

NDV BUTTERFLY VALVE



NIPPON DAIYA VALVE CO., LTD.

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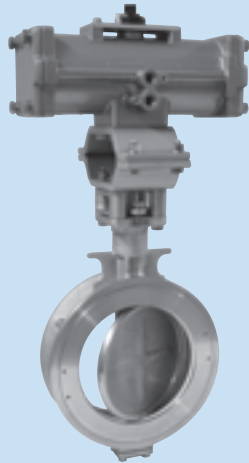
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PRODUCT GUIDE

Double Off-center Type: General Purpose Function Products

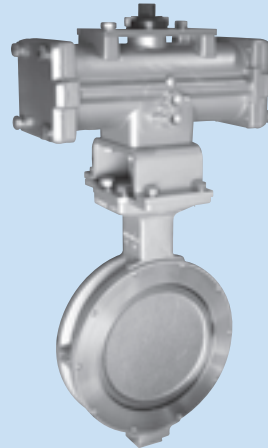
Stainless Steel High Performance Butterfly Valve

KM200 Series (page. 5 -)



Cast Iron Butterfly Valve

C201R Series (p. 11 -)



- The disk shaft has a double off-center mechanism toward the valve seat surface. This allows the smooth operation without forcible sliding or deformation of seat.
- Excellent "Sealing Performance" "Operability" and "Flow Rate Controllability", and compact face-to-face dimension will provide ease of pipe installation.
- Manual Operation, Pneumatic Operation, Flow Control (*) and Electrical Operation (*) are applicable.

Optimum for Corrosion-Proof/ Chemical-Proof Purposes

PFA Lined Butterfly Valve

C559 Series (p.19 -)



- The surfaces of butterfly valve in contact with fluid are all made of PFA. The gland has the high sealing performance with a unique shaft sealing mechanism.
- Manual operation, Pneumatic operation, Flow control (*) and Electrical operation (*) are applicable.

Related Products

Powder/Granular Material Discharging: Sanitary Butterfly Valve

DC507C-SI (p.25 -)



- Butterfly valves developed for discharging the powder/granular material for containers used in pharmaceutical manufacturing plant.

Please feel free to contact our sales dept. or local representative for product specifications and details.

- (*): The flow control valves and electrically operated valves are provided as well. Please contact us for a detailed study.
- The pictures in this catalogue show the images of valves. The appearances may vary depending on the specification.

2 CAST IRON BUTTERFLY VALVE: C201R

2-1. Standard Specifications

- ① Structures and Features
- ② Valve Specifications

2-2. Manually Operated Valve (Lever/Gear)

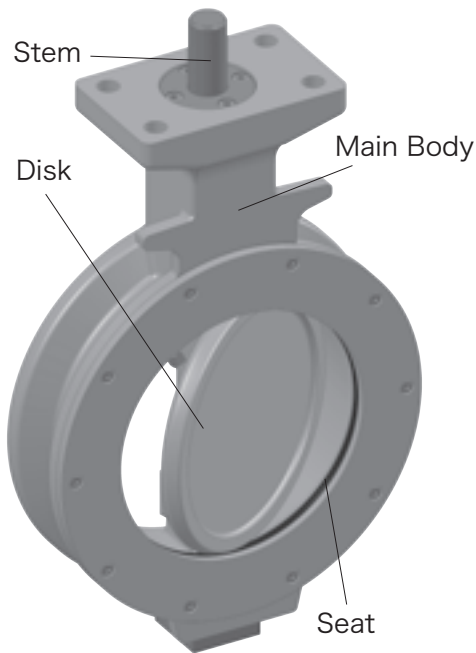
Major Dimensions

2-3. Pneumatically Operated ON-OFF Valve

- ① Actuator Selection Table
- ② Major Dimensions

2-1. Standard Specifications

① Structures and Features



① Long Life Double Off-Center Mechanism

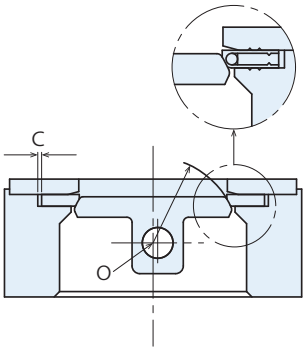
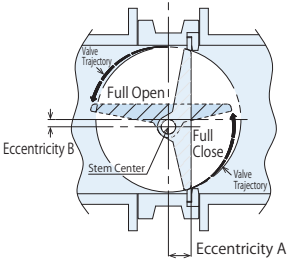
Long life owing to less wear of seat realized by double off-center disk driving shaft that allows the non-contact operation between disk and seat until immediately before full close.

② High Performance Centripetal Self-Seal

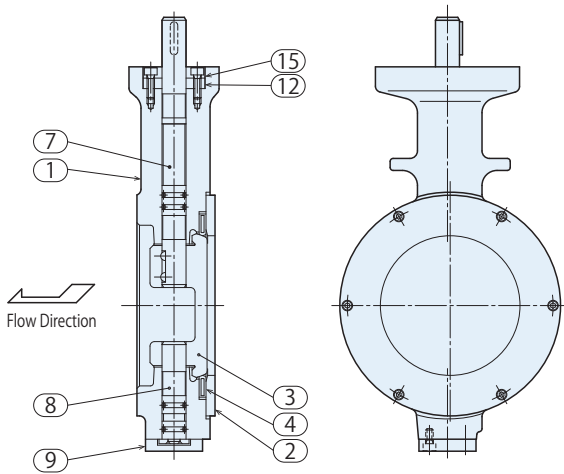
The Disk has a spherical surface with "O" as a center, and outside of it, the seat has a clearance "C". Accordingly, the system can realize a uniform sealing simply by fully closing the valve and setting a seat. In addition, the self-seal mechanism of seat generates the contacting pressure on the sealing surface of disk making use of the fluid pressure, offering a reasonable sealing performance for vacuum to high pressure.

③ Ease of Maintenance

The seat can be easily changed simply by removing the seat retainer.



