



Stainless and High Alloy Steel Valves

JIS 5K / 10K / 20K

ASME Class 150 / 300 / 600 / 900 / 1500

Gate, Globe and Check Valves



KITZ CORPORATION OF AMERICA

Standard Product Range of KITZ Stainless and High Alloy Steel Valves

Series	Class	P-T rating	End connection	Wall thickness	Shell material	Valve type	Size in.	1/4	3/8	1/2	3/4					
							Product code	mm	8	10	15		20			
A	10K	JIS B2238	JIS 10K RF-flanged	ASME B16.34	SCS13A SCS14A	Gate	10UMA(T) *			●	●					
							10UMAM(T) *			●	●					
						Globe	10UPA(T) *			●	●					
							10UPAM(T) *			●	●					
						Soft seated globe	10UPDA			●	●					
							10UPDAM			●	●					
						Swing check	10UOA(T) *									
							10UOAM(T) *									
						Lift check	10UNA(T) *			●	●					
							10UNAM			●	●					
						Strainer	10UYA									
							10UYAM									
	20K		JIS 20K RF-flanged	ASME B16.34	SCS13A SCS14A	Gate	20UMA			●	●					
							20UMAM			●	●					
						Globe	20UPA			●	●					
							20UPAM			●	●					
						Swing check	20UOA									
							20UOAM									
	Lift check	20UNA			●	●										
		20UNAM			●	●										
	150	ASME B16.34	ASME 150 RF-flanged	ASME B16.34	CF8 CF8M	Gate	150UMA			●	●					
							150UMAM			●	●					
						Globe	150UPA			●	●					
							150UPAM			●	●					
						Swing check	150UOA									
							150UOAM									
						Lift check	150UNA			●	●					
							150UNAM			●	●					
Strainer						150UYA										
						150UYAM										
300							ASME 300 RF-flanged	ASME B16.34	CF8 CF8M	Gate	300UMA			●	●	
											300UMAM			●	●	
	Globe	300UPA			●					●						
		300UPAM			●					●						
	Swing check	300UOA														
		300UOAM														
Lift check	300UNA			●	●											
	300UNAM			●	●											
600		ASME 600 RF-flanged	ASME B16.34	CF8 CF8M	Gate	600UMA(M)			●	●						
					Globe	600UPA(M)			●	●						
					Swing check	600UOA(M)			●	●						
C	150	ASME B16.34	ASME 150 RF-flanged	API 600	CF8 CF8M	Gate	150UMC(M)			●	●					
						Globe	150UPC(M)			●	●					
						Swing check	150UOC(M)			●	●					
	300		ASME 300 RF-flanged			Gate	300UMC(M)			●	●					
						Globe	300UPC(M)			●	●					
						Swing check	300UOC(M)			●	●					
	600		ASME 600 RF-flanged			Gate	600UMC(M)			●	●					
						Globe	600UPC(M)			●	●					
						Swing check	600UOC(M)			●	●					
	900		ASME 900 RF-flanged			Gate	900UMC(M)									
						Globe	900UPC(M)									
						Swing check	900UOC(M)									
1500	ASME 1500 RF-flanged	Gate	1500UMC(M)													
		Globe	1500UPC(M)													
		Swing check	1500UOC(M)													

* Product codes suffixed (T) stands for the valves provided with ceramic filled PTFE gaskets.

▲ Ceramic filled PTFE gaskets are not available for these sizes.

Standard Product Range of KITZ Stainless and High Alloy Steel Valves

Series	Class	P-T rating	End connection	Wall thickness	Shell material	Valve type	Product code	Size in.					
								mm	8	10	15		20
B	10K	KITZ Std.	Threaded	KITZ Std.	SCS13A SCS14A	Gate	UEL			●	●		
							UELM			●	●		
	UE												
	UEM												
	UEB							●	●				
	UEBM												
	Globe		UAB				●	●	●				
			UCL			●	●	●	●				
			UJ				●	●	●				
			UJM				●	●	●				
	Soft seated globe	UCB		●	●	●							
		UJB		●	●	●							
		UJBM		●	●	●							
		UD		●	●	●							
	Swing check	UDM		●	●	●							
		UDB				●	●						
		UDBM				●	●						
		UO			●	●							
	Lift check	UOM			●	●							
		UOB			●	●							
UOBM				●	●								
Strainer	UN		●	●	●								
	UYB			●	●	●							
	UYBM			●	●	●							
	UY	●	●	●	●								
20K			Threaded			UYM	●	●	●	●			
						Gate	AKUELM			●	●		
							AKUEM						
						Globe	AKUCLM	●	●	●	●		
AKUJM		●	●	●									
200			Threaded		CF8M	AKUOM			●	●			
						AKUUM							
D	150 300 600	ASME B 16.34	AK : Threaded AW : Socket Welded	ASME B 16.34	CF3M CF8M	Gate	AK/AW150UMM			●	●		
						Globe	AK/AW150UPM			●	●		
						Swing check	AK/AW150UOM			●	●		
						Gate	AK/AW300UMM			●	●		
						Globe	AK/AW300UPM			●	●		
						Swing check	AK/AW300UOM			●	●		
						Gate	AK/AW600UMM			●	●		
AJ	10K	JIS B 2238	JIS 10K RF-flanged	ASME B 16.34	SCS13A	Gate	10UMAJ			●	●		
						Globe	10UPAJ			●	●		
						Swing check	10UOAJ						
						Lift check	10UNAJ			●	●		
	20K			JIS 20K RF-flanged			Gate	20UMAJ			●	●	
							Globe	20UPAJ			●	●	
							Swing check	20UOAJ					
							Lift check	20UNAJ			●	●	
	150		ASME B 16.34	ASME 150 RF-flanged			Gate	150UMAJ			●	●	
							Globe	150UPAJ			●	●	
							Swing check	150UOAJ					
							Lift check	150UNAJ			●	●	
	300			ASME 300 RF-flanged			Gate	300UMAJ			●	●	
							Globe	300UPAJ			●	●	
Swing check							300UOAJ						
Lift check							300UNAJ			●	●		

Product Coding (Except for Series B)

AK-150 U M A M 4

① ② ③ ④ ⑤ ⑥ ⑦

① End connection

None : RF-flanged with smooth finished gasket face
AK : Threaded ends to ASME B1.20.1 NPT
AW : Socket welding ends to ASME B16.11

② Pressure class

Code	Class
5	JIS 5K
10	JIS 10K
20	JIS 20K
150	ASME 150
300	ASME 300
600	ASME 600
900	ASME 900
1500	ASME 1500

The products introduced in this catalog are all covered by the ISO 9001 certification awarded KITZ Corporation in 1989, the earliest in the valve industry.

(Series B, D and AJ)

	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24	Page
	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	
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③ Product identification

U : Identification code for stainless and high alloy steel valves in general.

④ Valve type

M : Gate valves
P : Globe valves
PD : Soft seated globe valves
O : Swing check valves
N : Lift check valves
Y : Y-pattern strainers

⑤ Valve design

Code Series
A : Series A
C : Series C
None : Series D
AJ : Series A, jacketed

⑥ Shell material

None : CF8 (304)
M : CF8M (316)
O : CF3M (316L)
V : CF3 (304L)
CB : CF8C (321)
CG : CG8M (317)
CK : CK20 (310)
SD : SCS10 (SDPV-K1)
CN : CN7M (Alloy 20)
HB : N-12MV (Hastelloy B)
HC : CW-12MW (Hastelloy C)

⑦ Nominal valve size

JIS flanged : in mm
Others : in inches

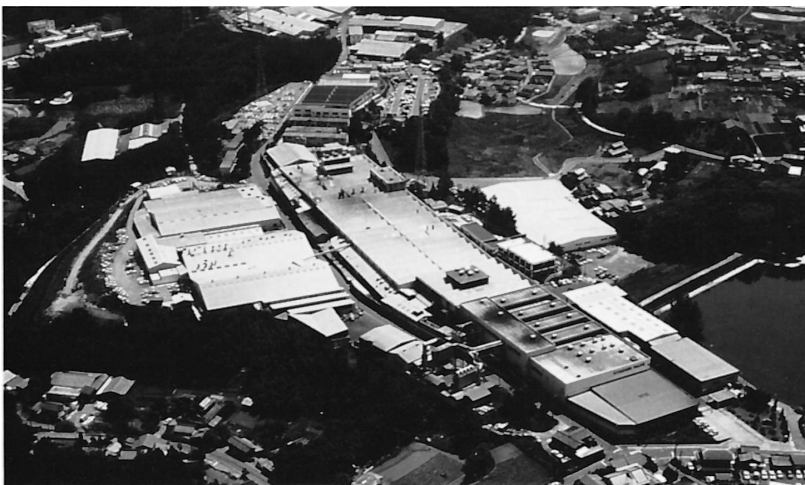
Corrosion Resistant Service with KITZ Stainless and High Alloy Steel Valves

KITZ stainless and high alloy steel valves widely utilized in chemical, petrochemical, food and beverage, pulp and paper, pharmaceutical and other industrial processing plants throughout the world, constitute one of the major product lines of KITZ Corporation, Japan's largest manufacturer of industrial valves.

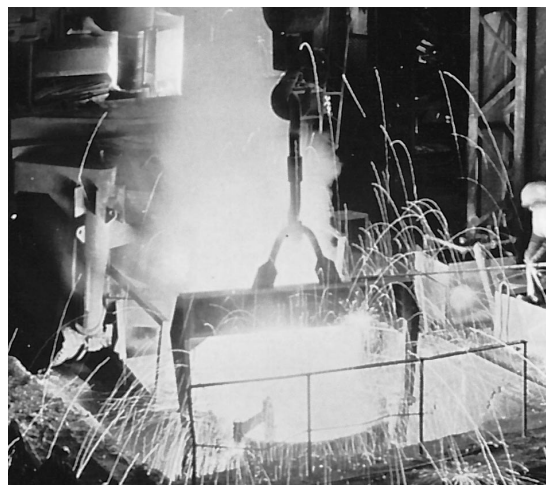
KITZ stainless and high alloy steel valves are designed, manufactured, and inspected to strictly conform with the requirements of ASTM, ASME, API, BS and other internationally recognized standards, with all quality elements meeting the critical service conditions needed for corrosive industrial applications.

KITZ stainless and high alloy steel valves are characterized by unsurpassed corrosion resistant service and reliability, providing users with the lowest cost of ownership and the longest total life cycle performance in the industry. As an ISO 9001 certified valve manufacturer, KITZ Corporation has achieved a high degree of product standardization by the ideal combination of its updated technical know-how and uniquely integrated system of production adopted at its Nagasaka Plant, Yamanashi, Japan, the home of KITZ stainless and high alloy steel valves.

Electronically controlled steel foundries, multi-station transfer machining systems and state-of-the-art test and inspection facilities, are all put together at KITZ Nagasaka Plant, to ensure the quality and reliability of all products that it releases to the global market.



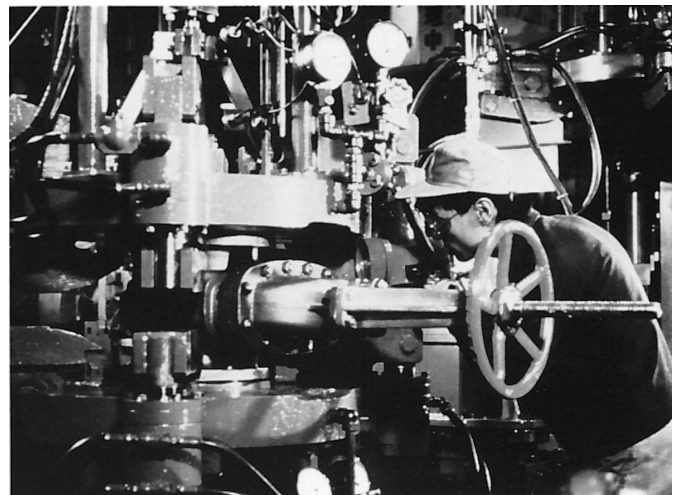
KITZ Nagasaka Plant, Japan



Valve casting furnace



Valve assembly



Valve testing

Features of Austenitic Stainless Steel as Valve Material

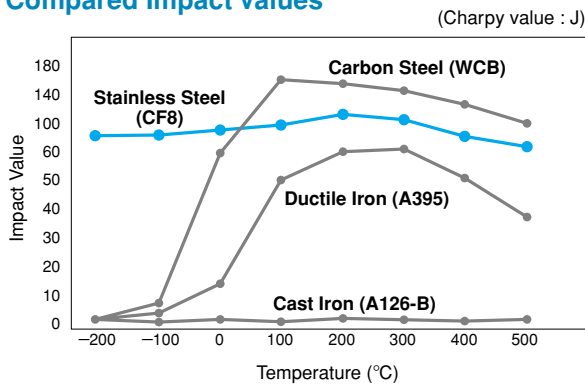
Stainless steel is divided into three main categories depending on its chemical composition. They are martensitic stainless steel containing 13% chromium, ferritic stainless steel containing 18% chromium, and austenitic stainless steel containing 18% chromium and 8% nickel. Among them, austenitic stainless steel is widely used for both valve shells and trims, which require good pressure resistant characteristic. Martensitic stainless steel is used mainly for trims of carbon steel valves. The features and characteristics of these stainless steels are compared below:

Features Of Stainless Steel by Types

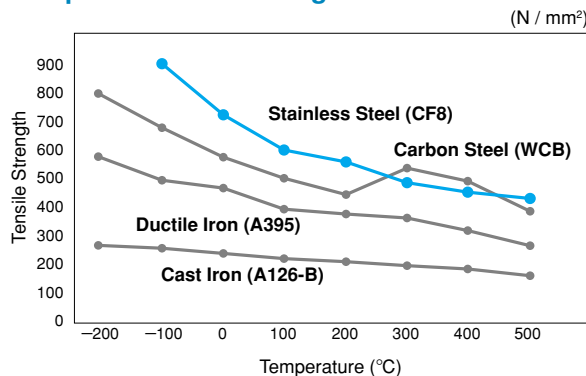
Types	Martensitic	Ferritic	Austenitic
Typical material	AISI 410	AISI 430	ASTM CF8M / F316
Magnetization	Yes		No
Hardening by heat treatment	Yes	No	
Hardening by machining	Same as soft steel		Less
Corrosion and acid resistance	Good		Excellent
Impact resistance and elongation	Good		Excellent
Weldability	Poor	Fair	Good
Lowest service temperature	-29°C	-10°C	-269°C

As shown below, austenitic stainless steel has an excellent impact value in subzero temperature range and been almost exclusively used for cryogenic service applications. It also features higher heat resistance than carbon steel. Its tensile strength is also superior to other valve materials and its high resistance against destructive tensile load in a wide range of service temperature is unrivaled by other valve material. Corrosive fluid cannot generally affect these excellent mechanical properties of austenitic stainless steel.

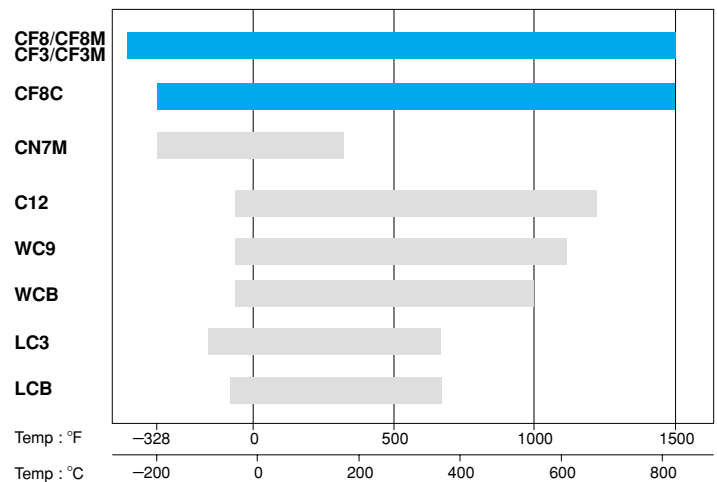
Compared Impact Values



Compared Tensile Strength



Steel Castings : Maximum Working Temperature Range



This data reflects ASTM specifications for general steel castings, and does not necessarily apply to valves made of these materials, which are subject to highly demanding service conditions as pressure containing vessels.

On the other hand, austenitic stainless steel is known as a very mild metal having no effect on the quality of the materials it comes into contact with. Line fluid is not contaminated while travelling through austenitic stainless steel pipelines. This advantage makes austenitic stainless steel valves the important fluid handling media for food, beverage and pharmaceutical processing plants. In addition, austenitic stainless steel CF8M or F316 has higher resistance to sea water erosion and is widely used for the valves installed in seawater desalination plants, offshore exploration facilities and ocean structures.

General Design Specifications

Series	Class	Pressure - temperature ratings*	Face-to face dimensions	End connection dimensions	Wall thickness
A	10K	JIS B2238	JIS B2002	JIS B2238 10K flanged	ASME B16.34
	20K			JIS B2238 20K flanged	
	150 / 300 / 600	ASME B16.34	ASME B16.10	ASME B16.5 flanged	
C	150 / 300 / 600 / 900 / 1500	ASME B16.34	ASME B16.10	ASME B16.5 flanged	API 600
B	5K	0.49MPa (5kgf/cm ²)150°C	JIS B 2011 KITZ Std.	JIS B0203 threaded JIS B2238 10K flanged	JIS B 2011 KITZ Std.
	10K	0.98MPa (10kgf/cm ²)180°C			
	20K	1.96MPa (20kgf/cm ²)180°C		ASME B1.20.1 threaded	
	200	KITZ Std.			
D	150 / 300 / 600	ASME B16.34	KITZ Std.	ASME B1.20.1 threaded ASME B16.11 socket	ASME B16.34
AJ	10K	JIS B2238	KITZ Std.	JIS B2238 10K flanged	ASME B16.34
	20K			JIS B2238 20K flanged	
	150 / 300	ASME B16.34		ASME B16.5 flanged	

* Actual pressure-temperature rating in service depends on the materials of gland packing and gasket chosen for valves.

Bonnet Gasket Materials

Depending on class ratings and servicing conditions, following gasket materials are available * for body / bonnet flange gaskets of KITZ stainless and high alloy steel valves. Specify your gasket material in your purchase order.

Shell Material Class	Series C			Series A · D · AJ		
	150	300	600 900 1500	10K 150	20K 300	600
Gasket material						
Corrugated metal	●	●				
Ring joint metal			●			
Spiral wound metal, PTFE filled		●			●	●
Flexible graphite	●			●	●	
Spiral wound metal, flexible graphite filled		●			●	●
Stainless steel inserted flexible graphite	●			●	●	
Ceramic filled PTFE	●			●	●	
Compressed asbestos	●	●		●	●	
Spiral wound metal, asbestos filled		●			●	●

Note : Refer to Page 9 for bonnet gaskets used for KITZ low emission service valves.

* Except Series B valves which employ only KITZ standard materials.

Gland Packing Materials

Following packing materials can be chosen for KITZ stainless and high alloy steel valves, depending on service conditions, or market requirements. Specify your packing material in your purchase order.

	Packing material	Service conditions
	Non-asbestos	Braided PTFE fiber
PTFE cup & cone / PTFE V-ring		150°C (300°F) corrosion resistant
Carbon fiber		500°C (930°F) high pressure
Flexible graphite		600°C (1110°F)* corrosion resistant
Inconel wired flexible graphite		600°C (1110°F)* corrosion resistant
Asbestos	Inconel wired asbestos	650°C (1200°F) high pressure
	PTFE impregnated asbestos	260°C (500°F) corrosion resistant

Note : Refer to Page 9 for gland packing sets used for KITZ low emission service valves.

* 455°C(850°F) for oxidizing atmosphere.

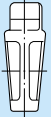
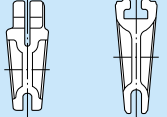
Contact KITZ Corporation or your KITZ distributors for optional requirement of gasket or gland packing materials other than listed above.

