YULIMTECH

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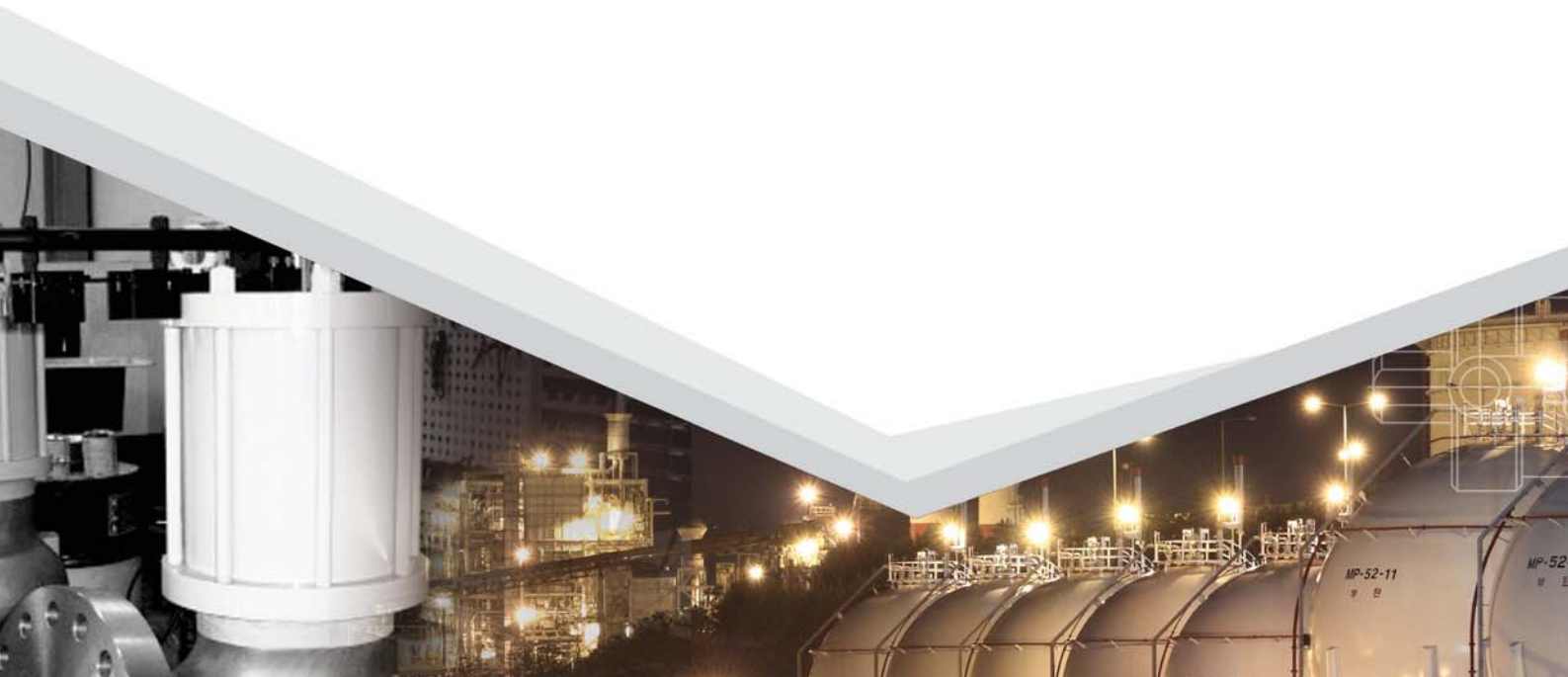

SPK

KAB
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KIBO
VENTURE

HYD. DECK STAND & ACTUATOR & VALVES

YULIM TECH

Forward-looking technology and challenge to the world.

YULIMTECH

THE WORLD YOU CAN RELY ON, YULIM TECH IS THERE FOR YOU

YULIM TECH

Forward-looking technology and challenge to the world

As an environment-friendly company, Yulim Tech has been established to preserve the environment and manufacture industrial facilities and shipbuilding-related operating devices. We, Yulim Tech, promise that we will do our best to get confidence and recognition from our customers with the substantial experience of mechanical technology and hydraulic and pneumatic technology, optimal design, and manufacturing know-how. We are manufacturing shipbuilding materials and industrial machinery including hydraulic and pneumatic pumps, actuators, and expansion joints. Exporting our products to S.Korea, Japan, China and overseas shipbuilders for the past years, we have enjoyed our reputation in technology, quality, and performance.

Brife History of Company

10. 2000 : Founded YULIM Engineering
(Location : Kimhae City Kyung-nam,)

10. 2001 : Have Developed HYD. REMOTE CON. SYS. FOR VALVE

06. 2002 : Have Developed SAFETY VALVE

01. 2003 : Changed Company's Name to YULIM TECH.
(Location : 302, Nongso-ri, Juchon-myen, Kimhae City, Kyung-nam, Korea)

02. 2003 : Have Developed HYDRO DECK STAND
(The patented Application No.: 0318351)

03. 2003 : Have Developed HYDRO ACTUATOR (Arm type)
(The patented Application No.: 0341848)

07. 2003 : Have Developed HYDRO CONTROL UNIT FOR DECK STAND
(The patented Application No.: 0361052)

03. 2004 : Have Developed HYDRO HAND PUMP

06. 2005 : Have Developed HYDRO ACTUATOR(B/F FOR 850A &1350A)

09. 2007 : Have Built New Factory

10. 2007 : Before Newly-Built Factory

CONTENTS

Main products

Main products

Forward-looking technology and challenge to the world

DECK STAND(TRANSMITTER) FOR HYD. ACTUATOR & MANUAL DECK STAND FOR VALVE

SPECIFICATION

MODEL	DISCHARGE (CC/Rev.)	WORKING PRESS.	OIL SPEC.	REMARK
YM-HDSM01	Min. 11 ~ Max. 54.5	Min. 50 ~ Max. 180 kgf/㎠	ISO VG 22~32~46	APPLICABLE DEPENDS ON VALVE SIZE
YM-HDSM02				
YM-HDSM03				
YM-HDSM04				

PART NAME & MATERIAL

DECK STAND (TRANSMITTER)			MANUAL DECK STAND		
NO	PART NAME	MATERIAL	NO	PART NAME	MATERIAL
1	BODY	FCD450	1	BODY	FC/FCD/C.S
2	BLOCK	FC250	2	STEM	SUS304
3	HANDLE	FC200	3	HANDLE	FC200
-	ETC	Stainless & BC	-	ETC	Stainless & BC

DIMENSIONS

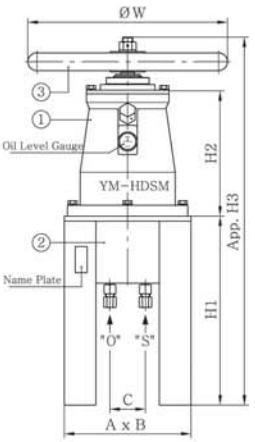
UNIT : mm

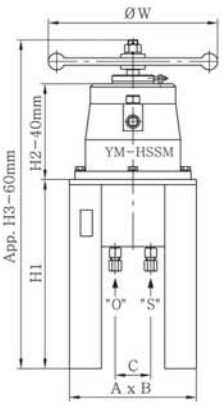
SIZE / MODEL	H1	H2	H3	C	A x B	ΦW
YM-HDSM01	410	200	700	50	230 x 190	300
YM-HDSM02	410	200	700	50	230 x 190	330
YM-HDSM03	410	230	730	50	230 x 190	400
YM-HDSM04	410	250	750	50	230 x 190	500

