DIN EN 12261:2007-07 (E)

Gas meters - Turbine gas meters (includes Amendment A1:2006)

Contents

Page

1 Scope 5

2 Normative references 5

3 Terms, definitions and symbols 6
3.1 Terms and definitions 6
3.2 Symbols 9

4 Meter classification 10
4.1 Flange pressure ratings 10
4.2 Gas meter sizes, rangeability and connection diameter sizes 10
4.3 Connections and dimensions 11
4.4 Temperature ranges 12
4.5 Climatic environment 12

5 Metrological performance requirements 12
5.1 General 12
5.2 Type testing 12

6 Design and material requirements 18
6.1 General 18
6.2 Robustness 19
6.3 Resistance to environmental conditions 23
6.4 Removable meter mechanisms 25
6.5 Indicating devices and accessories 26
6.6 Pressure and temperature tappings 27
6.7 Lubrication 28

7 Meter output 29
7.1 General 29
7.2 Indicating device 29
7.3 Pulse generator 30
7.4 Output shaft 31
7.5 Test element 32

8 Marking 33
8.1 General 33
8.2 Data plate 33
8.3 Direction of flow 33
8.4 Working position 33
8.5 Other connections 34

9 Documentation 34
9.1 General 34
9.2 Declaration of conformity 34
9.3 Instruction manual 34

Annex A (normative) Test facility specifications 36

A.1 Test medium 36
A.2 Leakage 36
A.3 Installation conditions 36

A.4 Reference standards 36

Annex B (normative) Perturbation testing 37

B.1 General 37
B.2 Terms and definitions 37
B.3 Requirements 37
B.4 Tests 38
B.5 Similarity 41
B.6 Flow conditioner 41

Annex C (informative) Recommendations for use 43

C.1 Pressure loss 43
C.2 Spin test 43
C.3 Locations of temperature measuring devices 43

Annex D (normative) Individual factory testing 44

D.1 General 44
D.2 Meter report 44

Annex E (normative) Metrological requirements and tests for each meter prior to dispatch (Individual meter testing) 45

E.1 Information required from the purchaser (user) 45
E.2 Determination of number of tests 45
E.3 Error of indication 46
E.4 Linearity 47
E.5 Weighted mean error (WME) 47
E.6 Data plate specification 48
E.7 Test certificate 48

Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2004/22 Measuring Instruments Directive 49

Bibliography 53