



S&S Valve

CASTING VALVE

FORGED VALVE

BALL VALVE

BELLOWS VALVE

CRYOGENIC VALVE

CONTROL VALVE





HISTORY

- 1979 - Acquisition of Korea Special Valve Industry company
- 1983 - Granted a manufacturing license by Korea Electric Power Corporation (KEPCO) for high pressure valves for Power Plant Equipment
 - Granted a manufacturing license by Korea Gas Safety Corporation (KGS) for high pressure equipment
 - Registered & Supplied to Korea Gas Safety Corporation for Manual Cryogenic Valves
- 1984 - Acquisition of the facility of Sam Kwang Metal Ind. Co., Ltd.
 - Changed company name to "SEOHEUNG METAL CO., LTD."
- 1986 - Entered into a technical license agreement with KENSEI VALVE CO., LTD. (Japan) for High Pressure Forged Steel Valves
- 1989 - Entered into a technical license agreement and co-manufacturing agreement with KEROTEST GLOBAL COMPANY (U.S.A) to produce Nuclear valves.
 - Granted license to manufacture valves for Nuclear Power Plant Equipment by the Minister of Science and Technology (Korea)
- 1994 - Granted ISO9001 certificate by through TÜV-RHEINLAND
- 1995 - Registered own trade mark "SAVE" Brand.
- 1996 - Entered into a technical license agreement and co-manufacturing agreement with COPESVULCAN INC. (USA) to produce Pneumatic Control Valves
- 1997 - Granted a license to manufacture Control Valves for Power Plant Equipment by Korea Electric Power Corporation (KEPCO)
- 1999 - Granted the license of API 6D certificate (License No. 6D-0304)
 - Granted the license of KEPIC-MN (Nuclear Quality Assurance System) from Korea Electric Association (KEA)
- 2001 - Approved by class LLOYD'S register to manufacture various raw materials
 - Approved by class BV'S register as the provisions of rule note CNR320 to manufacture Forged, Casted and Cryogenic Valves
- 2002 - Approved by class BV'S register to manufacture various raw materials
- 2003 - Obtained CE certificate from TÜV-RHEINLAND for Industrial Control & Safety Valves
 - Registered with Korea Gas Corporation (KOGAS) for Control & Safety Valves for Cryogenic service
 - Granted License by Korea Hydro & Nuclear Power Corporation to manufacture Control Valves for nuclear power plants
 - Control Valve supplied to Korea Aero Space Research Institute for KSR-III, the 1st Liquid Propellant Rocket of Korea.
- 2004 - Obtained quality certificate by Daewoo Shipbuilding & Marine Engineering (DSME) for Cryogenic Valve and service
 - Approved by Class DNV, Lloyd & BV's Register to manufacture various raw materials (sub-contractors)



S&S Valve manufactures high-pressure valves, LNG industrial valves, nuclear power plant valves etc. using our technology that has been developed over the decades. Moreover, we are a leading valve maker, supplying independently developed valves for the aerospace industry.

With S&S Valve's proven safety performance for both domestic and overseas nuclear power plants, S&S Valve has continuously supplied various valves to industrial LNG tanks and LNG ships as well as high-pressure plant facilities. 100% Furthermore, we have successfully manufactured and supplied cryogenic large ball valves and continue our efforts to implement our growth strategies for the supply of control valves and nuclear power plant valves.

- 2005 - Granted a License by Taiwan Power Company to manufacture nuclear forged steel, casted bellows seal & chevron seal packing valves for Lungmen NPP project
- Granted a license by CTCI, IHI, CPC Northern LNG terminal to manufacture Cryogenic globe, check, needle, ball & butterfly valves for CPC northern LNG terminal project
- 2006 - Research & Developed high pressure top entry ball valves with the ministry of commerce, industry & energy of Korea government (MOCIE)
- Co-developed a turbine bypass control valves & PRDS with Korea Electric Power Research Institute (KEPRI)
- Awarded the prize of US 5 million export from the ministry of Commerce, Industry & Energy
- 2007 - Co-Developed the High-Performance Top-Entry Ball Control Valves of 150~1500LB, up to 36" with Ministry of Knowledge Economy (MKE).
- Registered as an approved supplier at Jiang Su Nuclear Power Corporation (JNPC) for various types of valves (QNC-Class)
- 2008 - Obtained ASME "N & NPT" certificate
- CI renewal and change of company name to S&S Valve Co., Ltd.
- 2009 - Obtained 'NEP' Certificate from Ministry of Knowledge Economy (MKE) for Cryogenic & High Pressure Top Entry Ball Valve
- SIZE: 25mm ~ 300mm, RATING: 900LB
- 2010 - Granted Two Awards by Korea Hydro & Nuclear Power Co., Ltd (KHNP) to manufacture and supply J231 (T, Control Valves For General Service) & P206A(Q, ASEM III Steel Gate, Globe Valves with Actuator) for ShinWuljin #1~2 units.
 - 10 valve packages registered at KHNP in total
 - Registration# 201000065: P240(Q), P207(Q), J231(T)
 - Registration# 200900589: P206A(Q), P204(Q), P209(T), P206B(T), J232A(T)
 - Registration# 201000066: P208(Q), P214(T)
- 2011 - Granted an award by Chinese National Ocean Oil Cooperation (CNOOC) to manufacture and supply Cryogenic Globe & Check Valves For ZHEJIANG NINGBO LNG Terminal.
- 2012 - Obtained ISO14001 / OHSAS18001 certificate
- 2013 - Granted an award by CNOOC to manufacture and supply Cryogenic Globe & Check Valves For HAINAN LNG Terminal.



S&S Valve

ADVANCED VALVE ENGINEERING



Casting Valves

The SAVE Casting valves are able to meet customer's needs and precision machining always ready for it.

Those valves are available in size 1/2" to 72", ANSI Cl.150 to CL.2500.

Our wide range of products are base on the need of customers and we can solve any special requirement of customers.

Our development for new technology is being continued.



Ball Valves

The SAVE Ball Valves are have various features and manufactured in the type, One piece End-entry, Two piece and Three piece bolted construction.

Those valves can be supplied Full or Reduce port in forged and casting construction.

Bolted body connections give of service and maintenance on site.

especially, Top entry construction give more convenience to maintain on site.

Valves can be supplied either Raised Face, Ring Type Joint, Socket welded or Screwed end connections.

Pressure rating is from ANSI CL.150 through ANSI CL.2500.



Cryogenic Valves

The SAVE Cryogenic valves are usefull for strict requirement of user's conditions such as production, storage, transportation of LNG, LO2, LH2 Etc.

Design features of the SAVE cryogenic valves

BS6364 / API607

ANSI/ASME B16.34 / API598

Fire satety certification by TÜV Rheinland Korea

Licensed by KSGC (Korea Gas Satety Public Corporation)





Bellows Valves

The SAVE Bellows valves are useful for strict requirement of user's conditions such as polysilicon, petrochemical, toxic gas and hazard plant.

Design features of the SAVE Bellows valves

API602 / BS1873

ANSI/ASME B16.34 / API598



Forged Valves

The SAVE Forged steel valves have various features, all kind of body, trim materials, every end connections, satisfaction many user's specifications, and structural integrity of the valve under the various conditions, and so on. In Korea, SAVE brand is familiar and famous at the industrial forged steel valve market.

SAVE forged steel valves continuous development will satisfy your demands.



Control Valves

The SAVE control valve features a compact valve body with excellent flow control and minimal pressure loss.

There is a wide range of standard and high duty trims available which can be fitted with in the same valve body.

The design incorporates the characterized trim for pressure, temperature, level of flow applications.



GATE VALVES - OS & Y, BB TYPE

CC



STANDARD MATERIALS

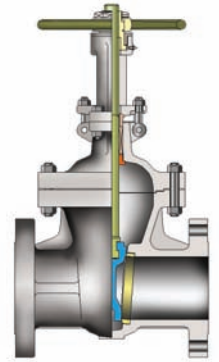
PART NAMES	MATERIALS
BODY	NOTE ²⁾
BONNET	NOTE ²⁾
SEAT	ASTM A105-(H.F)
DISC	ASTM A217-CA15
STEM	ASTM A276-410
GASKET	GRAPHITE
HABDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

- 1) All the Stainless Steel Available
- 2) HIGH TEMP. : ASTM A216-WCB, ASTM A217-WC1 / WC6 / WC9,
LOW TEMP. : ASTM A352-LCB / LC1 / LC2 / LC3

SPECIFICATIONS

- 1) Valve Size : 2" ~ 36"
- 2) Applicable Rating : ASME 150# ~ 600#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.10 / 16.25 / 16.34 / 16.5,
API 598 / 600 and BS1414
- 5) Constructions
 - End Connection : Butt-Welded or Flanged Type
 - BB (=Bolted Bonnet) Type
 - Full Bore
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



GATE VALVES - OS & Y, PSB TYPE

CC(PSB)



STANDARD MATERIALS

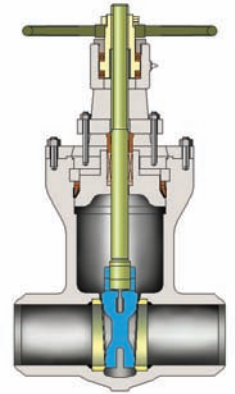
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A105-(H.F)
DISC	ASTM A217-CA15
STEM	ASTM A276-410
GASKET	GRAPHITE
HABDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

- 1) HIGH TEMP. : ASTM A216-WCB, ASTM A217-WC1 / WC6 / WC9 / C12A
LOW TEMP. : ASTM A352-LCB / LC1 / LC2 / LC3

SPECIFICATIONS

- 1) Valve Size : 2" ~ 24"
- 2) Applicable Rating : ASME 600# ~ 2500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.10 / 16.25 / 16.34 / 16.5,
API 598 / 600
- 5) Constructions
 - End Connection : Butt-Welded Type
 - PSB (=Pressure Seal Bonnet) Type
 - Full Bore
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



GLOBE VALVES - OS & Y, BB TYPE

CD



STANDARD MATERIALS

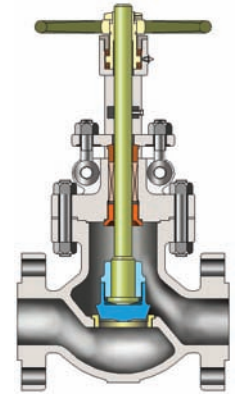
PART NAMES	MATERIALS
BODY	NOTE ²⁾
BONNET	NOTE ²⁾
SEAT	ASTM A105-(H.F)
DISC	ASTM A217-CA15
STEM	ASTM A276-410
GASKET	GRAPHITE
HABDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

- 1) All the Stainless Steel Available
- 2) HIGH TEMP. : ASTM A216-WCB, ASTM A217-WC1 / WC6 / WC9,
LOW TEMP. : ASTM A352-LCB / LC1 / LC2 / LC3

SPECIFICATIONS

- 1) Valve Size : 2" ~ 24"
- 2) Applicable Rating : ASME 150# ~ 900#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.10 / 16.25 / 16.34 / 16.5,
API 598 / 600 and BS1873
- 5) Constructions
 - End Connection : Butt-Welded or Flanged Type
 - BB (=Bolted Bonnet) Type
 - Full Bore
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



GLOBE VALVES - OS & Y, PSB TYPE

CD(PSB)



STANDARD MATERIALS

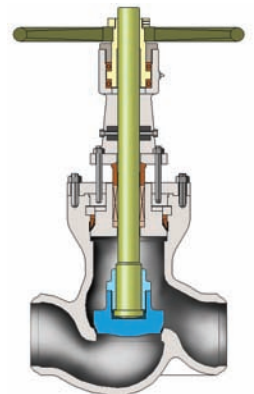
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A105-(H.F)
DISC	ASTM A217-CA15
STEM	ASTM A276-410
GASKET	GRAPHITE
HABDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

- 1) HIGH TEMP. : ASTM A216-WCB, ASTM A217-WC1 / WC6 / WC9 / C12A
LOW TEMP. : ASTM A352-LCB / LC1 / LC2 / LC3

SPECIFICATIONS

- 1) Valve Size : 2" ~ 16"
- 2) Applicable Rating : ASME 600# ~ 2500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.10 / 16.25 / 16.34 / 16.5,
API 598 / 600
- 5) Constructions
 - End Connection : Butt-Welded Type
 - PSB (=Pressure Seal Bonnet) Type
 - Full Bore
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



LIFT CHECK VALVES - BC TYPE

C6



STANDARD MATERIALS

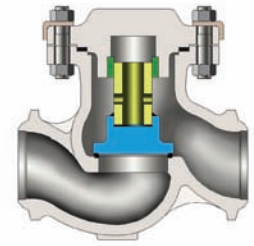
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
COVER	NOTE ¹⁾
SEAT	ASTM A276-410(H.F)
GASKET	SPIRAL WOUNDED GRAPHITE
COVER BOLT	STAINLESS STEEL OR CARBON STEEL
SPRING	304SS OR CARBON STEEL

NOTE

1) HIGH TEMP. : ASTM A216-WCB, ASTM A217-WC1 / WC6 / WC9,
LOW TEMP. : ASTM A352-LCB / LC1 / LC2 / LC3

SPECIFICATIONS

- 1) Valve Size : 2" ~ 24"
- 2) Applicable Rating : ASME 150# ~ 600#
- 3) Temperature : Up to 450°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.10 / 16.25 / 16.34 / 16.5, and
API 598 / 600
- 5) Constructions
 - End Connection : Butt-Welded or Flanged Type
 - BC (=Bolted Cover) Type
 - Full Bore



SWING CHECK VALVES - BC TYPE

C8



STANDARD MATERIALS

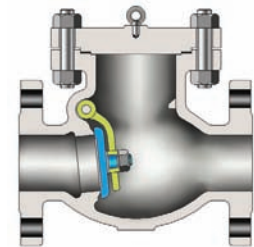
PART NAMES	MATERIALS ¹⁾
BODY	NOTE ²⁾
COVER	NOTE ²⁾
SEAT	A150-(H.F)
DISC	ASTM A217-CA15
ARM	ASTM A216-WCB
DISC NUT	ASTM A194-8
GASKET	GRAPHITE
HINGE PIN	ASTM A276-410
HINGE BOLT	ASTM A307-B

NOTE

1) All the Stainless Steel Available
2) HIGH TEMP. : ASTM A216-WCB, ASTM A217-WC1 / WC6 / WC9,
LOW TEMP. : ASTM A352-LCB / LC1 / LC2 / LC3

SPECIFICATIONS

- 1) Valve Size : 2" ~ 36"
- 2) Applicable Rating : ASME 150# ~ 600#
- 3) Temperature : Up to 450°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.10 / 16.25 / 16.34 / 16.5, and
API 598 / 600 / 1868
- 5) Constructions
 - End Connection : Butt-Welded or Flanged Type
 - BC (=Bolted Cover) Type
 - Class 600 and over : Ring-joint Bonnet
 - Full Bore



SWING CHECK VALVES - PSC TYPE

C8(PSC)



STANDARD MATERIALS

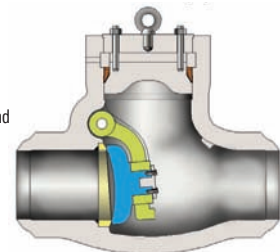
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
COVER	NOTE ¹⁾
SEAT	A150-(H.F)
DISC	ASTM A217-CA15
ARM	ASTM A216-WCB
DISC NUT	ASTM A194-8
GASKET	GRAPHITE
HINGE PIN	ASTM A276-410
HINGE BOLT	ASTM A307-B

NOTE

1) HIGH TEMP. : ASTM A216-WCB, ASTM A217-WC1 / WC6 / WC9 / C12A
LOW TEMP. : ASTM A352-LCB / LC1 / LC2 / LC3

SPECIFICATIONS

- 1) Valve Size : 2" ~ 36"
- 2) Applicable Rating : ASME 600# ~ 2500#
- 3) Temperature : Up to 450°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.10 / 16.25 / 16.34 / 16.5, and
API 598 / 600
- 5) Constructions
 - End Connection : Butt-Welded Type
 - PSC (=Pressure Seal Cover) Type
 - Full Bore



PARALLEL SLIDE GATE VALVES - OS & Y, PSB TYPE

CV (PSB)



STANDARD MATERIALS

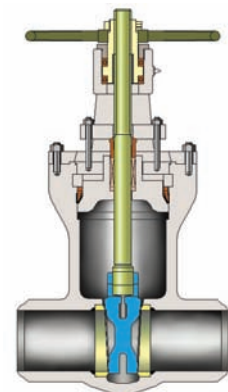
PART NAMES	MATERIALS ¹⁾
BODY	NOTE ¹⁾
BONNET	NOTE ²⁾
SEAT	ASTM A276-316 (H.F) / A105 (H.F) ³⁾
DISC	ASTM A276-304 (H.F) / A576-1020 (H.F) ³⁾
STEM	ASTM A276-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

1) All the Stainless Steel Available
2) HIGH TEMP. : ASTM A216-WCB, ASTM A217-WC1 / WC6 / WC9
3) Hard Facing : Stellite, Ni-Cr Coating, Nickel Alloy Overlay

