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For the pressure and vacuum vent type 944 catalogue data sheets as “Dimension sheet”, “Technical data” and “Pressure drop/volume flow charts” are available including the technical data, constructions and dimensions.

## 1. Use

Pressure and vacuum valve 944 complies with standard

- DIN EN 13463 Part 1:2009-07 Non-electrical equipment for potentially explosive atmospheres  
Basics methods and requirements
- DIN EN 13463 Part 5:2011-10 Non-electrical equipment for potentially explosive atmospheres  
Protection by constructional safety "c"

The general suitability as pressure and vacuum vent for device group II, category 1/2 when used with inflammable gas/air mixtures and vapour/air mixtures of inflammable liquids of explosion group IIB (standard gap width  $\geq 0.5$  mm) had been verified by tests executed at the Institute for Safety Technology IBExU GmbH Freiberg and the results were confirmed by the issued EC prototype test certificate **IBExU14ATEX1244\_X**

The following valve insert settings have to be considered :

- Set-pressure for pressure: 2,5 up to 50 mbar \*) \*) factory pre-set default
- Set-pressure for vacuum: 2,5 up to 50 mbar \*)
- Operating temperature: surface temperature  $\leq 80\%$  of ignition temperature medium  
(please attend data sheet)

On delivery of the devices the technical parameter of the valve with stating the EC prototype test certificate number are documented in the works test certificate according to EN 10204. In the declaration of compliance it is referred to the accordance with the harmonized standard EN 13463-1/-5. The maintenance of the basic safety requirements according to directive 2014/34/EU has been confirmed.

## 2. Construction

The vent consists of a cast iron housing (1), equipped with pressure (6) and vacuum valve inserts (8). The housing is closed with a cover (2) by using of screw (3) and sealed by an O-ring (10). The vacuum valve insert is guided by a guiding socket screwed into the cover. The pressure valve insert is guided by a bolt screwed into the housing (9).

For protection against effects of weather the vent is equipped with a protective strainer (11) and a metal cover (12). Both are clamped/mounted by stud bolts (13), plates (16), distance sleeves (14) and cap nuts (15). The valve inserts are pre-set for the customer's specific set-up pressure via weight discs. They can be equipped with FEP sealing foil or with a metallic sealing surface.


## 3. Marking

The information for marking the vent are arranged on the nameplate (page 5/5).

The following data are indicated:

- Name and address of the manufacturer
- Type (including version number)
- Serial number and year of production
- Number of the certificate (EC prototype certificate-no.)
- EN number
- The specific mark for prevention of explosions in connection with the mark indicating the group of devices II, category 1/2 and the letter "G" (for areas where explosive gas, vapour, air mixtures are available)
- The CE mark with the number of the indicated inspection authority, which act during production
- Set-up pressure for pressure and vacuum valve
- Volume flow at opening pressure

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#### 4. Installation

The arrangement and the installation of the vent into the plant shall be done under observance of the rules applicable to the relevant range of use. Especially the instructions for accident prevention have to be observed. A vertical installation position of the vent has to be kept under any circumstances.

The vent is equipped with a flange connection PN10 Form C or ANSI 150 RF.

For the flanged joints flat gaskets with a sealing parameter  $k_{oK_D} \leq 25b_D$  are recommended. While flanging be careful that the sealing strips are not damaged and there is no foreign matter or dirt between the flanges, so that no gap to the atmosphere can occur.

The valve has to be included in the equipotential bonding of the vessel or plant.

**To prevent transportation damage, the valve inserts are blocked with a transportation safeguard, which must be removed as follows:**

- Uninstall cover (2) by loosening the screws (3)
- Remove transportation safeguard (corrugated card board) of the top valve insert (8)
- Lift out top valve insert
- Remove transportation safeguard (corrugated card board) of the bottom valve insert (6)
- Check the bottom valve insert (6) for easy mobility and proper location on the guide bolt (9)
- Place the top valve insert upon the top valve seat (7)
- Install the cover (2) and pull screws tight (3)
- When placing the cover, make sure that the guiding socket in the cover is guided properly across the guiding bolt of the top valve insert.