Choice of Corrosion Resistant Valve Shell Materials

ASME B16.34 Group No.	UNS classification	Major chemical ingredient	Product forms						Features and recommendation
			Casting		Forging		Bar		
			ASTM	JIS	ASTM	JIS	ASTM	JIS	
2.1	S30400 S30403	18Cr-8Ni-0.06C 18Cr-8Ni-Lo.C	A351 CF8 A351 CF3	SCS13A SCS19A	A182 F304 A182 F304L	SUS F304 SUS F304L	A276 304 A276 304L	SUS 304 SUS 304L	The most popular 18-8 type stainless steel. Good resistance to corrosion and oxidation. Applied as rust-preventing material to production of beverages and detergent. Popularly used as a corrosion resistant material to various process plants. 304L with low carbon content is applied to prevent intergranular corrosion.
2.2	S31600 S31603	18Cr-9Ni-2.5Mo-0.06C 18Cr-9Ni-2.5Mo-Lo.C	A351 CF8M A351 CF3M	SCS14A SCS16A	A182 F316 A182 F316L	SUS F316 SUS F316L	A276 316 A276 316L	SUS 316 SUS 316L	18-8 type stainless steel with Mo content. Better resistance to corrosion caused by reducing weak acid and pitting corrosion caused by chloride. Popularly used in paper mills, sea water services, nuclear plants and process plants. 316L with low carbon content is applied to prevent intergranular corrosion for sea water services.
	S31700 S31703	18Cr-12Ni-3.5Mo-0.06C 18Cr-12Ni-3.5Mo-Lo.C	A351 CG8M A351 CG3M		A182 F317	SUS F317 SUS F317L	A276 317 A276 317L	SUS 317 SUS 317L	Higher resistance to pitting than 316 due to higher Mo content. Used in highly corrosive applications in power plants, sea water services, paper bleaching and oil pipelines.
2.5	34700 S34709	18Cr-9Ni-Cb-0.06C	A351 CF8C	SCS21	A182 F347	SUS F347	A276 347	SUS 347	Carbon-stabilized 18-8 type stainless steel. Better resistance to intergranular corrosion at high temperature. Used in heated corrosive environments in process plants.
2.6					A473 F309S				High Cr and Ni contents. Higher strength at high temperature. Higher resistance to oxidation. Applied for resistance to high temperature corrosion in power generation, steam service and furnaces.
2.7	S31000	25Cr-20Ni-0.1C 21Cr-25Ni-6.5Mo-N	A351 CK20 A351 CN3MN	SCS18	A182 F310	SUS F310	A276 310	SUS 317J4L	Austenitic and ferritic two-phase structure with high mechanical strength. High resistance to stress corrosion cracking. Better resistance to pitting corrosion caused by chloride. Used for flue gas desulfurization plants, phosphoric acid service, urea production plants, sea water services and pulp-paper mills.
2.8	S39240 J93380	23Cr-6Ni-3Mo-N-Lo.C 25Cr-7Ni-4Mo-N	A890 CD3MWCuN	SCS10				SUS 329J4L	
3.1 (Alloy 20)	N08020	20Cr-29Ni-2.5Mo-3.5Cu-0.05C	A351 CN7M	SCS23	B462 N08020		B473 N08020		Resistance to strong acids at moderate temperature. Used in hot sulfuric acid services and heated dilute oxide solutions. Used for food processing, plastic or synthetic rubber production, oil refining and chemical processes.
3.4 (Monel)	M-35-1	70Ni-30Cu-0.25C	A494 M-35-1	NCuC					Higher resistance to reducing corrosive environments. Immune from localized corrosion and stress corrosion cracking caused by chloride. Used for oil distillation towers, boiler heaters and chemical apparatus.
3.5 (Inconel)	CY-40	77Ni-15Cr-(8Fe)-0.1C	A494 CY40	NGrFC					Higher resistance to oxidation and higher strength at high temperature. Also higher resistance to erosion-corrosion. Used for heat exchangers and chemical apparatus.
3.7 (Hastelloy B)	N-12MV	67Ni-28Mo-5Fe-0.1C	A494 N-12MV A494 N-7M						Good resistance to reducing strong acid up to boiling temperature (such as hydrochloric acid of all concentrations), sulfuric acid up to 60%, phosphoric acid and ferric chloride solution. Not recommended for oxidizing environments. Used for chemical apparatus for high temperature services.
3.8 (Hastelloy C)	CW-12MW	58Ni-16Cr-16Mo-6Fe-4W	A494 CW-12MW A494 CW-6M	NMGrC					Good resistance to oxidizing strong acid and to chlorine such as wet chlorine, chlorine dioxide, organic acids (such as acetic acid), and sea water. Used for flue gas desulfurization, denitrating equipment for pollution control and chemical apparatus.

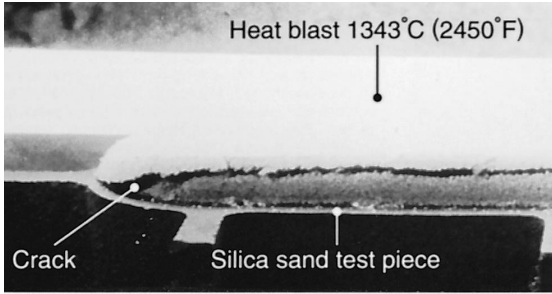
%Cr+3.3%Mo+16%N 40

Type of KITZ Gate Valve Wedges

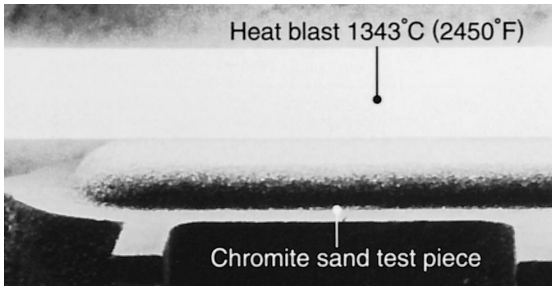
Series	Class	Solid wedge 	Flexibie wedge 
A	10K, 20K, 150, 300, 600	—	All sizes
C	150, 300	4" & smaller	6" & larger
	600, 900, 1500	1 1/2" & smaller	2" & larger
B	5K, 10K, 20K, 200	All sizes	—
D	150, 300, 600	—	All sizes
AJ	10K, 20K, 150, 300	—	All sizes

Chromite Sand Molds for Stainless Steel Valve Castings

Silica Sand

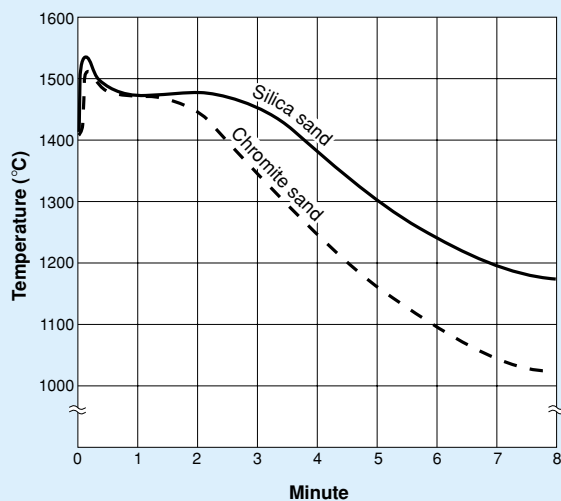


Chromite Sand



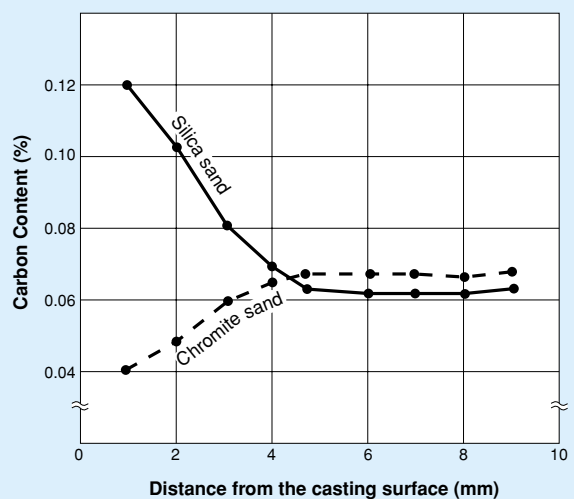
Unlike its competitors, KITZ Corporation employs casting molds made of 100% chromite sand at its Nagasaka stainless steel foundries, instead of the silica sand which is more popular in the industry. Its specific gravity is twice as much as that of silica sand, and loading 1.47MPa(15kgf/cm² or 210 psig) surface pressure during molding enables incomparably solid, hard and uniform structure of casting molds with high precision. KITZ's sand treatment plants are designed for repetitive regeneration and recycling of used chromite sand, the most expensive casting mold material.

Mold Sands : Cooling Effect



Much higher cooling effect of chromite sand solidifies the molten metal faster to result in very sound castings without concern of blowholes and other casting defects.

Mold Sands : Decarbonization



Chromite sand decarbonizes the surface area of stainless steel castings much better so that fine of casting surface and high corrosion resistance are guaranteed.

KITZ Low Emission Service Valves

In the United States, the Federal Clean Air Act was dramatically amended in 1990, to realize the new environmental protection policy of a 95% reduction in fugitive emission or leak levels of toxic gas from plant equipment. Promulgated in April, 1994, the new law requires all plants handling the toxic gas specified by the Environmental Protection Agency, to periodically monitor their plant equipment for detection of leaks exceeding 500 ppm, and repair or replace all defective parts immediately. California has exceeded the Federal law with a state regulation requiring 100 ppm maximum leak level for an astonishing 99% reduction of such an environmental pollution for the Northern California Region after 1997.

Our newly developed low emission valves, the proud fruits of several years of trial and error at our laboratory, are designed, engineered, manufactured and tested to now meet the 100 ppm maximum emission level. This is the standard specification in North America for KITZ Class 150, 300 and 600 Series A and C stainless and high alloy steel valves. In other markets, all these low emission valves are optionally available. Major design considerations for having upgraded our standard valves to the low emission performers are introduced below.

Gland packing

Series A: Choice of PTFE or flexible graphite packing.

- (1) Braided PTFE fiber packing with spun carbon core
- (2) KITZ's original "SEALEVER®" packing set consisting of 4 dieformed flexible graphite rings* and 2 braided flexible graphite wiper rings with a pure carbon spacer bush for Class 300 and 600.

Series C: KITZ's original "SEALEVER®" graphite packing set with a pure carbon spacer bush for Class 300 and 600.

* US Patent No.5522603 & 5573253. Other patents registered or pending worldwide.

Bonnet gaskets and check valve cover gaskets

Series A: Choice of PTFE or flexible graphite gasket.

- (1) Class 150 : Reinforced PTFE
Class 300 : PTFE filled spiral wound with inner ring
Class 600 : PTFE filled spiral wound
- (2) Class 150 : S/S inserted flexible graphite sheet designed with permeation protective barrier
Class 300 : Spiral wound flexible graphite with inner ring
Class 600 : Spiral wound flexible graphite

Series C: Class 150 : Flexible graphite sheet with stainless steel insert and permeation protective barrier for low emission service.

Class 300 : Spiral wound (flexible graphite filler and stainless steel hoop) with a stainless steel inner ring

Class 600 : Ring joint metal gasket

Diametrical interface clearance

20 to 32 mils (0.5 to 0.8 mm) : Stem to gland

20 to 32 mils (0.5 to 0.8 mm) : Stem to bonnet bushing (Series C)

16 to 28 mils (0.4 to 0.7 mm) : Stem to backseat (Series A)

4 to 12 mils (0.1 to 0.3 mm) : Gland to stuffing box

Stem

16 to 32 RMS surface finish. Straightness and roundness are precision controlled according to KITZ design and manufacturing standards.

Stuffing box

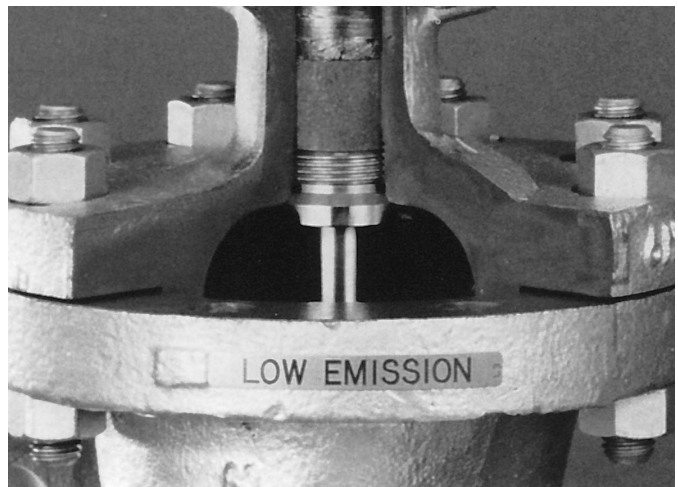
Maximum 125 RMS surface finish. Cylindricity and verticality are precision controlled according to KITZ design and manufacturing standards.

Product identification

Stainless steel ID plates with the letters "LOW EMISSION" in orange are welded on the bonnet flanges.

Low emission acceptance test

While no official testing standard is available as of February 1, 1999, KITZ Corporation has developed its own test method and evaluation criteria basing on the results of laboratory tests carried out for the last several years. Most significantly, KITZ employs 10 ppm as the acceptance criteria for the random test done prior to shipment to customers, in consideration of possible stress relaxation of packing material during transportation and storage.



Detailed technical presentation of KITZ low emission service valves are given in KITZ Cat. No.K-430. Also a brochure titled "Fugitive Emissions Solutions" is available from KITZ Corporation of America, 10750 Corporate Drive, Stafford, TX 77477, USA; Phone 1-281-491-7333 or 1-800-772-0073 Fax 1-281-491-9402, to help you understand what the problem of the fugitive emission is, how US government prepares to fight with this problem and where end users can feel relaxed with KITZ' solution proposals.

Inspection and Warranty Policy of KITZ Corporation

Every piece of KITZ stainless and high alloy steel valves is subjected to 100% pressure tests, according to API 598 or BS 6755 Part 1 requirements. Manufacturer's material test reports and inspection certificates are available on your request, while each valve is guaranteed for 12 months after placement in service, but not exceeding 18 months after shipment from the factories of KITZ Corporation.

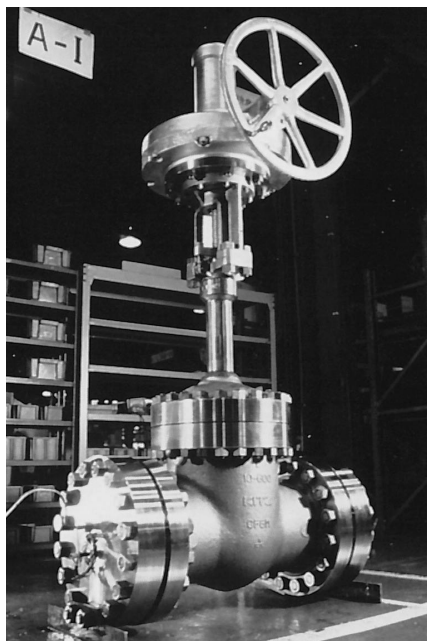
Various tests and inspection of valves made by KITZ Corporation include the following. Unless otherwise specified, all KITZ stainless and high alloy steel valves shall be subjected to these testing or inspection methods and evaluation criteria.

Test / Inspection Item	Method	Evaluation
Chemical composition analysis		Relevant ASTM Stds.
Mechanical property test	ASTM A370	Relevant ASTM Stds.
Pressure tests	API 598 or BS 6755 Part 1	API 598
Radiographic inspection	ASTM E142 / E49	ASME B16.34
Wet magnetic particle inspection	ASTM E138	
Liquid penetrant inspection	ASTM E165	
Low temperature impact test	ASTM E23	ASTM A352
Dimensional inspection		Relevant Valve Stds.
Visual inspection		MSS SP-55
Emission test*	EPA Method 21 and KITZ Std.	KITZ Std.

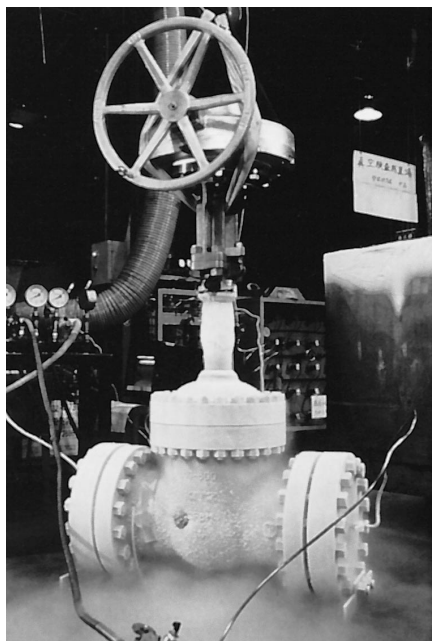
*Applicable to low emission service valves.

KITZ Low Temperature and Cryogenic Service Valves

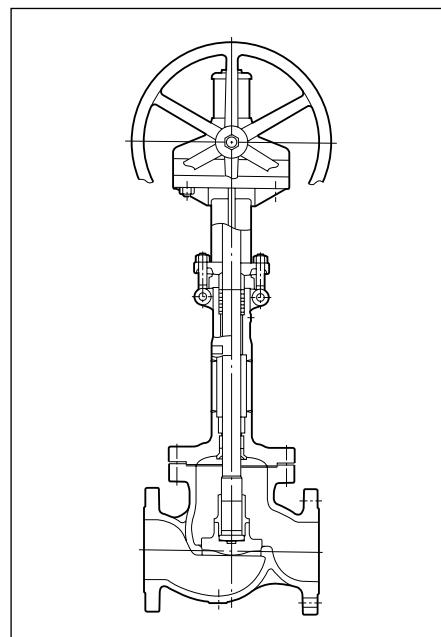
KITZ Corporation offers Series A and C stainless steel gate, globe and check valves for processing, storage, shipment and distribution of ethylene, LPG, LNG and other low temperature or cryogenic fluid down to -196°C (-321°F). Here, extended bonnets are provided as an insulation vapor column to protect gland packing rings from freezing or shrinking for their trouble-free sealing function. Detailed design information and cryogenic test reports are available on request.



KITZ cryogenic service gate valve



Cryogenic pressure test



KITZ cryogenic service globe valve

Pressure-Temperature Ratings ASME B 16.34-1996

Class		150				300				600			
Service temperature		CF8 (SCS13A)	CF8M (SCS14A)	CF3M* (SCS16A)	SDPV-K1** (SCS10)	CF8 (SCS13A)	CF8M (SCS14A)	CF3M* (SCS16A)	SDPV-K1** (SCS10)	CF8 (SCS13A)	CF8M (SCS14A)	CF3M* (SCS16A)	SDPV-K1** (SCS10)
°C	°F	psig		psig	psig	psig		psig	psig	psig		psig	
-29~+38	-20~+100	275	275	290	720	720	750	1440	1440	1500			
93	200	235	235	260	600	620	720	1200	1240	1440			
149	300	205	215	230	540	560	665	1080	1120	1330			
204	400	190	195	200	495	515	615	995	1025	1230			
260	500	170	170	170	465	480	575	930	955	1150			
316	600	140	140	140	435	450	555	875	900	1115			
343	650	125	125		430	445		860	890				
371	700	110	110		425	430		850	870				
399	750	95	95		415	425		830	855				
427	800	80	80		405	420		805	845				
454	850	65	65		395	420		790	835				
482	900	50	50		390	415		780	830				
510	950	35	35		380	385		765	775				
538	1000	20	20		320	350		640	700				
566	1050	20*	20*		310	345		615	685				
593	1100	20*	20*		255	305		515	610				
621	1150	20*	20*		200	235		400	475				
649	1200	20*	20*		155	185		310	370				
677	1250	20*	20*		115	145		225	295				
704	1300	20*	20*		85	115		170	235				
732	1350	20*	20*		60	95		125	190				
760	1400	20*	20*		50	75		95	150				
788	1450	15*	20*		35	60		70	115				
816	1500	10*	15*		25	40		55	85				
Hydrostatic shell test pressure		425psig			450psig	1100psig			1125psig	2175psig			2250psig
Valve closure test pressure	Hydrostatic	303psig			319psig	792psig			825psig	1584psig			1650psig
	Air	80psig			80psig	80psig			80psig	80psig			80psig

Class		900				1500			
Service temperature		CF8 (SCS13A)	CF8M (SCS14A)	CF3M* (SCS16A)	SDPV-K1** (SCS10)	CF8 (SCS13A)	CF8M (SCS14A)	CF3M* (SCS16A)	SDPV-K1** (SCS10)
°C	°F	psig		psig	psig	psig		psig	
-29~+38	-20~+100	2160	2160	2250	3600	3600	3750		
93	200	1800	1860	2160	3000	3095	3600		
149	300	1620	1680	1995	2700	2795	3325		
204	400	1490	1540	1845	2485	2570	3070		
260	500	1395	1435	1730	2330	2390	2880		
316	600	1310	1355	1670	2185	2255	2785		
343	650	1290	1330		2150	2220			
371	700	1275	1305		2125	2170			
399	750	1245	1280		2075	2135			
427	800	1210	1265		2015	2110			
454	850	1190	1255		1980	2090			
482	900	1165	1245		1945	2075			
510	950	1145	1160		1910	1930			
538	1000	965	1050		1605	1750			
566	1050	925	1030		1545	1720			
593	1100	770	915		1285	1525			
621	1150	595	710		995	1185			
649	1200	465	555		770	925			
677	1250	340	440		565	735			
704	1300	255	350		430	585			
732	1350	185	290		310	480			
760	1400	145	225		240	380			
788	1450	105	175		170	290			
816	1500	80	251		135	205			
Hydrostatic shell test pressure		3250psig			3375psig	5400psig			5625psig
Valve closure test pressure	Hydrostatic	2376psig			2475psig	3960psig			4125psig
	Air	80psig			80psig	80psig			80psig

★ Applied to welding end valves only. Flanged end valve ratings terminate at 538°C (1000°F).