SPECIFICATIONS

- 1) Valve Size : 2" ~ 16"
- 2) Applicable Rating : ASME 600# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.34 / 16.10 / 16.25
- 5) Constructions
 - End Connection : Flanged Type
 - PSB (=Pressure-Seal Bonnet) Type
 - Full Bore
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CAST STEEL TOP ENTRY BALL VALVES - SS3070 SERIES

CE



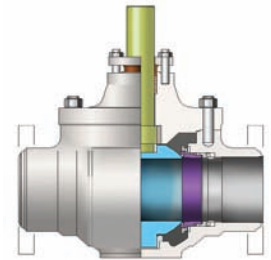
STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	CAST SEEL OR SOFT-PCTFE & GRAPHITE
BALL	ASTM A276-304 / 316 OR A351-CF8 (M)
STEM	ASTM A276-304
GASKET	SPIRAL WOUNDED GRAPHITE
BONNET BOLT	CARBON STEEL OR STAINLESS STEEL
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE
1) CAST STEEL, STAINLESS STEEL

SPECIFICATIONS

- 1) Valve Size : 2" ~ 42"
- 2) Applicable Rating : ASME 150# ~ 2500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34 / 16.5
API 6D
- 5) Constructions
 - End Connection : Butt-Welded or Flanged Type
 - Trunnion Ball Type
 - Reduce Bore / Full Bore
 - Fire Safety Construction (Certified by TÜV)
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CAST STEEL SIDE ENTRY BALL VALVES - FREE FLOATING BALL TYPE (2-PIECES)

CY 2PCS



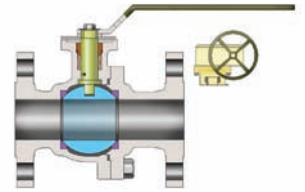
STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
CONNECTOR	NOTE ¹⁾
SEAT	150#, 300#-RTFE, 600# AND OVER:S-NYLON
BALL	ASTM A351-CF8M
STEM	ASTM A276-316
GASKET	NOTE ²⁾
PACKING	GRAPHITE
BEARING	150#, 300#-PTFE, 600# AND OVER:NYLON
LEVER	DUCTILE CAST IRON

NOTE
1) ASTM A216-WCB, A352-LCC, A351-CF3(M), A351-CF8(M)
2) PTFE / GRAPHITE / SPIRAL WOUNDED GRAPHITE

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 10"
- 2) Applicable Rating : ASME 150# ~ 2500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.10 / 16.34 / 16.5, BS5351
API6D / 608
- 5) Constructions
 - Two Pieces Type
 - End Connection : RTJ or Flanged Type
 - Floating Ball Type
 - Reduce Bore / Full Bore
 - Blow-out Proof Stem / Cavity Relieving Seats / Anti-static Design
 - Pressure Balancing Hole
 - Fire Safety Construction (API-607)



CAST STEEL SIDE ENTRY BALL VALVES - TRUNNION BALL TYPE (2-PIECES)

CZ 2PCS



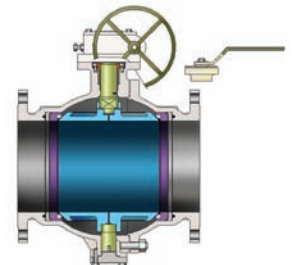
STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
CONNECTOR	NOTE ¹⁾
SEAT	RTFE, S-NYLON
BALL	ASTM A351-CF8M
STEM	ASTM A276-316
GASKET	NOTE ²⁾
PACKING	GRAPHITE
BEARING	RTFE, NYLON
TRUNNION	ASTM A276-316 / A240-316

NOTE
1) ASTM A216-WCB, A352-LCC, A351-CF3(M), A351-CF8(M)
2) SPIRAL WOUNDED GRAPHITE (WITH 316SS)

SPECIFICATIONS

- 1) Valve Size : 2" ~ 36"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.10 / 16.34 / 16.5, BS5351
API6D
- 5) Constructions
 - Two Pieces Type
 - End Connection : Butt-Welded or Flanged Type
 - Trunnion Ball Type
 - Full Bore / Reduce Bore
 - Blow-out Proof Stem
 - Double Seal, Double Block & Bleed / Anti-static Design
 - Pressure Relieving Seats / Pressure Balancing Hole
 - Fire Safety Construction (API-607)



CAST STEEL SIDE ENTRY BALL VALVES - TRUNNION BALL TYPE (3-PIECES)

CZ 3PCS



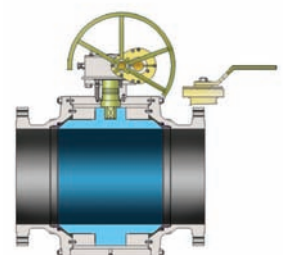
STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
CONNECTOR	NOTE ²⁾
SEAT	RTFE, S-NYLON
BALL	ASTM A351-CF8M / A350-LF2+ENP Coating
STEM	ASTM A564-360, AISI 1020+ENP Coating
GASKET	NOTE ³⁾
PACKING	GRAPHITE
BEARING	RTFE
TRUNNION	ASTM A564-360, AISI 1020+ENP Coating

NOTE
1) ASTM A105N / A350-LF2 / A182-F316
2) ASTM A105N / A216-WCB / A350-LF2 / A352-LCC / A182-F316 / A351-CF8M
3) SPIRAL WOUNDED GRAPHITE (WITH 316SS)

SPECIFICATIONS

- 1) Valve Size : 2" ~ 16"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.10 / 16.34 / 16.5, BS5351
API6D
- 5) Constructions
 - Three Pieces Type
 - End Connection: Flanged, RTJ or Butt-welded Type
 - Trunnion Ball Type
 - Full Bore / Reduce Bore
 - Blow-out Proof Stem
 - Double Seal, Double Block & Bleed / Anti-static Design
 - Pressure Relieving Seats / Pressure Balancing Hole
 - Fire Safety Construction (API-607)



METAL SEATED BALL VALVES

CM



STANDARD MATERIALS

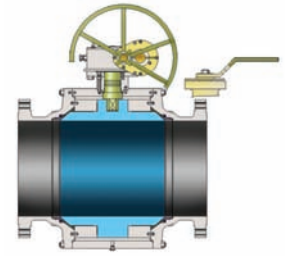
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASTM A276-316-(H.F) 2)
BALL	ASTM A351-CF8 (M) (H.F) 2)
STEM	ASTM A564-360, AISI 1020+ENP Coating
GASKET	NOTE 3)
PACKING	GRAPHITE
BEARING	ASTM A276-316
TRUNNION	ASTM A564-360, AISI 1020+ENP Coating

NOTE

- 1) ASTM A216-WCB/WCC, A217-WC6/WC9, A351-CF8/CF8M
- 2) Hard Facing: Stellite, Ni-Cr Coating, Nickel Alloy Overlay
- 3) SPIRAL WOUND GRAPHITE (WITH 316SS)

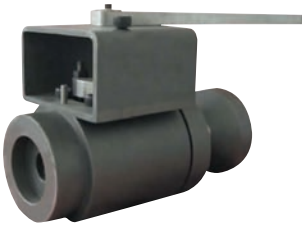
SPECIFICATIONS

- 1) Valve Size: 2"~16"
- 2) Applicable Rating: ASME 150#~600#
- 3) Temperature: Up to 500°C
- 4) Code & Standard: API, BS, ASME, ASTM
Designed by ASME B16.10 / 16.34 / 16.5, BS5351 API6D
- 5) Constructions
 - Three Pieces Type
 - End Connection: Flanged, RTJ or Butt-welded Type
 - Trunnion Ball Type / Metal Seat Type
 - Full Bore / Reduce Bore
 - Blow-out Proof Stem
 - Double Seal, Double Block & Bleed / Anti-static Design
 - Pressure Relieving Seats / Pressure Balancing Hole
 - Fire Safety Construction (API-607)



FORGED STEEL SIDE ENTRY BALL VALVES - FREE FLOATING METAL-SEATED BALL TYPE

FM



STANDARD MATERIALS

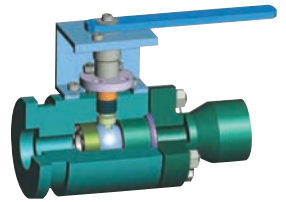
PART NAMES	MATERIALS
BODY	NOTE 1)
SEAT CONNECTOR	NOTE 1)
BALL	316SS / 410SS WITH TC
SEAT	NOTE 2)
METAL GASKET	ASTM A182-F316L
STEM	ASTM A182-F316
SPRING	INCONEL 718
BEARING	RTFE
TRUNNION	ASTM A564-360, AISI 1020+ENP COATING

NOTE

- 1) ASTM A105 (WITH TC), A182-F316 (WITH TC), A182-F22 (WITH TC), A216-WCB (WITH TC), A217-WC6 (WITH TC), or A217-WC9 (WITH TC)
- 2) ASTM A105 / A216-WCB / A217-WC6 / A217-WC9 / A182-F22 / A182-F316 316SS / 410SS WITH TC

SPECIFICATIONS

- 1) Valve Size: 1/2" ~ 4"
- 2) Applicable Rating: ASME 900# ~ 4500#
- 3) Temperature: Up to 230°C
- 4) Code & Standard: API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34, MSS-SP - 72
- 5) Constructions
 - 2-Piece Body
 - End Connection: Socket-Welded Type
 - Floating Ball Type
 - Std. Multi-Coil Spring for Live Loading
 - Blow-out Proof Stem / Precise Metal Gasket
 - Integral Seat for Zero Leakage / Hard Coating on the Ball
 - Dual Stem Guiding for Reducing Torque
 - Reduce Bore / Full Bore
 - Bubble-tight Std.
 - Fire Safety Construction (API-607)
 - Manual Operating



FORGED STEEL SIDE ENTRY BALL VALVES - FREE FLOATING BALL TYPE (2-PIECES)

FY 2PCS



STANDARD MATERIALS

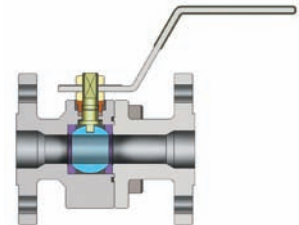
PART NAMES	MATERIALS
BODY	NOTE 1)
CONNECTOR	NOTE 1)
SEAT	RTFE, PTFE
BALL	ASTM A276-316, A182-F316(L)
STEM	ASTM A276-316(L)
GASKET	PTFE, GRAPHITE
LEVER	ASTM A283-D, STAINLESS STEEL
CONNECTOR BOLT	CARBON STEEL, STAINLESS STEEL
GLAND	ASTM A276-316

NOTE

- 1) ASTM A105, A182-F304/F316(L)

SPECIFICATIONS

- 1) Valve Size: 1/2" ~ 2"
- 2) Applicable Rating: ASME 150#, KS / JIS 10K
- 3) Temperature: Up to 230°C
- 4) Code & Standard: API, BS, ASME, ASTM
Designed by ASME B16.10 / 16.34 / 16.5, API6D, BS5351
- 5) Constructions
 - 2-Piece Flanged Body
 - End Connection: Flanged Type
 - Floating Ball Type
 - Reduce Bore / Full Bore
 - Bubble-tight Std.
 - Fire Safety Construction (API-607)
 - Manual Operating



FORGED STEEL SIDE ENTRY BALL VALVES - FREE FLOATING BALL TYPE (3-PIECES)

FY 3PCS



STANDARD MATERIALS

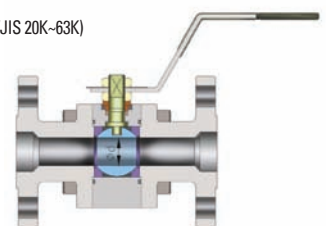
PART NAMES	MATERIALS
BODY	NOTE 1)
CONNECTOR	NOTE 1)
SEAT	RTFE, PTFE OR NYLON
BALL	ASTM A276-316 OR A182-F316(L)
STEM	ASTM A276-316(L)
GASKET	PTFE OR GRAPHITE
LEVER	ASTM A283-D OR STAINLESS STEEL
CONNECTOR BOLT	CARBON STEEL OR STAINLESS STEEL
GLAND	ASTM A276-316

NOTE

- 1) ASTM A105N / A350-LF2 / A182-F316
- 2) ASTM A105N / A216-WCB / A350-LF2 / A352-LCC / A182-F316 / A351-CF8M
- 3) SPIRAL WOUND GRAPHITE (WITH 316SS)

SPECIFICATIONS

- 1) Valve Size: 1/2" ~ 2"
- 2) Applicable Rating: ASME 300# ~ 2500# (KS/JIS 20K~63K)
- 3) Temperature: Up to 230°C
- 4) Code & Standard: API, BS, ASME, ASTM
Designed by ASME B16.10 / 16.34 / 16.5, API6D, BS5351
- 5) Constructions
 - 3-Piece Flanged Body
 - End Connection: Flanged Type
 - Floating Ball Type
 - Reduce Bore / Full Bore
 - Bubble-tight Std.
 - Fire Safety Construction (API-607)
 - Manual Operating



FORGED STEEL GATE VALVES

1C



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A182-F304(H.F)
WEDGE	ASTM A351-CF3(M) / CF8(M) OR EQUIVALENT-(H.F)
STEM	ASTM A276-304(L) / 316(L)
GASKET	SPIRAL WOUNDED GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-304 / 316

NOTE

1) Forged Steel, ASTM A182-F304(L) / F316(L)

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Down to -196°C
- 4) Code & Standard : BS, ASME, ASTM, KGSC
Designed by BS6364, ASME B16.34, and ASME B16.11/16.5
- 5) Shell & Seat Leak Test : ASME B16.34
- 6) Constructions
 - End Connection : Socket-Welded, Butt-Welded or Flanged Type
 - Long Extended Bonnet
 - Actuator : Manual or Gear-operated Type
 - Pressure Relief Design (Pressure Balance Design)
 - Fire Safety / Anti-static Design
 - Non Rising Hand wheel



FORGED STEEL GLOBE VALVES

1D



STANDARD MATERIALS

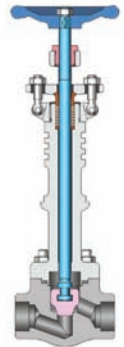
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A182-F304(H.F)
DISC	ASTM A276-304(L) / 316(L)-(H.F)
STEM	ASTM A276-316(L)
GASKET	SPIRAL WOUNDED GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) Forged Steel, ASTM A182-F304(L) / F316(L)

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Down to -196°C
- 4) Code & Standard : BS, ASME, ASTM, KGSC
Designed by BS6364, ASME B16.34, and ASME B16.11/16.5
- 5) Shell & Seat Leak Test : ASME B16.34
- 6) Constructions
 - End Connection : Socket-Welded, Butt-Welded or Flanged Type
 - Long Extended Bonnet
 - Actuator : Manual or Gear-operated Type
 - Pressure Relief Design (Pressure Balance Design)
 - Fire Safety / Anti-static Design
 - Rising Hand wheel



FORGED STEEL LIFT CHECK VALVES

1L



STANDARD MATERIALS

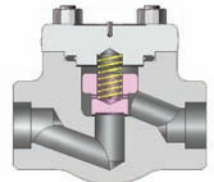
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT & DISC	ASTM A276-304(L)(H.F)
BONNET BOLT	STAINLESS STEEL
SPRING	304SS

NOTE

1) Forged Steel, ASTM A182-F304(L) / F316(L)

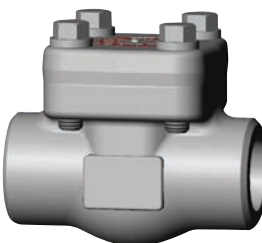
SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Down to -196°C
- 4) Code & Standard : BS, ASME, ASTM, KGSC
Designed by BS6364, ASME B16.34, and ASME B16.11/16.5
- 5) Shell & Seat Leak Test : ASME B16.34
- 6) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - Reduce Bore / Full Bore
 - Seat Welded on Body



FORGED STEEL SWING CHECK VALVES

1M



STANDARD MATERIALS

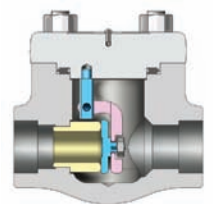
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A276-304(L) / 316(L)-(H.F)
DISC	ASTM A351-CF8(M) / CF3(M), A276-304(L) / 316(L)-(H.F)
GASKET	SPIRAL WOUNDED GRAPHITE
ARM	ASTM A351-CF8(M) / CF3(M)

NOTE

1) Forged Steel, ASTM A182-F304(L) / F316(L)

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Down to -196°C
- 4) Code & Standard : BS, ASME, ASTM, KGSC
Designed by BS6364, ASME B16.34, and ASME B16.11/16.5
- 5) Shell & Seat Leak Test : ASME B16.34
- 6) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - Full Bore / Reduce Bore



CAST STEEL GATE VALVES

C1



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	SOFT SEAT : PCTFE, METAL SEAT : ASTM A276-304L (H.F)
WEDGE	ASTM A276-304L(H.F) / 316(L)(H.F) OR EQUIVALENT
STEM	ASTM A276-316 (L)
GASKET	SPIRAL WOUNDED GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) Cast Steel, ASTM A351-CF8(M) / CF3(M)

