

PDS II 80MS ATEX IEC 60331***Item numbers covered by his datasheet***

308286-31 PDS II Pilot 80MS ATEX

308402-31 PDS II 80MS ATEX Cabinet

General

See datasheet 308402 and 308286 for all details except for variations described on this page.

The manoswitch used in these pilot systems will be of the Ci ManoSw type with a cable complying to IEC 60331 (function safe cable)

Specifications

Cable used for manoswitch is IEC 60331.

Marking

Only cable will have different marking, this marking is TBD.

Replaceable parts

Manoswitch should have -31 item number extension.

Standards & approvals

Cable complies with IEC60331.

Manoswitch is per 2014-09-17 not included in EN12094 or UL approval.

Document:

PDS IEC331 2014.docx

Text**Category:**

Control inert

Id: BH

Rev:2014.09.22

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Vølundsvej 17
DK- 3400 Hillerød
Tel +45 7022 2769
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PDS II 80MS ATEX Cabinet

General

This is a cabinet assembly using below listed parts.

See datasheet 308290 PDS II-C Pilot Basic Cabinet for General details regarding installation and components. For specific information regarding the components see datasheet for the individual part.

- 308202 PDS II Pilot Cabinet
- 308286 PDS II Pilot 80MS ATEX
- 308214 PDS II Door switch ATEX



Document: 308402 PDS II 80MS ATEX
Cabinet.docx

Category:
Control inert

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Rev: **2011.11.22**

Text



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DK- 3400 Hillerød
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PDS II-C Pilot Cabinet

Item numbers covered by his datasheet

308202 PDS Cabinet RAL7035

308204 PDS Cabinet AISI304

308206 PDS Cabinet AISI316

General

Cabinet for use with Inergen Pilot Discharge System (PDS).

Must be fitted with PDS system,
suitable door switches and accessories (to be ordered separately).

It consists of:

The Cabinet

Mounting plate & rail for door switches

Rail for cylinder bracket and electrical terminals.

This is not to be used as a Ex junction box,
for Ex area no terminals are supplied with the cabinet as a
separate Ex approved box must be used for electrical junctions



Specifications

Ingress protection class IP66

Materials See table

Dimensions (HxWxD) 600x380x210 mm

Weight 15kg

Table 1

	308202	308204	308206
Cabinet & Door	Steel	AISI 304	AISI 316
Mounting plate	Galv steel	Galv steel	Galv steel
Surface	RAL 7035	Brushed, grain 240	Brushed, grain 240

Marking

Aluminium sign with FE logo on front door with designation of the
assembled product.



Document:

30820x PDS Cabinet

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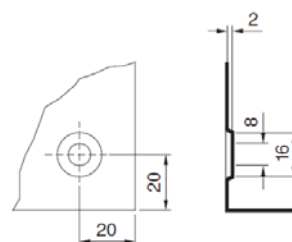
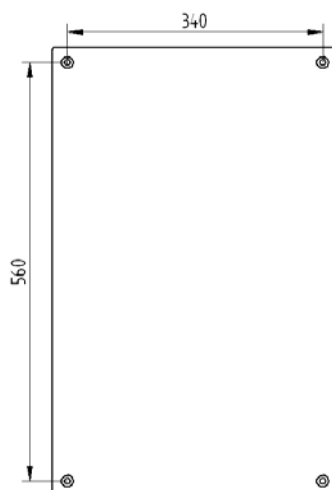
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Installation

The cabinet should be mounted on a wall via the 4 mounting holes on the backside (mounting screws/bolts not supplied - 8mm screws/bolts recommended, 6mm min.).

The cabinet should be mounted tight against a flat and even surface to ensure IP rating 66 is maintained. If mounted against an uneven or rough surface, sealing around the mounting holes or use of mounting brackets should be considered

**Standards & approvals**

EN62208

UL508A

UL, GL, RMA, LRS, BV and others.

