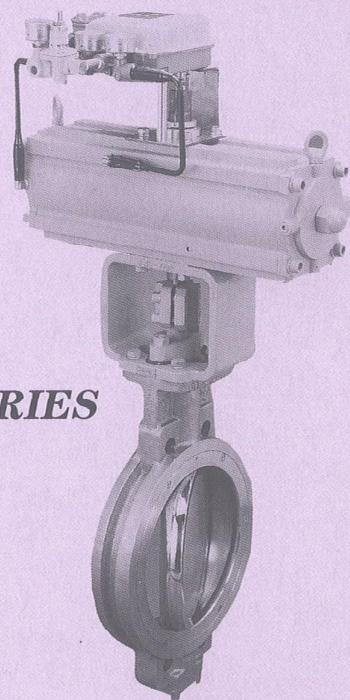


STANDARD SPECIFICATION

*HIGH PERFORMANCE BUTTERFLY VALVE
PARA-SEAL*



710C SERIES

KOSO

STANDARD SPECIFICATION

PARA-SEAL HIGH PERFORMANCE BUTTERFLY VALVE 710C SERIES

GENERAL

710 series is our latest high performance butterfly valves which disc itself is concentric type but disc seating surface is machined as eccentric. It has a special seating mechanism, accordingly having high sealing performance and controllability for a variety of liquid and gas services. On the other hand it has such features as compactness, light weight, free maintainance and wide manufacturing range including large size. It is one of the most economical valves.

STANDARD SPECIFICATION

Body

Type : Concentric type

Size : 3"~60" (80~1500mm)

Rating

L Class : 3"~24"/JIS10K, ANSI & JPI Class 150

28"~32"/JIS10K, JPI Class 150

36"~60"/JIS5K

M Class : 3"~24"/JIS20K, ANSI & JPI Class 300

28"~60"/JIS10K, JPI Class 150

Connection : Wafer

Face to Face dimension: See pages 18~30

Materials : SCPH2, SCS13A, SCS14A, FC25 and other Alloy Steels. (FC25 : L Class Body, 12" or under only)

As to the operating temp./press. for each material, see pages 2~4, Tables 1 & 3.

Bonnet : Standard bonnet (Casted with Body)

3"~6" (80~150mm).....-45~500°C

8"~28" (200~700mm)···-45~450°C

32"~36" (800~900mm)··-45~400°C

40"~60" (1000~1500mm)···-45~350°C

Long extension bonnet

3 ~ 24" (80 ~ 600mm)·· - 45° C and under (M Class body for SCS14A only)

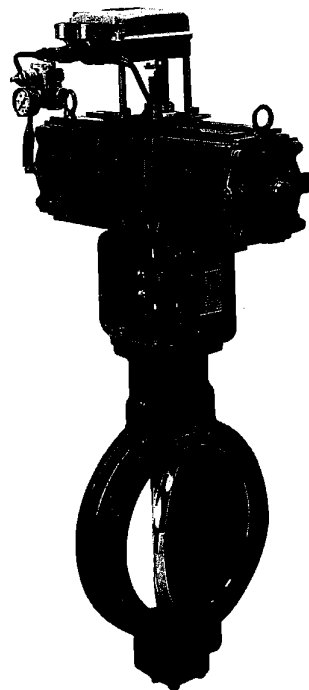
Outer bearing type

This type is available for high temperature service.

Gland packing : Teflon Asbestos, Pillarfoil

Gasket: Teflon, Asbestos, Pillarfoil

Painting color: Munsell N-6 (Epoxy resin group) is Standard. As for stainless steel body, no painting is standard.



Trim

Disc type : Tight close type

Characteristics : Modified EQ%

Material & Treatment: See pages 2~4, Table 1.

As to the temp./press. range vs disc/seal ring material/treatment, see page 5, Fig. 1.

Actuator

Standard specification: See page 2.

Performance

Rated Cv value: See page 7, Table 4.

Flow characteristics: See page 7, Fig. 5.

Rangeability : 90° opening (50 : 1)

60° opening (25 : 1)

Leakage: See pages 2~4, Table 1.

Allowable press. dorp: See pages 8~16, Table 5.

Dimensions: See pages 18~30.

Mounting form: See page 17, Fig. 6.

Weight: See page 17, Table 6.

Optional Special Specifications: See page 2.

Actuator Specifications

Model specifications	Pneumatic Cylinder		Diaphragm	Solid State Electronic Actuator		Electric Motor
	6500RA, 6600RA		5200RA	3500RB	3600RA	3400RA
	Double Acting	Spring Return	Multi-Spring	DC Motor/Resolution 0.3%	AC Motor/Resolution 0.4%	AC Motor
Purpose	Modulation/On-Off		Modulation	Modulation		On-Off
Air Supply (Spring range) or Power Supply (Input signal)	4.0, 5.0kgf/cm ² G	4.0(1.35~2.65)kgf/cm ² G 5.0(1.70~3.30)kgf/cm ² G	3.0(0.8~2.0)kgf/cm ² G 3.4(0.8~2.0)kgf/cm ² G 3.4(1.2~3.0)kgf/cm ² G	AC100V 50/60Hz(DC4~20mA)		AC100V 50/60Hz Change-over contact
Piping/wiring Conn.	Rc $\frac{1}{8}$ (for Cylinder size 60, 90), Rc $\frac{1}{4}$, Rc $\frac{3}{8}$, Rc $\frac{1}{2}$		Rc $\frac{1}{4}$	2-G $\frac{1}{2}$		2-G $\frac{1}{2}$
Opening angle	60 deg. or 90 deg.		60 deg.	60 deg. or 90 deg.		90 deg.
Action	Po. Signal increase: Valve Open or Shut.	DA : Air to Valve Shut. RA : Air to Valve Open.		DA: Signal increase-Valve Shut RA: Signal increase-Valve Open		Manual selection Valve Open, Shut or Opening Stop
Hysteresis	Less than 1.5 % of FS with positioner		Less than 1% of FS with positioner	Less than 0.5 % of FS	Less than 0.8% of FS	—
Linearity	Less than ± 2 % of FS with positioner		Less than ± 2 % of FS with positioner	Less than ± 1 % of FS	Less than ± 1 % of FS	—
Ambient Temperature	-20~+60°C		-10~+70°C	-10~+55°C		-10~+55°C
Painting	Munsell N-6 (Epoxy Resin Group)			S type P4417 (Blue)		
Options	E/P-P/P positioner, Air set, Limit switch, Solenoid valve, Speed controller, Lock-up valve, Open or Shut stopper. Positon transmitter. Manual handle. Volume tank etc.			Resolution 0.1% , Split range, Space heater, Junction Box, Position transmitter, Manual handle, etc.	Overload unit, Space heater, Torque switch Junction Box, Manual handle, etc.	Potentiometer, Micro switch, Space heater, etc.

Optional Special Specifications (additional cost is required) :

- Special testing
 - Flow characteristics testing, Material certificate,
 - Low temperature testing, Steam testing,
 - Non-destructive testing, Radiographic testing.
- Oxygen clean.
- Sand/Dust proof.
- Cold area proof.
- Tropical area proof.
- No copper alloy
- Salty environment proof.
- Special piping & fitting
- vacuum service proof.
- SUS bolts/nuts for exposed parts.
- Non-standard painting.

Table 1 Body/Trim Material Combinations, Operating Temperatur & Seat Leakage.

Table 1-1 Body Material: FC25, SCPH2 (12" and under)

Valve size		3"~12"(80mm~300mm)			3"~12"(80mm~300mm)				
Body Material JIS/ASTM		FC25			SCPH2/A216-WCB				
Disc	Material	SCS14A	SCS14A	SCS14A	SCS14A	SCS14A	SCS14A	SCS14A	SCS14A
	Treatment	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Stellite Seat surface
Stem	Material	SUS630	SUS630	SUS630	SUS630	SUS630	SUS630	SUS630	SUS630
	Treatment	Heat treatment	Heat treatment	Heat treatment	Heat treatment	Heat treatment	Heat treatment	Heat treatment	Heat treatment
Bearing	Material	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316
	Treatment	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Seal ring	Type	FN	FV	CS	FN	FV	CS	M	M
	Material	Reinforced Teflon MoS ₂ filled	Reinforced Teflon MoS ₂ filled	Reinforced Teflon Carbonfiber filled	Reinforced Teflon MoS ₂ filled	Reinforced Teflon MoS ₂ filled	Reinforced Teflon Carbonfiber filled	SUS316	SUS316
	Back ring	NBR O-ring	VITON O-ring	SUS316	NBR O-ring	VITON O-ring	SUS316	—	—
	Retainer	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316
Operating Temp.(°C)		0~+60	0~+180	0~+200	-5~+60	-5~+180	-5~+250	-5~+400	-5~+400
Seat Leakage	ANSI	Class VI	Class VI	—	Class VI	Class VI	—	—	—
	Rated Cv ×	Bubble-tight	Bubble-tight	1×10 ⁻⁶ %	Bubble-tight	Bubble-tight	1×10 ⁻⁶ %	See Table 2	See Table 2

Note 1) Disc material for size 3", 4" is SUS316.

2) The above Cv% is percentage against rated Cv Value for 90° disc opening.

3) Seat material/treatment vs operating temp./press. range; See page 5, Fig. 1.

Table 1-2 Body Material: SCPH2 (14" and over)

Valve size		14" ~ 60" (350mm ~ 1500mm)							
Body Material JIS/ASTM		SCPH 2/A216-WCB							
Disc	Material	SCPH2	SCPH2	SCPH2	SCS13A	SCS13A	SCS13A	SCS13A	SCS13A
	Treatment	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Stellite Seat surface
Stem	Material	SUS630	SUS630	SUS630	SUS630	SUS630	SUS630	SUS630	SUS630
	Treatment	Heat treatment	Heat treatment	Heat treatment	Heat treatment	Heat treatment	Heat treatment	Heat treatment	Heat treatment
Bearing	Material	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316
	Treatment	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Seal ring	Type	FN	FV	CS	FN	FV	CS	M	M
	Material	Reinforced Teflon MoS2 filled	Reinforced Teflon MoS2 filled	Reinforced Teflon Carbonfiber-filled	Reinforced Teflon MoS2 filled	Reinforced Teflon MoS2 filled	Reinforced Teflon Carbonfiber-filled	SUS316	SUS316
	Back ring	NBR O-ring	VITON O-ring	SUS316	NBR O-ring	VITON O-ring	SUS316	-	-
Retainer	Material	SS41	SS41	SS41	SUS316	SUS316	SUS316	SUS316	SUS316
Operating Temp. (°C)		-5 ~ +60	-5 ~ +180	-5 ~ +250	-5 ~ +60	-5 ~ +180	-5 ~ +250	-5 ~ +400	-5 ~ +400
Seat	ANSI	Class VI	Class VI	-	Class VI	Class VI	-	-	-
Leakage	Rated Cv x	Bubble-tight	Bubble-tight	1 × 10 ⁻⁶ %	Bubble-tight	Bubble-tight	1 × 10 ⁻⁶ %	See Table 2	See Table 2

Note 1) Leakage class Cv% percentage against rated Cv value for 90° disc opening.

2) Seat material/treatment vs operating temp./press. range; See page 5, Fig. 1.

Table 1-3 Body Material: SCS13A, SCS14A

Valve size		3" ~ 12" (80mm ~ 300mm)				3" ~ 60" (80mm ~ 1500mm)				
Body Material JIS/ASTM		SCS13A				SCS14A/A351-CF8M				
Disc	Material	SCS14A	SCS14A	SCS14A	SCS14A	SCS14A	SCS14A	SCS14A	SCS14A	SCS14A
	Treatment	Chrome plated	Chrome plated	Chrome plated	Stellite Seat surface	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Stellite Seat surface
Stem	Material	SUS630	SUS630	SUS630	SUS630	SUS316	SUS316	SUS316	SUS316	SUS316
	Treatment	Heat T.	Heat T.	Heat T.	Heat T.	-	-	-	-	-
Bearing	Material	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316
	Treatment	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Flon metal	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Seal ring	Material	FV	CS	M	M	KS	FV	CS	M	M
	Type	Reinforced Teflon MoS2 filled	Reinforced Teflon Carbonfiber filled	SUS316	SUS316	Kel-F	Reinforced Teflon MoS2 filled	Reinforced Teflon Carbonfiber filled	SUS316	SUS316
	Back ring	VITON O-ring	SUS316	-	-	SUS316	VITON O-ring	SUS316	-	-
Retainer	Material	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316
Operating Temp. (°C)		-10 ~ +180	-45 ~ +250	-45 ~ +400	-45 ~ +400	-196 ~ +100	-10 ~ +180	-45 ~ +250	-45 ~ +600	-45 ~ +600
Seat	ANSI	Class VI	-	-	-	-	Class VI	-	-	-
Leakage	Rated Cv x	Bubble-tight	1 × 10 ⁻⁶ %	See Table 2	See Table 2	1 × 10 ⁻⁶ %	Bubble-tight	1 × 10 ⁻⁶ %	See Table 2	See Table 2

Note 1) Disc material for 3" & 4" IS SUS316.

2) Leakage class Cv% is percentage against rated Cv value for 90° disc opening.

3) Seat material/treatment vs operating temp./press. range; See page 5, Fig. 1.

4) When oxygen clean service is required, bearing material/treatment is SUS316/Flon Metal.

Table 1-4 Body Material: SCS13A (14" and over)

Valve size		14"~60" (350mm~1500mm)							
Body Material JIS		SCS13A							
Disc	Material	SCS13A	SCS13A	SCS13A	SCS13A	SCS14A	SCS14A	SCS14A	SCS14A
	Treatment	Chrome plated	Chrome plated	Chrome plated	Stellite Seat Surface	Chrome plated	Chrome plated	Chrome plated	Stellite Seat surface
Stem	Material	SUS630	SUS630	SUS630	SUS630	SUS316	SUS316	SUS316	SUS316
	Treatment	Heat treatment	Heat treatment	Heat treatment	Heat treatment	-	-	-	-
Bearing	Material	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316
	Treatment	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated	Chrome plated
Seal ring	Type	FV	CS	M	M	FV	CS	M	M
	Material	Reinforced Teflon MoS ₂ filled	Reinforced Teflon Carbonfiber filled	SUS316	SUS316	Reinforced Teflon MoS ₂ filled	Reinforced Teflon Carbonfiber filled	SUS316	SUS316
	Back ring		SUS316	-	-		SUS316	-	-
Retainer	Material	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316	SUS316
Operating Temp. (°C)		-10~+180	-45~+250	-45~+400	-45~+400	-10~+180	-45~+250	-45~+450	-45~+450
Seat Leakage	ANSI	Class VI	-	-	-	Class VI	-	-	-
	Rated Cv ×	Bubble-tight	1×10 ⁻⁶ %	See Table 2	See Table 2	Bubble-tight	1×10 ⁻⁶ %	See Table 2	See Table 2

- Note 1) Leakage class Cv% percentage against rated Cv value for 90° disc opening.
2) Seat material/treatment vs operating temp./press. range, See page 5, Fig. 1.
3) As to oxygen clean service, bearing material is SUS316+Flon-metal.

Table 2 Metal Seal Ring Seat Leakage (Cv % against Rated Cv value for 90° disc opening)

Valve size \ Fluid temperature	Under 300°C	300~400°C	400~500°C	500~600°C
3"~ 6" (80 mm~150 mm)	0.0001% under	0.01% under	0.018% under	0.05% under
8"~10" (200 mm~250 mm)	0.00001% under	0.007% under	0.015% under	0.03% under
12"~18" (300 mm~450 mm)	0.00001% under	0.005% under	0.01% under	0.02% under
20" (500 mm) over	0.00001% under	0.001% under	0.005% under	0.01% under

Table 3 Body Materials Operating Pressure-Temperature Ratings.

Table 3-1 ANSI

Unit: kgf/cm²G

Temp. (°C)	Class 125	Temp. (°C)	Class 150			Class 300		
	FC25		SCPH2 WCB	SCS13A	SCS14A CF-8M	SCPH2 WCB	SCS13A	SCS14A CF-8M
- 5 ~ 65	14.0	- 196 ~ 38	—	19.4	19.4	—	50.6	50.8
80	13.5	- 5 ~ 38	20.0	19.4	19.4	52.1	50.6	50.6
100	12.9	50	19.6	18.8	18.8	51.1	48.7	49.0
120	12.3	100	18.0	16.0	16.5	47.3	41.7	43.0
140	11.7	150	16.1	14.2	15.1	46.1	37.0	39.3
160	11.0	200	14.3	12.8	14.0	44.7	33.4	36.4
180	10.4	250	12.3	11.9	12.3	42.5	31.1	34.1
200	9.7	300	10.4	10.4	10.4	39.5	29.7	32.2
		350	8.6	8.6	8.6	37.7	28.7	31.0
		375	7.5	7.5	7.5	37.2	28.3	30.3
		400	6.6	6.6	6.6	35.2	28.0	29.7
		425	—	5.7	5.7	—	27.7	29.3
		450	—	4.8	4.8	—	27.4	28.7
		475	—	3.8	3.8	—	27.1	27.9
		500	—	2.9	2.9	—	26.6	27.3
		525	—	1.9	1.9	—	22.4	26.3
		550	—	1.3	1.3	—	22.2	25.5
		575	—	1.3	1.3	—	20.5	24.6
		600	—	1.3	1.3	—	17.0	21.8

Table 3-2 JIS

Unit: kgf/cm²G

Temp. (°C)	10K		20K
	FC25	SCPH2	
~120	14.0	14.0	34.0
~220	10.0	12.0	31.0
~300	—	10.0	29.0
~350	—	—	26.0
~400	—	—	23.0

Note: For FC25, maximum allowable temperature is 200°C

Fig. 1 Seal Ring Operating Temperature-Pressure Limitation

(—— allowable fluid pressure at Valve Shut, - - - - allowable differential pressure at Modulation)

