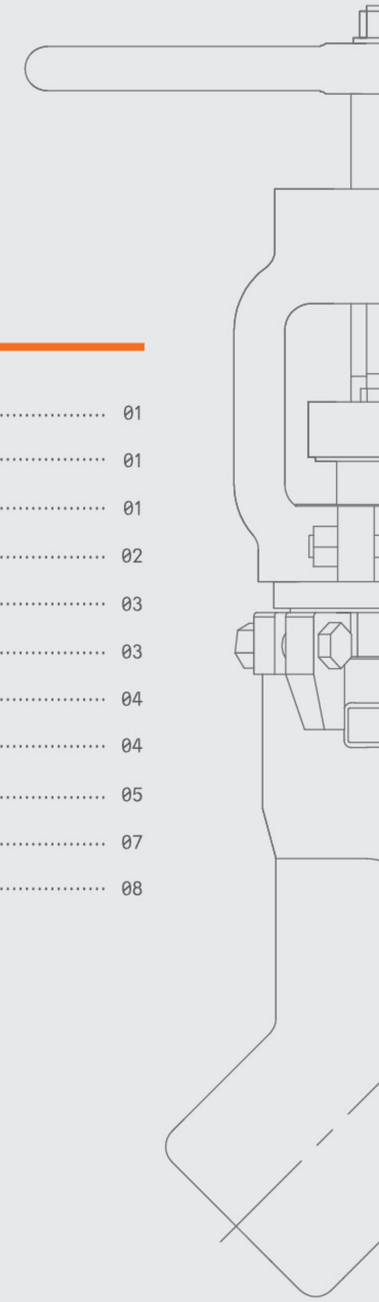
Delan® 德兰调节阀

DELAN JY4500 SERIES

Content



Application Range

- Water Drainage, discharge of various steam–water pipes
- Water drainage, discharge of superheater
- Periodical blowdown cutoff of boiler
- Continuous blowdown cutoff
- Steamming out cutoff of soot blower

Design Standards

- Design and Manufacturing：ASME 16.34 JB/T3595
- Inspection and test：JB/T3595 MSS SP61
- Connection End
  - Socket welding：ASME B16.11
  - Butt welding：ASME B16.25
  - Flange：ASME B16.5
- Class of design: special, limited, standard

Technical Parameters of Y-Type Globe Valve

- Nominal diameter：3/4″ ~ 4″
- Nominal pressure：ANSI 150LB ~ 4500LB
- Applicable temperature：–23℃ ~ +600℃
- Actutor: Handwheel, Electric operated Actutor
- Leakage: zero

Valve characteristic

Excellent Packing System

Carlock inside: using carlock high temperature resistant packing to ensure the best sealing effect and lubricating performance which operated easily in a safe environment.

Stellite cobalt–based hard alloy disc

The sealing surface of the disc surfacing hard alloy or using intergral hard alloy as the disc which has excellent comprehensive mechanical properties. Capibility of wear and erosion resistance prolonged the

Up and down guiding ring on the disc

The cavity guided disc has a up and down guiding rings. The top and the bottom of the dics guide direction at the same time which composes of the piston type disc of the body cavity guiding to eliminate valve seizing, surface abrasion ,disc vibration and so on during the whole process. The bottom guiding ring of the disc make the fluid to pass it by way of closing to a straight line for eliminating the valve breakdown caused by the side impact effectively.

With best CV value

The structure of gradient stem and the best shape design of the flow passage provide the fluid passed through by way of closing to a straight line which is high cv value and low loss of pressure head.

Sealing surface with special overlaying welding

Hard alloy is overlaying welded on the sealing surface of the valve body which making the valve body to have more compact structure. Connical sealing surface design provides endurable and reliable tight sealing by using small axial force only.

Replaceble trim structure

Replaceble trim structure is optional. valve seat, disc can be replaced quickly which reducing the repair time of the valve sealing surface after it is used in the severe service condition. meanwhile, it prolonged the integral service life of the valve.

