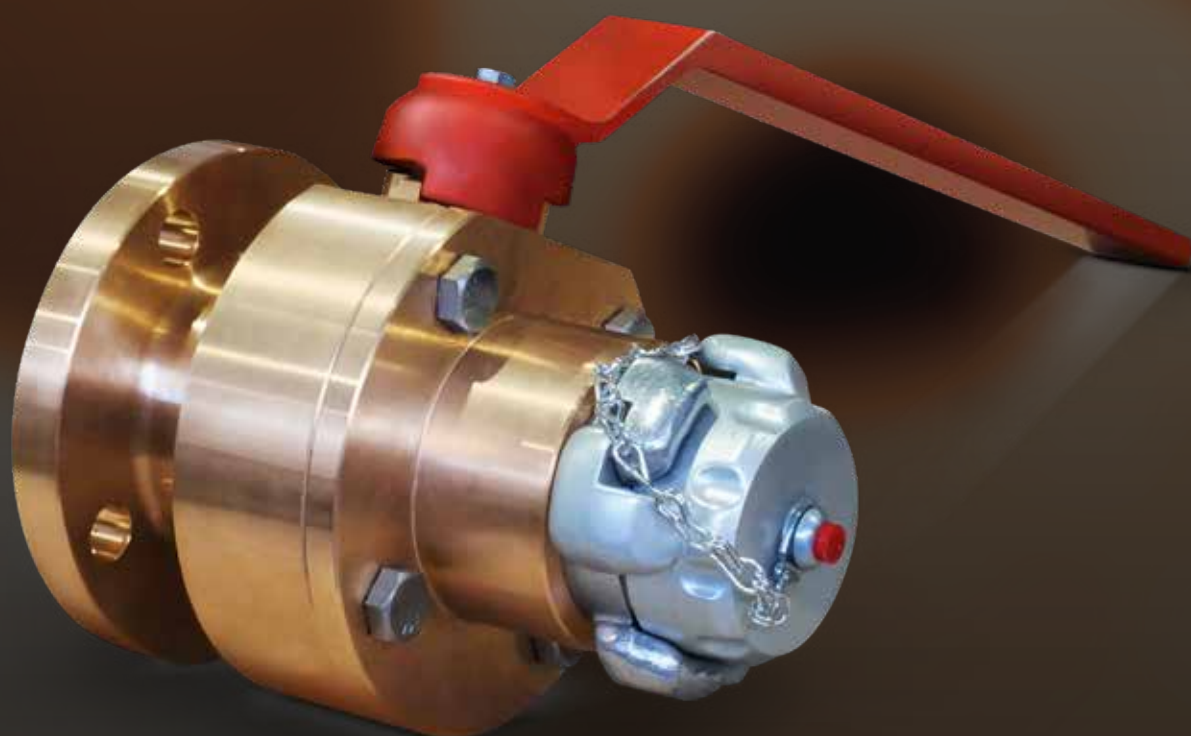


# BRONZE VALVES

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## CATALOGUE



International  
Standards

**100% European  
Production**



# 25 years

**DESIGNING QUALITY**  
and many projects to come

## German Designs

FHT valves is a state-of-the-art factory manufacturing high quality ball valves since 1997. Our roots go back to the first German manufacturers and designs. Using our experience in the field of chemical industry, we have improved those designs, to achieve the best possible quality and best performance.

## Huge manufacturing range, 100% European

During these years we have expanded our manufacturing range and developed the strategy to be present worldwide. Our factory is close to achieving perfection in quality without No Conformities of our customers or accidents in our workshops. 100% of the manufacturing process of our valves is carried out within the European Economic Community, meeting all European standards. We are fully involved in the security of the whole process.

## Clean processes, vision for the future

We are increasingly focusing on clean processes such as Hydrogen and Green Energy, as well as other industries such as CHEMICAL, PETROCHEMICAL, OIL AND GAS, ENERGY, PULP AND PAPER, WATER, MARINE SERVICES.

## Continuous commitment manufacturing with the highest quality

On our 25th anniversary at FHT valves, we are immersed in a process of growth that includes industrial buildings and modern machinery that will serve to continue offering a quality service and a product of which we can feel proud.

New Building infographic  
FHT valves - Mungia  
Karmelo etxegarai 60  
48100 Mungia





# BRONZE VALVES



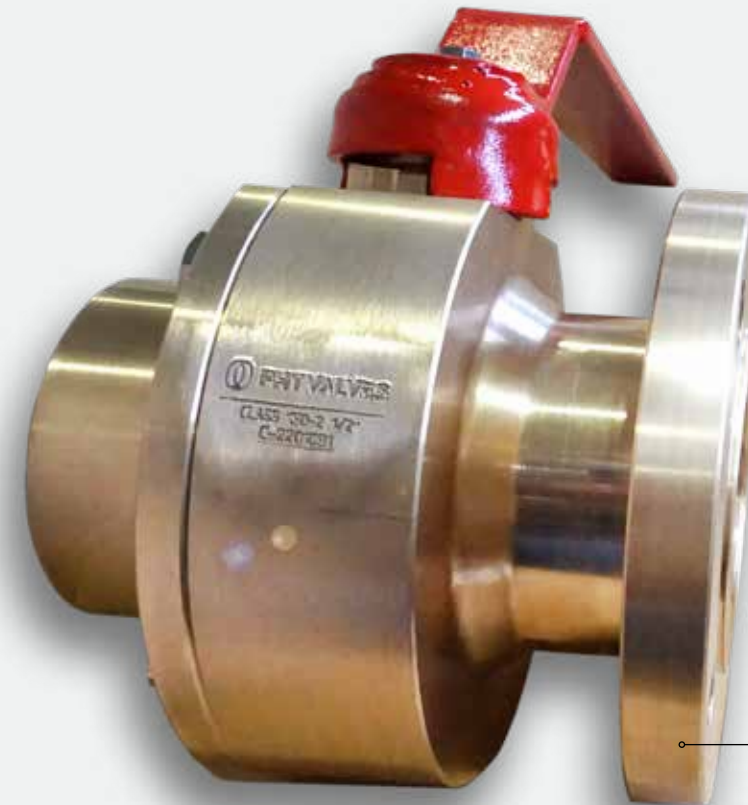
## WHY BRONZE? for marine services

Bronze offers great resistance to corrosion, wear and even to the action of non-oxidizing acids. All this makes it the ideal material for hydraulic equipment, as well as valves, pumps, bushings, pistons, gears, toothed crowns, bushings, clutch discs, springs, etc. both in the maritime and automotive sector.

On the other hand, because **bronze is a material that does not oxidize**, since it contains an insignificant amount of iron, it is the optimal material for the manufacture of valves used in aggressive environments such as that caused by sea water. Because of this, **this type of valve is in great demand in the naval sector**.

Finally, given the **high durability of bronze**, the use of bronze valves ensures high profitability, as they have a very high service life, as well as minimal maintenance, which generates the consequent savings in costs.

To conclude, copper is a very durable metal, since it can be recycled an almost unlimited number of times without losing its mechanical properties, which makes bronze a **totally environmentally friendly material**.