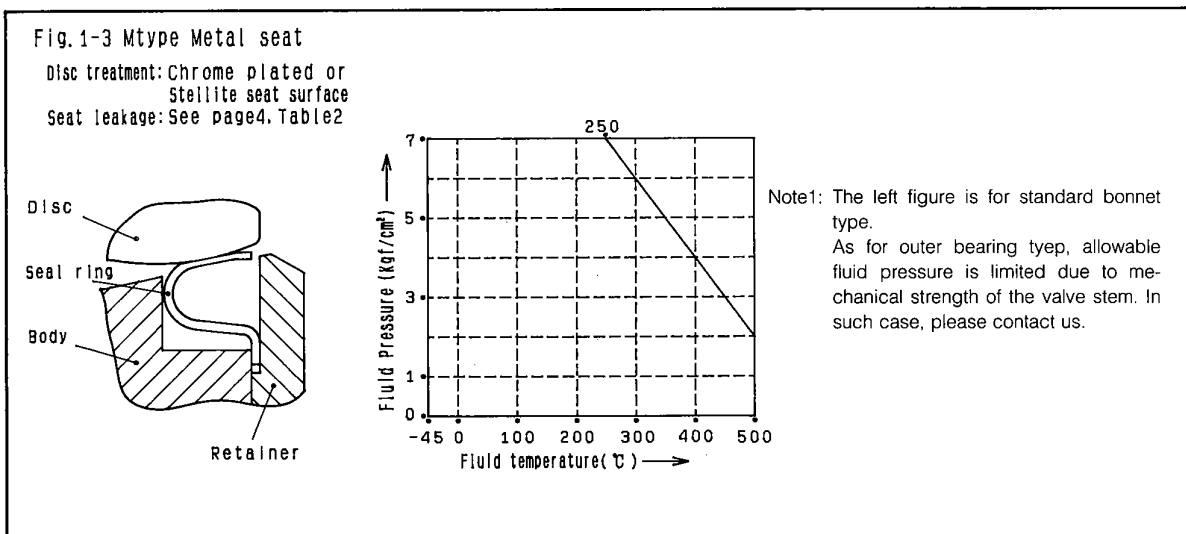
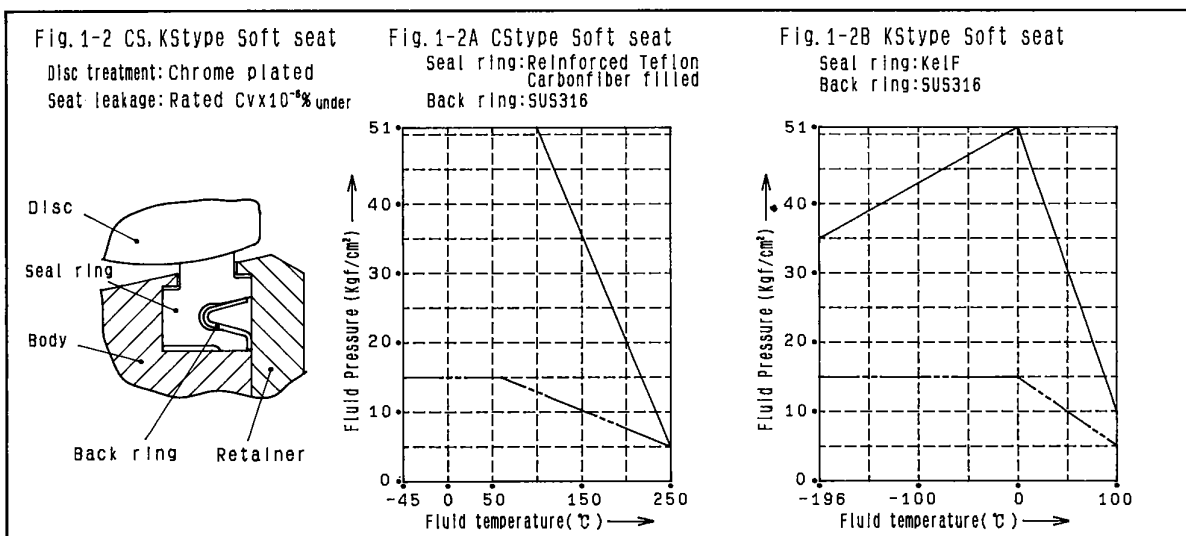
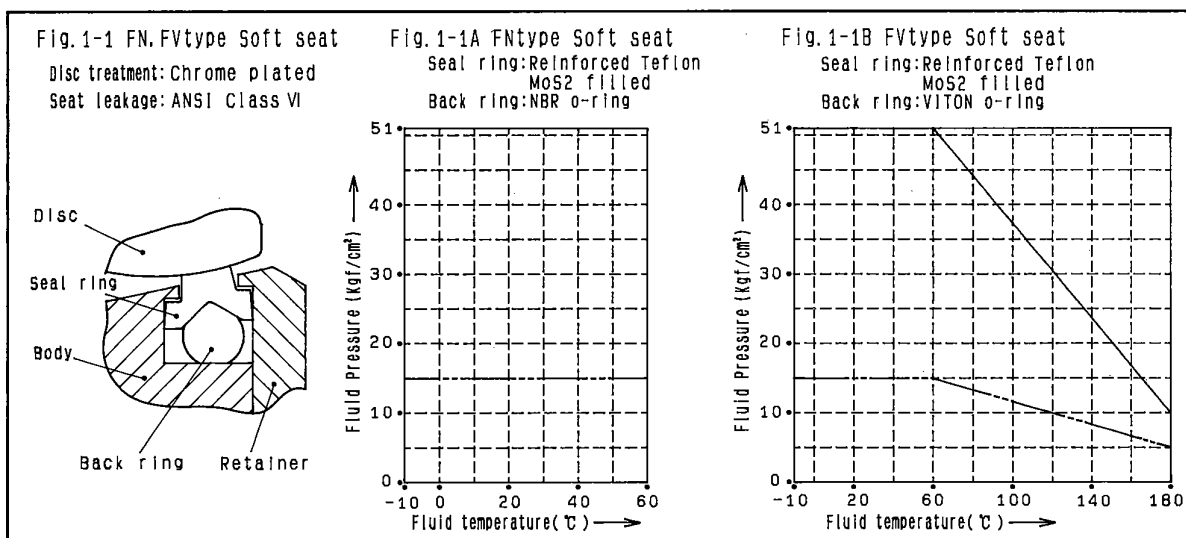


Fig. 2 Gland Packing Operating Temperature-Pressure Limitation

**Fig. 2-1 Teflon Asbestos (P4513+P4513L)
Oxydizing Fluid (P4513+P# 2S)**

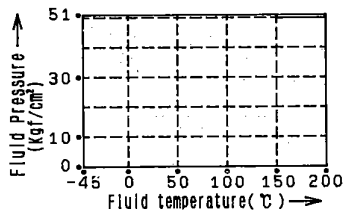


Fig. 2-2 Pillarfoil

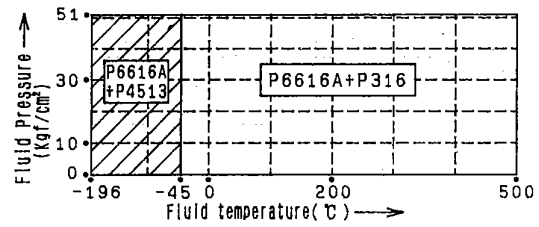
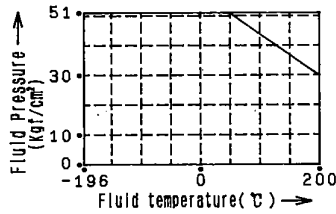
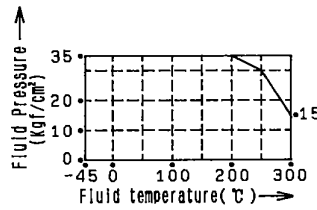


Fig. 3 Gasket Operating Temperature-Pressure Limitation

**Fig. 3-1 Reinforced Teflon
(VAL. 7020)**



**Fig. 3-2 Asbestos
(VAL. 1500AC)**



**Fig. 3-3 Pillarfoil
(P6631)**

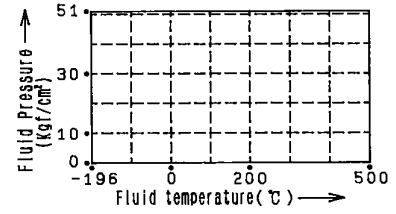


Fig. 4 Body Assembly Section View

Fig. 4-1 Valve Size 8" (200 mm) and Under

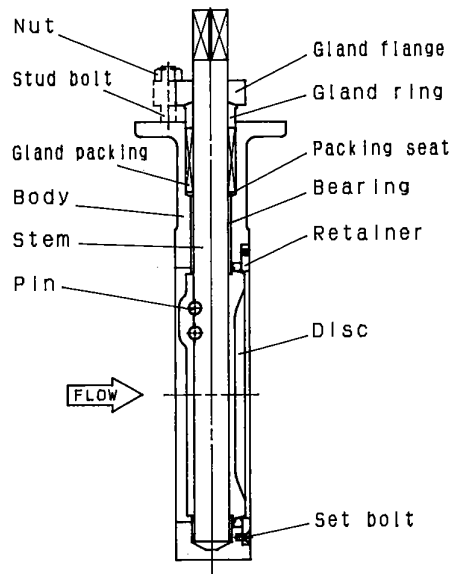


Fig. 4-2 Valve Size 10" (250 mm) and Over

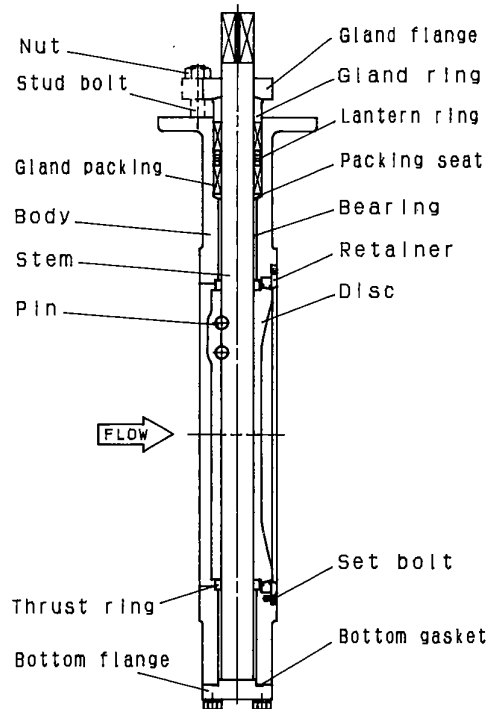


Table 4 Cv Value

Valve size Inch (mm)	L Class Body		M Class Body		Valve size Inch (mm)	L Class Body		M Class Body	
	60° Open	90° Open	60° Open	90° Open		60° Open	90° Open	60° Open	90° Open
3 (80)	125	265	110	240	20 (500)	6,720	14,000	6,050	12,600
4 (100)	230	480	210	430	24 (600)	9,670	20,160	8,700	18,200
5 (125)	360	750	325	670	28 (700)	13,170	27,440	11,850	24,700
6 (150)	650	1,350	585	1,210	32 (800)	17,200	35,840	15,500	32,300
8 (200)	1,120	2,310	1,000	2,100	36 (900)	21,770	45,360	19,600	40,800
10 (250)	1,810	3,740	1,630	3,350	40 (1000)	26,800	56,000	24,100	50,400
12 (300)	2,470	5,100	2,220	4,600	44 (1100)	32,500	67,700	29,300	61,000
14 (350)	3,290	6,860	2,960	6,170	48 (1200)	38,700	80,600	34,800	72,600
16 (400)	4,300	8,960	3,870	8,060	54 (1350)	48,900	102,000	44,000	92,000
18 (450)	5,440	11,340	4,900	10,400	60 (1500)	60,400	126,000	54,300	113,000

Fig. 5 Flow Characteristics
Fig. 5-1 L Class Body Flow Characteristics

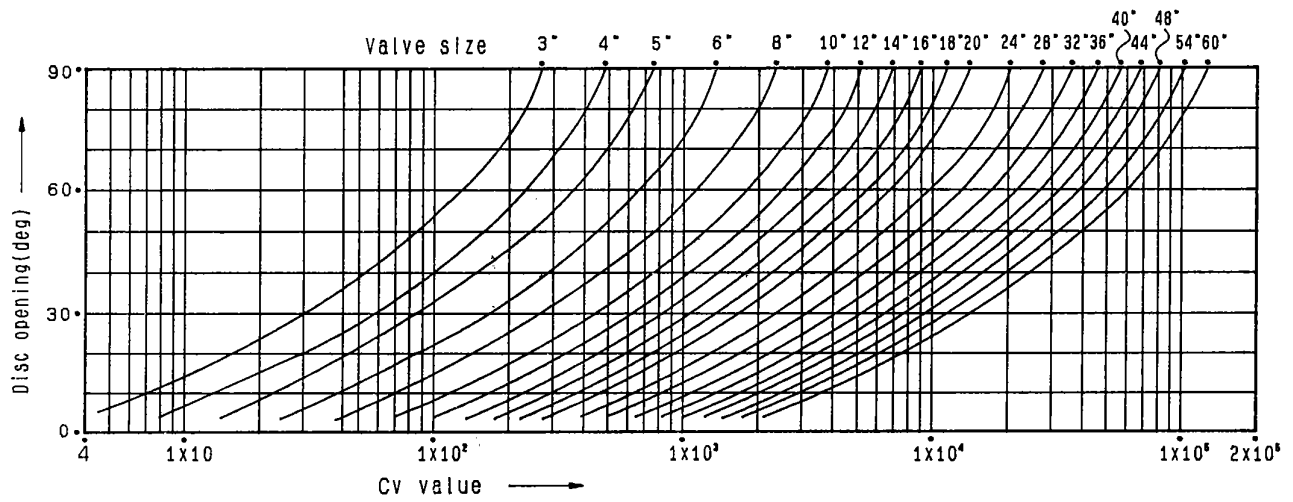


Fig. 5-2 M Class Body Flow Characteristics

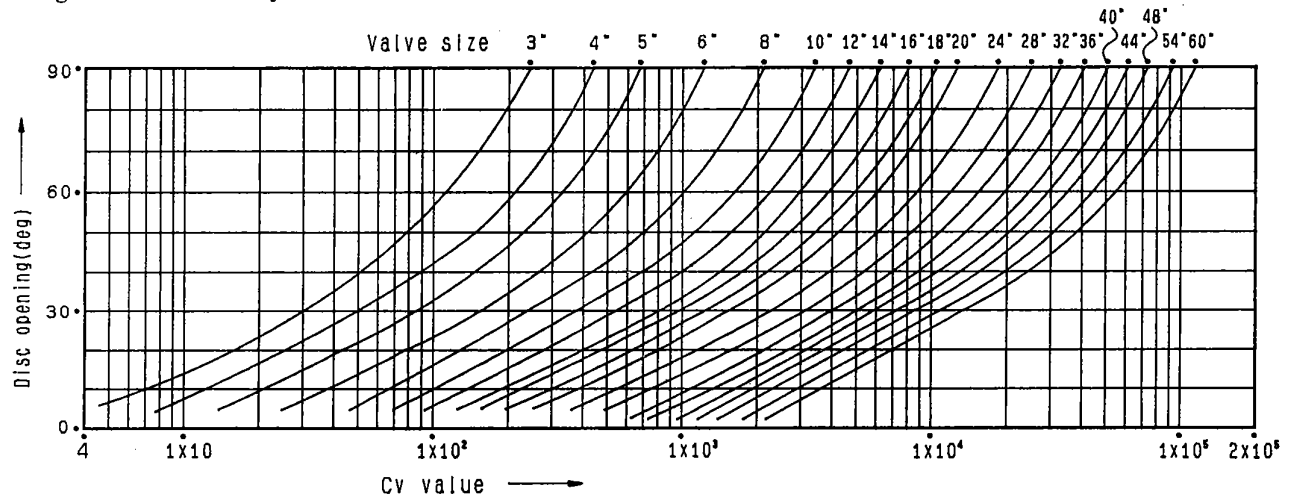


Table 5 Max Allowable Differential Pressure (unit: kgf/cm²)

ΔP: Allowable modulating differential pressure is for the case of 60° opening.

Note: For long extension type bonnet and outer bearing type bonnet, do not apply this table.

Table 5-1 Double Acting Pneumatic Cylinder Actuator/Air Supply 4.0 Kg/cm²G

Table 5-1A L Class Body/Packing: Teflon-asbestos (P4513 + P4513L)

Actuator Series Size		Body Class • Valve Size			L Class Body																								
		Stem Material		Seal ring	Purpose	SUS	JIS10K, ANSI Class 150																JIS5K, ANSI Class 125						
							3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"	40"	44"	48"	54"	60"			
							80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1350	1500			
6600RA Double Acting (2 piston type)	60	Soft seat	Shut-off	630	10.4	0.8																							
				316	7.1	0.8																							
			Δ P	630	3.5	0.8																							
				316	3.5	0.8																							
	90	Soft seat	Shut-off	630	19.0	19.0	18.7	10.4	2.6																				
				316	7.1	11.2	7.1	3.3	2.6																				
			Δ P	630	7.7	6.0	3.7	2.0	0.8																				
				316	3.5	4.2	2.6	1.4	0.8																				
		Metal seat	Shut-off	630	4.7	7.0	5.0	0.2																					
				316	-	-	-	-																					
			Δ P	630	4.7	6.0	3.7	0.2																					
				316	-	-	-	-																					
130	Soft seat	Shut-off	630			19.0	13.7	15.7	6.2	3.0																			
			316			7.1	3.3	5.0	4.7	2.1																			
		Δ P	630			5.6	3.0	2.5	1.3	0.7																			
			316			2.6	1.4	1.3	1.3	0.7																			
	Metal seat	Shut-off	630			7.0	2.8	7.0	1.6																				
			316			-	-	0.1	0.4																				
		Δ P	630			5.6	2.8	2.5	1.3																				
			316			-	-	0.1	0.4																				
6500RA Double Acting (2 piston type)	170	Soft seat	Shut-off	630						15.3	9.0	11.3	6.6	4.1	2.7														
				316						4.7	2.1	4.7	4.6	4.1	2.7														
			Δ P	630						2.8	1.7	1.4	0.9	0.6	0.4														
				316						1.3	0.7	1.0	0.9	0.6	0.4														
		Metal seat	Shut-off	630						7.0	4.6	7.0	4.0	2.4	0.3														
				316						0.4	-	1.7	4.0	2.4	0.3														
			Δ P	630						2.8	1.7	1.4	0.9	0.6	0.3														
				316						0.4	-	1.0	0.9	0.6	0.3														
	200	Soft seat	Shut-off	630								13.8	13.0	9.0	6.4	2.9	1.3												
				316							4.7	4.6	5.3	3.6	2.9	1.3													
			Δ P	630							2.2	1.6	1.1	0.8	0.4	0.3													
				316							1.0	0.9	1.0	0.7	0.4	0.3													
		Metal seat	Shut-off	630							7.0	7.0	6.5	3.3	1.3	0.5													
				316							1.7	2.3	3.4	1.1	1.3	0.5													
			Δ P	630							2.2	1.6	1.1	0.8	0.4	0.3													
				316							1.0	0.9	1.0	0.7	0.4	0.3													
	280	Soft seat	Shut-off	630									14.3	10.4	10.5	6.7	3.9	3.0	1.7	1.0									
				316										5.3	3.6	4.2	2.3	1.9	1.4	0.6	0.1								
			Δ P	630										2.1	1.6	1.6	0.7	0.5	0.3	0.2	0.2								
				316										1.0	0.7	0.7	0.4	0.4	0.3	0.2	0.1								
		Metal seat	Shut-off	630										7.0	6.4	7.0	4.8	2.1	1.6	0.9	0.6								
				316										3.4	1.1	2.4	1.3	0.6	0.4	0.1	0.1								
			Δ P	630											2.1	1.6	1.6	0.7	0.5	0.3	0.2	0.2							
				316											1.0	0.7	0.7	0.4	0.4	0.3	0.1	0.1							
6400RA Double Acting (4 piston type)	200	Soft seat	Shut-off	630													19.0	13.3	9.1	7.2	4.8	3.6	2.4	1.4	0.6				
				316														4.2	2.3	1.9	3.7	4.2	3.2	2.4	1.4	0.6			
			Δ P	630															2.1	1.3	0.9	0.6	0.4	0.3	0.2	0.2	0.1		
				316															1.3	0.8	0.7	0.5	0.4	0.3	0.2	0.2	0.1		
		Metal seat	Shut-off	630															7.0	7.0	6.3	5.0	3.5	2.6	1.9	1.3	0.5		
				316															6.1	3.8	2.9	2.2	3.1	2.3	1.9	1.3	0.5		
			Δ P	630																2.1	1.3	0.9	0.6	0.4	0.3	0.2	0.2	0.1	
				316																1.3	0.8	0.7	0.5	0.4	0.3	0.2	0.2	0.1	
	280	Soft seat	Shut-off	630																9.5	10.5	8.3	7.5	5.4	3.5				
				316																	3.7	4.2	3.2	3.7	2.5	2.6			
			Δ P	630																	1.1	1.0	0.8	0.6	0.4	0.3			
				316																	0.5	0.5	0.4	0.4	0.3	0.3			
		Metal seat	Shut-off	630																	7.0	7.0	6.8	6.0	4.5	3.2			
				316																	2.2	3.1	2.3	3.0	2.2	2.4			
			Δ P	630																		1.1	1.0	0.8	0.6	0.4	0.3		
				316																		0.5	0.5	0.4	0.4	0.3	0.3		

Table 5-1B L Class Body/Packing: Pillarfoil (P6616A+P316)

