ISO 23551-10:2025-05 (E)

Safety and control devices for gas burners and gas-burning appliances - Particular requirements - Part 10: Vent valves

Contents

Page

Foreword vi

Introduction vii

1 Scope 1

2 Normative references 1

3 Termsanddefinitions 1

4 Classification 3
4.1 Classes of controls 3
4.2 Groups of controls 3
4.3 Types of DC supplied controls 3
4.4 Classes of control functions 3

5 Test conditions and tolerances 3

6 Construction 3
6.1 General 3
6.2 Construction requirements 3
6.2.1 Appearance 3
6.2.2 Holes 3
6.2.3 Breather holes 3
6.2.4 Vent limiter 3
6.2.5 Screwed fastenings 3
6.2.6 Moving parts 3
6.2.7 Sealing caps 4
6.2.8 Disassembling and assembling for servicing and/or adjustment for controls 4
6.2.9 Auxiliary channels and orifices 5
6.2.10 Pre-setting device 5
6.2.11 Open position indicator switch (OPS) 5
6.2.12 Controls assembled to a valve 6
6.3 Materials 6
6.3.1 Housing 6
6.3.2 General material requirements 6
6.3.3 Springs providing closing force and sealing force 6
6.3.4 Resistance to corrosion and surface protection 6
6.3.5 Impregnation 6
6.3.6 Seals for glands for moving parts 6
6.3.7 Jointing 6
6.3.8 Closure members 6
6.3.9 Springs providing opening force 7
6.4 Connections 7
6.4.1 General 7
6.4.2 Connection sizes 7
6.4.3 Connection types 7
6.4.4 Threads 7
6.4.5 Union joints 7
6.4.6 Flanges 7
6.4.7 Compression fittings 7

6.4.8 Flare connections 8
6.4.9 Nipples for pressure tests 8
6.4.10 Strainers 8
6.4.11 Pneumatic and hydraulic actuating mechanisms 8
6.5 Gas controls employing with electrical components in the gas way 8

7 Performance 8
7.1 General 8
7.2 Leak-tightness 8
7.2.1 General 8
7.2.2 Requirements 8
7.2.3 Test 9
7.3 Torsion and bending 9
7.4 Rated flow rate 9
7.5 Durability 9
7.6 Functional requirements 9
7.6.1 Opening function 9
7.6.2 Opening force 10
7.6.3 Delay time and closing time 10
7.6.4 Opening time 11
7.7 Endurance 11
7.7.1 Requirements 11
7.7.2 Test 12
7.8 Open position indicator switch 12
7.8.1 Requirement 12
7.8.2 Test of open position indicator switch 12
7.9 Hydrostatic withstand pressure test 12
7.9.1 General 12
7.9.2 Requirement 13
7.9.3 Test 13

8 Electrical equipment 13
8.1 General 13
8.2 Requirements 13
8.3 Test 14
8.4 Protection by enclosure 14
8.5 Electrical components 14
8.5.1 Switches 14
8.5.2 Plug connector 14
8.5.3 Power saving circuit 15

9 EMC/Electrical requirements 15
9.1 Protection against environmental influences 15
9.1.1 General 15
9.1.2 Requirements 15
9.2 Harmonics and interharmonics including mains signalling at a. c. power port, low frequency immunity 15
9.3 Voltage dips, voltage interruptions and voltage variations in the power supply network 15
9.4 Test of influence of voltage unbalance 16
9.5 Surge immunity test 16
9.6 Electrical fast transient/burst 16
9.7 Ring wave immunity 16
9.8 Electrostatic discharge 16
9.9 Radio-frequency electromagnetic field immunity 16
9.10 Influence of supply frequency variations 16
9.11 Power frequency magnetic field immunity 16
9.12 Evaluation of compliance 16

10 Marking, installation and operating instructions 16
10.1 Marking 16
10.2 Installation and operating instructions 17

10.3 Warning notice 17

Annex A (informative) Leak-tightness test -- Volumetric method 18

Annex B (informative) Leak-tightness test -- Pressure-loss method 19

Annex C (normative) Conversion of pressure loss into leakage rate 20

Annex D (normative) Gas quick connector (GQC) 21

Annex E (normative) Elastomers/requirements resistance to lubricants and gas 22

Annex F (normative)SpecificregionalrequirementsinEuropeancountries 23

Annex G (normative)SpecificregionalrequirementsinCanadaandtheUSA 24

Annex H (normative)SpecificregionalrequirementsinJapan 25

Bibliography 26