



Alfa Laval Unique Control

Butterfly valves

Introduction

The Alfa Laval Unique Control is a maintenance-free actuator with integrated control unit for most of Alfa Laval LKB Butterfly Valves. Reliable and straightforward, this automation solution complements the range of Alfa Laval actuators and control units, making it easy to upgrade existing installations. Highly durable, this actuator has been tested to perform above one million strokes and is compatible with all major programming logic controller (PLC) systems.

Application

This intelligent, hygienic actuator is designed for superior flow control in dairy, food, beverage, brewery, biotech, pharmaceutical and many other industries.

Benefits

- A single, integrated automation solution for Alfa Laval LKB Butterfly Valves
- Highly durable, reliable, all-in-one actuator
- Simplified auto setup for butterfly valve control
- Clearly visible 360° LED indication of valve operation
- Easy upgrade for manual and automated butterfly valves

Standard design

The Alfa Laval Unique Control actuator for butterfly valves is an intelligent sensing and control unit engineered as a single, integrated unit. It is available with a digital or AS-Interface. The actuator comes with a matching bracket kit for mounting on butterfly valves in sizes 1" - 4" or DN25 - DN100.

Working principle

The Alfa Laval Unique Control LKB actuator uses an air spring, enabling operation at a significantly lower air pressure than using a conventional mechanical spring. A single push of a button enables the actuator to perform easy, onsite self-configuration and calibration tasks according to the operating air pressure provided. The actuator also monitors the operating air pressure and will send alerts about issues that require attention in order to prevent any male functions, ensuring more uptime.



TECHNICAL DATA

Actuator	
Max. air pressure	800 kPa (8 bar)
Min. air pressure	300 kPa (3 bar)
Working temperature	See pd sheet for LKB/LKB-F
Ambient temperature	-5°C to +60°C
Protection class	IP66 and IP67
Air consumption (liters free air)	0.8 x p (bar)

Communication	
Option 1	
Interface	Digital
Supply voltage	24 VDC ± 10%
Option 2	
Interface	AS-Interface v2.1, 31 node
Supply voltage	29.5V - 31.6 VDC
Slave profile	7.F.F.F
Default slave address	0
Option 3	
Interface	AS-Interface v3.0, 62 node
Supply voltage	29.5V - 31.6 VDC
Slave profile	7.A.7.7
Default slave address	0

Sensor board	
Power supply	24 VDC, 1 W
Feedback signal #1	De-energized valve
Feedback signal #2	Energized valve
Feedback signal #3	Pressure alert
Valve tolerance band	Auto setup

PHYSICAL DATA

Materials	
Actuator body	Black Nylon PA 12 (composit)
Steel parts	1.4301 (304) and 1.4404 (316)
Seals	NBR

Compatible valves	
LKB ISO	25, 38, 51, 63.5, 76.1 and 101.6
LKB-2	DN 25, 32, 40, 50, 65, 80 and 100

Cable connection	
Main cable gland	PG9 (ø4 - ø8 mm)
Max. wire diameter	1.0 mm ² (AWG 18)

Solenoid valve	
Supply voltage	24 VDC ± 10%, 1 W
Air supply	300-800 kPa (3-8 bar)
Type of solenoid	4/2-ways
Number of solenoids	1
Manual hold override	Yes
Push-in fittings	6 mm or 1/4"
Air quality	Class 3,3,3 acc. DIN ISO 8573-1

Availability

The Unique Control is available with a digital or AS-Interface 31 and 62 node. Depending on the valve size, the matching bracket kit ordered together with the Unique Control allows it to be mounted on any butterfly valve size 1" through 4" (DN25 -DN100).

Options

Bracket kit 1" to 4" (One kit for each valve size).

Note!

For further information: See also instruction manual ESE02126

Only to be mounted on LKB/LKB-F with welding ends

Electrical connection

Digital interface Sensor board Terminal strip

Internal connection	{ Solenoid Solenoid common	1
		2
Power supply	{ Supply 24 VDC Supply 0 VDC	3
		4
PL input signals	{ De-Energized valve Energized valve Pressure Alarm	5
		6
		7
PL output signals	{ Solenoid valve	8

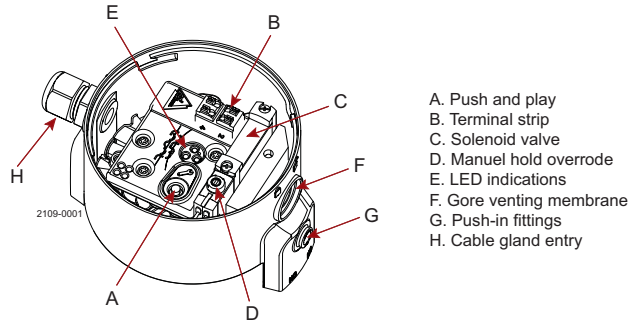
S-interface 31/62 node Sensor board Terminal strip

Internal connection	{ Solenoid Solenoid common	1
		2
Bus cable	{ ASI + ASI -	3
		4

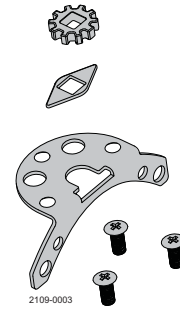
AS-Interface bits assignment

DI0	Feedback #1 De-Energized valve
DI1	Feedback #2 Energized valve
DI2	Feedback #3 NC
DI3	Feedback #4 pressure alarm
DO0	Out #1 NC
DO1	Out #2 Solenoid valve
DO2	Out #3 NC
DO3	Out #4 NC

Basic Design



- A. Push and play
- B. Terminal strip
- C. Solenoid valve
- D. Manuel hold override
- E. LED indications
- F. Gore venting membrane
- G. Push-in fittings
- H. Cable gland entry

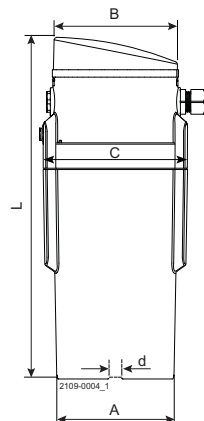


Bracket kit
changeable coupling
supporting 1" to 4" LKB valves

Actuator performance

Bar	Torque Nm
3	44
4	60
5	76
6	90
7	104
8	118

Dimensions (mm)



Size	25-63.5m DN25-50	76.mm DN65-80	101.6mm DN100
øA	90	90	90
øB	97	97	97
C	111	111	111
L	263	263	263
d	8	10	12
Weight (kg)	1.6	1.6	1.6

Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit www.alfalaval.com to access the information direct.