OKM

54 SERIES

Cert. No. Q17412

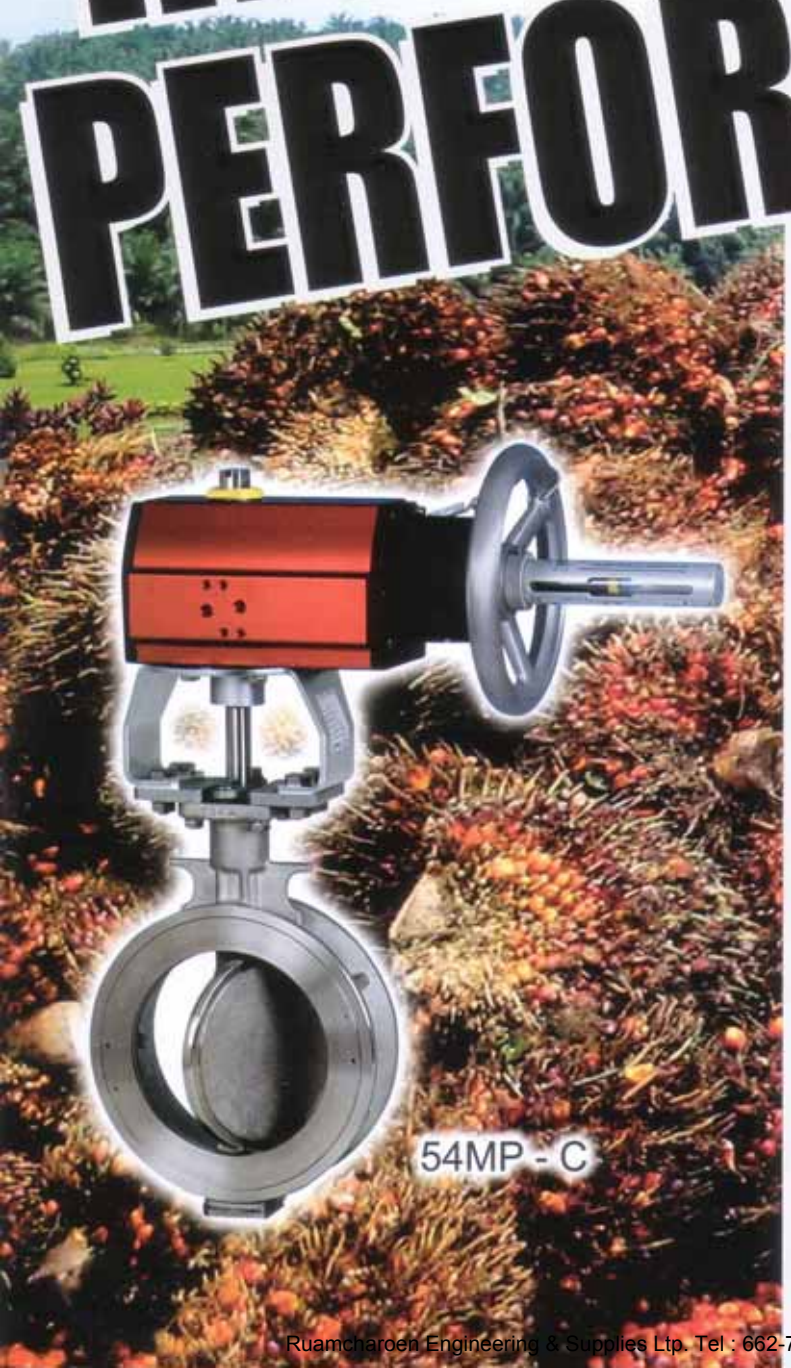
High-Performance Butterfly Valves

OKM Valve (M) Sdn. Bhd.

