PDS3 80M Pilot

Item numbers covered by this datasheet

308582 PDS3 80M Pilot

General

The PDS3 80M Pilot is used for activation of Fire Eater INERGEN systems.
It supplies pressure to activate SV22 selector valves and/or discharge valves through manual activation.
Activation is obtained by pressure from the PDS cylinders 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

Materials:

Cylinder: Steel, Valves/manifold: Brass/Stainless steel, Non-return Valve: Stainless steel.

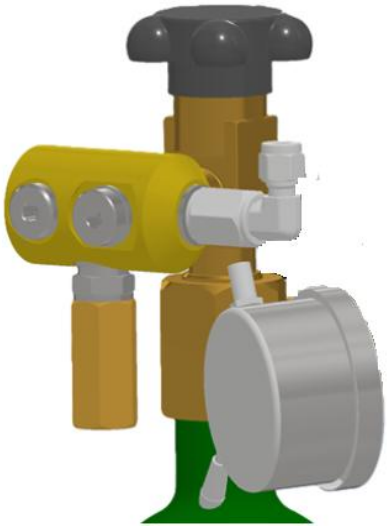
Filling:

Agent:	Nitrogen (N_2) or INERGEN®
Pressure:	80 bar @ 15°C

Dimensions:

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

Operating temperature: -20°C to +65°C



Dimensioning

The maximum pipe length must satisfy the equation:

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

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^3], (SV22 = 8; add 1000 when using delay unit;)
V_{PDS} = Volume of PDS cylinder [cm^3], (std=2000)

Installation

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

Operating

Turn the handwheel counterclockwise until fully open.

Test & service

Verify pressure of the cylinder 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 set by of the authority having jurisdiction).

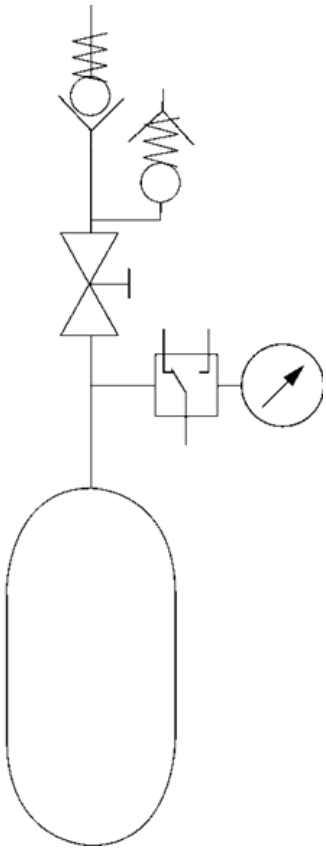
Filling

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

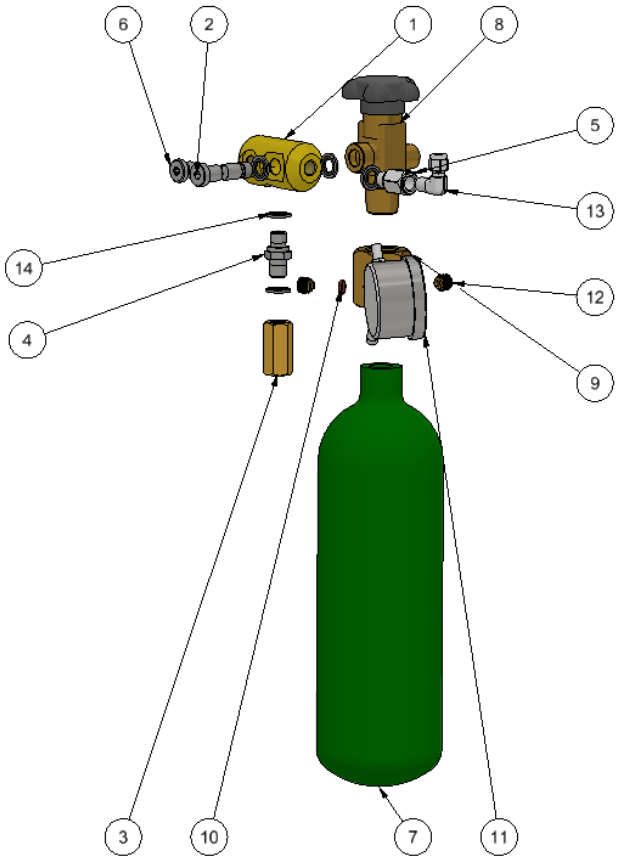
The filling must comply with the requirements of ISO14520-15.
Fire Eater recommendations for this is to:

1. 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.
2. Verify system integrity
   Evacuate to 100 Pa (1 mbar) vacuum (accuracy 50 – 1000 Pa)
3. Verify free flow
   Open all hand wheel valves and evacuate cylinders
4. Remove moisture
   Keep at 100 Pa for 5 minutes
5. 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
6. Fill with Nitrogen or INERGEN®
7. Verify cylinder integrity
   Check for leakage (use soap water):
   a. Cylinder-Valve connection
   b. Burst disc

PID Diagram



Replaceable parts



Pos.	Item	Description	Pos.	Item	Description
1	401801	PDS 3 Manifold	**16**	214011	Seal wire (Fine) Cu
2	401802	PDS 3 Banjobolt	**17**	303020	Cable kit: Manosw 0K0 2m
3	305320	Bleed fitting G1/4 40MPa SV	**18**		Label Fill Nitrogen
4	401804	Nipple 1/4 BSP AISI316 for bonded seal	**19**		
5	305302	Non-return valve 1/4" In-Ext			
6	302217	Plug PDS3			
7	400009	Cyl Empty 02-200 DNV wo Valve Green			
8	603202	HWV 1/4" 200bar Inlet 25E			
9	302179	PM Adaptor W19.8-25E+3x1/4			
10	212181	Seal Cu 1/4" Manom			
11	305360	ManoSw 0-160bar sp50 EN12094			
12	303101	Plug 1/4"BSP Manom			
13	214071	Comprs fit ø6-1/4bspt Elbow SS			
14	777203	Bonded Seal 1/4" SS			
15	214009	Seal Red			