



Hygienic
**Butterfly
Valves**

Results of
thoroughly-advanced
stainless steel
technologies



Our sanitary butterfly valves are superior products developed by the technical team and production team based on stainless steel technologies, experience and knowhow accumulated over many years.

Material

SUS-304 (or equivalent)

SUS-316L (or equivalent)

Production standard

Surface finish	Internal: #320 to #400 buff polishing Areas other than external welded parts: $Ra \leq 1.6 \mu m$; Welded area: pickling finish
Dimensional tolerance	Face to face dimension: $\pm 1.5 mm$ Parallelism of end faces: $\pm 0.5^\circ$ or less
Main body max pressure	1 MPa (fluid pressure, normal temperature)
Valve seat max pressure	0.6 MPa (fluid pressure, normal temperature)
Operating air pressure	As per the attached selection table (8P)
Operating air connection hole	Rc 1/8, Rc 1/4
Heat resistance	As per the attached characteristic table (9P)

► Valve selection and ordering

Please use valves according to respective valve specifications.
If an application exceeds the range of specifications, high safety design is required. We would be pleased to offer consultation if you provide us with information.

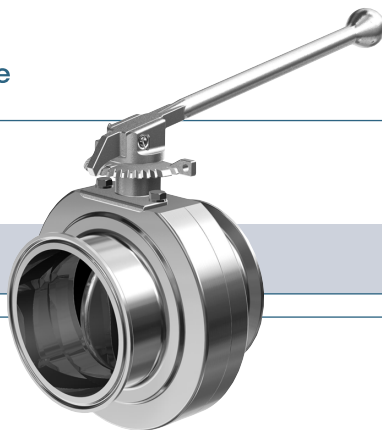
► Ordering

- If there is any request of surface finish, please specify both internal and external surface.
- For further details, refer to the type specifications on Page 10.

Standard-size butterfly valve (Size 1S to 4S)

