

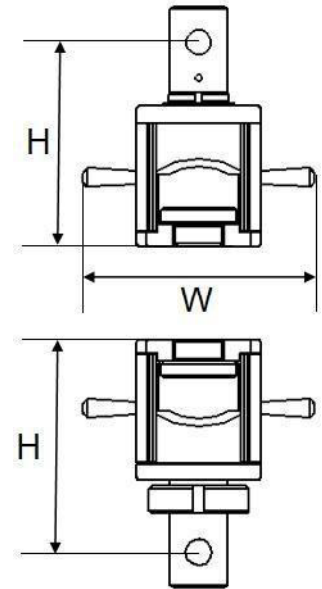


Threaded Grips for Bolt and Nut Tensile Testing

Accurate Tensile Testing of Fasteners with NextGen UTM Grips

NextGen offers a specialized range of **bolt and nut tensile grips** designed for accurate tensile testing of threaded fasteners using universal testing machines (UTMs). These fixtures provide secure clamping and axial loading for bolts, studs, and nuts, ensuring reliable testing under standardized procedures. The design accommodates high tensile forces while preventing slippage or thread stripping. All grips are engineered to meet international standards including ASTM F606, ISO 898, and DIN 50125, and are compatible with most industry test configurations.

This equipment is ideal for quality control and research applications in sectors such as construction, automotive, aerospace, and manufacturing, where threaded fastener performance must be validated. Whether you are testing according to ISO, ASTM, or DIN protocols, these grips support compliance with precision and repeatability.

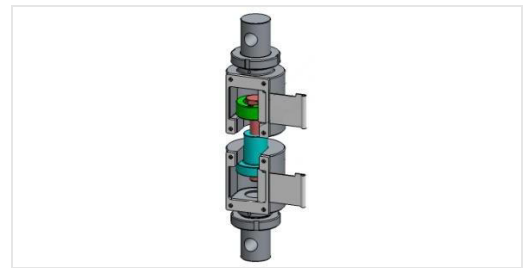
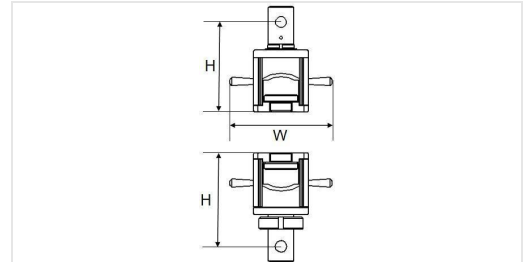


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NGA105A – Bolt and Nut Tensile Grip

The **NGA105A Bolt and Nut Tensile Grip** is specifically engineered for tensile testing of bolts and nuts, ensuring compliance with GB/T 3098.1-2010 standards. With a 100 kN load capacity and compact structure, it's ideal for precision testing of fasteners across various thread sizes. This grip supports M5 to M18 threaded samples and requires a minimum bolt length of $\geq 2.5d$. The unit is lightweight and compatible with $\varnothing 18$ mm pin-mounted universal testing machines under ambient conditions.



- **Application:** Tensile tests for bolts and nuts.
- **Maximum Capacity:** Up to 100 kN load.
- **Connection:** $\varnothing 18$ mm pin mount (upper and lower), compatible with standard UTM setups.
- **Dimensions:** Height – 5.6 in / 143 mm (upper); 5.9 in / 149 mm (lower); Grip Width – 6.5 in / 165 mm.
- **Grip Weight:** 19.8 lbs / 9 kg each for upper and lower grip.
- **Working Temperature:** Ambient.
- **Standard Compliance:** GB/T 3098.1-2010.
- **Thread Sizes Supported:** M5, M6, M8, M8 \times 1, M10, M10 \times 1.25, M10 \times 1.25, M12 \times 1, M12 \times 1.25, M14, M14 \times 1.5, M18, M18 \times 1.5.
- **Minimum Bolt Length Requirement:** $L \geq 2.5d$.