[Standard Structural Material: C201R]



Parts		Material
1	Body	FC200
2	Seat Retainer	SS400
3	Disk	FCD450 (Nickel Plated)
4	Seat	NBR, EPDM, PTFE, Reinforced PTFE
7	Stem	SUS420J2
8	Trunnion	SUS420J2
9	Bottom Cap	SS400
12	Packing	NBR
15	Packing Holder	SS400

② Valve Specifications

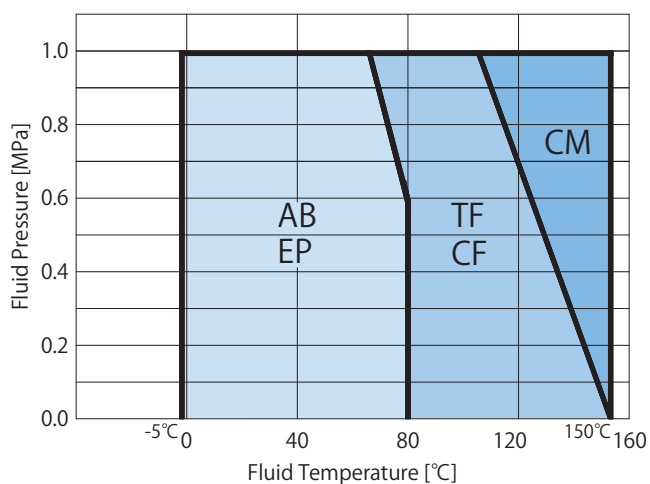
[Standard Specifications]

Valve Type		C201R
Major Parts	Main Body	FC200
	Disk	FCD450 + Nickel Plated
	Seat	Synthetic Rubber Seat: AB(NBR), EP(EPDM) Fluororesin Seat: TF(PTFE + EPDM), CF (Reinforced PTFE with carbon fiber + EPDM), CM (Reinforced PTFE with carbon fiber + SUS304)
	Gland Packing	NBR, EPDM, FKM
	Stem	SUS420J2
Flange Standards		JIS5K, JIS10K
Face-to-Face Dimensions		ISO5752 Short (Basic Series No.20)
Nominal Size (DN)		65 - 400
Pressure Range		0 - 1.0 MPa*1
Temperature Range		-5°C to 150°C
Operation Type		Lever operation, Gear operation, Pneumatically operated ON-OFF Valve*2

*1 Please contact us if a valve is to be used for vacuum application.
*2 Pneumatically operated control valves and electrically operated valves are available as well. Please contact us.

Please contact us for specifications other than those listed in this catalogue.

[Operating Pressure and Temperature Range]

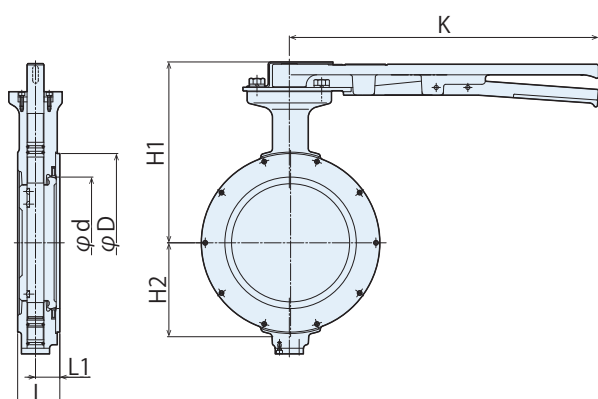


Please contact us if a valve is to be used for vacuum application

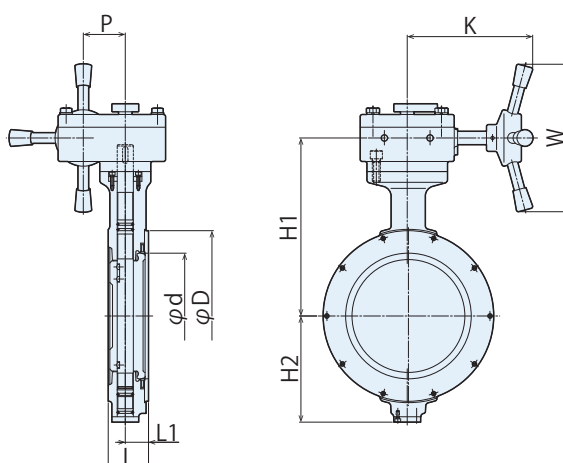
►2-2. Manually Operated Valve (Lever/Gear)

Major Dimensions

[Lever Handle: CL201R]



[Gear Operation: CG201R]



Unit: mm

Nominal Size (DN)	d	D	L	L1	H2	CL201R			CG201R				Mass Approx. (kg)
						H1	K	Mass Approx. (kg)	H1	W	K	P	
65	58	112	46	24.9	76	169	190	4.5	178	150	130	45	7.5
80	69	125	46	25.6	81	174	190	5.0	183	150	130	45	8.0
100	93	147	52	27.3	97	195	240	6.5	200	180	160	49	11.0
125	119	180	56	28.6	113	211	240	8.0	215	180	160	49	13.0
150	141	210	56	31.8	128	233	310	13.0	240	240	190	62.5	20.0
200	187	254	60	34.6	158	258	440	17.0	265	240	190	62.5	24.0
250	233	320	68	37.4	190	—	—	—	305	300	250	77	38.0
300	280	361	78	41.7	215	—	—	—	330	300	250	77	46.0
350	312	406	78	44.7	235	—	—	—	350	300	250	77	57.0
400	368	463	102	51	272	—	—	—	385	360	310	90.5	80.0

►2-3. Pneumatically Operated ON-OFF Valve

① Actuator Selection Table

The actuator specifications are common to KM200. Refer to page 8

Pneumatic operation pressure: 0.4 MPa

Nominal Size (DN)	Double Acting: PN									
	PTFE Seat (TF)					Synthetic Rubber Seat (AB, EP), Reinforced PTFE Seat (CF, CM)				
	Shutoff Differential Pressure (MPa)					Shutoff Differential Pressure (MPa)				
	0.2	0.4	0.6	0.8	1.0	0.2	0.4	0.6	0.8	1.0
65			PN-04DN					PN-05DN		
80								PN-06DN		
100			PN-05DN							
125			PN-06DN					PN-08DN		
150								PN-10DN		
200			PN-08DN							
250			PN-10DN					PN-12DN		
300										
350			PN-12DN					PN-13D		
400					PN-13D			PN-18D		

Pneumatic operation pressure: 0.4 MPa

Nominal Size (DN)	Reverse Acting: PO									
	PTFE Seat (TF)					Synthetic Rubber Seat (AB, EP), Reinforced PTFE Seat (CF, CM)				
	Shutoff Differential Pressure (MPa)					Shutoff Differential Pressure (MPa)				
	0.2	0.4	0.6	0.8	1.0	0.2	0.4	0.6	0.8	1.0
65			PO-06DN4					PO-08DN4		
80										
100			PO-08DN4					PO-10DN4		
125										
150			PO-10DN4					PO-12DN4		
200			PO-12DN4					PO-13D4		
250										
300			PO-13D4					PO-18D4		
350										
400			PO-18D4					PO-22D4		

