

# ISO 6145-7:2018 (E)

## Gas analysis — Preparation of calibration gas mixtures using dynamic methods — Part 7: Thermal mass-flow controllers

---

### Contents

	Foreword
1	Scope
2	Normative references
3	Terms and definitions
4	Symbols
5	Principle
6	Set-up
6.1	General
6.2	Thermal mass-flow controller using a constant current supply
6.3	Thermal mass-flow controller under constant temperature control
7	Preparation of gas mixtures
7.1	Description of the experimental procedure
7.2	Range of validity
7.3	Operating conditions
8	Calculations
8.1	Volume fraction
8.2	Sources of uncertainty
8.3	Uncertainty of measurement
Annex A	(informative) Pre-mixed gases for the preparation of mixtures of high dilution
A.1	Calculation of the volume fraction
A.2	Uncertainty of volume fraction
Annex B	(informative) Practical hints
B.1	Equipment
B.2	Operation
B.3	Calibration and precision
Annex C	(informative) Calculation of uncertainties
C.1	Relative standard uncertainty of $\phi_a$ in case of nominally pure gases
C.2	Relative standard uncertainty of $\phi_a$ in case of diluting a gas mixture