

# ISO 5059-1:2025-04 (E)

## Geometrical product specifications (GPS) - Dimensional measuring equipment - Part 1: Design and metrological characteristics of two-point inside micrometers

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		vii
<b>1</b>	<b>Scope .....</b>	<b>1</b>
<b>2</b>	<b>Normative references .....</b>	<b>1</b>
<b>3</b>	<b>Terms and definitions .....</b>	<b>1</b>
<b>4</b>	<b>Design characteristics .....</b>	<b>2</b>
4.1	General design and nomenclature .....	2
4.2	Main dimensions .....	3
4.3	Thermally insulating grip .....	3
4.4	Measuring faces .....	3
4.5	Adjustment devices .....	3
4.6	Spindle clamp .....	4
4.7	Interchangeable extensions .....	4
<b>5</b>	<b>Metrological characteristics .....</b>	<b>4</b>
5.1	General .....	4
5.2	Rated operating conditions .....	4
5.3	Reference point .....	4
5.4	Test methods .....	5
5.5	Length measurement error, E (limited by EMPE) .....	5
5.5.1	General .....	5
5.5.2	Length measurement error without using interchangeable extension (for the main body) ..	5
5.5.3	Length measurement error with interchangeable extension .....	5
5.6	Maximum permissible error (MPE) values .....	6
<b>6</b>	<b>Determination of conformity to specifications .....</b>	<b>7</b>
6.1	General .....	7
6.2	Measurement uncertainty .....	7
6.3	Decision rule .....	7
<b>7</b>	<b>Marking .....</b>	<b>7</b>
<b>Annex A (normative)</b>	<b>Default MPE values for metrological characteristics .....</b>	<b>8</b>
<b>Annex B (informative)</b>	<b>Relation to the GPS matrix model .....</b>	<b>10</b>
<b>Bibliography .....</b>		<b>11</b>