

# 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

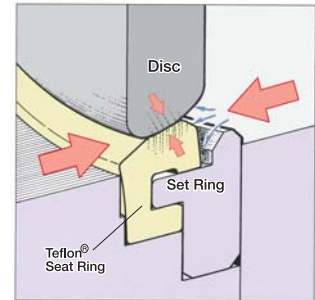
## A Leading-edge butterfly valve for high-performance flow control at:

Service temperature range of

# -50°C to 400°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.



541TK-G



22-G

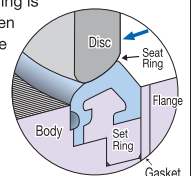
### Three types of seat rings to cover a wide variety of applications.

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)

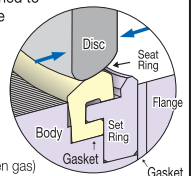
The synthetic rubber seat ring is ideal for abrasive solid-laden fluids and high-temperature fluids of up to 150°C (302°F), (eg. Water, compressed air, crude oil, food stuffs, slurry, sludge) which are difficult to control with conventional butterfly valves.



### 541T 5422 5452

Teflon® Seat Ring (PTFE -50 to 230°C)

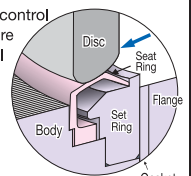
The Teflon® seat ring is designed to withstand extremely corrosive chemical solutions and high-temperature fluids of up to 230°C (446°F), (eg. demineralized water, air-conditioning chilled/hot water, sea water, white liquor, formaldehyde solution, organic solvent, compressed air, oxygen, exhaust gas,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



### 541M 5423

Metal Seat Ring (SUS316 400°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)



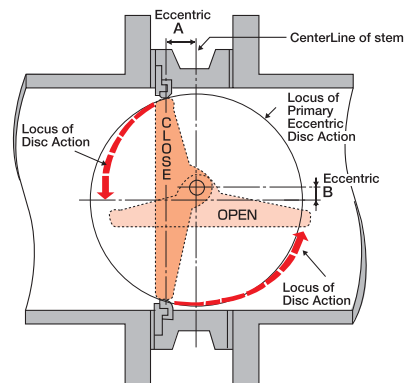
PAT PENDING

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	541R		541T	541M
Seat Ring	FKM	EPDM	PTFE	SUS316
Size	50 to 600		50 to 600	80 to 600
Applicable Flange Std.	JIS 5K / 10K <sup>※1</sup>			
Max. Service Pressure	1.0MPa			
Service Temperature Range				
Without Insulation	-10 to 120°C	-20 to 120°C	-29 to 232°C	-29 to 232°C
With Insulation	-10 to 150°C	—	-50 to 232°C	-50 to 400°C
Hydrostatic Shell Test	1.5MPa			
Hydrostatic Seat Test	1.1MPa			
Face To Face	International Standard (ISO 5752) Dimension between Shorter Faces			
Seat Leakage	Tight Shutoff			Tight Shutoff <sup>※2</sup>
Actuator	Lever-Operated, Worm-Gear, Pneumatic-Cylinder, Electric-Motor			
Coating	Heat-resistant silver except on the stainless steel part.			

※1 : For ASME 125/150Lb. Contact us for assistance separately.  
 ※2 : Applicable to the MSS SP-61 standard.  
 ※3 : The long yolk mechanism is employed for temperatures between 301 and 400°C

**5400 Series**

Model	5421		5422	5423	5452
Seat Ring	The Synthetic Rubber		Teflon®	Metal	Teflon®
Size	80 to 600 <sup>※2</sup>		50 to 600 <sup>※2</sup>	80 to 600 <sup>※2</sup>	80 to 450
Applicable Flange Std.	JIS 10K / 16K / 20K , ASME 125 / 150Lb etc.				JIS 16K / 20K / 30K / 40K , ASME 150Lb / 300Lb
Max. Service Pressure	2.0MPa				5.0MPa
Service Temperature Range	FKM	EPDM	PTFE	SUS316	R-PTFE
Without Insulation	-10 to 120°C	-20 to 120°C	-29 to 230°C	Max. 230°C <sup>※3</sup>	-50°C to 230°C
With Insulation	-10 to 150°C	—	-50 to 230°C	Max. 400°C	
Hydrostatic Shell Test	3.0MPa				7.5MPa
Hydrostatic Seat Test	2.2MPa				5.5MPa
Face To Face	International Standard (ISO 5752) Dimension between Shorter Faces				ISO Standard (short) 80 to 150mm ISO Standard (long) 200 to 450mm
Seat Leakage	Tight Shutoff		Tight Shutoff	Tight Shutoff <sup>※1</sup>	Tight Shutoff
Actuator	Lever-Operated, Worm-Gear, Pneumatic-Cylinder, Electric-Motor				Worm-Gear, Pneumatic-Cylinder, Electric-Motor
Coating	Heat-resistant silver except on the stainless steel part.				

