

Metric to nearest listed SAE

Whole metric openings, 4-32 mm. Nearest means nearest within the 22 SAE sizes on page 2.

Metric opening	Nearest listed SAE	Exact SAE value (mm)	SAE minus metric (mm)
4 mm	5/32 in.	3.96875	-0.03125
5 mm	3/16 in.	4.7625	-0.2375
6 mm	1/4 in.	6.35	+0.35
7 mm	9/32 in.	7.14375	+0.14375
8 mm	5/16 in.	7.9375	-0.0625
9 mm	11/32 in.	8.73125	-0.26875
10 mm	3/8 in.	9.525	-0.475
11 mm	7/16 in.	11.1125	+0.1125
12 mm	1/2 in.	12.7	+0.7
13 mm	1/2 in.	12.7	-0.3
14 mm	9/16 in.	14.2875	+0.2875
15 mm	9/16 in.	14.2875	-0.7125
16 mm	5/8 in.	15.875	-0.125
17 mm	11/16 in.	17.4625	+0.4625
18 mm	11/16 in.	17.4625	-0.5375
19 mm	3/4 in.	19.05	+0.05
20 mm	13/16 in.	20.6375	+0.6375
21 mm	13/16 in.	20.6375	-0.3625
22 mm	7/8 in.	22.225	+0.225
23 mm	7/8 in.	22.225	-0.775
24 mm	15/16 in.	23.8125	-0.1875
25 mm	1 in.	25.4	+0.4
26 mm	1 in.	25.4	-0.6
27 mm	1-1/16 in.	26.9875	-0.0125
28 mm	1-1/8 in.	28.575	+0.575
29 mm	1-1/8 in.	28.575	-0.425
30 mm	1-3/16 in.	30.1625	+0.1625
31 mm	1-1/4 in.	31.75	+0.75
32 mm	1-1/4 in.	31.75	-0.25

A nearby value is not a substitution approval. Positive differences mean the SAE nominal value is larger; negative differences mean smaller. These are label differences, not measured clearances or manufacturing tolerances.

Other fractional sizes exist. For example, 13/32 in. equals 10.31875 mm and is nearer 10 mm than the listed 3/8 in. option. This chart intentionally uses a limited purchasing reference list.

Use the specified size and profile. Data calculated from **1 inch = 25.4 mm exactly**. Unit definition: [NIST, SI Units - Length](#).

SAE socket size chart

22 listed fractional openings. The rounded metric column is numerical comparison only.

SAE opening (in.)	Exact value (mm)	Nearest whole mm*
5/32	3.96875	4
3/16	4.7625	5
7/32	5.55625	6
1/4	6.35	6
9/32	7.14375	7
5/16	7.9375	8
11/32	8.73125	9
3/8	9.525	10
7/16	11.1125	11
1/2	12.7	13
9/16	14.2875	14
5/8	15.875	16
11/16	17.4625	17
3/4	19.05	19
13/16	20.6375	21
7/8	22.225	22
15/16	23.8125	24
1	25.4	25
1-1/16	26.9875	27
1-1/8	28.575	29
1-3/16	30.1625	30
1-1/4	31.75	32

*Nearest whole millimeter, rounded half up. This column does not identify an interchangeable socket or confirm that a particular size is sold.

UNIT CONVERSION

Millimeters = inches x 25.4

Decimal inches = millimeters / 25.4

3/4 in. = 19.05 mm exactly. A 19 mm opening has a different nominal size.

1/2 in. = 12.7 mm exactly. It must not be relabeled as 13 mm.

Scope: selected SAE socket-opening labels from 5/32 through 1-1/4 in. The list is neither a complete fractional series nor a universal tool-set specification.

Source for the exact unit relationship: [nist.gov/pml/owm/si-units-length](https://www.nist.gov/pml/owm/si-units-length). All table values are calculated independently.

Drive sizes and buyer checks

Drive square, fastener opening, profile, length and use rating belong in separate specification fields.

Drive square	Nominal square (mm)	Illustrative metric RFQ range
1/4 in.	6.35	4-14 mm
3/8 in.	9.525	6-24 mm
1/2 in.	12.7	10-32 mm

Ranges above are proposed purchasing examples, not universal drive limits, torque ratings, or confirmed KOLARWIN stock. Match the actual socket and handle specifications.

NEAR PAIRS STILL HAVE DIFFERENT NOMINAL SIZES

Metric / SAE pair	Exact SAE mm	SAE minus metric mm
8 mm / 5/16 in.	7.9375	-0.0625
13 mm / 1/2 in.	12.7	-0.3
16 mm / 5/8 in.	15.875	-0.125
19 mm / 3/4 in.	19.05	+0.05
21 mm / 13/16 in.	20.6375	-0.3625
22 mm / 7/8 in.	22.225	+0.225

Use the specified size. Actual fit also depends on profile, tolerances, wear and fastener condition. No numerical difference in this table establishes an acceptable fit threshold.

PROFILE AND USE

6-point: default match for hex fasteners. **12-point:** match true 12-point fasteners; check application when used on hex. Engagement positions are 60 and 30 degrees on hex, respectively; ratchet tooth pitch controls ratchet swing.
Powered impact: use impact-rated sockets and accessories. A matching size, dark finish or alloy label alone does not establish a rating.

BUYER RELEASE CHECKLIST

- 1. List actual vehicles, equipment and service jobs.
- 2. Record every opening; check omissions and replacement stock.
- 3. Separate drive, metric/SAE, point count, depth and hand/impact lines.
- 4. Approve access, retention, markings and packaging with a sample.
- 5. Confirm the component list and substitutions before production.

Technical basis: [manufacturer guidance on socket profiles](#); [impact-wrench operator instructions](#). Application instructions control tool selection.