

FOR THE FUTURE WITH PASSION & CREATIVITY & CHALLENGE

SUN KOREA

VISION

*FOR THE FUTURE WITH
PASSION & CREATIVITY & CHALLENGE!*



SUN KOREA with DREAM & FUTURE

**FOR THE FUTURE WITH PASSION & CREATIVITY
& CHALLENGE, SUN KOREA CO.,LTD.**



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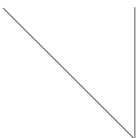
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We comply with basic principle for business management and maintain a clean organization culture. Better working environment and welfare for employees can give more opportunities for self-development. We always care for the bigger performance-based on good compensation. Our employee has strong pride and good performance bring highest level of quality, continuous operational innovation and global competitiveness.

We always believe,

“Promise and practice is our pride.”

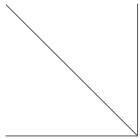
“Practical achievement is our life.”

“Innovative people are the most important asset.”

Don't forget “Customer's satisfaction is our heart.”

World, Stage of unlimited possibilities

We heartily welcome your attention to
“SUN KOREA CO., LTD.” catalogue and very honored to
have an opportunity of introducing our company.



We, “SUN KOREA CO., LTD.” have focused on items of shipbuilding parts, on/offshore oil & gas, chemical & petrochemical area accumulating wealth of experience & excellent reputation because of strong competitiveness such as high quality, reasonable price and on time delivery.

On the strength of our challenge and our willingness to achieve a satisfaction of our customer, will make our best efforts to place its highest priority on our customer’s satisfaction and grow further to ensure prosperity for all our business partner.

We will continue to take on new challenge and find new ways to improve our products and services. As we can instruct technical advice and control the quality for our customer’s demand with professional dealing experience in these items, we believe can find many ways to cooperate with you for our mutual benefit.

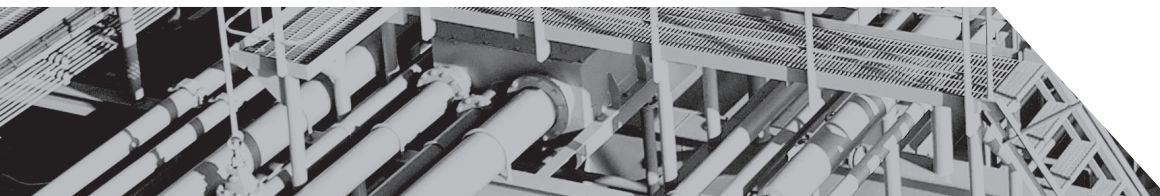
We also continue our best attention to satisfy customer’s demand with full of service and strongly want to develop long term business relationship on the basis of credit.

We look forward to your continued encouragement and support.
Always very appreciated for your kindly attention & cooperation !

Thanks & best regards

President

S.S LEE (James Lee) *James. Lee*



SUN KOREA CO., LTD

#498-65, DAEJEO 1 DONG, GANGSEO-GU, BUSAN, KOREA

SUN PRECISION CO., LTD

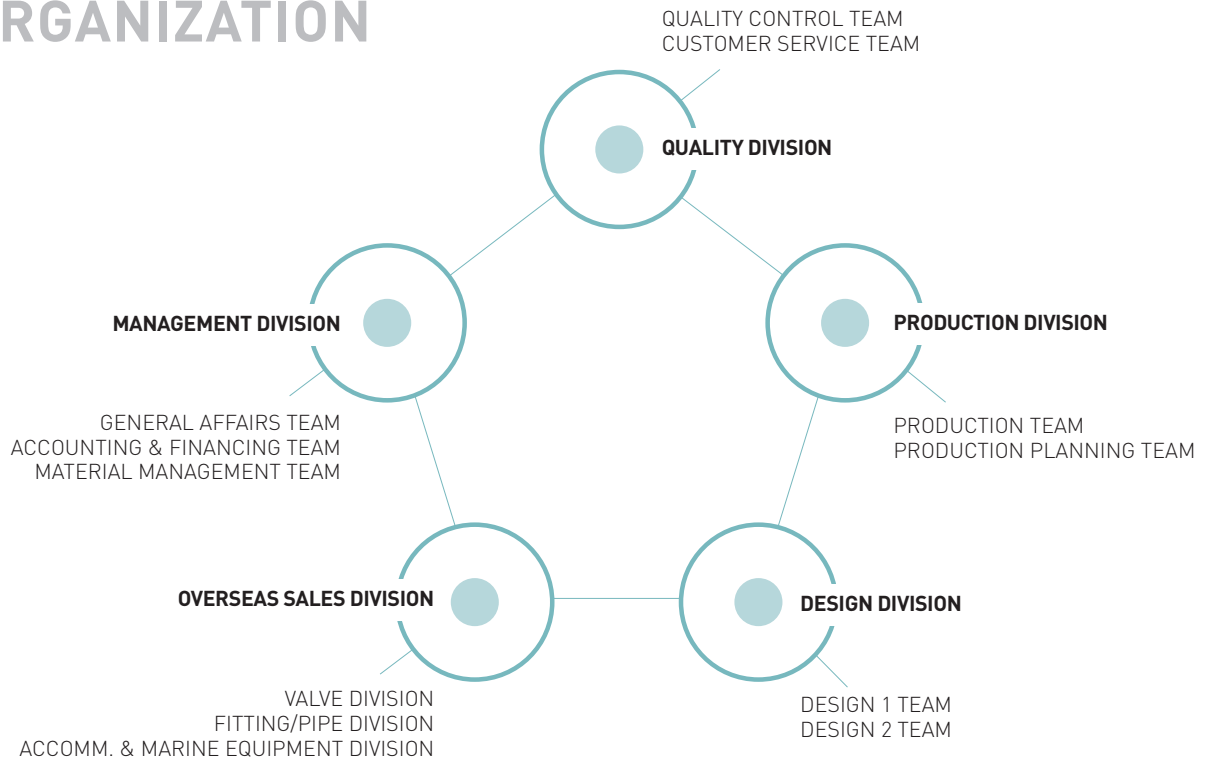
#498-67, DAEJEO 1 DONG, GANGSEO-GU, BUSAN, KOREA

SUN DESIGN CO., LTD

#492-2, DAEWOO EDEN PLAZA, HADAN-2 DONG, SAHA-GU, BUSAN, KOREA



ORGANIZATION



COMPANY HISTORY



- 2002 -
 - FEB.2002** THE COMPANY WAS ESTABLISHED UNDER THE NAME OF "SUN VALVE CO.,LTD"
 - MAR.2002** JOINED A MEMBERSHIP OF SHIPBUILDING EQUIPMENT BUSINESS.
 - MAY.2002** REGISTERED AT THE MINISTRY OF TRADE AND INDUSTRY AND ENERGY AS MANUFACTURER & TRADING COMPANY.
 - NOV.2002** GRANTED AS A MAKER BY KOREA SAFETY CORPORATION.

- 2003 -
 - APR.2003** FOUNDED QUALITY CONTROL DIVISION COMMITTEE
 - JUL.2003** CERTIFIED AS A MEMBER OF KOREA INTERNATIONAL TRADE ASSOCIATION.
 - SEP.2003** REGISTERED AS A BUSINESS PARTNER TO MUHIBBAH MARINE ENGINEERING SDN BHD.(MALAYSIA)

- 2004 -
 - JAN.2004** JOINED A MEMBERSHIP OF KOREA MACHINERY INDUSTRY ASSOCIATION.
 - AUG.2004** REGISTERED AS A BUSINESS PARTNER TO SEMBAWANG SHIPYARD PTE LTD (SSPL), (SINGAPORE)
 - SEP.2004** REGISTERED AS A BUSINESS PARTNER TO JURONG SHIPYARD PTE LTD. (SINGAPORE)

- 2005 -
 - FEB.2005** APPROVED AS OF SUPPLIER FOR WATER & FIRE POWER PLANT EQUIPMENT FROM KHI. (R.O.KOREA)
 - MAR.2005** REGISTERED AS A BUSINESS PARTNER TO UNITHAI SHIPYARD & ENGINEERING LTD. (THAILAND)
 - APR.2005** RENAMED THE COMPANY NAME INTO "SUN INTERNATIONAL CO.,LTD"
 - MAY.2005** REGISTERED AS A BUSINESS PARTNER TO DUBAI DRYDOCKS WORLD. (UAE)
 - AUG.2005** CERTIFIED THE CLEAN COMPANY BY THE MINISTER OF LABOR.
 - NOV.2005** REGISTERED AS A BUSINESS PARTNER TO ZAMIL OPERATION & MAINTENANCE CO.,LTD (FOR SHIPBUILDING) (SAUDI ARABIA)
 - DEC.2005** CONFORMATION CERTIFICATE OF VENTURE COMPANY.

- 2006 -
 - JAN.2006** REGISTERED AS A BUSINESS PARTNER TO PT PAL INDONESIA (INDONESIA)
 - MAR.2006** REGISTERED AS A BUSINESS PARTNER TO BOUSTEAD PENANG SHIPYARD SDN BHD. (MALAYSIA)
 - MAY.2006** REGISTERED AS A BUSINESS PARTNER TO COLOMBO DOCKYARD LTD. (SRI LANKA)
 - MAY.2006** REGISTERED AS A BUSINESS PARTNER TO KEPPEL SINGMARINE PTE LTD. (SINGAPORE)
 - AUG.2006** SELECTED AS A LEADING EXPORTER BY OFFICE OF KOREA INDUSTRIAL PROMOTION.
 - DEC.2006** INTRODUCED ERP (ENTERPRISE RESOURCE PLANNING) SYSTEM.

- 2007 -
 - FEB.2007** REGISTERED AS A BUSINESS PARTNER TO BHARATI SHIPYARD LTD. (INDIA)
 - MAY.2007** REGISTERED AS A BUSINESS PARTNER TO SAIGON SHIPYARD IND. (VIETNAM)
 - JULY.2007** REGISTERED AS A BUSINESS PARTNER TO COCHIN SHIPYARD LTD. (INDIA)
 - AUG.2007** REGISTERED AS A BUSINESS PARTNER TO PT DOK & PERKAPALAN KODJA BAHARI (PERSERO) (INDONESIA)
 - OCT.2007** REGISTERED AS A BUSINESS PARTNER TO SPF (STAINLESS PIPE & FITTINGS). (AUSTRALIA)
 - NOV.2007** REGISTERED AS A BUSINESS PARTNER TO TUONG AIK SHIPYARD SDN BHD. (MALAYSIA)
 - NOV.2007** MOVED AND EXPANDED OUR HEADQUARTER : 492-2, DAEWOO EDEN PLAZA, SAHA-GU, BUSAN, KOREA
 - DEC.2007** MADE BUSINESS RELATIONSHIP TO ABG SHIPYARD LTD. (INDIA)

2008

- JAN.2008** OPENED WAREHOUSE AT DAEJEO 1 DONG, GANGSEOGU, PUSAN, KOREA
REGISTERED AS A BUSINESS PARTNER TO ASIAN MARINE SERVICES PUBLIC COMPANY LIMITED. (THAILAND)
- MAR.2008** REGISTERED AS A BUSINESS PARTNER TO KLINGER DANMARK (DANMARK)
- APR.2008** REGISTERED AS A BUSINESS PARTNER TO CHOWGULE AND COMPANY PVT.LTD. (INDIA)
REGISTERED AS A BUSINESS PARTNER TO TO PT. BATAMEC (INDONESIA)
- MAY.2008** REGISTERED AS A BUSINESS PARTNER TO ITALTHAI MARINE LTD. (THAILAND)
- AUG.2008** REGISTERED AS A BUSINESS PARTNER TO NGV TECH SDN BHD.
REGISTERED CORPORATION COMPANY AS "SUN KOREA CO.,LTD"
- SEP.2008** OPENED 2ND WAREHOUSE IN 3686-7, DAEJEO 1 DONG, GANGSEOGU, PUSAN, KOREA
- NOV.2008** MADE NEW FACTORY AT NOKSAN INDUSTRIAL COMPLEX IN BUSAN.

2009

- APR.2009** REGISTERED AS A BUSINESS PARTNER TO ITS (STI INDUSTRIAL TECHNICAL SUPPLIES BV) (NETHERLANDS)
- AUG.2009** START BUSINESS COOPERATION FOR OVERSEAS MARKETING WITH "EUN KWANG INOTECH CO.,LTD"
- MAY.2009** REGISTERED AS A BUSINESS PARTNER TO MARINE TRADE (CROATIA)
- JULY.2009** OBTAINED THE CLEAN FACTORY FROM THE BUSAN REGIONAL MINISTRY OF KOREA.
- SEP.2009** REGISTERED AS A BUSINESS PARTNER TO PPL SHIPYARD PTE LTD (SINGAPORE)
- OCT.2009** REGISTERED AS A BUSINESS PARTNER TO DUBAI SHIPBUILDING & ENGINEERING L.L.C. (U.A.E.)
- DEC.2009** SELECTED AS A PROMISING MEDIUM ENTERPRISE BY INDUSTRIAL BANK OF KOREA.

2010

- APR.2010** REGISTERED AS A BUSINESS PARTNER TO EMAS OFFSHORE CONSTRUCTION & PRODUCTION (SINGAPORE)
- JUN.2010** REGISTERED AS A BUSINESS PARTNER TO TEBMA SHIPYARDS LTD (INDIA)
- AUG.2010** REGISTERED AS A BUSINESS PARTNER TO SHIN YANG SHIPYARD SDN.BHD. (MALAYSIA)
REGISTERED AS A BUSINESS PARTNER TO PIASAU SLIPWAYS SDN.BHD. (MALAYSIA)

2011

- FEB.2011** REGISTERED AS A BUSINESS PARTNER TO TRIYARDS SSY (VIETNAM)
REGISTERED AS A BUSINESS PARTNER TO TRIYARDS SOFEL (VIETNAM)
- OCT.2011** REGISTERED AS A BUSINESS PARTNER TO DUNG QUAT SHIPBUILDING INDUSTRY COMPANY LTD. (VIETNAM)
- DEC.2011** SELECTED AS A SUPERIORITY COMPANY BY KOREAN GOVERNMENT.

2012

- FEB.2012** REGISTERED AS A BUSINESS PARTNER TO TIMBLO DRYDOCKS PVT LTD. (INDIA)
- JUN.2012** REGISTERED AS A BUSINESS PARTNER TO DONG BAC SHIPYARD. (VIETNAM)
- DEC.2012** SELECTED AS A LEADING COMPANY IN TOTAL EXPORT VALUE BY KOREAN GOVERNMENT.

2013

- MAY.2013** REGISTERED AS A BUSINESS PARTNER TO SBM OFFSHORE (NETHERLAND)
- JUN.2013** REGISTERED AS A BUSINESS PARTNER TO KEPPEL FELS LIMITED. (SINGAPORE)
- OCT.2013** REGISTERED AS A BUSINESS PARTNER TO PETROVIETNAM MARINE SHIPYARD COMPANY. (VIETNAM)

2014

- MAY.2014** ESTABLISHED RESEARCH & DEVELOPMENT CENTER CERTIFIED.
(KOREA INDUSTRIAL TECHNOLOGY ASSOCIATION.)
- SEP.2014** MADE OUR AFFILIATE COMPANY "SUN PRECISION CO.,LTD"
#498-67, DAEJEO 1 DONG, GANGSEO-GU, BUSAN, KOREA
- NOV.2014** OPENED OUR NEW WAREHOUSE
#498-66, DAEJEO 1 DONG, GANGSEO-GU, BUSAN, KOREA
- DEC.2014** SELECTED AS A PROMISING MEDIUM ENTERPRISE BY WOORI BANK IN KOREA.

2015

- JAN.2015** MOVED AND EXPANDED OUR HEADOFFICE AND FACTORY.
#498-65, DAEJEO 1 DONG, GANGSEO-GU, BUSAN, KOREA

OUR PROMISE TO OUR CUSTOMERS

Based on respect for partnership with our relevant maker, **Sun Korea Co.,Ltd** will establish a creative and cooperative organizational culture and enhance the company's competitiveness.



WE ALWAYS WITH YOU!

Our philosophy is to always provide sincere and honest service to our customers. With our customer-oriented management, we hope to achieve greater customer satisfaction.

CUSTOMER ORIENTED VALUE

DEVELOP PRODUCTS AND SERVICES FOR CUSTOMER ORIENTED SATISFACTION



- TOP QUALITY PRODUCT
- CUSTOMER ORIENTED PRICES
- HIGH QUALITY SERVICES

BUILD SPEEDY

BASED ON THE SPEEDY MANAGEMENT, ENHANCE OUR COMPANY'S COMPETITIVENESS



- TIMELY
- EFFICIENCY
- RESPONSIBILITY

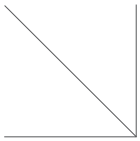
HUMAN RESOURCE MANAGEMENT

PROVIDE A FLEXIBLE AND CREATIVE COOPERATION CULTURE WITH OUR MANY RELEVANT MAKERS.



- FLEXIBLE
- CREATIVE
- COOPERATIVE

World, Stage of unlimited possibilities.



ON/OFFSHORE OIL & GAS

SUN KOREA CO., Ltd takes a major role providing proper valves & fittings on satisfying the technical specification and quality standards of oil & gas production.



CHEMICAL & PETROCHEMICAL AREA

SUN KOREA CO., Ltd takes a major role providing proper valves & fittings on satisfying the technical specification and quality standards of chemical & petrochemical.



SHIPBUILDING AREA

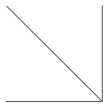
SUN KOREA CO., Ltd takes a major role providing proper valves & fittings on satisfying the technical specification and quality standards of shipbuilding.

Taking first priority for customer's satisfaction based on pursuing top quality, reasonable price, on time delivery with full of service.

Our dedication to progress is driven our enthusiasm.

- Quality of our products and services is a direct reflection of our continuous efforts and hard work.
- We will continue to take on new challenges and find new ways to improve our products and services.

SUN'S OVERSEAS MARKET AREA



AUSTRALIA / CHINA / DENMARK / EGYPT /
ENGLAND / GREECE / INDIA / INDONESIA / IRAN /
ITALY / JAPAN / MALAYSIA / PAKISTAN / PHILIPPINES /
ROMANIA / SAUDI ARABIA / SINGAPORE / SPAIN /
SRI LANKA / SWITZERLAND / THAILAND / TURKEY /
UAE / U.S.A / VIETNAM



PRODUCT INTRODUCTION

C O N T E N T S



KNIFE GATE VALVES • 12

BUTTERFLY VALVE • 34

BALL VALVE • 51

DUAL PLATE CHECK VALVES • 66

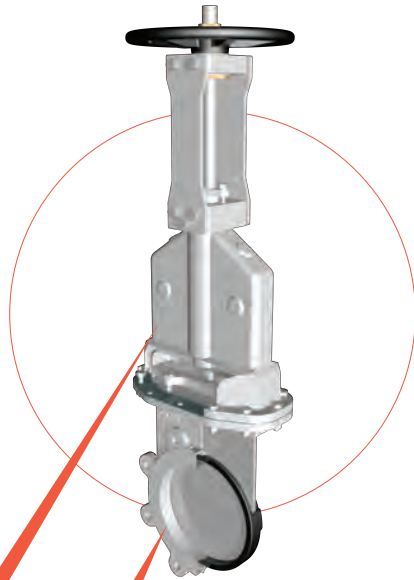
SOFT SEAT TYPE KNIFE GATE VALVES

This is designed according to the MSS SP-81(Class 150LBS) and MSS-135(Class 150LBS, 300LBS)

General knife gate valves are designed to be suitable for the control of fluids of large particles such as dregs, sediments, etc. In addition, this is of a metal seat type, so there are an allowed criterion for water leakage and a direction, and thus the installation direction shall be considered when installing a valve.

The soft seat type has no allowed criterion of water leakage and is designed to be easily installed in both directions. In addition, this can be used in a pure liquid state of fluid line as well to replace other kinds of valves already installed, and was developed to avoid seat leakage even under a pressure of soft seat knife gate v/v 150LBS, 300LBS in particular.

The customers shall discuss with SUN KOREA Co., Ltd. to determine valve construction according to the fluid used and the installation environment.



VALVE CONSTRUCTION



BONNETLESS

- Used for a fluid of large particles or large viscosity
- Used when the frequency of opening / closing is low
- Limited use for water and oil lines



BONNET

- Used when the fluid is a pure liquid (Water, Oil, Air, Etc.)
- Used when there shall be no external water leakage of fluid even though the frequency of opening / closing is high



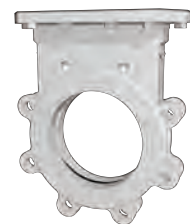
BONNET+GLAND (PACKING+GLAND)

- Usable for all lines
- Used when there shall be no external water leakage of fluid even though the frequency of opening / closing is high

FLANGE TYPE



FLANGE TYPE



LUG TYPE



WAFER TYPE

OPERATION TYPE



HANDLE WHEEL



CHAIN WHEEL



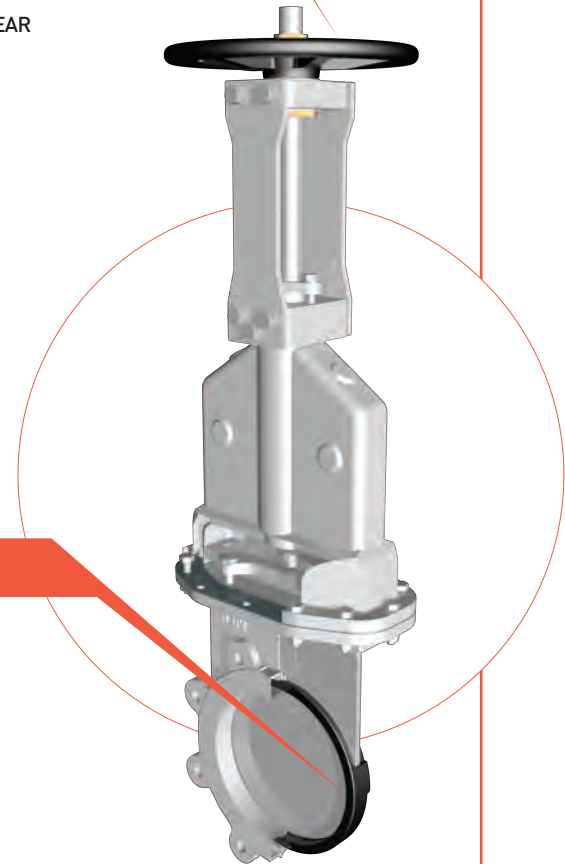
GEAR



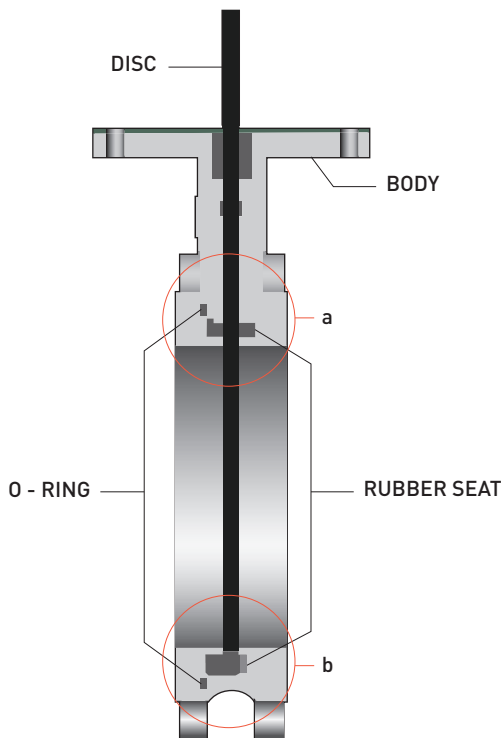
PNEUMATIC ACTUATOR



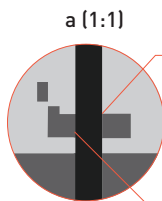
ELECTRIC ACTUATOR



SEAT TYPE

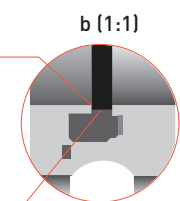


RUBBER SEAT



Primary sealing

Secondary sealing



» When the pressure is applied to the valve metal seat and rubber seat double sealing.

SOFT SEAT TYPE KNIFE GATE VALVES

- MATERIALS
- SEAT SPECIFICATION BY MATERIALS
- PART LIST FOR SOFT SEAT TYPE KNIFE GATE VALVES
- DIMENSION & WEIGHT LIST FOR SOFT SEAT TYPE KNIFE GATE VALVES

MATERIALS

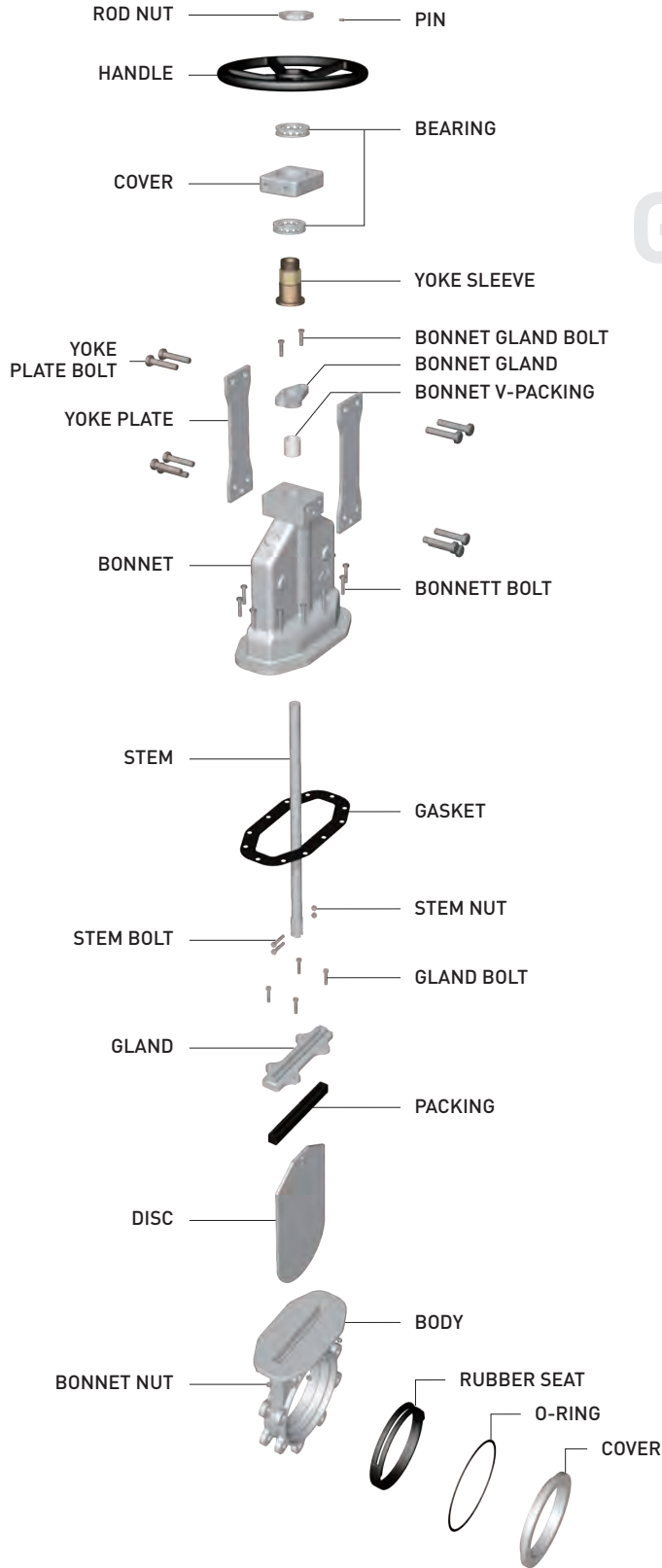
	EMPLOY	BODY	BONNET	STEM	DISC
ANSI	CAST STEEL	A216-WCA A216-WCB A216-WCC	A216-WCA A216-WCB A216-WCC	-	-
	CAST IRON	A536 A395	A536 A395	-	ALLOY
	STAINLESS	A351-CF8 A351-CF8M A351-CF3 A351-CFM A351-CK20 A351-CH20 A351-CN7M	A351-CF8 A351-CF8M A351-CF3 A351-CFM A351-CK20 A351-CH20 A351-CN7M	A276-304 A276-316 A276-316L	A240-304 A240-316 A240-316L
	SPECIAL CAST STEEL	A439-D2 / HASTELLOY / ALLOY			
JIS	CAST STEEL	SCPH2	SCPH2	-	-
	CAST IRON	FCD450 FC200	FCD450 FC200	-	-
	STAINLESS	SCS-13A SCS-14A SCS17 SCS18 SCS23	SCS-13A SCS-14A SCS17 SCS18 SCS23	SUS 304 SUS 316 SUS 316L	SUS 304 SUS 316 SUS 316L SUS 304M ALLOY
	SPECIAL CAST STEEL	A439-D2 / HASTELLOY / ALLOY			

SEAT SPECIFICATION by MATERIALS

PROPERTY	NBR	EPDM	VITON	POLYURETHANE	PTFE	RTFE	METAL
TENSILE STRENGTH (Kg/cm ²)	50~250	200 ~ 500	225	400±0	25~42	25~42	-
ELONGATION(%)	100~500	100~500	425	600±0	250~400	250~400	-
MAX TEMP (°C)	100	140	200	120	130	200	ASTM CORD
MIN TEMP (°C)	-25	-40	-10	-65	-40	-40	-
ABRASION RESISTANCE	EXCELLENT	FAIR	GOOD	EXCELLENT	GOOD	GOOD	-

PART LIST FOR SOFT SEAT TYPE KNIFE GATE VALVES

SOFT SEAT TYPE KNIFE GATE VALVES

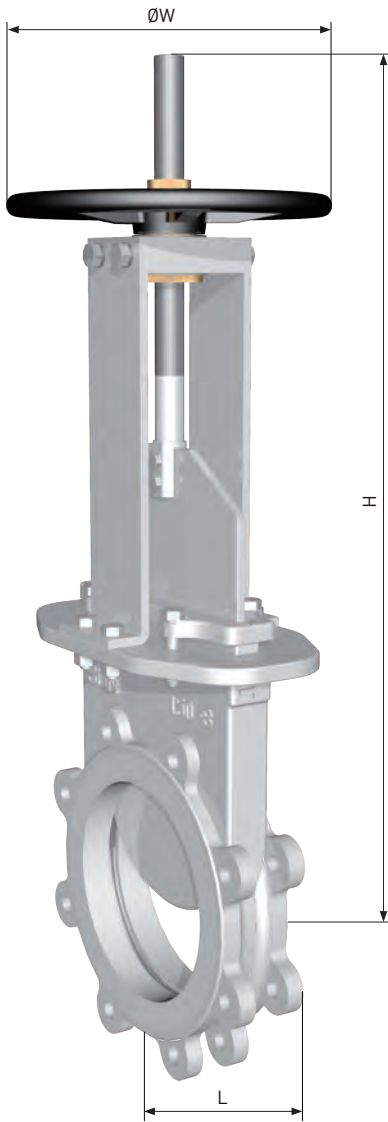


NAME	TYPE		
	BONNETLESS	BONNET	BONNET + GLAND
BODY	•	•	•
BONNET		•	•
DISC	•	•	•
RUBBER SEAT	•	•	•
COVER	•	•	•
GLAND	•		•
STEM	•	•	•
YOKE PLATE	•	•	•
BONNET GLAND		•	•
YOKE SLEEVE	•	•	•
ROD NUT	•	•	•
PACKING	•		•
O-RING	•	•	•
GASKET		•	•
BONNET V-PACKING		•	•
BONNET BOLT / NUT		•	•
GLAND BOLT / NUT	•		•
STEM BOLT / NUT / SW	•	•	•
YOKE PLATE BOLT / SW	•	•	•
BONNET GLAND BOLT / SW		•	•

DIMENSION & WEIGHT LIST

BONNETLESS TYPE DIMENSIONS

HANDLE

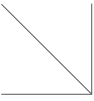


SUN-SK-RL(SEAT)H-150(SIZE) | 300(SIZE)

UNIT(mm)

RATING	Nominal dia		L	H	ØW	TORQUE (kg/m)	WEIGHT (kg)
	inch	mm					
ANSI 150LBS (JIS-10K)	2"	50A	48	355	200	2.59	10
	3"	80A	51	450	200	3.53	15
	4"	100A	51	537	200	4.71	23
	5"	125A	57	600	280	5.58	35
	6"	150A	57	711	280	6.54	54
	8"	200A	70	866	280	9.42	56
	10"	250A	70	1049	355	12.8	98
	12"	300A	76	1194	400	17.7	140
	14"	350A	76	1336	400	21.4	180
	16"	400A	89	1415	450	26.6	240
	18"	450A	89	1518	450	30.4	285
	20"	500A	114	1643	500	36.1	345
	22"	550A	114	1748	500	42.2	385
	24"	600A	114	1855	500	48.6	422
	26"	660A	117	1975	500	55.5	476
28"	700A	117	2105	500	62.9	510	
30"	800A	117	2230	500	71	535	
ANSI 300LBS (JIS-20K)	2"	50A	67	385	200	4.26	21
	3"	80A	67	480	200	6.13	32
	4"	100A	67	567	200	8.49	48
	5"	125A	80	630	280	10.2	62
	6"	150A	80	751	280	12.1	78
	8"	200A	89	906	280	17.9	89
	10"	250A	119	1100	355	24.7	112
	12"	300A	127	1244	400	34.6	179
	14"	350A	140	1386	400	41.9	230
	16"	400A	140	1485	450	52.4	289
	18"	450A	156	1588	450	59.1	360
	20"	500A	189	1713	500	71.2	436
	22"	550A	189	1828	500	82.6	482
	24"	600A	216	1935	500	96.3	518
	26"	660A	216	2055	500	110	564
28"	700A	254	2185	500	125	604	
30"	800A	267	2310	500	141	636	

DIMENSION & WEIGHT LIST



BONNETLESS TYPE DIMENSIONS

GEAR



SUN-SK-RL(SEAT)G-150(SIZE) | 300(SIZE)

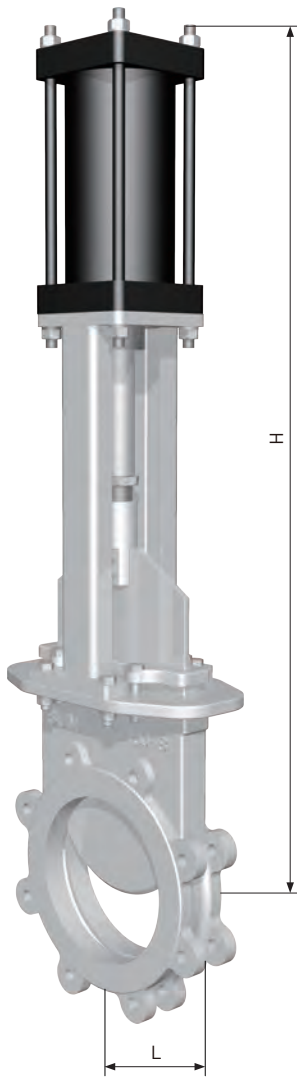
UNIT(mm)

RATING	Nominal dia		L	H	TORQUE (kg/m)	WEIGHT (kg)
	inch	mm				
ANSI 150LBS (JIS-10K)	2"	50A	48	395	2.59	12
	3"	80A	51	480	3.53	18
	4"	100A	51	577	4.71	28
	5"	125A	57	640	5.58	41
	6"	150A	57	752	6.54	59
	8"	200A	70	934	9.42	68
	10"	250A	70	983	12.8	105
	12"	300A	76	1169	17.7	150
	14"	350A	76	1306	21.4	192
	16"	400A	89	1468	26.6	258
	18"	450A	89	1503	30.4	305
	20"	500A	114	1691	36.1	365
	22"	550A	114	1798	42.2	408
	24"	600A	114	1905	48.6	443
	26"	660A	117	2025	55.5	498
28"	700A	117	2155	62.9	532	
30"	800A	117	2280	71	565	
ANSI 300LBS (JIS-20K)	2"	50A	67	425	4.26	26
	3"	80A	67	510	6.13	37
	4"	100A	67	607	8.49	54
	5"	125A	80	670	10.2	70
	6"	150A	80	792	12.1	86
	8"	200A	89	974	17.9	97
	10"	250A	119	1033	24.7	132
	12"	300A	127	1219	34.6	196
	14"	350A	140	1356	41.9	245
	16"	400A	140	1538	52.4	314
	18"	450A	156	1573	59.1	374
	20"	500A	189	1761	71.2	452
	22"	550A	189	1878	82.6	503
	24"	600A	216	1985	96.3	541
	26"	660A	216	2105	110	568
28"	700A	254	2235	125	614	
30"	800A	267	2360	141	645	

DIMENSION & WEIGHT LIST

BONNETLESS TYPE DIMENSIONS

PNEUMATIC ACTUATOR



SUN-SK-RL(SEAT)C-150(SIZE) | 300(SIZE)

UNIT(mm)