A leading-edge butterfly valve for high-performance flow contr

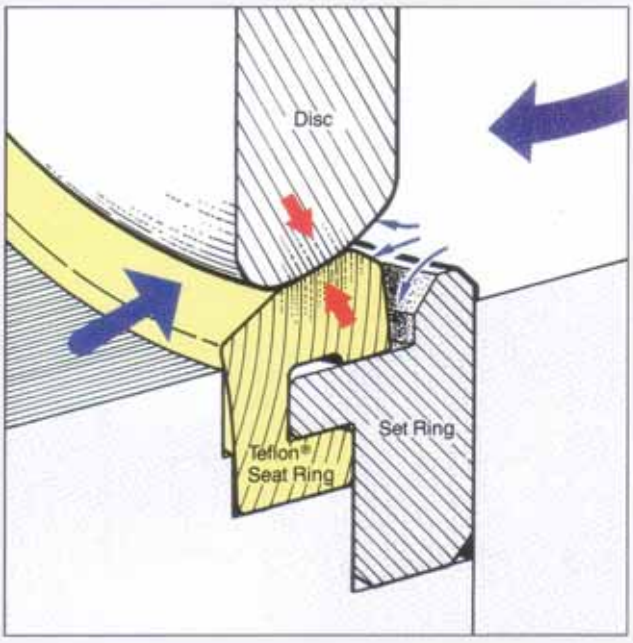
The OKUMURA 54 Series is a high-performance butterfly valve designed for extreme temperature, high pressure and vacuum conditions that are unsuitable for conventional universal butterfly valves. The 54 Series features a self-sealing seat ring, double eccentric disc, and a choice of three seat rings.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

HIGH PERFORMANCE



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.



ol at: Maximum working pressure of **1.0 MPa** (10 bar) Service temperature rang **–50°C** t

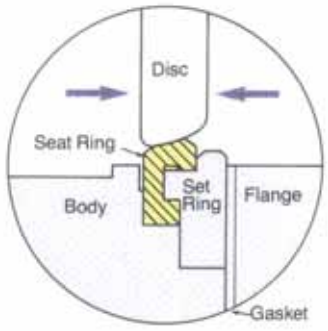
Two types of seat rings to cover a wide variety of applications.

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

54TP Teflon® Seat Ring

PTFE -50°C to 230°C (-58°F to 446°F)

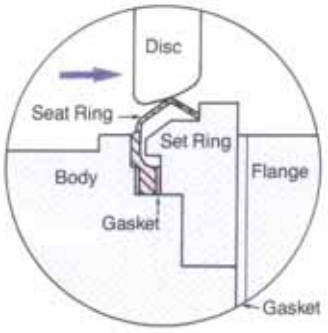
The Teflon® seat ring is designed to withstand extremely corrosive chemical solutions and high-temperature fluids of up to 230°C (446°F). (eg. demineralized water, air-conditioning chilled/hot water, sea water, white liquor, formaldehyde solution, organic solvent, compressed air, oxygen, exhaust gas,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



54MP Metal Seat Ring

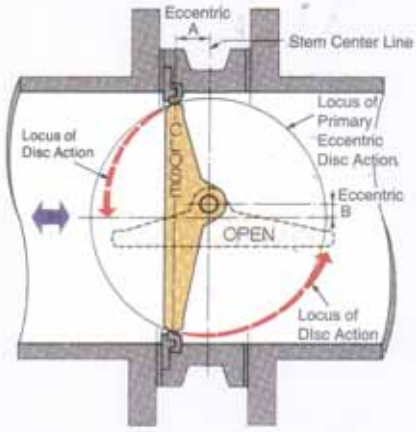
SUS316 450°C (842°F) PATENTED

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, combustion gas, exhaust gas, sulfurous-asid gas, nitrogen gas)



- For 54MP, set the stem side as the upstream of flow direction.
- When the valve is used under high temperature and high pressure, the direction of flow is different from that shown above.
- Joint sheets are recommended for use as piping gaskets. Contact us for details.
- If the valve is installed at the end of a pipe line, counter flange should be installed on the other side of the valve.

