

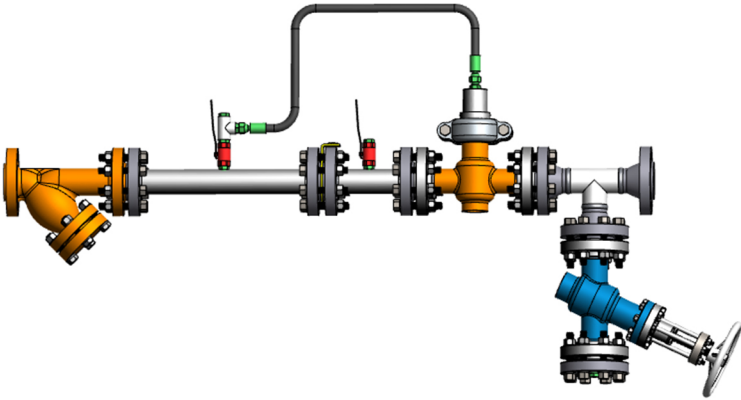


LFC™ Flow Control Valve System

Overview:

The LFC™ flow control valve system was developed to control flow over mobile or bulk air cooling coils. The systems is designed to maintain a set flow over the coil irrespective of any changes in upstream pressure or demand of flow changes in the piping system. When mobile coils are used, coils can be added and removed in the piping system as required and LFC™_2A flow control valve will adjust according to the demand changes. When the upstream pressure increases and no flow control is installed, the flow in the coil will increase and when the upstream pressure drops the flow will decrease. With the LFC™ flow control systems the flow will remain constant.

The LFC™ flow control valve system has been developed to present a robust, simple and cost-effective high pressure (up to 25 MPa / 3 626 Psi) solution to fluid handling issues in any industrial sector.



Operating Conditions:

These LFC™ valve systems 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™_2A flow control valve is designed to minimize wearing parts and in effect only has one moving part called the plug assembly. The plug assembly is a piston that is engineered to be unbalanced. The unbalanced plug is designed to use inline fluid pressure to create specific conditions in the system without the use of an external controller or pilot. A fixed reduction ratio can be established by fixing the surface area ratio exposed to the upstream and downstream differential pressures (dP). In this application, upstream (Pu1) and downstream (Pu2) are sensed across a presided orifice upstream of the flow control valve. Pu1 would act to close the valve and Pu2 would act to open the valve. As the Pu1 increases, the closing force increases proportionally causing the valve to close. As Pu1 reduces in pressure, closing force is reduced and Pu2 will force the valve open proportionally in an effort to maintain its hydraulic ratio.

Easy Installation:

The LFC™ flow control system is designed and manufactured for easy installation with less risk of making mistakes.

Low Maintenance Requirement:

The LFC™ flow control system is equipped with a strainer and a reverse flushing valve. It is recommended that a maintenance schedule be established to clean the strainer and the coil be reverse flushed. All the moving parts of the LFC™_2A flow control valve are manufactured from stainless steel which increases reliability and durability. The LFC™_2A requires minimal maintenance, the majority of which, can be conducted with the valve remaining in situ. The clamp assembly reduces the time required for maintenance to the flow control valve.

Maximum Flow Rates:

	Flow (e/sec)	Flow US gallon/ min
DN50 / 2"	10	158.50
DN50 / 3"	25	396. 26
DN100 / 4"	40	634.01
DN150 / 6"	80	1268.02
DN200 / 8"	180	2853.05





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Pressure Measuring Points And Risk Assessment:

The LFC™ flow control system is equipped with pressure measuring points. During the maintenance schedule the cooling coil and control system should be checked by installing pressure gauges to ensure the coil is still operating efficiently. All pressure measuring points are equipped with plugs and a blank flange is installed on the reverse flushing valve. This is to prevent injury to unskilled personnel.

LFC™ _2A flow control flow valve		LFC™ flow control valve system	
Part Name	Specification	Part Name	Specification
Body- DN50 to DN150	Casting - 431 S/ Steel	Piping	ASTM A106 Grade B
Body - DN200 to DN400	Casting - BS3100 Grade A2	Flanges	ASTM A1 05
Flanges	ASTM A105	Orifice	304 S/ Steel
Plug	431 S/ Steel	Y-Strainer	WCB
Piston rod	431 S/ Steel	Reverse flashing valve	431 S/ Steel
Piston	431 S/ Steel	Supports	Carbon steel
Cylinder holder	Carbon steel	Corrosion protection	Hot dipped galvanized
Cylinder	431 S/ Steel	Fasteners	Grade 8.8, hot dipped galvanized
Clamps	BS3100 Grade A2		
Seals	Nitrile (Buna)	Gaskets	
O-Rings	Nitrile (Buna)		Spiral wound, carbon steel outer ring, S/ Steel inner ring, S/ Steel & graphite wounding 's
Hose	Single braided		

Dimensions Of LFC™ _2A Flow Control Valve:

Unit	Face to face dimensions								Dimension 'A'	
	#300		#600		#900		#1500			
	(mm)	(inch)	(mm)	(inch)	(mm)	(inch)	(mm)	(inch)	(mm)	(inch)
DNS0 / 2"	267	10.51	292	11.50	368	14.49	368	14.49	217	8.54
DNS0 / 3"	318	12.52	356	14.02	381	15.00	270	10.63	271	10.67
DN100 / 4"	356	14.02	431	16.97	457	17.99	546	21.50		
DN150 / 6"	445	17.52	559	22.01	610	24.02	705	27.76	499	19.65
DN200 / 8"	559	22.01	660	25.98	737	29.02	832	32.76		

Design & Manufacturing Standards:

The LFC _2A 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"
Pressure rating: up to 25MPa / 3 626 Psi
Face to face dimensions: ANSI B16.10

Available end connections: ANSI B16.5, BS4504, BS10, AS/NZS 4331.1 (ISO 7005-1) DIN, Victaulic, and other as per client's requirement.