Bronze valves are the most suitable for Marine services, among others.

Bronze is not a pure metal, but an alloy of the so-called "copper base" or "non-ferrous" and consists mainly of copper and tin, although aluminium, lead, zinc or nickel can also be added to achieve performances and qualities suitable for different industrial uses.

Bronze was the first major alloy obtained by man, giving its name to an entire historical epoch known as the Bronze Age. Over the centuries, this metal has been used to manufacture products as diverse as weapons, tools, sculptures, cannons, bells, musical instruments and coins, among others. Nowadays, it is also used in the industry, being very common use for the manufacture of bronze valves.

The main sectors requiring FHT bronze valves are **naval, petrochemical, sanitation and industrial**. However, given the noble characteristics of this alloy, bronze valves are also applicable to sectors as diverse as nuclear, offshore or energy, among others.



All our valves are tested and meet the most demanding European standards.

## BRONZE VALVES

# RANGE OF PRODUCTION SUMMARY

## MAIN RANGE

### DIN & ANSI STANDARDS

**SIZE:** ANSI FROM ½" UP TO 56"  
DIN: DN 15 UP TO DN 1400

**PRESSURE** ANSI: CLASS: 150, 300, 600, 800, 900, 1500 AND 2500  
DIN: PN 10 UP TO PN 420

### FULL BORE AND REDUCED BORE

**END CONNECTION** FLANGED RF, RTJ, FF, WELDING ENDS AND THREADED

**CONSTRUCTION** SIDE ENTRY, SPLIT BODY, 2 PIECES, 3 PIECES, FULLY WELDED & TOP ENTRY

**SEATS** SOFT SEATS AND METAL SEATS

### 2 WAYS, 3 WAYS AND 4 WAYS

**TEMPERATURES** HIGH TEMPERATURE (500°C), NORMAL TEMPERATURE, AND CRYOGENIC (-196°C)

**MATERIALS** CARBON STEEL, STAINLESS STEEL, DUPLEX, SUPER DUPLEX, MONEL, INCONEL, TITANIUM, ALUMINIUM-BRONZE AND ANY SPECIAL MATERIAL UNDER REQUEST.

**CERTIFICATES** API, ISO 9001; ISO 14001, ATEX, CE, SIL, AD MERKBLATT, TA-LUFT, PAS 1085, EN161, ...

**MANUAL VALVES, ON/OFF VALVES, ESDV, MOV AND TAILOR-MADE AUTOMATION**

### FLOATING SOFT SEATED TWO PIECE

**112-INTEC**  
Double Packing & Double Stem Seal

**113GL-INTEC**  
Double Packing & Double Stem Seal,  
Spring Loaded

**115 -INTEC**  
Autoadjustable Packing

**125-INTEC**  
Autoadjustable Packing,  
Friction-Free Shaft

**125GL-INTEC**  
Autoadjustable Packing, Friction-Free Shaft,  
Spring Loaded

**130-INTEC**  
Autoadjustable Packing, Threaded Ends

**131 - INTEC**  
Autoadjustable Packing, Welding Ends

### TRUNNION SOFT SEATED TWO PIECE

**115G-INTEC**  
Autoadjustable Packing,  
Spring Loaded

**117G-INTEC**  
Protected Seats & Spring Loaded,  
Autoadjustable Packing

### THREE PIECE 115G-3P-INTEC

Autoadjustable Packing,  
Spring Loaded

**117G-3P - INTEC**  
Protected Seats & Spring Loaded,  
Autoadjustable Packing

### FLOATING METAL SEATED TWO PIECE

**114-INTEC**  
Autoadjustable Packing,  
Spring Loaded

### TRUNNION METAL SEATED TWO PIECE

**116G-INTEC**  
Autoadjustable Packing,  
Spring Loaded

**118G-INTEC**  
Protected Seats & Spring Loaded,  
Autoadjustable Packing

**THREE PIECE  
116G-3P - INTEC**  
Autoadjustable Packing, Spring Loaded

**118G-3P - INTEC**  
Protected Seats & Spring Loaded,  
Autoadjustable Packing

**3 WAYS TRUNNION  
SOFT SEATED  
120-INTEC**  
Autoadjustable Packing, Spring Loaded

### 3 WAYS TRUNNION METAL SEATED

**121-INTEC**  
Autoadjustable Packing, Spring Loaded

### TANK BOTTOM SOFT SEATED TWO PIECE

**112FC-INTEC**  
Double Packing & Double Stem Seal

**113FC-INTEC**  
Double Packing & Double Stem Seal, Spring  
Loaded

### TANK BOTTOM METAL SEATED TWO PIECE

**112FCM- INTEC**  
Double Packing & Double Stem Seal

### BRONZE FLOATING SOFT SEATED

**TWO PIECE  
310 - LB**  
Simple Packing

### BRONZE FLOATING SOFT SEATED

**THREE PIECE  
311 - LB**  
Simple Packing

### BRONZE 3 WAYS FLOATING SOFT SEATED

**THREE PIECE  
320- LB**  
Double Packing & Double Stem Seal





# 1. BALL VALVES



A ball valve is a quarter turn shut-off valve that controls the flow of fluids by a rotary ball. The spherical rotary ball consists of a straight bore through it. The pipe is in the open position when the bore is aligned in the same direction as the flow, allowing the fluid to pass through it. When the bore is rotated 90 degree from the flow path, the valve is closed, and the flow is blocked. Ball valves are used for its reliable sealing properties and long service life.

A ball valve is known for its durability, simplicity, and excellent sealing properties. They provide excellent shutoff even after years of service. This makes a ball valve an excellent choice as a shut off valve.

## Advantages:

- Low cost.
- Straight bore
- Low torque
- It cleans itself up
- Easy construction and maintenance.
- No lubrication required
- Compact

STANDARDS	
DESIGN	ASME B16.34 ISO 17292
FACE TO FACE	ASME B16.10 DIN 3202
FLANGED ENDS	ASME B16.5/DIN 2501
TOP FLANGE	ISO 5211
PRESSURE TESTS	EN12266-1/API 598/API 6D
VISUAL INSPECTION	MSS-SP-55

Manufactured in bronze, in its different alloys: Rg-5 (B-62), Rg-10 (B-584), B-61 and B-148 (aluminium bronze), among others

Bronze or stainless steel ball

Brass, bronze or stainless steel stem

PTFE or graphited PTFE seats and packing

BSP or NPT threaded, Flanged, SW ends

Full bore

Flexibility of connections in both ends

From ¼" to 6"

From PN-16 (232 psi) to PN-25 (362 psi)

