

## PDS II-C 80M Pilot

### General

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

It supplies pressure to activate SV22 selector valves and discharge valves 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: Compression fitting for ø6mm stainless steel tube  
 Flow way: Ø>2mm

#### Manoswitch:

See datasheet "Ci Manoswitch" for details  
 Range: 0- 160 bar  
 Dimension: ø40mm

#### Materials:

See exploded view

#### Filling:

Agent: INERGEN or Nitrogen  
 Pressure: 80 bar @ 15°C

#### Dimensions:

Height: ~510 mm  
 Diameter: 102 mm  
 Weight: ~4kg (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 [cm<sup>3</sup>], (SV22 = 8; add 1000 when using delay unit; )
- $V_{PDS}$  = Volume of PDS cylinder [cm<sup>3</sup>], (std=2000)

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**Installation**

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 counder clockwise until fully open

**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 has to comply with the requirements of ISO14520-15

Fire Eater recommendations for this is to:

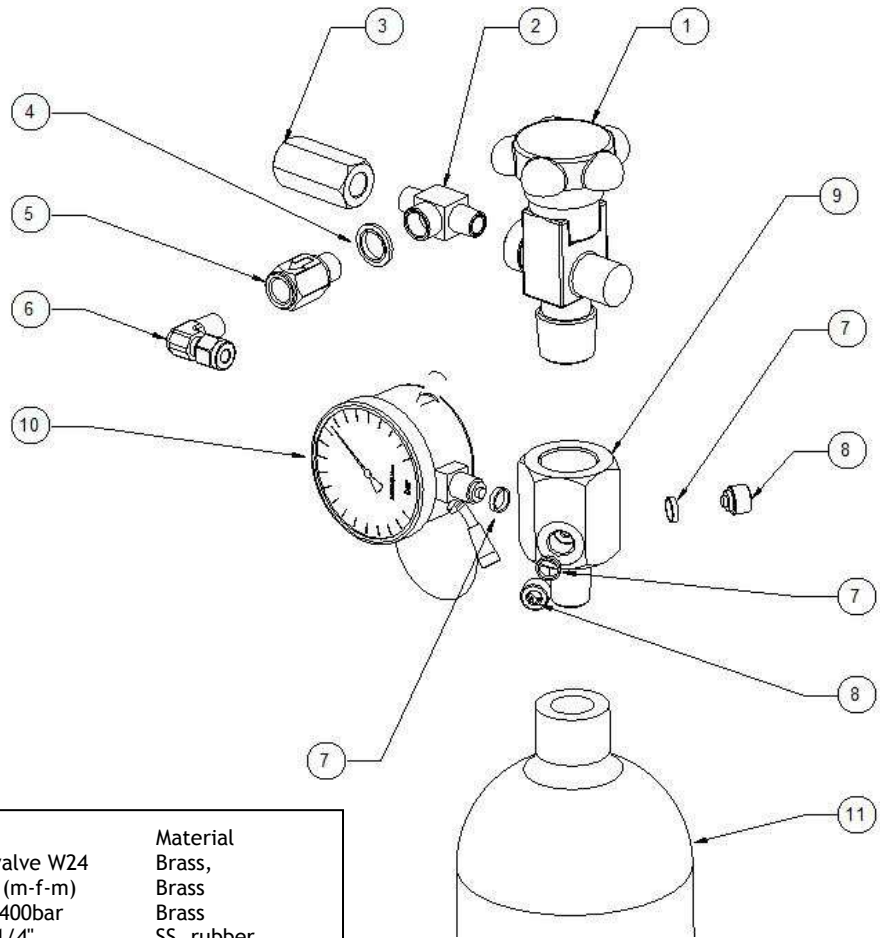
- 0. Connect filling equipment
  - Remove the non return valve from the outlet,
  - blind the bleed fitting during vacuum operation (place electrical tape on the top.)
  - Connect filling hose (outlet is ¼” Female ISO 7 thread),
  - close hand wheel valves.
- 1. Verify system integrity
  - Evacuate to 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 or INERGEN 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 or Inergen
- 6. Verify cylinder integrity
  - Check for leakage (use soap-water):
    - a. Cylinder-Valve connection
    - b. Burst-disc

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**Exploded view**



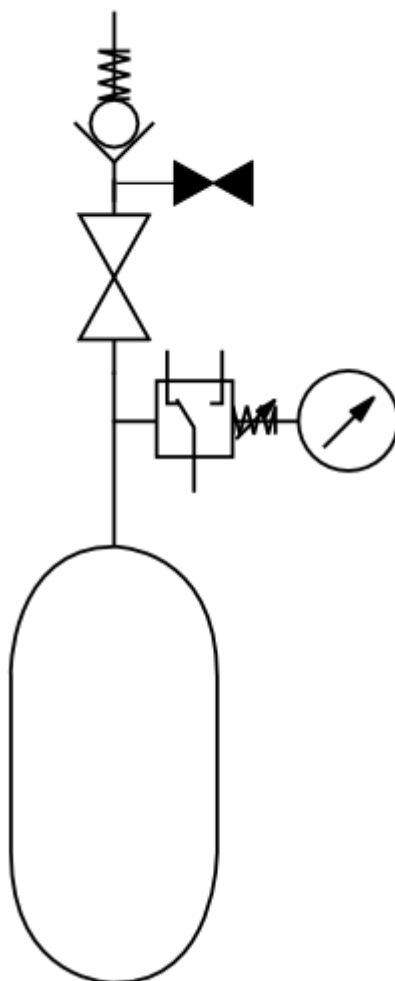
Pos.	Item	Description	Material
1	603207	Hand wheel valve W24	Brass,
2	303209	Tee 1/4" BSP (m-f-m)	Brass
3	305320	Bleed fitting 400bar	Brass
4	777203	Bonded seal 1/4"	SS, rubber
5	305302	Non return valve 1/4"	SS, brass
6	214071	Comp. Fit. 1/4"-Ø6 Elbow 90	SS
7	212181	1/4" gauge gasket	Copper
8	303101	Plug manoswitch 1/4"	Brass
9	302179	PM adapter W28.8	Brass
10	305360	Manoswitch 0-160bar	SS outer
11	400009	FE-HP027200 PDS cylinder	Steel

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**P&ID diagram**



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