



BOLT TORQUE SEQUENCE

TIGHTENING SEQUENCE:

- 1) Step 1 – Liberally lubricate all load bearing surfaces including threads and flat washers. Then install and finger tighten all fasteners. Number the bolts/flange according to the *Bolt Torque Sequence*.
- 2) Step 2 – Set the torque wrench to 1/3 of the target torque value and tighten in an order, bolts 1, 2, 3, 4... until all have been tightened.
- 3) Step 3 – Set the torque wrench to 2/3 of the target torque value and tighten in order, bolts 1, 2, 3, 4... until all have been tightened.
- 4) Step 4 – Set the torque wrench at the full target torque value and tighten in order, bolts 1, 2, 3, 4... until all have been tightened. The torque setting now remains at full value for the remaining tightening.
- 5) Step 5 - Starting at bolt #1, tighten **ALL** bolts in a circumferential direction around the flange. A minimum of two complete 360 degree passes should be made or until there is **NO** nut movement. Pause the tightening process for a minimum of 20 minutes to 4 hours. This allows for the natural relaxation of the system (bolts, gasket, and flange) to take place.
- 6) Step 6 – Starting at bolt #1 again, repeat Step 5. Continue tightening **ALL** fasteners until there is **NO** nut movement in a complete 360 degree pass. This critical step ensures that the gasket stress has attained the target value and is evenly distributed around the gasket face. The connection is now ready to be placed into service.