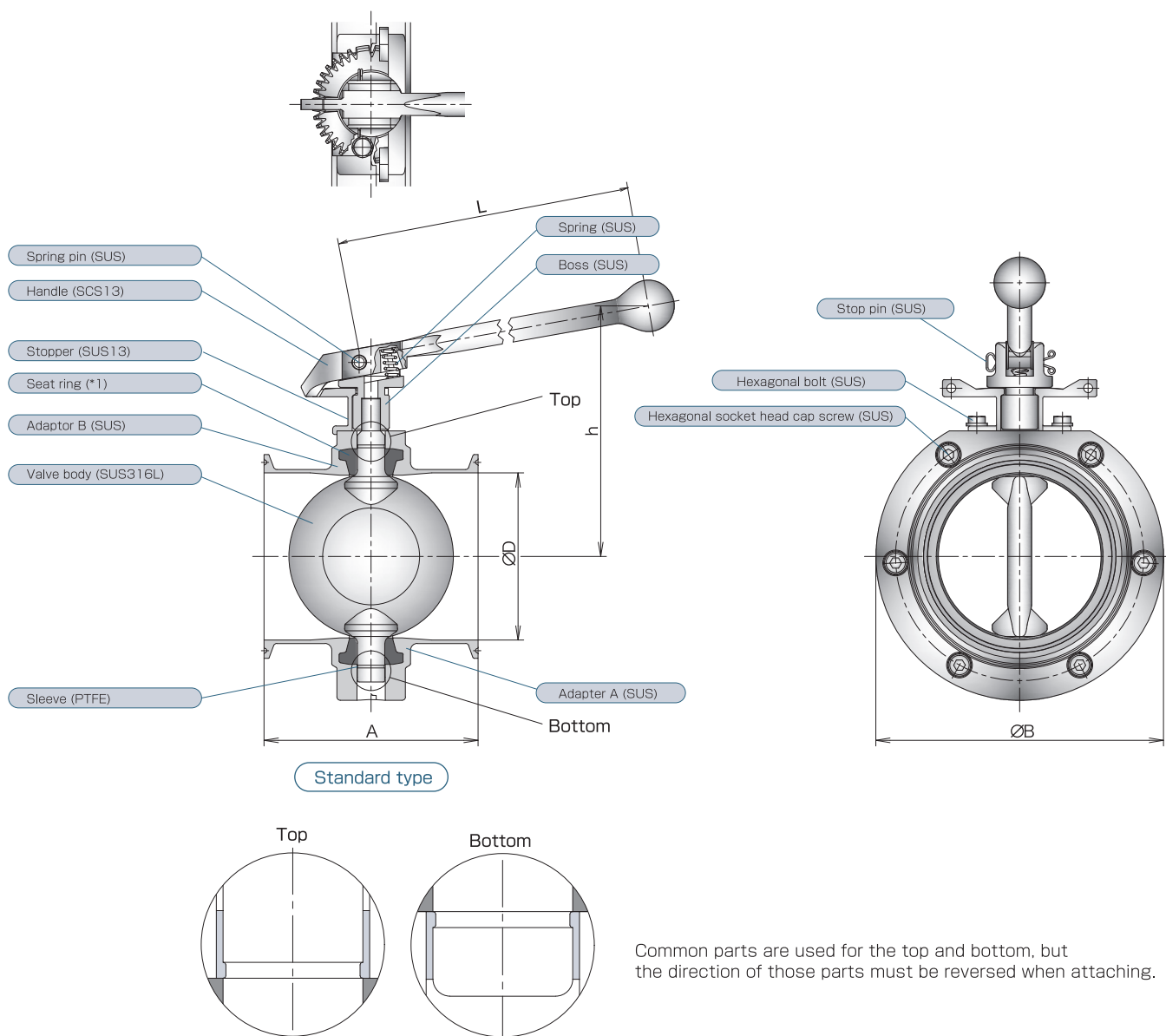
BVL type

● Manual butterfly valve



This butterfly valve is equipped with a stopper mechanism, it makes possible to perform opening adjustment of valve body on both right and left sides. This valve features stopper mechanism at 10 positions toward the fully-closed position: 0°, 9°, 18°, 27°, 36°, 45°, 54°, 63°, 72°, 90°.

- These valves can be used for flow shut-off valves and flow control valves.
- Pushing down the handle unlocks and operates the valve.
- Disassembly and maintenance can be done remaining adaptor B attached to the piping.



Common parts are used for the top and bottom, but the direction of those parts must be reversed when attaching.

*1: Refer to "Butterfly valve seat ring material" on Page 9.

Standard-size butterfly valve (Size 1S to 4S)

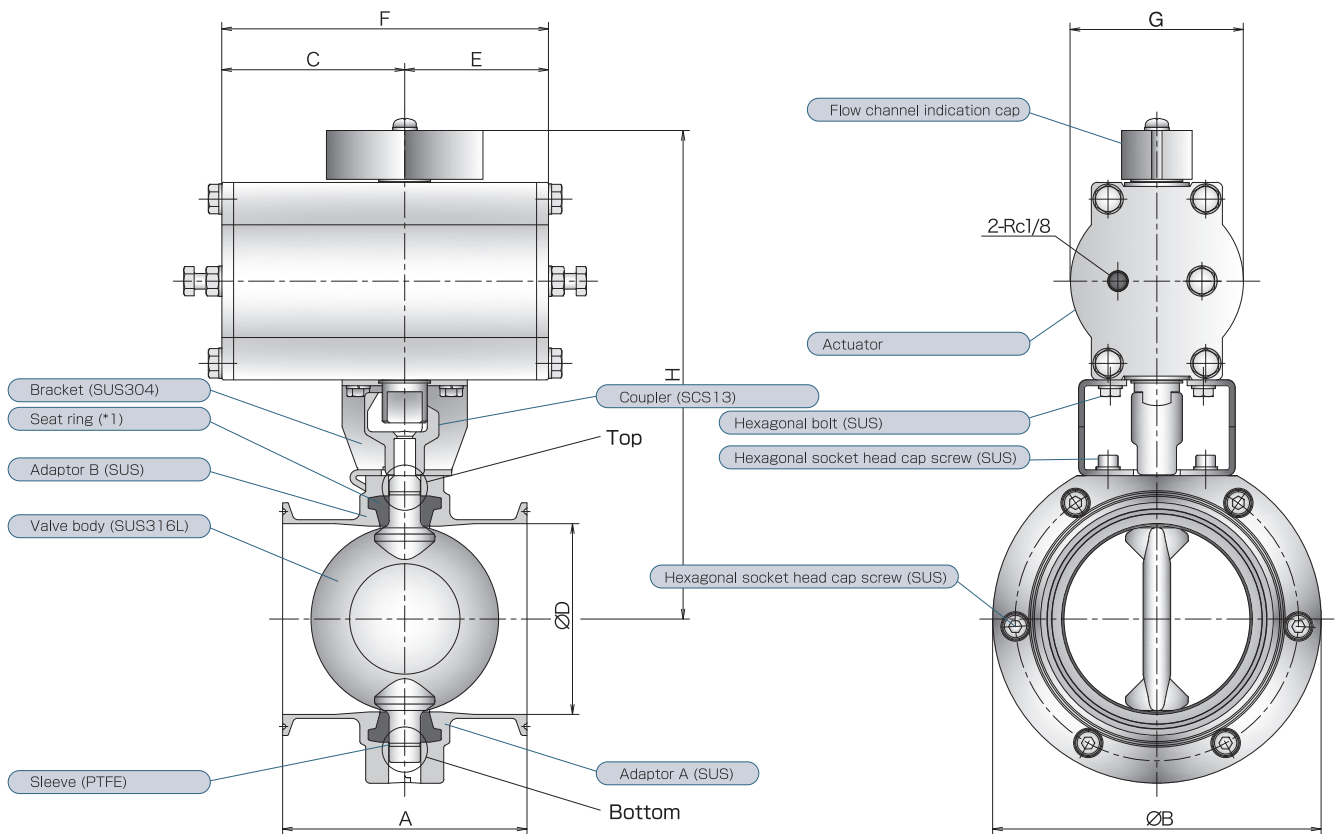
BVP type

● Automatic butterfly valve



This butterfly valve is an automatic butterfly valve equipped with a lightweight compact aluminum piston type pneumatic cylinder.

