

MOTOYAMA

General Specifications

Gyroll

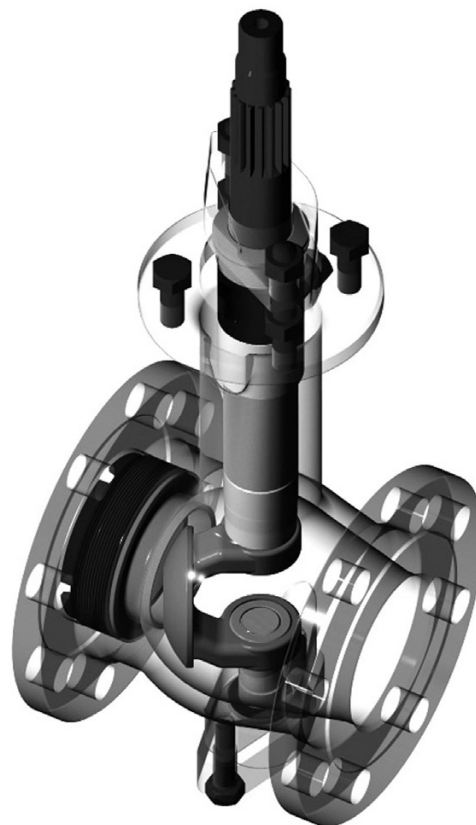
Model 92 ECCENTRIC ROTARY PLUG VALVES

FEATURES

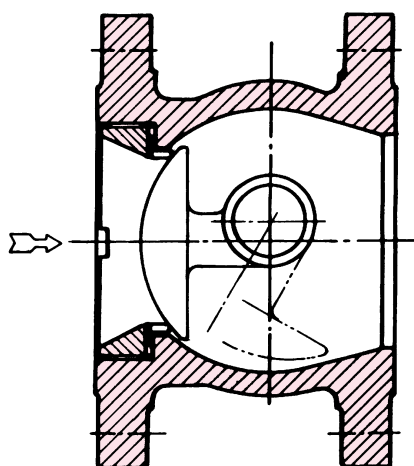
- Eccentric Plug does not touch to the Seat-ring until at the fully closed position
- Port is reducible by changing retainer only, without changing Plug and Seat
- Downsizing actuators & good controllability with low driving torque
- Light weight & Compactness
- Valve action (DA or RA) is convertible without changing/adding parts
- Easy installation and maintenance
- Large Cv
- High rangeability (100 : 1)
- Wide operating temp.range (−100 °C ~ +500 °C)
- No pit on inner surface of the body, less adhesion, suitable to Slurry and/or Fibre containing fluid control service applications.
- Positive shut-off performance
- Superior controllability
- Wide service application (Ceramics trim type is available as option)

■ Typical Applications

- Steel Industry (Cooling water, COG control)
- Smoke extraction desulphurization (For slurry contained liquid)
- Petroleum refinery
- Drainage

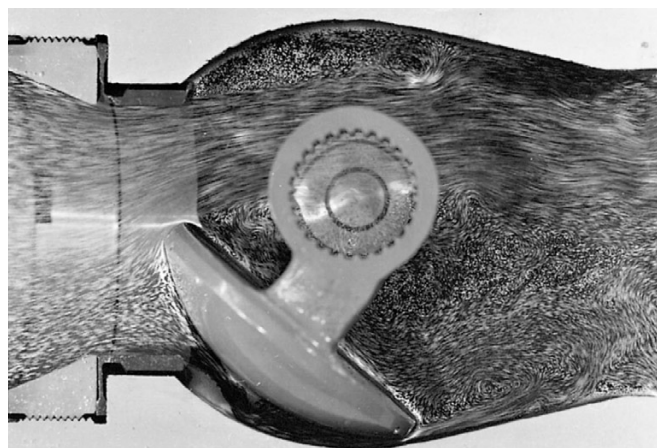


Construction of Full Port



Movement of the plug

Visible Experimental Photograph



Valve Style and Specifications

92	—	Style No.	
		↓	
		A ... Standard Gyroll	
		CT ... Ceramic Trim Gyroll	
		CS ... Body Ceramics Sprayed Gyroll	Options

1. SPECIFICATIONS

Valve Model			Spring return diaphragm actuator operated Eccentric plug valve									
Valve Model No			2992-A, PM92-A									
Valve Body	Body Type		92									
	Valve size	mm	25	40	50	80	100	150	200	250	300	350
		inch	1	1 1/2	2	3	4	6	8	10	12	14
	Pressure Rating		JIS10, 20K ASME/JPI Class 150, 300									
	End Connection		RF, FF, (※ RJ)									
	Body Material		WCB, CF8, CF8M, CF3M									
	Plug Material		CF8M, CF3M See page 4									
	Bonnet Type		Body Integrated type									
	Gland Type		Bolted Grand									
	Packing		Braided packing, Molded packing									
	Gasket		Serrated gasket									
	Guiding		Inner guide									
	Plug Action		Plug Closed clockwise									
	Seat		Metal seat, Resilient seat									
	Valve Characteristics		Positioner cam characterized Equal Percentage characeristic is available									
Actuator	Actuator		Model 2900 Spring return diaphragm actuator						Model 00 Spring type single acting cylinder operated			
	Actuator size		240HP	330HP	400HP	500H	500HP	BS-2	BS-3	BS-4	BS-5	BS-6
	Spring Range kPa (kgf/cm²G)		80 to 200 (0.8 to 2.0)			60 to 220 (0.6 to 2.2)	40 to 200 ∙ ∙ ∙ Direct (0.4 to 2.0) Action 80 to 240 ∙ ∙ ∙ Reverse (0.8 to 2.4) Action	190 to 240 (1.9 to 2.4) ∙ ∙ ∙ 60° Direct Action 160 to 210 (1.6 to 2.1) ∙ ∙ ∙ 60° Reverse Action 100 to 240 (1.6 to 2.4) ∙ ∙ ∙ 90°				
	Supply Air Pressure kPa (kgf/cm²G)		280 (2.8)						400 (4.0)			
	Rotary Angle		60°						60°, 90°			
	Air Piping Connection		Rc1/4						Rc1/4		Rc1/2	
	Ambient temperature		- 20 ℃ ∼ + 70 ℃ (※ - 50 ℃ ∼ - 20 ℃, + 70 ℃ ∼ + 100 ℃)						- 20 ℃ ∼ + 60 ℃ (※ - 40 ℃ ∼ - 20 ℃, + 60 ℃ ∼ + 100 ℃)			
Painting Color			Silver									
Valve Characteristic and Performance	Control Mode		Throttling control, On-off									
	Valve Action		Direct action (Air-to close) , Reverse action (Air-to open)									
	Available Max. Pressure		Pressure limit shall conform to the standard of material & pressure temprature rating									
	Available Temperature		(Metal seat) - 100 ℃ ∼ + 500 ℃, (Resin seat) - 20 ℃ ∼ + 200 ℃									
	Allowable Differential Press.		See Page 5									
	Rated Cv Value		See Page 5									
	Flow Characteristics		See Page 6 ∼ 7									
	Range-ability (Cv Ratio)		100 : 1 (60° Opening)									
	Allowable Seat Leakage Rate	Metal Seat	ANSI/FCI ≧ Class IV (≧ 0.01% of rated Cv) Tight Shut Off (T.S.O.) (≧ 0.001% of rated Cv) (*ANSI/FCI Class V applicable for body size 80mm or more)									
		Resin Seat	ANSI/FCI Class VI (25mm ∙ ∙ ∙ 1 bubble/min, 200mm ∙ ∙ ∙ 45 bubble/min)									
Action (1) Accuracy	Hysteresis Error (with Positioner)	■ Model PM00 : Max. 3%F.S. ■ Model 2900/2800 : Max. 2%F.S.										
	Linearity (with Positioner)	■ Model PM00 : Max. ± 3%F.S. ■ Model 2900/2800 : Max. ± 2%F.S.										
Options ※	Actuator		Air exposure bolt & nut S.S., Handwheel, Travel stop (one side) .									
	Accessories		Pneumatic positioner (PA92A) , Electro-pneumatic positioner (EA90AC, EA91AC, EA10S) , Air filter regulator (MR2000) . Limit switch, Solenoide valve, and Others.									
	Others		The high pressure gas safety law certification, Jacketed (full, semi) , Oring-guide, Resin-guide, Water free, Oil free, Specified painting color.									

