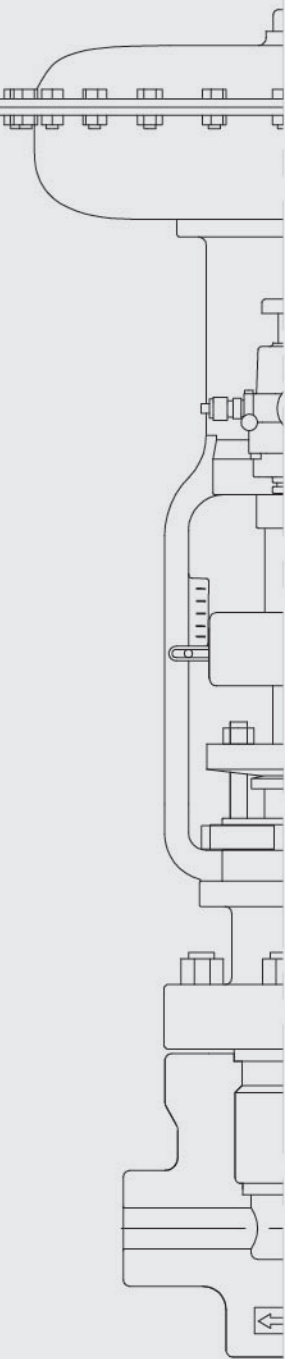




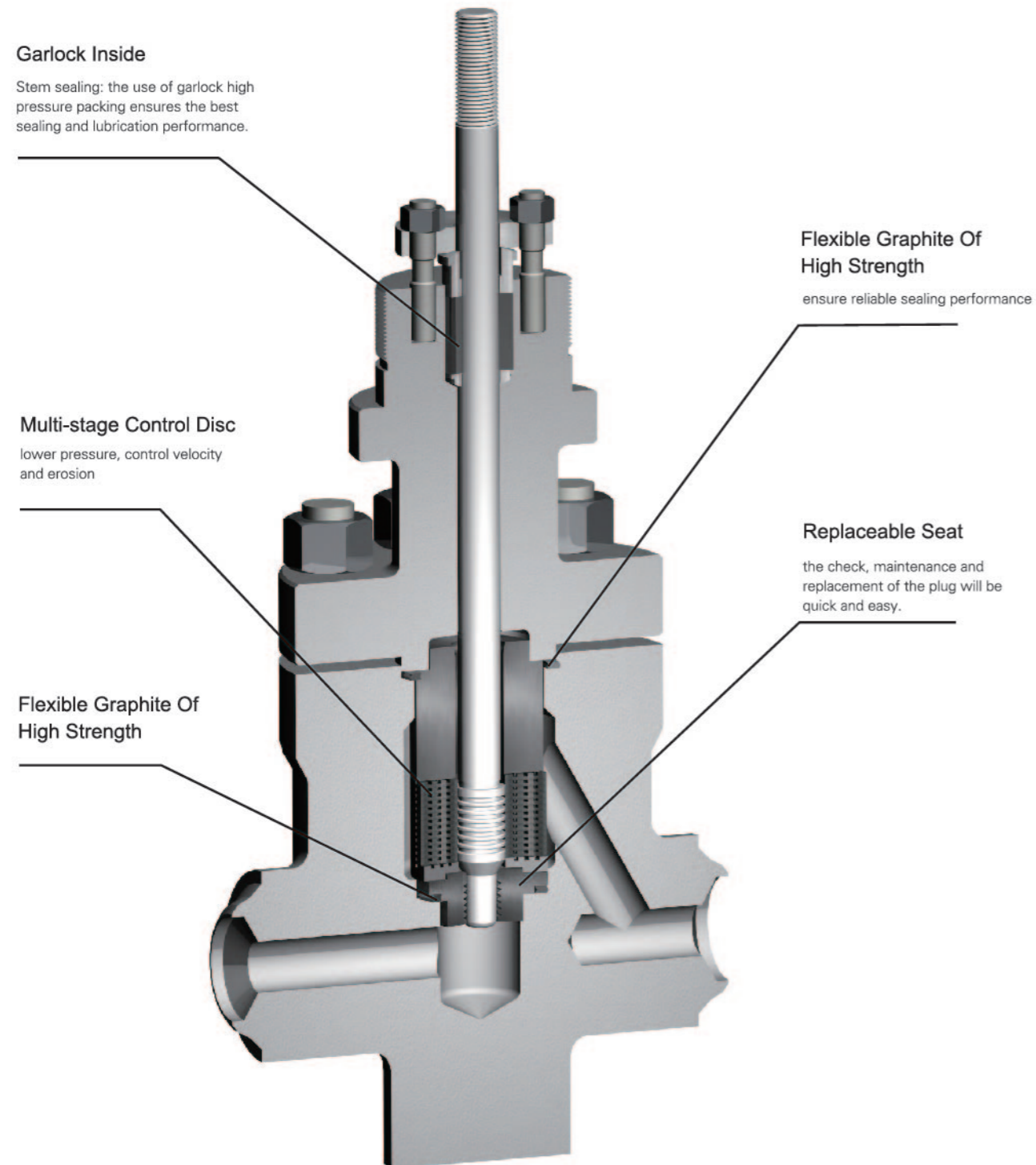
Delan 德兰调节阀
DELAN MX2500 SERIES

Content

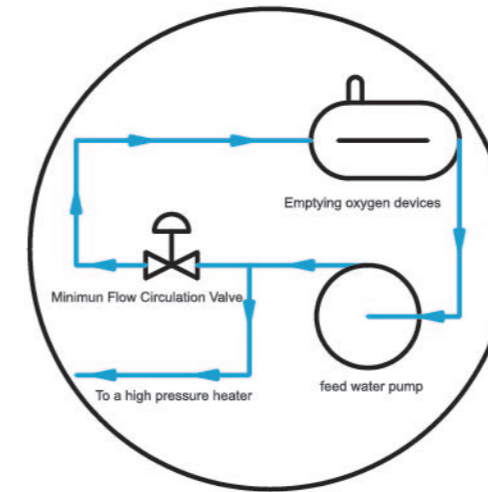
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Anatomical Drawing



Typical Application



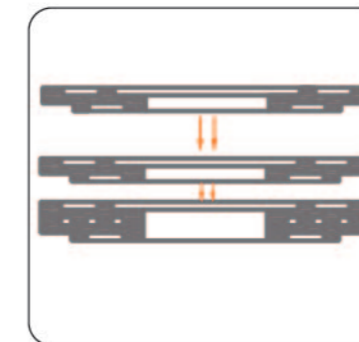
Minimum flow circulation valve is the key supporting equipment of power plant's boiler feedwater pump.

Boiler water from the feedwater pump will be pressurized up to 20–30Mpa or above in the deaerator then sent to the high pressure heater and eventually into the boiler. A certain minimum flow quantity of the feedwater pump should be ensured to take away the heat generated by its operation so as to avoid overheating and damage of vanes due to cavitation. Boiler feedwater flow is small during the startup and shutdown process while the water demand decreases in condition of breakdown. In order to ensure the normal operation of the pump, a recirculation system should be mounted in the pump outlet to carry a portion of the feedwater back to the deaerator from the pump.

Valve Characteristic



circulatory convection mechanism



disc stack



welding assembly

Circulatory convection mechanism, multi-stage pressure reducing

Innovative design concept

Circulatory convection structure control valve is a new generation of control valve for high pressure difference and anti-cavitation application which is developed from multiple orifice, anti-cavitation sleeve valve, multi-stage plug throttle control valve and labyrinth disc control valve. Circulatory convection disc, as the key component applies special structure and technology. Compared with the popular labyrinth disc, it has the similar appearance but rather different function and mechanism. Labyrinth disc has several independent and tortuous groove passages on the round disc which can add resistance and reduce pressure gradually through a number of turns and then prevent cavitation during the process of pressure reducing. Circulatory convection disc also has dozens of groove passages. Fluid makes their way from outer ring to inner ring through the Radial slot. During this process, a portion of the fluid divided while the other portion joined together. The hit, friction and swirl produced by the high speed molecule will consume a large volume of energy and reduce pressure more efficiently. It has a better pressure reducing, anti-cavitation, noise attenuation performance and longer service life compared with labyrinth disc.