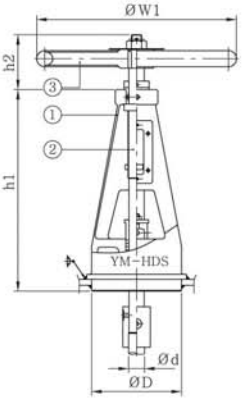
DIMENSIONS

UNIT : mm

SIZE / MODEL	H1	H2	ΦD	Φd	ΦW1	REMARK
YM-MDS01	550	110	180	20(25)	300	APPLICABLE DEPENDS ON VALVE SIZE
YM-MDS02	550	110	180	30(40)	400	







HYD. ACTUATOR FOR BUTTERFLY VALVE(ARM LOCKING TYPE)

SPECIFICATION

MODEL	APPLICABLE SIZE	WORKING PRESS.	OIL SPEC.	REMARK
YM-HABS01	50A~125A	Min. 50 ~ Max. 210 kgf/㎠	ISO VG 22~32~46	APPLICABLE DEPENDS ON SPEC.
YM-HABS02	150A~300A			
YM-HABS03	350A~400A			
YM-HABS04	450A~600A			
YM-HABS05	650A~800A			
YM-HABS06	850A~1000A			
YM-HABS07	1100A~1350A			

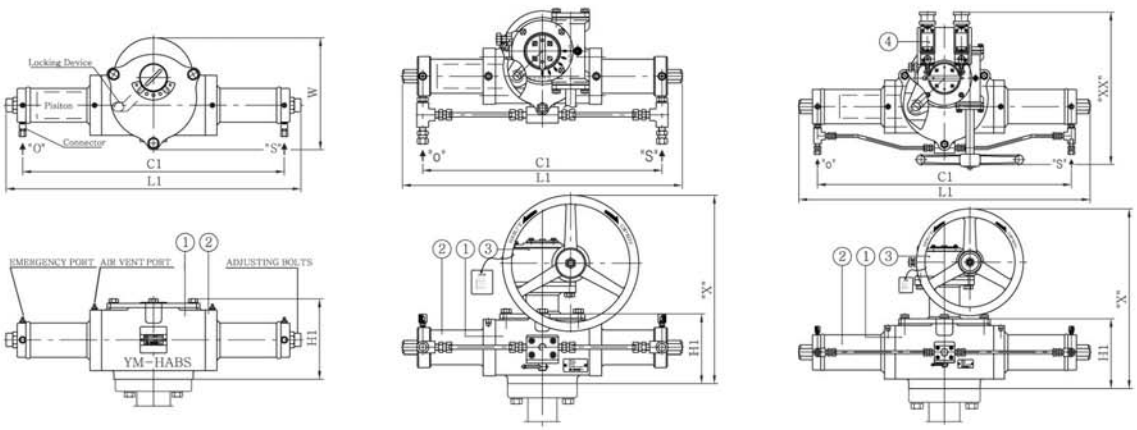
PART NAME & MATERIAL

HYD. ACTUATOR(ARM LOCKING TYPE)		
NO	PART NAME	MATERIAL
1	BODY	FCD450
2	SIDE COVER	FCD/C.S
3	WORM GEAR	FC/FCD
4	LIMIT S/W	PUR'
-	ETC	Stainless & BC

DIMENSIONS

UNIT : mm

SIZE / MODEL	C1	L1	H1	W	REMARK
YM-HABS01	300	360	96	132	"X","XX" APPLICABLE DEPENDS ON VALVE SPEC. (TORQUE)
YM-HABS02	448	524	138	193	
YM-HABS03	580	664	180	254	
YM-HABS04	760	840	210	322	
YM-HABS05	1010	1114	270	398	
YM-HABS06	1165	1296	310	468	
YM-HABS07	1335	1492	355	542	



HYD. ACTUATOR FOR BUTTERFLY VALVE (ROTARY TYPE)

SPECIFICATION

MODEL	APPLICABLE SIZE	WORKING PRESS.	OIL SPEC.	REMARK
YM-HABG01	50A~125A	Min. 50 ~ Max. 210 kgf/㎠	ISO VG 22~32~46	APPLICABLE DEPENDS ON SPEC.
YM-HABG02	150A~300A			
YM-HABG03	350A~400A			
YM-HABG04	450A~600A			

PART NAME & MATERIAL

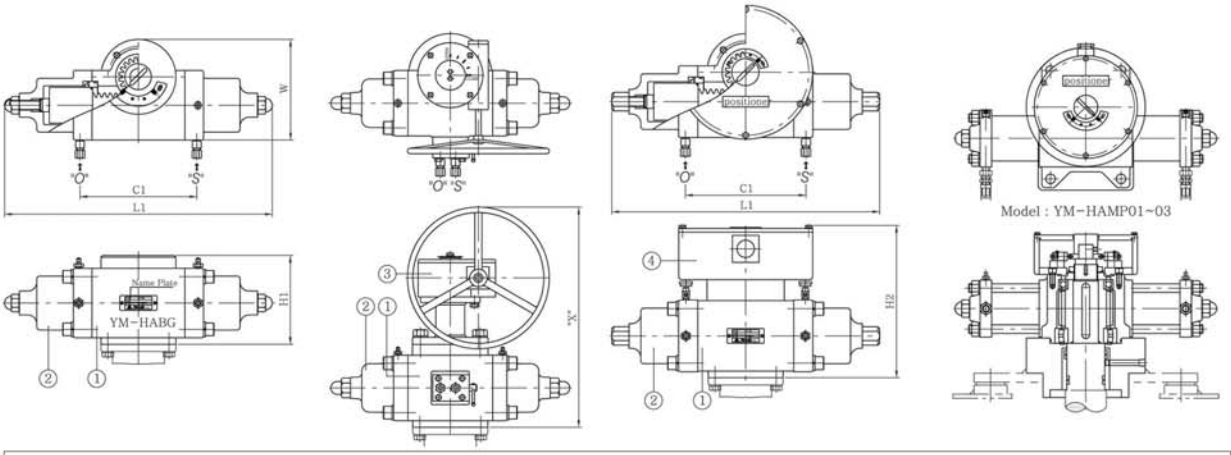
HYD. ACTUATOR(ROTARY TYPE)		
NO	PART NAME	MATERIAL
1	BODY	FCD450
2	SIDE COVER	FCD450
3	WORM GEAR	FC/FCD
4	POSITIONER	CARBON STEEL
-	ETC	Stainless & BC

Main products YULI

DIMENSIONS

UNIT : mm

SIZE / MODEL	C1	L1	H1	H2	W	REMARK
YM-HABG01	135	380	120	270	130	"X" APPLICABLE DEPENDS ON VALVE SPEC. (TORQUE)
YM-HABG02	195	450	152	332	170	
YM-HABG03	222	510	190	340	220	
YM-HABG04	298	680	250	420	350	