Actuator Series Size		Seal ring		Body Class * Valve Size Stem Material Purpose SUS		L Class Body																					
						JIS10K, ANSI Class 150																JIS5K, ANSI Class 125					
						3" 80	4" 100	5" 125	6" 150	8" 200	10" 250	12" 300	14" 350	16" 400	18" 450	20" 500	24" 600	28" 700	32" 800	36" 900	40" 1000	44" 1100	48" 1200	54" 1350	60" 1500		
6600RA Double Acting (2 piston type)	60	Soft seat	Shut-off	630	8.7																						
			316	5.3																							
		Δ P	630	3.1																							
			316	3.1																							
	90	Soft seat	Shut-off	630	19.0	19.0	17.5	9.6	1.9																		
			316	5.3	9.6	5.9	2.6	1.9																			
			Δ P	630	7.3	5.7	3.5	1.8	0.6																		
			316	3.1	3.8	2.4	1.2	0.6																			
		Metal seat	Shut-off	630	3.4	6.6	4.0																				
			316	-	-	-																					
			Δ P	630	3.4	5.7	3.5																				
			316	-	-	-																					
130	Soft seat	Shut-off	630			19.0	13.0	14.9	5.5	2.6																	
		316			5.9	2.6	4.2	4.1	1.6																		
		Δ P	630			5.4	2.8	2.4	1.2	0.7																	
		316			2.4	1.2	1.2	1.2	0.7																		
	Metal seat	Shut-off	630			7.0	2.2	7.0	1.1																		
		316			-	-	-	0.1																			
		Δ P	630			5.4	2.2	2.4	1.1																		
		316			-	-	-	0.1																			
6500RA Double Acting (2 piston type)	170	Soft seat	Shut-off	630					14.6	8.5	10.9	6.1	3.7	2.4													
			316						4.1	1.6	4.3	4.1	3.7	2.3													
			Δ P	630					2.7	1.6	1.4	0.9	0.6	0.4													
			316						1.2	0.7	0.9	0.9	0.6	0.4													
		Metal seat	Shut-off	630					7.0	4.2	6.6	3.6	2.1	0.1													
			316						0.1	-	1.3	1.9	2.1	0.1													
			Δ P	630					2.7	1.6	1.4	0.9	0.6	0.1													
			316						0.1	-	0.9	0.9	0.6	0.1													
	200	Soft seat	Shut-off	630							13.4	12.6	8.1	6.1	2.6	1.1											
			316								4.3	4.1	4.9	3.3	2.6	1.1											
			Δ P	630							2.1	1.6	1.1	0.8	0.4	0.2											
			316								0.9	0.9	0.9	0.7	0.4	0.2											
		Metal seat	Shut-off	630							7.0	7.0	6.2	3.1	1.0	0.3											
			316								1.3	1.9	3.1	0.8	1.0	0.3											
			Δ P	630							2.1	1.6	1.1	0.8	0.4	0.2											
			316								0.9	0.9	0.9	0.7	0.4	0.2											
	280	Soft seat	Shut-off	630									13.9	10.0	10.2	6.5	3.7	2.8	1.6								
			316										4.9	3.3	3.9	2.1	1.7	1.2	0.4								
			Δ P	630									2.1	1.5	1.1	0.7	0.4	0.3	0.2								
			316										0.9	0.7	0.7	0.4	0.4	0.3	0.2								
		Metal seat	Shut-off	630									7.0	6.2	7.0	4.6	1.9	1.5	0.8								
			316										3.1	0.8	2.1	1.1	0.4	0.2	-								
			Δ P	630									2.1	1.5	1.1	0.7	0.4	0.3	0.2								
			316										0.9	0.7	0.7	0.4	0.4	0.2	-								
6400RA Double Acting (4 piston type)	200	Soft seat	Shut-off	630												19.0	13.2	8.9	7.0	4.6	3.4	2.3	1.3	0.6			
			316													8.1	5.2	4.6	3.6	4.1	3.1	2.3	1.3	0.6			
			Δ P	630												2.1	1.3	0.9	0.6	0.4	0.3	0.2	0.2	0.1			
			316													1.2	0.8	0.7	0.5	0.4	0.3	0.2	0.2	0.1			
		Metal seat	Shut-off	630												7.0	7.0	6.1	2.7	3.3	2.5	1.8	1.2	0.7			
			316													5.8	3.6	2.7	2.1	3.0	2.2	1.8	1.2	0.7			
			Δ P	630												2.1	1.3	0.9	0.6	0.4	0.3	0.2	0.2	0.1			
			316													1.2	0.8	0.7	0.5	0.4	0.3	0.2	0.2	0.1			
	280	Soft seat	Shut-off	630																9.4	10.4	8.2	7.3	5.3	3.5		
			316																	3.6	4.1	3.1	3.6	2.4	2.5		
			Δ P	630																1.1	1.0	0.8	0.6	0.4	0.3		
			316																	0.5	0.5	0.4	0.4	0.3	0.3		
		Metal seat	Shut-off	630																7.0	7.0	6.8	5.9	4.4	3.1		
			316																	2.1	3.0	2.2	2.9	2.1	2.4		
			Δ P	630																1.1	1.0	0.8	0.6	0.4	0.3		
			316																	0.5	0.5	0.4	0.4	0.3	0.3		

Table 5-1C M Class Body/Packing: Teflon-asbestos (P4513+P4513L)

Actuator Series Size				Body Class * Valve Size		M Class Body																			
						JIS20K, ANSI Class 300																JIS10K, ANSI Class 150			
				Stem Material		SUS	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"	40"	44"	48"	54"
Seal ring	Purpose	80	100	125	150		200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1350	1500			
6600RA Double Acting (2 piston type)	60	Soft seat	Shut-off	630	4.1	0.9																			
			316	4.1	0.9																				
		Δ P	630	3.0	0.9																				
			316	3.0	0.9																				
	90	Soft seat	Shut-off	630	46.6	26.6	13.7																		
			316	21.2	11.2	13.7																			
		Δ P	630	11.4	6.0	3.2																			
			316	7.9	4.2	3.2																			
	130	Metal seat	Shut-off	630	7.0	7.0	2.9																		
			316	6.4	0.2	2.9																			
		Δ P	630	7.0	7.0	2.9																			
			316	6.4	0.2	2.9																			
170	Soft seat	Shut-off	630		33.8	51.0	33.4	14.6	6.2																
		316		21.2	20.4	12.0	14.6	6.2																	
		Δ P	630		9.1	10.4	6.5	2.5	1.2																
			316		4.2	5.4	3.4	2.5	1.2																
	Metal seat	Shut-off	630		7.0	7.0	7.0	7.0	1.3																
		316		0.2	7.0	3.6	7.0	1.3																	
		Δ P	630		7.0	7.0	6.5	2.5	1.2																
			316		0.2	5.4	3.4	2.5	1.2																
6500RA Double Acting (2 piston type)	170	Soft seat	Shut-off	630					51.0	25.3	14.5	8.0													
			316					26.7	12.4	14.5	8.0														
		Δ P	630					7.3	3.7	2.1	1.2														
			316					5.1	2.6	2.1	1.2														
	200	Metal seat	Shut-off	630					7.0	7.0	7.0	4.8													
			316					7.0	6.4	7.0	4.8														
		Δ P	630					7.0	3.7	2.1	1.2														
			316					5.1	2.6	2.1	1.2														
	280	Soft seat	Shut-off	630						30.0	27.0	15.7	11.8	8.6	6.1										
			316						12.4	17.6	15.7	11.8	8.6	6.1											
			Δ P	630						5.6	3.7	2.3	1.6	1.2	0.9										
				316						2.6	3.3	2.3	1.6	1.2	0.9										
Metal seat		Shut-off	630						7.0	7.0	7.0	7.0	6.1	3.2											
		316							6.7	7.0	7.0	7.0	6.1	3.2											
		Δ P	630						5.6	3.7	2.3	1.6	1.2	0.9											
			316							2.6	3.3	2.3	1.6	1.2	0.9										
6400RA Double Acting (4 piston type)	200	Soft seat	Shut-off	630									42.3	33.0	22.7	12.2	7.6	6.0	4.1	3.0	2.0	1.1	0.6		
			316											19.3	14.8	12.3	10.4	7.6	6.0	4.1	3.0	2.0	1.1	0.6	
			Δ P	630											5.6	4.2	2.5	1.3	0.9	0.6	0.4	0.3	0.2	0.2	0.1
				316											3.3	2.5	2.0	1.3	0.9	0.6	0.4	0.3	0.2	0.2	0.1
		Metal seat	Shut-off	630											7.0	7.0	7.0	7.0	5.4	4.3	3.0	2.3	1.6	1.0	0.6
			316												7.0	7.0	7.0	7.0	5.4	4.3	3.0	2.3	1.6	1.0	0.6
			Δ P	630											5.6	4.2	2.5	1.3	0.9	0.6	0.4	0.3	0.2	0.2	0.1
				316											3.3	2.5	2.0	1.3	0.9	0.6	0.4	0.3	0.2	0.2	0.1
280	Soft seat	Shut-off	630														23.5	19.3	15.5	11.0	8.7	6.5	4.4	3.0	
		316															10.4	10.1	8.0	8.2	6.5	6.5	4.4	3.0	
		Δ P	630															2.9	2.0	1.4	1.0	0.7	0.6	0.4	0.3
			316															1.6	1.5	1.1	1.0	0.7	0.6	0.4	0.3
	Metal seat	Shut-off	630															7.0	7.0	7.0	7.0	7.0	5.4	3.8	2.8
		316																7.0	7.0	6.4	7.0	5.5	5.4	3.8	2.8
		Δ P	630															2.9	2.0	1.4	1.0	0.7	0.6	0.4	0.3
			316															1.6	1.5	1.1	1.0	0.7	0.6	0.4	0.3

Table 5-1D M Class Body/Packing: Pillarfoil (P6616A+P316)

Actuator Series Size Seal ring Purpose SUS					M Class Body																						
					JIS20K, ANSI Class 300																JIS10K, ANSI Class 150						
					3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"	40"	44"	48"	54"	60"			
					80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1100	1200	1350	1500			
6600RA Double Acting (2 piston type)	60	Soft seat	Shut-off	630																							
			316																								
		△ P	630																								
			316																								
	90	Soft seat	Shut-off	630	44.0	25.0	11.2																				
			316	18.6	9.7	11.2																					
			△ P	630	10.7	5.7	2.7																				
				316	7.3	3.8	2.7																				
		Metal seat	Shut-off	630	7.0	6.5	0.9																				
			316	4.3	0.1	0.9																					
		△ P	630	7.0	5.7	0.9																					
			316	4.3	0.1	0.9																					
130	Soft seat	Shut-off	630		32.2	48.8	31.7	12.8	5.1																		
		316		9.7	17.9	10.3	12.8	5.1																			
		△ P	630		8.8	9.9	6.2	2.2	1.1																		
			316		3.8	4.9	3.1	2.2	1.1																		
	Metal seat	Shut-off	630		7.0	7.0	7.0	7.0	0.3																		
		316		0.1	6.3	2.2	7.0	0.3																			
	△ P	630		7.0	7.0	7.0	2.2	0.3																			
		316		0.1	4.9	2.2	2.2	0.3																			
6500RA Double Acting (2 piston type)	170	Soft seat	Shut-off	630					50.0	24.2	13.5	6.8															
			316						25.0	11.3	13.5	6.8															
			△ P	630					7.0	3.5	2.0	1.0															
				316						4.8	2.4	2.0	1.0														
		Metal seat	Shut-off	630					7.0	7.0	7.0	3.7															
			316						7.0	5.5	7.0	3.7															
		△ P	630					7.0	3.5	2.0	1.0																
			316						4.8	2.4	2.0	1.0															
	200	Soft seat	Shut-off	630						28.8	26.0	14.5	10.9	8.0	5.6												
			316							11.3	16.6	14.5	10.9	8.0	5.6												
			△ P	630						5.4	3.6	2.1	1.5	1.1	0.8												
				316							2.4	3.1	2.1	1.5	1.1	0.8											
Metal seat		Shut-off	630						7.0	7.0	7.0	7.0	5.5	2.8													
		316							5.5	7.0	7.0	7.0	5.5	2.8													
	△ P	630						5.4	3.6	2.1	1.5	1.1	0.8														
		316							2.4	3.1	2.1	1.5	1.1	0.8													
280	Soft seat	Shut-off	630						39.2	40.8	31.5	23.9	18.1	10.8	5.3												
		316							16.6	19.2	14.6	10.8	7.8	6.6	2.9												
		△ P	630						7.0	5.6	4.0	2.9	2.2	1.3	0.6												
			316							3.1	3.6	2.6	1.9	1.4	1.1	0.5											
	Metal seat	Shut-off	630						7.0	7.0	7.0	7.0	7.0	7.0	3.9												
		316							7.0	7.0	7.0	7.0	4.6	4.3	1.9												
	△ P	630						7.0	5.6	4.0	2.9	2.2	1.3	0.6													
		316							3.1	3.6	2.6	1.9	1.4	1.1	0.5												
6400RA Double Acting (4 piston type)	200	Soft seat	Shut-off	630										41.8	32.6	22.3	11.9	7.4	5.8	3.9	2.8	1.9	1.0	0.4			
			316											18.8	14.3	12.0	10.2	7.4	5.8	3.9	2.8	1.9	1.0	0.4			
			△ P	630										5.5	4.1	2.4	1.2	0.8	0.6	0.4	0.3	0.2	0.1	0.1			
				316											3.2	2.4	1.9	1.2	0.8	0.6	0.4	0.3	0.2	0.1	0.1		
		Metal seat	Shut-off	630										7.0	7.0	7.0	7.0	5.2	4.1	2.8	2.1	1.5	0.9	0.4			
			316											7.0	7.0	7.0	7.0	5.2	4.1	2.8	2.1	1.5	0.9	0.4			
		△ P	630										5.5	4.1	2.4	1.2	0.8	0.6	0.4	0.3	0.2	0.1	0.1				
			316											3.2	2.4	1.9	1.2	0.8	0.6	0.4	0.3	0.2	0.1	0.1			
	280	Soft seat	Shut-off	630														23.3	19.5	15.3	10.8	8.5	6.3	4.2	3.0		
			316															10.2	10.0	7.9	8.0	6.4	6.3	4.2	3.0		
			△ P	630														2.9	2.0	1.4	1.0	0.7	0.5	0.4	0.3		
				316															1.5	1.5	1.0	1.0	0.7	0.5	0.4	0.3	
Metal seat		Shut-off	630														7.0	7.0	7.0	7.0	6.9	5.2	3.7	2.8			
		316															7.0	7.0	6.3	6.7	5.3	5.2	3.7	2.8			
	△ P	630														2.9	2.0	1.4	1.0	0.7	0.5	0.4	0.3				
		316															1.5	1.5	1.0	1.0	0.7	0.5	0.4	0.3			

Table 5-2 Spring Return Pneumatic Cylinder Actuator/Air Supply 4.0 kgf/cm²G

Table 5-2A L Class Body

Packing	Body Class • Valve Size					L Class Body/JIS10K, ANSI Class 150															
	Actuator Series	Size	Seal ring	Purpose	Stem Material SUS	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"		
						80	100	125	150	200	250	300	350	400	450	500	600	700	800		
Teflon-asbestos (P 4513 + P 4513L)	6600RA (2 piston type) Spring return	90	Soft seat	Shut-off	630	14.8	3.0	1.0													
				316	7.1	3.0	1.0														
			Δ P	630	4.9	2.2	1.0														
				316	3.5	2.2	1.0														
		130	Soft seat	Shut-off	630	19.0	19.0	19.0	10.8	2.8											
				316	7.1	11.2	7.1	3.3	2.8												
				Δ P	630	7.7	7.2	4.4	2.3	0.9											
					316	3.5	4.2	2.6	1.3	0.9											
			Metal seat	Shut-off	630	7.0	7.0	5.5	0.6	-											
				316	-	-	-	-	-												
				Δ P	630	7.0	7.0	4.4	0.6	-											
					316	-	-	-	-	-											
	6500RA Spring return (2 piston type)	200	Soft seat	Shut-off	630				13.7	15.7	10.0	5.5	3.3								
				316				-	5.0	4.7	2.1	3.3									
				Δ P	630				3.0	2.8	1.9	1.1	0.8								
					316				-	1.3	1.3	0.7	0.8								
			Metal seat	Shut-off	630				2.8	7.0	4.6	1.9	0.5								
				316				-	0.1	0.4	-	0.5									
				Δ P	630				2.8	2.8	1.9	1.1	0.5								
					316				-	0.1	0.4	-	0.5								
			280	Soft seat	Shut-off	630						15.3	8.9	13.4	8.0	5.0	3.4	1.1			
					316							4.7	2.1	4.7	4.6	5.0	3.4	1.1			
					Δ P	630						2.8	1.6	2.0	1.3	0.9	0.6	0.3			
						316						1.3	0.7	1.0	0.9	0.9	0.6	0.3			
		Metal seat		Shut-off	630						7.0	4.6	7.0	5.1	3.2	0.9	-				
				316							0.4	-	1.7	2.3	3.2	0.9	-				
				Δ P	630						2.8	1.6	2.0	1.3	0.9	0.6	-				
					316							0.4	-	1.0	0.9	0.9	0.6	-			
		360	Soft seat	Shut-off	630										13.0	12.9	9.3	4.6	2.6	1.0	
				316											4.6	5.3	3.6	4.2	2.3	1.0	
				Δ P	630										2.0	1.8	1.3	0.7	0.4	0.3	
					316										0.9	1.0	0.7	0.7	0.4	0.3	
			Metal seat	Shut-off	630										7.0	7.0	5.6	2.7	1.5	0.1	
				316											2.3	3.4	1.1	2.4	1.3	0.1	
				Δ P	630										2.0	1.8	1.3	0.7	0.4	0.1	
					316										0.9	1.0	0.7	0.7	0.4	0.1	

Pillarfoil (P6616A + P316)	6600RA (2 piston type) Spring return	90	Soft seat	Shut-off	630	13.0	1.4														
				316	5.3	1.4															
			Δ P	630	4.5	1.9															
				316	3.1	1.9															
		130	Soft seat	Shut-off	630	19.0	19.0	18.2	10.1	2.1											
				316	5.3	9.6	5.9	2.6	2.1												
				Δ P	630	7.3	6.9	4.2	2.2	0.8											
					316	3.1	3.8	2.4	1.2	0.8											
			Metal seat	Shut-off	630	3.4	7.0	4.6	0.1	-											
				316	-	-	-	-	-												
				Δ P	630	3.4	6.9	4.2	0.1	-											
					316	-	-	-	-	-											
	6500RA Spring return (2 piston type)	200	Soft seat	Shut-off	630				13.0	14.9	9.4	5.1	2.8								
				316				2.6	4.2	4.1	1.6	2.8									
				Δ P	630				2.8	2.7	1.8	1.1	0.7								
					316				1.2	1.1	1.2	0.8	0.7								
			Metal seat	Shut-off	630				2.2	7.0	4.2	1.5	0.2								
				316				-	-	0.1	-	0.2									
				Δ P	630				2.2	2.7	1.8	1.1	0.2								
					316				-	-	0.1	-	0.2								
			280	Soft seat	Shut-off	630						14.6	8.5	13.0	7.5	4.6	3.1				
					316							4.1	1.6	4.3	4.1	4.6	3.1				
					Δ P	630						2.7	1.6	1.9	1.2	0.8	0.6				
						316						1.2	0.8	0.9	0.9	0.8	0.6				
		Metal seat		Shut-off	630						7.0	4.2	7.0	4.7	2.9	0.6					
				316							0.1	-	1.3	1.9	2.9	0.6					
				Δ P	630						2.7	1.6	1.9	1.2	0.8	0.6					
					316							0.1	-	0.9	0.9	0.8	0.6				
		360	Soft seat	Shut-off	630										12.6	12.5	9.0	4.3	2.3	0.8	
				316											4.1	5.0	3.3	3.9	2.1	0.8	
				Δ P	630										2.0	1.8	1.3	0.7	0.4	0.3	
					316										0.9	0.9	0.7	0.7	0.4	0.3	
			Metal seat	Shut-off	630										7.0	7.0	5.3	2.4	1.3	-	
				316											1.9	2.9	0.8	2.1	1.1	-	
				Δ P	630										2.0	1.8	1.3	0.7	0.4	-	
					316										0.9	0.9	0.7	0.7	0.4	-	