[Notes] (1) ※ Manufactured and mounted as options according to customer's request.

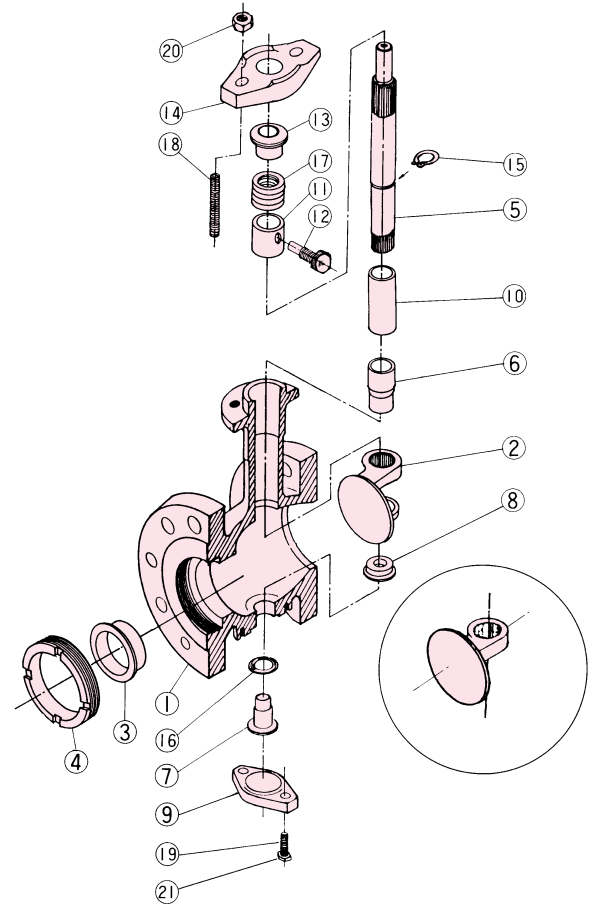
(2) Double acting cylinder actuator is applicable on request.

2. CONSTRUCTIONS

1 Valve Body

Model 92 is designed to control by expanding or reducing flow path area by rotating semi-spherical plug with seat-ring bore.

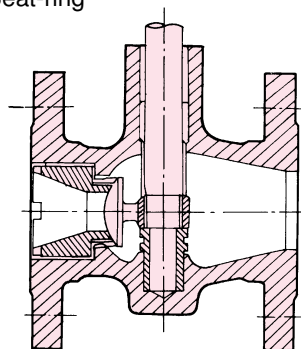
No.	Part Name
1	Body
2	Plug
3	Seat-ring
4	Retainer
5	Shaft
6	Guide bushing
7	Guide post
8	Guide collar
9	Bottom cover
10	Spacer-ring
11	Stopper-ring
12	Plug pin
13	Gland bushing
14	Gland flange
15	Split-ring
16	Gasket
17	Grand packing
18	Grand bolt
19	Bottom bolt
20	Gland nut
21	Bottom nut



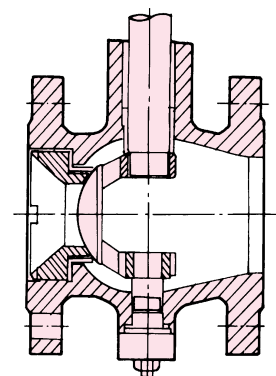
[Note] When valve size is 50 mm or smaller, no guide post (7), bottom cover (9), gasket (16) and bottom bolt (19), bottom nut (21) used.

2 Reduced Port

Port is reduced by retainer bore, Plug/Seat-ring change is not required to reduce port.

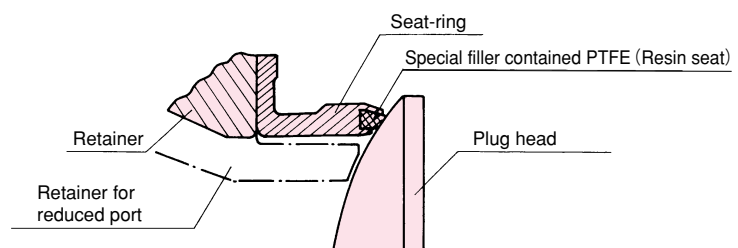


Size 25mm ~ 50mm
(1in. ~ 2in.)



Size 80mm ~ 350mm
(3in. ~ 14in.)

3 Resin Seat



3. MAIN PARTS MATERIALS

1 Typical Combination of Materials

■ Metal Seat

Body Material	Process Temp. Range	Plug	Seat-ring (Metal seat)	Guide Bushing Guide Collar	Shaft Guide Post
WCB	-20 to +250 °C	SCS14A CoCr Alloy Seat	SUS316	SUS316 CoCr Alloy	SUS316
	+251 to +350 °C		SUS316 CoCr Alloy Seat		
CF8	-100 to +250 °C		SUS316		
CF8M	+251 to +500 °C		SUS316 CoCr Alloy Seat		
CM3M	-100 to +250 °C	SCS16A CoCr Alloy Seat	SUS316L	SUS316L CoCr Alloy	SUS316L
	+251 to +500 °C		SUS316L CoCr Alloy Seat		

■ Resin Seat

Body Material	Process Temp. Rang	Plug	Seat-ring (Metal seat)	Guide Bushing Guide Collar	Shaft Guide Post
WCB CF8 CF8M	-20 to +200 °C	SCS14A	T#9020-SCCF	SUS316 CoCr Alloy	SUS316
CF3M		SCS16A		SUS316L CoCr Alloy	SUS316L