* Permissible, but not recommended for prolonged usage above 454°C (850°F).

**SDPV is the trademark registered for KITZ Super Duplex Stainless steel, which is comparable to 25Cr-7Ni-4Mo-N castings.

Pressure-Temperature Ratings JIS B 2238-1996 for Series A and AJ

MPa(kgf/cm ²)						
Temperature Class	W	G1	G2	G3	H1	H2
	120°C below	220°C below	300°C	350°C	400°C	425°C
10K	1.37 (14)	1.18 (12)	0.98 (10)	—	—	—
20K	3.33 (34)	3.04 (31)	2.84 (29)	2.55 (26)	2.26 (23)	1.96 (20)

W : Static water without pressure variation

G1,G2,G3 : Steam,air,gas and oil

H1,H2 : Creeping-free service of steam, air, gas and oil

Note : ● Actual pressure-temperature rating in service depends on the materials of gland packing and gasket chosen for valves.

- 200°C (392°F) is the maximum service temperature for the standard jackets of Series AJ valves. Contact KITZ Corporation or its distributors for change of material, if service for higher temperature is required.

Pressure-Temperature Ratings for Series B (KITZ Standard)

MPa(kgf/cm ²)			
Temperature Class	W	G1	G2
	120°C below	150°C below	180°C below
5K	0.69 (7)	0.49 (5)	—
10K	1.37 (14)	1.08 (11)	0.98 (10)
20K	1.96 (20)	1.18 (12)	0.98 (10)

G1,G2 : Steam, air, non-inflammable gas and oil (lubricant and machining oil)

Note : Actual pressure-temperature rating in service depends on the materials of gland packing and gasket chosen for valves.

Valve Closure Test Pressures

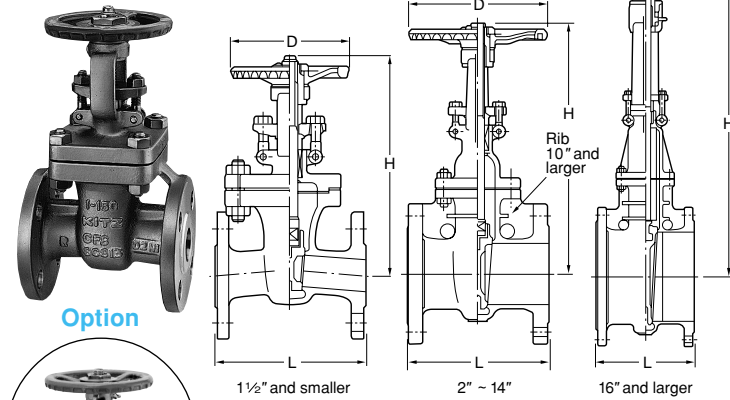
MPa(kgf/cm ²)							
Series	A / AJ (JIS B2238-1996)				B (KITZ Std.)		
Temperature Class	Hydrostatic		Air	Hydrostatic	Hydrostatic		Air
	Shell	Seat	Seat	Jacket	Shell	Seat	Seat
5K	—	—	—	—	1.04 (10.5)	0.76 (7.7)	0.59 (6)
10K	2.06 (21)	1.51 (15.4)	0.59 (6)	1.51 (15.4)	2.06 (21)	1.51 (15.4)	
20K	5.00 (51)	3.67 (37.4)		—	2.94 (30)	—	—

Note : Test pressure for check valves to JIS B2003

10K / Class 150 Gate Valve

Pressure-Temperature Rating: JIS B2238 · ASME B 16.34

10UMA(T)* / 150UMA
10UMAM(T)* / 150UMAM



Option



150UMARM 2 1/2" ~ 4"
with male-female round gasket face

Parts	10UMA(T)*	10UMAM(T)*	150UMA	150UMAM
Body	SCS13A	SCS14A	CF8	CF8M
Bonnet	SCS13A	SCS14A	CF8	CF8M
Stem	SUS304	SUS316	304	316
Disc	SCS13A	SCS14A	CF8	CF8M
Gland	SUS304	SUS316	304	316
Gland flange	SCS13A		CF8	
Gland packing	Refer to Page 6			
Gasket	Refer to Page 6			
Yoke sleeve	Ductile Ni-resist			
Yoke*1	FCD-S		Ductile iron	
Handwheel	FCD400		Ductile iron	
Gland bolt/nut	SUS304/304		B8/8	
Bonnet bolt/nut	SUS304/304		B8/8	
Grease nipple*2	S20C		Steel	
Name plate	A1050P		Aluminum	

*(T) Suffixing stands for the provision of ceramic filled PTFE gaskets.

*1Yoke is separated from bonnet for 10" and larger.

*2For 10" and larger.

Note : ● Body seats and/or disc seats can be optionally hard-faced.

● Size 1 1/4" is only for 10K.

● Flexible wedge for all sizes.

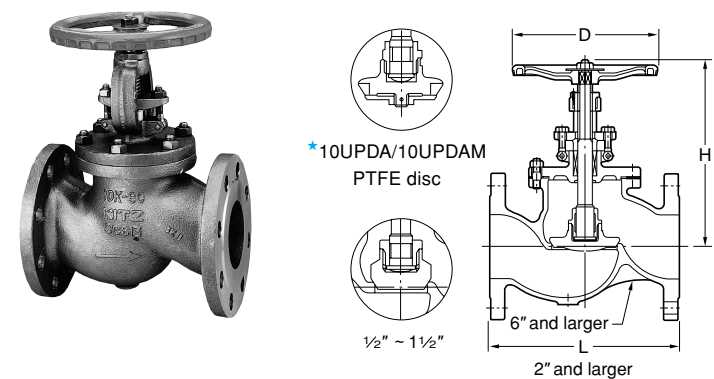
Face-to-Face Dimensions: JIS B2002 · ASME B16.10
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Size	in. mm	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
		15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L	in.	4.25	4.62	5.00	5.50	6.50	7.00	7.50	8.00	9.00	10.00	10.50	11.50	13.00	14.00	15.00	16.00	17.00	18.00	20.00
	mm	108	117	127	140	165	178	190	203	229	254	267	292	330	356	381	406	432	457	508
H (open)	in.	7.8	8.2	8.8	9.4	11.1	13.2	14.8	17.5	20.6	23.9	28.0	36.2	44.0	52.1	58.5	66.5	74.4	82.7	96.9
	mm	198	208	224	238	282	336	375	445	523	606	710	920	1117	1324	1486	1690	1890	2100	2460
D	in.	3.5	3.5	3.9	3.9	5.5	6.3	7.1	7.9	8.9	9.8	9.8	11.8	13.8	15.8	17.7	23.6	23.6	26.8	29.9
	mm	90	90	100	100	140	160	180	200	225	250	250	300	350	400	450	600	600	680	760

10K / Class 150 Globe Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

10UPA(T)* / 10 UPDA* / 150UPA
10UPAM(T)* / 10UPDAM* / 150UPAM



*10UPDA/10UPDAM
PTFE disc

1/2" ~ 1 1/2"

Face-to-face Dimensions: JIS B2002 · ASME B16.10
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	10UPA(T)* 10UPDA*1	10UPAM(T)* 10UPDAM*1	150UPA	150UPAM
Body	SCS13A	SCS14A	CF8	CF8M
Bonnet	SCS13A	SCS14A	CF8	CF8M
Stem	SUS304	SUS316	304	316
Disc	1/2"~2"	SUS304	SUS316	304
	2 1/2"~12"	SCS13A/PTFE*1	SCS14A/PTFE*1	CF8
Disc holder*2	SUS304	SUS316	—	—
Gland	SUS304	SUS316	304	316
Gland flange	SCS13A		CF8	
Gland packing	Refer to Page 6			
Gasket	Refer to Page 6			
Yoke bush	Ductile Ni-resist			
Handwheel	FCD400		Ductile iron	
Gland bolt/nut	SUS304/304		B8/8	
Bonnet bolt/nut	SUS304/304		B8/8	
Name plate	A1050P		Aluminum	

*(T) Suffixing stands for the provision of ceramic filled PTFE gaskets.

*1Soft seated disc.

*2Fig. 10UPDA(M) only.

Note : ● Body seats and/or disc seats can be optionally hard-faced.

● Size 1 1/4" is only for 10K.

● Size 10" & 12" are only for Class 150.

Hammer-blow type handwheel

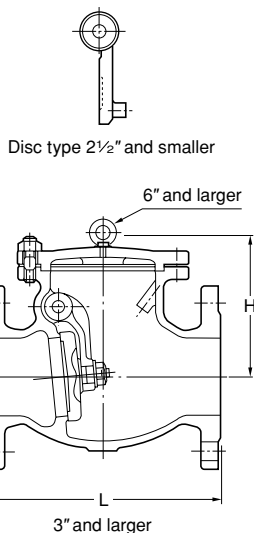
for 10" and 12"

Size	in. mm	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10	12
		15	20	25	32	40	50	65	80	100	125	150	200	250	300
L	in.	4.25	4.62	5.00	5.50	6.50	8.00	8.50	9.50	11.50	14.00	16.00	19.50	24.50	27.50
	mm	108	117	127	140	165	203	216	241	292	356	406	495	622	698
H (open)	in.	6.6	6.6	6.8	7.5	8.1	9.3	9.8	11.5	12.8	15.0	17.8	22.0	35.4	38.9
	mm	168	168	173	190	205	235	248	291	325	380	453	559	900	987
D	in.	3.5	3.5	3.9	4.7	5.5	6.3	7.1	7.9	8.9	9.8	13.8	15.7	19.7	19.7
	mm	90	90	100	120	140	160	180	200	225	250	350	400	500	500

10K / Class 150 Swing Check Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

10UOA(T)* / 150UOA
10UOAM(T)* / 150UOAM



Face-to-Face Dimensions: JIS B2002 · ASME B16.10
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Size	in.	1½	2	2½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L	in.	6.50	8.00	8.50	9.50	11.50	13.00	14.00	19.50	24.50	27.50	31.00	34.00	38.50	38.50	51.00
	mm	165	203	216	241	292	330	356	495	622	698	787	864	978	978	1295
H	in.	4.2	4.7	5.3	5.8	6.7	7.5	8.4	9.96	11.0	12.3	14.3	16.1	18.7	19.9	23.4
	mm	107	120	135	147	169	190	213	253	279	312	364	410	475	505	595

Parts	10UOA(T)*	10UOAM(T)*	150UOA	150UOAM
Body	SCS13A	SCS14A	CF8	CF8M
Cover	SCS13A	SCS14A	CF8	CF8M
Disc	SCS13A	SCS14A	CF8	CF8M
Disc nut*	SUS304	SUS316	304	316
Gasket	Refer to Page 6			
Hinge pin	SUS304	SUS316	304	316
Plug	SUS304	SUS316	304	316
Arm	SCS13A	SCS14A	CF8	CF8M
Washer*	SUS316, SUS316L (3"~6")		316, 316L (3"~6")	
Cover bolt/nut	SUS304/304		B8/8	
Split pin*	SUS316L		316L	

*(T) Suffixing stands for the provision of ceramic filled PTFE gaskets.

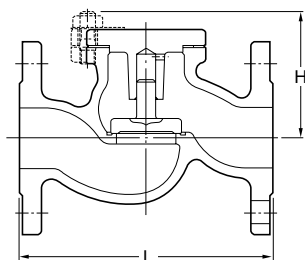
*For 3" and larger.

Note : Body seats and/or disc seats can be optionally hard-faced.

10K / Class 150 Lift Check Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

10UNA(T)* / 150UNA
10UNAM(T)* / 150UNAM



Face-to-Face Dimensions: JIS B2002 · ASME B16.10
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Size	in.	½	¾	1	1¼	1½
	mm	15	20	25	32	40
L	in.	4.25	4.62	5.00	5.50	6.50
	mm	108	117	127	140	165
H	in.	2.7	2.8	2.8	3.1	3.3
	mm	68	70	70	80	83

Parts	10UNA(T)*	10UNAM(T)*	150UNA	150UNAM
Body	SCS13A	SCS14A	CF8	CF8M
Cover	SCS13A	SCS14A	CF8	CF8M
Disc	SUS304	SUS316	304	316
Gasket	Refer to Page 6			
Cover bolt/nut	SUS304/304		B8/8	

*(T) Suffixing stands for the provision of ceramic filled PTFE gaskets.

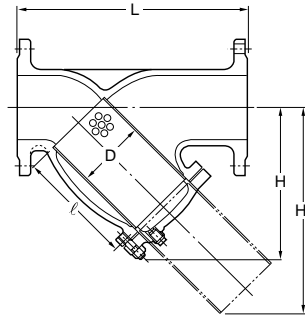
Note : ● Body seats and/or disc seats can be optionally hard-faced.

● Size 1¼" is only for 10K.

10K / Class 150 Y-pattern Strainer

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

10UYA / 150UYA
10UYAM / 150UYAM



End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	10UYA	10UYAM	150UYA	150UYAM
Body	SCS13A	SCS14A	CF8	CF8M
Cover	SCS13A	SCS14A	CF8	CF8M
Gasket	Refer to Page 6			
Screen	SUS304	SUS316	304	316

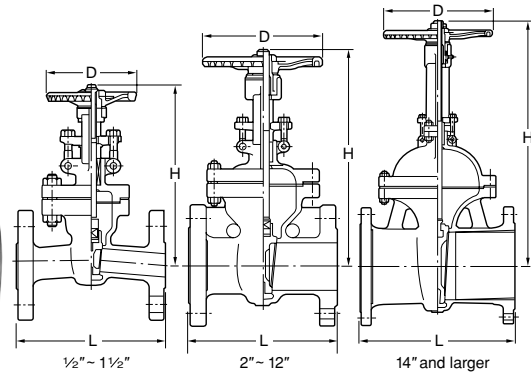
Note : ● Screen is a 40-mesh stainless wire net reinforced with a punched stainless steel plate.
● Size 10" and larger for Fig. 10UYA(M).

Size	in.	2½	3	4	5	6	8	10	12
	mm	65	80	100	125	150	200	250	300
L	in.	10.63	11.42	13.78	15.35	17.32	21.25	29.9	34.2
	mm	270	290	350	390	440	540	760	870
H	in.	6.3	7.8	9.2	10.5	12.6	15.0	21.2	25
	mm	160	197	233	267	320	380	538	635
H1	in.	8.5	10.4	12.6	15.0	17.8	21.9	28.5	34.3
	mm	215	263	320	383	452	555	725	870
D	in.	2.8	3.4	4.3	5.4	6.4	8.3	10.6	12.6
	mm	72	86	110	137	162	212	270	320
ℓ	in.	4.72	5.91	7.09	8.46	10.04	12.20	15.7	18.90
	mm	120	150	180	215	255	310	400	480

20K / Class 300 Gate Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

20UMA / 300UMA
20UMAM / 300UMAM



Face-to-Face Dimensions: JIS B2002 · ASME B16.10
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	20UMA	20UMAM	300UMA	300UMAM
Body	SCS13A	SCS14A	CF8	CF8M
Bonnet	SCS13A	SCS14A	CF8	CF8M
Stem	SUS304	SUS316	304	316
Disc	SCS13A	SCS14A	CF8	CF8M
Gland	SUS304	SUS316	304	316
Gland flange	SCS13A		CF8	
Gland packing	Refer to Page 6			
Gasket	Refer to Page 6			
Yoke*1	FCD-S		Ductile iron	
Yoke sleeve	Ductile Ni-resist			
Handwheel	FCD400		Ductile iron	
Gland bolt/nut	SUS304/304		B8/8	
Gland bolt pin	SUS403		403	
Bonnet bolt/nut	SUS304/304		B8/8	
Grease nipple*2	S20C		Carbon steel	
Name plate	A1050P		Aluminum	

*1 Yoke is separated from bonnet for 10" and larger.

*2 For 10" and larger.

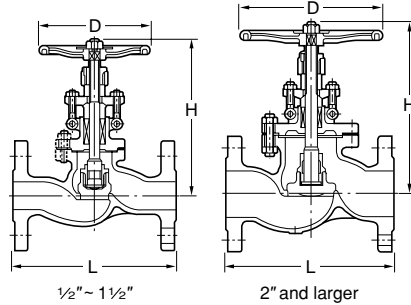
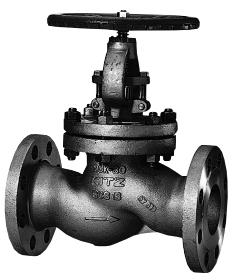
Note : ● Body seats and/or disc seats can be optionally hard-faced.
● Flexible wedge for all sizes.

Size	in.	½	¾	1	1½	2	2½	3	4	5	6	8	10	12	14	16	18	20	24
	mm	15	20	25	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L	in.	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	15.00	15.88	16.50	18.00	19.75	30.00	33.00	36.00	39.00	45.00
	mm	140	152	165	190	216	241	283	305	381	403	419	457	502	762	838	914	991	1143
H (open)	in.	8.1	8.5	9.3	11.5	13.9	15.9	18.5	22.1	24.7	29.7	38.1	46.1	54.3	62.6	71.3	78.0	86.2	101.6
	mm	207	217	236	292	353	404	470	560	626	753	968	1170	1380	1590	1810	1980	2190	2580
D	in.	3.9	3.9	3.9	5.5	7.1	7.1	8.9	9.8	11.8	13.8	15.8	17.7	19.7	23.6	23.6	26.8	29.9	35.8
	mm	100	100	100	140	180	180	225	250	300	350	400	450	500	600	600	680	760	910

20K / Class 300 Globe Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

20UPA / 300UPA
20UPAM / 300UPAM



Face-to-Face Dimensions: JIS B2002 · ASME B16.10
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	20UPA	20UPAM	300UPA	300UPAM
Body	SCS13A	SCS14A	CF8	CF8M
Bonnet	SCS13A	SCS14A	CF8	CF8M
Stem	SUS304	SUS316	304	316
Disc	1/2"~1 1/2"	SUS304	SUS316	304
	2"~10"	SCS13A	SCS14A	CF8
Lock nut	1/2"~1 1/2"	SUS304	SUS316	304
	2"~10"	SCS13A	SCS14A	CF8
Gland	SUS304	SUS316	304	316
Gland flange	SCS13A		CF8	
Gland packing	Refer to Page 6			
Gasket	Refer to Page 6			
Yoke bush	Ductile Ni-resist			
Handwheel	FCD400		Ductile iron	
Gland bolt/nut	SUS304/304		B8/8	
Gland bolt pin	SUS403		403	
Bonnet bolt/nut	SUS304/304		B8/8	
Name plate	A1050P		Aluminum	

Note : Body seats and/or disc seats can be optionally hard-faced.

