

Catalog No. CE302-02

# NDV BUTTERFLY VALVE



**NIPPON DAIYA VALVE CO., LTD.**



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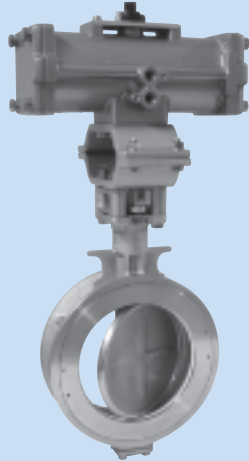
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# PRODUCT GUIDE

## Double Off-center Type: General Purpose Function Products

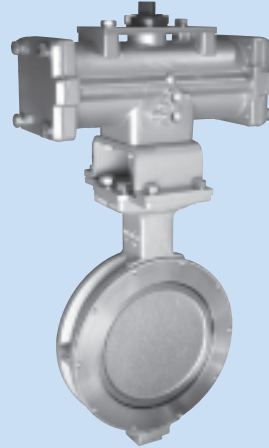
### Stainless Steel High Performance Butterfly Valve

KM200 Series (page. 5 - )



### Cast Iron Butterfly Valve

C201R Series (p. 11 - )

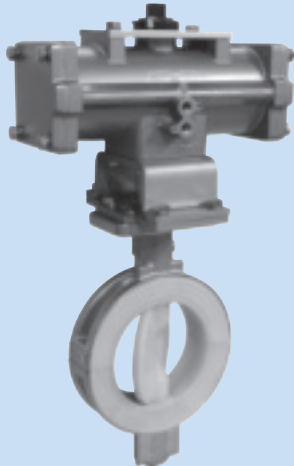


- The disc shaft has a double off-center mechanism toward the valve seat surface. This allows the smooth operation without forcible sliding or deformation of seat.
- Excellent "Sealing Performance" "Operability" and "Flow Rate Controllability", and compact face-to-face dimension will provide ease of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

## Optimum for Corrosion-Proof/ Chemical-Proof Purposes

### PFA Lined Butterfly Valve

C559N 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.

# 1 STAINLESS STEEL HIGH PERFORMANCE BUTTERFLY VALVE: KM200

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## 1-1. Standard Specifications

- ① Structures and Features
- ② Valve Specifications

## 1-2. Manually Operated Valve (Lever/Gear)

Major Dimensions

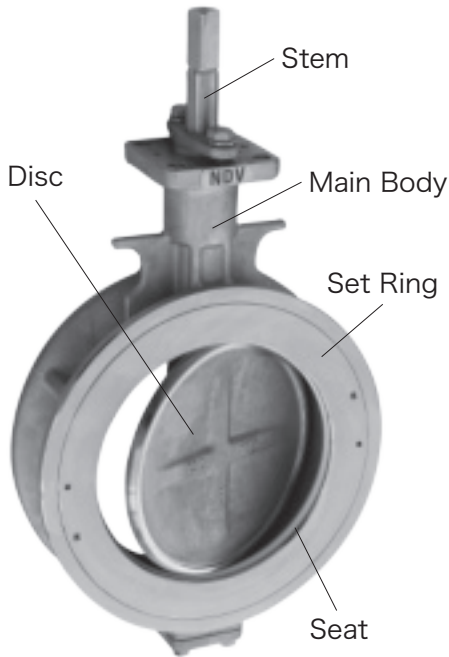
## 1-3. Pneumatically Operated ON-OFF Valve

- ① Actuator Specifications
- ② Actuator Selection Table
- ③ Major Dimensions

# 1. STAINLESS STEEL HIGH PERFORMANCE BUTTERFLY VALVE: KM200

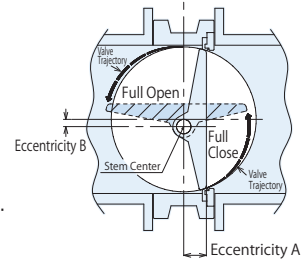
## ▶ 1-1. Standard Specifications

### ① Structures and Features



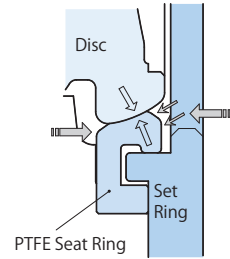
#### ① Long Life Double Off-Center Mechanism

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



#### ② Bi-Directional Valve Applicable for Reverse Pressure Load Lines

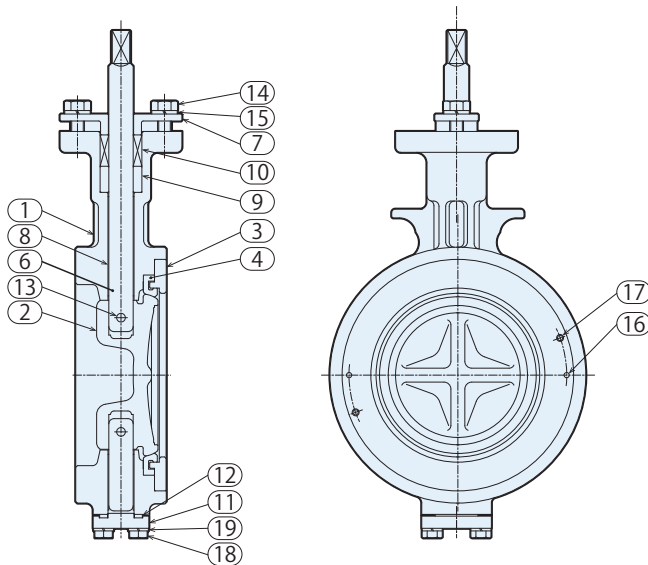
The disc and seat will be securely contacted to each other by the fluid pressure in both primary direction and secondary direction of flow. (If the fluid is steam or the speed of flow is not slower than 3 m/sec, the flow direction is limited.)



#### ③ Reinforced PTFE Seat for Wide Variety of Fluids

The standard product comes with PTFE seat with glass fiber. The seat will be easily replaced by removing the set ring. (Synthetic rubber and metal seats can be selected for the conditions of use)

[Standard Structural Materials: KM207]



Parts	Material	
1	Body	SCS13A
2	Disc	SCS13A
3	Set Ring	SCS13A
4	Seat	PTFE with Glass Fiber
6	Stem	SUS304
7	Gland	SCS14A
8	Bush	PTFE+SUS316
9	Packing Washer	SUS304
10	Gland Packing	PTFE
11	Cover	SCS13A
12	Gasket	Non-Asbestos
13	Taper Pin	SUS304
14	Gland Bolt	SUS304
15	Spring Washer	SUS304
16	Set Pin	SUS420J2
17	Draw Out Screw	SUS304
18	Cover Bolt	SCM435 (Plated)
19	Spring Washer	SUS304

### ② Valve Specifications

[Standard Specifications]

Valve Type	KM207(Standard)	KM212	KM213
<b>Major Parts</b>			
Main Body	SCS13A	SCS14A	SCS16A
Disc	SCS13A	SCS14A	SCS16A
Seat	GR(PTFE with Glass Fiber: White, Standard) CF(PTFE with Special Carbon: Black)		
Gland Packing	PTFE		
Stem	SUS304	SUS316	SUS316L
Flange Standard	JIS5K, JIS10K*1		
Face-to-Face Dimensions	ISO 5752 Short (Basic Series No. 20)		
Nominal Size (DN)	50 - 600		
Pressure Range	0 - 1.0 MPa*2		
Temperature Range	- 29°C to 232°C		
Operation Type	Lever operation, Gear operation, Pneumatically Operated ON-OFF Valve*3		

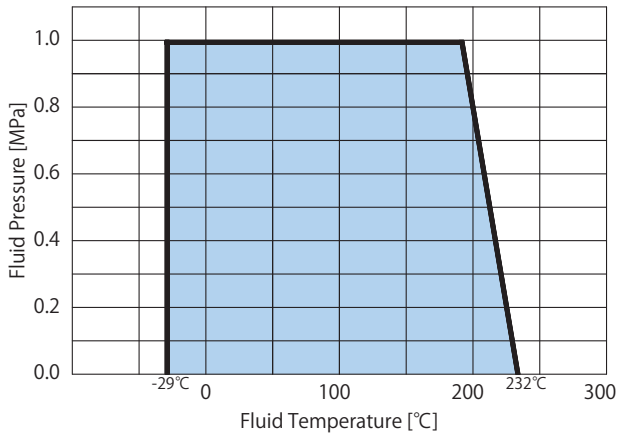
\*1 JIS20K, CL150 types are available as well. Please contact us.

\*2 Please contact us if a valve is to be used for vacuum application.

\*3 Pneumatically operated control valves and electrically operated valves are available as well. Please contact us.



