

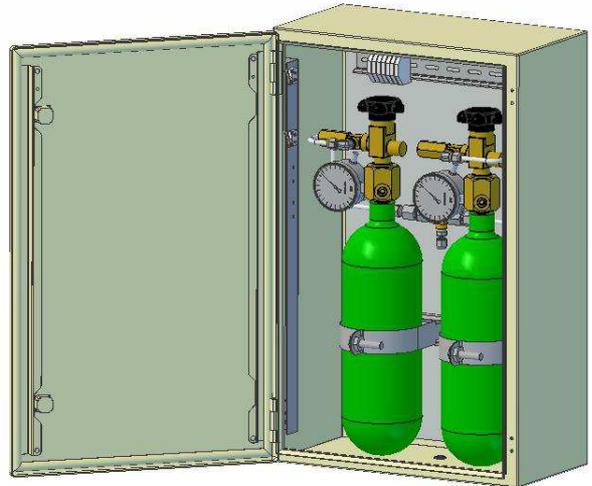
PDS II-C Pilot Basic Cabinet

General

PDS II-C Pilot is a remote pneumatic activation system for fire extinguishing. It meets the requirements of SOLAS FSS Code Chapter 5. 2.2.2. as well as DNV Statuary Interpret. Section 2, Chapter II-2. A & B.

The PDS II-C Pilot cabinet can be used in combination with the PDS II-Control zone cabinet to which it provides a pneumatic pressure source (a primary and a backup supply) that with the zone kit is routed to open the zone valve and the discharge valves.

This description is a general system description for the PDS system, if detailed information is required, please see data sheet for the individual parts.



Specifications

Pressure

Fill: 80 bar @ 15°
 Burst disc: 330 ±20 bar

Temperature: -20 to +70°C

Connections

Outlet: For ø6mm tube, Centre bottom
 Refilling: 1/4" ISO228

Switch rating 250Vac 3A (5A resistive)

Materials: Steel, Brass, Stainless steel, EPDM

Integrity: IP66 (NEMA4)

Dimension

H×W×D: 600×380×210
 Weight: app. 20 kg

Markings

Name plate on front door: Fire Eater Logo, PDS II-C, Production date yyyy-mm

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: 308290 PDS II-C Pilot Basic Cabinet.doc		1	Text
		2	
Category: Control Inert	Id: MRP	3	
	Rev: 2020.09.29	4	
		5	
		6	
		7	
		8	
		9	



Vølundsvej 17
 DK- 3400 Hillerød
 Tel +45 7022 2769
 Fax +45 7023 2769

Installation

Cabinet

The cabinet should be mounted via the four mounting holes on the backside (not supplied min. Ø6mm).

The cabinet should be mounted tightly against a flat and even surface to ensure IP rating 66.

If this is not possible additional sealing around holes is required.

Pipe work

Only ø6mm (outside diameter) stainless tubes are to be used.

After installation of the cabinet, insert a straight section of tube through the rubber bushing placed in the bottom of the cabinet and into the compression ring fitting coming from the pilot cylinders.

Tubes must be deburred inside and outside.

The tubes must simply be inserted in the fitting. Make sure that they rest firmly on the shoulder of the fittings and that the nut is finger-tight. Hold the fitting body steady with a backup wrench and tighten the nut 1-1/4 turn.

Caution: When working with stainless steel only tools appropriate for this work should be used, make sure that the stainless material is not being exposed to ferrous steel by for example grinding or cutting.

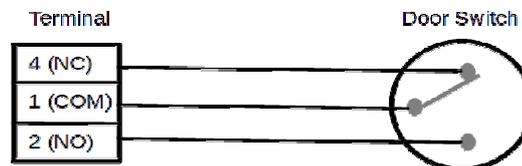
Electrical

If signals to alarm horns and/or control panels are to be connected they are connected to the terminals placed inside the cabinet. (Notice: The cabinet is not an ATEX junction box. If used in Ex area, a separate junction box must be used for all cable connections also when isolation barriers are used).

Door switches:

To identify which door switch is connected, simply follow the cables from the switch.

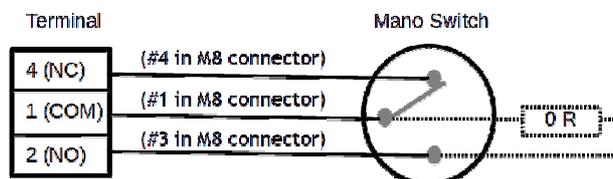
Connections are:



Pressure switch:

As standard a terminator with ∞ - 0kΩ resistance is fitted. Other terminators are available.

Connections are:



Document: 308290 PDS II-C Pilot Basic Cabinet.doc		1	Text
		2	
Category: Control Inert	Id: MRP	3	
	Rev: 2020.09.29	4	
		5	
		6	
		7	
		8	
		9	



Vølundsvej 17
DK- 3400 Hillerød
Tel +45 7022 2769
Fax +45 7023 2769

Operating

When the INERGEN is to be released, follow these steps.