Performance parameter

- Type of valve body：Y type a angle of 45 degree
- Valve material：A105 、12Cr1MoV、F22、F316、F91、F92
- Bonnet Type：standard
- Trim
  - integral type：integral surfacing valve seat
  - Replaceble type of trim：valve seat disc, bonnet can be replaced easily, good maintenance performance; trim can be replaced within half an hour
- Flow characteristic：quick opening
- Actuator：hand–operated and motor–driven actutor are available

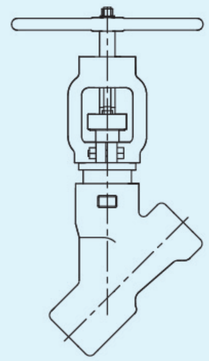
pressure rating and connecting end

nominal diameter		nominal pressure（lb）							
inch	mm	150、300、600、900、1500			2500			3500、4500	
1/2"	15	☆	◇	△	☆	◇	△	☆	◇
3/4"	20	☆	◇	△	☆	◇	△	☆	◇
1"	25	☆	◇	△	☆	◇	△	☆	◇
1-1/4"	32	☆	◇	△	☆	◇	△	☆	◇
1-1/2"	40	☆	◇	△	☆	◇	△	☆	◇
2"	50	☆	◇	△	☆	◇	△	☆	◇
2-1/2"	65	☆	◇	△		◇	△		◇
3"	80		◇	△		◇	△		◇
4"	100		◇	△		◇	△		◇

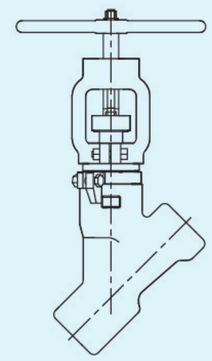
remarks： ☆ Socket welding ◇ butt welding △ Flange

Type of structure

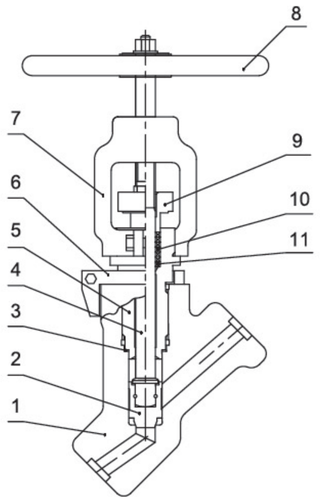
Y–type globe valve has two kind of cavity structure : type of cavity sealing welding and type of cavity clamp



Type of cavity sealing welding



Type of cavity clamp



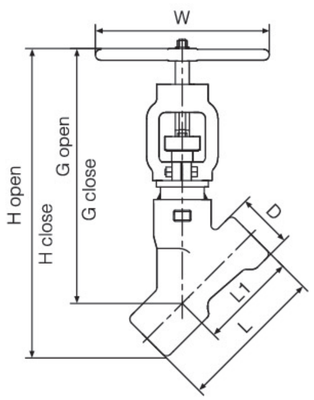
Material table

Material Table

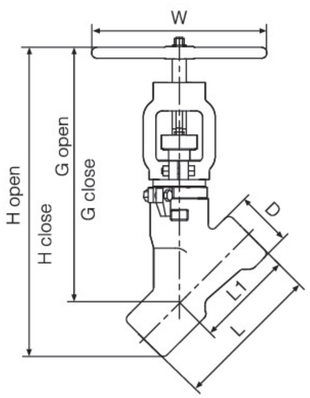
No	Name	Material					
1	valve body	A105+Stellite	12Cr1MoV +Stellite	F22+Stellite	F91+Stellite	F92+Stellite	F316+Stellite
2	disc	12Cr1MoV +Stellite	12Cr1MoV +Stellite	F22+Stellite	F91+Stellite	F92+Stellite	F316+Stellite
3	A seal	Flexible graphite with 316 s.s.wire inside	Flexible graphite with 316 s.s.wire inside	Flexible graphite with 316 s.s.wire inside	Flexible graphite with 316 s.s.wire inside	Flexible graphite with 316 s.s.wire inside	Flexible graphite with 316 s.s.wire inside
4	Stem	1Cr13	25Cr2Mo1V	25Cr2Mo1V	25Cr2Mo1V	25Cr2Mo1V	F316
5	packing box	A105	12Cr1MoV	F22	F91	F92	F316
6	clamp	WCB	WCB	WCB	WCB	WCB	WCB
7	yoke	A105	A105	A105	A105	A105	A105
8	handwheel	QT400-18	QT400-18	QT400-18	QT400-18	QT400-18	QT400-18
9	cover board	25	25	25	25	25	25
10	packing	flexible graphite	flexible graphite	flexible graphite	flexible graphite	flexible graphite	flexible graphite
11	packing gasket	1Cr13	1Cr13	1Cr13	1Cr13	1Cr13	1Cr13

