

Intelligent Reliability

Alfa Laval Unique Control for Butterfly Valve

Concept

Unique Control for butterfly valves is an actuator with integrated automation for all sizes of LKB butterfly valves. Unique Control is a hygienic, reliable solution with focus on simplicity.

The Unique Control is a compliment to our existing range of actuators and control units and it provides the opportunity to upgrade existing installation. Unique Control is compatible with all major PLC systems. It is for use in food, dairy and brewery installations and in biopharmaceutical applications

Working Principle

The Unique Control uses an air spring allowing operation at a significantly lower air pressure compared to a conventional mechanical spring. The integrated intelligent automation will by a one bottom push perform a self configuration involving valve size recognition as well as calibration to the provided operating air pressure. The actuator is designed for easy onsite configuration as either normally open (NO) or normally closed (NC). The maintenance free but serviceable actuator design is tested to perform above one million strokes.

The Unique control has a 360 deg. indication light for visual status. It also provides the opportunity to monitor status of the operating air pressure identifying air leakage or failing air pressure.



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 mm² (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"

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

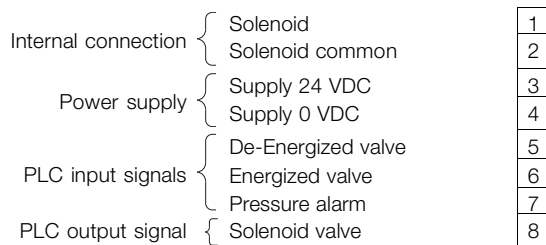
For further information: See also instruction manual ESE02126

Electrical connection

Digital interface

Sensor board

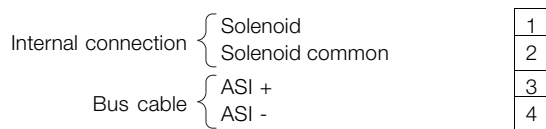
Terminal strip



AS-interface 31/62 node

Sensor board

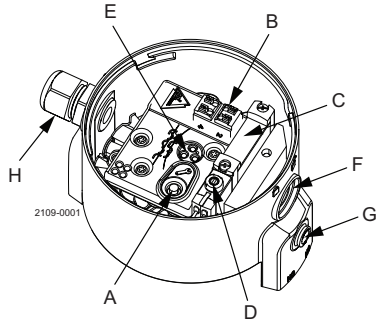
Terminal strip



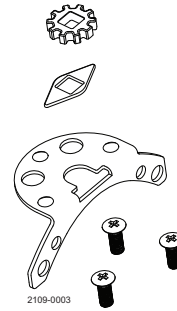
AS-Interface bits assignment

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. Manual hold override
- E. LED indications
- F. Gore venting membrane
- G. Push-in fittings
- H. Cable gland entry

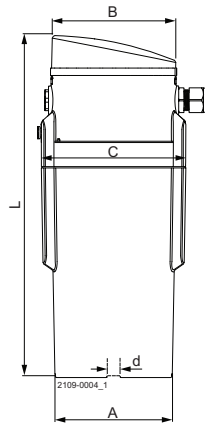


Bracket kit
changeable coupling
supporting 1" to 4" LKB valves

Actuator performance

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

Dimensions



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

900615

Item No.	PPL EUR	Supply sensor system	Function	Dimension (mm)		Actuator for LKB/i-BFV
				A ₁	D	
9614067201	1380	AS-Interface v2.1, 31 node	C2 / NC	263	90	
9614067202	1380	AS-Interface v2.1, 31 node	C2 / NO	263	90	
9614067221	1380	AS-Interface v3.0, 62 node	C2 / NC	263	90	
9614067222	1380	AS-Interface v3.0, 62 node	C2 / NO	263	90	
9614067209	1248	Digital 24V DC	C2 / NC	263	90	
9614067210	1248	Digital 24V DC	C2 / NO	263	90	

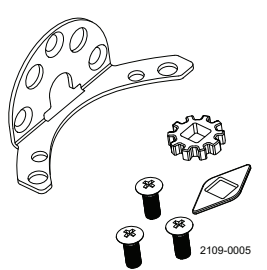
Mounting Brackets for Unique Control

Butterfly valves

Product code: 5222

Actuator with control
 Mounting brackets for LKB/ i-BFV
 Material: 1.4301 (304)

2.2

Item No.	PPL EUR	Valve types	Size			Mounting brackets for Unique Control
			mm	DIN	□d	
9614090101	48	LKB/LKB-F	25 - 63.5 mm	25-50	8	 <p>2109-0005</p>
9614090102	50	LKB/LKB-F	25 - 63.5 mm	65	8	
9614090103	52	LKB/LKB-F	76.1 mm	80	10	
9614090104	55	LKB/LKB-F	101.6 mm	100	12	
9614090105	43	i-BFV	25 - 63.5 mm	25-50	8	
9614090106	49	i-BFV	76.1 mm	80	10	
9614090107	50	i-BFV	101.6 mm	100	12	