AR 52
October 2024

Approval requirement 52

Valves for gas distribution systems with a maximum operation pressure less than or equal to 16 bar

Trust
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Foreword

This approval requirement (AR) is approved by the Board of Experts (BoE) GASTEC QA, in which relevant parties in the field of gas related products are represented. This Board of Experts supervises the certification activities and where necessary require the GASTEC QA approval requirement to be revised. All references to Board of Experts in this GASTEC QA approval requirement pertain to the above-mentioned Board of Experts.

This AR will be used by Kiwa Nederland BV in conjunction with the GASTEC QA general requirements and the KIWA regulations for certification.

In this AR is established which requirements a product and the requestor/ certificate holder of the GASTEC QA product certificate should meet and the matter to which Kiwa evaluates this.

Kiwa has a method which is established in the certification procedure for the execution of:

- The investigation for provisioning and maintaining a GASTEC QA product certificate based on this AR.
- The periodic evaluations of the certified products for the purpose of maintaining a provided GASTEC QA product certificate based on this AR.

Approved by the Board of Experts: 11/10/2024

Accepted by Kiwa Nederland B.V.: 15/10/2024

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1 Introduction

1.1 General

This GASTEC QA approval requirement (AR) in combination with the GASTEC QA general requirements, is applied by Kiwa as the basis for the issuing and maintaining the GASTEC QA product certificate for valves for gas distribution systems with maximum operating pressure less than or equal to 16 bar.

With this product certificate, the certificate holder can demonstrate to his or her customers that an expert independent organization monitors the production process of the certificate holder, the quality of the product and the related quality assurance.

Next to the requirements established in this AR and the general requirements, Kiwa has additional requirements in the sense of general procedural requirements for certification, as laid down in the internal certification procedures.

This GASTEC QA approval requirement replaces the version of February 2019.

List of changes:

- These approval requirements have been fully reviewed textually.
- Update of referenced documents

The product requirements have not changed.

1.2 Scope

This approval requirement applies to gas distribution valves with a maximum operating pressure (MOP) less than or equal to 16 bar. Valves with socket joints for connection with PVC pipes have a maximum operating pressure of 200 mbar and valves with a polyethylene pipe end have a MOP of 10 bar.

The valves are intended for use with 2nd and 3rd family gasses according to EN 437.

2 Definitions

In this approval requirement, the following terms and definitions are applicable:

Board of Experts (BoE): The Board of Experts GASTEC QA.

Maximum operating pressure (MOP): Maximum pressure that a component is capable of withstanding continuously in service under normal operating conditions.

See also the definitions mentioned in the GASTEC QA general requirements.

3 Material and product requirements

This chapter contains the material and product requirements that the raw materials, materials and products used shall meet.

3.1 General

The products shall comply with EN 13774 “Valves for gas distribution systems with maximum operating pressure less than or equal to 16 bar – Performance requirements” except for the test mentioned in article 5.12: resistance to wear.

Additionally, the products shall comply with the following paragraphs.

3.2 Stem or shaft

In addition to EN 13774, article 5.2.3, the stem or shaft shall have a corrosion resistance at least or equal to that of steel alloyed with 13% Cr. The copper alloys CuZn40Pb3 and CuZn40Ni are considered to be equivalent.

3.3 Leak tightness under tensile loading for valves with a polyethylene pipe end

Valve bodies with polyethylene spigot ends shall comply with ISO 17885, article 9.3.3.3.

3.4 Socket joints for connection PVC pipes

Valve bodies with socket joints for the connection of PVC pipes shall comply with NEN 7231 articles 4.2.5/ 4.3.1/ 4.4/ 5.1.

4 Marking, instructions, and packaging

4.1 Marking

In addition to EN 13774, article 6, the product shall be marked with the GASTEC QA word mark, logo or punch mark.

In case of valve bodies with socket joints for the connection of PVC pipes, the valve shall additionally be marked with:

- MOP 200 mbar.
- Nominal connection size.

In case of valve bodies with a polyethylene pipe end, the valve shall additionally be marked with:

- MOP: 10 bar.
- Nominal connection size.

4.2 Instructions

The supplier shall provide instructions with the product. These instructions shall be in the Dutch language, in the language of the country in which the product will be used and at least in English. The instructions shall contain information about:

- The use and installation of the product,
- The conditions under which the product shall be used,
- The control method, to determine whether the product is properly installed,
- The way of storage of the product.

4.3 Packaging

The product shall be packed in such a way that contamination and damage is not possible.

5 Quality system requirements

The requirements for the quality system are described in the GASTEC QA general requirements. An important part of this are the requirements for drawing up a risk analysis (e.g., an FMEA) of the product design and the production process in accordance with chapters 3.1.1.1 and 3.1.2.1. This risk analysis shall be available for inspection by Kiwa.

6 Summary of evaluation

This chapter contains a summary of tests to be carried out during:

- The initial product assessment;
- The periodic product verification;

6.1 Evaluation matrix

Description of requirement	**Article EN 13774**	**Test within the scope of**		
		Initial product assessment	**Product verification**	
			Verification	**Frequency**
Materials	5.2	X		
Design	5.3	X		
Dimensions	5.4	X		
Operability	5.5.1	X	X	Each year
Endurance	5.5.2	X		
Strength of the stops	5.6	X	X	Each year
Mechanical resistance against excessive actuating forces	5.7	X		
Resistance of the obturator to static differential pressure	5.8	X	X	Each year
Shell strength	5.9	X		
External leak tightness	5.10	X	X	Each year
Internal leak tightness	5.11	X	X	Each year
Reference flow rate	5.13	X		
Cleanliness	5.14	X		
Storage	5.15	X		
Marking	6	X	X	Each year
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Stem or shaft	3.2	X		
Leak tightness under tensile loading for valves with a polyethylene pipe end	3.3	X	X	Each year
Socket joints for connection PVC pipes	3.4	X		
Marking, instructions, and packaging	4	X	X	Each year

7 List of referenced documents and source

7.1 Standards / normative documents

All normative references in this Approval Requirement refer to the editions of the standards as mentioned in the list below.

EN 13774: 2013	Valves for gas distribution systems with maximum operating pressure less than or equal to 16 bar – Performance requirements
ISO 17885: 2021	Plastics piping systems — Mechanical fittings for pressure piping systems — Specifications
NEN 7231: 2020	Plastics piping systems for gas supply - Fittings of modified poly(vinyl chloride) (modified-PVC) - Requirements and test methods

7.2 Source of informative documents

EN 437: 2021	Test gases- Test pressure – Appliance categories
General requirements GASTEC QA	