RATING	Nominal dia		L	H	TORQUE (kg/m)	WEIGHT (kg)
	inch	mm				
ANSI 150LBS (JIS-10K)	2"	50A	48	465	2.59	14
	3"	80A	51	560	3.53	17
	4"	100A	51	680	4.71	26
	5"	125A	57	715	5.58	36
	6"	150A	57	857	6.54	56
	8"	200A	70	1030	9.42	78
	10"	250A	70	1131	12.8	112
	12"	300A	76	1359	17.7	148
	14"	350A	76	1458	21.4	186
	16"	400A	89	1658	26.6	248
	18"	450A	89	1788	30.4	308
	20"	500A	114	1953	36.1	372
	22"	550A	114	2108	42.2	426
	24"	600A	114	2178	48.6	467
ANSI 300LBS (JIS-20K)	26"	660A	117	2287	55.5	504
	28"	700A	117	2575	62.9	546
	30"	800A	117	2721	71	602
	2"	50A	67	495	4.26	36
	3"	80A	67	590	6.13	47
	4"	100A	67	710	8.49	64
	5"	125A	80	745	10.2	80
	6"	150A	80	897	12.1	96
	8"	200A	89	1070	17.9	107
	10"	250A	119	1181	24.7	147
	12"	300A	127	1409	34.6	211
	14"	350A	140	1508	41.9	260
	16"	400A	140	1449	52.4	329
	18"	450A	156	1858	59.1	413
20"	500A	189	2023	71.2	486	
22"	550A	189	2188	82.6	534	
24"	600A	216	2259	96.3	576	
26"	660A	216	2367	110	598	
28"	700A	254	2655	125	635	
30"	800A	267	2801	141	697	

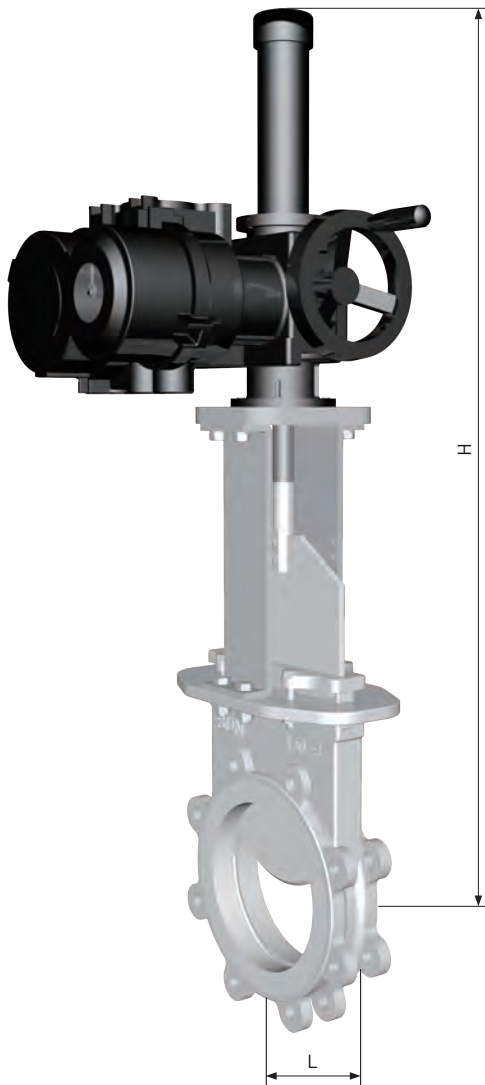
DIMENSION & WEIGHT LIST



BONNETLESS TYPE DIMENSIONS

ELECTRIC ACTUATOR

UNIT(mm)



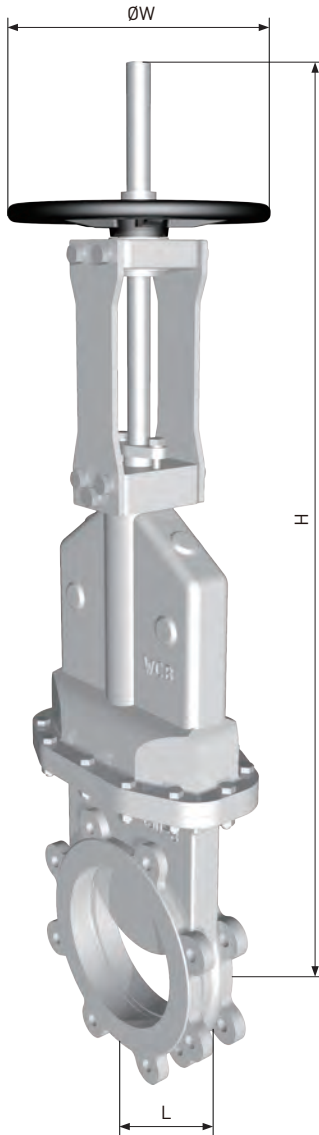
SUN-SK-RL(SEAT)M-150(SIZE) | 300(SIZE)

RATING	Nominal dia		L	H	TORQUE (kg/m)	WEIGHT (kg)
	inch	mm				
ANSI 150LBS (JIS-10K)	2"	50A	48	425	2.59	19
	3"	80A	51	510	3.53	25
	4"	100A	51	640	4.71	41
	5"	125A	57	675	5.58	56
	6"	150A	57	814	6.54	78
	8"	200A	70	945	9.42	89
	10"	250A	70	1181	12.8	118
	12"	300A	76	1408	17.7	158
	14"	350A	76	1508	21.4	197
	16"	400A	89	1729	26.6	267
	18"	450A	89	1938	30.4	316
	20"	500A	114	2049	36.1	386
	22"	550A	114	2198	42.2	446
	24"	600A	114	2268	48.6	475
	26"	660A	117	2377	55.5	534
28"	700A	117	2665	62.9	568	
30"	800A	117	2811	71	623	
ANSI 300LBS (JIS-20K)	2"	50A	67	455	4.26	41
	3"	80A	67	540	6.13	52
	4"	100A	67	670	8.49	67
	5"	125A	80	705	10.2	88
	6"	150A	80	854	12.1	101
	8"	200A	89	985	17.9	112
	10"	250A	119	1231	24.7	152
	12"	300A	127	1458	34.6	216
	14"	350A	140	1558	41.9	265
	16"	400A	140	1799	52.4	334
	18"	450A	156	2008	59.1	418
	20"	500A	189	2119	71.2	491
	22"	550A	189	2278	82.6	539
	24"	600A	216	2348	96.3	581
	26"	660A	216	2457	110	603
28"	700A	254	2735	125	638	
30"	800A	267	2891	141	702	

DIMENSION & WEIGHT LIST

BONNET TYPE DIMENSIONS

HANDLE

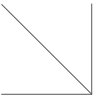


UNIT(mm)

RATING	Nominal dia		L	H	ØW	TORQUE (kg/m) (Bonnet type)	TORQUE (kg/m) (Bonnet + Gland)	WEIGHT (kg)
	inch	mm						
ANSI 150LBS (JIS-10K)	2"	50A	48	498	200	2.33	2.84	16
	3"	80A	51	602	200	3.17	3.88	24
	4"	100A	51	704	200	4.23	5.18	36
	5"	125A	57	810	280	5.02	6.13	45
	6"	150A	57	915	280	5.88	7.19	62
	8"	200A	70	1121	280	8.47	10.3	79
	10"	250A	70	1355	355	11.5	14	106
	12"	300A	76	1689	400	15.9	19.4	167
	14"	350A	76	1739	400	19.2	23.5	196
	16"	400A	89	1995	450	23.9	29.2	233
	18"	450A	89	2209	450	27.3	33.4	302
	20"	500A	114	2393	500	32.4	39.7	385
	22"	550A	114	2793	500	37.9	46.4	425
	24"	600A	114	2936	500	43.7	53.4	476
26"	660A	117	3091	500	50	61	508	
28"	700A	117	3244	500	56.6	69.1	521	
30"	800A	117	3404	500	63.9	78.1	583	
ANSI 300LBS (JIS-20K)	2"	50A	67	538	200	3.83	4.68	36
	3"	80A	67	642	200	5.51	6.74	42
	4"	100A	67	744	200	7.64	9.33	59
	5"	125A	80	850	280	9.18	11.2	75
	6"	150A	80	965	280	10.8	13.3	91
	8"	200A	89	1171	280	16.1	19.6	108
	10"	250A	119	1415	355	22.2	27.1	132
	12"	300A	127	1749	400	31.1	38	208
	14"	350A	140	1779	400	37.7	46	262
	16"	400A	140	2075	450	47.1	57.6	327
	18"	450A	156	2289	450	53.1	65	395
	20"	500A	189	2473	500	64	78.3	478
	22"	550A	189	2883	500	74.3	90.8	513
	24"	600A	216	3026	500	86.6	105	557
26"	660A	216	3181	500	99	121	596	
28"	700A	254	3324	500	112	137	654	
30"	800A	267	3484	500	126	155	703	

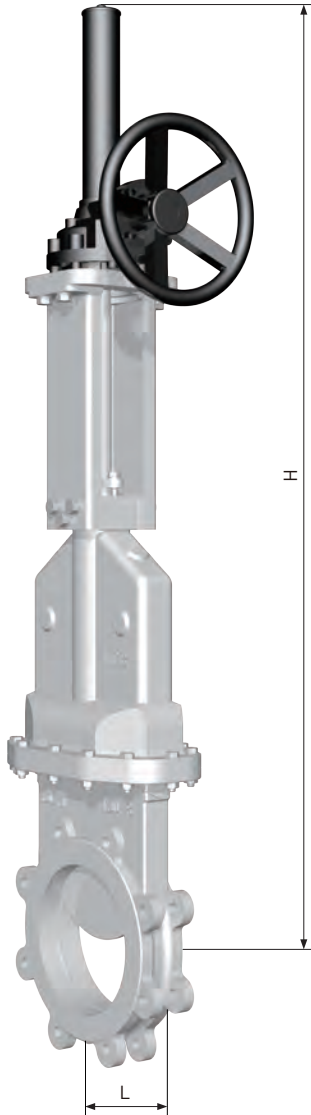
SUN-SKB-RL(SEAT)H - 150(SIZE) | 300(SIZE)

DIMENSION & WEIGHT LIST



BONNET TYPE DIMENSIONS

GEAR



SUN-SKB-RL(SEAT)G - 150(SIZE) | 300(SIZE)

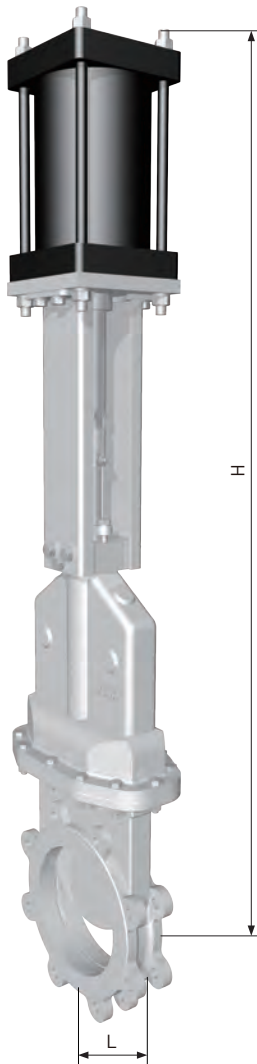
UNIT(mm)

RATING	Nominal dia		L	H	TORQUE (kg/m) (Bonnet type)	TORQUE (kg/m) (Bonnet + Gland)	WEIGHT (kg)
	inch	mm					
ANSI 150LBS (JIS-10K)	2"	50A	48	575	2.33	2.84	18
	3"	80A	51	689	3.17	3.88	26
	4"	100A	51	817	4.23	5.18	38
	5"	125A	57	892	5.02	6.13	49
	6"	150A	57	1056	5.88	7.19	69
	8"	200A	70	1225	8.47	10.3	89
	10"	250A	70	1419	11.5	14	116
	12"	300A	76	1650	15.9	19.4	179
	14"	350A	76	1824	19.2	23.5	205
	16"	400A	89	2130	23.9	29.2	253
	18"	450A	89	2178	27.3	33.4	327
	20"	500A	114	2447	32.4	39.7	410
	22"	550A	114	2590	37.9	46.4	452
	24"	600A	114	2755	43.7	53.4	501
26"	660A	117	2925	50	61	528	
28"	700A	117	3105	56.6	69.1	547	
30"	800A	117	3280	63.9	78.1	602	
ANSI 300LBS (JIS-20K)	2"	50A	67	615	3.83	4.68	38
	3"	80A	67	729	5.51	6.74	45
	4"	100A	67	857	7.64	9.33	62
	5"	125A	80	942	9.18	11.2	79
	6"	150A	80	1106	10.8	13.3	95
	8"	200A	89	1275	16.1	19.6	113
	10"	250A	119	1479	22.2	27.1	138
	12"	300A	127	1710	31.1	38	221
	14"	350A	140	1894	37.7	46	273
	16"	400A	140	2210	47.1	57.6	342
	18"	450A	156	2268	53.1	65	410
	20"	500A	189	2527	64	78.3	495
	22"	550A	189	2680	74.3	90.8	530
	24"	600A	216	2835	86.6	105	590
26"	660A	216	3015	99	121	615	
28"	700A	254	3195	112	137	669	
30"	800A	267	3370	126	155	717	

DIMENSION & WEIGHT LIST

BONNET TYPE DIMENSIONS

PNEUMATIC ACTUATOR



UNIT(mm)

RATING	Nominal dia		L	H	TORQUE (kg/m) (Bonnet type)	TORQUE (kg/m) (Bonnet + Gland)	WEIGHT (kg)
	inch	mm					
ANSI 150LBS (JIS-10K)	2"	50A	67	608	2.33	2.84	24
	3"	80A	67	712	3.17	3.88	32
	4"	100A	67	847	4.23	5.18	43
	5"	125A	80	925	5.02	6.13	54
	6"	150A	80	1061	5.88	7.19	76
	8"	200A	89	1285	8.47	10.3	95
	10"	250A	119	1437	11.5	14	126
	12"	300A	127	1854	15.9	19.4	168
	14"	350A	140	1968	19.2	23.5	206
	16"	400A	140	2238	23.9	29.2	276
	18"	450A	156	2473	27.3	33.4	338
	20"	500A	189	2703	32.4	39.7	403
	22"	550A	189	3153	37.9	46.4	466
	24"	600A	216	3259	43.7	53.4	498
	26"	660A	216	3403	50	61	549
28"	700A	254	3714	56.6	69.1	596	
30"	800A	267	3896	63.9	78.1	637	
ANSI 300LBS (JIS-20K)	2"	50A	67	648	3.83	4.68	41
	3"	80A	67	752	5.51	6.74	49
	4"	100A	67	887	7.64	9.33	66
	5"	125A	80	965	9.18	11.2	84
	6"	150A	80	1111	10.8	13.3	98
	8"	200A	89	1335	16.1	19.6	123
	10"	250A	119	1497	22.2	27.1	149
	12"	300A	127	1914	31.1	38	240
	14"	350A	140	2028	37.7	46	283
	16"	400A	140	2318	47.1	57.6	351
	18"	450A	156	2553	53.1	65	416
	20"	500A	189	2783	64	78.3	502
	22"	550A	189	3243	74.3	90.8	537
	24"	600A	216	3349	86.6	105	596
	26"	660A	216	3493	99	121	624
28"	700A	254	3804	112	137	678	
30"	800A	267	3986	126	155	725	

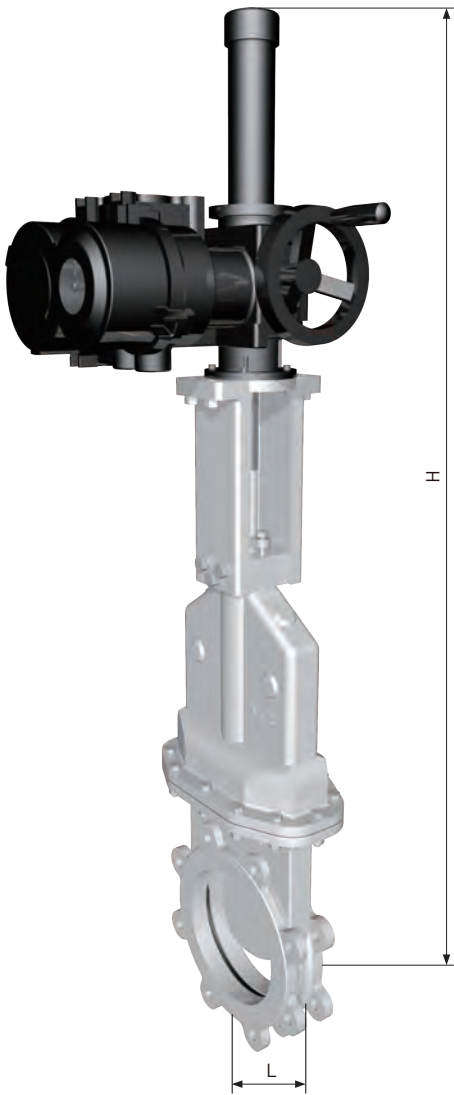
SUN-SKB-RL(SEAT)C -150(SIZE) | 300(SIZE)

DIMENSION & WEIGHT LIST



BONNET TYPE DIMENSIONS

ELECTRIC ACTUATOR



SUN-SKB-RL(SEAT)M -150(SIZE) | 300(SIZE)

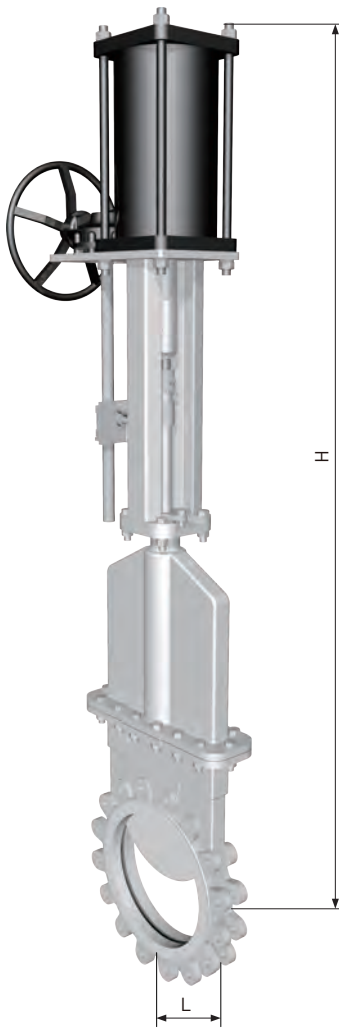
UNIT(mm)

RATING	Nominal dia		L	H	TORQUE (kg/m) (Bonnet type)	TORQUE (kg/m) (Bonnet + Gland)	WEIGHT (kg)
	inch	mm					
ANSI 150LBS (JIS-10K)	2"	50A	67	568	2.33	2.84	29
	3"	80A	67	662	3.17	3.88	37
	4"	100A	67	807	4.23	5.18	49
	5"	125A	80	885	5.02	6.13	54
	6"	150A	80	1018	5.88	7.19	81
	8"	200A	89	1200	8.47	10.3	102
	10"	250A	119	1487	11.5	14	136
	12"	300A	127	1903	15.9	19.4	177
	14"	350A	140	2018	19.2	23.5	215
	16"	400A	140	2309	23.9	29.2	288
	18"	450A	156	2629	27.3	33.4	353
	20"	500A	189	2799	32.4	39.7	415
	22"	550A	189	3243	37.9	46.4	479
	24"	600A	216	3349	43.7	53.4	521
	26"	660A	216	3493	50	61	563
28"	700A	254	3804	56.6	69.1	612	
30"	800A	267	3985	63.9	78.1	653	
ANSI 300LBS (JIS-20K)	2"	50A	67	608	3.83	4.68	45
	3"	80A	67	702	5.51	6.74	54
	4"	100A	67	847	7.64	9.33	72
	5"	125A	80	925	9.18	11.2	89
	6"	150A	80	1068	10.8	13.3	103
	8"	200A	89	1250	16.1	19.6	128
	10"	250A	119	1547	22.2	27.1	156
	12"	300A	127	1963	31.1	38	244
	14"	350A	140	2078	37.7	46	289
	16"	400A	140	2389	47.1	57.6	356
	18"	450A	156	2709	53.1	65	426
	20"	500A	189	2889	64	78.3	511
	22"	550A	189	3333	74.3	90.8	545
	24"	600A	216	3439	86.6	105	603
	26"	660A	216	3583	99	121	618
28"	700A	254	3894	112	137	683	
30"	800A	267	4075	126	155	738	

DIMENSION & WEIGHT LIST

SPECIAL TYPE DIMENSION

BONNET + CYLINDER + GEAR

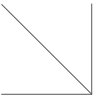


SUN-SKB-RL(SEAT)CG -150(SIZE) | 300(SIZE)

UNIT(mm)

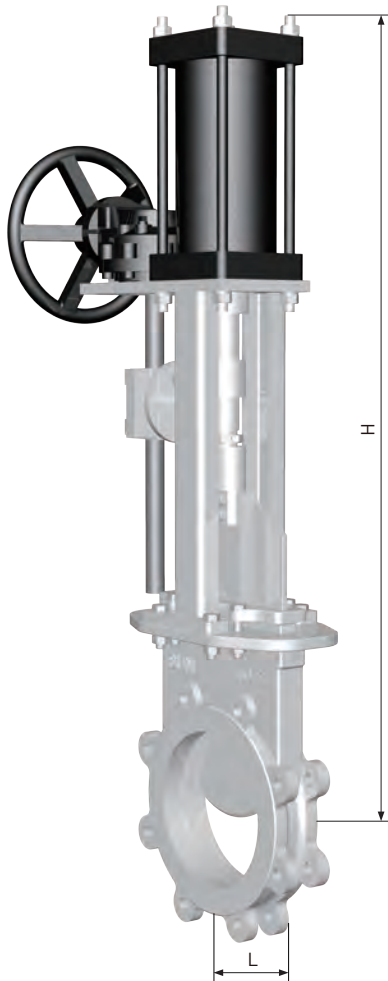
RATING	Nominal dia		L	H	TORQUE (kg/m) (Bonnet type)	TORQUE (kg/m) (Bonnet + Gland)	WEIGHT (kg)
	inch	mm					
ANSI 150LBS (JIS-10K)	2"	50A	67	638	2.33	2.84	29
	3"	80A	67	742	3.17	3.88	37
	4"	100A	67	877	4.23	5.18	49
	5"	125A	80	955	5.02	6.13	54
	6"	150A	80	1101	5.88	7.19	81
	8"	200A	89	1325	8.47	10.3	102
	10"	250A	119	1477	11.5	14	136
	12"	300A	127	1894	15.9	19.4	177
	14"	350A	140	2118	19.2	23.5	215
	16"	400A	140	2288	23.9	29.2	288
	18"	450A	156	2523	27.3	33.4	353
	20"	500A	189	2763	32.4	39.7	415
	22"	550A	189	3213	37.9	46.4	479
	24"	600A	216	3319	43.7	53.4	521
	26"	660A	216	3463	50	61	563
28"	700A	254	3774	56.6	69.1	612	
30"	800A	267	3956	63.9	78.1	653	
ANSI 300LBS (JIS-20K)	2"	50A	67	678	3.83	4.68	45
	3"	80A	67	782	5.51	6.74	54
	4"	100A	67	917	7.64	9.33	72
	5"	125A	80	995	9.18	11.2	89
	6"	150A	80	1151	10.8	13.3	103
	8"	200A	89	1375	16.1	19.6	128
	10"	250A	119	1537	22.2	27.1	156
	12"	300A	127	1954	31.1	38	244
	14"	350A	140	2178	37.7	46	289
	16"	400A	140	2368	47.1	57.6	356
	18"	450A	156	2603	53.1	65	426
	20"	500A	189	2843	64	78.3	511
	22"	550A	189	3303	74.3	90.8	545
	24"	600A	216	3409	86.6	105	603
	26"	660A	216	3553	99	121	618
28"	700A	254	3864	112	137	683	
30"	800A	267	4046	126	155	738	

DIMENSION & WEIGHT LIST



SPECIAL TYPE DIMENSION

BONNETLESS + CYLINDER + GEAR



SUN-SK-RL(SEAT)CG -150(SIZE) | 300(SIZE)

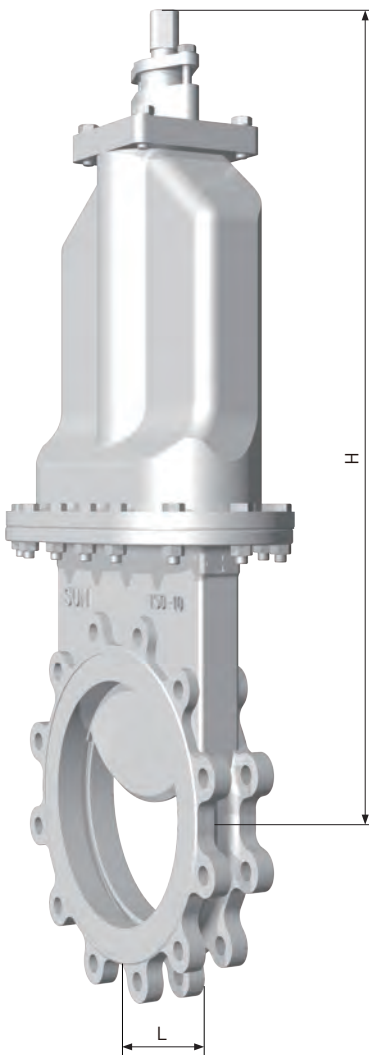
UNIT(mm)

RATING	Nominal dia		L	H	TORQUE (kg/m)	WEIGHT (kg)
	inch	mm				
ANSI 150LBS (JIS-10K)	2"	50A	48	495	2.59	19
	3"	80A	51	590	3.53	25
	4"	100A	51	710	4.71	41
	5"	125A	57	745	5.58	56
	6"	150A	57	897	6.54	78
	8"	200A	70	1070	9.42	89
	10"	250A	70	1171	12.8	118
	12"	300A	76	1399	17.7	158
	14"	350A	76	1508	21.4	197
	16"	400A	89	1708	26.6	267
	18"	450A	89	1838	30.4	316
	20"	500A	114	2013	36.1	386
	22"	550A	114	2168	42.2	446
	24"	600A	114	2238	48.6	475
	26"	660A	117	2347	55.5	534
28"	700A	117	2635	62.9	568	
30"	800A	117	2791	71	623	
ANSI 300LBS (JIS-20K)	2"	50A	67	535	4.26	41
	3"	80A	67	630	6.13	52
	4"	100A	67	750	8.49	67
	5"	125A	80	785	10.2	88
	6"	150A	80	947	12.1	101
	8"	200A	89	1120	17.9	112
	10"	250A	119	1231	24.7	152
	12"	300A	127	1459	34.6	216
	14"	350A	140	1568	41.9	265
	16"	400A	140	1788	52.4	334
	18"	450A	156	1918	59.1	418
	20"	500A	189	2093	71.2	491
	22"	550A	189	2258	82.6	539
	24"	600A	216	2328	96.3	581
	26"	660A	216	2437	110	603
28"	700A	254	2725	125	638	
30"	800A	267	2881	141	702	

DIMENSION & WEIGHT LIST

SPECIAL TYPE DIMENSION

NON RISING + BONNET

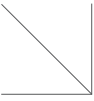


UNIT(mm)

RATING	Nominal dia		L	H	TORQUE (kg/m) (Bonnet type)	TORQUE (kg/m) (Bonnet + Gland)	WEIGHT (kg)
	inch	mm					
ANSI 150LBS (JIS-10K)	2"	50A	48	285	2.33	2.84	16
	3"	80A	51	367	3.17	3.88	24
	4"	100A	51	430	4.23	5.18	36
	5"	125A	57	485	5.02	6.13	45
	6"	150A	57	542	5.88	7.19	62
	8"	200A	70	668	8.47	10.3	79
	10"	250A	70	781	11.5	14	106
	12"	300A	76	877	15.9	19.4	167
	14"	350A	76	980	19.2	23.5	196
	16"	400A	89	1130	23.9	29.2	233
	18"	450A	89	1215	27.3	33.4	302
	20"	500A	114	1335	32.4	39.7	385
	22"	550A	114	1469	37.9	46.4	425
	24"	600A	114	1558	43.7	53.4	476
	26"	660A	117	1632	50	61	508
28"	700A	117	1726	56.6	69.1	521	
30"	800A	117	1829	63.9	78.1	583	
ANSI 300LBS (JIS-20K)	2"	50A	67	325	3.83	4.68	36
	3"	80A	67	407	5.51	6.74	42
	4"	100A	67	470	7.64	9.33	59
	5"	125A	80	525	9.18	11.2	75
	6"	150A	80	592	10.8	13.3	91
	8"	200A	89	718	16.1	19.6	108
	10"	250A	119	841	22.2	27.1	132
	12"	300A	127	937	31.1	38	208
	14"	350A	140	1040	37.7	46	262
	16"	400A	140	1210	47.1	57.6	327
	18"	450A	156	1295	53.1	65	395
	20"	500A	189	1415	64	78.3	478
	22"	550A	189	1559	74.3	90.8	513
	24"	600A	216	1648	86.6	105	557
	26"	660A	216	1722	99	121	596
28"	700A	254	1816	112	137	654	
30"	800A	267	1919	126	155	703	

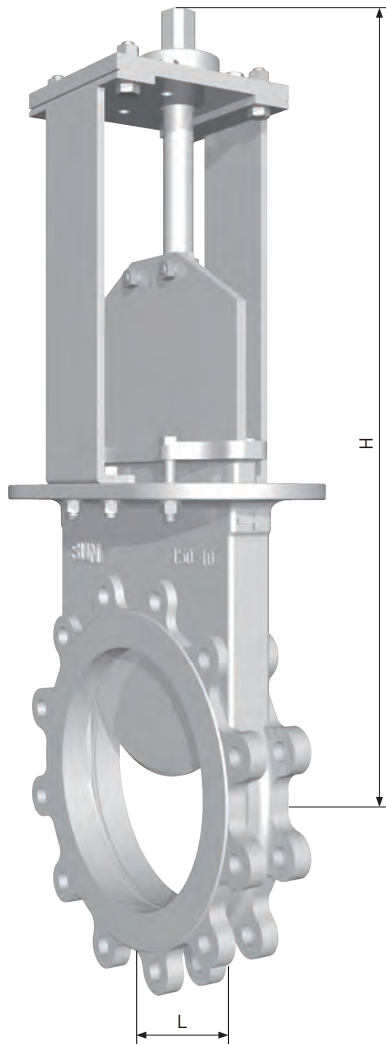
SUN-SKB-NL(SEAT)H - 150(SIZE) | 300(SIZE)

DIMENSION & WEIGHT LIST



**SPECIAL TYPE
DIMENSION**

**NON RISING +
BONNETLESS**



SUN-SK-NL(SEAT)H-150(SIZE) | 300(SIZE)

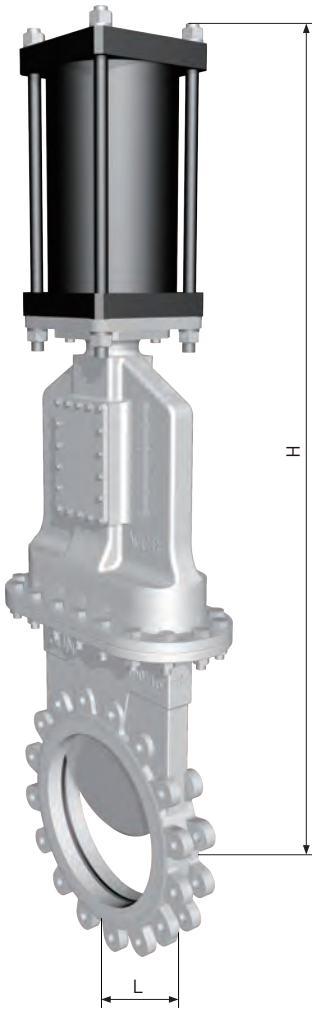
UNIT(mm)

RATING	Nominal dia		L	H	TORQUE (kg/m)	WEIGHT (kg)
	inch	mm				
ANSI 150LBS (JIS-10K)	2"	50A	48	265	2.59	10
	3"	80A	51	247	3.53	15
	4"	100A	51	410	4.71	23
	5"	125A	57	465	5.58	35
	6"	150A	57	522	6.54	54
	8"	200A	70	648	9.42	56
	10"	250A	70	761	12.8	98
	12"	300A	76	847	17.7	140
	14"	350A	76	950	21.4	180
	16"	400A	89	1110	26.6	240
	18"	450A	89	1185	30.4	285
	20"	500A	114	1305	36.1	345
	22"	550A	114	1429	42.2	385
	24"	600A	114	1518	48.6	422
	26"	660A	117	1592	55.5	476
28"	700A	117	1686	62.9	510	
30"	800A	117	1789	71	535	
ANSI 300LBS (JIS-20K)	2"	50A	67	305	4.26	21
	3"	80A	67	287	6.13	32
	4"	100A	67	450	8.49	48
	5"	125A	80	505	10.2	62
	6"	150A	80	572	12.1	78
	8"	200A	89	698	17.9	89
	10"	250A	119	821	24.7	112
	12"	300A	127	907	34.6	179
	14"	350A	140	1010	41.9	230
	16"	400A	140	1190	52.4	289
	18"	450A	156	1275	59.1	360
	20"	500A	189	1385	71.2	436
	22"	550A	189	1519	82.6	482
	24"	600A	216	1608	96.3	518
	26"	660A	216	1682	110	546
28"	700A	254	1776	125	594	
30"	800A	267	1879	141	630	

DIMENSION & WEIGHT LIST

SPECIAL TYPE DIMENSION

NON RISING + BONNET + YOKELESS + PNEUMATIC ACTUATOR



UNIT(mm)

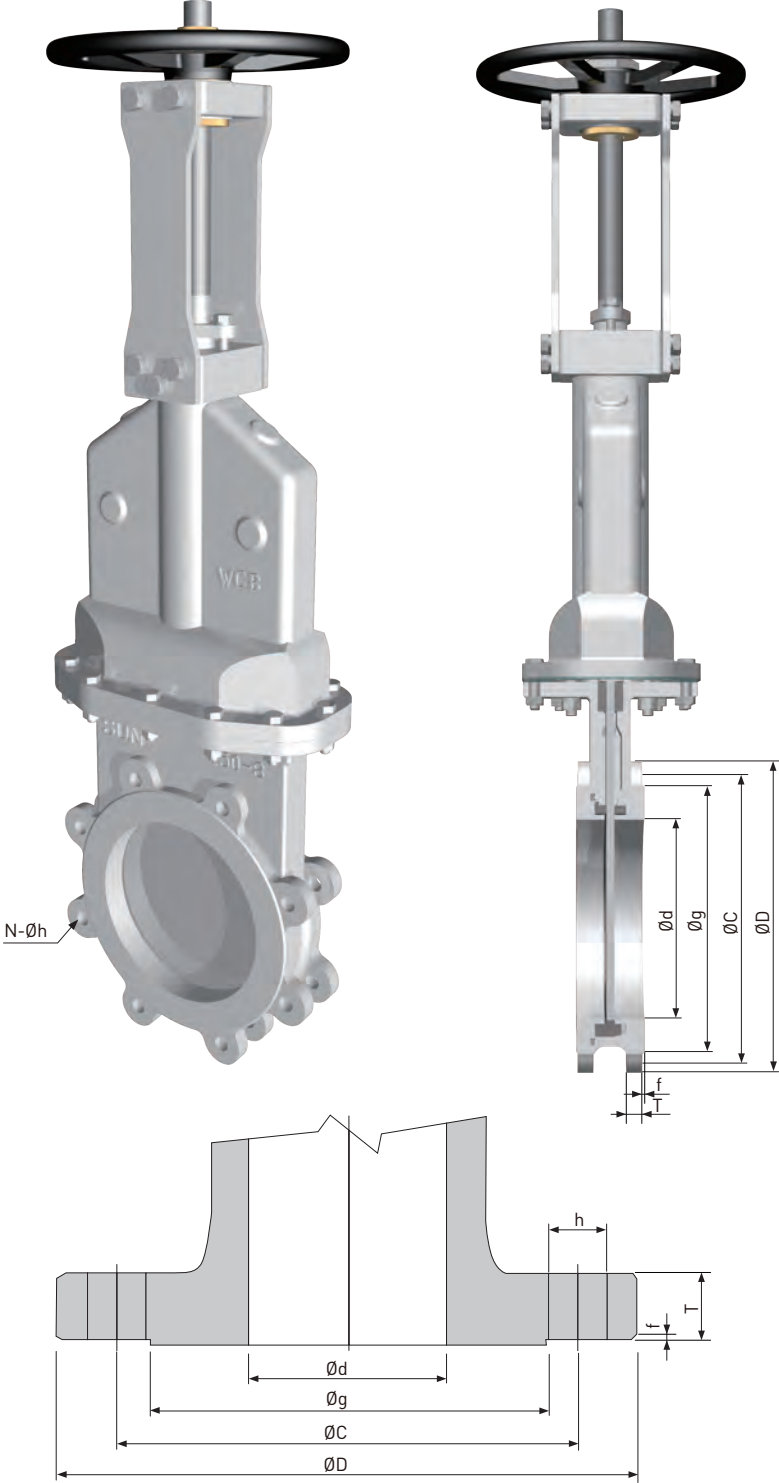
RATING	Nominal dia		L	H	TORQUE (kg/m) (Bonnet type)	TORQUE (kg/m) (Bonnet + Gland)	WEIGHT (kg)
	inch	mm					
ANSI 150LBS (JIS-10K)	2"	50A	48	485	2.33	2.84	18
	3"	80A	51	580	3.17	3.88	26
	4"	100A	51	700	4.23	5.18	38
	5"	125A	57	735	5.02	6.13	49
	6"	150A	57	877	5.88	7.19	69
	8"	200A	70	1050	8.47	10.3	89
	10"	250A	70	1151	11.5	14	116
	12"	300A	76	1379	15.9	19.4	179
	14"	350A	76	1478	19.2	23.5	205
	16"	400A	89	1678	23.9	29.2	253
	18"	450A	89	1808	27.3	33.4	327
	20"	500A	114	1973	32.4	39.7	410
	22"	550A	114	2128	37.9	46.4	452
	24"	600A	114	2198	43.7	53.4	501
	26"	660A	117	2307	50	61	528
28"	700A	117	2595	56.6	69.1	547	
30"	800A	117	2741	63.9	78.1	602	
ANSI 300LBS (JIS-20K)	2"	50A	67	525	3.83	4.68	38
	3"	80A	67	620	5.51	6.74	45
	4"	100A	67	740	7.64	9.33	62
	5"	125A	80	775	9.18	11.2	79
	6"	150A	80	927	10.8	13.3	95
	8"	200A	89	1100	16.1	19.6	113
	10"	250A	119	1211	22.2	27.1	138
	12"	300A	127	1439	31.1	38	221
	14"	350A	140	1538	37.7	46	273
	16"	400A	140	1758	47.1	57.6	342
	18"	450A	156	1888	53.1	65	410
	20"	500A	189	2053	64	78.3	495
	22"	550A	189	2208	74.3	90.8	530
	24"	600A	216	2288	86.6	105	590
	26"	660A	216	2398	99	121	615
28"	700A	254	2685	112	137	669	
30"	800A	267	2831	126	155	717	

