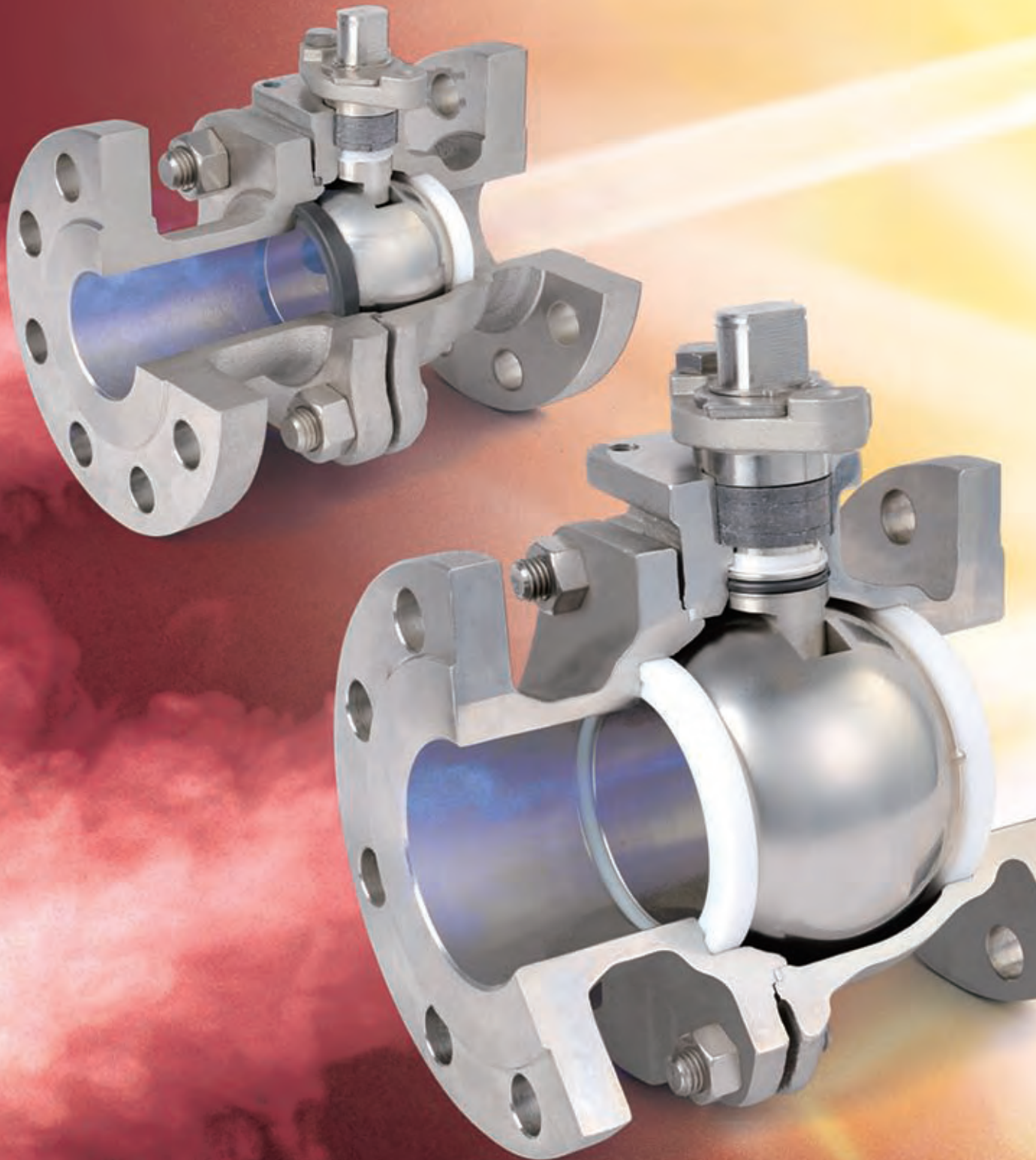


# HF5(ST) for **STEAM**

## BALL VALVE FOR STEAM SERVICE

- HF5(ST) ● HF5(ST)-AD ● HF5(ST)-AS ● HF5(ST)-TD ● HF5(ST)-TS



# Steam Ball Valve has been developed for steam service Suitable for up to 5MPa Steam (Metal Touch).

Ball valve HF5 (ST) type was developed specially for steam. This model had been able to solve the problems for steam service, in addition to the ball valve's performance. It is using for many kinds of industries, like chemical, food and so on.

