

# DIN EN ISO 6145-7:2011-03 (E)

## Gas analysis - Preparation of calibration gas mixtures using dynamic volumetric methods - Part 7: Thermal mass-flow controllers (ISO 6145-7:2009)

---

<b>Contents</b>		<b>Page</b>
<b>Foreword</b>	.....	<b>3</b>
<b>1</b>	<b>Scope</b> .....	<b>4</b>
<b>2</b>	<b>Normative references</b> .....	<b>4</b>
<b>3</b>	<b>Terms and definitions</b> .....	<b>4</b>
<b>4</b>	<b>Principle</b> .....	<b>5</b>
<b>5</b>	<b>Set-up</b> .....	<b>5</b>
<b>5.1</b>	<b>General</b> .....	<b>5</b>
<b>5.2</b>	<b>Thermal mass-flow controller using a constant current supply</b> .....	<b>5</b>
<b>5.3</b>	<b>Thermal mass-flow controller under constant temperature control</b> .....	<b>6</b>
<b>6</b>	<b>Preparation of gas mixtures</b> .....	<b>7</b>
<b>6.1</b>	<b>Description of the experimental procedure</b> .....	<b>7</b>
<b>6.2</b>	<b>Area of validity</b> .....	<b>9</b>
<b>6.3</b>	<b>Operating conditions</b> .....	<b>9</b>
<b>7</b>	<b>Calculations</b> .....	<b>10</b>
<b>7.1</b>	<b>Volume fraction</b> .....	<b>10</b>
<b>7.2</b>	<b>Sources of uncertainty</b> .....	<b>10</b>
<b>7.3</b>	<b>Uncertainty of measurement</b> .....	<b>11</b>
<b>Annex A (informative) Pre-mixed gases for preparation of mixtures of high dilution</b> .....		<b>12</b>
<b>Annex B (informative) Practical hints</b> .....		<b>13</b>
<b>Annex C (informative) Calculation of uncertainties</b> .....		<b>15</b>
<b>Bibliography</b> .....		<b>18</b>