※1 : Applicable to the MSS SP-61 standard.  
 ※2 : 550mm is not available.  
 ※3 : More than 230°C, please consult with OKM oversea div.

NOTE: These models are not suitable for palm oil application.  
 Model No.54mp is recommended for palm oil application.

## Standard Specifications

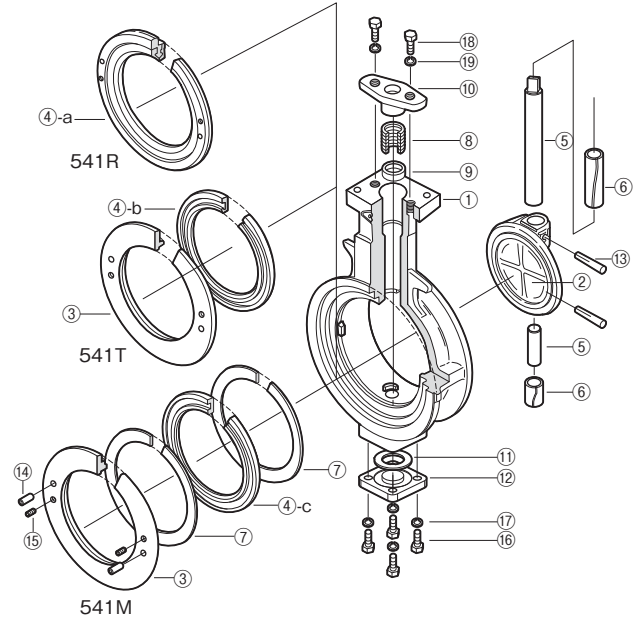
Part Name		5410 Series	
		50 to 300	350 to 600
①	Body	SCS13A	
②	Disc	SCS13A	
③	Set Ring	SCS13A	SUS304
④-a	Rubber Seat Ring 541R	FKM · EPDM	
④-b	Teflon® Seat Ring 541T	PTFE(White),R-PTFE(Black)	
④-c	Metal Seat Ring 541M	SUS316 + Metal Plating	
⑤	Stem	SUS304	
⑥	Bushing	SUS316 + PTFE	
⑦	Gasket	asbestos-Free	
⑧	Gland packing	PTFE	
⑨	Packing washer	SUS304	SUS316
⑩	Gland	SCS14A	SUS304
⑪	Bottom gasket	asbestos-Free	
⑫	Bottom cover	SCS13A	SUS304
⑬	Taper pin	SUS304	SUS630
⑭	Set pin	SUS420J2	SUS304
⑮	Hexagon socket set screws	SUS304	
⑯	Hexagon bolt	SCM435(PLATED)	
⑰	Spring washer	SUS304	
⑱	Grand bolt	SUS304	

\*The disc of Model 541T(metal seat ring)has a plating finish.

\*In case of flow media contains oil or oil material, EPDM seat cannot be applicable.

\*Be sure to inform us of fluid name,and temperature when you place an order.

## Internal structure



## Standard Specifications

Part Name	5421	5422	5423 <sup>**5</sup>
Body	SCPH2 , SCS13 <sup>※1</sup>		SCS14 <sup>※2</sup>
Disc <sup>※3</sup>	SCS13 <sup>※1</sup>		SCS14 <sup>※2</sup>
Set Ring	SUS304		SUS316
Seat Ring	FKM , EPDM		
Rubber Seat Ring 5421	FKM , EPDM		
Teflon® Seat Ring <sup>※4</sup> 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.