SUN-SKBG-NL(SEAT)C - 150(SIZE) | 300(SIZE)

SOFT SEAT TYPE KNIFE GATE VALVES

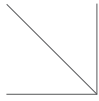


SUN-150LBS (10K)



SUN-SKBG-RLRNH-150-10

SOFT SEAT TYPE KNIFE GATE VALVES - BASIC DIMENSION



ANSI B16.5 150LBS / JIS B2210 10K

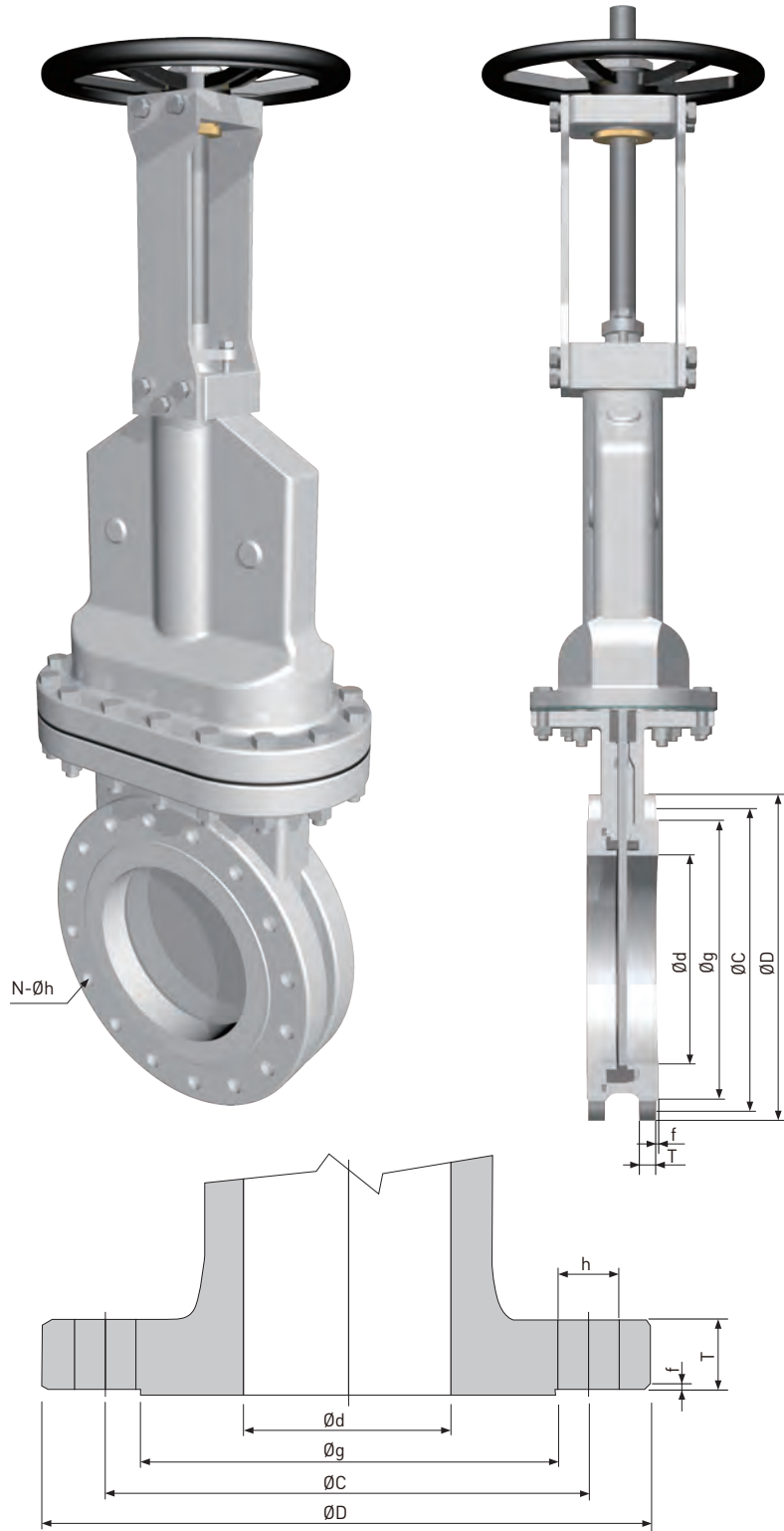
UNIT(mm)

Nominal dia		ID of Bore		OD of Flange		Dia of Raised Face		Thickness of Flange		Thickness of Raised Face		Dia of Bolt Circle		Dia of Bolt Hole		Number of Bolt(N) & Dia of Bolt(Øh)	
		Ød		ØD		Øg		T		f		ØC		h		N-Øh	
ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS
2"	50A	51	50	152	155	92	96	19.1	16	1.6	2	120.5	120	19	19	4-5/8	4-M16
3"	80A	76	80	190	185	127	126	23.9	18	1.6	2	152.5	150	19	19	4-5/8	4-M16
4"	100A	102	100	229	210	157	151	23.9	18	1.6	2	190.5	175	19	19	8-5/8	8-M16
5"	125A	127	125	254	250	186	182	23.9	20	1.6	2	216	210	22	23	8-3/4	8-M20
6"	150A	152	150	279	280	216	212	25.4	22	1.6	2	241.5	240	22	23	8-3/4	8-M20
8"	200A	203	200	343	330	270	262	28.6	22	1.6	2	298.5	290	22	23	8-3/4	12-M20
10"	250A	254	250	406	400	324	324	30.2	24	1.6	2	362	355	25	25	12-7/8	12-M22
12"	300A	305	300	483	445	381	368	31.8	24	1.6	3	432	400	25	25	12-7/8	16-M22
14"	350A	337	340	533	490	413	413	35	26	1.6	3	476	445	29	25	12-1	16-M22
16"	400A	387	400	597	560	470	475	36.6	28	1.6	3	539.5	510	29	27	16-1	16-M24
18"	450A	438	450	635	620	533	530	39.7	30	1.6	3	578	565	32	27	16-11/8	18-M24
20"	500A	489	500	698	675	584	585	42.9	35	1.6	3	635	620	32	27	20-11/8	20-M24
24"	600A	591	600	813	795	692	690	47.5	40	1.6	3	749.3	730	35	33	20-11/4	24-M30
26"	650A	625	650	870	850	749	745	68.3	55	1.6	3	806.4	795	35	33	24-11/4	24-M30
28"	700A	692	700	927	905	800	894	71.3	60	1.6	3	863.4	850	35	33	28-11/4	28-M30
30"	750A	743	750	985	970	857	952	71.5	70	1.6	3	914.4	910	35	33	28-11/4	28-M30
32"	800A	787	800	1060	1050	914	910	81	75	1.6	3	978	975	41	38	28-11/2	28-M36
36"	900A	889	900	1170	1160	1022	1020	90.5	80	1.6	3	1086	1080	41	38	32-11/2	32-M36
38"	950A	940	950	1238	1230	1079.5	1078	92	80	1.6	3	1149	1130	41	38	32-11/2	32-M36
40"	1000A	978	1000	1289	1275	1130	1125	94	85	1.6	3	1200	1180	42	40	36-11/2	36-M36
42"	1050A	1041	1050	1346	1330	1194	1192	96	85	1.6	3	1257	1230	42	40	36-11/2	36-M36
44"	1100A	1092	1100	1403	1400	1251	1248	101	90	1.6	3	1314	1300	42	40	40-11/2	40-M36
46"	1150A	1143	1150	1454	1440	1295	1293	104	90	1.6	3	1365	1350	42	40	40-11/2	40-M36
48"	1200A	1158	1200	1511	1500	1359	1356	108	95	1.6	3	1422	1400	42	40	44-11/2	44-M36

SOFT SEAT TYPE KNIFE GATE VALVES



SUN-300LBS (20K)



SUN-SKBG-RFRNH-300-10

SOFT SEAT TYPE KNIFE GATE VALVES - BASIC DIMENSION

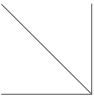


ANSI B16.5 300LBS / JIS B2210 20K

UNIT(mm)

Nominal dia		ID of Bore		OD of Flange		Dia of Raised Face		Thickness of Flange		Thickness of Raised Face		Dia of Bolt Circle		Dia of Bolt Hole		Number of Bolt(N) & Dia of Bolt(Øh)	
		Ød		ØD		Øg		T		f		ØC		h		N-Øh	
ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS	ANSI	JIS
2"	50A	51	50	165	155	92	96	22.3	18	1.6	2	127	120	19	19	8-5/8	8-M16
3"	80A	76	80	210	200	127	132	28.6	22	1.6	2	168	160	22	23	8-3/4	8-M20
4"	100A	102	100	254	225	157	160	31.8	24	1.6	2	200	185	22	23	8-3/4	8-M20
5"	125A	127	125	279	270	186	195	35	26	1.6	2	235	225	22	25	8-3/4	8-M22
6"	150A	152	150	318	305	216	230	36.6	28	1.6	2	270	260	22	25	12-3/4	12-M22
8"	200A	203	200	381	350	270	275	41.3	30	1.6	2	330	305	25	25	12-7/8	12-M22
10"	250A	254	250	444	430	324	345	47.7	34	1.6	2	387	380	29	27	16-1	12-M22
12"	300A	305	300	521	480	381	395	50.8	36	1.6	3	451	430	32	27	16-1 1/8	16-M24
14"	350A	337	335	584	540	413	440	54	40	1.6	3	514.5	480	32	33	20-1 1/8	16-M30
16"	400A	387	380	648	605	470	495	57.2	46	1.6	3	571.5	540	35	33	20-1 1/4	16-M30
18"	450A	432	430	711	675	533	560	60.4	48	1.6	3	628.5	605	35	33	24-1 1/4	20-M30
20"	500A	483	480	775	730	584	615	63.5	50	1.6	3	686	660	35	33	24-1 1/4	20-M30
24"	600A	584	580	914	845	692	720	70	54	1.6	3	813	770	41	39	24-1 1/2	24-M36
26"	650A	635	630	970	735	749	770	79.4	59	1.6	3	876.3	850	44.5	42.5	28-1 5/8	28-M42
28"	700A	673	680	1035	1000	800	825	85.8	65	1.6	3	939.8	920	44.5	42.5	28-1 5/8	28-M42
30"	750A	724	730	1090	1055	857	880	92	70	1.6	3	997	970	47.75	45.75	28-1 3/4	28-M48
32"	800A	775	780	1150	1120	914	935	98.5	73	1.6	3	1054.1	1030	50.8	58.8	28-1 7/8	28-M48
36"	900A	889	880	1270	1230	1022	1055	104.8	85	1.6	3	1168.4	1140	53.84	51.84	32-1 1/2	32-M64
38"	950A	927	930	1168	1120	1059	1085	109.5	96	1.6	3	1092	1075	44.5	42.5	32-1 1/2	32-M64
40"	1000A	978	980	1238	1205	1099	1110	114	100	1.6	3	1156	1125	50.8	48.8	32-1 1/2	32-M64
42"	1050A	1029	1030	1290	1265	1137	1170	119.1	105	1.6	3	1206.5	1185	44.5	42.5	32-1 5/8	32-M64
44"	1100A	1080	1080	1353	1315	1195	1225	125	110	1.6	3	1264	1210	50.8	48.8	32-1 3/4	32-M80
46"	1150A	1130	1130	1416	1370	1257	1300	130	116	1.6	3	1321	1300	50.8	48.8	32-1 7/8	32-M80
48"	1200A	1181	1180	1465	1415	1302	1345	133.4	125	1.6	3	1371.6	1350	50.8	48.8	32-1 7/8	32-M80

SUITABILITY OF THE VALVE USING LINE



ANSI : 150# / 300#
 JIS & KS : 10K / 20K

FLUID USED	APPLICABLE VALVE	SEALING OR NOT	SITUATION						
			OPERATING CONDITION	PRICE	WEIGHT	SPACE SECURITY	WORKING FORCE	INSTALLATION COST	FLUID INTERFERENCE
WATER	BALL V/V	○	○	×	×	×	△	×	○
	BUTTERFLY V/V	○	○	○	○	○	△	○	×
	GATE V/V	○	×	×	×	×	×	×	○
	SOFT SEAT KNIFE GATE VALVE	○	○	○	○	○	○	○	○
OIL	BALL V/V	○	○	×	×	×	△	×	○
	BUTTERFLY V/V	○	○	○	○	○	△	○	×
	GATE V/V	○	×	×	×	×	×	×	○
	SOFT SEAT KNIFE GATE VALVE	○	○	○	○	○	○	○	○
GAS	BALL V/V	○	○	×	×	×	△	×	○
	BUTTERFLY V/V	○	○	○	○	○	△	○	×
	SOFT SEAT KNIFE GATE VALVE	○	○	○	○	○	○	○	○
POWER (PULVERIZED COAL)	SOFT SEAT KNIFE GATE VALVE	○	○	○	○	○	○	○	○
	KNIFE GATE V/V	-	-	-	-	-	-	-	-
CHIP	KNIFE GATE V/V	○	○	○	○	○	○	○	○
PAPER	KNIFE GATE V/V	○	○	○	○	○	○	○	○
WASTE	SOFT SEAT KNIFE GATE VALVE	○	○	○	○	○	○	○	○
	KNIFE GATE V/V	-	-	-	-	-	-	-	-

[LEGEND]

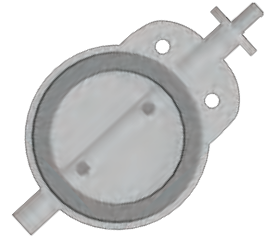
- : EXCELLENT
- △ : MEDIUM
- × : NOT GOOD (HIGH PRICE, INCONVENIENCE IN OPERATION)

BUTTERFLY VALVE + CONCENTRIC WAFER

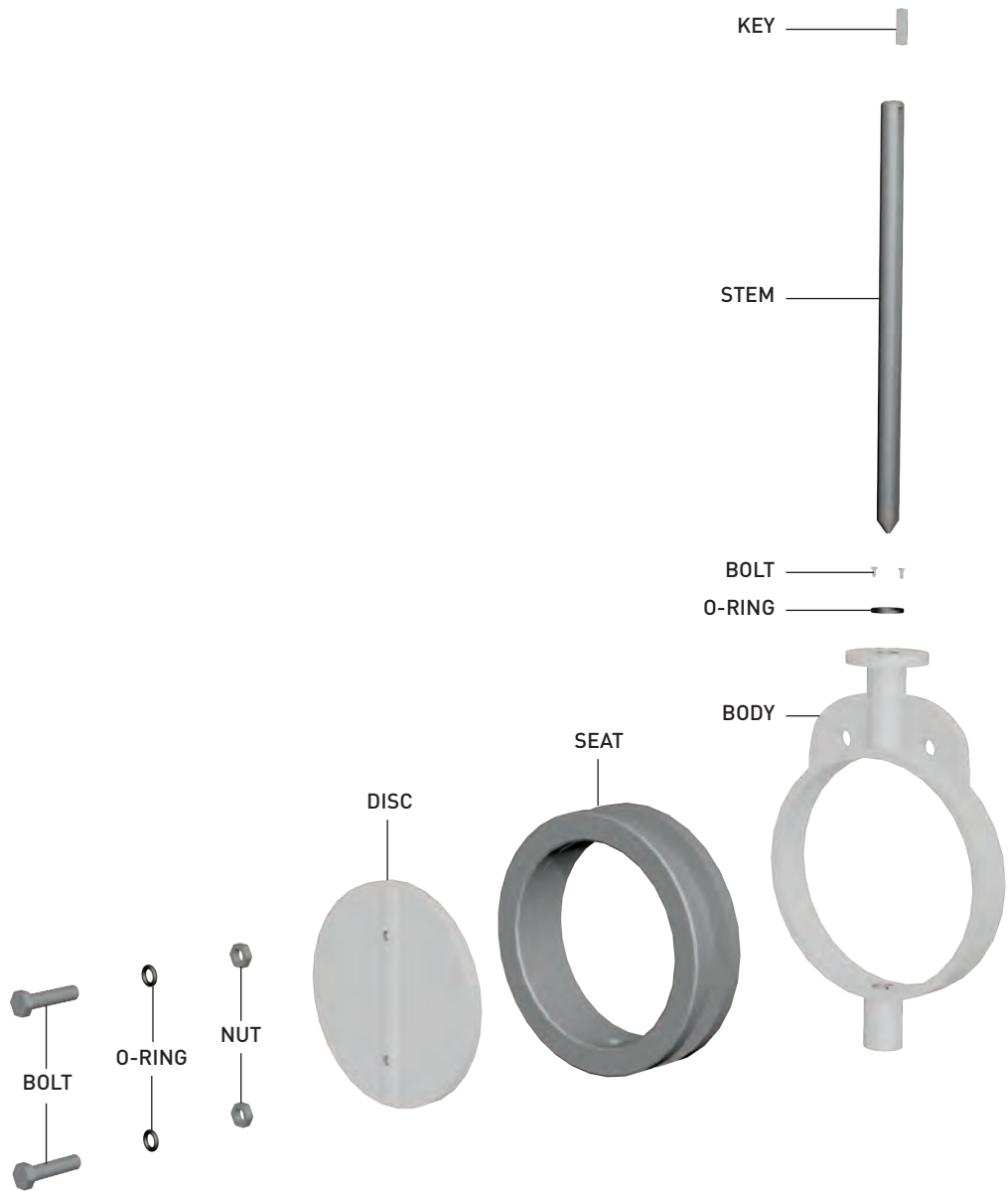
- PART LIST FOR CONCENTRIC WAFER
- DIMENSION & WEIGHT LIST FOR CONCENTRIC WAFER



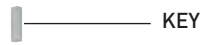
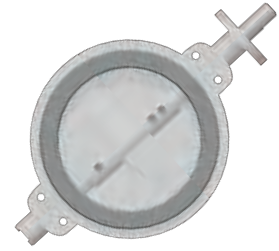
PART LIST FOR CONCENTRIC WAFER



CONCENTRIC WAFER



PART LIST FOR CONCENTRIC WAFER



KEY



STEM



BOLT



O-RING



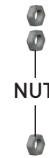
BODY



SEAT



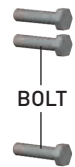
DISC



NUT



O-RING



BOLT



BOTTOM COVER

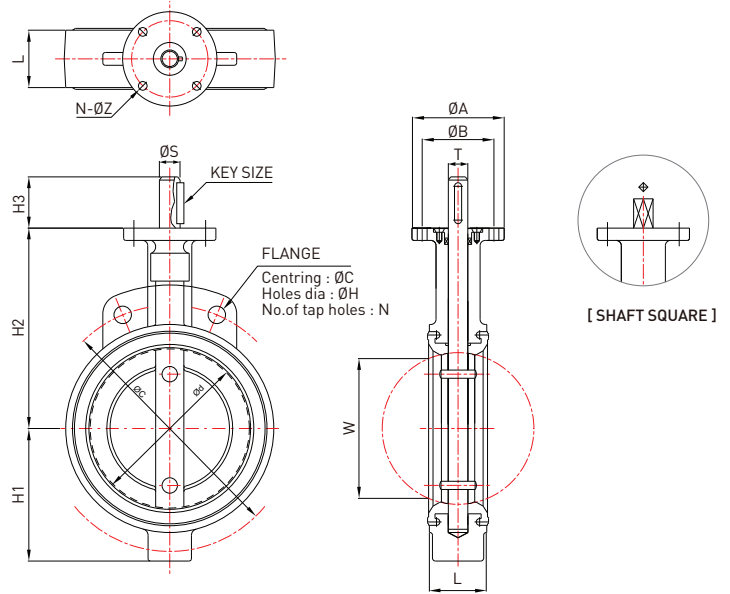


BOLT

CONCENTRIC WAFER

DIMENSION & WEIGHT LIST - 1

DIMENSION & WEIGHT LIST FOR CONCENTRIC WAFER



VALVE DIMENSIONS

UNIT(mm)

SIZE		Ød	L	H1	H2	H3	W	STEM		TOP FLANGE			KEY SIZE	WEIGHT (kg)
inch	mm							ØS	T	ØA	ØB	N-ØZ		
2"	50	50	43	61	128	33	28	14	9.8	90	70	4-10	5 x 5	3.2
2.5"	65	67	46	73	139	33	51	14	9.8	90	70	4-10	5 x 5	4.1
3"	80	79	46	80	150	33	67	14	9.8	90	70	4-10	5 x 5	4.5
4"	100	101	52	93	164	33	89	16	11.8	90	70	4-10	5 x 5	5.8
5"	125	124	56	113	176	33	113	18	13.8	90	70	4-10	6 x 6	7.8
6"	150	147	56	126	190	33	139	18	13.8	90	70	4-10	6 x 6	9.5
8"	200	197	60	157	230	40	191	22	16.8	125	102	4-12	8 x 7	17.0
10"	250	248	68	205	270	40	242	22	16.8	125	102	4-12	8 x 7	24.0
12"	300	297	78	240	305	40	290	28	21.8	125	102	4-12	8 x 7	40.0
14"	350	332	78	267	335	50	327	32	23.8	150	125	4-15	10 x 8	55.0

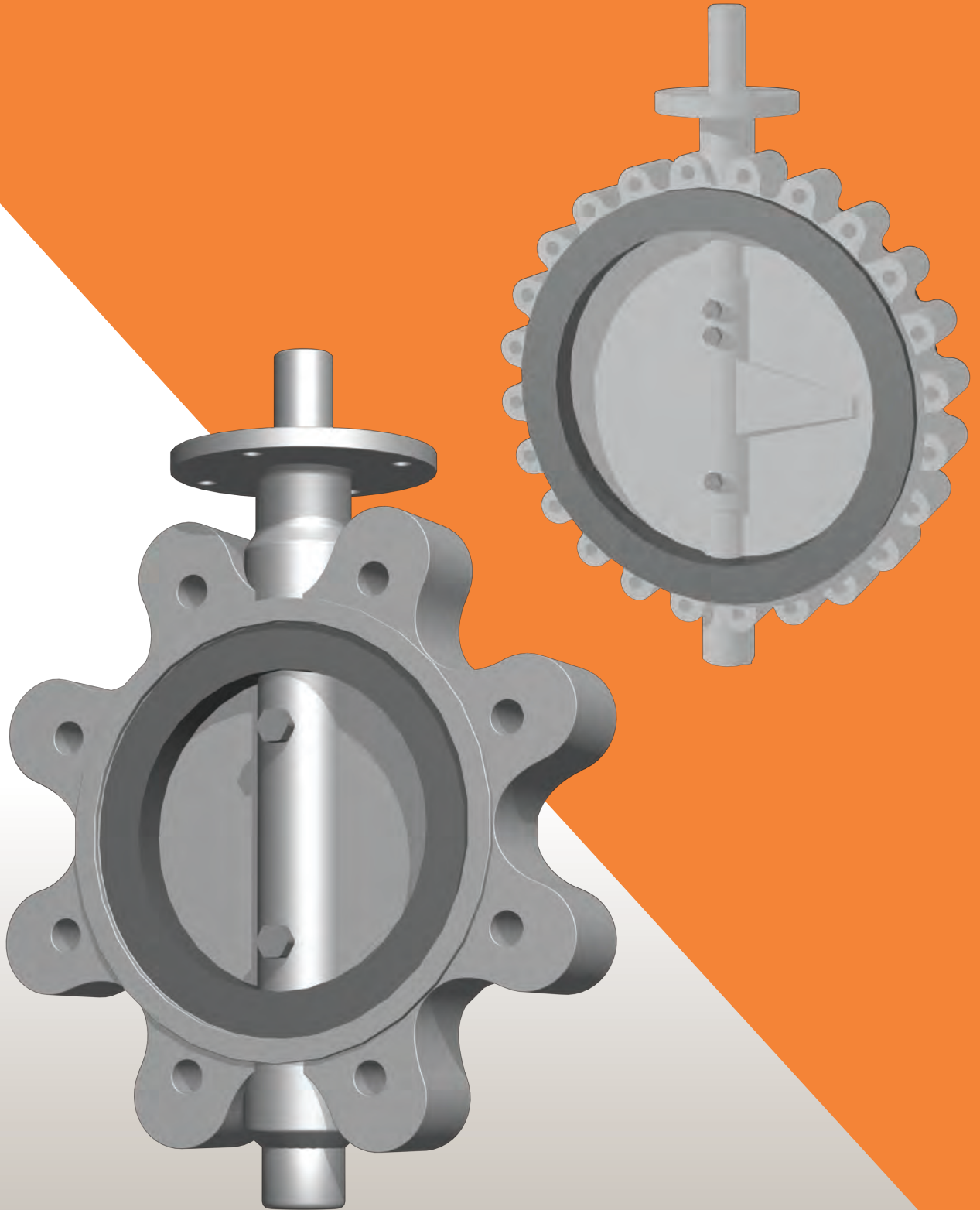
FLANGE DRILLING

UNIT(mm)

SIZE	inch	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"
	mm	50	65	80	100	125	150	200	250	300	350
JIS 5K	ØC	105	130	145	165	200	230	280	345	390	435
	N	4	4	4	8	8	8	8	12	12	12
	ØH	15	15	19	19	19	19	23	23	23	25
JIS 10K	ØC	120	140	150	175	210	240	290	355	400	445
	N	4	4	8	8	8	8	12	12	16	16
	ØH	19	19	19	19	23	23	23	25	25	25
PN 10	ØC	125	145	160	180	210	240	295	350	400	460
	N	4	4	8	8	8	8	8	12	12	16
	ØH	18	18	18	18	18	18	23	23	23	23
PN 16	ØC	125	145	160	180	210	240	295	355	410	470
	N	4	4	8	8	8	8	12	12	12	16
	ØH	18	18	18	18	18	23	23	27	27	27
ANSI 150#	ØC	120.5	139.5	152.5	190.5	216	241.5	298.5	362	432	476
	N	4	4	4	8	8	8	8	12	12	12
	ØH	19	19	19	19	22	22	22	25	25	29
TABLE E	ØC	114	127	146	178	210	235	292	356	406	470
	N	4	4	4	8	8	8	8	12	12	12
	ØH	18	18	18	18	18	22	22	22	26	26

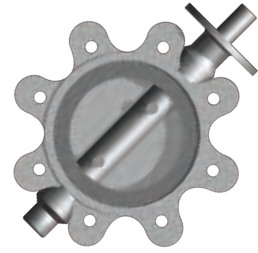
BUTTERFLY VALVE + CONCENTRIC LUG

- PART LIST FOR CONCENTRIC LUG
- DIMENSION & WEIGHT LIST FOR CONCENTRIC LUG



BUTTERFLY VALVE - CONCENTRIC LUG - 1

PART LIST FOR CONCENTRIC LUG



KEY

STEM

BOLT

O-RING

BODY

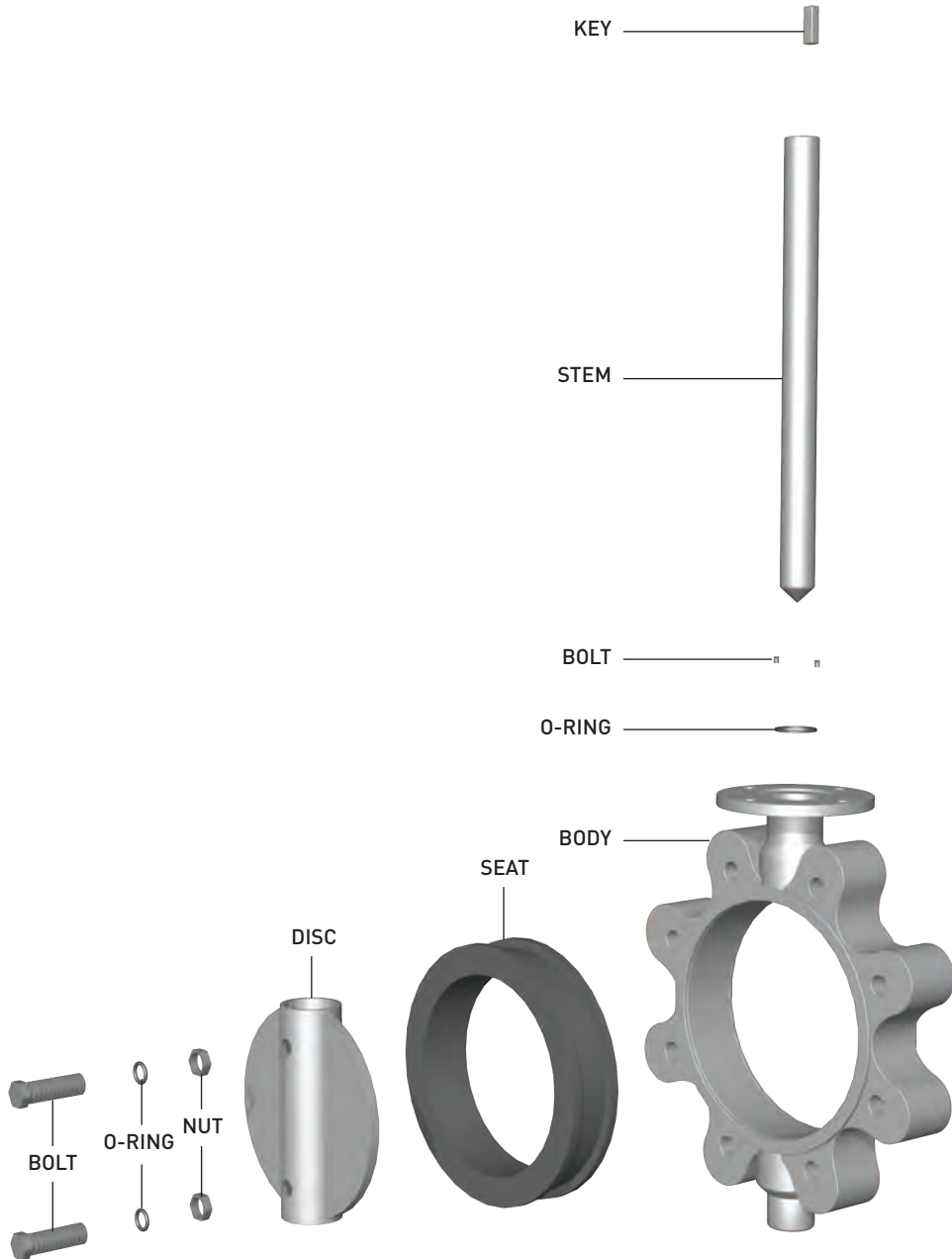
SEAT

DISC

BOLT

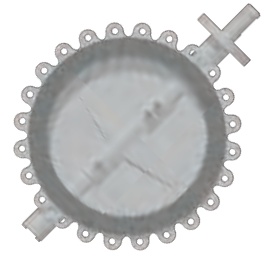
O-RING

NUT

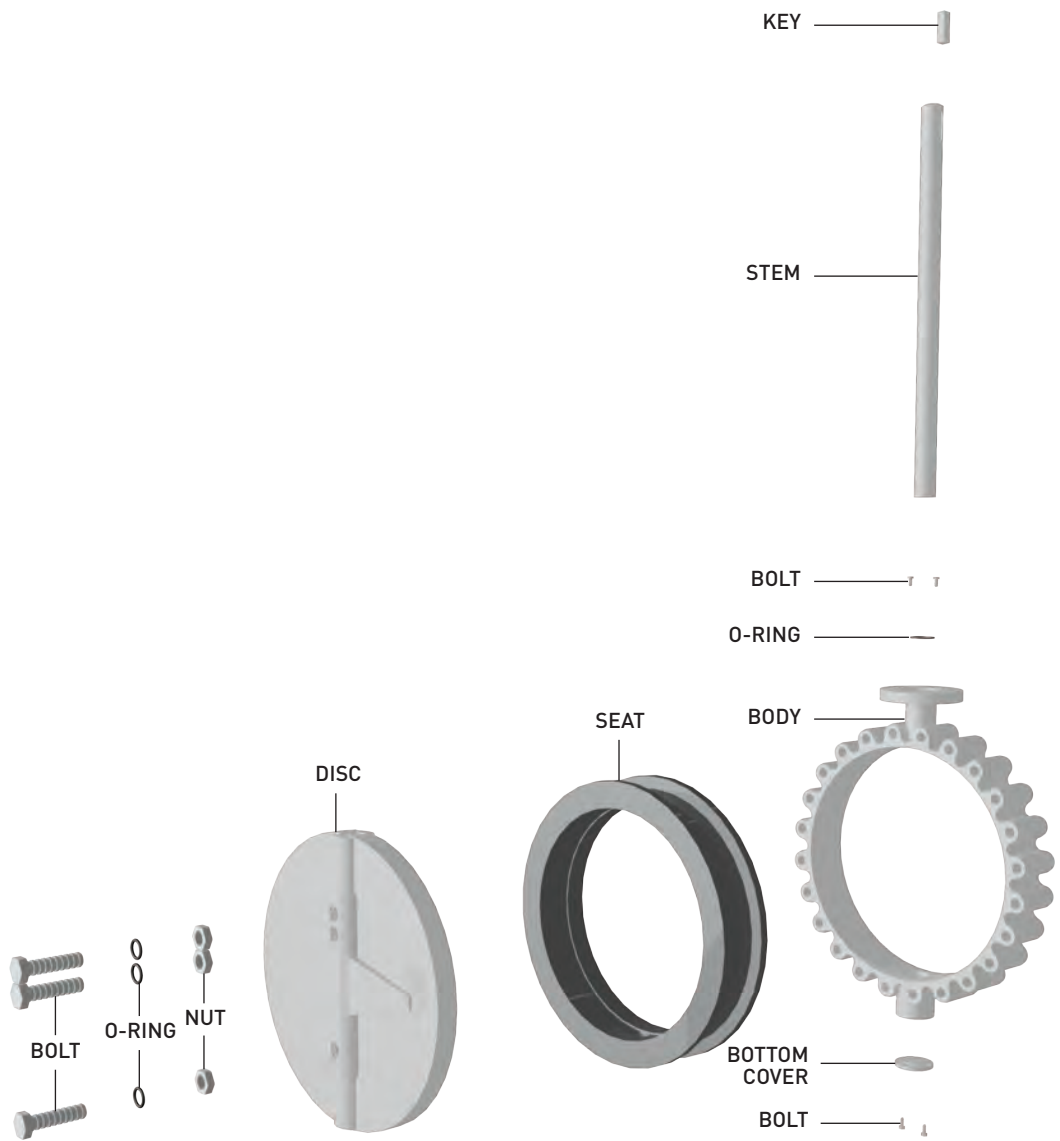


CONCENTRIC LUG

PART LIST FOR CONCENTRIC LUG

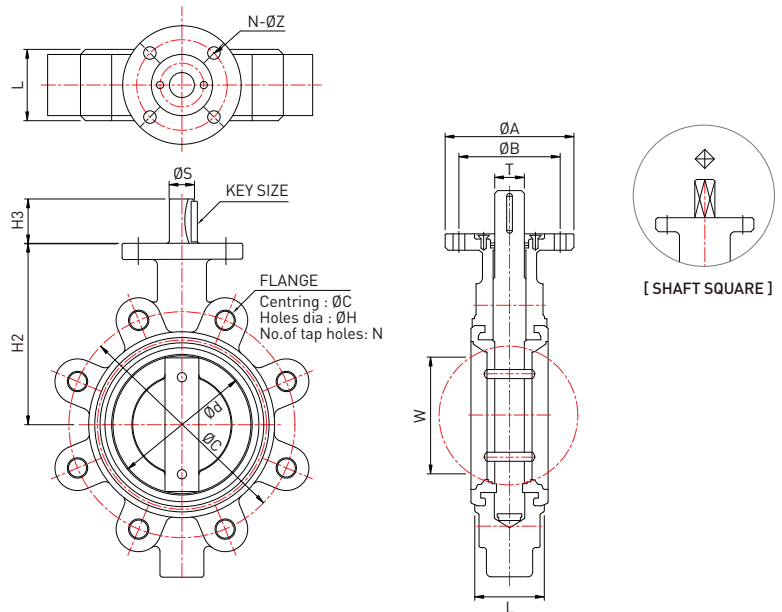


CONCENTRIC LUG



DIMENSION & WEIGHT LIST - 1

DIMENSION & WEIGHT LIST FOR CONCENTRIC LUG



VALVE DIMENSIONS

UNIT(mm)