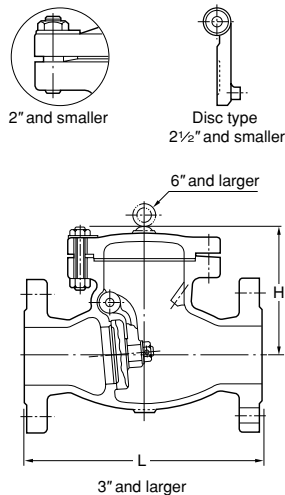
Hammer-blow type handwheel
for 5" and 6"

Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	5	6	8	10
	mm	15	20	25	40	50	65	80	100	125	150	200	250
L	in.	6.00	7.00	8.00	9.00	10.50	11.50	12.50	14.00	15.75	17.50	22.00	24.50
	mm	152	178	203	229	267	292	318	356	400	444	559	622
H (open)	in.	7.3	7.3	7.4	9.3	11.4	11.7	13.5	15.7	19.4	22.2	33.7	41.4
	mm	186	186	187	236	289	297	343	398	493	564	857	1052
D	in.	3.9	3.9	3.9	6.3	7.1	7.9	9.8	11.8	13.8	15.8	19.7	23.6
	mm	100	100	100	160	180	200	250	300	350	400	500	600

20K / Class 300 Swing Check Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

20UOA / 300UOA
20UOAM / 300UOAM



Face-to-Face Dimensions: JIS B2002 · ASME B16.10
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	20UOA	20UOAM	300UOA	300UOAM
Body	SCS13A	SCS14A	CF8	CF8M
Cover	SCS13A	SCS14A	CF8	CF8M
Disc	SCS13A	SCS14A	CF8	CF8M
Gasket	Refer to Page 6			
Disc nut*	SUS304	SUS316	304	316
Hinge pin	SUS304	SUS316	304	316
Plug	SUS304	SUS316	304	316
Arm*	SCS13A	SCS14A	CF8	CF8M
Washer*	SUS316, SUS316L (3"~6")		316, 316L (3"~6")	
Cover bolt/nut	SUS304/304		B8/8	
Split pin	SUS316L		316L	

*Size 3" and larger.

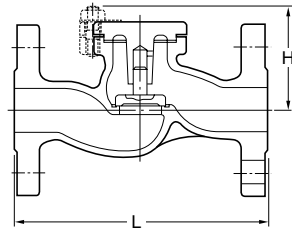
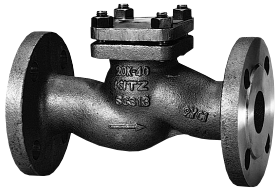
Note : Body seats and/or disc seats can be optionally hard-faced.

Size	in.	1 1/2	2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
	mm	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L	in.	9.50	10.50	11.50	12.50	14.00	15.75	17.50	21.00	24.50	28.00	33.00	34.00	38.50	40.00	53.00
	mm	241	267	292	318	356	400	444	533	622	711	838	864	978	1016	1346
H	in.	4.6	5.3	6.3	7.1	7.9	9.1	10.0	11.6	13.2	14.8	17.2	18.9	23.0	23.8	24.8
	mm	117	135	160	180	200	230	255	295	335	375	437	480	585	605	630

20K / Class 300 Lift Check Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

20UNA / 300UNA
20UNAM / 300UNAM



Face-to-Face Dimensions: JIS B2002 · ASME B16.10
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Size	in.	1/2	3/4	1	1 1/2
	mm	15	20	25	40
L	in.	6.00	7.00	8.00	9.00
	mm	152	178	203	229
H	in.	2.9	2.9	2.9	3.5
	mm	73	73	73	90

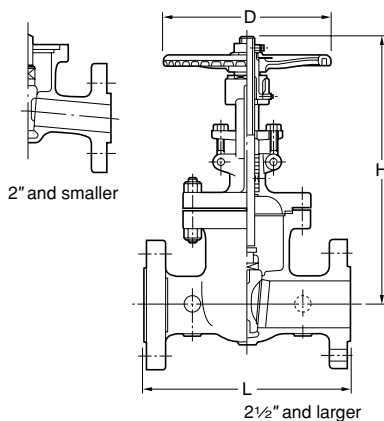
Parts	20UNA	20UNAM	300UNA	300UNAM
Body	SCS13A	SCS14A	CF8	CF8M
Cover	SCS13A	SCS14A	CF8	CF8M
Disc	SUS304	SUS316	304	316
Gasket	Refer to Page 6			
Cover bolt/nut	SUS304/304		B8/8	

Note : Body seats and/or disc seats can be optionally hard-faced.

Class 600 Gate Valve

Pressure-Temperature Rating: ASME B16.34

600UMA
600UMAM



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: ASME B16.34

Parts	600UMA	600UMAM
Body	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc*1	CF8	CF8M
Gland	304	316
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke*2	CF8	
Yoke sleeve	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Gland bolt pin	403	
Bonnet bolt/nut	B8/8	
Grease nipple*3	Carbon steel	
Thrust bearing*4	Steel	
Collar*3	304	316
Name plate	Aluminum	

*1 Body seats and/or disc seats can be optionally hard-faced.

*2 Yoke is separated from bonnet for 8" and larger.

*3 For 2" and larger.

*4 For 6" and larger.

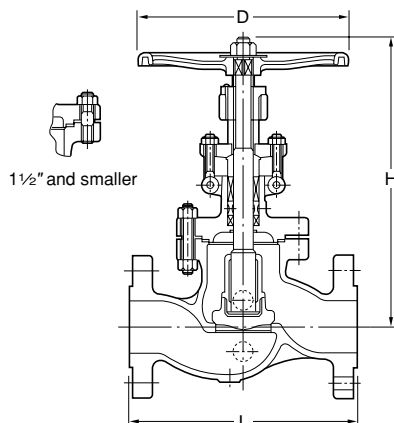
Note : Flexible wedge for all sizes.

Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12
	mm	15	20	25	40	50	65	80	100	150	200	250	300
L	in.	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00
	mm	165	190	216	241	292	330	356	432	559	660	787	838
H (open)	in.	8.1	8.7	9.8	13.2	17.7	18.9	21.4	26.6	35.6	44.5	52.3	60.0
	mm	207	222	250	335	450	480	544	676	905	1130	1328	1524
D	in.	3.9	3.9	5.5	7.1	7.9	8.9	9.8	13.8	17.7	19.7	23.6	26.8
	mm	100	100	140	180	200	225	250	350	450	500	600	680

Class 600 Globe Valve

Pressure-Temperature Rating: ASME B16.34

**600UPA
600UPAM**



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: ASME B16.34

Parts	600UPA	600UPAM
Body	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc* ¹	1/2"~1 1/2" 2"~8"	316 CF8M
Gland	304	316
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke bush	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Bonnet bolt/nut	B8/8	
Collar* ²	304	316
Gland bolt pin	403	
Name plate	Aluminum	

*¹Body seats and/or disc seats can be optionally hard-faced.

*²Size 2" and larger.

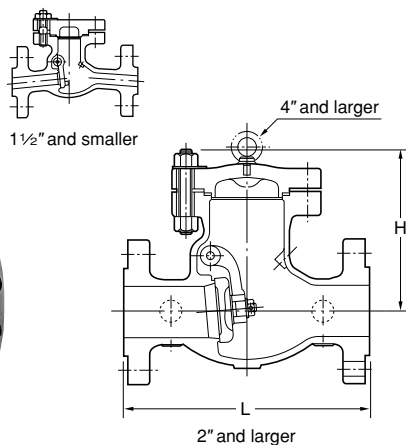
Hammer-blow type handwheel
for 3" and larger

Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8
	mm	15	20	25	40	50	65	80	100	150	200
L	in.	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	26.00
	mm	165	190	216	241	292	330	356	432	559	660
H (open)	in.	7.6	7.8	9.1	10.7	14.8	15.8	19.6	23.1	30.6	35.1
	mm	192	198	230	271	375	400	498	586	778	892
D	in.	4.7	4.7	6.3	7.9	8.9	9.8	13.8	15.8	23.6	23.6
	mm	120	120	160	200	225	250	350	400	600	600

Class 600 Swing Check Valve

Pressure-Temperature Rating: ASME B16.34

**600UOA
600UOAM**



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: ASME B16.34

Parts	600UOA	600UOAM
Body	CF8	CF8M
Cover	CF8	CF8M
Disc* ¹	CF8	CF8M
Gasket	Refer to Page 6	
Disc nut* ²	304	316
Hinge pin	304	316
Plug	304	316
Arm* ²	CF8	CF8M
Washer* ²	316, 316L (3"~6")	316, 316L (3"~6")
Cover bolt/nut	B8/8	
Split pin* ²	316L	
Name plate	Aluminum	

*¹Body seats and/or disc seats can be optionally hard-faced.

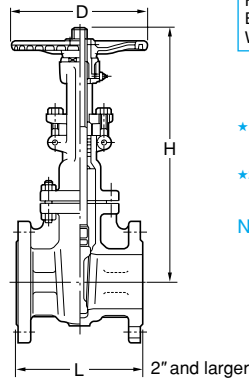
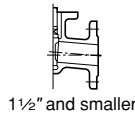
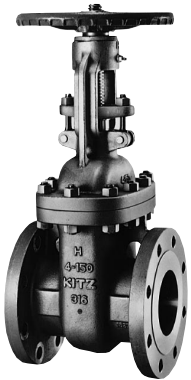
*²Size 2" and larger.

Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12
	mm	15	20	25	40	50	65	80	100	150	200	250	300
L	in.	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00
	mm	165	190	216	241	292	330	356	432	559	660	787	838
H	in.	3.5	3.8	4.1	4.7	7.1	8.1	9.3	10.6	13.0	15.8	16.9	18.5
	mm	90	95	105	120	180	205	235	270	330	400	430	470

Class 150 Gate Valve

Pressure-Temperature Rating: ASME B16.34

150UMC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

- *1 Body seats and/or disc seats can be optionally hard-faced.
- *2 Yoke is separated from bonnet for 14" and larger.
- Note:
 - Renewable seats are optionally available for 2" and larger.
 - Solid wedge for 4" and smaller.
 - Flexible wedge for all other sizes.

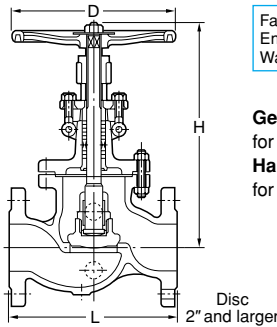
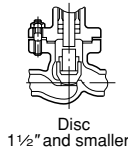
Parts	150UMC	150UMCM
Body*1	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc*1	CF8	CF8M
Gland	304	316
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke*2	CF8	
Yoke sleeve	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Gland bolt pin	403	
Bonnet bolt/nut	B8/8	
Grease nipple	Carbon steel	
Name plate	Aluminum	

Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	15	20	25	40	50	65	80	100	150	200	250	300	350	400	450	500	600
L	in.	4.25	4.62	5.00	6.50	7.00	7.50	8.00	9.00	10.50	11.50	13.00	14.00	15.00	16.00	17.00	18.00	20.00
	mm	108	117	127	165	178	190	203	229	267	292	330	356	381	406	432	457	508
H (open)	in.	8.6	9.1	10.8	13.5	15.3	17.1	20.0	23.2	30.0	37.8	45.8	53.9	60.0	66.9	74.6	83.5	99.0
	mm	218	231	273	342	389	435	507	590	762	960	1164	1370	1523	1700	1895	2120	2515
D	in.	3.5	3.9	4.7	6.3	7.9	7.9	9.8	9.8	11.8	13.8	15.8	17.7	19.7	23.6	23.6	26.8	29.9
	mm	90	100	120	160	200	200	250	250	300	350	400	450	500	600	600	680	760

Class 150 Globe Valve

Pressure-Temperature Rating: ASME B16.34

150UPC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

- Gear operation**
for 10" to 12"
Hammer-blow type handwheel
for 6" and 8"

Parts	150UPC	150UPCM
Body*	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc*	CF8/304	CF8M/316
Lock nut	CF8/304	CF8M/316
Gland	304	316
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke bush	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Gland bolt pin	403	
Bonnet bolt/nut	B8/8	
Name plate	Aluminum	

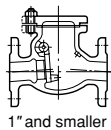
Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12
	mm	15	20	25	40	50	65	80	100	150	200	250	300
L	in.	4.25	4.62	5.00	6.50	8.00	8.50	9.50	11.50	16.00	19.50	24.50	27.50
	mm	108	117	127	165	203	216	241	292	406	495	622	698
H (open)	in.	7.7	8.0	9.1	10.8	12.9	14.0	15.4	17.95	19.9	24.1	37.6	40.4
	mm	196	202	233	273	328	356	390	456	506	613	955	1025
D	in.	3.5	3.9	4.7	6.3	7.9	8.9	9.8	9.8	13.8	15.8	19.7	19.7
	mm	90	100	120	160	200	225	250	250	350	400	500	500

- * Body seats and/or disc seats can be optionally hard-faced.
- Note: Renewable seats are optionally available for 2" and larger.

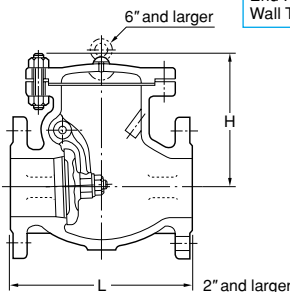
Class 150 Swing Check Valve

Pressure-Temperature Rating: ASME B16.34

150UOC(M)



1 1/2" only



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

- *1 Body seats and/or disc seats can be optionally hard-faced.
- *2 For 2" and larger.
- Note: Renewable seats are optionally available for 2" and larger.

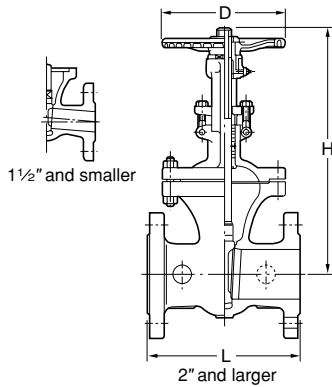
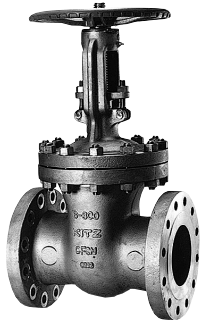
Parts	150UOC	150UOCM
Body*1	CF8	CF8M
Cover	CF8	CF8M
Disc*1	CF8	CF8M
Gasket	Refer to Page 6	
Disc nut*2	304	316
Hinge pin	304	316
Plug	304	316
Arm*2	CF8	CF8M
Washer*2	304	316, 316L (3"-6")
Cover bolt/nut	B8/8	
Split pin*2	304	316L
Name plate	Aluminum	

Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	15	20	25	40	50	65	80	100	150	200	250	300	350	400	450	500	600
L	in.	4.25	4.62	5.00	6.50	8.00	8.50	9.50	11.50	14.00	19.50	24.50	27.50	31.00	34.00	38.50	38.50	51.00
	mm	108	117	127	165	203	216	241	292	356	495	622	698	787	864	978	978	1295
H	in.	3.2	3.3	3.9	4.5	6.0	6.7	7.1	7.9	9.8	11.0	13.4	14.8	15.7	16.9	18.3	19.7	22.8
	mm	80	84	100	115	152	170	180	200	250	280	340	376	398	428	465	500	580

Class 300 Gate Valve

Pressure-Temperature Rating: ASME B16.34

300UMC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

- *1 Body seats and/or disc seats can be optionally hard-faced.
- *2 Yoke is separated from bonnet for 12" and larger.
- Note : ● Renewable seats are optionally available for 2" and larger.
- Solid wedge for 4" and smaller.
- Flexible wedge for all other sizes.

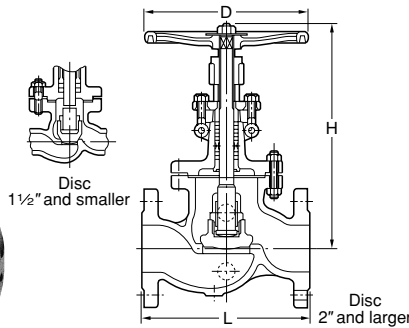
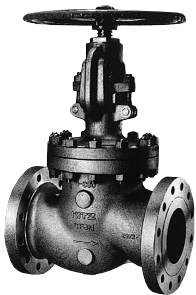
Parts	300UMC	300UMCM
Body*1	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc*1	CF8	CF8M
Gland	304	316
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke*2	CF8	
Yoke sleeve	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Bonnet bolt/nut	B8/8	
Name plate	Aluminum	
Grease nipple	Carbon steel	
Collar	316	

Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	15	20	25	40	50	65	80	100	150	200	250	300	350	400	450	500	600
L	in.	5.50	6.00	6.50	7.50	8.50	9.50	11.12	12.00	15.88	16.50	18.00	19.75	30.00	33.00	36.00	39.00	45.00
	mm	140	152	165	190	216	241	283	305	403	419	457	502	762	838	914	991	1143
H (open)	in.	8.9	9.8	12.2	14.9	16.4	17.9	20.8	24.2	31.4	40.2	48.1	56.8	62.0	68.7	76.6	84.8	100.6
	mm	227	250	310	378	416	455	528	615	798	1020	1222	1442	1575	1745	1945	2155	2555
D	in.	3.9	3.9	4.7	7.9	7.9	7.9	9.8	9.8	13.8	15.8	17.7	19.7	23.6	23.6	26.8	29.9	35.8
	mm	100	100	120	200	200	200	250	250	350	400	450	500	600	600	680	760	910

Class 300 Globe Valve

Pressure-Temperature Rating: ASME B16.34

300UPC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

- Gear operation for 8" to 12"
- Hammer-blow type handwheel for 6"

Parts	300UPC	300UPCM
Body*	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc*	CF8/304	CF8M/316
Lock nut	CF8/304	CF8M/316
Gland	316	
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke bush	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Gland bolt pin	403	
Bonnet bolt/nut	B8/8	
Name plate	Aluminum	
Collar	316	

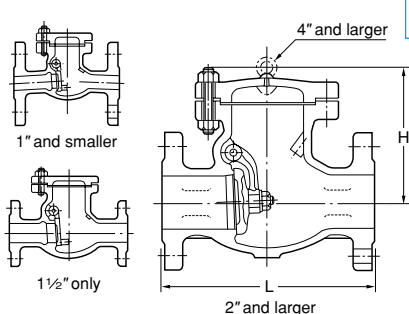
Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12
	mm	15	20	25	40	50	65	80	100	150	200	250	300
L	in.	6.00	7.00	8.00	9.00	10.50	11.50	12.50	14.00	17.50	22.00	24.50	28.00
	mm	152	178	203	229	267	292	318	356	444	559	622	711
H (open)	in.	8.7	8.7	10.1	11.9	13.9	15.8	17.3	20.0	26.7	40.9	44.9	46.7
	mm	220	222	257	302	352	400	440	509	677	1038	1141	1186
D	in.	3.9	3.9	5.5	7.1	7.9	9.8	9.8	13.8	17.7	19.7	23.6	23.6
	mm	100	100	140	180	200	250	250	350	450	500	600	600

- * Body seats and/or disc seats can be optionally hard-faced.
- e : Renewable seats are optionally available for 2" and larger.

Class 300 Swing Check Valve

Pressure-Temperature Rating: ASME B16.34

300UOC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

- *1 Body seats and/or disc seats can be optionally hard-faced.
- *2 For 2" and larger.
- Note : Renewable seats are optionally available for 2" and larger.

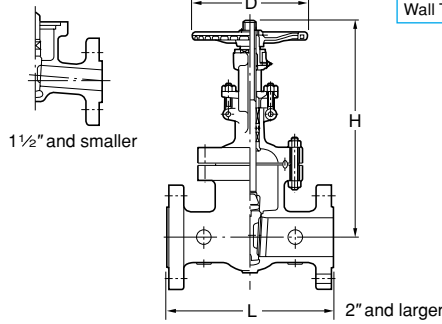
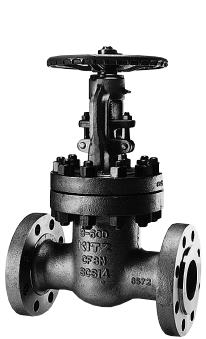
Parts	300UOC	300UOCM
Body*1	CF8	CF8M
Cover	CF8	CF8M
Disc*1	CF8	CF8M
Gasket	Refer to Page 6	
Disc nut*2	304	316
Hinge pin	304	316
Plug	304	316
Arm*2	CF8	CF8M
Washer*2	304	316, 316L (3"-6")
Cover bolt/nut	B8/8	
Split pin*2	304	316L
Name plate	Aluminum	

Size	in.	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
	mm	15	20	25	40	50	65	80	100	150	200	250	300	350	400	450	500	600
L	in.	5.50	6.00	8.50	9.50	10.50	11.50	12.50	14.00	17.50	21.00	24.50	28.00	33.00	34.00	38.50	40.00	53.00
	mm	140	152	216	241	267	292	318	356	444	533	622	711	838	864	978	1016	1346
H	in.	3.2	3.3	4.0	4.6	6.5	7.5	8.1	8.9	10.7	13.0	14.2	16.0	18.9	20.7	21.9	24.3	28.8
	mm	81	84	101	118	165	190	205	225	272	330	360	406	480	527	555	618	732

Class 600 Gate Valve

Pressure-Temperature Rating: ASME B16.34

600UMC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

Parts	600UMC	600UMCM
Body* ¹	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc* ¹	CF8	CF8M
Gland	304	316
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke* ²	CF8	
Yoke sleeve	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Gland bolt pin	403	
Bonnet bolt/nut	B8/8	
Grease nipple	Carbon steel	
Name plate	Aluminum	

*¹ Body seats and/or disc seats can be optionally hard-faced.

