

# DN40 U-Bolt Dimensions Chart (for 48.3 mm Pipe)

pipe OD 48.3 mm · DIN 3570 series · g per piece · kg / 1000 pcs · carbon steel 7.85 g/cm³

DN40

48.3 mm OD · M8

|                               |                                        |
|-------------------------------|----------------------------------------|
| Matching pipe OD (nominal DN) | 48.3 mm (DN40)                         |
| Inside width A (mm)           | 62 mm                                  |
| Leg length (mm)               | 40 mm                                  |
| Overall height H (mm)         | 92 mm                                  |
| Matching thread size          | M8 (pitch P=1.25 mm) · Catalog pairing |
| Thread length (per leg)       | 50 mm                                  |
| Rod diameters available       | M8 / M10 / M12                         |
| Bend centreline length (mm)   | 110 mm                                 |
| Developed length (mm)         | 190 mm                                 |

Thread pairing source tags: "Catalog pairing" means the value was extracted size by size from the spec\_json of U-bolt SKUs in the product catalog (same source as the product pages; the extraction script ops/tools/gen-ubolt-dims.py can be re-run to verify). "Assumed" would mean the catalog has no SKU covering that pipe-OD band and a conventional pairing was assumed and flagged here. All 11 bands in this chart are catalog pairings; none is assumed.

### DN40 Unit Weight by Configuration (per available rod diameter)

A U-bolt's unit weight moves with rod diameter and developed length together: developed length = 2 x leg length + bend centreline length (a semicircle of radius (inside width + rod diameter)/2), so the bend grows with the rod too and each step up in diameter adds weight faster than the square of the diameter alone.

| Rod diameter      | Bend centreline length (mm) | Developed length (mm) | Unit weight (g/pc)<br>g / piece | Bulk (kg/1,000 pcs)<br>kg / 1000 pcs |
|-------------------|-----------------------------|-----------------------|---------------------------------|--------------------------------------|
| M8Default pairing | 110                         | 190                   | 75                              | 75                                   |
| M10               | 113.1                       | 193.1                 | 120                             | 120                                  |
| M12               | 116.2                       | 196.2                 | 170                             | 170                                  |

Unit weight = developed length x pi/4 x d^2 x 7.85 g/cm3 for carbon steel, rounded to avoid false precision (whole g below 100 g, 10 g steps below 1,000 g, 100 g steps above). Matching nuts and washers are counted separately; see the related charts at the foot of the page.

### Calculation Basis and Assumptions Disclosed

Dimensions come from fastenerCalc: inside width, leg length and overall height are mapped from UB\_PIPES (DIN 3570 series geometry, same source as the product catalog SKUs); the matching thread size comes from UB\_THREAD (extracted size by size from the live prd\_sku.spec\_json, see the source tag in the table above); pitches follow the GB/T 196 metric coarse table. Unit weights are all computed from geometry: developed length = 2 x leg length + bend centreline length, the bend taken as a semicircle on the centreline (radius = (inside width + rod diameter)/2), rod at nominal full diameter, 7.85 g/cm3 for carbon steel, base metal only, coating excluded. This developed-length convention matches the catalog spec\_json developedLengthMm for every size.

Boundary: unit weights are theoretical geometry estimates for quotation, freight and packing budgets; actual weight varies with bend radius, thread accuracy and coating (hot-dip galvanizing roughly +4.5%), and trade settlement is against actual measurement. Inside width, leg length and overall height are catalog-modelled dimensions; square bends, extended legs, inch pipe (NPS) and special thread forms are made to drawing, and this chart is not an acceptance basis.

Rolled-thread allowance disclosed: the main table is computed at nominal full diameter (the same basis as the catalog unit\_weight\_g, so it reconciles row by row). The threaded portions of both legs are roll formed and lose a little material; applying the 0.97 rolled-thread allowance (THREAD\_ROLL\_ALLOWANCE) puts this size at roughly {rolled} g/pc, about {factor}% lower. Either basis can be used for batch costing; the main table stays unadjusted so it matches the catalog.

### References

- Dimensions and matching thread extracted size by size from U-bolt SKU spec\_json in the product catalog (DIN 3570 series, same source as product pages)
- GB/T 1047 nominal pipe size DN against the metric pipe outside-diameter series (National Public Service Platform for Standards Information) — [https://openstd.samr.gov.cn/bzgk/gb/std?std\\_no=GB%2FT%201047-2019](https://openstd.samr.gov.cn/bzgk/gb/std?std_no=GB%2FT%201047-2019)
- GB/T 196-2003 General Purpose Metric Screw Threads — Basic Dimensions, coarse pitches (same table as fastenerCalc.pitchOf) — [https://openstd.samr.gov.cn/bzgk/gb/std?std\\_no=GB%2FT%20196-2003](https://openstd.samr.gov.cn/bzgk/gb/std?std_no=GB%2FT%20196-2003)

Disclaimer: This table is engineering estimate data for selection, quotation and freight estimation reference only, not a design basis or acceptance standard.

### Material Density Conversion

Table values are for carbon steel (7.85 g/cm3); other materials convert by density ratio: weight x factor (geometry unchanged).

| Material     | Density<br>(g/cm3)<br>g/cm³ | Conversion<br>Factor |
|--------------|-----------------------------|----------------------|
| Carbon Steel | 7.85                        | ×1.000               |

| Material                  | Density<br>(g/cm3)<br>g/cm³ | Conversion<br>Factor |
|---------------------------|-----------------------------|----------------------|
| 304<br>Stainless<br>Steel | 7.93                        | ×1.010               |
| 316<br>Stainless<br>Steel | 7.98                        | ×1.017               |
| Brass                     | 8.5                         | ×1.083               |

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