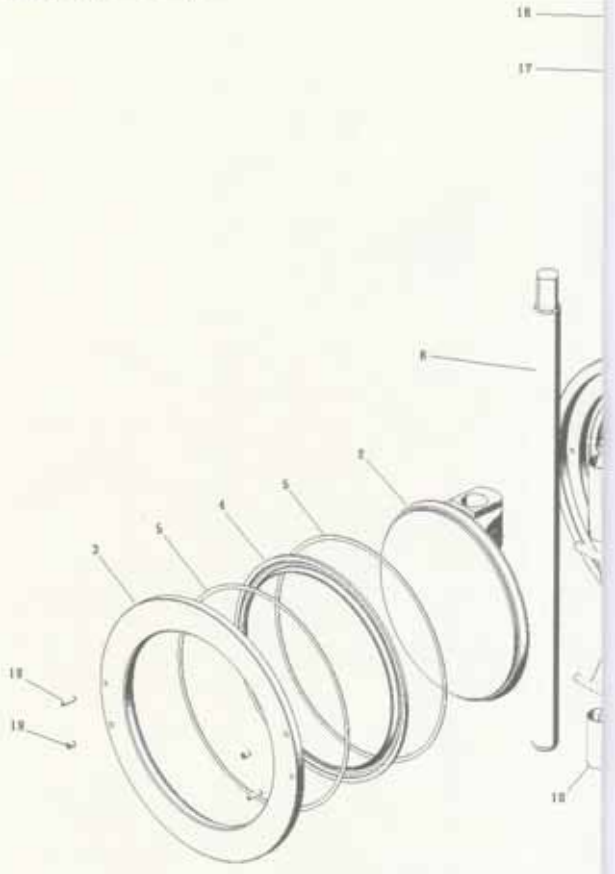
Double eccentric disc ensures longer service life, low seating torque and leak-tight shutoff.



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.

EXPLODED VIEW

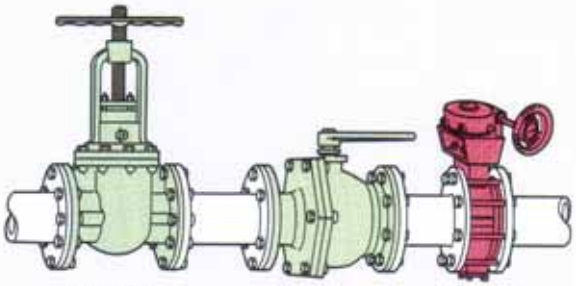


54 SERIES

...of ...o 450°C (−58°F to 842°F)

Compact, lightweight, and cost-effective

Employing a slim wafer body, the 54 Series is significantly smaller and lighter than gate valves or ball valves, thus greatly simpliflying piping work.

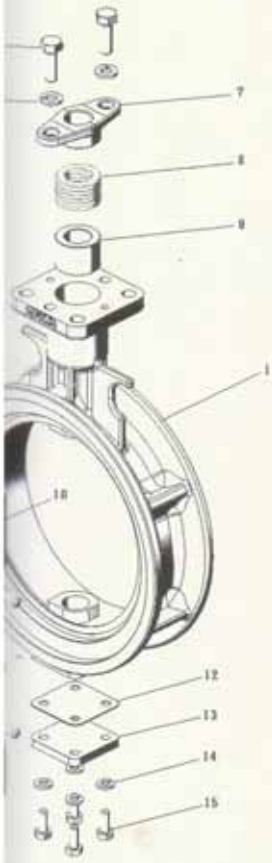


Gate Valve | Ball Valve | 54 Series Butterfly Valves

Standard Specifications

Model	54TP		54MP
Body & Disc	SCS13A		
Seat Ring	PTFE (white)	PTFE (black)	SUS316
Size (mm)	80 to 300		
Application Flange Std.	JIS 5K / JIS 10K *1		
Max. Service Pressure	1.0 Mpa		
Service Temperature	− 50 to 232°C		− 50 to 450°C
Hydrostatic Shell Test	1.5 Mpa		
Hydrostatic Seat Test	1.1 Mpa		
Face To Face	International Standard (ISO) Short		
Seat Leakage	Tight Shutoff		Tight Shutoff *2
Actuator	Lever – Operator, Worm – Gear, Pneumatic – Cylinder, Electric – Actuator		

