
**End-suction centrifugal pumps —
Dimensions of cavities for mechanical
seals and for soft packing**

*Pompes centrifuges à aspiration en bout — Dimensions des logements de
garnitures mécaniques et de tresses*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 3069 was prepared by Technical Committee ISO/TC 115, *Pumps*, Subcommittee SC 1, *Dimensions and technical specifications of pumps*.

This second edition cancels and replaces the first edition (ISO 3069:1974), which has been technically revised by having a broadened scope and the inclusion of an alternative heavy-duty seal cavity. The previously published cavity dimensions have not been amended, but the sizes available have been increased. To meet the growing demand for cartridge mechanical seals, an informative annex has been included to assist in the rationalization of seal cavity dimensions for this product group. The dimensional recommendations have been applied to seal chambers with parallel bores, although reference is made, where appropriate, to the equivalent performance of conical shaped seal chambers.

Annex A of this International Standard is for information only.

End-suction centrifugal pumps — Dimensions of cavities for mechanical seals and for soft packing

1 Scope

This International Standard specifies the dimensions of the seal cavity for step-balanced mechanical seals, mechanical seals suitable for straight shafts, and for soft packing, to be used with horizontal end-suction centrifugal pumps, including those conforming to ISO 2858. Although applicable to general-purpose and heavy-duty process applications, this International Standard is not intended for use in processes with slurries or with high levels of solids.

This International Standard offers two options:

- a) a range of stuffing boxes suitable for soft packing or mechanical seals for general-purpose duties up to a seal chamber limit of a gauge pressure of 16 bar;
- b) a range of larger cavities suitable for mechanical seals, including cartridge mechanical seals, for general and heavy-duty process applications, up to a seal chamber limit of a gauge pressure of 40 bar.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 5199, *Technical specifications for centrifugal pumps — Class II*.

ISO 9905, *Technical specifications for centrifugal pumps — Class I*.

ISO 9908, *Technical specifications for centrifugal pumps — Class III*.

EN 12756, *Mechanical seals — Principal dimensions, designation and material codes*.

3 Terms and definitions

For the purposes of this International Standard, the following terms and definitions apply.

3.1

cartridge mechanical seal

a completely self-contained unit (including mechanical seal, gland plate, sleeve, and mating ring), pre-assembled and preset before installation