SPECIFICATIONS

- 1) Valve Size : 2 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Down to -196°C
- 4) Code & Standard : BS, ASME, ASTM, KGSC
Designed by BS6364, ASME B16.34, and ASME B16.25/16.5
- 5) Shell & Seat Leak Test : ASME B16.34
- 6) Constructions
 - End Connection : Flanged, Butt-Welded or RTJ Type
 - Long Extended Bonnet
 - Actuator : Gear-operated Type
 - Pressure Relief Design (Pressure Balance Design)
 - Fire Safety / Anti-static Design
 - Uni- / Bi-Direction



CAST STEEL SWING CHECK VALVES

C9



STANDARD MATERIALS

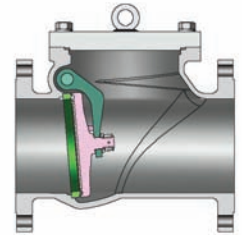
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	SOFT : PCTFE, METAL : ASTM A276-304(L) / 316(L)-(H.F)
DISC	ASTM A351-CF8(M) / CF3(M), A276-304(L) / 316(L)-(H.F)
GASKET	SPIRAL WOUNDED GRAPHITE
ARM	ASTM A351-CF8(M) / CF3(M)

NOTE

1) Cast Steel, ASTM A351-CF3(M) / CF8(M)

SPECIFICATIONS

- 1) Valve Size : 2" ~ 36"
- 2) Applicable Rating : ASME 150# ~ 600#
- 3) Temperature : Down to -196°C
- 4) Code & Standard : BS, ASME, ASTM, KGSC
Designed by BS6364, ASME B16.34,
and ASME B16.25/16.5
- 5) Shell & Seat Leak Test : ASME B16.34
- 6) Constructions
 - End Connection : Flanged, Butt-Welded or RTJ Type
 - Full Bore



TOP ENTRY BALL VALVES

CE



STANDARD MATERIALS

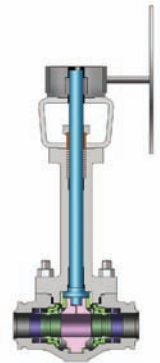
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	SOFT-PCTFE & GRAPHITE
BALL	ASTM A276-304 / 316 OR A351-CF8(M)
STEM	ASTM A276-304 / 316
GASKET	SPIRAL WOUNDED GRAPHITE
BONNET BOLT	ASTM A320 B8M CL2
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) ASTM A351-CF8(M), CF3(M)

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 36"
- 2) Applicable Rating : ASME 150# ~ 2500#
- 3) Temperature : Down to -196°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by BS5351, ASME B16.34, and ASME B16.25/16.5
- 5) Constructions
 - End Connection : Butt-Welded or Flanged Type
 - Extended Bonnet
 - Trunnion Ball, Full Bore / Reduce Bore
 - Fire Safety Construction (Certified by TÜV)
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)
 - Uni- / Bi-Direction, Double Block & Bleed Design
- 6) Feature : Patent 10-0835853 (Korea)
NEP Certification (No. NEP-MKE-2009-026)



CAST STEEL GLOBE VALVES

CJ



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASTM A276-304L(H.F)
DISC	ASTM A276-304L(H.F) / 316(L)(H.F) OR EQUIVALENT
STEM	ASTM A276-316 (L)
GASKET	SPIRAL WOUNDED GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) Cast Steel, ASTM A351-CF8(M) / CF3(M)

SPECIFICATIONS

- 1) Valve Size : 2" ~ 24"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Down to -196°C
- 4) Code & Standard : BS, ASME, ASTM, KGSC
Designed by BS6364, ASME B16.34, and ASME B16.25/16.5
- 5) Shell & Seat Leak Test : ASME B16.34
- 6) Constructions
 - End Connection : Flanged, Butt-Welded or RTJ Type
 - Long Extended Bonnet
 - Actuator : Gear-operated Type
 - Pressure Relief Design (Pressure Balance Design)
 - Fire Safety / Anti-static Design



THREE-PIECE BALL VALVES

D1,E1



STANDARD MATERIALS

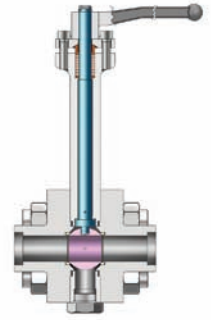
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	SOFT-PCTFE & GRAPHITE
BALL	ASTM A276-304 / 316 or A351-CF8(M)
STEM	ASTM A276-304 / 316
CONNECTOR	NOTE ¹⁾
GASKET	SPIRAL WOUNDED GRAPHITE
BONNET BOLT	ASTM A320 B8M CL.2
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

¹⁾ ASTM A182-F304(L), F316(L)

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 2500#
- 3) Temperature : Down to -196°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
- 5) Constructions
 - End Connection : Socket-Welded, Butt-Welded or Flanged Type
 - Extended Bonnet
 - Floating Ball, Full Bore
 - Fire Safety Construction (Certified by TÜV)
 - Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)



SAFETY VALVES - Series SF-5200 (Pilot-Operated)

SF5200



STANDARD MATERIALS

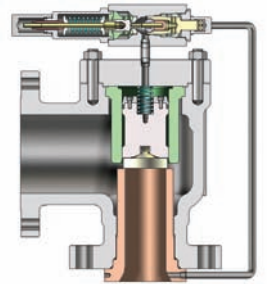
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A276-316(L)SS-(H.F)
DISC	316(L)SS
PILOT SEAT	304(L)SS, 316(L)SS
PILOT DISC	304(L)SS, 316(L)SS
SPRING	304SS, 316SS OR INCONEL
PIPING	STAINLESS STEEL

NOTE

¹⁾ Cast Steel, ASTM A531-CF3(M) / CF8(M)

SPECIFICATIONS

- 1) Valve Size : 2" x 3" ~ 8" x 10"
- 2) Applicable Rating : Up to ASME 1500# x 300#
- 3) Temperature : Down to -196°C
- 4) Code & Standard
 - Orifice : API RP 520, MFG. Standard
 - Cryogenic Test : BS6364, MFG. Standard
 - Shell Test : API RP 598, ASME B16.34, KOGAS Standard
- 5) Constructions
 - Seat Leakage Test : API RP 527
- 5) Constructions
 - End Connection : Flanged Type
 - Full Bore / Full Nozzle
 - Screwed Nozzle
 - Self-alignment Trim



CRYOGENIC VALVES

SAFETY VALVES - Series SF-7200 (Gas Or Vapor Service for Conventional Type) - Series SF-7900 (Liquid Service for Conventional Type)

SF7200, SF7900



STANDARD MATERIALS

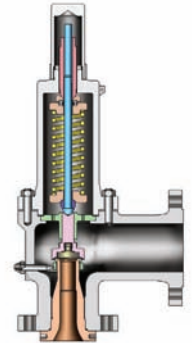
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A276-316(L)(H.F)
DISC	316(L)SS
STEM	304(L)SS, 316(L)SS
GUIDE	304(L)SS, 316(L)SS
SPRING	304SS, 316SS OR INCONEL

NOTE

¹⁾ Cast Steel, ASTM A351-CF3(M), CF8(M)

SPECIFICATIONS

- 1) Valve Size : 1/2" x 3/4" ~ 12" x 16"
- 2) Applicable Rating : ASME 600# x 150# ~ 1500# x 300#
- 3) Temperature : Down to -196°C
- 4) Code & Standard
 - Orifice : API RP 520, MFG. Standard
 - Cryogenic Test : BS6364, MFG. Standard
 - Shell Test : API RP 598, ASME B16.34, KOGAS Standard
- 5) Constructions
 - Seat Leakage Test : API RP 527
- 5) Constructions
 - End Connection : Flanged Type
 - Full Bore / Full Nozzle / Screwed Nozzle
 - Self-alignment Trim
 - Packed Cap & Lever to be optional



SAFETY VALVES - Series SF-8200 (Gas or Vapor Service for Conventional Type) - Series SF-8900 (Liquid Service for Conventional Type)

SF8200, SF8900



STANDARD MATERIALS

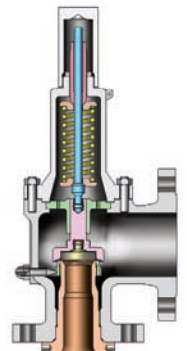
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A276-316(H.F)
DISC	316(L)SS
STEM	304(L)SS, 316(L)SS
GUIDE	304(L)SS, 316(L)SS
SPRING	304SS, 316SS OR INCONEL

NOTE

¹⁾ Cast Steel, ASTM A351-CF3(M), CF8(M)

SPECIFICATIONS

- 1) Valve Size : 1/2" x 3/4" ~ 12" x 16"
- 2) Applicable Rating : ASME 150# x 150# ~ 300# x 300#
- 3) Temperature : Down to -196°C
- 4) Code & Standard
 - Orifice : API RP 520, MFG. Standard
 - Cryogenic Test : BS6364, MFG. Standard
 - Shell Test : API RP 598, ASME B16.34, KOGAS Standard
- 5) Constructions
 - Seat Leakage Test : API RP 527
- 5) Constructions
 - End Connection : Flanged Type
 - Full Bore / Full Nozzle / Screwed Nozzle
 - Self-alignment Trim
 - Packed Cap & Lever to be optional



SAFETY VALVES - Series SF-9600 (Gas, Vapor or Liquid Service for Conventional Type)

SF9600



STANDARD MATERIALS

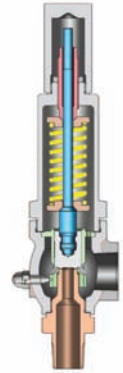
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASTM A276-316(L)-(H.F)
DISC	316(L)SS
STEM	304(L)SS
GUIDE	304(L)SS
SPRING	304SS, 316SS OR INCONEL

NOTE

1) (F)304SS, (F)316SS

SPECIFICATIONS

- 1) Valve Size : 1/2" x 1/2" ~ 1" x 1"
- 2) Applicable Set Pressure : Up to 210kgf/cm²
- 3) Temperature : Down to -196°C
- 4) Code & Standard
 - Orifice : API RP 520, MFG. Standard
 - Cryogenic Test : BS6364, MFG. Standard
 - Shell Test : API RP 598, ASME B16.34, KOGAS Standard
 - Seat Leakage Test : API RP 527
- 5) Constructions
 - End Connection : Screwed Type
 - Full Bore / Full Nozzle / Screwed Nozzle
 - Self-alignment Trim
 - Non Lever (Lever to be optional)



GLOBE CONTROL VALVES - Series SS-1050

SS1050



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	STAINLESS STEEL
STEM	ASTM A276-304
GASKET	SPIRAL WOUNDED GRAPHITE
BONNET BOLT	STAINLESS STEEL
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) Forged Stainless Steel, ASTM A351-CF8(M)

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 24"
- 2) Applicable Rating : ASME 150# ~ 2500#, KS 10K ~ 40K
- 3) Temperature : Down to -196°C
- 4) Code & Standard : BS, ASME, ASTM, KGSC
Designed by BS6364, ASME B16.34, and ASME B16.11/16.25/16.5
- 5) Allowable Seat Leakage : ASME Class III, IV, V, VI, BS6364
- 6) Constructions
 - End Connection : Socket-Welded, Butt-Welded, or Flanged Type
 - Long Extended Bonnet
 - Actuator : Cylinder or Diaphragm Type
 - Quick Change Typed Trim



ANGLE GLOBE CONTROL VALVES - Series SS-2050

SS2050



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	STAINLESS STEEL
STEM	ASTM A276-304
GASKET	SPIRAL WOUNDED GRAPHITE
BONNET BOLT	STAINLESS STEEL
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) Forged Stainless Steel, ASTM A351-CF8(M), High Strength Aluminium

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 24"
- 2) Applicable Rating : ASME 150# ~ 600#, KS 10K ~ 40K
- 3) Temperature : Down to -196°C
- 4) Code & Standard : BS, ASME, ASTM, KGSC
Designed by BS6364, ASME B16.34, and ASME B16.25/16.5
- 5) Allowable Seat Leakage : ASME Class I ~ VI
- 6) Constructions
 - End Connection : Butt-Welded, or Flanged Type
 - Long Extended Bonnet
 - Actuator : Cylinder or Diaphragm Type
 - Quick Change Typed Trim



FORGED STEEL GATE VALVES (LONG TYPE) - OS & Y, BB TYPE

1G



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
BELLOWS	ASTM A240-321
SEAT	ASTM A276-410-H.F
WEDGE	ASTM A271-CA15
STEM	ASTM A276-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
 - 2) Applicable Rating : ASME 150# ~ 800#
 - 3) Temperature : Up to 500°C
 - 4) Bellows Test Pressure : 254 kgf/cm²
 - 5) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.11 / 16.34 / 16.5, API 602, MSS-SP 117
- 5) Constructions
- End Connection : Socket-Welded or Flanged Type
 - OS & Y, BB (=Bolted Bonnet) Type
 - Reduce Bore
 - Rising Stem/Non Rising Hand wheel
 - Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)



FORGED STEEL GLOBE VALVES (LONG TYPE) - OS & Y, BB TYPE

1H



STANDARD MATERIALS

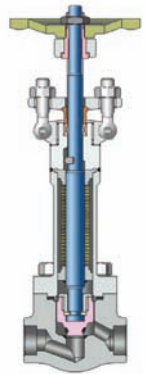
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
BELLOWS	ASTM A240-321
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
 - 2) Applicable Rating : ASME 150# ~ 800#
 - 3) Temperature : Up to 500°C
 - 4) Bellows Test Pressure : 254 kgf/cm²
 - 5) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.11 / 16.34 / 16.5, MSS-SP 117, BS5352
- 5) Constructions
- End Connection : Socket-Welded or Flanged Type
 - BB (=Bolted Bonnet) Type
 - Reduce Bore
 - Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)



FORGED STEEL GATE VALVES (COMPACT TYPE) - OS & Y, BB TYPE

1J



STANDARD MATERIALS

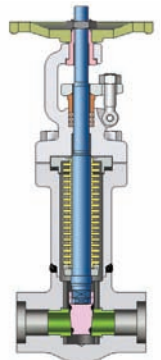
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
BELLOWS	ASTM A240-316L
SEAT	ASTM A276-410-H.F
WEDGE	ASTM A271-CA15
STEM	ASTM A276-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
 - 2) Applicable Rating : ASME 150# ~ 800#
 - 3) Temperature : Up to 500°C
 - 4) Bellows Test Pressure : 254 kgf/cm²
 - 5) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.11 / 16.34 / 16.5, API 602, MSS-SP 117
- 5) Constructions
- End Connection : Socket-Welded or Flanged Type
 - OS & Y, BB (=Bolted Bonnet) Type / Compact Type
 - Reduce Bore
 - Rising Stem/Non Rising Hand wheel
 - Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)



FORGED STEEL GLOBE VALVES (COMPACT TYPE) - OS & Y, BB TYPE

1K



STANDARD MATERIALS

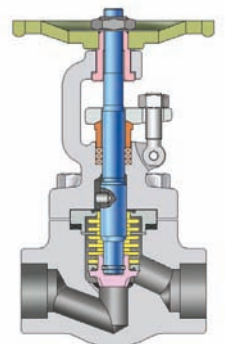
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
BELLOWS	ASTM A240-316L
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
 - 2) Applicable Rating : ASME 150# ~ 800#
 - 3) Temperature : Up to 500°C
 - 4) Bellows Test Pressure : 254 kgf/cm²
 - 5) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.11 / 16.34 / 16.5, MSS-SP 117
- 5) Constructions
- End Connection : Socket-Welded or Flanged Type
 - BB (=Bolted Bonnet) Type / Compact Type
 - Full Bore / Reduce Bore
 - Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)



FORGED STEEL Y-GLOBE VALVES - OS & Y, BB TYPE

3K



STANDARD MATERIALS

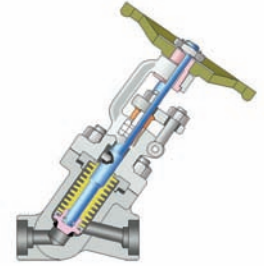
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
BELLOWS	ASTM A240-316L
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
 - 2) Applicable Rating : ASME 150# ~ 800#
 - 3) Temperature : Up to 500°C
 - 4) Bellows Test Pressure : 254 kgf/cm²
 - 5) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.11 / 16.34 / 16.5, MSS-SP 117
- 5) Constructions
- End Connection : Socket-Welded or Flanged Type
 - BB (=Bolted Bonnet) Type
 - Full Bore / Reduce Bore
 - Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)



FORGED STEEL GLOBE VALVES - OS & Y, BB TYPE

AK



STANDARD MATERIALS

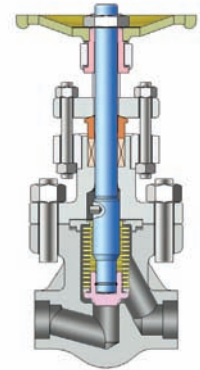
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
BELLOWS	ASTM A240-316L
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
 - 2) Applicable Rating : ASME 600# ~ 1500#
 - 3) Temperature : Up to 500°C
 - 4) Bellows Test Pressure : 254 kgf/cm²
 - 5) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.11 / 16.34 / 16.5, MSS-SP 117, BS5352
- 5) Constructions
- End Connection : Socket-Welded or Flanged Type
 - BB (=Bolted Bonnet) Type
 - Full Bore
 - Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)



