ISO 6145-5:2009-11 (E)

Gas analysis - Preparation of calibration gas mixtures using dynamic volumetric methods - Part 5: Capillary calibration devices

Contents

Page

Foreword iv

1 Scope 1

2 Normative references 1

3 Principle 1

4 Apparatus 2
4.1 Two-capillary blending system 2
4.1.1 Set-up 2
4.1.2 Apparatus 2
4.1.3 Procedure 3
4.2 Multiple capillary devices using gas dividers 4
4.2.1 Set-up of a gas divider 4
4.2.2 Gas dividers with a combination of non-identical capillaries 4
4.2.3 Gas dividers with a combination of identical capillaries 5
4.2.4 Operation of a gas divider with identical capillaries 6
4.2.5 Determination of the flow rates 6

5 Expression of results 7
5.1 Volume fraction 7
5.2 Sources of uncertainties 7
5.2.1 Temperature 7
5.2.2 Viscosity 7
5.2.3 Pressure 8
5.2.4 Geometry of the capillary tubes 8
5.3 Verification of the blending system/gas divider 8
5.4 Determination of uncertainties 8

Annex A (informative) Numerical example 10

Annex B (informative) Derivation of the formula for combined uncertainty in K 13

Bibliography 14