



2-STAGE OPERATION BALL VALVE

HISAKA BALL VALVES

■ HF5-TDT

■ HF5-TST

HISAKA WORKS, LTD.

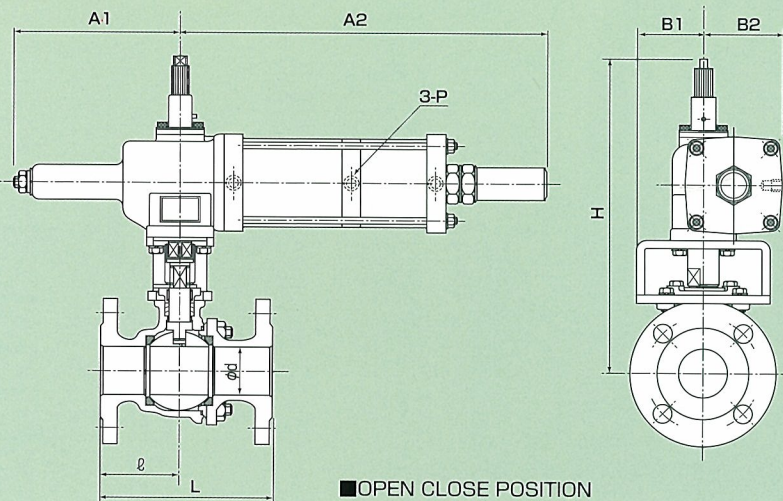
2-STAGE OPERATION BALL VALVE

2 STAGE

FEATURES

1. The open degree (Max. 45 degree) of valve can be set at an arbitrary position.
It can be very easy for setting, because how to setting the open degree is adopted the travel stop system.
2. The operation time is faster than the positioner operation, and can be reduced the cost. The operation pressure of actuator supplied from solenoid valve directly not through positioner, therefore the response of λ open λ close λ is quickly.
3. Possible to be fine-tuning (TST model)
It is possible to be fine-tuning on λ full close λ to λ half open λ by spring operation.
4. Possible to be used for emergency shut down valve (TST model)
Spring return type cylinder is possible to used for emergency shut down valve, at the time of electric power failure and stop the air supply.

MODEL : HF5-TDT



■ OPEN CLOSE POSITION
 MODEL:TDT
 I. FULL OPEN→HALF OPEN→FULL CLOSE
 (FULL CLOSE→HALF OPEN→FULL OPEN)

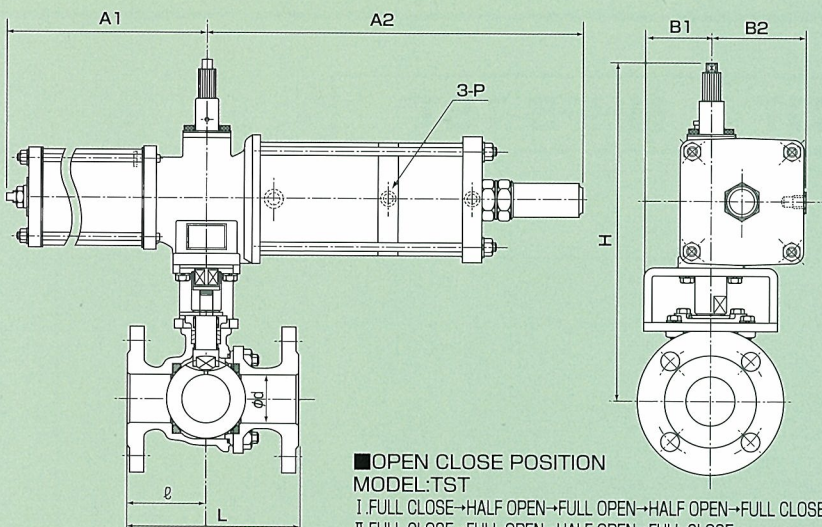
HF5-TDT <DOUBLE ACTING> (JIS 10K·ANSI 150Lb)

UNIT : mm

	d	L	H	A1	A2	B1	B2	P Rc(PT)	φ	ACTUATOR SIZE
15A	13	108	249	99	256	52	52	1/4	42	TD1T
20A	19	117	252	99	256	52	52		47	
25A	25	127	261	99	256	52	52		51	
32A	32	140	274	134	309	52	65		55	TD2T
40A	38	165	294	134	309	63	65	1/4	75	TD3T
50A	51	178	330	171	386	70	83		82	
65A	64	190	364	171	386	78	83	3/8	84	TD4T
80A	76	203	401	224	479	81	110		90	
100A	102	229	432	224	479	83	110		110	
125A	127	320	557	272	603	110	152	3/8	160	TD5T
150A	152	394	577	272	603	110	152		197	

