

# Pre-volume deflagration flame arrester

## For mounting to zone 0 (EPL Ga)

### Model 910.21

WIKA data sheet AC 91.02



#### Applications

- For mounting to zone 0 (EPL Ga)
- Prevents the flame transmission from the instrument side to the process side in the event of a failure
- Integrated into a pressure measuring instrument or diaphragm seal system

#### Special features

- Fulfils the requirements of flame arresters in accordance with EN ISO 16852
- With ATEX and IECEx approval



Fig. left: Integrated into a pressure gauge  
Fig. right: Integrated into a diaphragm seal system

#### Description

The model 910.21 pre-volume deflagration flame arrester enables the mounting of pressure measuring instruments and diaphragm seal systems in areas with requirements to EPL Ga (zone 0).

The model 910.21 is expertly connected to a measuring instrument at the factory to form a measuring assembly. The pre-volume deflagration flame arrester enables the flow of fluids, but prevents the flame transmission from the instrument side (unprotected side) to the process side (protected side) in the event of a failure.

The pre-volume deflagration flame arrester, integrated ex-works, is available for pressure gauges with Ex approval as well as for diaphragm seal systems with Ex-approved measuring instruments.

The model 910.21 fulfils the requirements of the harmonised standard EN ISO 16852 for flame arresters.

With approvals in accordance with ATEX and IECEx, European and international safety requirements for explosion protection are fulfilled.

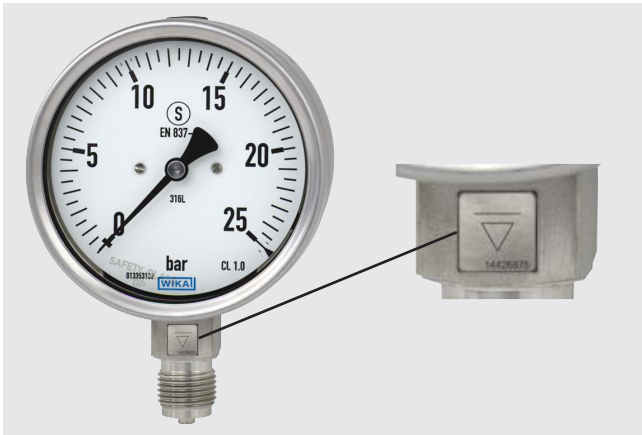
## Functionality

Due to the pre-volume deflagration flame arrester integrated into the measuring assembly, the medium (gas, mist, vapour, air mixtures) can flow, however flame transmission is prevented.

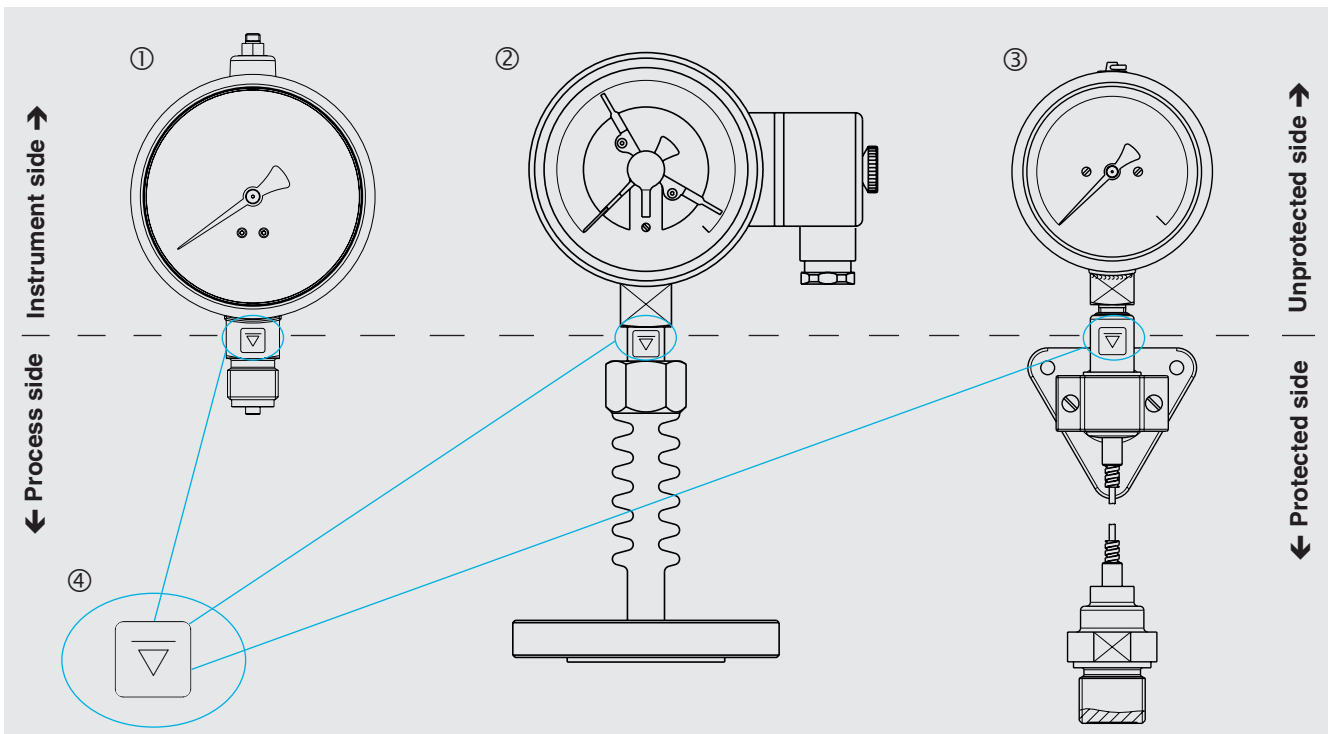
The zone separation achieved through this is marked with a position symbol. This position symbol defines the boundary between the instrument side (unprotected side) and the process side (protected side). The installation point of the model 910.21 pre-volume deflagration flame arrester varies depending on the measuring assembly.