*1 : For ANSI 125/150Lb, contact us for assistant.
*2 : Applicable to the MSS SP-61 standard.
*3 : Contact us if the operating fluid temperature exceeds 230°C (446°F)



Standard Materials

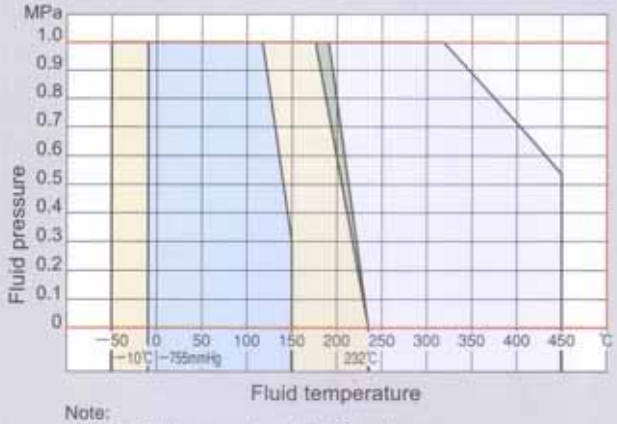
Parts No.	Parts Name	Material
1	Body	SCS13A
2	Disc	SCS13A
3	Set Ring	SUS304 *
		SUS316
4	Seat Ring	PTFE (White/Black)
		SUS316
5	Gasket	Fiber
6	Stem	SUS630
7	Gland	SUS304
8	Gland Packing	PTFE
9	Packing Washer	SUS316

Parts No.	Parts Name	Material
10	Bush	SUS316L + PTFE
11	Tapper Pin	SUS630
12	Gasket	Fiber
13	Cover	SUS316
14	Spring Washer	SUS304
15	Cover Bolt	SUS304
16	Gland Bolt	SUS304
17	Spring Washer	SUS304
18	Set Pin	SUS304
19	Draw Out Screw	SUS304

* Standard.
* Parts No. 5 is not use, if using PTFE Seat Ring.

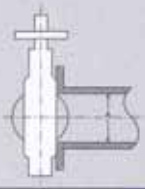
Technical Data

• Temperature and Pressure Ratings



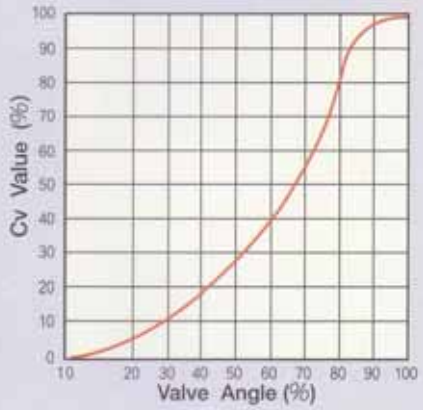
Note:
1. If the fluid temperature is 230°C or above, insulate the valve body.
2. Contact us regarding specifications for extremely low temperatures, degree of vacuum, and borderline ratings.

• 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 Curve



* The chart shows the flow characteristics curve at 200 mm size (8").