SIZE		Ød	L	H2	H3	W	STEM		TOP FLANGE			KEY SIZE	WEIGHT (kg)
inch	mm						ØS	T	ØA	ØB	N-ØZ		
2"	50	50	43	128	33	28	14	9.8	90	70	4-10	5 x 5	3.9
2.5"	65	67	46	139	33	51	14	9.8	90	70	4-10	5 x 5	4.8
3"	80	79	46	150	33	67	14	9.8	90	70	4-10	5 x 5	5.5
4"	100	101	52	164	33	89	16	11.8	90	70	4-10	5 x 5	8.2
5"	125	124	56	176	33	113	18	13.8	90	70	4-10	6 x 6	9.5
6"	150	147	56	190	33	139	18	13.8	90	70	4-10	6 x 6	12.5
8"	200	197	60	230	40	191	22	16.8	125	102	4-12	8 x 7	19.5
10"	250	248	68	270	40	242	22	16.8	125	102	4-12	8 x 7	28.0
12"	300	297	78	305	40	290	28	21.8	125	102	4-12	8 x 7	50.0
14"	350	332	78	335	50	327	32	23.8	150	125	4-15	10 x 8	64.0

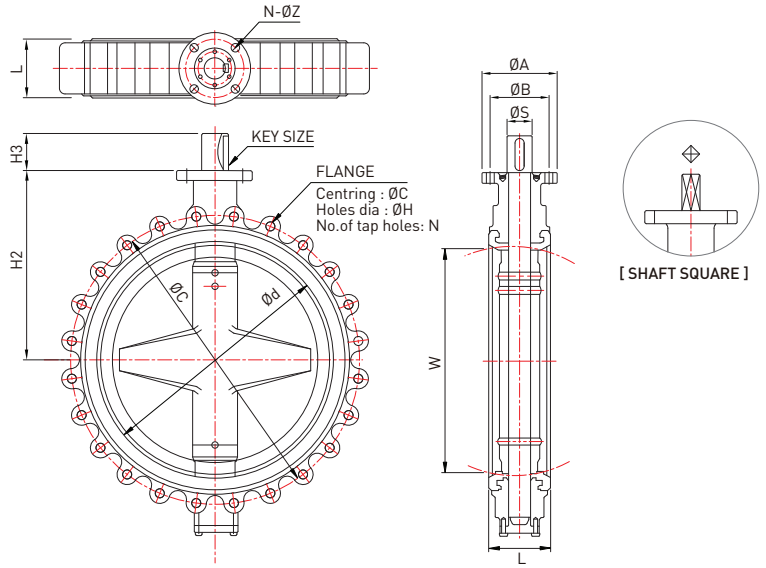
FLANGE DRILLING

UNIT(mm)

SIZE	inch	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"
	mm	50	65	80	100	125	150	200	250	300	350
JIS 5K	ØC	105	130	145	165	200	230	280	345	390	435
	N	4	4	4	8	8	8	8	12	12	12
	ØH	M12	M12	M16	M16	M16	M16	M20	M20	M20	M22
JIS 10K	ØC	120	140	150	175	210	240	290	355	400	445
	N	4	4	8	8	8	8	12	12	16	16
	ØH	M16	M16	M16	M16	M20	M20	M20	M22	M22	M22
PN 10	ØC	125	145	160	180	210	240	295	350	400	460
	N	4	4	8	8	8	8	8	12	12	16
	ØH	M16	M16	M16	M16	M16	M20	M20	M20	M20	M20
PN 16	ØC	125	145	160	180	210	240	295	355	410	470
	N	4	4	8	8	8	8	12	12	12	16
	ØH	M16	M16	M16	M16	M16	M20	M20	M24	M24	M24
ANSI 150#	ØC	120.5	139.5	152.5	190.5	216	241.5	298.5	362	432	476
	N	4	4	4	8	8	8	8	12	12	12
	ØH	5/8"	5/8"	5/8"	5/8"	3/4"	3/4"	3/4"	7/8"	7/8"	1"
TABLE E	ØC	114	127	146	178	210	235	292	356	406	470
	N	4	4	4	8	8	8	8	12	12	12
	ØH	M16	M16	M16	M16	M16	M20	M20	M20	M24	M24

DIMENSION & WEIGHT LIST - 2

DIMENSION & WEIGHT LIST FOR CONCENTRIC LUG



VALVE DIMENSIONS

UNIT(mm)

SIZE		Ød	L	H2	H3	W	STEM				TOP FLANGE		KEY SIZE	WEIGHT (kg)
inch	mm						ØS	ØA	ØB	N-ØZ	ØC	ØH		
16"	400	376	102	370	60	366	38	175	140	4-18	12 x 8	107		
18"	450	430	114	390	60	419	38	175	140	4-18	12 x 8	115		
20"	500	488	127	430	75	475	45	210	165	4-22	14 x 9	160		
22"	550	535	154	455	80	516	55	210	165	4-22	16 x 10	220		
24"	600	568	154	495	80	551	55	210	165	4-22	16 x 10	270		
28"	700	674	165	560	100	655	65	250	205	8-19	20 x 12	340		
30"	750	748	170	590	120	730	80	250	205	8-19	22 x 14	400		
32"	800	774	190	635	120	750	80	300	254	8-19	20 x 12	460		
36"	900	897	203	680	130	874	90	300	254	8-19	25 x 14	580		
40"	1000	975	216	750	140	951	105	300	254	8-19	28 x 16	770		
48"	1200	1200	276	880	160	1168	130	350	298	8-23	32 x 18	1200		

FLANGE DRILLING

UNIT(mm)

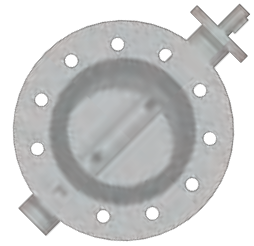
SIZE	inch	16"	18"	20"	22"	24"	28"	32"	36"	40"	48"
	mm	400	450	500	550	600	700	800	900	1000	1200
JIS 5K	ØC	495	555	605	665	715	820	930	1030	1130	1350
	N	16	16	20	20	20	24	24	24	28	32
	ØH	M22	M22	M22	M24	M24	M24	M30	M30	M30	M30
JIS 10K	ØC	510	565	620	680	730	840	950	1050	1160	1380
	N	16	20	20	20	24	24	28	28	28	32
	ØH	M24	M24	M24	M30	M30	M30	M30	M30	M36	M36
PN 10	ØC	515	565	620	-	725	840	950	1050	1160	1380
	N	16	20	20	-	20	24	24	28	28	32
	ØH	M24	M24	M24	-	M27	M30	M30	M30	M36	M36
PN 16	ØC	525	585	650	-	770	840	950	1050	1160	1390
	N	16	20	20	-	20	24	24	28	28	32
	ØH	M27	M27	M30	-	M33	M33	M36	M36	M39	M45
ANSI 150#	ØC	539.5	578	635	692	749.5	863.6	978	1085.9	1200	1422.4
	N	16	16	20	20	20	28	28	32	36	44
	ØH	1"	1 1/8"	1 1/8"	1 1/4"	1 1/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
TABLE E	ØC	521	584	641	699	756	845	984	1092	1175	1410
	N	12	16	16	16	16	20	20	24	24	32
	ØH	M24	M24	M24	M27	M30	M30	M33	M33	M36	M36

BUTTERFLY VALVE + CONCENTRIC FLANGE

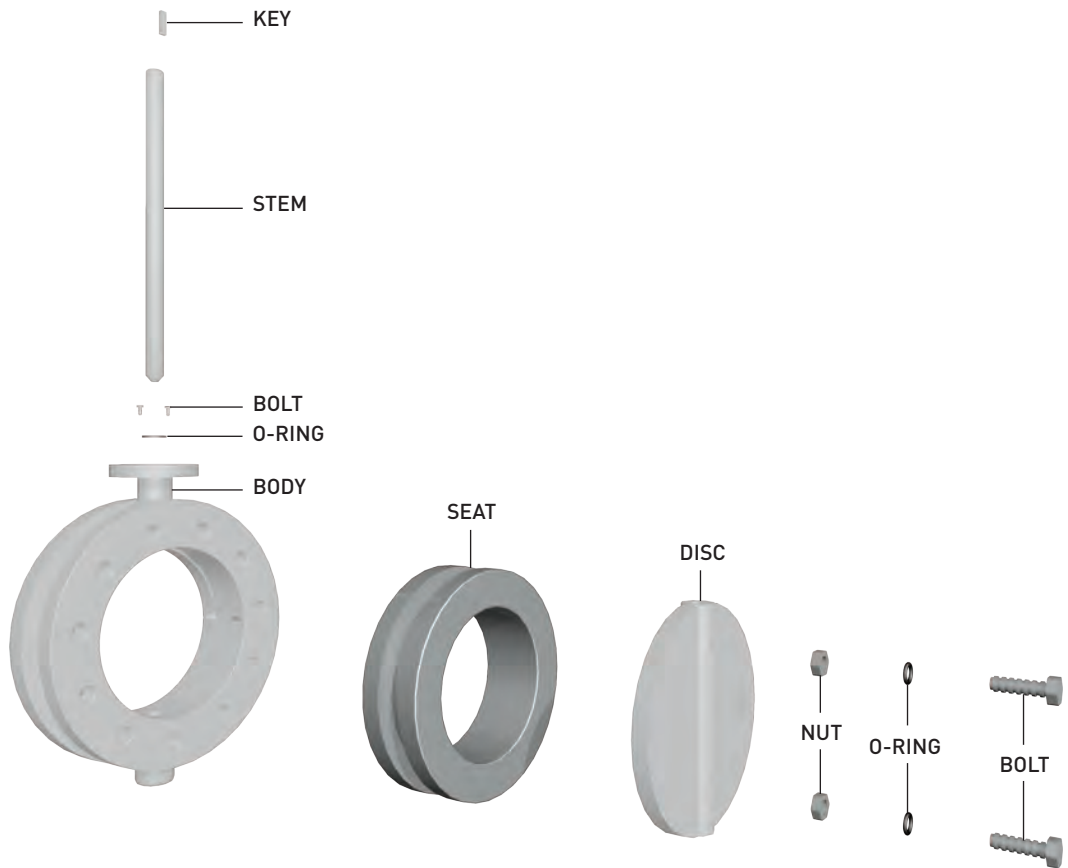
- PART LIST FOR CONCENTRIC FLANGE
- DIMENSION & WEIGHT LIST FOR CONCENTRIC FLANGE



PART LIST FOR CONCENTRIC FLANGE

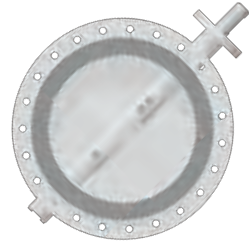


CONCENTRIC FLANGE

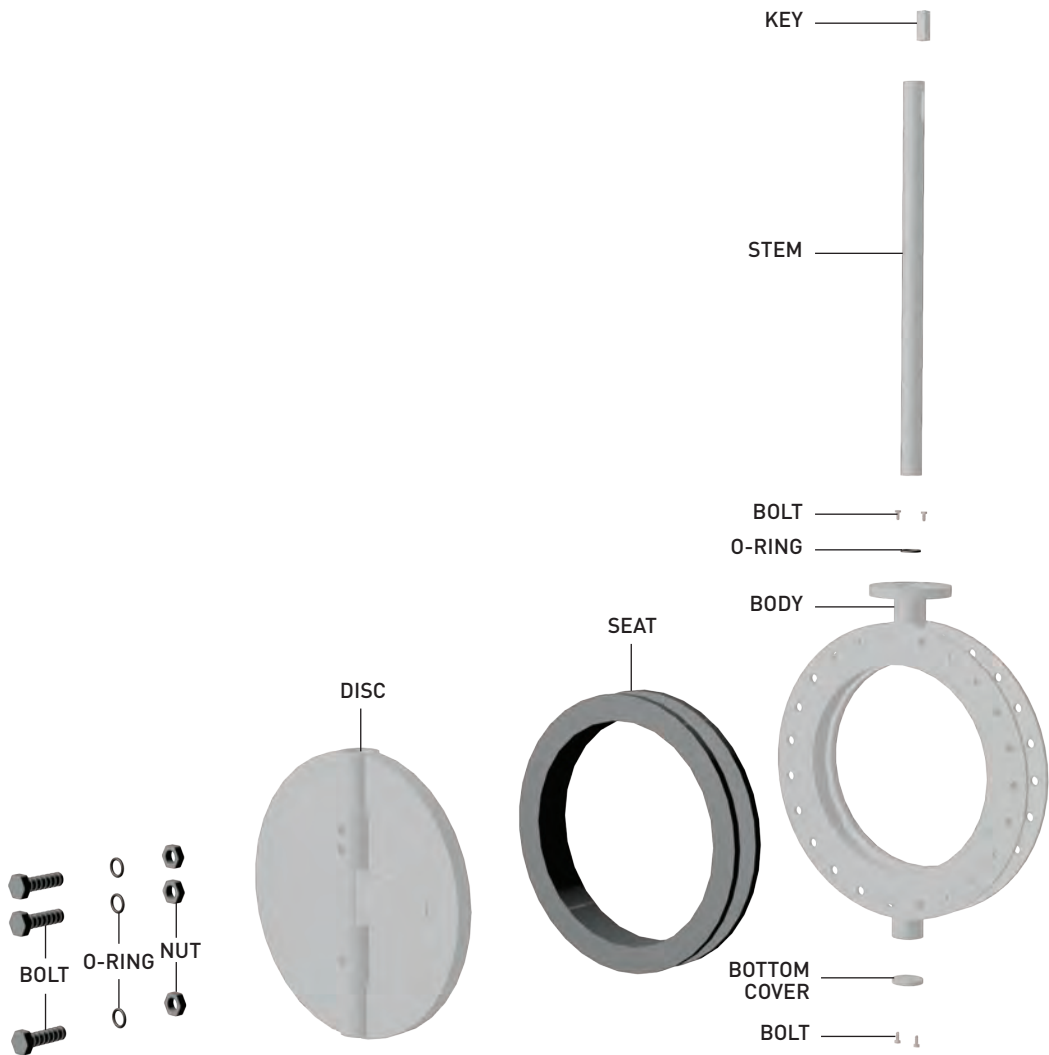


BUTTERFLY VALVE - CONCENTRIC FLANGE - 2

PART LIST FOR CONCENTRIC FLANGE

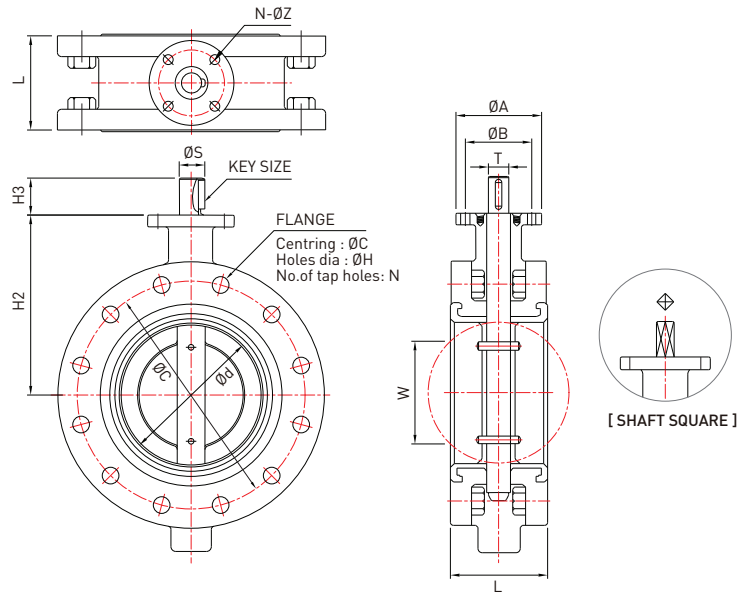


CONCENTRIC FLANGE



DIMENSION & WEIGHT LIST - 1

DIMENSION & WEIGHT LIST FOR CONCENTRIC FLANGE



VALVE DIMENSIONS

UNIT(mm)

SIZE		Ød	L	H2	H3	W	STEM		TOP FLANGE			KEY SIZE	WEIGHT (kg)
inch	mm						ØS	T	ØA	ØB	N-ØZ		
2"	50	50	43	128	33	28	14	9.8	90	70	4-10	5 x 5	4.7
2.5"	65	67	46	139	33	51	14	9.8	90	70	4-10	5 x 5	5.8
3"	80	79	46	150	33	67	14	9.8	90	70	4-10	5 x 5	6.6
4"	100	101	52	164	33	89	16	11.8	90	70	4-10	5 x 5	10.0
5"	125	124	56	176	33	113	18	13.8	90	70	4-10	6 x 6	11.5
6"	150	147	56	190	33	139	18	13.8	90	70	4-10	6 x 6	15.0
8"	200	197	60	230	40	191	22	16.8	125	102	4-12	8 x 7	23.0
10"	250	248	68	270	40	242	22	16.8	125	102	4-12	8 x 7	34.0
12"	300	297	78	305	40	290	28	21.8	125	102	4-12	8 x 7	60.0
14"	350	332	78	335	50	327	32	23.8	150	125	4-15	10 x 8	98.0

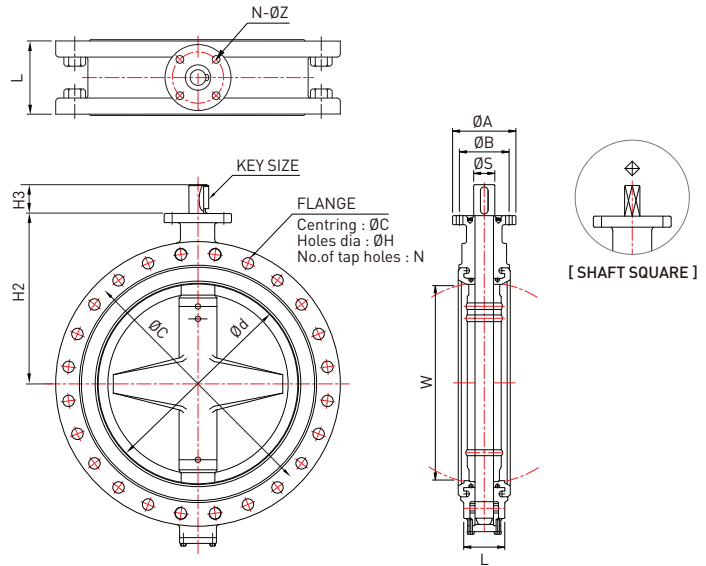
FLANGE DRILLING

UNIT(mm)

SIZE	inch	2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"
	mm	50	65	80	100	125	150	200	250	300	350
JIS 5K	ØC	105	130	145	165	200	230	280	345	390	435
	N	4	4	4	8	8	8	8	12	12	12
	ØH	M12	M12	M16	M16	M16	M16	M20	M20	M20	M22
JIS 10K	ØC	120	140	150	175	210	240	290	355	400	445
	N	4	4	8	8	8	8	12	12	16	16
	ØH	M16	M16	M16	M16	M20	M20	M20	M22	M22	M22
PN 10	ØC	125	145	160	180	210	240	295	350	400	460
	N	4	4	8	8	8	8	8	12	12	16
	ØH	M16	M16	M16	M16	M16	M20	M20	M20	M20	M20
PN 16	ØC	125	145	160	180	210	240	295	355	410	470
	N	4	4	8	8	8	8	12	12	12	16
	ØH	M16	M16	M16	M16	M16	M20	M20	M24	M24	M24
ANSI 150#	ØC	120.5	139.5	152.5	190.5	216	241.5	298.5	362	432	476
	N	4	4	4	8	8	8	8	12	12	12
	ØH	5/8"	5/8"	5/8"	5/8"	3/4"	3/4"	3/4"	7/8"	7/8"	1"
TABLE E	ØC	114	127	146	178	210	235	292	356	406	470
	N	4	4	4	8	8	8	8	12	12	12
	ØH	M16	M16	M16	M16	M16	M20	M20	M20	M24	M24

DIMENSION & WEIGHT LIST - 2

DIMENSION & WEIGHT LIST FOR CONCENTRIC FLANGE



VALVE DIMENSIONS

UNIT(mm)

SIZE		Ød	L	H2	H3	W	TOP FLANGE				KEY SIZE	WEIGHT (kg)
inch	mm						ØS	ØA	ØB	N-ØZ		
16"	400	376	102	370	60	366	38	175	140	4-18	12 x 8	146
18"	450	430	114	390	60	419	38	175	140	4-18	12 x 8	205
20"	500	488	127	430	75	475	45	210	165	4-22	14 x 9	225
22"	550	535	154	455	80	516	55	210	165	4-22	16 x 10	250
24"	600	568	154	495	80	551	55	210	165	4-22	16 x 10	280
28"	700	674	165	560	100	655	65	250	205	8-19	20 x 12	350
30"	750	748	170	590	120	730	80	250	205	8-19	20 x 12	410
32"	800	774	190	635	120	750	80	300	254	8-19	22 x 14	480
36"	900	897	203	680	130	874	90	300	254	8-19	25 x 14	610
40"	1000	975	216	750	140	951	105	300	254	8-19	28 x 16	870
48"	1200	1200	276	880	160	1168	130	350	298	8-23	32 x 18	1250

FLANGE DRILLING

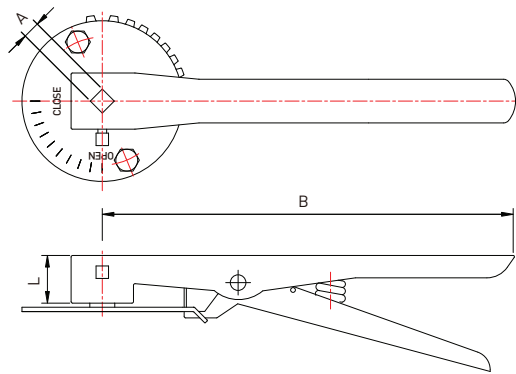
UNIT(mm)

SIZE	inch	16"	18"	20"	22"	24"	28"	32"	36"	40"	48"
	mm	400	450	500	550	600	700	800	900	1000	1200
JIS 5K	ØC	495	555	605	665	715	820	930	1030	1130	1350
	N	16	16	20	20	20	24	24	24	28	32
	ØH	M22	M22	M22	M24	M24	M24	M30	M30	M30	M30
JIS 10K	ØC	510	565	620	680	730	840	950	1050	1160	1380
	N	16	20	20	20	24	24	28	28	28	32
	ØH	M24	M24	M24	M30	M30	M30	M30	M30	M36	M36
PN 10	ØC	515	565	620	-	725	840	950	1050	1160	1380
	N	16	20	20	-	20	24	24	28	28	32
	ØH	M24	M24	M24	-	M27	M30	M30	M30	M36	M36
PN 16	ØC	525	585	650	-	770	840	950	1050	1160	1390
	N	16	20	20	-	20	24	24	28	28	32
	ØH	M27	M27	M30	-	M33	M33	M36	M36	M39	M45
ANSI 150#	ØC	539.5	578	635	692	749.5	863.6	978	1085.9	1200	1422.4
	N	16	16	20	20	20	28	28	32	36	44
	ØH	1"	1 1/8"	1 1/8"	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
TABLE E	ØC	521	584	641	699	756	845	984	1092	1175	1410
	N	12	16	16	16	16	20	20	24	24	32
	ØH	M24	M24	M24	M27	M30	M30	M33	M33	M36	M36

OPERATOR FOR BUTTERFLY VALVE

LEVER OPERATORS

General Characteristic	The butterfly valve to be open / closed with intermediate lock position by a quarter turn lever for the nominal diameter below 150A
Features	Quarter turn action, self locks into 10° position notch plate at 10° intervals Handle indicates valve position can mounted in any 90° quadrant



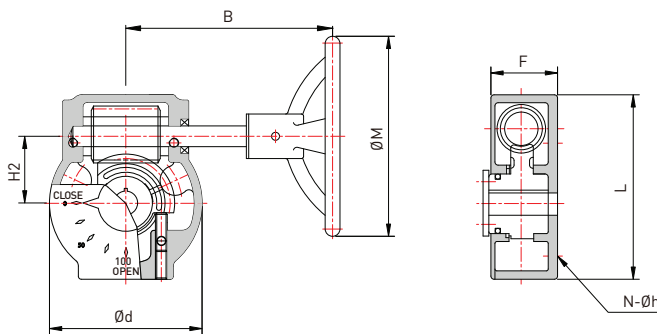
Model No.	Valve size	A	L	B
LO-01	50.65.80	9	30	265
LO-02	1000-150	12	30	265

STANDARD MATERIALS

Item No.	Part name	Material
1	Handle	Mild Steel
2	Lever	Mild Steel
3	Pin	Mild Steel
4	Spring	SS Steel
5	Screws	Mild Steel
6	Indicator	Mild Steel

WORM GEAR OPERATORS

The butterfly valve to be operated by worm gear operated manual handle. The position of worm gear with indicator on the top shall be provided with pipe line parallel in principle, however any location is available with reduction rate.

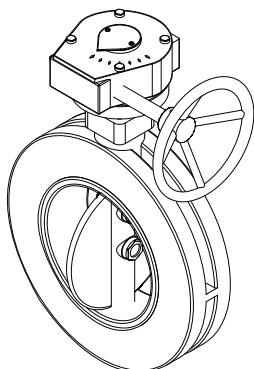


Use	General purpose manual operator for on / off or throttling duties.
Features	Heavy duty, weather proof type
Options	Limits switch, Chainwheel, Locking device, Handwheel extension shafts

Application SIZE	RATIO	ØM	H2	Ød	B	F	L	ISO 5211		
								TYPE	PCD	N-Øh
50A-150A	24:1	145	45	102	155	59	123	F07	70	4-8
200A-350A	32:1	195	65	138	235	71	167	F10	102	4-10
		250								
400A-450A	42:1	315	80	208	280	91	220	F14	140	4-16
500A-650A	53:1	400	120	244	340	126	305	F16	165	4-20
700A-850A	212:1	400	120	244	370	126	305	F16	165	4-20

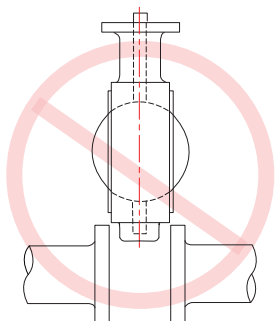
Item No.	Part name	Material
1	Housing	Cast Iron
2	Worm wheel	SS. Steel
3	Worm	Cast Iron
4	Cover	Cast Iron
5	Bush	Bronze
6	Adjust bolt	SS. Steel
7	Oil seal	Rubber
8	Worm shaft	SS. Steel
9	Indicator	Mild Steel
10	Handle	Cast Iron

GUIDELINES FOR STORAGE & INSTALLATION

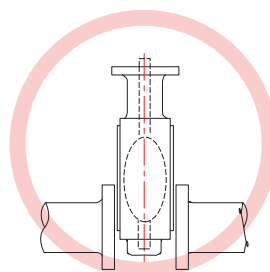


- Be careful not to scratch Disc and Seat ring.
The flange must be protected by plywood or other things when carrying valve.
- Valve must not be shocked and shaken too much.
(It may cause the breaking neck, lever, handle & body)
- Valve is recommended to be kept and carried under the condition of opening.
- The suitable temperature is over -10°C and humidity is 60% while keeping valve.
- In keeping Valve, must check the operation once per three months.

HOW TO INSTALL BUTTERFLY VALVE

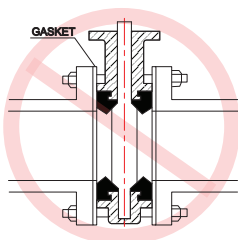


WRONG



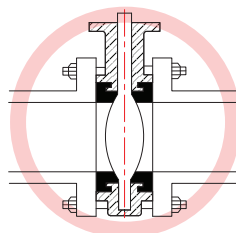
CORRECT

[CENTERING & FLANGING OF VALVE]



→ WRONG

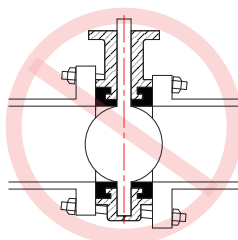
Disc in closed position :
gaskets used : Results-Seat
distorted and over com-
pressed causing high initial
unseating torque problems.



→ RIGHT

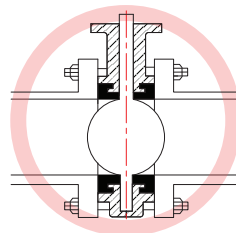
Bolts spanned, disc edge
with in body face-to-face.
No disc edge damage,
proper sealing allowed

[ALIGNING OF FLANGE BOLTS]



→ WRONG

Piping misaligned : Result-
Disc O.D. touches pipe I.D.
causing disc edge damage.
Increased torque & leakage.
Seat face, seals improperly
without engagement



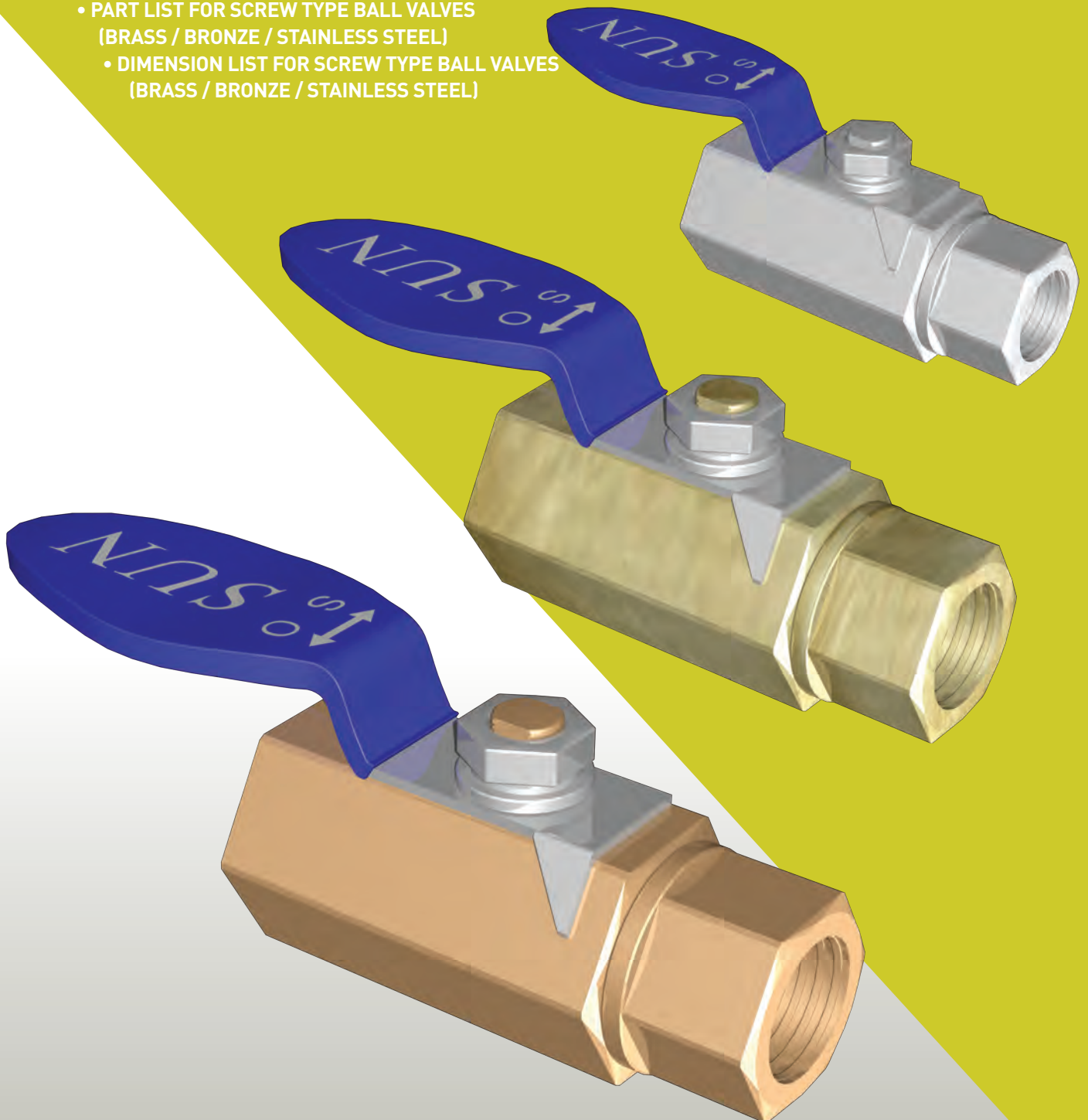
→ RIGHT

Piping aligned properly when
bolts tightened, disc in full
open position : Result-disc
clears adjacent pipe I.D.,
seat face seals properly, no
excessive initial torque.

