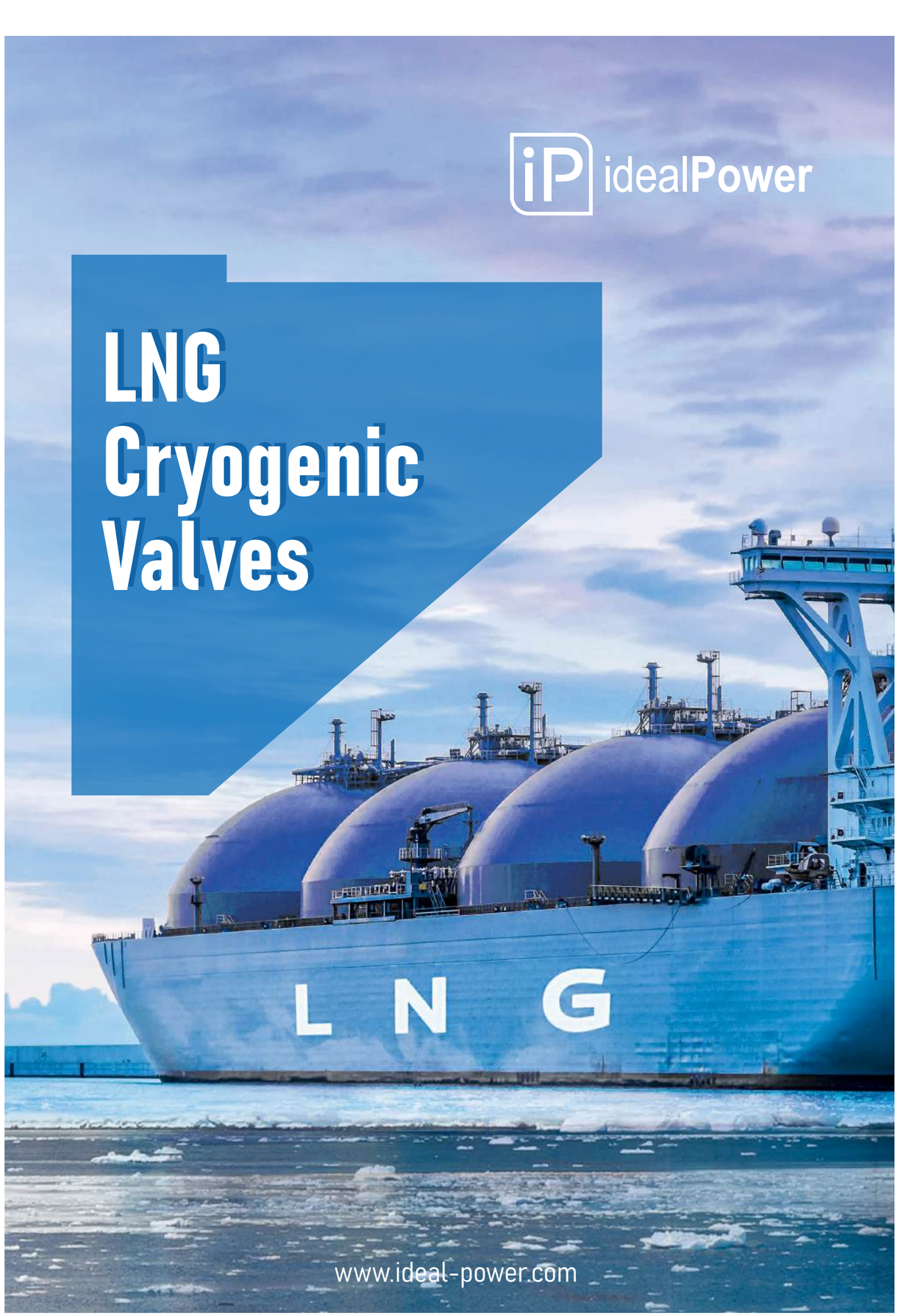
idealPower

LNG Cryogenic Valves



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Butt welding end Dimensions for Valves
(ASME B16.25)

NOMINAL PIPE SIZE (INCHES)	3	4	5	6	8	10	12	14	16	18	20	24
AA DIAMETER (INCHES)	3 19/32	4 5/8	5 11/16	6 25/32	8 25/32	10 15/16	12 31/32	14 1/4	16 1/4	18 9/32	20 5/16	24 3/8

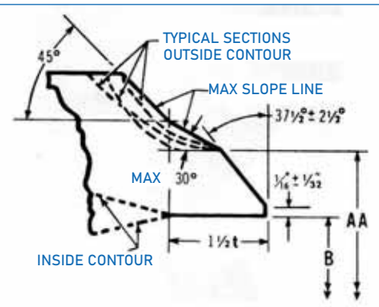


Fig. 1A–Welding End for No Backing Ring or for split Backing Ring. Pipe Wall Thickness "t" 7/8 in. and less.

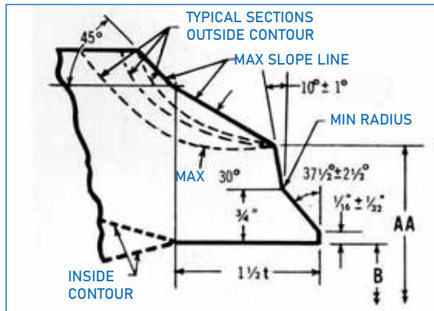


Fig. 1B–Welding End for No Backing Ring or for split Backing Ring. Pipe Wall Thickness "t" Greater Than 7.8 in.

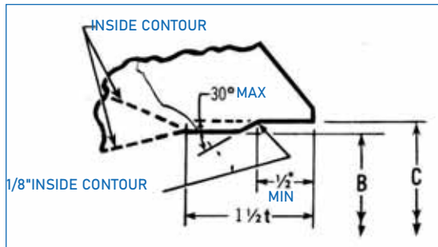


Fig. 2 – Welding End for Continuous Rectangular Backing Ring (Inside Contour).

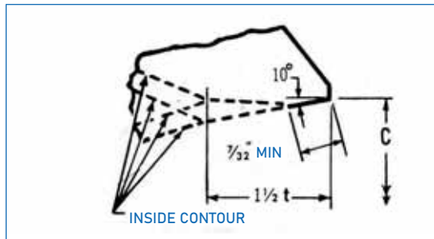


Fig. 3 – Welding End for Continuous Tapered Backing Ring (Inside Contour).

A - Nominal outside diameter of pipe, inches.
AA - Nominal outside diameter for cast steel valves, inches (see table).
B - Nominal inside diameter of pipe, inches.
t - Nominal wall thickness of pipe, inches.
C - A-0.031 - 1.75t - 0.010.
Regardless of tolerances specified for dimensions A and B, the thickness of the welding end shall never be less than 87 1/2 percent of the nominal thickness of the pipe.
For complete dimensions, details, and tolerances, see ASME B 16.25.

OUTSIDE CONTOUR

When the thickness at the welding end of the valve is greater than that of the mating pipe, and when the additional thickness increases the outside diameter, a taper weld having a slope not exceeding 1:3 may be employed, or the greater outside diameter may be extended back in a manner within the maximum slope lines indicated in Figs. 1A and 1B. The trasmetion shall be of a shape avoiding sharp re-entrant angles and abrupt changes in slope. The profile of the outside contour shall be at the manufacturer's option provided above conditions are met.

INSIDE CONTOUR

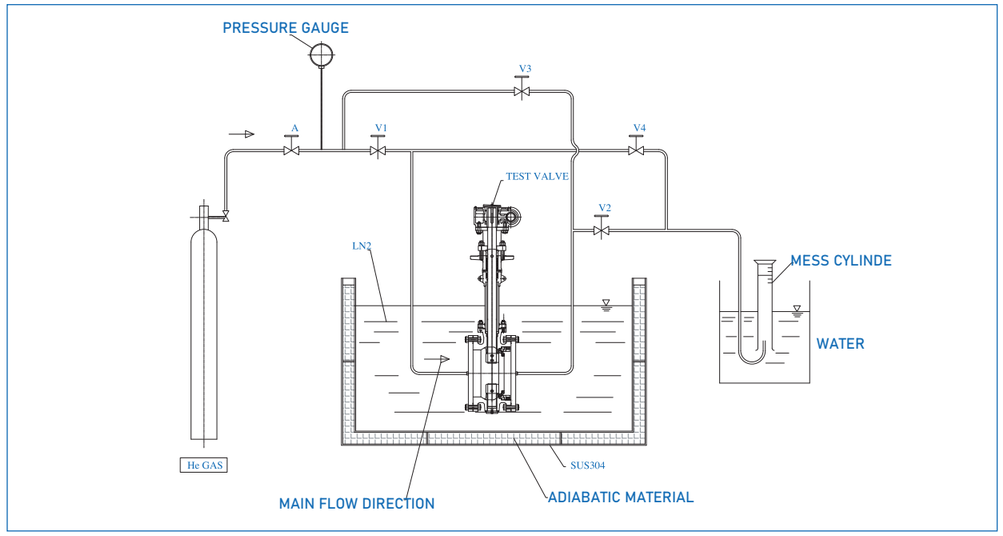
For a joint without a continuous backing ring, the inside contour of the valve end shall be bored to a diameter B to a depth of 1½t. The inside diameter of a valve end beyond this machined surface may be either larger of smaller than the inside diameter of the pipe. The trasmetion shall be of a shape avoiding sharp re-entrant angles and abrupt changes in slope. See Figs. 1A and 1B. (Trasmetion shape also applies to Fig. 2 and 3.)

For a joint with a continuous rectangular backing ring, the inside contour of the valve end shall be a straight bore of diameter C, ⅛in. deep. This depth is based on a backing ring 3/4 in. wide; but if a wider ring is used, the depth shall be increased to provide the 1/8 in. minimum end clearance indicated. See Fig. 2.

For a joint with a continuous tapered backing ring, the inside contour of the valve end shall be taperbored from diameter C at the lip, taperling at 10 deg. to a taper length of 7/32 in. minimum. Beyond this taper length, the bore may be a straight diameter of dimension B, or the 10 deg. taper may be extended to the inside port diameter. See Fig. 3.

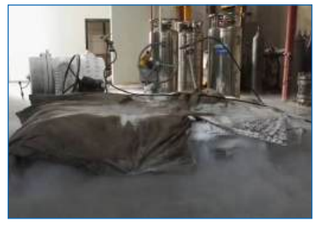
* See Figs. 1A and 1B for Outside Contours.

Butt welding end Dimensions for Valves



TEST OF MAIN FLOW DIRECTION : V1 & V2 OPEN, V3 & V4 CLOSE.
TEST OF OPPOSITE DIRECTION : V3 & V4 OPEN, V1 & V2 CLOSE.






Classification

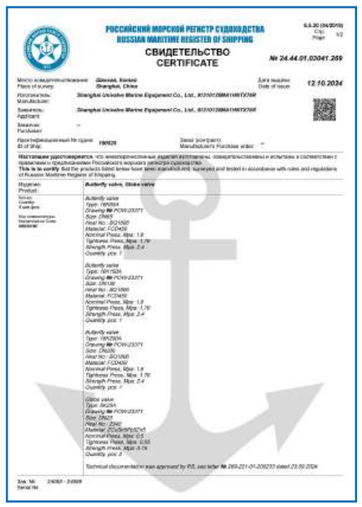
Certificate

RECOGNITION FOR
BV MODE II SCHEME
Shanghai Univalve Marine Equipment Co., Ltd.
SHANGHAI - CHINA

DNV
CERTIFICATE
FOR VALVE

ABS
Equipment Certification Report

ClassNK NIPPON KAIJI KYOKAI
CERTIFICATE for
Valve & Fitting (except for chemical cargo, cargo/fuel gas)



РОССИЙСКИЙ МОРСКОЙ РЕГИСТР СУДОХОДСТВА
RUSSIAN MARITIME REGISTER OF SHIPPING
СВИДЕТЕЛЬСТВО
CERTIFICATE

TÜV AUSTRIA
CERTIFICATE
(Certificate of conformity with technical requirements inc.)
API SPEC 607 EIGHTH EDITION,OCTOBER 2022

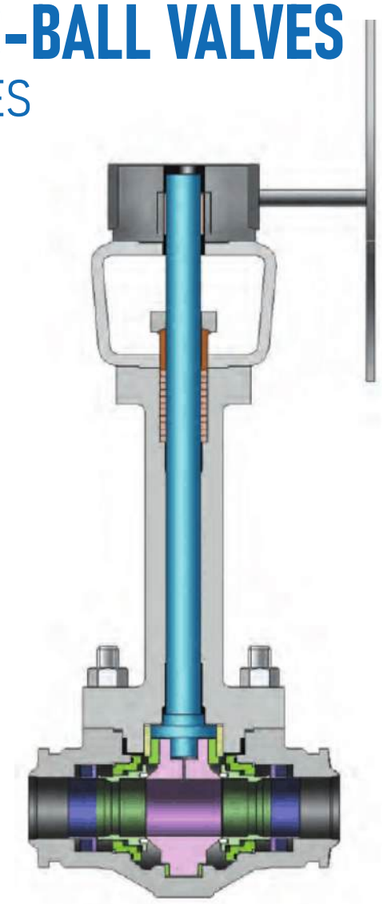
LNG Cryogenic Valves

Univalve cryogenic valves are widely used throughout the world, from liquefaction plants, to liquefied gas carries, receiving tank terminals as well as peak shaving plants, in a critical and hazardous service conditions down to the temperature as low as -196℃.

