



THIS IS CONFIDENTIAL INFORMATION.
THIS DRAWING & DESIGN IS THE PROPERTY OF LIQUIP INTERNATIONAL PTY LIMITED.
IT MUST NOT BE COPIED OR REPRODUCED IN ANY WAY WHATSOEVER &/OR PASSED ON
TO ANY THIRD PARTY WITHOUT WRITTEN AUTHORITY.

LIQUIP INTERNATIONAL PTY LIMITED - ENGINEERING DEPARTMENT - 13 HUME RD SMITHFIELD SYDNEY NSW AUSTRALIA 2164
PH: +61 2 9725 9000 FAX: +61 2 9609 6459 EMAIL: engineering@liquip-nsw.com.au

Tech Talk: 0073 Screw Torques

There has been some confusion regarding the correct torques and methods for mounting Liquip products. This Tech Talk aims to set that straight.

1. LIQUIP API'S WITH 4 INCH TTMA FLANGES

These standard flanges can be found on Liquip API series valves and manifolds. Gaskets may be either *neocork* or *Klinger* type gaskets.

The normal screw sizes for these flanges are either **M10** or **3/8"**. The correct torque for bolts of this size is **25 Nm**. Either nyloc nuts or spring washers are to be used to prevent loosening. If nyloc nuts are chosen, flat washers must be used also.

2. COPS EQUIPPED SYSTEMS

The Liquip Cross Over Protection System (COPS) requires the addition of electrical insulation bushes between the screws and the flange metal. For this reason, an upgrade to **M8** high tensile is required. The correct torque for these bolts is **15 Nm**. Remember that a sight glass is also required between the API and its mount for COPS systems.

Standard 4" TTMA *neocork* or *Klinger* gaskets may still be used on COPS equipped trucks.

3. LOADING ARMS

All Liquip loading arms require **high tensile** bolts and *Klinger* type gaskets.

For 4 inch TTMA (BF4) flanges, high tensile **M10** or **3/8"** bolts should be used. Torque to **44 Nm** for steel flanges, or **35 Nm** for aluminium flanges.

4 inch steel ANSI 150 flanges require eight **5/8"** high tensile B7 studs and 2H nuts. The torque for these studs is **100 Nm**. Again 4" ASA *Klinger* type gaskets must be used.