

Flame Arrester

Flame penetration protection



Adapt FS

Application

The flame arrester model Adapt FS avoids flame penetration in case of deflagrations of potentially explosive vapour-air and gas-air mixtures of explosion groups IIA, IIB and IIC in an upstreamed volume (e.g. pressure measuring instruments, chemical seals).

Construction

The protection consists of a welded stainless steel cannula as flame arrester. The vapour-air or gas-air mixtures can flow through the cannula with a maximum internal diameter of 0.6 mm (0.024") and a minimum length of 23 mm (0.91"), yet a flame penetration is prevented.

Dimensional drawings of the construction types (variants) for the various installation options can be found on page 2.



Explosion Protection

The flame arrester model Adapt FS corresponds to the harmonised standard

DIN EN ISO 16 852 "Flame Arrester"

as non-electrical equipment for potentially explosive areas.

It is tested and approved as flameproof in case of deflagration of flammable gases and liquids according to

EU Type Examination Certificate/Approval

PTB 12 ATEX 4001 X

Explosion Protection Class

II G IIC

The corresponding marking according to ATEX 2014/34/EU is carried out at an appropriate position on the device.

Variants

Variant 1

As screwed adapter G 1/2 female x G 1/2 B (1/2" BSP) (others upon request), e.g. for PTMEx, data sheet 9812

Variant 2

Directly mounted to

- food/aseptic chemical seals (MDM 73...)
- screw-in chemical seals (MDM 74...)
- flange-type chemical seals (MDM 7510 – 7525)
- in-line seals (RDM 76...)
- other chemical seals



Adapt FS
variant 1

Variant 3

With capillary line mounted to

- food/aseptic chemical seals (MDM 73...)
- screw-in chemical seals (MDM 74..)
- flange-type chemical seals (MDM 7510 – 7525)
- cellular-type chemical seals (MDM 7550 – 7565)
- in-line seals (RDM 76..)
- other chemical seals

Variant 4

Form 4a (round) or 4b (22 square), mounted to

- lower parts of diaphragm pressure gauges
- lower parts of diaphragm seals (MDM 72...)
- T-fittings and others

Variant 5

Welded into the pressure gauge socket

Materials

Standard

Cannula 316Ti (1.4571)

Socket 316Ti (1.4571)

Ordering Information

When mounted into a measuring instrument or to a chemical seal, the following text has to be added to the ordering information of this instrument

with Adapt FS

When ordering as component part, please specify:

Model Adapt FS
Variant no. 1 (variants 2 – 5 upon request)
Specifics (upon request)