Technical Specifications – NGA105A Bolt and Nut Tensile Grip

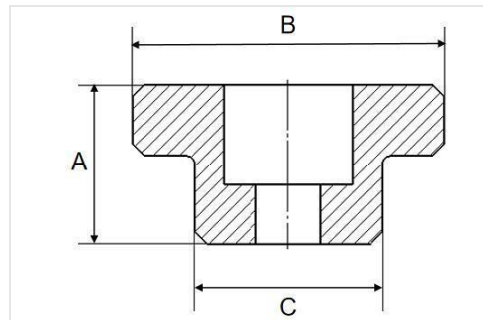
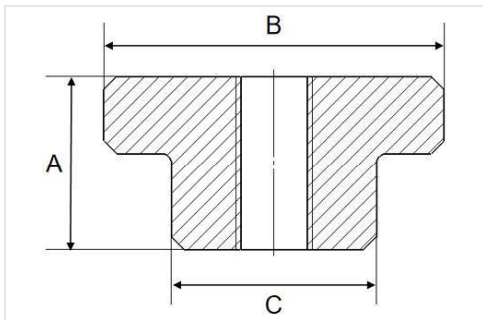
Parameter	Specification
Application	Tension test for bolts and nuts
Maximum Force Capacity	100 kN



Parameter	Specification
Grip Weight	Upper Grip: 9 kg Lower Grip: 9 kg
Working Temperature	Ambient
Standard	GB/T 3098.1-2010
Overall Height (H)	Upper Grip: 143 mm Lower Grip: 149 mm
Grip Width (W)	165 mm
Connection Type	Upper Grip: Ø18 mm pin Lower Grip: Ø18 mm pin
Thread Specification	M5, M6, M8, M8×1, M10, M10×1.25, M10×1.25, M12×1, M12×1.25, M14, M14×1.5, M18, M18×1.5
Minimum Bolt Length	$L \geq 2.5d$

Optional Thread Bushings – NGA105A Grip

Thread bushings are designed to match internal thread sizes and are inserted into the grip body to ensure proper specimen alignment and load distribution during testing.





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MATERIAL TESTING

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Bolt thimbles serve as sleeves to accommodate bolts of varying outer thread diameters, enabling correct axial alignment and consistent loading during tests.

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NORTH AMERICA (CORPORATE HEADQUARTERS): 170-422 Richards St., Vancouver, BC, V6B 2Z4 Canada

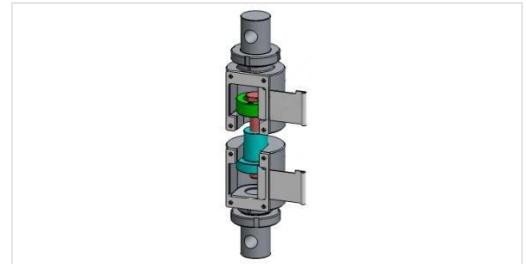
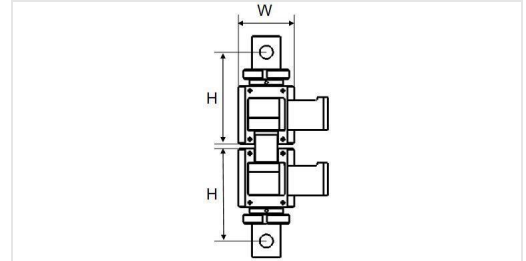
CALIFORNIA: 3503 Jack Northrop Ave., Suite # AF937, Hawthorne, CA 90250

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NGA305C – Bolt and Nut Tensile Grip

The **NGA305C Bolt and Nut Tensile Grip** is designed for high-force tensile testing of bolts and nuts in compliance with GB/T 3098.1-2010 and GB/T 3098.2-2015 standards. With a rated load capacity of 300 kN and compatibility with a wide range of metric thread sizes from M3 to M22, this system is ideal for advanced testing environments. The grip operates under ambient conditions and features Ø28 mm pin connections for easy integration with universal testing machines. It accommodates bolts with a minimum length of 2.5 times their nominal diameter.



- **Application:** Tension tests for bolts and nuts.
- **Maximum Capacity:** Up to 300 kN load.
- **Connection:** Ø28 mm pin mount (upper and lower).
- **Dimensions:** Height – 7.8 in / 197 mm (upper and lower); Grip Width – 4.6 in / 118 mm.
- **Grip Weight:** 25.6 lbs / 11.6 kg each for upper and lower grip.
- **Working Temperature:** Ambient.
- **Standard Compliance:** GB/T 3098.1-2010, GB/T 3098.2-2015.
- **Thread Sizes Supported:** M3, M4, M5, M6, M8, M8×1, M10, M10×1, M10×1.25, M12, M12×1.25, M12×1.5, M14, M14×1.5, M16, M16×1.5, M18, M18×1.5, M20, M20×1.5, M22.
- **Minimum Bolt Length Requirement:** $L \geq 2.5d$.