[Operating Pressure and Temperature Range]

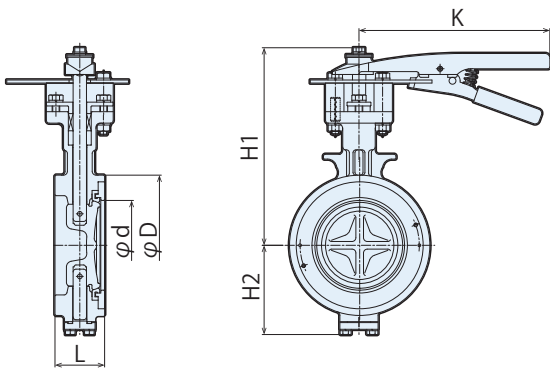


Please contact us if a valve is to be used for vacuum application

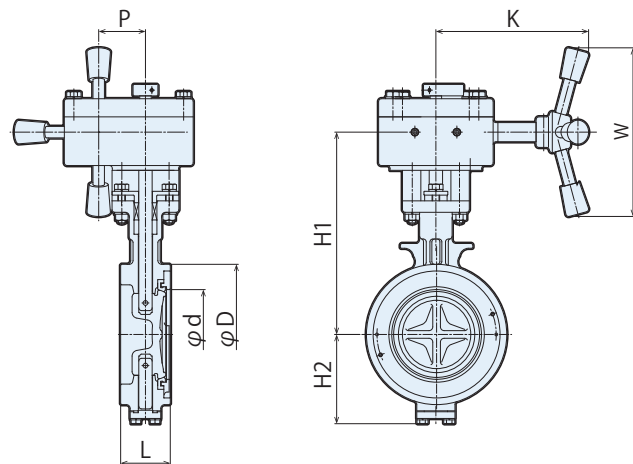
▶ 1-2. Manually Operated Valve (Lever/Gear)

Major Dimensions

[Lever Handle: KML200]



[Gear Operation: KMG200]



Unit: mm

Nominal Size (DN)	d	D	L	H2	KML200			KMG200				Mass Approx. (kg)
					H1	K	Mass Approx. (kg)	H1	W	K	P	
50	40	92	43	64	178	160	3.7	182	150	130	45	6.7
65	55	108	46	74	188	160	4.2	192	150	130	45	7.2
80	70	127	46	84	199	200	4.9	202	150	130	45	7.8
100	94	147	52	94	209	200	5.7	212	150	130	45	8.6
125	119	180	56	110	248	360	10.5	252	180	160	49	13.5
150	144	209	56	124	263	360	11.8	247	180	160	49	14.5
200	195	265	60	183	-	-	-	292	240	190	62.5	24.0
250	244	327	68	218	-	-	-	346	300	250	77	31.0
300	293	367	78	243	-	-	-	366	300	250	77	36.0
350	328	413	78	270	-	-	-	529	460	310	90.5	75.0
400	366	470	102	300	-	-	-	574	460	310	90.5	95.0
450	415	534	114	341	-	-	-	670	460	380	121	145.0
500	518	643	127	379	-	-	-	700	460	380	121	180.0
550	570	692	154	404	-	-	-	740	460	380	121	250.0
600	570	692	154	489	-	-	-	805	460	380	121	300.0

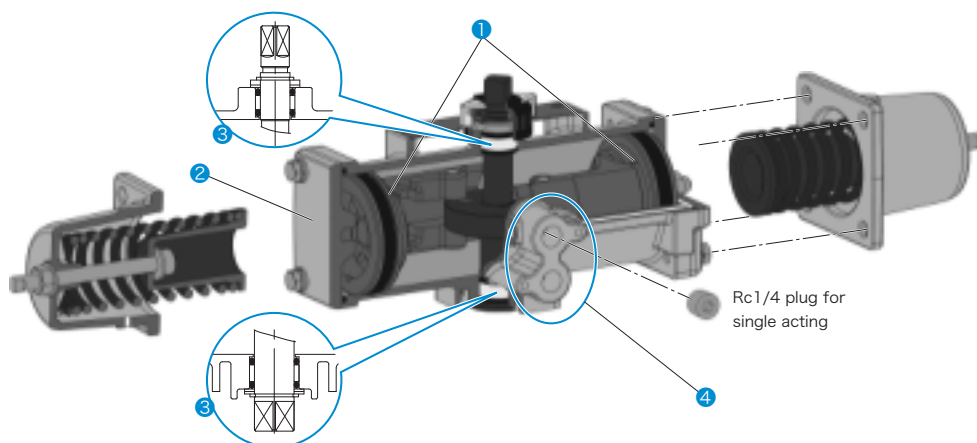
## ▶ 1-3. Pneumatically Operated ON-OFF Valve

### ① Actuator Specifications

[Torque Actuator: 04DN - 12DN]

- ① Double piston type small and light actuators.
- ② Environmentally friendly paints are adopted for actuators.
- ③ More stable sealing performance compared to our conventional products (04D - 12D type actuators) with dual O-ring for top and bottom shaft seals.
- ④ Air inlet is NAMUR\* connection compatible.

\* The accessory attachment dimensions for actuators specified in VDI/VDE3845-2010



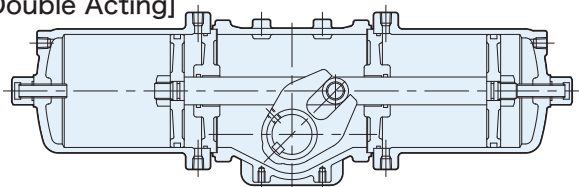
Type of Operation	Double Acting: PN (Air to Open/Air to Close) Single Acting: Reverse Acting PO (Air to Open/Spring to Close) Direct Acting PC (Air to Close/Spring to Open)
Operating Pressure	0.4 - 0.7 MPa (Option: 0.3 MPa*)
Materials	Cylinder: ADC12 (Aluminum Die-cast) Spring Cover: ADC12 Drive Shaft: SCM435
Ambient Temperature	-10 to 50°C *except frozen condition (Please consult with NDV if the ambient temperature is more than 50°C)
Rotating Angle	Part-turn 0 to 90°
Manual Operation	Manual operating device is installable. (equipped for direct acting types as a standard) *In case of double acting, lever operation is possible by installing by-pass at air chambers or by atmospheric discharge.
Air Inlet Connection	Rc1/4 (Solenoid valve connection: NAMUR Standard)
Painting for Actuator	Platinum Silver (conforming to RoHS)
Lubricant Oil	Shell Arbania EP2 grease (conforming to RoHS)
Durability	More than 100,000 times (with load) *not guaranteed value
Accessories	Positioner, Solenoid Valve, Pneumatic Kit and Limit Switch are mounted as requested

\* Refer to pages 29 and 30 for actuator selection tables operated with pneumatic pressure of 0.3 MPa

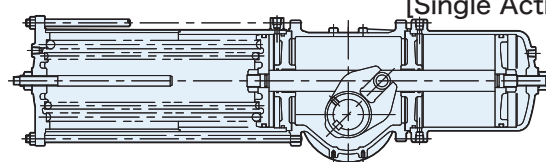
[Torque Actuator for Large Bore: 13D - 25D]

Piston type actuator of 90 degree rotation double-cylinder with scotch yoke mechanism for driveshaft

[Double Acting]



[Single Acting]



Operation Type	Double Acting: PN (Air to Open/Air to Close) Single Acting: Reverse Acting PO (Air to Open/Spring to Close)/Direct Acting PC (Air to Close/Spring to Open)
Operating Pressure	0.4 to 0.7MPa (Option: 0.3MPa*)
Ambient Temperature	-10 to 50°C *except frozen condition (Please consult with NDV if the ambient temperature is more than 50°C)
Rotation Angle	Part-turn 0 to 90°
Manual Operation	Manual operating device is installable. (equipped for direct acting types as a standard)
Painting for Actuator	Silver (conforming to RoHS)

\* Refer to pages 29 and 30 for actuator selection tables operated with pneumatic pressure of 0.3 MPa

Refer to a catalog of our "Ball Valves" as well for details of actuators and accessories, etc.