*² Yoke is separated from bonnet for 8" and larger.

Note : ● Renewable seats are optionally available for 2" and larger.

● Solid wedge for 1" & 1 1/2".

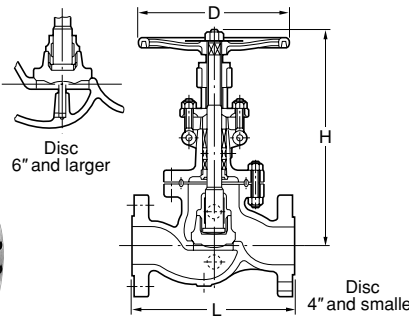
● Flexible wedge for all other sizes.

Size	in.	1/2	3/4	1	1 1/2	2	3	4	6	8	10	12
	mm	15	20	25	40	50	80	100	150	200	250	300
L	in.	6.50	7.50	8.50	9.50	11.50	14.00	17.00	22.00	26.00	31.00	33.00
	mm	165	190	216	241	292	356	432	559	660	787	838
H (open)	in.	10.4	10.7	13.1	15.6	18.7	22.4	27.5	36.9	42.8	50.4	59.1
	mm	263	271	332	396	475	570	698	936	1087	1280	1500
D	in.	3.9	5.5	6.3	7.9	7.9	9.8	11.8	17.7	19.7	23.6	26.8
	mm	100	140	160	200	200	250	300	450	500	600	680

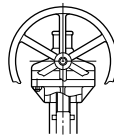
Class 600 Globe Valve

Pressure-Temperature Rating: ASME B16.34

600UPC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600



Gear operation
for 4" to 8"
Hammer-blow type handwheel
for 3"

Parts	600UPC	600UPCM
Body* ¹	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc* ¹	304/CF8	316/CF8M
Lock nut	304/CF8	316/CF8M
Gland	316	
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke bush	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Gland bolt pin	403	
Bonnet bolt/nut	B8/8	
Name plate	Aluminum	

*¹ Body seats and/or disc seats can be optionally hard-faced.

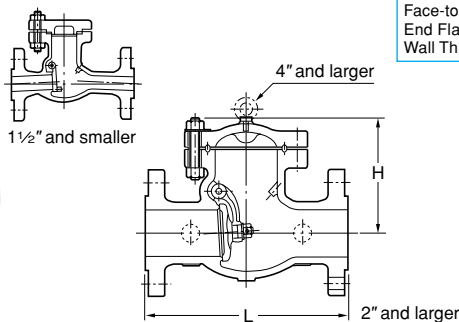
Note : Renewable seats are optionally available for 2" and larger.

Size	in.	1/2	3/4	1	1 1/2	2	3	4	6	8
	mm	15	20	25	40	50	80	100	150	200
L	in.	6.50	7.50	8.50	9.50	11.50	14.00	17.00	22.00	26.00
	mm	165	190	216	241	292	356	432	559	660
H (open)	in.	11.0	10.8	11.4	13.4	16.3	20.8	34.5	38.1	45.9
	mm	280	275	290	340	413	529	877	967	1165
D	in.	5.5	5.5	6.3	7.9	9.8	13.8	19.7	19.7	23.6
	mm	140	140	160	200	250	350	500	500	600

Class 600 Swing Check Valve

Pressure-Temperature Rating: ASME B16.34

600UOC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

Parts	600UOC	600UOCM
Body* ¹	CF8	CF8M
Cover	CF8	CF8M
Disc* ¹	CF8	CF8M
Disc nut* ²	304	316
Gasket	Refer to Page 6	
Hinge pin* ²	304	316
Arm* ²	CF8	CF8M
Cover bolt/nut	B8/8	
Eye bolt	Carbon steel	
Plug	304	316
Name plate	Aluminum	

*¹ Body seats and/or disc seats can be optionally hard-faced.

*² For 2" and larger.

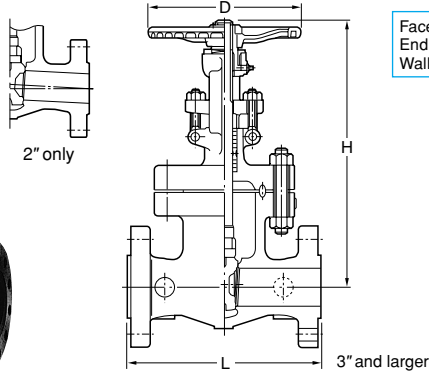
Note : Renewable seats are optionally available for 2" and larger.

Size	in.	1	1 1/2	2	3	4	6	8	10	12
	mm	25	40	50	80	100	150	200	250	300
L	in.	8.50	9.50	11.50	14.00	17.00	22.00	26.00	31.00	33.00
	mm	216	241	292	356	432	559	660	787	838
H	in.	5.6	6.8	6.8	8.7	10.1	12.4	14.1	16.3	18.2
	mm	142	172	172	220	256	316	358	415	462

Class 900 Gate Valve

Pressure-Temperature Rating: ASME B16.34

900UMC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

Parts	900UMC	900UMCM
Body* ¹	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc* ¹	CF8	CF8M
Gland	304	316
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke* ²	CF8	
Yoke sleeve	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Gland bolt pin	403	
Bonnet bolt/nut	B8/8	
Grease nipple	Carbon steel	
Name plate	304	

*¹ Body seats and/or disc seats can be optionally hard-faced.

*² Yoke is separated from bonnet for 6" and larger.

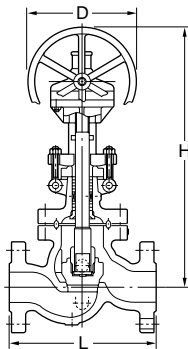
Note : ● All integral seats
● All flexible wedges

Size	in.	2	3	4	6	8	10	12
	mm	50	80	100	150	200	250	300
L	in.	14.50	15.00	18.00	24.00	29.00	33.00	38.00
	mm	368	381	457	610	737	838	965
H (open)	in.	21.0	24.4	27.7	36.1	43.6	51.7	60.2
	mm	523	620	704	916	1107	1313	1528
D	in.	9.8	11.8	13.8	19.7	23.6	26.8	29.9
	mm	250	300	350	500	600	680	760

Class 900 Globe Valve

Pressure-Temperature Rating: ASME B16.34

900UPC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

All gear operation

Parts	900UPC	900UPCM
Body* ¹	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc* ¹	CF8	CF8M
Lock nut	CF8	CF8M
Gland	304	316
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke* ²	CF8	
Yoke bush	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Gland bolt pin	403	
Bonnet bolt/nut	B8/8	
Name plate	304	

*¹ Body seats and/or disc seats can be optionally hard-faced.

*² Yoke is separated from bonnet for 4" and larger.

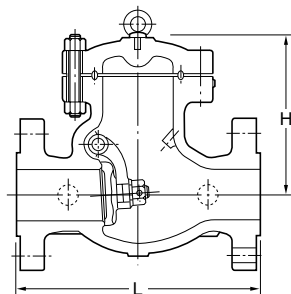
Note : All integral seats

Size	in.	3	4	6	8
	mm	80	100	150	200
L	in.	15.00	18.00	24.00	29.00
	mm	381	457	610	737
H	in.	31.5	36.7	46.1	53.0
	mm	800	933	1171	1345
D	in.	19.7	19.7	23.6	23.6
	mm	500	500	600	600

Class 900 Swing Check Valve

Pressure-Temperature Rating: ASME B16.34

900UOC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

Parts	900UOC	900UOCM
Body*	CF8	CF8M
Cover	CF8	CF8M
Disc*	CF8	CF8M
Disc nut	304	316
Gasket	Refer to Page 6	
Hinge pin	304	316
Arm	CF8	CF8M
Cover bolt/nut	B8/8	
Eye bolt	Carbon steel	
Plug	304	316
Name plate	304	

* Body seats and/or disc seats can be optionally hard-faced.

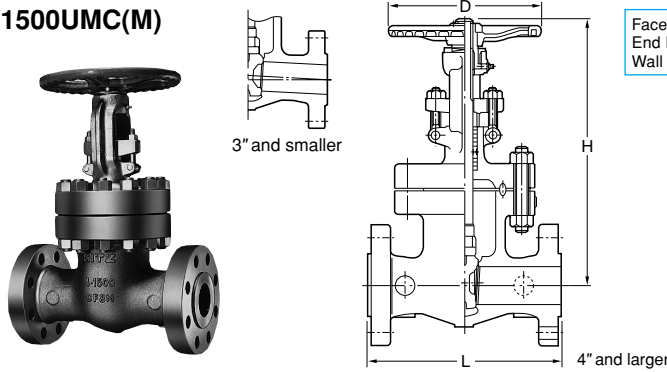
Note : All integral seats

Size	in.	3	4	6	8
	mm	80	100	150	200
L	in.	15.00	18.00	24.00	29.00
	mm	381	457	610	737
H	in.	11.5	13.6	17.5	20.7
	mm	292	346	444	526

Class 1500 Gate Valve

Pressure-Temperature Rating: ASME B16.34

1500UMC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

Size	in.	2	2½	3	4	6	8	10	12
	mm	50	65	80	100	150	200	250	300
L	in.	14.50	16.50	18.50	21.50	27.75	32.75	39.00	44.50
	mm	368	419	470	546	705	832	991	1130
H (open)	in.	22.1	24.9	27.0	30.4	42.4	50.2	59.6	66.9
	mm	561	633	686	772	1078	1276	1513	1698
D	in.	9.8	11.8	13.8	15.8	23.6	26.8	35.8	35.8
	mm	250	300	350	400	600	680	910	910

Parts	1500UMC	1500UMCM
Body*1	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc*1	CF8	CF8M
Gland	304	316
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke*2	CF8	
Yoke sleeve	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Gland bolt pin	403	
Bonnet bolt/nut	B8/8	
Grease nipple	Carbon steel	
Name plate	304	

*1 Body seats and/or disc seats can be optionally hard-faced.

*2 Yoke is separated from bonnet for 6" and larger.

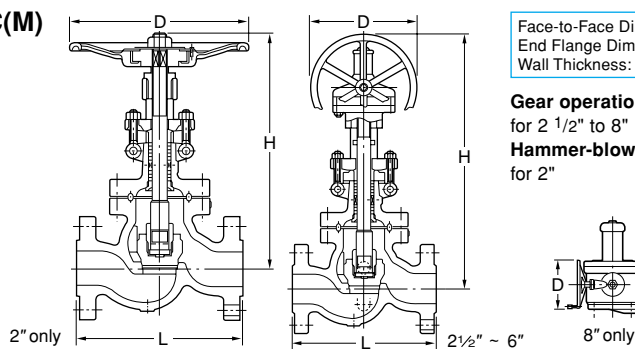
Note : ● All integral seats

● All flexible wedges

Class 1500 Globe Valve

Pressure-Temperature Rating: ASME B16.34

1500UPC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

Gear operation

for 2 1/2" to 8"

Hammer-blow type handwheel for 2"

Size	in.	2	2½	3	4	6	8
	mm	50	65	80	100	150	200
L	in.	14.50	16.50	18.50	21.50	27.75	32.75
	mm	368	419	470	546	705	832
H (open)	in.	21.5	35.4	37.0	43.3	52.3	55.1
	mm	546	900	940	1100	1330	1400
D	in.	13.8	19.7	19.7	23.6	23.6	24.0
	mm	350	500	500	600	600	610

Parts	1500UPC	1500UPCM
Body*1	CF8	CF8M
Bonnet	CF8	CF8M
Stem	304	316
Disc*1	CF8	CF8M
Lock nut	CF8	CF8M
Gland	304	316
Gland flange	CF8	
Gland packing	Refer to Page 6	
Gasket	Refer to Page 6	
Yoke bush	Ductile Ni-resist	
Handwheel	Ductile iron	
Gland bolt/nut	B8/8	
Gland bolt pin	403	
Bonnet bolt/nut	B8/8	
Yoke*2	CF8	
Name plate	304	

*1 Body seats and/or disc seats can be optionally hard-faced.

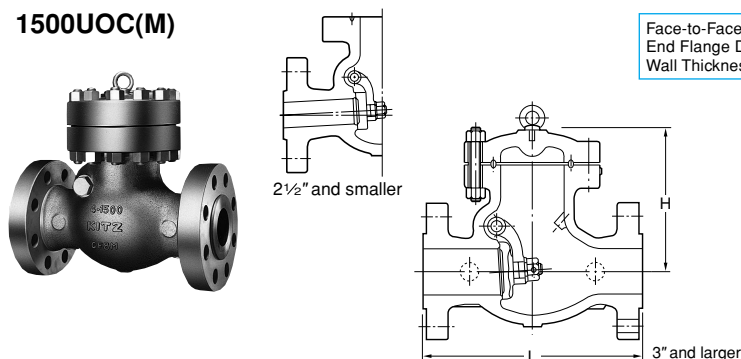
*2 Yoke is separated from bonnet for 3" and larger.

Note : All integral seats

Class 1500 Swing Check Valve

Pressure-Temperature Rating: ASME B16.34

1500UOC(M)



Face-to-Face Dimensions: ASME B16.10
End Flange Dimensions: ASME B16.5
Wall Thickness: API 600

Parts	1500UOC	1500UOCM
Body*	CF8	CF8M
Cover	CF8	CF8M
Disc*	CF8	CF8M
Disc nut	304	316
Gasket	Refer to Page 6	
Hinge pin	304	316
Arm	CF8	CF8M
Cover bolt/nut	B8/8	
Eye bolt	Carbon steel	
Plug	304	316
Name plate	304	

* Body seats and/or disc seats can be optionally hard-faced.

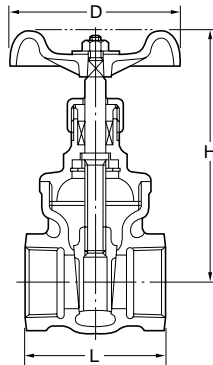
Note : All integral seats

Size	in.	2	2½	3	4	6	8
	mm	50	65	80	100	150	200
L	in.	14.50	16.50	18.50	21.50	27.75	32.75
	mm	368	419	470	546	705	832
H	in.	11.4	12.4	13.7	15.4	20.3	25.6
	mm	290	316	347	391	515	650

10K / Class 200 Gate Valve

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C
200psi. W.O.G.: 350°F S.P.

**UEL(M)
AKUELM**



Parts	UEL	UELM	AKUELM
Body	SCS13A	SCS14A	CF8M
Bonnet	SCS13A	SCS14A	CF8M
Stem	SUS304	SUS316	316
Disc	SCS13A	SCS14A	CF8M
Gland	SUS304	SUS316	316
Gland packing	Refer to Page 6		
Packing nut	SCS13A		CF8
Handwheel	ZDC (1/2" & 3/4") / ADC12 (1"~2")		
Name plate	A1050P		

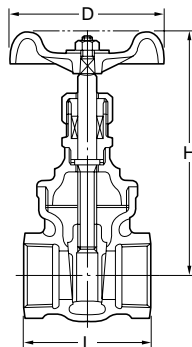
Face-to-Face Dimensions: KITZ Std.
End Thread Dimensions: JIS B0203 · ASME B1.20.1
Wall Thickness: KITZ Std.

Size	in.	1/2	3/4	1	1 1/4	1 1/2	2
	mm	15	20	25	32	40	50
L	mm	54	58	65	74	78	87
H	mm	96	101	112	123	150	167
D	mm	70	70	80	80	100	100

10K / Class 200 Gate Valve

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C
200psi. W.O.G.: 350°F S.P.

**UE(M)
AKUEM**



Parts	UE	UEM	AKUEM
Body	SCS13A	SCS14A	CF8M
Bonnet	SCS13A	SCS14A	CF8M
Stem	SUS304	SUS316	316
Disc	SCS13A	SCS14A	CF8M
Gland	SUS304	SUS316	316
Gland packing	Refer to Page 6		
Packing nut	SUS304		CF8
Handwheel	ADC12 (2 1/2" & 3") / FDC400 (4")		
Name plate	A1050P		

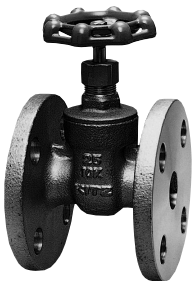
Face-to-Face Dimensions: JISB2011
End Thread Dimensions: JIS B0203 · ASME B1.20.1
Wall Thickness: JIS B2011

Size	in.	2 1/2	3	4
	mm	65	80	100
L	mm	115	130	155
H	mm	248	275	315
D	mm	135	155	200

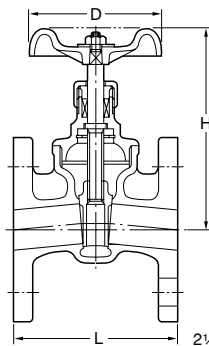
10K Gate Valve

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C

UEB(M)



2 1/2" and larger



2 1/2" and smaller

Parts	UEB	UEBM
Body	SCS13A	SCS14A
Bonnet	SUS304/SCS13A	SUS316/SCS14A
Stem	SUS304	SUS316
Disc	SCS13A	SCS14A
Gland	SUS304	SUS316
Gland packing	Refer to Page 6	
Packing nut	SCS13A/SUS304	
Handwheel	ZDC (1/2" & 3/4") / ADC12 (1"~3")	
Snap ring	SUS316	
Name plate	A1050P	

Face-to-Face Dimensions: JIS B2011*
End Flange Dimensions: JIS B2238**
Wall Thickness: KITZ Std.

* KITZ standard for Size 1/2" & 3/4".
** Except flange thickness.

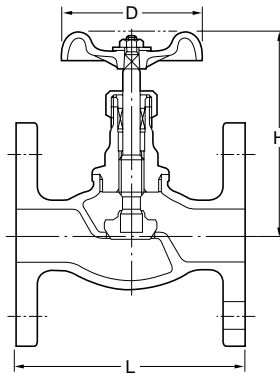
Size	in.	1/2*	3/4*	1	1 1/4	1 1/2	2	2 1/2	3
	mm	15	20	25	32	40	50	65	80
L	mm	85	95	100	110	125	140	170	190
H	mm	99	105	116	128	170	188	248	275
D	mm	70	70	80	80	100	100	135	155

* UEB only.

5K Globe Valve

Pressure-Temperature Rating: 0.49MPa (5kgf/cm²): 150°C

UAB



Parts	UAB
Body	SCS13A
Bonnet	SCS13A
Stem	SUS304
Disc	SUS304
Gland	SUS304
Gland packing	Refer to Page 6
Packing nut	SCS13A/SUS304
Handwheel	ZDC (3/8"~3/4") / ADC12 (1"~2")
Name plate	A1050P

Face-to-Face Dimensions: KITZ Std.
End Flange Dimensions: JIS B2238*
Wall Thickness: JIS B2011

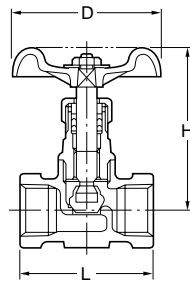
* Except flange thickness.

Size	in.	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	mm	10	15	20	25	32	40	50
L	mm	73	85	95	108	120	135	155
H (open)	mm	106	106	108	119	142	155	186
D	mm	70	70	70	80	90	90	115

10K / Class 200 Globe Valve

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C
200psi. W.O.G.: 350°F S.P.