BALL VALVE + SCREW TYPE BALL VALVES

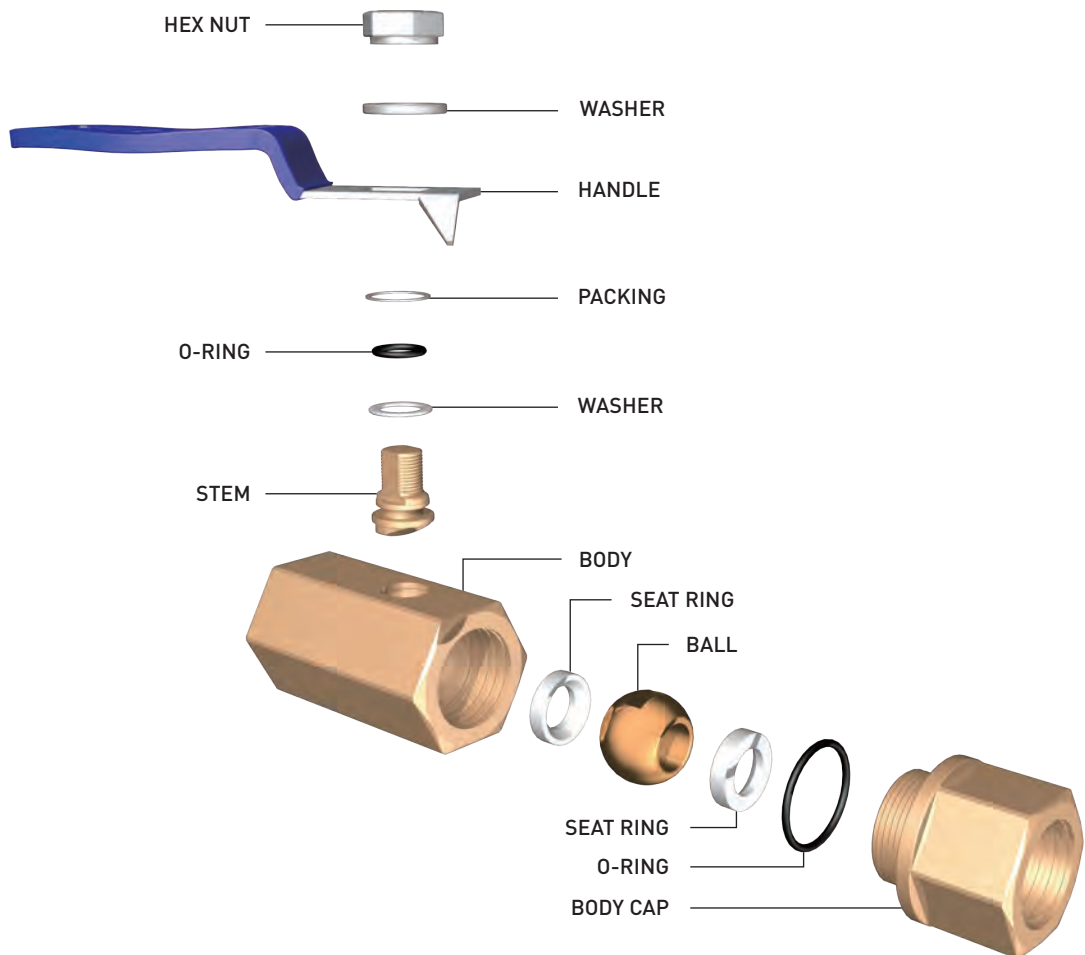
(BRASS / BRONZE / STAINLESS STEEL)

- PART LIST FOR SCREW TYPE BALL VALVES
(BRASS / BRONZE / STAINLESS STEEL)
- DIMENSION LIST FOR SCREW TYPE BALL VALVES
(BRASS / BRONZE / STAINLESS STEEL)



BALL VALVE - SCREW TYPE BALL VALVES

PART LIST FOR SCREW TYPE BALL VALVE (BRASS)

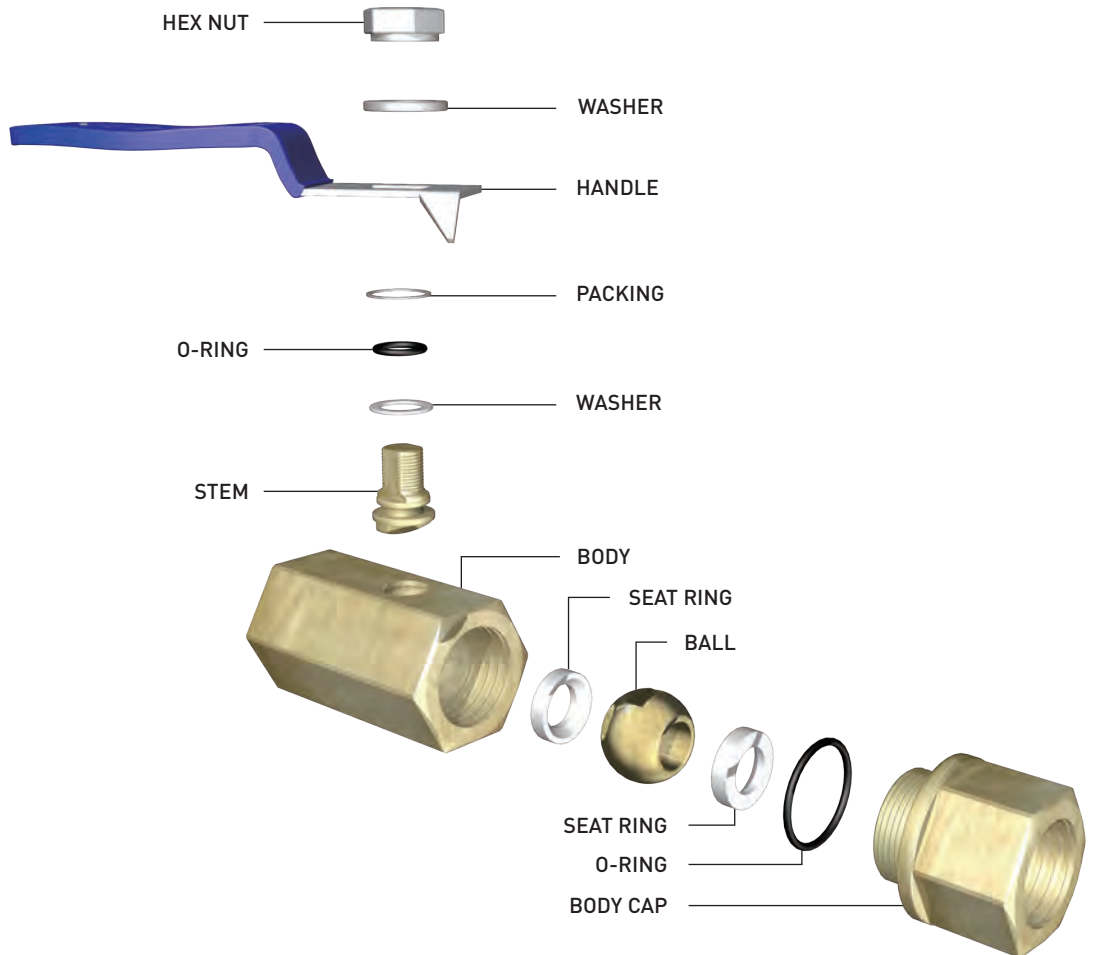


SCREW TYPE BALL VALVES

PART LIST FOR SCREW TYPE BALL VALVE (BRONZE)

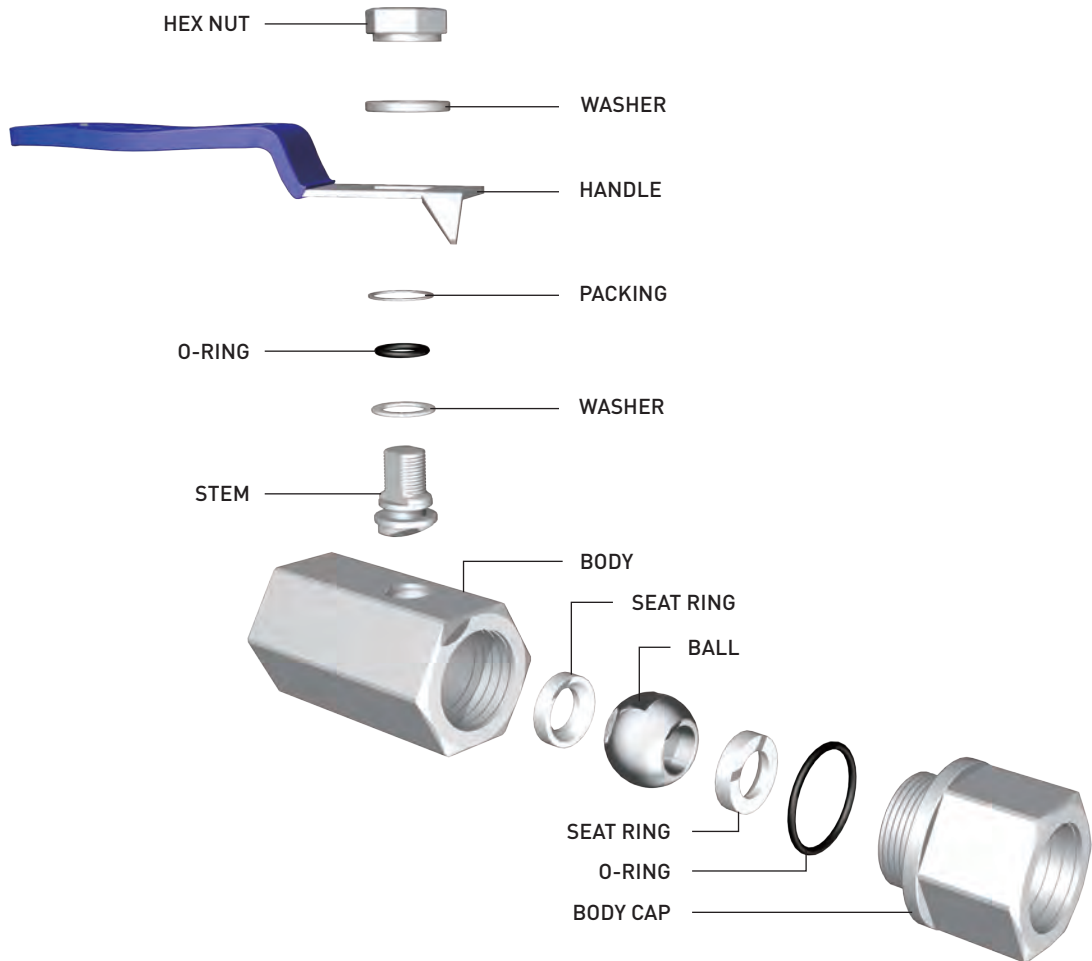


SCREW TYPE BALL VALVES



BALL VALVE - SCREW TYPE BALL VALVES

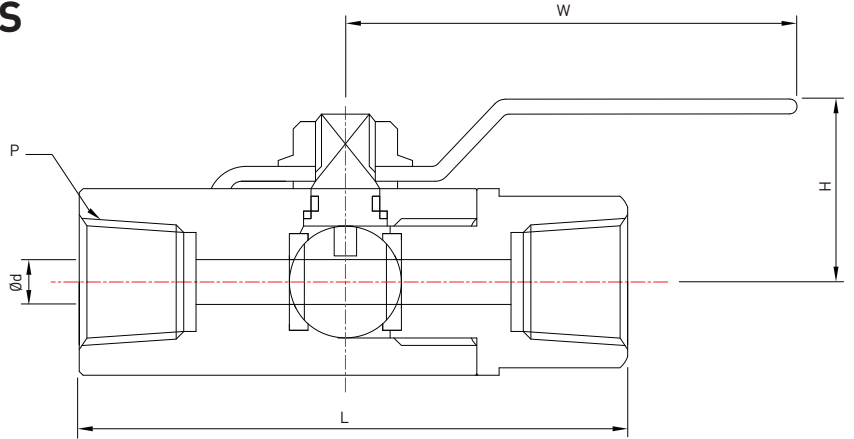
PART LIST FOR SCREW TYPE BALL VALVE (STAINLESS STEEL)



SCREW TYPE BALL VALVES

DIMENSION LIST

DIMENSION LIST FOR SCREW TYPE BALL VALVES



[REDUCED BORE]

DIMENSION

UNIT(mm)

RATING	SIZE		$\varnothing d$	L	H	W	P
150# 300# 10K 20K	1/2"	15A	10	74	36	90	PT 1/2" or NPT 1/2"
	3/4"	20A	15	77	46	120	PT 3/4" or NPT 3/4"
	1"	25A	20	90	46	120	PT 1" or NPT 1"
	1 1/4"	32A	25	100	55	140	PT 1 1/4" or NPT 1 1/4"
	1 1/2"	40A	32	110	60	140	PT 1 1/2" or NPT 1 1/2"
	2"	50A	40	170	80	160	PT 2" or NPT 2"

[FULL BORE]

DIMENSION

UNIT(mm)

RATING	SIZE		$\varnothing d$	L	H	W	P
150# 300# 10K 20K	1/2"	15A	15	77	46	120	PT 1/2" or NPT 1/2"
	3/4"	20A	20	101	46	120	PT 3/4" or NPT 3/4"
	1"	25A	25	130	55	140	PT 1" or NPT 1"
	1 1/4"	32A	32	142	60	140	PT 1 1/4" or NPT 1 1/4"
	1 1/2"	40A	40	166	65	180	PT 1 1/2" or NPT 1 1/2"
	2"	50A	50	181	95	180	PT 2" or NPT 2"

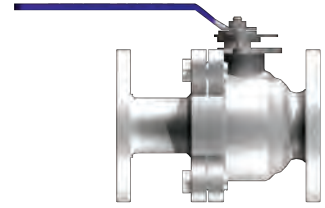
BALL VALVE + 2-WAY BALL VALVES

(CAST STEEL / CAST BRONZE / STAINLESS STEEL)

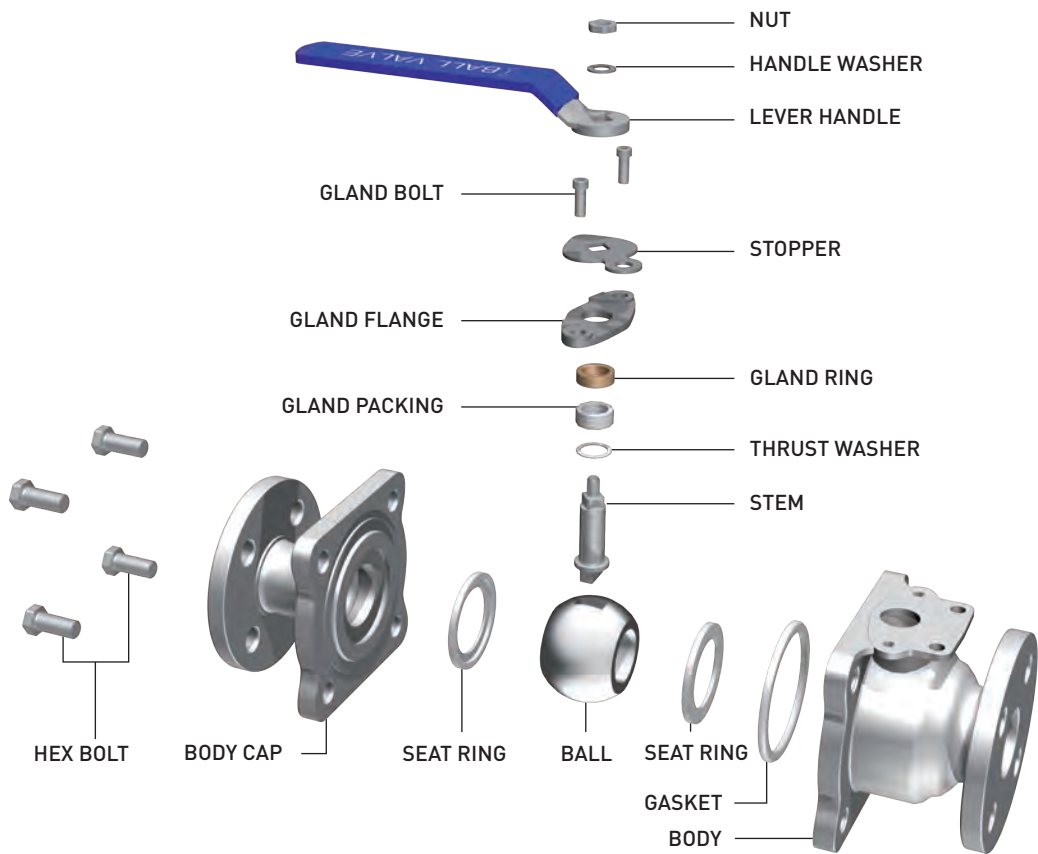
- PART LIST FOR 2-WAY BALL VALVES
(CAST STEEL / CAST BRONZE / STAINLESS STEEL)
- DIMENSION LIST FOR 2-WAY BALL VALVES
(CAST STEEL / CAST BRONZE / STAINLESS STEEL)



PART LIST FOR 2-WAY BALL VALVE (CAST STEEL)

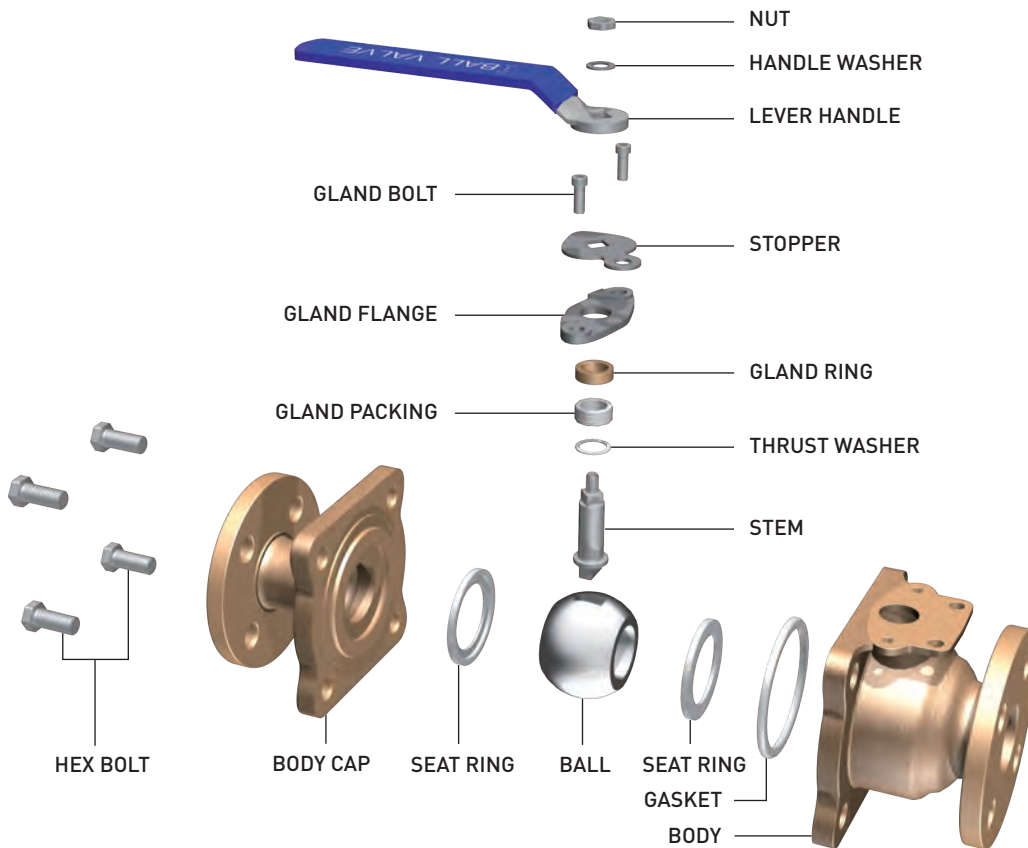
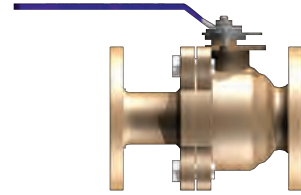


2-WAY BALL VALVES



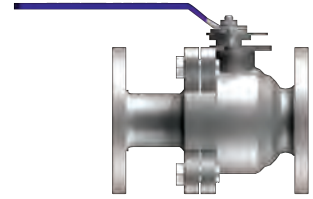
BALL VALVE - 2 - WAY BALL VALVES

PART LIST FOR 2-WAY BALL VALVE (CAST BRONZE)

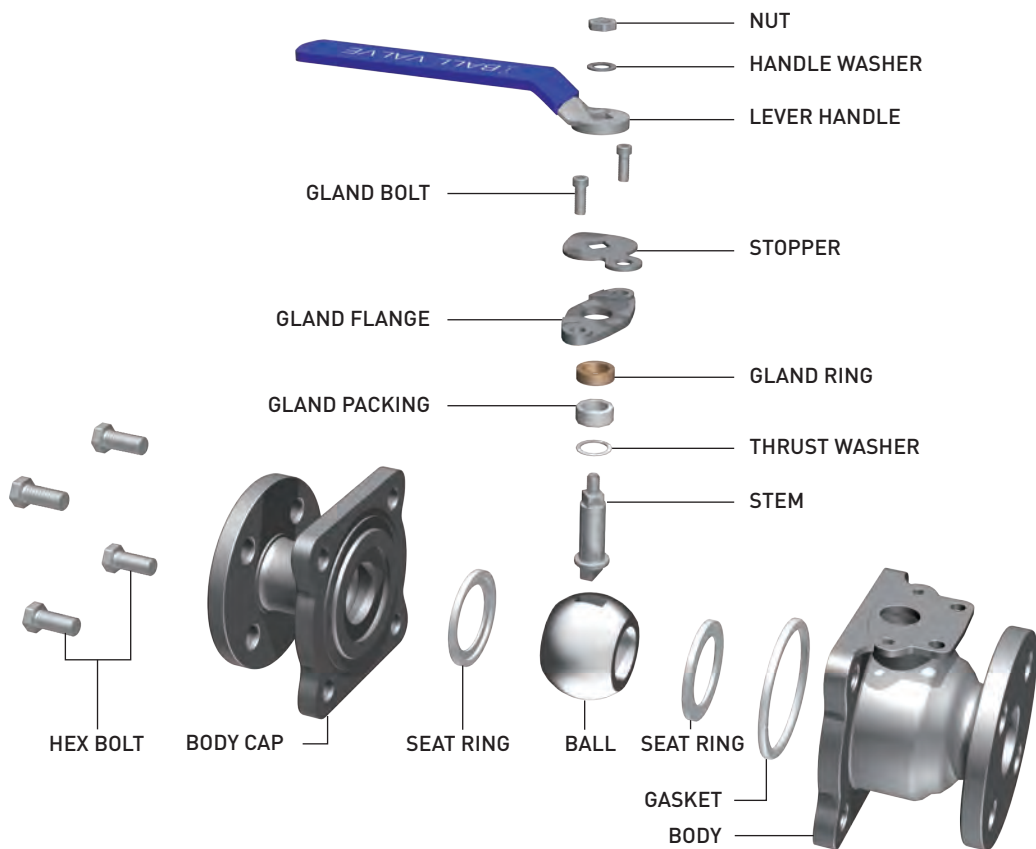


2-WAY BALL VALVES

PART LIST FOR 2-WAY BALL VALVE (STAINLESS STEEL)

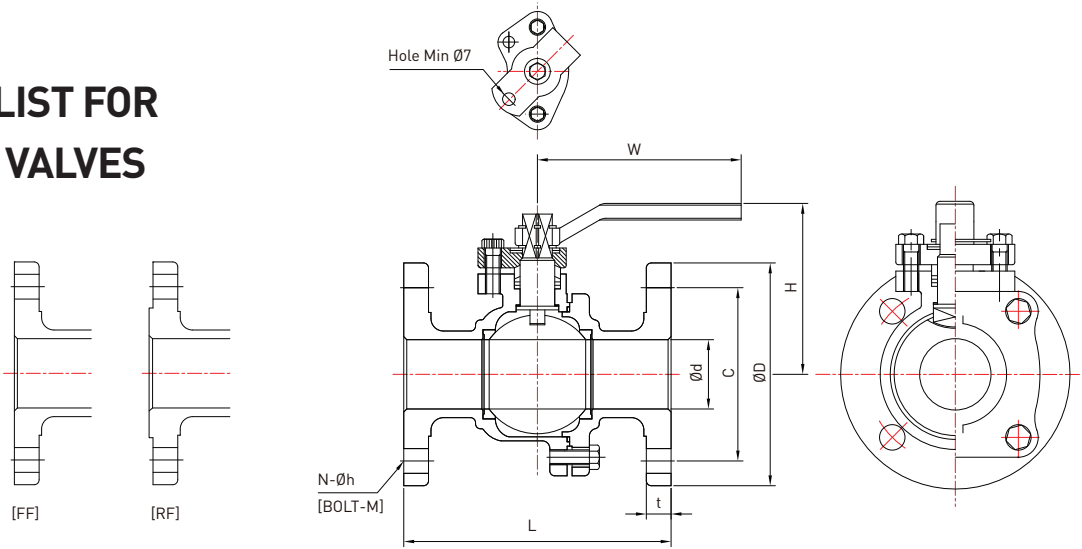


2-WAY BALL VALVES



DIMENSION LIST

DIMENSION LIST FOR 2-WAY BALL VALVES



DIMENSION

UNIT(mm)

RATING	SIZE	Ød	C	ØD	H	L	W	t	N-Øh
JIS 5K	15A	15	60	80	105	100	123	9	4-12
	20A	20	65	85	107	110	123	10	4-12
	25A	25	75	95	117	120	143	10	4-12
	32A	32	90	115	122	140	143	12	4-15
	40A	40	95	120	130	160	233	12	4-15
	50A	50	105	130	135	178	233	14	4-15
	65A	65	130	155	155	190	270	14	4-15
	80A	80	145	180	172	203	270	14	4-19
	100A	100	165	200	214	229	400	16	8-19
JIS 10K	15A	15	70	95	105	110	123	12	4-15
	20A	20	75	100	107	120	123	14	4-15
	25A	25	90	125	117	130	143	14	4-19
	32A	32	100	135	122	160	143	16	4-19
	40A	40	105	140	130	180	233	16	4-19
	50A	50	120	155	135	178	233	16	4-19
	65A	65	140	175	155	190	270	18	4-19
	80A	80	150	185	172	203	270	18	8-19
	100A	100	175	210	214	229	400	18	8-19
JIS 16K	15A	15	70	95	105	110	123	12	4-15
	20A	20	75	100	107	120	123	14	4-15
	25A	25	90	125	117	130	143	14	4-19
	32A	32	100	135	122	160	143	16	4-19
	40A	40	105	140	130	180	233	16	4-19
	50A	50	120	155	135	178	233	16	8-19
	65A	65	140	175	155	190	270	18	8-19
	80A	80	160	200	172	203	270	20	8-23
	100A	100	185	225	214	229	400	22	8-23
150#	½"	15	60.4	88.9	105	108	123	11.2	4-15.7
	¾"	20	69.8	98.5	107	117	123	11.2	4-15.7
	1"	25	79.2	107.9	117	127	143	11.2	4-15.7
	1¼"	32	88.9	117.3	122	140	143	12.7	4-15.7
	1½"	40	98.5	127	130	165	233	14.3	4-15.7
	2"	50	120.7	152.4	135	178	233	15.9	4-19.1
	2½"	65	139.7	177.8	155	190	270	17.5	4-19.1
	3"	80	152.4	190.5	172	203	270	19.1	4-19.1
	4"	100	190.5	228.6	214	229	400	23.9	4-19.1

BALL VALVE + 3-WAY BALL VALVES

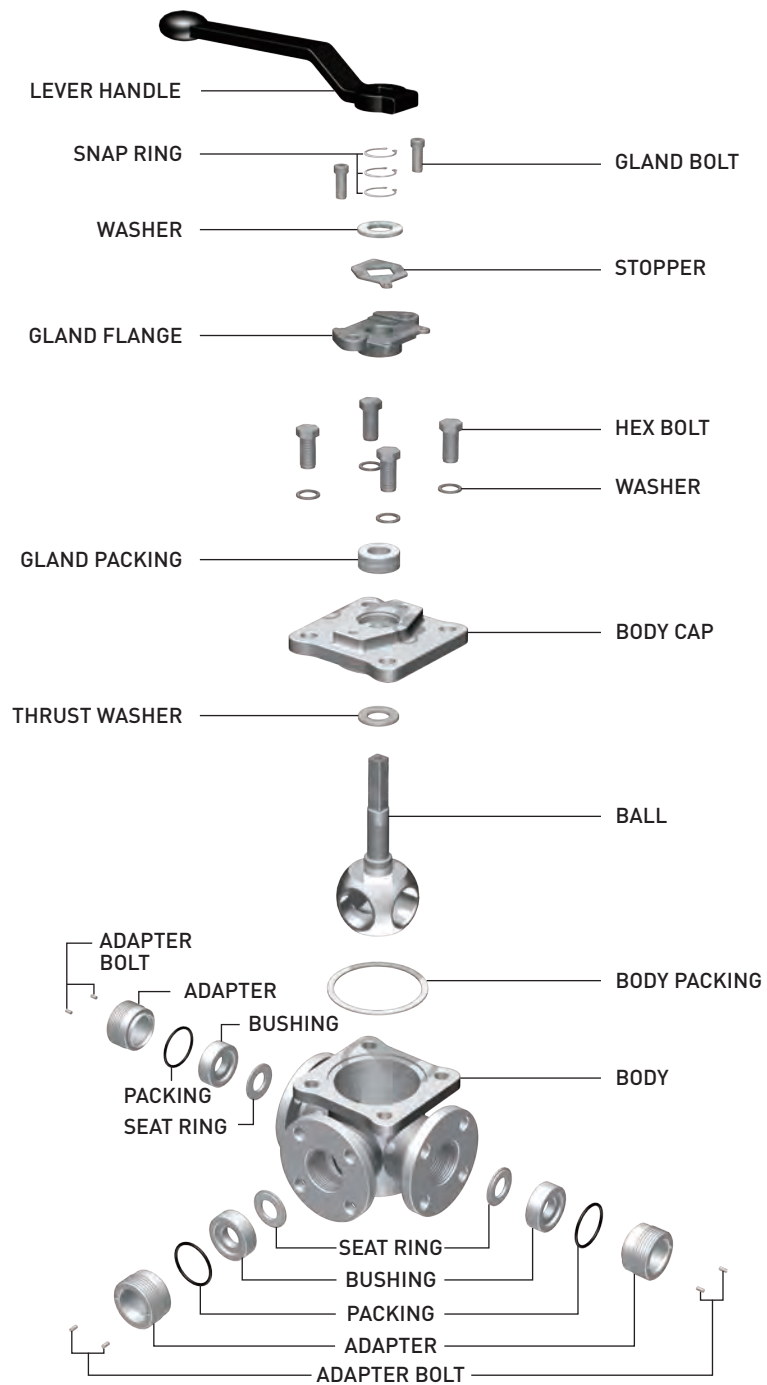
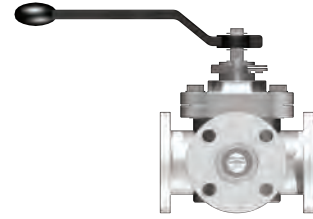
(CAST STEEL / CAST BRONZE / STAINLESS STEEL)

- PART LIST FOR 3-WAY BALL VALVES
(CAST STEEL / CAST BRONZE / STAINLESS STEEL)
- DIMENSION LIST FOR 3-WAY BALL VALVES
(CAST STEEL / CAST BRONZE / STAINLESS STEEL)



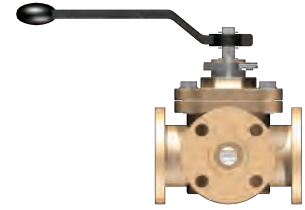
BALL VALVE - 3 - WAY BALL VALVES

PART LIST FOR 3-WAY BALL VALVE (CAST STEEL)

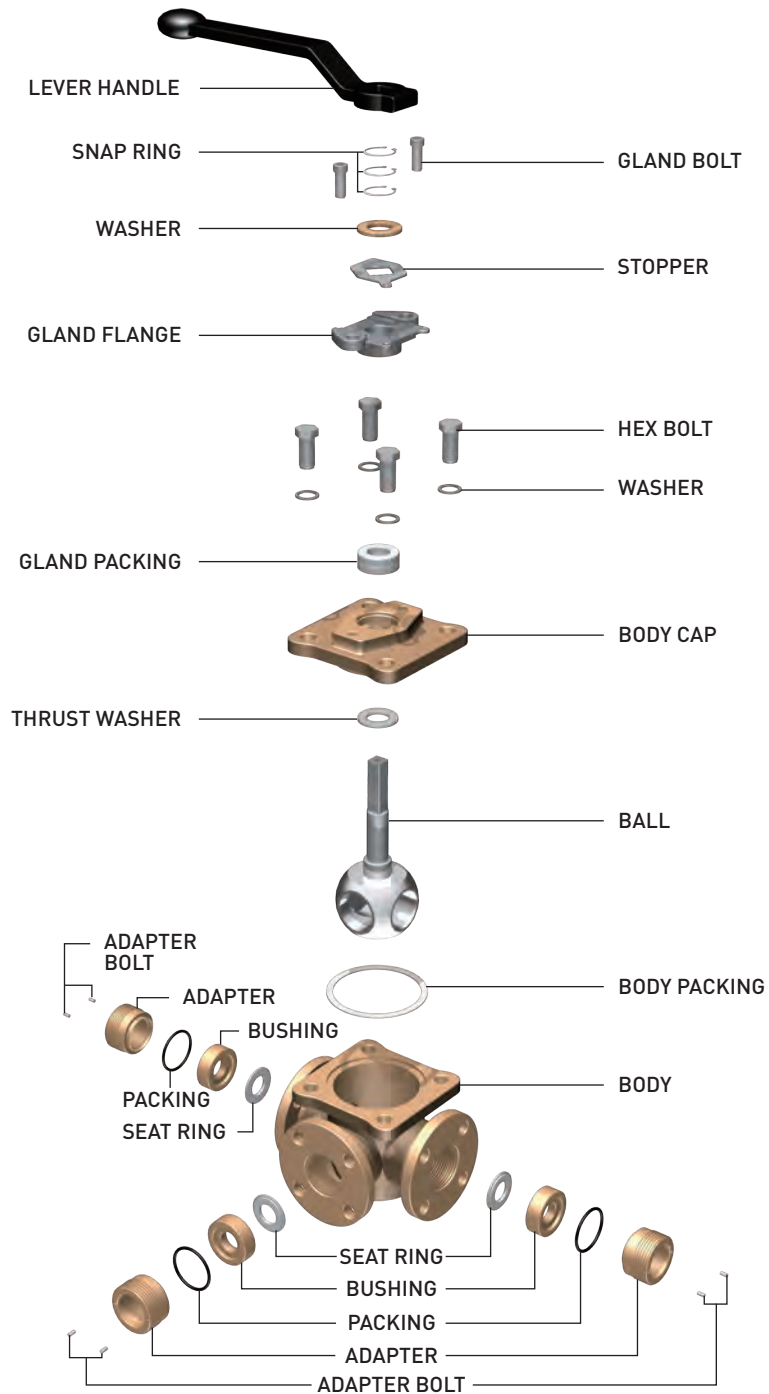


3-WAY BALL VALVES

PART LIST FOR 3-WAY BALL VALVE (CAST BRONZE)

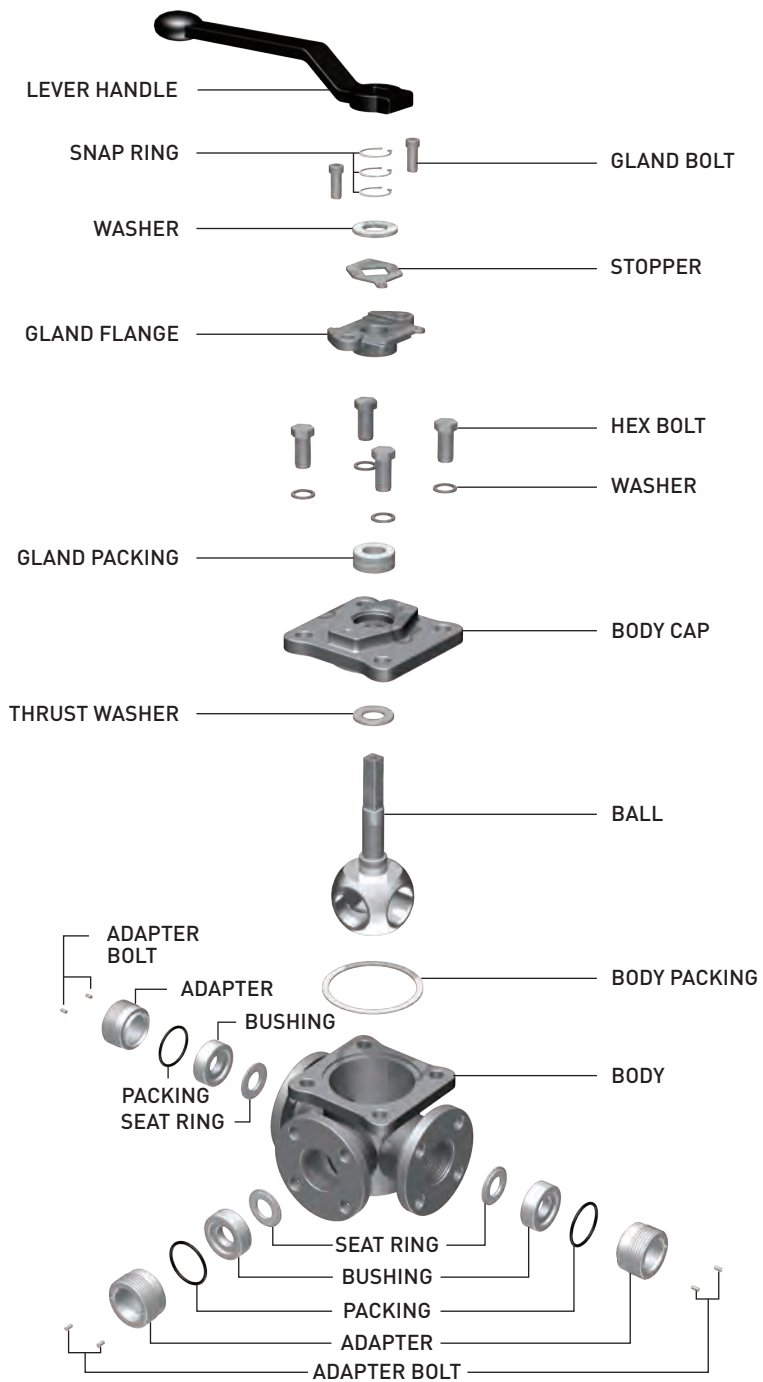
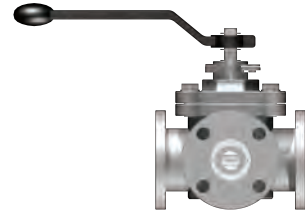


3-WAY BALL VALVES



BALL VALVE - 3 - WAY BALL VALVES

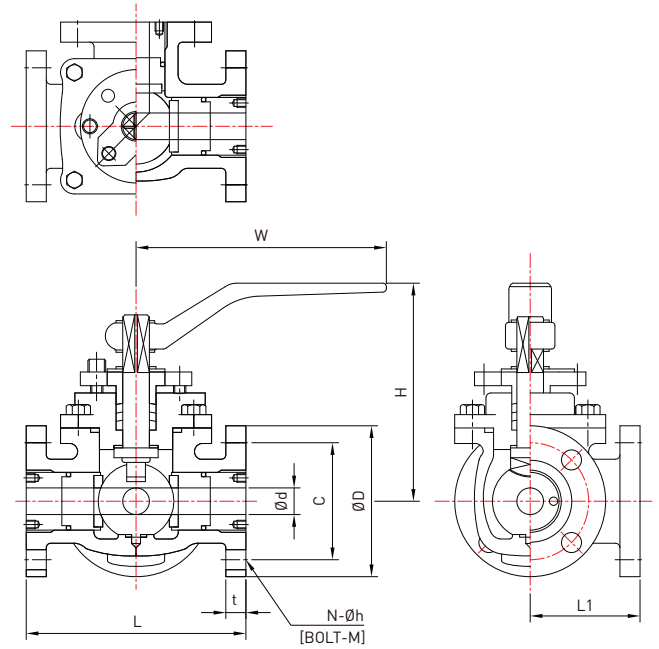
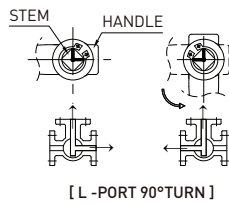
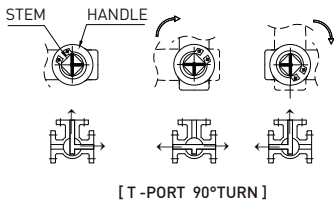
PART LIST FOR 3-WAY BALL VALVE (STAINLESS STEEL)



3-WAY BALL VALVES

DIMENSION LIST

DIMENSION LIST FOR 3 - WAY BALL VALVES



DIMENSION

UNIT(mm)

RATING	SIZE	Ød	C	ØD	H	L	L1	W	t	N-Øh
JIS 5K	15A	15	60	80	110	110	55	130	9	4-12
	20A	20	65	85	110	120	60	130	10	4-12
	25A	25	75	95	120	130	65	160	10	4-12
	32A	32	90	115	140	160	80	160	12	4-15
	40A	40	95	120	170	170	85	240	12	4-15
	50A	50	105	130	207	190	95	240	14	4-15
	65A	65	130	155	230	220	110	350	14	4-15
	80A	80	145	180	245	320	160	350	14	4-19
	100A	100	165	200	260	370	185	420	16	8-19
JIS 10K	15A	15	70	95	110	130	65	130	12	4-15
	20A	20	75	100	110	150	75	130	14	4-15
	25A	25	90	125	120	160	80	160	14	4-19
	32A	32	100	135	140	190	95	160	16	4-19
	40A	40	105	140	170	220	110	240	16	4-19
	50A	50	120	155	207	240	120	240	16	4-19
	65A	65	140	175	230	300	150	350	18	4-19
	80A	80	150	185	245	320	160	350	18	8-19
	100A	100	175	210	260	370	185	420	18	8-19
JIS 16K	15A	15	70	95	110	130	65	130	12	4-15
	20A	20	75	100	110	150	75	130	14	4-15
	25A	25	90	125	120	160	80	160	14	4-19
	32A	32	100	135	140	190	95	160	16	4-19
	40A	40	105	140	170	220	110	240	16	4-19
	50A	50	120	155	207	240	120	240	16	8-19
	65A	65	140	175	230	300	150	350	18	8-19
	80A	80	160	200	245	320	160	350	20	8-23
	100A	100	185	225	260	370	185	420	22	8-23
150#	15A	15	60.3	90	110	130	65	130	11.6	4-15.8
	20A	20	69.9	100	110	150	75	130	13.2	4-15.8
	25A	25	79.4	110	120	160	80	160	14.7	4-15.8
	32A	32	88.9	115	140	190	95	160	16.3	4-15.8
	40A	40	98.4	125	170	220	110	240	17.9	4-15.8
	50A	50	120.7	150	207	240	120	240	19.5	4-19.0
	65A	65	139.7	180	230	300	150	350	22.7	4-19.0
	80A	80	152.4	190	245	320	160	350	24.3	4-19.0
	100A	100	190.5	230	260	370	185	420	24.3	8-19.0
125A	125	215.9	255	315	440	220	420	24.3	8-22.0	