All valves are tested at cryogeni temperature which can examine the performance as critical as in an actual service condition.

01 CRYOGENIC VALVES-BALL VALVES

TOP ENTRY BALL VALVES



▶ 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

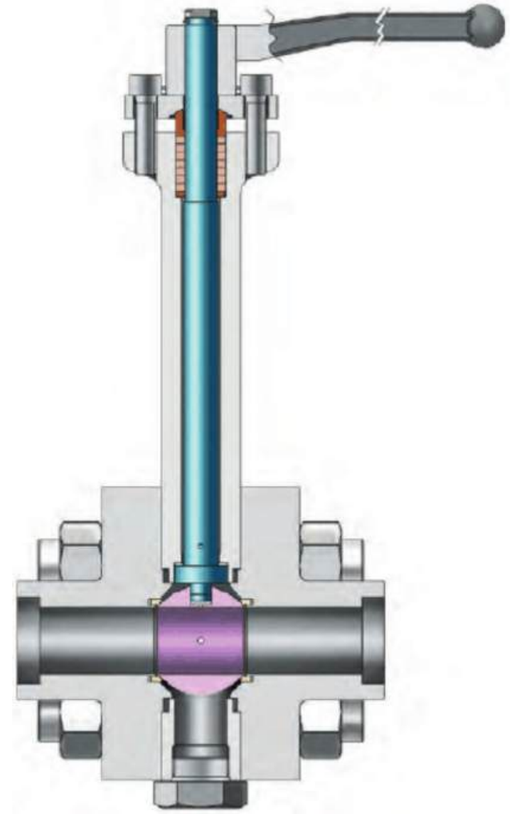
NOTE
1)ASTM A182-F304(L). F316(L)

▶ SPECIFICATIONS

1)Valve Size :1/2"~2"
2)Applicable Rating:ASME 150#~2500#
3)Temperature :Down to -196 ℃
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 THÜRINGEN)
- Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)

01 CRYOGENIC VALVES-BALL VALVES

Three-piece BALL VALVES



▶ 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 ℃
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 THÜRINGEN)
- Manual or Motor Operated (Pneumatic, Electric, or Hydraulic)

02 CRYOGENIC VALVES-CONTROL VALVES

GLOBE CONTROL VALVES-Series SS-1050

▶ STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE[1)]
BONNET	NOTE[1)]
SEAT	Stainless Steel
STEM	ASTM A276-304
CONNECTOR	NOTE[1)]
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℃
4)Code & Standard :API, BS, ASME, ASTM, KGSC
Designed by BS6364,ASME B16.34, and ASME B16.11/16.25/16.5
5))Allowable Seat Leakage :ASME Class I,II, 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

02 CRYOGENIC VALVES-CONTROL VALVES

GLOBE CONTROL VALVES-Series SS-1050

▶ STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE[1)]
BONNET	NOTE[1)]
SEAT	Stainless Steel
STEM	ASTM A276-304
CONNECTOR	NOTE[1)]
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℃
4)Code & Standard :API, BS, ASME, ASTM, KGSC
Designed by BS6364,ASME B16.34, and ASME B16.11/16.25/16.5
5))Allowable Seat Leakage :ASME Class I~VI,BS6364
6)Constructions
- End Connection : Butt-Welded or Flanged Type
- Long Extended Bonnet
- Actuator :Cylinder or Diaphragm Type
- Quick Change Typed Trim

03 CRYOGENIC VALVES-CAST STEEL VALVES

CAST STEEL GATE VALVES

▶ STANDARD MATERIALS

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

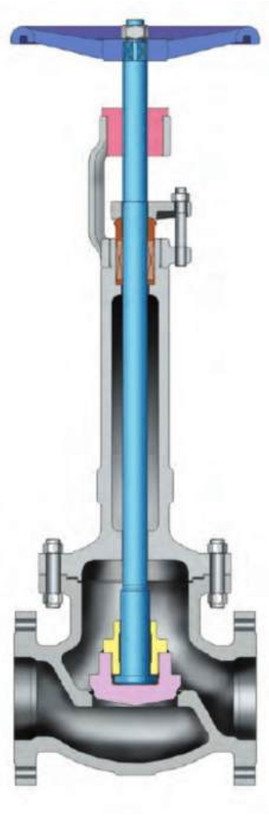
NOTE
1)Cast Sleel, ASTM A351-CF8(M) / CF3(M)

▶ SPECIFICATIONS

1)Valve Size :1/2"~24"
2)Applicable Rating:ASME 150#~1500#
3)Temperature :Down to -196℃
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

03 CRYOGENIC VALVES-CAST STEEL VALVES

CAST STEEL GATE VALVES



▶ STANDARD MATERIALS

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

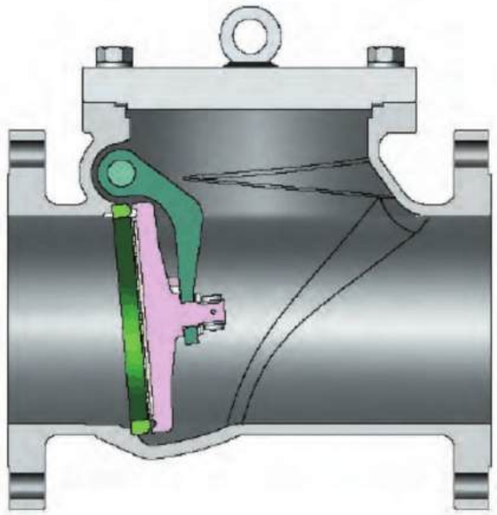
NOTE
1)Cast Sleel, ASTM A351-CF8(M) / CF3(M)

▶ SPECIFICATIONS

1)Valve Size :2"~24"
2)Applicable Rating:ASME 150#~1500#
3)Temperature :Down to -196℃
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

03 CRYOGENIC VALVES-CAST STEEL VALVES

CAST STEEL SWING CHECK VALVES



▶ 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)1 316(L)-(H.F)
GASKET	SPIRAL WOUNDED GRAPHITE
ARM	ASTM A351-CF8(M)/CF3(MM)

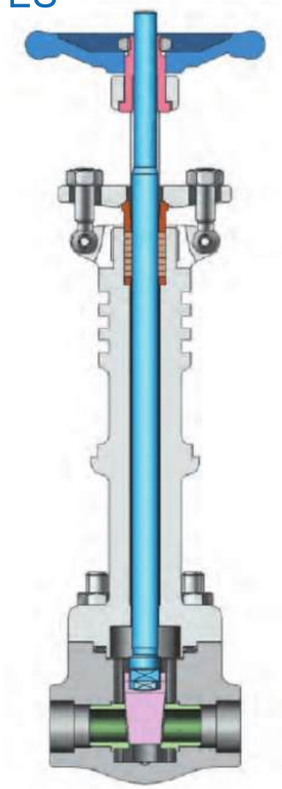
NOTE
Cast Sieel, ASTM A351-CF3(M)/ CF8(M)

▶ SPECIFICATIONS

1)Valve Size :2"~26"
2)Applicable Rating:ASME 150#~600#
3)Temperature :Down to -196 ℃
4)Code & Standard : BS, ASME, ASTM, KGSC
Desiqned 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/ Reduce Bore

03 CRYOGENIC VALVES-FORGED VALVES

FORGED STEEL GATE VALVES



▶ STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE[1)]
BONNET	NOTE[1)]
SEAT	ASTM A182-F304L(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

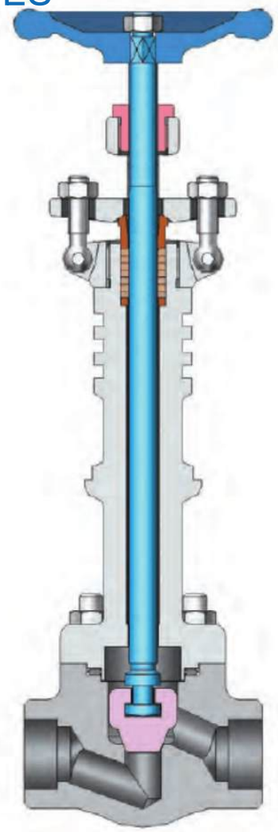
NOTE
1) Forged Steel, ASTM A182-F304(L)/ F316(L)

▶ SPECIFICATIONS

1)Valve Size :1/2"~2"
2)Applicable Rating:ASME 150#~1500#
3)Temperature :Down to -196 ℃
4)Code & Standard : BS, ASME, ASTM, KGSC
Desiqned by BS6364,ASME B16.34, and ASME B16.25/16.5
5)Shell & Seat Leak Test:ASME B16.34
6)Constructions
- End Connection : Socket-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

03 CRYOGENIC VALVES-FORGED VALVES

FORGED STEEL GLOBE VALVES



▶ STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE[1)]
BONNET	NOTE[1)]
SEAT	ASTM A276-304(L)/316(L)-(H.F)
DISC	ASTM A276-304/316 or A351-CF8(M)
STEM	ASTM A276-316(L)
GASKET	SPIRAL WOUNDED GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

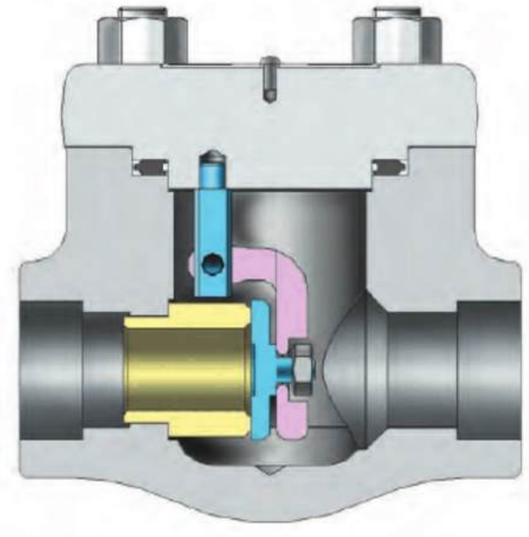
NOTE
1)Forged Steel, ASTM A182-F304(L)/ F316(L)

▶ SPECIFICATIONS

1)Valve Size :1/2"~2"
2)Applicable Rating:ASME 150#~1500#
3)Temperature :Down to -196℃
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 :Cylinder or Diaphragm Type
- Pressure Relief Design(Pressure Balance Design)
- Fire Safety /Anti-static Design
- Rising Hand wheel

03 CRYOGENIC VALVES-FORGED VALVES

FORGED STEEL SWING CHECK VALVES



▶ 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)
CONNECTOR	NOTE[1)]
GASKET	SPIRAL WOUNDED GRAPHITE
ARM	ASTM A351-CF8(M)/CF3(M)