※ Actuator can be attached cross fitting

MODEL : HF5-TST



■ OPEN CLOSE POSITION
 MODEL:TST
 I. FULL CLOSE→HALF OPEN→FULL OPEN→HALF OPEN→FULL CLOSE
 II. FULL CLOSE→FULL OPEN→HALF OPEN→FULL CLOSE
 III. FULL CLOSE→HALF OPEN→FULL OPEN→FULL CLOSE

HF5-TST <SINGLE ACTING> (JIS 10K·ANSI 150Lb)

UNIT : mm

	d	L	H	A1	A2	B1	B2	P Rc(PT)	φ	ACTUATOR SIZE
15A	13	108	262	204	276	52	66	1/4	42	TS1T
20A	19	117	265	204	276	52	66		47	
25A	25	127	274	204	276	52	66		51	
32A	32	140	291	231	324	52	79		55	TS2T
40A	38	165	311	231	324	63	79	1/4	75	TS3T
50A	51	178	356	320	400	75	101		82	
65A	64	190	390	320	400	78	101	3/8	84	TS4T
80A	76	203	444	436	495	83	136		90	
100A	102	229	475	436	495	78	136		110	
125A	127	320	611	567	625	110	182	3/8	160	TS5T
150A	152	394	631	567	625	110	182		197	

※ Actuator can be attached cross fitting

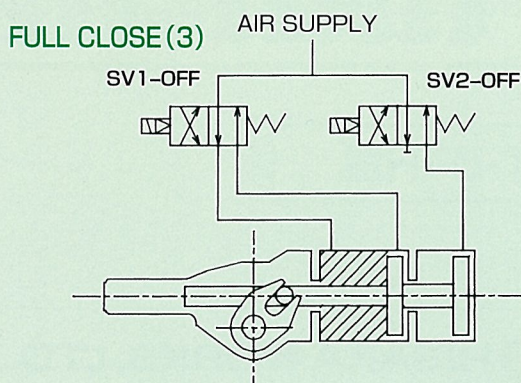
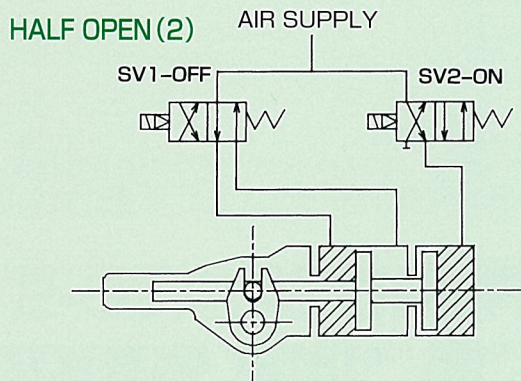
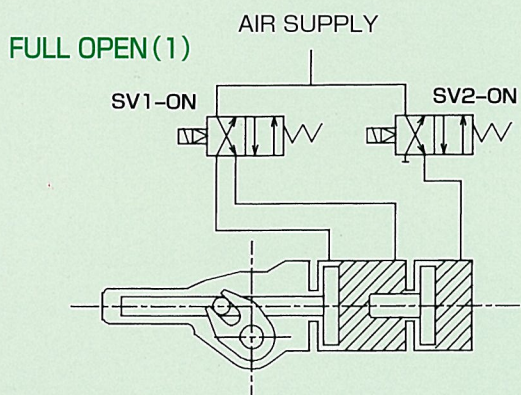
CONTROL

HF5-TDT & HF5-TST

《Main Usage》 Used for measuring system line
Used for protection water hammering

PROCESS DRAWING

●PROCESS OPERATION (TDT ACTUATOR)