2 Selection table of Metal seat (CoCr Alloy) & Resin seat

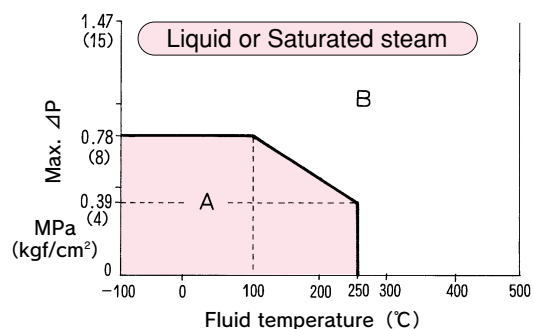
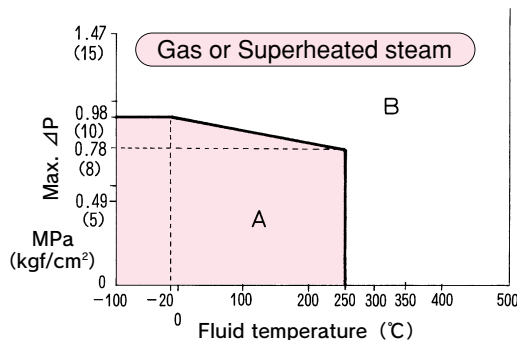
■ Selection of Metal seat

(Hardening treatment classification of plug & seat-ring to comply with fluid conditions.)

Class	Part Name	
	Plug	Seat-ring
A	CoCr Alloy Seat	N/A
B	CoCr Alloy Seat	CoCr Alloy Seat
C	CoCr Alloy face	CoCr Alloy Seat

[Notes]

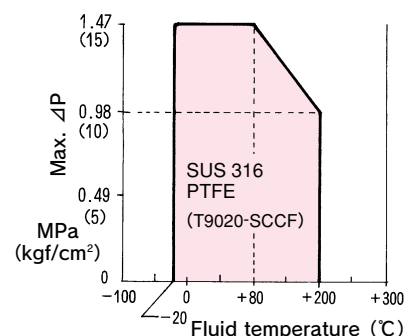
- (1) Class C is for Incipient Cavitations or Flashing Service.
- (2) Different type Seat will be applied to Cavitations or Slurry Service.
- (3) In case of On-off or Tight Shut Off service, class B should be selected even through applicable Pressure and Temperature Range is within class A.



■ Selection of Resin seat

[Notes]

- (1) When, corrosion resistant trim materials are selected, Resin seat is recommended.
- (2) For Oxygen service or Colouring free service, seat material T9020-G20 is recommended. Such case, allowable temperature range is -20°C to +200°C.



4. ALLOWABLE DIFFERENTIAL PRESSURE

1 Model 2992 — ☐

Unit : MPa (kgf/cm²)

Actuator size		240HP	330HP	400HP	500H	500HP
Valve size						
(mm)	(inch)					
25	1	3.92 (40)				
40	1½	3.92 (40)				
50	2	2.25 (23)	3.92 (40)			
80	3	0.17 (1.8)	3.82 (39)			
100	4	0.094 (0.96)	1.96 (20)	3.72 (38)		
150	6		0.41 (4.2)	1.07 (11)	2.84 (29)	3.92 (40)
200	8			0.58 (6.0)	1.47 (15)	2.05 (21)
250	10			0.34 (3.5)	0.88 (9.0)	1.17 (12)
300	12			0.24 (2.5)	0.62 (6.4)	0.86 (8.8)
350	14					0.57 (5.9)

[Notes]

- Regardless of port size (full port or reduced port) and seat type (metal seat or resin seat), the left table is applicable but allowable max. pressure of resin seat is restricted as shown in page 4.
- Multiply 1/1.2 to the figures in the table to find allowable shut-off pressures for T.S.O. (Tight Shut-off) application with metal seat.
- Multiply 1/1.5 to the figures in the table to find allowable shut-off pressure for Model 92-CT and 92-CS type.
- Spring range for actuator size 500 HP is 40-200kPaG (4.0-2.0kgf/cm²G) for direct action and 80-240kPaG (0.8-2.4kgf/cm²G) for reverse action.
- Select Model PM92 in case of 90 degree of rotary angle.

2 Model PM92 — ☐

Unit : MPa (kgf/cm²)

Shaft Material		SUS316					SUS630		
Actuator size		BS-2	BS-3	BS-4	BS-5	BS-6	BS-3	BS-4	BS-6
Valve size									
(mm)	(inch)								
25	1	3.92 (40)							
40	1½	3.62 (37)	3.92 (40)						
50	2	1.86 (19)	2.84 (29)				3.92 (40)		
80	3		2.54 (26)	3.92 (40)					
100	4		1.27 (13)	2.64 (27)				3.92 (40)	
150	6			1.37 (14)	3.92 (40)				
200	8			0.74 (7.6)	2.15 (22)	3.23 (33)			3.92 (40)
250	10			0.43 (4.4)	1.27 (13)	1.86 (19)			2.75 (28)
300	12			0.30 (3.1)	0.91 (9.3)	1.27 (13)			1.96 (20)
350	14				0.61 (6.3)	0.91 (9.3)			1.27 (13)

[Notes]

- Regardless of rotary angle (60° or 90°), port size (full port or reduced port) and seat type (metal seat or resin seat), the above table is applicable but allowable max. pressure of resin seat is restricted as shown in page 4.
- Multiply 1/1.2 to the figures in the table to find allowable shut-off pressure for T.S.O. (Tight Shut-off) application with metal seat.
- Multiply 1/1.5 to the figures in the table to find allowable shut-off pressure for Model 92-CT and 92-CS type.
- SUS630 will be applied in case required shut-off pressure is more than the capacity of standard shaft material.

