



LFC™ _3B Electrically Actuated Isolation Valve

Overview:

The LFC™ _3B Electrically actuated Isolating valves were designed to be simple and easy to operate.

Due to the hydraulically balanced design and low torque requirements the valve requires a relatively small electrical actuator with no external gearbox. This feature saves capital and long term maintenance costs. Any make of electrical actuator can be fitted on the LFC™ _3B electrically actuated isolation valve. The LFC™ _3B electrically actuated isolation valves are generally used in pump discharge control, PLC regulated control or any other automated applications. The LFC™ _3B electrically actuated isolation valve has been developed to present a robust, simple and cost effective low pressure (up to 2.5 MPa / 363 Psi) solution to fluid handling issues in any industrial sector.

Low Operating Torque:

The LFC™ _3B Electrically isolation valve is hydrostatically balanced to enable easy opening and closing at any pressure and differential conditions. It does not require the use of a gearbox or a by-pass valve to balance pressure between the inlet and outlet. The differential pressures do not affect the operating torque which results in a relatively flat torque curve allowing for the fitment of smaller actuators.

Operating Conditions:

These valves are designed to operate in systems with relatively clean media like water or other liquids with a low percentage of suspended solids and chlorides. The valve's operating pH range is 2 - 14 pH.

Simplicity:

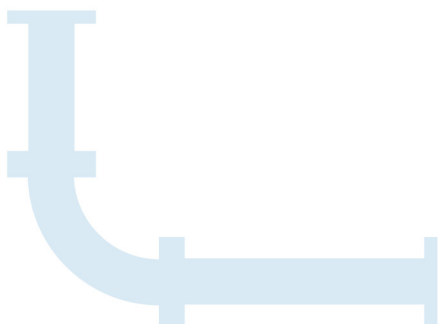
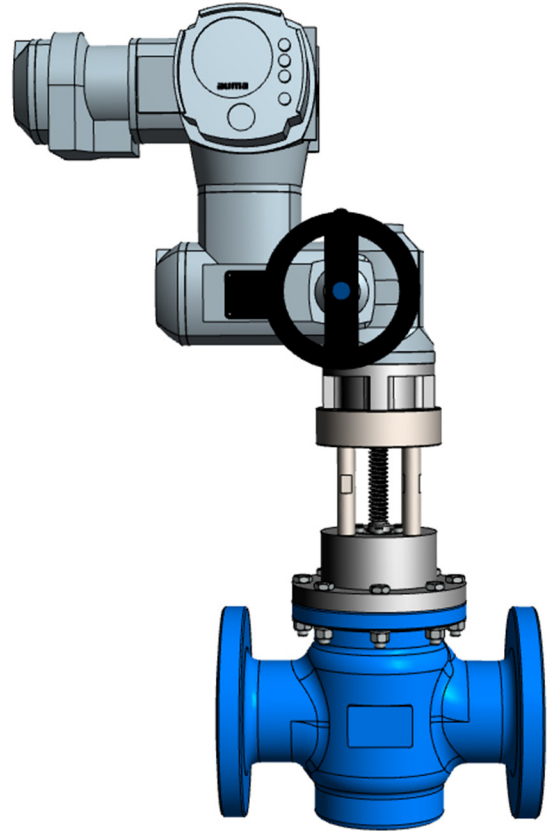
The LFC™ _3B valve is designed to minimize wearing parts and in effect only has one moving part called the plug. The plug is a piston that is engineered to be balanced. The balanced plug uses the inline fluid pressure to remove the influence of differential pressure on operating torque. As such, the valve operating torque is the torque required to overcome the sum of the friction forces generated between the valve seals and the sleeve plus the weight of the plug (depending on the installation configuration). This torque requirement is not affected by inline pressure variants and as such makes the balanced valves extremely good for actuation applications. Removal of gearboxes reduces maintenance requirements and improves troubleshooting times.

Low Maintenance Requirement:

All the moving parts of the LFC™ _3B Electrically isolation valves are manufactured from stainless steel which increases reliability and durability. The LFC™ _3B requires minimal maintenance, the majority of which, can be conducted with the valve remaining in situ.

Robust, Reliable & Efficient:

Due to the minimal number of moving parts to effect the fluid control, the number of potential failures are minimized.





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Flow Rates:

Flow (ℓ/sec)		5	10	25	40	50	100	150	200	250	300	350	400
Pressure Drop (kPa)	DN50	47	94										
	DN80	17	34	86									
	DN100		23	57	79								
	DN150			26	36	51	102						
	DN200					28	56	84	112				
	DN250						37	55	73	91	112		
	DN300						26	37	50	63	75	90	103
Flow US gallon/ min		79.25	158.50	396.26	634.01	792.52	1585.03	2377.55	3170.06	3962.575	4755.09	5547.605	6340.12
Pressure Drop (psi)	2"	6.82	13.63										
	3"	2.47	4.93	12.47									
	4"		3.34	8.27	11.46								
	6"			3.77	5.22	7.4	14.79						
	8"					4.06	8.12	12.18	16.24				
	10"						5.37	7.98	10.59	13.2	16.24		
	12"						3.77	5.37	7.25	9.14	10.88	13.05	14.96

Valve Sizing:

Please consult with Hydromine for clarification of correct sizing for your requirements.

Materials Of Construction & Dimensions:

Part Name	Material Specification	Face To Face Dimensions	
		Valve size	Face to face #150
		Unit	(mm) (Inch)
Body	Casting - Ductile iron		
Body seat	431 / 304 S/ Steel		
Plug	431 / 304 S/ Steel	DN50 / 2"	203 7.99
V-Port	431 / 304 S/ Steel	DN80 / 3"	241 9.49
Spindle / Shaft	431 / 304 S/ Steel	DN100 / 4"	292 11.50
Plug seat	Polyurethane	DN150 / 6"	356 14.02
Sleeve	431 / 304 S/ Steel	DN200 / 8"	495 19.49
Sleeve Holder	Ductile iron	DN250 / 10"	622 24.49
O-Rings	Nitrile (Buna)	DN300 / 12"	699 27.52
Tripod rods	Carbon steel	DN350 / 14"	787 30.98
Bush holder	Ductile iron / Carbon steel	DN400 / 16"	914 35.98
Seals / O-Rings	Nitrile (Buna)		
Shaft seal	Polyurethane		
Wiper seal	Polyurethane		

Design & Manufacturing Standards:

The LFC™_3B electrically actuated isolation valve has been designed in accordance with various international standards as set out below:

ASME Boilers and pressure vessels design code

- ANSI B16.10 ANSI B16.3
- ANSI B16.34 ANSI B16.37
- ANSI B16.5 ANSI N278.1

Available sizes: DN50 / 2" to DN400 / 16"

Face to face dimensions to ANSI B16.10

Pressure rating: up to 2.5 MPa / 363psi

Available end connections: ANSI B16.5, BS4504, BS10, AS/NZS 4331.1 (ISO 7005-1) DIN, all makes of grooved or ring joint couplings and other as per client's requirement.