Table 5-2B M Class Body

Packing	Body Class • Valve Size					M Class Body / JIS20K, ANSI Class 300#														JIS 10K Class 150	
	Actuator		Seal ring	Purpose	Stem Material SUS	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"		
	Series	Size				80	100	125	150	200	250	300	350	400	450	500	600	700	800		
Teflon-asbestos (P4513 + P4513L)	6600RA (2 piston type) Spring return	90	Soft seat	Shut-off	630	7.7	3.1														
				316	7.7	3.1															
			△ P	630	4.3	2.2															
				316	4.3	2.2															
		130	Soft seat	Shut-off	630	48.1	27.5	14.3	7.9												
				316	21.2	11.3	14.3	7.9													
			△ P	630	13.6	7.2	3.8	2.4													
				316	7.9	4.2	3.8	2.4													
		200	Metal seat	Shut-off	630	7.0	7.0	3.4	0.2												
				316	6.4	0.2	3.4	0.2													
			△ P	630	7.0	7.0	3.4	0.2													
				316	6.4	0.2	3.4	0.2													
	6500RA Spring return (2 piston type)	200	Soft seat	Shut-off	630			51.0	33.4	21.2	9.6										
				316			20.4	12.0	21.2	9.6											
			△ P	630			11.8	7.4	3.9	1.9											
				316			5.4	3.4	3.9	1.9											
		280	Metal seat	Shut-off	630			7.0	7.0	7.0	4.1										
				316			7.0	3.6	7.0	4.1											
			△ P	630			7.0	7.0	3.9	1.9											
				316			5.4	3.4	3.9	1.9											
		360	Soft seat	Shut-off	630				51.0	29.3	17.0	9.5	7.0	4.9							
				316				26.7	12.4	17.0	9.5	7.0	4.9								
			△ P	630				10.1	5.1	3.0	1.8	1.3	0.9								
				316				5.1	2.6	3.0	1.8	1.3	0.9								
6500RA (2 piston type) Spring return	90	Soft seat	Shut-off	630	5.0	1.5															
			316	5.0	1.5																
	△ P	630	3.6	1.5																	
		316	3.6	1.5																	
Pillarfoil (P6616A + P316)	6600RA(2 piston type) Spring return	130	Soft seat	Shut-off	630	45.5	26.0	11.8	6.1												
				316	18.6	9.7	11.8	6.1													
			△ P	630	12.9	6.9	3.3	2.1													
				316	7.3	3.8	3.3	2.1													
		200	Metal seat	Shut-off	630	7.0	7.0	1.3	-												
				316	4.3	0.1	1.3	-													
			△ P	630	7.0	6.9	1.3	-													
				316	4.3	0.1	1.3	-													
		280	Soft seat	Shut-off	630			48.8	31.7	19.5	8.5										
				316			17.9	10.3	19.5	8.5											
			△ P	630			11.3	7.1	3.6	1.8											
				316			4.9	3.0	3.6	1.8											
	6500RA Spring return (2 piston type)	90	Soft seat	Shut-off	630				51.0	28.2	16.0	8.3	6.0	4.2							
				316				25.0	11.3	16.0	8.3	6.0	4.2								
		△ P	630				9.8	4.9	2.8	1.6	1.1	0.8									
			316				4.8	2.4	2.8	1.6	1.1	0.8									
	360	Metal seat	Shut-off	630				7.0	7.0	7.0	5.0	3.5	2.3								
			316				7.0	5.5	7.0	5.0	3.5	2.3									
		△ P	630				7.0	4.9	2.8	1.6	1.1	0.8									
			316				4.8	2.4	2.8	1.6	1.1	0.8									

Table 5-3A L Class Body14

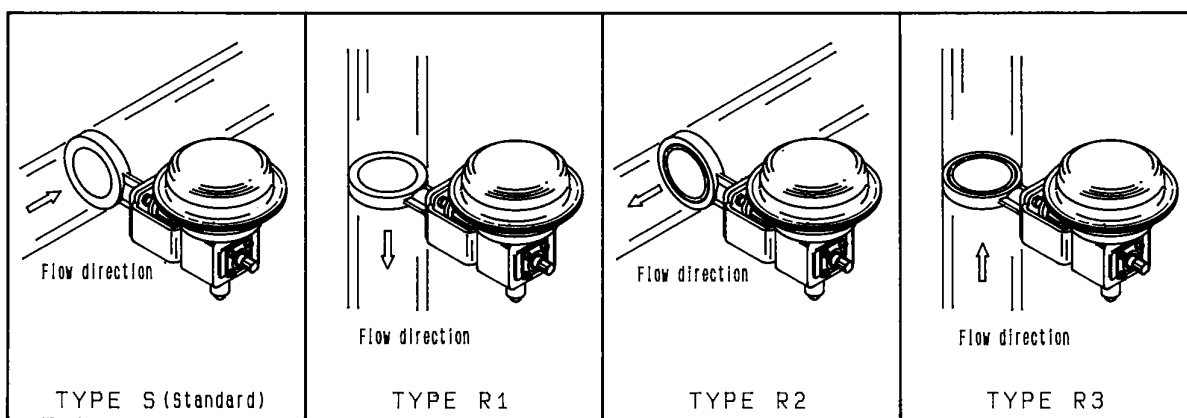
Table 5-3B M Class Body

Body Class - Packing - Valve Size				M Class Body / JIS 20K, ANSI Class 300																							
				Teflon-asbestos (P4513+P4513L)												Pillarfoil (P6616A+P316)											
Actuator Size	Seal ring	Purpose	Stem Material	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"				
				80	100	125	150	200	250	300	350	400	450	80	100	125	150	200	250	300	350	400	450				
35A2RB 36A2RA 34A2RA (5kgf-m)	Soft seat	Shut-off	630																								
		316																									
	Δ P	630																									
	316																										
35B1RB 36B1RA 34B1RA (10 kgf-m)	Soft seat	Shut-off	630	25.3	13.7									22.7	12.1												
		316	21.3	11.2										18.6	9.7												
	Δ P	630	8.9	4.7									8.3	4.4													
	316	7.9	4.2										7.3	4.4													
	Metal seat	Shut-off	630	7.0	1.0									7.0	0.3												
		316	6.4	0.2										4.3	0.1												
316	630	7.0	1.0										7.0	0.3													
316	316	6.4	0.2										4.3	0.1													
35B2RB 36B2RA 34B2RA (20 kgf-m)	Soft seat	Shut-off	630	51.0	33.8	20.1	11.8							51.0	32.2	17.6	10.1										
		316	21.2	11.2	20.1	11.8								18.6	9.7	17.6	10.1										
	Δ P	630	15.0	9.1	5.3	3.3							15.0	8.7	4.8	3.0											
	316	7.9	4.2	5.3	3.3								7.3	3.8	4.8	3.0											
	Metal seat	Shut-off	630	7.0	7.0	7.0	3.5							7.0	7.0	6.1	2.1										
		316	6.4	0.2	7.0	3.5								4.3	0.1	6.1	2.1										
	Δ P	630	7.0	7.0	5.3	3.3							7.0	7.0	4.8	2.1											
	316	316	6.4	0.2	5.3	3.3							4.3	0.1	4.8	2.1											
35C1RB 36C1RA 34C1RA (30 kgf-m)	Soft seat	Shut-off	630			34.2	21.6	8.3									31.8	19.9	6.6								
		316			20.4	12.1	8.3										17.9	10.3	6.6								
	Δ P	630			8.3	5.2	2.0										7.8	4.9	1.7								
	316			5.4	3.4	2.0											4.9	3.0	1.7								
	Metal seat	Shut-off	630			7.0	7.0	3.2										7.0	7.0	1.7							
		316			7.0	3.6	3.2											4.8	2.1	1.7							
316	630			7.0	5.2	2.0											7.0	4.9	1.7								
316	316			5.4	3.4	2.0											4.8	2.1	1.7								
35C2RB 36C2RA 34C2RA (50 kgf-m)	Soft seat	Shut-off	630			51.0	33.4	17.2	7.5								48.8	31.7	15.5	6.4							
		316			20.4	12.7	17.2	7.5									17.9	10.3	15.5	6.4							
	Δ P	630			11.8	7.4	3.5	1.7									11.3	7.0	3.2	1.5							
	316			5.4	3.4	3.5	1.7										4.9	3.0	3.2	1.5							
	Metal seat	Shut-off	630			7.0	7.0	7.0	2.4									7.0	7.0	7.0	1.5						
		316			7.0	3.6	7.0	2.4										4.8	2.1	7.0	1.5						
316	630			7.0	7.0	3.5	1.7										7.0	7.0	3.2	1.5							
316	316			5.4	3.4	3.5	1.7										4.8	2.1	3.2	1.5							
35C3RB 36C3RA 34C3RA (60 kgf-m)	Soft seat	Shut-off	630					21.6	9.8										19.9	8.7							
		316					21.6	9.8											19.9	8.7							
	Δ P	630					4.3	2.1										4.0	1.9								
	316					4.3	2.1											4.0	1.9								
	Metal seat	Shut-off	630					7.0	4.3										7.0	3.3							
		316					7.0	4.3											7.0	3.3							
316	630					4.3	2.1										4.0	1.9									
316	316					4.3	2.1										4.0	1.9									
36D1RA 34D1RA (100 kgf-m)	Soft seat	Shut-off	630					39.3	18.9	10.7	5.6	4.0	2.6					37.6	17.8	9.7	4.4	3.0	1.8				
		316					26.7	12.4	10.7	5.6	4.0	2.6					25.0	11.4	9.7	4.4	3.0	1.8					
	Δ P	630					7.3	3.7	2.1	1.2	0.9	0.6					7.0	3.5	2.0	1.0	0.7	0.5					
	316					5.1	2.6	2.1	1.2	0.9	0.6						4.8	2.4	2.0	1.0	0.7	0.5					
	Metal seat	Shut-off	630					7.0	7.0	6.2	2.8	1.7	0.9					7.0	7.0	5.4	1.7	0.9	0.3				
		316					7.0	6.4	6.2	2.8	1.7	0.9						7.0	5.5	5.4	1.7	0.9	0.3				
316	630					7.0	3.7	2.1	1.2	0.9	0.6						7.0	3.5	2.0	1.0	0.7	0.3					
316	316					5.1	2.6	2.1	1.2	0.9	0.6						4.8	2.4	2.0	1.0	0.7	0.3					
36D2RA 34D2RA (150 kgf-m)	Soft seat	Shut-off	630					30.0	17.5	9.9	7.3	5.2						51.0	28.9	16.6	8.7	6.4	4.4				
		316					12.4	17.5	9.9	7.3	5.2						25.0	11.4	16.6	8.7	6.4	4.4					
	Δ P	630					5.6	3.3	2.0	1.4	1.0						10.7	5.4	3.1	1.8	1.3	0.9					
	316					2.6	3.3	2.0	1.4	1.0							4.8	2.4	3.1	1.8	1.3	0.9					
	Metal seat	Shut-off	630					7.0	7.0	6.4	4.6	3.2						7.0	7.0	7.0	5.4	3.7	2.5				
		316					6.4	7.0	6.4	4.6	3.2							7.0	5.5	7.0	5.4	3.7	2.5				
316	630					5.6	3.3	2.0	1.4	1.0							7.0	5.4	3.1	1.8	1.3	0.9					
316	316					2.6	3.3	2.0	1.4	1.0							4.8	2.4	3.1	1.8	1.3	0.9					

Table 5-4 Diaphragm Actuator

Body Class	Packing • Valve size						Teflon-asbestos (P4513+P4513L)								Pillarfoil (P6616A+P316)									
	Actuator Size	Air Supply (off-Balance) kgf/cm²G	Spring range kgf/cm²	Seal ring	Purpose	Stem Material SUS	3"	4"	5"	6"	8"	10"	12"	3"	4"	5"	6"	8"	10"	12"				
							80	100	125	150	200	250	300	80	100	125	150	200	250	300				
L Class Body/JIS 10K, ANSI Class 150	218	3.0(0.8)	0.8~2.0	Soft seat	Shut-off	630	4.3	-						2.5	-									
						316	4.3	-					2.5	-										
					△ P	630	0.8	-					0.4	-										
						316	0.8	-					0.4	-										
		3.4(1.2)	RA 1.2~3.0 DA 0.8~2.0	Soft seat	Shut-off	630	11.5	1.4						9.8	-									
						316	7.1	1.4					5.3	-										
	△ P				630	0.8	0.3					0.4	-											
					316	0.8	0.3					0.4	-											
	270	3.0(0.8)	0.8~2.0	Soft seat	Shut-off	630	19.0	8.8	5.3	2.2				19.0	7.2	4.1	1.5							
						316	7.1	8.8	5.3	2.2				5.3	7.2	4.1	1.5							
					△ P	630	2.7	1.1	0.7	0.4				2.3	0.8	0.5	0.2							
						316	2.7	1.1	0.7	0.4				2.3	0.8	0.5	0.2							
				Metal seat	Shut-off	630	4.7	-	-	-				3.4	-	-	-							
						316	-	-	-	-	-	-	-	-	-	-	-	-						
					△ P	630	2.7	-	-	-				2.3	-	-	-							
						316	-	-	-	-	-	-	-	-	-	-	-	-						
		3.4(1.2)	RA 1.2~3.0 DA 0.8~2.0	Soft seat	Shut-off	630	19.0	18.0	12.3	6.5				19.0	16.4	11.0	5.7							
						316	7.1	11.2	7.1	3.3				5.3	9.6	5.9	2.6							
					△ P	630	4.2	1.9	1.2	0.6				3.8	1.6	0.9	0.5							
						316	3.5	1.9	1.2	0.6				3.1	1.6	0.9	0.5							
	Metal seat	Shut-off	630	4.7	1.1	-	-				3.4	-	-	-										
			316	-	-	-	-	-	-	-	-	-	-	-	-									
		△ P	630	4.2	1.1	-	-				3.4	-	-	-										
			316	-	-	-	-	-	-	-	-	-	-	-	-									
350	3.0(0.8)	0.8~2.0	Soft seat	Shut-off	630			19.0	13.7	4.2						19.0	13.0	3.4						
					316			7.1	3.3	4.2					5.9	2.6	3.4							
				△ P	630			2.0	1.0	0.3							1.8	0.9	0.2					
					316			2.0	1.0	0.3							1.8	0.9	0.2					
			Metal seat	Shut-off	630			7.0	2.8	-						7.0	2.2	-						
					316			-	-	-	-	-	-	-	-	-	-	-	-					
				△ P	630			2.0	1.0	-							1.8	0.9	-					
					316			-	-	-	-	-	-	-	-	-	-	-	-	-				
450	3.0(0.8)	0.8~2.0	Soft seat	Shut-off	630					15.7	9.3	5.1						14.9	8.7	4.6				
					316					5.0	4.7	2.1					4.2	4.1	1.6					
				△ P	630					1.3	0.7	0.4							1.2	0.6	0.3			
					316					1.3	0.7	0.4							1.2	0.6	0.3			
			Metal seat	Shut-off	630					7.0	4.1	1.5							7.0	3.6	1.1			
					316					0.1	0.4	-							-	0.1	-			
				△ P	630					1.3	0.7	0.4							1.2	0.6	0.3			
					316					0.1	0.4	-							-	0.1	-			
M Class Body/JIS 20K, ANSI Class 300	270	3.0(0.8)	0.8~2.0	Soft seat	Shut-off	630	17.2							14.6										
						316	17.2							14.6										
					△ P	630	2.2							1.6										
						316	2.2							1.6										
					3.4(1.2)	RA 1.2~3.0 DA 0.8~2.0	Soft seat	Shut-off	630	32.5	18.0						29.9	16.5						
									316	21.2	11.2						18.6	9.7						
		△ P	630	3.6				1.9						1.2	1.6									
			316	3.6				1.9						1.2	1.6									
		Metal seat	Shut-off	630				7.0	1.0						7.0	-								
				316				6.4	0.2						3.4	-								
			△ P	630	3.6	1.0						3.0	-											
				316	3.6	0.2						3.0	-											
	350	3.0(0.8)	0.8~2.0	Soft seat	Shut-off	630	51.0	33.8	18.2	10.6				51.0	32.2	15.8	8.9							
						316	21.2	11.2	18.2	10.6				18.6	9.7	15.8	8.9							
					△ P	630	6.1	3.2	1.6	1.0				5.4	2.9	1.0	0.6							
						316	6.1	3.2	1.6	1.0				5.4	2.9	1.0	0.6							
					Metal seat	Shut-off	630	7.0	7.0	6.7	2.4				7.0	7.0	4.6	1.0						
							316	6.4	0.2	6.7	2.4				3.4	0.1	4.6	1.0						
				△ P		630	6.1	3.2	1.6	1.0				5.4	2.9	1.0	0.6							
						316	6.1	0.2	1.6	1.0				3.4	0.1	1.0	0.6							
				450	3.0(0.8)	0.8~2.0	Soft seat	Shut-off	630			51.0	33.4	20.1	9.0	4.6			48.8	31.7	18.3	8.0	3.6	
									316			20.4	12.0	20.1	9.0	4.6			17.9	10.4	12.3	8.0	3.6	
								△ P	630			5.7	3.6	1.3	0.6	0.3				5.2	3.2	1.0	0.4	0.2
									316			5.4	3.4	1.3	0.6	0.3				4.9	3.0	1.0	0.4	0.2
Metal seat	Shut-off	630							7.0	7.0	7.0	3.6	1.1				7.0	7.0	7.0	2.7	0.3			
		316							7.0	3.6	7.0	3.6	1.1				6.3	3.2	7.0	2.7	0.3			
△ P	630			5.7	3.6	1.3	0.6	0.3					5.2	3.2	1.0	0.4	0.2							
	316			5.4	3.4	1.3	0.6	0.3					4.9	3.0	1.0	0.4	0.2							

Fig. 6 Actuator Mounting Forms (For Model 5200RA)



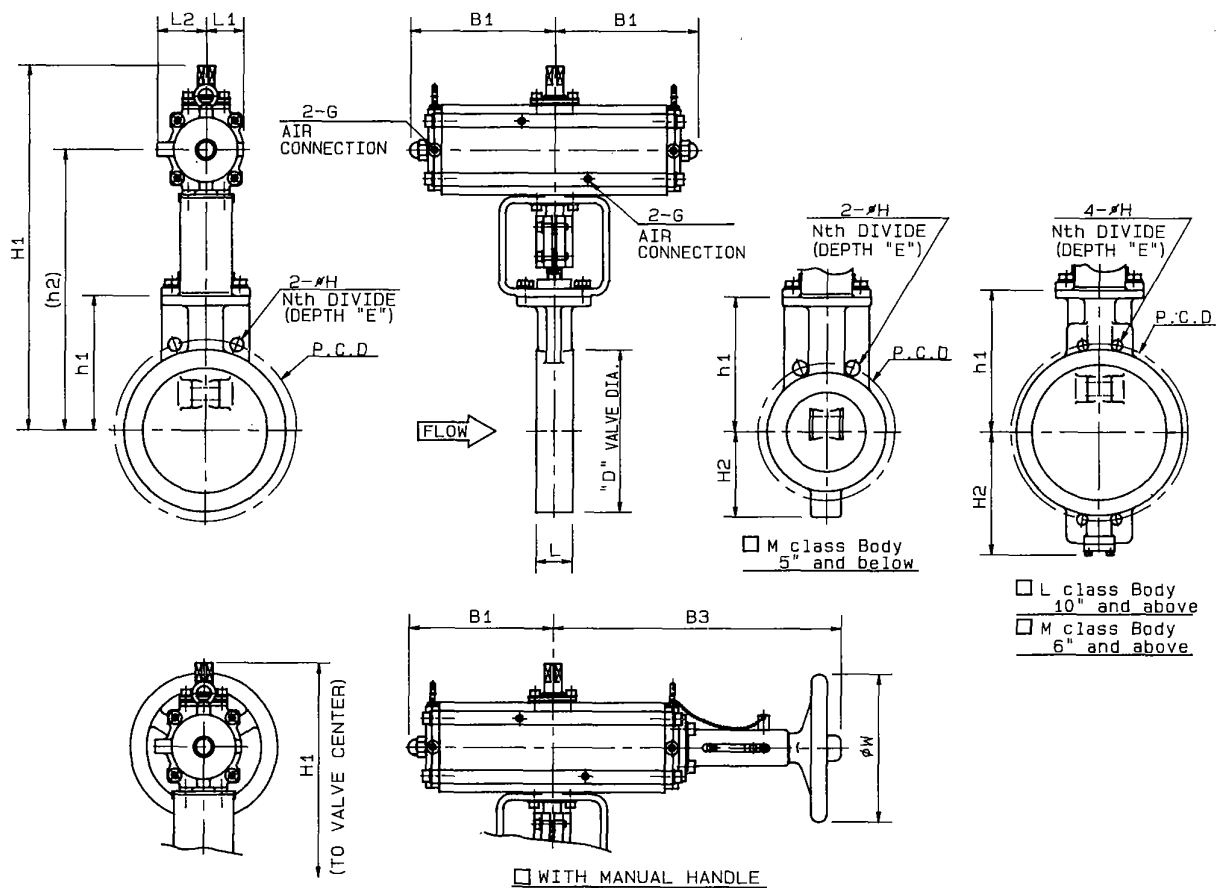
Note: Specify mounting form if not TYPE S. Otherwise, TYPE S is automatically applied.

