Garlock Compression Packing

212-ULE Packing Set

Description

The 212-ULE packing consists two different types of compression packings to combine best of both world in one packing set. The packing minimizes valve emissions and reduces actuation forces. This set can be used to seal all kind of valves or stem movement.

The style A with upper and lower 2 rings are made from graphite with an inconel meshing and a Graphite-PTFE lubrication. The style B is fiber reinforced high purity graphite.

Main Segments

» Valve OEM
» Chemical Indusries
» Oil and Gas
» Critical Service
» Maintanance

Certificates/Declarations [1]

» TA-Luft certification above 250°C and below 250°C
» ISO 15848 BH
» API 622 second version
» API 622 upcomming third version
» „Fire-tested" API 589
» Shell SPE 77/312
» ChevronTexaco Test Standrad
» MESC SPE 77/300
» EN

Key Benefits

» Combine many diffrent industries standard
» Dual type corrosion resistance
» availabe as set and boxes
» TA-Luft certification above 250°C and below 250°C
» ISO 15848 BH
» API 622 second version
» API 622 upcomming third version
» „Fire-tested" API 589

Features [1]

» Temperature: -200 °C to +455 °C in steam up to +650°C
» Pressure: up to 310 bar
» pH full range 0 – 14
» Production site: Germany

1) Depending on product and application details.

Importaqnt information for installation

» This "2-1-2" set confguraton is made up of 4 rings type "A" plus 1 ring Type "B". Set needs to be installed one ring at a time in the order A-A-B-A-A, seating each ring firmly.

» Apply compression to the lower rings in the set when possible. If the gland follower will reach down to contact the second ring, then use it to apply compression by tightening down on the gland bolts to the minimum Recommended Torque (see below section). If the gland follower does not contact the second packing ring, then insert a proper size bushing in the stufing box and again, apply compression by tightening down on the gland bolts to the minimum recommended torque. Remove this bushing after the compression step.

» Do this steps until all rings are installed:
If a torque wrench is not readily available, a work around compromise would be to apply 30% compression by braided and 15% compression by formed rings to the set.

Estimated Force Formulars for 212-ULE

Estimated Reciprocating Frictional Force Formular for 212 -ULE

$$F = \pi * d * H * LF * 450$$

F = Calculated Friction Force (N)
d = Stem Diameter (mm)
H = Uncompressed Packing Height (mm)
LF = Load Factor 586 (bar) or 1.5° system pressure if these higher

Estimated Rotating Frictional Torque Formula for 212-ULE in order to estimate the amount of frictional torque on the stem, we simply assume that the above force will act in a different direction. Taking this force and multiplying it by the moment arm that it acts on (d/2), we estimate the stem torque with the following equation.

$$T = \frac{\pi * d * H * LF * 450}{4000000}$$

Where = Calculates Frictional Torque (Nm)

3) For further information on gasket dimensions without a listed item number please contact Garlock's Static Seal department.

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