

DIN EN 161:2013-04 (E)

Automatic shut-off valves for gas burners and gas appliances (includes Amendment A3:2013)

Contents	Page
Foreword	4
1 Scope	6
2 Normative references	6
3 Terms and definitions	7
4 Classification	8
5 Units of measurement and test conditions	9
6 Construction requirements	9
7 Performance	14
8 EMC/Electrical requirements	22
9 Marking, installation and operating instructions	24
Annex A (informative) Gas connections in common use in the various countries	26
Annex B (informative) Leak-tightness test - volumetric method	27
Annex C (informative) Leak-tightness test - pressure loss method	28
Annex D (normative) Conversion of pressure loss into leakage rate	29
Annex E (normative) Electrical/electronic component fault modes	30
Annex F (normative) Additional requirements for safety accessories and pressure accessories as defined in EU Directive 97/23/EC	31
Annex G (normative) Materials for pressurized parts	32
Annex H (informative) Additional materials for pressurized parts	33
Annex I (normative) Requirements for controls used in DC supplied gas burners and gas burning appliances	34
Annex AA (normative) %Method for the determination of Performance Level (PL)&	35
Annex BB (informative) %Model of a FMEA for valves&	38
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2009/142/EC relating to appliances burning gaseous fuels .	55
Bibliography	57
Tables Table 1 -- Test pressure	15

Table 2 -- Sealing force requirements	18
Table 3 -- Operating cycles	21
Table 4 -- Operating cycles for automatic shut-off valves for cookers according to EN 30-1-4:2002, 5.3.7.1. 21 Table AA.1 - Scoring result of EN 13611:2007+A2:2011 for valves	36
Table BB.1 -- Example of a FMEA for a single seated valve to determine the SFF	40
Table BB.2 -- Failure Fields	51
Table BB.3 -- Illustration of the used terms in Table BB.1	53
Table ZA.1 -- Correspondence between this European Standard and Directive 2009/142/EC relating to appliances burning gaseous fuels	55