Table 6 Net Weight of Standard Valve and Actuator Combined. (Unit: kg)

Only standard types are represented. Weights of accessories, a handwheel and the like are not included.

Body Class	Actuator Size			Valve size																					
				3" 80	4" 100	5" 120	6" 150	8" 200	10" 250	12" 300	14" 350	16" 400	18" 450	20" 500	24" 600	28" 700	32" 800	36" 900	40" 1000	44" 1100	48" 1200	54" 1350	60" 1500		
L Class Body	Double Acting	6600RA	60	12	14																				
			90	16	18	24	27	32																	
			130			29	32	37	52	72															
		6500RA	170						110	130	140	180	210	240											
			200								190	230	260	290	465	510									
			280										400	430											
		6400RA	200												710	755	990	1040	1140	1390	1540	1900	2300		
			280															1250	1350	1550	1700	2150	2550		
		Spring return	6600RA	90	21	23	29																		
	130			39	41	47	50	55																	
	6500RA		200					170	187	210	225	275													
			280								350	400	425	445	590										
	Diaphragm Actuator 5200RA		360												690	835	880								
			218	29	31																				
			270	39	41	47																			
			350			82	85	90																	
			450					135	150	170															
		35A2RB, 35B1RB, 35B2RB,	36A2RA, 36B1RA, 36B2RA,	34A2RA 34B1RA 34B2RA	16	18																			
				21	23	29	32	37																	
		35C1RB, 35C2RB, 35C3RB,	36C1RA, 36C2RA, 36C3RA,	34C1RA 34C2RA 34C3RA					65	80	100	110	150												
			36D1RA, 34D1RA									200	240	270											
	M Class Body	Double Acting	6600RA	60	20	23																			
				90	24	27	34																		
				130		32			52	67	107														
			6500RA	170						125	165	190	240												
				200							215	240	290	370	420	490									
				280								380	430	510	560	630	810	1000							
			6400RA	200											700	770	950								
280																		1350	1650	1850	2000	2350	2800	3450	4150
Spring return			6600RA	90	29	32																			
		130		47	50	57	70																		
		6500RA	200						200	237	270	325	410												
			280									450	540	585	645	840									
			360												890	1085	1280								
Diaphragm Actuator 5200RA			218																						
			270	47	50																				
			350	82	85	92	105	120																	
			450			137	150	165	205																
		35A2RB, 35B1RB, 35B2RB,	36A2RA, 36B1RA, 36B2RA,	34A2RA 34B1RA 34B2RA	29	32	39	52																	
		35C1RB, 35C2RB, 35C3RB,	36C1RA, 36C2RA, 36C3RA,	34C1RA 34C2RA 34C3RA			67	80	95	135															
			36D1RA, 34D1RA						185	225	250	300	380	430											

PARA-SEAL Double acting cylinder



DIMENSIONS

UNIT: mm

VALVE SIZE		L Class Body						M Class Body						ACTUATOR									
		□ JIS10k			□ ANSI Class 150			□ JIS20k			□ ANSI Class 300			Cylinder size	B1	L1	L2	G	□ WITH MANUAL HANDLE		CODE No.		
		L	h1	H2	D	h2	H1	L	h1	H2	D	h2	H1						B3	W			
03	□ 3" (80A)	46	137	—	133	295 315	385 425	64	162	120	135	325 345	415 455	□ 60 □ 90	155 200	38 55	55 70	RC1/8 RC1/8	305 395	140 140	6606RA 6609RA		
04	□ 4" (100A)	52	160	—	155	320	410	64	172	130	160	335	425	□ 60	155	38	55	RC1/8	305	140	6606RA		
						335	450					355	465	□ 90	200	55	70	RC1/8	395	140	6609RA		
						—	—					395	545	□ 130	270	75	100	RC1/4	530	300	6613RA		
05	□ 5" (125A)	56	170	—	187	350	465	70	220	140	195	430	545	□ 90	200	55	70	RC1/8	395	140	6609RA		
						395	545					470	620	□ 130	270	75	100	RC1/4	530	300	6613RA		
06	□ 6" (150A)	56	185	—	216	365	480	76	230	205	230	—	—	□ 90	200	55	70	RC1/8	395	140	6609RA		
						410	560					480	630	□ 130	270	75	100	RC1/4	530	300	6613RA		
08	□ 8" (200A)	60	220	—	266	430	545	89	290	255	275	—	—	□ 90	200	55	70	RC1/8	395	140	6609RA		
						470	620					555	705	□ 130	270	75	100	RC1/4	530	300	6613RA		
10	□ 10" (250A)	68	280	235	330	530	680	114	306	270	350	570	720	□ 130	270	75	100	RC1/4	530	300	6613RA		
12	□ 12" (300A)	78	320	320	375	585	735	—	—	—	—	—	—	□ 130	270	75	100	RC1/4	530	300	6613RA		

VALVE SIZE	JIS 10k					JIS 20k					ANSI Class 150					ANSI Class 300				
		P.C.D	N	H	E		P.C.D	N	H	E		P.C.D	N	H	E		P.C.D	N	H	E
3" (80A)	□	150	8	19		□	160	8	23		□					□	168.1	8	22	
4" (100A)	□	175	8	19		□	185	8	23		□	190.5	8	19		□	200.2	8	22	
5" (125A)	□	210	8	23		□	225	8	25		□	215.9	8	22		□	235	8	22	
6" (150A)	□	240	8	23		□	260	12	M22	20	□	241.3	8	22		□	269.7	12	22	
8" (200A)	□	290	12	23		□	305	12	M22	28	□	298.4	8	22		□	330.2	12	25	
10" (250A)	□	355	12	25		□	380	12	27		□	362	12	25		□	387.4	16	UNC 1	24
12" (300A)	□	400	16	25		□	—	—	—	—	□	431.8	12	25		□	—	—	—	—

NOTE :

DRAWING No.

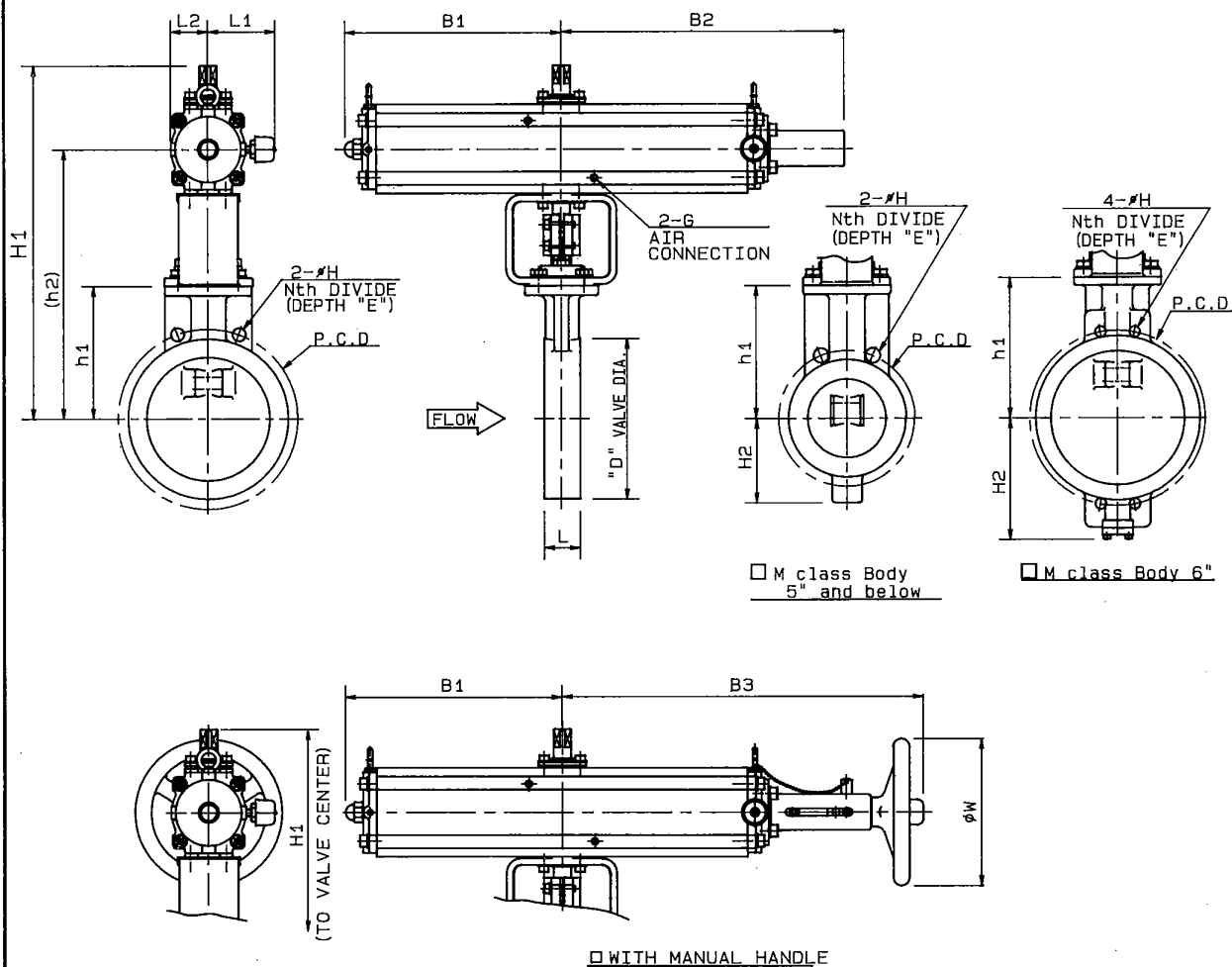
E-710C-6600RA-W-^N_S

REV

B

KOSO

PARA-SEAL Spring return cylinder



DIMENSIONS

UNIT: mm

DIMENSIONS														ACTUATOR										UNIT: mm	
CODE No.	VALVE SIZE	L Class Body						M Class Body						Cylinder size	B1	B2	L1	L2	G	WITH MANUAL HANDLE		CODE No.			
		□ JIS10k			□ ANSI Class 150			□ JIS20k			□ ANSI Class 300									B3	W				
		L	h1	H2	D	h2	H1	L	h1	H2	D	h2	H1												
03	□ 3" (80A)	46	137	—	133	315 355	445 505	64	162	120	135	345 385	475 535	□ 90 □ 130	290 395	375 500	95 115	55 75	RC1/8 RC1/4	480 655	140 300	6609RA 6613RA			
04	□ 4" (100A)	52	160	—	155	335 380	470 530	64	172	130	160	355 395	485 545	□ 90 □ 130	290 395	375 500	95 115	55 75	RC1/8 RC1/4	480 655	140 300	6609RA 6613RA			
05	□ 5" (125A)	56	170	—	187	350 395	485 545	70	220	140	195	— 470	— 620	□ 90 □ 130	290 395	375 500	95 115	55 75	RC1/8 RC1/4	480 655	140 300	6609RA 6613RA			
06	□ 6" (150A)	56	185	—	216	410 470	560 620	76	230	205	230	480 —	630 —	□ 130 □ 130	395 395	500 500	115 115	75 75	RC1/4 RC1/4	655 655	300 300	6613RA 6613RA			
08	□ 8" (200A)	60	220	—	266	470 530	620 680	—	—	—	—	— 470	— 620	□ 130 □ 130	395 395	500 500	115 115	75 75	RC1/4 RC1/4	655 655	300 300	6613RA 6613RA			

VALVE SIZE	JIS 10k					JIS 20k					ANSI Class 150					ANSI Class 300				
	P.C.D	N	H	E		P.C.D	N	H	E		P.C.D	N	H	E		P.C.D	N	H	E	
3" (80A)	□ 150	8	19			□ 160	8	23			□ 190.5	8	19			□ 168.1	8	22		
4" (100A)	□ 175	8	19			□ 185	8	23			□ 200.2	8	22			□ 200.2	8	22		
5" (125A)	□ 210	8	23			□ 225	8	25			□ 215.9	8	22			□ 235	8	22		
6" (150A)	□ 240	8	23			□ 260	12	M22	20		□ 241.3	8	22			□ 269.7	12	22		
8" (200A)	□ 290	12	23			□					□ 298.4	8	22			□				

NOTE :

DRAWING No.

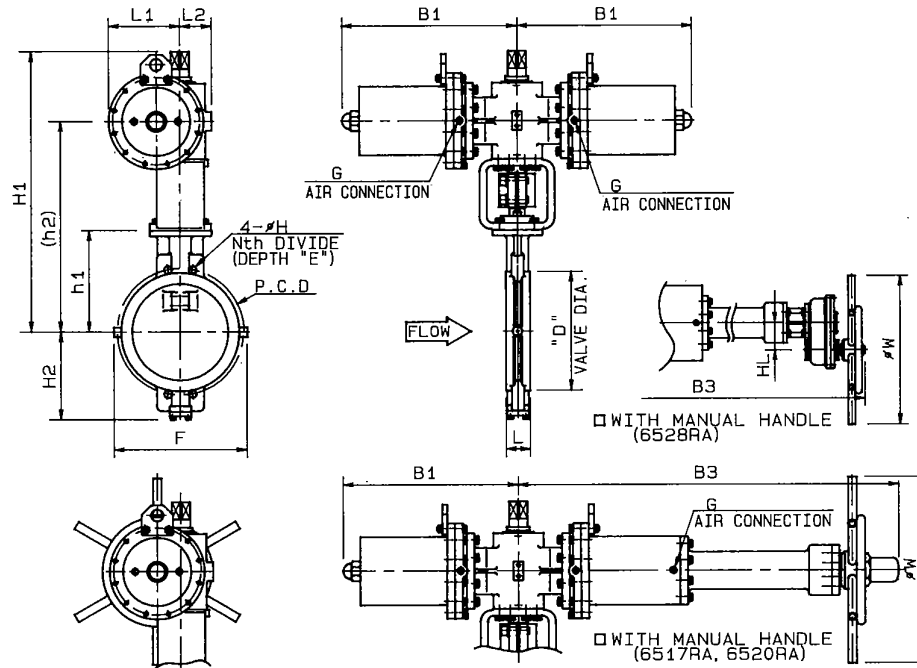
E-710C-6600RA-D-N
R-S

REV

C

KOSO

PARA-SEAL Double acting cylinder



DIMENSIONS

UNIT: mm

VALVE SIZE CODE No.		L Class Body							M Class Body							ACTUATOR									
		□ JIS 5k □ JIS10k			□ ANSI Class 150				□ JIS20k				□ ANSI Class 300			Cylinder size		B1	L1	L2	G	□ WITH MANUAL HANDLE			CODE No.
		L	h1	H2	D	F	h2	H1	L	h1	H2	D	F	h2	H1							B3	HL	W	
08	□ 8" (200A)	—	—	—	—	—	—	89	290	255	275	—	595	830	□ 170	440	205	90	RC3/8	1015	—	400	6517RA		
10	□ 10" (250A)	68	280	235	330	—	575	810	114	306	270	350	—	610	845	□ 170	440	205	90	RC3/8	1015	—	400	6517RA	
							605	880						640	915	□ 200	555	230	100	RC1/2	1210	—	590	6520RA	
							625	860						725	960	□ 170	440	205	90	RC3/8	1015	—	400	6517RA	
12	□ 12" (300A)	78	320	280	375	—	650	925	114	410	370	400	—	755	1030	□ 200	555	230	100	RC1/2	1210	—	590	6520RA	
							725	1055						830	1160	□ 280	675	290	130	RC1/2	1620	196	590	6528RA	
							670	905						785	1020	□ 170	440	205	90	RC3/8	1015	—	400	6517RA	
14	□ 14" (350A)	78	365	325	416	500	695	970	127	435	395	445	560	830	1105	□ 200	555	230	100	RC1/2	1210	—	590	6520RA	
							770	1100						885	1215	□ 280	675	290	130	RC1/2	1620	—	590	6528RA	
							710	945						805	1040	□ 170	440	205	90	RC3/8	1015	—	400	6517RA	
16	□ 16" (400A)	102	395	355	480	540	740	1015	140	455	415	505	600	850	1125	□ 200	555	230	100	RC1/2	1210	—	590	6520RA	
							815	1145						905	1235	□ 280	675	290	130	RC1/2	1620	196	590	6528RA	
							740	975						830	1065	□ 170	440	205	90	RC3/8	1015	—	400	6517RA	
18	□ 18" (450A)	114	425	370	528	610	770	1045	152	480	440	560	660	875	1150	□ 200	555	230	100	RC1/2	1210	—	590	6520RA	
							845	1175						930	1260	□ 280	675	290	130	RC1/2	1620	—	590	6528RA	
							775	1010						850	1085	□ 170	440	205	90	RC3/8	1015	—	400	6517RA	
20	□ 20" (500A)	127	460	405	580	650	805	1080	152	500	460	615	720	895	1170	□ 200	555	230	100	RC1/2	1210	—	590	6520RA	
							880	1210						950	1280	□ 280	675	290	130	RC1/2	1620	196	590	6528RA	
							955	1230						1015	1290	□ 200	555	230	100	RC1/2	1210	—	590	6520RA	
24	□ 24" (600A)	130	560	490	685	740	1010	1340	154	617	565	720	820	1070	1400	□ 280	675	290	130	RC1/2	1620	196	590	6528RA	
							1005	1280						□ 200	555	230	100	RC1/2	1210	—	590	6520RA			
							1060	1390						□ 280	675	290	130	RC1/2	1620	196	590	6528RA			
32	□ 32" (800A)	160	725	665	890	980	1175	1505	—	—	—	—	—	—	□ 280	675	290	130	RC1/2	1620	196	590	6528RA		
36	□ 36" (900A)	160	695	650	990	1100	1145	1475	—	—	—	—	—	—	□ 280	675	290	130	RC1/2	1620	196	590	6528RA		
40	□ 40" (1000A)	160	755	710	1090	1200	1205	1535	—	—	—	—	—	—	□ 280	675	290	130	RC1/2	1620	196	590	6528RA		
44	□ 44" (1100A)	170	820	765	1200	1300	1270	1600	—	—	—	—	—	—	□ 280	675	290	130	RC1/2	1620	196	590	6528RA		

VALVE SIZE	JIS 5k					JIS 10k					JIS 20k					ANSI Class 150					ANSI Class 300				
	P.C.D	N	H	E		P.C.D	N	H	E		P.C.D	N	H	E		P.C.D	N	H	E		P.C.D	N	H	E	
8" (200A)	□				□					□	305	12	M22	28	□					□	330.2	12	25		
10" (250A)	□				□	355	12	25		□	380	12	27		□	362	12	25		□	387.4	16	UNC 1	24	
12" (300A)	□				□	400	16	25		□	430	16	M24	30	□	431.8	12	25		□	450.8	16	1-1/8-UN	28	
14" (350A)	□				□	445	16	25		□	480	16	M30x3	30	□	476.2	12	29		□	541.4	20	1-1/8-UN	25	
16" (400A)	□				□	510	16	27		□	540	16	M30x3	35	□	539.8	16	29		□	571.5	20	1-1/4-UN	30	
18" (450A)	□				□	565	20	M24	28	□	605	20	M30x3	32	□	577.8	16	32		□	628.6	24	1-1/4-UN	28	
20" (500A)	□				□	620	20	M24		□	660	20	M30x3	36	□	635	20	1-1/8-UN	30	□	685.8	24	1-1/4-UN	32	
24" (600A)	□				□	730	24	M30x3	26	□	770	24	M36x3	34	□	749.3	20	1-1/4-UN	32	□	812.8	24	1-1/2-UN	34	
28" (700A)	□				□	840	24	M30x3	35	□					□					□					
32" (800A)	□				□	950	28	M30x3	36	□					□					□					
36" (900A)	□	1030	24	33	□	1050	28	M30x3	36	□					□					□					
40" (1000A)	□	1130	28	M30x3	40	□	1160	28	M36x3	36	□				□					□					
44" (1100A)	□	1240	28	M30x3	38	□	1270	28	M36x3	45	□				□					□					

NOTE :

DRAWING No.

