

### 8.2.1 TECHNICAL DATA

INTERNAL DIAMETER: 8 mm

INFLUX DIAMETER: 4

MAX OPERATING PRESSURE: 400 BAR

OVERPRESSURE: 0 + 10%

WORKING TEMPERATURE: -40°C +150°C

TESTING CERTIFICATE: CE/PED (2014/68/EU)

CALIBRATION ERROR: <3%

OVERPRESSURE BY FULL FLOW: 10% of P

MATERIAL: stainless steel AISI 316L

MEDIUM: nitrogen (N<sub>2</sub>)

WEIGHT: see table 8.2c

### 8.2.2 DESCRIPTION

The BURST DISK is a safety device that can be mounted on the gas side of the bladder and piston accumulators.

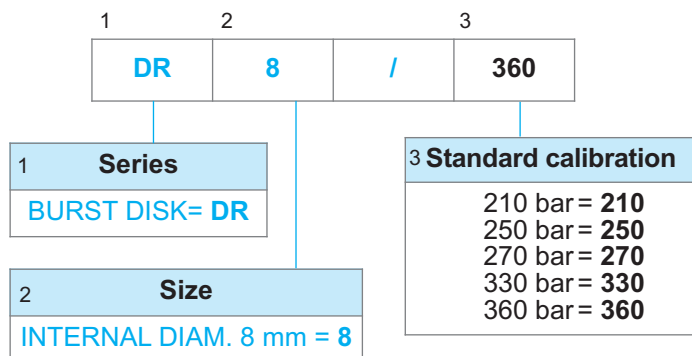
Its function is to protect the accumulator from any excessive pressure that may exceed the maximum design limit of the accumulator itself causing damages to equipment and people.

The rupture of the disk is a drastic measure; in fact you will assist to the full release of all the contents of the accumulator (nitrogen).

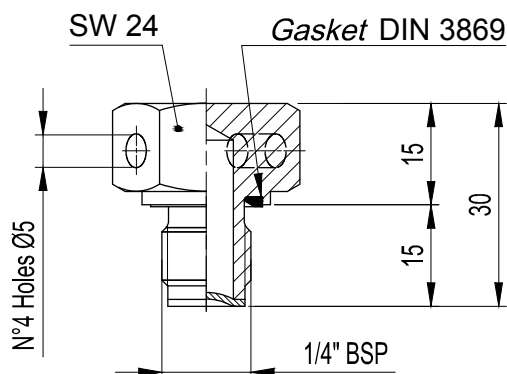
Reaction to end of overpressure: it does not close, and then the disk must be replaced.

The burst disk is composed of a properly drilled hexagonal cap in stainless steel AISI 316L on which it is brazed a calibrated and concave membrane, which will explode at the pre-set value. It can be installed in any position.

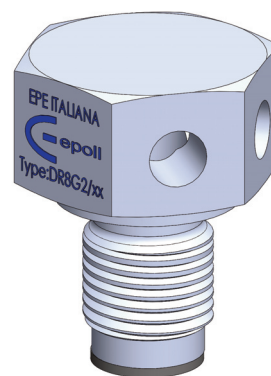
### 8.2.3 ORDER CODE



### 8.2.4 DIMENSIONS

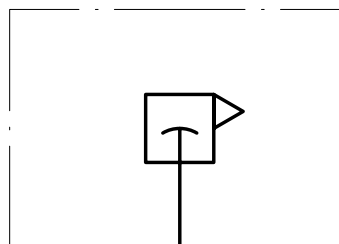


8.2c



8.2a

### 8.2.5 HYDRAULIC SYMBOL



8.2b

### 8.2.6 ACCESSORIES

For adapter, see Section 8.3

### 8.2.7 EUROPE MARKET

All burst disk cure the safety device Certification: CE/PED

Periodic check of calibration: is not required in accordance with Ministerial Decree No. 329.

### 8.2.8 SIZING

Mass flow for glass (Nitrogen)

Calculation according to ISO 4126-6

Equation 6c  $Q = C \cdot K_b \cdot \alpha \cdot A \cdot P \cdot \text{radp} \text{ (M/T}^2\text{)}$

Fixed setting (std)	210 bar = 210
	250 bar = 250
	270 bar = 270
	330 bar = 330
	360 bar = 360