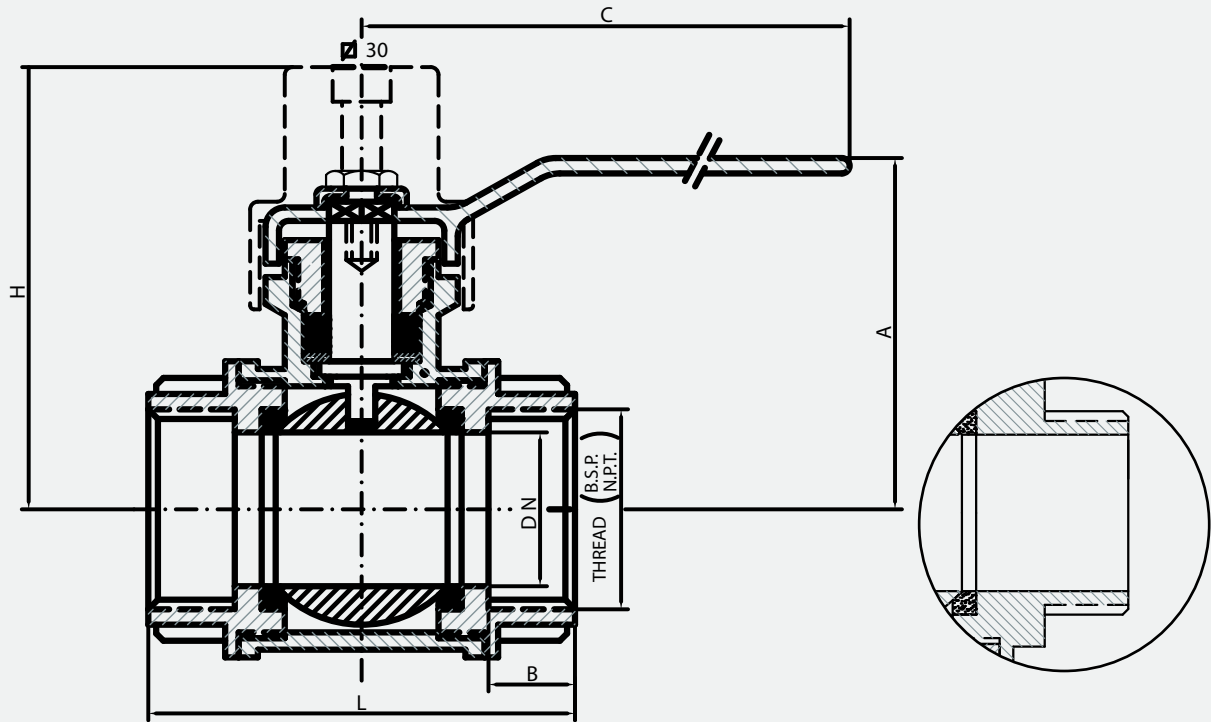
Bronze square handle available, special for underground structures or moved away (of difficult access)

"Idler shaft" system available, so the valve is protected against unauthorized entry

Adaptator for electric or pneumatic actuator available

BRONZE, FLOATING BALL VALVE THREADED  
1/4" - 3" PN25 - CLASS 150  
THREE PIECE, SIMPLE PACKING

FIG. FHT-LB-112-D 25



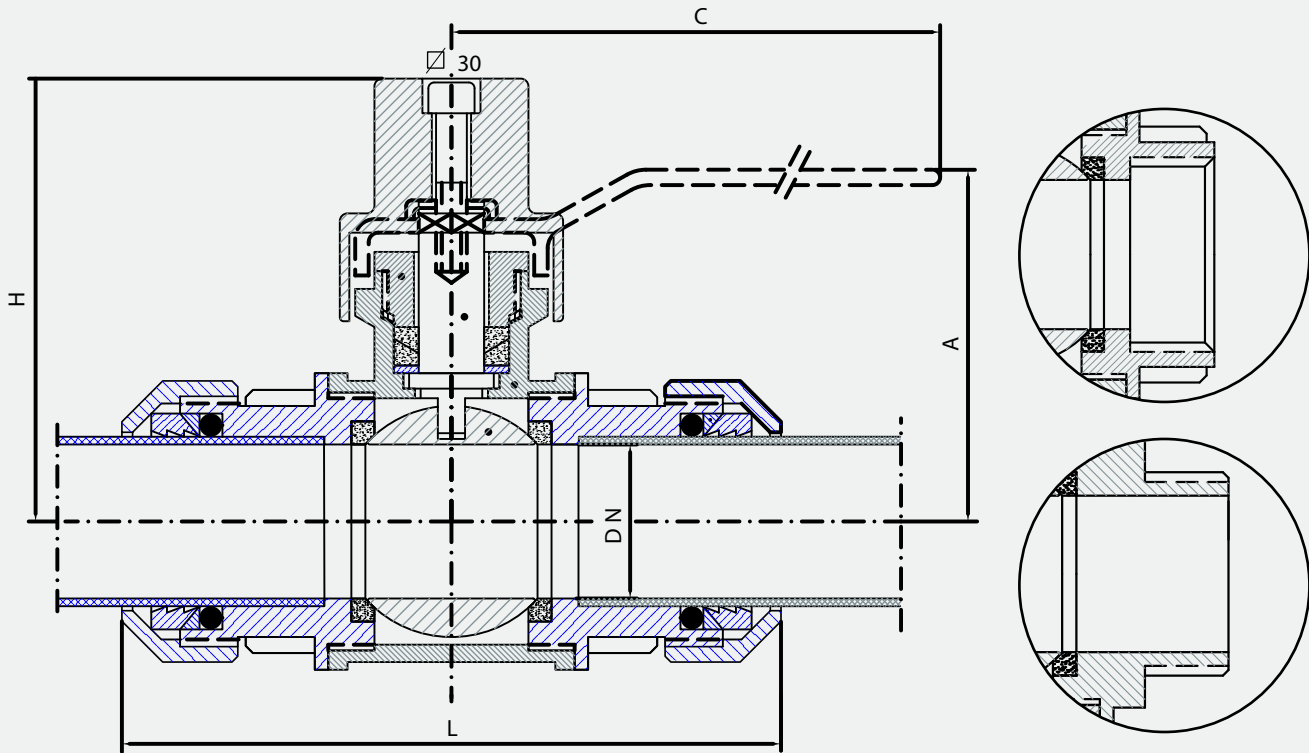
SIZE (")	DN (MM)	B (MM)	H (MM)	L (MM)	L2 (MM)	L3 (MM)
1/4	6	15	55	62	71	82
3/8	10	15	55	62	71	82
1/2	15	15	55	62	71	82
3/4	20	16	65	72	81	92
1	25	18	72	85	96	108
1 1/4	32	20	100	95	107	120
1 1/2	40	25	110	115	127	140
2	50	25	130	125	140	156
2 1/2	65	28	135	150	165	180
3	80	28	160	175	190	206

L FEMALE - FEMALE  
L2 FEMALE - MALE  
L3 MALE - MALE

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 ISO 17292		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	MANUFACTURER STANDARD		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
THREADED ENDS	ISO228-1/ANSI B1.20.1		SEATS	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-55			