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30820x PDS Cabinet

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PDS II-C 80MS ATEX Pilot

General

The PDS II-C 80MS ATEX Pilot is used for activation of Fire Eater INERGEN systems, where the pilot cylinder is placed in Ex rated area. 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: Compression fitting for Ø6mm stainless steel tube
Flow way: Ø>2mm

Manoswitch:

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

Solenoid:

Power: 5.3 W
Voltage: 24 VDC
Class: Ex mb II T4, Ex II 2 GD, Ex mD 21 T135°C

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)

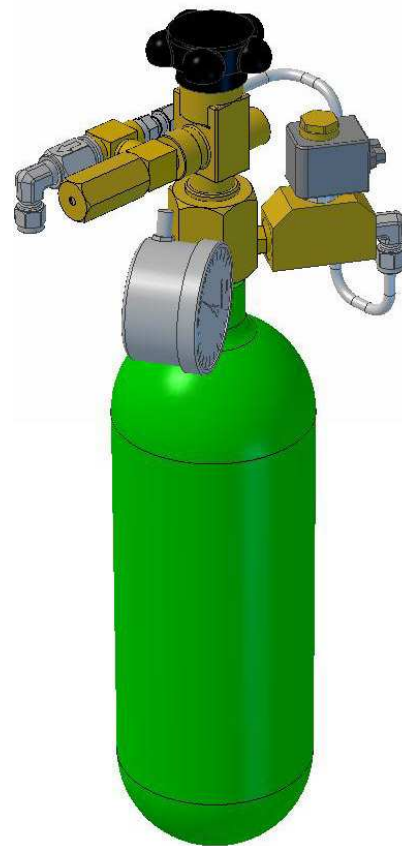
P_{PDS} = Pressure in PDS system [bar]

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: 308286 PDS II-C 80MS ATEX Pilot

Text

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Tel +45 7022 2769
Fax +45 7023 2769

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 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 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

Document: 308286 PDS II-C 80MS ATEX Pilot

Category:

Control inert

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FIRE EATER 4/5

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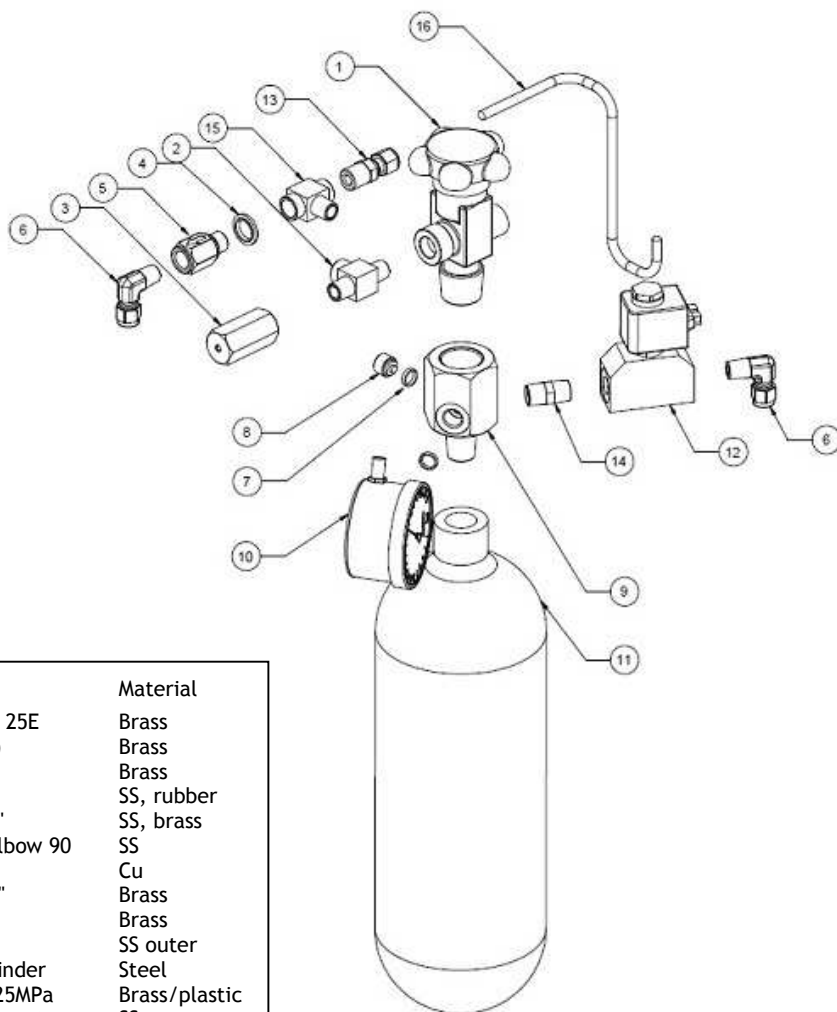
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Exploded view

