**Alfa Laval LKB UltraPure Automatic or Manual Butterfly Valve**

The safe choice for High Purity applications

**Concept**
LKB UltraPure is an automatic or manually operated butterfly valve for on/off duties. The UltraPure execution is designed and documented to meet the demand in industries like BioPharm and Personal Care.

**Working principles**
LKB UltraPure is either remote controlled by means of an air-actuator or manually by means of a handle.

The actuator is designed so that an axial movement of a piston is transformed into a 90° rotation of a shaft. The torque of the actuator is increased when the valve disc contacts the seal of the valve.

The air-actuator comes in three standard versions, normally closed (NC), normally open (NO) and air/air activated (A/A).

Two actuator sizes, ø85 mm and ø133 mm, cover all valve sizes and are available in two versions, LKLA and LKLA-T (T for mounting of indication unit on actuator).

The handle for manual operation mechanically locks the valve in its open or closed position.

Handles are available in 2 positions, 4 positions, regulating 90° and lockable multi-position.

The valve can be supplied with either welding or clamp connections.

**TECHNICAL DATA**

**Valve**
- Max. product pressure: 1000 kPa (10 bar)
- Min. product pressure: Full vacuum
- Temperature range: -10°C to +140°C (EPDM)
  - However max. 95°C when operating the valve

**Actuator**
- Max. air pressure: 700 kPa (7 bar)
- Min. air pressure, NC and NO: 400 kPa (4 bar)
- Temperature range: -25°C to +90°C.
- Air consumption (litres free air):
  - ø85 mm: 0.24 x p (bar)
  - ø133 mm: 0.95 x p (bar)
- Weight:
  - ø85 mm: 3 kg
  - ø133 mm: 12 kg

**PHYSICAL DATA**

**Product wetted steel part** 1.4404 (316L) acc. to EN 10088
**Other steel parts** 1.4301 (304) acc. to EN 10088
**Bushings for valve disc** PVDF

**Elastomers**
**Product wetted seals** EPDM acc. to FDA and USP Class VI

**Connections**
- **Weld ends**
  - Matching tubes and fittings: ISO 2037 / DIN / ASME BPE
  - Acc. to ISO, DIN or ASME BPE
- **Clamp ends**
  - Matching tubes and fittings: ISO 2037 / DIN / ASME BPE
  - Acc. to ISO, DIN or ASME BPE

**Actuator**
- Actuator body: 1.4307 (304L)
- Piston: Light alloy
  - Air/air version (for ø85 mm: Bronze).
- Seals: NBR
- Housing for switches: PPO
Surface specification (Product wetted steel parts)

ISO 2037 / DIN:
- Internal: 0.5 \(\mu m\)
- ASME BPE designation: SF1
- External: Semi-bright

ASME BPE*:
- Internal: 0.5 \(\mu m\)
- ASME BPE designation: SF1
- External: Semi-bright

Internal: 0.4 \(\mu m\) electro polish
- ASME BPE designation: SF4
- External: Semi-bright

* According to ASME BPE 2009 table SF-3

Options
- A. Product wetted seals: FPM (acc. to FDA and USP Class VI), Q and PFA
- B. ThinkTop® for control and indication.*
- C. Indication unit with micro switches.*
- D. Indication unit with inductive proximity switches.*
- E. Indication unit with Hall proximity switches.*
- F. Explosion proof indication unit with inductive proximity switches.*
- G. Bracket for actuator.
- H. Handle with two or four positions.
- I. Handle for electrical position indication.
- J. Handle with infinite intermediate positions.
- K. Lockable Multi-position Unit. Padlock can be mounted as shown in fig. 3.
  ** Note! Padlock is not delivered.
- L. Special cap for 90° turned handle position.
- M. Service tool for actuator.
- O. Service tool for fitting 25-38 mm (DN25 - DN40) valve discs.
  * For further information see Product Catalogue chapter "Control & Indication".
  ** A padlock can be mounted on the Lockable Multi-position Handle as shown in the opposite figure.
  Note! Padlock is not delivered.

Capacity/Pressure drop diagrams

NOTE!
For the diagrams the following applies:
- Medium: Water (20°C).
- Measurement: In accordance with VDI 2173.
Torque diagrams - Actuator

LKLA ø85 mm:
1. Closing - Spring activated
2. Opening - Air activated

LKLA ø133 mm:
1. Closing - Spring activated
2. Opening - Air activated

A = 6 bar air pressure
B = 5 bar air pressure
C = Closing/opening with spring
D = 6 bar air pressure connection on top
E = 6 bar air pressure connection on bottom
F = 5 bar air pressure connection on top
G = 5 bar air pressure connection on bottom

Torque values (for rotating the valve disc in a dry seal ring)

<table>
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<tr>
<th>Size</th>
<th>Max. Nm</th>
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<td>25 mm DN25</td>
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<td>DN32</td>
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<tr>
<td>38 mm DN40</td>
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<td>51 mm DN50</td>
<td>20</td>
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<tr>
<td>63.5 mm DN85</td>
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<td>76 mm DN80</td>
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<tr>
<td>101.6 mm DN100</td>
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Dimensions

Fig. 1. Dimensions - valve.

Fig. 2. Dimensions - actuator

Dimensions (mm)
LKB UltraPure

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<th>Size</th>
<th>25</th>
<th>38</th>
<th>51</th>
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<th>76.1</th>
<th>101.6</th>
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<th>DN</th>
<th>DN</th>
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<td>42.00</td>
<td>61.00</td>
<td>61.00</td>
<td>79.50</td>
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<td>42.00</td>
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NOTE! Weights are for valves with welding ends and handles.

Dimensions (mm) - Actuator
LKLA and LKLA-T:

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<th>Valve size</th>
<th>25-63.5 mm</th>
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Function
NC, NO, A/A
NC, NO, A/A
NC, NO, A/A
NC, NO, A/A

Connections
Compressed air
R1/4" (BSP), internal thread.
Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval
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