BRONZE, FLOATING BALL VALVE FITTING  
1/4" - 3" PN25 - CLASS 150  
THREE PIECE, SIMPLE PACKING

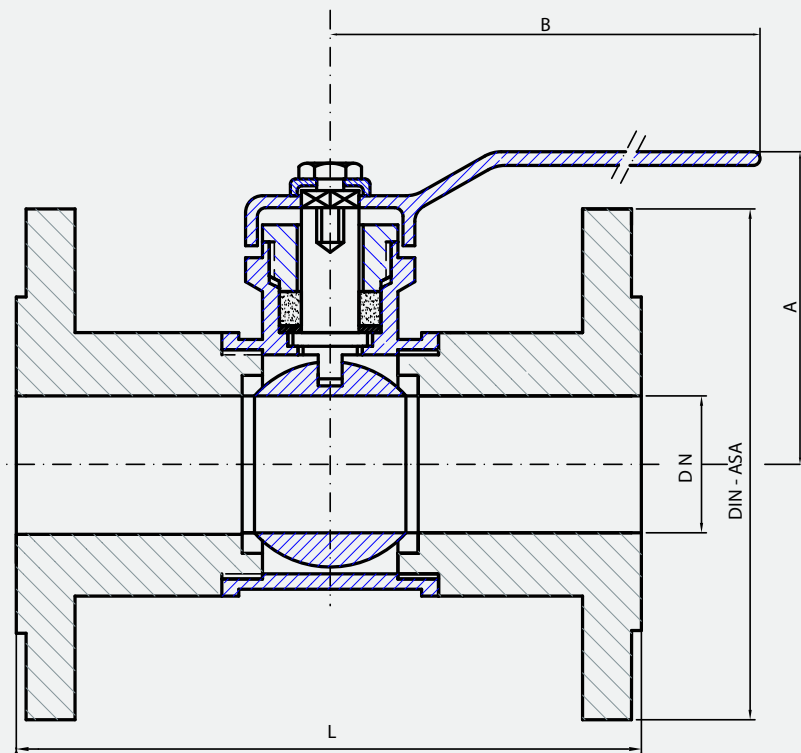
FIG. FHT-LB-111-D 25



SIZE (")	DN (MM)	B (MM)	H (MM)	L (MM)	L2 (MM)	L3 (MM)
1/2	15	15	61	100	80	71
3/4	20	16	71	110	90	81
1	25	18	75	135	110	96
1 1/4	32	20	98	155	125	107
1 1/2	40	25	105	185	150	127
2	50	25	116	225	175	140

L FITTING - FITTING  
L2 FEMALE - FITTING  
L3 MALE - FITTING

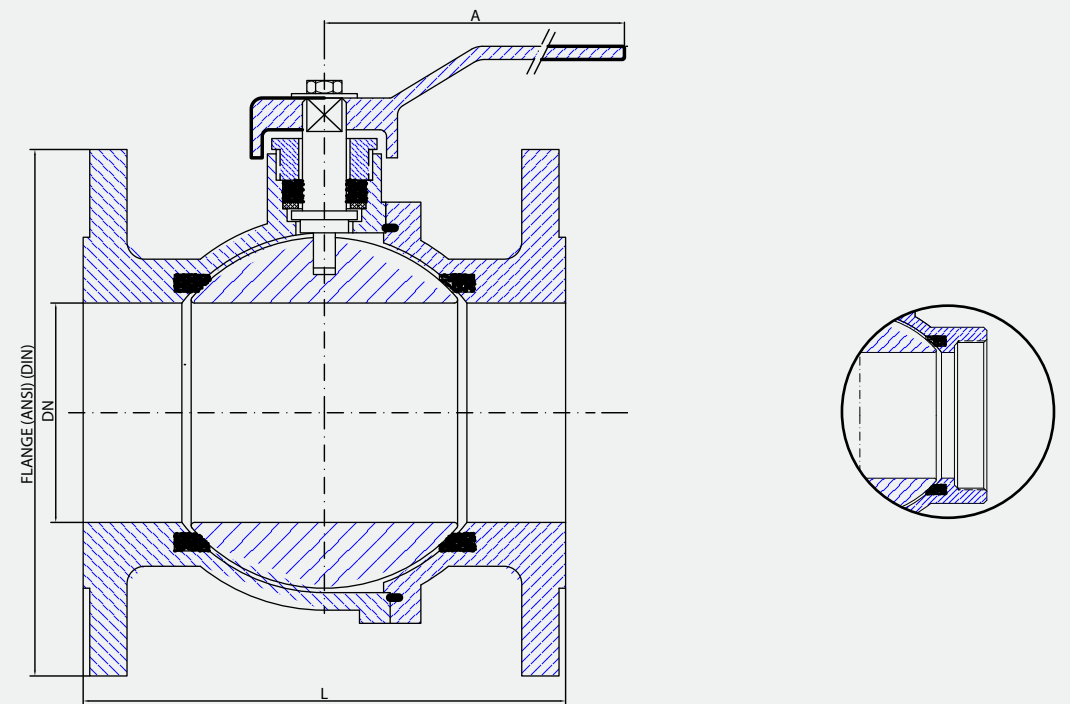
STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 ISO 17292		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	MANUFACTURER STANDARD		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
FITTING/THREADED ENDS	ISO228-1/ANSI B1.20.1		SEATS	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-55			



SIZE (")	DN (MM)	Ø 1 FLANGE (MM)	Ø 2 FLANGE (MM)	H (MM)	B (MM)	L (MM)	L2 (MM)
1/2	15	88,9	95	55	90	108	115
3/4	20	98,4	105	65	110	117	120
1	25	107,9	115	72	110	127	125
1 1/4	32	117,5	140	100	135	140	130
1 1/2	40	127	150	110	135	165	140

L ASME B16.10  
L2 DIN 3202 F4/R27  
Ø1 ASME B16.5 150#  
Ø2 DIN 2501 PN16

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 ISO 17292		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	ASME B16.10/DIN 3202		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
FLANGED ENDS	ASME B16.5/DIN 2501/JIS/MIL		SEATS	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-55			

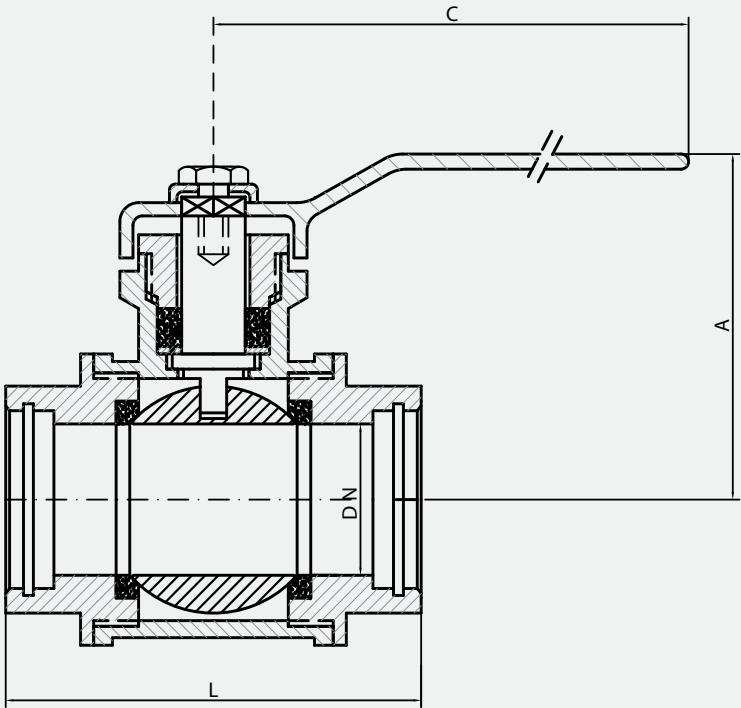


SIZE (")	DN (MM)	Ø 1 FLANGE (MM)	Ø 2 FLANGE (MM)	H (MM)	A (MM)	L (MM)	L2 (MM)
2	50	152,4	165	135	205	178	150
2 1/2	65	177,8	185	165	275	190	170
3	80	190,5	200	175	275	203	180
4	100	228,6	220	180	275	229	190
6	150	279,4	285	335	850	267	210