1. Locate the space where the fire is
2. Perform a head count to ensure everybody has cleared the space
 Notice that INERGEN works by depleting the oxygen in the space where it is released, it does not generate any decomposition product nor is poisonous.
 When the INERGEN is released, an oxygen level of 10-12% will be present in the protected space, which is sufficient to breathe and think rationally.
 Rules require that personnel should only be exposed for this oxygen level for max. 10 minutes.
3. Open cabinet with pilot cylinders (The fire alarm must start when the cabinet door is opened)
 Remove safety pin or seal (if fitted)
 Open the pilot cylinder(s)
4. Locate zone cabinet corresponding to the zone where there is a fire
 Open zone cabinet (when the door is opened alarm must sound and ventilation must be shut down)
 Wait 30 seconds for ventilation to run out
5. Break seal for lever "Zone valve"
 Pull lever down
 Break seal for lever "Discharge valve"
 Pull lever down
6. Inspect that the fire has been extinguished
7. Contact an authorized Fire Eater service agent to have the system reestablished

Maintenance

Correct operation of the system is to be tested annually.

This is done by opening cabinet doors and verifying that:

1. Alarms sound in the relevant areas
2. Ventilation stops in the relevant zones
3. Gussets, fire dampers etc. close

Correct operation of piping and valves are tested by connecting the APTB Test tool to the APTB Test port inside the PDS cabinet. With the zone valve lever pulled down the port is pressurized to 35 bar and it is verified that the zone valve is operating (in most instances the zone valve will operate well before 20 bar). The discharge valve actuator is removed from the discharge valve and the above step is repeated with the discharge valve lever pulled down.

When pressurizing the system a leakage will be heard from the zone cabinet as the bleed fittings placed on the control valves will need some pressure before closing.

IMPORTANT

After testing the system

1. Discharge valve actuator must be reinstalled
2. Zone valve must be reset
3. Bleed fitting on the control valves must be pushed back

Document: 308290 PDS II-C Pilot Basic Cabinet.doc		1	Text
		2	
Category: Control Inert	Id: MRP	3	
	Rev: 2020.09.29	4	
		5	
		6	
		7	
		8	
		9	



Vølundsvej 17
 DK- 3400 Hillerød
 Tel +45 7022 2769
 Fax +45 7023 2769

Refilling

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

- 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
- 6. Verify cylinder integrity
 - Check for leakage (use soap-water):
 - a. Cylinder-valve connection
 - b. Burst disc

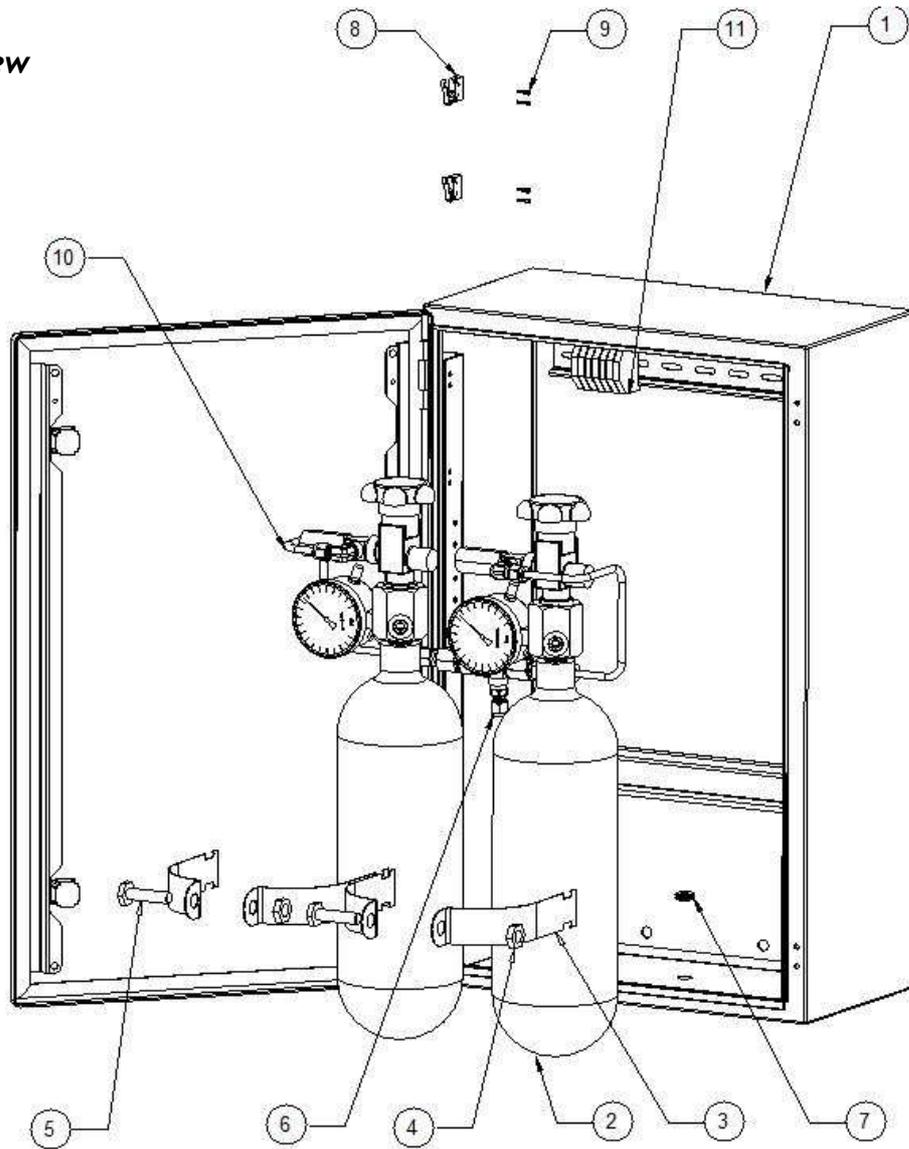
Document: 308290 PDS II-C Pilot Basic Cabinet.doc		1	Text
		2	
Category: Control Inert	Id: MRP	3	
	Rev: 2020.09.29	4	
		5	
		6	
		7	
		8	
		9	



