

SMS 1588 O-Ring Standard

Swedish metric O-ring sizes for Nordic industrial, hydraulic and marine equipment.

Overview

SMS 1588 is the Swedish standard for metric O-ring dimensions, widely used in Scandinavia and Baltic markets for hydraulic systems, pumps, valves, marine equipment and general machinery.

The standard defines inside diameters and cross sections in millimetres, with sizing closely aligned to DIN 3771 and ISO 3601 for cross-border compatibility. SMS 1588 O-rings are commonly specified in Swedish, Finnish and Danish OEM drawings, and are a requirement for many Nordic public-sector procurement contracts.

Cross-Section Reference

Cs Mm	Notes
1.00	Precision equipment, instrumentation
1.50	Small hydraulic and pneumatic fittings
1.60	Industrial sensors, valves
1.78	Compatible with AS568-004 cross section
1.80	Equivalent to ISO 3601 A-series / DIN 3771 A
2.00	General purpose static seals
2.40	Medium-pressure fluid systems
2.50	Pumps and process equipment
2.62	Compatible with AS568-1xx cross section
2.65	Equivalent to ISO 3601 B-series / DIN 3771 B
3.00	Heavy-duty hydraulic applications
3.53	Compatible with AS568-2xx cross section
3.55	Equivalent to ISO 3601 C-series / DIN 3771 C
4.00	Large bore flanges, static seals
5.00	High-pressure hydraulics
5.30	Equivalent to ISO 3601 D-series
5.33	Compatible with AS568-3xx cross section
6.00	Marine and offshore equipment
6.99	Compatible with AS568-4xx cross section
7.00	Equivalent to ISO 3601 E-series
8.00	Specialised heavy static sealing

Tolerance Reference

Cs Mm	Cs Tolerance	Id Range	Id Tolerance
1.00 - 1.60	+/-0.08	<= 10	+/-0.14
1.00 - 1.60	+/-0.08	10 - 20	+/-0.17
1.78 - 2.65	+/-0.09	<= 13	+/-0.17

Cs Mm	Cs Tolerance	Id Range	Id Tolerance
1.78 - 2.65	+/-0.09	13 - 30	+/-0.22
1.78 - 2.65	+/-0.09	30 - 50	+/-0.28
3.00 - 3.55	+/-0.10	<= 20	+/-0.20
3.00 - 3.55	+/-0.10	20 - 40	+/-0.28
3.00 - 3.55	+/-0.10	40 - 85	+/-0.36
4.00 - 5.33	+/-0.13	<= 40	+/-0.28
4.00 - 5.33	+/-0.13	40 - 80	+/-0.36
4.00 - 5.33	+/-0.13	80 - 140	+/-0.45
6.00 - 7.00	+/-0.15	<= 80	+/-0.36
6.00 - 7.00	+/-0.15	80 - 160	+/-0.45
8.00	+/-0.18	<= 120	+/-0.45
8.00	+/-0.18	120 - 250	+/-0.56

Example Sizes

ID mm	CS mm	Typical Use
3.00	1.00	Precision instruments
5.00	1.50	Small pneumatic couplings
7.00	1.80	Compact hydraulic fittings
10.00	2.00	General machinery seals
15.00	2.50	Pump and valve housings
20.00	2.65	Hydraulic cylinders
25.00	3.00	Medium-pressure systems
30.00	3.55	Industrial flange seals
40.00	4.00	Large static seals
50.00	5.00	Heavy equipment hydraulics
80.00	5.30	Large bore hydraulics
100.00	6.00	Marine and offshore
150.00	7.00	Large industrial tanks
200.00	8.00	Specialised static sealing

Cross References

Standard	Region	Designation
DIN 3771	Germany/EU	Cross section and ID ranges closely aligned with SMS 1588
ISO 3601	International	A/B/C/D/E series map directly to SMS 1588 dimensions
BS 4518	UK	British metric sizes share the same cross sections
JIS B 2401	Japan	P/G/S/V series are metric-compatible with SMS 1588
AS568	USA	Imperial cross sections convert to nearest metric SMS sizes

Groove Design Notes

Condition	Guidance
Static	Groove width $\approx 1.15 \times CS$ with 15-25% compression depending on face or radial orientation.
Dynamic	Groove width $\approx 1.2-1.3 \times CS$. Target 10-15% compression for reciprocating motion to minimise friction.
Rotary	Limit groove fill to 75-80% max. Use harder grades (80-90 Shore A) and materials with good heat resistance such as FKM or HNBR.

FAQ

Is SMS 1588 the same as DIN 3771?

They are very similar but not identical. SMS 1588 is the Swedish national standard, while DIN 3771 is German. Most cross sections and size ranges overlap, making them interchangeable in many applications, but always verify the exact dimensions on the drawing.

What industries use SMS 1588 O-rings?

SMS 1588 is widely used in Scandinavian manufacturing, shipbuilding, pulp and paper, hydropower, and offshore oil and gas equipment supplied to Nordic markets.

Can you supply SMS 1588 O-rings with material certifications?

Yes. We provide batch certificates, material test reports, and full traceability for NBR, FKM, EPDM, HNBR and silicone SMS 1588 O-rings.

Do you stock SMS 1588 sizes or manufacture to order?

We manufacture SMS 1588 O-rings to order with no tooling charge for standard cross sections. Custom sizes and special compounds are available with MOQ starting at 1 piece.