

# Shoulder Bolt Size Chart

**Tip:** Set your PDF viewer to "Actual size" before printing to maintain scale.

## Standard Inch Shoulder Bolts

Shoulder Diameter	Thread Size	Hex Socket	Head Diameter	Common Shoulder Lengths	Thread Length
1/4" (0.250")	#10-32	3/32"	3/8"	1/4" - 3"	0.50"
5/16" (0.3125")	1/4"-20	1/8"	15/32"	1/4" - 4"	0.62"
3/8" (0.375")	1/4"-20	5/32"	9/16"	1/2" - 4"	0.62"
1/2" (0.500")	3/8"-16	3/16"	3/4"	1/2" - 6"	0.75"
5/8" (0.625")	3/8"-16	1/4"	15/16"	3/4" - 6"	0.75"
3/4" (0.750")	1/2"-13	5/16"	1-1/8"	1" - 8"	1.00"
1" (1.000")	5/8"-11	3/8"	1-1/2"	1" - 10"	1.25"

## Metric Shoulder Screws (DIN 7379)

Shoulder Dia (mm)	Thread Size	Hex Socket	Head Dia (mm)	Common Shoulder Lengths	Thread Length
6	M4	3	10	10-80mm	16mm
8	M5	4	13	10-100mm	20mm
10	M6	5	16	12-120mm	22mm
12	M8	6	18	16-140mm	26mm
16	M10	8	24	20-160mm	32mm
20	M12	10	30	25-200mm	38mm

## Tolerance Specifications

Dimension	Tolerance	Standard
Shoulder Diameter	±0.001" (±0.0254mm)	Ground precision
Shoulder Length	±0.015" (±0.4mm)	Standard tolerance
Thread Fit	Class 2A	Standard fit
Surface Finish	32 microinch or better	Ground shoulder

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## Notes

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- Shoulder lengths shown are common stock sizes. Many sizes available in 1/4" or 1/2" increments.
- Thread lengths are typical and may vary by manufacturer.
- Precision shoulder provides bearing surface with tight diameter tolerances.
- Always verify shoulder extends through component with proper clearance (0.030"-0.060").
- Ensure adequate thread engagement: minimum 1× diameter in steel, 1.5× in aluminum.

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