▶ 1-3. Pneumatically Operated ON-OFF Valve

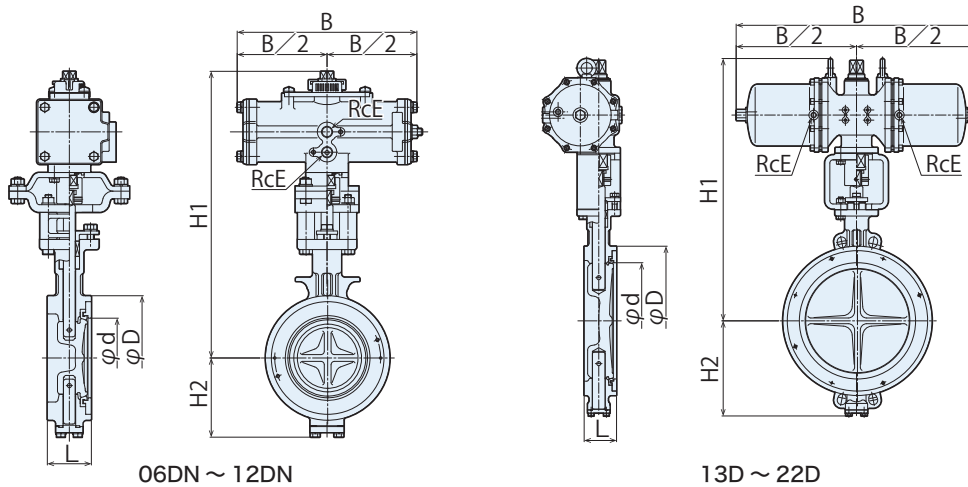
② Actuator Selection Table

Pneumatic operation pressure: 0.4 MPa

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					08DN4		
80										
100									10DN4	
125			08DN				10DN4			
150								12DN4		
200			10DN						13D4	
250			12DN				13D4			
300					13D			18D4		
350		13D								
400			18D					22D4		
450										
500								25D4		
600			22D							

③ Major Dimensions

[Double Acting: KMPN1200]



06DN ~ 12DN

13D ~ 22D

Unit: mm

Nominal Size (DN)	Actuator PN-	d	D	L	B	E	H1	H2	Mass Approx. (kg)
50	06DN	40	92	43	214	1/4	309	64	6.5
65	06DN	55	108	46	214	1/4	319	74	7.0
80	06DN	70	127	46	214	1/4	329	84	7.5
100	06DN	94	147	52	214	1/4	339	94	8.5
125	08DN	119	180	56	266	1/4	400	110	14.5
150	08DN	144	209	56	266	1/4	415	124	16.0
200	10DN	195	265	60	336	1/4	497	183	29.0
250	12DN	244	327	68	420	1/4	577	218	40.0
300	12DN	293	367	78	420	1/4	597	243	44.5
	13D	293	367	78	644	1/4	642	243	60.0
350	13D	328	413	78	644	1/4	714	270	89.0
	18D	328	413	78	758	3/8	781	270	126.0
400	18D	366	470	102	758	3/8	826	300	148.0
450	18D	415	534	114	758	3/8	898	341	176.0
500	18D	463	584	127	758	3/8	928	379	211.0
	22D	463	584	127	988	3/8	1038	379	276.0
550	22D	518	643	154	988	3/8	1078	404	338.0
600	22D	570	692	154	988	3/8	1143	489	388.0

STAINLESS STEEL  
HIGH PERFORMANCE  
BUTTERFLY VALVE: KM200

CAST IRON  
BUTTERFLY VALVE: C201R

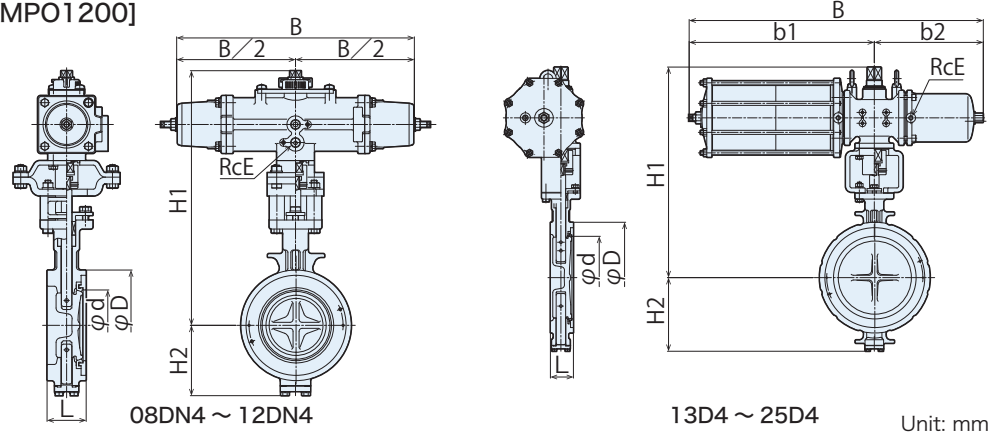
PEA LINED  
BUTTERFLY VALVE: C559N

INTRODUCTION OF  
RELATED PRODUCTS

TECHNICAL  
MATERIALS

SAFETY  
INSTRUCTIONS

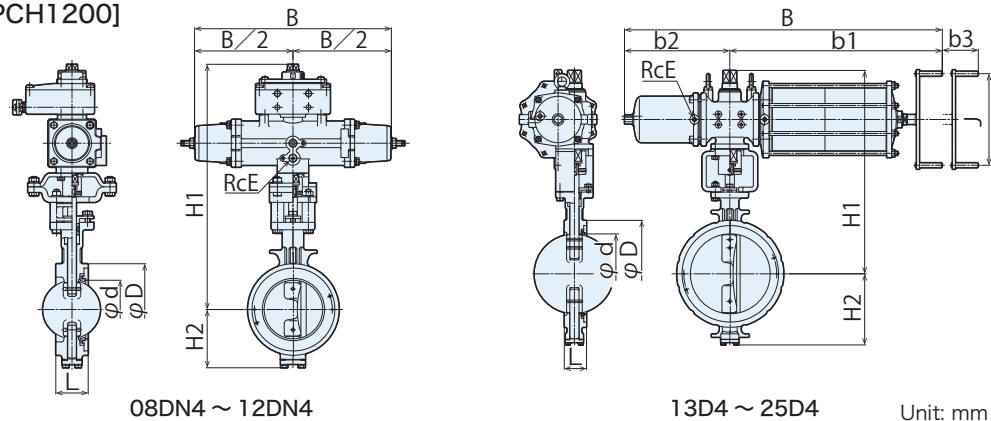
[Reverse Acting: KMPO1200]



Unit: mm

Nominal Size (DN)	Actuator PO-	d	D	L	B	b1	b2	E	H1	H2	Mass Approx.(kg)
50	08DN4	40	92	43	392	-	-	1/4	330	64	11.0
65	08DN4	55	108	46	392	-	-	1/4	340	74	11.5
80	08DN4	70	127	46	392	-	-	1/4	350	84	13.0
100	08DN4	94	147	52	392	-	-	1/4	360	94	14.0
	10DN4	94	147	52	500	-	-	1/4	427	94	24.0
125	10DN4	119	180	56	500	-	-	1/4	447	110	27.0
	12DN4	119	180	56	634	-	-	1/4	478	110	41.0
150	12DN4	144	209	56	634	-	-	1/4	493	124	42.0
	12DN4	195	265	60	634	-	-	1/4	528	183	47.5
200	13D4	195	265	60	869	547	322	1/4	572	183	85.0
	13D4	244	327	68	869	547	322	1/4	622	218	87.0
250	18D4	244	327	68	1013	634	379	3/8	689	218	147.0
	18D4	293	367	78	1013	634	379	3/8	709	243	152.0
300	18D4	328	413	78	1013	634	379	3/8	781	270	181.0
	22D4	328	413	78	1272	778	494	3/8	866	270	241.0
400	22D4	366	470	102	1272	778	494	3/8	911	300	263.0
	22D4	415	534	114	1272	778	494	3/8	1008	341	291.0
450	25D4	415	534	114	1671	1036	635	3/8	1066	341	401.0
	25D4	463	584	127	1671	1036	635	3/8	1096	379	436.0
500	25D4	518	643	154	1671	1036	635	3/8	1136	404	498.0
600	25D4	570	692	154	1671	1036	635	3/8	1201	489	548.0

[Direct Acting: KMPCH1200]



Unit: mm

Nominal Size (DN)	Actuator PCH-	d	D	L	B	b1	b2	b3	E	J	H1	H2	Mass Approx.(kg)
50	08DN4	40	92	43	392	-	-	-	1/4	-	387	64	12.0
65	08DN4	55	108	46	392	-	-	-	1/4	-	397	74	12.5
80	08DN4	70	127	46	392	-	-	-	1/4	-	407	84	14.0
100	08DN4	94	147	52	392	-	-	-	1/4	-	417	94	15.0
	10DN4	94	147	52	500	-	-	-	1/4	-	508	94	28.0
125	10DN4	119	180	56	500	-	-	-	1/4	-	528	110	31.0
	12DN4	119	180	56	634	-	-	-	1/4	-	559	110	45.0
150	12DN4	144	209	56	634	-	-	-	1/4	-	574	124	46.0
	12DN4	195	265	60	634	-	-	-	1/4	-	609	183	51.5
200	13D4	195	265	60	972	650	322	110	1/4	280	572	183	89.0
	13D4	244	327	68	972	650	322	110	1/4	280	622	218	91.0
250	18D4	244	327	68	1139	760	379	128	3/8	460	689	218	153.0
	18D4	293	367	78	1139	760	379	128	3/8	460	709	243	158.0
300	18D4	328	413	78	1139	760	379	128	3/8	460	781	270	187.0
	22D4	328	413	78	1416	922	494	174	3/8	460	866	270	251.0
400	22D4	366	470	102	1416	922	494	174	3/8	460	911	300	273.0
	22D4	415	534	114	1416	922	494	174	3/8	460	1008	341	301.0
450	25D4	415	534	114	1830	1195	635	225	3/8	600	1066	341	411.0
	25D4	463	584	127	1830	1195	635	225	3/8	600	1096	379	446.0
500	25D4	518	643	154	1830	1195	635	225	3/8	600	1136	404	508.0
600	25D4	570	692	154	1830	1195	635	225	3/8	600	1201	489	558.0

