

DIN EN 88-2:2024-02 (E)

Safety and control devices for gas burners and gas burning appliances - Part 2: Pressure regulators for inlet pressures above 50 kPa up to and including 500 kPa

Contents		Page
European foreword		4
Introduction		6
1	Scope	8
2	Normative references	8
3	Terms and definitions	9
4	Classification	14
4.1	Classes of control	14
4.2	Groups of control	14
4.3	Classes of control functions	14
4.4	Types of DC supplied controls	14
5	Test conditions and uncertainty of measurements	14
6	Design and construction	15
6.1	General	15
6.2	Mechanical parts of the control	15
6.3	Materials	17
6.4	Gas connections	18
6.5	Electrical parts of the control	18
6.6	Protection against internal faults for the purpose of functional safety	18
7	Performance	18
7.1	General	18
7.2	Leak-tightness	19
7.3	Torsion and bending	19
7.4	Rated flow rate	19
7.5	Durability	20
7.6	Performance tests for electronic controls	20
7.7	Long-term performance for electronic controls	20
7.8	Data exchange	20
7.101	Pressure regulator performance	20
7.102	Safety devices	26
8	Electrical requirements	31
8.1	General	31
8.2	Protection by enclosure	31
8.101	Plug connections	31
9	Electromagnetic compatibility (EMC)	32
9.1	Protection against environmental influences	32
9.2	Supply voltage variations below 85 % of rated voltage	32
9.3	Voltage dips and interruptions	32
9.4	Supply frequency variations	32
9.5	Surge immunity tests	32
9.6	Electrical fast transient/burst	32
9.7	Immunity to conducted disturbances induced by radio frequency fields	32

9.8	Immunity to radiated disturbances induced by radio frequency fields	32
9.9	Electrostatic discharge tests	32
9.10	Power frequency magnetic field immunity tests	32
9.11	Harmonics and interharmonics including mains signalling at a. c. power port, low frequency immunity tests	32
10	Marking, instructions	33
10.1	Marking	33
10.2	Instructions	33
10.3	Warning notice	34
Annex A (informative) Abbreviations and Symbols		35
Annex B (informative) Leak-tightness tests for gas controls - volumetric method		36
Annex C (informative) Leak-tightness tests for gas controls - pressure loss method		37
Annex D (normative) Conversion of pressure loss into leakage rate		38
Annex E (normative) Electrical/electronic component fault modes		39
Annex F (normative) Additional requirements for safety accessories and pressure accessories as defined in EU Directive 2014/68/EU		40
Annex G (normative) Materials for pressurized parts		41
Annex H (normative) Additional materials for pressurized parts		42
Annex I (normative) Requirements for controls used in DC supplied burners and appliances burning gaseous or liquid fuels		43
Annex J (normative) Method for the determination of a Safety Integrity Level (SIL)		44
Annex K (normative) Method for the determination of a Performance Level (PL)		45
Annex L (informative) Relationship between Safety Integrity Level (SIL) and Performance Level (PL)		46
Annex M (normative) Reset functions		47
Annex N (informative) Guidance document on Environmental Aspects		48
Annex O (normative) Seals of elastomer, cork and synthetic fibre mixtures		49
Annex AA (informative) Typical pressure regulators and safety devices		50
AA.1	Main components of a pressure regulator	50
AA.2	Main components of a safety shut-off device	53
Annex BB (informative) Overview of requirements and test conditions (as given in 7.101), and examples of performance curves for pressure regulators		55
Annex CC (normative) Creep relief device		58
CC.1	General	58
CC.2	Design and construction	58
CC.3	Performance requirements	58
CC.4	Marking, instructions	58

Annex DD (informative) Comparison between EN 334:2019 and EN 88-2:202259
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Regulation (EU) 2016/426 aimed to be covered 60
Bibliography 63