PNEUMATIC ACTUATOR(MANUAL HANDLE & SPRING RETURN TYPE) FOR BUTTERFLY VALVE

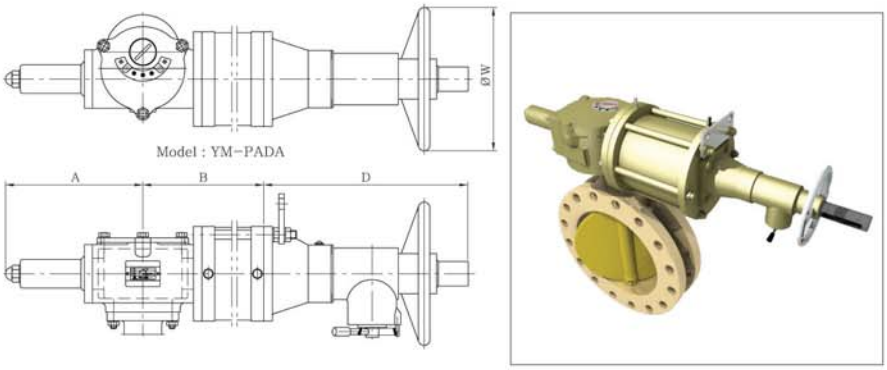
SPECIFICATION

MODEL	VALVE SIZE	WORKING PRESS.	TEST PRESS.	MATERIAL	REMARK
YM-PSDA01	50A~125A	Min. 3 ~ Max. 7 kgf/㎠	Max. 9kgf/㎠	CARBON STEEL & BRONZE	APPLICABLE DEPENDS ON VALVE SIZE
YM-PSDA02	150A~300A				
YM-PSDA03	350A~450A				

DIMENSIONS

UNIT : mm

SIZE / MODEL	A	B	D	ΦW
YM-PSDA01	185	228	420	150
YM-PSDA02	240	297	490	200
YM-PSDA03	415	468	525	250



HYD. ACTUATOR FOR GLOBE & ANGLE & GATE VALVE

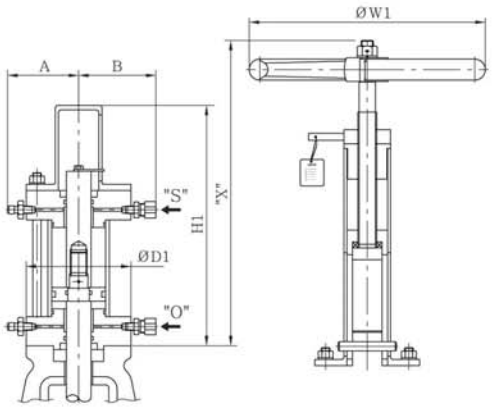
SPECIFICATION

MODEL	VALVE SIZE	WORKING PRESS.	TEST PRESS.	MATERIAL	REMARK
YM-HAGD04	50A	Min. 30 ~ Max. 210 kgf/㎠	Max. 180kgf/㎠	CARBON STEEL & STAINLESS	APPLICABLE DEPENDS ON VALVE SIZE
YM-HAGD05	65A~80A				
YM-HAGD06	100A				
YM-HAGD08	125A				
YM-HAGD10	150A				
YM-HAGD12	200A~250A				
YM-HAGD15	300A				

DIMENSIONS

UNIT : mm

SIZE / MODEL	A	B	ΦD1	H1	ΦW1
YM-HAGD04	63	84	92	206	150
YM-HAGD05	68	89	102	226	150
YM-HAGD06	80	102	126	238	180
YM-HAGD08	90	111	146	266	180
YM-HAGD10	106	128	180	282	200
YM-HAGD12	120	142	207	340	250
YM-HAGD15	132	154	232	387	300



Model : YM-HAGD

PRESSURE REDUCING VALVE

SPECIFICATION

Application fluid and temperature
Water, below normal temperature 70℃

Application pressure
- Max. influx pressure(first side)
- Max. outflux pressure(second side)
- Operational smallest differential pressure

Connection type
Both sides union type usual tape screw(RC) and outflow side usual taper internal thread
- KS 10K, 16K, 20K RF Flange

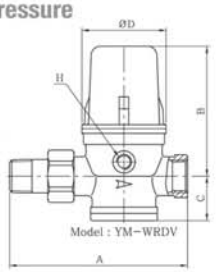
Material
- Body, Bonnet, Seat, Strainer : Stainless Steel
- Diaphragm : High strength polyester NR
- Disc : NR

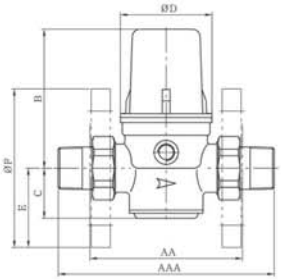
According to the use fluid quality of material applies.

Pressure control range / Basic set pressure
- 0.05 ~ 0.2 MPa / 0.2 MPa
- 0.2 ~ 0.6 MPa / 0.35 Mpa
- 0.6 ~ 1.0 MPa / 0.6 Mpa

UNIT : mm

SIZE / TYPE	15A	20A	25A	32A	40A	50A
A, Female Type	112	117	-	-	-	-
AA, Flange Type	-	-	120	140	165	190
AAA, Union Type	144	149	170	212	241	289
B	82	88	110	120	151	164
C	28	31	39	50	64	80
ΦD	53	60	72	80	95	105
E	-	-	63	68	70	80
F	-	-	125	135	140	155
H	G 1/8	G 1/8	G 1/4	G 1/4	G 1/4	G 1/4
Wt(kg), Female Type	0.75	0.93	-	-	-	-
Wt(kg), Flange Type			3.97	5.14	6.47	8.46
Wt(kg), Union Type	0.82	1.05	1.83	2.65	3.76	5.91





Main products

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RUBBER LINED BUTTERFLY VALVE

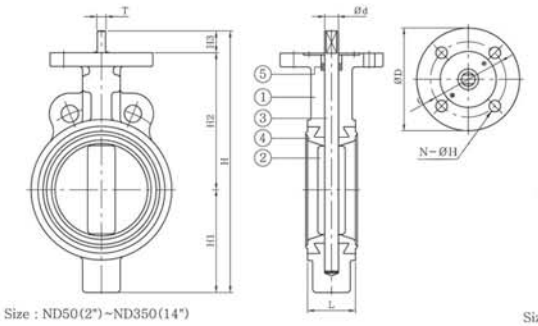
Standard : API 609, AWWA C504, MSS SP 67, BS EN 593
Product Range : 50mm up to 1200mm(2"~48")
Pressure Range : Max.16 bar
Face to Face : API 609, MSS SP 67, ISO 5752
AWWA C504, BS EN 593, JIS F 7480
Applicable : ASME B 16.1 Class 125
Flange : ASME B 16.5 Class 150,300 / BS 4504 PN10, PN16, JIS B 2210 10K, 16K
Seat and Shell Test : API 598, ASME B 16.34
ANSI B16.104(=FCI 70-2)
Top Flange : ISO 5211
Application : Shipbuilding / Chemical industry / Water works / Tank drains / Pump outlets / Power plants

NO	PART NAME	MATERIAL		
		JIS	ASTM	STANDARD
1	BODY	FC200	A126	Cast Iron
		FCD450	A536	Ductile Iron
		SCPH2	A216-WCB	Carbon Steel
		BC	B62	Bronze
		ALBC	B148	Al-Bronze
		SCS13	A351-CF8	304 Stainless Steel
		SCS14	A351-CF8M	316 Stainless Steel
2	DISC	FCD450	A536	Ductile Iron
		BC	B62	Bronze
		ALBC	B148	Al-Bronze
		SCS13	A351-CF8	304 Stainless Steel
		SCS14	A351-CF8M	316 Stainless Steel
3	STEM	SUS410	A276-410	410 Stainless
		SUS304	A276-304	304 Stainless Steel
		SUS316	A276-316	316 Stainless Steel
		SUS630	A276-630	630 Stainless Steel
4	SEAT	NBR / EPDM / NEOPRENE / VITON / SILICONE		
5	O-ring	NBR		
6	Pin	Stainless Steel		

