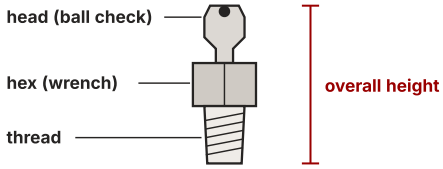
Grease Fitting Sizes

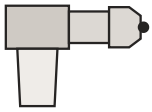
jandesupply.com/reference-grease-fitting-sizes.php

J & E Supply & FASTENER CO.

Grease fitting (Zerk) thread, hex and overall height — straight and angled, button head, drive and metric DIN 71412 — where two makers' tables agree.

A grease fitting is named by its **thread** (1/4-28, 1/8″ pipe, M6×1 …) and its **angle** — straight, 45°, 65° or 90° between the head and the thread. The head the grease gun coupler snaps onto is standard (SAE J534 inch, DIN 71412 metric); the hex and the height are the maker's. The thread data comes from our thread pitch, metric thread and pipe thread charts.





90° fitting: angle = head to thread

The parts of a grease fitting and where the overall height is measured. Not to scale; the shapes vary by maker.

Grease fitting hex sizes — inch threads (SAE J534)

THREAD	TYPE	ANGLE	HEX	OVERALL HEIGHT
1/4-28	Standard	Straight	—	—
1/4-28	Standard	45°	3/8″	—
1/4-28	Standard	65°	3/8″	25/32″
1/4-28	Standard	90°	3/8″	3/4″
1/4-28	Thread forming	Straight	—	—
1/4-28	Thread forming	45°	3/8″	—
1/4-28	Thread forming	90°	3/8″	—
1/4-28	Flush	Straight	—	—
5/16-24	Standard	Straight	—	—
5/16-24	Standard	90°	—	—
3/8-24	Standard	Straight	—	—
3/8-24	Standard	90°	—	—
1/8″ NPT	Standard	Straight	—	—
1/8″ NPT	Standard	30°	—	—
1/8″ NPT	Standard	45°	7/16″	57/64″
1/8″ NPT	Standard	65°	—	—
1/8″ NPT	Standard	90°	7/16″	—
1/8″ NPT	Button head	Straight	5/8″	3/4″
1/8″ NPT	Thread forming	Straight	7/16″	—
1/8″ NPT	Thread forming	45°	7/16″	—
1/8″ NPT	Thread forming	90°	7/16″	—
1/8″ NPT female	Standard	Straight	—	—
1/4″ NPT	Standard	Straight	9/16″	—
1/4″ NPT	Standard	45°	—	—
1/4″ NPT	Standard	65°	—	—
1/4″ NPT	Standard	67-1/2°	—	—
1/4″ NPT	Standard	90°	—	—
1/4″ NPT	Button head	Straight	5/8″	—
1/4″ NPT	Giant button head	Straight	—	—
3/8″ NPT	Standard	Straight	—	—
3/8″ NPT	Button head	Straight	3/4″	—
1/2″ NPT	Giant button head	Straight	—	—

Hex and height from the makers' own catalog tables: Alemite (Product Catalog, Section Seven), Lincoln (lubrication fittings catalog, two editions) and, for metric, G.L. Huyett. A value is printed only where at least two makers list it and every value they print is the same. A dash means the makers list more than one value, or

only one maker lists it — measure the part.

Grease fitting hex sizes — metric threads (DIN 71412)

THREAD	TYPE	ANGLE	HEX	OVERALL HEIGHT
M5×0.8	Standard	Straight	—	—
M5×0.8	Standard	45°	—	—
M5×0.8	Standard	90°	—	—
M6×0.75	Standard	45°	—	—
M6×0.75	Standard	90°	—	—
M6×1	Standard	Straight	7 mm	—
M6×1	Standard	45°	—	—
M6×1	Standard	90°	—	—
M8×1	Standard	Straight	9 mm	—
M8×1	Standard	45°	9 mm	—
M8×1	Standard	90°	—	—
M8×1.25	Standard	Straight	—	—
M8×1.25	Standard	45°	—	—
M8×1.25	Standard	90°	—	—
M10×1	Standard	Straight	11 mm	—
M10×1	Standard	45°	11 mm	—
M10×1	Standard	90°	11 mm	—
M10×1.5	Standard	Straight	—	—
M10×1.5	Standard	45°	—	—
M10×1.5	Standard	90°	—	—
M12×1.75	Button head	Straight	—	—

Metric grease fittings (grease nipples) to DIN 71412: Alemite, Lincoln and G.L. Huyett tables. Pitch and tap drill: our metric thread chart.