DUAL PLATE CHECK VALVES + WAFER TYPE ANSI VALVES

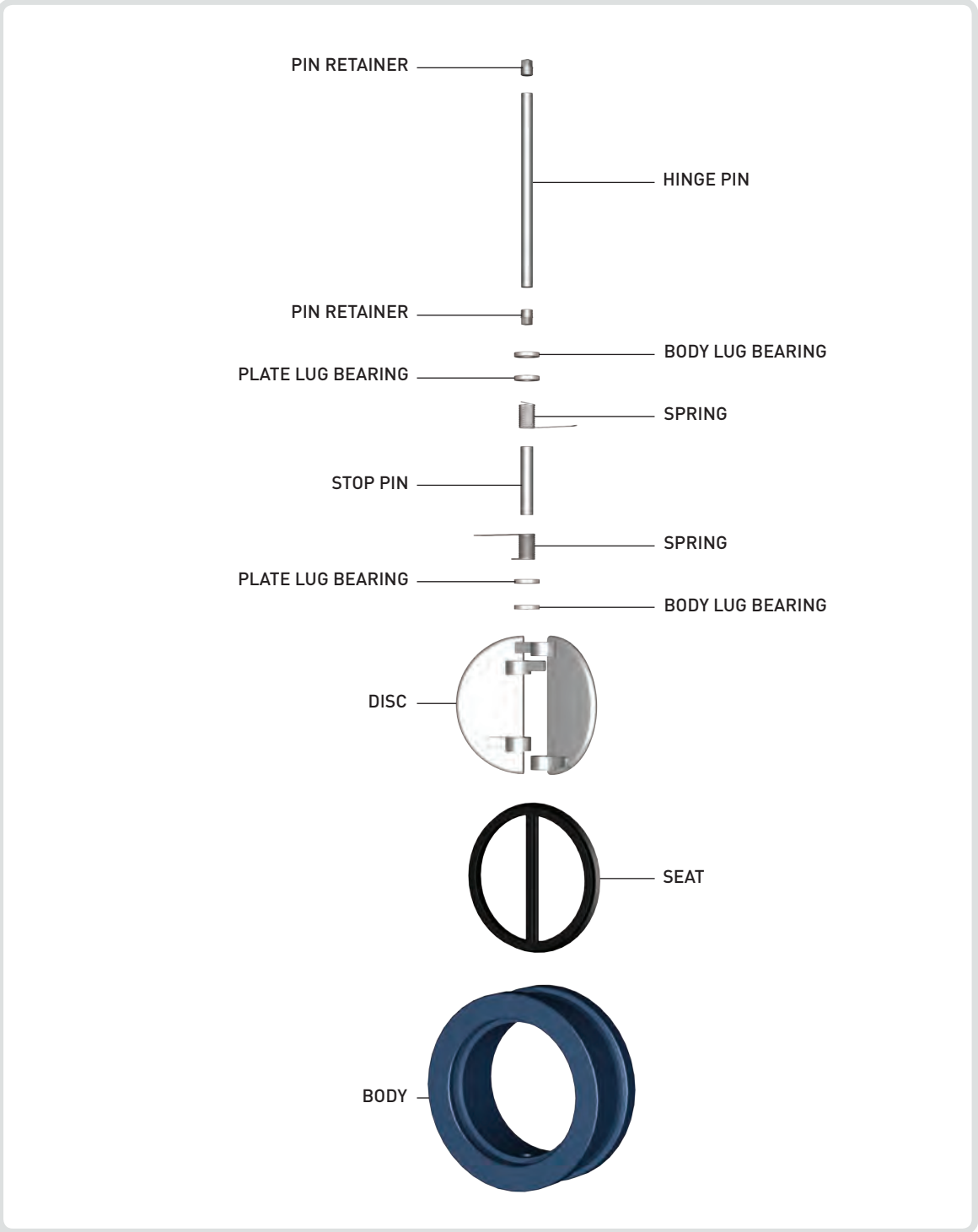
- PART LIST FOR WAFER TYPE ANSI VALVES
- DIMENSION LIST FOR WAFER TYPE ANSI VALVES



PART LIST FOR WAFER TYPE ANSI VALVES

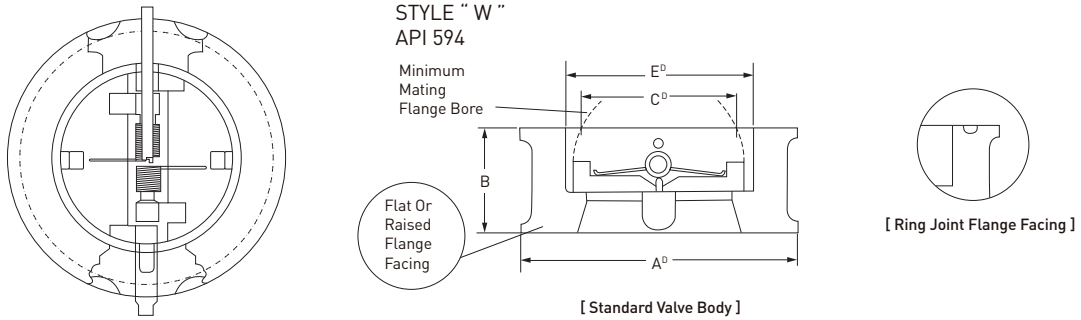


WAFER TYPE ANSI VALVES



DIMENSION & WEIGHT LIST - 1

DIMENSION LIST FOR WAFER TYPE ANSI VALVES - 1



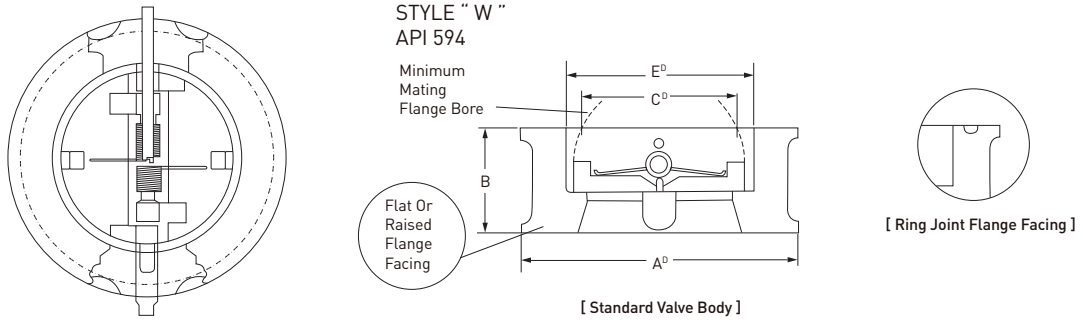
DIMENSION

UNIT(inch)

SIZE	SERIES	TYPE FACING	A ^D	B	C ^D	E ^D	STUD SELECTION			APPROX WEIGHT(kg)
							No. of Studs	Stud dia.	Stud length	
1 1/2"	150	RF/RJ-19	3 3/8	2	-	1.906	4	1/2	5	2
	300-600	RF/RJ-20	3 3/4	2	-	1.906	4	3/4	6 1/2	2
2"	150	RF/RJ-22	4 1/8	2 3/8	-	2 3/8	4	5/8	6	3
	300-600	RF/RJ-23	4 3/8	2 3/8	-	2 3/8	8	5/8	6 7/8	3
	900-1500	RF/RJ-24	5 5/8	2 3/4	-	2 3/8	8	7/8	8 3/4	8
	2500	RF/RJ-26	5 3/4	2 3/4	-	2 3/8	8	1	10	14
3"	150	RF/RJ-29	5 3/8	2 7/8	2 1/8	3 1/2	4	5/8	7	7
	300-600	RF/RJ-31	5 7/8	2 7/8	2 1/8	3 1/2	8	3/4	8 1/8	7
	900	RF/RJ-31	6 5/8	3 1/4	2 1/8	3 1/2	8	7/8	9 1/2	13
	1500	RF/RJ-35	6 7/8	3 1/4	2 1/8	3 1/2	8	1 1/8	10 1/2	14
	2500	RF/RJ-32	7 3/4	3 3/8	1 5/8	3 1/2	8	1 1/4	12 1/4	21
4"	150	RF/RJ-36	6 7/8	2 7/8	3 3/8	4 1/2	8	5/8	7	9
	300	RF/RJ-37	7 1/8	2 7/8	3 3/8	4 1/2	8	3/4	8 1/8	9
	600	RF/RJ-37	7 5/8	3 1/8	3 3/8	4 1/2	8	7/8	9 1/2	13
	900	RF/RJ-37	8 1/8	4	3 3/8	4 1/2	8	1 1/8	11	21
	1500	RF/RJ-39	8 1/4	4	3 3/8	4 1/2	8	1 1/4	12	28
	2500	RF/RJ-38	9 1/4	4 1/8	3 3/8	4 1/2	8	1 1/2	14 5/8	44
6"	150	RF/RJ-43	8 3/4	3 7/8	5 1/2	6 5/8	8	3/4	8 1/4	18
	300	RF/RJ-45	9 7/8	3 7/8	5 1/2	6 5/8	12	3/4	9 5/8	25
	600	RF/RJ-45	10 1/2	5 3/8	4 7/8	6 5/8	12	1	12 3/8	33
	900	RF/RJ-45	11 3/8	6 1/4	4 3/4	6 5/8	12	1 1/8	14	56
	1500	RF/RJ-46	11 1/8	6 1/4	4 3/4	6 5/8	12	1 3/8	16 3/4	56
	2500	RF/RJ-47	12 1/2	6 1/4	4 3/4	6 5/8	8	2	20 1/2	87

DIMENSION & WEIGHT LIST - 2

DIMENSION LIST FOR WAFER TYPE ANSI VALVES - 2

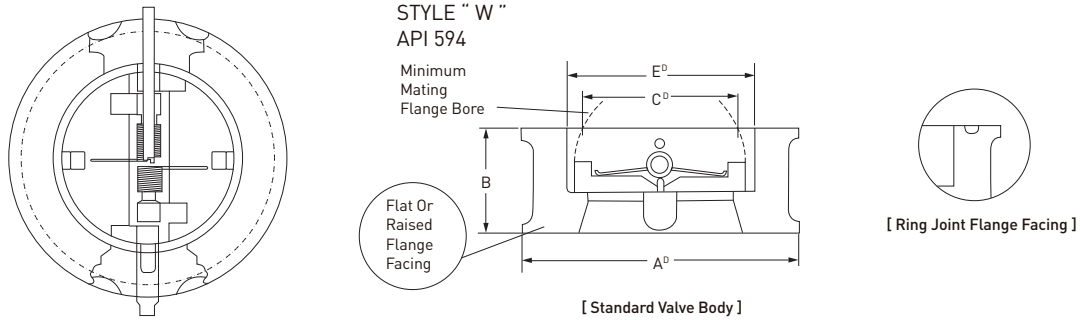


UNIT(inch)

SIZE	SERIES	TYPE FACING	A ^D	B	C ^D	E ^D	STUD SELECTION			APPROX WEIGHT(kg)
							No. of Studs	Stud dia.	Stud length	
8"	150	RF/RJ-48	11	5	7 3/8	8 5/8	8	3/4	9 3/4	32
	300	RF/RJ-49	12 1/8	5	7 3/8	8 5/8	12	7/8	11 1/4	37
	600	RF/RJ-49	12 5/8	6 1/2	7	8 5/8	12	1 1/8	14 1/2	68
	900	RF/RJ-49	14 1/8	8 1/8	6 3/4	8 5/8	12	1 3/8	17 1/8	127
	1500	RF/RJ-50	13 7/8	8 1/8	6 3/4	8 5/8	12	1 5/8	20 1/4	121
	2500	RF/RJ-51	15 1/4	8 1/8	6 3/4	8 5/8	12	2	24	138
10"	150	RF/RJ-52	13 3/8	5 3/4	9 9/16	10 3/4	12	7/8	11	53
	300	RF/RJ-53	14 1/4	5 3/4	9 9/16	10 3/4	16	1	12 3/4	65
	600	RF/RJ-53	15 3/4	8 3/8	8 1/8	10 3/4	16	1 1/4	17 1/8	117
	900	RF/RJ-53	17 1/8	9 1/2	7 7/8	10 3/4	16	1 3/8	19	204
	1500	RF/RJ-54	17 1/8	9 3/4	7 7/8	10 3/4	12	1 7/8	23 1/2	211
	2500	RF/RJ-55	18 3/4	10	7 7/8	10 3/4	12	2 1/2	30 1/2	225
12"	150	RF/RJ-56	16 1/8	7 1/8	11 1/4	12 3/4	12	7/8	12 1/4	98
	300	RF/RJ-57	16 5/8	7 1/8	11 1/4	12 3/4	16	1 1/8	14 5/8	99
	600	RF/RJ-57	18	9	11	12 3/4	20	1 1/4	18	145
	900	RF/RJ-57	19 5/8	11 1/2	9 7/8	12 3/4	20	1 3/8	21 3/4	338
	1500	RF/RJ-58	20 1/2	12	9 7/8	12 3/4	16	2	27 1/2	386
	2500	RF/RJ-60	21 5/8	12	9 7/8	12 3/4	12	2 3/4	34 1/2	408
14"	150	RF/RJ-59	17 3/4	7 1/4	12 3/8	14	12	1	13	100
	300	RF/RJ-61	19 1/8	8 3/4	12	14	20	1 1/8	16 1/2	181
	600	RF/RJ-61	19 3/8	10 3/4	9 1/8	14	20	1 3/8	20 1/4	195
	900	RF/RJ-62	20 1/2	14	8 1/4	14	20	1 1/2	25 1/2	453
	1500	RF/RJ-63	22 3/4	14	8 1/4	14	16	2 1/4	31 1/2	501
16"	150	RF/RJ-64	20 1/4	7 1/2	14	16	16	1	13 1/2	134
	300	RF/RJ-65	21 1/4	9 1/8	14 1/8	16	20	1 1/4	17 3/8	201
	600	RF/RJ-65	22 1/4	12	12 3/4	16	20	1 1/2	22 1/4	286
	900	RF/RJ-66	22 5/8	15 1/8	10 1/8	16	20	1 5/8	27 1/8	550
	1500	RF/RJ-67	25 1/4	15 1/8	10 1/8	16	16	2 1/2	34 1/4	607

DIMENSION & WEIGHT LIST - 3

DIMENSION LIST FOR WAFER TYPE ANSI VALVES - 3



UNIT(inch)

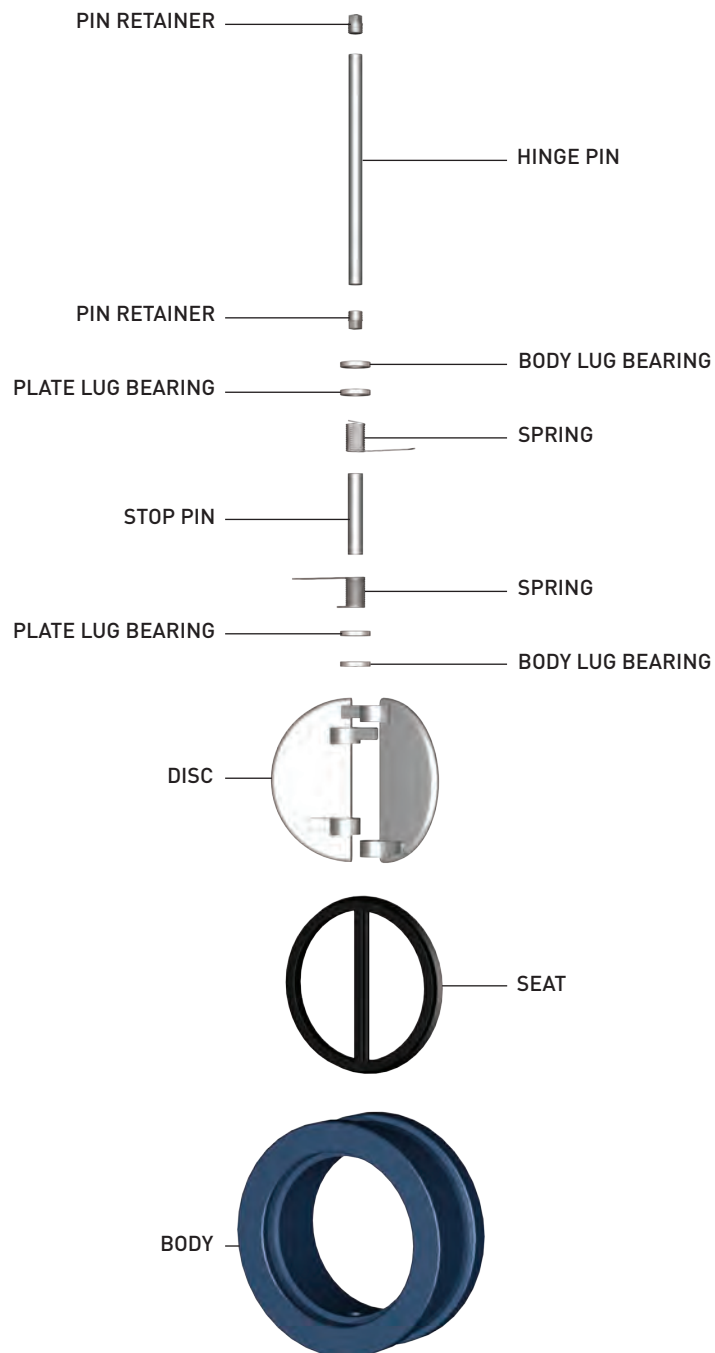
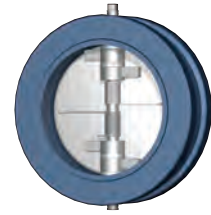
SIZE	SERIES	TYPE FACING	A ^D	B	C ^D	E ^D	STUD SELECTION No. of Studs Stud dia. Stud length			APPROX WEIGHT(kg)
18"	150	RF/RJ-68	21 5/8	8	16 3/8	18	16	1 1/8	14 1/2	144
	300	RF/RJ-69	23 1/2	10 3/8	15 3/8	18	24	1 1/4	18 7/8	295
	600	RF/RJ-69	24 1/8	14 1/4	14 1/4	18	20	1 5/8	25 1/4	409
	900	RF/RJ-70	25 1/8	17 3/4	11 7/8	18	20	1 7/8	31 1/2	681
	1500	RF/RJ-71	27 3/4	18 7/16	11 7/8	18	16	2 3/4	39 3/4	817
20"	150	RF/RJ-72	23 7/8	8 5/8	18 3/8	20	20	1 1/8	15 1/8	198
	300	RF/RJ-73	25 3/4	11 1/2	16 7/8	20	24	1 1/4	20 1/2	368
	600	RF/RJ-73	26 7/8	14 1/2	16 7/8	20	24	1 5/8	26 1/4	663
	900	RF/RJ-74	27 1/2	17 3/4	16	20	2	32 1/2	658	
	1500	RF/RJ-75	29 3/4	21	12	20	16	3	44 1/4	1316
24"	150	RF/RJ-76	28 1/4	8 3/4	22 3/8	24	20	1 1/4	16 1/4	307
	300	RF/RJ-77	30 1/2	12 1/2	21 1/4	24	24	1 1/2	22 3/4	525
	600	RF/RJ-77	31 1/8	17 1/4	21 1/4	24	24	1 7/8	30 3/4	953
	900	RF/RJ-78	33	19 1/2	20 1/4	24	20	2 1/2	38	1271
	1500	RF/RJ-79	35 1/2	22	20 1/4	24	16	3 1/2	48 1/2	2010
30"	150	RF	34 3/4	12	27 3/4	30	28	1 1/4	19 3/8	472
	300	RF/RJ-95	37 1/2	14 1/2	27	30	28	1 3/4	27 3/4	953
	600	RF/RJ-95	37 1/4	19 7/8	25 1/2	30	28	2	35 1/8	1498
36"	150	RF	41 1/4	14 1/2	34 1/8	36	32	1 1/2	23	683
	300	RF/RJ-98	44	19	32 3/4	36	32	2	33 1/2	1724
	600	RF/RJ-98	44 1/2	25	30	36	28	2 1/2	45	2904
42"	150	RF	48	17	38 5/8	42	36	1 1/2	26	1271
	300	RF	50 3/4	22 3/8	38 5/8	42	36	2	37 1/2	2632
48"	150	RF	54 1/2	20 5/8	43	48	44	1 1/2	27 7/8	1996
	300	RF	58 3/4	24 3/4	43	48	40	2	40 1/2	2976

DUAL PLATE CHECK VALVES + WAFER TYPE JIS VALVES

- PART LIST FOR WAFER TYPE JIS VALVES
- DIMENSION LIST FOR WAFER TYPE JIS VALVES



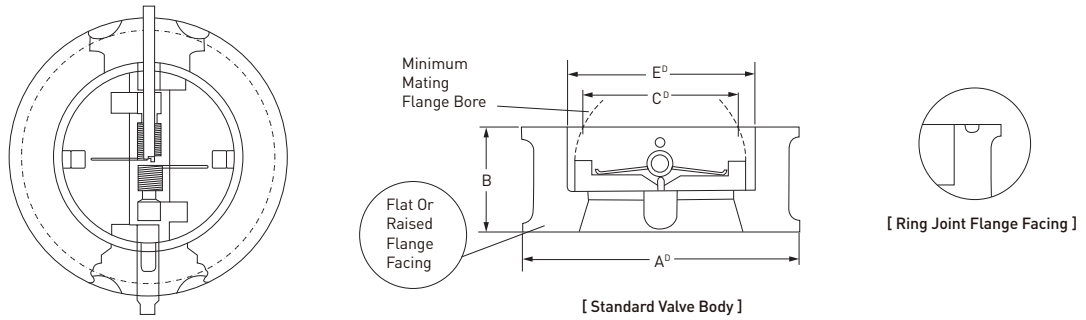
PART LIST FOR WAFER TYPE JIS VALVES



WAFER TYPE JIS VALVES

DIMENSION & WEIGHT LIST - 1

DIMENSION LIST FOR WAFER TYPE JIS VALVES - 1



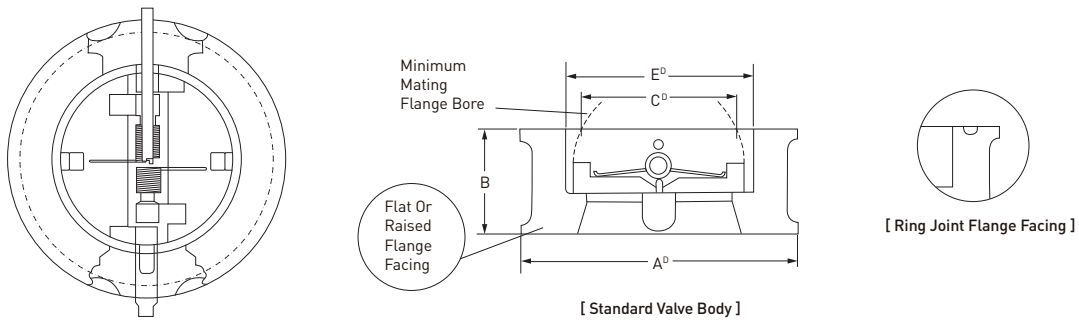
DIMENSION

UNIT(mm)

SIZE	RATING SERIES	A ^D	B	C ^D	E ^D	STUD SELECTION			APPROX WEIGHT (kg)
						No. of Studs	Stud dia.	Stud length	
50A (2")	5K	90	60	-	60	4	M12	135	2.5
	10K	101	60	-	60	4	M16	140	3
	20K	101	60	-	60	8	M16	140	3
65A (2 1/2")	5K	115	67	-	73	4	M12	140	4
	10K	121	67	-	73	4	M16	145	4.5
	20K	121	67	-	73	8	M16	145	5
80A (3")	5K	126	73	54	89	8	M16	150	6.5
	10K	131	73	54	89	8	M16	150	7
	20K	137	73	54	89	8	M20	165	7.5
100A (4")	5K	146	73	86	114	8	M16	155	8.5
	10K	156	73	86	114	8	M16	155	9
	20K	162	73	86	114	8	M20	175	9.5
125A (5")	5K	181	86	112	141	8	M16	175	12
	10K	187	86	112	141	8	M20	180	14
	20K	200	86	112	141	8	M22	195	18.5
150A (6")	5K	211	98	140	168	8	M16	190	17
	10K	217	98	140	168	8	M20	195	18
	20K	235	98	140	168	12	M22	215	25
200A (8")	5K	257	127	187	219	8	M20	220	29
	10K	267	127	187	219	12	M20	225	32
	20K	280	127	187	219	12	M22	245	37
250A (10")	5K	322	146	242	273	12	M20	250	50
	10K	330	146	242	273	12	M22	255	53
	20K	353	146	242	273	12	M24	280	65
300A (12")	5K	367	181	288	324	12	M20	290	92
	10K	375	181	288	324	16	M22	295	98
	20K	403	181	288	324	16	M24	315	102

DIMENSION & WEIGHT LIST - 2

DIMENSION LIST FOR WAFER TYPE JIS VALVES - 2

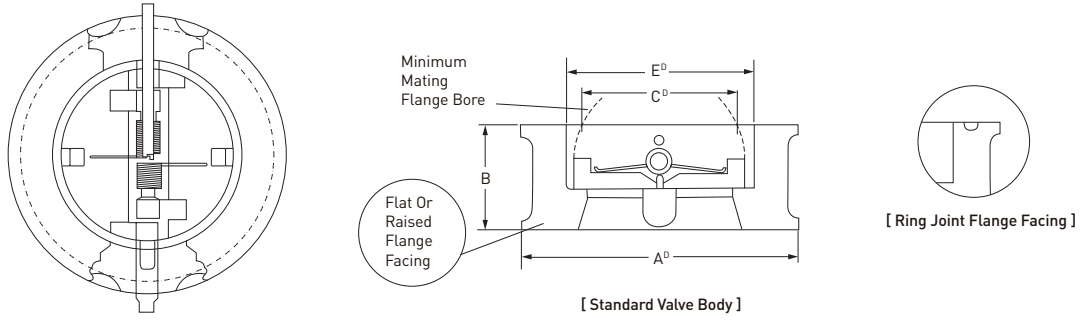


UNIT(mm)

SIZE	RATING SERIES	A ^D	B	C ^D	E ^D	STUD SELECTION			APPROX WEIGHT (kg)
						No. of Studs	Stud dia.	Stud length	
350A (14")	5K	410	184	314	356	12	M22	290	95
	10K	420	184	314	356	16	M22	295	100
	20K	447	184	314	356	16	M30	325	145
400A (16")	5K	470	190	356	406	16	M22	305	115
	10K	483	190	356	406	16	M24	310	134
	20K	507	190	356	406	16	M30	345	199
450A (18")	5K	530	203	416	457	16	M22	315	127
	10K	538	203	416	457	20	M24	325	144
	20K	572	203	416	457	20	M30	360	228
500A (20")	5K	580	213	467	508	20	M22	335	172
	10K	593	213	467	508	20	M24	350	198
	20K	627	213	467	508	20	M30	390	278
600A (24")	5K	688	222	568	610	20	M24	350	289
	10K	697	222	568	610	24	M30	360	307
	20K	731	222	568	610	24	M36	400	389
750A (30")	5K	847	304	697	762	24	M30	475	424
	10K	867	304	697	762	24	M30	490	472
900A (36")	5K	991	368	848	889	24	M30	540	627
	10K	1017	368	848	889	28	M30	555	683
1000A (40")	5K	1097	419	948	1041	28	M30	585	954
	10K	1121	419	948	1041	28	M36	595	1140
1200A (48")	5K	1317	524	1148	1194	32	M30	700	1725
	10K	1341	524	1148	1194	32	M36	720	1996

DIMENSION LIST - 3

DIMENSION LIST FOR WAFER TYPE JIS VALVES - 3



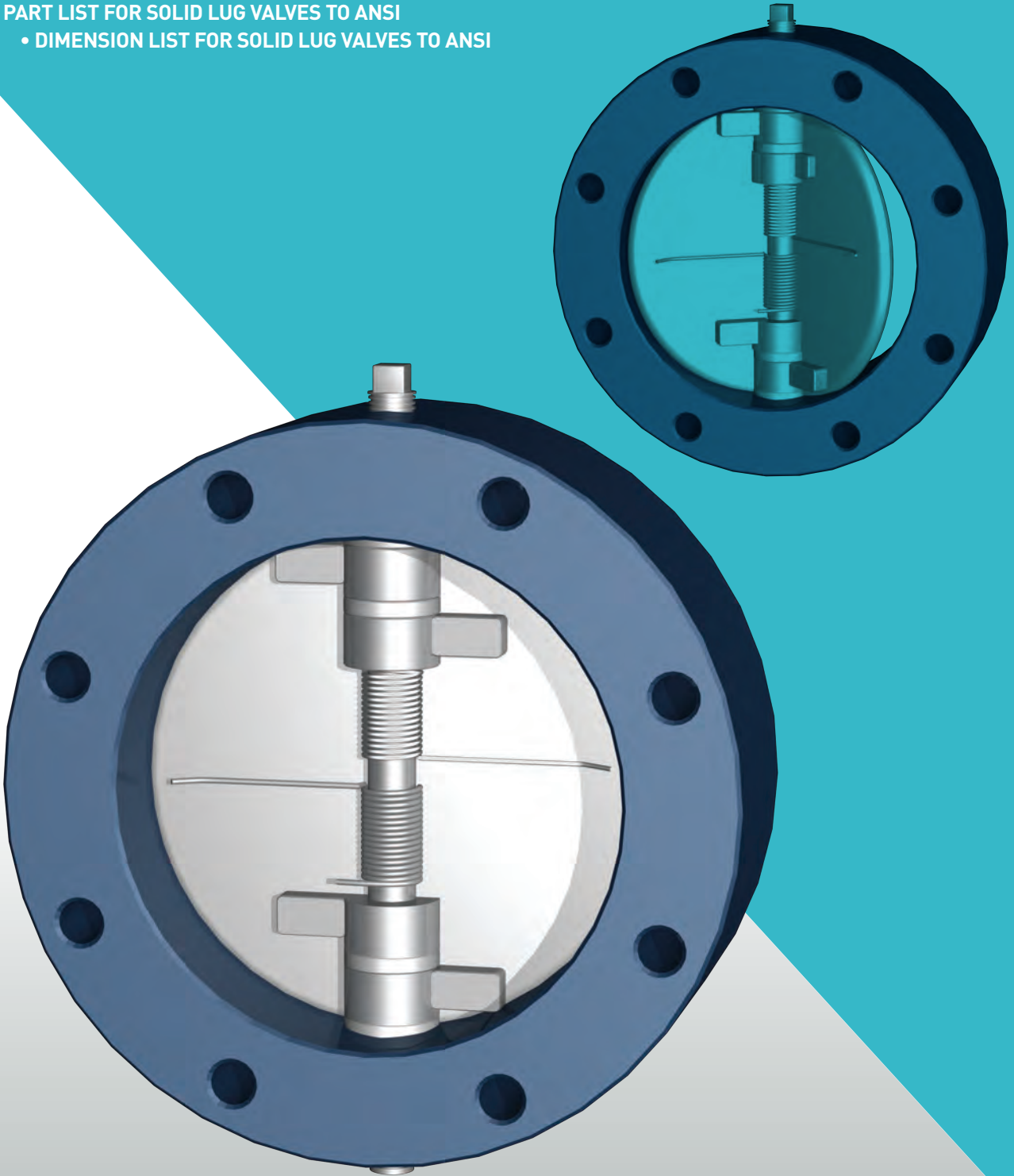
WAFER TYPE VALVE WALL THICKNESS (LIGHT WALL)

STD : ANSI B16.34

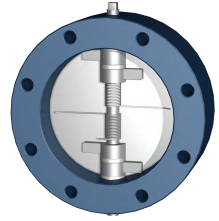
RATINGS		Nominal Size																		
		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
150#	inch	0.11	0.12	0.16	0.19	0.19	0.22	0.22	0.22	0.25	0.28	0.28	0.31	0.34	0.38	0.41	0.44	0.47	0.50	0.57
	mm	3.0	3.1	4.1	4.8	4.8	5.6	5.6	5.6	6.4	7.1	7.1	8.1	8.6	9.6	10.4	11.2	11.9	12.7	14.5
300#	inch	0.12	0.15	0.19	0.19	0.19	0.25	0.25	0.28	0.31	0.38	0.38	0.44	0.50	0.56	0.62	0.69	0.75	0.81	0.94
	mm	3.1	3.8	4.8	4.8	4.8	6.4	6.4	7.1	7.8	9.6	9.6	11.2	12.7	14.2	15.8	17.5	19.0	20.6	23.9
600#	inch	0.13	0.16	0.19	0.19	0.22	0.25	0.28	0.31	0.38	0.44	0.50	0.62	0.75	0.91	0.97	1.09	1.22	1.34	1.59
	mm	3.4	4.1	4.8	4.8	5.6	6.4	7.1	7.9	9.6	11.2	12.7	15.8	19.0	23.1	24.6	27.7	31.0	34.0	40.4
900#	inch	0.16	0.18	0.22	0.25	0.28	0.31	0.34	0.41	0.50	0.59	0.72	0.88	1.06	1.25	1.38	1.56	1.75	1.91	2.28
	mm	4.1	4.6	5.6	6.4	7.1	7.9	8.6	10.4	12.7	15.0	18.3	22.4	26.9	31.8	35.0	39.6	44.4	48.5	57.9
1500#	inch	0.19	0.23	0.26	0.31	0.38	0.44	0.50	0.62	0.75	0.91	1.09	1.41	1.72	2.00	2.19	2.50	2.81	3.12	3.72
	mm	4.8	5.8	6.6	7.8	9.6	11.2	12.7	15.7	19.0	23.1	27.7	35.8	43.7	50.8	55.6	63.5	71.4	79.2	94.5
2500#	inch	0.25	0.29	0.35	0.44	0.50	0.62	0.75	0.88	1.09	1.34	1.59	2.06	2.59	3.03	3.34	3.81	4.27	4.69	5.72
	mm	6.3	7.4	8.9	11.2	12.7	15.8	19.0	22.4	27.7	34.0	40.4	52.3	65.8	77.0	84.8	96.8	108.5	119.1	145.3

DUAL PLATE CHECK VALVES + SOLID LUG VALVES TO ANSI

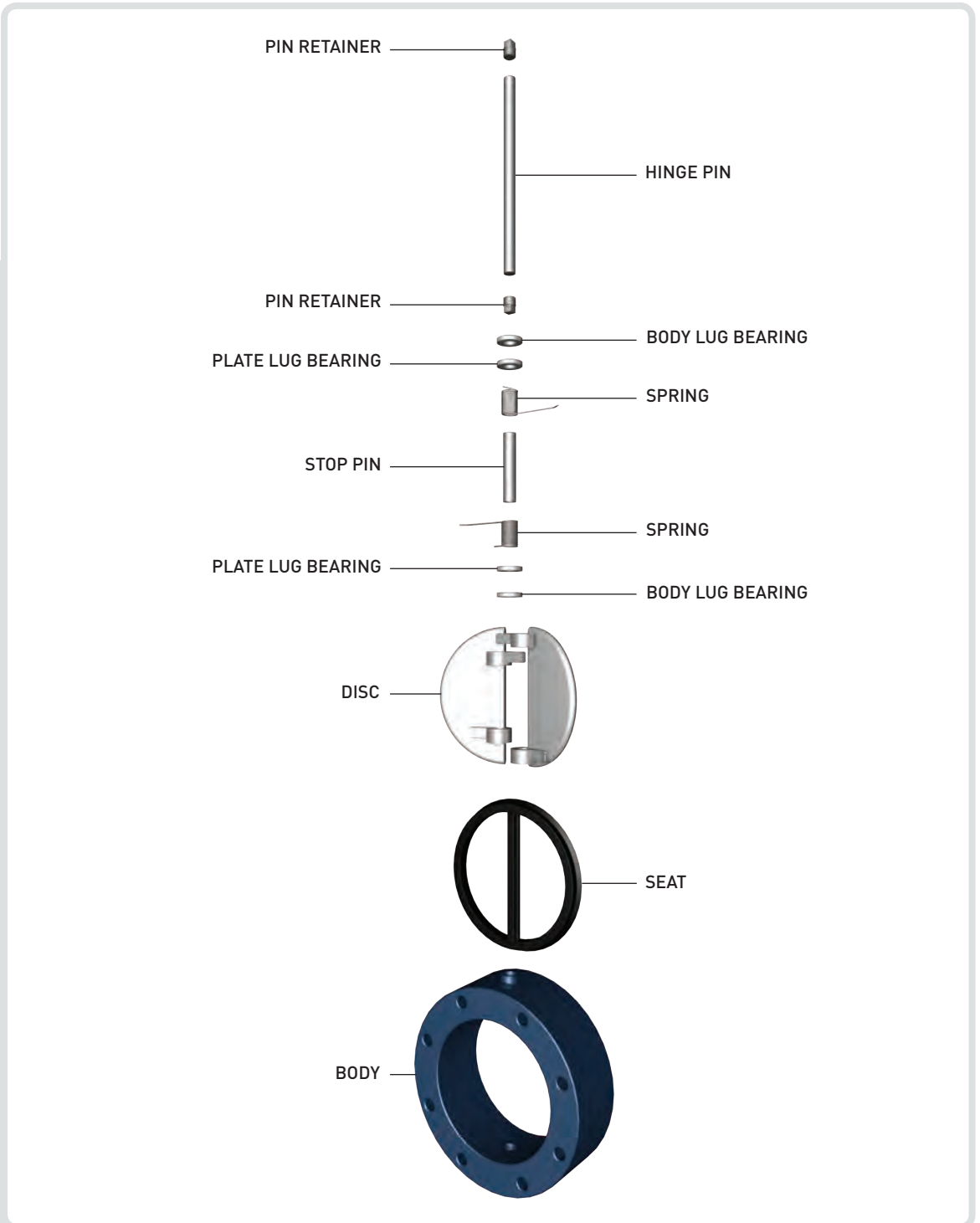
- PART LIST FOR SOLID LUG VALVES TO ANSI
- DIMENSION LIST FOR SOLID LUG VALVES TO ANSI



