

# ISO 28927-1:2019-11 (E)

## Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 1: Angle and vertical grinders

---

<b>Contents</b>		<b>Page</b>
Foreword .....		iv
Introduction .....		v
<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>3.1</b>	<b>Terms and definitions .....</b>	<b>2</b>
<b>3.2</b>	<b>Symbols .....</b>	<b>2</b>
<b>4</b>	<b>Basic standards and vibration test codes .....</b>	<b>2</b>
<b>5</b>	<b>Description of the family of machines .....</b>	<b>3</b>
<b>6</b>	<b>Characterization of vibration .....</b>	<b>5</b>
<b>6.1</b>	<b>Direction of measurement .....</b>	<b>5</b>
<b>6.2</b>	<b>Location of measurements .....</b>	<b>5</b>
<b>6.3</b>	<b>Magnitude of vibration .....</b>	<b>8</b>
<b>6.4</b>	<b>Combination of vibration directions .....</b>	<b>8</b>
<b>7</b>	<b>Instrumentation requirements .....</b>	<b>8</b>
<b>7.1</b>	<b>General .....</b>	<b>8</b>
<b>7.2</b>	<b>Mounting of transducers .....</b>	<b>8</b>
<b>7.2.1</b>	<b>Specification of transducer .....</b>	<b>8</b>
<b>7.2.2</b>	<b>Fastening of transducers .....</b>	<b>8</b>
<b>7.3</b>	<b>Frequency weighting filter .....</b>	<b>9</b>
<b>7.4</b>	<b>Integration time .....</b>	<b>9</b>
<b>7.5</b>	<b>Auxiliary equipment .....</b>	<b>9</b>
<b>7.6</b>	<b>Calibration .....</b>	<b>9</b>
<b>8</b>	<b>Testing and operating conditions of the machinery .....</b>	<b>9</b>
<b>8.1</b>	<b>General .....</b>	<b>9</b>
<b>8.2</b>	<b>Operating conditions .....</b>	<b>10</b>
<b>8.2.1</b>	<b>Pneumatic machines .....</b>	<b>10</b>
<b>8.2.2</b>	<b>Hydraulic machines .....</b>	<b>10</b>
<b>8.2.3</b>	<b>Electrical machines .....</b>	<b>10</b>
<b>8.3</b>	<b>Other quantities to be specified .....</b>	<b>10</b>
<b>8.4</b>	<b>Attached equipment, work piece and task .....</b>	<b>10</b>
<b>8.4.1</b>	<b>Test wheel .....</b>	<b>10</b>
<b>8.4.2</b>	<b>Feed force .....</b>	<b>11</b>
<b>8.4.3</b>	<b>Test procedure .....</b>	<b>13</b>
<b>8.5</b>	<b>Operators .....</b>	<b>13</b>
<b>9</b>	<b>Measurement procedure and validity .....</b>	<b>13</b>
<b>9.1</b>	<b>Reported vibration values .....</b>	<b>13</b>
<b>9.2</b>	<b>Declaration and verification of the vibration emission value .....</b>	<b>14</b>
<b>9.3</b>	<b>Correction factor .....</b>	<b>14</b>
<b>10</b>	<b>Measurement report .....</b>	<b>15</b>

<b>Annex A (informative) Model test report for vibration emission of angle and vertical grinders .....</b>	<b>16</b>
<b>Annex B (normative) Determination of uncertainty .....</b>	<b>18</b>
<b>Annex C (normative) Design of test wheel .....</b>	<b>20</b>
<b>Bibliography .....</b>	<b>28</b>