



# The Safe Choice For High Purity Applications

## Tri-Clover LKC UltraPure Non-return Valve

ESE00840EN 0907

### Application

LKC is a non-return valve preventing reverse flow in a system. The UltraPure execution is designed and documented to meet the demand in industries like BioPharm and Personal Care.

### Working principle

The spring acts on the valve plug and keep the valve closed until the force from the pressure in the inlet exceeds the force of the spring. If a reverse flow should occur the spring force and the pressure from the outlet will keep the valve closed.

### Standard Design

The valve body is made in two parts that are assembled with a clamp ring. A guide disc and four legs guide the spring loaded valve plug in the valve body.

### Materials

|                   | Material         | According to           |
|-------------------|------------------|------------------------|
| Product wetted    | 1.4404 or 316L * | EN 10088 and AISI 316L |
| Steel parts       |                  |                        |
| Other steel parts | 304              | AISI 304-              |

\* or equal

|                           | Material | According to                          | Min. temp. | Max. temp. |
|---------------------------|----------|---------------------------------------|------------|------------|
| Product wetted elastomers | EPDM     | FDA compliance and USP Class VI cert. | -10°C      | 140°C      |
|                           | FPM      | FDA compliance                        | -10°C      | 180°C      |

### Surface specification (steel parts)

| Alfa Laval designation | Internal    | ASME BPE designation | External    |
|------------------------|-------------|----------------------|-------------|
| 7                      | Ra < 0.8 µm | SF3                  | Ra < 0.8 µm |
| PL                     | Ra < 0.5 µm | SF1                  | Ra < 0.8 µm |

### Connections

| Type       | Matching tubes and fittings | According to |
|------------|-----------------------------|--------------|
| Weld ends  | ISO 2037 / Series A/DIN     | ISO or DIN   |
| Clamp ends | ISO 2037 / Series A/DIN     | ISO or DIN   |



Tri-Clover LKC UltraPure, non-return valve.

### Documentation

All valves are delivered with Alfa Laval Q-doc including:

- 3.1 certificate in accordance to EN 10024 / MTR
- FDA compliance and USP Class VI declaration only EPDM)
- TSE statement
- Surface finish declaration
- Manufacturing and quality procedures

### Delivery conditions

- Individually marked with manufactures logo, ID number, pressure rating, material, standard, dimension and surface finish.
- Supplied with plastic end caps and individually packed in a plastic bag together with the documentation.

### Technical data

Required differential pressure for opening the valve when fitted in a vertical pipe, as shown in fig. 2, is approx. 6 kPa (0.06 bar).

Max. product pressure: . . . . . 1000 kPa (10 bar)

### Ordering

Please state the following when ordering:

- Size
- Connections
- Elastomers
- Surface finish

## Pressure drop/capacity diagram

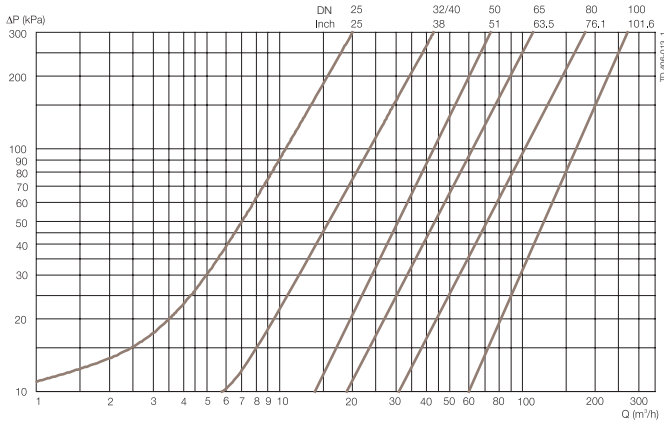


Fig.1. Note!

For the diagram the following applies:

Medium: Water (20°C).

Measurement: In accordance with VDI 2173.

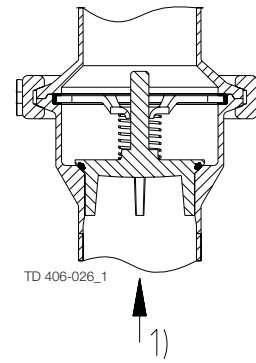


Fig.2.

1 = Flow direction.

Shows the optimal built-in situation to make sure the valve is drainable. The four guide legs of the valve cone ensures good alignment.

90° rotation.

## Dimensions (mm)

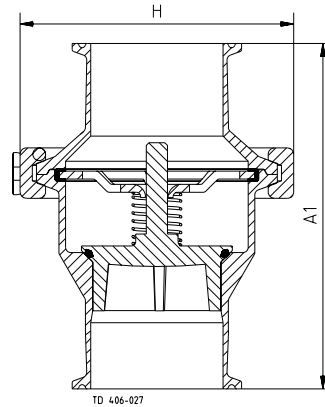
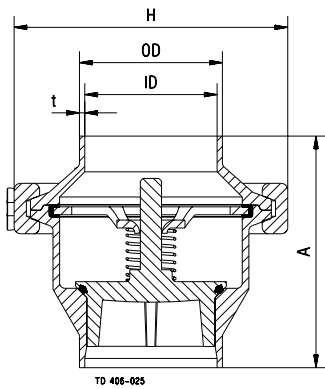


Fig. 3. Dimensions.

| Size                | ISO   |       |       |       |       |       | DIN   |       |       |       |       |       |       |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                     | 25    | 38    | 51    | 63.5  | 76.1  | 101.6 | 25    | 32    | 40    | 50    | 65    | 80    | 100   |
| A                   | 62.5  | 75.0  | 87.5  | 95.0  | 115.0 | 155.0 | 62.5  | 75.0  | 75.0  | 87.5  | 95.0  | 115.0 | 155.0 |
| A <sub>1</sub>      | 105.5 | 118.0 | 130.5 | 138.0 | 158.0 | 198.0 | 105.5 | 118.0 | 118.0 | 130.5 | 151.0 | 171.0 | 211.0 |
| OD                  | 25.4  | 38.4  | 51.4  | 63.9  | 76.4  | 102.0 | 30.0  | 36.0  | 42.0  | 54.0  | 70.0  | 85.0  | 104.0 |
| ID                  | 22.5  | 35.5  | 48.5  | 60.5  | 72.0  | 97.6  | 26.0  | 32.0  | 38.0  | 50.0  | 66.0  | 81.0  | 100.0 |
| t                   | 1.45  | 1.45  | 1.45  | 1.7   | 2.2   | 2.2   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   | 2.0   |
| H                   | 77.4  | 90.4  | 103.6 | 132.6 | 144.0 | 164.0 | 77.4  | 90.4  | 90.4  | 103.6 | 132.6 | 144.0 | 164.0 |
| <b>Weight (kg):</b> |       |       |       |       |       |       |       |       |       |       |       |       |       |
| Welding ends        | 0.7   | 1.0   | 1.3   | 2.1   | 2.9   | 4.3   | 0.7   | 1.0   | 1.0   | 1.3   | 2.1   | 2.9   | 4.3   |
| Clamp ends          | 0.9   | 1.1   | 1.4   | 2.5   | 3.4   | 4.7   | 0.9   | 1.1   | 1.1   | 1.4   | 2.5   | 3.4   | 4.7   |

TD 900-563

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The information contained herein is correct at the time of issue, but may be subject to change without prior notice.

### How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit [www.alfalaval.com](http://www.alfalaval.com) to access the information direct.