• Cv Valves with Valve Fully Open

Size(mm)	10 W.O.G
80	190
100	380
125	730
150	1250
200	2400
250	4000
300	5800
350	7600
400	9200
450	11900
500	14200
600	14800

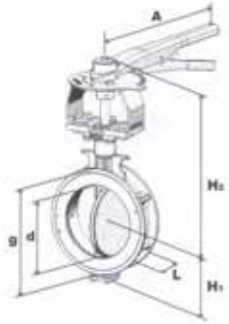
Please provide us with the following information when ordering:

1. **Fluid Name and Composition**						
2. **Fluid Pressure**						MPa
3. **Temperature**						°C
4. **Flowrate**						m^3/h
5. **Flow Velocity**						m/Sec.
6. **Open/close Frequency**						
7. **Open/close Time**						Sec.
8. **Motor Power Source**	AC		V		Hz	
9. **Control Power Source**	AC		V		Hz	
10. **Supplied Air Pressure**						MPa

Dimensions

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

54P-L
Lever-Operated



54P-G
Worm-Gear

54P-C
Pneumatic-Cylinder

54P-M
Electric-Motor

Nominal Size		L	d	g	H1	54MP / TP-L			54MP / TP-G			54MP / TP-C			54MP / TP-M		
inch	mm					H2	A	Weight	H2	A	Weight	H2	A	Weight	H2	A	Weight
3	80	46	70	127	82	242	200	5.4	206	132	6.4	301	180	5.8	480	351	15.1
4	100	52	94	147	92	252	200	6.2	216	132	7.2	311	180	6.6	490	351	15.9
5	125	56	119	180	109	317	360	11.0	260	170	11.3	390	180	10.0	534	351	18.9
6	150	56	144	209	123	332	360	12.3	275	197	14.6	405	180	13.2	549	381	21.2
8	200	60	195	265	180	—	—	—	305	255	26.5	432	180	20.7	625	285	27.9
10	250	68	244	327	215	—	—	—	356	255	28.5	531	320	272.0	677	285	35.3
12	300	78	293	367	240	—	—	—	376	255	33.1	551	320	50.0	697	285	40.9

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

Precautions during handling

When using this product, please read [High Performance Butterfly Valve Handling Instruction], packed together, for correct product handling.

Storage

- As the Teflon seat ring is easily scratched, do not remove protective sheet until installation is completed. Ensure that dirt or oil do not get into the valve as this may lead to risk of leakage.
- For long term storage, when possible, store in a cool dark room. Avoid storing in a room with temperature of less than -10°C or more than 40°C, humid or with vibration.

Piping Installation

- Use valve only when it's installed in between of flanges.
- Ensure that the gasket is fixed correctly in the middle of valve and flange and that there is no gasket shift.
- Do not use soft material such as rubber as flange packing. It is recommended to use a joint sheet gasket.
- Ensure that valve opening does not face downwards. If the valve opening is to be faced horizontally, provide sufficient support to valve.
- Close the valve when installing or removing from piping. Do not immediately fix the valve soon after flange welding. Cool flange to room temperature before fixing in the valve.
- Do not weld flange onto piping after installing valve.
- Expand flange app. 6-10mm wider than valve's when inserting.
- Tighten piping bolts equally and diagonally. One-sided tightening may lead to risk of leakage. Stop tightening once the seat ring is not visible. Contact us if valve is to be installed at places with extreme temperature (below -10°C, above 60°C), exposure to frost or snow fall.

Operation

- Insulate valve if fluid temperature can reach lower than 0°C as the valve get frozen.
- If piping hydrostatic test pressure exceeds valve specification, do not use as a closed flange. Ensure that the disc is fully closed when the test is done.
- Do not use any other tools such as pipe wrench to open or close lever operated valves.

Maintenance

- Ensure that valve is fully closed when removing piping for maintenance purpose.
- If leakage happens at gland area, immediately tighten gland nuts equally.
- Do not touch the stopper bolt fixed on gear, cylinder and motor types actuators. This may lead to risk of leakage.
- For a no-hitch valve operation, maintenance should be carried out 1~2 times a year.

These specifications and designs are subject to change without prior notice.

OKM VALVE (M) SDN. BHD.
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