5. FLOW CHARACTERISTICS

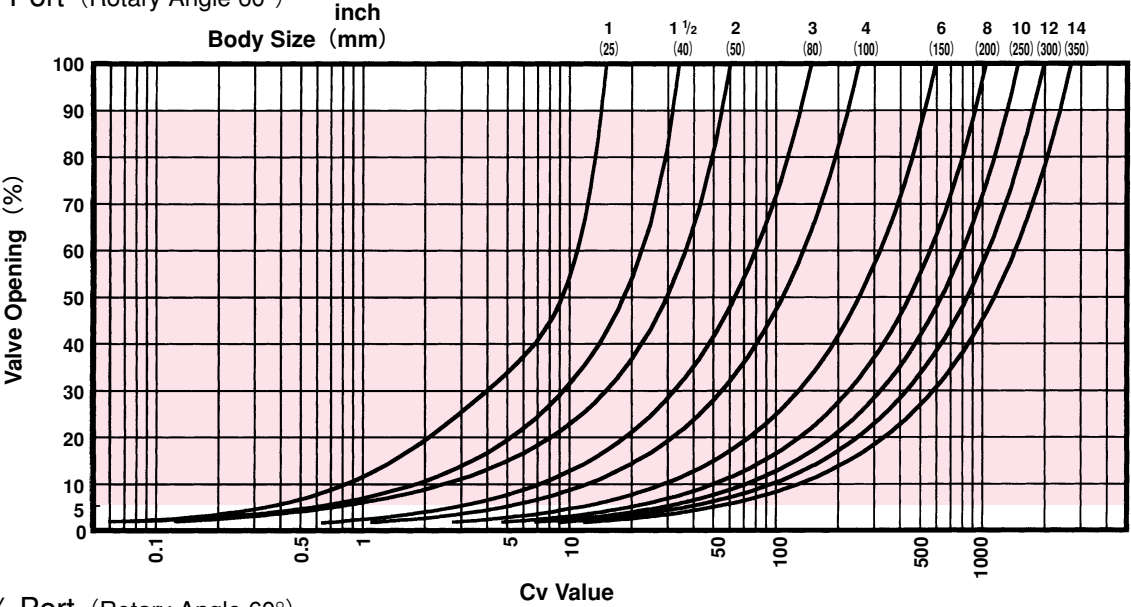
1 Rated Cv Value

Valve size		Full Port			Reduced Port					
					60 % Port			40 % Port		
(mm)	(inch)	Body × Port size	Cv		Body × Port size	Cv		Body × Port size	Cv	
			60°	90°		60°	90°		60°	90°
25	1	25 [mm] × 25 [mm]	15		25 [mm] × 0.6	9		25 [mm] × 0.4	6	
40	1 1/2	40 [mm] × 40 [mm]	34		40 [mm] × 0.6	20.4		40 [mm] × 0.4	13.6	
50	2	50 [mm] × 50 [mm]	60		50 [mm] × 0.6	36		50 [mm] × 0.4	24	
80	3	80 [mm] × 080 [mm]	150	220	80 [mm] × 0.6	90	130	80 [mm] × 0.4	60	85
100	4	100 [mm] × 100 [mm]	255	390	100 [mm] × 0.6	153	230	100 [mm] × 0.4	102	150
150	6	150 [mm] × 150 [mm]	600	950	150 [mm] × 0.6	360	560	150 [mm] × 0.4	240	370
200	8	200 [mm] × 200 [mm]	1050	1700	200 [mm] × 0.6	630	1010	200 [mm] × 0.4	420	660
250	10	250 [mm] × 250 [mm]	1500	2500	250 [mm] × 0.6	900	1480	250 [mm] × 0.4	600	980
300	12	300 [mm] × 300 [mm]	2000	3500	300 [mm] × 0.6	1200	2070	300 [mm] × 0.4	800	1360
350	14	350 [mm] × 350 [mm]	2700	4900	350 [mm] × 0.6	1620	2920	350 [mm] × 0.4	1080	1920

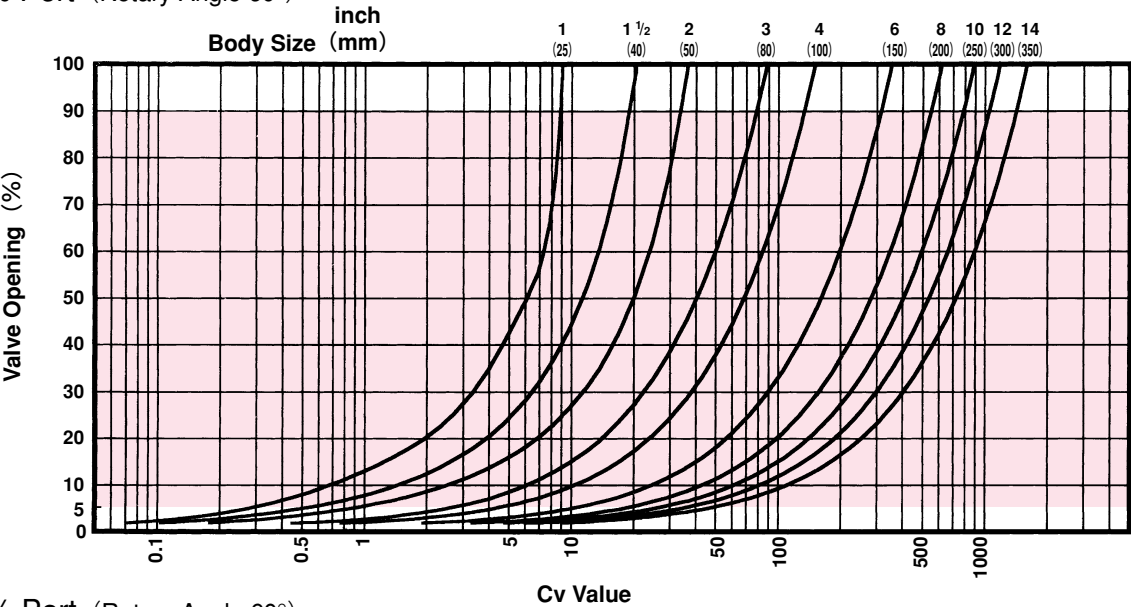
[Notes] : Reduced port is available only for range in above table.

2 Flow Characteristics

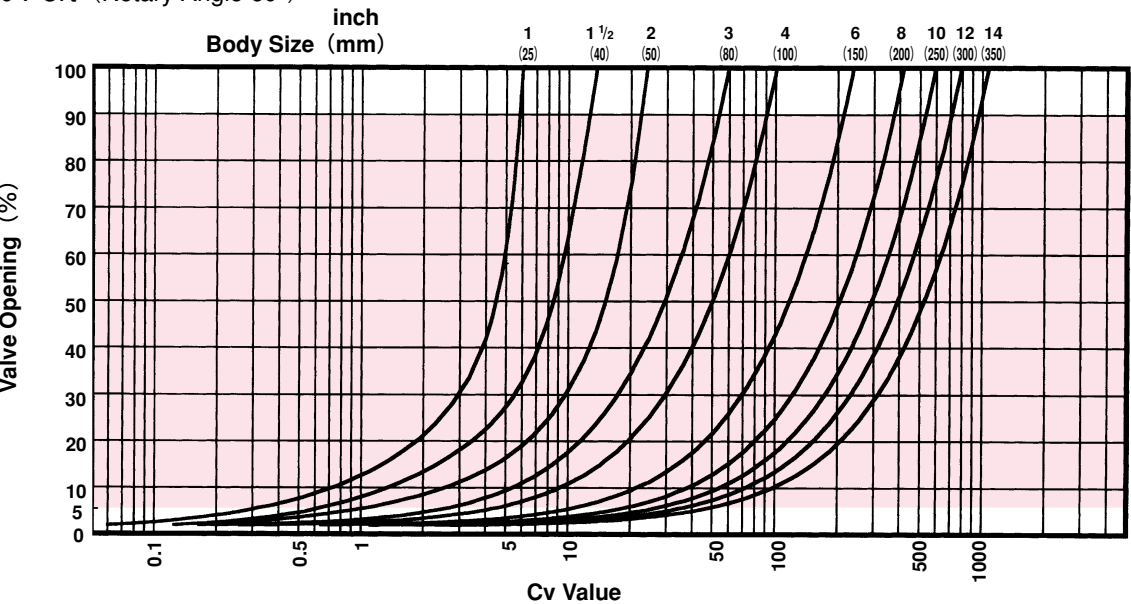
Full Port (Rotary Angle 60°)



