

[1] **EC-TYPE EXAMINATION CERTIFICATE**  
- Translation -



[2] Equipment or Protective System intended for use  
in Potentially Explosive Atmospheres, **Directive 94/9/EC**

[3] EC-Type Examination Certificate Number: **IBExU00ATEX2058 X**

[4] Equipment or Protective system: Detonation flame arrester  
F.4.7000.20-IIC

[5] Manufacturer: HENZE Prozeßmeßtechnik/Analytik GmbH

[6] Address: Heidestraße 151  
06842 Dessau, GERMANY

[7] The design of the equipment or protective system is specified in the schedule to this EC-Type Examination Certificate.

[8] IBExU Institut für Sicherheitstechnik GmbH, NOTIFIED BODY number 0637 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of the protective system intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
The test results are recorded in the confidential Test Report IB-00-126 dated 25<sup>th</sup> July 2000.

[9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with  
- **prEN 12874:1999**  
- **EN 1127-1:1997, Part 1**

[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 under [17] in the schedule to this EC-Type Examination Certificate.

[11] This EC-Type Examination Certificate relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

[12] The marking of the equipment or protective system shall include the following:

 **II G IIC**

**IBExU Institut für Sicherheitstechnik GmbH**  
Fuchsmühlenweg 7 - 09599 Freiberg, Germany  
☎ +49 (0) 3731 3805-0 - 📠 +49 (0) 3731 23650

Authorized for certifications  
- Explosion protection -

By order

(Dr. Lösch)



- Seal -  
(Identification No. 0637)

Freiberg, 25<sup>th</sup> July 2000

Certificates without signature and seal are not valid.  
Certificates may only be duplicated completely and unchanged.  
In case of dispute, the German text shall prevail.

Schedule

[13] **Schedule**

[14] **to EC-TYPE EXAMINATION CERTIFICATE IBExU00ATEX2058 X**

[15] **Description of the equipment or protective system**

The Detonation flame arresters of the type F.4.7000.20-IIC are used to prevent a flame transmission at unstable detonations of flammable gas- and/or vapour/air-mixtures of the Explosion Group IIC, Maximum Experimental Safe Gap < 0.50 mm, in a pipe.

The Detonation flame arresters of the type F.4.7000.20-IIC consist essentially of a detonation-pressure proof housing with the connection flanges and a flame arrester unit, which is installed in the housing, to prevent a flame transmission. This flame arrester unit consists of a sintered component made of ceramics with the following dimensions: diameter 27.75 mm and height 32 mm. The maximum pore size of the sintered material is 80 µm.

The design, the materials used and the dimensions of the Detonation flame arrester are specified in the annex to this EC-Type Examination Certificate.

[16] **Test Report**

The test results are recorded in the confidential Test Report IB-00-126 dated 21<sup>st</sup> July 2000.

**Summary of the results:**

The design of the Detonation flame arrester type F.4.7000.20-IIC, which was submitted for the examination, has in tests carried out in accordance with prEN 12874:1999 with the test mixture of the Explosion Group IIC (hydrogen/air-mixture, M.E.S.G 0.31 mm ± 0.02 mm) prevented a flame transmission in case of an unstable detonation and deflagration under atmospheric conditions as well as at a pressure of 3.0 bar (absolute) and a temperature of the flame arrester of 150 °C.

According to prEN 12874 and in compliance with section [17] – conditions – Detonation flame arresters of the type F.4.7000.20-IIC can be used under atmospheric conditions and up to an operating pressure of 3.0 bar (absolute) as well as at a maximum temperature of the flame arrester of 150 °C as a protection against unstable detonations and deflagrations of explosive vapour/gas-mixtures of the Explosion Group IIC, M.E.S.G < 0.50 mm.

[17] **Conditions**

1. Routine Check

The manufacturer is obliged to carry out routine tests in accordance with prEN 12874:1999.

The manufacturer must guarantee by means of routine checks of each individual Detonation flame arrester, that

- a) the dimensions, fits and materials used as well as the number of screws correspond to the drawings and parts lists shown in the annex,
- b) the flame arrester is designed in accordance with the drawings shown in the annex,
- c) all parts are manufactured from faultless materials,
- d) welded connections have been carried out without defects.

2. Restriction of Use

The Detonation flame arresters F.4.7000.20-IIC may only be used if their materials resist against the mechanical and/or chemical influences respectively corrosion under the actual operating conditions, in such a way, that the explosion protection is always guaranteed.

3. Installation Instructions

At the Detonation flame arresters F.4.7000.20-IIC may be only installed pipes with a size of flange connection up to the size of flange connection DN 12 specified in this EC-Examination Certificate. The installation of smaller sizes of flange connection is permissible at the same design of the flame arrester housing and the same construction of the flame arrester.

4. Inspection

The operator is obliged to submit the flame arrester of a visual inspection in reasonable intervals. This refers especially to the sintered components of the flame arrester. It has to be checked for contamination and damages. If necessary, it has to be cleaned respectively to be replaced.

The manufacturer is obliged, pursuant to prEN 12874:1999 item 12, to label each of the Detonation flame arrester and to add a correct documentation to each of the Detonation flame arrester.

By order

Freiberg, 25<sup>th</sup> July 2000



(Dr. Lösch)

**Test documents**

The detailed list of the examined technical documents (drawings and parts lists) is contained in the German version of the EC-Type Examination Certificate IBExU00ATEX2058 X.