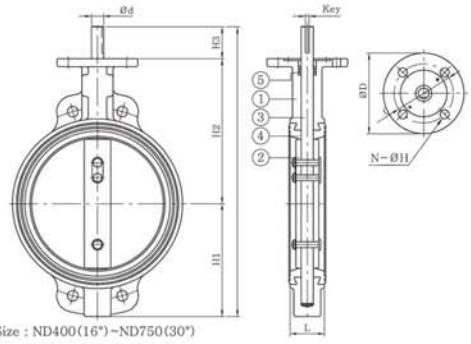
DIMENSIONS(Wafer Type & Semi-Lug Type & Flange Type)

UNIT : mm

SIZE		L	H	H1	H2	H3	STEM			TOP FLANGE			
inch	mm						ΦD	KEY	T	TYPE	ΦD	ΦC	N-ΦH
2	50	43	245	78	134	33	14		10	F07	90	70	4-10
2 1/2	65	46	250	80	137	33	14		10	F07	90	70	4-10
3	80	46	274	94	147	33	16		12	F07	90	70	4-10
4	100	52	307	110	164	33	19		15	F07	90	70	4-10
5	125	56	332	125	174	33	19		15	F07	90	70	4-10
6	150	56	376	145	198	33	19		18	F07	90	70	4-10
8	200	60	423	170	220	33	22		18	F07	90	70	4-10
10	250	68	513	210	270	33	28		20	F10	125	102	4-12
12	300	78	626	245	301	80	28		20	F10	125	102	4-12
14	350	78	680	275	325	80	32		20	F10	125	102	4-12
16	400	102	828	348	375	105	35	15 X 10		F14	175	140	4-18
18	450	114	882	370	407	105	38	15 X 10		F14	175	140	4-18
20	500	127	1019	425	489	105	45	15 X 10		F16	210	165	4-22
24	600	154	1189	498	571	120	50	15 X 10		F16	210	165	4-22
26	650	165	1230	540	570	120	50	15 X 10		F16	210	165	4-22
28	700	165	1274	580	574	120	70	15 X 10		F16	210	165	4-22
30	750	185	1391	615	656	120	70	15 X 10		F16	210	165	4-22
32	800	185	1419	630	669	120	80	22 X 14		F25	300	254	8-18
36	900	190	1491	671	690	130	80	22 X 14		F25	300	254	8-18
38	950	200	1640	710	800	130	90	22 X 14		F30	350	298	8-22
40	1000	210	1762	790	842	130	95	22 X 14		F30	350	298	8-22
48	1200	278	2125	915	1060	150	120	25 X 14		F30	415	356	8-33



Size : ND50(2")~ND350(14")



Size : ND400(16")~ND750(30")

Wafer Type

Flow Coefficient(Cv Value)

On the basis of the Cv value, the admissible head loss across the valve and the density of the flow medium, the flow rate can easily be calculated for the prevailing operating conditions.

FLOW RATE LBS/HR(Stem or Water)

$$dp = \left(\frac{F\sqrt{v}}{63.5Cv} \right)^2 \quad \text{or} \quad Cv = \frac{F\sqrt{v}}{63.5\sqrt{dp}}$$

Where :
dp = pounds per square inch(psi)
pressure drop through the valve
F = valve flow rate in lbs./hr.
$\sqrt{v}$ = square root of specific volume in ft. 3/lb.
(downstream of valve)
The relation between Cv and Kv is ;
Cv = 1.16kv

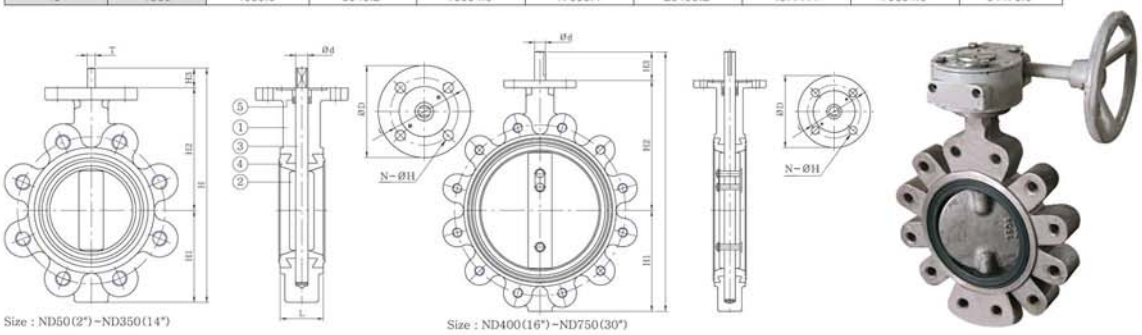
FLOW RATE GPM(Water or Other Liquids)

$$dp = \left(\frac{Q}{Cv} \right)^2 \quad \text{or} \quad Cv = \sqrt{\frac{Sg}{dp}}$$

Where :
dp = pressure drop in PSI
Sg = specific gravity
Qv = Flow rate in GPM

Flow coefficient for YULIM butterfly Valves

VALVE SIZE		Valve opening degree							
		20°	30°	40°	50°	60°	70°	80°	90°
inch	mm	Cv	Cv	Cv	Cv	Cv	Cv	Cv	Cv
2"	50	10.8	16.3	25.4	41.5	66.8	107.5	165.9	198.4
2 1/2"	65	18.9	28.5	44.5	72.6	116.8	188.1	290.2	347.1
3"	80	29.2	44.1	68.8	112.1	180.5	290.6	448.4	536.3
4"	100	44.3	66.9	104.4	170.1	273.9	440.9	680.3	813.7
5"	125	72.5	109.5	170.8	278.4	448.2	721.6	1113.4	1331.6
6"	150	103.6	156.4	244.0	397.8	640.4	1031.1	1591.0	1902.8
8"	200	184.3	278.3	434.1	707.6	1139.3	1834.3	2830.3	3385.0
10"	250	188.9	285.2	445.0	725.3	1167.7	1880.1	2900.9	3469.5
12"	300	416.9	629.5	982.0	1600.7	2577.2	4149.3	6402.3	7657.2
14"	350	568.5	858.4	1339.2	2182.8	3514.4	5658.1	8730.5	10441.6
16"	400	741.9	1120.3	1747.6	2848.6	4586.3	7383.9	11393.4	13626.5
18"	450	939.0	1417.9	2211.9	3605.4	5804.7	9345.6	14420.2	17246.6
20"	500	1159.8	1751.3	2732.0	4453.2	7169.7	11543.1	17811.1	21302.0
22"	550	1403.0	2118.5	3304.9	5387.0	8673.1	13963.6	21545.9	25768.9
24"	600	1665.0	2514.2	3922.1	6393.0	10292.7	16571.2	25569.4	30581.0
26"	650	1958.0	2956.6	4612.3	7518.0	12104.0	19487.4	30069.0	35962.6
28"	700	2269.4	3426.8	5345.8	8713.7	14029.0	22586.7	34851.2	41682.0
30"	750	2598.8	3924.2	6121.7	9978.4	16065.3	25865.1	39909.8	47732.1
32"	800	2969.8	4484.4	6995.7	11402.9	18358.7	29557.5	45607.3	54546.3
34"	850	3298.9	4981.3	7770.9	12666.5	20393.1	32833.0	50661.3	60590.9
36"	900	3699.9	5586.8	8715.5	14206.2	22872.0	36824.0	56819.4	67956.0
38"	950	4099.4	6190.1	9656.5	15740.2	25341.7	40800.1	62954.6	75293.6
40"	1000	4599.5	6945.2	10834.6	17660.4	28433.2	45777.4	70634.6	84479.0



Size : ND50(2")~ND350(14")

Size : ND400(16")~ND750(30")

Semi-Lug Type

Torques Required to Operate YULIM Valves

The torques listed are applicable to water, sea water,lubricating type of hydro carbons and most media at temperature 0~80°C (32~180°F).
The operating speed of the actuator must be considered in order to avoid water hammer when the valve is closed in junction with Liquid.

