

Contents		Page
Foreword		iv
Introduction		v
1 Scope		1
2 Normative references		1
3 Terms and definitions		1
4 Principles of the method of measurement and computation		2
5 Cone meters		3
5.1 Field of application		3
5.2 General shape		3
5.3 Material and manufacture		7
5.4 Pressure tapings		8
5.5 Discharge coefficient, C		8
5.5.1 Limits of use		8
5.5.2 Discharge coefficient of the cone meter		8
5.6 Expansibility (expansion) factor, ε		9
5.7 Uncertainty of the discharge coefficient, C		9
5.8 Uncertainty of the expansibility (expansion) factor, ε		9
5.9 Pressure loss		9
6 Installation requirements		10
6.1 General		10
6.2 Minimum upstream and downstream straight lengths for installations between various fittings and the cone meter		10
6.2.1 General		10
6.2.2 Single 90° bend		11
6.2.3 Two 90° bends in perpendicular planes		11
6.2.4 Concentric expander		11
6.2.5 Partially closed valves		11
6.3 Additional specific installation requirements for cone meters		11
6.3.1 Circularity and cylindricity of the pipe		11
6.3.2 Roughness of the upstream and downstream pipe		11
6.3.3 Positioning of a thermowell		11
7 Flow calibration of cone meters		12
7.1 General		12
7.2 Test facility		12
7.3 Meter installation		12
7.4 Design of the test programme		12
7.5 Reporting the calibration results		13
7.6 Uncertainty analysis of the calibration		13
7.6.1 General		13
7.6.2 Uncertainty of the test facility		13
7.6.3 Uncertainty of the discharge coefficient of the cone meter		13
Annex A (informative) Table of expansibility (expansion) factor		14
Bibliography		15