- A feedback switch can be attached to the valve.
- This valve can be maintained without removing adaptor B or pneumatic cylinder part equipment.



Standard type

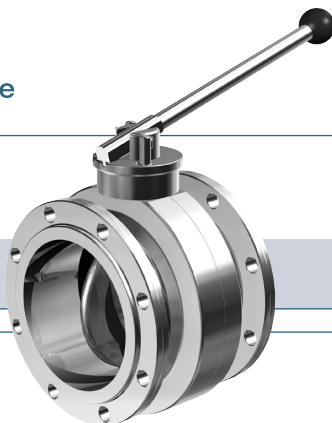
*1: Refer to "Butterfly valve seat ring material" on Page 9.

(mm)														(kg)	
SIZE	ϕD	A face to face dimensions				ϕB	Automatic					Manual		Weight	
		M or C Male/clamp	N×M or N×N With nut	T Sanitary flange	10F JIS 10KF		C	E	F	G	H	h	L	Manual	Automatic
1	23.0	80	100	130	150	74	75	57	132	70.4	184	102	160	1.6	3.0
1½	35.7	80	100	130	150	88	84.5	64.5	149	78.4	200	109	160	1.7	3.5
2	47.8	80	100	130	150	98	84.5	64.5	149	78.4	206	115	160	2.0	3.7
2½	59.5	100	103	150	150	128	93.5	73.5	167	88.4	233	135	200	3.6	6.2
3	72.3	100	103	150	150	138	93.5	73.5	167	88.4	239	141	200	4.1	6.6
3½	85.1	115	125	150	150	148	93.5	73.5	167	88.4	245	156	250	4.7	7.1
4	97.6	125	150	150	150	168	93.5	73.5	167	88.4	250	161	250	5.8	8.2

Large-diameter butterfly valve (Size: 4 $\frac{1}{2}$ S to 6S)

