

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 Industries
» Oil and Gas
» Critical Service
» Maintenance

Certificates/Declarations ¹⁾

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

Key Benefits

» Combine many different industries standard
» Dual type corrosion resistance
» available as set and boxes
» TA-Luft certification above 250°C and below 250°C
» ISO 15848 BH
» API 622 second version
» API 622 upcoming 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.

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Important information for installation

- » This "2-1-2" set configuration 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 stuffing 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 Formulas for 212-ULE

Estimated Reciprocating Frictional Force Formula 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 T = Calculates Frictional Torque (Nm)

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

Note:
Properties/applications shown throughout this brochure are typical. Your specific application should not be undertaken without independent study and evaluation for suitability. For specific application recommendations consult Garlock. Failure to select the proper sealing products could result in property damage and/or serious personal injury. Performance data published in this brochure has been developed from field testing, customer field reports and/or in-house testing. While the utmost care has been used in compiling this brochure, we assume no responsibility for errors. Specifications subject to change without notice. This edition cancels all previous issues. Subject to change without notice GARLOCK is a registered trademark for packings, seals, gaskets, and other products of Garlock.
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