.04.07	4	
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Installation

Install with a suitable bracket around the cylinder which is sufficient to hold the weight and forces when the cylinder is opened.

Operation / Activation

Turn the wheel counter clockwise until fully open, or activate the electric circuitry.

Test & service

Verify pressure at device according to authorities' requirement or minimum annually.

Correct pressure at discharge/selector valve is verified by using a class 1.0 gauge.

Function test must be performed annually (or to the requirements of the authority having jurisdiction).

Filling

Only correct adapters should be used, damaged adapters etc. are to be destroyed to prevent accidental use.

The filling gas has to comply with the component requirements of ISO14520-15

Fire Eater recommendations for this is to:

0. Connect filling equipment

- Remove the non return valve from the outlet,
- blind the bleed fitting during vacuum operation (place electrical tape on the top)
- Connect filling hose (outlet is ¼" Female ISO 7 thread),
- close hand wheel valves.

1. Verify system integrity

Evacuate to 100 Pa (1 mbar) vacuum (accuracy 50 - 1000 Pa)

2. Verify free flow

Open all hand wheel valves and evacuate cylinders

3. Remove moisture

Keep at 100 Pa for 5 minutes

4. Flush

- Pressurize with Nitrogen to 2 bar
- Repeat step 3+4 so that the cylinder is flushed minimum 3 times
- Evacuate to 100 Pa (vacuum) for 5 minutes

5. Fill with nitrogen

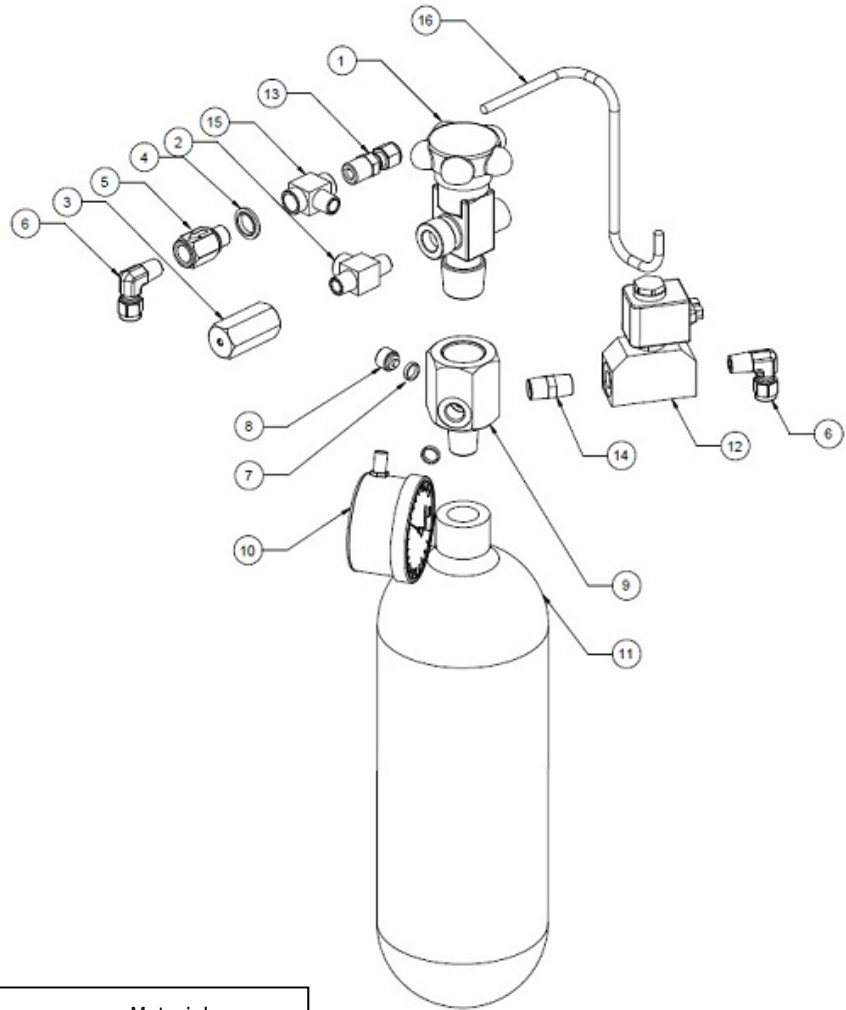
6. Verify cylinder integrity

- Check for leakage (use soap-water):
 - a. Cylinder-Valve connection
 - b. Burst-disc

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		2	
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		5	
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		7	
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Exploded view



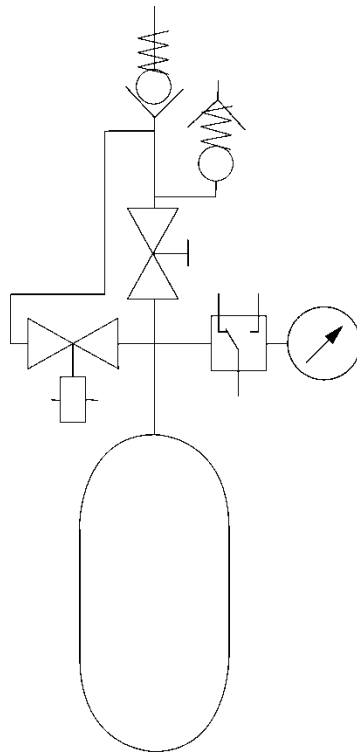
Pos.	Item	Description	Material
1	603202	HWV ¼" 200bar Inlet 25E	Brass
2	303209	Tee 1/4" BSP (m-f-m)	Brass
3	305320	Bleed fitting 400bar	Brass
4	777203	Bonded seal 1/4"	SS, rubber
5	305302	Non return valve 1/4"	SS, brass
6	214071	Comp. Fit. 1/4"-Ø6 Elbow 90	SS
7	212181	Seal 1/4" gauge seal	Cu
8	303101	Plug manoswitch 1/4"	Brass
9	302179	PM adapter W28.8	Brass
10	305360	Manoswitch 0-160bar	SS outer
11	400009	Cyl 02-200 PDS cylinder	Steel
12	308143	Valve Solenoid 25MPa	Brass/plastic
		Early models used 308140 (12W)	
13	301328	Compres fit ø6-1/4bspt str	SS
14	302417	Nipple ¼ - ¼ bspt	Brass
15	303210	Tee ¼ bspo (f-m-f)	Brass
	200000	Nitrogen	
	303020	Cable kit OK0 2m	
	214009	Seal Red	
	214011	Seal wire fine	
	801148	Label: Cylinder w Nitrogen	

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P&ID diagram



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