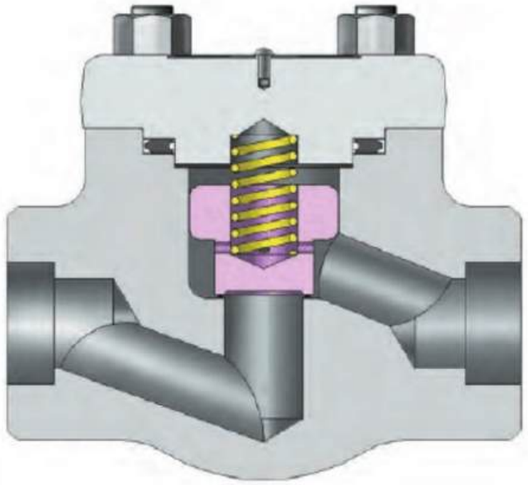
NOTE
1) Forged Steel, ASTM A182-F304(L).F316(L)

▶ SPECIFICATIONS

1)Valve Size :1/2"~2"
2)Applicable Rating:ASME 150#~1500#
3)Temperature :Down to -196℃
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
- Full Bore /Reduce Bore

03 CRYOGENIC VALVES-FORGED VALVES

FORGED STEEL LIFT CHECK VALVES



▶STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE[1)]
BONNET	NOTE[1)]
SEAT & DISC	ASTM A276-304L(H.F)
GASKET	SPIRAL WOUNDED GRAPHITE
BONNET BOLT	Stainless Steel
SPRING	304SS

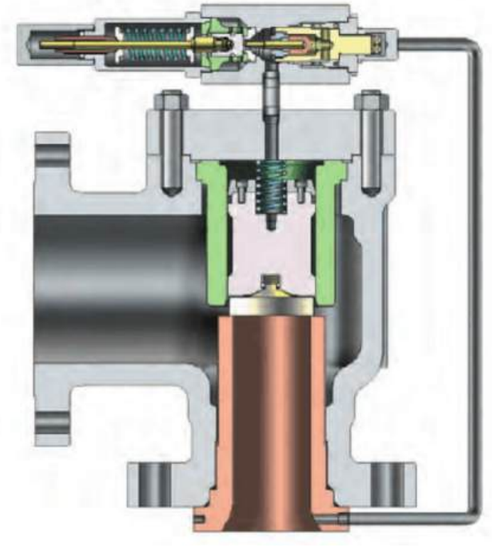
NOTE
1)Forged Steel, ASTM A182-F304(L),F316(L)

▶SPECIFICATIONS

1)Valve Size :1/2"~2"
2)Applicable Rating:ASME 150#~1500#
3)Temperature :Down to -196℃
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
- Full Bore /Reduce Bore
- Seat Welded on Body

04 CRYOGENIC VALVES-SAFETY VALVES

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



▶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

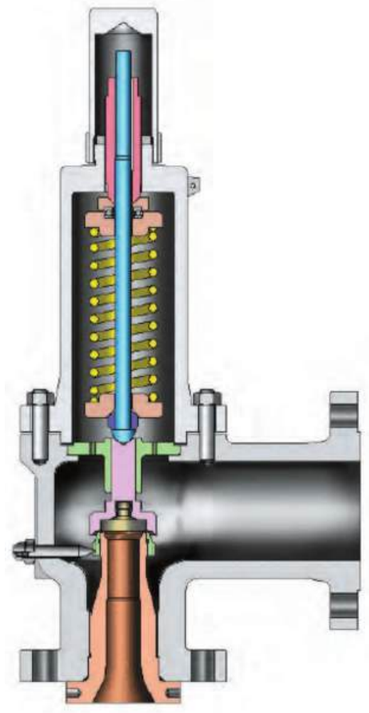
1)Valve Size :2x3"~8"x10"
2)Applicable Rating:Up to ASME 1500# x300#
3)Temperature :Down to -196℃
4)Code & Standard
- Orifice :API RP 520.MFG. Standard
- Cryogenic Test:BS6364,MFG. Standard
- Shell Test :APIRP 598,ASME B16.34.KOGAS Standard
- Seat Leakage Test : API RP 527

6)Constructions
- End Connection : Flanged Type
- Full Bore /Full Nozzle
- Screwed Nozzle
- Self-alignment Trim

04 CRYOGENIC VALVES-SAFETY VALVES

SAFETY VALVES

-Series SF-7200 (Gas or Vapor Service for Conventional type)
-Series SF-7900 (Liquid Service for Conventional type)



▶ STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE[1)]
BONNET	NOTE[1)]
SEAT	ASTM A276-316L(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

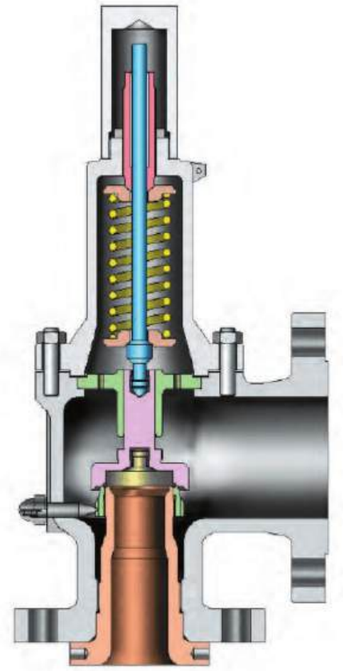
1)Valve Size :1/2"x314"~12"x16"
2)Applicable Rating:ASME 600#x150#~1500# x 300#
3)Temperature :Down to -196 ℃
4)Code & Standard
- Orifice :API RP 520.MFG. Standard
- Cryogenic Test:BS6364,MFG. Standard
- Shell Test :API RP 598,ASME B16.34.KOGAS Standard
- Seat Leakage Test : API RP 527

6)Constructions
- End Connection : Flanged Type
- Full Bore /Full Nozzle /Screwed Nozzle
- Self-alignment Trim
- Packed Cap & Lever to be optional

04 CRYOGENIC VALVES-SAFETY VALVES

SAFETY VALVES

-Series SF-8200 (Gas or Vapor Service for Conventional type)
-Series SF-8900 (Liquid Service for Conventional type)



▶ STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE[1)]
BONNET	NOTE[1)]
SEAT	ASTM A276-316L(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

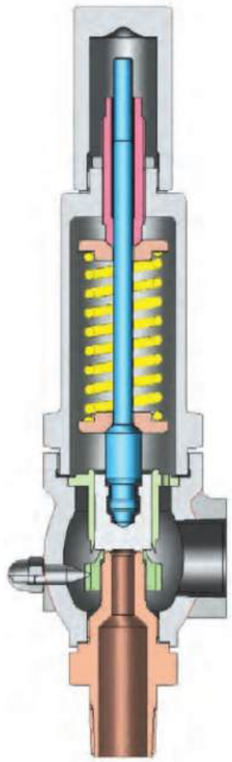
1)Valve Size :1/2"x314"~12"x16"
2)Applicable Rating:ASME 150#x150#~300#x300#
3)Temperature :Down to -196 ℃
4)Code & Standard
- Orifice :API RP 520.MFG. Standard
- Cryogenic Test:BS6364,MFG. Standard
- Shell Test :API RP 598,ASME B16.34.KOGAS Standard
- Seat Leakage Test : API RP 527

6)Constructions
- End Connection : Flanged Type
- Full Bore /Full Nozzle /Screwed Nozzle
- Self-alignment Trim
- Packed Cap & Lever to be optional

04 CRYOGENIC VALVES-SAFETY VALVES

SAFETY VALVES

-Series SF-9600 (Gas, Vapor or Liquid Service for Conventional type)



▶ 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

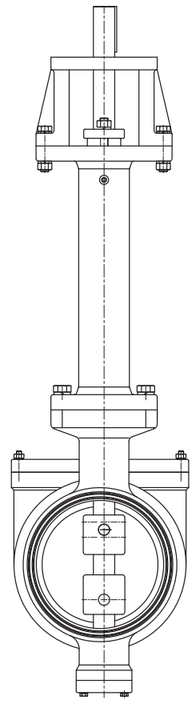
▶ SPECIFICATIONS

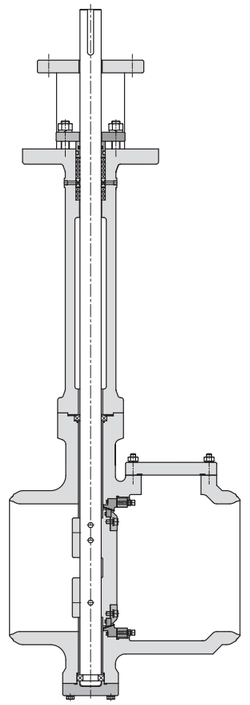
1)Valve Size:1/2"x1/2"~1"x1"
2)Applicable Set Pressure :Up to 210kgf/cm^2
3)Temperature :Down to -196 ℃
4)Code & Standard
- •Orifice :API RP 520.MFG. Standard
- •Cryogenic Test:BS6364,MFG. Standard
- •Shell Test :API RP 598,ASME B16.34.KOGAS Standard
- •Seat Leakage Test : API RP 527

6)Constructions
- • End Connection : Screwed Type
- • Full Bore /Full Nozzle /Screwed Nozzle
- • Self-alignment Trim
- • Non Lever (Lever to be optional)

05 CRYOGENIC VALVES-BUTTERFLY VALVES

BUTTERFLY VALVES





▶ STANDARD MATERIALS

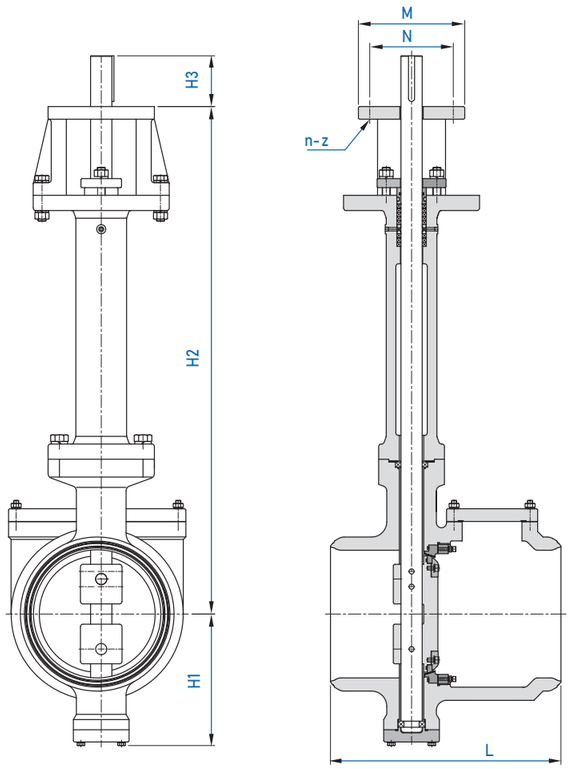
PART NAMES	MATERIALS
BODY	NOTE[1)]
BONNET	NOTE[1)]
SEAT	ASTM A276-304L(H.F)
DISC	ASTM A276-304(L)(H.F)/316(L)(H.F) or Equivalent
STEM	ASTM A276-316(L)
GASKET	SPIRAL WOUNDED GRAPHITE
GLAND PACKING	GRAPHITE
GLAND	ASTM A276-316

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

▶ SPECIFICATIONS

1)Valve Size :2"~24"
2)Applicable Rating:ASME 150#~1500#
3)Temperature :Down to -196 ℃
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

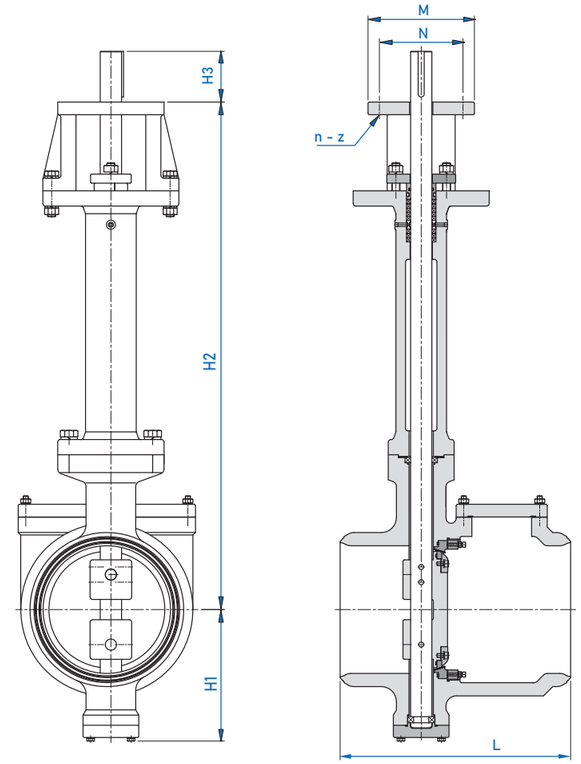
LNG Cryogenic Triple Eccentric Metal Seated
Butt welding Type Butterfly Vale CLASS 150LB



