



## Controlled Bolting Services Tensioning & Torquing

- Decreased fugitive emissions with uniform bolt loading
- Increased equipment life due to systematic flange rotation
- Reduction in time required to tighten assemblies
- Increased productivity of process units
- A proactive approach to joint integrity
- Closure certification and all required calculations
- Manages each flange connection as an individual project
- Delivers the same load to each fastener to ensure each bolt receives the proper share of the load
- Removes guesswork from bolting by using accurate preload for the successful completion of each bolted connection
- Eliminates hammers and slugging wrenches which helps prevent lost time accidents
- Produces no impacts or vibrations

Achieving the correct load on any fastener accurately and safely is much more complex than it appears. There are many factors to overcome, such as thread deflection, embedment relaxation, gasket creep, and other direct load losses. CARBER® Controlled Bolting Services applies the most accurate and time effective torque technology to service your equipment while overcoming friction variables.

Torque tightening uses the turning moment of a nut on the inclined plane of the thread at a predetermined force to load the fasteners, thus overcoming variables created by friction.

Bolt tensioning is the method of putting direct axial force on the fastener assembly without the influence of friction. A major advantage of controlled hydraulic bolt tensioning is not only the mathematically precise tensioning of the stud or bolt, but the ability to simultaneously tension 4, 6, 8, 12 or more bolts. This allows for simultaneous closure (10%, 20%, 25%, 50%, 100%) of the bolted connection.

CARBER® has a supply of hydraulic tensioners and hydraulic torque wrenches necessary to preload standard size bolts and studs. Manual torque wrenches are available for smaller stud sizes.

CARBER® also employs the use of ultrasonic extensometers to measure bolt preload. These units provide an on-site printed evaluation of each bolt in a flange.

CARBER® Controlled Bolting Services can design and manufacture specialized hydraulic tooling for applications where standard industry tooling will not work.



Call us to schedule a Lunch & Learn TODAY!