External Dimension and weight table

1. Hand-operated globe valve external dimension and weight table



type of cavity sealing welding

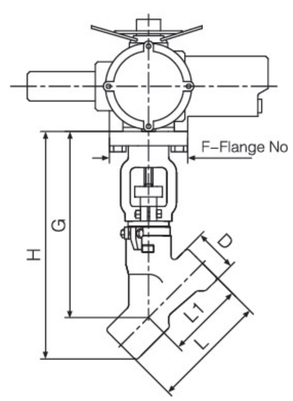


type of cavity clamp

nominal Pressure Class	nominal Diameter		L	D	L1	W	H open	G open	H close	G close	weight (Kg)
	inch	mm	mm								
150-900lb	3/8"	10	152	60	102	216	385	328	356	300	10
	1/2"	15	152	60	102	216	385	328	356	300	10
	3/4"	20	152	60	102	216	392	335	370	314	10
	1"	25	152	60	102	216	392	335	370	314	10
	1-1/4"	32	152	60	102	216	392	335	370	314	10
	1-1/2"	40	180	81	122	216	440	370	414	345	16
	2"	50	180	81	122	216	440	370	414	345	16
	2-1/2"	65	272	102	180	363	544	443	523	423	37
	3"	80	272	102	180	363	544	443	523	423	37
	4"	100	325	122	224	406	623	509	582	468	61
1500-4500lb	3/8"	10	152	60	102	216	385	328	356	300	10
	1/2"	15	152	60	102	216	385	328	356	300	10
	3/4"	20	152	60	102	216	392	335	370	314	10
	1"	25	152	60	102	216	392	335	370	314	10
	1-1/4"	32	180	81	122	216	440	370	414	345	16
	1-1/2"	40	180	81	122	216	440	370	414	345	16
	2"	50	272	102	180	363	544	443	523	423	37
	2-1/2"	65	325	122	224	406	623	509	582	468	61
	3"	80	325	122	224	406	623	509	582	468	61
	4"	100	325	122	224	406	623	509	582	468	61

External Dimension and weight table

Motor-driven globe valve external dimension and weight table



type of cavity clamp

nominal Pressure Class	nominal Diameter		L	D	L1	F-Flange No	H close	G close	Weight (excluding electric actuator)
	inch	mm	mm						Kg
150-900lb	3/8"	10	152	60	102	F10	326	270	8.5
	1/2"	15	152	60	102	F10	326	270	8.5
	3/4"	20	152	60	102	F10	340	284	8.5
	1"	25	152	60	102	F10	340	284	8.5
	1-1/4"	32	152	60	102	F10	340	284	8.5
	1-1/2"	40	180	81	122	F10	384	315	14.5
	2"	50	180	81	122	F10	384	315	14.5
	2-1/2"	65	272	102	180	F14	493	393	32.5
	3"	80	272	102	180	F14	493	393	32.5
	4"	100	325	122	224	F14	552	438	54
1500-4500lb	3/8"	10	152	60	102	F10	326	270	8.5
	1/2"	15	152	60	102	F10	326	270	8.5
	3/4"	20	152	60	102	F10	340	284	8.5
	1"	25	152	60	102	F10	340	284	8.5
	1-1/4"	32	180	81	122	F10	384	315	14.5
	1-1/2"	40	180	81	122	F10	384	315	14.5
	2"	50	272	102	180	F14	493	393	32.5
	2-1/2"	65	325	122	224	F14	552	438	54
	3"	80	325	122	224	F14	552	438	54
	4"	100	325	122	224	F14	552	438	54

Repair and maintenance

Repair tools reference table

Size Code	lapping tools			scraping cutter
	lapping bar	mutual lapping bar	positioning screw set	
* A	TY-A-27	TY-B-27	TY-C-39	TH-27
* B	TY-A-34	TY-B-34	TY-C-48	TH-34
* C				
* E				
* D	TY-A-40	TY-B-40	TY-C-56	TH-40
* F	TY-A-44	TY-B-44	TY-C-60	TH-44
* G	TY-A-50	TY-B-50	TY-C-72	TH-72
* H				
* K				
* J	TY-A-56	TY-B-56	TY-C-84	TH-56

scraping cutter

lapping bar

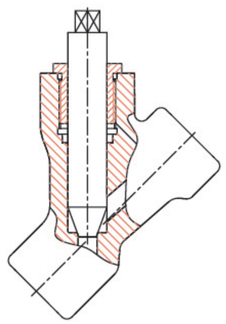
Remarks: * represent the first bit of size code can be selected at random.