UCL
AKUCLM



Parts	UCL	AKUCLM
Body	SCS13A	CF8M
Bonnet	SCS13A	CF8M
Stem	SUS304	316
Disc	SUS304	316
Gland	SUS304	316
Gland packing	Refer to Page 6	
Packing nut	SCS13A	CF8
Handwheel	ZDC (1/4"~1") / ADC (1 1/4"~2")	
Name plate	A1050P	

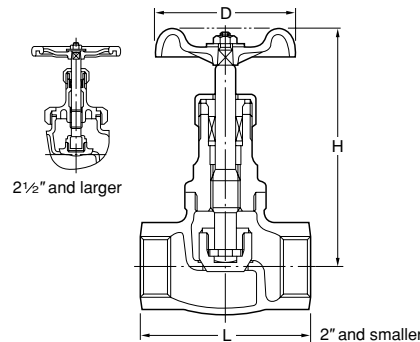
End-to-End Dimensions: KITZ Std.
End Thread Dimensions: JIS B0203 · ASME B1.20.1
Wall Thickness: JIS B2011

Size	in.	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	mm	8	10	15	20	25	32	40	50
L	mm	44	48	52	60	72	80	90	100
H (open)	mm	68	68	68	93	100	122	138	153
D	mm	55	55	55	60	70	80	90	100

10K / Class 200 Globe Valve

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C
200psi. W.O.G.: 350°F S.P.

UJ(M)
AKUJM



Parts	UJ	UJM	AKUJM
Body	SCS13A	SCS14A	CF8M
Bonnet	SCS13A	SCS14A	CF8M
Stem	SUS304	SUS316	316
Disc	SUS304/SCS13A	SUS316/SCS14A	316
Gland	SUS304	SUS316	316
Lock nut	SUS304	SUS316	316
Gland packing	Refer to Page 6		
Packing nut	SCS13A/SUS304		304/CF8
Handwheel	ZDC (3/8"~3/4") / ADC12 (1"~2")		ZDC (3/8"~3/4")
	FCD400 (2 1/2" & 3")		ADC12 (1"~2")
Bonnet ring*	SCS13A	SCS14A	—
Gasket*	Asbestos sheet		
Packing washer	SUS316		316
Stem washer	SUS316		316
Name plate	A1050P		

* For 2 1/2" and larger.

Note : Size 2 1/2" and larger for Fig. UJ / UJM.

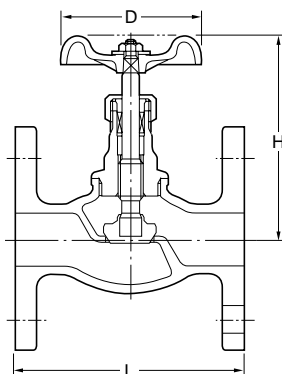
End-to-End Dimensions: JIS B2011 · KITZ Std.
End Thread Dimensions: JIS B0203 · ASME B1.20.1
Wall Thickness: JIS B2011

Size	in.	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	10	15	20	25	32	40	50	65	80
L	mm	55	65	80	90	105	120	140	180	200
H (open)	mm	109	111	112	142	150	171	189	253	280
D	mm	60	60	70	90	90	100	115	180	225

10K Globe Valve

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C

UCB



Parts	UCB
Body	SCS13A
Bonnet	SCS13A
Stem	SUS304
Disc	SUS304
Gland	SUS304
Gland packing	Refer to Page 6
Packing nut	SCS13A/SUS304
Handwheel	ZDC (3/8"~3/4") / ADC12 (1"~2")
Name plate	A1050P

Face-to-Face Dimensions: KITZ Std.
End Flange Dimensions: JIS B2238*
Wall Thickness: JIS B2011

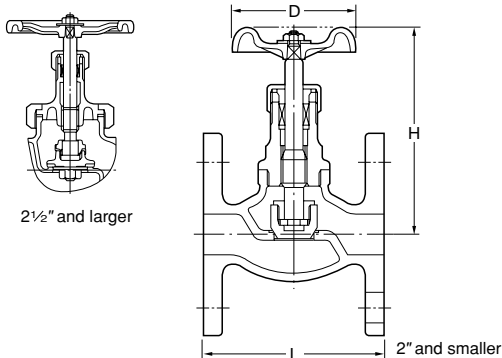
* Except flange thickness.

Size	in.	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	mm	10	15	20	25	32	40	50
L	mm	73	85	95	108	120	135	155
H (open)	mm	106	106	108	119	142	155	186
D	mm	70	70	70	80	90	90	115

10K Globe Valve

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C

UJB(M)



Parts	UJB	UJBM
Body	SCS13A	SCS14A
Bonnet	SCS13A	SCS14A
Stem	SUS304	SUS316
Disc	SUS304	SUS316/SCS14A
Gland	SUS304	SUS316
Gland packing	Refer to Page 6	
Packing nut	SUS304 / SCS13A	
Handwheel	ZDC (3/8"~3/4") / ADC12 (1"~2") / FCD400 (2 1/2"~3")	
Bonnet ring*	SCS13A	SCS14A
Gasket*	Asbestos sheet	
Packing washer	SUS316	
Stem washer	SUS316	
Name plate	A1050P	

* For 2 1/2" and larger.

Face-to-Face Dimensions: JIS B2011
End Flange Dimensions: JIS B2238*
Wall Thickness: JIS B2011

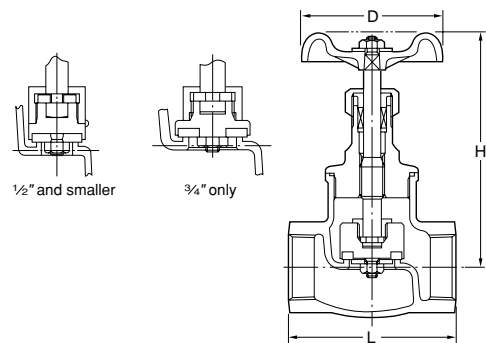
* Except flange thickness.

Size	in.	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	10	15	20	25	32	40	50	65	80
L	mm	85	85	95	110	130	150	180	210	240
H (open)	mm	109	111	112	142	150	171	189	253	280
D	mm	60	60	70	90	90	100	115	180	225

10K Globe Valve with PTFE Disc

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C

UD(M)



Parts	UD	UDM
Body	SCS13A	SCS14A
Bonnet	SCS13A	SCS14A
Stem	SUS304	SUS316
Disc	PTFE	
Disc holder	SUS304	SUS316
Lock nut	SUS304	SUS316
Gland	SUS304	SUS316
Gland packing	Refer to Page 6	
Packing nut	SCS13A / SUS304	
Handwheel	ZDC (3/8"~3/4") / ADC12 (1"~2")	
Gasket	PTFE	
Packing washer	SUS316	
Stem washer	SUS316	
Name plate	A1050P	

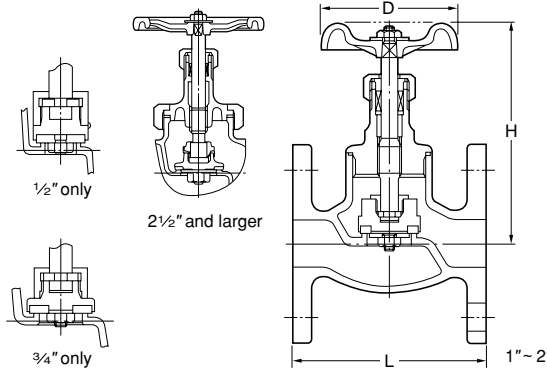
Face-to-Face Dimensions: JIS B2011
End Thread Dimensions: JIS B0203
Wall Thickness: JIS B2011

Size	in.	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	mm	10	15	20	25	32	40	50
L	mm	55	65	80	90	105	120	140
H (open)	mm	109	112	113	140	148	171	189
D	mm	60	60	70	90	90	100	115

10K Globe Valve with PTFE Disc

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C

UDB(M)



Parts	UJB	UJBM
Body	SCS13A	SCS14A
Bonnet	SCS13A	SCS14A
Stem	SUS304	SUS316
Disc	PTFE	
Disc holder	SUS304	SUS316
Lock nut	SUS304	SUS316
Gland	SUS304	SUS316
Gland packing	Refer to Page 6	
Packing nut	SCS13A / SCS13A	
Handwheel	ZDC (1/2" & 3/4") / ADC12 (1"~2") / FCD400 (2 1/2" & 3")	
Bonnet ring*	SCS13A	SCS14A
Gasket*	PTFE	
Packing washer	SUS316	
Stem washer	SUS316	
Name plate	A1050P	

* For 2 1/2" and larger.

Face-to-Face Dimensions: JIS B2011
End Flange Dimensions: JIS B2238*
Wall Thickness: JIS B2011

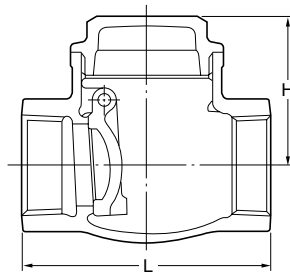
* Except flange thickness.

Size	in.	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	15	20	25	32	40	50	65	80
L	mm	85	95	110	130	150	180	210	240
H (open)	mm	112	113	140	148	171	189	252	277
D	mm	60	70	90	90	100	115	180	225

10K / Class 200 Swing Check Valve

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C
200psi. W.O.G.: 350°F S.P.

UO(M)
AKUOM



Parts	UO	UOM	AKUOM
Body	SCS13A	SCS14A	CF8M
Cap	SCS13A/SUS304	SCS14A/SUS316	CF8M/316
Disc	SCS13A	SCS14A	CF8M
Hinge pin	SUS304	SUS316	316
Plug	SUS304	SUS316	316
Gasket (for plug)	Asbestos sheet		Aramid fiber

Face-to-Face Dimensions: JIS B2011*
End Thread Dimensions: JIS B0203 - ASME B1.20.1
Wall Thickness: JIS B2011*

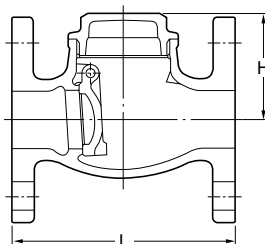
* KITZ standard for Size 2 1/2" & 3".

Size	in.	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	15	20	25	32	40	50	65	80
L	mm	65	80	90	105	120	140	180	200
H	mm	45	55	61	71	72	81	93	104

10K Swing Check Valve

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C

UOB(M)



Parts	UOB	UOBM
Body	SCS13A	SCS14A
Cap	SCS13A/SUS304	SCS14A/SUS316
Disc	SCS13A	SCS14A
Hinge pin	SUS304	SUS316
Plug	SUS304	SUS316
Gasket (for plug)	Asbestos sheet	

Face-to-Face Dimensions: JIS B2011
End Flange Dimensions: JIS B2238*
Wall Thickness: JIS B2011

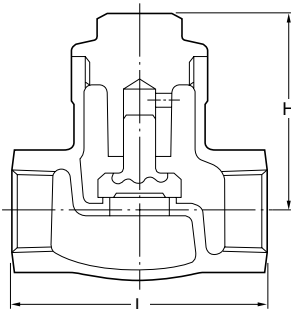
* Except flange thickness.

Size	in.	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	15	20	25	32	40	50	65	80
L	mm	85	95	110	130	150	180	210	240
H	mm	45	55	61	71	72	81	95	105

10K Lift Check Valve

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C

UN



Parts	UN
Body	SCS13A
Cap	SCS13A/SUS304
Disc	SUS304

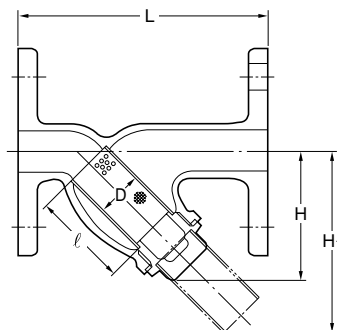
Face-to-Face Dimensions: JIS B2011
End Thread Dimensions: JIS B2023
Wall Thickness: JIS B2011

Size	in.	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	mm	10	15	20	25	32	40	50
L	mm	55	65	80	90	105	120	140
H	mm	50	53	54	62	66	76	85

10K Y-pattern Strainer

Pressure-Temperature Rating: 0.98MPa (10kgf/cm²): 180°C

UYB(M)



Parts	UYB	UYBM
Body	SCS13A	SCS14A
Cover	SCS13A/SUS304	SCS14A/SUS316
Gasket	Ceramic filled PTFE	
Screen	SUS304	SUS316

Note : Screen is a 40-mesh stainless wire net reinforced with SUS304 / 316.

Face-to-Face Dimensions: KITZ Std.
End Flange Dimensions: JIS B2238*
Wall Thickness: KITZ Std.

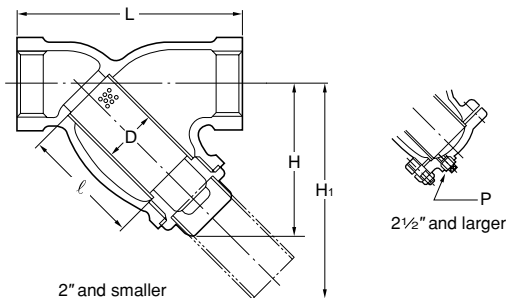
* Except flange thickness.

Size	in.	3/8	1/2	3/4	1	1 1/4	1 1/2	2
	mm	10	15	20	25	32	40	50
L	mm	110	120	130	150	170	190	220
H	mm	50	58	66	78	93	104	122
H ₁	mm	67	80	91	109	132	145	174
D	mm	15	18	23	30	39	46	58
ℓ	mm	36	43	48	58	69	75	90

20K Y-pattern Strainer

Pressure-Temperature Rating: 1.96MPa (20kgf/cm²): 180°C

UY(M)



Parts	UY	UYM
Body	SCS13A	SCS14A
Cover	SUS304/SCS13A	SUS316/SCS14A
Gasket	Ceramic filled PTFE	
Screen	SUS304	SUS316
Cover bolt/nut*	SUS304/304	
Plug*	SUS304	SUS316

* For 2 1/2" and larger.

Note : Screen is a 40-mesh stainless wire net reinforced with SUS304 / 316.

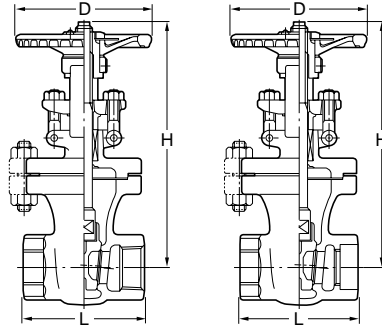
Face-to-Face Dimensions: KITZ Std.
End Thread Dimensions: JIS B2023
Wall Thickness: KITZ Std.

Size	in.	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
	mm	8	10	15	20	25	32	40	50	65	80
L	mm	65	70	85	100	115	135	150	180	220	250
H	mm	50	50	60	65	77	90	100	115	150	193
H ₁	mm	67	68	80	90	107	128	140	165	215	267
D	mm	15	15	18	23	30	39	46	58	72	86
ℓ	mm	36	36	43	48	58	69	75	90	120	150
P	—	—	—	—	—	—	—	—	—	Rc1/2	Rc1/2

Class 150 Gate Valve

Pressure-Temperature Rating: ASME B16.34

AK 150UMM Threaded Ends
AW150UMM Socket Welding Ends



Parts	Material
Body	CF3M
Bonnet	CF8M
Stem	316
Disc	CF8M
Gland	316
Gland packing	Refer to Page 6
Gland flange	CF8
Handwheel	Ductile iron
Gasket	Refer to Page 6
Bonnet bolt/nut	B8/8
Gland bolt/nut	B8/8
Yoke sleeve	Ductile Ni-resist
Name plate	Aluminum

Note : Flexible wedge for all sizes.

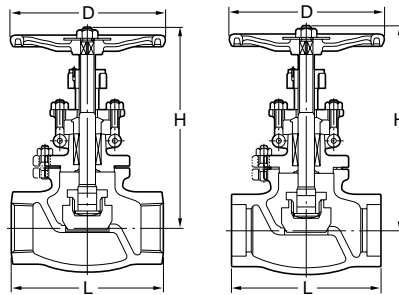
End-to-End Dimensions: KITZ Std.
Connecting Threads: ASME B1.20.1
Connecting Sockets: ASME B16.11
Wall Thickness: ASME B16.34

Size	AK150UMM						AW150UMM				
	in.	1/2	3/4	1	1 1/2	2	1/2	3/4	1	1 1/2	2
	mm	15	20	25	40	50	15	20	25	40	50
L	in.	2.75	3.0	3.5	4.5	4.75	2.6	2.9	3.4	4.4	4.6
	mm	70	76	89	114	121	67	73	86	111	118
H (open)	in.	7.7	8.03	8.7	10.87	13.2	7.7	8.03	8.7	10.87	13.2
	mm	195	204	220	276	336	195	204	220	276	336
D	in.	3.5	3.5	3.9	5.5	6.3	3.5	3.5	3.9	5.5	6.3
	mm	90	90	100	140	160	90	90	100	140	160

Class 150 Globe Valve

Pressure-Temperature Rating: ASME B16.34

AK 150UPM Threaded Ends
AW150UPM Socket Welding Ends



Parts	Material
Body	CF3M
Bonnet	CF8M
Stem	316
Disc	316
Lock nut	316
Gland	316
Gland packing	Refer to Page 6
Handwheel	Ductile iron
Gasket	Refer to Page 6
Gland flange	CF8
Bonnet bolt/nut	B8/8
Gland bolt/nut	B8/8
Yoke bush	Ductile Ni-resist
Name plate	Aluminum

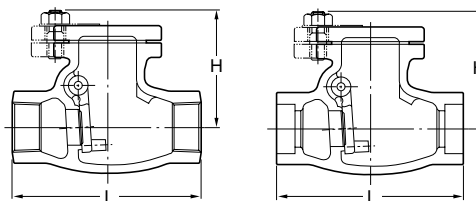
End-to-End Dimensions: KITZ Std.
Connecting Threads: ASME B1.20.1
Connecting Sockets: ASME B16.11
Wall Thickness: ASME B16.34

Size	AK150UPM					AW150UPM					
	in.	1/2	3/4	1	1 1/2	2	1/2	3/4	1	1 1/2	2
	mm	15	20	25	40	50	15	20	25	40	50
L	in.	3.4	3.75	4.25	5.5	6.5	3.3	3.6	4.1	5.4	6.4
	mm	86	95	108	140	165	83	92	105	137	162
H (open)	in.	6.5	6.5	6.7	7.8	9.1	6.5	6.5	6.7	7.8	9.1
	mm	164	166	169	198	230	164	166	169	198	230
D	in.	3.5	3.5	3.9	5.5	6.3	3.5	3.5	3.9	5.5	6.3
	mm	90	90	100	140	160	90	90	100	140	160

Class 150 Swing Check Valve

Pressure-Temperature Rating: ASME B16.34

AK 150UOM Threaded Ends
AW150UOM Socket Welding Ends



Parts	Material
Body	CF3M
Cover	CF8M
Disc	CF8M
Hinge pin	316
Plug	316
Gasket	Refer to Page 6
Cover bolt/nut	B8/8
Name plate	Aluminum

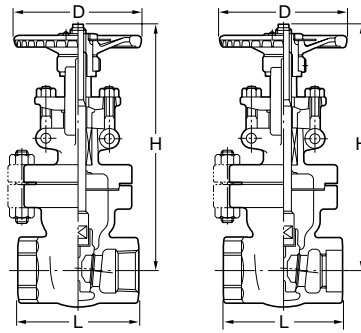
End-to-End Dimensions: KITZ Std.
Connecting Threads: ASME B1.20.1
Connecting Sockets: ASME B16.11
Wall Thickness: ASME B16.34

Size	AK150UOM					AW150UOM					
	in.	1/2	3/4	1	1 1/2	2	1/2	3/4	1	1 1/2	2
	mm	15	20	25	40	50	15	20	25	40	50
L	in.	3.75	3.75	5.0	6.0	6.5	3.6	3.6	4.9	5.9	6.4
	mm	95	95	127	152	165	92	92	124	149	162
H	in.	2.8	3.0	3.2	4.1	4.7	2.8	3.0	3.2	4.1	4.7
	mm	70	75	81	104	120	70	75	81	104	120

Class 300 Gate Valve

Pressure-Temperature Rating: ASME B16.34

AK 300UMM Threaded Ends
AW300UMM Socket Welding Ends



Parts	Material
Body	CF3M
Bonnet	CF8M
Stem	316
Disc	CF8M
Gland	316
Gland packing	Refer to Page 6
Gland flange	CF8
Handwheel	Ductile iron
Gasket	Refer to Page 6
Bonnet bolt/nut	B8/8
Gland bolt/nut	B8/8
Yoke sleeve	Ductile Ni-resist
Name plate	Aluminum

Note : Flexible wedge for all sizes.