**Always regard „Transportation guard“!**

#### 5. Maintenance

The maintenance includes a periodic visual control of the vent with regard to contamination and appearance. The intervals for the maintenance works depend on the operating conditions and the kind how the individual media tend to contamination. The interval of maintenance has to be defined by the operating company.

For cleaning purposes, the vent must be opened as follows:

Remove the cap nuts (15) to uninstall metal cover (12), distance sleeves (14) and strainer (11). In case of major contamination a flushing with a cleaning agent can be carried out. After cleaning all parts shall be blown dry. During the cleaning works, no mechanical modifications may be done on all elements or the housing, else they has to be replaced by a new one.

All works in connection with repair and replacement of components shall be executed only by trained and authorized skilled personnel.

Valve seats and valve plates shall be checked for contamination and damages and examined in particular for intactness as well. Damages to the valve seat shall be eliminated by expert grinding and smoothing. Depending on the sealing system, the FEP seal or metallic sealing surface should indicate not damaging, else they has to be replaced by a new one.

Opening and re-installing shall be performed as described under 4.

It is recommended to hold a spare parts respective seals ready for each vent. In case of replacement of structural units only original spare parts listed in the spare parts list shall be installed to ensure the required safety.

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## 6. Spare part list

Table : Spare parts for 944

Item No.	Description	Qty.	Material	Order-No.		
				DN50	DN80	DN100
2	cover – complete	1	St NSt	FET15415132 FET15415133	FET15416066 FET15416067	FET15416586 FET15416587
3	screw	4 6	NSt	242035000	242035000	242032100
6*	pressure valve insert **– FEP - valvedisk - FEP-seal surface	1	NSt/FEP	FET15415118 812071300 722086100	FET15416074 812071800 722088200	FET15416567 812072000 722088400
	pressure valve insert **– metall - valvedisk - metall-seal surface	1	NSt	FET15415119 812071300 FET992785000	FET15416090 812071800 FET992875000	FET15416568 812072000 FET992877000
8*	vacuum valve insert **– FEP - valvedisk - FEP-seal surface	1	NSt/FEP	FET15415115 812071200 722087800	FET15416080 812071900 722088300	FET15416572 812071500 722088100
	vacuum valve insert **– metal - valvedisk - metal-seal surface	1	NSt	FET15415116 812071200 FET992784000	FET15416095 812071900 FET992876000	FET15416573 812071500 FET999657900
10*	o-ring	1	NBR FPM EPDM FPM/FEP	812072800 802087800 812072900 812073000	802039700 802039800 802039900 802040000	812073100 812073400 812073200 812073300
11	protective strainer	1	NSt	052099200	052099300	052099400
12	metal cover	1	NSt	542012200	FET994735000	542013200
13	stud bolt	3 4	NSt	311055440	312071600	312068000
14	distance sleeve	3 4	NSt	182052600	182052800	182052700
15	cap nut	3 4	NSt	202012700	202012700	

\* Parts shall be available for maintenance works

\*\* Valve inserts without added weights

### Material marks

St ... steel	LM ... light metal	FPM ... Viton	FEP .. Fluoride plastic
NSt ... stainless steel	K ... plastic	NBR ... Perbunan(N)	PTFE .. Fluoride plastic