Example: Adapt FS, No. 1

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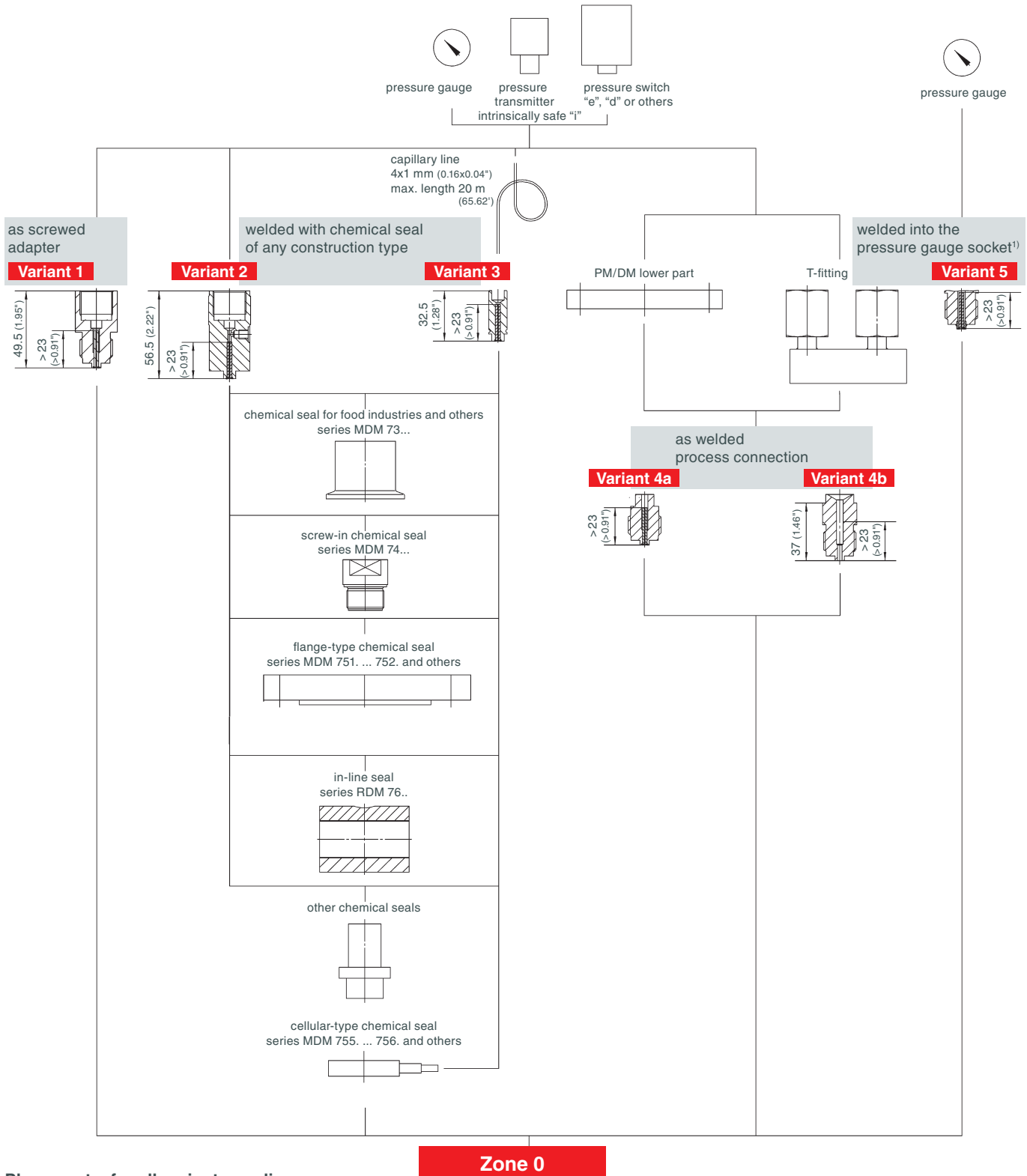
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Pressure Measuring Instruments



Please note, for all variants applies:

- The unprotected volume must not be larger than 0.2 litres.
- At the screwed adapter, the maximum piping length on the non-protected side between a potential ignition source and the flame arrester must not be larger than $3xD = 45 \text{ mm (1.77")}$.
- The nominal width of the connection on the non-protected side shall be max. $G \frac{1}{2}"$ or DN 15.
- The nominal width of the connection on the protected side shall be max. $G \frac{1}{2}"$ or DN 15.
- The inflammable gases and vapours occurring during operation may form part of explosion group IIC with a maximum experimental safe gap of $\geq 0.3 \text{ mm (0.01")}$.
- The maximum permissible operating pressure must not exceed $110 \text{ kPa}^2)$.
- The maximum operating temperature is $60 \text{ }^\circ\text{C (140 }^\circ\text{F)}^2)$.
- In order to fulfil the requirements of the zone separation, the technical tightness of the connection between process connection of the measuring instrument and process connection piece on the machine side has to be ensured. The connection has to be secured against unintentional loosening. The plant operator is responsible for taking the necessary measures.

¹⁾ for process connection $G \frac{1}{2}"$ and $M20 \times 1.5$, others upon request
²⁾ atmospheric conditions