60% Port (Rotary Angle 60°)

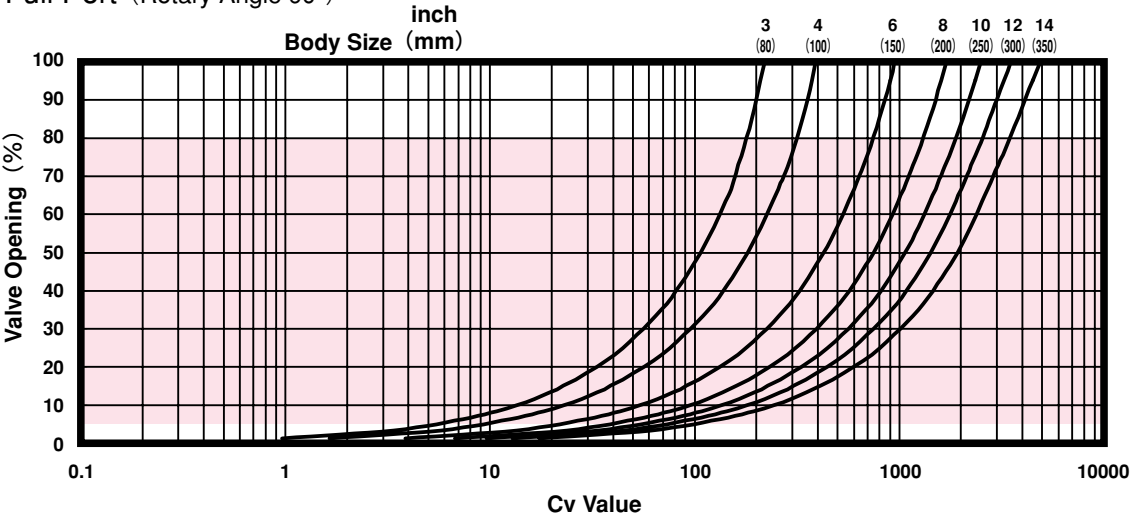


40% Port (Rotary Angle 60°)

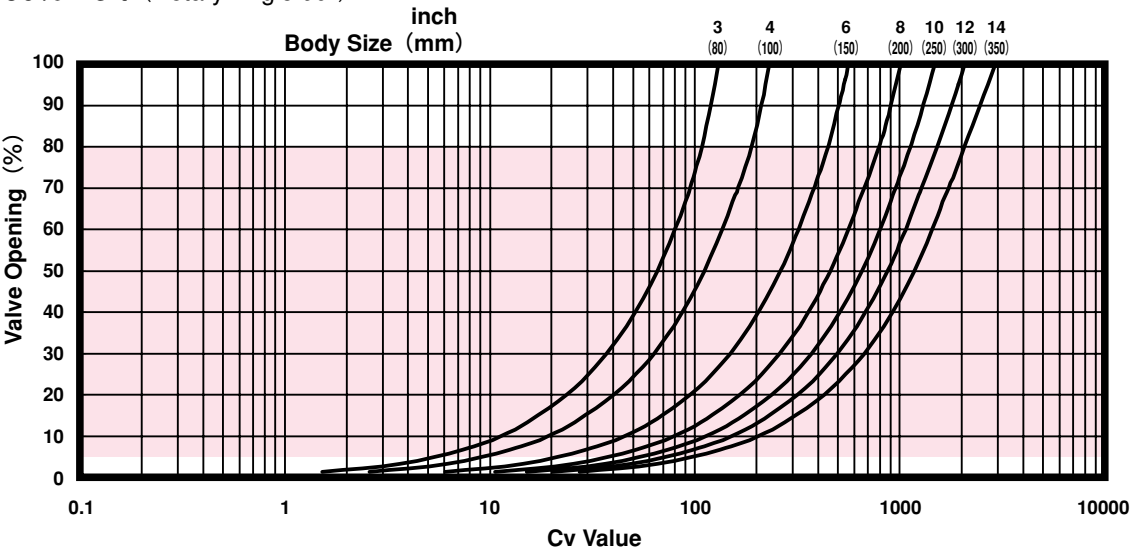


[Notes] : Colored zones are appropriate ranges for control (modulating) service.

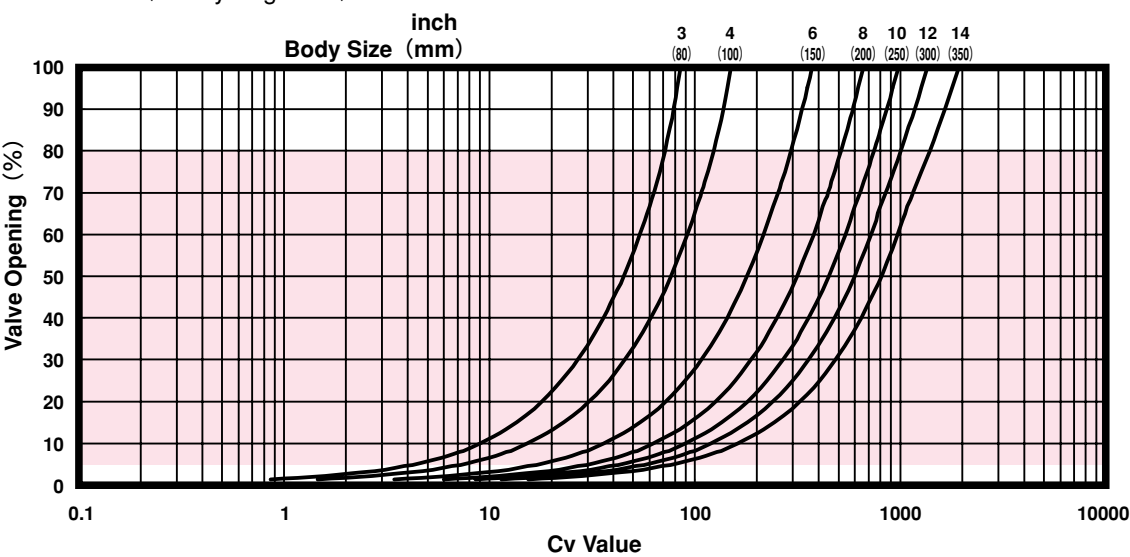
Full Port (Rotary Angle 90°)