Valve Characteristic

Eight peculiar advantages

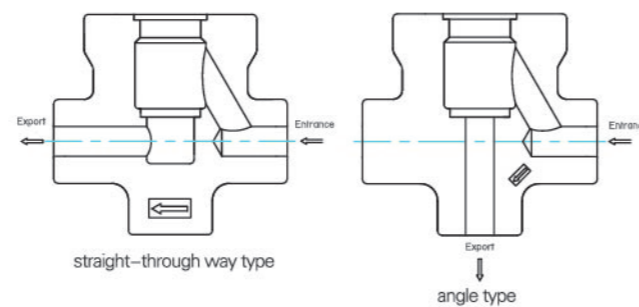
With scientific design principle, proper inner structure, high-performance material and original technique, our minimum flow valve has some unique advantages as follows:

- Circulatory convection, multi-stage pressure reducing mechanism, avoid cavitation efficiently, prolong service life.
- All the trims can be quickly removed and replaced, easy to maintain with less cost.
- Imported high-quality stem packing ensures leak-free without frequent replacement.
- Scientific construction, high-performance materials and exquisite workmanship enable both the plug and cage to have excellent anti-blocking and anti-seizure performance so that a small amount of sundries in the pipeline will not lead to any blocking for the passage nor seizure for the plug in condition of frequent opening
- Appropriately matched plug and cage materials provide an excellent resistance for abrasion, scratching and seizure.
- Zero leakage, long-service life and low breakdown rate ensure a safe and reliable operation of the feedwater pump.



Technical Parameters

- nominal diameter: 3/4" - 6"
- nominal pressure: ANSI 150Lb ~ 4500Lb
- Body type: straight-through way type, angle type
- operation temperature: 150°C~450°C
- Flow characteristics: equal percentage
- Actuator: electric or pneumatic actuator
- Leakage: meet ANSI B16. 104 V leakage (VI level seal is available)



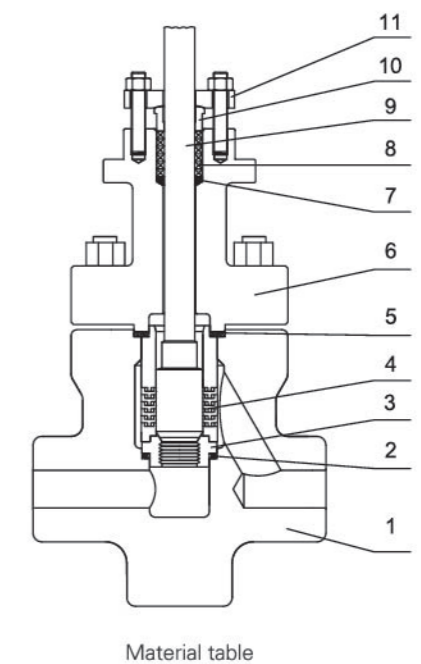
Both the pneumatic and electric valves have handwheels. In condition of gas or power loss manual operation is available to maintain throttling capability.

