



— Edmund —

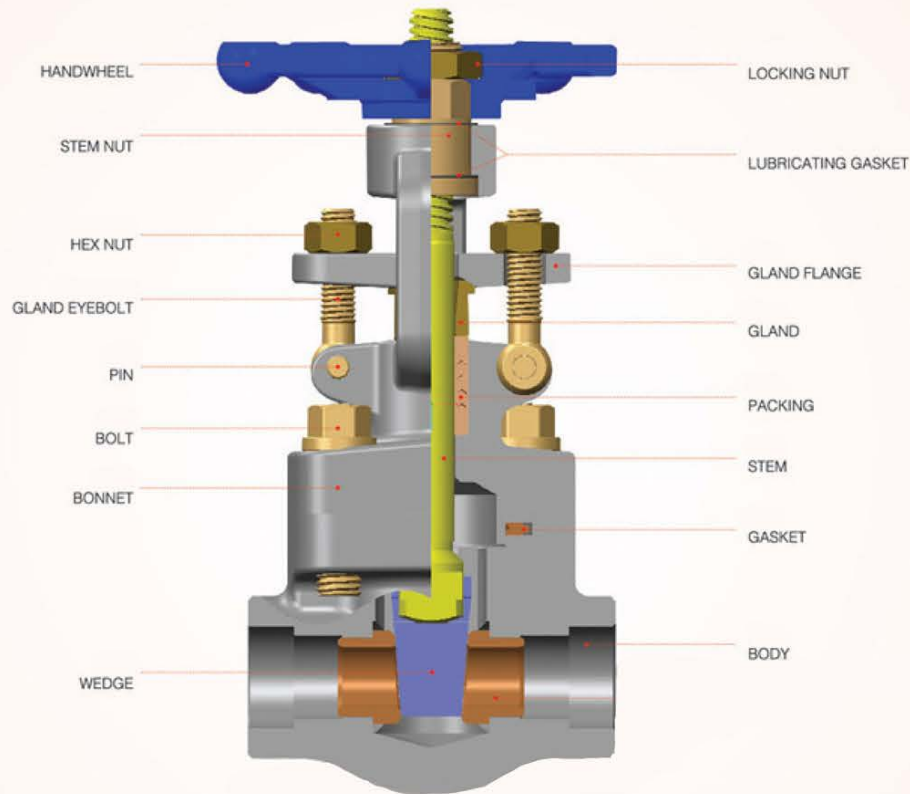
# FORGED STEEL VALVES



Edmund



## Gate Valve



forged steel gate valve is available in three kinds of bonnet design:

- (1) Bolted Bonnet: The body and bonnet is connected by bolts with spiral wound gasket (304+graphite) or metal rings sealed;
- (2) Welded Bonnet: The body and bonnet is screwed and sealed by welding;
- (3) Pressure Sealed Bonnet: The body and bonnet is screwed and sealed by inside pressure self-sealed ring.

### FORGED STEEL GATE VALVE – Outside Screw & Yoke, Bolted Bonnet



#### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE①
BONNET	NOTE①
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: ① A105; LF2; F5; F11; F22; F304(L); F316(L); F347; F321; F51; F55; Inconel; Monel; Hastelloy; etc.

#### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34/B16.11/B1.20.1/B16.25
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 150LB ~ 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Outside Screw & Yoke, Bolted Bonnet ★ Reduce Bore / Full Bore
  - ★ Rising Stem / Non-Rising Handwheel



#### PRESSURE TEST (A105)

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
	WATER	WATER	AIR	WATER
150LB	450	325	90	--
300LB	1125	825		--
600LB	2225	1650		--
800LB	2975	2175		--
900LB	3350	2450		--
1500LB	5575	4100	--	--

### FORGED STEEL GATE VALVE – Outside Screw & Yoke, Welded Bonnet



#### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE①
BONNET	NOTE①
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: ① A105; LF2; F5; F11; F22; F304(L); F316(L); F347; F321; F51; F55; Inconel; Monel; Hastelloy; etc.

#### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34/B16.11/B1.20.1/B16.25
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 150LB ~ 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Outside Screw & Yoke, Welded Bonnet ★ Reduce Bore / Full Bore
  - ★ Rising Stem / Non-Rising Handwheel



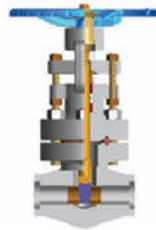
#### PRESSURE TEST (A105)

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
	WATER	WATER	AIR	WATER
150LB	450	325	90	--
300LB	1125	825		--
600LB	2225	1650		--
800LB	2975	2175		--
900LB	3350	2450		--
1500LB	5575	4100	--	--
2500LB	9275	6800	--	6800

## FORGED STEEL GATE VALVE – Outside Screw & Yoke, Bolted Bonnet

STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
R-RING	304 SS
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105; LF2; F5; F11; F22; F304(L); F316(L); F347; F321; F51; F55; Inconel; Monel; Hastelloy; etc.



PRESSURE TEST (A105)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
	WATER	WATER	AIR	WATER
1500LB	5575	4100	90	-
2500LB	9275	6800	-	6800

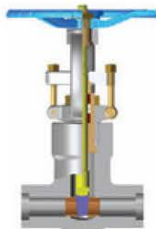
### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34/B16.11/B1.20.1/B16.25
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 1500LB ~ 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket–Welded or Butt–Welded
  - ★ Outside Screw & Yoke, Bolted Bonnet ★ Reduce Bore / Full Bore
  - ★ Rising Stem / Non–Rising Handwheel

## FORGED STEEL GATE VALVE – Outside Screw & Yoke, Pressure–Seal Bonnet

STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
P.S SEAT	304 SS
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105; LF2; F5; F11; F22; F304(L); F316(L); F347; F321; F51; F55; Inconel; Monel; Hastelloy; etc.



PRESSURE TEST (A105)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
	WATER	WATER	AIR	WATER
1500LB	5575	4100	90	-
2500LB	9275	6800	-	6800

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34/B16.11/B1.20.1/B16.25
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 1500LB ~ 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket–Welded or Butt–Welded
  - ★ Outside Screw & Yoke, Pressure–Seal Bonnet
  - ★ Reduce Bore / Full Bore
  - ★ Rising Stem / Non–Rising Handwheel

## FORGED STEEL FLANGED GATE VALVE – Outside Screw & Yoke, Bolted Bonnet

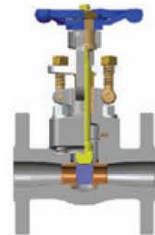
STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105; LF2; F5; F11; F22; F304(L); F316(L); F347; F321; F51; F55; Inconel; Monel; Hastelloy; etc.



### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34/B16.5
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 150LB ~ 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Outside Screw & Yoke, Bolted Bonnet ★ Reduce Bore
  - ★ Rising Stem / Non–Rising Handwheel



PRESSURE TEST (A105)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
	WATER	WATER	AIR	WATER
150LB	450	325	90	-
300LB	1125	825		-
600LB	2225	1650		-
800LB	2975	2175		-
900LB	3350	2450		-
1500LB	5575	4100		-

## FORGED STEEL FLANGED GATE VALVE – Outside Screw & Yoke, Bolted Bonnet

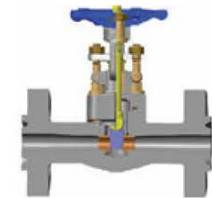
STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105; LF2; F5; F11; F22; F304(L); F316(L); F347; F321; F51; F55; Inconel; Monel; Hastelloy; etc.



### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34/B16.5
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 150LB ~ 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Outside Screw & Yoke, Bolted Bonnet ★ Reduce Bore
  - ★ Rising Stem / Non–Rising Handwheel



PRESSURE TEST (A105)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
	WATER	WATER	AIR	WATER
150LB	450	325	90	-
300LB	1125	825		-
600LB	2225	1650		-
800LB	2975	2175		-
900LB	3350	2450		-
1500LB	5575	4100		-

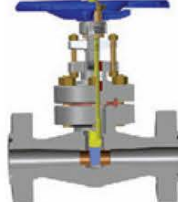
## FORGED STEEL FLANGED GATE VALVE – Outside Screw & Yoke, Bolted Bonnet



### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE:①
BONNET	NOTE:①
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
R-RING	304 SS
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: ① A105; LF2; F5; F11; F22; F304(L); F316(L); F347; F321; F51; F55; Inconel; Monel; Hastelloy, etc.



### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34/B16.5
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 1500LB ~ 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Outside Screw & Yoke, Bolted Bonnet
  - ★ Reduce Bore
  - ★ Rising Stem / Non-Rising Handwheel

PRESSURE TEST (A105)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
	WATER	WATER	AIR	WATER
1500LB	5575	4100	90	–
2500LB	9275	6800	–	6800

## FORGED STEEL FLANGED CRYOGENIC GATE VALVE – Outside Screw & Yoke, Bolted Bonnet



### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE:①
BONNET	NOTE:①
SEAT	ASTM A276 304(L)/316(L)+HF
WEDGE	ASTM A276 304(L)/316(L)
STEM	ASTM A276 304(L)/316(L)
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 304(L)/316(L)

NOTE: ① F304(L); F316(L).



### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS6364, MSS SP-134, ASME B16.34/B16.5
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 150LB ~ 1500LB
- (4) Temperature Rating: Down to –196°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Long Extended Bonnet
  - ★ Actuator: Handwheel
  - ★ Pressure Relief Design (Pressure Balance Design)
  - ★ Fire Safety / Anti-static Design
  - ★ Non-Rising Handwheel

## FORGED STEEL CRYOGENIC GATE VALVE – Outside Screw & Yoke, Bolted Bonnet



### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE:①
BONNET	NOTE:①
SEAT	ASTM A276 304(L)/316(L)+HF
WEDGE	ASTM A276 304(L)/316(L)
STEM	ASTM A276 304(L)/316(L)
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 304(L)/316(L)

NOTE: ① F304(L); F316(L).



### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS6364, MSS SP-134, ASME B16.34/B16.11/B1.20.1/B16.25
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 150LB ~ 1500LB
- (4) Temperature Rating: Down to –196°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Long Extended Bonnet
  - ★ Actuator: Handwheel
  - ★ Pressure Relief Design (Pressure Balance Design)
  - ★ Fire Safety / Anti-static Design
  - ★ Non-Rising Handwheel

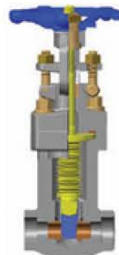
## FORGED STEEL BELLOWS GATE VALVE – Outside Screw & Yoke, Bolted Bonnet



### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE:①
BONNET	NOTE:①
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410
BELLOWS	ASTM A240 316

NOTE: ① A105; LF2; F5; F11; F22; F304(L); F316(L); F347; F321; F51; F55; Inconel; Monel; Hastelloy, etc.



### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, MSS-SP 117, ASME B16.34/B16.11/B1.20.1/B16.25
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 150LB ~ 800LB
- (4) Temperature Rating: Up to 500°C (5) Bellows Test Pressure: 80 psig
- (6) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Outside Screw & Yoke, Bolted Bonnet
  - ★ Reduce Bore
  - ★ Rising Stem / Non-Rising Handwheel



## FORGED STEEL BELLOWS GATE VALVE – Outside Screw & Yoke, Bolted Bonnet

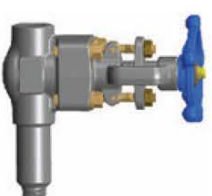
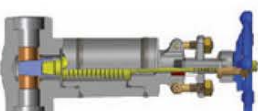


STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410
BELLOWS	ASTM A240 316

NOTE: (1) A106, LF2, F5, F11, F22, F304L, F316L, F347, F321, F51, F56, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, MSS-SP 117, ASME B16.34B16.11B1.20.1B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 800LB
- (4) Temperature Rating: Up to 500°C (5) Bellows Test Pressure: 80 psig
- (6) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Outside Screw & Yoke, Bolted Bonnet ★ Rising Stem / Non-Rising Handwheel

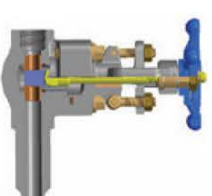


STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A106, LF2, F5, F11, F22, F304L, F316L, F347, F321, F51, F56, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, API 606, ASME B16.34B16.11B1.20.1
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 800LB – 1500LB
- (4) Temperature Rating: Up to 500°C (5) 溫度等級: Temperature Rating: Up to 500°C
- (6) Structure Features:
  - ★ End Connection: Threaded or Socket-Welded Type ★ Outside Screw & Yoke, Bolted Bonnet
  - ★ Reduce Bore / Full Bore ★ Rising Stem / Non-Rising Handwheel

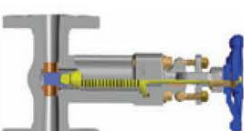


## FORGED STEEL FLANGED BELLOWS GATE VALVE – Outside Screw & Yoke, Bolted Bonnet



STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410
BELLOWS	ASTM A240 316

NOTE: (1) A106, LF2, F5, F11, F22, F304L, F316L, F347, F321, F51, F56, Inconel, Monel, Hastelloy, etc.



### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, MSS-SP 117, ASME B16.34B16.5
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 600LB
- (4) Temperature Rating: Up to 500°C (5) Bellows Test Pressure: 80 psig
- (6) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Outside Screw & Yoke, Bolted Bonnet ★ Rising Stem / Non-Rising Handwheel

## FORGED STEEL RELEASING MEDIA VALVE – Outside Screw & Yoke, Bolted Bonnet

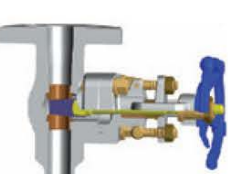


STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

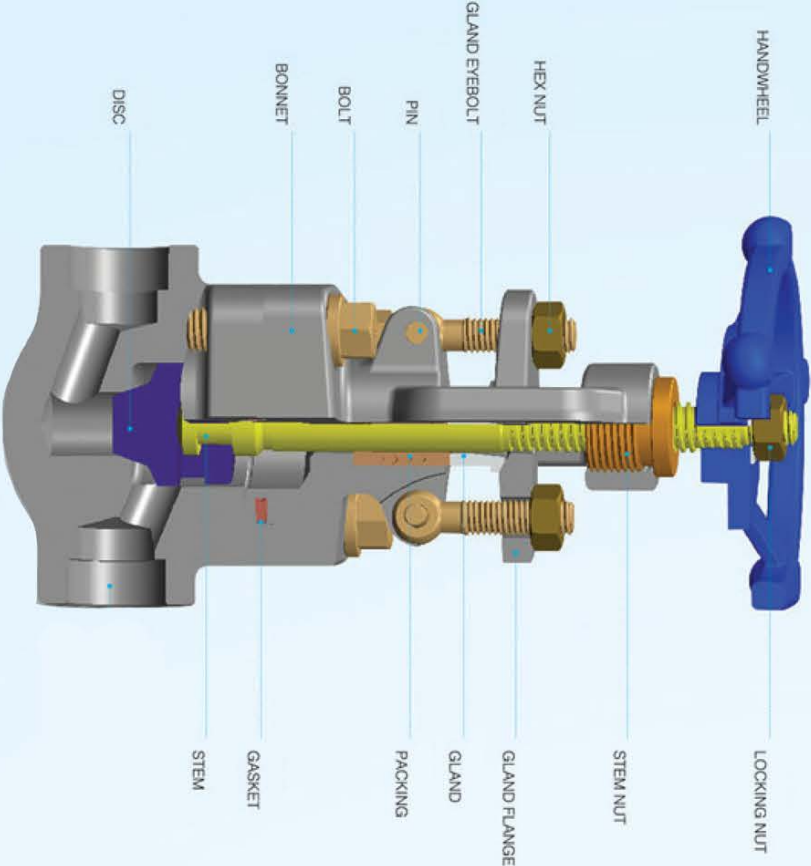
NOTE: (1) A106, LF2, F5, F11, F22, F304L, F316L, F347, F321, F51, F56, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, ASME B16.34B16.11B1.20.1B16.5
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 800LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (6) Structure Features:
  - ★ End Connection: Threaded or Socket-Welded Type ★ Butt-Welded or Flanged Type
  - ★ Outside Screw & Yoke, Bolted Bonnet ★ Reduce Bore / Full Bore
  - ★ Rising Stem / Non-Rising Handwheel



Globe Valve



forged steel globe valve is available in three kinds of bonnet design:

- (1) Bolted Bonnet: The body and bonnet is connected by bolts with spiral wound gasket (304+graphite) or metal rings sealed.
- (2) Welded Bonnet: The body and bonnet is screwed and sealed by welding.
- (3) Pressure Sealed Bonnet: The body and bonnet is screwed and sealed by inside pressure self-sealed ring.

FORGED STEEL GLOBE VALVE – Outside Screw & Yoke, Bolted Bonnet



STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTED
BONNET	NOTED
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105, LF2, F5, F11, F22, F304L, F316L, F347, F321, F51, F56; Inconel, Monel, Hastelloy, etc.

SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34B16.11B1.20, 16B16.25
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Outside Screw & Yoke, Bolted Bonnet
  - ★ Reduced Bore / Full Bore
  - ★ Non-Rising Stem / Rising Handwheel

FORGED STEEL GLOBE VALVE – Outside Screw & Yoke, Welded Bonnet

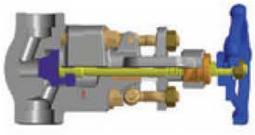


STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTED
BONNET	NOTED
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

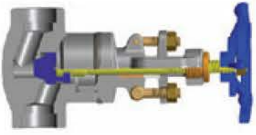
NOTE: (1) A105, LF2, F5, F11, F22, F304L, F316L, F347, F321, F51, F56; Inconel, Monel, Hastelloy, etc.

SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34B16.11B1.20, 16B16.25
- (2) Valve Size: 1/2"–4" (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Outside Screw & Yoke, Welded Bonnet
  - ★ Reduced Bore / Full Bore
  - ★ Non-Rising Stem / Rising Handwheel



PRESSURE TEST (A105)				
CLASS	SHELL (psi/g)	BACKSEAT (psi/g)	SEAT (psi/g)	
150LB	WATER	WATER	AIR	WATER
	450	325		325
300LB	1125	825		825
	2225	1650		1650
800LB	2975	2175		2175
	3350	2450		2450
1500LB	5575	4100		4100



PRESSURE TEST (A105)				
CLASS	SHELL (psi/g)	BACKSEAT (psi/g)	SEAT (psi/g)	
150LB	WATER	WATER	AIR	WATER
	450	325		325
300LB	1125	825		825
	2225	1650		1650
800LB	2975	2175		2175
	3350	2450		2450
1500LB	5575	4100		4100
	9275	6800		6800

## FORGED STEEL Y--GLOBE VALVE – Outside Screw & Yoke, Bolted Bonnet

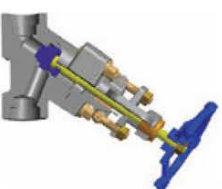
### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105, LP2, F5, F11, F22, F304LU, F316LU, F347, F321, F91, F56;  
Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34B16, 11B1.20, 1B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Bolt-Welded
  - ★ Outside Screw & Yoke, Bolted Bonnet
  - ★ Reduce Bore / Full Bore
  - ★ Non-Rising Stem / Rising Handwheel



PRESSURE TEST (A105)			
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)