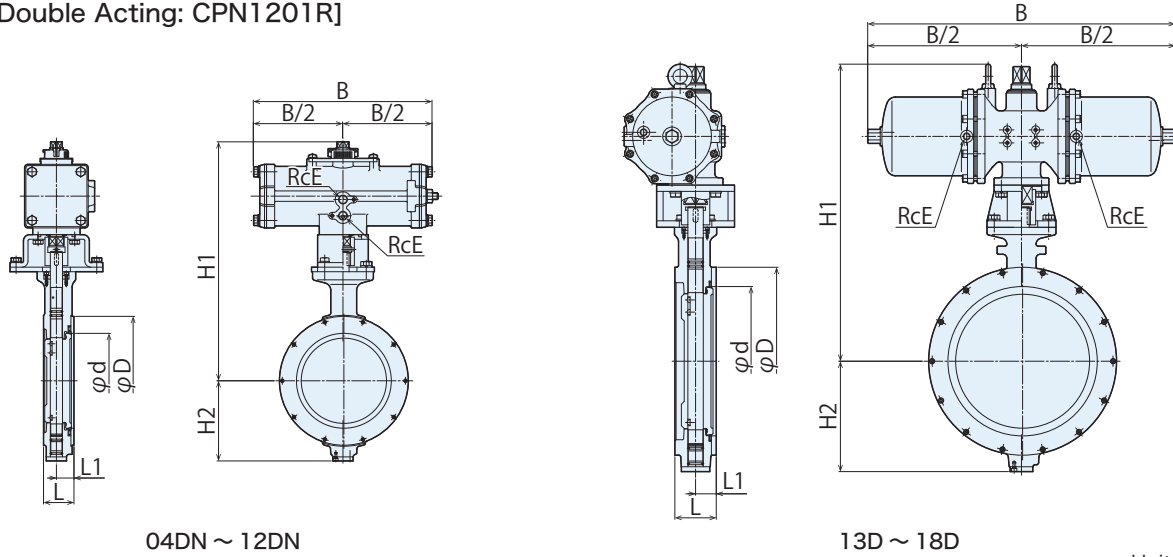
Pneumatic operation pressure: 0.4 MPa

Nominal Size (DN)	Direct Acting: PCH									
	PTFE Seat (TF)					Synthetic Rubber Seat (AB, EP), Reinforced PTFE Seat (CF, CM)				
	Shutoff Differential Pressure (MPa)					Shutoff Differential Pressure (MPa)				
	0.2	0.4	0.6	0.8	1.0	0.2	0.4	0.6	0.8	1.0
65			PCH-06DN4					PCH-08DN4		
80										
100			PCH-08DN4					PCH-10DN4		
125										
150			PCH-10DN4					PCH-12DN4		
200			PCH-12DN4					PCH-13D4		
250										
300			PCH-13D4					PCH-18D4		
350										
400			PCH-18D4					PCH-22D4		

▶2-3. Pneumatically Operated ON-OFF Valve

② Major Dimensions

[Double Acting: CPN1201R]



Unit: mm

Nominal Size (DN)	Actuator PN-	d	D	L	L1	B	E	H1	H2	Mass Approx. (kg)
65	04DN	58	112	46	24.9	144	1/4	281	76	5.5
	05DN	58	112	46	24.9	172	1/4	294	76	6.0
	06DN	58	112	46	24.9	214	1/4	310	76	7.5
80	04DN	69	125	46	25.6	144	1/4	286	81	6.0
	05DN	69	125	46	25.6	172	1/4	299	81	6.5
	06DN	69	125	46	25.6	214	1/4	315	81	7.5
100	05DN	93	147	52	27.3	172	1/4	320	97	8.0
	06DN	93	147	52	27.3	214	1/4	336	97	9.0
	08DN	93	147	52	27.3	266	1/4	357	97	12.0
125	06DN	119	180	56	28.6	214	1/4	352	113	10.5
	08DN	119	180	56	28.6	266	1/4	373	113	13.0
150	06DN	141	210	56	31.8	214	1/4	374	128	14.0
	08DN	141	210	56	31.8	266	1/4	395	128	17.0
	10DN	141	210	56	31.8	336	1/4	441	128	24.5
200	08DN	187	254	60	34.6	266	1/4	470	158	21.0
	10DN	187	254	60	34.6	336	1/4	466	158	28.0
	12DN	187	254	60	34.6	420	1/4	497	158	38.0
250	10DN	233	320	68	37.4	336	1/4	507	190	38.0
	12DN	233	320	68	37.4	420	1/4	538	190	47.0
300	10DN	280	361	78	41.7	336	1/4	532	215	46.0
	12DN	280	361	78	41.7	420	1/4	554	215	55.0
	13D	280	361	78	41.7	644	1/4	607	215	71.0
350	12DN	312	406	78	44.7	420	1/4	574	235	66.0
	13D	312	406	78	44.7	644	1/4	627	235	82.0
	18D	312	406	78	44.7	758	3/8	693	235	119.0
400	12DN	368	463	102	51	420	1/4	622	272	84.0
	13D	368	463	102	51	644	1/4	668	272	101.0
	18D	368	463	102	51	758	3/8	732	272	138.0

STAINLESS STEEL
HIGH PERFORMANCE
BUTTERFLY VALVE: KM200

CAST IRON
BUTTERFLY VALVE: C201R

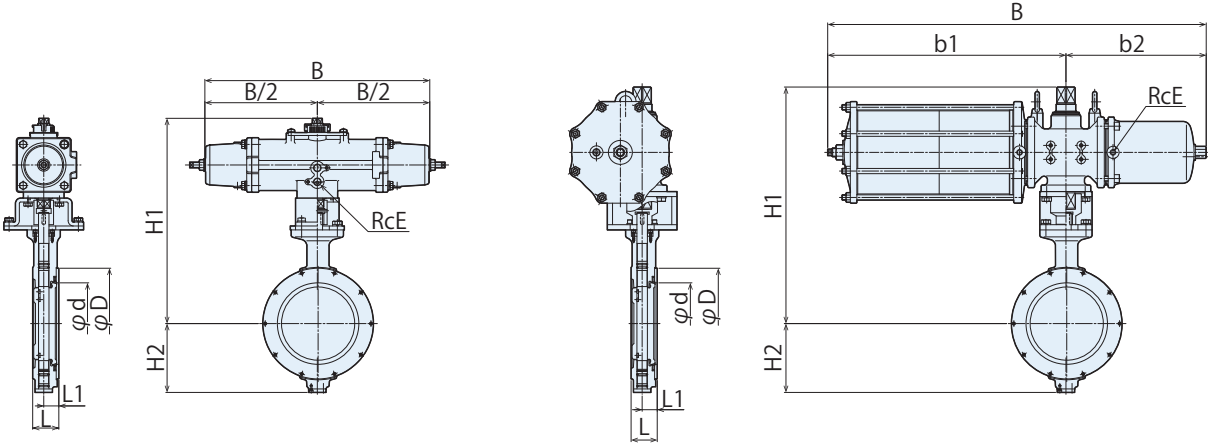
PPA LINED
BUTTERFLY VALVE: C559

INTRODUCTION OF
RELATED PRODUCTS

TECHNICAL
MATERIALS

SAFETY
INSTRUCTIONS

[Reverse Acting: CPO1201R]



