INTERNATIONAL STANDARD

ISO 15848-2

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Industrial valves — Measurement, test and qualification procedures for fugitive emissions —

Part 2: Production acceptance test of valves

Robinetterie industrielle — Mesurage, essais et modes opératoires de qualification pour émissions fugitives —

Partie 2: Essais de réception en production des appareils de robinetterie

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15848-2 was prepared by Technical Committee ISO/TC 153, *Valves*, Subcommittee SC 1, *Design, manufacture, marking and testing*.

ISO 15848 consists of the following parts, under the general title *Industrial valves — Measurement, test and qualification procedures for fugitive emissions*:

— *Part 1: Classification system and qualification procedures for type testing of valves*

— *Part 2: Production acceptance test of valves*

Introduction

The aim of this part of ISO 15848 is to establish standard practice for the evaluation of production valves whose design has been successfully type-tested according to ISO 15848-1.

Industrial valves — Measurement, test and qualification procedures for fugitive emissions —

Part 2: Production acceptance test of valves

1 Scope

This part of ISO 15848 specifies test procedures for the evaluation of external leakage of valve stems or shafts and body joints of isolating valves and control valves intended for application with volatile air pollutants and hazardous fluids. End connection joints, vacuum application, effects of corrosion and radiation are excluded from this part of ISO 15848. The production acceptance test is intended for standard production valves where fugitive emissions standards are specified.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 15848-1:2006, *Industrial valves — Measurement, test and qualification procedures for fugitive emissions — Part 1: Classification system and qualification procedures for type testing of valves*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 15848-1 and the following apply.

3.1
production acceptance test
test carried out on production valves to verify conformance with the requirements of this part of ISO 15848

4 Preparation of test valves

4.1 Valve selection

The sampling percentage shall be according to a specific agreement between the manufacturer and the purchaser, with a minimum of one valve of the lot, and shall be selected at random from each production lot of valves per valve type, pressure class and nominal size.

4.2 Preconditioning

This part of ISO 15848 is applicable to valves the design of which has been successfully type-tested according to ISO 15848-1. The selected valves shall have been successfully tested according to the relevant production test standards and the purchaser's specifications, prior to the acceptance test specified in this part of ISO 15848.

The manufacturer shall ensure that the packing is dry before production.

4.3 Stem (or shaft) seal adjustment

Compression of stem (or shaft) seal(s) shall be initially adjusted according to the manufacturer's instructions.

5 Test conditions

5.1 Test fluid

The test fluid shall be helium gas with a minimum purity of 97 % by volume.

5.2 Leakage measurement

Leakages shall be measured by the sniffing method in accordance with ISO 15848-1:2006, Annex B, and shall be expressed in parts per million in volume (1 ppmv = 1 ml/m^3 = 1 cm^3/m^3).

5.3 Test pressure

The test pressure shall be 6 bar (1 bar = 0,1 MPa = 10^5 Pa; 1 MPa = 1 N/mm^2), unless otherwise agreed by the manufacturer and the purchaser.

5.4 Test temperature

The test temperature shall be the room temperature as defined in ISO 15848-1.

6 Test procedure and evaluation of test results

6.1 Measurement of stem (or shaft) seal leakages

The procedure for measuring the leakage of stem or shaft seals is as follows.

a) Half open the test valve and pressurize to the level specified in 5.3. Measure stem seal leakage using the sniffing method in accordance with ISO 15848-1:2006, Annex B.

b) Then fully open and close the pressurized test valve five times.

c) Half open the test valve after the mechanical cycles, and measure stem seal leakages as in a).

d) If the meter reading exceeds the parts per million in volume (1 ppmv = 1 ml/m^3 = 1 cm^3/m^3) value of the required performance class according to Table 1, the test shall be considered as having been failed and the lot of valves (see 4.1) shall be rejected.