E-710C-6500RA-W-N
S

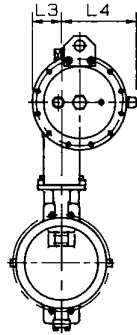
REV

C

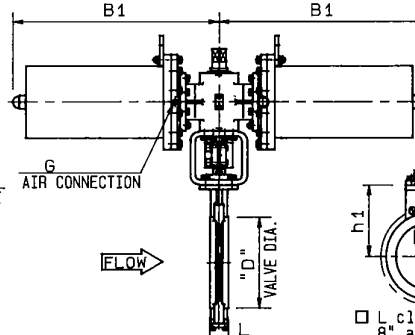
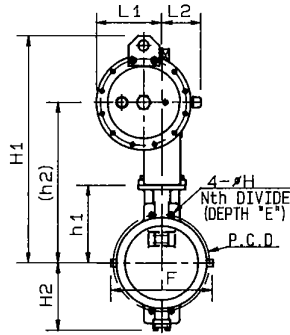
KOSO

PARA-SEAL Spring return cylinder

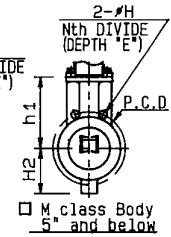
□ DIRECT ACTION



□ REVERSE ACTION

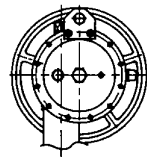


□ L class Body
8" and below

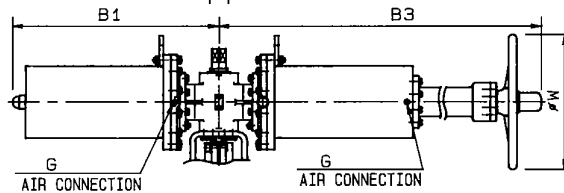
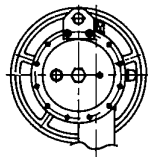


□ M class Body
5" and below

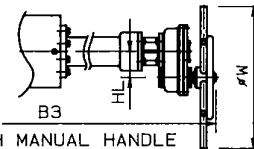
□ DIRECT ACTION



□ REVERSE ACTION



□ WITH MANUAL HANDLE
(6520RA)



□ WITH MANUAL HANDLE
(6528RA, 6536RA)

DIMENSIONS

UNIT: mm

VALVE SIZE		L Class Body						M Class Body						ACTUATOR												
		□ JIS10k			□ ANSI Class 150			□ JIS20k			□ ANSI Class 300			Cylinder size								□ WITH MANUAL HANDLE			CODE No.	
		L	h1	H2	D	F	h2	H1	L	h1	H2	D	F									h2	H1	B3		HL
05	□ 5" (125A)	—	—	—	—	—	—	70	220	140	195	—	515	750	□ 200	770	211	135	91	255	RC3/8	1330	—	400	6520RA	
06	□ 6" (150A)	56	185	—	216	—	460	695	76	230	205	230	—	525	760	□ 200	770	211	135	91	255	RC3/8	1330	—	400	6520RA
08	□ 8" (200A)	60	220	—	266	—	515	750	89	290	255	275	—	595	830	□ 200	770	211	135	91	255	RC3/8	1330	—	400	6520RA
08	□ 8" (200A)	60	220	—	266	—	515	750	89	290	255	275	—	605	840	□ 280	865	275	165	122	315	RC1/2	1615	108	590	6528RA
10	□ 10" (250A)	68	280	235	330	—	575	810	114	306	270	350	—	610	845	□ 200	770	211	135	91	255	RC3/8	1330	—	400	6520RA
10	□ 10" (250A)	68	280	235	330	—	605	880	114	306	270	350	—	640	915	□ 280	865	275	165	122	315	RC1/2	1615	108	590	6528RA
12	□ 12" (300A)	78	320	280	375	—	625	860	114	410	370	400	—	—	□ 200	770	211	135	91	255	RC3/8	1330	—	400	6520RA	
12	□ 12" (300A)	78	320	280	375	—	650	925	114	410	370	400	—	755	1030	□ 280	865	275	165	122	315	RC1/2	1615	108	590	6528RA
12	□ 12" (300A)	78	320	280	375	—	670	905	114	410	370	400	—	830	1160	□ 360	1070	315	265	135	355	RC1/2	1990	196	590	6536RA
14	□ 14" (350A)	78	365	325	416	500	695	970	127	435	395	445	560	—	□ 200	770	211	135	91	255	RC3/8	1330	—	400	6520RA	
14	□ 14" (350A)	78	365	325	416	500	695	970	127	435	395	445	560	830	1105	□ 280	865	275	165	122	315	RC1/2	1615	108	590	6528RA
14	□ 14" (350A)	78	365	325	416	500	695	970	127	435	395	445	560	885	1215	□ 360	1070	315	265	135	355	RC1/2	1990	196	590	6536RA
16	□ 16" (400A)	102	395	355	480	540	740	1015	140	455	415	505	600	850	1125	□ 280	865	275	165	122	315	RC1/2	1615	108	590	6528RA
16	□ 16" (400A)	102	395	355	480	540	815	1145	140	455	415	505	600	905	1235	□ 360	1070	315	265	135	355	RC1/2	1990	196	590	6536RA
18	□ 18" (450A)	114	425	370	528	610	770	1045	152	480	440	560	660	875	1150	□ 280	865	275	165	122	315	RC1/2	1615	108	590	6528RA
18	□ 18" (450A)	114	425	370	528	610	845	1175	152	480	440	560	660	930	1260	□ 360	1070	315	265	135	355	RC1/2	1990	196	590	6536RA
20	□ 20" (500A)	127	460	405	580	650	805	1080	152	500	460	615	720	—	□ 280	865	275	165	122	315	RC1/2	1615	108	590	6528RA	
20	□ 20" (500A)	127	460	405	580	650	880	1210	152	500	460	615	720	950	1280	□ 360	1070	315	265	135	355	RC1/2	1990	196	590	6536RA
24	□ 24" (600A)	130	560	490	685	740	955	1230	154	617	565	720	820	—	□ 280	865	275	165	122	315	RC1/2	1615	108	590	6528RA	
24	□ 24" (600A)	130	560	490	685	740	1010	1340	154	617	565	720	820	1070	1400	□ 360	1070	315	265	135	355	RC1/2	1990	196	590	6536RA
28	□ 28" (700A)	140	610	540	782	850	1060	1390	—	—	—	—	—	—	□ 360	1070	315	265	135	355	RC1/2	1990	196	590	6536RA	
32	□ 32" (800A)	160	725	665	890	980	1175	1505	—	—	—	—	—	—	□ 360	1070	315	265	135	355	RC1/2	1990	196	590	6536RA	

VALVE SIZE	JIS 10k				JIS 20k				ANSI Class 150				ANSI Class 300							
	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E				
5" (125A)	□				□	225	8	25	□				□	235	8	22				
6" (150A)	□	240	8	23	□	260	12	M22	20	□	241.3	8	22	□	269.7	12	22			
8" (200A)	□	290	12	23	□	305	12	M22	28	□	298.4	8	22	□	330.2	12	25			
10" (250A)	□	355	12	25	□	380	12	27		□	362	12	25	□	387.4	16	UNC 1	24		
12" (300A)	□	400	16	25	□	430	16	M24	30	□	431.8	12	25	□	450.8	16	1-1/8-BUN	28		
14" (350A)	□	445	16	25	□	480	16	M30x3	30	□	476.2	12	29	□	541.4	20	1-1/8-BUN	25		
16" (400A)	□	510	16	27	□	540	16	M30x3	35	□	539.8	16	29	□	571.5	20	1-1/4-BUN	30		
18" (450A)	□	565	20	M24	28	□	605	20	M30x3	32	□	577.8	16	32	□	628.6	24	1-1/4-BUN	28	
20" (500A)	□	620	20	M24		□	660	20	M30x3	36	□	635	20	1-1/8-BUN	30	□	685.8	24	1-1/4-BUN	32
24" (600A)	□	730	24	M30x3	26	□	770	24	M36x3	34	□	749.3	20	1-1/4-BUN	32	□	812.8	24	1-1/2-BUN	34
28" (700A)	□	840	24	M30x3	35	□					□					□				
32" (800A)	□	950	28	M30x3	36	□					□					□				

NOTE :

DRAWING No.

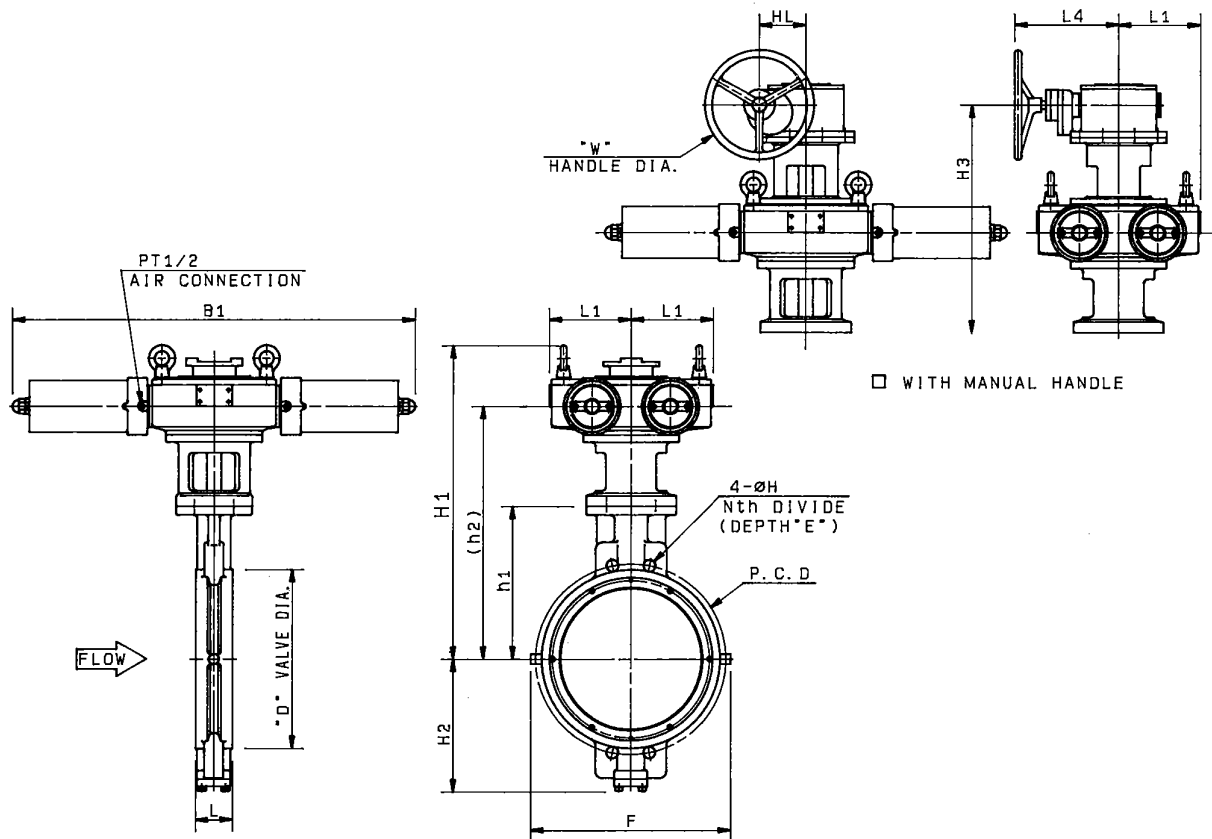
E-710C-6500RA-D N
R S

REV

B

KOSO

PARA-SEAL Double acting cylinder



DIMENSIONS

UNIT:mm

VALVE SIZE CODE No.		L Class BODY							ACTUATOR							
		□ JIS 5k			□ ANSI Class 150				Cylinder size	B1	L1	□ WITH MANUAL HANDLE				CODE No.
		L	h1	H2	D	F	h2	H1				H3	L4	HL	W	
24	□ 24" (600A)	130	560	490	685	740	980	1250	□ 200	1690	345	1485	455	104	460	6420RA
28	□ 28" (700A)	140	610	540	782	850	1030	1300	□ 200	1690	345	1535	455	104	460	6420RA
32	□ 32" (800A)	160	725	665	890	980	1145	1415	□ 200	1690	345	1650	455	104	460	6420RA
36	□ 36" (900A)	160	695	650	990	1100	1115	1385	□ 200	1690	345	1620	455	104	460	6420RA
40	□ 40" (1000A)	160	755	710	1090	1200	1140	1450	□ 280	1980	395	1715	550	118	460	6428RA
							1175	1445	□ 200	1690	345	1680	455	104	460	6420RA
44	□ 44" (1100A)	160	820	765	1200	1300	1200	1510	□ 280	1980	395	1775	550	118	460	6428RA
							1240	1510	□ 200	1690	345	1745	455	104	460	6420RA
48	□ 48" (1200A)	180	890	850	1305	1440	1265	1575	□ 280	1980	395	1840	550	118	460	6428RA
							1310	1580	□ 200	1690	345	1815	455	104	460	6420RA
54	□ 54" (1350A)	210	960	920	1460	1610	1335	1645	□ 280	1980	395	1910	550	118	460	6428RA
							1380	1650	□ 200	1690	345	1885	455	104	460	6420RA
60	□ 60" (1500A)	210	1035	995	1615	1760	1405	1715	□ 280	1980	395	1980	550	118	460	6428RA
							1455	1725	□ 200	1690	345	1960	455	104	460	6420RA
							1480	1790	□ 280	1980	395	2055	550	118	460	6428RA

VALVE SIZE	JIS 5k				JIS 10k				ANSI Class 150				JPI Class 150			
	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E
24" (600A)	□				□	730	24	M30x3	26	□	749.3	20	1-1/4-BUN	32	□	
28" (700A)	□				□	840	24	M30x3	35	□					□	795.3
32" (800A)	□				□	950	28	M30x3	36	□					□	900.1
36" (900A)	□	1030	24	33	□					□					□	
40" (1000A)	□	1130	28	M30x3	40	□				□					□	
44" (1100A)	□	1240	28	M30x3	38	□				□					□	
48" (1200A)	□	1350	32	M30x3	38	□				□					□	
54" (1350A)	□	1505	32	M30x3	40	□				□					□	
60" (1500A)	□	1660	36	M30x3	45	□				□					□	

NOTE:

DRAWING No.

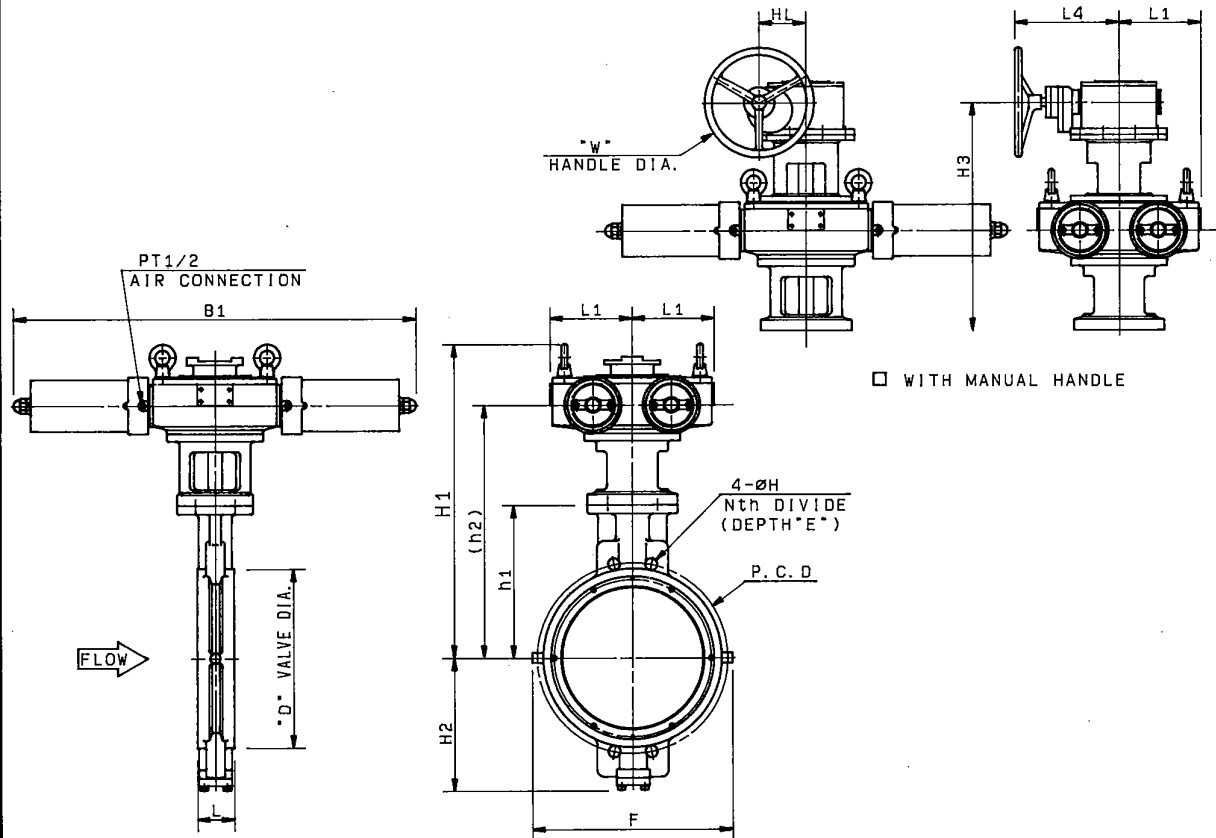
E-710C-L-6400RA-W^N_S

REV

A

KOSO

PARA-SEAL Double acting cylinder



DIMENSIONS

UNIT: mm

VALVE SIZE CODE No.		M Class BODY								ACTUATOR								CODE No.
		☐ JIS 10k				☐ ANSI Class 300				Cylinder size		L1	☐ WITH MANUAL HANDLE					
		☐ JIS 20k				☐ JPI Class 150							H3	L4	HL	W		
L	h1	H2	D	F	h2	H1		B1			H3	L4	HL	W				
18	☐ 18" (450A)	152	480	440	560	660	900	1170	☐ 200	1690	345	1405	460	104	460	6420RA		
20	☐ 20" (500A)	152	500	460	615	720	920	1190	☐ 200	1690	345	1425	460	104	460	6420RA		
24	☐ 24" (600A)	154	617	565	720	820	1040	1310	☐ 200	1690	345	1545	460	104	460	6420RA		
28	☐ 28" (700A)	165	720	655	800	890	1140	1410	☐ 200	1690	345	1645	460	104	460	6420RA		
							1165	1475	☐ 280	1980	395	1740	550	118	460	6428RA		
32	☐ 32" (800A)	190	730	665	905	1000	1150	1420	☐ 200	1690	345	1655	460	104	460	6420RA		
							1175	1485	☐ 280	1980	395	1750	550	118	460	6428RA		
36	☐ 36" (900A)	203	780	730	980	1080	1200	1470	☐ 200	1690	345	1705	460	104	460	6420RA		
							1225	1535	☐ 280	1980	395	1800	550	118	460	6428RA		
40	☐ 40" (1000A)	216	865	800	1110	1220	1285	1555	☐ 200	1690	345	1790	460	104	460	6420RA		
							1310	1620	☐ 280	1980	395	1885	550	118	460	6428RA		
44	☐ 44" (1100A)	216	915	850	1220	1330	1335	1605	☐ 200	1690	345	1840	460	104	460	6420RA		
							1360	1670	☐ 280	1980	395	1935	550	118	460	6428RA		
48	☐ 48" (1200A)	254	1025	960	1325	1460	1445	1715	☐ 200	1690	345	1950	460	104	460	6420RA		
							1470	1780	☐ 280	1980	395	2045	550	118	460	6428RA		
54	☐ 54" (1350A)	318	1100	1035	1480	1630	1620	1890	☐ 200	1690	345	2125	460	104	460	6420RA		
							1645	1955	☐ 280	1980	395	2220	550	118	460	6428RA		
60	☐ 60" (1500A)	330	1200	1150	1635	1780	1770	2040	☐ 200	1690	345	2275	460	104	460	6420RA		
							1795	2105	☐ 280	1980	395	2370	550	118	460	6428RA		

VALVE SIZE	JIS 10k				JIS 20k				JPI Class 150				ANSI Class 300			
	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E
18" (450A)	□				□ 605	20	M30x3	32	□				□ 628.6	24	1-1/4-BUN	28
20" (500A)	□				□ 660	20	M30x3	36	□				□ 685.8	24	1-1/4-BUN	32
24" (600A)	□				□ 770	24	M36x3	34	□				□ 812.8	24	1-1/2-BUN	34
28" (700A)	□ 840	24	M30x3	29	□				□ 795.3	40	3/4UNC	19	□			
32" (800A)	□ 950	28	M30x3	34	□				□ 900.1	48	3/4UNC	25	□			
36" (900A)	□ 1050	28	M30x3	40	□				□ 1009.6	44	7/8UNC	30	□			
40" (1000A)	□ 1160	28	M36x3	40	□				□ 1120.8	44	1UNC	35	□			
44" (1100A)	□ 1270	28	M36x3	40	□				□ 1222.4	52	1UNC	39	□			
48" (1200A)	□ 1380	32	M36x3	45	□				□ 1335.1	44	1-1/8-BUN	45	□			
54" (1350A)	□ 1540	36	M42x3	50	□				□ 1492.2	56	1-1/8-BUN	40	□			
60" (1500A)	□ 1700	40	M42x3	50	□				□ 1662.1	52	1-1/4-BUN	45	□			

NOTE:

DRAWING No.