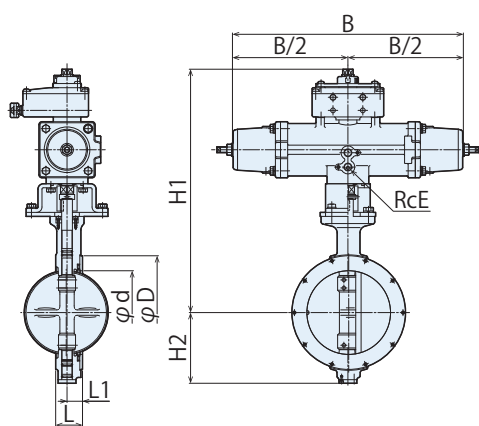
06DN4 ~ 12DN4

13D4 ~ 22D4

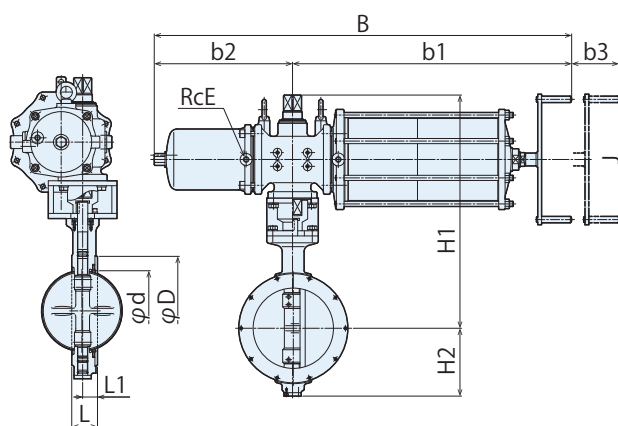
Unit: mm

Nominal Size (DN)	Actuator PO-	d	D	L	L1	B	b1	b2	E	H1	H2	Mass Approx. (kg)
65	06DN4	58	112	46	24.9	314	—	—	1/4	310	76	8.5
	08DN4	58	112	46	24.9	392	—	—	1/4	331	76	12.5
80	06DN4	69	125	46	25.6	314	—	—	1/4	315	81	9.0
	08DN4	69	125	46	25.6	392	—	—	1/4	336	81	12.5
	10DN4	69	125	46	25.6	500	—	—	1/4	382	81	21.5
100	08DN4	93	147	52	27.3	392	—	—	1/4	357	97	14.5
	10DN4	93	147	52	27.3	500	—	—	1/4	403	97	24.0
125	08DN4	119	180	56	28.6	392	—	—	1/4	373	113	15.5
	10DN4	119	180	56	28.6	500	—	—	1/4	419	113	25.5
	12DN4	119	180	56	28.6	634	—	—	1/4	450	113	39.5
150	10DN4	141	210	56	31.8	500	—	—	1/4	441	128	29.5
	12DN4	141	210	56	31.8	634	—	—	1/4	472	128	43.5
	13D4	141	210	56	31.8	869	547	322	1/4	518	128	81.0
200	12DN4	187	254	60	34.6	634	—	—	1/4	497	158	48.0
	13D4	187	254	60	34.6	869	547	322	1/4	543	158	84.0
250	12DN4	233	320	68	37.4	634	—	—	1/4	538	190	58.0
	13D4	233	320	68	37.4	869	547	322	1/4	582	190	95.0
	18D4	233	320	68	37.4	1013	634	379	3/8	648	190	155.0
300	13D4	280	361	78	41.7	869	547	322	1/4	607	215	103.0
	18D4	280	361	78	41.7	1013	634	379	3/8	673	215	163.0
350	13D4	312	406	78	44.7	869	547	322	1/4	627	235	114.0
	18D4	312	406	78	44.7	1013	634	379	3/8	693	235	174.0
	22D4	312	406	78	44.7	1272	778	494	3/8	773	235	239.0
400	18D4	368	463	102	51	1013	634	379	3/8	732	272	193.0
	22D4	368	463	102	51	1272	778	494	3/8	815	272	258.0

[Direct Acting: CPCH1201R]