The factors affect the torque required to operate the valves.

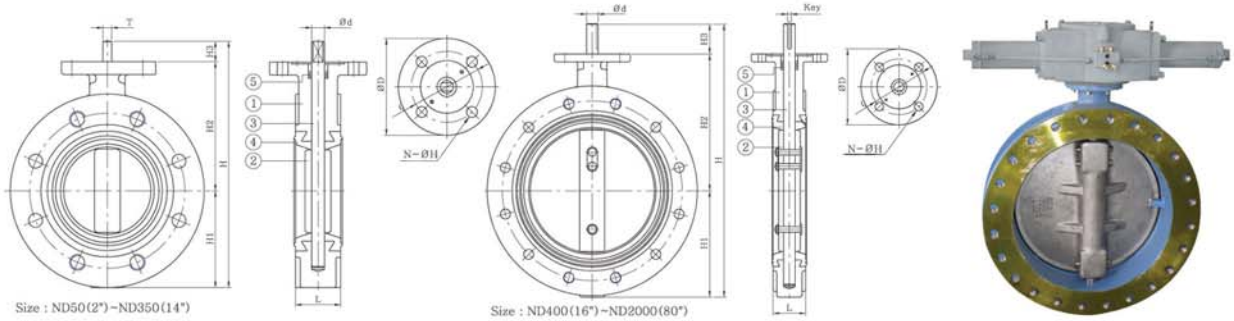
- valve & shaft diameter
- bearing friction coefficient
- velocity & shape of disc
- type of seat material
- shut off pressure
- system head characteristics & piping arrangement

Actuator torques can be calculated using following formulas.

- $Ta=Tb+Ts+Th=1.2Tb\pm Td$
- $Ts=CsD^2$
- $Tb=4.17D^2\,dfp$
- $Td=CtD^3P$
- $Th=3.06D^4$
- $V=Cf\sqrt{P}=Q/0.785D^2$

- Ta : The required actuator torque(lb-ft)
- Th : Hydrostatic torque(lb-ft)
- Ts : Seat or unseating torque (lb-ft)
- Td : Dynamic torque(lb-ft)
- Q : Flow (cubic for per second)
- V : Velocity (feet per second)
- D : Diameter of valve (feet)
- d : Diameter of shaft (inch)

- P : Pressure drop across valve (psi)
- Cs : Coefficient of seating or unseating torque
- Ct : Coefficient of dynamic torque
- Cf : Coefficient of flow



Size : ND50(2")~ND350(14")

Size : ND400(16")~ND2000(80")

Flange Type

Main products

TORQUE TABLE

UNIT : kg-m / Nm

SIZE		CONCENTRIC TYPE							
inch	mm	3.5bar		6bar		10bar		16bar	
		kg-m	Nm	kg-m	Nm	kg-m	Nm	kg-m	Nm
2"	50	1.03	10.09	1.83	17.88	2.35	23.02	2.41	23.61
2 1/2"	65	1.86	18.22	2.35	23.02	2.89	28.31	2.94	28.80
3"	80	2.43	23.81	3.23	31.64	3.12	30.56	3.28	32.13
4"	100	4.12	40.36	4.14	40.56	5.20	50.94	5.65	55.35
5"	125	5.67	55.55	6.23	61.03	7.25	71.02	8.87	86.89
6"	150	8.45	82.78	9.31	91.20	11.04	108.15	12.69	124.32
8"	200	15.98	156.54	17.34	169.87	17.65	172.90	26.07	255.39
10"	250	24.76	242.56	28.15	275.77	32.45	317.89	36.77	360.21
12"	300	34.86	341.50	38.88	380.88	47.56	465.91	56.73	555.74
14"	350	48.05	470.71	55.64	545.07	65.23	639.01	72.33	708.57
16"	400	67.45	660.76	78.55	769.50	89.13	873.14	103.22	1011.17
18"	450	87.88	860.90	102.34	1002.55	123.45	1209.35	165.43	1620.60
20"	500	110.78	1085.23	123.54	1210.23	164.78	1614.23	192.35	1884.32
24"	600	237.87	2330.25	268.65	2631.78	278.63	2729.54	310.98	3046.45
28"	700	246.70	2416.75	312.65	3062.81	356.76	3494.93	382.13	3743.46
32"	800	310.53	3042.05	358.98	3516.68	432.15	4233.47	489.57	4795.97
36"	900	435.03	4261.68	487.64	4777.07	690.78	6767.09	917.85	8991.53
40"	1000	623.43	6107.31	687.12	6731.23	992.38	9721.65	1431.97	14028.01
44"	1100	745.98	7307.84	812.54	7959.89	1215.76	11909.95	1653.08	16194.07
48"	1200	998.75	9784.05	1124.50	11015.94	1933.46	18940.75	2347.88	23000.54

Elastomer General Chart

The following chart should be used as a general guide.
Application suggested derives from recommendation given by elastomer manufacturer.
The resistance can be affected by type of fluid, concentration, temperature, pressure, flow rate or evaporation of the medium.
The final choice is to be taken by the customer, based on characteristics and specific application.

MATERIAL	GENERAL APPLICATION	SERVICE TEMPERATURE	NOT RECOMMENDED FOR
EPDM	Fresh Water Sea Water Brine Esters Alkalis Ozone Alcohols Brake Fluid Treated Water With Caustic Soda	-15℃ to +120℃ (for intermittent opration) 0℃ – 100℃ (Allowable temperature in continuous use)	Hydrocarbons Oils Fats Greases
NBR	Fresh Water Sea Water Treated Water With Caustic Soda Hydrocarbons Natural Gas Oil and Fat Air Gasoline	-10℃ to +80℃ (Allowable temperature in continuous use) 0℃ – 70℃ (L-NBR -50℃ to 70℃)	Solvents Benzene Xylol
SBR	Acids and Alkalis	-20℃ to +80℃	
VITON	Acids, Oils Hydrocarbon	-10℃ to +230℃	Steam, Ester Freon22, Alkalis
SILICONE	Food Beverage	-20℃ to +140℃	Steam Solvents
TEFLON	Solvents Corrosive Products Ketones	-50℃ to +230℃ (PTFE -196℃ to +230℃)	Fluid Containing Powders Alkaline Gaseous Fluorine
NEOPRENE	Acid, Ozone, Oils Fats Greases Solvents	-18℃ to +90℃	Ketones, Thinners Concentrated Acids

CLASS 150 ~ 900 CAST STEEL GATE VALVE

OS&Y, Rising stem, Flexible wedge
Bolted bonnet, Threaded or welded seat ring
ASTM A216 WCB, A217 WC6, WC9, A351 CF8, A351 CF8M
A351 CF3, A351 CF3M, A351 CN7M, A352 LCB

STANDARDS COMPLIANCE

Design and manufacture : ANSI B16.34, API 600, API 6D,API 603, BS1414
Face to face(end to end) : ANSI B16.10, API 6D
Flanged connection : 2"~24" to ANSI B16.5, 22",26"~36" to MSS-SP-44 or to API 605 on request
Test and inspection : API 598, API 6D
Butt welded end : ANSI B16.25