CAST STEEL GATE VALVES - OS & Y, BB TYPE

C4



STANDARD MATERIALS

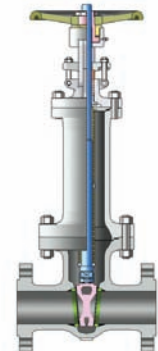
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
BELLOWS	ASTM A240-321
SEAT	ASTM A276-410 / 304(L) / 316(L)-H.F
WEDGE	ASTM A216-WCB, A276-304(L)-316(L)
STEM	ASTM A216-410, A276-304(L)-316(L)
GASKET	GRAPHITE
HANDWHEEL	DUCTILE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) ASTM A216-WCB, A351-CF3(M) / CF8(M)

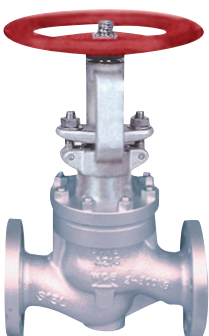
SPECIFICATIONS

- 1) Valve Size : 2" ~ 24"
 - 2) Applicable Rating : ASME 150# ~ 1500#
 - 3) Temperature : Up to 500°C
 - 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.25 / 16.34 / 16.5
- 5) Constructions
- Bellows-Sealed Construction
 - End Connection : Butt-Welded or Flanged Type
 - BB (=Bolted Bonnet) Type
 - Full Bore / Reduce Bore
 - Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)



CAST STEEL GLOBE VALVES - OS & Y, BB TYPE

C5



STANDARD MATERIALS

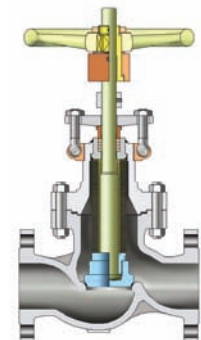
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
BELLOWS	ASTM A240-321
DISC	ASTM A276-304(L) / 316(L) / 410
STEM	ASTM A276-304(L) / 316(L) / 410
GASKET	GRAPHITE
HANDWHEEL	DUCTILE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

NOTE

1) ASTM A216, WEB, A351-CF3(M)/CF8(M)

SPECIFICATIONS

- 1) Valve Size : 2" ~ 24"
 - 2) Applicable Rating : ASME 150# ~ 1500#
 - 3) Temperature : Up to 500°C
 - 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Designed by ASME B16.25 / 16.34 / 16.5
- 5) Constructions
- Bellows-Sealed Construction
 - End Connection : Butt-Welded or Flanged Type
 - BB (=Bolted Bonnet) Type
 - Full Bore
 - Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)



FORGED STEEL GATE VALVES - OS & Y, BB TYPE

11



STANDARD MATERIALS

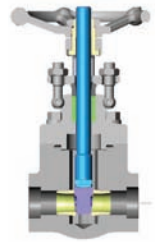
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A276-410-H.F
WEDGE	ASTM A217-CA15
STEM	ASTM A276-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	304L SS

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34 / 16.5, API 602
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - OS & Y, BB (=Bolted Bonnet) Type
 - Full Bore / Reduce Bore
 - Rising Stem / Non Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)	
	SHELL(kgf/cm ²) WATER	SEAT(kgf/cm ²) AIR WATER
150#	32	23
300#	80	58
600#	157	115
800#	211	155
900#	236	172
1500#	393	287

FORGED STEEL GLOBE VALVES - OS & Y, BB TYPE

12



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	304L SS

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34 / 16.5
BS5352
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - OS & Y, BB (=Bolted Bonnet) Type
 - Full Bore / Reduce Bore
 - Rising Stem / Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)	
	SHELL(kgf/cm ²) WATER	SEAT(kgf/cm ²) AIR WATER
150#	32	23
300#	80	58
600#	157	115
800#	211	155
900#	236	172
1500#	393	287

LIFT CHECK VALVES - BC TYPE

13



STANDARD MATERIALS

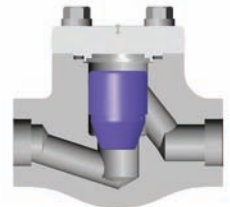
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
COVER	NOTE ¹⁾
SEAT	ASTM A105-HF
DISC	ASTM A276-410
GASKET	GRAPHITE
COVER BOLT	ASTM A193-B7

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34 / 16.5 and BS5352
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - BC (=Bolted Cover) Type
 - Full Bore / Reduce Bore



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)	
	SHELL(kgf/cm ²) WATER	SEAT(kgf/cm ²) AIR WATER
150#	32	23
300#	80	58
600#	157	115
800#	211	155
900#	236	172
1500#	393	287

SWING CHECK VALVES - BC TYPE

14



STANDARD MATERIALS

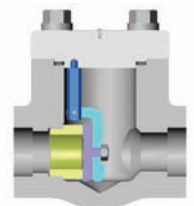
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
COVER	NOTE ¹⁾
SEAT	ASTM A276-410-HF
DISC	ASTM A276-410
HINGE	ASTM A351-CF8M
GASKET	GRAPHITE
COVER BOLT	ASTM A193-B7

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

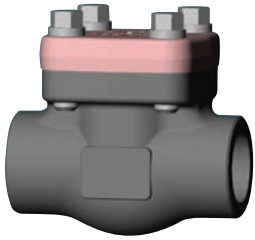
- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34 / 16.5
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - BC (=Bolted Cover) Type
 - Full Bore / Reduce Bore



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)	
	SHELL(kgf/cm ²) WATER	SEAT(kgf/cm ²) AIR WATER
150#	32	23
300#	80	58
600#	157	115
800#	211	155
900#	236	172
1500#	393	287

BALL CHECK VALVES - BC TYPE

15



STANDARD MATERIALS

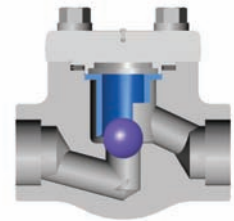
PART NAMES	MATERIALS
BODY	NOTE 1)
COVER	NOTE 1)
SEAT	ASTM A105-HF
BALL	ASTM A276-304
GASKET	GRAPHITE
COVER BOLT	ASTM A193-B7

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34 / 16.5, and BS5352
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - BC (=Bolted Cover) Type
 - Full Bore / Reduce Bore



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)	
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)
	WATER	AIR WATER
150#	32	23
300#	80	58
600#	157	115
800#	211	155
900#	236	172
1500#	393	287

FORGED STEEL ANGLE GLOBE - OS & Y, BB TYPE

16



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	304L SS

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 900#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34, BS5352
- 5) Constructions
 - End Connection : Socket-Welded Type
 - BB (=Bolted Bonnet) Type
 - Full Bore / Reduce Bore
 - Rising Stem / Rising Hand wheel
 - Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)	
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)
	WATER	AIR WATER
150#	32	23
300#	80	58
600#	157	115
800#	211	155
900#	236	172

FORGED STEEL NEEDLE GLOBE VALVES - OS & Y, BB TYPE

17



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASTM A105-H.F
STEM	ASTM A276-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	304L SS

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34 / 16.5, BS5352
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - BB (=Bolted Bonnet) Type
 - Full Bore / Reduce Bore
 - Rising Stem / Rising Hand wheel
 - Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)	
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)
	WATER	AIR WATER
150#	32	23
300#	80	58
600#	157	115
800#	211	155
900#	236	172
1500#	393	287

SCREW DOWN CHECK VALVES - OS & Y, BB TYPE

18



STANDARD MATERIALS

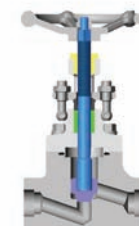
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	304L SS

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34 / 16.5 and BS5352
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - BB (=Bolted Bonnet) Type
 - Full Bore / Reduce Bore
 - Rising Stem / Rising Hand wheel



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)	
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)
	WATER	AIR WATER
150#	32	23
300#	80	58
600#	157	115
800#	211	155
900#	236	172
1500#	393	287

FORGED STEEL GATE VALVES - OS & Y, WB TYPE

21



STANDARD MATERIALS

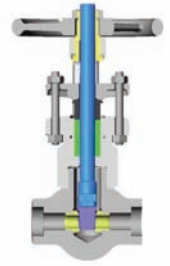
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A276-410-H.F
WEDGE	ASTM A217-CA15
STEM	ASTM A276-410
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

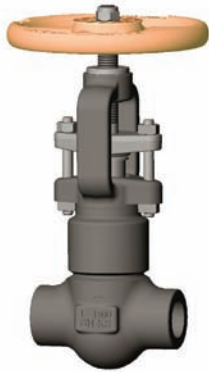
- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 900# ~ 4500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34 / 16.5
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - WB (=Welded Bonnet) Type
 - Full Bore / Reduce Bore
 - Rising Stem / Non Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL(kgf/cm ²)		SEAT(kgf/cm ²)	
	WATER	AIR	WATER	
900#	236		172	
1500#	393		287	
2500#	653	6	478	
4500#	1173		860	

FORGED STEEL GLOBE VALVES - OS & Y, WB TYPE

22



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 900# ~ 4500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34 / 16.5, BS5352
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - OS & Y, WB (=Welded Bonnet) Type
 - Full Bore / Reduce Bore
 - Rising Stem / Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL(kgf/cm ²)		SEAT(kgf/cm ²)	
	WATER	AIR	WATER	
900#	236		172	
1500#	393		287	
2500#	653	6	478	
4500#	1173		860	

LIFT CHECK VALVES - WC TYPE

23



STANDARD MATERIALS

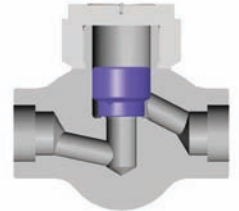
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A105-HF
DISC	ASTM A276-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 900# ~ 4500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34 / 16.5 and BS5352
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - WC (=Welded Cover) Type
 - Full Bore / Reduce Bore



CLASS	SHELL(kgf/cm ²)		SEAT(kgf/cm ²)	
	WATER	AIR	WATER	
900#	236		172	
1500#	393		287	
2500#	653	6	478	
4500#	1173		860	

FORGED STEEL NEEDLE GLOBE VALVES - OS & Y, WB TYPE

27



STANDARD MATERIALS

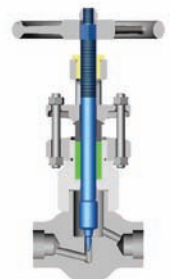
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A105-H.F
STEM	ASTM A276-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

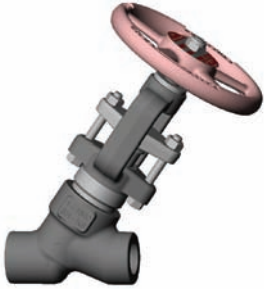
- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 900# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34 / 16.5, BS5352
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - WB (=Welded Bonnet) Type
 - Full Bore / Reduce Bore
 - Rising Stem / Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL(kgf/cm ²)		SEAT(kgf/cm ²)	
	WATER	AIR	WATER	
900#	236		172	
1500#	393	6	287	

FORGED STEEL Y-GLOBE VALVES - OS & Y, WB TYPE

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STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 900# ~ 4500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34 / 16.5
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - WB (=Welded Bonnet) Type
 - Full Bore / Reduce Bore
 - Rising Stem / Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL(kgf/cm ²)		SEAT(kgf/cm ²)	
	WATER	AIR	WATER	WATER
900#	236			172
1500#	393			287
2500#	653	6		478
4500#	1173			860

FORGED STEEL GATE VALVES - FOR NUCLEAR POWER PLANT - OS & Y, BB TYPE

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STANDARD MATERIALS

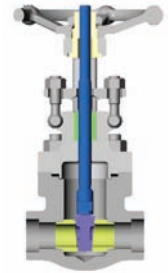
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASME (S)A479-410-H.F
WEDGE	ASTM A217-CA15
STEM	ASME (S)A479-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A47
GLAND PACKING	GRAPHITE
GLAND	ASME (S)A479-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 600#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : ASME, ASTM
Designed by ASME B16.11 / 16.34 / 16.5
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - OS & Y, BB (=Bolted Bonnet) Type
 - Full Bore
 - Rising Stem / Non Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL(kgf/cm ²)		SEAT(kgf/cm ²)	
	WATER	AIR	WATER	WATER
150#	32			23
300#	80	6		58
600#	157			115

FORGED STEEL Y-GLOBE VALVES - FOR NUCLEAR POWER PLANT - OS & Y, BB TYPE

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STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASME (S)A105-H.F
DISC	ASME (S)A479-410
STEM	ASME (S)A479-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASME (S)A479-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

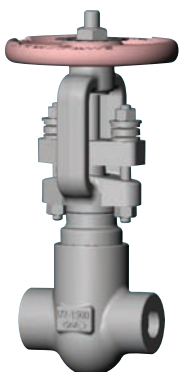
- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 600#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : ASME, ASTM
Designed by ASME B16.11 / 16.34 / 16.5
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - BB (=Bolted Bonnet) Type
 - Full Bore
 - Rising Stem / Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL(kgf/cm ²)		SEAT(kgf/cm ²)	
	WATER	AIR	WATER	WATER
150#	32			23
300#	80	6		58
600#	157			115

FORGED STEEL GATE VALVES - FOR NUCLEAR POWER PLANT - OS & Y, WB TYPE

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STANDARD MATERIALS

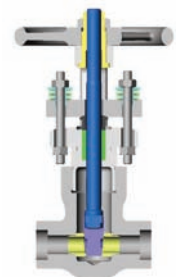
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASME (S)A479-410-H.F
WEDGE	ASTM A217-CA15
STEM	ASME (S)A479-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A47
GLAND PACKING	GRAPHITE
GLAND	ASME (S)A479-410

NOTE

1) ASTM (S)A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 900# ~ 2500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34 / 16.5
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - WB (=Welded Bonnet) Type
 - Live Loaded Packing Type
 - Full Bore
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL(kgf/cm ²)		SEAT(kgf/cm ²)	
	WATER	AIR	WATER	WATER
900#	236			172
1500#	393	6		287
2500#	653			478

FORGED STEEL GLOBE VALVES - FOR NUCLEAR POWER PLANT - OS & Y, WB TYPE

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STANDARD MATERIALS

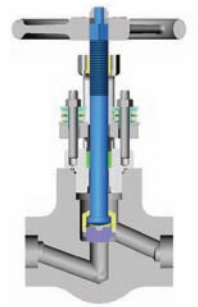
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASME (S)A105-H.F
DISC	ASME (S)A479-410
STEM	ASME (S)A479-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASME (S)A479-410

NOTE

1) ASTM (S)A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

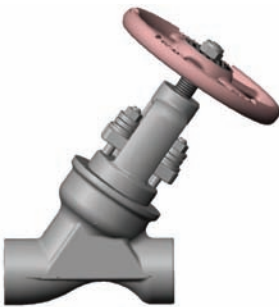
- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 2500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34
- 5) Constructions
 - End Connection : Socket-Welded Type
 - WB (=Welded Bonnet) Type
 - Full Bore
 - Rising Stem / Rising Hand wheel
 - Live Loaded Packing Type
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
2500#	653	6	478

FORGED STEEL Y-GLOBE VALVES - FOR NUCLEAR POWER PLANT - OS & Y, WB TYPE

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STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASME (S)A105-H.F
DISC	ASME (S)A479-410
STEM	ASME (S)A479-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASME (S)A479-410

NOTE

1) ASTM (S)A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

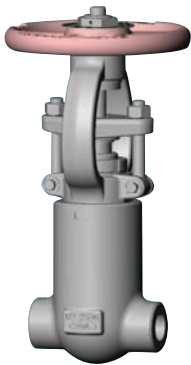
- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 900# ~ 2500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34
- 5) Constructions
 - End Connection : Socket-Welded Type
 - WB (=Welded Bonnet) Type
 - Full Bore
 - Rising Stem / Rising Hand wheel
 - Live Loaded Packing Type
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
900#	236		172
1500#	393	6	287
2500#	653		476

FORGED STEEL GATE VALVES - OS & Y, PSB TYPE

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STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM (S)A276-410-H.F
WEDGE	ASTM A217-CA15
STEM	ASTM (S)A276-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A47
GLAND PACKING	GRAPHITE
GLAND	ASTM (S)A276-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 1500# ~ 2500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34 / 16.5
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - PSB (=Pressure-Seal Bonnet) Type
 - Full Bore
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
1500#	393		287
2500#	653	6	478

FORGED STEEL GLOBE VALVES - OS & Y, PSB TYPE

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STANDARD MATERIALS

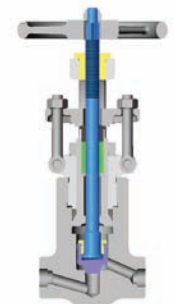
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

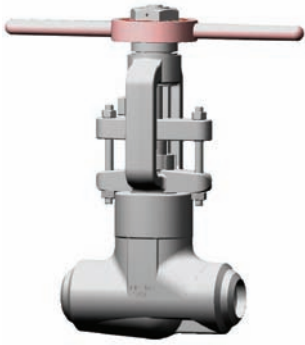
- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 1500# ~ 2500#
- 3) Temperature : Up to 500
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34 / 16.5, BS5352
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - PSB (=Pressure-Seal Bonnet) Type
 - Full Bore
 - Rising Stem / Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
1500#	393		287
2500#	653	6	478