## Main Features

- It was developed as for 2MPa and 1MPa Steam, and an optimal ball valve for steam service. It can be selected depend on the application.
- By assembling with AD type actuator, it will be a compact type ON-OFF ball valve.  
※AS type, TD and TS type are also available.
- Operation of valve is quarter turn(90degree), and it was facilitated automation and operation.

## For 1MPa Steam

### Feature ②

O-ring installed to the stem for improvement gland seal.

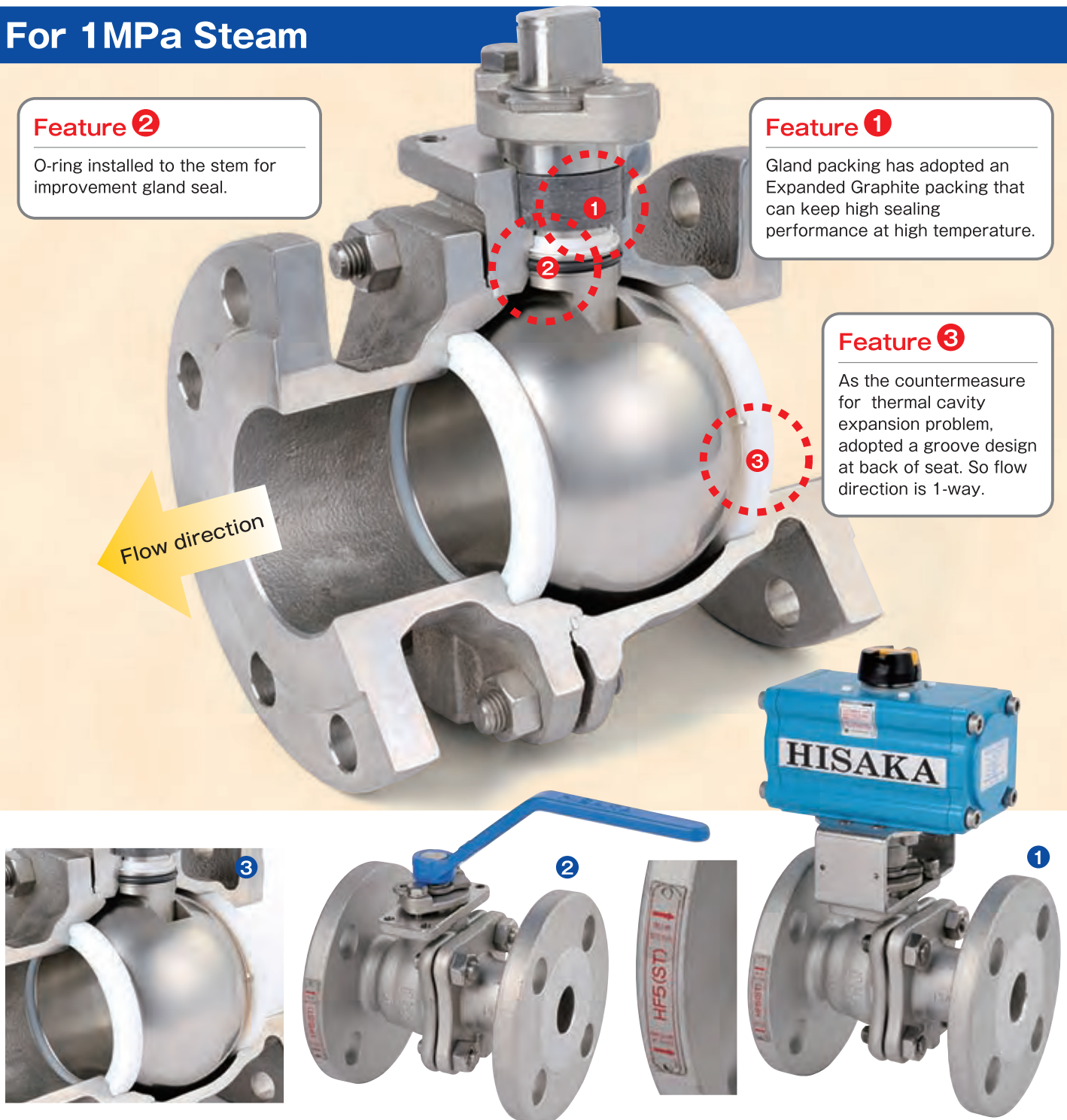
### Feature ①

Gland packing has adopted an Expanded Graphite packing that can keep high sealing performance at high temperature.

