



H-Type Nuts

Operating Instructions

Pressurize H-Type Nuts directly using hydraulic handpumps or hydraulic power units. Amtec Hydraclamp™ GX-Nipple and GX-Coupler high-pressure oil connections compliment H-Type Nuts.

A. Bleeding the Nut

1. Amtec H-Type Nuts are shipped either fully charged with hydraulic oil, or dry, depending on the design. Through transportation, handling or refilling, air may have been drawn into the pressure chamber of the nut. As with all hydraulic systems, air bubbles must be bled from the nut prior to operation to ensure reliable clamping forces.
2. Clean the threads and contact faces of the H-Type Nuts, arbors and/or mating tooling. Ensure all tooling is packed solidly together, ready for clamping.
3. Assemble the H-Type Nut into the intended tooling assembly and manually tighten against a continuous counter face (flat, full contact surface). Then back-off until one of the BSPP G 1/4 ports is in the 12 o'clock position for circular nuts, or "in-line" as the final nut in a series of square or rectangular nuts.
4. Remove the port plug connection on the H-Type Nut using the 6 mm hex wrench provided or, a suitable wrench to suit pipe connections.
5. First attach the required nipple to the open port and tighten firmly. Connect the coupler from the oil pump or power unit to the nipple, or connector, directly on the nut or on a header.
6. When you use Amtec GX-Coupler and GX-Nipples, see pages 78 (General GX-Coupler/Nipple page) and refer to online manual. If Amtec Hydraclamp™ handpump series 114.425... is also being used, rotate the 2-way control valve counter-clockwise until it stops in the "clamp" position. The handle will show two opposed pressure pads at the lower end.
7. Pump oil at minimum pressure into the H-Type Nut system until oil flows around the stud screw or open pipe connection, without air bubbles. Note: keep pressure to a minimum to ensure that the thrust ring is not pushed out.
8. Close the stud screw or pipe connector wrench tight, using the appropriate wrench, and remove the oil pumping connection if it is portable.
9. Hand tighten the H-Type circular nuts until the thrust ring touches the tooling counter face and check that the thrust ring is also flush with the end face of the nut body. For square or rectangular H-Type Nuts, adjust the tooling clamp faces so that they just touch the thrust ring and ensure that the thrust ring is flush with the end face of the nut body.
10. If the thrust ring is not flush with the nut body, open one connection and tighten circular nuts or, adjust the mating clamping faces for square or rectangular nuts, until the thrust ring is flush with the end face of the nut body. Oil has been expelled from the nut through the open port or connection and these connections must be retightened immediately to prevent future leakage.
11. The H-Type Nuts are now ready to pressurize.



B. Install Nuts and Apply Pressure

1. Clean the threads and contact faces of the Amtec H-Type Nuts, arbors and mating tooling. Ensure that all tooling or equipment is packed solidly together ready for clamping.
2. Assemble the H-Type Nuts onto the arbors or studs and tighten by hand against the mating tooling or equipment. Ensure that the thrust ring is flush with the face of the Amtec Nut.
3. If the thrust ring is not flush with the face of the Amtec Nut then follow step 10, Section A, on previous page.
4. Ensure that the thrust ring of the H-Type Nut is just lightly touching adjacent tooling or equipment to provide easy release of the nut later when clamping pressure is released.
5. Ensure that all oil connection faces are clean before pressurizing the H-Type Nuts.
6. Ensure that all oil connections are tight, using appropriate hand-held wrenches.
7. Activate the pumping system to obtain the appropriate clamping pressure, up to 700 bar (10,150psi).
8. If Amtec oil pumps are being used, see page 70.
9. The H-Type Nuts are now fully pressurized and ready for operation.

C. Release Pressure

1. Always ensure portable pumping connections are clean before connection to Amtec H-Type Nuts.
2. Once connections are firmly attached to the nuts or remote headers, pumps should be operated as per manufacturer's instructions to release oil pressure to sump.
3. If Amtec GX-Type Nipples and Couplers are being used, see page 78. If Amtec Oil Handpumps are also being used, see page 70 and page 71.
4. Since H-Type Nuts are single acting hydraulic systems, the thrust ring must be retracted to the home position, flush with the end face of the nut body after each use. Retraction can be done manually on circular nuts and by coil springs on square or rectangular nuts. To manually retract the thrust ring, oil must be dumped from the nut to the tank, through hoses or piping, as determined by the pump manufacturer's instructions. Once pressure has been released in the nut, it can be tightened to push the thrust ring home and the excess oil is sent to tank through the feed lines.

D. Remarks

1. DO NOT apply pressure to the H-Type Nuts when they are off-line. The thrust ring has no retainer and can be forced out of the pressure chamber causing distortion of the thrust ring and possible rupture of the seal.
2. Use only genuine Amtec Hydraclamp dual durometer (blue and black) seals and thrust rings to guarantee clamping reliability.
3. Use only ISO VG 22 or 32 hydraulic oil in the pump reservoir. Keep reservoir cap in place to eliminate dirt and dust contamination.

E. Service

1. For service and spare parts contact your distributor or Amtec Hydraclamp Inc. directly.