L ASME B16.10  
L2 DIN 3202 F4/R27  
Ø1 ASME B16.5 150#  
Ø2 DIN 2501 PN16

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 ISO 17292		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	ASME B16.10/DIN 3202		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
FLANGED ENDS	ASME B16.5/DIN 2501/JIS/MIL		SEATS	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-55			

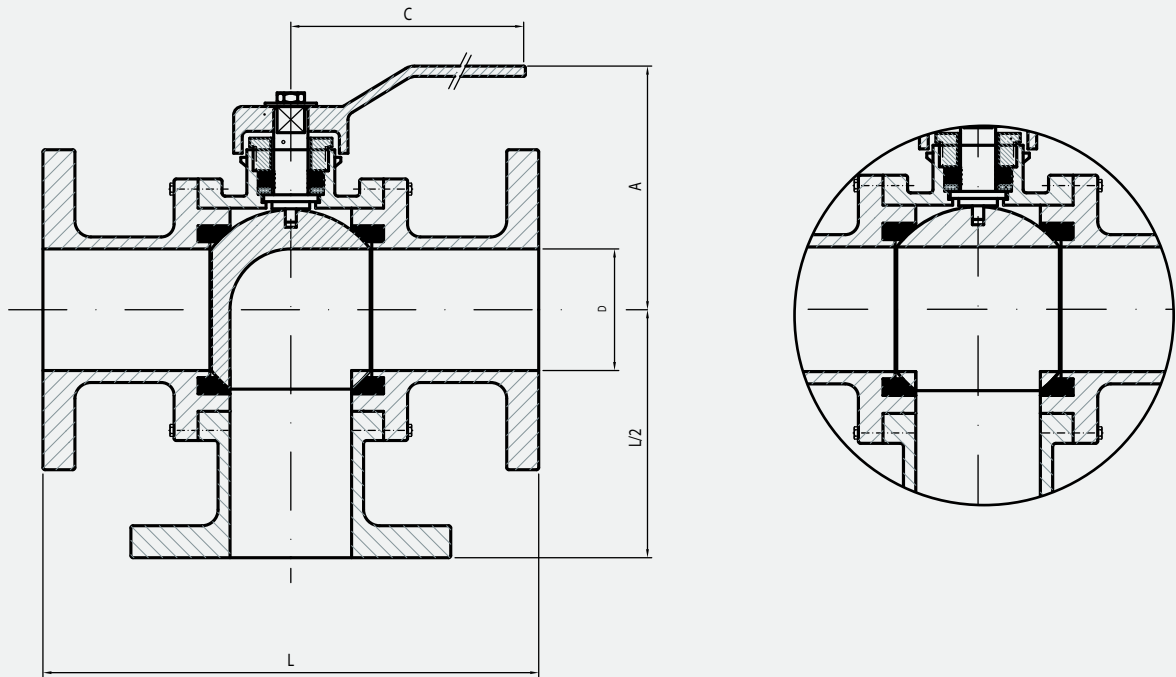
FIG. FHT-LB-113-D25



SIZE (")	DN (MM)	A (MM)	C (MM)	L (MM)
1/2	15	55	90	71
3/4	20	65	110	95,8
1	25	72	110	108
1 1/4	32	100	135	116
1 1/2	40	110	135	128
2	50	130	200	142,8

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 ISO 17292		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	MANUFACTURER STANDARD		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
SOCKET ENDS	ASME B16.34		SEATS	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-55			

FIG. FHT-LB-153-D 25



SIZE (")	DN (MM)	Ø1 FLANGE (MM)	Ø2 FLANGE (MM)	D (MM)	L (MM)	A (MM)	C (MM)
1 1/2	40	127	150	38	200	120	200
2	50	152,4	165	51	230	132	250
2 1/2	65	177,8	185	65	290	144	250
3	80	190,5	200	76	310	154	500
4	100	228,6	220	102	350	212	500

Ø1 ASME B16.5 150#  
Ø2 DIN 2501 PN16

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 ISO 17292		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	DIN 3202 F1 * OTHER ST. UNDER REQUEST		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
FLANGED ENDS	ASME B16.5/DIN 2501		SEATS	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-55			



## 2. GATE VALVES



Gate valves are a type of valve that is widely used in many different pipeline systems to connect and shut off flow of the medium. Not recommended for intermediate positions. Compared with other types of valves, the gate valve is more versatile and has a wider range of applications for pressure, temperature, and caliber

### Advantages:

- Low resistance
- Low cost
- Superior Sealing Performance
- Easy construction and maintenance.
- No lubrication required
- Compact

STANDARDS	
DESIGN	BS 5154 MSS-SP-80
FACE TO FACE	ASME B16.10 DIN 3202
FLANGED ENDS	ASME B16.5/DIN 2501
TOP FLANGE	ISO 5211
PRESSURE TESTS	EN12266-1/API 598/API 6D
VISUAL INSPECTION	MSS-SP-55

Manufactured in bronze, in its different alloys:  
Rg-5 (B-62), Rg-10 (B-584), B-61 and B-148  
(aluminium bronze), among others

Brass, bronze, stainless steel or monel stem

PTFE or graphited PTFE packing

Solid wedge

LB 212 figure:  
From ½" to 4"  
BSP or NPT thread  
Threaded bonnet  
Non-rising stem or inside screw  
rising stem

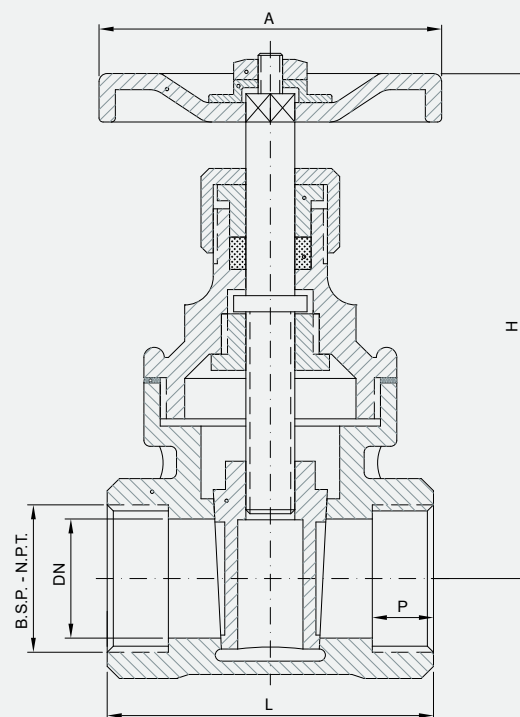
LB 213 figure:  
From DN-25 to DN-300  
DIN or ASA flanges, RF or FF  
L=DIN or ASME  
Threaded or screwed bonnet  
Non rising stem or inside or  
outside screw rising stem