Grease fitting hex by overall height — long and extended fittings

THREAD	TYPE	ANGLE	OVERALL HEIGHT	HEX
1/4-28	Standard	Straight	17/32″	5/16″
1/4-28	Standard	Straight	35/64″	5/16″
1/4-28	Standard	Straight	11/16″	5/16″
1/4-28	Standard	Straight	15/16″	—
1/4-28	Standard	Straight	1-39/64″	—
1/4-28	Standard	45°	13/16″	3/8″
1/4-28	Standard	65°	25/32″	3/8″
1/4-28	Standard	90°	3/4″	3/8″
1/8″ NPT	Standard	Straight	1-1/4″	7/16″
1/8″ NPT	Standard	Straight	1-3/4″	—
1/8″ NPT	Standard	Straight	2-5/8″	—
1/8″ NPT	Standard	30°	2-3/32″	—
1/8″ NPT	Standard	45°	57/64″	7/16″
1/8″ NPT	Standard	65°	1-7/32″	7/16″
1/8″ NPT	Standard	90°	27/32″	7/16″
1/8″ NPT	Button head	Straight	3/4″	5/8″
M6×1	Standard	45°	13/16″	—

The same thread and angle in a named height: the hex where the makers' fittings of that height agree.

Drive grease fittings — sized by the drilled hole

HOLE	ANGLE	OVERALL HEIGHT
1/8″ hole	Straight	—
5/32″ hole	Straight	—
3/16″ hole	Straight	—

HOLE	ANGLE	OVERALL HEIGHT
3/16″ hole	65°	—
1/4″ hole	Straight	—
1/4″ hole	65°	49/64″
5/16″ hole	Straight	—
5/16″ hole	65°	—
3/8″ hole	Straight	—

No thread: the serrated shank is driven into a plain drilled hole of the listed size (Alemite “drill diameter”, Lincoln “for ... dia. hole”).

Good to know

Who sets the size. Inch hydraulic grease fittings (the Zerk type) are made to **SAE J534**; metric ones to **DIN 71412**. The head that the grease gun coupler snaps onto is the same; the thread, hex and height are the fitting’s own. (Alemite, G.L. Huyett)

The 1/4-28 fitting. The common 1/4-28 fitting has the **SAE-LT taper** thread and goes into a **1/4-28 UNF** (class 3B) straight tapped hole. (Alemite, Lincoln, G.L. Huyett)

Drive fittings. A drive fitting has no thread: it is driven into a plain **untapped (drilled) hole** and is sized by that hole — a 3/16″ drive fitting goes into a 3/16″ hole. It goes in with a drive fitting tool — the makers sell one for straight and one for angled drive fittings. (Alemite, Lincoln)

Thread forming fittings. A thread forming (self-tapping) fitting cuts its own thread as it is spun into an untapped hole. It can later be replaced by a standard fitting of the same thread. (Alemite, Lincoln)

Button head fittings. Button head fittings have a large flat head for heavy equipment — construction and earth-moving machines — and take a **button head coupler**, not the standard grease gun coupler. (Alemite, Lincoln)

Height and hex by model. Makers sell each thread and angle in several heights, and some in more than one hex. Where the makers’ tables do not all agree, the chart shows a dash: measure the fitting across the flats and from the tip of the head to the end of the thread. (Alemite, Lincoln)

Ratings come from the maker. Working pressure depends on the fitting and its maker — use the maker’s rating for that fitting. (Alemite, Lincoln)

Quick answers

What size wrench fits a 1/4-28 grease fitting?
An angled (45° or 90°) 1/4-28 grease fitting has a **3/8″ hex**. Straight 1/4-28 fittings come in more than one hex — measure across the flats.

What thread is a standard grease fitting?
The common inch threads are **1/4-28** (SAE-LT taper, into a 1/4-28 UNF tapped hole) and **1/8″ pipe** (1/8-27); metric fittings to DIN 71412 are M6×1, M8×1 and M10×1 and others.

What standard covers grease fittings?
SAE J534 for inch hydraulic (Zerk-type) grease fittings; **DIN 71412** for metric grease nipples.

How is a drive grease fitting sized?
By the **drilled hole** it is driven into: a 3/16″ drive fitting goes into a 3/16″ hole. It has no thread.

What hex is a 1/8 NPT 45 degree grease fitting?
A 1/8″ pipe thread 45° grease fitting has a **7/16″ hex** (Alemite and Lincoln agree).

How do you measure a grease fitting?
Thread size, the hex across the flats, the angle between head and thread (straight, 45°, 65°, 90°) and the overall height from the tip of the head to the end of the thread.

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