# 2 CAST IRON BUTTERFLY VALVE: C201R

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## 2-1. Standard Specifications

- ① Structures and Features
- ② Valve Specifications

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

Major Dimensions

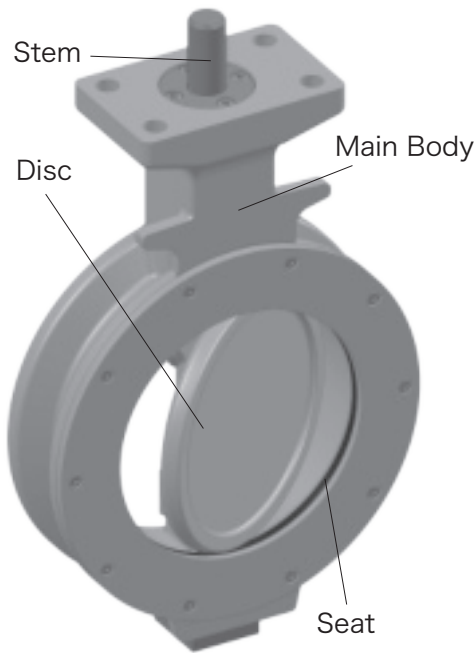
## 2-3. Pneumatically Operated ON-OFF Valve

- ① Actuator Selection Table
- ② Major Dimensions

## 2. CAST IRON BUTTERFLY VALVE: C201R

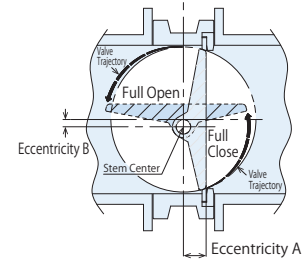
### ▶2-1. Standard Specifications

#### ① Structures and Features



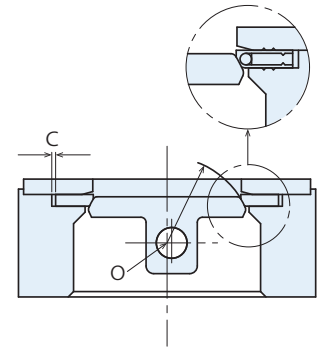
##### ① Long Life Double Off-Center Mechanism

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



##### ② High Performance Centripetal Self-Seal

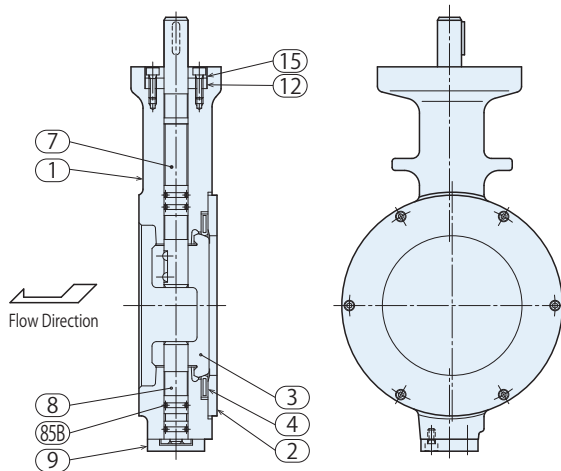
The Disc has a spherical surface with "O" as a center, and outside of it, the seat has a clearance "C". Accordingly, the system can realize a uniform sealing simply by fully closing the valve and setting a seat. In addition, the self-seal mechanism of seat generates the contacting pressure on the sealing surface of disc 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 Disc	FCD450 (Nickel Plated)
4 Seat	NBR, EPDM, PTFE, Reinforced PTFE
7 Stem	SUS420J2
8 Trunnion	SUS420J2
9 Bottom Cap	SS400
12 Packing	NBR, VT
15 Packing Holder	SS400
85B O-ring	NBR, VT

The above represents a typical configuration.

#### ② Valve Specifications

[Standard Specifications]

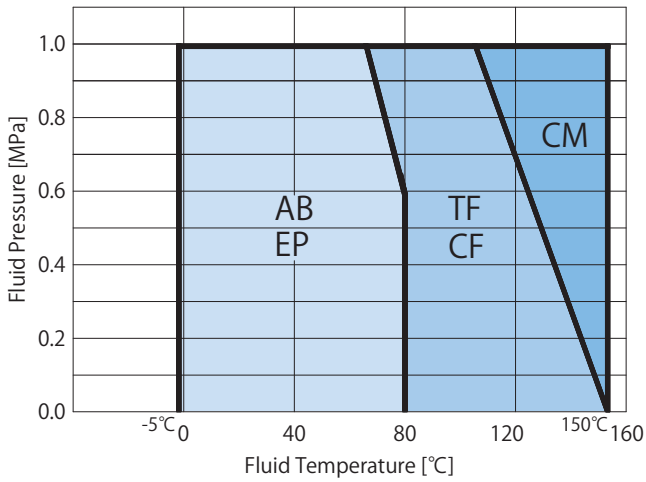
	Valve Type	C201R
Major Parts	Main Body	FC200
	Disc	FCD450 + Nickel Plated
	Seat	Synthetic Rubber Seat: AB(NBR), EP(EPDM) Fluororesin Seat: TF(PTFE + EPDM), CF (Reinforced PTFE with carbon fiber + EPDM), CM (Reinforced PTFE with carbon fiber + SUS304)
	Gland Packing	NBR, EPDM, FKM
	Stem	SUS420J2
Flange 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]



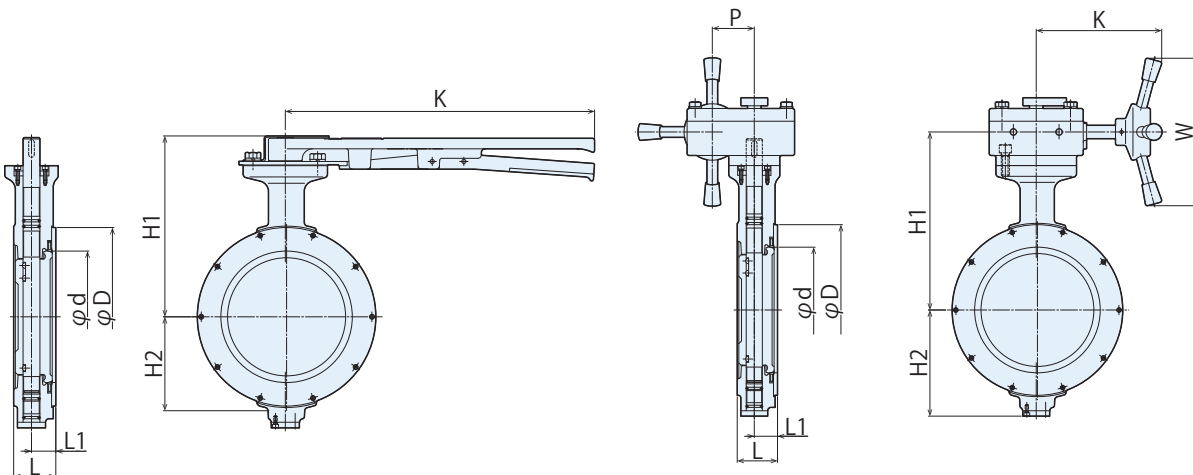
Please contact us if a valve is to be used for vacuum application

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

Major Dimensions

[Lever Handle: CL201R]

[Gear Operation: CG201R]



Unit: mm

Nominal Size (DN)	CL201R								CG201R				
	d	D	L	L1	H2	H1	K	Mass Approx. (kg)	H1	W	K	P	Mass Approx. (kg)
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

Double Acting: PN												
Nominal Size (DN)	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								
80												
100				PN-05DN								
125				PN-06DN								
150												
200				PN-08DN								
250				PN-10DN								
300												
350				PN-12DN								
400							PN-13D					

Pneumatic operation pressure: 0.4 MPa

Reverse Acting: PO												
Nominal Size (DN)	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								
80												
100				PO-08DN4								
125												
150				PO-10DN4								
200				PO-12DN4								
250												
300				PO-13D4								
350												
400				PO-18D4								

Pneumatic operation pressure: 0.4 MPa

Direct Acting: PCH												
Nominal Size (DN)	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								
80												
100				PCH-08DN4								
125												
150				PCH-10DN4								
200				PCH-12DN4								
250												
300				PCH-13D4								
350												
400				PCH-18D4								