From PN-16 (232 psi) to PN-25 (362 psi)

Epoxi steel handwheel

Adaptator for electric or pneumatic actuator  
available

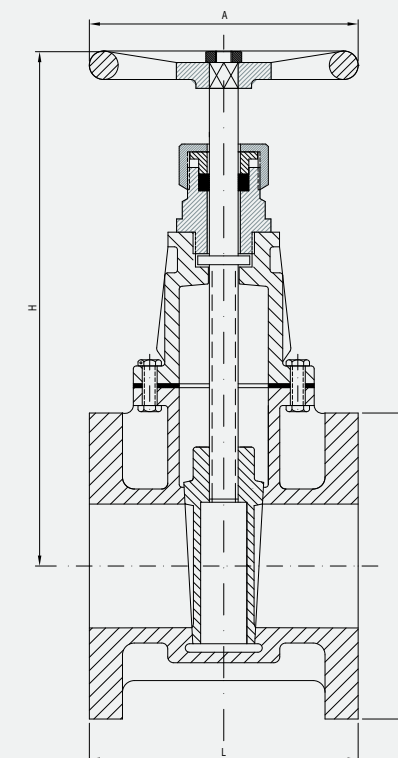
FIG. FHT-LB 212-D 25



SIZE (")	DN (MM)	A (MM)	H (MM)	L (MM)	P (MM)
1/2	15	55	80	63	11
3/4	20	65	88	65	13
1	25	80	95	75	14
1 1/4	32	80	120	90	17
1 1/2	40	80	140	97	17
2	50	100	155	105	21
2 1/2	65	125	230	102	21
3	80	125	235	110	27
4	100	150	310	120	30

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	BS 5154		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	MANUFACTURER STANDARD		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
THREADED ENDS	ISO228-1/ANSI B1.20.1		PACKING	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			

FIG. FHT-LB 213-D 25



SIZE (")	DN (MM)	Ø 1 (MM)	Ø 2 (MM)	H (MM)	A (MM)	L (MM)	L2 (MM)	L3 (MM)
1 1/2	40	127	150	260	135	165	140	-
2	50	152.4	165	280	140	178	150	110
2 1/2	65	177.8	185	300	140	190	170	120
3	80	190.5	200	340	155	203	180	135
4	100	228.5	220	370	205	229	190	155
5	125	254	250	430	230	254	200	165
6	150	279.4	285	470	230	267	210	170
8	200	342.9	340	600	305	292	230	180
10	250	406.4	405	725	350	330	250	270
12	300	482.6	460	820	405	356	270	270

Ø 1	ASME B16.5 150#	L	ASME B16.10
Ø 2	DIN 2501 PN16	L2	DIN 3202 F4
		L3	FHT STANDARD

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	BS 5154		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	ASME B16.10/DIN 3202		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
FLANGED ENDS	ASME B16.5/DIN 2501/JIS/MIL		PACKING	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			

# 3. GLOBE VALVES



Due to their configuration, FHT bronze globe valves are perfect for regulating or limiting fluid. Depending on system needs, design or position, they could generate different load losses on the line. Globe valves are multiturn, in which the obturator is achieved by means of a disc or plug that cuts the passage of fluid in a seat that is usually parallel to the circulation in the pipe.

## Advantages:

Efficient strangulation with minimal stretching or erosion  
Short stroke of disc and few turns to operate them  
Precise control  
Multiple configuration possibilities

STANDARDS	
DESIGN	ASME B16.34 MSS-SP-80
FACE TO FACE	ASME B16.10 DIN 3202
FLANGED ENDS	ASME B16.5/DIN 2501
TOP FLANGE	ISO 5211
PRESSURE TESTS	EN12266-1/API 598/API 6D
VISUAL INSPECTION	MSS-SP-55

Manufactured in bronze, in its different alloys:  
Rg-5 (B-62), Rg-10 (B-584), B-61 and B-148  
(aluminium bronze), among others

Brass, bronze, stainless steel or monel stem

PTFE or graphited PTFE packing

Metal or PTFE disc

Straight way

Check or check and check

LB 311 figure:  
From ½" to 2"  
BSP or NPT thread

LB 312 figure:  
From DN-15 to DN-50.  
DIN or ASA flanges, RF or FF  
L=DIN or ASME.

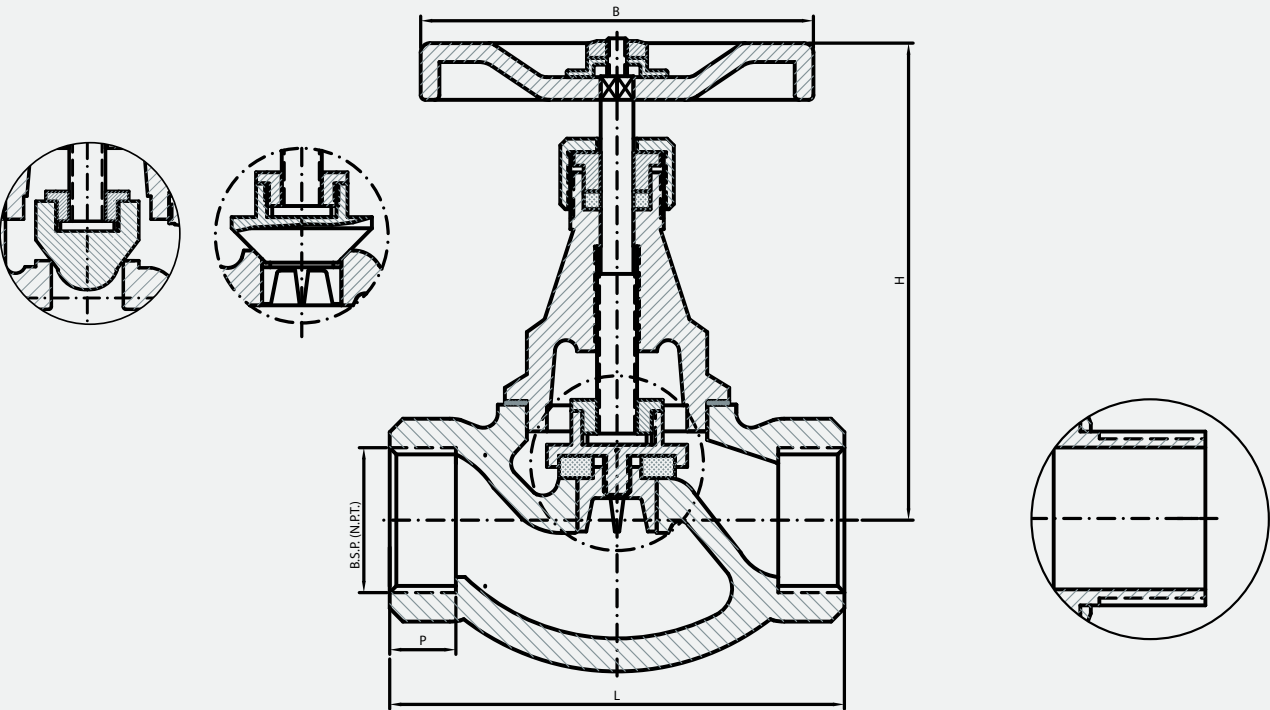
From PN-16 (232 psi) to PN-25 (362 psi)