FORGED STEEL GLOBE VALVES - OS & Y, PSB TYPE

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STANDARD MATERIALS

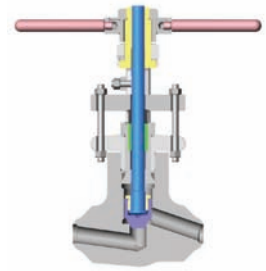
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

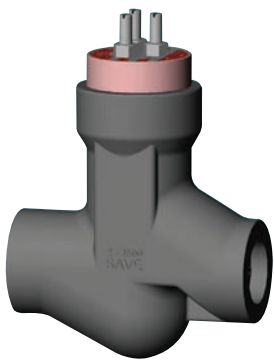
- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 2500# ~ 4500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : ASME, ASTM
Designed by ASME B16.25 / 16.34
- 5) Constructions
 - End Connection : Butt-Welded Type
 - PSB (=Pressure-Seal Bonnet) Type
 - Full Bore
 - Rising Stem / Non-Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
2500#	653	6	478
4500#	1173	6	860

LIFT CHECK VALVES - PSC TYPE

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STANDARD MATERIALS

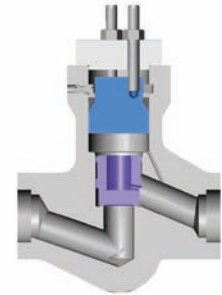
PART NAMES	MATERIALS
BODY	NOTE 1)
COVER	NOTE 1)
SEAT	ASTM A105-HF
DISC	ASTM A276-410
GASKET	GRAPHITE

NOTE

1) ASTM (SA)105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 1500# ~ 4500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34 / 16.5, and BS5352
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - PSB (=Pressure-Seal Bonnet) Type
 - Full Bore



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
1500#	393	6	287
2500#	653	6	478
4500#	1173	6	860

FORGED STEEL Y-GLOBE VALVES - OS & Y, PSB TYPE

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STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	ASTM A105-H.F
DISC	ASTM A276-410
STEM	ASTM A276-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 1500# ~ 4500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34, BS5352
- 5) Constructions
 - End Connection : Socket-Welded Type
 - PSB (=Pressure-Seal Bonnet) Type
 - Full Bore
 - Rising Stem / Non-Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
1500#	393	6	287
2500#	653	6	478
4500#	1173	6	860

Y-CHECK VALVES - FOR NUCLEAR POWER PLANT - BC TYPE

3A



STANDARD MATERIALS

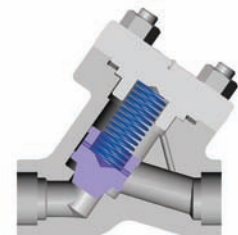
PART NAMES	MATERIALS
BODY	NOTE 1)
COVER	NOTE 1)
SEAT	ASME (SA)105-HF
DISC	ASME (SA)479-410
GASKET	GRAPHITE
SPRING	INCONEL

NOTE

1) ASTM (SA)105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

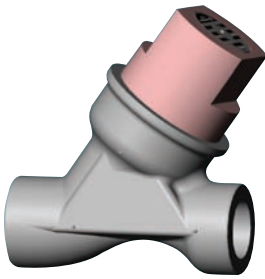
- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 600#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : ASME, ASTM
Designed by ASME B16.10 / 16.11 / 16.34
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - BC (=Bolted Cover) Type
 - Full Bore



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
150#	32	6	23
300#	80	6	58
600#	157	6	115

Y-CHECK VALVES - FOR NUCLEAR POWER PLANT - WC TYPE

4A



STANDARD MATERIALS

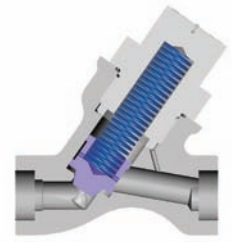
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
COVER	NOTE ¹⁾
SEAT	ASME (S)A105-HF
DISC	ASME (S)A479-410
GASKET	GRAPHITE
SPRING	INCONEL

NOTE

1) ASTM (S)A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 900# ~ 2500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34
- 5) Constructions
 - End Connection : Socket-Welded Type
 - WC (=Welded Cover) Type
 - Full Bore



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
900#	236		172
1500#	393	6	287
2500#	653		478

FORGED STEEL Y-GLOBE VALVES - PMD TYPE

5T



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
DIAPHRAGM	INCONEL X-718
SEAT	ASME (S)A105-H.F
DISC	ASME (S)A479-410
STEM	ASTM A276-410
SPRING	INCONEL X-750
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE

NOTE

1) ASTM (S)A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 600# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34
- 5) Constructions
 - End Connection : Socket-Welded Type
 - PMD (=Packless Metal Diaphragm) Type
 - Full Bore / Reduce Bore
 - Rising Stem / Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
600#	157		115
1500#	393	6	287

FORGED STEEL GATE VALVES - OS & Y, BB TYPE

A1



STANDARD MATERIALS

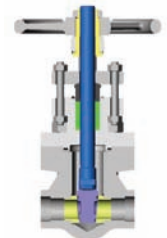
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASTM A276-410-H.F
WEDGE	ASTM A217-CA15
STEM	ASTM A479-410
GASKET	GRAPHITE
HANDWHEEL	ASTM A47
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34 / 16.5, API 600
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - OS & Y, BB (=Bolted Bonnet) Type
 - Full Bore
 - Rising Stem / Non Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
150#	32		23
300#	80		58
600#	157	6	115
900#	236		172
1500#	393		287

FORGED STEEL GLOBE VALVES - OS & Y, BB TYPE

A2



STANDARD MATERIALS

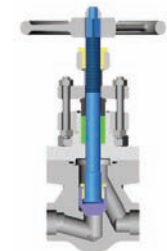
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	ASME A105-H.F
DISC	ASTM A276-410
STEM	ASTM A479-410
GASKET	GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-410

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34 / 16.5, API 600
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - OS & Y, BB (=Bolted Bonnet) Type
 - Full Bore
 - Rising Stem / Rising Hand wheel
 - Manual or Motor Operated
(Pneumatic, Electric, or Hydraulic)



CLASS	SHELL & SEAT LEAKAGE TEST PRESSURE (A105)		
	SHELL(kgf/cm ²)	SEAT(kgf/cm ²)	
	WATER	AIR	WATER
150#	32		23
300#	80		58
600#	157	6	115
900#	236		172
1500#	393		287

LIFT CHECK VALVES - BC TYPE

A3



STANDARD MATERIALS

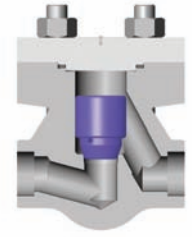
PART NAMES	MATERIALS
BODY	NOTE 1)
COVER	NOTE 1)
SEAT	ASTM A276-410-HF
DISC	ASTM A276-410
GASKET	GRAPHITE
COVER BOLT	ASTM A193-B7

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.34
and API 600
- 5) Constructions
 - End Connection : Socket-Welded Type
 - BC (=Bolted Cover) Type
 - Full Bore

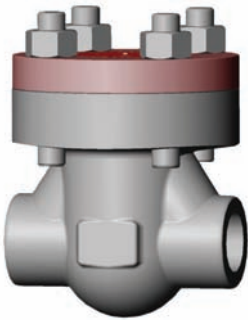


SHELL & SEAT LEAKAGE TEST PRESSURE (A105)

CLASS	SHELL(kgf/cm ²)		SEAT(kgf/cm ²)	
	WATER	AIR	WATER	
150#	32		23	
300#	80		58	
600#	157	6	115	
900#	236		172	
1500#	393		287	

SWING CHECK VALVES - BC TYPE

A4



STANDARD MATERIALS

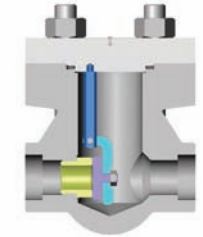
PART NAMES	MATERIALS
BODY	NOTE 1)
COVER	NOTE 1)
SEAT	ASTM A276-410-HF
DISC	ASTM A276-410
HINGE	ASTM A351-CF8M
GASKET	GRAPHITE
COVER BOLT	ASTM A193-B7

NOTE

1) ASTM A105, A182-F304(L) / F316(L) / F22 / F5 / F9 / F317 / F347 / F321

SPECIFICATIONS

- 1) Valve Size : 1/2" ~ 2"
- 2) Applicable Rating : ASME 150# ~ 1500#
- 3) Temperature : Up to 500°C
- 4) Code & Standard : API, BS, ASME, ASTM
Designed by ASME B16.11 / 16.25 / 16.34 / 16.5, and
API 600
- 5) Constructions
 - End Connection : Socket-Welded or Flanged Type
 - BC (=Bolted Cover) Type
 - Full Bore



SHELL & SEAT LEAKAGE TEST PRESSURE (A105)

CLASS	SHELL(kgf/cm ²)		SEAT(kgf/cm ²)	
	WATER	AIR	WATER	
150#	32		23	
300#	80		58	
600#	157	6	115	
900#	236		172	
1500#	393		287	

GLOBE VALVE. SERISE , SS-1000Q (RATING 150# ~ 300#, CASTING)



STANDARD MATERIALS

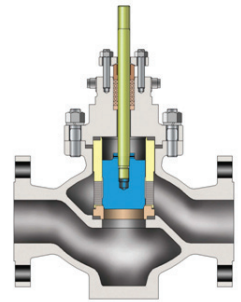
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	316SS OR 410SS ²⁾
PLUG	316SS OR 410SS ²⁾
CAGE	316SS OR 410SS
STEM	316SS + H.CR
GASKET	SPRIAL WOUNDED GRAPHITE
GLAND PACKING	PTFE OR GRAPHITE

NOTE

- All the Stainless Steel Available
 <HIGH TEMP> ASTM A216-WCB, ASTM A217-WC6 / WC9 / C12A
 <LOW TEMP> ASTM 352-LCB / LC1 / LC2 / LC3
- 316SS + Stellite Welding(#6) or 410SS + Q.T

SPECIFICATIONS

- Valve Size : 1" ~ 36"
- Applicable Rating : ASTM 150# ~ 300#
- Temperature : Up to 500°C
- Code & Standard : API, BS, ASME, ASTM, KGSC
 Design by ASME B16.10 / 16.25 / 16.34 / 16.5
 API 598 & ISA Standard
- Allowable Seat Leakage : IV, V, VI, Zero
- Control Characteristics
 EQ%, Linear, Modified, Q-Opening
- Additional Equipments
 Pneumatic & MOV Actuator
 Positioner, Air set, Solenoid V/V ETC.



GLOBE VALVE. SERISE , SS-1010 (RATING 150# ~ 4500#, CASTING)



STANDARD MATERIALS

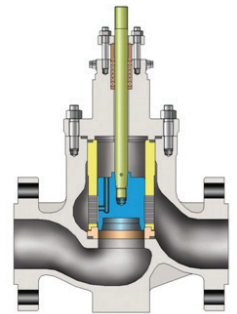
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	316SS OR 410SS ²⁾
PLUG	316SS OR 410SS ²⁾
CAGE	316SS OR 410SS
STEM	316SS + H.CR
GASKET	SPRIAL WOUNDED GRAPHITE
GLAND PACKING	PTFE OR GRAPHITE

NOTE

- All the Stainless Steel Available
 <HIGH TEMP> ASTM A216-WCB, ASTM A217-WC6 / WC9 / C12A
 <LOW TEMP> ASTM 352-LCB / LC1 / LC2 / LC3
- 316SS + Stellite Welding(#6) or 410SS + Q.T

SPECIFICATIONS

- Valve Size : 1" ~ 24"
- Applicable Rating : ASTM 150#~4500#
- Temperature : Up to 600°C
- Code & Standard : API, BS, ASME, ASTM, KGSC
 Design by ASME B16.10 / 16.25 / 16.34 / 16.5
 API 598 & ISA Standard
- Allowable Seat Leakage : IV, V, VI, Zero
- Control Characteristics
 EQ%, Linear, Modified, Q-Opening
- Additional Equipments
 Pneumatic & MOV Actuator
 Positioner, Air set, Solenoid V/V ETC.



GLOBE VALVE. SERISE , SS-1110 (RATING 150# ~ 4500#, FORGED)



STANDARD MATERIALS

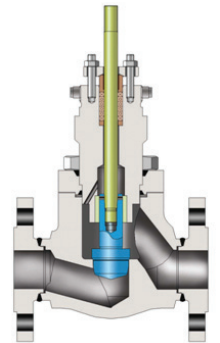
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	316SS OR 410SS ²⁾
PLUG	316SS OR 410SS ²⁾
CAGE	316SS OR 410SS
STEM	316SS+H.CR
GASKET	SPRIAL WOUNDED GRAPHITE
GLAND PACKING	PTFE OR GRAPHITE

NOTE

- All the Stainless Steel Available
 <HIGH TEMP> ASTM A105, ASTM A182-F11 / F22 / F91
 <LOW TEMP> ASTM 182-F304 / F316
- 316SS + Stellite Welding(#6) or 410SS + Q.T

SPECIFICATIONS

- Valve Size : 1" ~ 12"
- Applicable Rating : ASTM 150#~4500#
- Temperature : Up to 600°C
- Code & Standard : API, BS, ASME, ASTM, KGSC
 Design by ASME B16.10 / 16.25 / 16.34 / 16.5
 API 598 & ISA Standard
- Allowable Seat Leakage : IV, V, VI, Zero
- Control Characteristics
 EQ%, Linear, Modified, Q-Opening
- Additional Equipments
 Pneumatic & MOV Actuator
 Positioner, Air set, Solenoid V/V ETC.



3-WAY VALVE. SERISE , SS-1030 (DIVIDING OR MIXING TYPE)



STANDARD MATERIALS

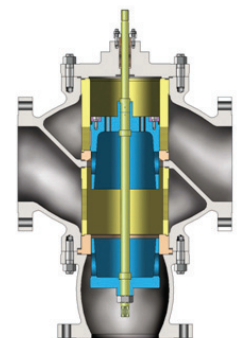
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	316SS OR 410SS ²⁾
PLUG	316SS OR 410SS ²⁾
CAGE	316SS OR 410SS
STEM	316SS+H.CR
GASKET	SPRIAL WOUNDED GRAPHITE
GLAND PACKING	PTFE OR GRAPHITE

NOTE

- All the Stainless Steel Available
 <HIGH TEMP> ASTM A216-WCB, ASTM A217-WC6 / WC9 / C12A
 <LOW TEMP> ASTM 352-LCB / LC1 / LC2 / LC3
- 316SS + Stellite Welding(#6) or 410SS + Q.T

SPECIFICATIONS

- Valve Size : 1" ~ 36"
- Applicable Rating : ASTM 150#~900#
- Temperature : Up to 600°C
- Code & Standard : API, BS, ASME, ASTM, KGSC
 Design by ASME B16.10 / 16.25 / 16.34 / 16.5
 API 598 & ISA Standard
- Allowable Seat Leakage : IV, V, VI
- Control Characteristics
 EQ%, Linear, Modified, Q-Opening
- Additional Equipments
 Pneumatic & MOV Actuator
 Positioner, Air set, Solenoid V/V ETC.



Dividing Type

GLOBE VALVE. SERISE, SS-1050 (FOR CRYOGENIC SERVICE, CASTING)



STANDARD MATERIALS

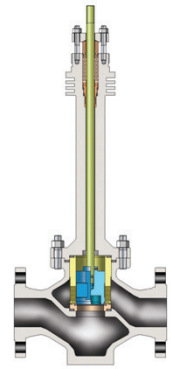
PART NAMES	MATERIALS
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	316SS+STELLITE WELDING
PLUG	316SS+STELLITE WELDING
CAGE	316SS+NI
STEM	316SS+H.CR
GASKET	SPRIAL WOUNDED GRAPHITE
GLAND PACKING	PTFE or GRAPHITE

NOTE

1) A351-CF8 / CF8M / CF3 / CF8M / MODEL ETC...

SPECIFICATIONS

- 1) Valve Size : 1" ~ 36"
- 2) Applicable Rating : ASTM 150#-2500#
- 3) Temperature : Up to -196°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Design by ASME B16.10 / 16.25 / 16.34 / 16.5
API 598, ISA Standard & BS 6364
- 5) Allowable Seat Leakage : IV, V, VI, Zero
- 6) Control Characteristics
EQ%, Linear, Modified, Q-Opening
- 7) Additional Equipments
Pneumatic & MOV Actuator
Positioner, Air set, Solenoid V/V ETC..



GLOBE VALVE. SERISE, SS-1150 (FOR CRYOGENIC SERVICE, FORGED)



STANDARD MATERIALS

PART NAMES	MATERIALS 1)
BODY	NOTE 1)
BONNET	NOTE 1)
SEAT	316SS+STELLITE WELDING
PLUG	316SS+STELLITE WELDING
CAGE	316SS+NI
STEM	316SS+H.CR
GASKET	SPRIAL WOUNDED GRAPHITE
GLAND PACKING	PTFE OR GRAPHITE

NOTE

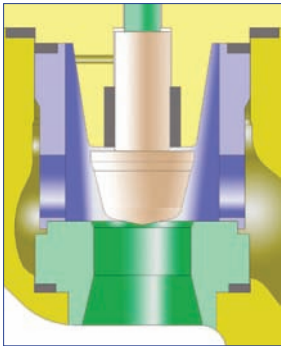
1) A182-F304 / F316 / F304L / F316L / MODEL ETC...