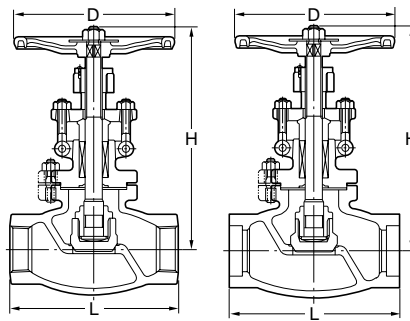
End-to-End Dimensions: KITZ Std.
 Connecting Threads: ASME B1.20.1
 Connecting Sockets: ASME B16.11
 Wall Thickness: ASME B16.34

Size		AK300UMM					AW300UMM				
		1/2	3/4	1	1 1/2	2	1/2	3/4	1	1 1/2	2
	in.	15	20	25	40	50	15	20	25	40	50
	mm	15	20	25	40	50	15	20	25	40	50
L	in.	3.0	3.25	3.75	5.0	5.75	2.87	3.15	3.62	4.88	5.63
	mm	76	83	95	127	146	73	80	92	124	143
H (open)	in.	7.95	8.3	9.1	11.2	13.5	8.0	8.3	9.1	11.2	13.5
	mm	202	212	230	285	344	202	212	230	285	344
D	in.	3.9	3.9	3.9	5.5	7.1	3.9	3.9	3.9	5.5	7.1
	mm	100	100	100	140	180	100	100	100	140	180

Class 300 Globe Valve

Pressure-Temperature Rating: ASME B16.34

AK 300UPM Threaded Ends
AW300UPM Socket Welding Ends



Parts	Material
Body	CF3M
Bonnet	CF8M
Stem	316
Disc	316/CF8M
Lock nut	316
Gland	316
Gland packing	Refer to Page 6
Gland flange	CF8
Handwheel	Ductile iron
Gasket	Refer to Page 6
Bonnet bolt/nut	B8/8
Gland bolt/nut	B8/8
Yoke bush	Ductile Ni-resist
Name plate	Aluminum

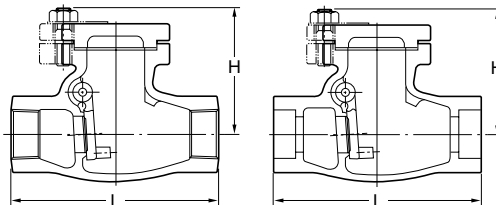
End-to-End Dimensions: KITZ Std.
 Connecting Threads: ASME B1.20.1
 Connecting Sockets: ASME B16.11
 Wall Thickness: ASME B16.34

Size		AK300UPM					AW300UPM				
		1/2	3/4	1	1 1/2	2	1/2	3/4	1	1 1/2	2
	in.	15	20	25	40	50	15	20	25	40	50
	mm	15	20	25	40	50	15	20	25	40	50
L	in.	3.75	4.25	5.0	6.5	7.58	3.62	4.13	4.88	6.37	7.36
	mm	95	108	127	165	190	92	105	124	162	187
H (open)	in.	7.0	7.1	7.2	9.2	11.4	7.0	7.1	7.2	9.2	11.3
	mm	178	180	184	233	289	178	180	184	233	289
D	in.	3.9	3.9	3.9	6.3	7.1	3.9	3.9	3.9	6.3	7.1
	mm	100	100	100	160	180	100	100	100	160	180

Class 300 Swing Check Valve

Pressure-Temperature Rating: ASME B16.34

AK 300UOM Threaded Ends
AW300UOM Socket Welding Ends



Parts	Material
Body	CF3M
Cover	CF8M
Disc	CF8M
Hinge pin	316
Plug	316
Gasket	Refer to Page 6
Cover bolt/nut	B8/8
Name plate	Aluminum

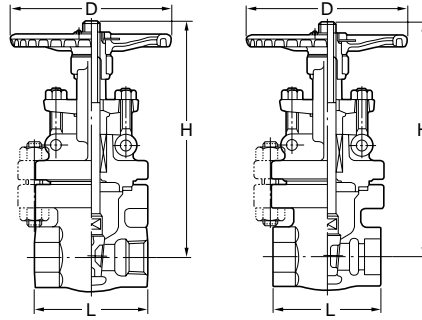
End-to-End Dimensions: KITZ Std.
 Connecting Threads: ASME B1.20.1
 Connecting Sockets: ASME B16.11
 Wall Thickness: ASME B16.34

Size		AK300UOM					AW300UOM				
		1/2	3/4	1	1 1/2	2	1/2	3/4	1	1 1/2	2
	in.	15	20	25	40	50	15	20	25	40	50
	mm	15	20	25	40	50	15	20	25	40	50
L	in.	4.5	5.0	5.5	6.0	6.5	4.37	4.88	5.39	5.86	6.37
	mm	114	127	140	152	165	111	124	137	149	162
H	in.	3.1	3.2	3.7	4.5	5.3	3.1	3.2	3.7	4.5	5.3
	mm	78	82	93	114	135	78	82	93	114	135

Class 600 Gate Valve

Pressure-Temperature Rating: ASME B16.34

AK 600UMM Threaded Ends
AW600UMM Socket Welding Ends



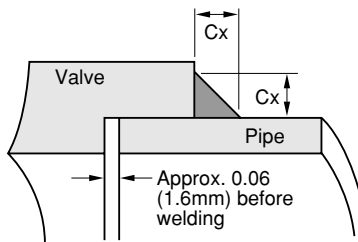
Parts	Material
Body	CF3M
Bonnet	CF8M
Stem	316
Disc	CF8M
Gland	316
Gland packing	Refer to Page 6
Gland flange	CF8
Handwheel	Ductile iron
Gasket	Refer to Page 6
Bonnet bolt/nut	B8/8
Gland bolt/nut	B8/8
Yoke sleeve	Ductile Ni-resist
Name plate	Aluminum

Note : Flexible wedge for all sizes.

End-to-End Dimensions: KITZ Std.
 Connecting Threads: ASME B1.20.1
 Connecting Sockets: ASME B16.11
 Wall Thickness: ASME B16.34

Size	AK600UMM						AW600UMM				
	in.	1/2	3/4	1	1 1/2	2	1/2	3/4	1	1 1/2	2
	mm	15	20	25	40	50	15	20	25	40	50
L	in.	3.0	3.25	3.75	5.0	5.75	2.87	3.15	3.62	4.88	5.63
	mm	76	83	95	127	146	73	80	92	124	143
H (open)	in.	7.9	8.46	9.5	12.8	15.2	7.9	8.46	9.5	12.8	15.2
	mm	201	215	240	325	385	201	215	240	325	385
D	in.	3.9	3.9	5.5	7.1	7.9	3.9	3.9	5.5	7.1	7.9
	mm	100	100	140	180	200	100	100	140	180	200

Welding Dimensions Required for Socket Welding Vales



Minimum Leg of Fillet Weld. Cx

Unit: inches (mm)

Size (inch) / Sch. No.	1/2	3/4	1	1 1/2	2
5S/10S	0.125 (3.2)				
40	0.145 (3.7)				
80	0.161 (4.0)	0.168 (4.3)	0.196 (5.0)	0.218 (5.6)	0.238 (6.1)
160	0.205 (5.3)	0.239 (6.1)	0.273 (7.0)	0.307 (7.8)	0.375 (9.6)

Cautionary Note Regarding Installation of Socket welding Joints

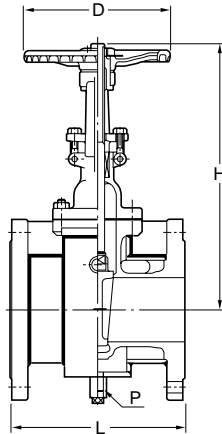
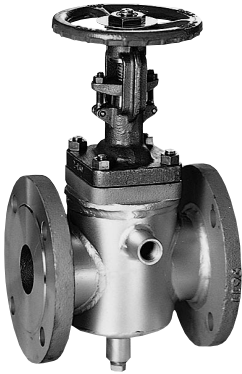
To prevent problems in the cracking of the fillet welds when the pipe is seated against the bottom of the socket prior to welding, it is recommended that the pipe be withdrawn approximately 0.06 in (1.6 mm) away from contact with the bottom of the socket before starting the weld.

Valves should be welded with the disc slightly opened, using weld material (rod or wire) with an appropriate diameter to meet the dimension and shape of the area to be welded, for prevention of overheating valves.

10K / Class 150 Full Jacketed Gate Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

10UMAJ / 150UMAJ



Face-to-Face Dimensions: KITZ Std.
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	10UMAJ / 150UMAJ
Body	SCS13A
Bonnet	SCS13A
Stem	SUS304
Disc	SCS13A
Gland	SUS304
Gland flange	SCS13A
Gland packing	Refer to Page 6
Gasket	Refer to Page 6
Yoke sleeve	Ductile Ni-resist
Handwheel	FCD400
Gland bolt/nut	SUS304/304
Gland bolt pin	SUS403
Bonnet bolt/nut	SUS304/304
Name plate	A1050P
Jacket*	SGP+SS400

* The material may be changed depending on the service temperature.
Note : ● Body seats and/or disc seats can be optionally hard-faced.
● Flexible wedge for all sizes.

Unit: mm

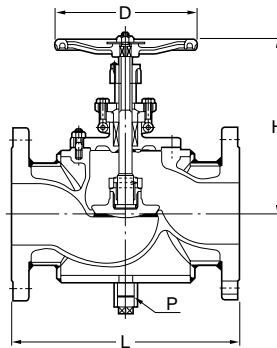
Size [⊖]	10UMAJ									150UMAJ							
	in.	1/2×1 1/2	3/4×1 1/2	1×2	1 1/2×2 1/2	2×3	3×4	4×6	6×8	1/2×1 1/2	3/4×1 1/2	1×2	1 1/2×2 1/2	2×3	3×4	4×6	6×8
	mm	15×40	20×40	25×50	40×65	50×80	80×100	100×150	150×200	15×40	20×40	25×50	40×65	50×80	80×100	100×150	150×200
L		169	169	177	188	201	217	260	279	165	165	177	187	203	229	267	292
H (open)		199	213	232	283	322	447	523	710	199	213	232	283	322	447	523	710
D		100	100	100	140	160	200	225	250	100	100	100	140	160	200	225	250
P		Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 3/4	Rp 3/4	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 3/4	Rp 3/4

[⊖]The nominal sizes are indicated by [the valve nominal sizes] and [flange nominal sizes].

10K / Class 150 Full Jacketed Globe Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

10UPAJ / 150UPAJ



Face-to-Face Dimensions: KITZ Std.
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	10UPAJ / 150UPAJ
Body	SCS13A
Bonnet	SCS13A
Stem	SUS304
Disc	1/2"~2" : SUS304 3" & 4" : SCS13A
Lock nut	1/2"~1 1/2" : SUS304 2"~4" : SCS13A
Gland	SUS304
Gland flange	SCS13A
Gland packing	Refer to Page 6
Gasket	Refer to Page 6
Yoke bush	Ductile Ni-resist
Handwheel	FCD400
Gland bolt/nut	SUS304/304
Gland bolt pin	SUS403
Bonnet bolt/nut	SUS304/304
Name plate	A1050P
Jacket*	SGP+SS400

* The material may be changed depending on the service temperature.
Note : Body seats and/or disc seats can be optionally hard-faced.

Unit: mm

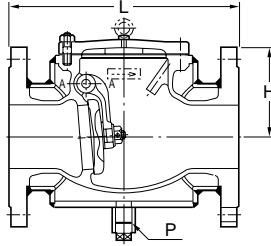
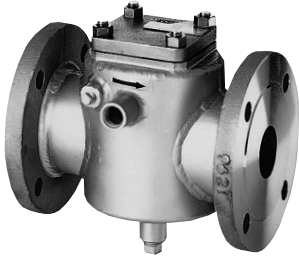
Size [⊖]	10UPAJ								150UPAJ							
	in.	1/2×1 1/2	3/4×1 1/2	1×2	1 1/2×2 1/2	2×3	3×4	4×6	1/2×1 1/2	3/4×1 1/2	1×2	1 1/2×2 1/2	2×3	3×4	4×6	
	mm	15×40	20×40	25×50	40×65	50×80	80×100	100×150	15×40	20×40	25×50	40×65	50×80	80×100	100×150	
L		156	156	190	214	239	280	349	152	152	190	213	241	292	356	
H (open)		186	186	187	236	237	293	326	186	186	187	236	237	293	326	
D		100	100	100	160	160	200	225	100	100	100	160	160	200	225	
P		Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 3/4	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	

[⊖]The nominal sizes are indicated by [the valve nominal sizes] and [flange nominal sizes].

10K / Class 150 Full Jacketed Swing Check Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

10UOAJ / 150UOAJ



Face-to-Face Dimensions: KITZ Std.
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	10UOAJ / 150UOAJ
Body	SCS13A
Cover	SCS13A
Disc	SCS13A
Gasket	Refer to Page 6
Hinge pin	SUS304
Plug	SUS304
Cover bolt/nut	SUS304/304
Split pin	SUS316L
Jacket*	SGP+SS400

* The material may be changed depending on the service temperature.
Note : Body seats and/or disc seats can be optionally hard-faced.

Unit: mm

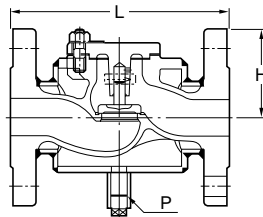
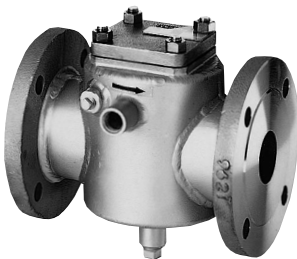
Size	10UOAJ				150UOAJ				
	in.	2×3	3×4	4×6	6×8	2×3	3×4	4×6	6×8
	mm	50×80	80×100	100×150	150×200	50×80	80×100	100×150	150×200
L		239	280	349	393	241	292	356	406
H		122	149	171	214	122	149	171	214
P		Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{3}{4}$	Rp $\frac{3}{4}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{3}{4}$	Rp $\frac{3}{4}$

*The nominal sizes are indicated by [the valve nominal sizes] and [flange nominal sizes].

10K / Class 150 Full Jacketed Lift Check Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

10UNAJ / 150UNAJ



Face-to-Face Dimensions: KITZ Std.
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	10UNAJ / 150UNAJ
Body	SCS13A
Cover	SCS13A
Disc	SUS304
Gasket	Refer to Page 6
Cover bolt/nut	SUS304/304
Jacket*	SGP+SS400

* The material may be changed depending on the service temperature.
Note : Body seats and/or disc seats can be optionally hard-faced.

Unit: mm

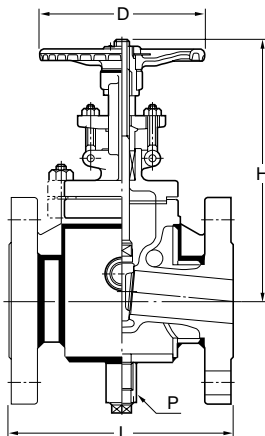
Size	10UNAJ				150UNAJ				
	in.	$\frac{1}{2} \times 1\frac{1}{2}$	$\frac{3}{4} \times 1\frac{1}{2}$	1×2	1 $\frac{1}{2}$ ×2 $\frac{1}{2}$	$\frac{1}{2} \times 1\frac{1}{2}$	$\frac{3}{4} \times 1\frac{1}{2}$	1×2	1 $\frac{1}{2}$ ×2 $\frac{1}{2}$
	mm	15×40	20×40	25×50	40×65	15×40	20×40	25×50	40×65
L		156	156	190	214	152	152	190	213
H		73	73	73	90	73	73	73	90
P		Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$

*The nominal sizes are indicated by [the valve nominal sizes] and [flange nominal sizes].

20K / Class 300 Full Jacketed Gate Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

20UMAJ / 300UMAJ



Face-to-Face Dimensions: KITZ Std.
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	20UMAJ / 300UMAJ
Body	SCS13A
Bonnet	SCS13A
Stem	SUS304
Disc	SCS13A
Gland	SUS304
Gland flange	SCS13A
Gland packing	Refer to Page 6
Gasket	Refer to Page 6
Yoke sleeve	Ductile Ni-resist
Handwheel	FCD400
Gland bolt/nut	SUS304/304
Gland bolt pin	SUS403
Bonnet bolt/nut	SUS304/304
Name plate	A1050P
Jacket*	SGP+SS400

* The material may be changed depending on the service temperature.

Note : ● Body seats and/or disc seats can be optionally hard-faced.

● Flexible wedge for all sizes.

Unit: mm

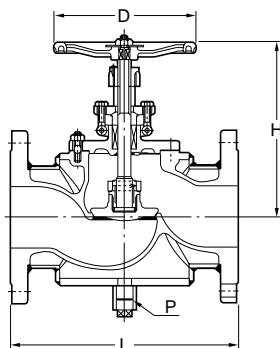
Size [⊙]	20UMAJ									300UMAJ							
	in.	1/2×1 1/2	3/4×1 1/2	1×2	1 1/2×2 1/2	2×3	3×4	4×6	6×8	1/2×1 1/2	3/4×1 1/2	1×2	1 1/2×2 1/2	2×3	3×4	4×6	6×8
	mm	15×40	20×40	25×50	40×65	50×80	80×100	100×150	150×200	15×40	20×40	25×50	40×65	50×80	80×100	100×150	150×200
L		173	173	181	192	270	289	386	434	178	178	190	203	283	305	403	457
H (open)		199	213	232	283	353	470	560	753	199	213	232	283	353	470	560	753
D		100	100	100	140	180	225	250	350	100	100	100	140	180	225	250	350
P		Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 3/4	Rp 3/4	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 3/4	Rp 3/4

[⊙]The nominal sizes are indicated by [the valve nominal sizes] and [flange nominal sizes].

20K / Class 300 Full Jacketed Globe Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

20UPAJ / 300UPAJ



Face-to-Face Dimensions: KITZ Std.
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	20UPAJ / 300UPAJ
Body	SCS13A
Bonnet	SCS13A
Stem	SUS304
Disc	1/2"~1 1/2" SUS304
	2"~4" SCS13A
Lock nut	1/2"~1 1/2" SUS304
	2"~4" SCS13A
Gland	SUS304
Gland flange	SCS13A
Gland packing	Refer to Page 6
Gasket	Refer to Page 6
Yoke bush	Ductile Ni-resist
Handwheel	FCD400
Gland bolt/nut	SUS304/304
Gland bolt pin	SUS403
Bonnet bolt/nut	SUS304/304
Name plate	A1050P
Jacket*	SGP+SS400

* The material may be changed depending on the service temperature.

Note : Body seats and/or disc seats can be optionally hard-faced.

Unit: mm

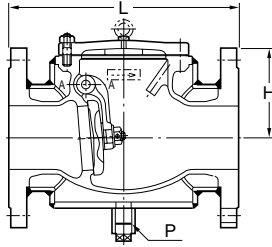
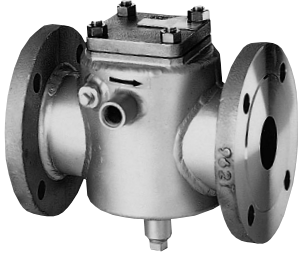
Size [⊙]	20UPAJ								300UPAJ							
	in.	1/2×1 1/2	3/4×1 1/2	1×2	1 1/2×2 1/2	2×3	3×4	4×6	1/2×1 1/2	3/4×1 1/2	1×2	1 1/2×2 1/2	2×3	3×4	4×6	
	mm	15×40	20×40	25×50	40×65	50×80	80×100	100×150	15×40	20×40	25×50	40×65	50×80	80×100	100×150	
L		160	160	194	218	254	302	339	165	165	203	229	267	318	356	
H (open)		186	186	187	236	289	343	398	186	186	187	236	289	343	398	
D		100	100	100	160	180	250	300	100	100	100	160	180	250	300	
P		Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 3/4	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 1/2	Rp 3/4	

[⊙]The nominal sizes are indicated by [the valve nominal sizes] and [flange nominal sizes].

20K / Class 300 Full Jacketed Check Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

20UOAJ / 300UOAJ



Face-to-Face Dimensions: KITZ Std.
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	20UOAJ / 300UOAJ
Body	SCS13A
Cover	SCS13A
Disc	SCS13A
Gasket	Refer to Page 6
Hinge pin	SUS304
Plug	SUS304
Cover bolt/nut	SUS304/304
Split pin	SUS316L
Jacket*	SGP+SS400

* The material may be changed depending on the service temperature.
Note : Body seats and/or disc seats can be optionally hard-faced.