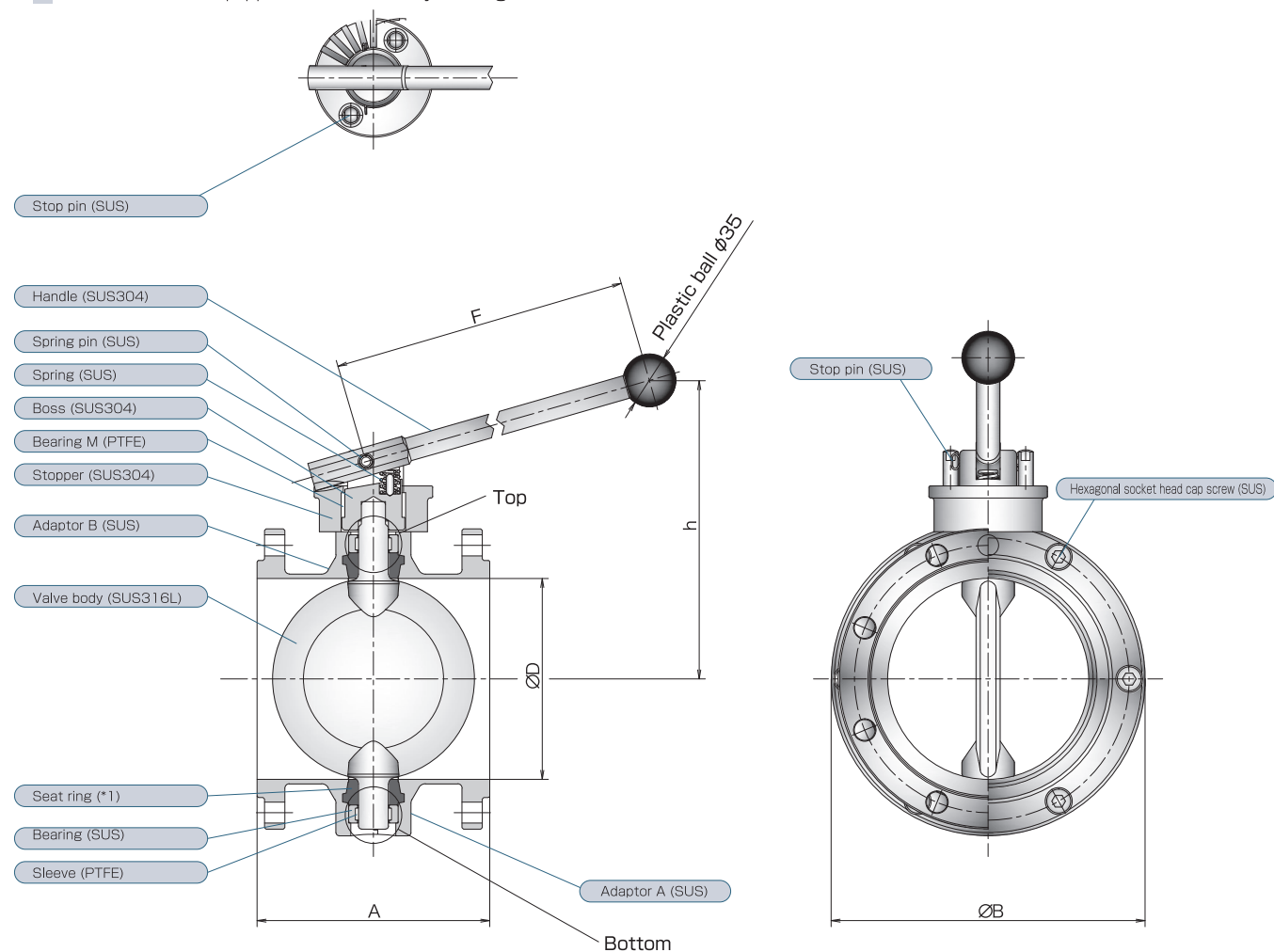
BVM type

● Manual butterfly valve

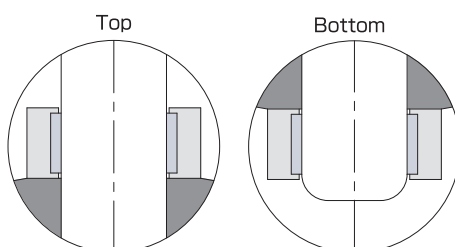


This valve is a sanitary-size large-diameter (4 $\frac{1}{2}$ S to 6S) manual butterfly valve.

- This valve is designed compact.
- This valve is equipped with valve body bearings.



Standard type



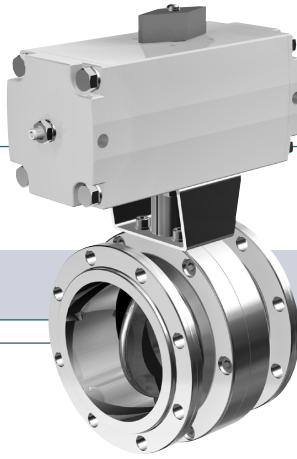
*1: Refer to "Butterfly valve seat ring material" on Page 9.

Common parts are used for the top and bottom.

Large-diameter butterfly valve (Size: 4½S to 6S)