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Table : Spare parts for 944

Item No.	Description	Qty.	Material	Order-No.		
				DN150	DN200	DN250
2	cover – complete	1	St NSt	FET15417183 FET15417184	FET15417544 FET15417545	FET15418183 FET15418184
3	screw	8	NSt	222075300	232098200	232098200
6*	pressure valve insert **– FEP - valvedisk - FEP-seal surface	1	NSt/FEP	FET15417170 812071600 722088600	FET15417569 812072200 722088800	FET15418170 812072400 722089100
	pressure valve insert **– metall - valvedisk - metall-seal surface	1	NSt	812071600	812072200	
8*	vacuum valve insert **– FEP - valvedisk - FEP-seal surface	1	NSt/FEP	FET15417172 812072100 722088700	FET15417570 812072300 722088900	FET15418172 812072500 722089000
	vacuum valve insert **– metal - valvedisk - metal-seal surface	1	NSt	812072100	812072300	
10*	o-ring	1	NBR FPM EPDM FPM/FEP	802078200 802078300 802078400 802078500	802078600 802078700 802078800 802078900	802070800 802071600 802072400 802073200
11	protective strainer	1	NSt	052099500	052099600	052099800
12	metal cover	1	St NSt	FET999679400 FET999668100	FET992929000 FET992728000	FET999679000 FET999679100
13	stud bolt	4	NSt	31206800	312049200	312060600
14	distance sleeve	4	NSt	182052700	FET992598000	FET999676500
15	cap nut	4	NSt	202012700	202012700	202043200

\* Parts shall be available for maintenance works

\*\* Valve inserts without added weights

Material marks

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NSt ... stainless steel	K ... plastic	NBR ... Perbunan(N)	PTFE .. Fluoride plastic

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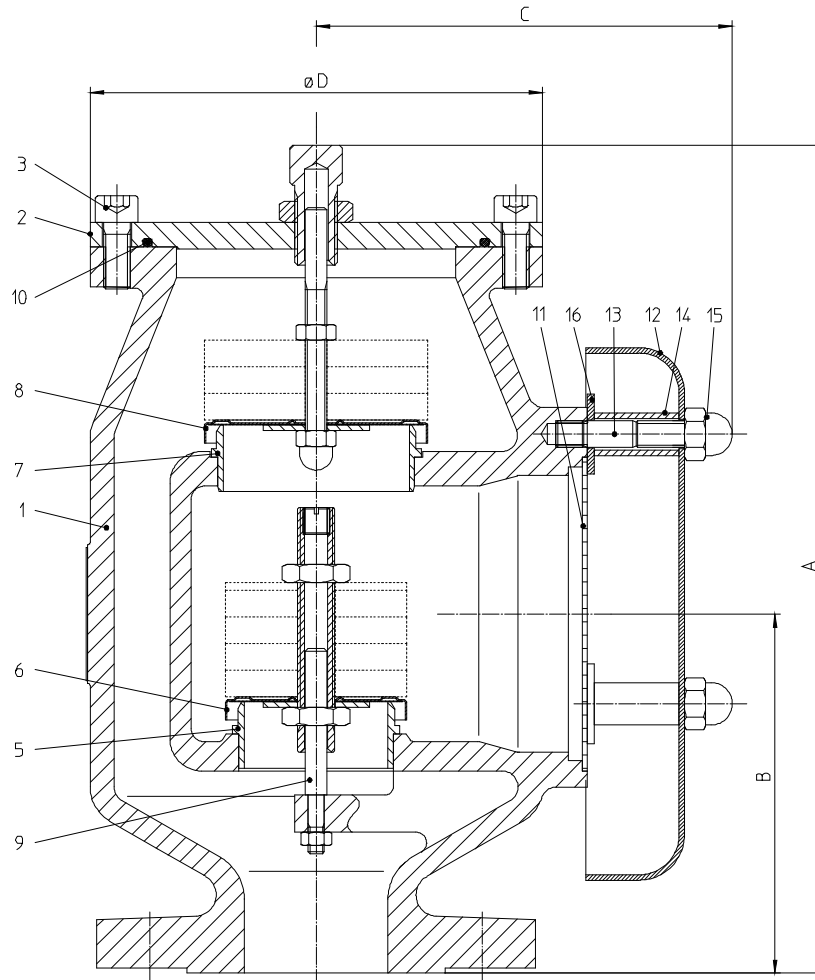


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**Assembly drawing**



DN	A [mm]	B [mm]	C [mm]	øD [mm]
50 / 2"	311	135	157	170
80 / 3"	400	162	184	225
100 / 4"	453	190	217	290
150 / 6"	490	210	240	320
200 / 8"	595	276	285	375
250 / 10"	695	310	358	440

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