PART LIST FOR SOLID LUG VALVES TO ANSI

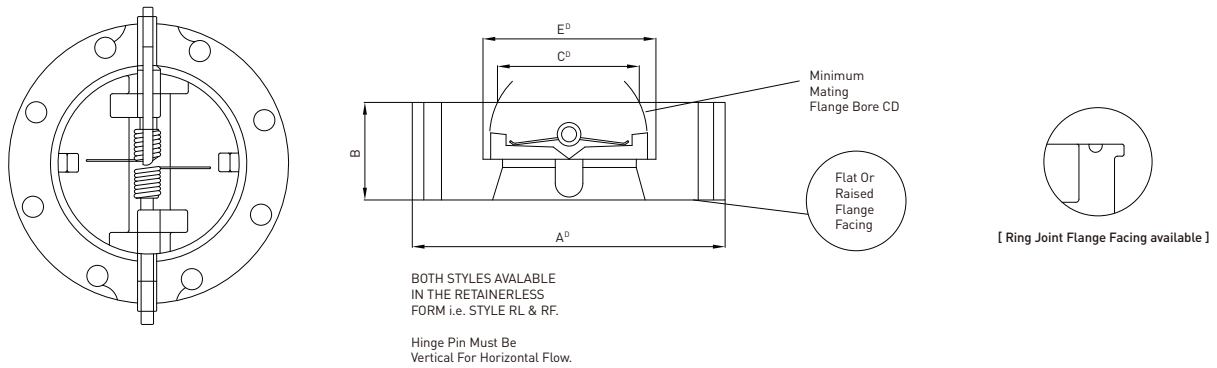


SOLID LUG VALVES TO ANSI



DIMENSION & WEIGHT LIST - 1

DIMENSION LIST FOR SOLID LUG VALVES TO ANSI - 1



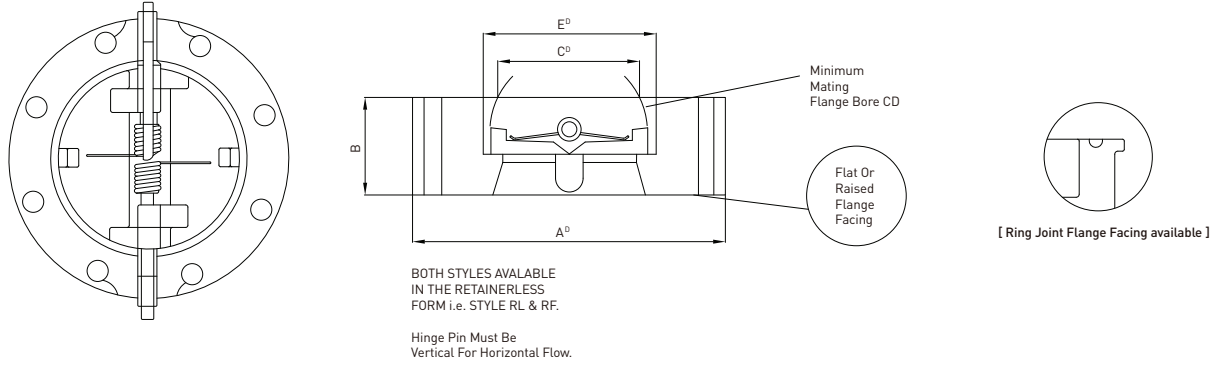
DIMENSION

POSSIBLE STYLES - Y : YES / N : NO
UNIT(inch)

SIZE	SERIES	POSSIBLE STYLES		A ^D	B	C ^D	E ^D	HOLE P.C.D	HOLE DIA.	NUMBER OF STUDS		STUDIA.	STUDS LENGTH		APPROXIMATE WEIGHT (kg)	
		L	F							L	F		L	F		
2"	150	Y	N	6	2 3/8	-	2 3/8	4 3/4	3/4	4	-	5/8	6	-	4	-
	300	Y	N	6 1/2	2 3/8	-	2 3/8	5	3/4	8	-	5/8	6 7/8	-	8	-
	600	Y	N	6 1/2	2 3/8	-	2 3/8	5	3/4	8	-	5/8	6 7/8	-	8	-
	900	Y	N	8 1/2	2 3/4	-	2 3/8	6 1/2	1	8	-	7/8	8 3/4	-	23	-
	1500	Y	N	8 1/2	2 3/4	-	2 3/8	6 1/2	1	8	-	7/8	8 3/4	-	23	-
	2500	Y	N	9 1/4	2 3/4	-	2 3/8	6 3/4	1 1/8	8	-	1	10	-	30	-
3"	150	Y	N	7 1/2	2 7/8	2 1/8	3 1/2	6	3/4	4	-	5/8	7	-	8	-
	300	Y	N	8 1/4	2 7/8	2 1/8	3 1/2	6 5/8	7/8	8	-	3/4	8 1/8	-	15	-
	600	Y	N	8 1/4	2 7/8	2 1/8	3 1/2	6 5/8	7/8	8	-	3/4	8 1/8	-	15	-
	900	Y	N	9 1/2	3 1/4	2 1/8	3 1/2	7 1/2	1	8	-	7/8	9 1/2	-	28	-
	1500	Y	N	10 1/2	3 1/4	2 1/8	3 1/2	8	1 1/4	8	-	1 1/8	10 1/2	-	40	-
	2500	Y	N	12	3 3/8	1 5/8	3 1/2	9	1 3/8	8	-	1 1/4	12 1/4	-	59	-
4"	150	Y	N	9	2 7/8	3 3/8	4 1/2	7 1/2	3/4	8	-	5/8	7	-	15	-
	300	Y	N	10	2 7/8	3 3/8	4 1/2	7 7/8	7/8	8	-	3/4	8 1/8	-	25	-
	600	Y	N	10 3/4	3 1/8	3 3/8	4 1/2	8 1/2	1	8	-	7/8	9 1/2	-	39	-
	900	Y	N	11 1/2	4	3 3/8	4 1/2	9 1/4	1 1/4	8	-	1 1/8	11	-	57	-
	1500	Y	N	12 1/4	4	3 3/8	4 1/2	9 1/2	1 3/8	8	-	1 1/4	12	-	73	-
	2500	Y	N	14	4 1/8	3 3/8	4 1/2	10 3/4	1 5/8	8	-	1 1/2	14 5/8	-	95	-
6"	150	Y	N	11	3 7/8	5 1/2	6 5/8	9 1/2	7/8	8	-	3/4	8 1/4	-	24	-
	300	Y	N	12 1/2	3 7/8	5 1/2	6 5/8	10 5/8	7/8	12	-	3/4	9 5/8	-	45	-
	600	Y	N	14	5 3/8	4 7/8	6 5/8	11 1/2	1 1/8	12	-	1	12 3/8	-	78	-
	900	Y	N	15	6 1/4	4 3/4	6 5/8	12 1/2	1 1/4	12	-	1 1/8	14	-	109	-
	1500	Y	N	15 1/2	6 1/4	4 3/4	6 5/8	12 1/2	1 1/2	12	-	1 3/8	16 3/4	-	154	-
	2500	Y	N	19	6 1/4	4 3/4	6 5/8	14 1/2	2 1/8	8	-	2	20 1/2	-	215	-

DIMENSION & WEIGHT LIST - 2

DIMENSION LIST FOR SOLID LUG VALVES TO ANSI - 2

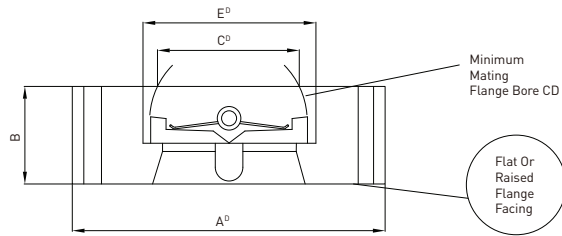
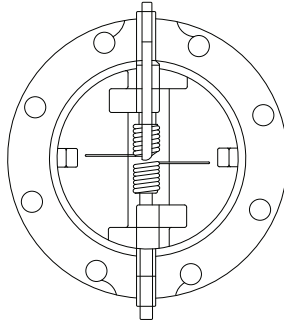


POSSIBLE STYLES - Y : YES / N : NO
UNIT(inch)

SIZE	SERIES	POSSIBLE STYLES		A ^D	B	C ^D	E ^D	HOLE P.C.D	HOLE DIA.	NUMBER OF STUDS		STUDIA.	STUDS LENGTH		APPROXIMATE WEIGHT (kg)	
		L	F							L	F		L	F		
8"	150	Y	Y	13 1/2	5	7 3/8	8 5/8	11 3/4	7/8	8	16	3/4	9 3/4	5	59	50
	300	Y	N	15	5	7 3/8	8 5/8	13	1	12	-	7/8	11 1/4	-	65	-
	600	Y	N	16 1/2	6 1/2	7	8 5/8	13 3/4	1 1/4	12	-	1 1/8	14 1/2	-	142	-
	900	Y	Y	18 1/2	8 1/8	6 3/4	8 5/8	15 1/2	1 1/2	12	24	1 3/8	17 1/8	9	202	191
	1500	Y	N	19	8 1/8	6 3/4	8 5/8	15 1/2	1 3/4	12	-	1 5/8	20 1/4	-	289	-
	2500	Y	N	21 3/4	8 1/8	6 3/4	8 5/8	17 1/4	2 1/8	12	-	2	24	-	373	-
10"	150	Y	Y	16	5 3/4	9 9/16	10 3/4	14 1/4	1	12	24	7/8	11	5 1/8	98	82
	300	Y	N	17 1/2	5 3/4	9 9/16	10 3/4	15 1/4	1 1/8	16	-	1	12 3/4	-	106	-
	600	Y	Y	20	8 3/8	8 1/8	10 3/4	17	1 3/8	16	32	1 1/4	17 1/8	8 3/4	239	187
	900	Y	Y	21 1/2	9 1/2	7 7/8	10 3/4	18 1/2	1 1/2	16	32	1 3/8	19	9 1/2	409	341
	1500	Y	N	23	9 3/4	7 7/8	10 3/4	19	2	12	-	1 7/8	23 1/2	-	431	-
	2500	Y	N	26 1/2	10	7 7/8	10 3/4	21 1/4	2 5/8	12	-	2 1/2	30 1/2	-	-	-
12"	150	Y	Y	19	7 1/8	11 1/4	12 3/4	17	1	12	24	7/8	12 1/4	5 1/2	139	127
	300	Y	Y	20 1/2	7 1/8	11 1/4	12 3/4	17 3/4	1 1/4	16	32	1 1/8	14 5/8	7 1/2	186	153
	600	Y	Y	22	9	11	12 3/4	19 1/4	1 3/8	20	40	1 1/4	18	9	397	311
	900	Y	Y	24	11 1/2	9 7/8	12 3/4	21	1 1/2	20	40	1 3/8	21 3/4	10 1/4	576	447
	1500	Y	N	26 1/2	12	9 7/8	12 3/4	22 1/2	2 1/8	16	-	2	27 1/2	-	721	-
	2500	Y	N	30	12	9 7/8	12 3/4	24 3/8	2 7/8	12	-	2 3/4	34 1/2	-	813	-
14"	150	Y	Y	21	7 1/4	12 3/8	14	18 3/4	1 1/8	12	24	1	13	6	194	145
	300	Y	Y	23	8 3/4	12	14	20 1/4	1 1/4	20	40	1 1/8	16 1/2	7 3/4	308	196
	600	Y	Y	23 3/4	10 3/4	9 1/8	14	20 3/4	1 1/2	20	40	1 3/8	20 1/4	9 1/2	583	387
	900	Y	Y	25 1/4	14	8 1/4	14	22	1 5/8	20	40	1 1/2	25 1/2	11 1/4	792	572
	1500	Y	N	29 1/2	14	8 1/4	14	25	2 3/8	16	-	2 1/4	31 1/2	-	1120	-

DIMENSION & WEIGHT LIST - 3

DIMENSION LIST FOR SOLID LUG VALVES TO ANSI - 3



BOTH STYLES AVAILABLE IN THE RETAINERLESS FORM i.e. STYLE RL & RF.

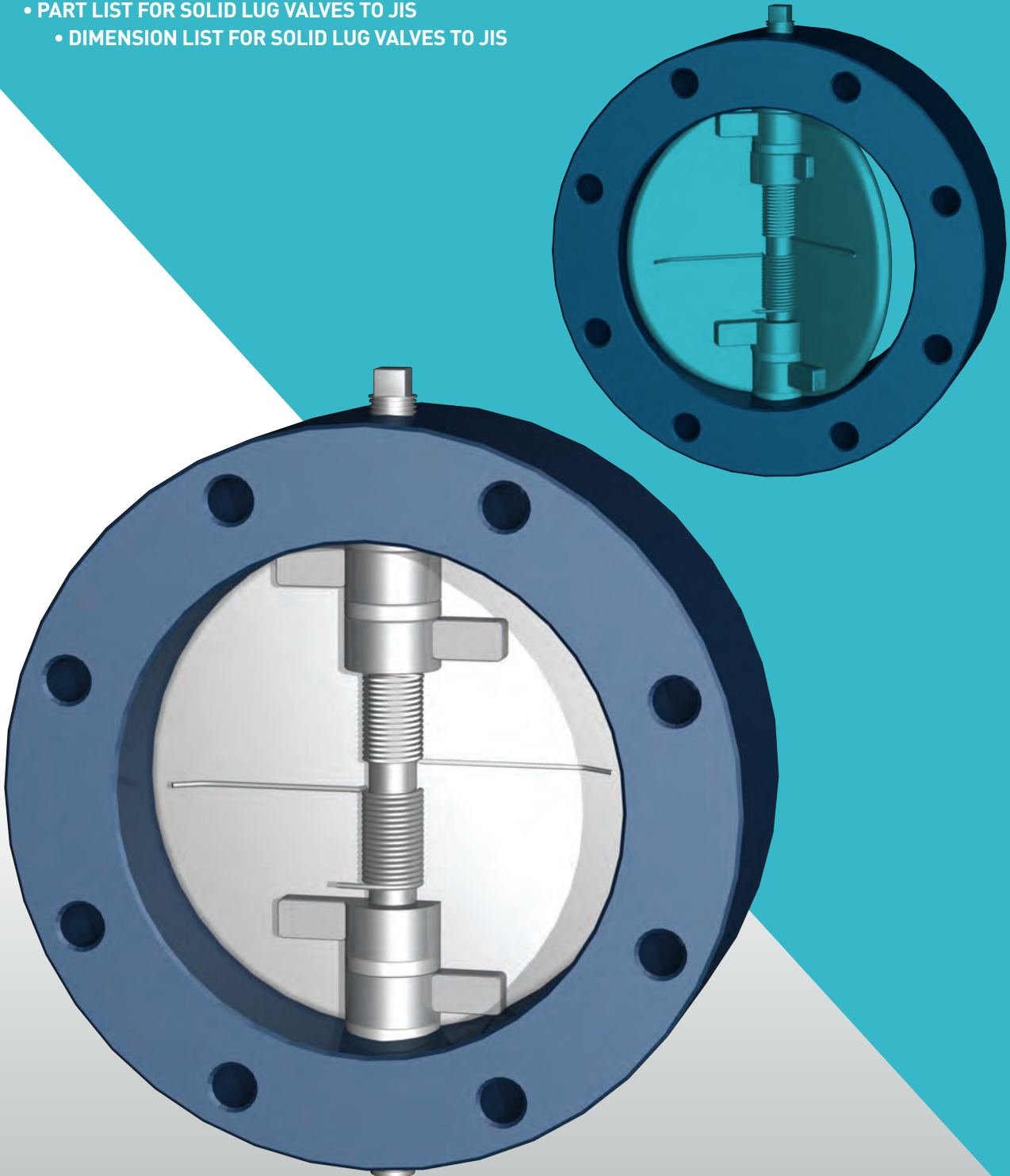
Hinge Pin Must Be Vertical For Horizontal Flow.

POSSIBLE STYLES - Y : YES / N : NO
UNIT(inch)

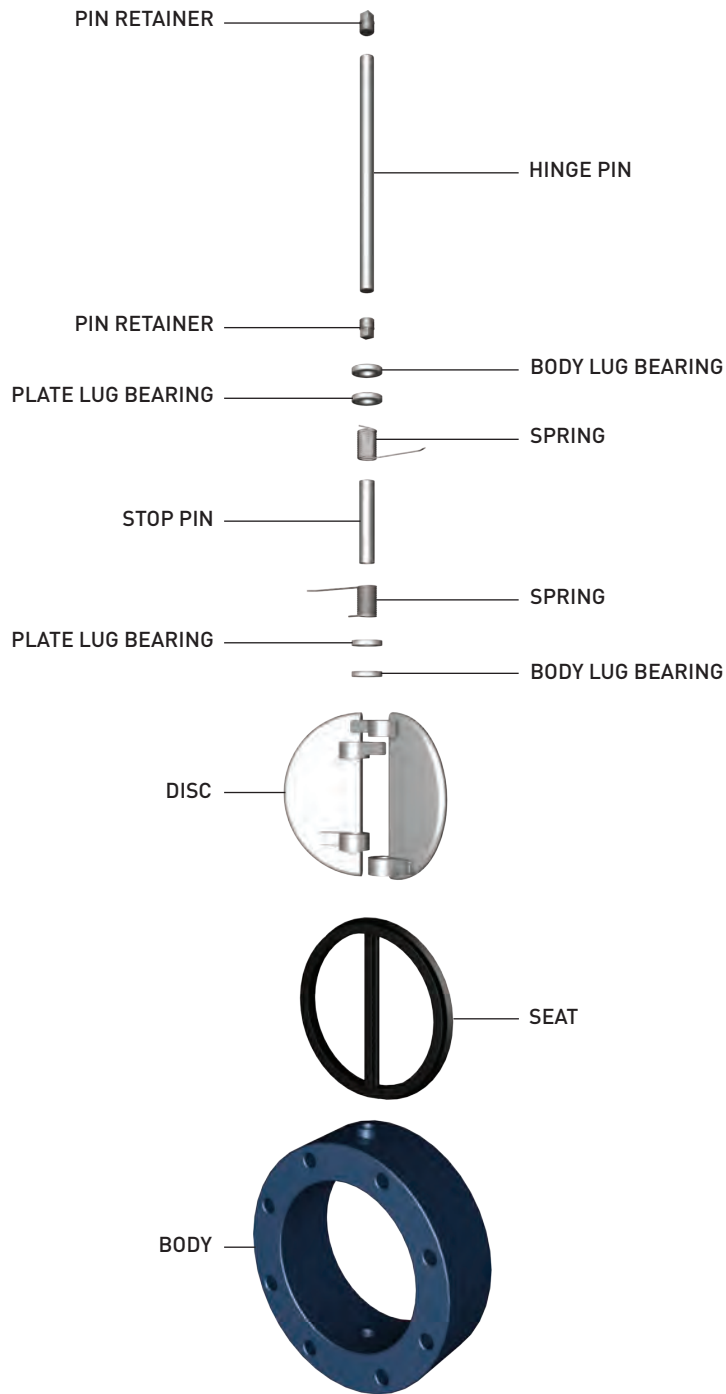
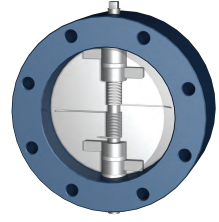
SIZE	SERIES	POSSIBLE STYLES		A ^D	B	C ^D	E ^D	HOLE P.C.D	HOLE DIA.	NUMBER OF STUDS		STUDIA.	STUDS LENGTH		APPROXIMATE WEIGHT (kg)	
		L	F							L	F		L	F		
16"	150	Y	Y	23 1/2	7 1/2	14	16	21 1/4	1 1/8	16	32	1	13 1/2	6	250	176
	300	Y	Y	25 1/2	9 1/8	14 1/8	16	22 1/2	1 3/8	20	40	1 1/4	17 3/8	8 1/4	500	378
	600	Y	Y	27	12	12 3/4	16	23 3/4	1 5/8	20	40	1 1/2	22 1/4	10 1/4	710	647
	900	Y	Y	27 3/4	15 1/8	10 1/8	16	24 1/4	1 3/4	20	40	1 5/8	27 1/8	11 3/4	759	701
	1500	Y	N	32 1/2	15 1/8	10 1/8	16	27 3/4	2 5/8	16	-	2 1/2	34 1/4	-	1534	-
18"	150	Y	Y	25	8	16 3/8	18	22 3/4	1 1/4	16	32	1 1/8	14 1/2	6 1/2	290	200
	300	Y	Y	28	10 3/8	15 3/8	18	24 3/4	1 3/8	24	48	1 1/4	18 7/8	8 1/2	612	297
	600	Y	Y	29 1/4	14 1/4	14 1/4	18	25 3/4	1 3/4	20	40	1 5/8	25 1/4	11	1101	611
	900	Y	Y	31	17 3/4	11 7/8	18	27	2	20	40	1 7/8	31 1/2	13 1/2	1481	1034
	1500	Y	N	36	18 7/16	11 7/8	18	30 1/2	2 7/8	16	-	2 3/4	39 3/4	-	2004	-
20"	150	Y	Y	27 1/2	8 5/8	18 3/8	20	25	1 1/4	20	40	1 1/8	15 1/8	7	520	400
	300	Y	Y	30 1/2	11 1/2	16 7/8	20	27	1 3/8	24	48	1 1/4	20 1/2	9	783	490
	600	Y	Y	32	14 1/2	16 7/8	20	28 1/2	1 3/4	24	48	1 5/8	26 1/4	11 3/4	1325	847
	900	Y	Y	33 3/4	17 3/4	16	20	29 1/2	2 1/8	20	40	2	32 1/2	14 1/2	2001	1820
	1500	Y	Y	38 3/4	21	12	20	32 3/4	3 1/8	16	32	3	44 1/4	22 1/2	2731	2502
24"	150	Y	Y	32	8 3/4	22 3/8	24	29 1/2	1 3/8	20	40	1 1/4	16 1/4	7 1/2	495	392
	300	Y	Y	36	12 1/2	21 1/4	24	32	1 5/8	24	48	1 1/2	22 3/4	10 1/4	1215	901
	600	Y	Y	37	17 1/4	21 1/4	24	33	2	24	48	1 7/8	30 3/4	13 1/2	1900	1621
	900	Y	Y	41	19 1/2	20 1/4	24	35 1/2	2 5/8	20	40	2 1/2	38	18 1/4	2400	2200
	1500	Y	N	46	22	20 1/4	24	39	3 5/8	16	-	3 1/2	48 1/2	-	3349	-

DUAL PLATE CHECK VALVES SOLID LUG VALVES TO JIS

- PART LIST FOR SOLID LUG VALVES TO JIS
- DIMENSION LIST FOR SOLID LUG VALVES TO JIS



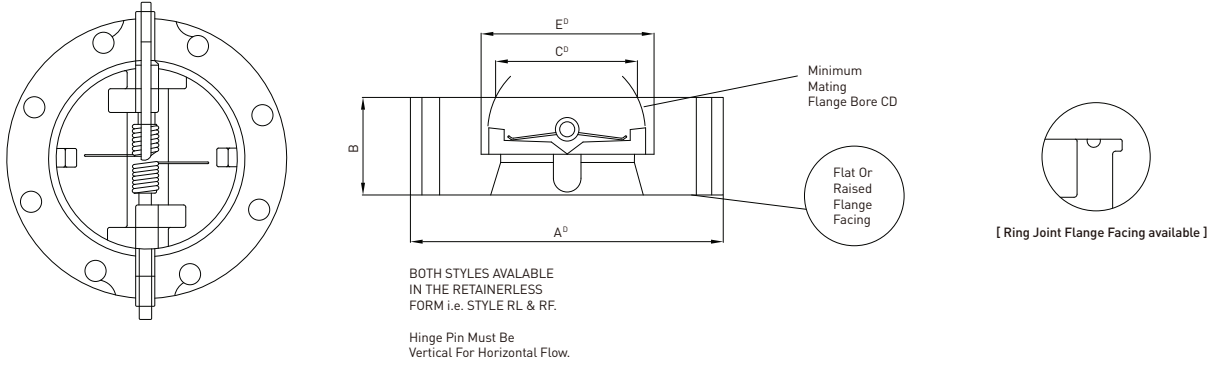
PART LIST FOR SOLID LUG VALVES TO JIS



SOLID LUG VALVES TO JIS

DIMENSION & WEIGHT LIST - 1

DIMENSION LIST FOR SOLID LUG VALVES TO JIS - 1



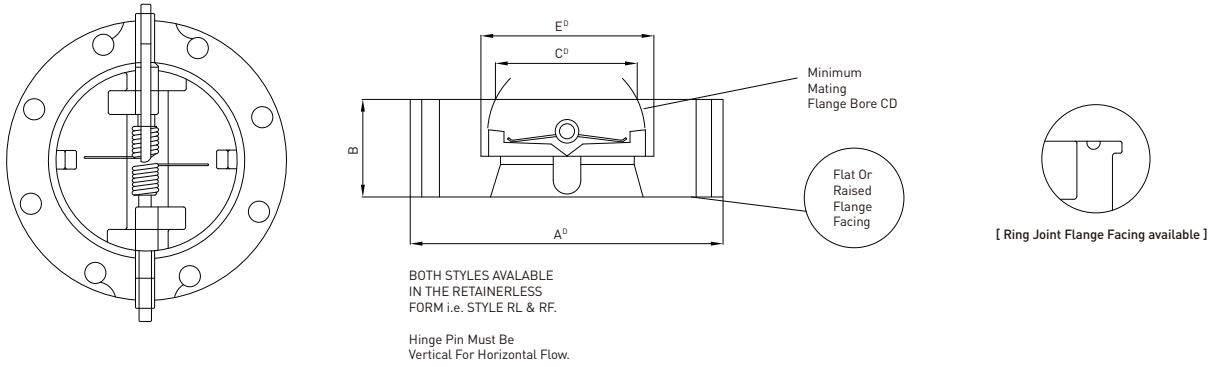
DIMENSION

POSSIBLE STYLES - Y : YES / N : NO
UNIT(mm)

SIZE	RATING SERIES	POSSIBLE STYLES		A ^ø	B	C ^ø	E ^ø	HOLE P.C.D	HOLE DIA.	NUMBER OF STUDS		STUDIA.	STUDS LENGTH		APPROXIMATE WEIGHT (kg)	
		L	F							L	F		L	F		
50A (2")	5K	Y	N	130	60	-	60	105	15	4	-	M12	135	-	3.5	-
	10K	Y	N	155	60	-	60	120	19	4	-	M16	140	-	4	-
	20K	Y	N	155	60	-	60	120	19	8	-	M16	140	-	8	-
65A (2½")	5K	Y	N	155	67	-	73	130	15	4	-	M12	140	-	5	-
	10K	Y	N	175	67	-	73	140	19	4	-	M16	145	-	6	-
	20K	Y	N	175	67	-	73	140	19	8	-	M16	145	-	12	-
80A (3")	5K	Y	N	180	73	54	89	145	19	8	-	M16	150	-	7	-
	10K	Y	N	185	73	54	89	150	19	8	-	M16	150	-	8	-
	20K	Y	N	200	73	54	89	160	23	8	-	M20	165	-	15	-
100A (4")	5K	Y	N	200	73	86	114	165	19	8	-	M16	155	-	14	-
	10K	Y	N	210	73	86	114	175	19	8	-	M16	155	-	15	-
	20K	Y	N	225	73	86	114	185	23	8	-	M20	175	-	25	-
125A (5")	5K	Y	N	235	86	112	141	200	19	8	-	M16	175	-	18	-
	10K	Y	N	250	86	112	141	210	23	8	-	M20	180	-	20	-
	20K	Y	N	270	86	112	141	225	25	8	-	M22	195	-	41	-
150A(6")	5K	Y	N	265	98	140	168	230	19	8	-	M16	190	-	-	-
	10K	Y	N	280	98	140	168	240	23	8	-	M20	195	-	24	-
	20K	Y	N	305	98	140	168	260	25	12	-	M22	215	-	45	-
200A(8")	5K	Y	Y	320	127	187	219	280	23	8	16	M20	220	127	51	43
	10K	Y	Y	330	127	187	219	290	23	12	24	M20	225	127	59	50
	20K	Y	Y	350	127	187	219	305	25	12	24	M22	245	130	65	60

DIMENSION & WEIGHT LIST - 2

DIMENSION LIST FOR SOLID LUG VALVES TO JIS - 2

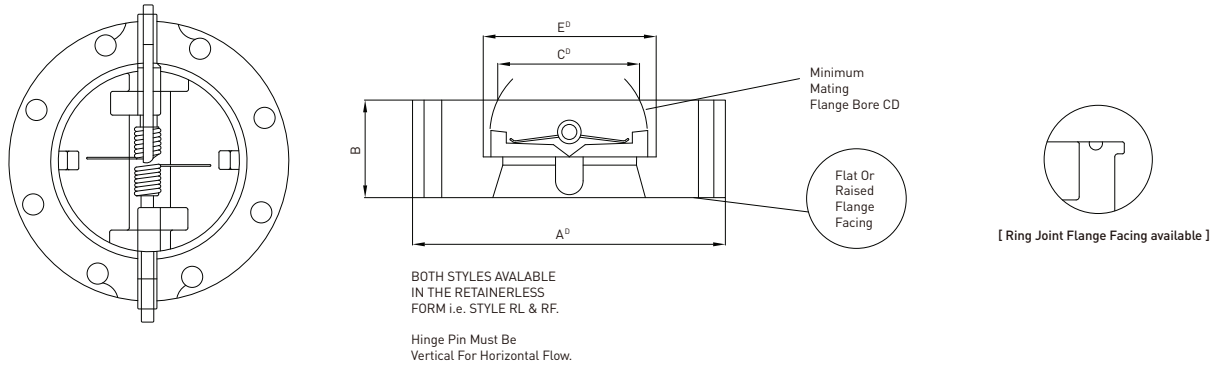


POSSIBLE STYLES - Y : YES / N : NO
UNIT(mm)

SIZE	RATING SERIES	POSSIBLE STYLES		A ^D	B	C ^D	E ^D	HOLE P.C.D	HOLE DIA.	NUMBER OF STUDS		STUDIA.	STUDS LENGTH		APPROXIMATE WEIGHT (kg)	
		L	F							L	F		L	F		
250A (10")	5K	Y	Y	385	146	242	273	345	23	12	24	M20	250	130	91	74
	10K	Y	Y	400	146	242	273	355	25	12	24	M22	255	140	98	82
	20K	Y	Y	430	146	242	273	380	27	12	24	M24	280	150	106	94
300A (12")	5K	Y	Y	430	181	288	324	390	23	12	24	M20	290	135	118	102
	10K	Y	Y	445	181	288	324	400	25	16	32	M22	295	140	139	127
	20K	Y	Y	480	181	288	324	430	27	16	32	M24	315	145	186	153
350A (14")	5K	Y	Y	480	184	314	356	435	25	12	24	M22	290	150	179	128
	10K	Y	Y	490	184	314	356	445	25	16	32	M22	295	150	194	145
	20K	Y	Y	540	184	314	356	480	33	16	32	M30	325	155	268	215
400A (16")	5K	Y	Y	540	190	356	406	495	25	16	32	M22	305	155	235	154
	10K	Y	Y	560	190	356	406	510	27	16	32	M24	310	160	250	176
	20K	Y	Y	605	190	356	406	540	33	16	32	M30	345	165	315	235
450A (18")	5K	Y	Y	605	203	416	457	555	25	16	32	M22	320	165	278	192
	10K	Y	Y	620	203	416	457	565	27	20	40	M24	325	170	290	200
	20K	Y	Y	675	203	416	457	605	33	20	40	M30	360	175	358	269
500A (20")	5K	Y	Y	655	213	467	508	605	25	20	40	M22	335	175	497	386
	10K	Y	Y	675	213	467	508	620	27	20	40	M24	350	180	520	400
	20K	Y	Y	730	213	467	508	660	33	20	40	M30	390	185	612	514
600A (24")	5K	Y	Y	770	222	568	610	715	27	20	40	M24	350	190	477	379
	10K	Y	Y	795	222	568	610	730	33	24	48	M30	360	195	495	392
	20K	Y	Y	845	222	568	610	770	39	24	48	M36	400	200	654	562

DIMENSION LIST - 3

DIMENSION LIST FOR SOLID LUG VALVES TO JIS - 3



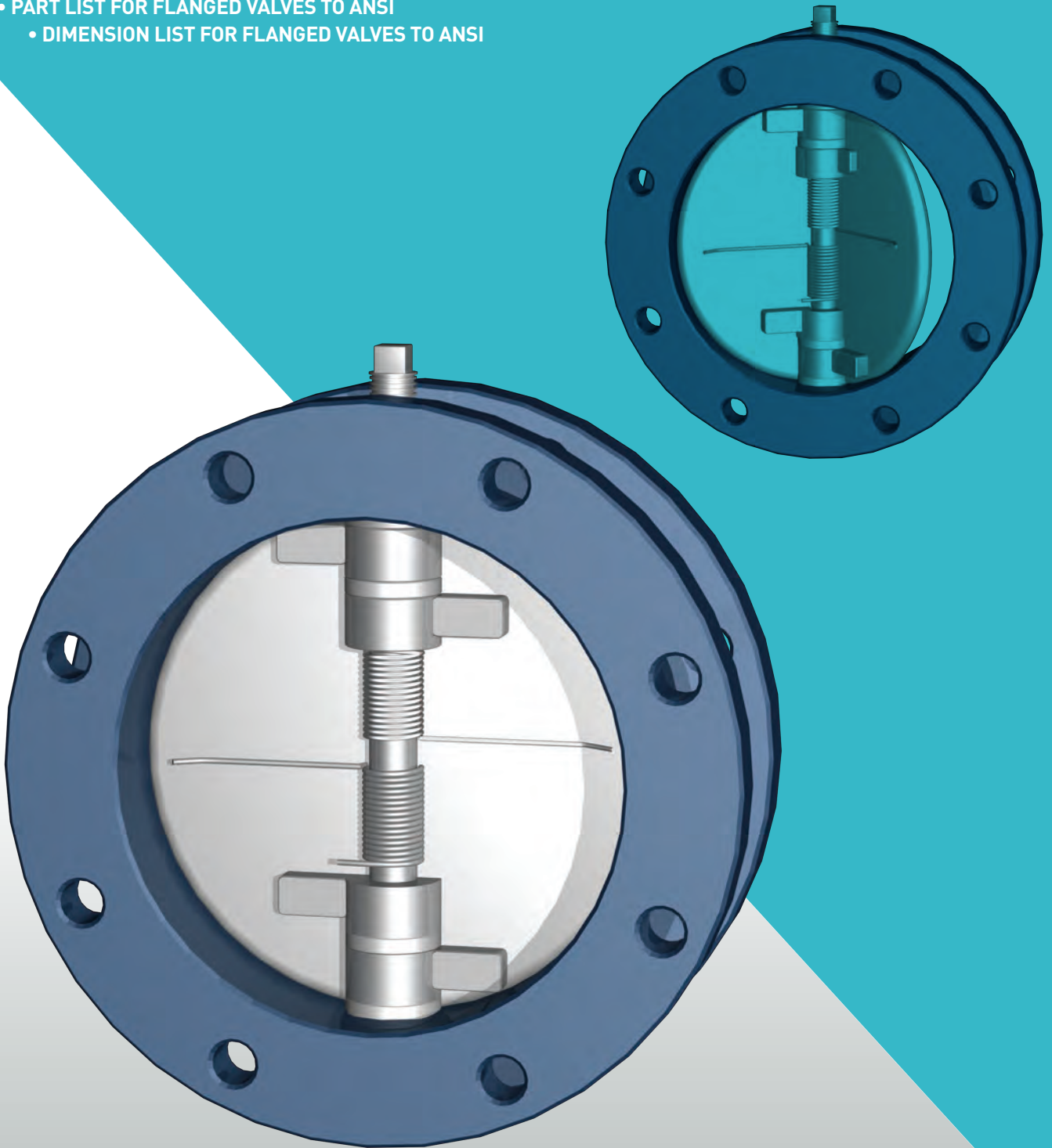
SOLID LUG TYPE VALVE WALL THICKNESS (HEAVY WALL)