FIRE EATER 1/2

Vølundsvej 17
DK- 3400 Hillerød
Tel +45 7022 2769
Fax +45 7023 2769

Exploded view



Pos.	Item	Description	Material
1	308202	PDS II-C Pilot Cabinet	Steel Ral 7035
2	308282	PDS II-C 80M Pilot	Steel, Brass
3	400115	Cylinder bracket	Steel
6	301328	Compres fit ø6- ¼" male	SS
	303209	Tee ¼" BSP	Brass
	301382	Compres fit ø6- ¼" Female	SS
8	308212	PDS II Door switch std	
10	102012	Tube Stainless Ø6mm	SS
11	308240	Terminal	
	702316	Grommet ø6	NBR
	505101	Wire sleve	
	102012	Tube Stainless ø6mm	SS

Document: 308290 PDS II-C Pilot Basic Cabinet.doc

Category: Control Inert

Id: MRP
Rev: 2020.09.29

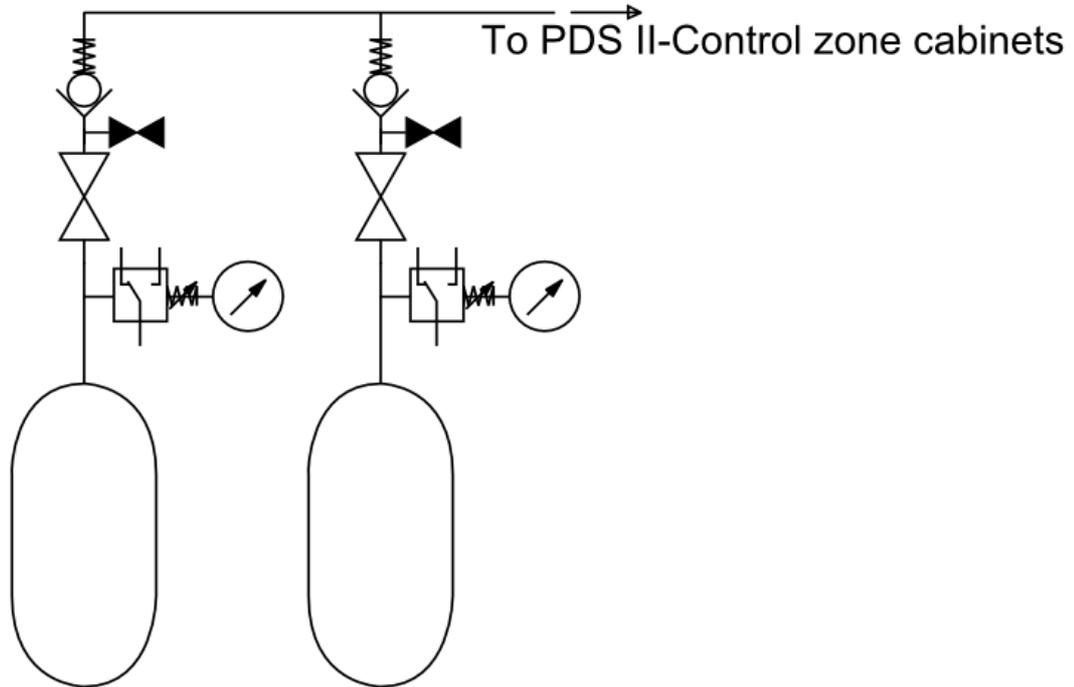
Text

1	
2	
3	
4	
5	
6	
7	
8	
9	



Vølundsvej 17
DK- 3400 Hillerød
Tel +45 7022 2769
Fax +45 7023 2769

P&ID symbol for the PDS II-C Pilot basic cabinet



Document: 308290 PDS II-C Pilot Basic Cabinet.doc		1	Text
		2	
Category: Control Inert	Id: MRP	3	
	Rev: 2020.09.29	4	
		5	
		6	
		7	
		8	
		9	



Vølundsvej 17
 DK- 3400 Hillerød
 Tel +45 7022 2769
 Fax +45 7023 2769