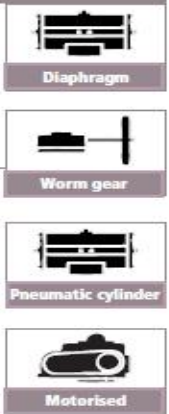


Rotary control valve for high temperature fluids up to 400°C

# 507V



## Features and benefits

For various applications such as air conditioning systems, pulp and paper mills, steel mills, chemical plants, food processing and many other process industries, the 507V rotary control valve will support your fluid control requirements.

### Flexible control over a wide range

The 507V allows complete control over the full range from the open to the closed position. The valve can also handle high temperatures of up to 400 degrees C such as in steam lines and it will respond quickly and flexibly to any changes within the operating parameters of the process line. The 507V therefore is the optimum valve for any control system processing multiple products where the operating conditions change from time to time in accordance with process requirements.

### Cost-effective rotary control valve

In spite of its compact size and light weight, the 507V has a large valve capacity that minimises the energy loss of fluid at the fully open position.

This compact design reduces the required size of the actuator, installation space and piping supports. It also minimises vibration of control systems and increases the operating life.

These features provide the benefit of reducing the total operating cost of your plant.

# 507V

**Model 507V is the high temperature version of our rotary control valve designed for exclusive use in the regulation of fluids.**

## General Description

The high performance characteristics of this model originate from its unique design with a teeth and gull-wing shaped disc that touches the seat at a certain angle (Fig.1). The teeth are arranged on the circumference of the disc towards either direction of flow. The 'touch-at-an-angle' disc assists the reduction of seating and unseating torque and facilitates smooth control of the valve. Other benefits include high rangeability, low noise level and anti-cavitation.

This model covers a wide temperature range in the fluid control of air conditioning systems, pulp and paper mills, chemical plants, steel mills and food processing applications.



## Standard Specification

Valve nominal size		50 to 400mm		
Pressure rating		50 to 200mm: ANSI Class 300lb 250 to 400mm: ANSI Class 150lb		
Actuator mounting		Non-flange joint		
Flange accommodation		JIS: 10K/16K/20K, ANSI Class 150lb, ANSI Class 300lb, DIN NP 10/16/25 Please contact us when 250mm/16K and over.		
Service temperature*	Cast steel	-10 to 400 degrees C. Following materials are used for 200 degrees C or higher – carbon for bearings, exfoliated graphite		
	Stainless steel	-50 to 400 degrees C. Following materials are used for 200 degrees C or higher – carbon for bearings, exfoliated graphite		
Rangeability		100:1		
Valve opening		Max. 70°		
Flow characteristics		Equal percent		
Leakage rate **		FCI 70-2 Class II		
Stuffing box		Studs and nuts tightening		
Standard materials	Body	50 to 200mm	Cast steel SCPH2	Stainless steel SCS14
		250 to 400mm	Cast steel SCPH2	Stainless steel SCS14
	Disc ***	50 to 150mm	Cast steel SCPH2	Stainless steel SCS14
		200 to 400mm	Ductile iron FCD450	Stainless steel SCS14
	Stem		Stainless steel SUS630 (SUS316)****	
	Bearings		Reinforced PTFE	Reinforced PTFE
	Packings		Exfoliated graphite	Exfoliated graphite
Gland flange		Stainless steel	Stainless steel	

\*Please consult us if the application is in the range of 400 to 600 degrees C.

\*\*The disc is gull wing shaped and touches the metal seat at an angle. This design minimises leakage to a level less than 0.5% of the rated Cv which is equal to or lower than the leakage permitted on a double-seat globe control valve.

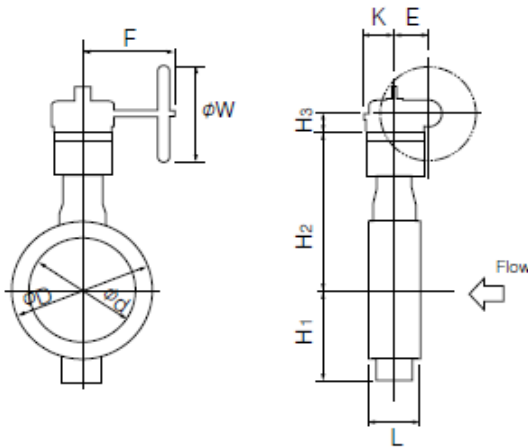
\*\*\*The disc is electroless plated with nickel.

\*\*\*\*Please consult us if an SUS316 stem is required.