UNIT : mm

NO	PART NAME	ASTM SPECIFICATIONS						
		STANDARD	STAINLESS STEEL	LOW TEMP. SERVICE		HIGH TEMP. SERVICE		
1	BODY	A216-WCB	A351-CF8(CF8M)	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5
2	BONNET	A216-WCB	A351-CF8(CF8M)	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5
3	WEDGE	A217-CA15	A351-CF8(CF8M)	A351-CF8	A351-CF8	A217-CA15	A217-CA15	A217-CA15
4	BODY SEAT RING	A108-C/S1020+HF	A182-F304(316)+HF	A182-F304+HF	A182-F304+HF	A182-F11+HF	A182-F11+HF	A182-F5a+HF
5	STEM	A276-410	A276-304(316)	A276-304	A276-304	A276-410	A276-410	A276-410
6	BACK SEAT RING	A276-410	A276-304(316)	A276-304	A276-304	A276-410	A276-410	A276-410
7	YOKE SLEEVE	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C
8	YOKE CAP	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
9	PACKING GLAND	A276-410	A276-304(316)	A276-304	A276-304	A276-410	A276-410	A276-410
10	GLAND FLANGE	A105/A283-D	A182-F304(316)	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D
11	BONNET BOLT	A193-B7	A193 B8(B8M)	A320-L7	A320-L7	A193-B16	A193-B16	A193-B16
12	BONNET NUT	A194-2H	A194-8(B8)	A194-4	A194-4	A194-4	A194-4	A194-4
13	GLAND BOLT	A307-B	A193 B8(B8M)	A307-B	A307-B	A307-B	A307-B	A307-B
14	GLAND NUT	A307-B	A194-8(B8)	A307-B	A307-B	A307-B	A307-B	A307-B
15	HINGE PIN	A108-C/S1020	A276-304(316)	A108-C/S1020	A108-C/S1020	A108-C/S1020	A108-C/S1020	A108-C/S1020
16	HAND WHEEL	A536	A536	A536	A536	A536	A536	A536
17	HAND WHEEL NUT	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED
18	PACKING	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
19	GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
20	YOKE	A216-WCB	A351-CF8(CF8M)	A352-LCB/A216-WCB	A352-LCB/A216-WCB	A217-WC6/A216-WCB	A217-WC6/A216-WCB	A217-WC6/A216-WCB
21	SET SCREW	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
22	GREASE NIPPLE	B16	B16	B16	B16	B16	B16	B16
23	NAME PLATE	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304

GATE 150LB DIMENSIONS

UNIT : mm

SIZE	inch	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	34	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	850	900
L		178	191	203	229	267	292	330	356	381	406	432	457	508	559	610	610	710	711	711
H		320	370	430	525	730	850	1125	1327	1450	1650	1750	2100	2460	2650	2870	3175	3380	3430	3620
ΦW		180	200	200	240	280	320	400	400	500	500	710	710	710	800	800	800	800	800	800

GATE 300LB DIMENSIONS

UNIT : mm

SIZE	inch	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	34	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	850	900
L		216	241	282	305	403	419	457	502	762	838	914	991	1143	1245	1346	1397	1524	1626	1727
H		357	412	475	550	753	968	1170	1340	1671	1880	2150	2510	2790	2920	3200	3607	3850	3980	4204
ΦW		200	200	240	280	320	400	400	400	600	600	700	800	800	800	800	800	800	800	800

GATE 600LB DIMENSIONS

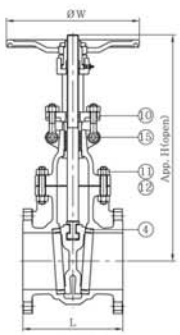
UNIT : mm

SIZE	inch	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	26	28	30	32	34	36
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	650	700	750	800	850	900
L		292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1448	1549	1651	1778	1930	2083
H		405	455	500	608	774	1020	1280	1460	1623	1816	2260	2705	2810	3180	3518	3840	GEAR OPERATOR		
ΦW		200	250	315	355	450	500	710	710	710	710	800	800	800	800	800	800			

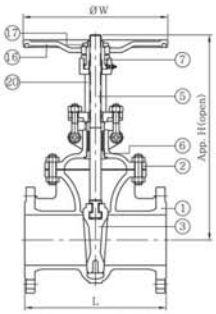
GATE 900LB DIMENSIONS

UNIT : mm

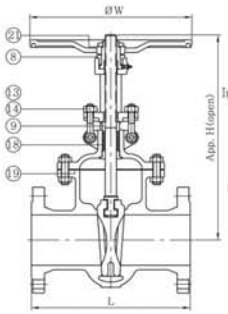
SIZE	inch	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L		368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
H		570	610	630	810	1050	1360	1410	1700	1890	1980	2150	2380	2985
ΦW		250	250	315	355	450	500	500	700	800	800	800	800	800



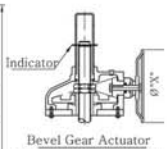
Class : 150LB(10K)



Class : 300LB(20K)



Class : 600/900LB(40/60K)



Bevel Gear Actuator
: According to opearational torque is proportionate and selects

Main products

CLASS 150 ~ 900 CAST STEEL GLOBE VALVE

OS&Y, Rising stem, plug disc
Bolted bonnet, Threaded or welded seat ring
ASTM A216 WCB, A217 WC6, WC9, A351 CF8, A351 CF8M
A351 CF3, A351 CF3M, A351 CN7M, A352 LCB

STANDARDS COMPLIANCE

Design and manufacture : ANSI B16.34, BS 1873
Face to face(end to end) : ANSI B16.10
Flanged connection : ANSI B16.5
Test and inspection : API 598
Butt welded end : ANSI B16.25

NO	PART NAME	ASTM SPECIFICATIONS						
		STANDARD	STAINLESS STEEL	LOW TEMP. SERVICE		HIGH TEMP. SERVICE		
1	BODY	A216-WCB	A351-CF8(CF8M)	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5
2	BONNET	A216-WCB	A351-CF8(CF8M)	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5
3	DISC	A217-CA15	A351-CF8(CF8M)	A351-CF8	A351-CF8	A217-CA15	A217-CA15	A217-CA15
4	BODY SEAT RING	A108-C/S1020+HF	A182-F304(316)+HF	A182-F304+HF	A182-F304+HF	A182-F11+HF	A182-F11+HF	A182-F5a+HF
5	STEM	A276-410	A276-304(316)	A276-304	A276-304	A276-410	A276-410	A276-410
6	BACK SEAT RING	A276-410	A276-304(316)	A276-304	A276-304	A276-410	A276-410	A276-410
7	YOKE SLEEVE	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C	A439-D2C
8	PACKING GLAND	A276-410	A276-304(316)	A276-304	A276-304	A276-410	A276-410	A276-410
9	GLAND FLANGE	A105/A283-D	A182-F304(316)	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D	A105/A283-D
10	BONNET BOLT	A193-B7	A193 B8(B8M)	A320-L7	A320-L7	A193-B16	A193-B16	A193-B16
11	BONNET NUT	A194-2H	A194-8(B8)	A194-4	A194-4	A194-4	A194-4	A194-4
12	GLAND BOLT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
13	GLAND NUT	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B	A307-B
14	HINGE PIN	A108-C/S1020	A276-304(316)	A108-C/S1020	A108-C/S1020	A108-C/S1020	A108-C/S1020	A108-C/S1020
15	HAND WHEEL	A536	A536	A536	A536	A536	A536	A536
16	HAND WHEEL NUT	A307-B	A307-B+ZN PLATED	A307-B	A307-B	A307-B+ZN PLATED	A307-B+ZN PLATED	A307-B+ZN PLATED
17	PACKING	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
18	GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
19	DISC LOCK NUT	A276-410	A276-304(316)	A276-304	A276-304	A276-410	A276-410	A276-410
20	NAME PLATE	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304