06DN4 ~ 12DN4



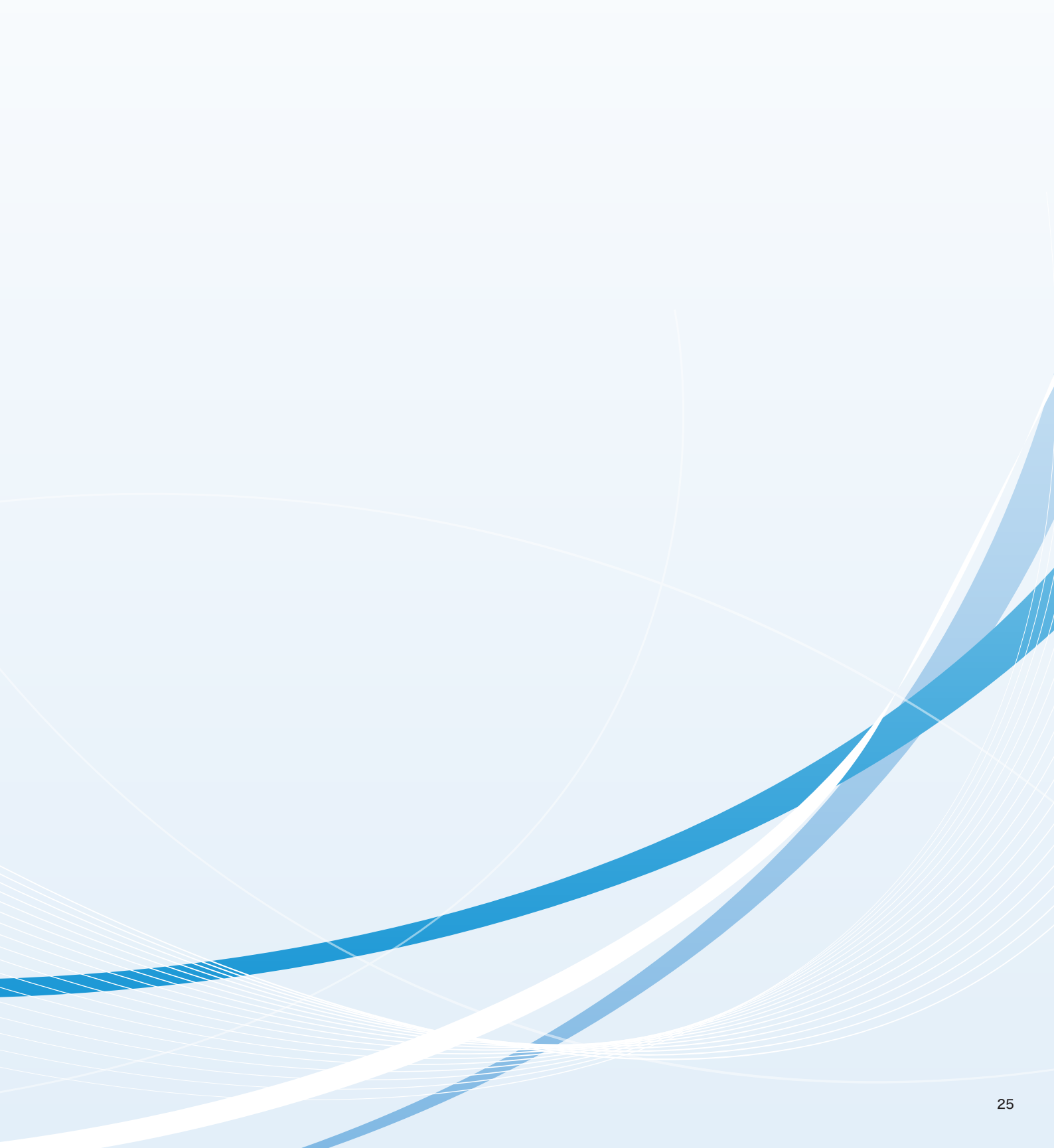
13DN4 ~ 22DN4

Unit: mm

Nominal Size (DN)	Actuator PCH-	d	D	L	L1	B	b1	b2	b3	E	J	H1	H2	Mass Approx. (kg)
65	06DN4	58	112	46	24.9	314	—	—	—	1/4	—	366	76	9.5
	08DN4	58	112	46	24.9	392	—	—	—	1/4	—	388	76	13.5
80	06DN4	69	125	46	25.6	314	—	—	—	1/4	—	371	81	10.0
	08DN4	69	125	46	25.6	392	—	—	—	1/4	—	393	81	13.5
	10DN4	69	125	46	25.6	500	—	—	—	1/4	—	463	81	25.5
100	08DN4	93	147	52	27.3	392	—	—	—	1/4	—	414	97	15.5
	10DN4	93	147	52	27.3	500	—	—	—	1/4	—	484	97	29.0
125	08DN4	119	180	56	28.6	392	—	—	—	1/4	—	430	113	16.5
	10DN4	119	180	56	28.6	500	—	—	—	1/4	—	500	113	29.5
	12DN4	119	180	56	28.6	634	—	—	—	1/4	—	531	113	43.5
150	10DN4	141	210	56	31.8	500	—	—	—	1/4	—	522	128	33.5
	12DN4	141	210	56	31.8	634	—	—	—	1/4	—	553	128	47.5
	13D4	141	210	56	31.8	972	650	322	110	1/4	280	518	128	85.0
200	12DN4	187	254	60	34.6	634	—	—	—	1/4	—	578	158	52.0
	13D4	187	254	60	34.6	972	650	322	110	1/4	280	543	158	88.0
	12DN4	233	320	68	37.4	634	—	—	—	1/4	—	619	190	62.0
250	13D4	233	320	68	37.4	972	650	322	110	1/4	280	582	190	99.0
	18D4	233	320	68	37.4	1139	760	379	128	3/8	460	648	190	161.0
300	13D4	280	361	78	41.7	972	650	322	110	1/4	280	607	215	107.0
	18D4	280	361	78	41.7	1139	760	379	128	3/8	460	673	215	169.0
350	13D4	312	406	78	44.7	972	650	322	110	1/4	280	627	235	118.0
	18D4	312	406	78	44.7	1139	760	379	128	3/8	460	693	235	180.0
	22D4	312	406	78	44.7	1416	922	494	174	3/8	460	773	235	249.0
400	18D4	368	463	102	51.0	1139	760	379	128	3/8	460	732	272	199.0
	22D4	368	463	102	51.0	1416	922	494	174	3/8	460	815	272	268.0

MEMO

4 INTRODUCTION OF RELATED PRODUCTS



4. INTRODUCTION OF RELATED PRODUCTS

▶4. Introduction of Related Products

① [Powder & Granular Product Discharging] Sanitary Butterfly Valves

[Features]

- Major parts are made of buffing finished stainless steel on both inner/outer surfaces that ensures an excellent washability with adhesion-free property for powder/granular materials.
- Lightweight design facilitates the ease of attaching and removing on containers or pipes.
- The clamp type mechanism facilitates the rapid assembly, disassembly, and ease of cleaning.

[Standard Specifications]

Type	DC507C-SI
Nominal Size (DN)	100 - 300
Valve Seat Air-Tightness	3 kPa
Valve Casing Durable Pressure	0.05 MPa
Working Temperature	Ordinary Temperature (Washable with hot water up to 80°C)
Connection Standard	Ferrule Type (DN100-200 : Based on ISO/IDF) (DN250,300 : for discussion)

*Automatic Valve: Contact us for manufacturing of pneumatically operated ON-OFF valves.

*Applicable only for powder & granular discharging.



② [Tablet Discharging] Sanitary Dampers

[Features]

- Major parts are made of buffing finished stainless steel on both inner/outer surfaces that ensures an excellent washability with adhesion-free property for tablets.
- Safe discharge of tablets ensured by the optimum shape and structure preventing the tablets from remaining.
- The tablets are fed while the damper is closed and the damper is opened for discharging. The structure is designed in such a way that the tablets are not crushed.
- A stopper at the closing position securely maintains the precise position.

[Standard Specifications]

Type	DC507D
Nominal Size (DN)	150 (6.5S)
Connection Standard	Ferrule Type(Based on ISO/IDF)



Refer to a catalog "SANITARY TYPE PRODUCTS FOR MEDICAL PLANT" as well for details of products

③ Electrically Operated Valves

[Features]

- The valves of electrically operated specification are manufactured as well. Please contact our sales dept. or local representative for a detailed study.
- The part turn type various electrically operated products are provided such as SRH, SRJ, etc. by Seibu Electric & Machinery Co., Ltd., according to the specifications designated by the customer.
- A rich lineup of options such as electronically controlled devices for flow control, etc., are prepared.



5 TECHNICAL MATERIALS

5-1. Cv-value

5-2. Inherent Flow Characteristic

5-3. Pressure Loss

5-4. Actuator Selection Table:

Pneumatic Operation Pressure 0.3 MPa

5-5. Piping Bolt and Nut Dimensions

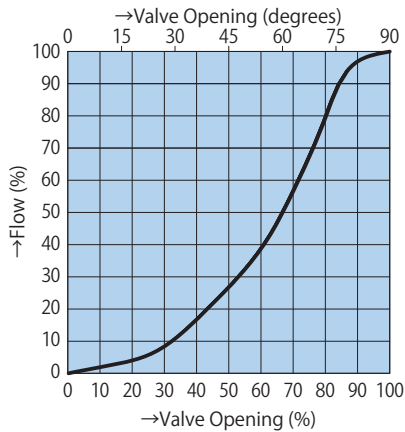
5-6. Product Code Descriptions

►5-1. Cv-value

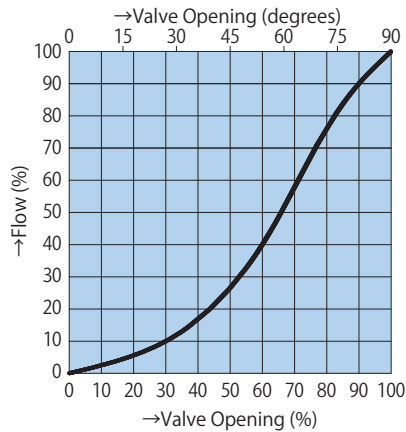
Nominal Size (DN) Valve Type	50	65	80	100	125	150	200	250	300	350	400	450	500	600
KM200	60	100	190	380	730	1,250	2,400	4,000	5,800	7,400	9,400	12,000	18,000	22,100
C201R	—	153	244	390	640	870	1,700	2,810	4,170	5,300	6,720	—	—	—
C559	—	—	280	480	—	1,060	2,100	3,500	5,200	—	—	—	—	—