### Feature ③

As the countermeasure for thermal cavity expansion problem, adopted a groove design at back of seat. So flow direction is 1-way.

Flow direction





# and improved heat resistance and tight sealing.

- It can be replaced with grove valve.
- As the countermeasure for the leakage from gland part, installed expanded graphite packing and O-ring(only for 1MPa) at the inside of stem for double gland seals design.
- The ball seat of up-stream side for 1MPa is used Maxtite PTFE material. And for 2MPa and down-stream side ball seat is used special carbon filled PTFE that have higher heat resistance and little softened problem for the seats on time of high temperature condition. With their special design and materials, this model got high sealing performance and stability operation torque.
- For over 2MPa steam, metal touch ball valve is suitable for it. (Please contact us for this case.)

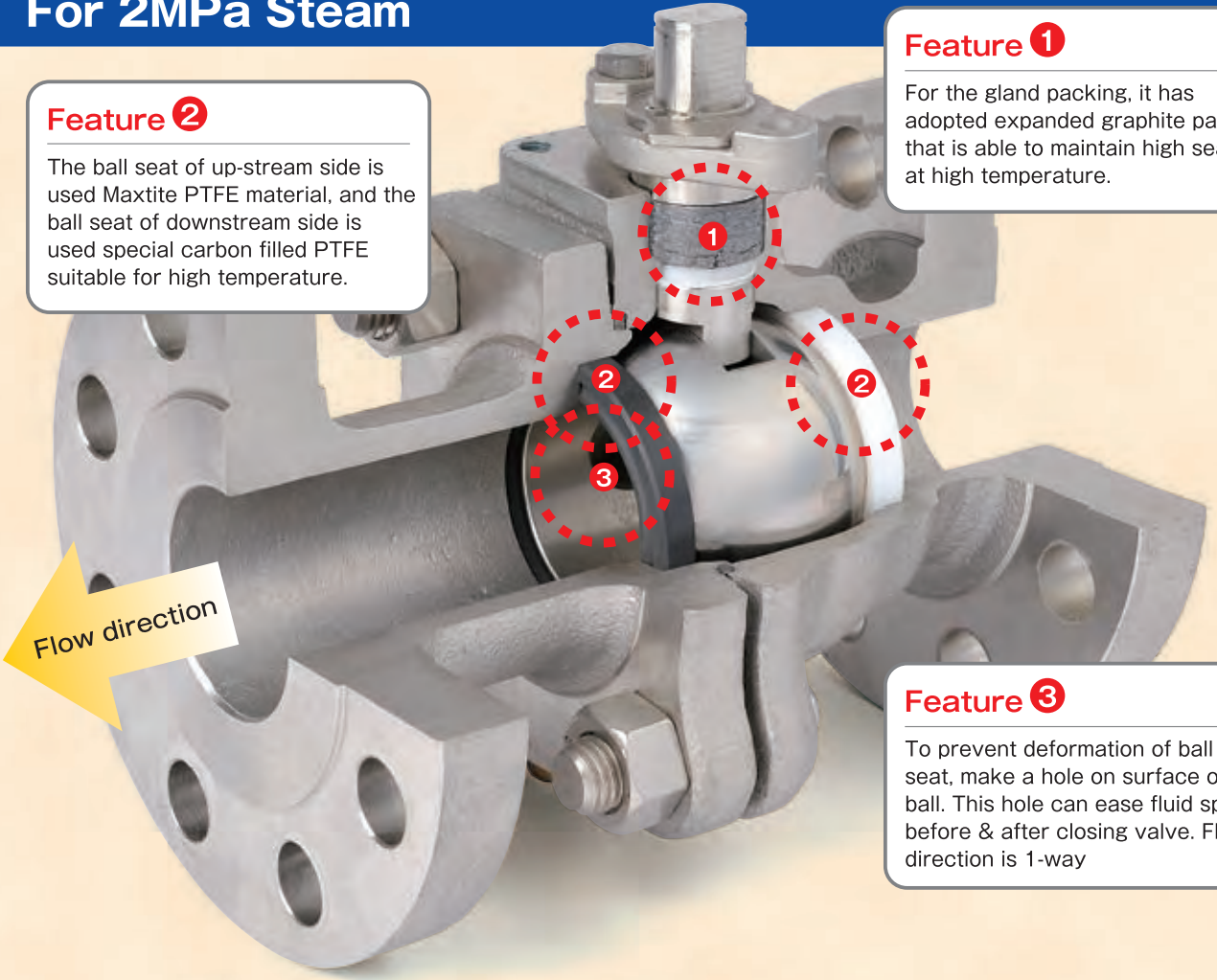
## For 2MPa Steam

**Feature 2**

The ball seat of up-stream side is used Maxtite PTFE material, and the ball seat of downstream side is used special carbon filled PTFE suitable for high temperature.