GLOBE 150LB DIMENSIONS

UNIT : mm

SIZE	inch	2	2 1/2	3	4	6	8	10	12	14	16	18
	mm	50	65	80	100	150	200	250	300	350	400	450
L		203	216	241	292	406	495	622	699	787	914	978
H		280	330	360	380	480	560	650	736	1000	1200	1400
ΦW		180	200	200	240	280	400	500	500	600	710	710

GLOBE 300LB DIMENSIONS

UNIT : mm

SIZE	inch	2	2 1/2	3	4	6	8	10	12	14	16	18
	mm	50	65	80	100	150	200	250	300	350	400	450
L		267	292	318	356	445	559	622	711	838	864	978
H		300	340	380	430	590	696	789	815	1600	1800	1850
ΦW		180	200	240	240	400	400	450	500	800	800	800

GLOBE 600LB DIMENSIONS

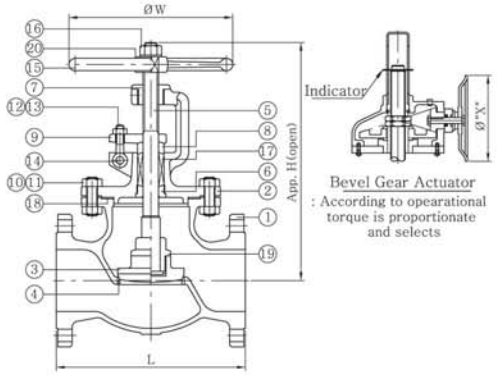
UNIT : mm

SIZE	inch	2	2 1/2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
L		292	330	356	432	559	660	787	838
H		520	570	510	615	780	995	1150	1300
ΦW		250	315	355	450	450	500	800	800

GLOBE 900LB DIMENSIONS

UNIT : mm

SIZE	inch	2	2 1/2	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
L		368	419	381	457	610	737	838	965
H		560	590	640	810	1050	1360	1570	1700
ΦW		315	355	355	400	500	700	800	800



CLASS 150 ~ 900 CAST STEEL CHECK VALVE

Bolt cover, swing type disc
Threaded or welded seat ring
ASTM A216 WCB, A217 WC6, WC9, A351 CF8, A351 CF8M
A351 CF3, A351 CF3M, A351 CN7M, A352 LCB

STANDARDS COMPLIANCE

Design and manufacture : ANSI B16.34, API 6D, BS 11868
Face to face(end to end) : ANSI B16.10, API 6D
Flanged connection : 2"~24" to ANSI B16.5
22", 26"~36" to MSS-SP-44
to API 605 on request
Test and inspection : API 598, API 6D
Butt welded end : ANSI B16.25

NO	PART NAME	ASTM SPECIFICATIONS						
		STANDARD	STAINLESS STEEL	LOW TEMP. SERVICE		HIGH TEMP. SERVICE		
1	BODY	A216-WCB	A351-CF8(CF8M)	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5
2	COVER	A216-WCB	A351-CF8(CF8M)	A352-LCB	A352-LC2	A217-WC6	A217-WC9	A217-C5
3	DISC	A217-CA15	A351-CF8(CF8M)	A351-CF8	A351-CF8	A217-CA15	A217-CA15	A217-CA15
4	BODY SEAT RING	A108-C/S1020+HF	A182-F304(316)+HF	A182-F304+HF	A182-F304+HF	A182-F11+HF	A182-F11+HF	A182-F5a+HF
5	HINGE PIN	A276-410	A276-304(316)	A276-304	A276-304	A276-410	A276-410	A276-410
6	ARM	A216-WCB	A351-CF8(CF8M)	A352-LCB	A352-LCB	A217-WC6	A217-WC9	A217-C5
7	DISC NUT	A194-8	A194-8(B8)	A194-8	A194-8	A194-8	A194-8	A194-8
8	COVER BOLT	A193-B7	A193 B8(B8M)	A320-L7	A320-L7	A193-B16	A193-B16	A193-B16
9	COVER NUT	A194-2H	A194-8(B8)	A194-4	A194-4	A194-4	A194-4	A194-4
10	SPLIT PIN	A580-304	A580-304(316)	A580-304	A580-304	A580-304	A580-304	A580-304
11	EYE BOLT	A307-B	A193 B8(B8M)	A307-B	A307-B	A307-B	A307-B	A307-B
12	GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
13	PLUG BOLT	A307-B	A193 B8(B8M)	A276-304	A276-304	A276-304	A276-304	A276-304
14	PLUG GASKET	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL	COMMERCIAL
15	NAME PLATE	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304	AL./A240-304

SWING CHECK 150LB DIMENSIONS

UNIT : mm

SIZE	inch	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28	30
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750
L		203	216	241	292	356	495	622	699	787	864	978	978	1295	1448	1524
H		105	111	120	160	203	225	320	340	364	410	461	526	568	895	925

SWING CHECK 300LB DIMENSIONS

UNIT : mm

SIZE	inch	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28	30
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750
L		267	292	318	356	445	533	622	711	838	864	978	1016	1346	1499	1594
H		126	136	153	167	225	260	345	390	430	470	545	600	690	925	965

SWING CHECK 600LB DIMENSIONS

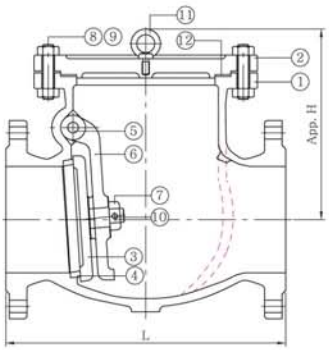
UNIT : mm

SIZE	inch	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	28	30
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	700	750
L		292	330	356	432	559	660	787	838	889	991	1092	1194	1397	1600	1651
H		191	200	241	257	321	380	446	470	528	572	660	720	800	876	978

SWING CHECK 900LB DIMENSIONS

UNIT : mm

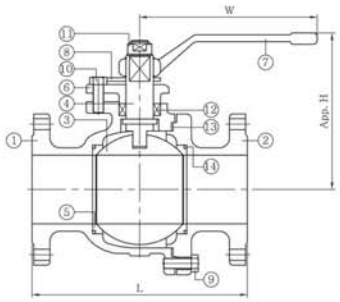
SIZE	inch	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L		368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
H		200	230	250	290	330	410	465	520	580	698	722	798	845



Main products

CLASS 150, 300 STAINLESS STEEL BALL VALVE

2PC Full Bore
Size : 1/2"~16"(DN15-DN400)
ISO5211 mounting pad
Working Temperature : <180°C (PPL<300°C)
Suitable Medium : Water, Gas, Oil, Nitric acid, Acetic acid etc.
Fire-safe and Anti-static device available
Flange Standard : ANSI B 16.5
Face to face : ANSI B 16.10
Fire-safe : API 607
Check and Test : ANSI B 16.34 or API 598



NO	PART NAME	MATERIAL	NO	PART NAME	MATERIAL
1	BODY	A351-CF8(CF8M)	9	BONNET BOLT	A193 B8(B8M)
2	BONNET		10	GLAND BOLT	A193 B8(B8M)
3	BALL		11	STEM NUT	A194-8(B8)
4	STEM	A479-304(316)	12	PACKING	PTFE
5	SEAT	PTFE	13	GASKET	PTFE
6	GLAND FLANGE	A351-CF8(CF8M)	14	O-RING	VITON
7	HAND LEVER	CARBON STEEL			
8	STOPPER	A240-304(316)			