150LB	450	325	325
300LB	1125	825	825
600LB	2225	1650	1650
800LB	2975	2175	2175
900LB	3350	2450	2450
1500LB	5575	4100	4100

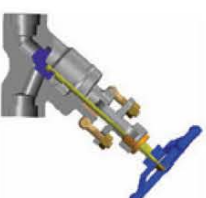
### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105, LP2, F5, F11, F22, F304LU, F316LU, F347, F321, F91, F56;  
Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34B16, 11B1.20, 1B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Bolt-Welded
  - ★ Outside Screw & Yoke, Bolted Bonnet
  - ★ Reduce Bore / Full Bore
  - ★ Non-Rising Stem / Rising Handwheel



PRESSURE TEST (A105)			
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)

150LB	450	325	325
300LB	1125	825	825
600LB	2225	1650	1650
800LB	2975	2175	2175
900LB	3350	2450	2450
1500LB	5575	4100	4100
2500LB	9275	6900	6900

## FORGED STEEL GLOBE VALVE – Outside Screw & Yoke, Bolted Bonnet

### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
R-RING	304SS
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105, LP2, F5, F11, F22, F304LU, F316LU, F347, F321, F91, F56;  
Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34B16, 11B1.20, 1B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 1500LB – 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Bolt-Welded
  - ★ Outside Screw & Yoke, Bolted Bonnet
  - ★ Reduce Bore / Full Bore
  - ★ Non-Rising Stem / Rising Handwheel



PRESSURE TEST (A105)			
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)

1500LB	5575	4100	4100
2500LB	9275	6900	6900

### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
P.S SEAT	304SS
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105, LP2, F5, F11, F22, F304LU, F316LU, F347, F321, F91, F56;  
Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34B16, 11B1.20, 1B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 1500LB – 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Bolt-Welded
  - ★ Outside Screw & Yoke, Pressure-Seal Bonnet
  - ★ Reduce Bore / Full Bore
  - ★ Non-Rising Stem / Rising Handwheel



PRESSURE TEST (A105)			
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)

1500LB	5575	4100	4100
2500LB	9275	6900	6900



# FORGED STEEL FLANGED GLOBE VALVE – Outside Screw & Yoke, Bolted Bonnet

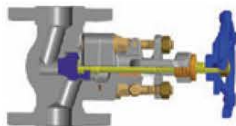


PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105, LP2, F5, F11, F22, F304L, F316L, F347, F321, F51, F55, Inconel, Monel, Hastelloy, etc.

## SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS352, ASME B16.34B16.5
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB ~ 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Outside Screw & Yoke, Bolted Bonnet
  - ★ Reduce Bore
  - ★ Non-Rising Stem / Rising Handwheel



PRESSURE TEST (A105)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
150LB	450	325	325	325
300LB	1125	825	825	825
600LB	2225	1650	-	1650
900LB	2975	2175	-	2175
1500LB	5575	4100	-	4100

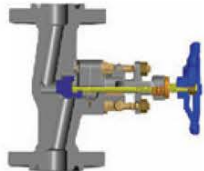


PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
GLAND PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105, LP2, F5, F11, F22, F304L, F316L, F347, F321, F51, F55, Inconel, Monel, Hastelloy, etc.

## SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS352, ASME B16.34B16.5
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB ~ 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Outside Screw & Yoke, Bolted Bonnet
  - ★ Reduce Bore
  - ★ Non-Rising Stem / Rising Handwheel



PRESSURE TEST (A105)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
150LB	450	325	325	325
300LB	1125	825	825	825
600LB	2225	1650	-	1650
900LB	2975	2175	-	2175
1500LB	5575	4100	-	4100

# FORGED STEEL FLANGED GLOBE VALVE – Outside Screw & Yoke, Bolted Bonnet

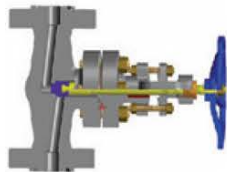


PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
R-RING	304SS
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410

NOTE: (1) A105, LP2, F5, F11, F22, F304L, F316L, F347, F321, F51, F55, Inconel, Monel, Hastelloy, etc.

## SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS352, ASME B16.34B16.5
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 1500LB ~ 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Outside Screw & Yoke, Bolted Bonnet
  - ★ Reduce Bore
  - ★ Non-Rising Stem / Rising Handwheel



PRESSURE TEST (A105)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
1500LB	5575	4100	-	4100
2500LB	9275	6800	-	6800



PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 304L/J316L+HF
DISC	ASTM A276 304L/J316L
STEM	ASTM A276 304L/J316L
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 304L/J316L

NOTE: (1) F304L, F316L

## SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS352, MSS SP-134, ASME B16.34B16.11B1.20, 1B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 1500LB ~ 1500LB
- (4) Temperature Rating: Down to –196°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Long Extended Bonnet
  - ★ Actuator: Handwheel
  - ★ Pressure Relief Design (Pressure Balance Design)
  - ★ Fire Safety / Anti-static Design
  - ★ Rising Handwheel



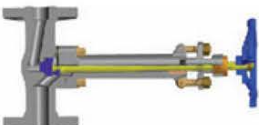


## FORGED STEEL FLANGED CRYOGENIC GLOBE VALVE – Outside Screw & Yoke, Bolted Bonnet



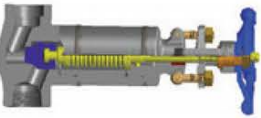
PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 304(L)/316(L)+HF
DISC	ASTM A276 304(L)/316(L)
STEM	ASTM A276 304(L)/316(L)
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 304(L)/316(L)

NOTE (1) F304(L), F316(L)



PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410
BELLOWS	ASTM A240 316

NOTE (1) A105, LF2, F5, F11, F22, F304(L), F316(L), F347, F321, F56, Inconel, Monel, Hastelloy, etc.



### SPECIFICATIONS

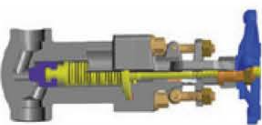
- (1) Design & Manufacture Conform to: API 602, BS6394, MSS-SP-134, ASME B16.34B16.5
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Down to – 196°C
- (5) Structure Features:
- (6) End Connection: Flanged Type
  - ★ End Connection: Flanged Type
  - ★ Long Extended Bonnet
  - ★ Actuator: Handwheel
  - ★ Pressure Relief Design (Pressure Balance Design)
  - ★ Free Safety / Anti-static Design
  - ★ Ringing Handwheel

## FORGED STEEL BELLOWS GLOBE VALVE – Outside Screw & Yoke, Bolted Bonnet



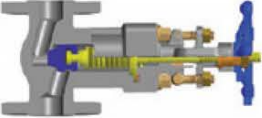
PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410
BELLOWS	ASTM A240 316

NOTE (1) A105, LF2, F5, F11, F22, F304(L), F316(L), F347, F321, F56, Inconel, Monel, Hastelloy, etc.



PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
WEDGE	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	304+GRAPHITE
GLAND	ASTM A276 410
BELLOWS	ASTM A240 316

NOTE (1) A105, LF2, F5, F11, F22, F304(L), F316(L), F347, F321, F56, Inconel, Monel, Hastelloy, etc.



### SPECIFICATIONS

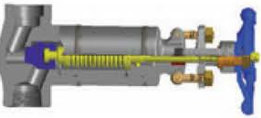
- (1) Design & Manufacture Conform to: API 602, MSS-SP 117, ASME B16.34B16.11B1.20, 1/8B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 800LB
- (4) Temperature Rating: Up to 500°C
- (5) Bellows Test Pressure: 80 psig
- (6) Structure Features:
- ★ End Connection: Threaded, Socket-Welded or Butt-Welded
- ★ Outside Screw & Yoke, Bolted Bonnet
- ★ Reduce Bore
- ★ Ringing Stem / Non-Ringing Handwheel

## FORGED STEEL BELLOWS GLOBE VALVE – Outside Screw & Yoke, Welded Bonnet



PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
STEM	ASTM A276 410
GASKET	304+GRAPHITE
HANDWHEEL	ASTM A197
PACKING	GRAPHITE
GLAND	ASTM A276 410
BELLOWS	ASTM A240 316

NOTE (1) A105, LF2, F5, F11, F22, F304(L), F316(L), F347, F321, F56, Inconel, Monel, Hastelloy, etc.

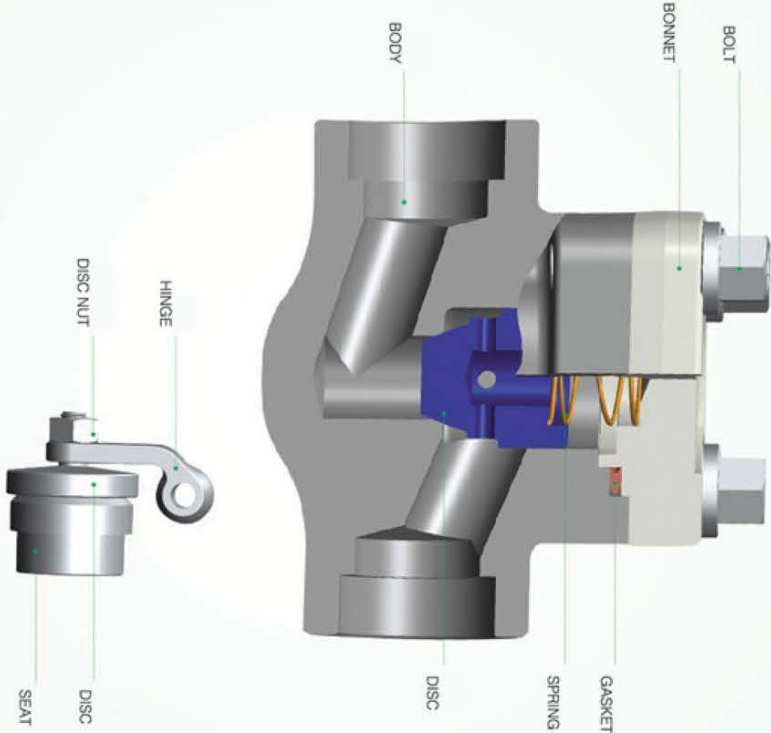


### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, MSS-SP 117, ASME B16.34B16.11B1.20, 1/8B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 800LB
- (4) Temperature Rating: Up to 500°C
- (5) Bellows Test Pressure: 80 psig
- (6) Structure Features:
- ★ End Connection: Threaded, Socket-Welded or Butt-Welded
- ★ Outside Screw & Yoke, Welded Bonnet
- ★ Reduce Bore
- ★ Ringing Stem / Non-Ringing Handwheel

## FORGED STEEL FLANGED BELLOWS GLOBE VALVE – Outside Screw & Yoke, Bolted Bonnet

Check Valve



- Forged steel check valve is available in three kinds of bonnet designs:
- (1) Bolted Bonnet: The body and bonnet is connected by bolts with spiral wound gasket (304+graphite) or metal rings sealed Metal ring connected is available on customer's request;
  - (2) Welded Bonnet: The body and bonnet is screwed and sealed by welding;
  - (3) Pressure Sealed Bonnet: The body and bonnet is screwed and sealed by inside pressure self-sealed ring.
- The check valves are designed with three different kinds of structure. They are Lift Check Valve, Ball Check Valve and Swing Check Valve.

FORGED STEEL LIFT CHECK VALVE – Bolted Cover



STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTE①
BONNET	NOTE①
SEAT	ASTM A105+HF
DISC	ASTM A276 420
GASKET	304+GPRAPHITE
COVER BOLT	ASTM A193 B7

NOTE: ① A105, LP2, F5, F11; F22, F304LU, F316LU, F347, F321, F51, F55; Inconel, Monel, Hastelloy, etc.

SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS332, ASME B16.34B16.11B1.20, 1B16.25
- (2) Valve Size: 1/2"-4"
- (3) Applicable Rating: Class 150LB ~ 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Reduce Bore / Full Bore
  - ★ Bolted Cover

FORGED STEEL LIFT CHECK VALVE – Welded Cover

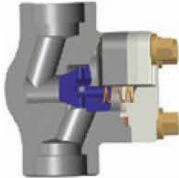


STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTE①
BONNET	NOTE①
SEAT	ASTM A105+HF
DISC	ASTM A276 420

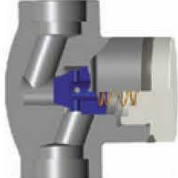
NOTE: ① A105, LP2, F5, F11; F22, F304LU, F316LU, F347, F321, F51, F55; Inconel, Monel, Hastelloy, etc.

SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS332, ASME B16.34B16.11B1.20, 1B16.25
- (2) Valve Size: 1/2"-4"
- (3) Applicable Rating: Class 150LB ~ 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Welded Cover
  - ★ Reduce Bore / Full Bore



PRESSURE TEST (AT105)				
CLASS	SHELL (psi)	BACKSEAT (psi)	SEAT (psi)	
150LB	450		WATER	325
300LB	1125		AIR	625
600LB	2225		WATER	1650
800LB	2975		AIR	2175
900LB	3350		WATER	2450
1500LB	5575		AIR	4100



PRESSURE TEST (AT105)				
CLASS	SHELL (psi)	BACKSEAT (psi)	SEAT (psi)	
150LB	450		WATER	325
300LB	1125		AIR	625
600LB	2225		WATER	1650
800LB	2975		AIR	2175
900LB	3350		WATER	2450
1500LB	5575		AIR	4100
2500LB	9275		WATER	6900



## FORGED STEEL LIFT CHECK VALVE – Pressure-Seal Cover



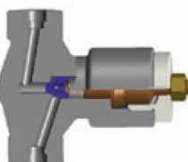
### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE①
BONNET	NOTE①
SEAT	ASTM A105+HF
DISC	ASTM A276 420
P.S SEAT	304SS

NOTE ① A105, LF2, F5, F11, F22, F304LU, F316LU, F347, F321, F51, F56;  
Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS352, ASME B16.34B16.11B1.20, 1B16.25
- (2) Valve Size: 1/2"-4"
- (3) Applicable Rating: Class 1500LB – 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Pressure-Seal Cover
  - ★ Reduce Bore / Full Bore



PRESSURE TEST (A105)			
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
1500LB	5075	WATER	AIR WATER
2500LB	9275	-	- 4100 6900

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
1500LB	5075	WATER	AIR WATER
2500LB	9275	-	- 4100 6900



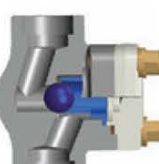
### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE①
BONNET	NOTE①
SEAT	ASTM A105+HF
BALL	ASTM A276 316
GASKET	304+GRAPHITE
COVER BOLT	ASTM A193 B7

NOTE ① A105, LF2, F5, F11, F22, F304LU, F316LU, F347, F321, F51, F56;  
Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS352, ASME B16.34B16.11B1.20, 1B16.25
- (2) Valve Size: 1/2"-4"
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Bolted Cover
  - ★ Reduce Bore / Full Bore



PRESSURE TEST (A105)			
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
150LB	450	WATER	AIR WATER
300LB	1125	WATER	825
600LB	2225	-	1650
800LB	2975	-	2175
900LB	3350	-	2450
1500LB	5575	-	4100

## FORGED STEEL LIFT CHECK VALVE – Bolted Cover



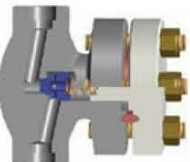
### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE①
BONNET	NOTE①
SEAT	ASTM A105+HF
DISC	ASTM A276 420
R-RING	304SS
COVER BOLT	ASTM A193 B7

NOTE ① A105, LF2, F5, F11, F22, F304LU, F316LU, F347, F321, F51, F56;  
Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS352, ASME B16.34B16.11B1.20, 1B16.25
- (2) Valve Size: 1/2"-2"
- (3) Applicable Rating: Class 1500LB – 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Bolted Cover
  - ★ Reduce Bore / Full Bore



PRESSURE TEST (A105)			
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
1500LB	5075	WATER	AIR WATER
2500LB	9275	-	- 4100 6900

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
1500LB	5075	WATER	AIR WATER
2500LB	9275	-	- 4100 6900

## FORGED STEEL Y-CHECK VALVE – Bolted Cover



### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE①
BONNET	NOTE①
SEAT	ASTM A105+HF
DISC	ASTM A276 420
GASKET	304+GRAPHITE
COVER BOLT	ASTM A193 B7

NOTE ① A105, LF2, F5, F11, F22, F304LU, F316LU, F347, F321, F51, F56;  
Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS352, ASME B16.34B16.11B1.20, 1B16.25
- (2) Valve Size: 1/2"-4"
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Bolted Cover
  - ★ Reduce Bore / Full Bore



PRESSURE TEST (A105)			
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
150LB	450	WATER	AIR WATER
300LB	1125	WATER	825
600LB	2225	-	1650
800LB	2975	-	2175
900LB	3350	-	2450
1500LB	5575	-	4100

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
150LB	450	WATER	AIR WATER
300LB	1125	WATER	825
600LB	2225	-	1650
800LB	2975	-	2175
900LB	3350	-	2450
1500LB	5575	-	4100

## FORGED STEEL Y-CHECK VALVE – Welded Cover



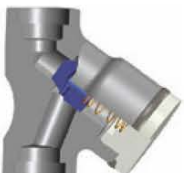
### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420

NOTE: (1) A105, LF2, F5, F11, F22, F304(L), F316(L), F347, F321, F51, F55, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS552, ASME B16.34/B16.11/81.20/1816.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Welded Cover
  - ★ Reduce Bore / Full Bore



### PRESSURE TEST (AT10)

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
150LB	450		325
300LB	1125		825
600LB	2225		1650
800LB	2975	-	2175
900LB	3350		2450
1500LB	5575		4100
2500LB	9275		6800



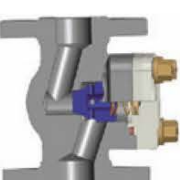
### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
GASKET	304+GRAPHITE
COVER BOLT	ASTM A193 B7

NOTE: (1) A105, LF2, F5, F11, F22, F304(L), F316(L), F347, F321, F51, F55, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS552, ASME B16.34/B16.5
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Bolted Cover
  - ★ Reduce Bore



### PRESSURE TEST (AT10)

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
150LB	450		325
300LB	1125		825
600LB	2225		1650
800LB	2975	-	2175
900LB	3350		2450
1500LB	5575		4100

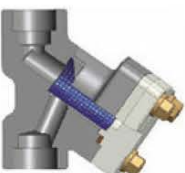
## FORGED STEEL Y-TYPE STRAINER VALVE – Bolted Cover



### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
GASKET	304+GRAPHITE
COVER BOLT	ASTM A193 B7
FILTER SCREEN	ASTM A240 304

NOTE: (1) A105, LF2, F5, F11, F22, F304(L), F316(L), F347, F321, F51, F55, Inconel, Monel, Hastelloy, etc.



### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
GASKET	304+GRAPHITE
COVER BOLT	ASTM A193 B7

NOTE: (1) A105, LF2, F5, F11, F22, F304(L), F316(L), F347, F321, F51, F55, Inconel, Monel, Hastelloy, etc.



### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS552, ASME B16.34/B16.11/81.20/1816.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Bolted Cover
  - ★ Reduce Bore / Full Bore

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BSS552, ASME B16.34/B16.5
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Bolted Cover
  - ★ Reduce Bore

### PRESSURE TEST (AT10)

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
150LB	450		325
300LB	1125		825
600LB	2225		1650
800LB	2975	-	2175
900LB	3350		2450
1500LB	5575		4100



## FORGED STEEL FLANGED LIFT CHECK VALVE – Bolted Cover

### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A105+HF
DISC	ASTM A276 420
R-RING	304SS
COVER BOLT	ASTM A193 B7

NOTE: (1) A105, LF2, F5, F11, F22, F304QL, F316QL, F347, F321, F31, F35, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5332, ASME B16.34B16.5
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 1500LB ~ 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Reduce Bore



### PRESSURE TEST (A105)

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
1500LB	5975	-	4100
2500LB	9275	-	6900

## FORGED STEEL SWING CHECK VALVE – Bolted Cover

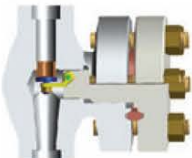
### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
DISC	ASTM A276 420
GASKET	304SS
COVER BOLT	ASTM A193 B7
ROCKER	ASTM A351 CF8

NOTE(1): LF2, F5, F11, F22, F304QL, F316QL, F347, F321, F31, F35, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5332, ASME B16.34B16.11B1.20.1B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 1500LB ~ 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Bolted Cover
  - ★ Reduce Bore / Full Bore



### PRESSURE TEST (A105)

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
1500LB	5975	-	4100
2500LB	9275	-	6900

## FORGED STEEL SWING CHECK VALVE – Bolted Cover

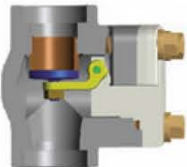
### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
DISC	ASTM A276 420
GASKET	304+GRAPHITE
COVER BOLT	ASTM A193 B7
ROCKER	ASTM A351 CF8

NOTE: (1) A105, LF2, F5, F11, F22, F304QL, F316QL, F347, F321, F31, F35, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5332, ASME B16.34B16.11B1.20.1B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 1500LB ~ 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Bolted Cover
  - ★ Reduce Bore / Full Bore



### PRESSURE TEST (A105)

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
1500LB	490	-	325
300LB	1125	-	825
600LB	2225	-	1650
800LB	2975	-	2175
800LB	3350	-	2450
1500LB	5975	-	4100

## FORGED STEEL SWING CHECK VALVE – Pressure-Seal Cover

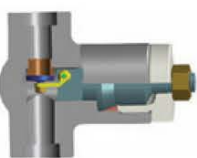
### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
DISC	ASTM A276 420
P.S. SEAT	304SS
ROCKER	ASTM A351 CF8

NOTE: (1) A105, LF2, F5, F11, F22, F304QL, F316QL, F347, F321, F31, F35, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5332, ASME B16.34B16.11B1.20.1B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 1500LB ~ 2500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Pressure-Seal Cover
  - ★ Reduce Bore / Full Bore



### PRESSURE TEST (A105)

CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)
1500LB	5975	-	4100
2500LB	9275	-	6900

FORGED STEEL FLANGED SWING CHECK VALVE – Bolted Cover

STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
DISC	ASTM A276 420
GASKET	304+GRAPHITE
COVER BOLT	ASTM A193 B7
ROCKER	ASTM A351 CF8

NOTE: (1) A106, LF2, F3, F11, F22, F304L, F316L, F347, F321, F31, F36, Inconel, Monel, Hastelloy, etc.

SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34/B16.5
- (2) Valve Size: 1/2”-4”
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Bolted Cover
  - ★ Reduce Bore

FORGED STEEL FLANGED SWING CHECK VALVE – Bolted Cover

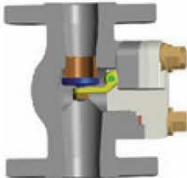
STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	ASTM A276 410+HF
DISC	ASTM A276 420
GASKET	304+GRAPHITE
COVER BOLT	ASTM A193 B7
ROCKER	ASTM A351 CF8

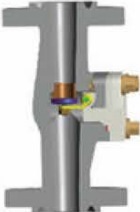
NOTE: (1) A106, LF2, F3, F11, F22, F304L, F316L, F347, F321, F31, F36, Inconel, Monel, Hastelloy, etc.

SPECIFICATIONS

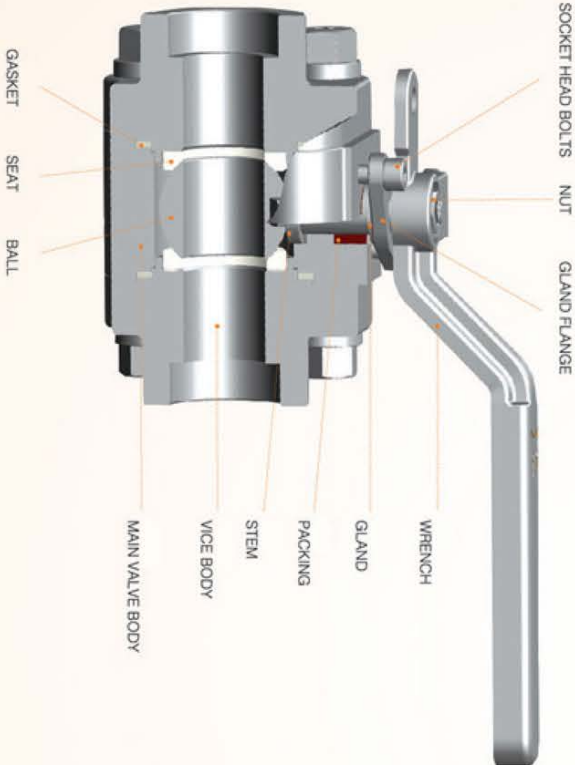
- (1) Design & Manufacture Conform to: API 602, BS5352, ASME B16.34/B16.5
- (2) Valve Size: 1/2”-4”
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ End Connection: Flanged Type
  - ★ Bolted Cover
  - ★ Reduce Bore



PRESSURE TEST (A105)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
150LB	450		325	
300LB	1125		825	
600LB	2225	-	1650	
800LB	2975		2175	
900LB	3350		2450	
1500LB	5575		4100	



PRESSURE TEST (A105)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	
150LB	450		325	
300LB	1125		825	
600LB	2225	-	1650	
800LB	2975		2175	
900LB	3350		2450	
1500LB	5575		4100	



forged steel ball valve is available in two different kinds of structure:

- (1) 2 Piece structure: Threaded bonnet, RPTFE or PEEK sealed;
- (2) 3 Piece structure: Bolted bonnet, different kinds of material for seats, gaskets and packing can be chosen according to different using conditions.



