

5410

1.0MPa(50 to 600mm) SERIES

5400

2.0MPa(50 to 600mm) SERIES

5452

5.0MPa(80 to 450mm) SERIES

HIGH PERFORMANCE BUTTERFLY VALVES



541TK-C



5422-G

PAT PENDING

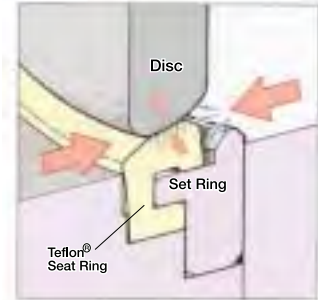
A Leading-edge butterfly valve for high-performance flow control at:

Service temperature range of

-50°C to 450°C

Self-sealing mechanism ensures tight shutoff.

As illustrated below, fluid pressure to the disc and seat ring ensures a secure seal; in other words, the higher the pressure, the better the sealing performance. The sealing performance remains unchanged even when the flow direction changes from one way to the other.



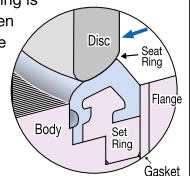
Three types of seat rings to cover a wide variety of applications.

Seat rings of synthetic rubber, Teflon® and metal are available for effective control of any type of fluid, from slurry/sludge and chemical solutions to high-pressure steam.

541R 5421

The Synthetic Rubber Seat Ring (FKM150°C, EPDM120°C)

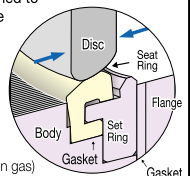
The synthetic rubber seat ring is ideal for abrasive solid-laden fluids and high-temperature fluids of up to 150°C (302°F), (eg. Water, compressed air, crude oil, food stuffs, slurry, sludge) which are difficult to control with conventional butterfly valves.



541T 5422 5452

Teflon® Seat Ring (PTFE -50 to 230°C)

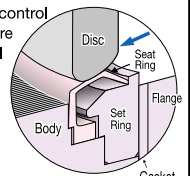
The Teflon® seat ring is designed to withstand extremely corrosive chemical solutions and high-temperature fluids of up to 230°C (446°F), (eg. demineralized water, air-conditioning chilled/hot water, sea water, white liquor, formaldehyde solution, organic solvent, compressed air, oxygen, exhaust gas, town gas, coke-oven gas)



541M 5423

Metal Seat Ring (SUS316 450°C)

The metal seat ring allows control of extremely high-temperature fluids, and replaces conventional gate valves, globe valves, and ball valves. (eg. steam, compressed air)

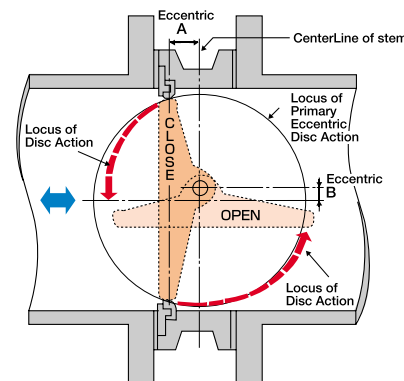


OKM 54 Series is a high-performance butterfly valve designed for extreme temperature, high pressure and vacuum conditions that are unsuitable for conventional universal butterfly valves. The 54 Series features a self-sealing seat ring, double eccentric disc, and a choice of three seat rings. It outperforms ball valves and gate valves and can perfectly seal fluids such as corrosive slurry and high-pressure steam.

Double eccentric disc ensures longer service life, low seating torque and leak-tight shutoff.

Since the stem is eccentric from the seat ring (as indicated by A and B), the disc is in contact with the seat ring only when the valve is completely closed. The benefits from the double eccentric disc design include:

- Longer service life due to hard-to-wear seat ring.
- When in the closed position, the force of the disc on the seat ring ensures complete sealing.
- Easy operation with less seating torque.
- The offset stem design allows easy replacement of the seat ring without removing the stem.



Standard Specifications

■5410 Series

Model	541RK		541TK	541TH	541MK	541MH
Seat Ring	FKM	EPDM	PTFE	PTFE	SUS316	SUS316
Size	80 to 600	80 to 600	50 to 600	50 to 600	80 to 600	80 to 600
Applicable Flange Std.	JIS 5K / 10K ^{*1}					
Max.Service Pressure	1.0MPa					
Service Temperature Range						
Without Insulation	− 10 to 120℃	− 20 to 120℃	− 29 to 232℃	− 50 to 232℃	− 29 to 232℃	− 50 to 232℃
With Insulation	121 to 150℃	—	—	—	—	233 to 300℃ ^{*3}
Hydrostatic Shell Test	1.5MPa					
Hydrostatic Seat Test	1.1MPa					
Face To Face	International Standard (ISO) Dimension between Shorter Faces					
Seat Leakage	Tight Shutoff				Tight Shutoff ^{*2}	
Actuator	Lever-Operated,Worm-Gear,Pneumatic-Cylinder,Electric-Motor					
Coating	Lacquer Paint Munsell N-5(Gray).For high-temperature specifications heat-resistant silver is coated except on the stainless steel part.					