SPECIFICATIONS

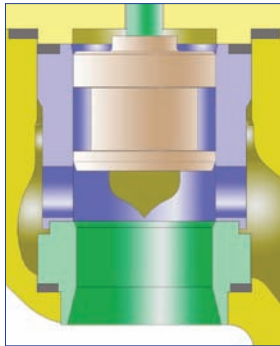
- 1) Valve Size : 1" ~ 10"
- 2) Applicable Rating : ASTM 150#-4500#
- 3) Temperature : Up to -196°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Design by ASME B16.10 / 16.25 / 16.34 / 16.5
API 598, ISA Standard & BS 6364
- 5) Allowable Seat Leakage : IV, V, VI, Zero
- 6) Control Characteristics
EQ%, Linear, Modified, Q-Opening
- 7) Additional Equipments
Pneumatic & MOV Actuator
Positioner, Air set, Solenoid V/V ETC..



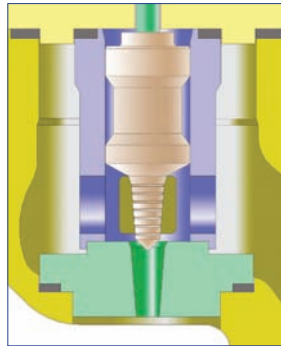
DESIGN OF TRIM



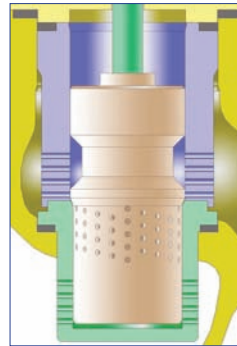
Top Guided Trim



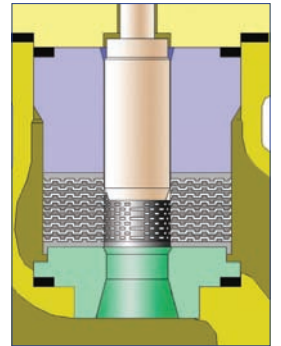
C-Port Trim



Gas Trim



Control Trim



Disc stack
Labyrinth Trim

SPECIFICATIONS

- 1) Applicable Fluids :
Steam or Water
- 2) Size : 1/8" ~ 4" (Std.)
- 3) Control Characteristics :
On-Off, Linear, Equal Percent
- 4) Rangeability : 50:1
Max. Allowable Pressure Drop
600psi (42bar)
- 5) Code & Standard
Std. Seat Leakage : ASME / FCI 70-2
Class IV (Class VI optional)
- 6) Constructions
 - Guiding Type : Top Guided Type
 - Flow Direction : Under the wep
 - Trim Installation : Quick-change
- 7) Typical Application
 - Thermal Drains
 - Air Conditioning Chilled Water Control
 - Desuperheater Cooling Water Control
 - Fuel Oil and Gas Supply
 - Steam Pressure Reducing

SPECIFICATIONS

- 1) Applicable Fluids :
Compressible or Incompressible Fluids
- 2) Size : 1/8" ~ 4" (Std.)
- 3) Control Characteristics :
Modified Parabolic, Linear, Equal Percent
- 4) Rangeability : 50:1
- 5) Code & Standard
Std. Seat Leakage : ASME / FCI 70-2
Class IV (Class VI optional)
- 6) Constructions
 - Guiding Type : Top Guided Type
 - Flow Direction : Under the wep
 - Trim Installation : Quick-change
- 7) Typical Application
 - Feed Water Control
 - Level Control
 - Condensate Recirculation
 - Steam Pressure Reducing

SPECIFICATIONS

- 1) Applicable Fluids :
Compressible or Incompressible Fluids
- 2) Size : 1/4" ~ 12" (Std.)
- 3) Control Characteristics :
Modified Parabolic, Linear, Equal Percent
- 4) Rangeability : 50:1
- 5) Code & Standard
Std. Seat Leakage : ASME / FCI 70-2
Class IV (Class VI optional)
- 6) Constructions
 - Cavitation Prevention
 - Guiding Type : Top Guided Type
 - Flow Direction : Under the wep
 - Trim Installation : Quick-change
- 7) Typical Application
 - Boiler Feed Pump Recirculation
 - Reheat Spray Control
 - Cooling Water Control

SPECIFICATIONS

- 1) Applicable Fluids :
Compressible or Incompressible Fluids
- 2) Size : 1/8" ~ 20" (Std.)
- 3) Control Characteristics :
Linear, Equal Percent
- 4) Rangeability : 50:1
- 5) Code & Standard
Std. Seat Leakage : ASME / FCI 70-2
Class IV (Class VI optional)
- 6) Constructions
 - Cavitation and Noise Prevention
 - Guiding Type : Cage Guided Type
 - Flow Direction : Under / Over the wep
 - Trim Installation : Quick-change
- 7) Typical Application
 - Feed Water Control
 - Level Control
 - Condensate Recirculation
 - Steam Pressure Reducing

SPECIFICATIONS

- 1) Applicable Fluids :
Water with High Pressure Differential
- 2) Size : 1/2" ~ 24" (Std.)
- 3) Control Characteristics :
Linear, Equal Percent
- 4) Rangeability : 50:1
- 5) Code & Standard
Std. Seat Leakage : ASME / FCI 70-2
Class IV
- 6) Constructions
 - General / Disc Stacked /
Soft-seated Labyrinth
 - Guiding Type : Cage Guided Type
 - Flow Direction : Under the wep
 - Trim Installation : Quick-change
- 7) Typical Application
 - Spray Water Control
 - Feed Pump Recirculation Control

SPECIAL VALVE, ANTISURGE CONTROL VALVES



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	316SS OR 410SS ²⁾
PLUG	316SS OR 410SS ²⁾
CAGE	316SS OR 410SS
STEM	316SS + H.CR
GASKET	SPRIAL WOUNDED GRAPHITE
GLAND PACKING	PTFE OR GRAPHITE

NOTE

- 1) All the Stainless Steel Available
 <HIGH TEMP> ASTM A216-WCB, ASTM A217-WC6 / WC9 / C12A
 <LOW TEMP> ASTM 352-LCB / LC1 / LC2 / LC3
 2) 316SS + Stellite Welding(#6) or 410SS + Q.T

SPECIFICATIONS

- 1) Valve Size : 1" ~ 44" (Globe or Angle)
- 2) Applicable Rating : ASTM 150#-2500#
- 3) Temperature : -196°C to 570°C
- 4) Designed to ANSI B16.34 and ASME VIII standards
- 5) Allowable Seat Leakage : IV, V, VI, Zero
- 6) Control Characteristics
EQ%, Linear, Modified, Q-Opening
- 7) Main features
 - Large capacity
 - Fast opening (0.5 - 1 second)
 - Operating range 50:1 ~ 100:1
 - Outlet valve gas speed Limitation (0.3 Mach)
 - Sound typically 85dB(A) or less
 - Quick change type



SPECIAL VALVE, DESUPER HEATER (MULTIPLE NOZZLE SPRAY OR DAM TYPE)



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	316SS+FULLY STL. #6
PLUG	316SS+FULLY STL. #12
EXTENSION LEG	F22 OR A565 GR.616
STEM	316 COND. B OR INCONEL
GASKET	316SS WITH GRAPIHTE METAL
GLAND PACKING	PTFE OR GRAPHITE

NOTE

- 1) ASTM A217 WC6 / WC9 / C12A or A351-CF8M

SPECIFICATIONS

- 1) Valve Size : 1"X 3" / 1.5"X3" / 1.5"X4" / 2"X4"
- 2) Applicable Rating : ASTM 300#-4500#
- 3) Temperature : Up to 600°C
- 4) Allowable Seat Leakage : IV, V, VI, Zero
- 5) Main features
 - Standard Max. available Cv of 12
 - Waterflow turndown of 150:1 or higher
 - User friendly design
 - Standard leakage class : "V"
 - Seperator type is application of "DAM" design



SPECIAL VALVE, FORGED INTERGNAL SEAT TYPE METAL BALL VAVLE



STANDARD MATERIALS

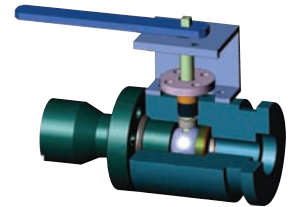
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
SEAT CONNECTOR	BODY MAT'L + N.C COATING
GUIDE SEAT	410SS OR 420SS + STL.
BALL	316SS OR INCO + N.C
STEM	A286 OR EQ
GASKET	316LSS OR 630SS
GLAND PACKING	GRAPHITE

NOTE

- 1) All the Stainless Steel Available
 -ASTM A105, ASTM A182-F11 / F22 / F91

SPECIFICATIONS

- 1) Valve Size : 1" ~ 4"
- 2) Applicable Rating : ASTM 150#-4500#
- 3) Temperature : Up to 600°C
- 4) Code & Standard : API, BS, ASME, ASTM
Design by ASME B16.11 / 16.25 / 16.34 / MSS-SP-72
- 5) Allowable Seat Leakage : V, VI, Zero
- 6) Main features
 - 2-Piece Body
 - End Conn. : R.F / RTJ / SW / BW
 - Floating Ball Type
 - Intergral Seat for ZERO Leakage
 - Manual or Puenmatic, MOV Operating



SPECIAL VALVE, TOP ENTRY BALL VALVES (CASTING OR FORGED)



STANDARD MATERIALS

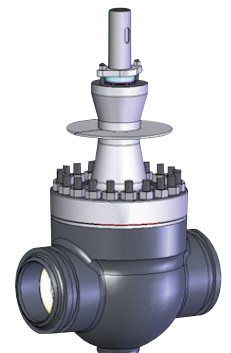
PART NAMES	MATERIALS
BODY	NOTE ¹⁾
BONNET	NOTE ¹⁾
SEAT	CAST STEEL OR SOFT-PTCFE & GRAPHITE
BALL	ASTM A276-304/316 OR A351-CF8(M)
STEM	316SS+H.CR OR COND. B
GASKET	SPRIAL WOUNDED GRAPHITE
GLAND PACKING	PTFE OR GRAPHITE

NOTE

- 1) All the Stainless Steel Available
 - CAST STEEL, STAINLESS STEEL

SPECIFICATIONS

- 1) Valve Size : 1" ~ 36"
- 2) Applicable Rating : ASTM 150#-1500#
- 3) Temperature : -196°C to 570°C
- 4) Code & Standard : API, BS, ASME, ASTM, KGSC
Design by ASME B16.11 / 16.34 / 16.5 / API 6D
- 5) Allowable Seat Leakage : IV, V, VI
- 6) End Conn. : R.F / RTJ / SW / BW
- 7) Fire Safety Construction (CERTI. By TÜV)
- 7) Additional Equipments
Pneumatic & MOV Actuator
Positioner, Air set, Solenoid V/V ETC.



SDA. -XDT. -XRS SERIES (MULTI-SPRING, DIRECT & REVERSE ACTING)

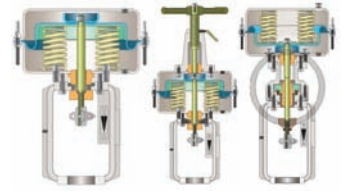


STANDARD MATERIALS

PART NAMES	MATERIALS
YOKE	DUCTILE, CAST STEEL, OR AL
DISPHRAGM CASE	CARBON STEEL
DISPHRAGM ROD	304SS
DISPHRAGM PLATE	304SS
DISPHRAGM	NYLON REINFORCED EPDM
SPRING	OIL TEMPERED WIRE

SPECIFICATIONS

- 1) Diaphragm Size: $\varnothing 230\text{mm}$, $\varnothing 270\text{mm}$, $\varnothing 320\text{mm}$, $\varnothing 430\text{mm}$, $\varnothing 550$
- 2) Operating Spring Range: 0.2 ~ 1 bar, 0.8 ~ 2.0 bar, 1.2 ~ 2.4 bar
- 3) Supply Pressure: 1.4, 1.8, 2.8, 3.5 bar
- 4) Operating Speed: Depending on Size, Spring Constant, Travel, and Supply Pressure.
Generally Standard Speed is 3 to 5 sec.per One Cycle (Open to Close)
- 5) Signal Connection: (N)PT 1/4" Female, (N)PT 1/2" Female
- 6) Ambient Temperature: -40 ~ 80°C
- 7) Color of Diaphragm Case & Yoke: Blue



SLC SERISE. (DIRECT & REVERSE ACTING)

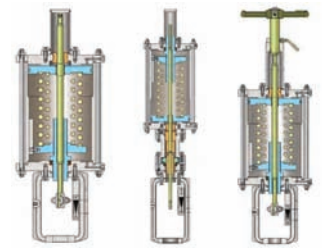


STANDARD MATERIALS

PART NAMES	MATERIALS
YOKE	DUCTILE, CAST STEEL OR AL
PISTON & CYLINDER	STAINLESS STEEL OR CARBON STEEL
STEM	304SS
SPRING SEATS	304SS
LONG BOLTS	CARBON STEEL
SPRING	OIL TEMPERED WIRE, CARBON STEEL, OR ALLOY STEEL

SPECIFICATIONS

- 1) Pistone Size: $\varnothing 150\text{mm}$, $\varnothing 200\text{mm}$, $\varnothing 250\text{mm}$, $\varnothing 300\text{mm}$, $\varnothing 350\text{mm}$, $\varnothing 420\text{mm}$, $\varnothing 450\text{mm}$, $\varnothing 500\text{mm}$, $\varnothing 550\text{mm}$, $\varnothing 600\text{mm}$, $\varnothing 650\text{mm}$
- 2) Operating Spring Range: 1.0 ~ 2.0 bar, 2.0 ~ 3.0 bar, 2.5 ~ 3 bar
- 3) Supply Pressure: Air4 ~ 7 kgf/cm²g
- 4) Control Characteristics: Throtting, On-off
- 5) Signal Connection: (N)PT Screwed
- 6) Ambient Temperature: -25 ~ 80°C
- 7) Color: Blue, etc.

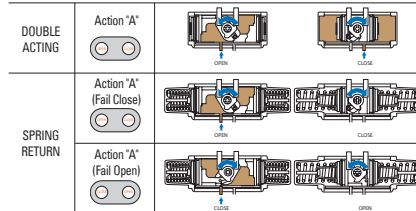


GLOBE VALVE. SERISE, SS-1150 (FOR CRYOGENIC SERVICE, FORGED)



STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	DUCTILE
COVER	DUCTILE
CYLINDER	ASTM A283-C
PISTON	ASTM A283-C
STEM	CARBON STEEL
GASKET	NBR OR EPDM



SPECIFICATIONS

- 1) Smooth Sliding Cylinder & Piston
- 2) Long Life Cycle and Stabilized Operating
- 3) Large Valve Size Applicable
- 4) Constructions
 - Double Acting Type
 - Compact Design
 - None Spring Cartridge
- 5) Accessories (Optional)
 - Oil Hydraulic Units
 - Limit S/W

- 1) Smooth Sliding Cylinder & Piston
- 2) Long Life Cycle and Stabilized Operating
- 3) Large Valve Size Applicable
- 4) Constructions
 - Spring Return Type (Air to Open)
 - Welded Spring Unit
 - Emergency Shut-off
 - Spring Cartridge Exchangeable
- 5) Accessories (Optional)
 - Hydraulic Units
 - Limit S/W

GLOBE VALVE. SERISE, SS-1150 (FOR CRYOGENIC SERVICE, FORGED)

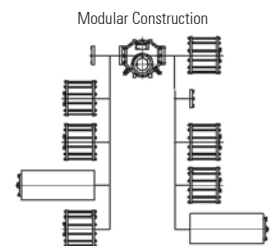


STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	AL
COVER	AL
SHAFT	ALLOY STEEL
GASKET	EPDM
STOPPER	ALLOY STEEL
SPRING	OIL-TEMPERED WIRE

SPECIFICATIONS

- 1) Smooth Sliding Cylinder & Piston
- 2) Spring Quantity Adjustable
- 3) Long Life Cycle and Stabilized Operating
- 4) Constructions
 - Spring Return Type
 - Triple Guiding Piston
 - Emergency Locking System (Adjustable Stopper)
 - Open Position Locking
 - Close Position Locking
 - 50-100% Open Position (Optional)



PRODUCT LINE

MANUAL VALVE

Casting Valves	CASTING	Ball Valves	BALL CL.800	BALL CL.1500	FORGED	CASTING	Cryogenic Valves	BOLTED BONNET	SHOT CL.150	API 600	BALL CL.800	BALL CL.1500	INTEGRAL CL.800	FORGED	CASTING
			C	D	E	F		C	1	8	A	D	E	J	F