60% Port (Rotary Angle 90°)



40% Port (Rotary Angle 90°)



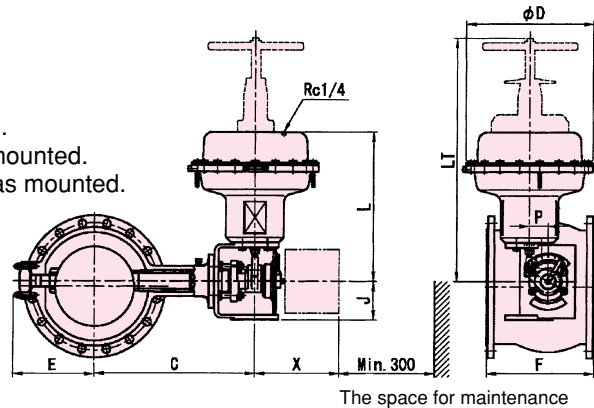
[Notes] : Colored zones are appropriate ranges for control (modulating) service.

6. DIMENSIONS & WEIGHTS

1 Model 2992 —

■ Main dimensions and weights

- (1) Table below shows for mounting orientation R-3.
- (2) "X" shows the dimension when Positioner has mounted.
- (3) "LT" shows the dimension when Hand Wheel has mounted.

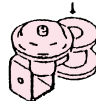
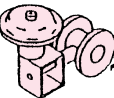
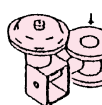
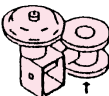
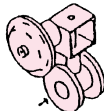
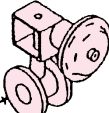
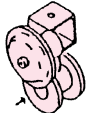
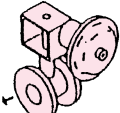
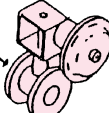


Valve size		F JIS10K, 20K ASME 150, 300	E	Actuator size	D	L	LT	J	C	X	P	Approx Weights (kg)	
												10K	12K
25	1	120	40	240HP	240	270	475	70	225	250	30	21	22
40	1½	134	50	240HP	240	270	475	70	235	250	30	23	24
50	2	140	60	240HP	240	270	475	70	245	250	30	25	27
				330HP	330	430	685	95	260	250	52	44	46
80	3	165	130	240HP	240	270	475	70	305	250	30	34	37
				330HP	330	430	685	95	320	250	52	53	56
100	4	194	140	240HP	240	270	475	70	315	250	30	44	50
				330HP	330	430	685	95	330	250	52	63	69
				400HP	400	470	765	121	350	265	61	92	98
150	6	229	185	330HP	330	455	710	121	430	265	52	89	96
				400HP	400	470	765	121	430	265	61	118	125
				500H(P)	500	620	1075	140	435	295	104	189	196
200	8	243	210	400HP	400	470	765	121	455	265	61	158	173
				500H(P)	500	620	1075	140	460	295	104	229	244
250	10	297	235	400HP	400	470	765	121	485	265	61	203	233
				500H(P)	500	620	1075	140	490	295	104	274	304
300	12	338	255	400HP	400	470	765	121	505	265	61	253	293
				500H(P)	500	620	1075	140	510	295	104	324	364
350	14	428	310	500HP	500	620	1075	140	550	295	104	383	430

- [Notes] (1) "X" is the dimension to have mounted Motoyama EA-91AC Positioner.
This dimension will be changed to have mounted other type of Positioners.
- (2) Approx. Weights shows the weight of valve assembly without Hand Wheel.

■ Mounting orientations

Several combination of Valve Body and Actuator is available as follows.
It is also available to mount Actuator horizontal.
D-1 or R-1 is our standard shipping orientation unless otherwise specified.

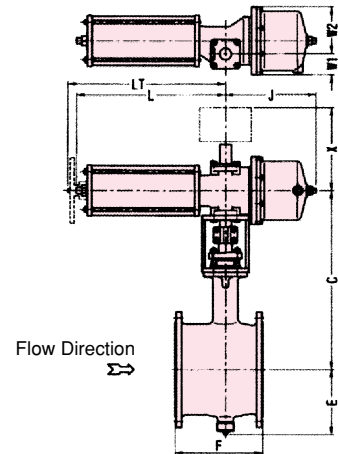
Direct Action					Reverse Action				
D-1	Standard	D-2	D-3	D-4	R-1	Standard	R-2	R-3	R-4
									
D-1H	D-2H	D-3H	D-4H	R-1H	R-2H	R-3H	R-4H		
									

[Legend] → : Flow direction

2 Model PM92 — ☐

■ Main dimensions and weights

- (1) Table below shows for mounting orientation R-2.
- (2) "X" shows the dimension when Positioner has mounted.
- (3) "LT" shows the dimension when Hand Wheel has mounted.

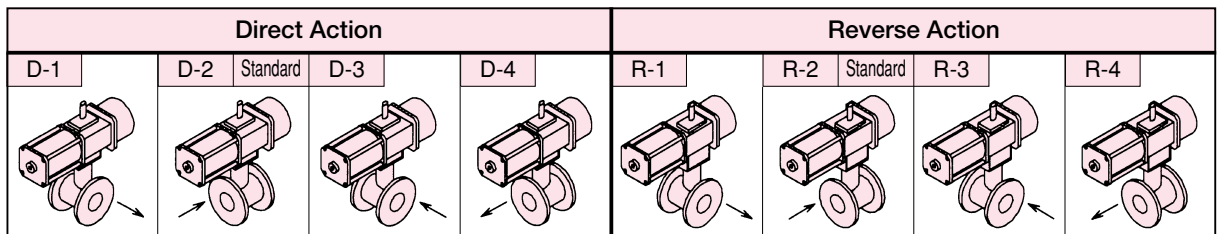


Valve size		F JIS10K, 20K ASME 150, 300	E	Actuator size	L	LT	J	C	X	W ₁	W ₂	Approx Weights (kg)	
												10K	20K
25	1	120	40	BS-2	335	362	210	325	330	38	106	27	28
40	1½	134	50	BS-2	335	362	210	335	330	38	106	29	30
				BS-3	451	482	276	420	360	52	140	58	59
50	2	140	60	BS-2	335	362	210	345	330	38	106	31	33
				BS-3	451	482	276	430	360	52	140	60	62
80	3	165	130	BS-2	335	362	210	425	330	38	106	41	44
				BS-3	451	482	276	490	360	52	140	69	72
				BS-4	575	609	351	500	370	81	188	113	116
100	4	194	140	BS-3	451	482	276	500	360	52	140	79	85
				BS-4	575	609	351	510	370	81	188	123	129
150	6	229	185	BS-4	575	609	351	635	370	81	188	150	157
				BS-5	745	795	446	710	420	117	256	269	276
200	8	243	210	BS-4	575	609	351	660	370	81	188	190	205
				BS-5	745	795	446	735	420	117	256	309	324
				BS-6	931	1006	638	710	405	130	326	498	513
250	10	297	235	BS-4	575	609	351	690	370	81	188	235	265
				BS-5	745	795	446	765	420	117	256	354	384
				BS-6	931	1006	638	740	405	130	326	543	573
300	12	338	255	BS-4	575	609	351	710	370	81	188	285	325
				BS-5	745	795	446	785	420	117	256	404	444
				BS-6	931	1006	638	760	405	130	326	593	633
350	14	428	310	BS-5	745	795	446	825	420	117	256	463	510
				BS-6	931	1006	638	800	405	130	326	652	699

- [Notes] (1) "X" is the dimension to have mounted Motoyama EA-91AC Positioner.
This dimension will be changed to have mounted other type of Positioners.
- (2) Approx. Weights shows the weight of valve assembly without Hand Wheel.

