DIN EN 13203-2:2019-06 (E)

Gas-fired domestic appliances producing hot water - Part 2: Assessment of energy consumption

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms and definitions 6

4 General test conditions 8
4.1 Reference conditions 8
4.2 Measurement uncertainties 8
4.2.1 General 8
4.2.2 Steady state conditions 9
4.3 Test conditions 9
4.3.1 General 9
4.3.2 Test room 9
4.3.3 Water supply 9
4.3.4 Initial adjustment of the appliance 10
4.3.5 Conditions for the determination of the maximum load profile 10
4.3.6 Electrical supply 10

5 Determination of the energy consumption of the appliance 11
5.1 General 11
5.2 Load profiles 11
5.3 Determination of the energy recovered by the useful water 18
5.4 Calculation of gas energy 19
5.4.1 Calculation of daily gas energy consumption in summer mode 19
5.4.2 Calculation of daily gas energy consumption in winter mode 19
5.4.3 Daily gas energy consumption seasonally weighted 20
5.5 Calculation of daily electrical energy consumption 20
5.6 Measurement of energy consumption in standby mode 21
5.6.1 General 21
5.6.2 Calculation of daily gas energy consumption in standby mode 21
5.6.3 Calculation of daily auxiliary electrical energy consumption in standby mode 22
5.7 Determination of daily auxiliary electrical energy consumption in off mode 22

6 Determination of the ratio of wasted water to total water 22

7 Eco design Related Products Data 23
7.1 Water heating energy efficiency 23
7.2 Annual fuel consumption (AFC) 24
7.3 Annual electricity consumption (AEC) 25
7.4 Mixed water at 40°C (V40) for storage water heaters 25

Annex A (informative) Test conditions 28

Annex B (informative) Test rig and measurement devices 31

B.1 General 31

B.2 Pressure measurement 32
B.3 Temperature measurement 32

Annex C (informative) Declaration of the Maximum Load Profile 36

Annex ZA (informative) Relationship between this European Standard and the ecodesign requirements of Commission Regulation (EU) n° 814/2013 [OJEU L239 of 6 September 2013] aimed to be covered 37

Annex ZB (informative) Relationship between this European Standard and the energy labelling requirements of Commission Delegated Regulation (EU) No 812/2013 [OJEU L239 of 6 September 2013] aimed to be covered 38

Annex ZC (informative) Relationship between this European Standard and the ecodesign requirements of Commission Regulation (EU) n° 813/2013 [OJEU L239 of 6 September 2013] aimed to be covered 39

Annex ZD (informative) Relationship between this European Standard and the energy labelling requirements of Commission Delegated Regulation (EU) No 811/2013 [OJEU L239 of 6 September 2013] aimed to be covered 40

Bibliography 41