Epoxi steel handwheel



GLOBE VALVE FEMALE-THREADED  
1/2" - 2" PN25 - CLASS 150  
METAL OR PTFE DISC

FIG. FHT-LB 311-D PN25

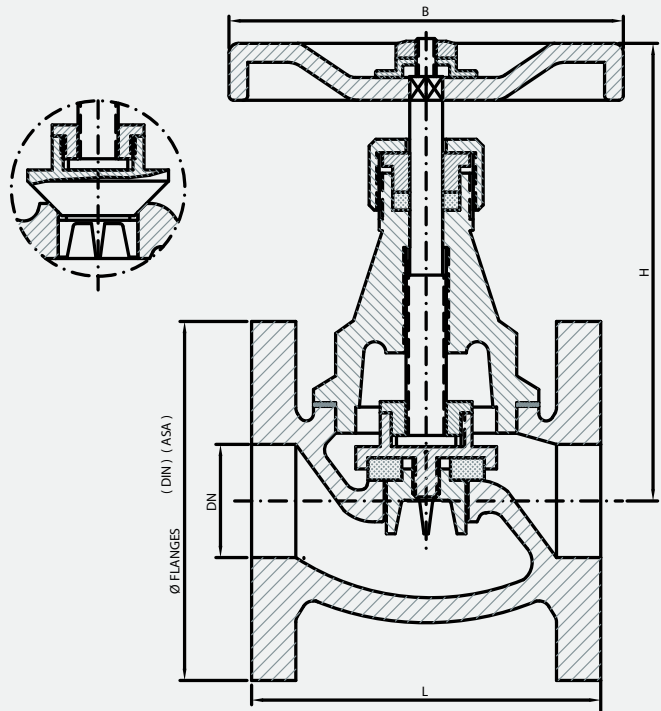


SIZE (")	DN (MM)	P (MM)	A (MM)	H MAX-MIN (MM)	L (MM)
1/2	15	11	55	110-100	65
3/4	20	13	65	125-115	76
1	25	14	80	138-125	90
1 1/4	32	17	100	165-150	108
1 1/2	40	17	105	190-170	120
2	50	21	120	225-200	138

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 MSS-SP-80		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	MANUFACTURER STANDARD		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
THREADED ENDS	ISO228-1/ANSI B1.20.1		PACKING	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			

GLOBE VALVE FLANGED  
1/2" - 2" PN25 - CLASS 150  
METAL OR PTFE DISC

FIG. FHT-LB 312-D PN25

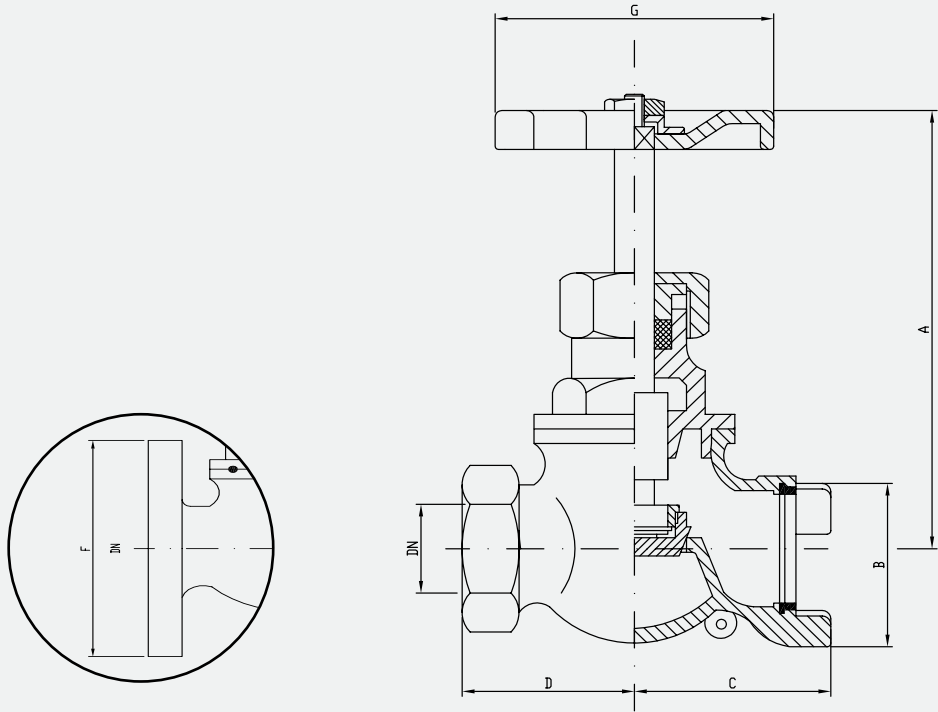


SIZE (")	DN (MM)	A (MM)	H MAX-MIN (MM)	Ø PN16	Ø 150#	L F4 R27 (MM)	L B16.10 (MM)
1/2	15	55	110-100	95	88,9	115	108
3/4	20	65	125-115	105	98,4	120	117
1	25	80	138-125	115	107,9	125	127
1 1/4	32	100	165-150	140	117,5	130	140
1 1/2	40	100	190-170	150	127	140	165
2	50	120	225-200	165	152	150	178

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 MSS-SP-80		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	ASME B16.10/DIN 3202		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
FLANGED ENDS	ASME B16.5/DIN 2501/JIS/MIL		PACKING	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			