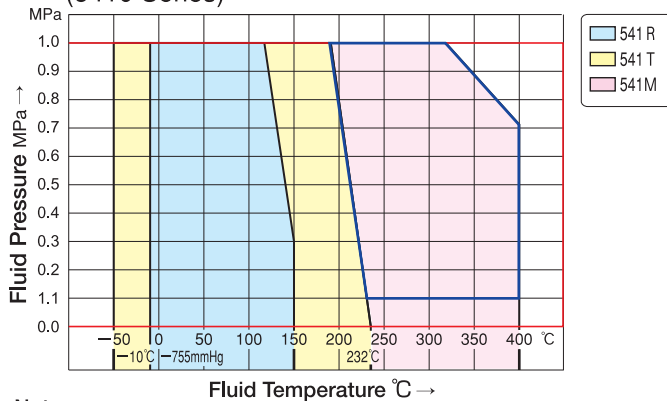
※3: Plating for 5423 only.

※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

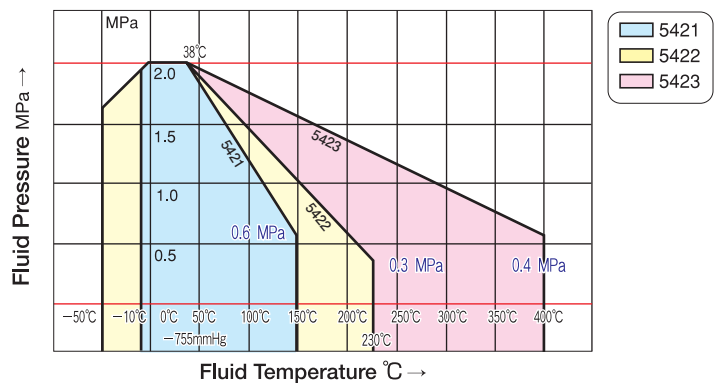
## Temperature and Pressure Ratings (5410 Series)



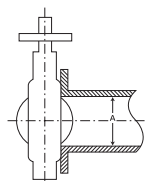
Note:

- Please contact to us, in case of using under condition such as extremely-low temperature, vacuume and in the vicinity of temperature and pressure rating. Seat ring(white) for 541T contains filler content equivalent to reinforced PTFE, however, in case of using under saturated vapor condition, please use black reinforced PTFE(RPTFE)
- Using butterfly valve with automatic actuator(pneumatic/electric) in the range of frame, model shall be 5423.

## Temperature and Pressure Ratings (5400 Series)

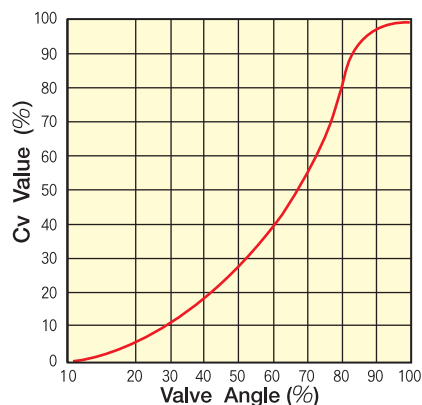


## Min. Internal Diameters Of Piping



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 sizes. ※Contact your OKM representative for the dimensions the 5452 model.

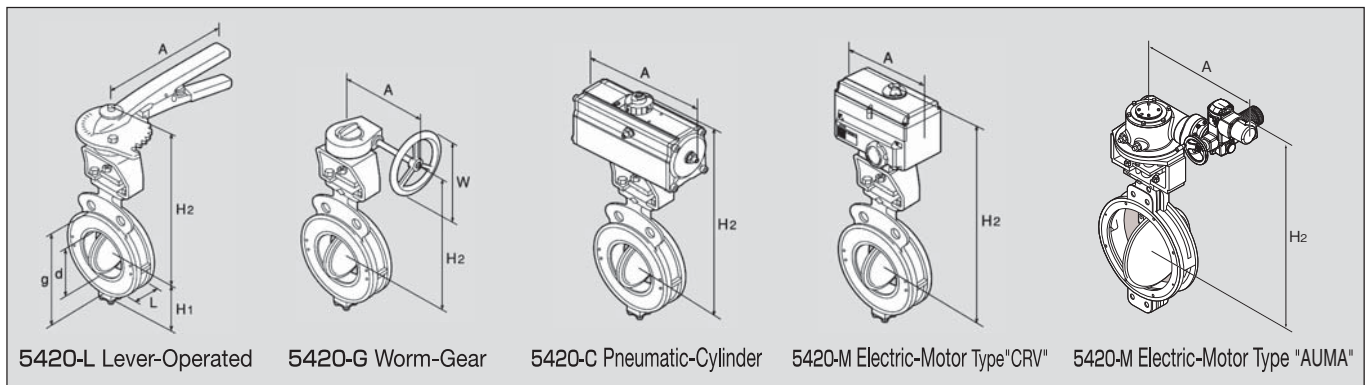
■ **5410 Series Specification Max.Service Pressure:1.0MPa ( Max.Service Temperature:232°C) Standard**