►5-2. Inherent Flow Characteristic

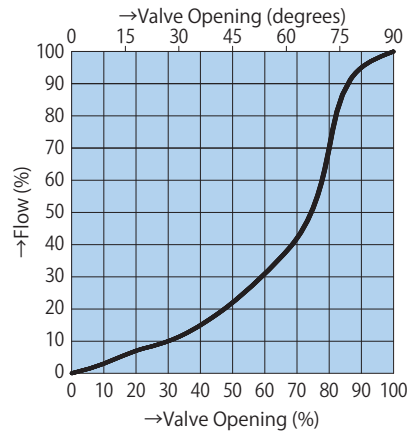
•KM200



•C201R



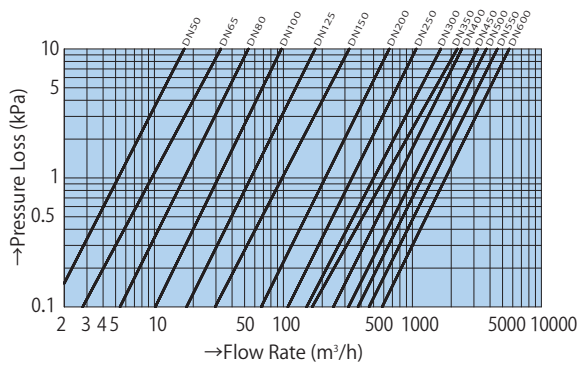
•C559



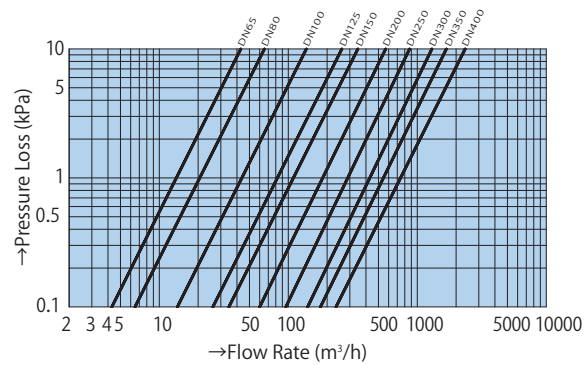
* Above graphs indicate the characteristics for nominal size 200.

►5-3. Pressure Loss

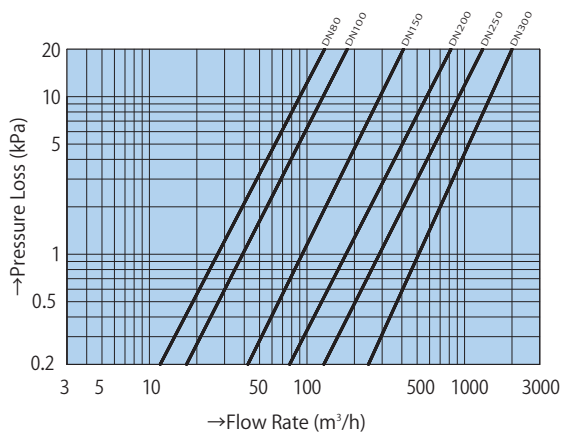
•KM200



•C201R



•C559



►5-4. Actuator Selection Table: Pneumatic Operation Pressure 0.3 MPa

●KM200

Nominal Size (DN)	Double Acting: PN					Single Acting (Reverse Acting: PO/Direct Acting: PCH)				
	Shutoff Differential Pressure (MPa)					Shutoff Differential Pressure (MPa)				
	0.2	0.4	0.6	0.8	1.0	0.2	0.4	0.6	0.8	1.0
50										
65			06DN				08DN3			
80										
100							10DN3			
125			08DN							
150					10DN		12DN3			
200		10DN			12DN		13D3			
250		12DN			13D		18D3			
300		13D								
350							22D3			
400			18D				25D3			
450										
500										
600			22D							

●C201R

Nominal Size (DN)	Double Acting: PN					Synthetic Rubber Seat (AB, EP), Reinforced PTFE Seat (CF, CM)				
	PTFE Seat (TF)					Shutoff Differential Pressure (MPa)				
	0.2	0.4	0.6	0.8	1.0	0.2	0.4	0.6	0.8	1.0
65		PN-04DN								
80		PN-05DN					PN-06DN			
100										
125		PN-06DN					PN-08DN			
150		PN-08DN					PN-10DN			
200										
250		PN-10DN					PN-12DN		PN-13D	
300					13D	PN-13D				
350		PN-12DN		13D						
400		PN-13D		PN-18D			PN-18D		PN-22D	

Nominal Size (DN)	Reverse Acting: PO					Synthetic Rubber Seat (AB, EP), Reinforced PTFE Seat (CF, CM)				
	PTFE Seat (TF)					Shutoff Differential Pressure (MPa)				
	0.2	0.4	0.6	0.8	1.0	0.2	0.4	0.6	0.8	1.0
65		PO-06DN3					PO-08DN3			
80										
100		PO-08DN3					PO-10DN3			
125							PO-12DN3			
150		PO-10DN3								
200		PO-12DN3					PO-13D3			
250							PO-18D3			
300		PO-13D3								
350							PO-22D3			
400		PO-18D3		PO-22D3				PO-25D3		

Nominal Size (DN)	Direct Acting: PCH					Synthetic Rubber Seat (AB, EP), Reinforced PTFE Seat (CF, CM)				
	PTFE Seat (TF)					Shutoff Differential Pressure (MPa)				
	0.2	0.4	0.6	0.8	1.0	0.2	0.4	0.6	0.8	1.0
65		PCH-06DN3					PCH-08DN3			
80										
100		PCH-08DN3					PCH-10DN3			
125		PCH-10DN3					PCH-12DN3			
150										
200		PCH-12DN3					PCH-13D3			
250							PCH-18D3			
300		PCH-13D3								
350							PCH-22D3			
400		PCH-18D3		PCH-22D3				PCH-25D3		

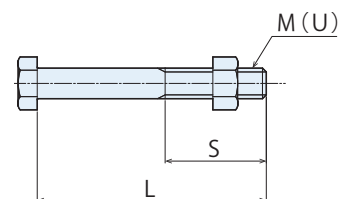
●C559

Double Acting: PN									
Nominal Size (DN)	Shutoff Differential Pressure (MPa)								
	0.2	0.4	0.6	0.8	1.0				
80						PN-06DN			
100		PN-05DN				PN-08DN			
150		PN-08DN				PN-10DN			
200		PN-10DN				PN-12DN			
250		PN-12DN				PN-13D			
300		PN-13D				PN-18D			