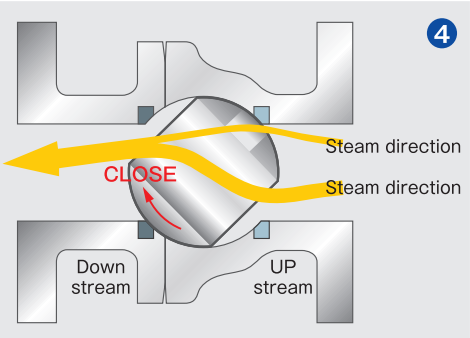
**Feature 1**

For the gland packing, it has adopted expanded graphite packing that is able to maintain high sealing at high temperature.



**Feature 3**

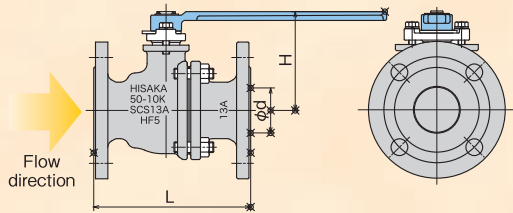
To prevent deformation of ball seat, make a hole on surface of ball. This hole can ease fluid speed before & after closing valve. Flow direction is 1-way



- 1 the compact On-Off valve with AD type actuator
- 2 manual operation ball valve
- 3 Maxtite PTFE ball seat on up-stream
- 4 Flow of steam for 2MPa (Image)
- 5 For 2MPa, (Material of Ball Seat)  
Up-stream: Maxtite PTFE  
Down-stream: Special carbon filled PTFE.

# ice and improved heat resistance and tight sealing.

## Model:HF5(ST)(Manual)



●Model indication(with TAG)--- TYPE HF5ST

## For 1MPa **F M FB Ss Fe**

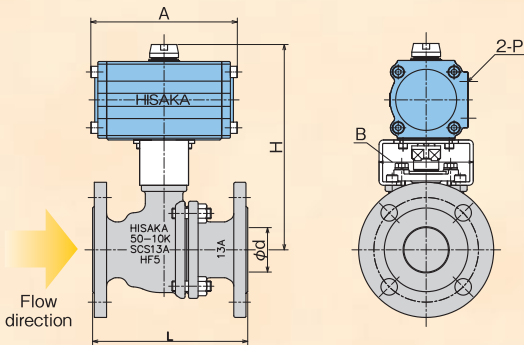
size	d	L	H	Handle Length
1/2" (15A)	13	108	59	120
3/4" (20A)	19	117	62	120
1" (25A)	25	127	77	150
32A	32	140	82	150
1-1/2" (40A)	38	165	100	200
2" (50A)	51	178	112	250
2-1/2" (65A)	64	190	135	300
3" (80A)	76	203	154	350
4" (100A)	102	229	175	400
5" (125A)	127	320	290	700
6" (150A)	152	394	310	1000

●UNIT:mm

## For 2MPa **F M FB Ss**

size	d	L	H	Handle Length
1/2" (15A)	13	140	59	120
3/4" (20A)	19	152	62	120
1" (25A)	25	165	77	150
1-1/2" (40A)	38	190	100	200
2" (50A)	51	216	112	250
2-1/2" (65A)	64	241	135	300
3" (80A)	76	283	154	350
4" (100A)	102	305	233	550

## Model:HF5(ST)-AD(Double acting)



## For 1MPa **F AD FB Ss Fe**

size	H	A	B	A-size*
1/2" (15A)	163	124	83	AD05N
3/4" (20A)	166	124	83	AD05N
1" (25A)	175	124	83	AD05N
32A	209	168	93	AD07N
1-1/2" (40A)	225	168	102	AD07N
2" (50A)	236	168	102	AD07N
2-1/2" (65A)	307	270	138	AD08
3" (80A)	323	270	138	AD08
4" (100A)	379	334	156	AD10