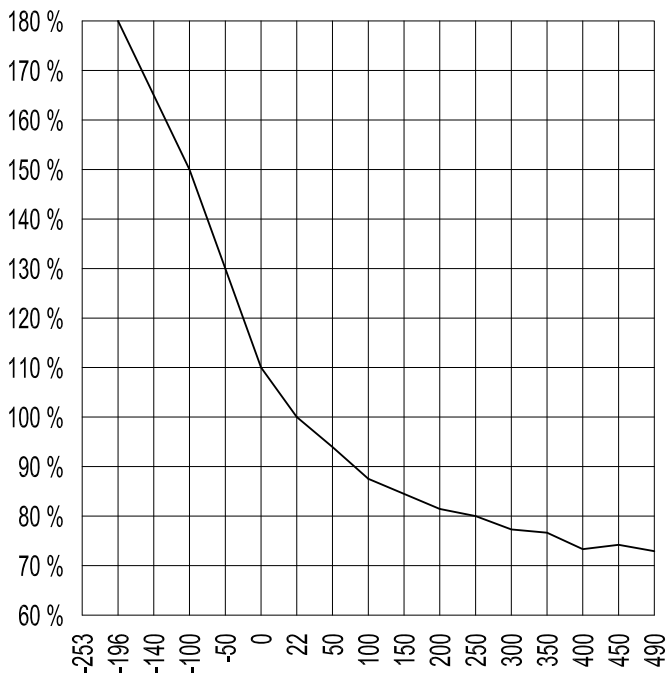
#### Definitions

A = mm <sup>2</sup>	Minimum cross sectional flow area
Q = Kg/h	Mass flow rate
P = bar abs	Relieving pressure (= barg + 1.013)
K =	Isoentropic exponent
C =	Function of isoentropic exponent (=2.401 for k=1)
A =	Discharge coefficient (0.62 – 0.80)
T = °K	Relieving temperature
Z =	Compressibility factor
M = Kg/Kmol	Molecular factor
K <sub>b</sub> =	Capacity correction factor for subcritical flow
P <sub>b</sub> = bar abs	Back pressure

### Calculation example

PRESS. SETTING 330 BAR	
DN	8 mm
A	50
Pb	1.013 bar abs
Ps	330 bar g
P	331.013 bar abs
Ts	80°C
T	353°K
M	29
Z	1
C	2,703
A	0,62
Kb	1

In the selection of the range of burst disk, it must be remembered that the nominal setting pressure has a tolerance 0 +10% and the burst pressure varies according to the temperature as shown below.



8.2d

### 8.2.9 FUSE DISK

Temperature fuses are “devices with a safety function” and are used to release the gas pressure by discharging the nitrogen completely when a rise in temperature reaches unacceptable levels (i.e. in the case of fire).

**Permitted operation pressure:** ≤ 500 bar

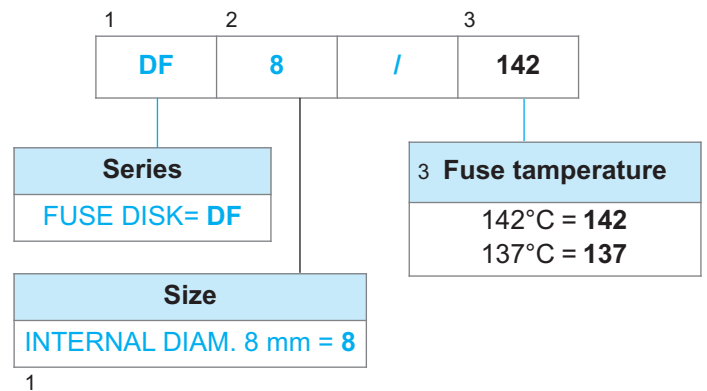
**Temperature range:** - 10 °C ... +80 °C

**Melting point:** Approx. 150°C

#### Installation:

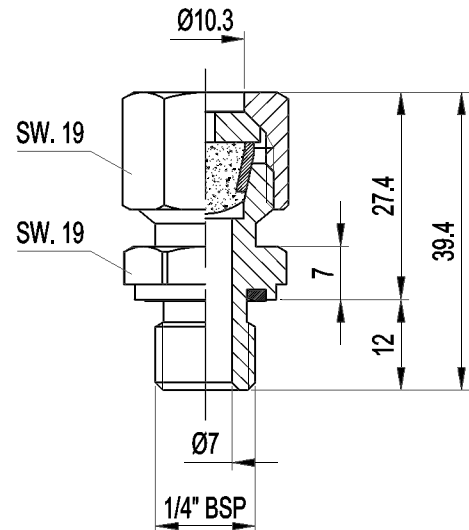
Simple to retrofit by replacing the sealing cap with the temperature fuse.

### 8.2.10 ORDER CODE OF THE FUSE DISK



### 8.2.11 FUSE DISK DIMENSIONS

2



8.2e

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