DIN EN 621:2010-04 (E)

Non-domestic gas-fired forced convecti on air heaters for space heating not exceeding a net heat input of 300 kW, without a fan to assist transportation of combustion air and/or combustion products

Contents

Page

Foreword 4

1 Scope 5

2 Normative references 5

3 Terms and definitions 7
3.1 Appliance and its constituent parts 7
3.2 Adjustment, control and safety devices 9
3.3 Operation of the appliance 11
3.4 Gases 14
3.5 Conditions of operation and measurement 15
3.6 Marking of the appliance and packaging 16

4 Classification 16
4.1 Classification of gases 16
4.2 Classification of appliances according to the gases capable of being used 17
4.3 Classification of appliances according to the mode of evacuation of the combustion products 18

5 Construction and design requirements 19
5.1 General 19
5.2 Adjusting, control and safety devices 25
5.3 Ignition devices 28
5.4 Flame supervision system 29
5.5 Start-gas flame establishment 30
5.6 Main flame establishment 31
5.7 Main burner 32
5.8 Facility for remote control 32
5.9 Thermostats and control of air temperature 32
5.10 Combustion chamber pressure reliefs 33
5.11 Facilities for commissioning and testing 33

6 Operational requirements 34
6.1 Safety of operation 34
6.2 Efficiency 38

7 Test methods 39
7.1 General 39
7.2 Construction and design 46
7.3 Safety of operation 47
7.4 Efficiency 69

8 Marking and instructions 75
8.1 Marking of the appliance 75
8.2 Marking of the packaging 76
8.3 Utilization of symbols on the appliance and packaging 76
8.4 Instructions 78

9 Evaluation of POCED conformity and their associated terminals 80
9.1 General 80
9.2 Type testing 80
9.3 Factory production control (FPC) 81

Annex A (informative) National situations 83

A.1 General 83
A.2 Categories listed in the body of the standard and marketed in different countries 83
A.3 Appliance supply pressures corresponding to the categories given in A.2 85
A.4 Special categories marketed nationally or locally 86
A.5 Test gases corresponding to the special categories given in A.4 90
A.6 Gas connections in the various countries 91
A.7 Flue connections in the various countries 93

Annex B (informative) Equivalence rules 94

B.1 Conversion to categories within a restricted Wobbe index range 94
B.2 Conversion to categories within an identical Wobbe index range 94
B.3 Conversion to categories within a wider Wobbe index range 95

Annex C (informative) Facilities for commissioning and testing 96

C.1 Appliances with automatic ignition of a start-gas flame 96
C.2 Appliances with direct automatic ignition of the main burner 96

Annex D (informative) Identification of gas types in use in various countries 97

Annex E (informative) A-deviations 98

E.1 General 98
E.2 Switzerland 98

Annex F (normative) Special national conditions 99

F.1 General 99
F.2 Belgium 99
F.3 Italy 99

Annex G (informative) National solutions for countries whose national bodies are Affiliate Members of CEN 100

G.1 Categories listed in the body of the standard and marketed in different countries 100
G.2 Appliance supply pressures corresponding to the categories given in G.1 100
G.3 Special categories marketed nationally or locally 100
G.4 Gases and test pressures corresponding to the special categories given in G.3 100

Annex H (informative) Calculation of conversions of NOx 101

Annex I (informative) An example of a sampling plan 102

I.1 Sampling plans 102
I.2 Inspection levels and procedures 103

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 90/396/EEC 104

Annex ZB (informative) Clauses of this European Standard addressing the provisions of the EU Construction Products Directive 106

ZB.1 Scope and relevant characteristics 106

ZB.2 Procedure(s) for attestation of conformity of [construction products] 108

ZB.3 CE marking and labelling 110

Bibliography 112