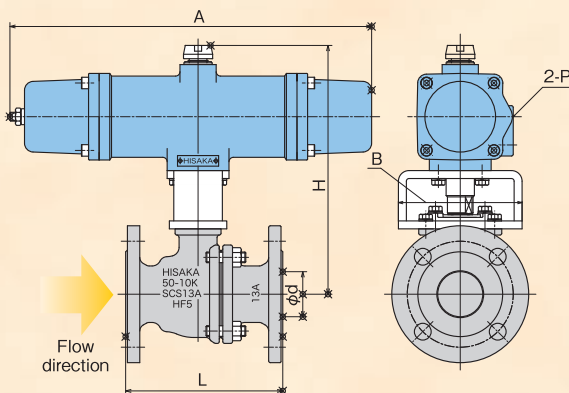
●UNIT:mm

## For 2MPa **F AD FB Ss**

size	H	A	B	A-size*
1/2" (15A)	163	124	83	AD05N
3/4" (20A)	195	168	93	AD07N
1" (25A)	204	168	93	AD07N
1-1/2" (40A)	271	270	135	AD08
2" (50A)	282	270	135	AD08
2-1/2" (65A)	340	334	151	AD10
3" (80A)	357	334	156	AD10
4" (100A)	482	440	179	AD13

\*...Actuator size

## Model:HF5(ST)-AS(Single acting)



## For 1MPa **F AS FB Ss Fe**

size	H	A	B	A-size*
1/2" (15A)	192	238	93	AD07N
3/4" (20A)	195	238	93	AD07N
1" (25A)	204	238	93	AD07N
32A	259	410	123	AD08
1-1/2" (40A)	271	410	125	AD08
2" (50A)	282	410	125	AD08

●UNIT:mm

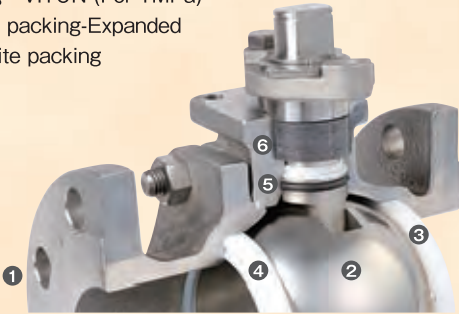
## For 2MPa **F AS FB Ss**

size	H	A	B	A-size*
1/2" (15A)	192	238	93	AD07N
3/4" (20A)	245	410	123	AD08
1" (25A)	252	410	123	AD08
1-1/2" (40A)	271	410	123	AD08

\*...Actuator size

## Main material

- ① Body...Stainless Steel/Cast Iron (For 2MPa is Stainless Steel only).
- ② Ball...Stainless Steel
- ③ upstream side seat...Maxtite PTFE
- ④ downstream side seat...Maxtite PTFE(For 1MPa)  
The special carbon filled PTFE (For 2MPa)
- ⑤ O-ring...VITON (For 1MPa)
- ⑥ Gland packing-Expanded graphite packing



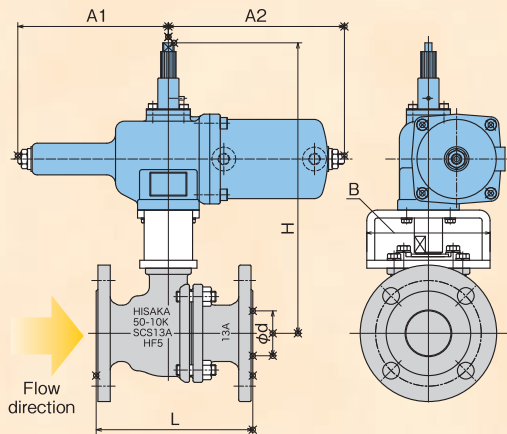
## Product classified sign

- F** ... Floating
- M** ... Manual
- AD** ... Double acting actuator (Aluminum)
- AS** ... Single acting actuator (Aluminum)
- TD** ... Double acting actuator (Cast iron)
- TS** ... Single acting actuator (Cast iron)
- FB** ... Full bore
- Ss** ... Stainless steel
- Fe** ... Cast iron

## Feature of Actuator

- Weather proof structure is suited to outdoor application, there is no invasion of rainwater etc.
- Characteristic of output torque is suit with torque characteristics of valve.
- It's non-lubrication type, and un-necessary to install a lubricator.
- Operating pressure is 0.39MPa(4kg/cm2G) for the standard, and available to 0.69MPa(7kg/cm2G) maximum.
- Other instrument easy to mount