## FORGED STEEL SIDE ENTRY BALL VALVE – Free Floating Ball (3 Piece)



STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTED
BONNET	NOTED
SEAT	R-PTEE
BALL	ASTM A276 316
STEM	ASTM A276 316
GASKET	316+GRAPHITE
BACK SEAT GASKET	PTEE
PACKING	GRAPHITE
WRENCH	CARBON STEEL

NOTE: ① A106, LF2, F5, F11, F22, F304L, F316L, F347, F321, F51;  
F56, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 608, BSS5351, ASME B16.34B16, 11B1.20, 1816.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 250°C
- (5) Structure Features:
  - ★ 3 Piece Body
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Floating Ball Type
  - ★ Fire Safety Construction (API 607)



PRESSURE TEST (A106)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	WATER
150LB	450		325	
300LB	1125		825	
600LB	2225		1650	
900LB	2975		2175	
1500LB	5575		4100	

## FORGED STEEL SIDE ENTRY BALL VALVE – Free Floating Ball (3 Piece)



STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTED
BONNET	NOTED
SEAT	ASTM A276 316+STL
BALL	ASTM A276 316+STL
STEM	ASTM A276 316
GASKET	316+GRAPHITE
BACK SEAT GASKET	PTEE
PACKING	GRAPHITE
WRENCH	CARBON STEEL

NOTE: ① A106, LF2, F5, F11, F22, F304L, F316L, F347, F321, F51;  
F56, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 608, BSS5351, ASME B16.34B16, 11B1.20, 1816.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 500°C
- (5) Structure Features:
  - ★ 3 Piece Body
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Floating Ball Type
  - ★ Fire Safety Construction (API 607)



PRESSURE TEST (A106)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	WATER
150LB	450		325	
300LB	1125		825	
600LB	2225		1650	
900LB	2975		2175	
1500LB	5575		4100	

## FORGED STEEL SIDE ENTRY BALL VALVE – Free Floating Ball (2 Piece)



STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTED
BONNET	NOTED
SEAT	R-PTEE
BALL	ASTM A276 316
STEM	ASTM A276 316
GASKET	316+GRAPHITE
BACK SEAT GASKET	PTEE
PACKING	GRAPHITE
WRENCH	CARBON STEEL

NOTE: ① A106, LF2, F5, F11, F22, F304L, F316L, F347, F321, F51;  
F56, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 608, BSS5351, ASME B16.34B16, 11B1.20, 1816.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 1500LB
- (4) Temperature Rating: Up to 250°C
- (5) Structure Features:
  - ★ 2 Piece Body
  - ★ End Connection: Flanged Type
  - ★ Floating Ball Type
  - ★ Fire Safety Construction (API 607)



PRESSURE TEST (A106)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	WATER
150LB	450		325	
300LB	1125		825	
600LB	2225		1650	
900LB	2975		2175	
1500LB	5575		4100	

## FORGED STEEL SIDE ENTRY CRYOGENIC BALL VALVE – Free Floating Ball (3 Piece)

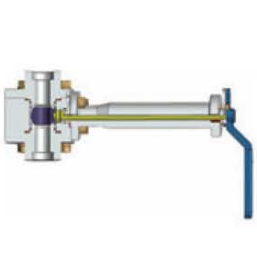


STANDARD MATERIALS	
PART NAMES	MATERIALS
BODY	NOTED
BONNET	NOTED
SEAT	PCITE
BALL	ASTM A276 316
STEM	ASTM A276 316
GASKET	316+GRAPHITE
BACK SEAT GASKET	PCITE
PACKING	GRAPHITE
WRENCH	CARBON STEEL

NOTE: ① A106, LF2, F5, F11, F22, F304L, F316L, F347, F321, F51;  
F56, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 608, BSS5351, ASME B16.34B16, 11B1.20, 1816.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 2500LB
- (4) Temperature Rating: Down To –196°C
- (5) Structure Features:
  - ★ 3 Piece Body
  - ★ End Connection: Threaded, Socket-Welded or Butt-Welded
  - ★ Floating Ball Type
  - ★ Fire Safety Construction (API 607)



PRESSURE TEST (A106)				
CLASS	SHELL (psig)	BACKSEAT (psig)	SEAT (psig)	WATER
150LB	450		325	
300LB	1125		825	
600LB	2225		1650	
900LB	2975		2175	
1500LB	5575		4100	
2500LB	9275		6600	

## FORGED STEEL SIDE ENTRY BALL VALVE – Free Floating Ball (3 Piece)



### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	R-PTFE
BALL	ASTM A276 316
STEM	ASTM A276 316
O-RING	NR
BACK SEAT GASKET	PTFE
PACKING	GRAPHITE
WRENCH	CARBON STEEL

NOTE: (1) A106, LF2, F5, F11, F22, F304L, F316L, F47, F51, F57, F58, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 608, BS5351, ASME B16.34B16.11B1.20.1B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 2500LB
- (4) Temperature Rating: Up to 250°C
- (5) Structure Features:
  - ★ 3 Piece Body
  - ★ End Connection: Threaded, Socket-Welded or Bolt-Welded
  - ★ Floating Ball Type
  - ★ Reduce Bore / Full Bore
  - ★ Fire Safety Construction (API 607)
  - ★ Manual Operating

## FORGED STEEL SIDE ENTRY BALL VALVE – Free Floating Ball (2 Piece)

### STANDARD MATERIALS

PART NAMES	MATERIALS
BODY	NOTE(1)
BONNET	NOTE(1)
SEAT	R-PTFE
BALL	ASTM A276 316
STEM	ASTM A276 316
O-RING	NR
BACK SEAT GASKET	PTFE
PACKING	GRAPHITE
WRENCH	CARBON STEEL

NOTE: (1) A106, LF2, F5, F11, F22, F304L, F316L, F47, F51, F57, F58, Inconel, Monel, Hastelloy, etc.

### SPECIFICATIONS

- (1) Design & Manufacture Conform to: API 608, BS5351, ASME B16.34B16.11B1.20.1B16.25
- (2) Valve Size: 1/2"–4"
- (3) Applicable Rating: Class 150LB – 2500LB
- (4) Temperature Rating: Up to 250°C
- (5) Structure Features:
  - ★ 2 Piece Body
  - ★ End Connection: Flanged Type
  - ★ Floating Ball Type
  - ★ Reduce Bore / Full Bore
  - ★ Fire Safety Construction (API 607)
  - ★ Manual Operating



### PRESSURE TEST (A105)

CLASS	SHELL (psig)	BACKSEAT (psig)	AIR	SEAT (psig)
150LB	450			325
300LB	1125			825
600LB	2225			1650
900LB	2975	-	90	2175
1500LB	5575			2450
2500LB	9275			4100
				6800



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