^{*1} : For ANSI 125/150Lb. Contact us for assistance separately.

^{*2} : Applicable to the MSS SP-61 standard.

^{*3} : The long yoke mechanism is employed for temperatures between 301 and 450°C

■5400 Series

Model	5421		5422	5423	5452
Seat Ring	The Synthetic Rubber		Teflon®	Metal	Teflon®
Size	80 to 300 300 to 600 ^{*2}		50 to 300 350 to 600	80 to 300 350 to 600 ^{*2}	80 to 450
Applicable Flange Std.	JIS 10K / 16K / 20K , ANSI 125 / 150Lb etc.				JIS 16K / 20K / 30K / 40K , ANSI 150Lb / 300Lb
Max.Service Pressure	2.0MPa				5.0MPa
Service Temperature Range	FKM	EPDM	PTFE	SUS316	R-PTFE
Without Insulation					-50°C ~ 230°C
With Insulation	-10 to 150°C	—	-50 to 232°C	Max. 450°C	
Hydrostatic Shell Test	3.0MPa				7.4MPa
Hydrostatic Seat Test	2.2MPa				5.4MPa
Face To Face	International Standard (ISO) Dimension between Shorter Faces				ISO Standard (short) 80 to 150mm ISO Standard (long) 200 to 450mm
Seat Leakage	Tight Shutoff		Tight Shutoff	Tight Shutoff ^{*1}	Tight Shutoff
Actuator	Lever-Operated, Worm-Gear, Pneumatic-Cylinder, Electric-Motor				Worm-Gear, Pneumatic-Cylinder, Electric-Motor
Coating	For high-temperature specifications heat-resistant silver is coated except on the stainless steel part.				

^{*1} : Applicable to the MSS SP-61 standard.

^{*2} : 550mm is not available.

Teflon® is manufactured by Mitsui-Dupont Fluoro Chemical.

Standard Specifications

Part Name	541 R · T · M K	541 R · T · M H
Gland Structure	V-Packng (PTFE) Spec	Gland Packing Spec (PTFE , Graphite Foil)
Body	SCS13A,14A,16A	
Disc	SCS13A,14A,16A	
Set Ring	SUS304 , SUS316 , SUS316L	
Rubber Seat Ring	541-R□	FKM , EPDM
Teflon® Seat Ring	541-T□	PTFE(White) , R-PTFE(Black)
Metal Seat Ring	541-M□	SUS316
Stem	SUS304 , SUS316 , SUS316L	

※The standard material of the body and valve element is SCS13A, and that of the stem is SCS14A and SCS16A. contact us for assistance separately.
 ※The disc of Model 541T (metal seat ring) has a plating finish.
 ※The EPDM seat ring is not used for fluids with oil.
 ※Be sure to inform us of fluid name, and temperature when you place an order.

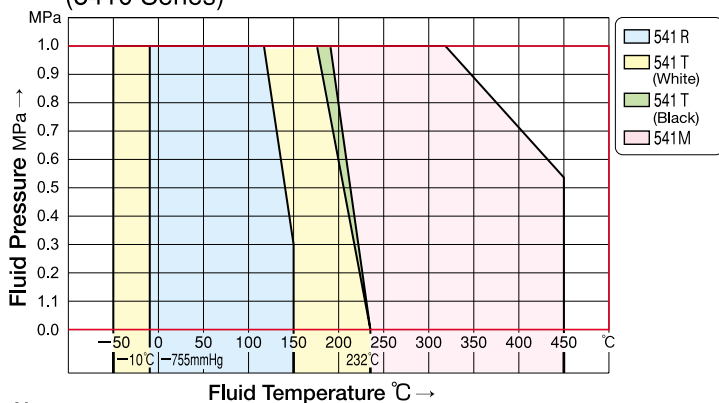
Standard Specifications

Part Name		5421	5422	5423 ※5
Body		SCPH2 , SCS13 ※1 , SCS14 ※2		
Disc ※3		SCS13 ※1 , SCS14 ※2		
Set Ring		SUS304		SUS316
Rubber Seat Ring	5421	FKM , EPDM		
Teflon® Seat Ring ※4	5422	PTFE(White) , R-PTFE(Black)		
Metal Seat Ring	5423	SUS316 + Metal Plating		
Stem		SUS630		