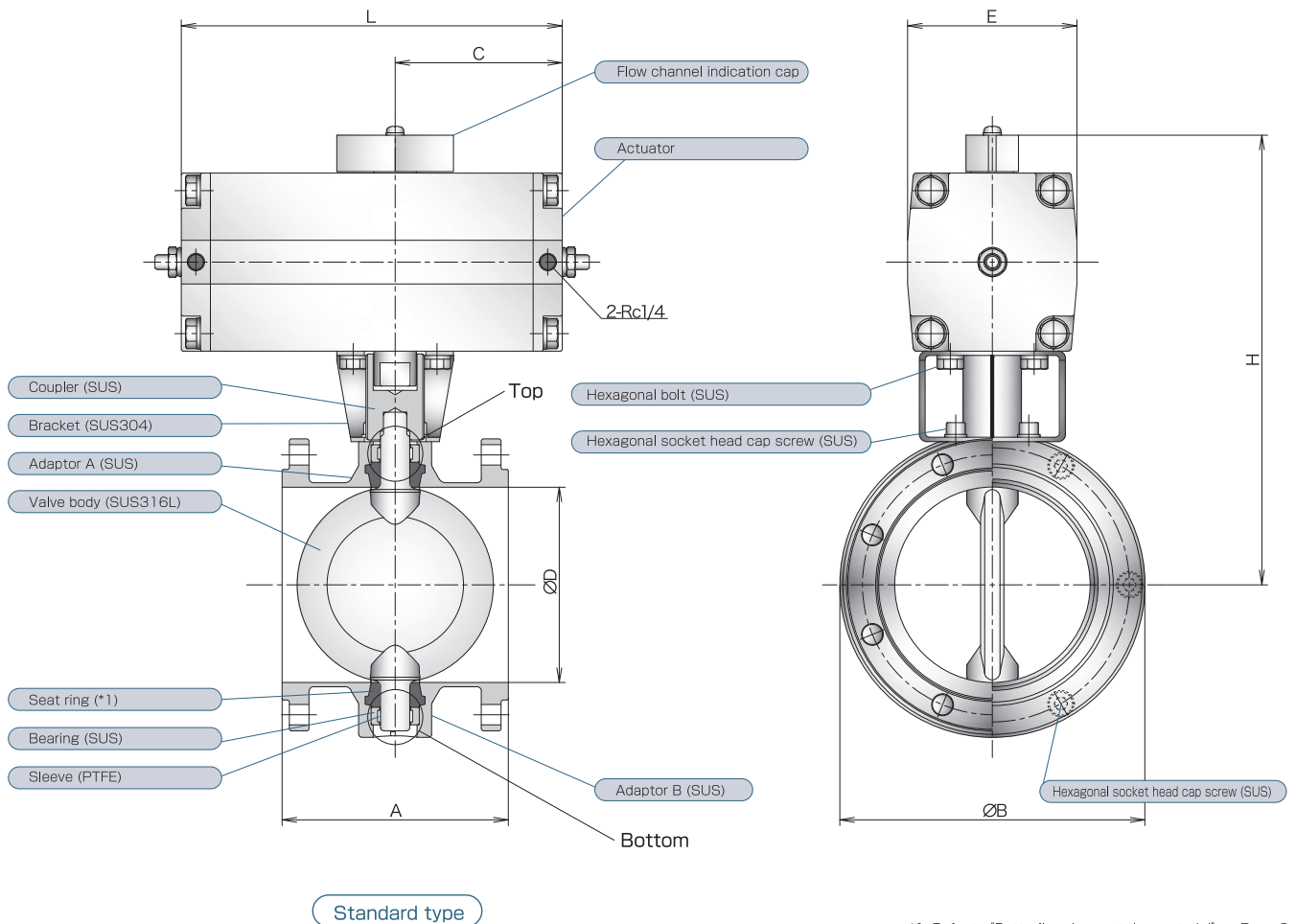
BVA type

- Manual butterfly valve



This valve is a sanitary-size large-diameter (4½S to 6S) automatic butterfly valve.

- This valve is equipped with a high-torque actuator.
- A feedback switch can be attached to the valve.



*1: Refer to "Butterfly valve seat ring material" on Page 9.

(mm)											(kg)	
SIZE	ϕD	A face to face dimensions		ϕB	Automatic				Manual		Weight	
		T Sanitary flange	10F JIS 10KF		L	C	E	H	h	F	Manual	Automatic
4 1/2	108.3	150	150	179	261	115	116	316	201	250	11.2	17.6
5	133.8	155	150	209	261	115	116	333	217	250	14.0	20.5
6	159.2	220	220	248	387	194	217	425	257	360	20.1	40.2

Small-diameter butterfly valve (Size: 8A to 15A)

BVH type

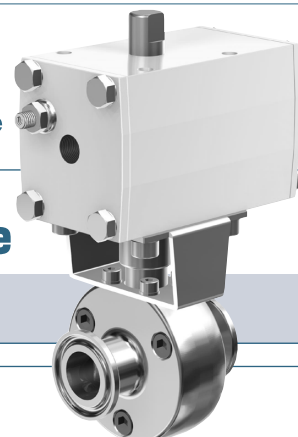
- Manual butterfly valve



Small-diameter butterfly valve (Size: 8A to 15A)

BVA type

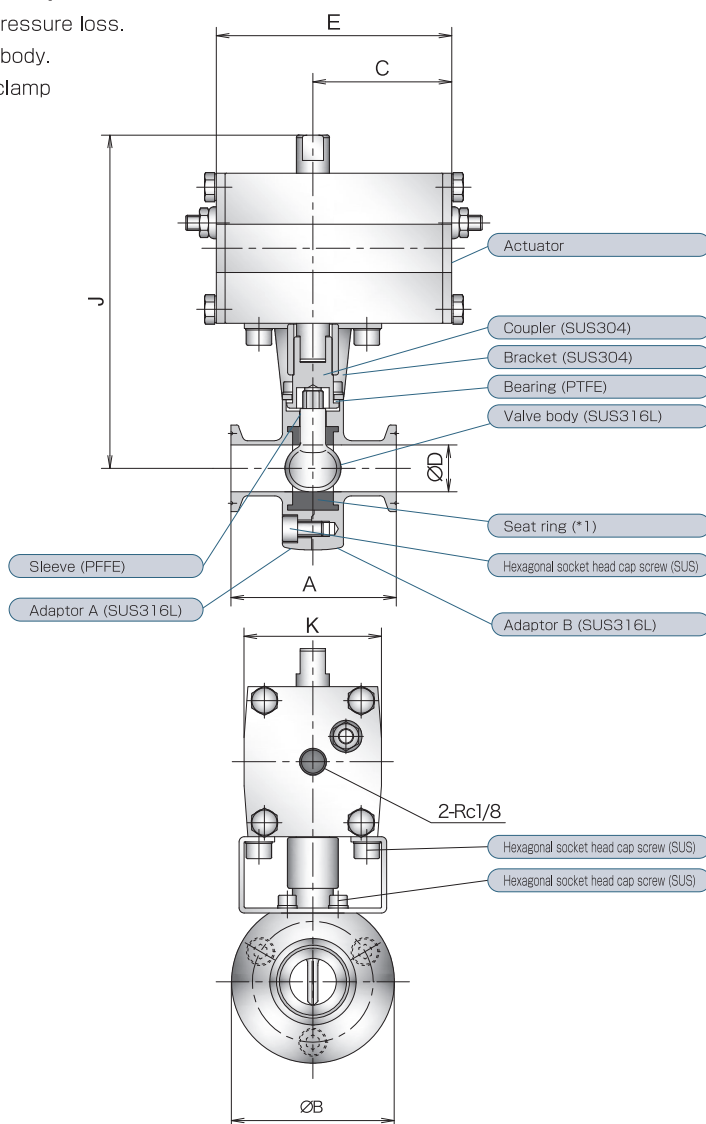
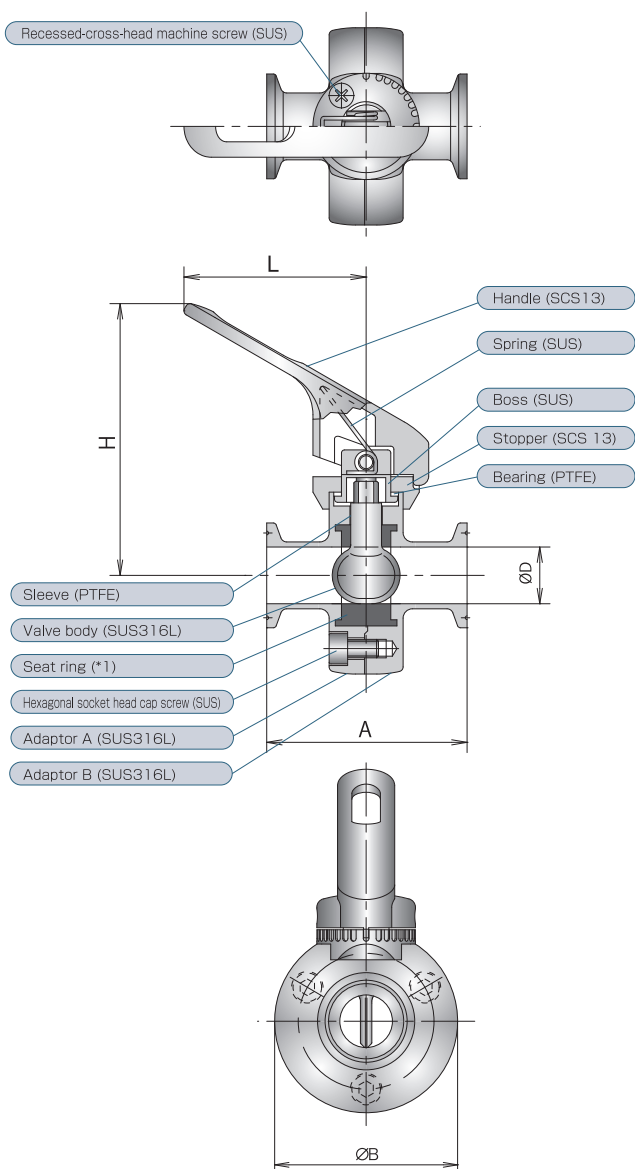
- Automatic butterfly valve



