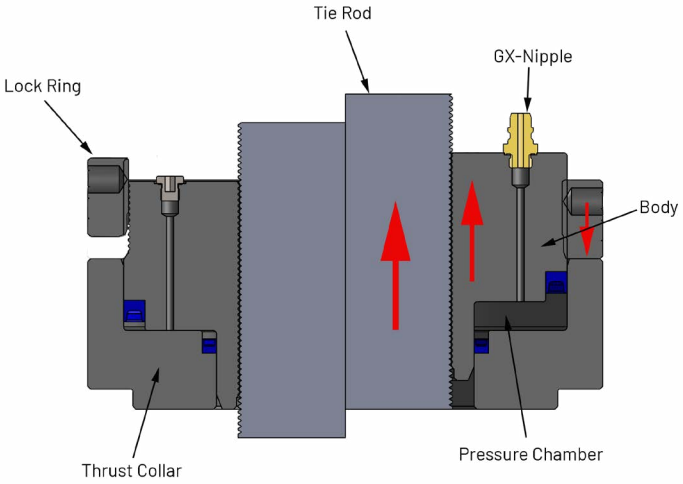
Block Nuts

SERIES 023

Hydraulic pre-tensioning with mechanical locking for long term clamping at precise tie rod elongation.

One of the principal advantages of the Amtec Block Nut is its availability for rapid release for adjustments or changes on equipment to which it is attached. A sudden product jam, a broken roll or knife, can be handled within minutes; pressurize, unscrew lock ring, release pressure, make required equipment repairs or changes, re-pressurize, tighten lock ring, release pressure, resume operation.

Amtec Block Nuts are custom engineered to meet specific pre-tensioning conditions for rolling mill frames, pinion stands, crop shear housings, plate and strip levelers, injection molding machines, and mechanical or hydraulic presses, to name just a few applications. Using a power unit or handpump, simply pump into the pressure chamber to cause separation between the body and the thrust collar. Since the body of the nut is threaded onto the tie rod, the tie rod stretches in response to the force created by input pressure. When a desired stretch is achieved, screw down the exterior, knurled lock ring tight against the thrust collar, blocking any future shrinkage of the tie rod for the entire period of operation, whether the operating period is for months or years.



The Block Nut is a compact, self-contained device requiring only a remote oil pumping system, with a reservoir and pump, to activate or de-activate the pressure chamber at a predetermined pressure. Deactivation is accomplished by increasing the input pressure until the lock ring is freed up, allowing the ring to be unscrewed before pressure is released.

Oil pressure can be applied through Amtec GX-Nipple and GX-Coupler arrangements, for quick disconnect under pressure, or through hard piping from a remote header.

The above cross-sectional drawing shows the left side in a depressurized state while the right side is in a pressurized condition. The right side also shows the lock ring in the tightened position, against the thrust collar, to hold the tie rod in a pre-tensioned state.

To engineer an Amtec Block Nut we require complete dimensional drawings of tie rods, mill frames or housings, either exact clamping forces or separating forces, and type of hydraulic pumping system on-site or required to be supplied by Amtec.

FEATURES:

- Standard black oxide finish for 120°C max. (250°F)
- Alloy tool steel body parts
- Stainless steel, electroless nickel or chromium plating for optional corrosion resistance
- Clean, efficient handpump operated or with hydraulic power unit