VALVE DIMENSIONS (unit : mm)

SIZE		L	H1	H2	H3	TOP FLANGE				WEIGHT APPROX. (kg)
inch	mm					TYPE	N	M	n- z	
4″	100	305	150	900	60	F10	102	125	4 - 12	52.5
6″	150	403	180	900	60	F10	102	125	4 - 12	73.1
8″	200	410	205	950	100	F16	165	210	4 - 23	91.7
10″	250	455	260	1000	100	F16	165	210	4 - 23	143.2
12″	300	480	295	1095	100	F16	165	210	4 - 23	183.3
14″	350	530	325	1140	100	F16	165	210	4 - 23	236.9
16″	400	555	350	1180	100	F25	254	300	8 - 19	309.0
18″	450	590	390	1220	100	F25	254	300	8 - 19	385.2
20″	500	625	435	1280	100	F25	254	300	8 - 19	535.6
24″	600	680	479	1485	150	F35	356	415	8 - 33	835.3
26″	650	750	530	1485	150	F35	356	415	8 - 33	957.6
28″	700	750	555	1510	150	F35	356	415	8 - 33	1359.6
30″	750	830	580	1550	180	F40	406	475	8 - 39	1650.0
32″	800	830	600	1570	180	F40	406	475	8 - 39	2070.0
36″	900	1000	700	1660	180	F40	406	475	8 - 39	2700.0
40″	1000	1200	770	1750	180	F40	406	475	8 - 39	3665.0
42″	1050	1200	830	1940	180	F40	406	475	8 - 39	4245.0
48″	1200	1300	910	2040	220	F48	483	560	12 - 39	5480.0
54″	1350	1400	1000	2365	220	F48	483	560	12 - 39	7784.0
60″	1500	1600	1100	2450	270	F60	603	685	20 - 39	10350.0
66″	1650	1800	1200	2550	270	F60	603	685	20 - 39	11100.0
72″	1800	2000	1350	2600	270	F60	603	685	20 - 39	12820.0
80″	2000	2300	1600	2800	400	F80	800	1000	20 - 45	15850.0

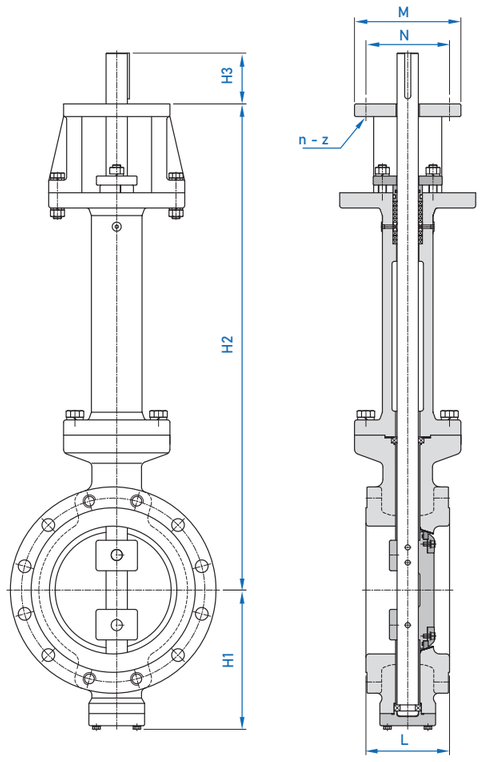
LNG Cryogenic Triple Eccentric Metal Seated
Butt welding Type Butterfly Vale CLASS 300LB



VALVE DIMENSIONS (unit : mm)

SIZE		L	H1	H2	H3	TOP FLANGE				WEIGHT APPROX. (kg)
inch	mm					TYPE	N	M	n- z	
4″	100	305	170	900	60	F10	102	125	4 - 12	57.0
6″	150	403	200	900	60	F10	102	125	4 - 12	80.0
8″	200	410	225	950	100	F16	165	210	4 - 23	101.0
10″	250	455	280	1000	100	F16	165	210	4 - 23	157.3
12″	300	480	306	1095	100	F25	254	300	8 - 19	201.0
14″	350	530	350	1140	100	F25	254	300	8 - 19	260.0
16″	400	555	390	1180	150	F35	356	415	8 - 33	335.0
18″	450	590	430	1220	150	F35	356	415	8 - 33	423.0
20″	500	625	468	1280	150	F35	356	415	8 - 33	575.0
24″	600	680	550	1485	180	F40	406	475	8 - 39	867.5
26″	650	750	585	1485	180	F40	406	475	8 - 39	1003.5
28″	700	750	615	1510	220	F48	483	560	12 - 39	1426.0
30″	750	830	660	1550	220	F48	483	560	12 - 39	1732.0
32″	800	830	715	1570	220	F48	483	560	12 - 39	2383.0
36″	900	1200	800	1660	220	F48	483	560	12 - 39	4142.0
40″	1000	1200	860	1750	220	F48	483	560	12 - 39	5590.0
42″	1050	1300	950	1940	270	F60	603	685	20 - 39	6454.0
48″	1200	1400	1000	2040	270	F60	603	685	20 - 39	8551.0
54″	1350	1550	1100	2365	220	F60	603	685	20 - 39	11928.0
60″	1500	1750	1200	2450	270	F60	603	685	20 - 39	16457.0
66″	1650	1900	1300	2550	270	F60	603	685	20 - 39	16800.0
72″	1800	2100	1500	2600	400	F80	800	1000	20 - 45	18600.0
80″	2000	2300	1750	2800	400	F80	800	1000	20 - 45	23350.0

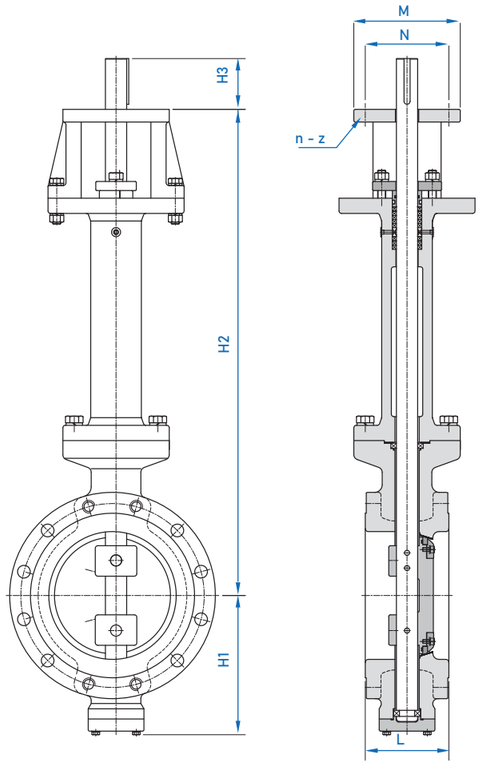
LNG Cryogenic Triple Eccentric Metal Seated
Flange Type Butterfly Valve CLASS 150LB



VALVE DIMENSIONS (unit : mm)

SIZE		L	H1	H2	H3	TOP FLANGE				WEIGHT APPROX. (kg)
inch	mm					TYPE	N	M	n- z	
4	100	127	161	900	60	F10	102	125	4 - 12	47.5
6″	150	140	203	900	60	F10	102	125	4 - 12	52.0
8″	200	152	230	9580	100	F16	165	210	4 - 23	71.0
10″	250	165	274	1000	100	F16	165	210	4 - 23	88.5
12″	300	178	300	1095	100	F16	165	210	4 - 23	139.0
14″	350	190	345	1140	100	F16	165	210	4 - 23	178.0
16″	400	216	380	1180	100	F25	254	300	8 - 19	230.0
18″	450	222	407	1220	100	F25	254	300	8 - 19	285.5
20″	500	229	445	1280	100	F25	254	300	8 - 19	375.0
24″	600	267	519	1485	150	F35	356	415	8 - 33	570.5
26″	650	292	570	1485	150	F35	356	415	8 - 33	820.0
28″	700	292	590	1510	150	F35	356	415	8 - 33	1170.0
30″	750	318	625	1550	180	F40	406	475	8 - 39	1360.0
32″	800	318	645	1570	180	F40	406	475	8 - 39	1650.0
36″	900	330	750	1660	180	F40	406	475	8 - 39	2400.0
40″	1000	410	820	1750	180	F40	406	475	8 - 39	3065.0
42″	1050	410	910	1940	180	F40	406	475	8 - 39	3675.0
48″	1200	470	960	2040	220	F48	483	560	12 -⋯39	4780.0
54″	1350	470	1045	2365	220	F48	483	560	12 -⋯39	7074.0
60″	1500	530	1150	2450	270	F60	603	685	20 -⋯39	9550.0
66″	1650	600	1250	2550	270	F60	603	685	20 -⋯39	10300.0
72″	1800	670	1400	2600	270	F60	603	685	20 -⋯39	12000.0
80″	2000	760	1650	2800	400	F80	800	1000	20 -⋯45	15000.0

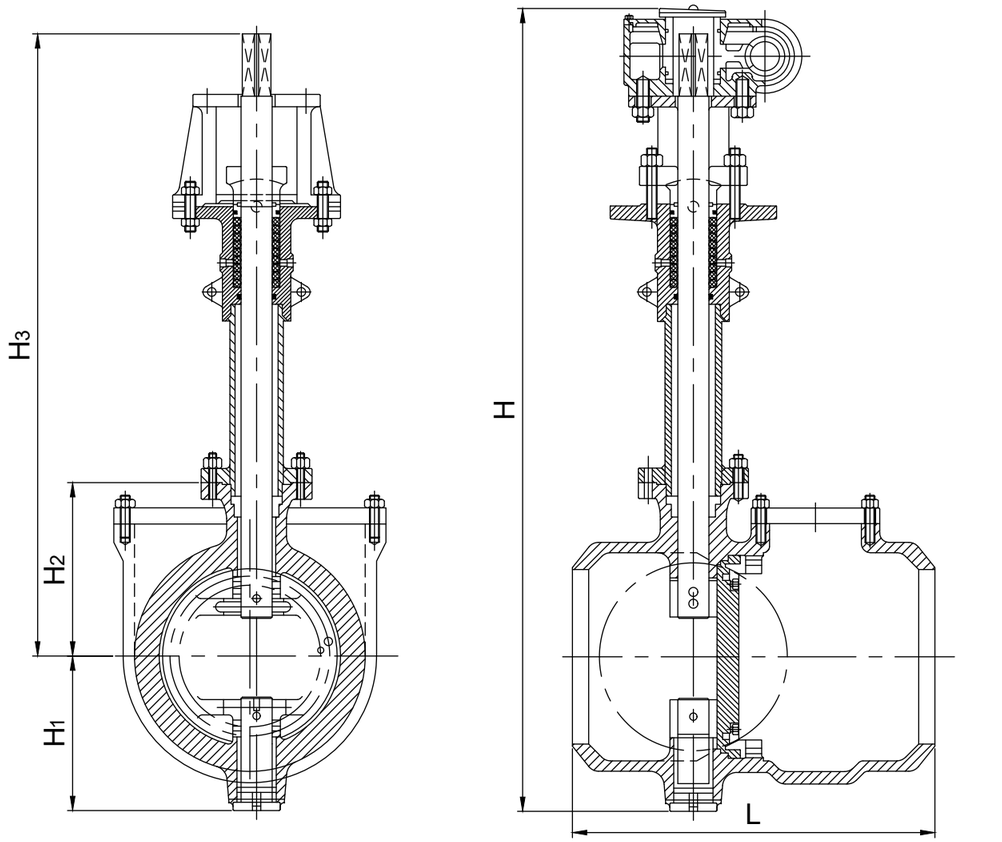
LNG Cryogenic Triple Eccentric Metal Seated
Flange Type Butterfly Valve CLASS 300LB