This valve is a sanitary-size small-diameter (8A to 15A) butterfly valve.

- The valve seat part has a special shape to reduce fluid pressure loss.
- The sanitary one-shaft system is employed for the valve body.
- The main body uses SUS316L and the fitting uses ISO clamp ferrule as standard.

Recessed-cross-head machine screw (SUS)



*1: Refer to "Butterfly valve seat ring material" on Page 9.

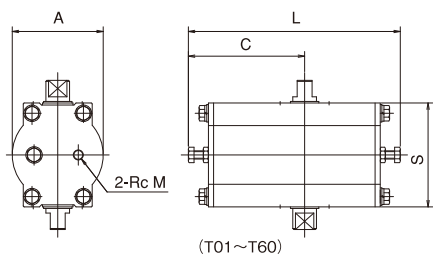
SIZE	D	A	B	H	L	E	C	J	K
8A	10.5	65	64	90	60	92.5	54.5	131	54
10A	14.0	65	64	90	60	92.5	54.5	131	54
15A	18.4	65	64	90	60	92.5	54.5	131	54

* 10A is used for valve body of 8A.

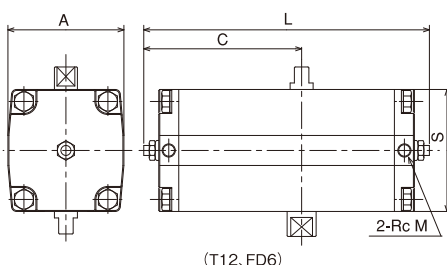
Weight (kg)	
Manual	Automatic
0.7	1.4
0.7	1.4
0.7	1.4

Technical material Actuator

► Standard (double-action) type actuator



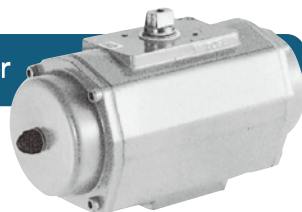
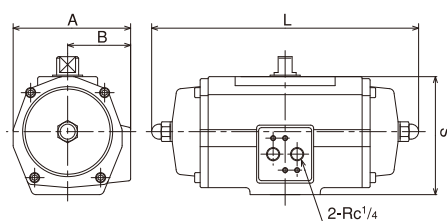
Type	A	C	L	S
T01	54	67	116	59
T20	71	97	176	78
T35	79	104.5	189	87
T60	89	113	206	101
T12	116	162	291	122
FD6	204	168	368	248



Type	M	Valve size
T01	2-Rc 1/8	8~15A
T20		1S
T35		1.5~2S
T60		2.5~4S
T12	2-Rc 1/4	4.5~5S
FD6		6S