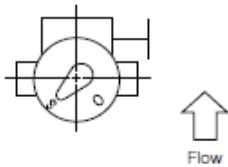
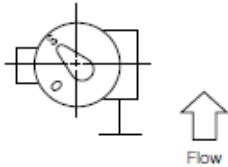
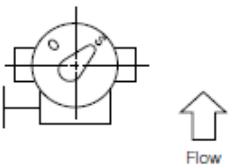
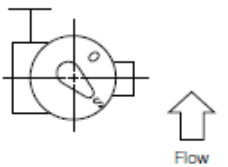
Worm gear type 507V-2S (50mm to 400mm)

Nominal size		Dimension (mm)										Gear type	Approx. Mass (kg)
mm	inch	$\phi d$	$\phi D$	L	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	E	K	F	$\phi W$		
50	2	49	92	40	63	183	32	58	93	156	160	DGH-1	13
80	3	73	127	40	86	201	32	58	93	156	160	DGH-1	15
100	4	97	155	40	98	224	32	58	93	156	160	DGH-1	16
150	6	146	216	52	129	262	32	58	93	156	160	DGH-1	23
200	8	194	265	62	184	283	32	58	93	161	200	DGH-1	32
250	10	241	324	89	196	393	42	85	126	246	280	DGH-2	60
300	12	289	370	89	230	446	42	85	126	246	280	DGH-2	70
350	14	318	415	89	256	431	42	85	126	246	280	DGH-2	86
400	16	364	470	108	296	453	42	85	126	246	280	DGH-2	100

■ 507V-2S



■ 2S Installation direction

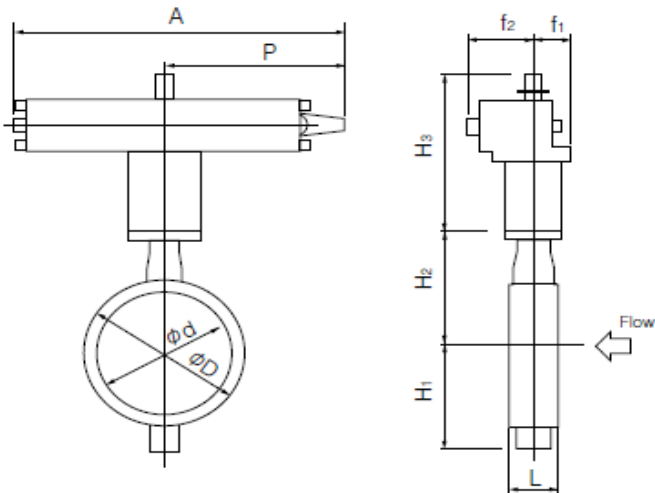
			
2SA	2SB	2SC	2SD

**Double-acting Pneumatic Cylinder Type 507V-3A (350mm, 400mm)**

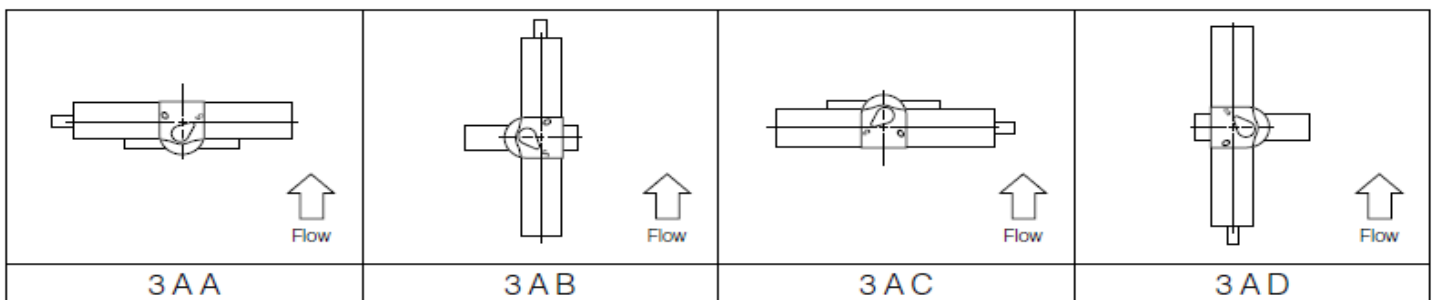
Nominal size		Dimension (mm)										Cylinder type	Approx. Weight (kg)
mm	inch	$\phi d$	$\phi D$	L	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	A	P	f <sub>1</sub>	f <sub>2</sub>		
350	14	318	415	89	256	316	404	773	433	83	133	TGA-100	95
400	16	364	470	108	296	338	404	773	433	83	133	TGA-100	110

•A free angle adjuster comes with the pneumatic cylinder.

