

DIN EN 14037-2:2016-12 (E)

Free hanging heating and cooling surfaces for water with a temperature be low 120 Â°C - Part 2: Pre-fabricated ceiling mounted radiant panels for space heating - Test method for thermal output

Contents		Page
European foreword		4
Introduction		5
1	Scope	6
2	Normative references	6
3	Terms and definitions	6
4	Testing of thermal output	6
5	Test booth	6
5.1	General	6
5.2	Dimensions of the test booth	7
5.3	Emissivity of the inside surrounding surfaces	8
5.4	Tightness of the test booth	8
5.5	Cooling system	8
5.6	Temperature measuring points	8
5.6.1	Reference room temperature	8
5.6.2	Air temperature	9
5.6.3	Surface temperature of the inside surfaces	10
6	Master Panels	11
6.1	Introduction	11
6.2	General	11
6.3	Determination of the value M,s of master panels (Primary set)	11
6.4	Construction details	11
6.4.1	Dimensions	11
6.4.2	Material	11
6.4.3	Construction	11
6.4.4	Dimensional verification	11
6.5	Verification of test installation, repeatability and reproducibility	17
7	Test methods	17
7.1	General	17
7.2	Weighing method	18
7.3	Measurement of the inlet and outlet temperatures	19
7.4	Measurement of the control temperatures	19
7.5	Uncertainty of the measured thermal output	19
7.6	Air pressure	19
8	Carrying out the measurement	20
8.1	General	20
8.2	Dimensions and construction of the test samples	20
8.3	Selection of the models to be tested for determining the thermal output of a type	20
8.4	Manufacturer documents for the test samples	20
8.5	Arrangement of the sample in the test booth	20
8.6	Upper insulation of the test sample	22

8.7	Connection of the test sample to the measuring circuit	22
8.8	Tests	22
8.9	Mass flow	23
8.10	Test temperatures	23
8.11	Steady-state conditions	23
8.12	Correction due to the air pressure	23
8.13	Result of measurement - Characteristic equation	23
9	Test report	24
9.1	General	24
9.2	Data	24
Annex A (normative) Dimensional verification of master panels		26
A.1	General	26
A.2	Determination M_s -values of the master panels (primary set)	26
A.3	Dimensional verification and manufacturing certification for master panel 1	26
A.4	Dimensional verification and manufacturing certification for master panel 2	28
Annex B (informative) Temperature measuring device		31
Annex C (normative) Least squares regression for a model		32
Annex D (informative) Specimen of the test report for heating capacity		33
Bibliography		36