Reverse Acting: PO									
Nominal Size (DN)	Shutoff Differential Pressure (MPa)								
	0.2	0.4	0.6	0.8	1.0				
80						PO-08DN3			
100						PO-10DN3			
150						PO-12DN3			
200						PO-13D3			
250		PO-13D3				PO-18D3			
300		PO-18D3				PO-22D3			

Direct Acting: PCH									
Nominal Size (DN)	Shutoff Differential Pressure (MPa)								
	0.2	0.4	0.6	0.8	1.0				
80						PCH-08DN3			
100						PCH-10DN3			
150						PCH-12DN3			
200						PCH-13D3			
250		PCH-13D3				PCH-18D3			
300		PCH-18D3				PCH-22D3			

►5-5. Piping Bolt and Nut Dimensions



KM200, C201R, C559

Unit: mm

Nominal Size (DN)	JIS 5K				JIS 10K				CL 150			
	M	L	S	Q'ty	M	L	S	Q'ty	M	L	S	Q'ty
50	M12	95	30	4	M16	100	38	4	U 5/8	110	38	4
65	M12	95	30	4	M16	105	38	4	U 5/8	110	38	4
80	M16	100	38	4	M16	105	38	8	U 5/8	115	38	4
100	M16	110	38	8	M16	110	38	8	U 5/8	130	44	8
125	M16	110	38	8	M20	125	46	8	U 3/4	135	52	8
150	M16	115	38	8	M20	130	46	8	U 3/4	140	52	8
200	M20	130	52	8	M20	130	52	12	U 3/4	150	52	8
250	M20	140	52	12	M22	150	56	12	U 7/8	165	56	12
300	M20	150	52	12	M22	160	56	16	U 7/8	175	56	12
350	M22	160	56	12	M22	160	56	16	U 1	190	60	12
400	M22	180	56	16	M24	190	60	16	U 1	215	60	16
450	M22	190	56	16	M24	210	60	20	U 1 1/8-8	240	66	16
500	M22	210	56	20	M24	220	60	20	U 1 1/8-8	260	66	20
600	M24	240	60	20	M30	260	85	20	U 1 1/4-8	300	66	20
	—	—	—	—	M30	70	66	8	—	—	—	—

Note 1: "U" stands for "unified screw (UNC)"

Note 2: Bolt lengths in this table are based on steel flanges for piping used with 3 mm thick gasket between them.

►5-6. Product Code Descriptions

[KM200: Fundamental System of Product Codes]

K M **P N 1 2** **0 7** - **GR** - **2 0 0** - **10DN** - **J10K**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

KM200 (Stainless Steel High Performance Butterfly Valve)

① Operation mode

L	Lever Handle
G	Gear Operation
PN	Double Acting
PO	Reverse Acting (Air to Open/Spring to Close)
PCH*	Direct Acting (Air to Close/Spring to Open)

* Direct Acting (PC) comes with H (Manual Handle) as a standard.

② Operation Type

Blank	Manual Operation (Lever Handle/Gear Operation)
1	Pneumatic Operation

③ Main Body Material

07	SCS13A (Standard)
12	SCS14A
13	SCS16A

④ Body Structure

Blank	JIS5K, 10K (Standard)
V	JIS20K, CL150

⑤ Seat Material – Refer to page 6

GR	PTFE with Glass Fiber: White (Standard)
CF	PTFE with Special Carbon: Black

⑥ Nominal Size (DN or A)

In accordance with ISO 6708 and JIS B 2001

⑦ Actuator Code

⑧ Connection Standard

J05K	JIS 5K (Standard)
J10K	JIS10K (Standard)
J20K	JIS20K
A150	CL150

[C200R: Fundamental System of Product Codes]

C **P N 1** **2 0 1** R - **TF** - **2 0 0** - **12DN** - **J10K**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

C200R (Cast Iron Butterfly Valve)

① Operation mode

L	Lever Handle
G	Gear Operation
PN	Double Acting
PO	Reverse Acting (Air to Open/Spring to Close)
PCH*	Direct Acting (Air to Close/Spring to Open)

*Direct Acting (PC) comes with H (Manual Handle) as a standard.

② Operation Type

Blank	Manual Operation (Lever Handle/Gear Operation)
1	Pneumatic Operation

③ Main Body Material

01	FC200
----	-------

④ Seat Material – Refer to page 12

AB	Nitrile Rubber (NBR)
EP	EPDM
TF	PTFE + EPDM
CF	Reinforced PTFE with Carbon Fiber + EPDM
CM	Reinforced PTFE with Carbon Fiber + SUS304

⑤ Packing Material

Blank	Nitrile Rubber (NBR) (Standard)
EP	EPDM
VT	Fluorine Rubber (FKM)

⑥ Nominal Size (DN or A)

In accordance with ISO 6708 and JIS B 2001

⑦ Actuator Code

⑧ Connection Standard

J05K	JIS5K
J10K	JIS10K

[C559: Fundamental System of Product Codes]

C **P N 1** **5 5 9** - **1 5 0** - **10DN** - **J10K**

① ② ③ ④ ⑤ ⑥

C559 (PFA Lined Butterfly Valve)

① Operation mode

L	Lever Handle
G	Gear Operation
PN	Double Acting
PO	Reverse Acting (Air to Open/Spring to Close)
PCH*	Direct Acting (Air to Close/Spring to Open)

*Direct Acting (PC) comes with H (Manual Handle) as a standard.

② Operation Type

Blank	Manual Operation (Lever Handle/Gear Operation)
1	Pneumatic Operation

③ Main Body Material

59	PFA Lined
----	-----------

④ Nominal Size (DN or A)

In accordance with ISO 6708 and JIS B 2001

⑤ Actuator Code

⑥ Connection Standard

J10K	JIS10K
A150	CL150

Listed above is the fundamental coding system for our products. A code other than the above may be added for a production based on special specifications. Please contact our sales dept. or local representative for any questions regarding the details of product codes.

MEMO

6 SAFETY INSTRUCTIONS

6. SAFETY INSTRUCTIONS

1. Precautions for Selection of Valves

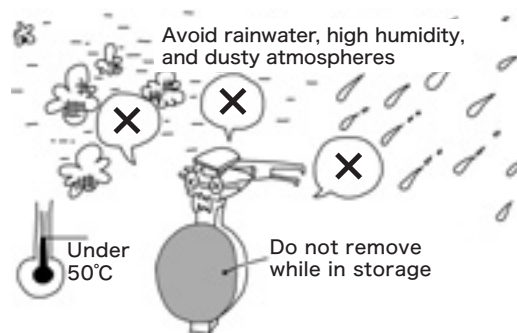
- (1) The range of use for the products in this catalog is specified in accordance with official standards and our company's standards. Please check the conditions for use (fluids, pressure, temperature, etc.) and select the optimum product.
- (2) Please check the conditions for use (fluid name and temperature) for the materials for major parts, and select proper materials.
- (3) The oil free or water free specifications shall be designated when ordering (Some of the products may not be adapted for oil free or water free specifications.).

