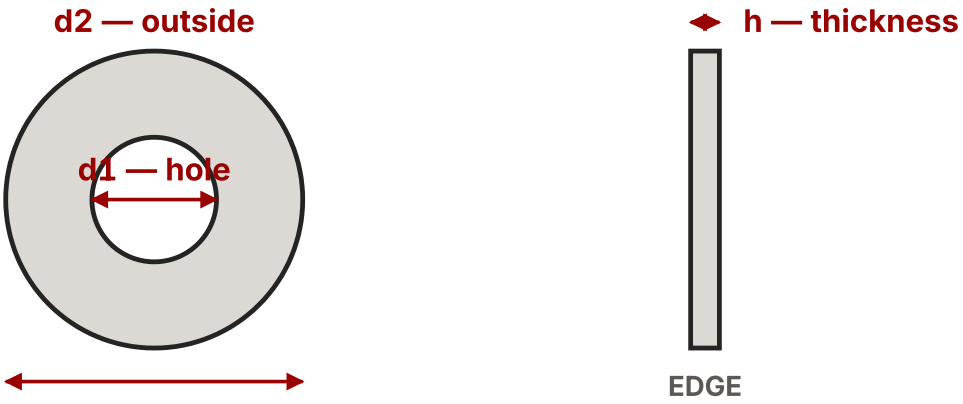
Metric Washer Dimensions

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Hole, outside diameter and thickness for metric flat washers (DIN 125), large fender washers (DIN 9021) and high-collar spring lock washers (DIN 7980), in millimetres.

A metric washer is named for the **bolt it fits** — an M8 washer goes on an M8 bolt, and its hole **d1** is a little bigger than 8 mm. A **DIN 125** washer is the everyday flat washer; a **DIN 9021** washer has a much bigger outside diameter to spread the load (a fender washer); a **DIN 7980** high-collar lock washer is a narrow, thick split washer made to fit in a counterbore under a socket head cap screw.



Letters match the table columns: **d1** hole, **d2** outside diameter, **h** thickness (for DIN 7980: **s** section, **h** free height).

Metric flat washers — DIN 125 (mm)

SIZE	HOLE D1	OUTSIDE D2	THICKNESS H
M3	3.2	7	0.5
M4	4.3	9	0.8
M5	5.3	10	1
M6	6.4	—	1.6
M7	7.4	14	1.6
M8	8.4	—	1.6
M10	—	—	2
M12	13	24	2.5
M14	15	28	2.5
M16	17	30	3
M18	19	34	3
M20	21	37	3
M22	23	39	3
M24	25	44	4
M27	28	50	4
M30	31	56	4
M33	34	60	5
M36	37	66	5
M39	40	72	6
M42	43	78	7
M45	46	85	7
M52	54	98	8

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SIZE	HOLE D1	OUTSIDE D2	THICKNESS H
M56	58	105	9
M64	—	115	9
M72	74	125	10

A dash at M6, M8 and M10: the older DIN 125 edition and ISO 7089 (which replaced it) give different outside diameters there — 12.5 / 17 / 21 mm against 12 / 16 / 20 mm — and our two sources print one each. Give us a call and we'll measure the one you need.

Metric large (fender) washers — DIN 9021 (mm)

SIZE	HOLE D1	OUTSIDE D2	THICKNESS H
M2.5	2.7	8	0.8
M3	3.2	9	0.8
M3.5	3.7	11	0.8
M4	4.3	12	1
M5	5.3	15	1.2
M6	6.4	18	1.6
M7	7.4	22	2
M8	8.4	24	2
M10	10.5	30	2.5
M12	13	37	3
M14	15	44	3
M16	17	50	3
M18	20	56	4
M20	22	60	4
M24	26	72	5
M30	33	92	6
M36	39	110	8

About three times the bolt across — for soft or thin material and oversized holes.

Metric high-collar lock washers — DIN 7980 (mm)

SIZE	HOLE D1 MIN	OUTSIDE D2 MAX	SECTION S	FREE HEIGHT H MAX
M3	3.1	5.6	1	2.36
M3.5	3.6	6.1	1	2.36
M4	4.1	7	1.2	2.83
M5	5.1	8.8	1.6	3.78
M6	6.1	9.9	1.6	3.78
M8	8.1	12.7	2	4.72
M10	10.2	16	2.5	5.9
M12	12.2	18	2.5	5.9
M14	14.2	21.1	3	7.1
M16	16.2	24.4	3.5	8.25
M18	18.2	26.4	3.5	8.25
M20	20.2	30.6	4.5	10.6
M22	22.5	32.9	4.5	10.6

SIZE	HOLE D1 MIN	OUTSIDE D2 MAX	SECTION S	FREE HEIGHT H MAX
M24	24.5	35.9	5	11.8
M27	27.5	38.9	5	11.8
M30	30.5	44.1	6	14.2
M33	33.5	47.1	6	14.2
M36	36.5	52.2	7	16.5
M42	42.5	60.2	8	18.9
M48	49	67	8	18.9

Narrow and thick, so it sits under a socket head cap screw in a counterbore. Section s is the thickness of the spring ring.

How to measure a metric washer

Measure the hole and the outside diameter with calipers, in millimetres, and the thickness on the flat. The size is the bolt it fits, not the hole: a 8.4 mm hole is an M8 washer.

Good to know

Metric and inch washers don't swap cleanly: the holes differ. Inch flat washers are on the flat washer chart; inch lock washers on the lock washer chart.

Quick answers

What size is an M12 flat washer?

A DIN 125 M12 washer has a **13 mm** hole, is 24 mm across and 2.5 mm thick.

How big is an M8 fender washer?

A DIN 9021 M8 washer is **24 mm** across with an 8.4 mm hole, 2 mm thick.

What is the outside diameter of each metric fender washer?

M2.5 – 8 mm, M3 – 9 mm, M3.5 – 11 mm, M4 – 12 mm, M5 – 15 mm, M6 – 18 mm, M7 – 22 mm, M8 – 24 mm, M10 – 30 mm, M12 – 37 mm, M14 – 44 mm, M16 – 50 mm, M18 – 56 mm, M20 – 60 mm, M24 – 72 mm, M30 – 92 mm, M36 – 110 mm (DIN 9021).

What is a DIN 7980 washer?

A high-collar spring lock washer for socket head cap screws: an M10 is 16 mm across at most, with a 2.5 mm section.

Why is the DIN 125 M8 washer size shown as a dash?

The old DIN 125 and ISO 7089 differ at M6, M8 and M10 (for M8: 17 vs 16 mm across). Give us a call and we will measure yours.

Reference values drawn from the governing standards. For critical applications, confirm against the standard and the manufacturer's published data. Technical information disclaimer →