Casting Valve	C	GATE	C	Forged	B	TOP ENTRY BALL		B	Cryogenic	C	CRYOGENIC GATE	C	C		C
	D	GLOBE	D		E	CRYOGENIC TOP ENTRY BALL		E		D	D	D	D	D	D
	H	GLOBE (ISRS)	H	1	CRYOGENIC 3 PIECE BALL	1	1			L	CRYOGENIC LIFT CHECK	L	L		L
	6	LIFT CHECK	6	Casting	W	LONG BONNET SIDE ENTRY BALL (TRUNNION)		W		M	CRYOGENIC SWING CHECK	M	M		M
	8	SWING CHECK	8		X	LONG BONNET SIDE ENTRY BALL (FLOATING)		X		Q	CRYOGENIC NEEDLE	Q	Q		Q
	T	SCREW DOWN CHECK	T		Y	SIDE ENTRY BALL (FLOATING)		Y		R	CRYOGENIC ANGLE NEEDLE	R	R		R
	V	PARALLEL SLIDE GATE	V		Z	SIDE ENTRY BALL (TRUNNION)		Z		N	CRYOGENIC ANGLE	N			N
1	CRYOGENIC GATE	1	F		TOP ENTRY BALL		F	U	CRYOGENIC SCREW DOWN CHECK	U	U		U		
J	CRYOGENIC GLOBE (ONSHORE)	J	M		METAL SEATED BALL		M	1	CRYOGENIC GATE					1	
2	CRYOGENIC GLOBE (OFFSHORE)	2	S		CRYOGENIC SIDE ENTRY BALL (TRUNNION)		S	J	CRYOGENIC GLOBE (ONSHORE)					J	
G	CRYOGENIC GLOBE (ISRS)	G	P	CRYOGENIC SIDE ENTRY BALL (FLOATING)		P	2	CRYOGENIC GLOBE (OFFSHORE)					2		
3	CRYOGENIC LIFT CHECK	3	E	CRYOGENIC TOP ENTRY BALL		E	G	CRYOGENIC GLOBE (ISRS)					G		
9	CRYOGENIC SWING CHECK	9					3	CRYOGENIC LIFT CHECK					3		
L	CRYOGENIC AXIAL CHECK	L					9	CRYOGENIC SWING CHECK					9		
U	CRYOGENIC SCREW DOWN CHECK	U					L	CRYOGENIC AXIAL CHECK					L		
S	CRYOGENIC SIDE ENTRY BALL (TRUNNION)	S					U	CRYOGENIC SCREW DOWN CHECK					U		
P	CRYOGENIC SIDE ENTRY BALL (FLOATING)	P					E	CRYOGENIC TOP ENTRY BALL					E	E	
E	CRYOGENIC TOP ENTRY BALL	E					1	CRYOGENIC 3 PIECE BALL				1	1		
W	LONG BONNET SIDE ENTRY BALL (TRUNNION)	W					S	CRYOGENIC SIDE ENTRY BALL (TRUNNION)					S		
X	LONG BONNET SIDE ENTRY BALL (FLOATING)	X					P	CRYOGENIC SIDE ENTRY BALL (FLOATING)					P		
Y	SIDE ENTRY BALL (FLOATING)	Y													
Z	SIDE ENTRY BALL (TRUNNION)	Z													
F	TOP ENTRY BALL	F													
M	METAL SEATED BALL	M													
A	BELLOWS GATE (WITZ TYPE)	A													
B	BELLOWS GLOBE (WITZ TYPE)	B													
4	BELLOWS GATE	4													
5	BELLOWS GLOBE	5													

Bellows Valves	BOLTED BONNET	NUCLEAR CL 600	NUCLEAR CL 1500	API 600	INTEGRAL CL 800	CASTING	Forged Valves											
	1	3	4	A	J	C	1	2	3	4	5	6	7	8	A	D	E	J

	Casting	Forged	Bellows Valves	Forged Valves	Cryogenic	Ball	Bellows	Forged Valves																		
								1	2	3	4	5	6	7	8	A	D	E	J	F						
E	W SERIES BELLOWS GATE	E	E	1	GATE			1	1	1	1			1							1					
F	W SERIES BELLOWS GLOBE	F	F	2	GLOBE			2	2	2	2			2	2	2	2				2					
G	B SERIES BELLOWS GATE	G	G	T	GLOBE								T													
H	B SERIES BELLOWS GLOBE	H	H	3	LIFT CHECK			3	3					3	3	3	3				3					
J	C SERIES BELLOWS GATE	J	J	4	SWING CHECK			4		4							4	4			4					
K	C SERIES BELLOWS GLOBE	K	K	5	BALL CHECK			5									5				5					
K	C SERIES BELLOWS Y-GLOBE		K	6	ANGLE			6	6					6	6		6									
P	C SERIES BELLOWS ANGLE	P		N	ANGLE SCREW DOWN CHECK			N																		
A	BELLOWS GATE (WITZ TYPE)		A	V	ANGLE NEEDLE			V																		
B	BELLOWS GLOBE (WITZ TYPE)		B	R	ANGLE NEEDLE				R																	
4	BELLOWS GATE		4	7	GLOBE NEEDLE			7	7					7		7	7				7					
5	BELLOWS GLOBE		5	8	SCREW DOWN CHECK			8	8								8	8			8					
				9	LIFT CHECK (GUIDE HOLE FLAT SEAT)			9									9									
				9	Y-GLOBE				9	9	9			9	9											
				2	Y-GLOBE								2													
				A	LONG BONNET GATE			A									A				A					
				A	Y-CHECK					A	A															
				B	LONG BONNET GLOBE			B									B				B					
				S	LONG BONNET NEEDLE			S									S				S					
				T	LONG BONNET SCREW DOWN CHECK			T									T				T					
				T	SCREW DOWN Y-CHECK				T	T																
				C	CRYOGENIC GATE			C									C				C					
				D	CRYOGENIC GLOBE			D									D	D			D					
				L	CRYOGENIC LIFT CHECK			L									L				L					
				M	CRYOGENIC SWING CHECK			M									M				M					
				Q	CRYOGENIC NEEDLE			Q									Q				Q					
				R	CRYOGENIC ANGLE NEEDLE			R									R									
				N	CRYOGENIC ANGLE			N																		
				U	CRYOGENIC SCREW DOWN CHECK			U													U					
				B	TOP ENTRY BALL																					
				E	CRYOGENIC TOP ENTRY BALL																					
				1	CRYOGENIC 3 PIECE BALL																1					
				E	W SERIES BELLOWS GATE			E													E					
				F	W SERIES BELLOWS GLOBE			F													F					
				G	B SERIES BELLOWS GATE			G													G					
				H	B SERIES BELLOWS GLOBE			H													H					
				J	C SERIES BELLOWS GATE			J									J				J					
				K	C SERIES BELLOWS GLOBE			K									K				K					

PRODUCT LINE

CONTROL VALVE

CONTROL VALVE

S S - 1 0 1 1 Q

S	S&S
S	SAVE-CONTROL VALVE
1	GLOBE
2	ANGLE / Y-GLOBE
3	BALL
4	BUTTERFLY
5	GATE
6	PLUG
0	BODY CASTING
1	BODY FORGED
2	FREE FORGED
3	BODY WELDING
0	GLOBE ; QUICK-CHANGE TRIM (300LB BELOW)
1	GLOBE ; QUICK-CHANGE TRIM (600LB UP)
3	GLOBE ; 3-WAY TYPE
5	GLOBE ; CRYOGENIC
5	BALL ; DOMED TYPE
9	BALL ; NORMAL 2-WAY BALL
3	BALL ; 3-WAY BALL
0	BALL ; NO MEANS
0	NO MEANS
9	GLOBE ; SOFT SEAT
Q	GLOBE ; QUICK-CHANGE TRIM (300LB BELOW)
M	MOTOR MOUNT TYPE

SELF PRESSURE REDUCING VALVE

S L - 2 0 0 0

S	S&S
L	BACK-PRESSURE
R	REDUCING
DF	DIFFERENTIAL PRESSURE / FLOW RATE CONTROL
DP	DIFFERENTIAL PRESSURE CONTROL
2	EXTERNAL SENSING
3	INTERNAL SENSING
4	HIGH PRESSURE FORGED INTERNAL SENSING
5	POLOT
6	BELLOWS
0	OPERATING : N/A
1	OPERATING : DIAPHRAGM
2	OPERATING : CYLINDER
0	USING PRESSURE : N/A
1	USING PRESSURE : HIGH PRESSURE
0	FLUIDE : N/A
1	FLUIDE : STEAM
2	FLUIDE : WATER
3	FLUIDE : GAS

SELF SAFETY VALVE

S F - 8 0 0 0

S	S&S
F	SAFETY & RELIEF VALVE
1	ASME SEC I & ASME SEC III SATISFIED WITH PSV
8	ASME SEC VIII & API RP 520 SATISFIED WITH 300LB BELOW
7	ASME SEC VIII & API RP 520 SATISFIED WITH 600LB UP
9	ASME SEC VIII & API RP 520 SATISFIED WITH SCR'D TYPE
5	PILOT TYPE
0	CONVENTIONAL
1	STEAM SERVICE TRIM
2	GASES, VAPOR TRIM
7	SOFT SEAL TRIM
8	BELLOWS CONSTRUCTION
9	LIQUID TRIM
6	FORGED FULL BORE TYPE
7	FORGED REDUCED BORE TYPE
0	FLUID : N/A


OPERATION MODEL

S D - 3 B 65 B 50 RS

S	S&S
D	DIAPHRAGM OPERATING
L	CYLINDER OPERATING
1	SDA-1
2	SDA-2
3	SDA-3
4	SDA-4
5	SDA-5
A	YOKE HEIGHT - 180mm
B	YOKE HEIGHT - 240mm
C	YOKE HEIGHT - 268mm
D	YOKE HEIGHT - 320mm
46	BOSS DIA 46mm
61	BOSS DIA 61mm
65	BOSS DIA 65mm
82	BOSS DIA 82mm
B0	BOSS BOLTED TYPE
A	Spring range: 0.2-1.0 kg/cm ² . G
B	Spring range: 0.8-2.0 kg/cm ² . G
C	Spring range: 1.2-2.4 kg/cm ² . G
O	Spring range: 0.4-2.0 kg/cm ² . G
25	STROKE - 25mm
30	STROKE - 30mm
32	STROKE - 32mm
40	STROKE - 40mm
50	STROKE - 50mm
65	STROKE - 65mm
75	STROKE - 75mm
SP	STROKE CUSTOM
RN	REVERSE TYPE NONE HAND WHEEL
RS	REVERSE TYPE SIDE HAND WHEEL
DN	DIRECT TYPE NONE HAND WHEEL
DT	DIRECT TYPE TOP HAND WHEEL

CERTIFICATES

CERTIFICATE OF AUTHORIZATION



The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the certification mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with this certification mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY: S&S Valve Co., Ltd.
1080-1, Shingil-Dong, Danwon-Gu
Ansan-Si, Gyeonggi-Do, 425-120
South Korea

SCOPE: Construction of Class 1, 2 & 3 valves at the above location only


AUTHORIZED: February 6, 2012
EXPIRES: October 17, 2014
CERTIFICATE NUMBER: N-3294

John A. Duffield
Vice President
Conformity Assessment

James A. Wilson
Director, Accreditation and Certification

The American Society of Mechanical Engineers

CERTIFICATE OF AUTHORIZATION



The named company is authorized by the American Society of Mechanical Engineers (ASME) for the scope of activity shown below in accordance with the applicable rules of the ASME Boiler and Pressure Vessel Code. The use of the certification mark and the authority granted by this Certificate of Authorization are subject to the provisions of the agreement set forth in the application. Any construction stamped with this certification mark shall have been built strictly in accordance with the provisions of the ASME Boiler and Pressure Vessel Code.

COMPANY: S&S Valve Co., Ltd.
1080-1, Shingil-Dong, Danwon-Gu
Ansan-Si, Gyeonggi-Do, 425-120
South Korea

SCOPE: Class 1, 2 & 3 fabrication without design responsibility and as a Material Organization supplying ferrous & nonferrous material at the above location only

AUTHORIZED: February 6, 2012
EXPIRES: October 17, 2014
CERTIFICATE NUMBER: N-3295

John A. Duffield
Vice President
Conformity Assessment

James A. Wilson
Director, Accreditation and Certification

The American Society of Mechanical Engineers

THE NATIONAL BOARD OF BOILER & PRESSURE VESSEL INSPECTORS

Certificate of Authorization



This is to certify that S&S VALVE CO., LTD. 1080-1, SHINGIL-DONG, DANWON-GU ANSAN-SI, GYEONGGI-DO, 425-120 KOREA, SOUTH

is authorized to apply the "NB" mark and register boilers, pressure vessels, or other pressure retaining items with the National Board in accordance with its provisions. The scope of Authorization is limited to items manufactured in accordance with:

ASME Stamp(s): NPT N

ISSUE DATE: March 7, 2012
EXPIRATION DATE: October 17, 2014

Executive Director *[Signature]*



KEPIC CERTIFICATE

Company Name : S&S Valve Co., Ltd.
Address : 30, Wonsi-ro, Danwon-Gu, Ansan-Si, Gyeonggi-Do, Korea

This is to certify that the above company has established and maintained proper quality assurance program for the scope shown below in accordance with the applicable requirements of Korea Electric Power Industry Code.

Certificate Number : MN-108
Applicable Code : KEPIC-MN
Certification Date : March 21, 2012
Expiration Date : August 19, 2014

Scope :
- Construction of the Class 1,2&3 Line Valve and Class 1,2&3 Fabrication for Parts & Appurtenances
- As a Material Organization Supplying of Ferrous, Nonferrous and Welding Material related to above items

대한전기협회
Chairman of Korea Electric Association



Certificate of Authority to use the Official API Monogram

License Number: 8D-0304

The American Petroleum Institute hereby grants to S&S VALVE CO., LTD. 30 Wonsi-ro Danwon-Gu Ansan-Si, Gyeonggi-Do South Korea

the right to use the Official API Monogram® on manufactured products under the conditions in the official conditions of the Institute Petroleum Institute under API Spec Q1 and API Spec 9D and in accordance with the provisions of the License Agreement.

Effective Date: DECEMBER 19, 2012
Expiration Date: DECEMBER 19, 2013



Certificate

Quality-Assurance System
acc. to Directive 97/23/EC

Certificate no.: 01 202 ROK-Q-02 0016

Name and address of the manufacturer: S&S VALVE CO., LTD. 30, Wonsi-ro, Danwon-gu, Ansan-si, Gyeonggi-do, 425-851, Republic of Korea

Notwithstanding that the above mentioned manufacturer operates a quality system according to the European Directive 97/23/EC, the manufacturer has the permission to affix the following CE marking to pressure equipment described and manufactured in accordance to the scope covered by this Quality-Assurance System.

CE 0035

CE-System (Module H) acc. CE Annex E1, E1 and G as performed by Module H

Tested acc. to Directive 97/23/EC: ROK-Q-02 0016

Audit report no.: Design and Manufacturing of industrial Valves and control valves, Design and Manufacturing of safety valves for specific equipments, see annex to certificate

Manufacturing plant: S&S VALVE CO., LTD. 98-10, Neungan-ro, 30, Wonsi-ro, Danwon-gu, Ansan-si, Gyeonggi-do, 425-851, Republic of Korea

Valid until: May 31, 2014

Cologne, January 24, 2013
Dipl.-Ing. Steffen Kroll

TÜV Rheinland Certification Body for Pressure Equipment
TÜV Rheinland Industrie Service GmbH
Nobels-Bldg. 0105
Am Drachen Baum, D-51109 Köln

www.tuv.com



Certificate of Registration

This is to certify that: S&S VALVE 30, Wonsi-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea 1125, Shingil-dong, Danwon-gu, Ansan-si, Gyeonggi-do, Korea

Has been assessed by International Certification Registrar Ltd., in respect of their Occupational Health and Safety Management System and found to comply with OHSAS 18001:2007

Approval is hereby granted for registration providing the rules and conditions relating to certification are observed at all times.

Certification Scope: Design, Development and Manufacturing of Steel Valves and Fittings

Certificate Issue Date: 21st August 2012
Expiration Date: 20th August 2015
Certificate No.: OH1006012

James A. Wilson
President




Certificate of Registration

The Governing Board of Q.A. International Certification Limited hereby grants to: S&S Valve Co., Ltd. Registration No.: QANIC/KS/4388-A

Address to which this Certificate refers: Head Office : (98-7L, Wonsi-dong) 30, Wonsi-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea Factory : (Shingil-dong) 98-10, Neungan-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea

Approved Scope to which this Certificate refers: The Design/Development and Manufacture (including Installation) of Steel Valves.

CHAIRMAN: *A. J. Duffield*
SCHEME MANAGER: *A. Carter*

Certificate Issue Date: 21st August 2012 - Certificate Expiry Date: 16th July 2013
Date of Initial Registration: 21st August 2012 - Re-assessment Date: 16th July 2013

QA INTERNATIONAL



Certificate

Standard: ISO 9001:2008
Certificate Registr. No.: 01 100 4792

TÜV Rheinland Cert GmbH certifies: Certificate Holder: S&S Valve S&S VALVE Co., Ltd. 30, Wonsi-ro, Danwon-gu Ansan-si, Gyeonggi-do 425-851, Republic of Korea 98-10 Neungan-ro, Danwon-gu Ansan-si, Gyeonggi-do 425-851, Republic of Korea

Scope: Design, Development and Manufacturing of Steel Valves and Fittings

An audit was performed, Report No. 4792. Proof has been furnished that the requirements according to ISO 9001:2008 are fulfilled. The due date for all future audits is 21-04 (04 mm).