VALVE DIMENSIONS (unit : mm)

SIZE		L	H1	H2	H3	TOP FLANGE				WEIGHT APPROX. (kg)
inch	mm					TYPE	N	M	n- z	
4″	100	190	176	900	60	F10	102	125	4 - 12	56.1
6″	150	210	223	900	60	F10	102	125	4 - 12	78.1
8″	200	230	250	950	100	F16	165	210	4 - 23	97.9
10″	250	250	310	1000	100	F16	165	210	4 - 23	153.0
12″	300	270	340	1095	100	F25	254	300	8 - 19	195.0
14″	350	290	380	1140	100	F25	254	300	8 - 19	235.5
16″	400	310	425	1180	150	F35	356	415	8 - 33	328.0
18″	450	330	445	1220	150	F35	356	415	8 - 33	411.5
20″	500	350	480	1280	150	F35	356	415	8 - 33	570.0
24″	600	390	570	1485	180	F40	406	475	8 - 39	890.0
26″	650	410	605	1485	180	F40	406	475	8 - 39	1003.0
28″	700	430	635	1510	220	F48	483	560	12 - 39	1452.0
30″	750	450	680	1550	220	F48	483	560	12 - 39	1723.5
32″	800	470	730	1570	220	F48	483	560	12 - 39	2371.0
36″	900	510	820	1660	220	F48	483	560	12 - 39	3510.0
40″	1000	550	860	1750	220	F48	483	560	12 - 39	4475.0
42″	1050	570	950	1940	270	F60	603	685	20 - 39	5286.0
48″	1200	630	1000	2040	270	F60	603	685	20 - 39	7155.0
54″	1350	670	1100	2365	220	F60	603	685	20 - 39	10073.0
60″	1500	790	1200	2450	270	F60	603	685	20 - 39	14770.0
66″	1650	790	1300	2550	270	F60	603	685	20 - 39	15450.0
72″	1800	870	1500	2600	270	F60	603	685	20 - 39	17400.0
80″	2000	950	1750	2800	400	F80	800	1000	20 - 45	22200.0

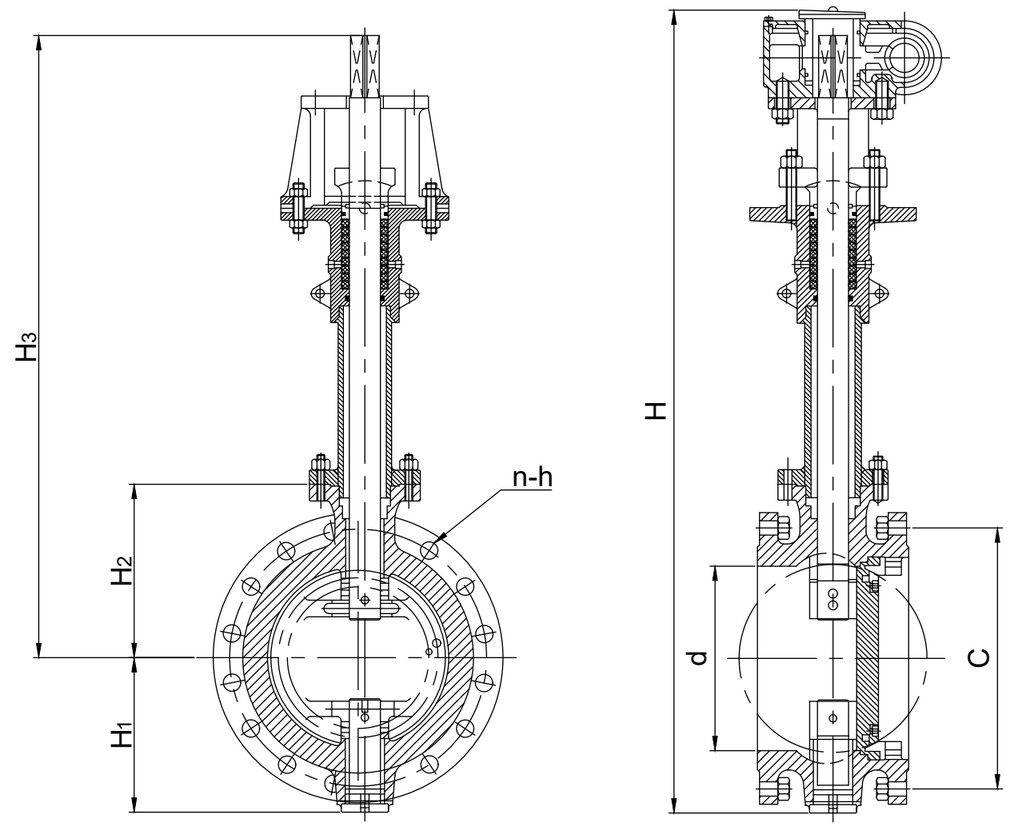
LNG Cryogenic Double Eccentric Butt-welding Type
Butterfly Valve CLASS 150LB and CLASS 300LB



VALVE DIMENSIONS (unit : mm)

SIZE		L	H	H1	H2	H3	TOP FLANGE				WEIGHT APPROX. (kg)
inch	mm						TYPE	N	M	n- z	
4"	100	450	868	110	150	608	F14	140	175	4-18	60
5"	125	450	960	120	160	680	F14	140	175	4-18	75
6"	150	530	1075	135	180	760	F14	140	175	4-18	97
8"	200	530	1202	167	215	820	F16	165	210	4-22	129
10"	250	565	1358	220	245	893	F16	165	210	4-22	175
12"	300	600	1543	255	290	998	F16	165	210	4-22	220
14"	350	660	1650	280	310	1060	F16	165	210	4-22	286
16"	400	680	1878	298	375	1205	F16	165	210	4-22	379
18"	450	720	2010	325	390	1295	F16	165	210	4-22	477
20"	500	765	2295	370	425	1500	F25	254	300	8-18	652
22"	550	800	2440	380	450	1610	F25	254	300	8-18	728
24"	600	840	2635	425	490	1720	F25	254	300	8-18	1032
26"	650	890	2765	435	520	1810	F25	254	300	8-18	1187
28"	700	1015	2940	480	560	1900	F30	298	350	8-23	1640
32"	800	1210	3250	540	730	2080	F30	298	350	8-23	2060
36"	900	1450	3580	610	810	2270	F30	298	350	8-23	2520
40"	1000	1680	3920	675	880	2510	F35	356	415	8-32	2980
44"	1100	1900	4380	740	960	2720	F40	406	475	8-39	3350
48"	1200	2150	4820	800	1040	2920	F40	406	475	8-39	3810

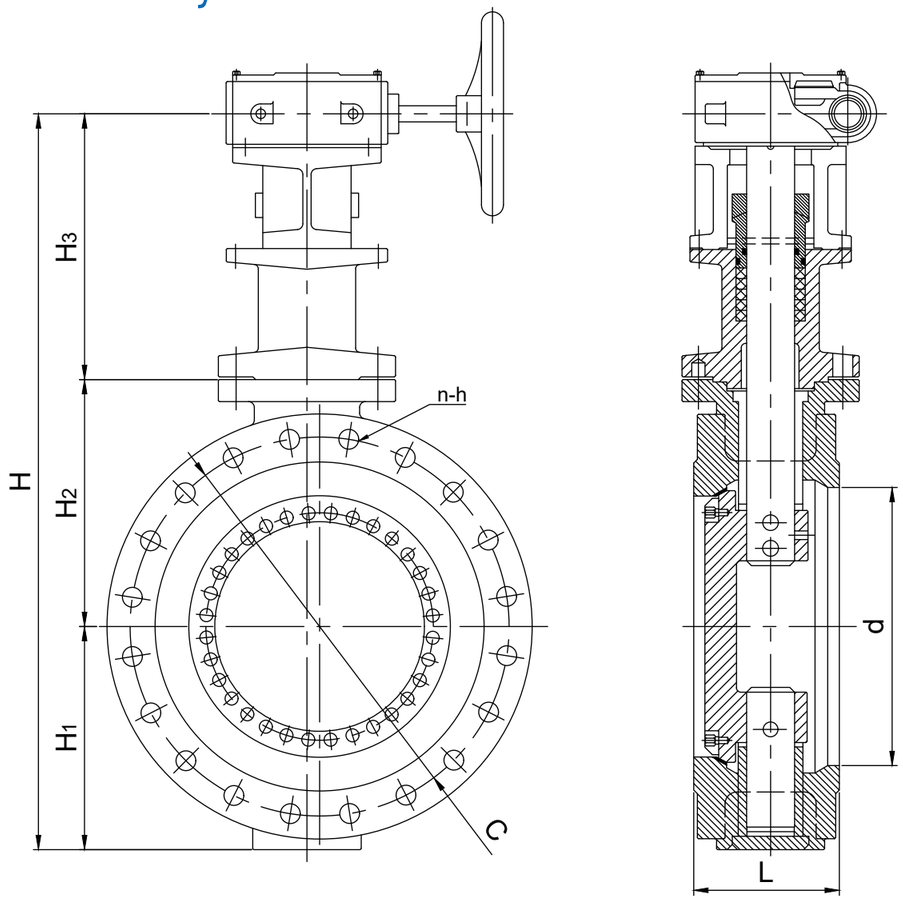
LNG Cryogenic Double Eccentric Flange Type
Butterfly Valve CLASS 150LB and CLASS 300LB



VALVE DIMENSIONS (unit : mm)

SIZE		d	L	H	H1	H2	H3	ASME 150LB			ASME 300LB			WEIGHT APPROX. (kg)
inch	mm							C	n	h	C	n	h_h	
4"	100	100	136	868	110	150	608	190.50	8	5/8	200.00	8	3/4	51
5"	125	125	200	960	120	160	680	216.00	8	3/4	235.00	8	3/4	58
6"	150	150	210	1075	135	180	760	241.50	8	3/4	270.00	12	3/4	71
8"	200	200	210	1202	167	215	820	298.50	8	3/4	330.00	12	7/8	89
10"	250	250	226	1358	220	245	893	362.00	12	7/8	387.50	16	1	139
12"	300	300	242	1543	255	290	998	432.00	12	7/8	451.00	16	1⅛	178
14"	350	350	290	1650	280	310	1060	476.00	12	1	514.50	20	1⅛	230
16"	400	400	310	1878	298	375	1205	539.50	16	1	571.50	20	1 ¼	300
18"	450	450	340	2010	325	390	1295	578.00	16	1⅛	628.50	24	1 ¼	374
20"	500	500	370	2295	370	425	1500	635.00	20	1⅛	686.00	24	1 ¼	520
22"	550	550	450	2440	380	450	1610	692.20	20	1 ¼	692.15	24	1 ¼	584
24"	600	600	550	2635	425	490	1720	749.50	20	1 ¼	813.00	24	1 ½	811
26"	650	650	550	2765	435	520	1810	806.50	24	1 ¼	806.45	24	1 ½	812
28"	700	700	650	2940	480	560	1900	863.50	28	1 ¼	863.60	28	1 ½	1320
32"	800	800	800	3250	540	730	2080	914.40	28	1 ½	1054.10	28	1⅞	1830
36"	900	900	1050	3580	610	810	2270	1085.80	32	1 ½	1168.40	32	2	2380
40"	1000	1000	1300	3920	675	880	2510	1200.20	36	1 ½	1155.70	32	1⅝	2920
44"	1100	1100	1550	4380	740	960	2720	1314.40	40	1 ½	1263.60	32	1 ¾	3470
48"	1200	1200	1800	4820	800	1040	2920	1422.40	44	1 ½	1371.60	32	1⅞	4060