■ **507V-3A**



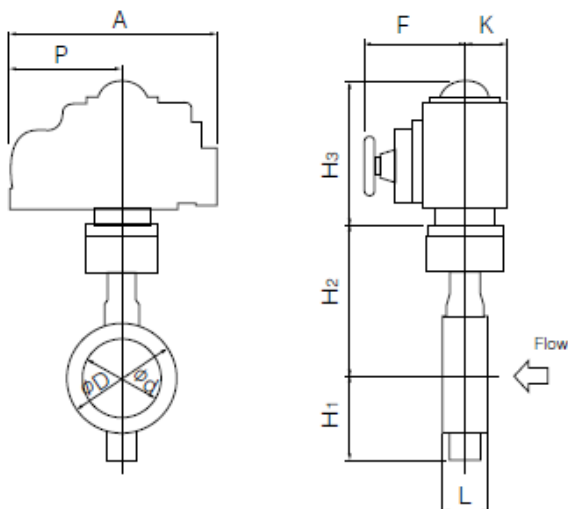
■ **3A Installation Direction**



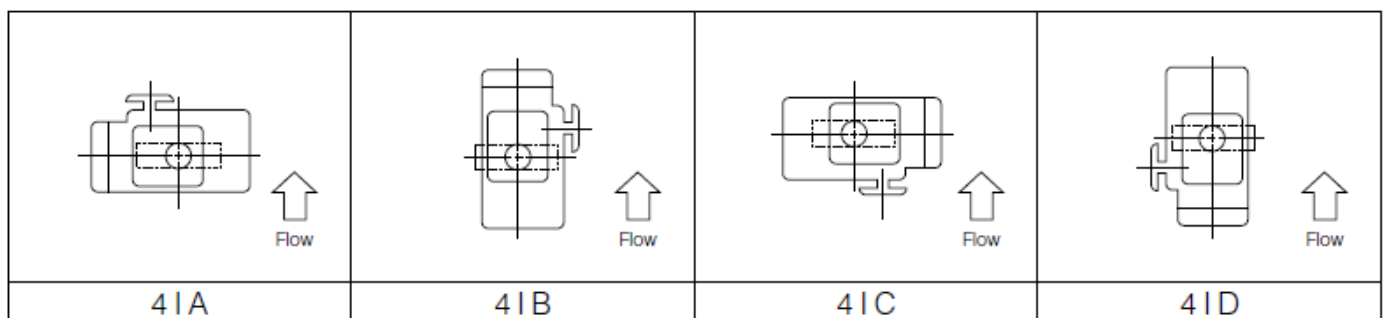
Single Phase Electric Motor Type 507V-4I (50mm to 400mm)

Nominal size		Dimension (mm)										Motor type	Approx. Weight (kg)
mm	inch	$\phi d$	$\phi D$	L	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	A	P	F	K		
50	2	49	92	40	63	198	191	252	138	126	65	4I-1	18.3
80	3	73	127	40	86	216	191	252	138	126	65	4I-1	19.3
100	4	97	155	40	98	239	191	252	138	126	65	4I-1	20.3
150	6	146	216	52	129	262	224	310	167	154	85	4I-2	24
200	8	194	265	62	184	283	224	310	167	154	85	4I-2	34
250	10	241	324	89	196	413	227	310	167	154	85	4I-2.5	51
300	12	289	370	89	230	446	255	388	223	246	136	4I-3	70
350	14	318	415	89	256	431	255	388	223	246	136	4I-3	86
400	16	364	470	108	296	453	255	388	223	246	136	4I-3	100

■ 507V-4I



■ 4I Installation Direction

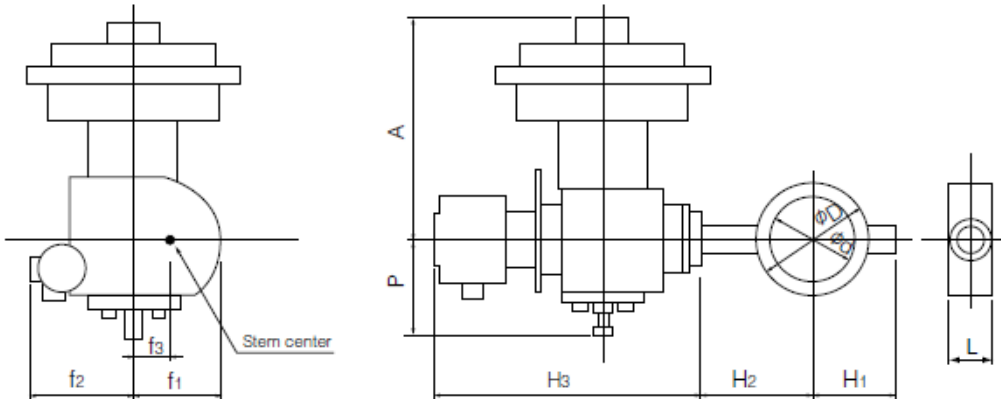


507V-6Z (50mm to 400mm) with diaphragm actuator

Nominal size		Dimension (mm)											Diaphragm type	Approx. Mass (kg)
mm	inch	$\phi d$	$\phi D$	L	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	A	P	f <sub>1</sub>	f <sub>2</sub>	f <sub>3</sub>		
50	2	49	92	40	63	108	322	310	126	121	147	36	280H	35
80	3	73	127	40	86	126	322	310	126	121	147	36	280H	37
100	4	97	155	40	98	149	322	310	126	121	147	36	280H	38
150	6	146	216	52	129	187	322	310	126	121	147	36	280H	45
200	8	194	265	62	184	208	332	310	126	121	147	36	280H	54
250	10	241	324	89	196	278	402	416	185	135	133	50	400H	90
300	12	289	370	89	230	331	402	416	185	135	133	50	400H	100
350	14	318	415	89	256	316	402	416	185	135	133	50	400H	115
400	16	364	470	108	296	338	402	416	185	135	133	50	400H	130

Remarks: H<sub>3</sub> shows the dimension when the positioner (TCE2000) is installed.  
 The H<sub>3</sub> dimension will change depending on the positioner type.

■ 507V-6Z



■ 6Z Installation direction

