



# HYDROMINE™ LFC\_3B Electrically Actuated Valves

## Overview:

The HYDROMINE™ 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 HYDROMINE™ LFC\_3B electrically actuated isolation valve. The HYDROMINE™ LFC\_3B electrically actuated isolation valves are generally used in pump discharge control, PLC regulated control or any other automated applications.

The HYDROMINE™ 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 HYDROMINE™ 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:

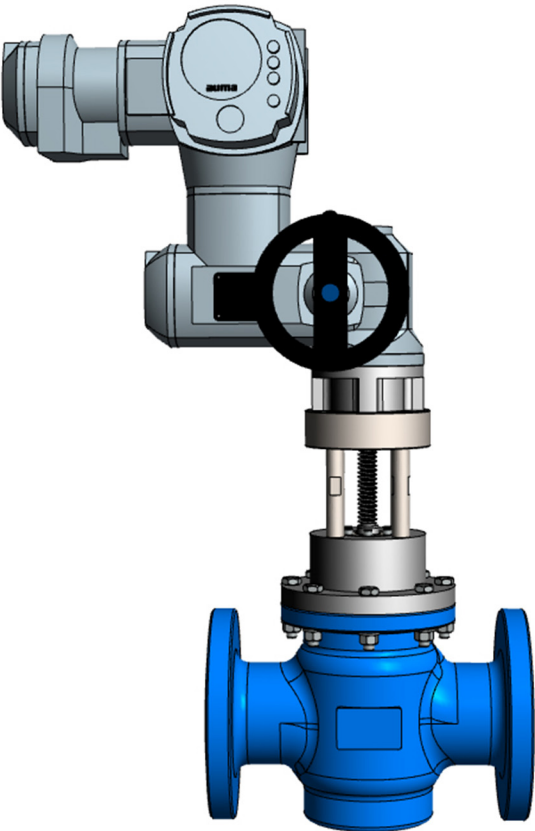
The HYDROMINE™ LFC\_3B valve is designed to minimize wearing parts and in effect only has one moving part called the plug. The plug is a piston that is engineered to be balanced. The balanced plug uses the inline fluid pressure to remove the influence of differential pressure on operating torque. As 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 con figuration). 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 HYDROMINE™ LFC\_3B Electrically isolation valves are manufactured from stainless steel which increases reliability and durability. The HYDROMINE™ LFC\_3B requires minimal maintenance, the majority of which, can be conducted with the valve remaining in situ.

## Materials Of Construction & Dimensions:

Part Name	Material Specification	Face To Face Dimensions (ANSI B16.10)		
		Valve size	#150	
Body	Casting - Ductile iron	Unit	(mm)	(inch)
Body seat	431 / 304 S/ Steel			
Plug	431 / 304 S/ Steel	DN50 / 2"	303	8
V-Port	431 / 304 S/ Steel	DN80 / 3"	241	9 1/2
Spindle / Shaft	431 / 304 S/ Steel	DN100 / 4"	292	11 1/2
Plug seat	Polyurethane	DN150 / 6"	356	14
Sleeve	431 / 304 S/ Steel	DN200 / 8"	495	19 1/2
Body Cover	Carbon steel	DN250 / 10"	622	24 1/2
Sleeve Cover	Carbon steel	DN300 / 12"	699	27 1/2
O-Rings	Nitrile (Buna)	DN350 / 14"	787	31
Tripod rods	Carbon steel	DN400 / 16"	914	36
Bush holder	Ductile iron / Carbon steel			
Seals / O-Rings	Nitrile (Buna)			
Shaft seal	Polyurethane			
Wiper seal	Polyurethane			





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## Flow Rates:

Flow (ℓ/sec)		5	10	25	40	50	100	150	200	250	300	350	400	450	500
Pressure drop (kPa)	DN50	46	93												
	DN80	17	34	86											
	DN100		22	56	89										
	DN150			25	40	51	101								
	DN200				22	28	56	83	111						
	DN250					18	36	54	72	90	108				
	DN300						25	37	50	62	75	87	100		
	DN350							27	37	46	55	64	73	82	
	DN400								26	33	39	46	52	59	65
Flow US gallon / min		79,25	158,50	396,26	634,01	792,52	1585,03	2377,55	3170,06	3962,58	4755,09	5547,61	6340,12	7132,64	7925,15
Pressure drop (psi)	2"	6,74	13,47												
	3"	2,48	4,97	12,42											
	4"		3,24	8,11	12,97										
	6"			3,67	5,87	7,34	14,68								
	8"				3,22	4,03	8,06	12,09	16,12						
	10"					2,62	5,24	7,85	10,47	13,09					
	12"						3,62	5,43	7,24	9,05	10,86	12,67	14,48		
	14"							3,98	5,31	6,64	7,97	9,29	10,62	11,95	
	16"								3,79	4,74	5,69	6,64	7,58	8,53	9,48

Kv / Cv Values		
Unit	Kv	Cv
DN50 / 2"	39	45
DN80 / 3"	104	122
DN100 / 4"	160	187
DN150 / 6"	354	413
DN200 / 8"	644	752
DN250 / 10"	992	1158
DN300 / 12"	1435	1675
DN350 / 14"	1955	2283
DN400 / 16"	2739	3198

## Robust, Reliable & Efficient:

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

## Valve Sizing:

Please consult with HYDROMINE™ for clarification of correct sizing for your requirements.

## Design & Manufacturing Standards:

The HYDROMINE™ 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 API598
- 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.

