IBEDA
SOLUTIONS FOR GASES

Safety device (with dust filter): ESF-20

Type ESF-20 for protection of Tapping Points and Distribution Lines

The safety device ESF-20 according to DIN EN ISO 5175-1:

- avoids dangerous gas mixtures by a gas non-return valve (NV)
- stops flashback through flame arrestor (FA)
- a dust filter protects the gas non-return valve against contamination
- every safety device is 100% tested
- all metal components in brass 2.0401 / spring 1.4310

Safety elements of the IBEDA Safety device ESF-20:

- NV Gas non-return valve
- FA Flame arrestor

Additional features:

- DF Dust filter

Maintenance:

The safety devices are to be tested by a qualified and authorised person at regular intervals according to country specific regulations. The safety device is to be tested for gas tightness, gas flow and gas return at least once a year.

We would be pleased to offer you the flashback arrestor testing unit model PVGD.

It is not allowed to open the safety devices.

Technical Data:

Gas-Types:	Hydrogen (H) Industrial Gas (C)	Natural Gas (Methane) (M) (P)	Oxygen (O)
Working pressure:	0,15 MPa 1,5 bar	0,30 MPa 3,0 bar	2,0 MPa 20,0 bar
Cracking pressure:	4 to 6 mbar position-independent		
Gas temperature:	-20°C up to +70°C (Oxygen -20°C up to +50°C)		
Ambient temperature:	-20°C up to +70°C		
Threads: EN 560, ISO / TR 28821	G1/2RH F[3)] G3/4RH F[3)] G1RH F[3)]		

Measure and weight:	diameter:	length:	weight:
G1/2RH F:	54,5 mm	132,5 mm	ca. 1380 g
G3/4RH F:	54,5 mm	132,5 mm	ca. 1330 g
G1 RH F:	54,5 mm	132,5 mm	ca. 1255 g

Applications:			
Process:	welding	cutting	heating
	up to 30 mm	> 700 mm	> 100 mm

Other materials, surface finishing, gas types and additional connections available on request.
The flashback arrestor meets the test criteria of the Australian standard AS4603:1999

[3)] F = Female, M = Male

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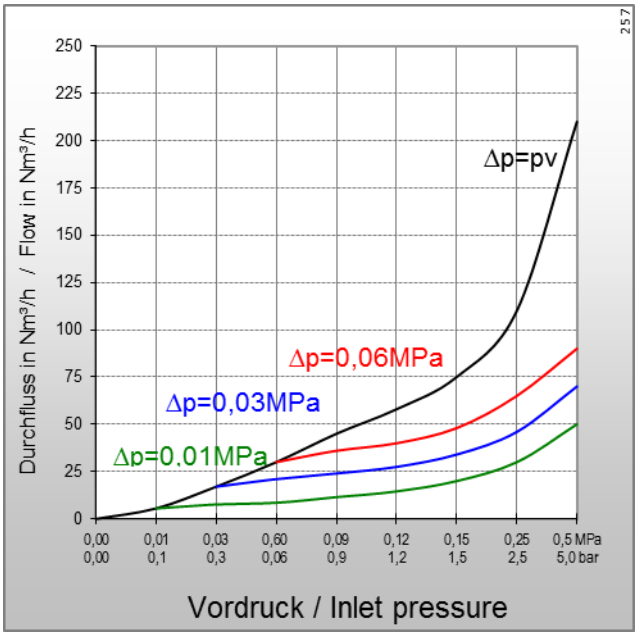


Type*:* **ESF-20**

Flow rates [air]:

pv = Primary pressure

ph = Secondary pressure

Δp = Primary pressure minus Secondary pressure

Conversion Factors:

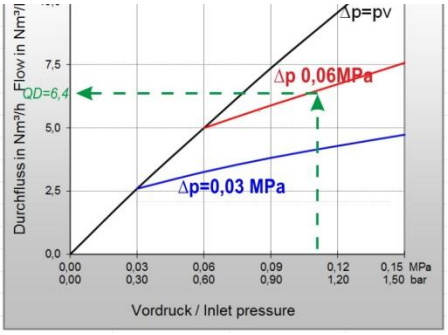
0,1 MPa = 1 bar = 100 kpa = 14,504 psi

1 m^3/h = 35,31 cu ft/h

	A	H	P	M	M	O	E	L
QG ►	C_2H_2	H_2	C_3H_8	CH_4+C	CH_4	O_2	C_2H_4	C_3H_6
F	1,2	3,8*	0,90	1,25	1,4	0,95	1,02	0,92

* Conversion factor 2.5 for devices comprising a flame arrestor
The conversion factor for free flow is 3.8.
(Reference: BAM report 220, D. Lietze)

Example:



QG = QD x F

QG ► A = 6,4 x 1,2 = 7,68 m³/h C_2H_2

QG = flow / gas type
F = conversion factor
QD = flow / air

Certification/ Technical Standards/ Rules

TRBS German Technical rules for operation safety, DVS German Association for Welding, Cutting and Allied Processes, DGUV German Employer´s liability insurance association rules and regulations.

Standards/ Approvals

Company certified according to
ISO 9001:2015 and ISO 14001:2015,
CE-marking according to: Pressure Equipment Directive 2014/68/EU

(Subject to change without notice)

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