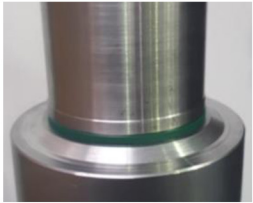




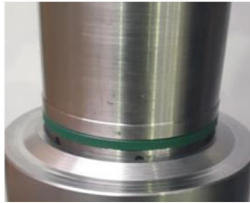
LFC™_1B Pressure Control Valves

Plug Assembly, V-Port And Dealing With Cavitation:

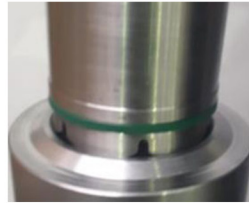
Closed Position



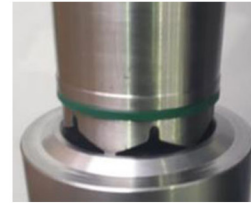
5% Open Position



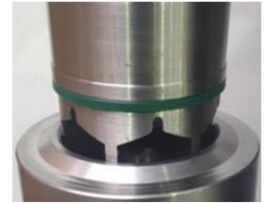
12% Open Position



30% Open Position



40% Open Position



As displayed, the LFC™_1B pressure control valve plug assembly and movements.

Closed Position: Shows the plug assembly on the body seat in a fully closed valve position.

5% Open Position: Shows the plug assembly in a 5% open position. It can clearly be seen that only the top of the V-Port opens up and creates a flow path. This reduces cavitation and helps with fine control at low flow conditions.

12% Open Position: Shows the plug assembly in the 12% open position. Now it can be observed how the V-Port moved away from the seat and the openings are increasing proportionally. At this point the top of the V-Ports are now being exposed to the flow path.

30% Open Position: Shows the plug assembly in the 30% opened position. Now it can clearly be seen that the full V-Port is creating a larger orifice in the flow path. Up to this point, cavitation needs to be dealt with to increase the life expectancy of the valve. The V-port trim ensures that the seating elements are further apart from each other during low flow allowing the cavitation to take place on noncritical components of the valve.

40% Open Position: Shows the plug assembly in the 40% open position. Now it can clearly be seen that the V-Port is completely away from the seat and the flow path is now relatively large. At this point the flow is approaching its medium demand flow rate and the V-Port has little to no function.

Materials Of Construction:

Part Name	Material Specification
Body - DN50 to DN100	Casting - 431 S/ Steel
Body - DN150 to DN400	Casting - BS3100 Grade A2
Body seat	431 S/ Steel
Flanges	ASTM A105
Plug	431 S/ Steel
V-Port	431 S/ Steel
Trim	431 S/Steel
Spindle / Shaft	431 S/Steel
Plug seat – 0 to 2,5 MPa	Polyurethane
Plug seat - above 2, 5 MPa	UHMWPE
Sleeve (DN150 to DN400)	431 or 304 S/Steel
Top Cover	Carbon steel
Seals	Nitrile (Buna)
Tripod rods	Carbon steel
Bush holder	Carbon steel
Plug seals	Polyurethane
Shaft seal	Polyurethane
Wiper seal	Polyurethane
O-Rings	Nitrile (Buna)

Low Maintenance Requirement:

All the moving parts of LFC™_1B pressure control valve are manufactured from stainless steel which increases reliability and durability. The LFC™_1B pressure control valve requires minimal maintenance, the majority of which, can be conducted with the valve remaining in situ.



LFC™_1B Pressure Control Valves

Dimensions:

Unit	Face to face Dimensions:								Height	
	#300		#600		#900		#1500		Centre line to top of valve	
	(mm)	(inch)	(mm)	(inch)	(mm)	(inch)	(mm)	(inch)	(mm)	(inch)
DN50 / 2"	292	11.50	292	11.50	368	14.49	368	14.49		
DN80 / 3"	356	14.02	356	14.02	381	15.00	470	18.50		
DN100 / 4"	432	17.01	432	17.01	457	17.99	546	21.50		
DN150 / 6"	559	22.01	559	22.01	610	24.02	705	27.76		
DN200 / 8"	660	25.98	660	25.98	737	29.02	832	32.76		
DN250 / 10"	787	30.98	787	30.98	838	32.99	991	39.02		
DN300 / 12"	838	32.99	838	32.99	965	37.99	1130	44.49		
DN350 / 14"	889	35.00	889	35.00	1029	40.51	1257	49.49		
DN400 / 16"	991	39.02	991	39.02	1130	44.49	1384	54.49		

Valve Sizing:

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

Design & Manufacturing Standards:

The LFC™_1B Pressure control 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 25MPa / 3 626 psi

Available end connections: ANSI B16.5, BS4504, BS10, AS/NZS 4331.1 (ISO 7005-1) DIN, all makes of grooved or ring joint couplings, HMP™ Couplings, HMP™ -TE tapered couplings and other as per clients requirement.

