

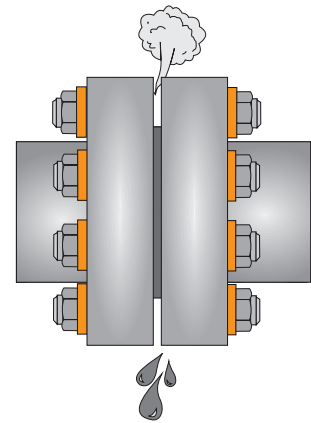
NEW IN OUR RANGE



HEAVY DUTY TORQUE WASHER

PROBLEM Leakage due to loss preload

- Embedment relaxation
- Gasket Creep
- Bolt creep/Stress Relaxation
- Vibration
- Differential Thermal Expansion
- Elastic Interaction



SOLUTION HDTW

1 Create a more reliable assembly

- Even load distribution,
- Maintains residual gasket/bolt load
- Longer gasket life

2 Simplified Installation

- Can be used with any bolting technique (torque wrench, tensioners, slug wrench)
- No need to hot tighten
- Lower fugitive emissions

3 Less down time

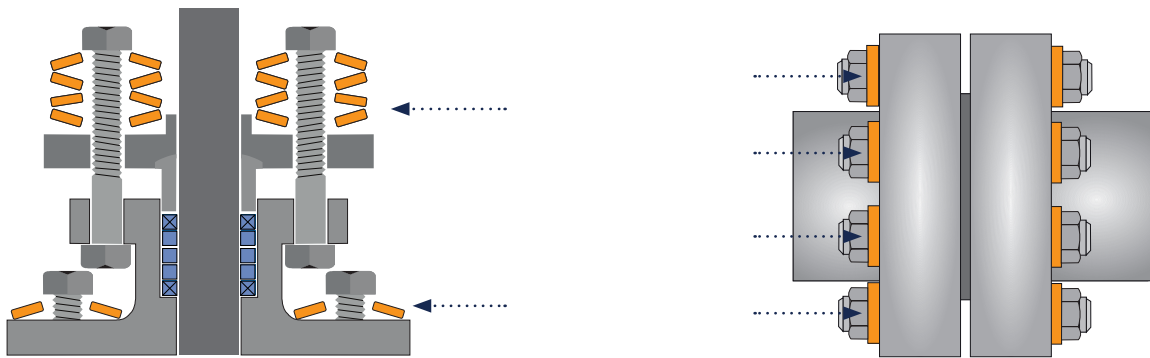
- No leaks



HEAVY DUTY TORQUE WASHERS
are used to **maintain** a designed bolt load or torque or bolt stress.

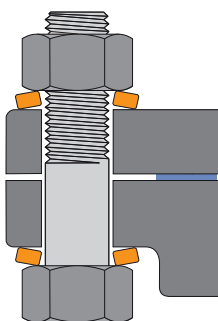
TECHNICAL INFORMATION

- The H-13 HDTW are designed to fit ASME/ANSI b16.5 flanges
- They are manufactured to match 30, 45 and 60.000 lb bolt stress
- The ID of the washer is determined by the bolt size
- The OD of the washer is determined by the area between the edge of the flanges and the hub
- The thickness is determined by the design criteria to match 30, 45 and 60.000 bolt stress
- All H-13 HDTW are totally machined

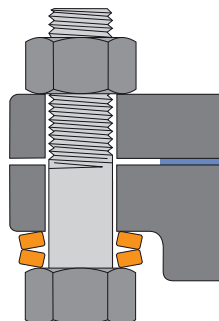


On a valve, the **HDTW** are used on the gland follower studs and/or the bonnet bolts to maintain the load on the packing or gasket.

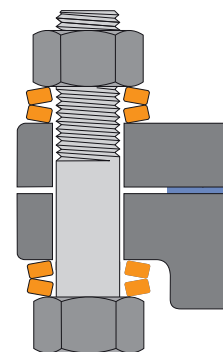
INSTALLATION



Typical installation



Recommended with bolt tensioner



Additional load or movement needed