Technical Specifications – NGA305C Bolt and Nut Tensile Grip

Parameter	Specification
Application	Tension test for bolts and nuts
Maximum Force Capacity	300 kN



Parameter	Specification
Grip Weight	Upper Grip: 11.6 kg Lower Grip: 11.6 kg
Working Temperature	Ambient
Standard	GB/T 3098.1-2010GB/T 3098.2-2015
Overall Height (H)	Upper Grip: 197 mm Lower Grip: 197 mm
Grip Width (W)	118 mm
Connection Type	Upper Grip: Ø28 mm pin Lower Grip: Ø28 mm pin
Thread Specification	M3, M4, M5, M6, M8, M8×1, M10, M10×1, M10×1.25, M12, M12×1.25, M12×1.5, M14, M14×1.5, M16, M16×1.5, M18, M18×1.5, M20, M20×1.5, M22
Minimum Bolt Length	L ≥ 2.5d

Optional Thread Bushings – NGA305C Grip

These optional thread bushings allow precise fitment for a wide range of bolt sizes and threads. Manufactured to high tolerances, each bushing ensures proper centering and alignment under test load.

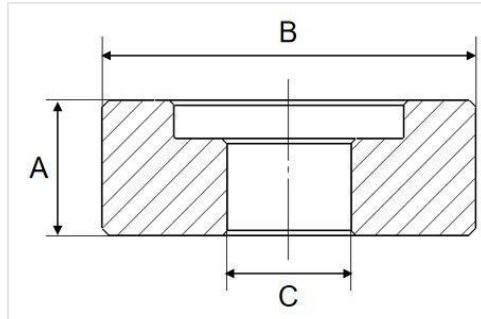
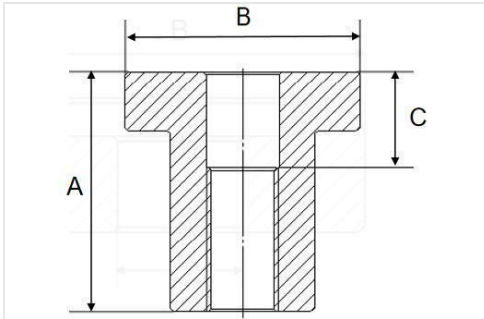
Optional Thread Bushings – NGA305C Grip (Compact/Short Type)

These compact bushings offer reduced height and are ideal for applications requiring space savings.

Optional Wedges – NGA305C Grip

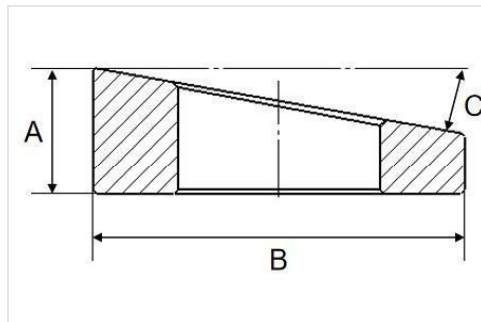
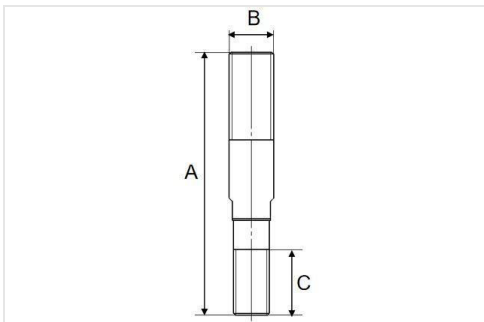


The optional wedges are designed to provide optimal centering and load distribution for specific thread sizes. Each wedge is available in multiple entry angles (4°, 6°, 10°) to suit different test configurations. Manufactured from high-strength materials, these wedges enhance grip performance and prevent slippage during high-force tensile tests.



Optional Mandrels – NGA305C Grip

Mandrels are essential for clamping bolt samples during tensile testing. These optional accessories match a wide variety of thread sizes and ensure firm, axial alignment inside the fixture. The NGA305C mandrels are available for metric and fine threads ranging from M3 to M24×2.



NextGen's bolt and nut tensile grips deliver consistent, accurate, and standard-compliant testing results. Whether you are validating mechanical properties of fasteners for R&D or certifying production batches, these grips integrate seamlessly with NextGen's universal testing machines. Contact us today to discuss configuration compatibility and order the right tensile grip set for your application.