STAINLESS STEEL  
HIGH PERFORMANCE  
BUTTERFLY VALVE: KM200

CAST IRON  
BUTTERFLY VALVE: C201R

PPA LINED  
BUTTERFLY VALVE: C559N

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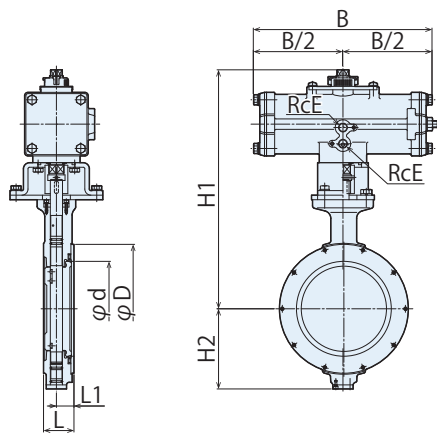
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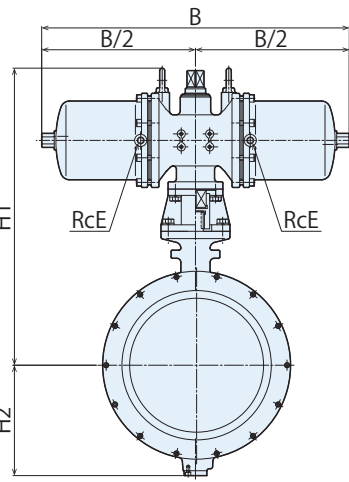
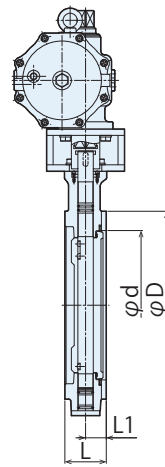
▶2-3. Pneumatically Operated ON-OFF Valve

② Major Dimensions

[Double Acting: CPN1201R]



04DN ~ 12DN



13D ~ 18D

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

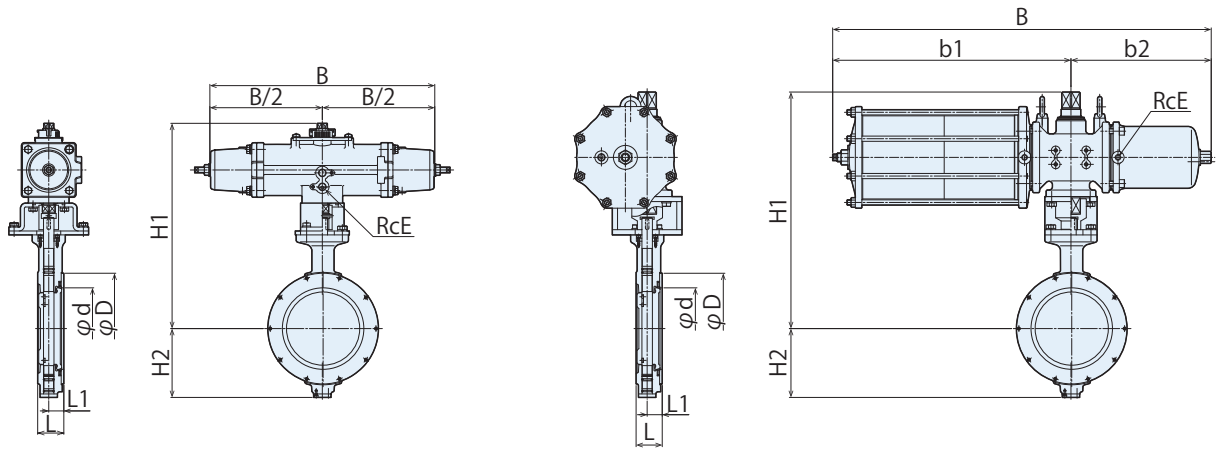
PEA LINED  
BUTTERFLY VALVE: C559N

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[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

STAINLESS STEEL  
HIGH PERFORMANCE  
BUTTERFLY VALVE: KM200

CAST IRON  
BUTTERFLY VALVE: C201R

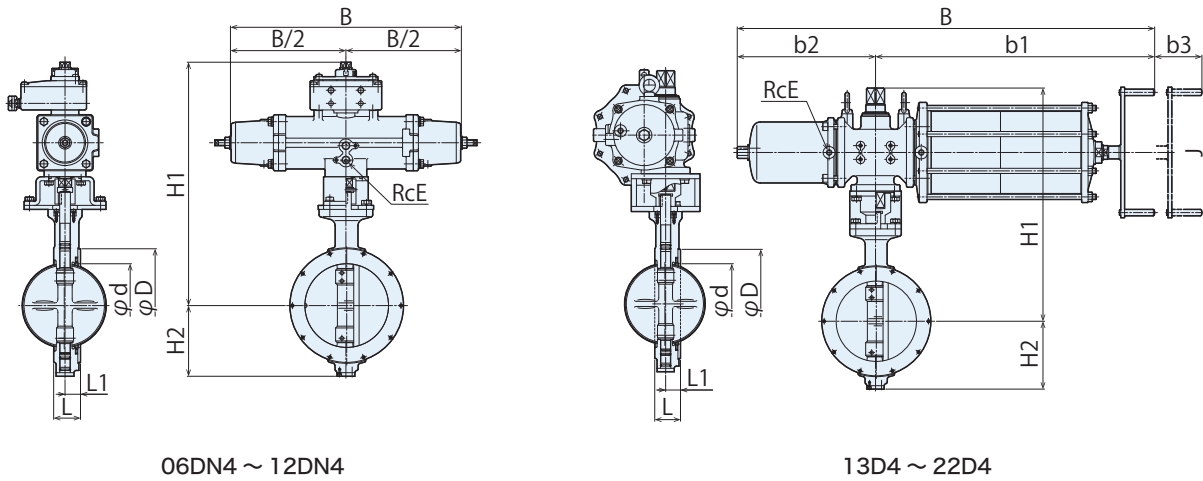
PPA LINED  
BUTTERFLY VALVE: C559N

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[Direct Acting: CPCH1201R]



06DN4 ~ 12DN4

13D4 ~ 22D4

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
250	12DN4	233	320	68	37.4	634	-	-	-	1/4	-	619	190	62.0
	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

STAINLESS STEEL  
HIGH PERFORMANCE  
BUTTERFLY VALVE: KM200

CAST IRON  
BUTTERFLY VALVE: C201R

PPA LINED  
BUTTERFLY VALVE: C559N

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# 3 PFA LINED BUTTERFLY VALVE: C559N

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## 3-1. Standard Specifications

- ① Structures and Features
- ② Valve Specifications

## 3-2. Manually Operated Valve (Lever/Gear)

Major Dimensions

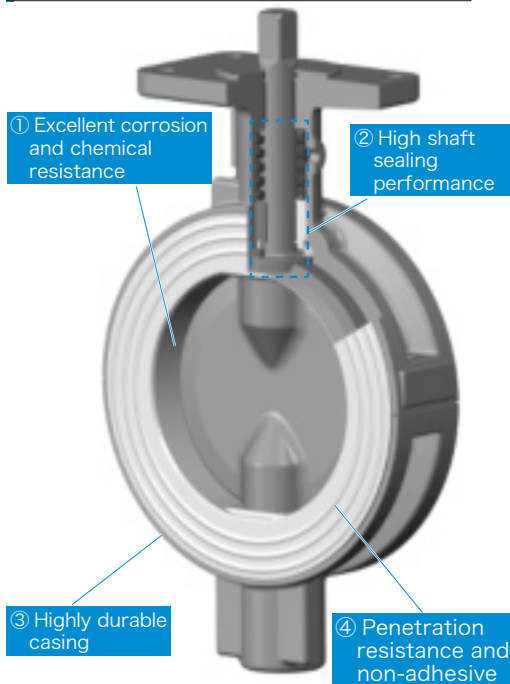
## 3-3. Pneumatically Operated ON-OFF Valve

- ① Actuator Selection Table
- ② Major Dimensions

### 3. PFA LINED BUTTERFLY VALVE: C559N

#### ▶3-1. Standard Specifications

##### ① Structures and Features



##### ① Excellent corrosion and chemical resistance

This is a highly reliable corrosion resistant butterfly valve with a total lining of PFA. Since all components in contact with the fluid are made of PFA, it is resistant to corrosion in most chemicals.

##### ② High shaft sealing performance

It has high sealing performance against thermal cycles and high frequency operation of open and close, since the gland mechanism has self-sealing property and wedge effect. V-packing and coil springs are added to further improve the reliability of sealing performance against external leakage.

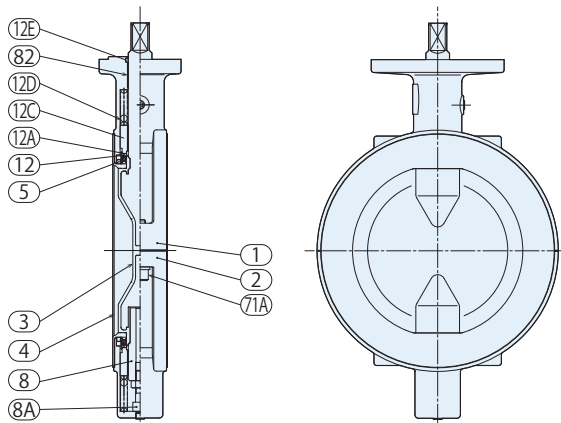
##### ③ Highly durable casing

The casing is made of stainless cast steel. It is resistant to rust and highly durable even in outdoor installation environments.