Operating air pressure: 0.4 to 0.7MPa

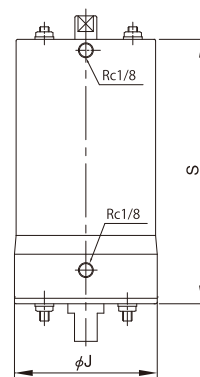
► (Single-action Normal Close) type actuator



Type	A	B	L	S	Valve size
FS1	90	49	166	91	8~15A
F73	110	58	217	124	1S
FS3	122	64	247	131	1.5~2S
FS9	139	72	362	163	2.5~4S
FS6	168	85	385	201	4.5S
F64	202	102	476	248	5S

Operating air pressure: 0.5 to 0.7MPa
In case of single-action normal open, actuator type is different.

► Vertical type SUS actuator



Double-action			
Type	φJ	S	Valve size
V06	67.0	143.3	1S
V08	91.2	168.9	1.5~4S

Operating air pressure(1s~4s): 0.4 to 0.7MPa

Single-action (N.C.)			
Type	φJ	S	Valve size
V06	67.0	165.2	—
V08	91.2	190.0	1~2S
V11	117.5	230.0	2.5~4S

Operating air pressure: 0.4 to 0.7MPa
In case of single-action normal open, actuator type is different.

► Actuator selection table (standard double-action)

Air pressure	Applicable valve size					
	8~15A	1S	1.5~2S	2.5~4S	4.5~5S	6S
0.4 MPa	T01	T20	T35	T60	T12	FD6
0.7 MPa	T01	T20	T20	T35	T12	FD6

► Horizontal aluminum torque actuator volume (single action) (ℓ)

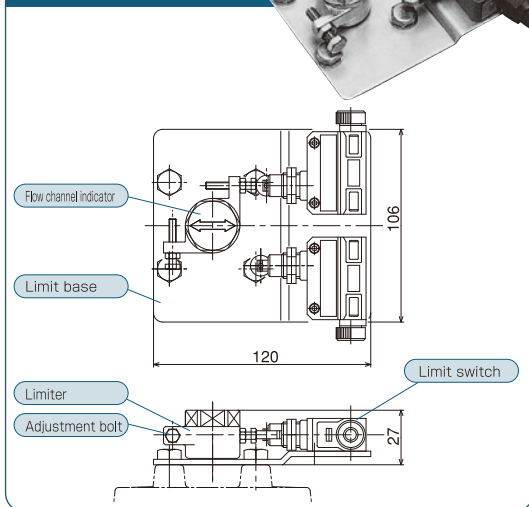
Type symbol	T01	T20	T35	T60	T12	FD6
Volume L	0.1	0.29	0.39	0.57	1.26	3.1

► Vertical type SUS actuator volume (ℓ)

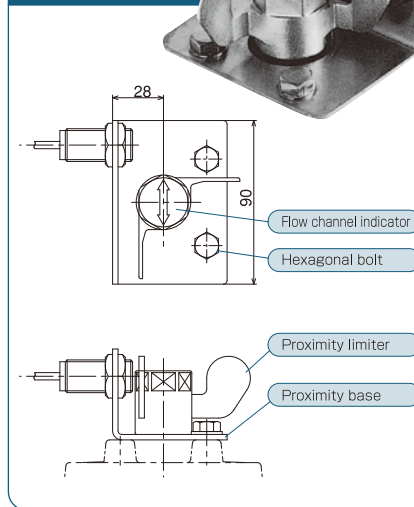
Type symbol	V06	V08	V11
Volume L (open/close)	0.11/0.23	0.29/0.50	0.56/1.11

Technical material

► Limit switch type



► Proximity switch type



► Cv value

SIZE	Cv値
8A	10
10A	12
15A	15
1S	20
1 1/2S	35
2S	140
2 1/2S	290
3S	460
3 1/2S	590
4S	720
4 1/2S	960
5S	1400
6S	2000

► Note

- The main body part is common to both manual and automatic models. (Just replacing upper parts allows this valve to be operated manually or automatically.)
- This valve cannot be used as a control valve.
- This valve cannot be used without liquid.

► Butterfly valve seat ring material

Packing material		EPDM (Ethylene propylene rubber)	VMQ (Silicon rubber)	VMQ (Silicon rubber)	FKM (Fluororubber)
Material code		E81	S982	X30	PR4880
Color		Black	Reddish brown	Reddish brown	Black
Resistance to liquid	Steam	◎	△	△	△
	Caustic soda	◎	△	△	○
	Nitric acid	○	△	△	○
	Acetic acid	○	△	△	○
	Sodium hypochlorite	○	○	○	○
	Peroxyacetic acid	△	○	○	○
	Fragrance (limonene, etc.)	×	×	×	○
Feature	Oil and fats	×	○	○	○
	Resistance to heat	130℃	100℃ (120℃SIP)	100℃ (120℃SIP)	90℃ (120℃SIP)
	Elasticity	○	◎	○	○
Intensity		○	△	△	△
Applicable size		8A~6S	1S~6S	8A~4S	8A~3S
Remarks		—	—	1S to 4S are for high-temperature use, (60℃ or more)	—
Normal operation pressure		<0.6MPa			
The Food Sanitation Law conformity test		Acceptable			

The above figures show the heat-resistant range under static conditions. Note that the durability of valves decreases in reverse proportion to liquid temperature.