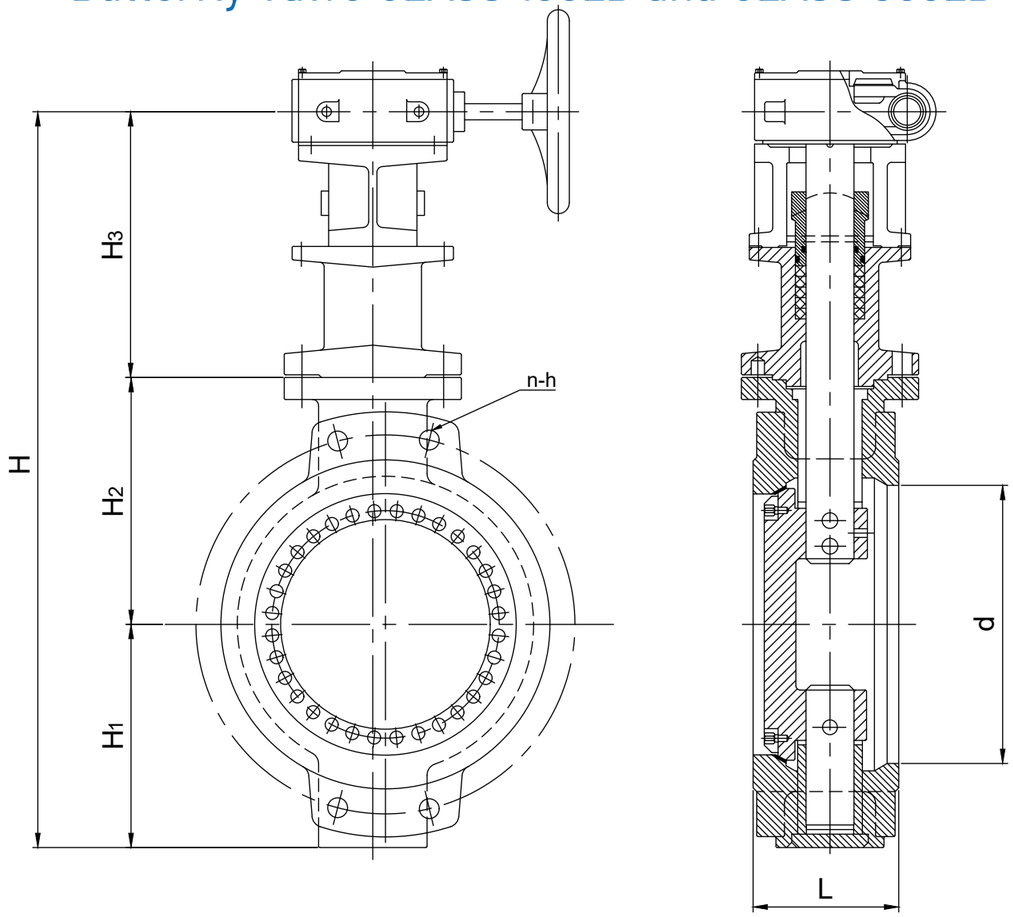
LPG Cryogenic Double Eccentric Flange Type
Butterfly Valve CLASS 150LB and CLASS 300LB



VALVE DIMENSIONS (unit : mm)

SIZE		d	L	H	H1	H2	H3	ASME 150LB			ASME 300LB			WEIGHT APPROX. (kg)
inch	mm							C	n	h	C	n	h	
3"	80	80	90	280	56	80	144	152.50	4	5/8	168.00	8	3/4	40
4"	100	100	136	398	85	110	203	190.50	8	5/8	200.00	8	3/4	48
5"	125	125	200	508	110	140	258	216.00	8	3/4	235.00	8	3/4	55
6"	150	150	270	662	150	175	337	241.50	8	3/4	270.00	12	3/4	67
8"	200	200	270	792	180	210	402	298.50	8	3/4	330.00	12	7/8	84
10"	250	250	300	940	220	242	478	362.00	12	7/8	387.50	16	1	132
12"	300	300	320	1082	250	283	549	432.00	12	7/8	451.00	16	1 1/8	170
14"	350	350	385	1200	280	310	610	476.00	12	1	514.50	20	1 1/8	215
16"	400	400	410	1310	305	340	665	539.50	16	1	571.50	20	1 1/4	285
18"	450	450	440	1414	325	370	719	578.00	16	1 1/8	628.50	24	1 1/4	352
20"	500	500	470	1554	365	400	789	635.00	20	1 1/8	686.00	24	1 1/4	500
22"	550	550	550	1734	410	445	879	692.20	20	1 1/4	692.15	20	1 1/4	560
24"	600	600	550	1924	450	500	974	749.50	20	1 1/4	813.00	24	1 1/2	790
26"	650	650	550	2235	545	595	1095	806.50	24	1 1/4	806.45	24	1 1/2	805
28"	700	700	650	2570	650	710	1210	863.50	28	1 1/4	863.60	28	1 1/2	1290
32"	800	800	800	2904	755	815	1334	914.40	28	1 1/2	1054.10	28	1 7/8	1810
36"	900	900	1050	3227	850	910	1467	1085.80	32	1 1/2	1168.40	32	2	2340
40"	1000	1000	1300	3600	940	990	1670	1200.20	36	1 1/2	1155.70	32	1 5/8	2880
44"	1100	1100	1550	4020	1035	1090	1895	1314.40	40	1 1/2	1263.60	32	1 3/4	3430
48"	1200	1200	1800	4347	1140	1195	2012	1422.40	44	1 1/2	1371.60	32	1 7/8	4020

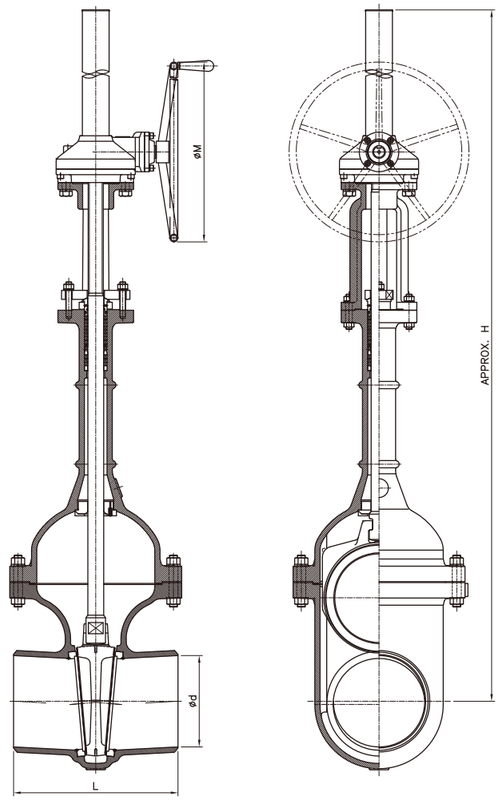
LPG Cryogenic Double Eccentric Semi-Lug Type
Butterfly Valve CLASS 150LB and CLASS 300LB



VALVE DIMENSIONS (unit : mm)

SIZE		d	L	H	H1	H2	H3	ASME 150LB			ASME 300LB			WEIGHT APPROX. (kg)
inch	mm							C	n	h	C	n	h	
3"	80	80	90	280	56	80	144	152.5	4	5/8	168	8	3/4	37
4"	100	100	90	398	85	110	203	190.50	8	5/8	200.00	8	3/4	41
5"	125	125	105	508	110	140	258	216.00	8	3/4	235.00	8	3/4	51
6"	150	150	115	662	150	175	337	241.50	8	3/4	270.00	12	3/4	60
8"	200	200	125	792	180	210	402	298.50	8	3/4	330.00	12	7/8	72
10"	250	250	135	940	220	242	478	362.00	12	7/8	387.50	16	1	120
12"	300	300	150	1082	250	283	549	432.00	12	7/8	451.00	16	1⅛	150
14"	350	350	180	1200	280	310	610	476.00	12	1	514.50	20	1⅛	190
16"	400	400	195	1310	305	340	665	539.50	16	1	571.50	20	1 ¼	265
18"	450	450	200	1414	325	370	719	578.00	16	1⅛	628.50	24	1 ¼	338
20"	500	500	210	1554	365	400	789	635.00	20	1⅛	686.00	24	1 ¼	470
22"	550	550	220	1734	410	445	879	692.20	20	1 ¼	692.15	24	1 ¼	535
24"	600	600	225	1924	450	500	974	749.50	20	1 ¼	813.00	24	1½	755

LPG Cryogenic Butt welding Type Gate Valve
CLASS 150LB and CLASS 300LB



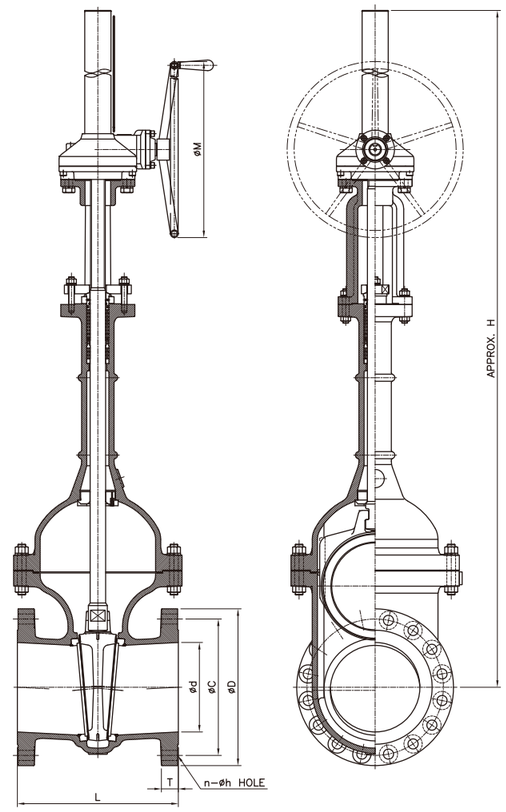
CLASS 150LB (unit : mm)

SIZE		L	REFERENCE		WEIGHT APPROX. (kg)
inch	mm		H	• M	
2"	50	178	1135	200	21
3"	80	203	1290	200	36
4"	100	229	1350	250	48
6"	150	267	1520	300	75
8"	200	292	1790	355	112
10"	250	330	2010	400	161
12"	300	356	2250	450	342
14"	350	381	2650	500	380
16"	400	406	2865	560	554
18"	450	432	3105	560	704
20"	500	457	2310	630	811
24"	600	508	3710	630	1492
28"	700	610	3794	710	2202
30"	750	610	3994	710	2340
36"	900	711	4384	800	4401
40"	1000	762	4801	900	4373
42"	1050	813	4944	900	4686
48"	1200	864	5715	900	6580

CLASS 300LB (unit : mm)

SIZE		L	REFERENCE		WEIGHT APPROX. (kg)
inch	mm		H	• M	
2"	50	216	1169	200	25
3"	80	282	1307	250	44
4"	100	305	1371	250	48
6"	150	403	1547	355	117
8"	200	419	1819	400	148
10"	250	457	2022	450	209
12"	300	502	2352	500	356
14"	350	762	2848	560	535
16"	400	838	3012	630	861
18"	450	914	3191	630	1115
20"	500	991	3418	630	1249
24"	600	1143	3810	710	1795
28"	700	1346	3962	710	3094
30"	750	1397	4116	800	3973
36"	900	1727	4481	900	5850
40"	1000	1930	5021	900	6500
42"	1050	1981	5299	900	7250
48"	1200	2215	6312	900	9320

LPG Cryogenic Flange Type Gate Valve
CLASS 150LB and CLASS 300LB



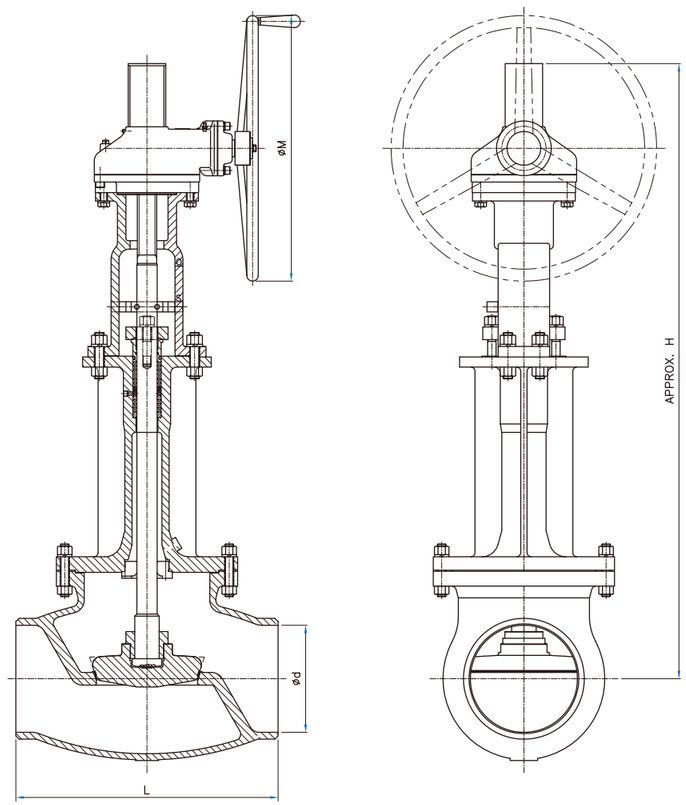
CLASS 150LB (unit : mm)