### Marking of the zone separation with the position symbol

To support the customer's plant documentation with regard to explosion protection, the positioning of the zone separation by the pre-volume deflagration flame arrester is marked on the measuring assembly.



### Examples of measuring assemblies with integrated pre-volume deflagration flame arrester



- ① Pressure gauge
- ② Contact pressure gauge mounted to diaphragm seal via cooling element
- ③ Pressure gauge mounted to diaphragm seal via capillary
- ④ Position symbol for zone separation

## Specifications

Basic information	
<b>Standard</b>	EN ISO 16852:2016 "Flame arresters ..."
Measuring assembly	
Variant 1	Pressure gauge with Ex approval and integrated model 910.21
Variant 2	Diaphragm seal system <sup>1)</sup> with integrated model 910.21
<b>Permissible media</b>	Flammable gases and vapours occurring during operation may be classified into explosion group IIC with a nominal gap width of $\geq 0.29$ mm. The use for explosive gas, mist, vapour or air mixtures which are volatile (e.g. acetylene, carbon disulfide) or for chemically instable substances is not permitted.
Material (wetted)	
Variant 1	<ul style="list-style-type: none"> <li>■ Stainless steel (typically)</li> <li>■ Special materials such as the wetted parts of the pressure gauge, e.g. Monel, Hastelloy</li> </ul>
Variant 2	Model 910.21 is non-wetted
<b>Components of the measuring assembly</b>	Mounting parts, such as cooling elements, connection adapters, capillaries, etc., are located on the protected process side. Measuring assemblies with capillaries are, generally, protected ex-works with a capillary protective tube (wall thickness approx. 0.2 mm).

1) Consisting of pressure measuring instrument with Ex approval mounted to a diaphragm seal

Further details on: Measuring assembly, variant 1 Pressure gauge with Ex approval and integrated model 910.21	
<b>Pressure gauge with Ex approval</b>	<ul style="list-style-type: none"> <li>■ Pressure gauge (e.g. models 232.50, 432.50, 732.51)</li> <li>■ Contact pressure gauge (e.g. PGS23, PGS43, DPGS43)</li> <li>■ Pressure gauge with output signal (e.g. PGT23, PGT43, DPGT43)</li> </ul>


Further details on: Measuring assembly, variant 2 Diaphragm seal system with integrated model 910.21	
<b>Pressure measuring instrument with Ex approval</b>	<ul style="list-style-type: none"> <li>■ Pressure gauge (e.g. models 232.50, PGS43, DPGT43)</li> <li>■ Model CPG1500</li> <li>■ Model IS-3</li> <li>■ Model UPT-20</li> <li>■ Model IPT-20</li> <li>■ Model DPT-10</li> </ul>
<b>Diaphragm seal</b>	<ul style="list-style-type: none"> <li>■ Diaphragm seal with flange connection</li> <li>■ Diaphragm seal with threaded connection</li> <li>■ In-line diaphragm seal</li> <li>■ Diaphragm seal with sterile connection</li> </ul>

## Operating conditions

Operating conditions	
<b>Lu/D=n/a</b>	Ratio of the pipe length of the unprotected side to the pipe diameter
<b>BC:c</b>	Classification under stabilised combustion, combustion classification c (no burn time)
<b>-40 °C ≤ T<sub>0</sub> ≤ 60 °C</b>	Permissible operating temperature The measuring point for the permissible temperature in the final application is the position symbol of the zone separation.
<b>P<sub>0</sub> = 1.1 bar</b>	Maximum ambient pressure

The testing of the specifications and operating conditions must be carried out for the complete measuring assembly.

## Approvals

Logo	Description	Country
	<b>EU declaration of conformity</b> Hazardous areas II G IIC	European Union
	<b>IECEX</b> Hazardous areas IIC	International

Approvals and certificates, see website

### Ordering information

Description of the measuring assembly with included components, e.g. model PGS23.100 contact pressure gauge with integrated model 910.21 pre-volume deflagration flame arrester

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