
**Hand-held portable power tools —
Measurement of vibrations at the handle —**

Part 8:

**Polishers and rotary, orbital and random orbital
sanders**

*Machines à moteur portatives — Mesurage des vibrations au niveau
des poignées —*

*Partie 8: Polisseuses-lustreuses et ponceuses rotatives, orbitales et
orbitales spéciales*



Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 8662-8 was prepared by Technical Committee ISO/TC 118, *Compressors, pneumatic tools and pneumatic machines*, Subcommittee SC 3, *Pneumatic tools and machines*.

ISO 8662 consists of the following parts, under the general title *Hand-held portable power tools — Measurement of vibrations at the handle*:

- *Part 1: General*
- *Part 2: Chipping hammers and riveting hammers*
- *Part 3: Rock drills and rotary hammers*
- *Part 4: Grinders*
- *Part 5: Pavement breakers and hammers for construction work*
- *Part 6: Impact drills*
- *Part 7: Wrenches, screwdrivers and nut runners with impact, impulse or ratchet action*
- *Part 8: Polishers and rotary, orbital and random orbital sanders*
- *Part 9: Rammers*
- *Part 10: Nibblers and shears*
- *Part 11: Fastener driving tools (nailers)*

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- *Part 12: Saws and files with reciprocating action and saws with oscillating or rotating action*
- *Part 13: Die grinders*
- *Part 14: Stone-working tools and needle scalers*

Annex A of this part of ISO 8662 is for information only.

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Introduction

This part of ISO 8662, which specifies a type test for the measurement of vibrations at the handles of hand-held pneumatic polishers or rotary, orbital or random orbital sanders, supplements ISO 8662-1, which gives the general specifications for the measurement of vibrations at the handles of hand-held portable power tools. It specifies the operation of the tool under the type test and other requirements for the performance of the type test.

Polishers and rotary sanders both have circular flexible abrasive pads, driven in a simple rotating motion. In addition, polishers are generally fitted with a sheepskin or felt pad, whereas rotary sanders generally use a circular abrasive paper. The pad may be coupled to the motor directly, or via a gearbox which may include an angular drive.

The principle of the operation of both orbital and random orbital sanders is that the pad holding the abrasive paper is caused to orbit at a small radius about the axis of the tool. The pads of orbital sanders may be coupled to the motor directly, or via a gearbox. In a random orbital sander, the motor is connected to the pad via a ball bearing, causing it to operate with both rotary and circular movements (dual action). The pads of orbital sanders are generally, but not exclusively, rectangular; those of random orbital sanders are circular.

It has been found that the magnitude of the vibration generated by an orbital or random orbital sander sanding a workpiece varies considerably. The variation is due to many different parameters, for example, the way the operator holds the tool and the precision with which he applies the feed force. In order to provide a method which gives good measurement repeatability, this part of ISO 8662 strictly specifies the working conditions for the test.

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1 Scope

This part of ISO 8662 specifies a laboratory method for measuring the vibrations at the handles of a hand-held pneumatic polisher or rotary, orbital or random orbital sander. It is a type test procedure for establishing the magnitude of vibrations at the handles of the power tool when operating under a specified load.

Four types of power tools are concerned:

- a) polisher, with circular polishing pad;
- b) vertical rotary sander, with circular sanding pad;
- c) orbital sander, with rectangular, circular (or other) sanding pad;
- d) random orbital sander (including grinding-type tools fitted with a dual-action orbital hub), with circular sanding pad.

This part of ISO 8662 is not applicable to straight rotary sanders and belt sanders.

It is intended that the results be used to compare different power tools or different models of the same type of power tool. With the operation specified for the power tool, the values obtained will give an indication of those found in real work situations.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 8662. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 8662 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 2787:1984, *Rotary and percussive pneumatic tools — Performance tests*.

ISO 8662-1:1988, *Hand-held portable power tools — Measurement of vibrations at the handle — Part 1: General*.