## Model:HF5(ST)-TD(Double acting)



## For 1MPa **F TD FB Ss Fe**

size	d	L	H	A1	A2	B	A-size
1/2" (15A)	13	108	249	99	120	112	TD1
3/4" (20A)	19	117	252	99	120	112	TD1
1" (25A)	25	127	261	99	120	112	TD1
32A	32	140	274	134	151	122	TD2
1-1/2" (40A)	38	165	294	134	151	133	TD2
2" (50A)	51	178	330	171	200	162	TD3
2-1/2" (65A)	64	190	364	171	200	165	TD3
3" (80A)	76	203	401	224	257	195	TD4
4" (100A)	102	229	432	224	257	190	TD4
5" (125A)	127	320	557	272	315	259	TD5
6" (150A)	152	394	577	272	315	259	TD5

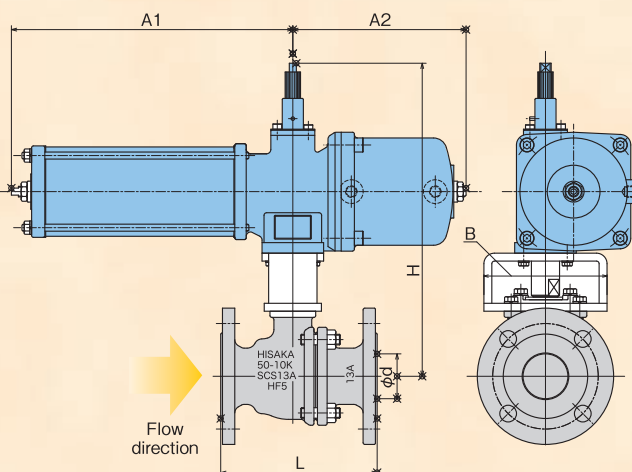
●UNIT:mm

## For 2MPa **F TD FB Ss**

size	d	L	H	A1	A2	B	A-size
1/2" (15A)	13	140	249	99	120	112	TD1
3/4" (20A)	19	152	260	134	151	122	TD2
1" (25A)	25	165	267	134	151	122	TD2
1-1/2" (40A)	38	190	319	171	200	162	TD3
2" (50A)	51	216	330	171	200	162	TD3
2-1/2" (65A)	64	241	393	224	257	190	TD4
3" (80A)	76	283	410	224	257	195	TD4
4" (100A)	102	305	500	272	315	239	TD5

\*...Actuator size

## Model:HF5(ST)-TS(Single acting)



## For 1MPa **F TS FB Ss Fe**

size	d	L	H	A1	A2	B	A-size
1/2" (15A)	13	108	262	204	122	123	TS1
3/4" (20A)	19	117	265	204	122	123	TS1
1" (25A)	25	127	274	204	122	123	TS1
32A	32	140	291	231	154	122	TS2
1-1/2" (40A)	38	165	311	231	154	134	TS2
2" (50A)	51	178	356	320	197	177	TS3
2-1/2" (65A)	64	190	381	320	197	180	TS3
3" (80A)	76	203	453	436	265	218	TS4
4" (100A)	102	229	475	436	265	213	TS4
5" (125A)	127	320	611	567	329	294	TS5
6" (150A)	152	394	631	567	329	294	TS5

●UNIT:mm

## For 2MPa **F TS FB Ss**

size	d	L	H	A1	A2	B	A-size
1/2" (15A)	13	140	262	204	122	123	TS1
3/4" (20A)	19	152	277	231	154	134	TS2
1" (25A)	25	165	284	231	154	134	TS2
1-1/2" (40A)	38	190	345	320	197	177	TS3
2" (50A)	51	216	356	320	197	177	TS3
2-1/2" (65A)	64	241	436	436	265	213	TS4
3" (80A)	76	283	453	436	265	218	TS4
4" (100A)	102	305	554	567	329	274	TS5

\*...Actuator size

## 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 dimentions 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.

- ISO 14001 CERTIFIED FACTORY
- ISO 9001 CERTIFIED FACTORY
- HIGH PRESSURE GAS AUTHORISED FACTORY
- API CERTIFIED FACTORY

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<http://www.hisaka.co.jp/>  
e-mail:valve\_info@hisaka.co.jp

## Pressure / Temperature rating