■ Mounting orientations

Various orientations of valve body and actuator are available, as shown below, in order for easy installation in limited piping space. Also available to mount actuator in horizontal position. D-2 and R-2 is the standard orientation to be delivered unless otherwise specified.



[Legend] → : Flow direction

7. Options

Model 92-CT Ceramic Trim Gyroll

Model 92-CT has been improved its anti-wear ability, in addition to the original superior controllability, by applying ceramic parts on the plug and seat-ring.

Typical Applications

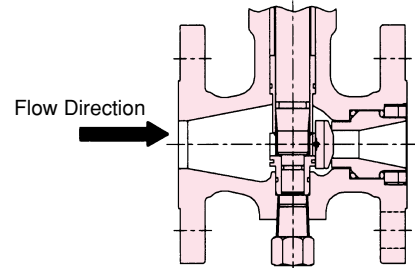
- For anti-wear, slurry applications
- Desulphurization Plant (Slurry)
- Sewage Plant
- Fly ash conveying line

Specifications

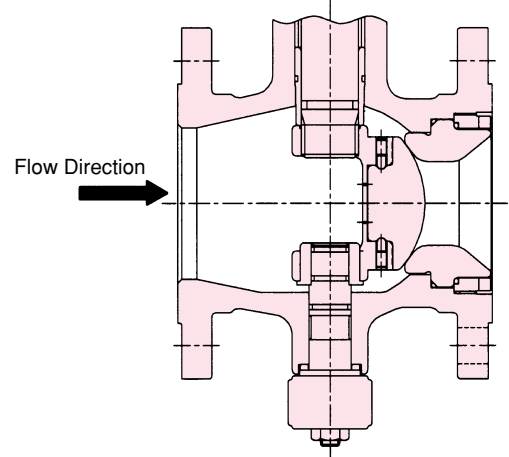
Body Type		92-CT					
Valve size	(mm)	25	40	50	80	100	150
	(inch)	1	1½	2	3	4	6
Materials	Body	CF8, CF8M, CF3M					
	Plug	Plug Head: Ceramics (Zirconia for 25mm and 40mm, Alumina for 50mm to 150mm) Plug Base: SCS14A (SUS316), SCS16A (SUS316L)					
	Seat-Ring	Ceramics (Zirconia for 25mm and 40mm, Alumina for 50mm to 150mm)					
	Guide	SUS316 + CoCr Alloy + O ring, SUS316L + CoCr Alloy + O ring					
Flow Direction		Flow to close					
Pressure Range		2MPaG (20kgf/cm ² G)					
Temperature Range		0℃ ~ +200℃ (Thermal Shock Temp. ≤ 80℃)					
Allowable Seat Leakage		ANSI/FCI Class IV (≥ 0.01% of rated Cv)					

[Note] Available port size is 60% and 40% port only.

〈Valve size ≤ 50A〉



〈Valve size ≥ 80A〉



Model 92-CS Body Ceramics Sprayed Gyroll

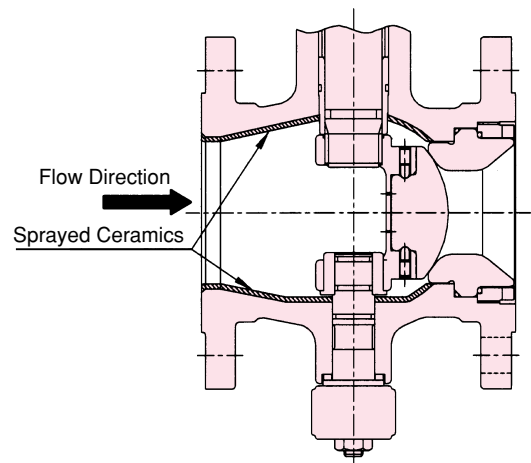
Model 92-CS has been improved its anti-erosion ability, in addition to the ceramics trim, by applying ceramic coating thermal sprayed on inner wall surface of the valve body.

Specifications

Body Type		92-CS					
Valve size	(mm)	25	40	50	80	100	150
	(inch)	1	1½	2	3	4	6
Materials	Body	CF8, CF8M, CF3M + Inner ceramics thermal sprayed (Alumina)					
	Plug	Plug Head: Ceramics (Zirconia for 25mm and 40mm, Alumina for 50mm to 150mm) Plug Base: SCS14A (SUS316), SCS16A (SUS316L)					
	Seat-Ring	Ceramics (Zirconia for 25mm and 40mm, Alumina for 50mm to 150mm)					
	Guide	SUS316 + CoCr Alloy + O ring, SUS316L + CoCr Alloy + O ring					
Flow Direction		Flow to close					
Pressure Range		2MPaG (20kgf/cm ² G)					
Temperature Range		0℃ ~ +200℃ (Thermal Shock Temp. ≤ 80℃)					
Allowable Seat Leakage		ANSI/FCI Class IV (≥ 0.01% of rated Cv)					

[Notes] (1) Available port size is 60% and 40% port only.

(2) Body and bonnet split type for valve size 25mm to 50mm



8. Jacketed Body

Jacketed Valve Body is most suitable for high viscous fluid service.
Jacketed Body is available for standard Valve Body Pressure Rating specified on page 2.

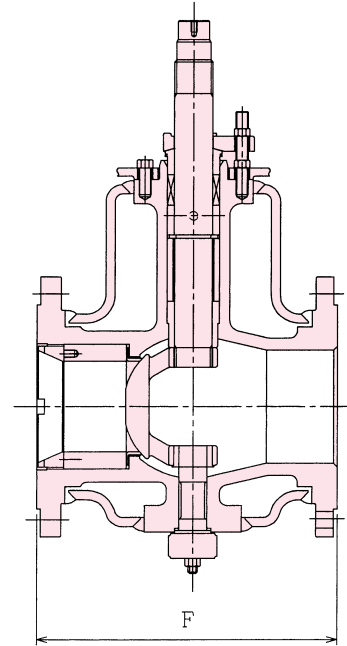
1 Full Jacketed Type ... B Type

Where duplex tube is piping, Connection Flange Size is coming larger than Valve standard connection Size.
In this design, Full Jacketed Type (B Type) is employed.