Design Standards

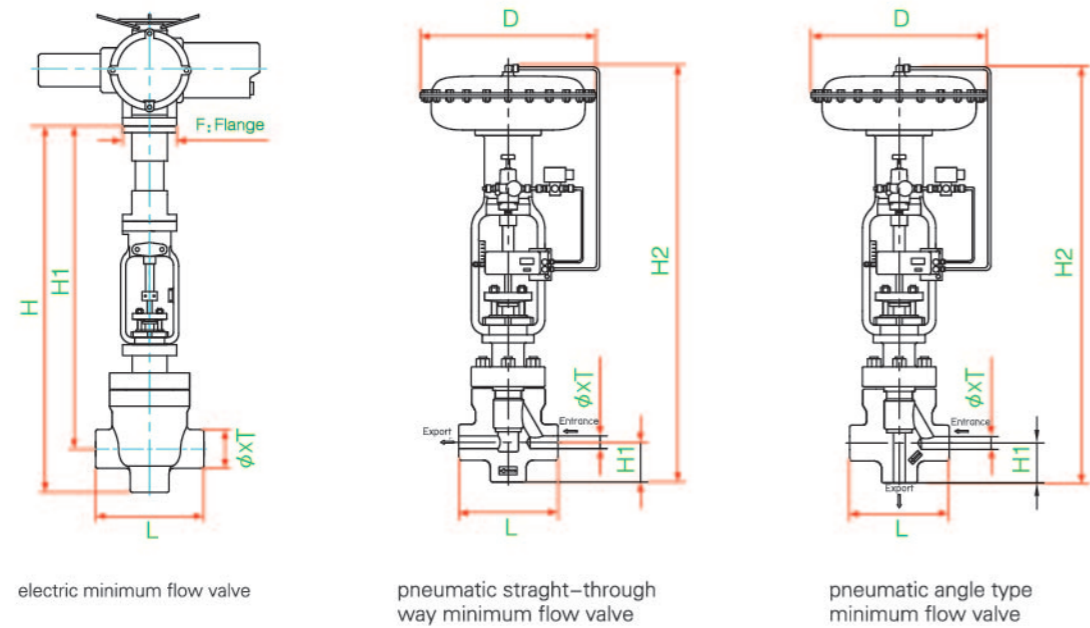
- Design and manufacture: ASME B16.34 JB/T 3595
- Check and test: JB/T 3595 、 MSS SP61
- End connection
 - butt welding ends: ASME B16.25
 - flange ends: ASME B16.5

Material Table

No	Name	Material
1	body	A105
2	seat gasket	flexible graphite with 316 stainless steel wire
3	seat	1Cr13+stellite
4	disc assembly	17-4PH
5	flange gasket	flexible graphite with 316 stainless steel wire
6	bonnet	25
7	packing seat	1Cr13
8	packing	flexible graphite
9	stem	1Cr13+stellite
10	gland	1Cr13
11	plate	45



Dimension and Weight



nominal diameter		L	H	H1	F: Flange	H2	H1	D	phiXT	weight (KG)
Inch	mm	(mm)	(mm)	(mm)		(mm)	(mm)	(mm)		
3/4"	20	250	950	850	F10	884	100	333	pipe fittings according to user	80
1"	25	250	950	850	F10	884	100	333		80
1-1/2"	40	250	950	850	F10	884	100	333		80
2"	50	250	1035	935	F14	1058	100	406		86
2-1/2"	65	400	1115	1015	F14	1158	122	473		140
3"	80	498	1115	1015	F14	1258	140	473		220
4"	100	575	1320	1190	F14	1332	168	536		340
6"	150	700	1320	1190	F14	1332	212	536	380	

Product Model

Size	Type	Pressure Rating	Connection	Body Material
2"	MX	15	F	C
Metric: mm	MX-pneumatic Actuator	1=150LB	W: Butt Weld	C: carbon steel
Imperial: Inch	KX-Electric Actuator	3=300LB	S: Socket Weld	
		6=600LB	F: Flange	
		9=900LB		
		15=1500LB		
		25=2500LB		
		35=3500LB		
		45=4500LB		

Performance Parameters

nominal diameter(mm)	20	25	32	40	50	65	80	100	150
nominal pressure(Mpa)	25, 32								
body structure	straght-through way type, angle type								
direction of flow	flow-to-close								
actuator	electric or pneumatic actuator								
KV	2.5	2.5	6.3	6.3	10	16	25	63	90
rated stroke	38	38	38	38	51	51	51	76	76
control signal	switch value control, 4-20Ma DC analog quantity control								
power source	electric:380V three-phase, single-phase; pneumatic: 0.4-0.7Mpa								