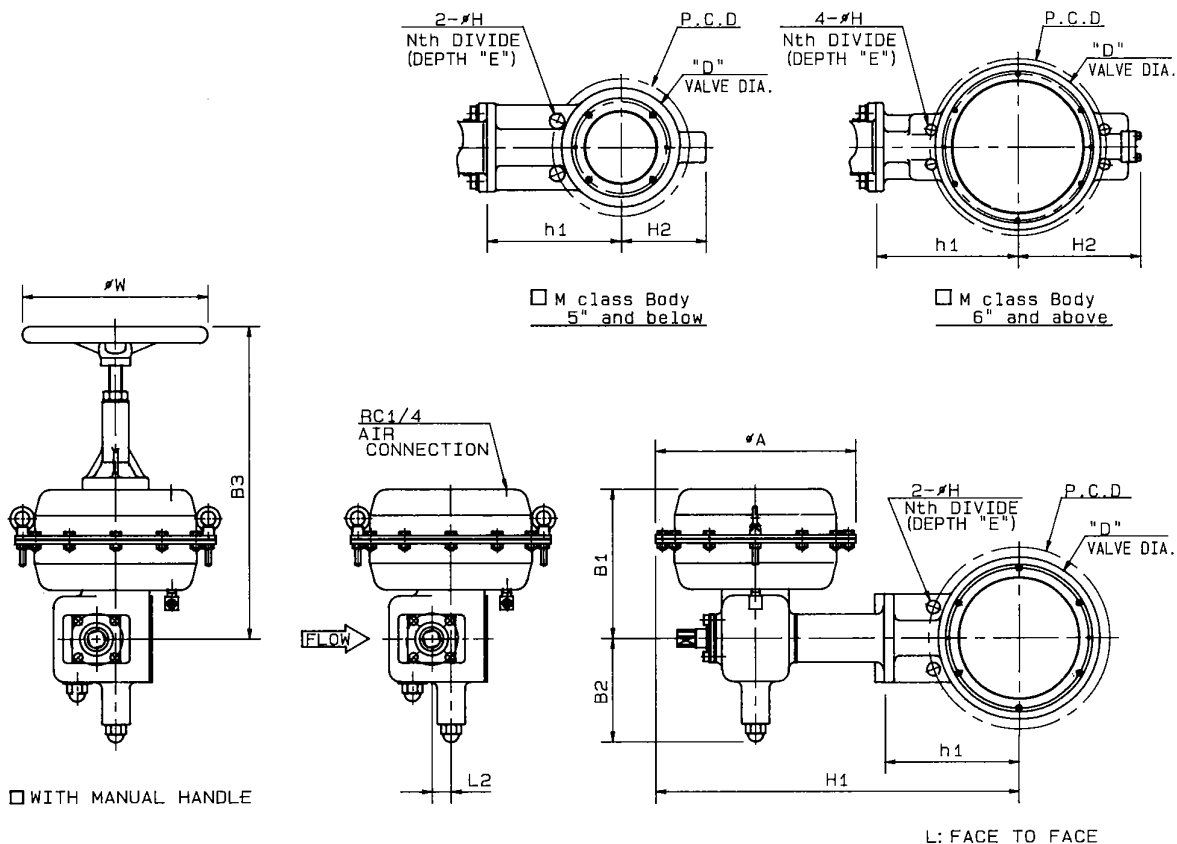
E-710C-M-6400RA-W-N_S

REV

A

KOSO

PARA-SEAL DIRECT ACTION



DIMENSIONS

UNIT: mm

VALVE SIZE CODE No.		L Class Body					M Class Body					ACTUATOR										CODE No.
		☐ JIS10k		☐ ANSI Class 150			☐ JIS20k		☐ ANSI Class 300			size	A	B1	B2	L2	☐ WITH MANUAL HANDLE					
		L	h1	H2	D	H1	L	h1	H2	D	H1						B3	W				
03	☐ 3" (80A)	46	137	—	133	405 445 —	64	162	120	135	475 525 —	☐ 218 ☐ 270 ☐ 350	218 270 350	140 205 235	110 140 155	18 26 35	325 420 495	200 250 320	5218RA 5227RA 5235RA			
04	☐ 4" (100A)	52	160	—	155	425 465 —	64	172	130	160	485 535 —	☐ 218 ☐ 270 ☐ 350	218 270 350	140 205 235	110 140 155	18 26 35	325 420 495	200 250 320	5218RA 5227RA 5235RA			
05	☐ 5" (125A)	56	170	—	187	480 530 495	70	220	140	195	610 —	☐ 270 ☐ 350 ☐ 270	270 350 270	205 235 205	140 155 140	26 35 26	420 495 420	250 320 250	5227RA 5235RA 5227RA			
06	☐ 6" (150A)	56	185	—	216	545 —	76	230	205	230	620 —	☐ 350 ☐ 350	350 350	235 235	155 155	35 35	495 495	320 320	5235RA 5235RA			
08	☐ 8" (200A)	60	220	—	266	610	89	290	255	275	695	☐ 350	350	235	155	35	495	320	5235RA			

VALVE SIZE	JIS 10k					JIS 20k					ANSI Class 150					ANSI Class 300				
	P.C.D	N	H	E		P.C.D	N	H	E		P.C.D	N	H	E		P.C.D	N	H	E	
3" (80A)	☐ 150	8	19			☐ 160	8	23			☐ 190.5	8	19			☐ 168.1	8	22		
4" (100A)	☐ 175	8	19			☐ 185	8	23			☐ 215.9	8	22			☐ 200.2	8	22		
5" (125A)	☐ 210	8	23			☐ 225	8	25			☐ 241.3	8	22			☐ 235	8	22		
6" (150A)	☐ 240	8	23			☐ 260	12	M22	20		☐ 298.4	8	22			☐ 269.7	12	22		
8" (200A)	☐ 290	12	23			☐ 305	12	M22	28							☐ 330.2	12	25		

NOTE :

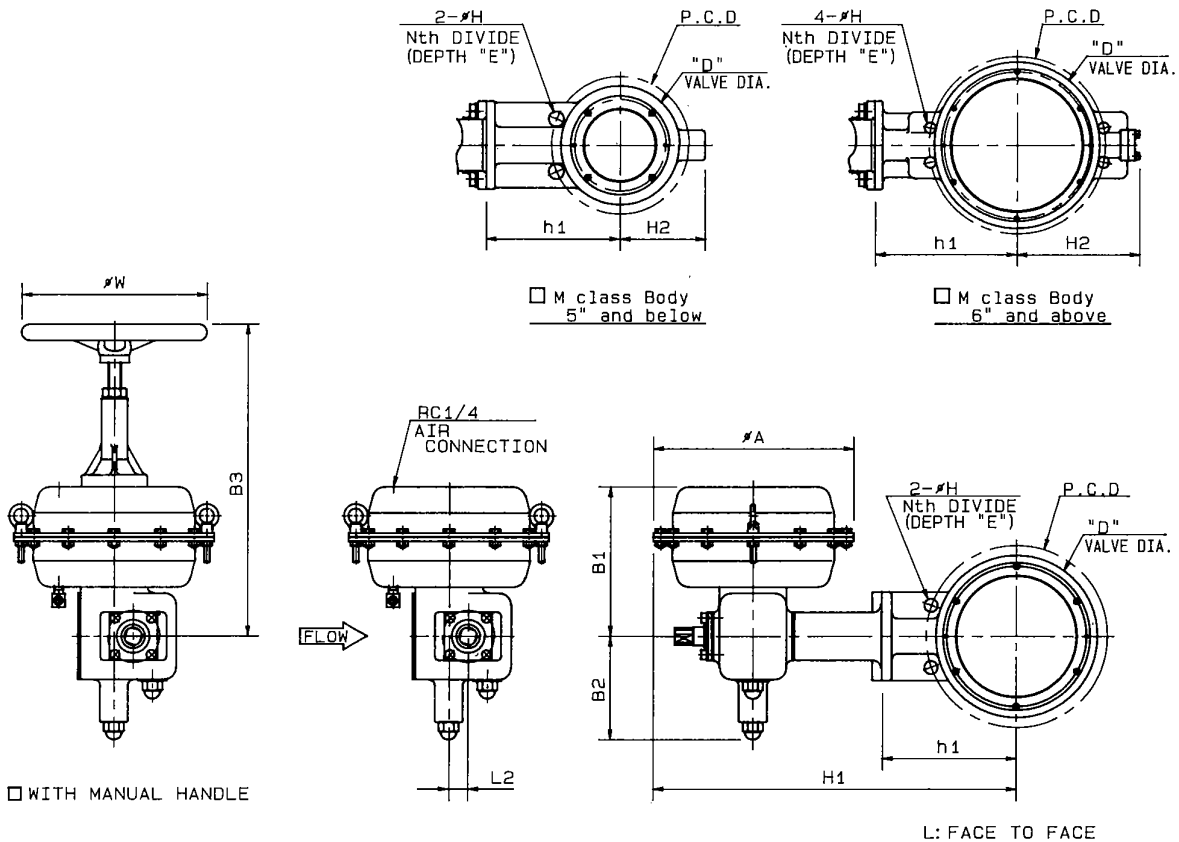
DRAWING No.

E-710C-5200RA-D-N
T

REV
B

KOSO

PARA-SEAL REVERSE ACTION



DIMENSIONS

UNIT: mm

VALVE SIZE		L Class Body					M Class Body					ACTUATOR										CODE No.
		☐ JIS10k		☐ ANSI Class 150			☐ JIS20k		☐ ANSI Class 300			size	A	B1	B2	L2	☐ WITH MANUAL HANDLE					
		L	h1	H2	D	H1	L	h1	H2	D	H1						B3	W				
CODE No.		L	h1	H2	D	H1	L	h1	H2	D	H1											
03	☐ 3" (80A)	46	137	—	133	405	64	162	120	135	—	☐ 218	218	140	110	18	325	200	5218RA			
						445					475	☐ 270	270	205	140	26	420	250	5227RA			
						—					525	☐ 350	350	235	155	35	495	320	5235RA			
04	☐ 4" (100A)	52	160	—	155	425	64	172	130	160	—	☐ 218	218	140	110	18	325	200	5218RA			
						465					485	☐ 270	270	205	140	26	420	250	5227RA			
						—					535	☐ 350	350	235	155	35	495	320	5235RA			
05	☐ 5" (125A)	56	170	—	187	480	70	220	140	195	—	☐ 270	270	205	140	26	420	250	5227RA			
						530					610	☐ 350	350	235	155	35	495	320	5235RA			
						495					—	☐ 270	270	205	140	26	420	250	5227RA			
06	☐ 6" (150A)	56	185	—	216	545	76	230	205	230	620	☐ 350	350	235	155	35	495	320	5235RA			
											695	☐ 350	350	235	155	35	495	320	5235RA			
08	☐ 8" (200A)	60	220	—	266	610	89	290	255	275	695	☐ 350	350	235	155	35	495	320	5235RA			

VALVE SIZE	JIS 10k				JIS 20k				ANSI Class 150				ANSI Class 300			
	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E
3" (80A)	☐ 150	8	19		☐ 160	8	23		☐ 190.5	8	19		☐ 168.1	8	22	
4" (100A)	☐ 175	8	19		☐ 185	8	23		☐ 215.9	8	22		☐ 200.2	8	22	
5" (125A)	☐ 210	8	23		☐ 225	8	25		☐ 241.3	8	22		☐ 235	8	22	
6" (150A)	☐ 240	8	23		☐ 260	12	M22	20	☐ 269.7	12	22		☐ 298.4	8	22	
8" (200A)	☐ 290	12	23		☐ 305	12	M22	28	☐ 330.2	12	25					

NOTE :

DRAWING No.

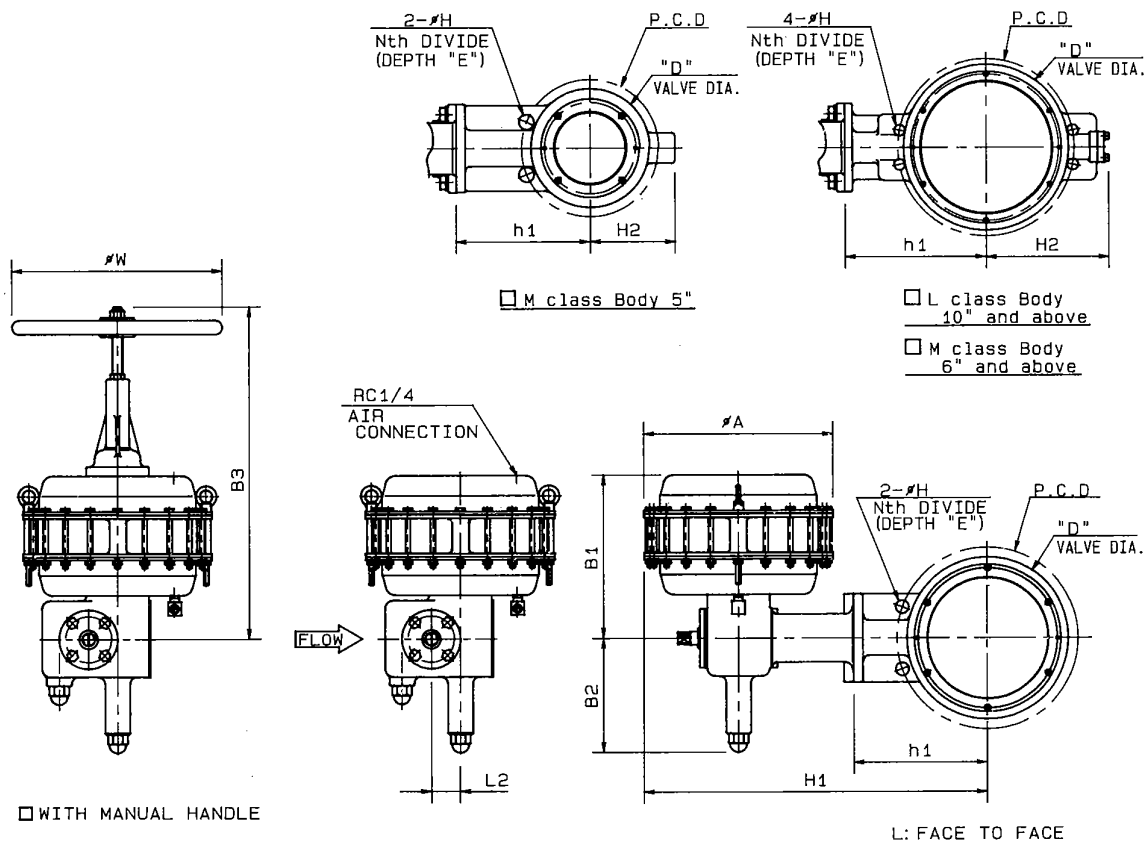
E-710C-5200RA-R-N

REV

B

KOSO

PARA-SEAL DIRECT ACTION



DIMENSIONS

UNIT: mm

DIMENSIONS											ACTUATOR								UNIT: mm
VALVE SIZE		L Class Body					M Class Body					size	A	B1	B2	L2	WITH MANUAL HANDLE		CODE No.
		□ JIS10k □ ANSI Class 150					□ JIS20k □ ANSI Class 300										B3	W	
		L	h1	H2	D	H1	L	h1	H2	D	H1								
CODE No.		L	h1	H2	D	H1	L	h1	H2	D	H1	size	A	B1	B2	L2	B3	W	CODE No.
05	□ 5" (125A)	—	—	—	—	—	70	220	140	195	710	□ 450	450	390	270	70	790	500	524LRA
06	□ 6" (150A)	—	—	—	—	—	76	230	205	230	720	□ 450	450	390	270	70	790	500	524LRA
08	□ 8" (200A)	60	220	—	226	710	89	290	255	275	790	□ 450	450	390	270	70	790	500	524LRA
10	□ 10" (250A)	68	280	—	330	770	114	306	270	350	810	□ 450	450	390	270	70	790	500	524LRA
12	□ 12" (300A)	78	320	—	375	820	114	410	370	400	925	□ 450	450	390	270	70	790	500	524LRA

VALVE SIZE	JIS 10k					JIS 20k					ANSI Class 150					ANSI Class 300				
		P.C.D	N	H	E		P.C.D	N	H	E		P.C.D	N	H	E		P.C.D	N	H	E
5" (125A)	□					□	225	8	25		□					□	235	8	22	
6" (150A)	□					□	260	12	M22	20	□					□	269.7	12	22	
8" (200A)	□	290	12	23		□	305	12	M22	28	□	298.4	8	22		□	330.2	12	25	
10" (250A)	□	355	12	25		□	380	12	27		□	362	12	25		□	387.4	16	UNC 1	24
12" (300A)	□	400	16	25		□	430	16	M24	30	□	431.8	12	25		□	450.8	16	1-1/8 UNC	24

NOTE :

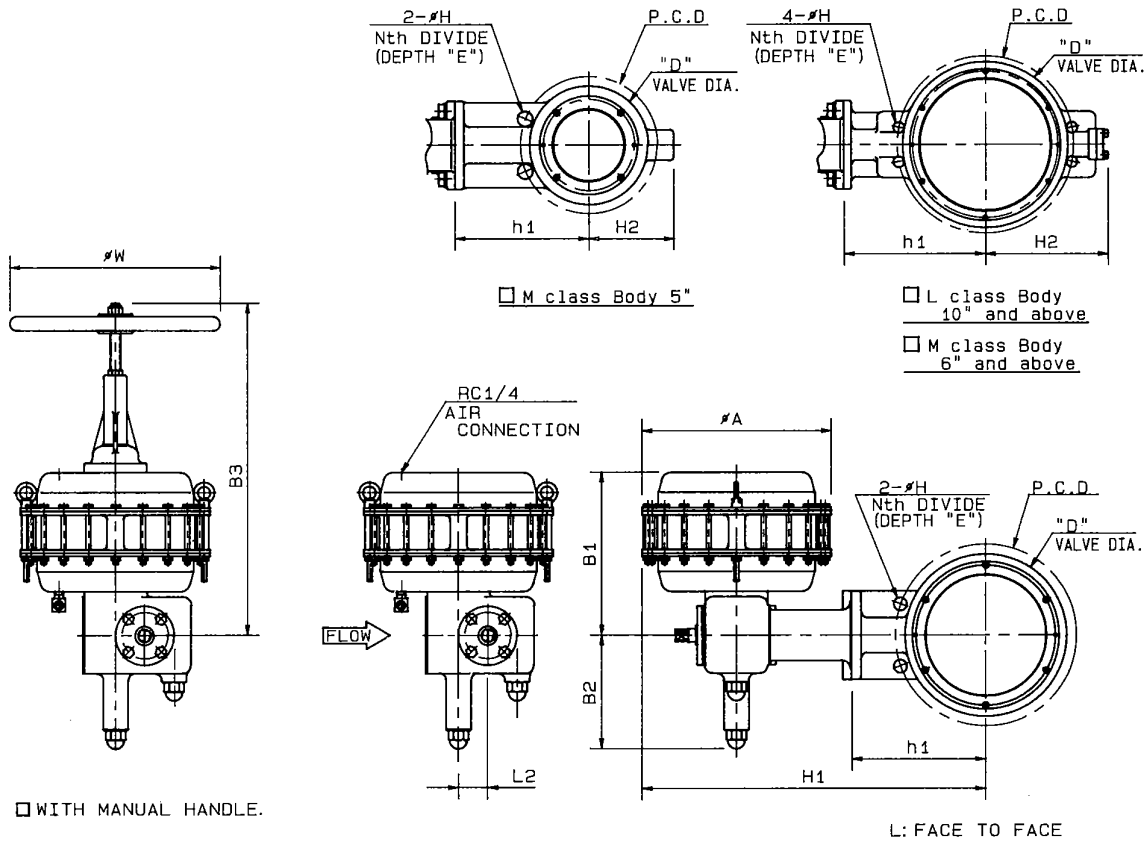
DRAWING No.