※1: Size range: 80 to 600 mm
 ※2: In 50 mm and 60 mm sizes. Teflon® and SCS14 only.
 ※3: Plating for 5423 only.
 ※4: Contact us for models with high polymer polyethylene seats.
 ※5: Contact us if using model 5423 at a high temperature exceeding 230°C (446°F)

Part Name	5452
Body	SCS13
Disc	SCS13
Set Ring	SUS304
Seat Ring	R-PTFE(Black)
Stem	SUS630

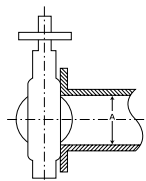
Temperature and Pressure Ratings (5410 Series)



Note:

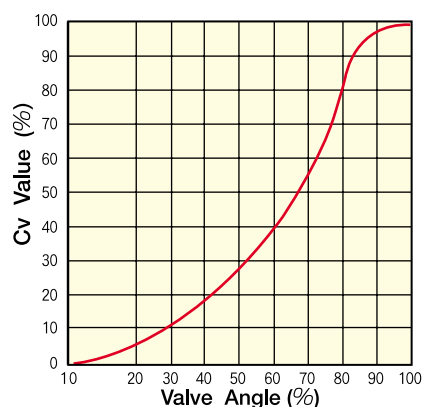
1. If the fluid temperature is 230°C or above for 5423, contact to our sales staff.
2. Contact us regarding specifications for extremely low temperatures, degree of vacuum, and borderline ratings.
3. 5422 WHITE PTFE Max 150°C / R-PTFE Max 230°C.

Min. Internal Diameters Of Piping



Nominal Size (mm)	Min. Internal Diameters Of Piping A	Nominal Size (mm)	Min. Internal Diameters Of Piping A
50	φ 27.3	150	φ 137.7
65	47.8	200	192.3
80	64.9	250	241.6
100	81.5	300	290.5
125	110.6		

Flow Characteristics



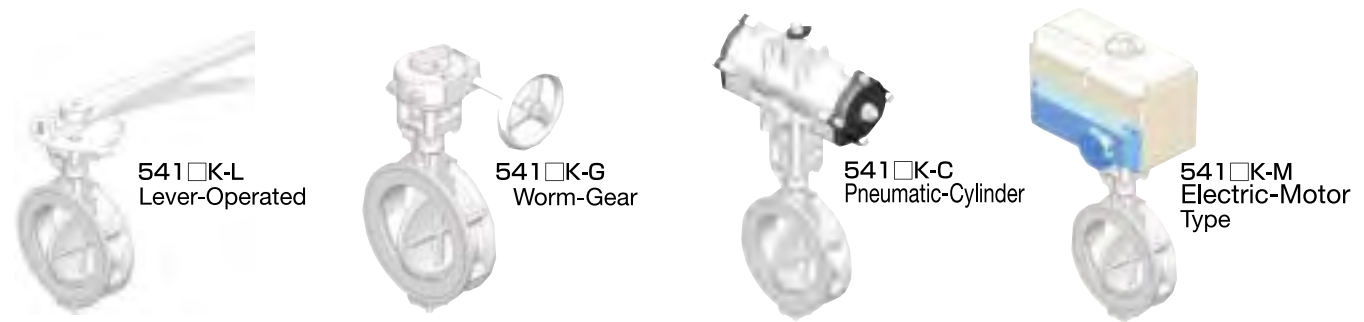
Cv Values with Valve Fully Open

Size (mm)	10/20W.O.G
※ 50	60
※ 65	100
80	190
100	380
125	730
150	1250
200	2400
250	4000
300	5800
350	7600
400	9200
450	11900
500	14200
※ 550	17000
600	21700

※Model 541T/5422 only

● **Dimensions** ※Shapes vary according to saizes. ※Contact your OKM representative for the dimensions the 5452 model.