Unit: mm

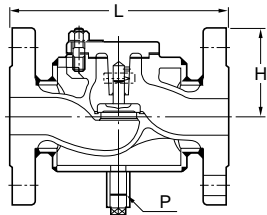
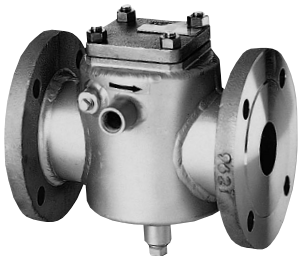
Size	20UOAJ				300UOAJ				
	in.	2×3	3×4	4×6	6×8	2×3	3×4	4×6	6×8
	mm	50×80	80×100	100×150	150×200	50×80	80×100	100×150	150×200
L		254	314	383	421	267	330	400	444
H		146	180	200	255	146	180	200	255
P		Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{3}{4}$	Rp $\frac{3}{4}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{3}{4}$	Rp $\frac{3}{4}$

*The nominal sizes are indicated by [the valve nominal sizes] and [flange nominal sizes].

20K / Class 300 Full Jacketed Check Valve

Pressure-Temperature Rating: JIS B2238 · ASME B16.34

20UNAJ / 300UNAJ



Face-to-Face Dimensions: KITZ Std.
End Flange Dimensions: JIS B2238 · ASME B16.5
Wall Thickness: ASME B16.34

Parts	20UNAJ / 300UNAJ
Body	SCS13A
Cover	SCS13A
Disc	SUS304
Gasket	Refer to Page 6
Cover bolt/nut	SUS304/304
Jacket*	SGP+SS400

* The material may be changed depending on the service temperature.
Note : Body seats and/or disc seats can be optionally hard-faced.

Unit: mm

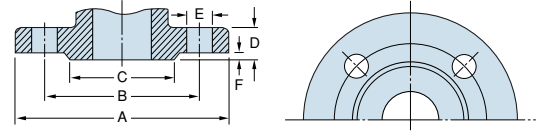
Size	20UNAJ				300UNAJ				
	in.	$\frac{1}{2} \times 1\frac{1}{2}$	$\frac{3}{4} \times 1\frac{1}{2}$	1×2	1 $\frac{1}{2}$ ×2 $\frac{1}{2}$	$\frac{1}{2} \times 1\frac{1}{2}$	$\frac{3}{4} \times 1\frac{1}{2}$	1×2	1 $\frac{1}{2}$ ×2 $\frac{1}{2}$
	mm	15×40	20×40	25×50	40×65	15×40	20×40	25×50	40×65
L		160	160	194	218	165	165	203	229
H		73	73	73	90	73	73	73	90
P		Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$	Rp $\frac{1}{2}$

*The nominal sizes are indicated by [the valve nominal sizes] and [flange nominal sizes].

Steel Pipe Flanges

JIS B2238-1996

10K Steel Pipe Dimensions



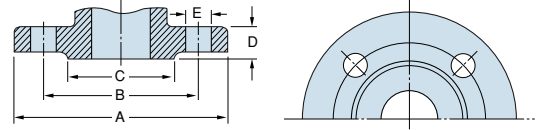
Nominal Size		A	B	C	D	F	(E) Bolt Hole	Bolt	
in.	mm	mm	mm	mm	mm	mm	mm	Number	Diam.
3/8	10	90	65	46	12	1	15	4	M12
1/2	15	95	70	51	12	1	15	4	M12
3/4	20	100	75	56	14	1	15	4	M12
1	25	125	90	67	14	1	19	4	M16
1 1/4	32	135	100	76	16	2	19	4	M16
1 1/2	40	140	105	81	16	2	19	4	M16
2	50	155	120	96	16	2	19	4	M16
2 1/2	65	175	140	116	18	2	19	4	M16
3	80	185	150	126	18	2	19	8	M16
4	100	210	175	151	18	2	19	8	M16
5	125	250	210	182	20	2	23	8	M20
6	150	280	240	212	22	2	23	8	M20
8	200	330	290	262	22	2	23	12	M20
10	250	400	355	324	24	2	25	12	M22
12	300	445	400	368	24	3	25	16	M22
14	350	490	445	413	26	3	25	16	M22
16	400	560	510	475	28	3	27	16	M24
18	450	620	565	530	30	3	27	20	M24
20	500	675	620	585	30	3	27	20	M24
22	550	745	680	640	32	3	33	20	M30
24	600	795	730	690	32	3	33	24	M30

20K Steel Pipe Dimensions

Nominal Size		A	B	C	D	F	(E) Bolt Hole	Bolt	
in.	mm	mm	mm	mm	mm	mm	mm	Number	Diam.
3/8	10	90	65	46	14	1	15	4	M12
1/2	15	95	70	51	14	1	15	4	M12
3/4	20	100	75	56	16	1	15	4	M12
1	25	125	90	67	16	1	19	4	M16
1 1/4	32	135	100	76	18	2	19	4	M16
1 1/2	40	140	105	81	18	2	19	4	M16
2	50	155	120	96	18	2	19	9	M16
2 1/2	65	175	140	116	20	2	19	8	M16
3	80	200	160	132	22	2	23	8	M20
4	100	225	185	160	24	2	23	8	M20
5	125	270	225	195	26	2	25	8	M22
6	150	305	260	230	28	2	25	12	M22
8	200	350	305	275	30	2	25	12	M22
10	250	430	380	345	34	2	27	12	M24
12	300	480	430	395	35	3	27	16	M24
14	350	540	480	440	40	3	33	16	M30
16	400	605	540	495	46	3	33	16	M30
18	450	675	605	560	48	3	33	20	M30
20	500	730	660	615	50	3	33	20	M30
22	550	795	720	670	52	3	39	20	M36
24	600	845	720	720	54	3	39	24	M36

Steel Pipe Flanges

ASME B16.5-1996



Class 150 Steel Pipe Flange Dimensions

Nominal Size		A		B		C		D		(E) Bolt Hole		Bolt	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	Number	Diam.
1/2	15	3.50	89	2.38	60.5	1.38	35	0.44	11.1	0.62	16	4	1/2
3/4	20	3.88	98	2.75	70.0	1.69	43	0.50(0.44)	12.7(11.1)	0.62	16	4	1/2
1	25	4.25	108	3.12	79.5	2.00	51	0.56(0.44)	14.3(11.1)	0.62	16	4	1/2
1 1/4	32	4.62	117	3.50	89.0	2.50	64	0.62(0.50)	15.9(12.7)	0.62	16	4	1/2
1 1/2	40	5.00	127	3.88	98.5	2.88	73	0.69(0.56)	17.5(14.3)	0.62	16	4	1/2
2	50	6.00	152	4.75	120.5	3.62	92	0.75(0.62)	19.1(15.9)	0.75	19	4	5/8
2 1/2	65	7.00	178	5.50	139.5	4.12	105	0.88(0.69)	22.3(17.5)	0.75	19	4	5/8
3	80	7.50	190	6.00	152.5	5.00	127	0.94(0.75)	23.9(19.1)	0.75	19	4	5/8
4	100	9.00	229	7.50	190.5	6.19	157	0.94	23.9	0.75	19	8	5/8
5	125	10.00	254	8.50	216.0	7.31	186	0.94	23.9	0.88	22	8	3/4
6	150	11.00	279	9.50	241.5	8.50	216	1.00	25.4	0.88	22	8	3/4
8	200	13.50	343	11.75	298.5	10.62	270	1.12	28.6	0.88	22	8	3/4
10	250	16.00	406	14.25	362.0	12.75	324	1.19	30.2	1.00	25	12	7/8
12	300	19.00	483	17.00	432.0	15.00	381	1.25	31.8	1.00	25	12	7/8
14	350	21.00	533	18.75	476.5	16.26	413	1.38	35.0	1.12	29	12	1
16	400	23.50	597	21.25	539.5	18.50	470	1.44	36.6	1.12	29	16	1
18	450	25.00	635	22.75	578.0	21.00	533	1.56	39.7	1.25	32	16	1 1/8
20	500	27.50	698	25.00	635.0	23.00	584	1.69	42.9	1.25	32	20	1 1/8
24	600	32.00	813	29.50	749.5	27.25	692	1.88	47.7	1.38	35	20	1 1/4

Height of raised face is 0.06 inch (1.6mm) each. Dimensions in () are for valve flanges only.

Class 300 Steel Pipe Flange Dimensions

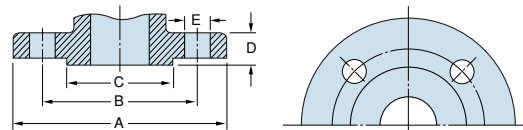
Nominal Size		A		B		C		D		(E) Bolt Hole		Bolt	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	Number	Diam.
1/2	15	3.75	95	2.62	66.5	1.38	35	0.56	14.3	0.62	16	4	1/2
3/4	20	4.62	117	3.25	82.5	1.69	43	0.62	15.9	0.75	19	4	5/8
1	25	4.88	124	3.50	89.0	2.00	51	0.69	17.5	0.75	19	4	5/8
1 1/4	32	5.25	133	3.88	98.5	2.50	64	0.75	19.1	0.75	19	4	5/8
1 1/2	40	6.12	156	4.50	114.5	2.88	73	0.81	20.7	0.88	22	4	3/4
2	50	6.50	165	5.00	127.0	3.62	92	0.88	22.3	0.75	19	8	5/8
2 1/2	65	7.50	190	5.88	149.0	4.12	105	1.00	25.4	0.88	22	8	3/4
3	80	8.25	210	6.62	168.0	5.00	127	1.12	28.6	0.88	22	8	3/4
4	100	10.00	254	7.88	200.0	6.19	157	1.25	31.8	0.88	22	8	3/4
5	125	11.00	279	9.25	235.0	7.31	186	1.38	35.0	0.88	22	8	3/4
6	150	12.50	318	10.62	270.0	8.50	216	1.44	36.6	1.88	22	12	3/4
8	200	15.00	381	13.00	330.0	10.62	270	1.62	41.3	1.00	25	12	7/8
10	250	17.50	444	15.25	387.5	12.75	324	1.88	47.7	1.12	29	16	1
12	300	20.50	521	17.75	451.0	15.00	381	2.00	50.8	1.25	32	16	1 1/8
14	350	23.00	584	20.25	514.5	16.25	413	2.12	54.0	1.25	32	20	1 1/8
16	400	25.50	648	22.50	571.5	18.50	470	2.25	57.2	1.38	35	20	1 1/4
18	450	28.00	711	24.75	628.5	21.00	533	2.38	60.4	1.38	35	24	1 1/4
20	500	30.50	775	27.00	686.0	23.00	584	2.50	63.5	1.38	35	24	1 1/4
24	600	36.00	914	32.00	813.0	27.25	692	2.75	69.9	1.62	41	24	1 1/2

Height of raised face is 0.06 inch (1.6mm) each.

Steel Pipe Flanges

ASME B16.5-1996

Class 600 Steel Pipe Flange Dimensions



Nominal Size		A		B		C		D		(E) Bolt Hole		Bolt	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	Number	Diam.
1/2	15	3.75	95	2.62	66.5	1.38	35	0.56	14.3	0.62	16	4	1/2
3/4	20	4.62	117	3.25	82.5	1.69	43	0.62	15.9	0.75	19	4	5/8
1	25	4.88	124	3.50	89.0	2.00	51	0.69	17.5	0.75	19	4	5/8
1 1/4	32	5.25	133	3.88	98.5	2.50	64	0.81	20.7	0.75	19	4	5/8
1 1/2	40	6.12	156	4.50	114.5	2.88	73	0.88	22.3	0.88	22	4	3/4
2	50	6.50	165	5.00	127.0	3.62	92	1.00	25.4	0.75	19	8	5/8
2 1/2	65	7.50	190	5.88	149.0	4.12	105	1.12	28.6	0.88	22	8	3/4
3	80	8.25	210	6.62	168.0	5.00	127	1.25	31.8	0.88	22	8	3/4
4	100	10.75	273	8.50	216.0	6.19	157	1.50	38.1	1.00	25	8	7/8
5	125	13.00	330	10.50	266.5	7.31	186	1.75	44.5	1.12	29	8	1
6	150	14.00	356	11.50	292.0	8.50	216	1.88	47.7	1.12	29	12	1
8	200	16.50	419	13.75	349.0	10.62	270	2.19	55.6	1.25	32	12	1 1/8
10	250	20.00	508	17.00	432.0	12.75	324	2.50	63.5	1.38	35	16	1 1/4
12	300	22.00	559	19.25	489.0	15.00	381	2.62	66.7	1.38	35	20	1 1/4
14	350	23.75	603	20.75	527.0	16.25	413	2.75	69.9	1.50	38	20	1 3/8
16	400	27.00	686	23.75	603.0	18.50	470	3.00	76.2	1.62	41	20	1 1/2
18	450	29.25	743	25.75	654.0	21.00	533	3.25	82.6	1.75	45	20	1 5/8
20	500	32.00	813	28.50	724.0	23.00	584	3.50	88.9	1.75	45	24	1 5/8
24	600	37.00	940	33.00	838.0	27.25	692	4.00	101.6	2.00	51	24	1 7/8

Height of raised face is 0.25 inch (6.4mm) each.

Class 900 Steel Pipe Flange Dimensions

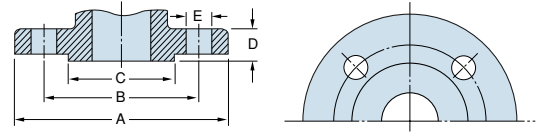
Nominal Size		A		B		C		D		(E) Bolt Hole		Bolt	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	Number	Diam.
2	50	Use Class 1500 dimensions for these sizes											
2 1/2	65												
3	80	9.50	241	7.50	190.5	5.00	127	1.50	38.1	1.00	25	8	7/8
4	100	11.50	292	9.25	235.0	6.19	157	1.75	44.5	1.25	32	8	1 1/8
5	125	13.75	349	11.10	279.5	7.31	186	2.00	50.8	1.38	35	8	1 1/4
6	150	15.00	381	12.50	317.5	8.50	216	2.19	55.6	1.25	32	12	1 1/8
8	200	18.50	470	15.50	393.5	10.62	270	2.50	63.5	1.50	38	12	1 3/8
10	250	21.50	546	18.50	470.0	12.75	324	2.75	69.9	1.50	38	16	1 3/8
12	300	24.00	610	21.00	533.5	15.00	381	3.12	79.2	1.50	38	20	1 3/8
14	350	25.25	641	22.00	559.0	16.25	413	3.38	85.9	1.62	41	20	1 1/2
16	400	27.75	705	24.25	616.0	18.50	470	3.50	88.9	1.75	45	20	1 5/8
18	450	31.00	787	27.00	686.6	21.00	533	4.00	101.6	2.00	51	20	1 7/8
20	500	33.75	857	29.50	749.5	23.00	584	4.25	108.0	2.12	54	20	2
24	600	41.00	1041	35.50	901.5	27.25	692	5.50	139.7	2.62	67	20	2 1/2

Height of raised face is 0.25 inch (6.4mm) each.

Steel Pipe Flanges

ASME B16.5-1996

Class 1500 Steel Pipe Flange Dimensions

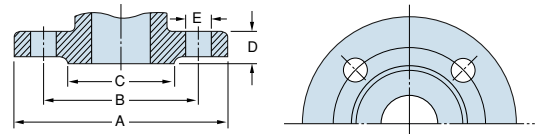


Nominal Size		A		B		C		D		(E) Bolt Hole		Bolt	
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	Number	Diam.
2	50	8.50	216	6.50	165.0	3.62	92	1.50	38.1	1.00	25	8	7/8
2½	65	9.62	244	7.50	190.5	4.12	105	1.62	41.2	1.12	29	8	1
3	80	10.50	267	8.00	203.0	5.00	127	1.88	47.8	1.25	32	8	1½
4	100	12.25	311	9.50	241.5	6.19	157	2.12	53.9	1.38	35	8	1¼
5	125	14.75	375	11.50	292.0	7.31	186	2.88	73.2	1.62	41	8	1½
6	150	15.50	394	12.50	317.5	8.50	216	3.25	82.6	1.50	38	12	1¾
8	200	19.00	483	15.50	393.5	10.62	270	3.62	92.0	1.75	45	12	1½
10	250	23.00	584	19.00	482.5	12.75	324	4.25	108.0	2.00	51	12	1¾
12	300	26.50	673	22.50	571.5	15.00	381	4.88	124.0	2.12	54	16	2
14	350	29.50	749	25.00	635.0	16.25	413	5.25	133.4	2.38	60	16	2¼
16	400	32.50	826	27.75	705.0	18.50	470	5.75	146.1	2.62	67	16	2½
18	450	36.00	914	30.50	774.5	21.00	533	6.38	162.1	2.88	73	16	2½
20	500	38.75	984	32.75	832.0	23.00	584	7.00	177.8	3.12	79	16	3
24	600	46.00	1168	39.00	990.5	27.25	692	8.00	203.2	3.62	92	16	3½

Height of raised face is 0.25 inch (6.4mm) each.

MSS SP-44-1996

Class 150 and 300 Steel Pipe Flange Dimensions



Class	Nominal Size		A		B		C		D		(E) Bolt Hole		Bolt	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	Number	Diam.
150	22	550	29.50	749	27.25	692	25.25	641	1.81	46.0	1.38	35	20	1¼
300	22	550	33.00	838	29.25	743	25.25	641	2.62	66.5	1.62	41	24	1½

Height of raised face is 0.06 inch (1.6mm) each.

Care for Handling Valves

1. Before mounting valves:

Before mounting valves, be sure that adequate valves have been prepared to exactly meet the service conditions including the maximum design pressures and temperatures. Foreign objects such as sands or scales may be left in the pipes, and care should be taken to remove all of them by filters or strainers to protect valves seat surfaces during subsequent valve commissioning.

2. Mounting valves:

On mounting valves, clean the inside of pipes again so that no welding spatters, chips, scales or sands are left. For installation of flanged end valves, flange bolts should be tightened alternately and diagonally. Where extraordinary external forces such as piping stress may be applied to the flanges of valves being mounted, provide valve supports or any other adequate protective measures. For socket welding works, refer to Page 31 of this catalog.

3. Retightening valves glands:

When leakage is detected from the gland area while the valve is being in service, the gland should be immediately retightened. Tighten the gland slowly and gradually until the leakage stops, while rotating the valve handwheel. In case the valve operating torque has been found considerably increased after these procedures, it is recommended to replace all packing rings at the time of valve maintenance.

4. Replacing packing rings:

It is recommended to replace packing rings during valve maintenance operation, but never while the valve is being pressurized in service, except the line pressure is reduced to the atmospheric level. KITZ stainless steel valves (Series A, AJ, C and D) are provided with the backseats or bonnet bushes. If leakage from the gland area cannot be stopped by retightening the gland, operate the valve to its full open position and add a few packing rings or replace packing rings utilizing sealing function of these backseats.

Sealing function of backseats is sometimes disturbed due to rust or other foreign objects trapped inside. It should be carefully checked before adding or replacing packing rings that backseats function properly. When the valve is highly pressurized, it sometimes causes danger to replace all of packing rings. In this case, adding a few new rings or replacing a few rings on top of the packing chamber is recommended as a first aid solution.

For replacement of packing rings, first remove the gland bolts and then packing rings. Clean the packing chamber and the valve stem. After checking that all sliding parts are in good condition, securely install new packing rings. Press new packing rings lightly a few times with the gland and then evenly tighten the gland.

KITZ Protect Warranty

All KITZ stainless and high alloy steel valves are guaranteed for 12 months after placement in service, but not exceeding 18 months after shipment from the factories of KITZ Corporation, provided that the valves are properly handled according to the relevant KITZ operation manual.



CAUTION

Pressure-temperature ratings and other performance data published in this catalog have been developed from our design calculation, in-house testing, field reports provided by our customers and/or published official standards or specifications. They are good only to cover typical applications as a general guideline to users of KITZ products introduced in this catalog.

For any specific application, users are kindly requested to contact KITZ Corporation for technical advice, or to carry out their own study and evaluation for proving suitability of these products to such an application. Failure to follow this request could result in property damage and/or personal injury, for which we shall not be liable.

While this catalog has been compiled with the utmost care, we assume no responsibility for errors, impropriety or inadequacy. Any information provided in this catalog is subject to from-time-to-time change without notice for error rectification, product discontinuation, design modification, new product introduction or any other cause that KITZ Corporation considers necessary. This edition cancels all previous issues.

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KITZ

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