

# ISO 23551-10:2025-05 (E)

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

---

<b>Contents</b>		<b>Page</b>
Foreword .....		vi
Introduction .....		vii
1	Scope .....	1
2	Normative references .....	1
3	Terms and definitions .....	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

<b>10.3</b>	<b>Warning notice .....</b>	<b>17</b>
	<b>Annex A (informative) Leak-tightness test -- Volumetric method .....</b>	<b>18</b>
	<b>Annex B (informative) Leak-tightness test -- Pressure-loss method .....</b>	<b>19</b>
	<b>Annex C (normative) Conversion of pressure loss into leakage rate .....</b>	<b>20</b>
	<b>Annex D (normative) Gas quick connector (GQC) .....</b>	<b>21</b>
	<b>Annex E (normative) Elastomers/requirements resistance to lubricants and gas .....</b>	<b>22</b>
	<b>Annex F (normative) Specific regional requirements in European countries .....</b>	<b>23</b>
	<b>Annex G (normative) Specific regional requirements in Canada and the USA .....</b>	<b>24</b>
	<b>Annex H (normative) Specific regional requirements in Japan .....</b>	<b>25</b>
	<b>Bibliography .....</b>	<b>26</b>