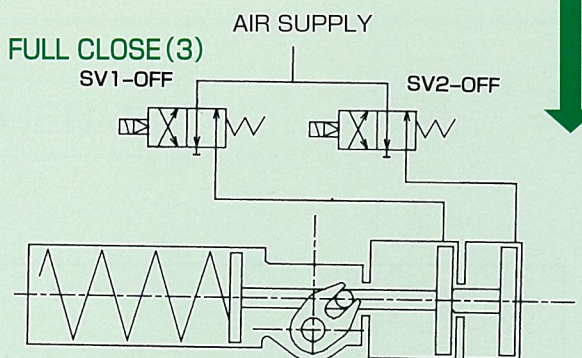
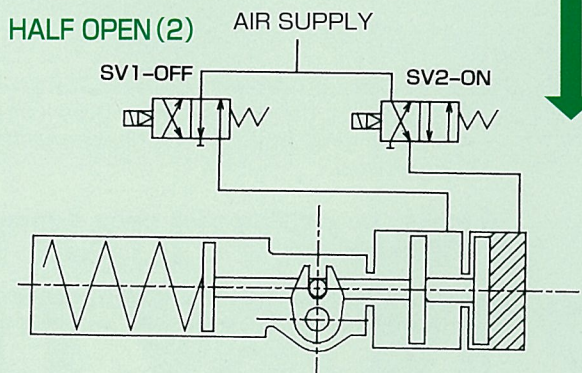
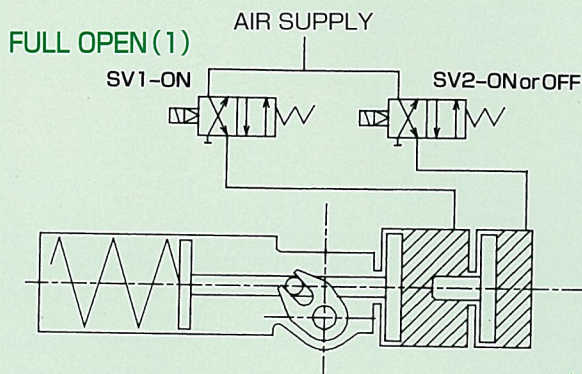
PROCESS OPERATION

--- FULL OPEN (1) → HALF OPEN (2) → FULL CLOSE (3) ---

※CAN NOT BE OPERATED FULL CLOSE (3) → HALF OPEN (2)

●PROCESS OPERATION (TST ACTUATOR)

※The following process is for air fail close In case of air fail open the following process is (1): Full Close & (3): Full Open.



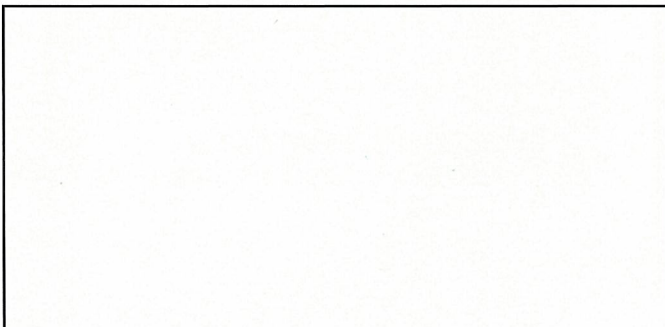
PROCESS OPERATION

--- FULL OPEN (1) → HALF OPEN (2) → FULL CLOSE (3) → HALF OPEN (2) ---

FOR PROPER USE OF HISAKA BALL VALVE

Following points must be considered in order to use HISAKA ball valves in a proper way.

1. Do not allow the slurry (dirts in the pipe, welding slag, rust, etc.) to enter into the standard valve. If the slurry thrust into the ball seat or causes damage on it, the leakage or defective function may result.
Install the valve only after the through cleaning is made inside the pipe.
If the liquid containing the slurry is to be supplied, exchange the standard valve with the valve for slurry use.
2. Do not use the standard valve to the liquid which shows a large temperature fluctuation. If the high temperature liquid is supplied to the low temperature condition, the liquid inside the valve body shows the heat expansion, forming the high pressure. In such a case, the leakage or defective function may be caused.
Either reduce the temperature fluctuation or exchange with the valve having the relief port in the above case.
3. Do not apply undue force (as caused by one-side tightening of bolts, the tightening against a large gap, etc.) or vibration to the valve. Otherwise, the leakage or faulty function may happen. Observe the piping dimensions as instructed and arrange the support for a heavy valve.
4. Bolts and nuts are loosened in some cases due to the vibration during the transport. Therefore, check the tightening condition before use. If found Loose, retighten the bolts.
5. Special treatment is necessary, if the valve is used for oxygen or hydrogen service. Please clarify the detail of operation condition and fluid.
6. The flow direction of fluid is designated in certain valves. The reverse flow may cause the leakage. Install the valves as instruction, if the flow direction is designated.
7. At the time of disassembling the automatic valve, do not disassemble the pneumatic cylinder if the pressure still remains inside. Otherwise, the parts pop out. disassemble it only after the air is purged.
8. Do not disassemble the pneumatic cylinder of spring back type.
If it is to be disassembled under unavoidable circumstances, exchange the end cap set bolt with the long bolt before disassembling. Otherwise, the spring may jump out what is dangerous.
9. Make the working test once a month or so, automatic valve is kept out of operation over a long period.
10. In case of using the teflon seat valve only for ON-OFF operation, the interim opening position deforms the seat and the leakage is caused.
11. If you have any question or requirement about our product, please contact us or our local sales agent.



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