

DIN EN 15502-2-1:2013-01 (E)

Gas-fired central heating boilers - Part 2-1: Specific standard for type C appliances and type B2, B3 and B5 appliances of a nominal heat input not exceeding 1 000 kW

Contents		Page
Foreword		4
Introduction		6
1	Scope	8
2	Normative references	9
3	Terms, definitions and symbols	10
3.1	Terms and definitions	10
3.2	Symbols	12
4	Classification	12
5	Construction	12
5.1	General	12
5.2	Conversion to different gases	12
5.3	Materials	12
5.4	Method of construction	14
5.5	Burners	18
5.6	Pressure test points	18
5.7	Requirements for the application of control and safety devices	18
5.101	Additional requirements for modular boilers	20
6	Electrical safety	20
7	Controls	20
8	Operational requirements	20
8.1	General	20
8.2	Soundness	22
8.3	Hydraulic resistance	26
8.4	Heat inputs and heat output	26
8.5	Limiting temperatures	26
8.6	Ignition, cross lighting, flame stability	27
8.7	Reduction of the gas pressure	31
8.8	Defective closure of the gas valve immediately upstream of the main burner	31
8.9	Pre-purge	31
8.10	Functioning of a permanent ignition burner when the fan stops during the standby time34	
8.11	Adjustment, control and safety devices	34
8.12	Carbon monoxide	38
8.13	NOx	40
8.14	Special provisions for boilers intended to be installed in a partially protected place	41
8.15	Formation of condensate	41
8.16	Temperature of combustion products	41
8.101	Mechanical resistance and stability of ducts, terminal and fitting pieces	42
8.102	Requirements for plastic in the combustion product evacuation ducts, terminals and fitting pieces for boilers	44
8.103	Requirements for elastomeric seals and elastomeric sealants in the combustion product evacuation ducts, terminals and fitting pieces	50

9	Useful efficiencies	54
10	Electric auxiliary energy	55
11	Risk assessment	55
12	Marking and instructions	55
12.1	Boiler marking	55
12.2	Instructions	55
12.3	Presentation	58
12.4	Supplementary marking and instructions in the case of boilers to be installed in partially protected places	58
101	Figures	58
102	Listing of tables and numbers	70
103	Annexes	71
	Annex AA (informative) Standards replaced by this standard in combination with part 1	72
	Annex BB (normative) Test apparatus for type C2 boilers	74
	Annex CC (normative) Test methods to determine the effects of long-term thermal load, long-term condensate exposure, condensing/ non-condensing cycling and resistance to UV radiation	75
	Annex DD (informative) Variations in gas quality	76
	DD.1 Introduction	76
	DD.2 Considerations if boilers are intended to be used with larger variations in the gas quality	77
	DD.2.1 Specification of the acceptable variations	77
	DD.2.2 Impact of the claimed range around a set value for the normal distributed gases	78
	DD.2.3 Impact of the declared values	79
	DD.2.4 Relation between the RG, the DLG and the ELG	79
	DD.2.5 Self adapting appliances	80
	Annex ZA (informative) Clauses of this European Standard addressing essential requirements or provisions of EU Directive 2009/142/EC, "Directive relating to appliances burning gaseous fuels (codified version)" (GAD)	81
	Annex ZB (informative) Clauses of this European Standard addressing the methods for the verification of the efficiency of the EU Directive 92/42/EEC, relating to the efficiency of new hot boilers with an output of 4 - 400 kW	84
	Bibliography	85