##### ④ Penetration resistance and non-stick properties

The thick lining makes it reliable in preventing chemical penetration. In addition, due to the characteristics of PFA, the adhesive liquid will not adhere.

[Standard Structural Materials: C559N]



Parts		Material
1	Casing Body A	SCS13A
2	Casing Body B	SCS13A
3	Disc	SCS13A + PFA
4	Liner	PFA
5	Elastomer	SI
8	Lower Stem	SUS304
8A	Cap Screw	SUS304
12	Packing	PTFE
12A	Packing Retaining Ring	SUS304
12C	Bearing Case	SUS304
12D	Coil Spring	SWOSC-V
12E	O-ring	FKM
71A	Cap Screw	SUS304
82	Bearing	SUS316 + PTFE

##### ② Valve Specifications

[Standard Specifications]

Valve Type		C559N
Major Parts	Casing(Body)	SCS13A
	Disc	SCS13A(PFA Lined)
	Liner	PFA
	Stem	SCS13A
	Disc Rotation Type	Center Disc
	Flange Standards	JIS10K, CL150
	Face-to-Face Dimensions	ISO 5752 Short (Basic Series No. 20)
	Nominal Size (DN)	80 - 300
	Pressure Range	0 - 1.0 MPa*1
	Temperature Range	- 40°C - 150°C *2
	Operation Type	Lever operation, Gear operation, Pneumatically Operated ON-OFF Valve*3

\*1 Avoid using for a vacuum application.

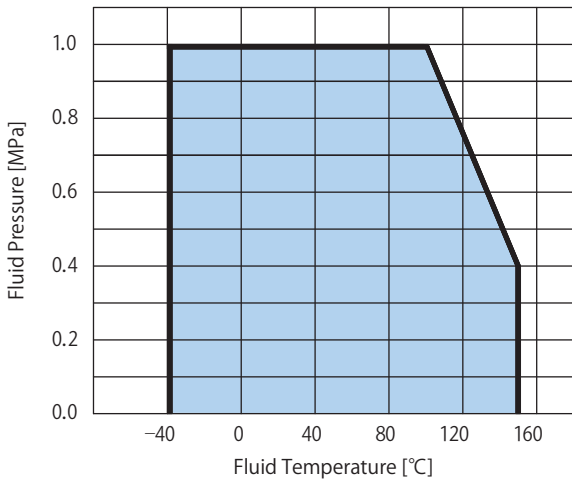
\*2 For continuous use in high temperature range, please contact us.

\*3 Pneumatically operated control valves and electrically operated valves are available as well. Please contact us.

In case of export, export license stipulated in the Foreign Exchange and Foreign Trade Control Law of Japan and/or if necessary, export-related laws and regulations of the United States of America and other countries is required.



[Operating Pressure and Temperature Range]



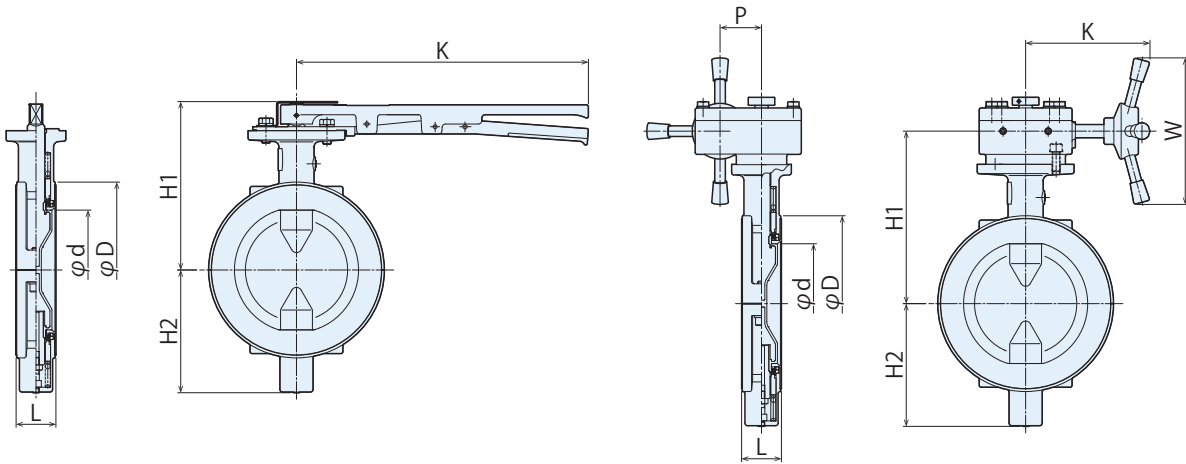
- Avoid using for a vacuum application.
- For continuous use in high temperature range, please contact us.

▶3-2. Manually Operated Valve (Lever/Gear)

Major Dimensions

[Lever Handle: CL559N]

[Gear Operation: CG559N]



Unit: mm

Nominal Size (DN)	d	D	L	H2	CL559N			CG559N				Mass Approx. (kg)
					H1	K	Mass Approx. (kg)	H1	W	K	P	
80	74	130	46	114	160	190	5.0	168	150	130	45	8.0
100	97	155	52	128	186	240	7.5	190	180	160	49	12.0
150	140	215	56	158	224	310	14.5	230	240	190	62.5	21.5
200	188	265	60	185	254	440	19.5	260	240	190	62.5	25.5
250	238	326	68	231	-	-	-	305	300	250	77	41.0
300	288	370	78	286	-	-	-	357	300	250	77	54.0

### ▶3-3. 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

Double Acting: PN						
Nominal Size (DN)	Shutoff Differential Pressure (MPa)					
	0.2	0.4	0.5	0.6	0.8	1.0
80	PN-05DN				PN-06DN	
100		PN-06DN				
150	PN-08DN				PN-10DN	
200		PN-10DN				
250		PN-12DN				
300					PN-18D	

Pneumatic operation pressure: 0.4 MPa

Reverse Acting: PO						
Nominal Size (DN)	Shutoff Differential Pressure (MPa)					
	0.2	0.4	0.5	0.6	0.8	1.0
80	PO-06DN4				PO-08DN4	
100	PO-08DN4				PO-10DN4	
150	PO-10DN4				PO-12DN4	
200	PO-12DN4				PO-13D4	
250	PO-13D4				PO-18D4	
300	PO-18D4				PO-22D4	

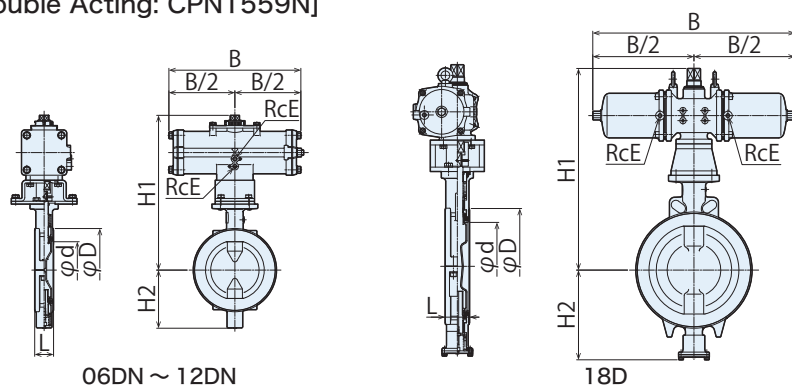
Pneumatic operation pressure: 0.4 MPa

Direct Acting: PCH						
Nominal Size (DN)	Shutoff Differential Pressure (MPa)					
	0.2	0.4	0.5	0.6	0.8	1.0
80	PCH-06DN4				PCH-08DN4	
100	PCH-08DN4				PCH-10DN4	
150	PCH-10DN4				PCH-12DN4	
200	PCH-12DN4				PCH-13D4	
250	PCH-13D4				PCH-18D4	
300	PCH-18D4				PCH-22D4	

### ▶3-3. Pneumatically Operated ON-OFF Valve

#### ② Major Dimensions

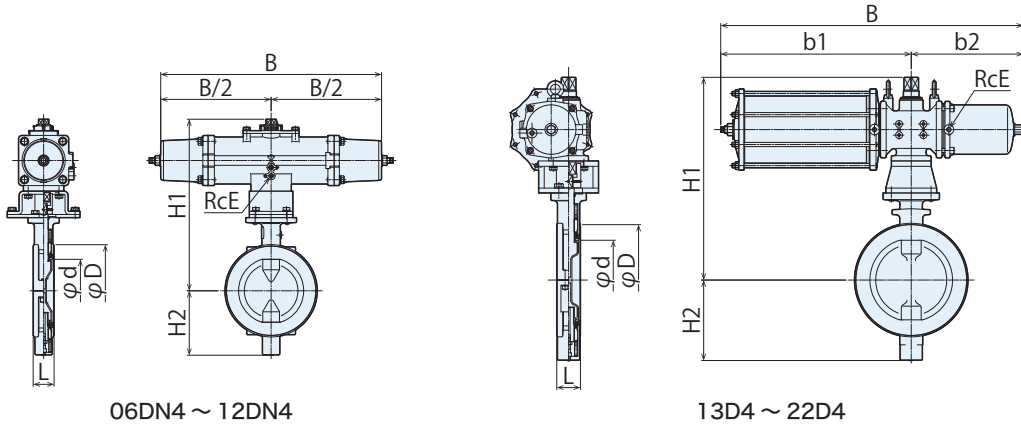
[Double Acting: CPN1559N]