SIZE		L	FLANGE				REFERENCE		WEIGHT APPROX. (kg)
inch	mm		• Đ	• Ć	n-• h	T	H	• M	
2"	50	178	150	120.7	4-• 19	19.5	835	200	22
3"	80	203	190	152.4	4-• 19	24.3	990	200	36
4"	100	229	230	190.5	8-• 19	24.3	1050	250	52
6"	150	267	280	241.3	8-• 22	25.9	1220	300	85
8"	200	292	345	298.5	8-• 22	29	1490	355	132
10"	250	330	405	263	12-• 25	30.6	1710	400	182
12"	300	356	485	431.8	12-• 25	32.2	1950	450	264
14"	350	381	535	476.3	12-• 29	35.4	2250	500	418
16"	400	406	595	593.8	16-• 29	37	2465	560	594
18"	450	432	635	577.9	16-• 32	40.1	2705	560	803
20"	500	457	700	635	20-• 32	43.3	2910	630	935
24"	600	508	815	749.3	20-• 35	48.1	3310	630	1826
28"	700	610	927	863.6	28-• 35	71.4	3794	710	2290
30"	750	610	985	914.4	28-• 35	74.7	3994	710	2430
36"	900	711	1169	1085.9	32-• 42	90.4	4384	800	4550
40"	1000	762	1290	1200.2	36-• 42	90.5	4801	900	4860
42"	1050	813	1346	1257.3	36-• 42	96.8	4944	900	4910
48"	1200	864	1511	1422.4	44-• 42	110	5715	900	8310

CLASS 300LB (unit : mm)

SIZE		L	FLANGE				REFERENCE		WEIGHT APPROX. (kg)
inch	mm		• Đ	• Ć	n-• h	T	H	• M	
2"	50	216	165	127	8-• 19	22.7	869	200	28
3"	80	282	210	168.3	8-• 22	29	1007	250	47
4"	100	305	255	200	8-• 22	32.2	1071	250	52
6"	150	403	320	269.9	12-• 22	37	1247	355	145
8"	200	419	380	330.2	12-• 25	41.7	1519	400	184
10"	250	457	445	387.4	16-• 29	48.1	1722	450	243
12"	300	502	520	450.8	16-• 32	51.3	2052	500	406
14"	350	762	585	514.4	20-• 32	54.4	2448	560	608
16"	400	838	650	571.5	20-• 35	57.6	2612	630	956
18"	450	914	710	628.6	24-• 35	60.8	2791	630	1323
20"	500	991	775	685.8	24-• 35	64	3018	630	1495
24"	600	1143	915	812.8	24-• 41	70.3	3410	710	2221
28"	700	1346	1035	939.8	28-• 45	86	3962	710	3219
30"	750	1397	1092	997	28-• 48	92	4116	800	4129
36"	900	1727	1270	1168.4	32-• 54	104.7	4481	900	6049
40"	1000	1930	1238	1155.7	32-• 45	114.3	5021	900	6340
42"	1050	1981	1289	1206.5	32-• 45	119.1	5299	900	7010
48"	1200	2215	1469	1371.6	32-• 51	133.4	6312	900	9200

LNG Cryogenic Butt welding Type Globe Valve
CLASS 150LB and CLASS 300LB



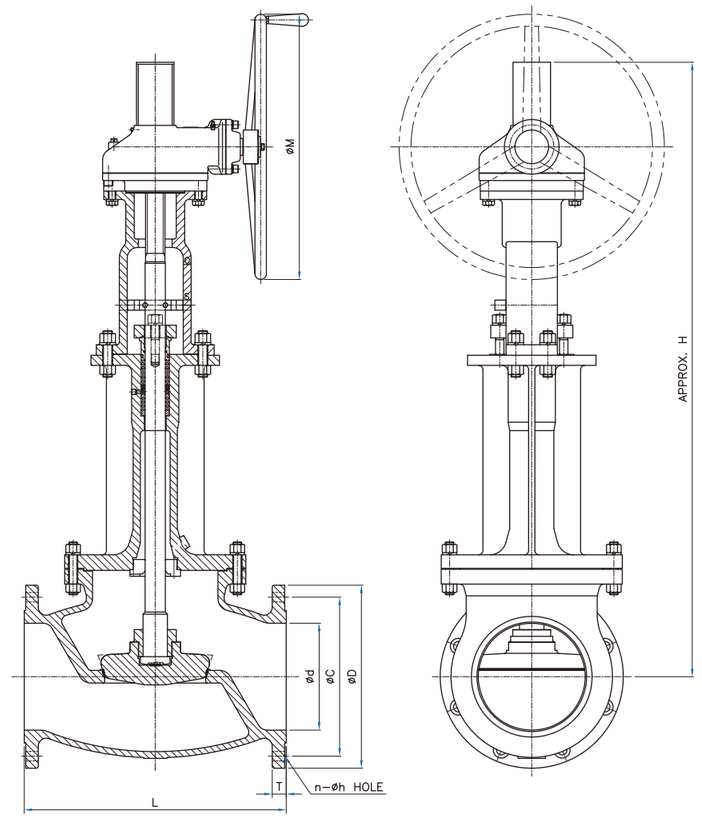
CLASS 150LB (unit : mm)

SIZE		L	REFERENCE		WEIGHT APPROX. (kg)
inch	mm		H	M	
2"	50	203	816	200	22
3"	80	241	963	250	43
4"	100	292	985	250	56
6"	150	406	1053	355	110
8"	200	495	1271	355	198
10"	250	622	1326	450	279
12"	300	698	1640	500	368
14"	350	787	2064	710	606
16"	400	914	2099	710	815
18"	450	978	2479	900	1386
20"	500	978	2699	900	1720
24"	600	1295	2942	900	1914

CLASS 300LB (unit : mm)

SIZE		L	REFERENCE		WEIGHT APPROX. (kg)
inch	mm		H	M	
2"	50	267	838	250	29
3"	80	318	988	250	55
4"	100	356	1035	355	79
6"	150	444	1215	450	166
8"	200	559	1363	560	236
10"	250	622	1709	710	469
12"	300	711	1913	900	701
14"	350	838	2301	900	943
16"	400	864	2339	900	1418
18"	450	978	2530	900	1794
20"	500	1016	2807	900	2226
24"	600	1346	2986	900	2477

LNG Cryogenic Flange Type Globe Valve
CLASS 150LB and CLASS 300LB



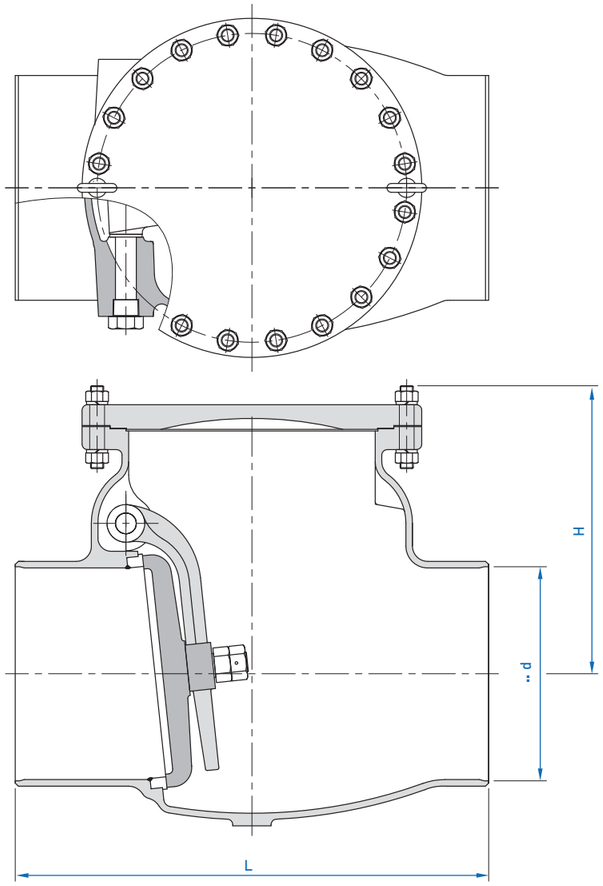
CLASS 150LB (unit : mm)

SIZE		L	FLANGE				REFERENCE		WEIGHT APPROX. (kg)
inch	mm		D	C	n-h	T	H	M	
2"	50	203	150	120.7	4- 19	19.5	816	200	26
3"	80	241	190	152.4	4- 19	24.3	963	250	50
4"	100	292	230	190.5	8- 19	24.3	985	250	71
6"	150	406	280	241.3	8- 22	25.9	1053	355	162
8"	200	495	345	298.5	8- 22	29.0	1271	355	230
10"	250	622	405	362.0	12- 25	30.6	1326	450	286
12"	300	698	485	431.8	12- 25	32.2	1640	500	398
14"	350	787	535	476.3	12- 29	35.4	2064	710	640
16"	400	914	595	539.8	16- 29	37.0	2099	710	858
18"	450	978	635	577.9	16- 32	40.1	2479	900	1479
20"	500	978	700	635.0	20- 32	43.3	2699	900	1811
24"	600	1295	815	749.3	20- 35	48.1	2942	900	2014

CLASS 300LB (unit : mm)

SIZE		L	FLANGE				REFERENCE		WEIGHT APPROX. (kg)
inch	mm		D	C	n-h	T	H	M	
2"	50	267	165	127.0	8- 19	22.7	838	250	35
3"	80	318	210	168.3	8- 22	29.0	988	250	65
4"	100	356	255	200.0	8- 22	32.2	1035	355	100
6"	150	444	320	269.9	12- 22	37.0	1215	450	194
8"	200	559	380	330.2	12- 25	41.7	1363	560	275
10"	250	622	445	387.4	16- 29	48.1	1709	710	501
12"	300	711	520	450.8	16- 32	51.3	1913	900	784
14"	350	838	585	514.4	20-32	54.4	2301	900	996
16"	400	864	650	571.5	20-35	57.6	2339	900	1496
18"	450	978	710	628.6	24-35	60.8	2530	900	1974
20"	500	1016	775	685.8	24-35	64.0	2807	900	2417
24"	600	1346	915	812.8	24-41	70.3	2986	900	2690

LNG Cryogenic Butt welding Type Swing Check Valve
CLASS 150LB and CLASS 300LB



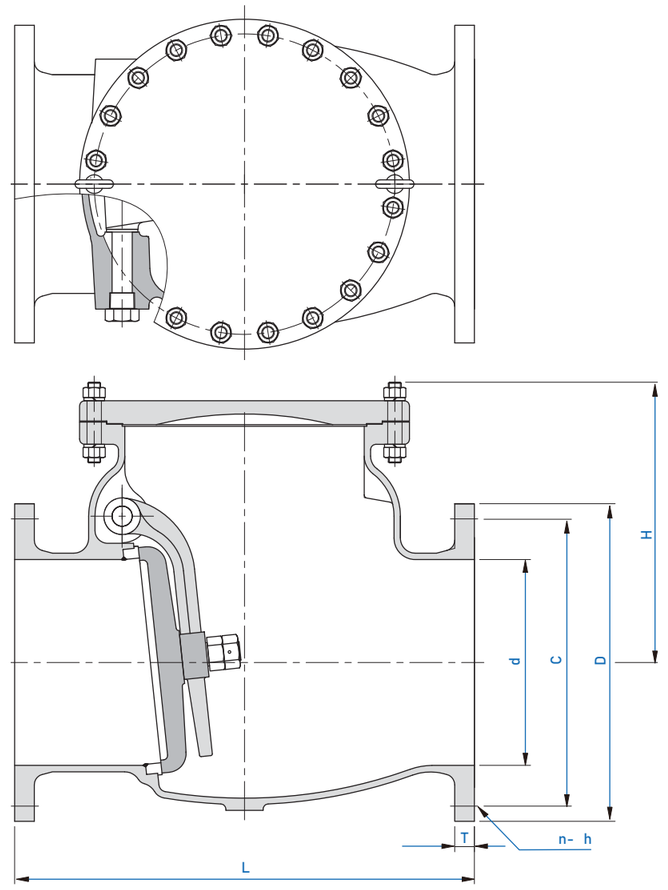
CLASS 150LB (unit : mm)