BALL 10K(150#) DIMENSIONS

UNIT : mm

SIZE	inch	2	2 1/2	3	4	5	6	8	10	12	14	16
	mm	50	65	80	100	125	150	200	250	300	350	400
L		178	190	203	229	356	393	457	533	610	686	762
H		118	133	153	183	220	265	310	580	630	650	720
W		240	240	350	400	500	500	500	GEAR or MOTOR OPERATOR			

BALL 20K(300#) DIMENSIONS

UNIT : mm

SIZE	inch	2	2 1/2	3	4	5	6	8	10	12	14	16
	mm	50	65	80	100	125	150	200	250	300	350	400
L		216	241	283	305	381	403	502	568	648	762	838
H		135	150	165	205	240	280	350	590	655	680	750
W		240	240	400	400	500	500	500	GEAR or MOTOR OPERATOR			

CLASS 150, 300 STAINLESS STEEL 3WAY BALL VALVE

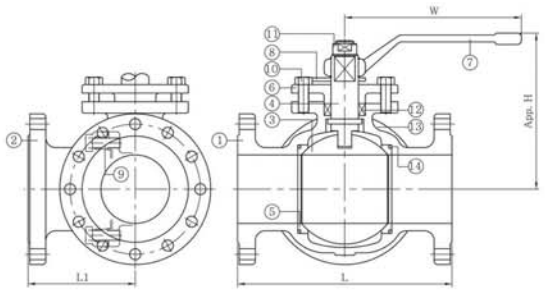
T-Port or L-Port
Side Entry and Top Entry
4-Seat Design
Face to face : Manufacturer Standard
End Flange Dimensions : ANSI B16.5

NO	PART NAME	MATERIAL	NO	PART NAME	MATERIAL
1	BODY	A351-CF8(CF8M)	9	BONNET BOLT	A193 B8(B8M)
2	BONNET		10	GLAND BOLT	A193 B8(B8M)
3	BALL		11	STEM NUT	A194-8(B8)
4	STEM	A479-304(316)	12	PACKING	PTFE
5	SEAT	PTFE	13	GASKET	PTFE
6	GLAND FLANGE	A351-CF8(CF8M)	14	O-RING	VITON
7	HAND LEVER	CARBON STEEL			
8	STOPPER	A240-304(316)			

3WAY BALL 10K(150#) DIMENSIONS

UNIT : mm

SIZE	inch	2	2 1/2	3	4	5	6	8	10	12	14
	mm	50	65	80	100	125	150	200	250	300	350
L		218	250	290	365	412	430	583	650	750	900
L1		109	125	145	182.5	206	215	291.5	325	375	450
H		160	176	193	196	245	260	325	610	720	890
W		240	240	350	400	500	500	500	500	600	710



OPERATING FORMS

3 WAY L-PORT		3 WAY T-PORT			
					
LA	LB	TA	TB	TC	TD

10K, 20K, 150LB, 300LB DUAL PALTE CHECK VALVE

Diameter : 50A(2") ~ 600A(24")
Applicable pressure : 10K,20K,150LB,300LB
Connecting Ends : Wafer, Flange
Test Method : According to KS B2304, API 598
Number of spring : 2"~5"(1EA), 6"~22"(2EA)
24" and over(4EA)

NO	PART NAME	MATERIAL	
1	BODY	A216-WCB	A351-CF8(M)
2	PLATE DISC	A351-CF8	A351-CF8(M)
3	SPRING	A276-304	A276-304(316)
4	SEAT	A216-WCB+HF(NBR,EPDM,MATAL)	A351-CF8(M)(NBR,EPDM,MATAL)
5	HINGE PIN	A276-304	A276-304(316)
6	STOP PIN	A276-304	A276-304(316)
7	PLUG	A307-B	A276-304(316)
8	BEARING	TEFLON	TEFLON
9	EYE BOLT	A307-B	A307-B

DUAL PLATE CHECK DIMENSIONS

UNIT : mm

SIZE		PRESSURE	TYPE FACING	DIMENSIONS				FLANGE BOLT CIRCLE	NUMBER OF BOLTS	BOLT DIAMETER
inch	mm			ΦD	H	Φd	R			
2"	50A	10K	FF	101	54	60	32	120	4	M16
		20K	RF · FF	101	60	60	27	120	8	M16
		150LB	RF	105	60	60	27	120.6	4	5/8
		300LB	RF	111	60	60	27	127	8	5/8
2 1/2"	65A	10K	FF	121	54	73	37	140	4	M16
		20K	RF · FF	121	67	73	33	140	8	M16
		150LB	RF	124	67	73	33	139.7	4	5/8
		300LB	RF	130	67	73	33	149.3	8	3/4
3"	80A	10K	FF	131	57	89	45	150	8	M16
		20K	RF · FF	137	73	89	41	160	8	M20
		150LB	RF	137	73	89	41	152.4	4	5/8
		300LB	RF	149	73	89	41	168.4	8	3/4
4"	100A	10K	FF	156	64	114	53	175	8	M16
		20K	RF · FF	162	73	114	55	185	8	M20
		150LB	RF	175	73	114	54	190.5	8	5/8
		300LB	RF	181	73	114	55	200.1	8	3/4
5"	125A	10K	FF	187	70	141	67	210	8	M20
		20K	RF · FF	197	86	141	65	225	8	M22
		150LB	RF	197	86	141	65	215.9	8	3/4
		300LB	RF	216	86	141	65	234.9	8	3/4
6"	150A	10K	FF	217	76	168	79	240	8	M20
		20K	RF · FF	235	98	168	79	260	12	M22
		150LB	RF	222	98	168	79	241.3	8	3/4
		300LB	RF	251	98	168	79	269.9	12	3/4
8"	200A	10K	FF	267	95	219	105	290	12	M20
		20K	RF · FF	279	127	219	102	305	12	M22
		150LB	RF	279	127	219	102	298.4	8	3/4
		300LB	RF	308	127	219	102	330.2	12	7/8
10"	250A	10K	FF	330	108	274	128	310	12	M22
		20K	RF · FF	353	146	274	126	380	12	M24
		150LB	RF	340	146	274	126	361.9	12	7/8
		300LB	RF	362	146	274	126	387.5	16	1
12"	300A	10K	FF	375	143	324	155	400	16	M22
		20K	RF · FF	403	181	324	152	430	16	M24
		150LB	RF	410	181	324	152	431.8	12	7/8
		300LB	RF	422	181	324	152	450.8	16	1 1/8
14"	350A	10K	FF	420	184	356	170	445	16	M22
		20K	RF · FF	447	222	356	170	480	16	M30
		150LB	RF	451	184	356	170	476.2	12	1
		300LB	RF	486	222	356	170	514.3	20	1 1/8
16"	400A	10K	FF	483	191	406	195	510	16	M24
		20K	RF · FF	507	232	406	195	540	16	M30
		150LB	RF	514	191	406	195	539.7	16	1
		300LB	RF	540	232	406	195	571.5	20	1 1/4
18"	450A	10K	FF	538	203	457	219	565	20	M24
		20K	RF · FF	572	264	457	219	605	20	M30
		150LB	RF	549	203	457	219	577.8	16	1 1/8
		300LB	RF	597	264	457	219	628.6	24	1 1/4
20"	500A	10K	FF	593	213	508	244	620	20	M24
		20K	RF · FF	627	292	508	244	660	20	M30
		150LB	RF	606	219	508	244	635	20	1 1/8
		300LB	RF	654	292	508	244	685.8	24	1 1/4
24"	600A	10K	FF	697	222	610	292	730	24	M30
		20K	RF · FF	731	318	610	292	770	24	M36
		150LB	RF	718	222	610	292	749.3	20	1 1/4
		300LB	RF	775	318	610	292	812.8	24	1 1/2