Validity: The certificate is valid from 2013-02-06 until 2015-04-30. First certification 1994

2013-02-06

www.tuv.com



TYPE APPROVAL CERTIFICATE

형식승인증서

Certificate No. : INC20094-VV001 Date of Approval : 18th November, 2008.
 Product : Cryogenic Valves
 Manufacturer : S & S Valve Company Co., Ltd.
 1080-1 Singil-dong, Danwon-gu, Ansan-si, Gyeonggi-do, Korea

Product Description : Kind : Globe/Ball/Needle/Check/Remote Control/Pneumatic Control Valve
 Design Temp. : -196°C to +80°C
 Design Press. : 10 MPa
 Body Material : ASTM A351-CF3M, ASTM A351-CF8M, ASTM A182-F316, F316L
 1) Globe Valve : 1.5", 2", 3", 4", 6"
 2) Check Valve (Screen Down and Spring) : 0.5", 1", 2.5", 6", 8", 14"
 3) Top Entry Ball Valve : 2"
 4) Needle Valve : 1/2", 3/4", 1/2", 3/8", 0.5", 1"
 5) Remote Control Valve (Side and Top) : 1.5", 2", 3", 4", 6", 8", 12"
 6) Pneumatic Globe Control Valve : 1"

Approval Condition : Individual Product Certification is required.

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or the recognized standards as follows and entered in the "List of Approved Manufacturers and Type Approved Equipment".
 Pt. 7, Ch. 5, Art. 503 of the Rules for Classification, Steel Ships.

This Certificate is valid until 17th November, 2013, issued at Daejeon, Korea on 18th November, 2008.



Note 1 : The approval will be automatically suspended and the Certificate becomes invalid from the expiry date of the Certificate in the event that the extension has not been granted or in any other circumstances for completion of the renewal survey.
 Note 2 : The manufacturer should notify this Society of any modification or changes that may affect the validity of this Certificate.
 AC-14Q204(02)



CERTIFICATE OF CONFORMITY

Certification No. : 2020014

This is to certify that the following materials have been inspected on random basis by TÜV Rheinland Korea and found to be satisfactory in the fatigue test by cycling in accordance with BS5552:1981, Appendix C.

Material Description: ASTM A240-316L
 Size of Tested: 1.12"
 Class of Test: 800B
 Test cycle No. : 10,100 Cycles

Location : Ansan-Si, Republic of Korea
 Product : Bellows for the forged steel globe valve
 Material Description: ASTM A240-316L
 Size of Tested: 1.12"
 Class of Test: 800B
 Test cycle No. : 10,100 Cycles

Date of Test: 24,25,29 May 2000



Date: June 12th, 2000
 Dipl.-Ing. U. Wecker
 Project Manager
 TÜV Rheinland Korea

The issue of this certificate shall not relieve the Supplier/Manufacturer from any responsibility or such guarantees as may be arranged, nor so interpreted as in any way to imply acceptance of such goods. Neither shall TÜV Rheinland Korea be held responsible in any way whatsoever for the technical accuracy and contents of the purchase order.



FIRE TEST CERTIFICATE

Certification No. : FTC-2010096-S&S VALVE-GTY04-RENEWAL2 (only use for KOGAS)

This is to certify that the following materials have been inspected on random basis by Velosi Korea and found to be satisfactory in the Fire Test in accordance with API 6D, 23rd edition / API 6FA, 3rd edition / API RP9F, 3rd edition.

Manufacturer : S&S VALVE CO., LTD.
 Location : Head Office : 158 Fl., Seo-hung Bldg., 68-5 Kyujil-Dong, Chongju-Ku, Seoul, Korea
 Factory : 30, Wonho-Ro, Danwon-Gu, Ansan-Si, Gyeonggi-Do, Korea, 425-120
 Product : Gate Valve
 Material Description : Body & Bonnet - A105, A182-F304L, F316L, F316Ti & F22, A350-LF2, A351-CF3M & CF8M, A216-WCB, A217-WC & WC9, A352-LCB
 Stem - A216-WCB, A217-C415, WC6 & WC9, A276-410, A311-CF3M & CF8M, A352-LCB
 Disc - A216-WCB, A217-C415, WC6 & WC9, A276-410, A311-CF3M & CF8M, A352-LCB
 Socket Welded, Screwed, Flanged, Butt Welded
 Size - A276-304L, 316L & 410
 Seat Ring - A276-304L, 316L & 410
 Type of End : Manual / Gear / Actuator
 Operation Method : 1.14", 3.8", 1.27", 3.47", 1", 1.14", 1.12"
 Size of Tested : #150, #300, #600, #1200
 Class of Test : #150, #300, #600, #1200
 Other Values Qualified : 1.14", 3.8", 1.27", 3.47", 1", 1.14", 1.12" (only for test size)
 According to Size :
 Other Values Qualified : (#150) - #150, #300 (#300) - #300, #600, #600 (#600) - #600, #900 (#1200) - #1200, #2500

Date of Test : from August 26, 2004 to September 04, 2004
 Validity : 6th of September 2010 - 5th of September 2013



Velosi International, Korea
 Date: 6th of September 2010
 Hoo-Hyun, Kim
 President

The issue of this certificate shall not relieve the Supplier or Manufacturer from any responsibility or such guarantees as may be arranged, nor so interpreted as in any way to imply acceptance of such goods. Neither shall Velosi Korea be held responsible in any way whatsoever for the technical accuracy and contents of the purchase order.

VELOSI KOREA Seoul Office, VELOSI EUROPE Aberdeen Office, VELOSI AMERICA India Office, VELOSI EUROPE AUSTRALIA Perth Office, VELOSI MALAYSIA Singapore Office



FIRE TEST CERTIFICATE

Certification No. : FTC-2010096-S&S VALVE-GTY04-RENEWAL2

This is to certify that the following materials have been inspected on random basis by Velosi Korea and found to be satisfactory in the Fire Test in accordance with API 6D, 23rd edition / API 6FA, 3rd edition / API RP9F, 3rd edition.

Manufacturer : S&S VALVE CO., LTD.
 Location : Head Office : 158 Fl., Seo-hung Bldg., 68-5 Kyujil-Dong, Chongju-Ku, Seoul, Korea
 Factory : 30, Wonho-Ro, Danwon-Gu, Ansan-Si, Gyeonggi-Do, Korea, 425-120
 Product : Gate Valve
 Material Description : Body & Bonnet - A105, A182-F304L, F316L, F316Ti & F22, A350-LF2, A351-CF3M & CF8M, A216-WCB, A217-WC & WC9, A352-LCB
 Stem - A216-WCB, A217-C415, WC6 & WC9, A276-410, A311-CF3M & CF8M, A352-LCB
 Disc - A216-WCB, A217-C415, WC6 & WC9, A276-304L, 316L & 410, A311-CF3M & CF8M, A352-LCB
 Socket Welded, Screwed, Flanged, Butt Welded
 Size - A276-304L, 316L & 410, UNS31803, UNS32760
 Seat Ring - A276-304L, 316L & 410
 Type of End : Manual / Gear / Actuator
 Operation Method : Socket Welded, Screwed, Flanged, Butt Welded
 Size of Tested : 1.5", 2", 3", 4", 6", 8", 10", 12", 14", 16"
 Class of Test : #150, #300, #600, #1200
 Other Values Qualified : 1.27", 3.47", 1", 1.14", 1.12", 1.14", 1.12" (only for test size)
 According to Size :
 Other Values Qualified : (#150) - #150, #300 (#300) - #300, #600, #600 (#600) - #600, #900 (#1200) - #1200, #2500
 Pressure Ratings : (#600) - #600, #900 (#1500) - #1500, #2500

Date of Test : from August 26, 2004 to September 04, 2004
 Validity : 6th of September 2010 - 5th of September 2013



Velosi International, Korea
 Date: 6th of September 2010
 Hoo-Hyun, Kim
 President

The issue of this certificate shall not relieve the Supplier or Manufacturer from any responsibility or such guarantees as may be arranged, nor so interpreted as in any way to imply acceptance of such goods. Neither shall Velosi Korea be held responsible in any way whatsoever for the technical accuracy and contents of the purchase order.

VELOSI KOREA Seoul Office, VELOSI EUROPE Aberdeen Office, VELOSI AMERICA India Office, VELOSI EUROPE AUSTRALIA Perth Office, VELOSI MALAYSIA Singapore Office



FIRE TEST CERTIFICATE

Certification No. : FTC-2010096-S&S VALVE-GTY04-RENEWAL2 (only use for KOGAS)

This is to certify that the following materials have been inspected on random basis by Velosi Korea and found to be satisfactory in the Fire Test in accordance with API 6D, 23rd edition / API 6FA, 3rd edition / API RP9F, 3rd edition.

Manufacturer : S&S VALVE CO., LTD.
 Location : Head Office : 158 Fl., Seo-hung Bldg., 68-5 Kyujil-Dong, Chongju-Ku, Seoul, Korea
 Factory : 30, Wonho-Ro, Danwon-Gu, Ansan-Si, Gyeonggi-Do, Korea, 425-120
 Product : Gate Valve
 Material Description : Body & Bonnet - A105, A182-F304L, F316L, F316Ti & F22, A350-LF2, A351-CF3M & CF8M, A216-WCB, A217-WC & WC9, A352-LCB
 Stem - A216-WCB, A217-C415, WC6 & WC9, A276-410, A311-CF3M & CF8M, A352-LCB
 Socket Welded, Screwed, Flanged, Butt Welded
 Size - A276-304L, 316L & 410
 Type of End : Manual / Gear / Actuator
 Operation Method : 1.14", 3.8", 1.27", 3.47", 1", 1.14", 1.12"
 Size of Tested : #150, #300, #600, #1200
 Class of Test : #150, #300, #600, #1200
 Other Values Qualified : 1.14", 3.8", 1.27", 3.47", 1", 1.14", 1.12" (only for test size)
 According to Size :
 Other Values Qualified : (#150) - #150, #300 (#300) - #300, #600, #600 (#600) - #600, #900 (#1200) - #1200, #2500
 Pressure Ratings : (#600) - #600, #900 (#1500) - #1500, #2500

Date of Test : from August 26, 2004 to September 04, 2004
 Validity : 6th of September 2010 - 5th of September 2013



Velosi International, Korea
 Date: 6th of September 2010
 Hoo-Hyun, Kim
 President

The issue of this certificate shall not relieve the Supplier or Manufacturer from any responsibility or such guarantees as may be arranged, nor so interpreted as in any way to imply acceptance of such goods. Neither shall Velosi Korea be held responsible in any way whatsoever for the technical accuracy and contents of the purchase order.

VELOSI KOREA Seoul Office, VELOSI EUROPE Aberdeen Office, VELOSI AMERICA India Office, VELOSI EUROPE AUSTRALIA Perth Office, VELOSI MALAYSIA Singapore Office



공급업체등록증

상 호 : 에스앤에스밸브(주)
 영 리 : 양주 변
 대표이사 : 김기호

사업자등록번호 : 134-81-04614
 공장 주소 : 경기도 안산시 단원구 신길동 1080-1
 Certificate of Tappaya's I.D. Factory Location 1080-1

등록 품목 : 초저온 제크렐브(세한가터링)
 Item Description : Cryogenic Check Valve(For LNG Terminals)

해당 규격 : Swing Type
 Purchase Spec.

상기 업체는 위의 품목 품목(해당규격)에 대하여 한국가스공사의 공급업체로 등록되었음을 증명합니다.

This is to certify that this company is qualified and eligible to supply the above item to Korea Gas Corporation

유효 기간 : 2011.12.12 ~ 2014.12.11
 Period of Validity



(후원 등록사항에 따른 등록사 정보)
 (Use the notice for registered supplier)
 발행일 : 2011.12.12
 발행처 : 양주 지사



유자격공급자 등록증

등록번호 : 200900589
 상 호 : 에스앤에스밸브(주)
 공장주소 : 경기 안산시 단원구 신길동1080-1
 대표자 : 양주 변

상기 업체는 우리 회사의 공급자관리지침에 따라 심사한 결과 보조기기 기자재 공급업체로 등록되었음을 증명합니다.

NO	품목 코드	품명	등록 종류	등록 일자	유효기간
1	P206A	ASME III Steel Gate-Globe V/V With Actuator	Q	원치적	2010.02.08-2013.02.07
2	P204	ASME III Manual Steel Gate, Globe & Check	Q	원치적	2010.02.08-2013.02.07
3	P209	ASME B31.1 Manual Steel Gate, Globe & Ch	T	원치적	2010.02.08-2013.02.07
4	P206B	ASME B31.1 Steel Gate & Globe V/V With A	T	원치적	2010.02.08-2013.02.07
5	J232A	Control Valve for Standard Severe Serv	T	원치적	2010.03.29-2013.02.07

2010.03.29
 한국수력원자력(주)

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선정품목 유자격공급자 등록증

등록번호 : WP20110355
 업 체 명 : 에스앤에스밸브(주)
 공장주소 : 경기 안산시 단원구 신길동1080-1
 구 격 : 발전설비 선정품목 해당규격 참조

상기 업체는 우리회사의 발전설비 선정품목 유자격공급자로 등록되었음을 증명합니다.

NO	종	명	발행일자	유효기간	비고
1	Control Valve	R	2011.02.14	2014.02.13	
2	High Pr.High Temp Forged Valve	R	2011.02.14	2014.02.13	가.공인됨
3	Needle Valve	R	2011.02.14	2014.02.13	
4	Pipe Fitting - Orcton & Flanged Steel	R	2011.02.14	2014.02.13	

2011.02.14

Cwp 한국수부발전(주)

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명품유자격공급자 등록증

등록번호 : KSP2012-00132
 업체명 : 에스앤에스밸브(주)
 공장주소 : 경기 안산시 단원구 신길동1080-1
 품 명 : High Pr.High Temp Forged Valve
 등록구분 : 건설(기계)
 자격유효기간 : 2012.11.08 ~ 2015.11.07

상기 업체는 우리회사의 명품유자격공급자관리지침에 따라 심사한 결과 명품유자격공급자로 등록되었음을 증명합니다.

2012.11.08

한국남부발전(주)

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SUPPLY PERFORMANCE



REGISTRATION

ADGAS	101492
GE Energy	370A5844
Kuwait National Petroleum Com	277006
Kuwait Oil Company	VEC/VA/SM/048/2003
Petronas	L-842893-k
Qatar Petroleum	5047
Saudi Aramco	Vendr: 10029471 / Plant: 30003194
TAKREER	907236
ExxonMobile	
NIGC	
NIOC (Kala Naft Tehran)	
SEC	
SHELL	

REFINING OIL / PETROCHEMICAL INDUSTRIAL PLANT / STEEL PLANT

BAHRAIN
 INDONESIA
 JAPAN
 KUWAIT
 MALAYSIA
 MEXICO
 PAKISTAN
 PHILIPPINES
 QATAR
 SAUDIARABIA
 SINGAPORE
 THAILAND
 TURKMENISTAN
 U.S.A
 VIETNAM



POWER PLANT

NUCLEAR

KOREA	SAMCHUNPO NUCLEAR YONGGWANG NUCLEAR ULJIN NUCLEAR SHINKORI NUCLEAR SHINWOLSUNG NUCLEAR
JAPAN	HIGASHI DORI NUCLEAR
TAIWAN	LUNG MEN NUCLEAR

HRSG

BAHRAIN	AL-EZZEL HRSG
INDIA	SUGEN HRSG
MEXICO	SANTA RITA HRSG
SINGAPORE	PULAU SERAYA HRSG
SPAIN	GIBRALTA HRSG AMOREBIATA HRSG ACECA HRSG CASTELLON IV HRSG
TURKEY	SAMSUN HRSG
USA	CHEHAILS HRSG
UK	MARCHWOOD HRSG

GAS PROCESSING

ONSHORE / LNG STORAGE

CHINA	CNOOC SHANGHAI LNG CNOOC NINGBO LNG CNOOC TIANJIN LNG CNOOC HAINAN LNG ZHUHAI LNG JUTAL LNG
KOREA	KOGAS-INCHEON KOGAS-TONGYOUNG KOGAS-PYEONGTAEK KOGAS-SAMCHUCK POSCO-KWANGYANG
TAIWAN	CPC NOTHERN LNG

OFFSHORE / CARRIER

MALAYSIA	AP MOLLER MISC BP LNG
UK	IEAR MHI NYK LNG
JAPAN	KRISTEN NAVIGATION TAPIAS
GREECE	OMAN GOVERNMENT QATARGAS RASGAS
OMAN	SOVCOMFLOT
QATAR	TEEKAY SHIPPING CO. FPSO FPSO
CYPRUS	
CANADA	
SHEEL	
PETRONAS	

S&S Valve

Head Office

S&S Bldg, 15F, 48, Ujeongguk-ro, Jongno-gu, Seoul, Korea
Tel. 82-2-735-6521 Fax. 82-2-737-7596

1 Factory

30, Wonsi-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea
Tel. 82-31-491-1747 Fax. 82-31-491-0618

2 Factory

98-10, Neungan-ro, Danwon-gu, Ansan-si, Gyeonggi-do, Korea
Tel. 82-31-365-5747 Fax. 82-31-494-8220