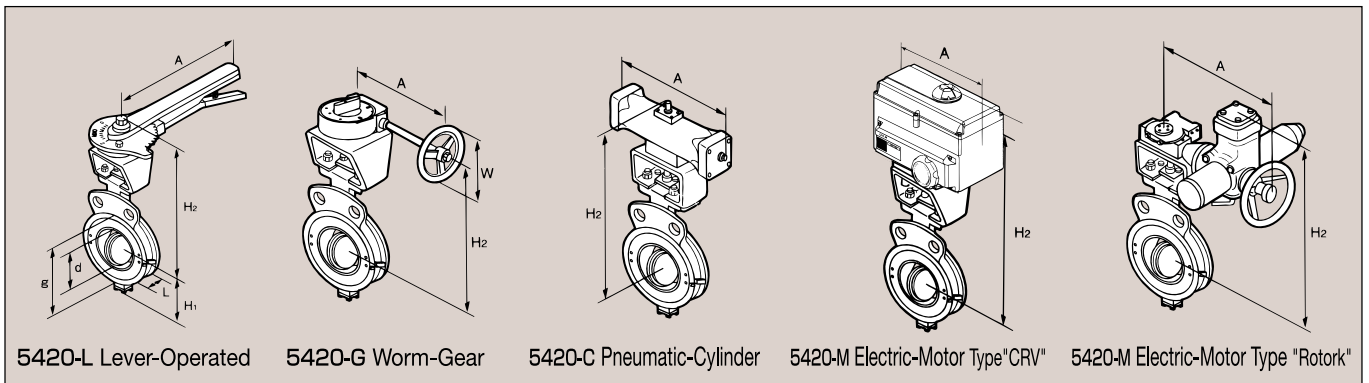
■ **5410 Series-K Specification Max.Service Pressure:1.0MPa (Max.Service Temperature:232°C) Standard**



Nominal Size		L	d	g	H ₁	541□ K-L Lever-Operated			541□ K-G Worm-Gear			541□ K-C Pneumatic-Cylinder			541□ K-M Electric-Motor		
inch	mm					H ₂	A	Weight	H ₂	A	Weight	H ₂	A	Weight	H ₂	A	Weight
2	50	43	40	92	62	179	160	3.7	169	141	5.3	289	236	5.4	311	180	7.5
2½	65	46	55	108	72	189	160	4.2	179	141	5.8	299	236	5.9	321	180	8.0
3	80	46	70	127	82	199	200	4.9	189	141	6.4	309	236	6.5	382	277	15.1
4	100	52	94	147	92	209	200	5.7	199	141	7.2	343	276	8.3	392	277	15.9
5	125	56	119	180	109	248	360	10.5	220	182	11.3	410	342	14.5	412	277	18.1
6	150	56	144	209	123	263	360	11.8	235	182	12.6	425	342	15.8	427	277	20.2
8	200	60	195	265	180	—	—	—	271	211	20.6	474	420	25.6	482	301	29.2
10	250	68	244	327	215	—	—	—	330	255	31.6	564	506	36.6	532	301	31.6
12	300	78	293	367	240	—	—	—	350	255	36.2	584	506	41.2	561	345	47.2

(Size : mm , Weight : kg) ※Please contact us for sizes of 350 mm or more.

■ **5400 Series Specification Max.Service Pressure:2.0MPa (Max.Service Temperature:232°C)**



Nominal Size		L	d	g	H ₁	Lever-Operated			Worm-Gear				Pneumatic-Cylinder			Electric-Motor "CRV"			Electric-Motor "Rotork"		
inch	mm					H ₂	A	Weight	H ₂	A	W	Weight	H ₂	A	Weight	H ₂	A	Weight	H ₂	A	Weight
2	50	43	40	94	67	249	260	4.0	228	141	100	5.8	348	234	7	376	138	13	—	—	—
2½	65	46	55	108	74	264	260	5.0	243	141	100	6.8	363	234	10	391	138	14	—	—	—
3	80	46	70	125	82	272	260	8.0	252	182	125	10	402	284	12	399	138	15	—	—	—
4	100	52	94	155	92	282	260	9.0	262	182	125	12	412	284	13	409	138	16	—	—	—
5	125	56	119	180	119	332	360	15.0	304	211	160	17	491	362	20	461	138	19	—	—	—
6	150	56	144	209	132	345	360	18.0	317	211	160	19	522	420	26	489	106	24	—	—	—
8	200	60	195	265	169.5	—	—	—	349	255	200	35	598	516	46	508	106	29	723	392	70
10	250	68	244	319	224	—	—	—	407	335	315	58	656	516	66	—	—	—	674	416	90
12	300	78	293	367	259	—	—	—	477	320	315	79	762	664	134	—	—	—	725	416	101
14	350	78	328	413	313	—	—	—	530	331	355	122	844	755	160	—	—	—	770	543	140
16	400	102	366	470	343	—	—	—	580	331	355	160	970	1,060	255	—	—	—	835	587	205
18	450	114	415	534	375	—	—	—	620	392	450	196	1,012	1,060	297	—	—	—	875	587	240
20	500	127	463	584	409	—	—	—	790	513	560	255	1,072	1,060	325	—	—	—	970	576	315
22	550	154	518	643	429	—	—	—	820	549	630	340	1,235	1,360	480	—	—	—	1,005	576	365
24	600	154	570	692	479	—	—	—	870	549	630	375	1,285	1,360	585	—	—	—	1,055	576	400

(Size : mm , Weight : kg) ※The height dimension is subject to change if fluid temperature is 300°C or above.