Pos.	Item	Description	Material
1	603202	HWV 1/4" 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	FE-HP027200 PDS cylinder	Steel
12	308142	Valve Solenoid Atex 25MPa	Brass/plastic
13	301328	Compres fit ø6-1/4bspt str	SS
14	302417	Nipple 1/4 - 1/4 bspt	Brass
15	303210	Tee 1/4 bspo (f-m-f)	Brass
	200000	Nitrogen	
	303020	Cable kit OK0 2m	
	214009	Seal Red	
	214011	Seal wire fine	
	801148	Label: Cylinder w Nitrogen	

Document: 308286 PDS II-C 80MS ATEX Pilot

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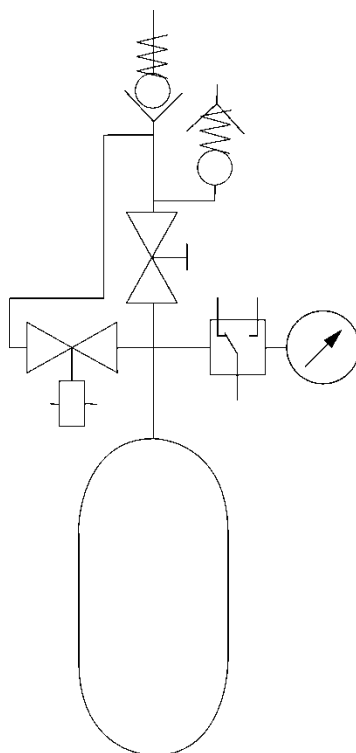
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P&ID diagram**Document:** 308286 PDS II-C 80MS ATEX Pilot

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DK- 3400 Hillerød
Tel +45 7022 2769
Fax +45 7023 27691
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PDS Door switch ATEX

The door switch ATEX is used for the PDS-system in hazardous areas to indicate electrically if the door is open or closed. Normally the PDS-system is installed with two door switches.

Technical specifications

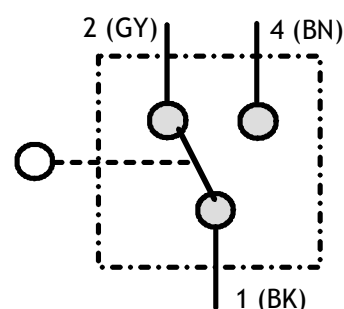
Electrical rating: 250VAC, 7A
 Circuit: COM/NO/NC
 Flexible lead: H05VV-F, 0.75mm² (3 m cable)

COM (Common): Black
 NO (Normally Open): Brown
 NC (Normally Closed): Grey



Mechanical specifications

Dimensions LxHxW: 25.5x60x11mm (incl. lever, excl. cable)
 Weight: 415g
 Mechanical life: 2x10⁶ operations
 Ingress protection: IP66
 Side mounting/Fixing: 2 pcs. M3x16 screw
 Temperature Class T6: ≤ 60°C@max. 7A, 75°C@max. 3A



Parts

Door Switch ATEX: 308151 (notes, the lever has been bent to fit with the PDS-cabinet)
 2 pcs. M3x16 screw: 511452 (for mounting of the door switch)

Installation

The door switch is mounted on the rail with the enclosed 2 pcs. M3x16 screws and the wires are lead through the cabinet via cable glands for ATEX.

Certifications/Standards

PTB 02 ATEX 1031 X

EN50014:97, EN50018:94



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Document: 308214 PDS Door switch ATEX.doc		Text
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Product: Electronic	Id: KP	3
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Vølundsvej 17
 DK- 3400 Hillerød
 Tel +45 7022 2769
 Fax +45 7023 2769