

(1) **EC-Type-Examination Certificate**

(2) Equipment or protective systems intended for use
in potentially explosive atmospheres - **Directive 94/9/EC**

(3) EC-Type-Examination Certificate Number



PTB 03 ATEX 4003 X

(4) Protective System: Pressure gauges with built-in flame arrester as
deflagration volume arresters, models 23X, 43X and 73X.14

(5) Manufacturer: WIKA Alexander Wiegand GmbH & Co. KG

(6) Address: Alexander-Wiegand-Strasse, D-63911 Klingenberg

(7) The design and construction of this protective system and any acceptable variation thereto
is specified in the schedule to this type examination certificate.

(8) The Physikalisch-Technische Bundesanstalt, notified body number 0102 in accordance
with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that
this equipment or protective system has been found to comply with the Essential Health and
Safety Requirements relating to the design and construction of equipment and protective
systems intended for use in potentially explosive atmospheres given in Annex II to the
Directive.

The examination and test results are recorded in the confidential test report PTB Ex 03-
40003.

(9) Compliance with the Essential Health and Safety Requirements has been assured by
compliance with:

EN 12874 "Flame Arresters"

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or
protective system is subject to special conditions for safe use specified in the schedule to
this certificate.

(11) This EC-type examination certificate relates only to the design, examination and tests of the
specified equipment in accordance with Directive 94/9/EC. Further requirements of the
Directive apply to the manufacturing process and supply of this equipment. These are not
covered by this certificate.

(12) The marking of the protective system must include the following:



II G IIC

Certification Body Explosion Protection
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Braunschweig, 2003-03-12

(signature)

Dr. H. Förster
Senior Government Official

(Seal)
[Physikalisch-Technische Bundesanstalt 22]

(13) **Schedule to**

(14) **EC-Type-Examination Certificate PTB 03 ATEX 4003 X**

(15) Description of the protective system

The pressure gauges with built-in flame arrester as deflagration volume arresters, models 23X, 43X and 73X.14, shall prevent a flame transmission in the case of deflagrations of explosive vapour-air or gas-air mixtures of explosion groups IIA, IIB and IIC under atmospheric conditions.

The bourdon tube pressure gauges model 23X, the diaphragm pressure gauges model 43X and the differential pressure gauges model 73X.14 as protective systems are to be directly connected to the zone that is to be protected. In the case of an ignition from outside or from the measuring instrument the pressure gauges with built-in flame arrester shall prevent any flame transmission.

The flame arrester consists of a cylindrical metal body with a capillary bore hole of ≤ 0.6 mm and a capillary length of ≥ 25 mm, through which vapour-air or gas-air mixtures can flow, but which shall prevent any flame transmission. This flame arrester is built into various types of pressure gauge designs.

The design and construction, materials and dimensions are defined in the specified drawings, technical description and working instruction to the corresponding test report PTB Ex 03-40003.

Explosion protection requirements:

Flame transmission safety in the case of deflagrations of mixtures of air and flammable gases/vapours of explosion groups IIA, IIB and IIC with a standard gap width of < 0.5 mm under atmospheric conditions (pressure ≤ 1.1 bar, temperature ≤ 60 °C) and a series-connected max. pressure gauge volume of 2.3 dm^3 .

(16) Test report PTB Ex 03-40003 (consisting of 3 pages, 4 drawings, 1 working instruction and a technical description)

Result: The type complies with the provisions of the directive 94/9/EC for protective systems (classification IIC according to EN 50014). The arrester meets the explosion protection requirements, as described under item (15).

Schedule to EC-Type-Examination Certificate PTB 02 ATEX 4015 X

(17) Special conditions for safe use

When using the deflagration volume arresters with built-in flame arrester, models 23X, 43X and 73X.14, the following conditions have to be met / complied with:

- The possible ignition volume must not exceed 2.3 dm³.
- The flammable gases and liquids occurring during operation may belong to explosion group IIA, IIB or IIC with a standard gap width of < 0.5 mm.
- The working temperature must not exceed 60 °C.

The conditions specified have to be included in the operating instructions of the corresponding pressure gauges with built-in flame arrester as deflagration volume arresters.

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