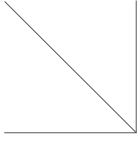
STD : API 600

RATINGS		Nominal Size																		
		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
150#	inch	-	-	0.25	0.25	0.25	0.34	0.38	0.41	0.44	-	0.47	0.50	0.56	0.63	0.66	0.69	0.72	0.75	0.81
	mm	-	-	6.4	6.4	6.4	8.6	9.7	10.4	11.2	-	11.9	12.7	14.2	16.0	16.8	17.5	18.3	19.1	20.6
300#	inch	-	-	0.25	0.25	0.31	0.38	0.44	0.47	0.50	-	0.63	0.39	0.75	0.81	0.88	0.94	1.00	1.06	1.19
	mm	-	-	6.4	6.4	7.9	9.7	11.2	11.9	12.7	-	16.0	17.5	19.1	20.6	22.4	23.9	25.4	26.9	30.2
600#	inch	-	-	0.31	0.34	0.37	0.44	0.47	0.50	0.63	-	0.75	1.00	1.13	1.25	1.38	1.50	1.63	1.75	2.00
	mm	-	-	7.9	8.6	9.4	11.2	11.9	12.7	16.0	-	19.1	25.4	28.7	31.8	35.1	38.1	41.4	44.5	50.8
900#	inch	-	-	0.50	0.56	0.59	0.75	0.88	0.75	0.84	-	1.03	1.25	1.44	1.66	1.81	2.06	2.25	2.50	2.88
	mm	-	-	12.7	14.2	15.0	19.1	22.4	19.1	21.3	-	26.2	31.8	36.6	42.2	46.0	52.3	57.2	63.5	73.2
1500#	inch	-	-	0.50	0.56	0.59	0.75	0.88	0.94	1.13	-	1.50	1.88	2.25	2.63	2.75	3.13	3.50	3.88	4.50
	mm	-	-	12.7	14.2	15.0	19.1	22.4	23.9	28.7	-	38.1	47.8	57.2	66.8	69.9	79.5	88.9	98.6	114.3
2500#	inch	-	-	0.59	0.69	0.75	0.88	1.00	1.19	1.41	-	1.91	2.44	2.66	3.41	-	-	-	-	-
	mm	-	-	15.0	17.5	19.1	22.4	25.4	30.2	35.8	-	48.5	62.0	67.6	86.6	-	-	-	-	-

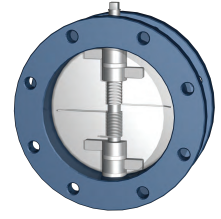
DUAL PLATE CHECK VALVES + FLANGED VALVES TO ANSI

- PART LIST FOR FLANGED VALVES TO ANSI
- DIMENSION LIST FOR FLANGED VALVES TO ANSI

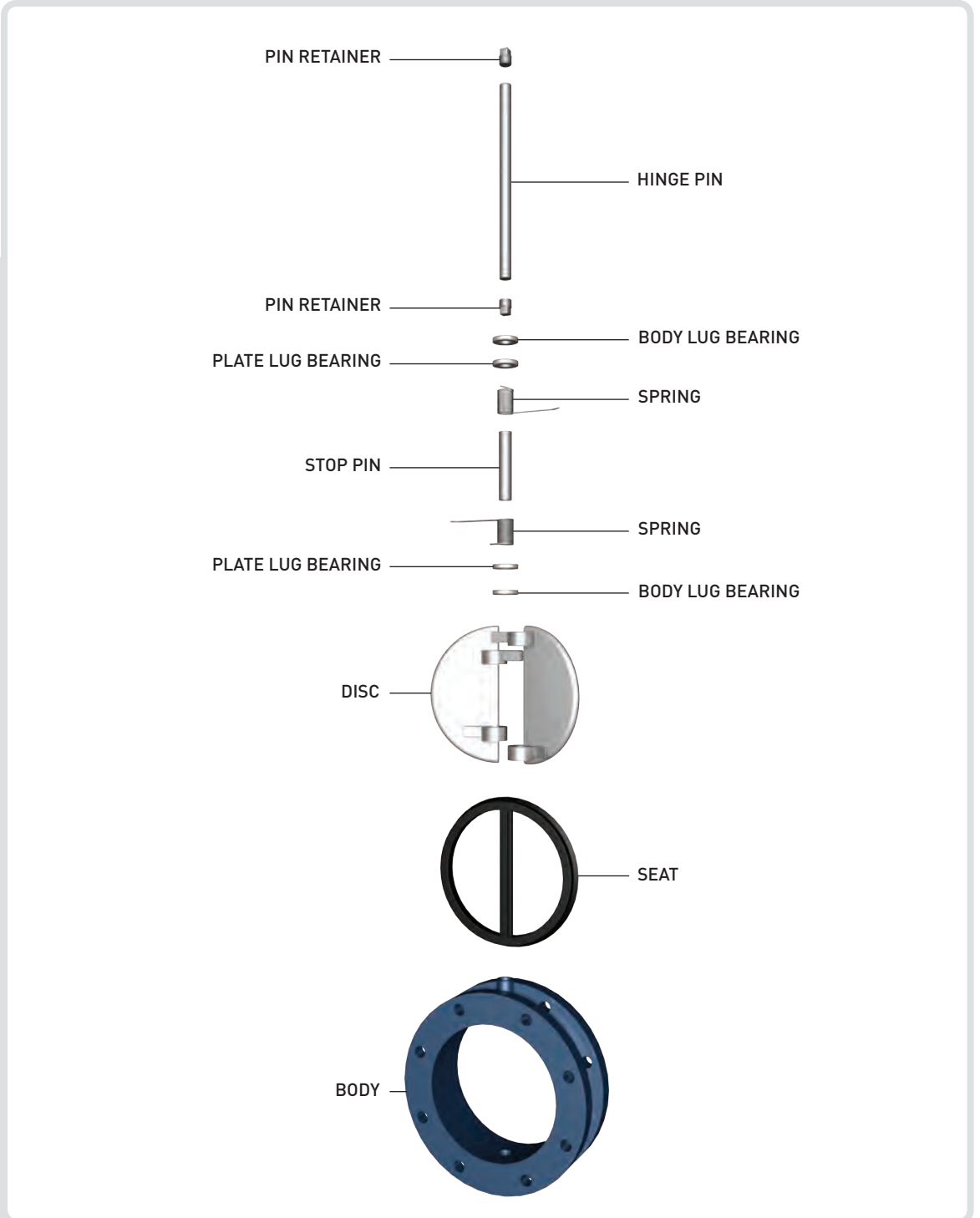




PART LIST FOR FLANGED VALVES TO ANSI

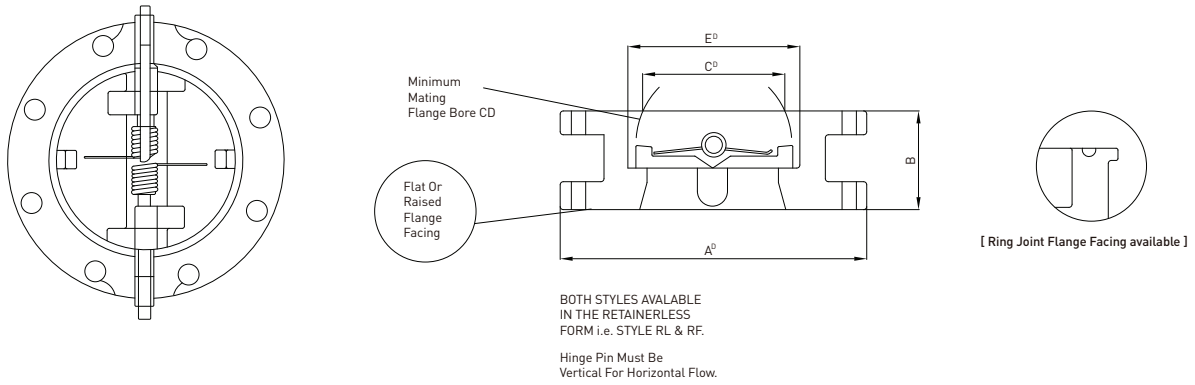


FLANGED VALVES TO ANSI



DIMENSION & WEIGHT LIST - 1

DIMENSION LIST FOR FLANGED VALVES TO ANSI - 1



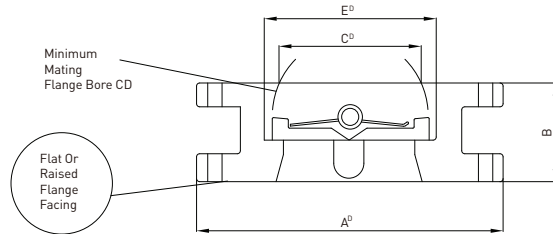
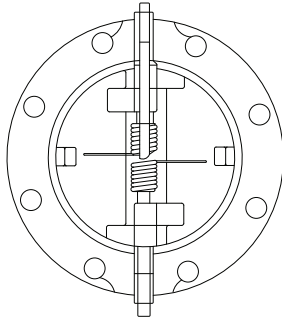
DIMENSION

POSSIBLE STYLES - Y : YES / N : NO
UNIT(inch)

SIZE	SERIES	POSSIBLE STYLES		A ^D	B	C ^D	E ^D	HOLE P.C.D	HOLE DIA.	NUMBER OF STUDS		STUDIA.	STUDS LENGTH		APPROXIMATE WEIGHT (kg)	
		L	F							L	F		L	F		
2"	150	Y	N	6	2 3/8	-	2 3/8	4 3/4	3/4	4	-	5/8	6	-	4	-
	300	Y	N	6 1/2	2 3/8	-	2 3/8	5	3/4	8	-	5/8	6 7/8	-	8	-
	600	Y	N	6 1/2	2 3/8	-	2 3/8	5	3/4	8	-	5/8	6 7/8	-	8	-
	900	Y	N	8 1/2	2 3/4	-	2 3/8	6 1/2	1	8	-	7/8	8 3/4	-	23	-
	1500	Y	N	8 1/2	2 3/4	-	2 3/8	6 1/2	1	8	-	7/8	8 3/4	-	23	-
	2500	Y	N	9 1/4	2 3/4	-	2 3/8	6 3/4	1 1/8	8	-	1	10	-	30	-
3"	150	Y	N	7 1/2	2 7/8	2 1/8	3 1/2	6	3/4	4	-	5/8	7	-	8	-
	300	Y	N	8 1/4	2 7/8	2 1/8	3 1/2	6 5/8	7/8	8	-	3/4	8 1/8	-	15	-
	600	Y	N	8 1/4	2 7/8	2 1/8	3 1/2	6 5/8	7/8	8	-	3/4	8 1/8	-	15	-
	900	Y	N	9 1/2	3 1/4	2 1/8	3 1/2	7 1/2	1	8	-	7/8	9 1/2	-	28	-
	1500	Y	N	10 1/2	3 1/4	2 1/8	3 1/2	8	1 1/4	8	-	1 1/8	10 1/2	-	40	-
	2500	Y	N	12	3 3/8	1 5/8	3 1/2	9	1 3/8	8	-	1 1/4	12 1/4	-	59	-
4"	150	Y	N	9	2 7/8	3 3/8	4 1/2	7 1/2	3/4	8	-	5/8	7	-	15	-
	300	Y	N	10	2 7/8	3 3/8	4 1/2	7 7/8	7/8	8	-	3/4	8 1/8	-	25	-
	600	Y	N	10 3/4	3 1/8	3 3/8	4 1/2	8 1/2	1	8	-	7/8	9 1/2	-	39	-
	900	Y	N	11 1/2	4	3 3/8	4 1/2	9 1/4	1 1/4	8	-	1 1/8	11	-	57	-
	1500	Y	N	12 1/4	4	3 3/8	4 1/2	9 1/2	1 3/8	8	-	1 1/4	12	-	73	-
	2500	Y	N	14	4 1/8	3 3/8	4 1/2	10 3/4	1 5/8	8	-	1 1/2	14 5/8	-	95	-
6"	150	Y	N	11	3 7/8	5 1/2	6 5/8	9 1/2	7/8	8	-	3/4	8 1/4	-	24	-
	300	Y	N	12 1/2	3 7/8	5 1/2	6 5/8	10 5/8	7/8	12	-	3/4	9 5/8	-	45	-
	600	Y	N	14	5 3/8	4 7/8	6 5/8	11 1/2	1 1/8	12	-	1	12 3/8	-	78	-
	900	Y	N	15	6 1/4	4 3/4	6 5/8	12 1/2	1 1/4	12	-	1 1/8	14	-	109	-
	1500	Y	N	15 1/2	6 1/4	4 3/4	6 5/8	12 1/2	1 1/2	12	-	1 3/8	16 3/4	-	154	-
	2500	Y	N	19	6 1/4	4 3/4	6 5/8	14 1/2	2 1/8	8	-	2	20 1/2	-	215	-

DIMENSION & WEIGHT LIST - 2

DIMENSION LIST FOR FLANGED VALVES TO ANSI - 2



BOTH STYLES AVAILABLE IN THE RETAINERLESS FORM i.e. STYLE RL & RF.

Hinge Pin Must Be Vertical For Horizontal Flow.

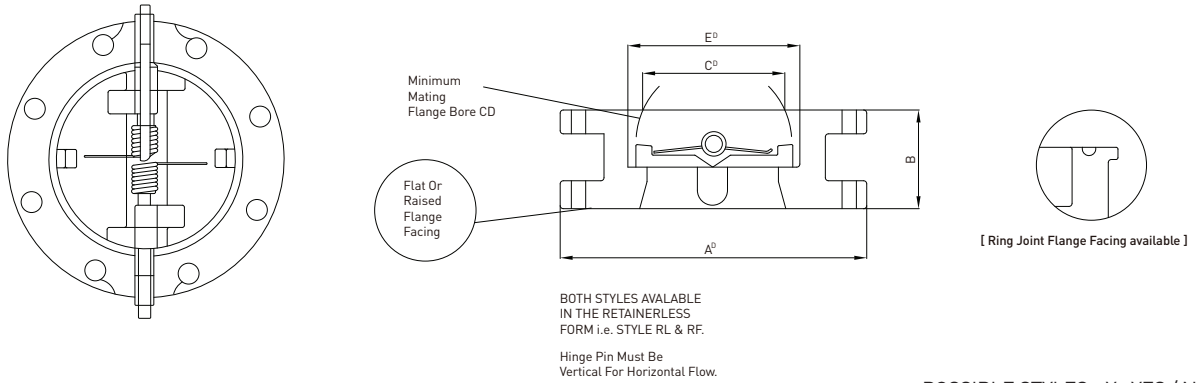
POSSIBLE STYLES - Y : YES / N : NO

UNIT(mm)

SIZE	SERIES	POSSIBLE STYLES		A ^D	B	C ^D	E ^D	HOLE P.C.D	HOLE DIA.	NUMBER OF STUDS		STUDIA.	STUDS LENGTH		APPROXIMATE WEIGHT (kg)	
		L	F							L	F		L	F		
8"	150	Y	Y	13 1/2	5	7 3/8	8 5/8	11 3/4	7/8	8	16	3/4	9 3/4	5	59	50
	300	Y	N	15	5	7 3/8	8 5/8	13	1	12	-	7/8	11 1/4	-	65	-
	600	Y	N	16 1/2	6 1/2	7	8 5/8	13 3/4	1 1/4	12	-	1 1/8	14 1/2	-	142	-
	900	Y	Y	18 1/2	8 1/8	6 3/4	8 5/8	15 1/2	1 1/2	12	24	1 3/8	17 1/8	9	202	191
	1500	Y	N	19	8 1/8	6 3/4	8 5/8	15 1/2	1 3/4	12	-	1 5/8	20 1/4	-	289	-
	2500	Y	N	21 3/4	8 1/8	6 3/4	8 5/8	17 1/4	2 1/8	12	-	2	24	-	373	-
10"	150	Y	Y	16	5 3/4	9 9/16	10 3/4	14 1/4	1	12	24	7/8	11	5 1/8	98	82
	300	Y	N	17 1/2	5 3/4	9 9/16	10 3/4	15 1/4	1 1/8	16	-	1	12 3/4	-	106	-
	600	Y	Y	20	8 3/8	8 1/8	10 3/4	17	1 3/8	16	32	1 1/4	17 1/8	8 3/4	239	187
	900	Y	Y	21 1/2	9 1/2	7 7/8	10 3/4	18 1/2	1 1/2	16	32	1 3/8	19	9 1/2	409	341
	1500	Y	N	23	9 3/4	7 7/8	10 3/4	19	2	12	-	1 7/8	23 1/2	-	431	-
	2500	Y	N	26 1/2	10	7 7/8	10 3/4	21 1/4	2 5/8	12	-	2 1/2	30 1/2	-	-	-
12"	150	Y	Y	19	7 1/8	11 1/4	12 3/4	17	1	12	24	7/8	12 1/4	5 1/2	139	127
	300	Y	Y	20 1/2	7 1/8	11 1/4	12 3/4	17 3/4	1 1/4	16	32	1 1/8	14 5/8	7 1/2	186	153
	600	Y	Y	22	9	11	12 3/4	19 1/4	1 3/8	20	40	1 1/4	18	9	397	311
	900	Y	Y	24	11 1/2	9 7/8	12 3/4	21	1 1/2	20	40	1 3/8	21 3/4	10 1/4	576	447
	1500	Y	N	26 1/2	12	9 7/8	12 3/4	22 1/2	2 1/8	16	-	2	27 1/2	-	721	-
	2500	Y	N	30	12	9 7/8	12 3/4	24 3/8	2 7/8	12	-	2 3/4	34 1/2	-	813	-
14"	150	Y	Y	21	7 1/4	12 3/8	14	18 3/4	1 1/8	12	24	1	13	6	194	145
	300	Y	Y	23	8 3/4	12	14	20 1/4	1 1/4	20	40	1 1/8	16 1/2	7 3/4	308	196
	600	Y	Y	23 3/4	10 3/4	9 1/8	14	20 3/4	1 1/2	20	40	1 3/8	20 1/4	9 1/2	583	387
	900	Y	Y	25 1/4	14	8 1/4	14	22	1 5/8	20	40	1 1/2	25 1/2	11 1/4	792	572
	1500	Y	N	29 1/2	14	8 1/4	14	25	2 3/8	16	-	2 1/4	31 1/2	-	1120	-

DIMENSION & WEIGHT LIST - 3

DIMENSION LIST FOR FLANGED VALVES TO ANSI - 3



POSSIBLE STYLES - Y : YES / N : NO
UNIT(mm)

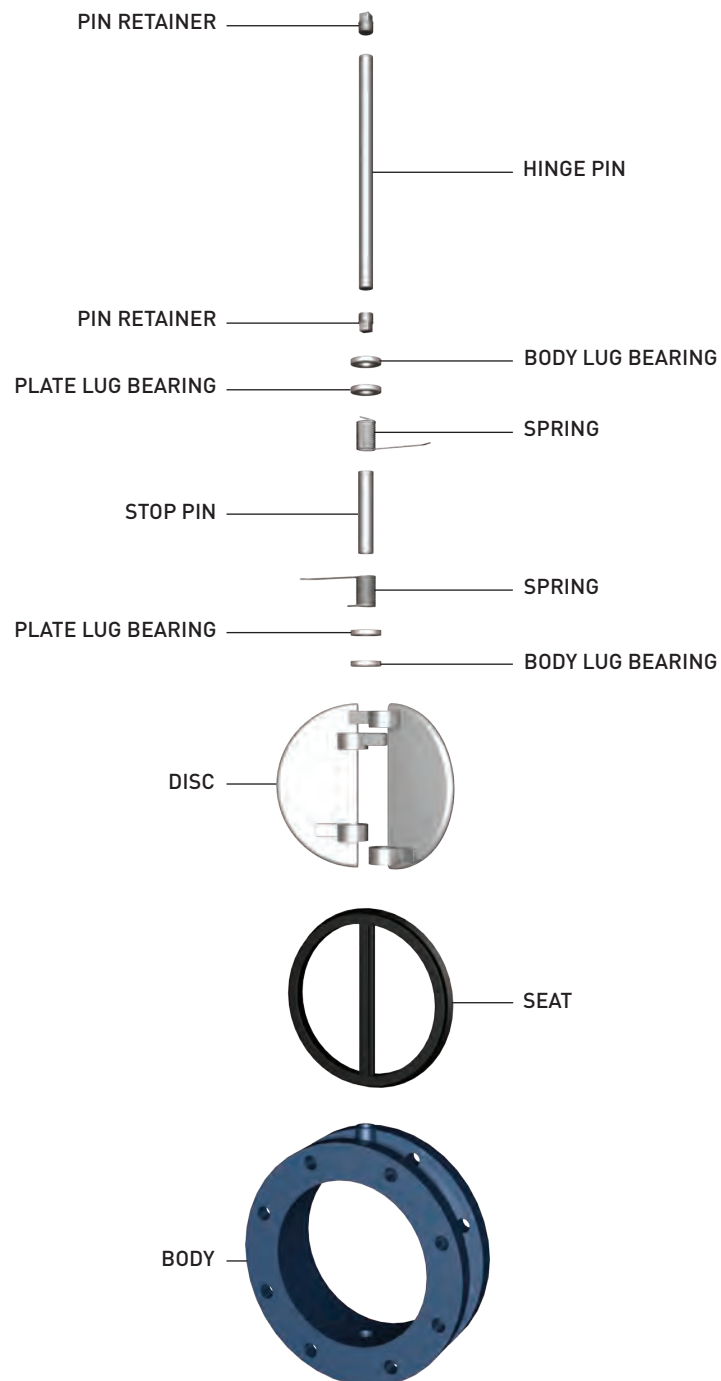
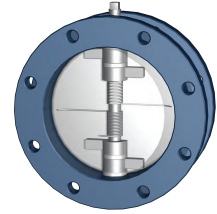
SIZE	SERIES	POSSIBLE STYLES		A ^D	B	C ^D	E ^D	HOLE P.C.D	HOLE DIA.	NUMBER OF STUDS		STUDIA.	STUDS LENGTH		APPROXIMATE WEIGHT (kg)	
		L	F							L	F		L	F		
16"	150	Y	Y	23 1/2	7 1/2	14	16	21 1/4	1 1/8	16	32	1	13 1/2	6	250	176
	300	Y	Y	25 1/2	9 1/8	14 1/8	16	22 1/2	1 3/8	20	40	1 1/4	17 3/8	8 1/4	500	378
	600	Y	Y	27	12	12 3/4	16	23 3/4	1 5/8	20	40	1 1/2	22 1/4	10 1/4	710	647
	900	Y	Y	27 3/4	15 1/8	10 1/8	16	24 1/4	1 3/4	20	40	1 5/8	27 1/8	11 3/4	759	701
	1500	Y	N	32 1/2	15 1/8	10 1/8	16	27 3/4	2 5/8	16	-	2 1/2	34 1/4	-	1534	-
18"	150	Y	Y	25	8	16 3/8	18	22 3/4	1 1/4	16	32	1 1/8	14 1/2	6 1/2	290	200
	300	Y	Y	28	10 3/8	15 3/8	18	24 3/4	1 3/8	24	48	1 1/4	18 7/8	8 1/2	612	297
	600	Y	Y	29 1/4	14 1/4	14 1/4	18	25 3/4	1 3/4	20	40	1 5/8	25 1/4	11	1101	611
	900	Y	Y	31	17 3/4	11 7/8	18	27	2	20	40	1 7/8	31 1/2	13 1/2	1481	1034
	1500	Y	N	36	18 7/16	11 7/8	18	30 1/2	2 7/8	16	-	2 3/4	39 3/4	-	2004	-
20"	150	Y	Y	27 1/2	8 5/8	18 3/8	20	25	1 1/4	20	40	1 1/8	15 1/8	7	520	400
	300	Y	Y	30 1/2	11 1/2	16 7/8	20	27	1 3/8	24	48	1 1/4	20 1/2	9	783	490
	600	Y	Y	32	14 1/2	16 7/8	20	28 1/2	1 3/4	24	48	1 5/8	26 1/4	11 3/4	1325	847
	900	Y	Y	33 3/4	17 3/4	16	20	29 1/2	2 1/8	20	40	2	32 1/2	14 1/2	2001	1820
	1500	Y	Y	38 3/4	21	12	20	32 3/4	3 1/8	16	32	3	44 1/4	22 1/2	2731	2502
24"	150	Y	Y	32	8 3/4	22 3/8	24	29 1/2	1 3/8	20	40	1 1/4	16 1/4	7 1/2	495	392
	300	Y	Y	36	12 1/2	21 1/4	24	32	1 5/8	24	48	1 1/2	22 3/4	10 1/4	1215	901
	600	Y	Y	37	17 1/4	21 1/4	24	33	2	24	48	1 7/8	30 3/4	13 1/2	1900	1621
	900	Y	Y	41	19 1/2	20 1/4	24	35 1/2	2 5/8	20	40	2 1/2	38	18 1/4	2400	2200
	1500	Y	N	46	22	20 1/4	24	39	3 5/8	16	-	3 1/2	48 1/2	-	3349	-

DUAL PLATE CHECK VALVES FLANGED VALVES TO JIS

- PART LIST FOR FLANGED VALVES TO JIS
- DIMENSION LIST FOR FLANGED VALVES TO JIS



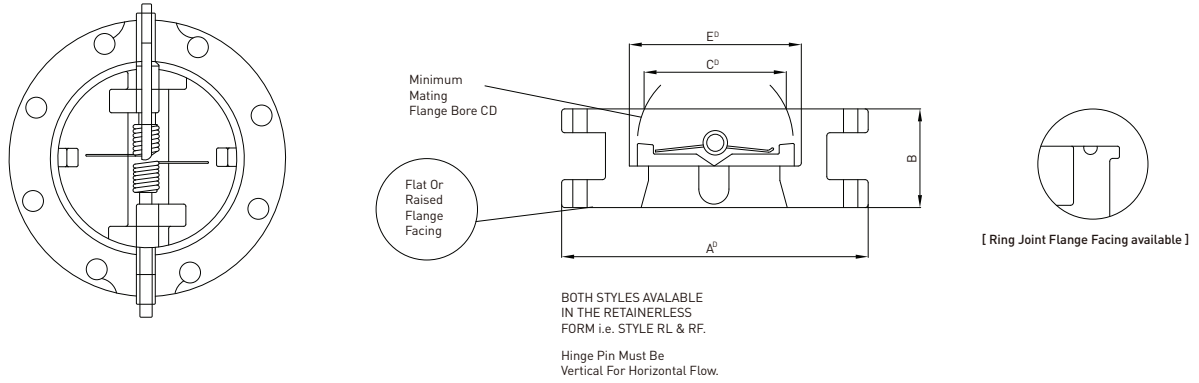
PART LIST FOR FLANGED VALVES TO JIS



FLANGED VALVES TO JIS

DIMENSION & WEIGHT LIST - 1

DIMENSION LIST FOR FLANGED VALVES TO JIS - 1



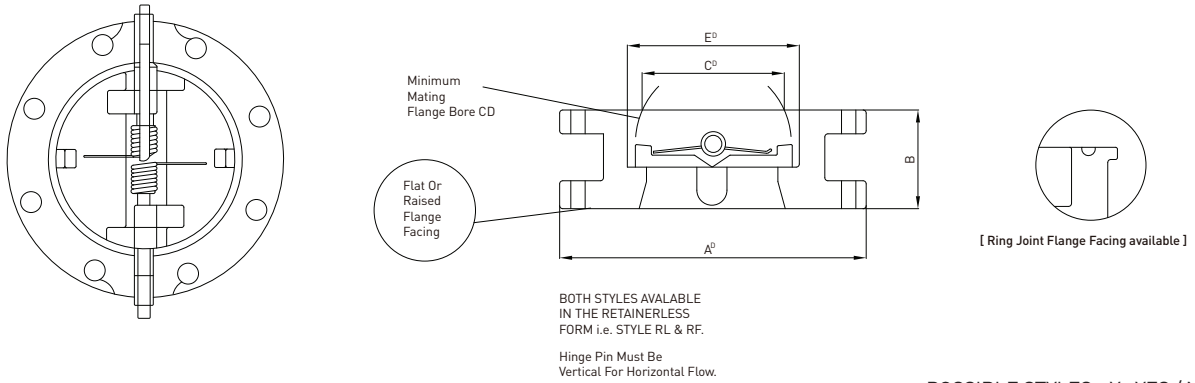
DIMENSION

POSSIBLE STYLES - Y : YES / N : NO
UNIT(mm)

SIZE	RATING SERIES	POSSIBLE STYLES		A ^D	B	C ^D	E ^D	HOLE P.C.D	HOLE DIA.	NUMBER OF STUDS		STUDIA.	STUDS LENGTH		APPROXIMATE WEIGHT (kg)	
		L	F							L	F		L	F		
50A (2")	5K	Y	N	130	60	-	60	105	15	4	-	M12	135	-	3.5	-
	10K	Y	N	155	60	-	60	120	19	4	-	M16	140	-	4	-
	20K	Y	N	155	60	-	60	120	19	8	-	M16	140	-	8	-
65A (2 1/2")	5K	Y	N	155	67	-	73	130	15	4	-	M12	140	-	5	-
	10K	Y	N	175	67	-	73	140	19	4	-	M16	145	-	6	-
	20K	Y	N	175	67	-	73	140	19	8	-	M16	145	-	12	-
80A (3")	5K	Y	N	180	73	54	89	145	19	8	-	M16	150	-	7	-
	10K	Y	N	185	73	54	89	150	19	8	-	M16	150	-	8	-
	20K	Y	N	200	73	54	89	160	23	8	-	M20	165	-	15	-
100A (4")	5K	Y	N	200	73	86	114	165	19	8	-	M16	155	-	14	-
	10K	Y	N	210	73	86	114	175	19	8	-	M16	155	-	15	-
	20K	Y	N	225	73	86	114	185	23	8	-	M20	175	-	25	-
125A (5")	5K	Y	N	235	86	112	141	200	19	8	-	M16	175	-	18	-
	10K	Y	N	250	86	112	141	210	23	8	-	M20	180	-	20	-
	20K	Y	N	270	86	112	141	225	25	8	-	M22	195	-	41	-
150A (6")	5K	Y	N	265	98	140	168	230	19	8	-	M16	190	-	-	-
	10K	Y	N	280	98	140	168	240	23	8	-	M20	195	-	24	-
	20K	Y	N	305	98	140	168	260	25	12	-	M22	215	-	45	-
200A (8")	5K	Y	Y	320	127	187	219	280	23	8	16	M20	220	127	51	43
	10K	Y	Y	330	127	187	219	290	23	12	24	M20	225	127	59	50
	20K	Y	Y	350	127	187	219	305	25	12	24	M22	245	130	65	60

DIMENSION & WEIGHT LIST - 2

DIMENSION LIST FOR FLANGED VALVES TO JIS - 2

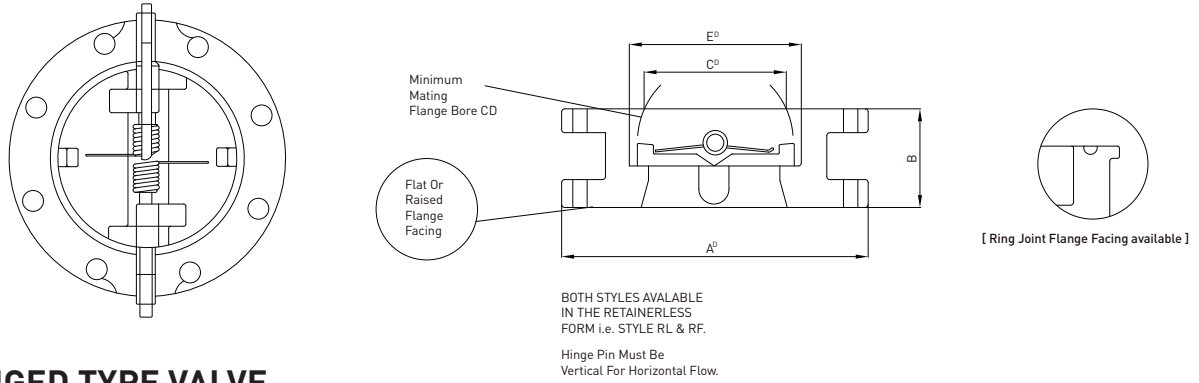


POSSIBLE STYLES - Y : YES / N : NO
UNIT(mm)

SIZE	RATING SERIES	POSSIBLE STYLES		A ⁰	B	C ⁰	E ⁰	HOLE P.C.D	HOLE DIA.	NUMBER OF STUDS		STUDIA.	STUDS LENGTH		APPROXIMATE WEIGHT (kg)	
		L	F							L	F		L	F		
250A (10")	5K	Y	Y	385	146	242	273	345	23	12	24	M20	250	130	91	74
	10K	Y	Y	400	146	242	273	355	25	12	24	M22	255	140	98	82
	20K	Y	Y	430	146	242	273	380	27	12	24	M24	280	150	106	94
300A (12")	5K	Y	Y	430	181	288	324	390	23	12	24	M20	290	135	118	102
	10K	Y	Y	445	181	288	324	400	25	16	32	M22	295	140	139	127
	20K	Y	Y	480	181	288	324	430	27	16	32	M24	315	145	186	153
350A (14")	5K	Y	Y	480	184	314	356	435	25	12	24	M22	290	150	179	128
	10K	Y	Y	490	184	314	356	445	25	16	32	M22	295	150	194	145
	20K	Y	Y	540	184	314	356	480	33	16	32	M30	325	155	268	215
400A (16")	5K	Y	Y	540	190	356	406	495	25	16	32	M22	305	155	235	154
	10K	Y	Y	560	190	356	406	510	27	16	32	M24	310	160	250	176
	20K	Y	Y	605	190	356	406	540	33	16	32	M30	345	165	315	235
450A (18")	5K	Y	Y	605	203	416	457	555	25	16	32	M22	320	165	278	192
	10K	Y	Y	620	203	416	457	565	27	20	40	M24	325	170	290	200
	20K	Y	Y	675	203	416	457	605	33	20	40	M30	360	175	358	269
500A (20")	5K	Y	Y	655	213	467	508	605	25	20	40	M22	335	175	497	386
	10K	Y	Y	675	213	467	508	620	27	20	40	M24	350	180	520	400
	20K	Y	Y	730	213	467	508	660	33	20	40	M30	390	185	615	514
600A (24")	5K	Y	Y	770	222	568	610	715	27	20	40	M24	350	190	477	379
	10K	Y	Y	795	222	568	610	730	33	24	48	M30	360	195	495	392
	20K	Y	Y	845	222	568	610	770	39	24	48	M36	400	200	654	562

DIMENSION LIST - 3

DIMENSION LIST FOR FLANGED VALVES TO JIS - 3



FLANGED TYPE VALVE WALL THICKNESS (HEAVY WALL)

STD : API 600

RATINGS		Nominal Size																		
		1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
150#	inch	-	-	0.25	0.25	0.25	0.34	0.38	0.41	0.44	-	0.47	0.50	0.56	0.63	0.66	0.69	0.72	0.75	0.81
	mm	-	-	6.4	6.4	6.4	8.6	9.7	10.4	11.2	-	11.9	12.7	14.2	16.0	16.8	17.5	18.3	19.1	20.6
300#	inch	-	-	0.25	0.25	0.31	0.38	0.44	0.47	0.50	-	0.63	0.39	0.75	0.81	0.88	0.94	1.00	1.06	1.19
	mm	-	-	6.4	6.4	7.9	9.7	11.2	11.9	12.7	-	16.0	17.5	19.1	20.6	22.4	23.9	25.4	26.9	30.2
600#	inch	-	-	0.31	0.34	0.37	0.44	0.47	0.50	0.63	-	0.75	1.00	1.13	1.25	1.38	1.50	1.63	1.75	2.00
	mm	-	-	7.9	8.6	9.4	11.2	11.9	12.7	16.0	-	19.1	25.4	28.7	31.8	35.1	38.1	41.4	44.5	50.8
900#	inch	-	-	0.50	0.56	0.59	0.75	0.88	0.75	0.84	-	1.03	1.25	1.44	1.66	1.81	2.06	2.25	2.50	2.88
	mm	-	-	12.7	14.2	15.0	19.1	22.4	19.1	21.3	-	26.2	31.8	36.6	42.2	46.0	52.3	57.2	63.5	73.2
1500#	inch	-	-	0.50	0.56	0.59	0.75	0.88	0.94	1.13	-	1.50	1.88	2.25	2.63	2.75	3.13	3.50	3.88	4.50
	mm	-	-	12.7	14.2	15.0	19.1	22.4	23.9	28.7	-	38.1	47.8	57.2	66.8	69.9	79.5	88.9	98.6	114.3
2500#	inch	-	-	0.59	0.69	0.75	0.88	1.00	1.19	1.41	-	1.91	2.44	2.66	3.41	-	-	-	-	-
	mm	-	-	15.0	17.5	19.1	22.4	25.4	30.2	35.8	-	48.5	62.0	67.6	86.6	-	-	-	-	-



SUN KOREA CO., LTD

#498-65, DAEJEO 1 DONG, GANGSEO-GU, BUSAN, KOREA

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#498-67, DAEJEO 1 DONG, GANGSEO-GU, BUSAN, KOREA

SUN DESIGN CO., LTD

#492-2, DAEWOO EDEN PLAZA, HADAN-2 DONG, SAHA-GU, BUSAN, KOREA