Nominal Size		L	d	g	H <sub>1</sub>	541□-L Lever-Operated			541□-G Worm-Gear			541□-C Pneumatic-Cylinder			541□-M Electric-Motor		
inch	mm					H <sub>2</sub>	A	Weight	H <sub>2</sub>	A	Weight	H <sub>2</sub>	A	Weight	H <sub>2</sub>	A	Weight
2	50	43	40	92	64	178	160	3.7	169	141	5.3	252	179	4.9	362	277	14.0
2½	65	46	55	108	74	188	160	4.2	179	141	5.8	262	179	5.4	372	277	14.5
3	80	46	70	127	84	199	200	4.9	189	141	6.4	272	179	6.0	382	277	15.1
4	100	52	94	147	94	209	200	5.7	199	141	7.2	295	223	7.7	392	277	15.9
5	125	56	119	180	110	248	360	10.5	220	182	11.3	360	271	13.0	421	277	19.2
6	150	56	144	209	124	263	360	11.8	235	182	12.6	375	271	14.3	436	277	21.0
8	200	60	195	265	183	—	—	—	271	211	21.0	434	355	25.0	483	301	30.0
10	250	68	244	327	218	—	—	—	330	255	32.0	511	445	34.0	532	301	32.0
12	300	78	293	367	243	—	—	—	350	255	37.0	531	445	39.0	561	345	48.0

(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 <sub>1</sub>	Lever-Operated			Worm-Gear			Pneumatic-Cylinder			Electric-Motor "CRV"			Electric-Motor "AUMA"			
inch	mm					H <sub>2</sub>	A	Weight	H <sub>2</sub>	A	W	Weight	H <sub>2</sub>	A	Weight	H <sub>2</sub>	A	Weight	H <sub>2</sub>	A	Weight
2	50	43	40	94	67	249	260	4.0	228	141	100	5.8	319	223	8	425	277	15	—	—	—
2½	65	46	55	108	74	264	260	5.0	243	141	100	6.8	334	223	11	440	277	16	—	—	—
3	80	46	70	125	82	273	260	8.0	252	182	125	10	342	223	12	446	277	17	—	—	—
4	100	52	94	155	92	283	260	9.0	262	182	125	12	381	271	14	458	277	18	—	—	—
5	125	56	119	180	119	331	360	15.0	304	211	160	17	425	271	18	510	277	21	—	—	—
6	150	56	144	209	132	344	360	18.0	317	211	160	19	466	355	24	544	301	26	—	—	—
8	200	60	195	265	170	—	—	—	349	255	200	35	526	445	40	563	301	31	—	—	—
10	250	68	244	319	224	—	—	—	407	335	315	58	654	506	64	631	345	47	—	—	—
12	300	78	293	367	259	—	—	—	477	320	315	79	762	664	134	675	345	60	—	—	—
14	350	78	328	413	313	—	—	—	530	331	355	118	844	755	160	727	345	85	872	621	170
16	400	102	366	470	343	—	—	—	580	331	355	156	970	1,060	255	—	—	—	914	621	210
18	450	114	415	534	375	—	—	—	620	392	450	196	1,012	1,060	297	—	—	—	966	623	250
20	500	127	463	584	409	—	—	—	798	513	305	277	1,072	1,060	325	—	—	—	1,046	623	285
22	550	154	518	643	429	—	—	—	854	549	400	370	1,235	1,360	480	—	—	—	1,081	659	380
24	600	154	570	692	479	—	—	—	904	549	400	405	1,285	1,360	585	—	—	—	1,169	685	430

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