► List for consumable parts

SIZE	8A	10A	15A	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Code	8A	10A	15A	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Seat ring	03	03	04	10	15	20	25	30	35	40	45	50	60
Sleeve	02—04	02—04	02—04	10	15—30	15—30	15—30	15—30	35—40	35—40	45	50	60

Lubricant application specifications

Application specifications	Application range	Note
Standard specifications	Valve body shoulder	—
Lubrication prohibited to liquid contact area specifications	Valve body shaft	Be sure to make the sliding packing area smooth with fresh water, etc.
Lubrication prohibited specifications	No lubricant is applied to the main body.	Be sure to make the sliding packing area smooth with fresh water, etc.
Lubricant	NOK Kluber PARALIQ GTE 703*1 (NSF category H1)	

*1 Conforming to the Food Sanitation Law

Sanitary butterfly valve type symbol table

Name	JIS material classification	Finish classification	Pipe end classification	Size classification	Product name/type
Symbol	— G N	(N M)	X X M · C · N	X X X X	B V
	①	②	③	④	⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Material classification (main body)

Category	Symbol	Material
Standard	304	SUS 304 (or equivalent)
With sleeve	※※※—GN	1S to 4S with sleeve
Without sleeve	※※※※※ No symbol	1S to 4S without sleeve
Option	316L	SUS 316L (or equivalent)

② Surface finish

Category	Symbol	Finish	
		Internal finish	External finish
	0P	Pickling	Pickling
Standard	2P	#320 to #400 buff polishing	Machining process
	※※ (NM)	Standard valve disc	
Option	EP	Electrolytic polishing (Ra 0.2)	Machining process
	XP	Special	Special

③ Connection

Category	Symbol	Details
Standard	M	ISO male
	C	ISO clamp
Option	N	ISO nut
	T	Sanitary flange (fixed)
	10F	JIS 10K flange

④ Size

Symbol	Size	Symbol	Size
02	8A	30	3S
03	10A	35	3 1/2S
04	15A	40	4S
10	1S	45	4 1/2S
15	1 1/2 S	50	5S
20	2S	60	6S
25	2 1/2 S		

⑤ Valve type

Symbol	Details	Application
L	1S~4S	Standard manual
M	4 1/2S~6S	
H	8A~15A	
A	8A~15A 4 1/2S~6S	Standard automatic
P	1S~4S	
C	1S~5S	Standard automatic spring return type (N.C.)

⑥ Seat ring material

Symbol	Details
E9	E81 EPDM (8A~6S)
S2	S982 Silicone rubber (1S~6S)
X3	X30 Silicone rubber (8A~15A)
FD	PR4880 Fluororubber (8A~3S)

⑦ Actuator type

Symbol	Details	Symbol	Details	Symbol	Details	Symbol	Details	Symbol	Details
T01	Double-action type	T60	Double-action type	ES1	Spring return type (N.C)	ES9	Spring return type (N.C)	V06	Vertical type SUS actuator
T20		T12		E73		ES6		V08	
T35		FD6		ES3		E64		V11	

⑧ Feedback switches classification

Category	Symbol	Type/manufacturer	Usable power voltage range	Operation style	Type or attachment
Standard	O	No feedback switch	—	—	—
	S	SLI-AXG5 Limit switch made by Azbil	DC 14~250V AC125~250V	NO/NC	With bracket
	W	WLD-2 Limit switch made by OMRON	DC 8~250V AC125~600V	NO/NC	With bracket
	J	IGC2005-ARKG/UP Proximity switch made by Efecter	DC10~36V	NO	With bracket
	U	FL7M-7J6HD Proximity switch made by Azbil	DC10~30V	NO	With bracket
	R	FL7M-7K6H Proximity switch made by Azbil	DC10~30V	NC	With bracket
Special	L	Non-standard specification limit switch and/or supplied by customer.			
	P	Non-standard specification proximity switch and/or supplied by customer.			
	B	In case of Asi, uni-wire system, and solenoid valve : For the detail, please refer to catalog No.18 "Valve control head".			

Note) In case of model change by switch manufacturer, the above parts may be changed to substitution or equivalent parts. Please select a standard model as much as possible.

⑨ Quantity of feedback switches used

Symbol	Details
0	No switch
1	One on closed side
2	Two on open and closed side
3	One on open side
X	Other

⑩ Option

Symbol	Details
0	None
S	With 2 speed controllers
X	Other

Section for entry of special notes

- If using nonstandard specification except for lubricant application specifications on Page 9, please designate them.
- If the specification is not specified, lubricant is applied as standard.
- Safety of lubricant to be applied:
 - NSF category H1
 - Conforming to the Food Sanitation Law



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