
**Rotary shaft lip-type seals
incorporating thermoplastic sealing
elements —**

**Part 1:
Nominal dimensions and tolerances**

AMENDMENT 1
iTeh STANDARD PREVIEW
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*Bagues d'étanchéité à lèvres pour arbres tournants incorporant des
éléments d'étanchéité thermoplastiques —*

ISO 16589-1:2011/Amd 1:2018

Partie 1: Dimensions nominales et tolérances

<https://standards.iteh.ai/catalog/standards/sist/93712639-69ae-4330-a5a6-84a88d9a1221/iso-16589-1-2011-amd-1-2018>

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This document was prepared by Technical Committee ISO/TC 131, *Fluid power systems*, Subcommittee SC 7, *Sealing devices*.

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AMENDMENT 1

Page 8, Table 5

Add the following NOTE to clarify that tolerances of seals with an outside diameter $D_2 > 530$ mm (currently not covered by this document) should be agreed upon between customer and manufacturer.

NOTE Seal outside diameter tolerances apply to rotary shaft lip-type seals with nominal outside diameters $D_2 \leq 530$ mm. Seal outside diameter tolerances for diameters $D_2 > 530$ mm should be agreed upon between customer and manufacturer.

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New Table 5 reads:

Table 5 — Seal outside diameter tolerances

<https://standards.iteh.ai/catalog/standards/sist/937f2639-69ae-4330-a5a6-84a88d9c5d14/iso-16589-1-2011-amd-1-2018> Dimensions in millimetres

Nominal seal outside diameter D_2	Diametral tolerance		Roundness tolerance ^a	
	Metal-cased	Rubber-covered ^{b,c}	Metal-cased	Rubber-covered
≤ 50	+0,20 +0,08	+0,30 +0,15	0,18	0,25
$50 < D_2 \leq 80$	+0,23 +0,09	+0,35 +0,20	0,25	0,35
$80 < D_2 \leq 120$	+0,25 +0,10	+0,35 +0,20	0,30	0,50

NOTE Seal outside diameter tolerances apply to rotary shaft lip-type seals with nominal outside diameters $D_2 \leq 530$ mm. Seal outside diameter tolerances for diameters $D_2 > 530$ mm should be agreed upon between customer and manufacturer.

^a The roundness tolerance is equal to the difference between the maximum diameter and the minimum diameter derived from three of more equally spaced measurements.

^b Rubber-covered and semi-rubber-covered seals having a wave-profile outside surface are acceptable but will require different tolerances, to be agreed between the manufacturer and purchaser.

^c Rubber-covered and semi-rubber-covered seals employing certain materials other than nitrile can require different tolerances, to be agreed between the manufacturer and purchaser.

Table 5 (continued)

Nominal seal outside diameter D_2	Diametral tolerance		Roundness tolerance ^a	
	Metal-cased	Rubber-covered ^{b,c}	Metal-cased	Rubber-covered
$120 < D_2 \leq 180$	+0,28 +0,12	+0,45 +0,25	0,40	0,65
$180 < D_2 \leq 300$	+0,35 +0,15	+0,45 +0,25	0,25 % of outside diameter	0,80
$300 < D_2 \leq 530$	+0,45 +0,20	+0,55 +0,30	0,25 % of outside diameter	1,00

NOTE Seal outside diameter tolerances apply to rotary shaft lip-type seals with nominal outside diameters $D_2 \leq 530$ mm. Seal outside diameter tolerances for diameters $D_2 > 530$ mm should be agreed upon between customer and manufacturer.

^a The roundness tolerance is equal to the difference between the maximum diameter and the minimum diameter derived from three or more equally spaced measurements.

^b Rubber-covered and semi-rubber-covered seals having a wave-profile outside surface are acceptable but will require different tolerances, to be agreed between the manufacturer and purchaser.

^c Rubber-covered and semi-rubber-covered seals employing certain materials other than nitrile can require different tolerances, to be agreed between the manufacturer and purchaser.

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