SIZE		L	REFERENCE	WEIGHT APPROX. (kg)
inch	mm		H	
2"	50	203	140	12
3"	80	241	170	22
4"	100	292	210	32
6"	150	356	250	62
8"	200	495	280	92
10"	250	622	320	201
12"	300	698	340	291
14"	350	787	395	356
16"	400	864	450	377
18"	450	978	530	638
20"	500	978	570	775
24"	600	1295	670	1022

CLASS 300LB (unit : mm)

SIZE		L	REFERENCE	WEIGHT APPROX. (kg)
inch	mm		H	
2"	50	267	160	18
3"	80	318	185	33
4"	100	356	230	48
6"	150	444	295	104
8"	200	533	345	171
10"	250	622	390	196
12"	300	711	445	390
14"	350	838	470	545
16"	400	864	510	522
18"	450	978	545	797
20"	500	1016	600	936
24"	600	1346	690	1517

LNG Cryogenic Flange Type Swing Check Valve
CLASS 150LB and CLASS 300LB



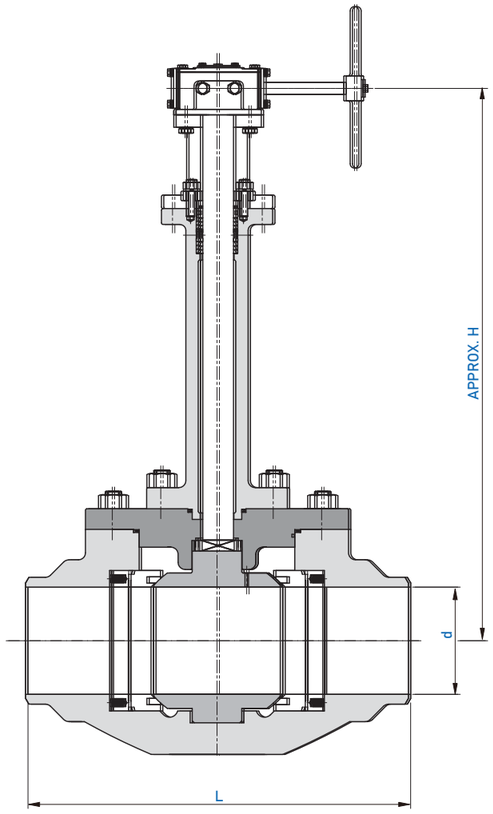
CLASS 150LB (unit : mm)

SIZE		L	FLANGE				REFERENCE	WEIGHT APPROX. (kg)
inch	mm		D	C	n-h	T	H	
2"	50	203	150	120.7	4-19	19.5	140	16
3"	80	241	190	152.4	4-19	24.3	170	30
4"	100	292	230	190.5	8-19	24.3	210	44
6"	150	356	280	241.3	8-22	25.9	250	78
8"	200	495	345	298.5	8-22	29.0	280	118
10"	250	622	405	362.0	12-25	30.6	320	236
12"	300	698	485	431.8	12-25	32.2	340	344
14"	350	787	535	476.3	12-29	35.4	395	422
16"	400	864	595	539.8	16-29	37.0	450	524
18"	450	978	635	577.9	16-32	40.1	530	729
20"	500	978	700	635.0	20-32	43.3	570	893
24"	600	1295	815	749.3	20-35	48.1	670	1187

CLASS 300LB (unit : mm)

SIZE		L	FLANGE				REFERENCE	WEIGHT APPROX. (kg)
inch	mm		D	C	n-h	T	H	
2"	50	267	165	127.0	8-19	22.7	160	24
3"	80	318	210	168.3	8-22	29.0	185	45
4"	100	356	255	200.0	8-22	32.2	230	68
6"	150	444	320	269.9	12- 22	37.0	295	137
8"	200	533	380	330.2	12- 25	41.7	345	220
10"	250	622	445	387.4	16- 29	48.1	390	270
12"	300	711	520	450.8	16- 32	51.3	445	495
14"	350	838	585	514.4	20-32	54.4	470	680
16"	400	864	650	571.5	20-35	57.6	510	796
18"	450	978	710	628.6	24-35	60.8	545	1004
20"	500	1016	775	685.8	24-35	64.0	600	1190
24"	600	1346	915	812.8	24-41	70.3	690	1896

LNG Cryogenic Butt welding Type Ball Valve
CLASS 150LB and CLASS 300LB



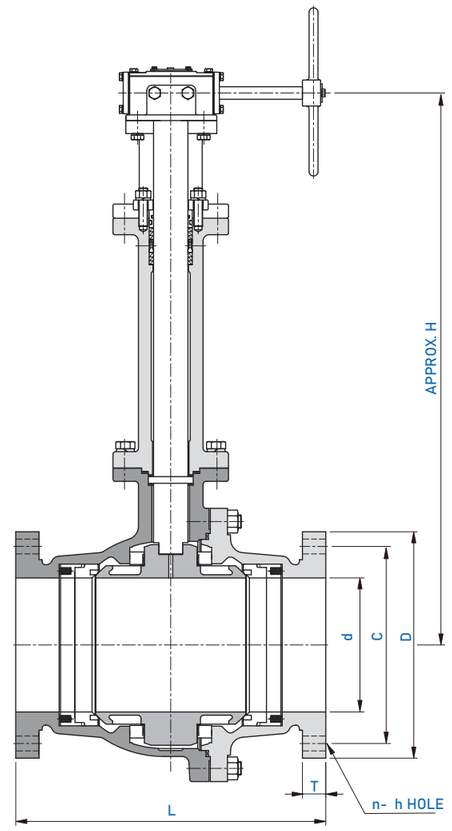
CLASS 150LB (unit : mm)

SIZE		d	L	REFERENCE	WEIGHT APPROX
inch	mm			H	(kg)
2"	50	50	292	750	34
3"	80	76	356	850	70
4"	100	100	432	850	112
6"	150	152	559	870	232
8"	200	203	660	900	424
10"	250	254	787	950	605
12"	300	305	838	1000	825
14"	350	337	889	1150	1025
16"	400	387	991	1150	1394
18"	450	438	1092	1250	1912
20"	500	489	1194	1300	2477
24"	600	591	1397	1400	3894
26"	650	635	1448	1450	4508
28"	700	686	1549	1460	5684
30"	750	737	1651	1500	6863
32"	800	781	1778	1520	8372
36"	850	876	2083	1610	10905
40"	1000	978	2310	1700	14596
42"	1050	1028	2430	1890	16676
48"	1200	1168	2720	1990	26213
56"	1400	1362	3170	2330	34077
60"	1500	1460	3350	2400	44300

CLASS 300LB (unit : mm)

SIZE		d	L	REFERENCE	WEIGHT APPROX
inch	mm			H	(kg)
2"	50	50	292	750	43
3"	80	76	356	850	77
4"	100	100	432	850	127
6"	150	152	559	870	267
8"	200	203	660	900	480
10"	250	254	787	950	666
12"	300	305	838	1000	898
14"	350	337	889	1150	1102
16"	400	387	991	1150	1533
18"	450	438	1092	1250	2103
20"	500	489	1194	1300	2714
24"	600	591	1397	1400	4347
26"	650	635	1448	1450	5135
28"	700	686	1549	1460	6285
30"	750	737	1651	1500	7601
32"	800	781	1778	1520	9400
36"	850	876	2083	1610	12265
40"	1000	978	2310	1700	16398
42"	1050	1028	2430	1890	19161
48"	1200	1168	2720	1990	29279
56"	1400	1362	3170	2330	38062
60"	1500	1460	3350	2400	49480

LNG Cryogenic Butt welding Type Ball Valve
CLASS 150LB and CLASS 300LB



CLASS 150LB (unit : mm)

SIZE		d	L	FLANGE				REFERENCE	WEIGHT APPROX
inch	mm			D	C	n- h	T	H	(kg)
2"	50	50	178	150	120.7	4- 19	16.3	750	32
3"	80	76	203	190	152.4	4- 19	19.5	850	50
4"	100	100	229	230	190.5	8- 22	24.3	850	74
6"	150	152	394	280	241.3	8- 22	25.9	870	158
8"	200	203	457	345	298.5	8- 22	29	900	259
10"	250	254	533	405	362	12- 25	30.6	950	383
12"	300	305	610	485	431.8	12- 25	32.2	1000	526
14"	350	337	686	535	476.3	12- 29	35.4	1150	724
16"	400	387	762	595	539.8	16- 29	37	1150	1032
18"	450	438	864	635	577.9	16- 32	40.1	1250	1337
20"	500	489	914	700	635	20- 32	43.3	1300	1794
24"	600	591	1067	815	749.3	20- 35	48.1	1400	2779
26"	650	635	1140	870	806.4	24- 35	66.7	1450	3197
28"	700	686	1240	925	863.6	28- 35	69.9	1460	3883
30"	750	737	1290	985	914.4	28- 35	73.1	1500	4698
32"	800	781	1370	1060	977.9	28- 41	79.4	1520	5215
36"	850	876	1520	1170	1085.8	32- 41	88.9	1610	8248
40"	1000	978	1700	1290	1200.2	36- 41	88.9	1700	12379
42"	1050	1028	1860	1345	1257.3	36- 41	95.3	1890	14365
48"	1200	1168	2080	1510	1422.4	44- 41	106.4	1990	22045
56"	1400	1362	2250	1745	1651	48- 48	122.3	2330	28658
60"	1500	1460	2400	1855	1759	52- 48	130.2	2400	37256

CLASS 300LB (unit : mm)

SIZE		d	L	FLANGE				REFERENCE	WEIGHT APPROX
inch	mm			D	C	n- h	T	H	(kg)
2"	50	50	216	165	127	8- 19	22.7	750	36
3"	80	76	283	210	168.3	8- 22	29	850	60
4"	100	100	305	255	200	8- 22	32.2	850	80
6"	150	152	457	320	269.9	8- 22	37	870	179
8"	200	203	502	380	330.2	12- 22	41.7	900	293
10"	250	254	568	445	387.4	16- 29	48.1	950	438
12"	300	305	648	520	450.8	16- 32	51.2	1000	643
14"	350	337	762	585	514.4	20- 32	54.4	1150	863
16"	400	387	838	650	571.5	20- 35	57.6	1150	1288
18"	450	438	914	710	628.6	24- 35	60.8	1250	1651
20"	500	489	991	775	685.8	24- 35	63.9	1300	2135
24"	600	591	1143	915	812.8	24- 41	70.3	1400	3266
26"	650	635	1245	970	876.3	28- 45	77.8	1450	3964
28"	700	686	1346	1035	939.8	28- 45	84.2	1460	4736
30"	750	737	1397	1090	997	28- 48	90.5	1500	5574
32"	800	781	1524	1150	1054.1	28- 51	96.9	1520	6175
36"	850	876	1727	1270	1168.4	32- 54	103.2	1610	11360
40"	1000	978	1910	1240	1155.7	32- 45	112.8	1700	13168
42"	1050	1028	1970	1290	1206.5	32- 45	117.5	1890	15408
48"	1200	1168	2160	1465	1371.6	32- 51	131.8	1990	23980
56"	1400	1362	2450	1710	1600.2	28- 61	152.4	2330	31172
60"	1500	1460	2590	1810	1701.8	32- 61	162	2400	40525