Manual or Automatic - it's your Choice

LKB Automatic or Manual Butterfly Valve

Concept
LKB is a sanitary automatically or manually operated butterfly valve for use in stainless steel pipe systems.

Working principle
LKB is either remote-controlled by means of an actuator or manually operated by means of a handle.

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

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 ring of the butterfly valve.

A variety of handle options for manual operation mechanically secures the valve in its open, closed, or intermediate positions.

TECHNICAL DATA

Valve
Max. product pressure: ............ 145 PSI
Min. product pressure: ............ Full vacuum
Temperature range: ............ 15°F to 200°F, max. temperature if valve operates

Actuator
Max. air pressure: ............ 100 PSI
Min. air pressure, NC and NO: ....... 60 PSI
Temperature range: ............ 15°F to 195°F
Air consumption (l人数 free air) - ø3.35 in: 0.24 x p (bar)
Air consumption (l人数 free air) - ø5.24 in: 0.95 x p (bar)
Weight: - ø3.35 in: 6.6 lbs,
- ø5.24 in: 26.4 lbs

PHYSICAL DATA

Valve bodies
Product wetted steel parts: .......... 1.4307 (304L) or 1.4404 (316L)
Disc: ............ 1.4301 (304) or 1.4404 (316L)
Other steel parts: ............ Q, EPDM, FPM, HNBR or PFA
Bushes for valve disc: ............ PVDF
Finish: ............ Semi-bright

Actuator
Actuator body: ............ 1.4307 (304L).
Piston: ............ Light alloy (for ø3.35 in: Bronze) Air/air version
Seals: ............ NBR
The valve consists of two valve body halves, valve disc, bushes for the disc stem and seal ring. LKB-F also consists of two flanges and two flange seal rings. The valve is assembled by means of screws and nuts. Two actuator sizes, ø 3.35" and ø 5.24", cover all valve sizes. The actuator is fitted onto the valve by means of a bracket and screws. The handle for manual operation is fitted onto the valve by means of a cap/block system and a screw. The LKB is available with either welded ends or Tri-Clamp® sanitary connections.

**Options**

A. Tri-Clamp® or butt weld ends standard

B. ThinkTop® for control and indication.

C. Green Top - position indication MS or PS

D. Indication unit with micro switches.

E. Indication unit with inductive proximity switches.

F. Handle with two or four positions (standard on 6"

G. Handle for electrical position indication.

H. Handle with infinite intermediate positions (not for 6"

I. Multi-positioning handle with lever handle or pull knob

J. Service tool for actuator.

K. Service tool for fitting 1"-1.5" valve discs

**Note!**

For further details, see also ESE02446.

**LKB Handle Options**

- Fig. 5. LKB two position handle (black handle)
- Fig. 6. LKB multi-position handle (green handle)
- Fig. 7. LKB butterfly valve regulating handle
- Fig. 8. LKB lockable multi-position handle

**Capacity/Pressure drop diagrams**

**NOTE!**

For the diagrams the following applies:

- Medium: Water (68°F).
- Measurement: In accordance with VDI 2173.
Torque diagrams - Actuator

### LKLA ø 3.35 in:

### LKLA ø 5.25:

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>Max Torque (ft-lbs)</th>
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<tbody>
<tr>
<td>1-inch</td>
<td>11</td>
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<tr>
<td>1.5-inch</td>
<td>11</td>
</tr>
<tr>
<td>2-inch</td>
<td>11</td>
</tr>
<tr>
<td>2.5-inch</td>
<td>15</td>
</tr>
<tr>
<td>3-inch</td>
<td>18</td>
</tr>
<tr>
<td>4-inch</td>
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<tr>
<td>6-inch</td>
<td>26</td>
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Torque values (for rotating the valve disc in a dry seal ring)
Valve Dimensions (inches)

Fig. 1. Dimensions - valve.

a. LKB-F.

b. LKB with welding ends.

Note! LKB sizes DN 125 and 150 are with six screws.

c. LKB with male part/nut and liner.

Fig. 2. Dimensions - actuator.

a. Without coupling.

b1 = $a_1 = d$

b. With coupling.

b1 = $S$
Dimensions - actuator

Dimensions - valve

Dimensions (inch) - Valve

<table>
<thead>
<tr>
<th>Size</th>
<th>1-inch</th>
<th>1½-inch</th>
<th>2-inch</th>
<th>2½-inch</th>
<th>3-inch</th>
<th>4-inch</th>
<th>6-inch</th>
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<tbody>
<tr>
<td>C</td>
<td>1.75</td>
<td>1.75</td>
<td>1.85</td>
<td>1.88</td>
<td>2.03</td>
<td>2.38</td>
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<td>D</td>
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<td>3.60</td>
<td>3.69</td>
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<td>4.06</td>
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<tr>
<td>E</td>
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<td>1.53</td>
<td>1.94</td>
<td>2.31</td>
<td>2.59</td>
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<tr>
<td>F</td>
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<td>3.07</td>
<td>3.90</td>
<td>4.61</td>
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<td>HP</td>
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Dimensions (inch) - Actuator
LKLA and LKLA-T:

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<thead>
<tr>
<th>Size</th>
<th>1-inch Ø85 mm</th>
<th>3-inch Ø85 mm</th>
<th>4-inch Ø85 mm</th>
<th>4-inch Ø133 mm</th>
<th>6-inch Ø85 mm</th>
<th>6-inch Ø133 mm</th>
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<td>6.50</td>
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<tr>
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<tr>
<td>s</td>
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<td>0.39</td>
<td>0.47</td>
<td>0.47</td>
<td>0.59</td>
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Function: NC, NO, A/A
Note! Suitability depends on process conditions

Connections
Compressed air
R1/8" (BSP), internal thread.
(Quick connect fittings for ¼" tubing provided as standard)