2. Precautions for Receiving and Conveying

- (1) Please check that the packing and wrapping are not damaged and the goods and quantity are according to the invoice when receiving. If any damage on the packing and wrapping is observed, please contact us.
- (2) The product may be very heavy depending on the nominal size. Please use a proper lifting device for unloading and conveying in accordance with the Industrial Safety and Health Act. In addition, never enter under a lifted load, insert a hand or leg under the lifted load, nor operate the lifting device.
- (3) The package strength of cardboard box may be degraded when wet. Please be careful enough for handling when a cardboard box contains moisture.

3. Precautions for Storage

- (1) It is recommended to store the goods in a packed status until the installation on the pipework.
- (2) If the goods are to be in storage for a certain period after having been taken out of package, do not remove the dustproof seal affixed on connecting end surfaces.
- (3) Please store under following conditions for the purpose of rust prevention and prevention of deterioration of plastics.
 - 1) Keep out of the rain
 - 2) The ambient temperature shall not be higher than 50°C (The allowable ambient temperature may vary depending on the specifications of mounted accessories.)
 - 3) Avoid a highly humid or dusty atmosphere



4. Precautions for Installation on Pipework

- (1) Remove the dustproof seal covering the connecting ends of main body and check for no stain inside and no adhesion of foreign substances. Also, confirm the cleanliness and the absence of foreign substances in the pipeline on which the valve is to be installed, and conduct gas blowing or liquid flushing as necessary.
- (2) Be sure to install a valve between flanges.
- (3) C201R valves have a direction. Install pipes in accordance with the indication on the main body. KM200 valves do not have an indication on the main body, but the valve stem side shall be on the primary side if the fluid is steam or the fluid speed is not lower than 3 m/s. Further, pay attention on the mounting direction of valve stem in the piping conditions shown in Fig. 1.

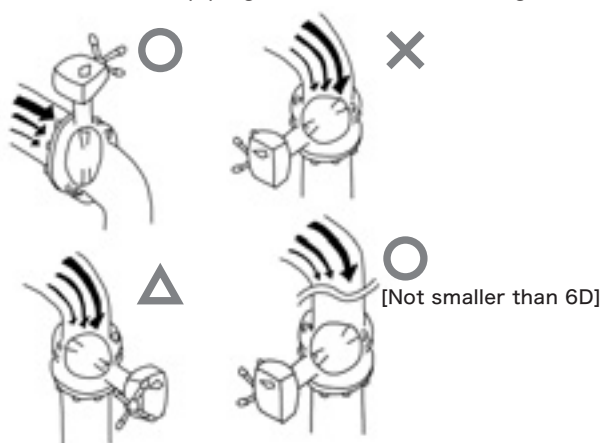


Fig. 1.

- (4) Open the valve to full flow for pressure durability test of pipework (test exceeding the rated pressure).
- (5) Never use a fully closed valve as a blind flange.
- (6) Avoid installing a valve with the actuator facing to the bottom. If the actuator is facing to the side, add a support.
- (7) Install the pipework after the welded pipe flanges have cooled down. Never weld a flange with a valve mounted.
- (8) The valves are shipped in a fully closed status as far as not designated otherwise. Install a valve on the pipework as it is fully closed. The direct acting pneumatically operated valves are also shipped in a fully closed status using a manual operation device. After installation on the pipework, use it after fully opening with a manual handle.
- (9) Install a valve while avoiding an abnormal tension, compression or bending stresses on a valve.
- (10) Use a gasket for piping conforming to the fluid specification. If a special gasket such as spiral gasket, etc. is to be used, please contact us.
Use a PTFE packed gasket for Type C559 (PFA Lined).
- (11) When installing a valve on pipework, check for no interference of valve disk with gasket or flange inside surfaces when the valve is opened. The bolts for pipework shall be tightened alternately and uniformly in a diagonal pattern. Uneven tightening of piping bolts may cause leakage from the connected flange surfaces. Refer to this catalog or each handling manual for piping bolt sizes.
- (12) Check for no loosening of fixing bolts. Re-tighten if loose.
- (13) For blowing inside a pipe, mount a short pipe of same length as the valve.
If it is unavoidable to blow the pipework with a valve installed in it, do not open/close the valve during blowing.

5. Precautions for Handling and Operation

- (1) Do not operate with an excessive torque such as using an additional pipe or a wrench on the lever handle when opening/closing.
- (2) Never insert your fingers or hands inside a valve.
- (3) If a leakage from gland is observed, re-tighten the gland retaining bolts. If a valve is used for a fluid having large temperature fluctuation, re-tighten after rising and falling of temperature because the stress relaxation level for packing is large.
- (4) If some quantity of fluid remains in a valve and is frozen, the product may be damaged.
Whenever a pipeline would be frozen, keep the pipeline warm for prevention of freezing or remove the fluid in the valve.

6. Precautions on Actuator for Pneumatically/Electrically Operated Valves

- (1) A seal is applied on the ports for air and wiring. Do not remove these seals until the connecting joints are attached.
- (2) The actuator is adjusted before shipping. Do not disassemble or readjust it. If an adjustment is required, please contact us.
- (3) Use the filtered clean operating air as well as dehumidifying the air.
- (4) Confirm the operating pressure or operating power source in the name plate on the product or delivery specifications.
- (5) Pay attention not to let rainwater, etc. in the air breathing port of actuator.

7. Precautions for Disassembling and Assembling

- (1) Discharge the fluid in the pipework before removing a valve from a pipework, and depressurize. Pay special attention when handling a hazardous fluid such as toxic or corrosive fluids.
- (2) When disassembling and assembling, pay attention not to damage the sealing zone of valve element (disk) sealing surface or piping end surfaces, etc.

- The ISO 9001 · 14001 certificate was awarded



CAUTION

Specifications and performance figures of products contained in this catalog are on the design calculations, in-house tests, actual records of product application, and the official standards and specifications. They are presented as the user guide on the use of product concerned under general service conditions. Users intending to use the product under a special condition are required to receive engineering advice from this company in advance or to make their own studies and evaluation to verify performance on their own responsibility. This company shall not be liable for any damages, material or human, that may arise without following this procedure. In as much as full care was taken in editing this catalog, users are kindly requested to make contact with this company for any questions or discrepancies found. This catalog is subject to change without notice for the purpose of correcting error, supplementing or improving insufficient content, updating the content to the improved product performance, design change, discontinuation of product and other reasons. Revised version automatically invalidates catalogs issued prior to the current version. Check the version with our Sales Dept. or local representative before you place orders.

WARNING

CAUTION

There are several points to be noticed for the use of butterfly valve based on the structural characteristics. When valve is delivered, a leaflet for Safety Instructions is in the package. Please read this instruction thoroughly before handling and use of products in order to use them safely and stably for a long time.

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