Repair of valve seat

The integral valve seat can not be repaired by replacing itself. The best repairing method can be decided(ascertained) by the damage degree of the sealing surface when the valve is disassemblied for repairing. The slight damage of the valve seat can be repaired by mutual grinding between the disc and seat. The bad damage may need special grinding tools for repairing or re-processing to the valve seat and then repairing by mutual grinding between the disc and seat.

After the repair of the valve seat , the seat and disc must be repaired by mutual grinding between themself. it is recognized that do not grinding with overforce to prevent the scratches of the valve sealing surface. It should be grinded with suitable force and uplifting the grinding tools frequently to re-position and clean the sealing surface.

The best grinding effect of the valve seat can be judged by marking the disc with a color pen and revolve it on the valve seat lightly. The connection effect of a integrated sealing surface should be a full circle on the valve seat. Using suitable force on the stem to compress the sealing surface tightly after it shows with full connection.



valve seat lapping

valve assembly torque

Tightening torque of the packing bolts

Pressure Rating	nominal size								
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
150	1.3-6.3	1.3-6.3	1.3-6.3	1.3-6.3	1.3-6.3	1.3-6.3	2.5-7.5	2.5-7.5	2.5-7.5
300	7.3-12.3	7.3-12.3	7.3-12.3	7.3-12.3	7.3-12.3	7.3-12.3	12-17	12-17	14.6-19.6
600	14.6-19.6	14.6-19.6	14.6-19.6	14.6-19.6	14.6-19.6	14.6-19.6	24-29	24-29	30-35
900	18-23	18-23	18-23	18-23	18-23	18-23	29-34	29-34	36-41
1500	38.5-48.5	38.5-48.5	38.5-48.5	38.5-48.5	63-73	63-73	77-87	77-87	79-89
2500	49-59	49-59	49-59	49-59	81-91	81-91	98.5-108.5	98.5-108.5	100-110
3500	54.5-64.5	54.5-64.5	54.5-64.5	54.5-64.5	89-99	89-99	109-119	109-119	112-122
4500	63.5-73.5	63.5-73.5	63.5-73.5	63.5-73.5	104-114	104-114	127-137	127-137	130-140

Torque of the valve cavity

Pressure Rating	nominal size								
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
150	81.5-86.5	81.5-86.5	81.5-86.5	152-162	242-252	242-252	280-290	411-421	588-598
300	81.5-86.5	81.5-86.5	81.5-86.5	152-162	242-252	242-252	280-290	411-421	588-598
600	81.5-86.5	81.5-86.5	81.5-86.5	152-162	242-252	242-252	280-290	411-421	588-598
900	81.5-86.5	81.5-86.5	81.5-86.5	152-162	242-252	242-252	280-290	411-421	588-598
1500	81.5-86.5	81.5-86.5	81.5-86.5	152-162	152-162	280-290	434-454	434-454	434-454
2500	81.5-86.5	81.5-86.5	81.5-86.5	152-162	152-162	280-290	434-454	434-454	434-454
3500	81.5-86.5	81.5-86.5	81.5-86.5	152-162	152-162	280-290	434-454	434-454	434-454
4500	81.5-86.5	81.5-86.5	81.5-86.5	152-162	152-162	280-290	434-454	434-454	434-454

Ordering Model

size	type of valve	pressure Rating	connection	Material of sealing surface	Material of valve body	type of driving
2"	JY	20	F	2	C	
metric system: mm	Y type globe valve	1=150LB	W: butt welding	2: alloy stellite	C: ASTM A105	D:electric driving
British System: Inch		3=300LB	S: Socket welding		V: 12Cr1MoV	
		6=600LB	F: Flange		F22: F22	
		9=900LB			F91: F91	
		20=1690LB			F92: F92	
		30=2680LB			R:316	
		45=4500LB				

Model: 2"JY20F2C