Unit: mm

Nominal Size (DN)	Actuator PN-	d	D	L	B	E	H1	H2	Mass Approx. (kg)
80	05DN	74	130	46	172	1/4	284	114	6.5
80	06DN	74	130	46	214	1/4	300	114	7.5
100	06DN	97	155	52	214	1/4	327	128	9.5
150	08DN	140	215	56	266	1/4	385	158	18.0
150	10DN	140	215	56	336	1/4	432	158	23.5
200	10DN	188	265	60	336	1/4	462	185	28.0
250	12DN	238	326	68	420	1/4	539	231	45.5
300	12DN	288	370	78	420	1/4	601	286	58.5
	18D	288	370	78	758	3/8	708	286	118.0

[Reverse Acting: CPO1559N]



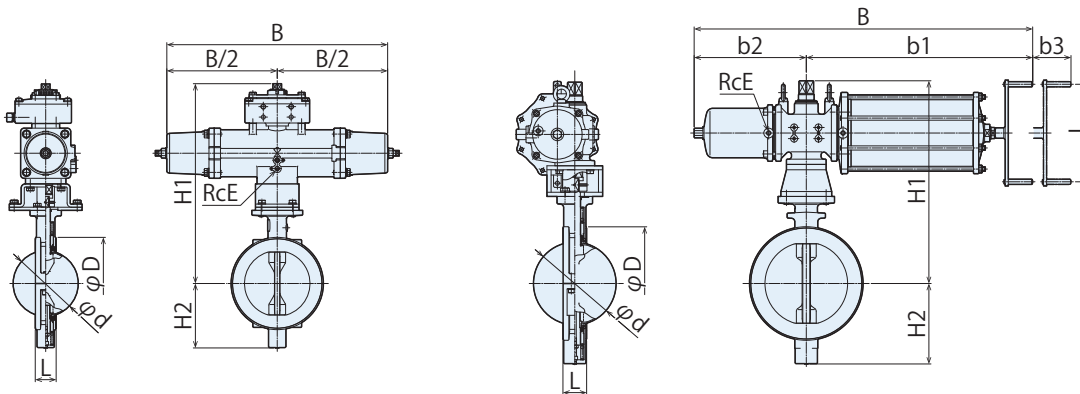
06DN4 ~ 12DN4

13DN4 ~ 22DN4

Unit: mm

Nominal Size (DN)	Actuator PO-	d	D	L	B	b1	b2	E	H1	H2	Mass Approx. (kg)
80	06DN4	74	130	46	314	-	-	1/4	300	114	8.5
	08DN4	74	130	46	392	-	-	1/4	321	114	12.0
100	08DN4	97	155	52	392	-	-	1/4	348	128	14.5
	10DN4	97	155	52	500	-	-	1/4	395	128	21.5
150	10DN4	140	215	56	500	-	-	1/4	432	158	28.0
	12DN4	140	215	56	634	-	-	1/4	463	158	40.5
200	12DN4	188	265	60	634	-	-	1/4	493	185	44.5
	13D4	188	265	60	869	547	322	1/4	538	185	86.5
250	13D4	238	326	68	869	547	322	1/4	582	231	96.0
	18D4	238	326	68	1013	634	379	3/8	648	231	160.5
300	18D4	288	370	78	1013	634	379	3/8	708	286	173.0
	22D4	288	370	78	1272	778	494	3/8	791	286	235.0

[Direct Acting: CPCH1559N]



06DN4 ~ 12DN4

13DN4 ~ 22DN4

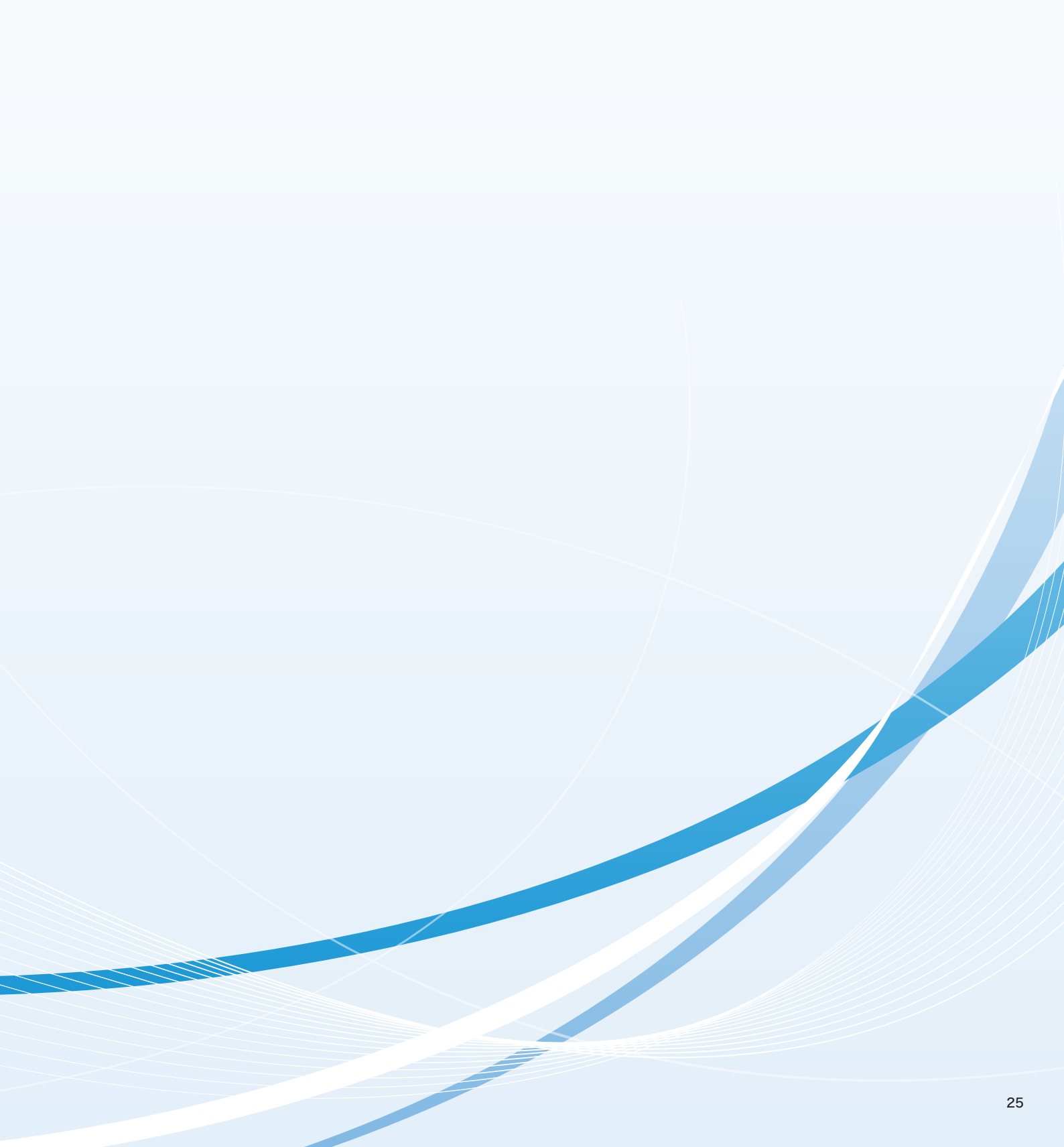
Unit: mm

Nominal Size (DN)	Actuator PCH-	d	D	L	B	b1	b2	b3	E	J	H1	H2	Mass Approx. (kg)
80	06DN4	74	130	46	314	-	-	-	1/4	-	356	114	9.5
	08DN4	74	130	46	392	-	-	-	1/4	-	377	114	13.0
100	08DN4	97	155	52	392	-	-	-	1/4	-	404	128	15.5
	10DN4	97	155	52	500	-	-	-	1/4	-	476	128	25.5
150	10DN4	140	215	56	500	-	-	-	1/4	-	513	158	32.0
	12DN4	140	215	56	634	-	-	-	1/4	-	544	158	44.5
200	12DN4	188	265	60	634	-	-	-	1/4	-	574	185	48.5
	13D4	188	265	60	972	650	322	110	1/4	280	538	185	90.5
250	13D4	238	326	68	972	650	322	110	1/4	280	582	231	100.0
	18D4	238	326	68	1139	760	379	128	3/8	460	648	231	166.5
300	18D4	288	370	78	1139	760	379	128	3/8	460	708	286	179.5
	22D4	288	370	78	1416	922	494	174	3/8	460	791	286	245.0



# 4 INTRODUCTION OF RELATED PRODUCTS

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## 4. INTRODUCTION OF RELATED PRODUCTS

### ▶4. Introduction of Related Products

#### ① [Powder & Granular Product Discharging] Sanitary Butterfly Valves

##### [Features]

- The main parts are made of stainless steel and the wetted parts are #400 buffed finish, which eliminates the adhesion of powder and granules and provides excellent cleanability.
- 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	Ferrule connection DN100(4.5S), 125(5.5S), 150(6.5S), 200 : based on ISO/IDF DN250, 300 : for discussion

- \*Contact us for manufacturing of pneumatically operated ON-OFF valves.
- \*Applicable only for powder & granular discharging(not applicable to liquids).