Standard Dimensions

Unit : mm

Valve size		Flange Size		F
mm	inch	mm	inch	
25	1	50	2	220
40	1 1/2	65	2 1/2	240
50	2	80	3	250
80	3	125	5	285
100	4	150	6	315
150	6	200	8	380
200	8	250	10	400
250	10	300	12	470
300	12	350	14	550



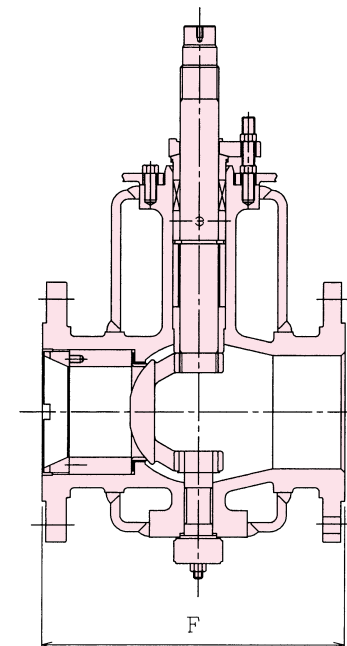
2 Semi Jacketed Type ... G Type

Semi Jacketed Type is employed if Connection Flange Size is equal to Valve standard connection Size.

Standard Dimensions

Unit : mm

Valve size		Flange Size		F
mm	inch	mm	inch	
25	1	25	1	220
40	1 1/2	40	1 1/2	240
50	2	50	2	250
80	3	80	3	285
100	4	100	4	315
150	6	150	6	380
200	8	200	8	400
250	10	250	10	470
300	12	300	12	550





株式会社 本山製作所

MOTOYAMA ENG. WORKS, LTD.

http://www.motoyama-cp.co.jp

本 社 工 場 〒981-3697 宮城県黒川郡大衡村大衡字亀岡5-2 TEL(022)344-4511(代表) / FAX(022)344-4522
E-mail : info@motoyama-cp.co.jp

Main Office & Factory 5-2, Ohira Aza Kameoka, Ohira-mura, Kurokawa-gun, Miyagi, 981-3697, Japan
TEL +81-22-344-4511 / FAX +81-22-344-4522
E-mail : info-overseas@motoyama-cp.co.jp

●販売・サービスネットワーク

東 京 支 店	〒210-0007 神奈川県川崎市川崎区駅前本町 10-5 クリエ川崎 11F	TEL (044) 381-8770(代表)	FAX (044) 381-8772
大 阪 支 店	〒550-0014 大阪市西区北堀江 1 丁目 12-19 クリモビル 3F	TEL (06) 6535-8111(代表)	FAX (06) 6535-8655
国 際 営 業 部	〒210-0007 神奈川県川崎市川崎区駅前本町 10-5 クリエ川崎 11F	TEL (044) 381-8771	FAX (044) 381-8773
札 幌 営 業 所	〒001-0912 札幌市北区新琴似 12条7丁目 1-47 リバティタウンP棟 101号	TEL (011) 766-1520	FAX (011) 766-1521
東 北 営 業 所 大 衡 サービスセンター	〒981-3697 宮城県黒川郡大衡村大衡字亀岡 5-2	TEL (022) 344-1761	FAX (022) 344-1762
上 越 営 業 所 上 越 サービスセンター	〒942-0036 新潟県上越市大字東中島 2393番地	TEL (025) 542-5151	FAX (025) 542-5152
関 東 営 業 所 千 葉 サービスセンター	〒290-0046 千葉県市原市岩崎西 1 丁目 5-19	TEL (0436) 21-4400	FAX (0436) 21-3540
静 岡 営 業 所	〒422-8033 静岡県駿河区登呂 4 丁目 28-5	TEL (054) 269-5377	FAX (054) 237-5855
名 古 屋 営 業 所 中 部 サービスセンター	〒481-0012 愛知県北名古屋市久地野安田 36番地	TEL (0568) 26-6681	FAX (0568) 26-6631
水 島 営 業 所	〒710-0042 岡山県倉敷市二日市 358	TEL (086) 486-3381	FAX (086) 486-3382
阪 神 サービスセンター	〒560-0894 大阪府豊中市勝部 2 丁目 18-3	TEL (06) 6854-7511	FAX (06) 6854-7512
姫 路 出 張 所	〒672-8014 兵庫県姫路市東山 276番地 1	TEL (079) 263-8640	FAX (079) 246-2130
徳 山 営 業 所 周 南 サービスセンター	〒745-0861 山口県周南市新地 1 丁目 6-11	TEL (0834) 21-5012	FAX (0834) 31-0450
四 国 営 業 所 新 居 浜 サービスセンター	〒792-0896 愛媛県新居浜市阿島 1 丁目 6-26	TEL (0897) 47-8993	FAX (0897) 47-8995
大 分 営 業 所 大 分 サービスセンター	〒870-0141 大分県大分市三川新町 1 丁目 3-23	TEL (097) 576-7032	FAX (097) 576-7033

●海外関連会社

本山閥門(大連)有限公司 〒116601 中国 遼寧省大連市金州新区港興大街 39 号 14-7 TEL +86-411-6589-1277 FAX +86-411-6589-1278

●海外販売代理店

中国、韓国、台湾、シンガポール、インドネシア、マレーシア、サウジアラビア

●SALES AND SUPPORT NETWORK

Overseas Marketing & Sales Dept. : 11th Floor, Clie Kawasaki, 10-5, Ekimae-honcho, Kawasaki-ku, Kawasaki-city, Kanagawa, 210-0007 Japan

TEL: +81-44-381-8771 FAX : +81-44-381-8773

Domestic Sales Branches : Tokyo, Osaka, Sapporo, Tohoku, Joetsu, Kanto, Shizuoka, Nagoya, Hanshin, Tokuyama, Shikoku, Oita

●OVERSEAS AFFILIATED COMPANY

MOTOYAMA VALVE (DALIAN) CO., LTD

Gangxing Street 39-14-7, Jinzhou New District, Dalian-city, 116601 China

TEL: +86-411-6589-1277

FAX: +86-411-6589-1278

●OVERSEAS NETWORK

China, Korea, Taiwan, Singapore, Indonesia, Malaysia, Saudi Arabia

◆当社は保証期間を原則として製品納入後 1 年としています。

◆The product will be warranted for one year after delivering this product in principle.

■本カタログの記載内容は、商品の改良等のため予告なく変更することがありますので予めご了承下さい。

■MOTOYAMA is continuously improving and upgrading its product design, specifications and/or dimensions. Information included herein is subject to change without notice.

■本カタログは正しい情報の提供を目的としたものであり、本製品の市場性または適合性の保証を証明するものではありません。

■This catalog is supplied for information purpose only and should not be considered certified marketability and conformability of this product.