E-710C-524LRA-D-N

REV
C

KOSO

PARA-SEAL REVERSE ACTION



DIMENSIONS

UNIT: mm

VALVE SIZE											ACTUATOR											CODE No.
CODE No.	L Class Body					M Class Body					size	A	B1	B2	L2	WITH MANUAL HANDLE						
	□ JIS10k		□ ANSI Class 150			□ JIS20k		□ ANSI Class 300								B3	W					
	L	h1	H2	D	H1	L	h1	H2	D	H1												
05	□ 5" (125A)	—	—	—	—	70	220	140	195	710	□ 450	450	390	270	70	790	500	524LRA				
06	□ 6" (150A)	—	—	—	—	76	230	205	230	720	□ 450	450	390	270	70	790	500	524LRA				
08	□ 8" (200A)	60	220	—	226	710	89	290	255	275	790	□ 450	450	390	270	70	790	500	524LRA			
10	□ 10" (250A)	68	280	—	330	770	114	306	270	350	810	□ 450	450	390	270	70	790	500	524LRA			
12	□ 12" (300A)	78	320	—	375	820	114	410	370	400	925	□ 450	450	390	270	70	790	500	524LRA			

VALVE SIZE	JIS 10k				JIS 20k				ANSI Class 150				ANSI Class 300			
	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E
5" (125A) □	—	—	—	—	□ 225	8	25	—	□	—	—	—	□ 235	8	22	—
6" (150A) □	—	—	—	—	□ 260	12	M22	20	□	—	—	—	□ 269.7	12	22	—
8" (200A) □	290	12	23	—	□ 305	12	M22	28	□ 298.4	8	22	—	□ 330.2	12	25	—
10" (250A) □	355	12	25	—	□ 380	12	27	—	□ 362	12	25	—	□ 387.4	16	UNC 1	24
12" (300A) □	400	16	25	—	□ 430	16	M24	30	□ 431.8	12	25	—	□ 450.8	16	1-1/8-20	28

NOTE :

DRAWING No.

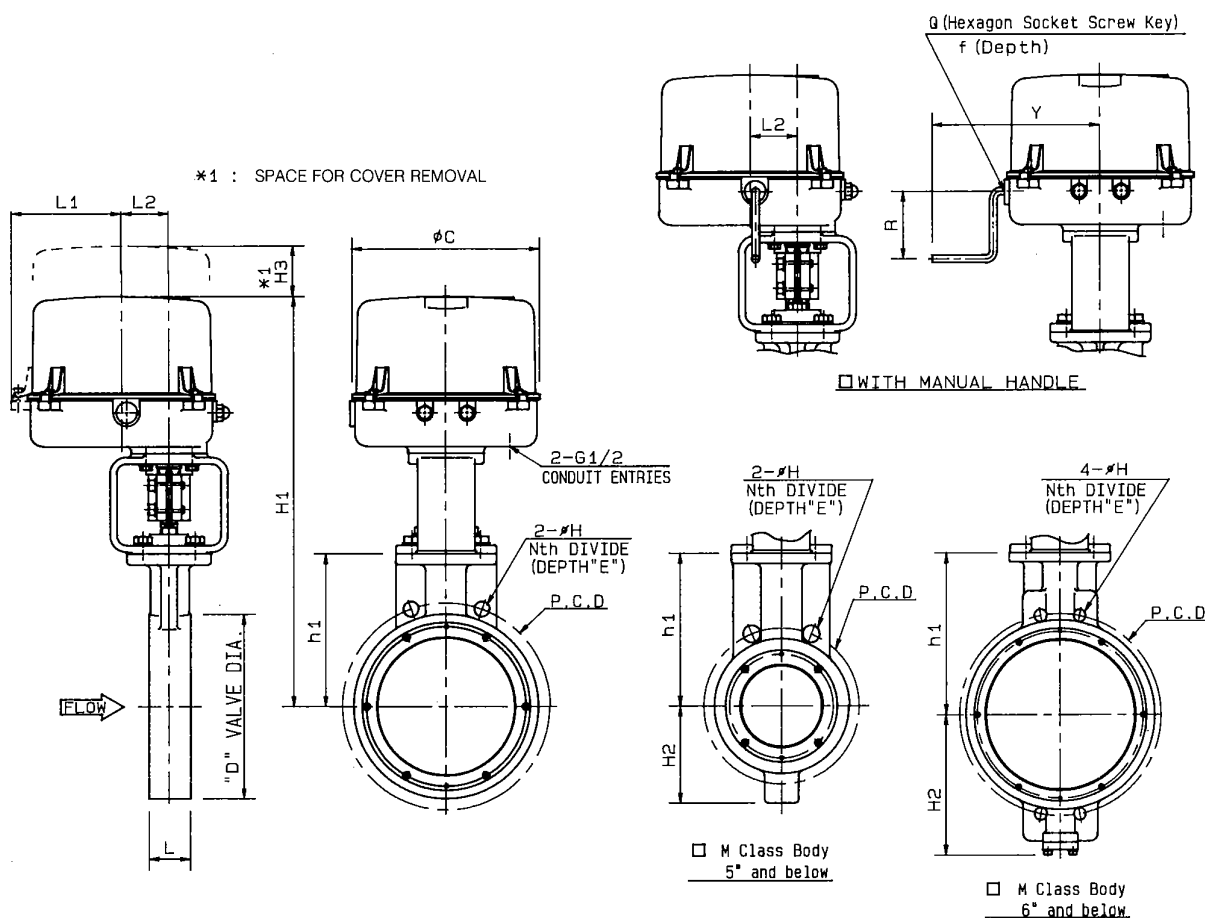
E-710C-524LRA-R-N_T.

REV

C

KOSO

PARA-SEAL



DIMENSIONS

UNIT: mm

VALVE SIZE CODE No.	L Class Body				M Class Body				ACTUATOR									
	□ JIS10k □ ANSI Class 150				□ JIS20k □ ANSI Class 300				□ WITH MANUAL HANDLE									
	L	h1	H2	D	H1	L	h1	H2	D	H1	H3	L1	L2	#C	R	Y	Q-f	SIZE CODE No.
03 □ 3" (80A)	46	137	—	133	440	64	162	120	135	510	120	130	56	225	80	200	6-12	□35A2RB □36A2RA □34A2RA
					480						155	145	68	255	160	225	8-15	□35B1RB □36B1RA □34B1RA
					—						155	145	68	255	160	225	8-15	□35B2RB □36B2RA □34B2RA
04 □ 4" (100A)	52	160	—	155	460	64	172	130	160	520	120	130	56	225	80	200	6-12	□35A2RB □36A2RA □34A2RA
					500						155	145	68	255	160	225	8-15	□35B1RB □36B1RA □34B1RA
					—						155	145	68	255	160	225	8-15	□35B2RB □36B2RA □34B2RA
05 □ 5" (125A)	56	170	—	187	515	70	220	140	195	595	155	145	68	255	160	225	8-15	□35B1RB □36B1RA □34B1RA
					—						155	145	68	255	160	225	8-15	□35B2RB □36B2RA □34B2RA
06 □ 6" (150A)	56	185	—	216	530	76	230	205	230	605	155	145	68	255	160	225	8-15	□35B1RB □36B1RA □34B1RA
					—						155	145	68	255	160	225	8-15	□35B2RB □36B2RA □34B2RA
08 □ 8" (200A)	60	220	—	266	595	—	—	—	—	—	155	145	68	255	160	225	8-15	□35B2RB □36B2RA □34B2RA

VALVE SIZE	JIS 10k				JIS 20k				ANSI Class 150				ANSI Class 300			
	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E
3" (80A)	□ 150	8	19	—	□ 160	8	23	—	□ 190.5	8	19	—	□ 168.1	8	22	—
4" (100A)	□ 175	8	19	—	□ 185	8	23	—	□ 190.5	8	19	—	□ 200.2	8	22	—
5" (125A)	□ 210	8	23	—	□ 225	8	25	—	□ 215.9	8	22	—	□ 235	8	22	—
6" (150A)	□ 240	8	23	—	□ 260	12	M22	20	□ 241.3	8	22	—	□ 269.7	12	22	—
8" (200A)	□ 290	12	23	—	□ —	—	—	—	□ 298.4	8	22	—	□ —	—	—	—

NOTE :

DRAWING No.

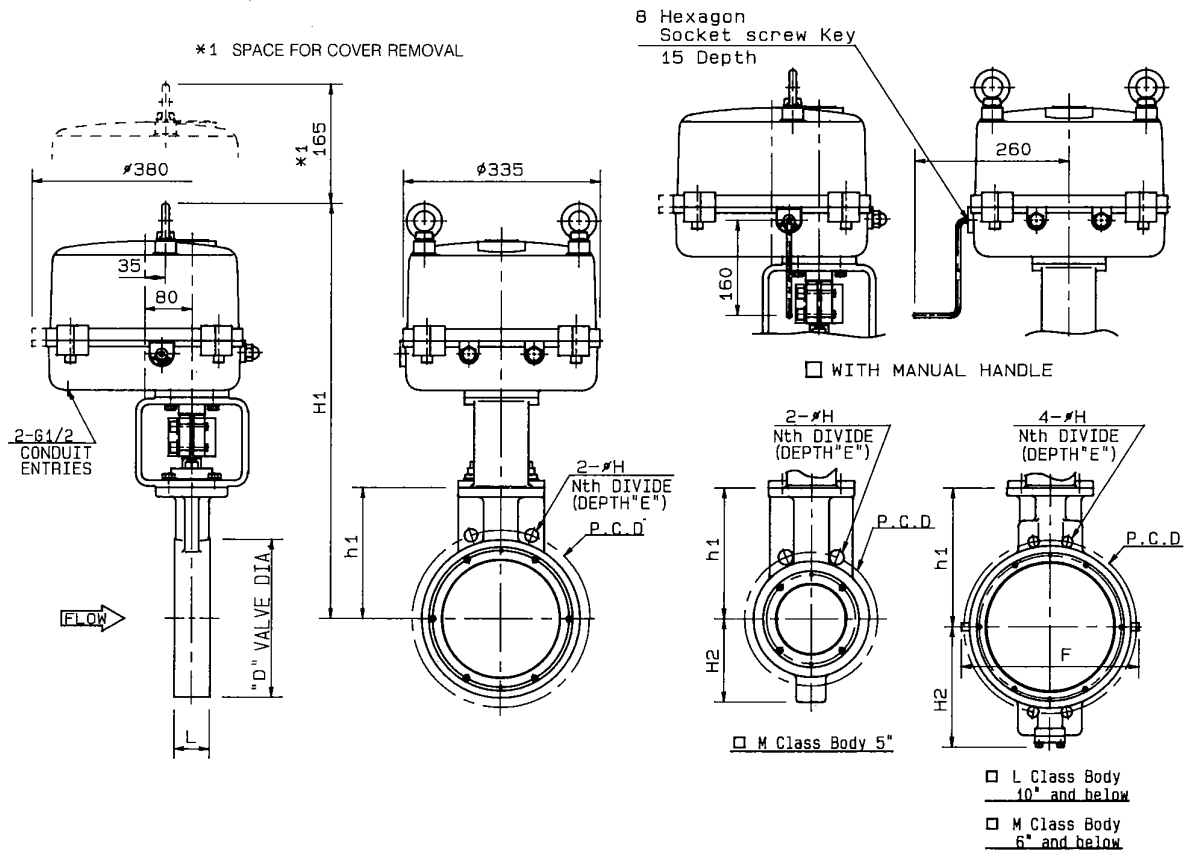
E-710C-3500RB
3600RA -B-N
3400RA -S

REV

B

KOSO

PARA-SEAL



DIMENSIONS

UNIT: mm

VALVE SIZE CODE No.			L Class Body					M Class Body						ACTUATOR SIZE CODE No.		
			□ JIS10k		□ ANSI Class 150			□ JIS20k		□ ANSI Class 300						
			L	h1	H2	D	F	H1	L	h1	H2	D	F			
05	□ 5" (125A)	—	—	—	—	—	—	70	220	140	195	—	715	□35C1RB □36C1RA □34C1RA □35C2RB □36C2RA □34C2RA		
06	□ 6" (150A)	—	—	—	—	—	—	76	230	205	230	—	725	□35C1RB □36C1RA □34C1RA □35C2RB □36C2RA □34C2RA		
08	□ 8" (200A)	60	220	—	266	—	715	89	290	255	275	—	800	□35C1RB □36C1RA □34C1RA		
							—							□35C2RB □36C2RA □34C2RA		
							—							□35C3RB □36C3RA □34C3RA		
10	□ 10" (250A)	68	280	235	330	—	775	114	306	270	350	—	820	□35C2RB □36C2RA □34C2RA □35C3RB □36C3RA □34C3RA		
12	□ 12" (300A)	78	320	280	375	—	830	—	—	—	—	—	—	□35C2RB □36C2RA □34C2RA		
														□35C3RB □36C3RA □34C3RA		
14	□ 14" (350A)	78	365	325	416	500	875	—	—	—	—	—	—	□35C2RB □36C2RA □34C2RA		
														□35C3RB □36C3RA □34C3RA		
16	□ 16" (400A)	102	395	355	480	540	920	—	—	—	—	—	—	—	□35C3RB □36C3RA □34C3RA	

VALVE SIZE	JIS 10k				JIS 20k				ANSI Class 150				ANSI Class 300			
	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E
5" (125A)	□				□ 225	8	25		□				□ 235	8	22	
6" (150A)	□				□ 260	12	M22	20	□				□ 269.7	12	22	
8" (200A)	□ 290	12	23		□ 305	12	M22	28	□ 298.4	8	22		□ 330.2	12	25	
10" (250A)	□ 355	12	25		□ 380	12	27		□ 362	12	25		□ 387.4	16	UNC 1	24
12" (300A)	□ 400	16	25		□				□ 431.8	12	25		□			
14" (350A)	□ 445	16	25		□				□ 476.2	12	29		□			
16" (400A)	□ 510	16	27		□				□ 539.8	16	29		□			

NOTE :

DRAWING No.

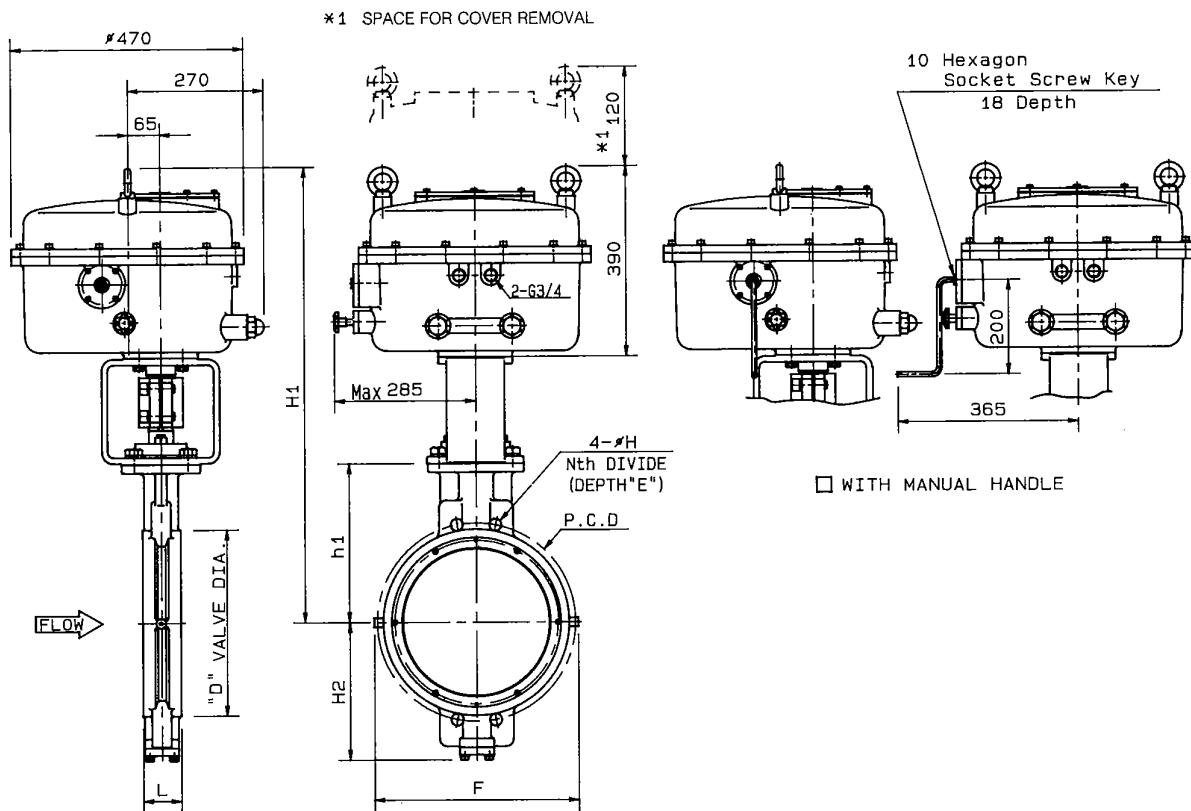
E-710C- 35C●RB
36C●RA -B-N
34C●RA S

REV

B

KOSO

PARA-SEAL



DIMENSIONS

UNIT: mm

VALVE SIZE CODE No.		L Class Body						M Class Body						ACTUATOR SIZE CODE No.
		□ JIS10k □ ANSI Class 150						□ JIS20k □ ANSI Class 300						
		L	h1	H2	D	F	H1	L	h1	H2	D	F	H1	
08	□ 8" (200A)	—	—	—	—	—	—	89	290	255	275	—	880	□36D1RA □34D1RA
10	□ 10" (250A)	68	280	235	330	—	865 —	114	306	270	350	—	900	□36D1RA □34D1RA □36D2RA □34D2RA
12	□ 12" (300A)	78	320	280	375	—	910 —	114	410	370	400	—	1015	□36D1RA □34D1RA □36D2RA □34D2RA
14	□ 14" (350A)	78	365	325	416	500	955	127	435	395	445	560	1065	□36D1RA □36D2RA □34D1RA □34D2RA
16	□ 16" (400A)	102	395	355	480	540	1000	140	455	415	505	600	1085	□36D1RA □36D2RA □34D1RA □34D2RA
18	□ 18" (450A)	114	425	370	528	610	1030	152	480	440	560	660	1110	□36D1RA □36D2RA □34D1RA □34D2RA

VALVE SIZE	JIS 10k				JIS 20k				ANSI Class 150				ANSI Class 300			
	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E	P.C.D	N	H	E
8" (200A) □	□				□ 305	12	M22	28	□				□ 330.2	12	25	
10" (250A) □	□ 355	12	25		□ 380	12	27		□ 362	12	25		□ 387.4	16	UNC 1	24
12" (300A) □	□ 400	16	25		□ 430	16	M24	30	□ 431.8	12	25		□ 450.8	16	1-1/8-BUN	28
14" (350A) □	□ 445	16	25		□ 480	16	M30x3	30	□ 476.2	12	29		□ 541.4	20	1-1/8-BUN	25
16" (400A) □	□ 510	16	27		□ 540	16	M30x3	38	□ 539.8	16	29		□ 571.5	20	1-1/4-BUN	30
18" (450A) □	□ 565	20	M24	28	□ 605	20	M30x3	32	□ 577.8	16	32		□ 628.6	24	1-1/4-BUN	28

NOTE :

DRAWING No.

E-710C-36D●RA-N
34D●RA-B-S

REV

B

KOSO

KOSO NIHON KOSO CO., LTD.

Head office: 5-11, Nishishimbashi 1-chome, Minato-ku, Tokyo, Japan
Post code 105,
Tel: 03(3580)8611, Fax: 03(3580)8667
Telex: 2225122N KOSO J

Sales offices: Tokyo, Osaka, Nagoya, Chiba, Hiroshima, Kyushu, Nagasaki,
Okayama and Niigata

Factories: Saitama, Fukushima, and Gunma

Service stations: Saitama, Osaka, Nagoya, Hiroshima, Chiba, Okayama, Kyushu
and Niigata

* Subject to change without notice.