#### ② [Tablet Discharging] Sanitary Dampers

##### [Features]

- The main parts are made of #300 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 tables 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

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**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**

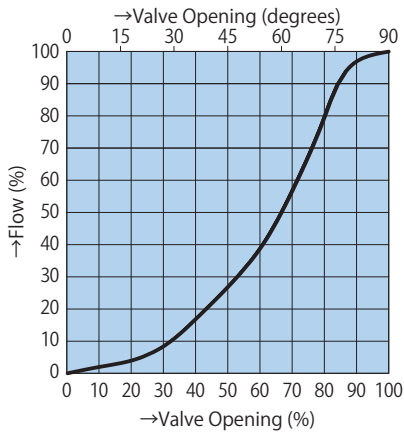
# 5. TECHNICAL MATERIALS

## ▶5-1. Cv-value

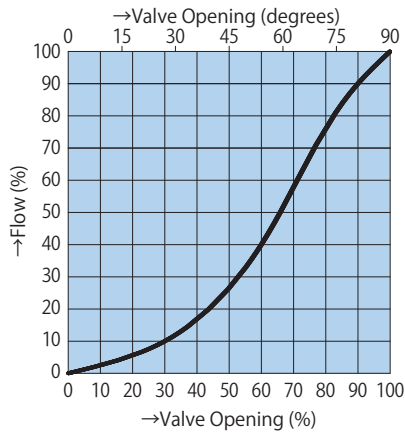
Nominal Size (DN) \ Valve Type	50	65	80	100	125	150	200	250	300	350	400	450	500	600
KM200	60	100	190	380	730	1,250	2,400	4,000	5,800	7,400	9,400	12,000	14,800	22,100
C201R	-	153	244	390	640	870	1,700	2,810	4,170	5,300	6,720	-	-	-
C559N	-	-	280	480	-	1,060	2,100	3,500	5,200	-	-	-	-	-

## ▶5-2. Inherent Flow Characteristic

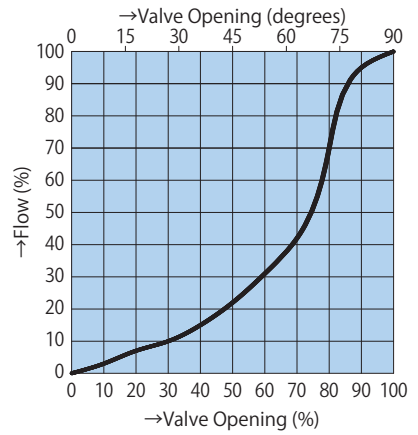
•KM200



•C201R



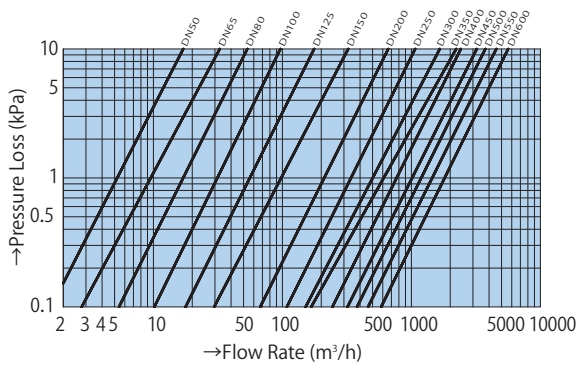
•C559N



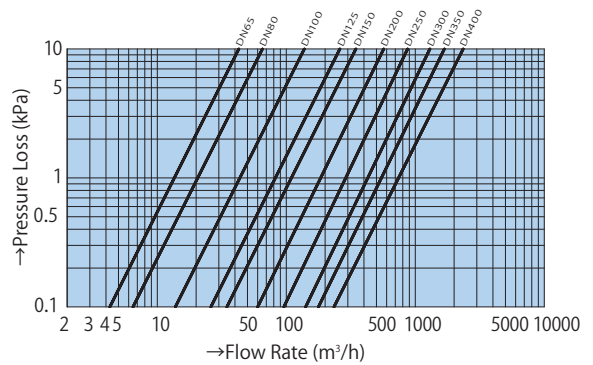
\* Above graphs indicate the characteristics for nominal size 200.

## ▶5-3. Pressure Loss

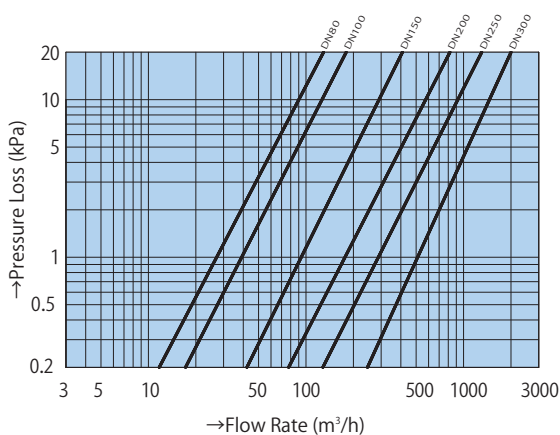
•KM200



•C201R



•C559N



STAINLESS STEEL  
HIGH PERFORMANCE  
BUTTERFLY VALVE: KM200

CAST IRON  
BUTTERFLY VALVE: C201R

PPA LINED  
BUTTERFLY VALVE: C559N

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►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							
450							25D3			
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							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	

STAINLESS STEEL  
HIGH PERFORMANCE  
BUTTERFLY VALVE: KM200

CAST IRON  
BUTTERFLY VALVE: C201R

PPA LINED  
BUTTERFLY VALVE: C559N

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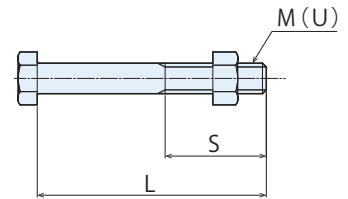
● C559N

Double Acting: PN					
Nominal Size (DN)	Shutoff Differential Pressure (MPa)				
	0.2	0.4	0.6	0.8	1.0
80	PN-05DN			PN-06DN	
100	PN-06DN			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, C559N

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

### [C559N: Fundamental System of Product Codes]

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

① ② ③ \* ④ ⑤ ⑥

#### C559N (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

\*Improved product ID code (To be determined at the time of valve selection. Requires no selection by customer.)

None	First time
N	First improvement

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.



# 6 SAFETY INSTRUCTIONS

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## 6. SAFETY INSTRUCTIONS

### 1. Precautions for Selection of Valves

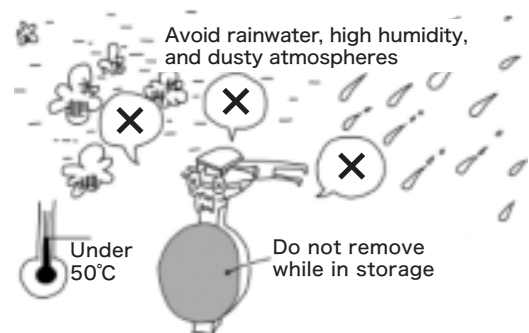
- (1) The range of use for the products in this catalog is specified in accordance with official standards and our company's standards. Please check the conditions for use (fluids, pressure, temperature, etc.) and select the optimum product.
- (2) Please check the conditions for use (fluid name and temperature) 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.

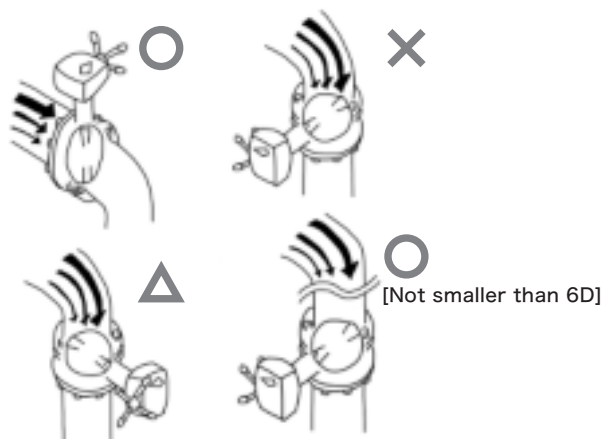


Fig. 1.

- (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 C559N (PFA Lined).
- (11) When installing a valve on pipework, check for no interference of valve disc 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 (disc) sealing surface or piping end surfaces, etc.

- The ISO 9001 · 14001 certified

 **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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<https://www.ndv.co.jp/english/index.html>