FIRE FIGHTING GLOBE VALVE  
1 1/2" - 2 1/2" PN25 - CLASS 150  
STRAIGHT BORE

FIG. FHT-LB 200AC-D PN25

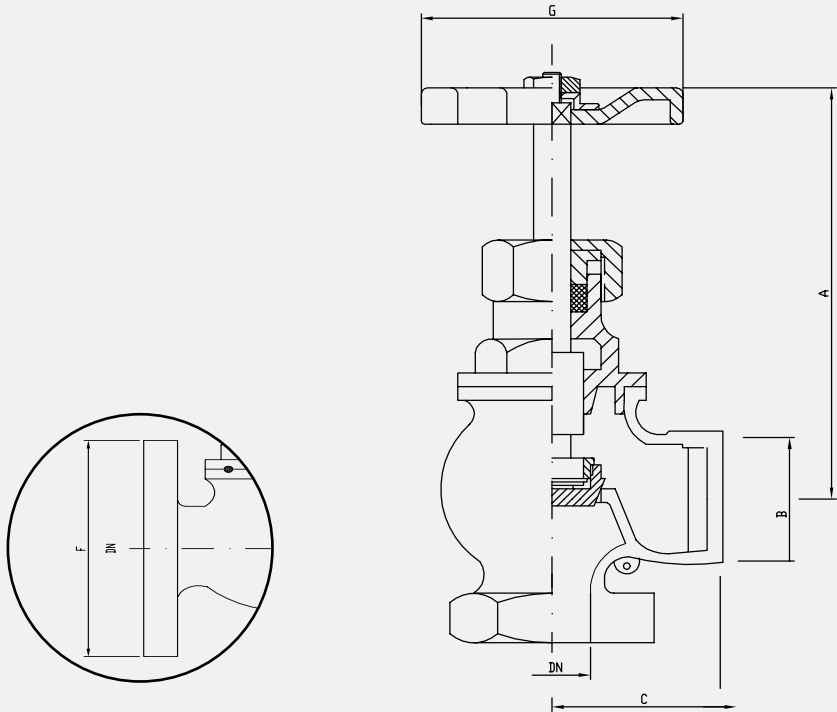


SIZE (")	DN (MM)	A (MM)	B (MM)	C (MM)	D (MM)	F (MM)	G (MM)
1 1/2	40	100	45	80	55	150	80
2	50	125	45	95	65	165	100
2 1/2	65	160	70	110	75	185	120

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 MSS-SP-80		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	MANUFACTURER STANDARD		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
THREADED ENDS	ISO228-1/ANSI B1.20.1		PACKING	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			

FIRE FIGHTING GLOBE VALVE  
1 1/2" - 2 1/2" PN25 - CLASS 150  
ANGLE BORE

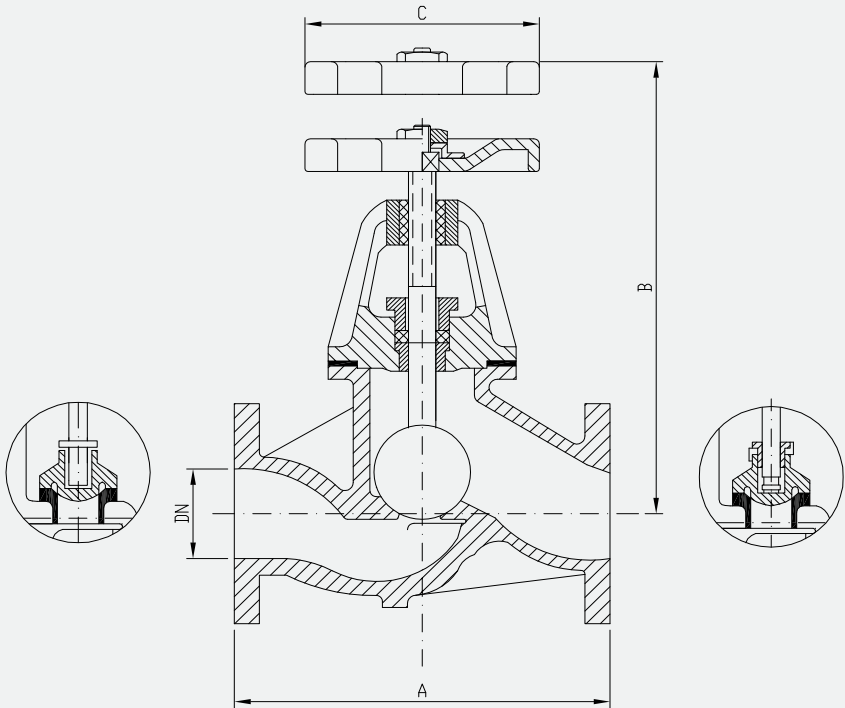
FIG. FHT-LB 200BD-D PN25



SIZE (")	DN (MM)	A (MM)	B (MM)	C (MM)	D (MM)	F (MM)	G (MM)
1 1/2	40	100	45	80	55	150	80
2	50	125	45	95	65	165	100
2 1/2	65	160	70	110	75	185	120

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 MSS-SP-80		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	MANUFACTURER STANDARD		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
FLANGED ENDS	ASME B16.5/DIN 2501/JIS/MIL		PACKING	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			

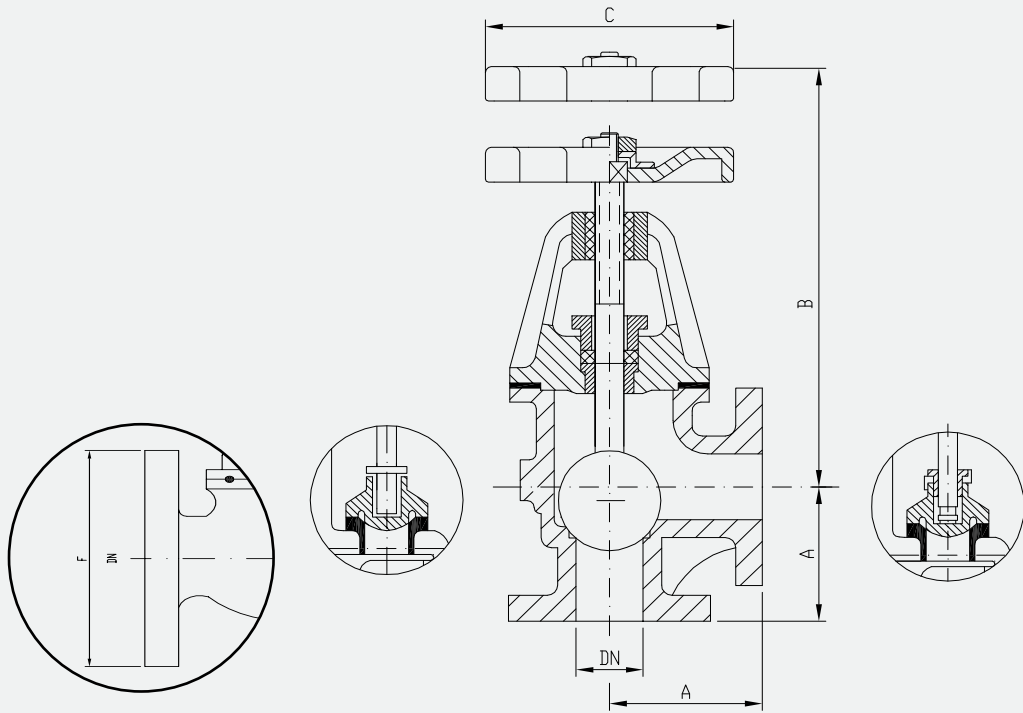
FIG. FHT-LB 206-D PN25



SIZE (")	DN (MM)	A (MM)	B (MM)	C (MM)
1/2	15	130	250	120
3/4	20	150	260	130
1	25	160	300	130
1 1/4	32	180	310	135
1 1/2	40	200	320	150
2	50	230	350	165
2 1/2	65	290	400	180
3	80	310	450	200
4	100	350	450	200
5	125	400	500	250
6	150	480	540	280

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 MSS-SP-80		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	ASME B16.10/DIN 3202		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
THREADED ENDS	ISO228-1/ANSI B1.20.1		PACKING	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			

FIG. FHT-LB 207-D PN25

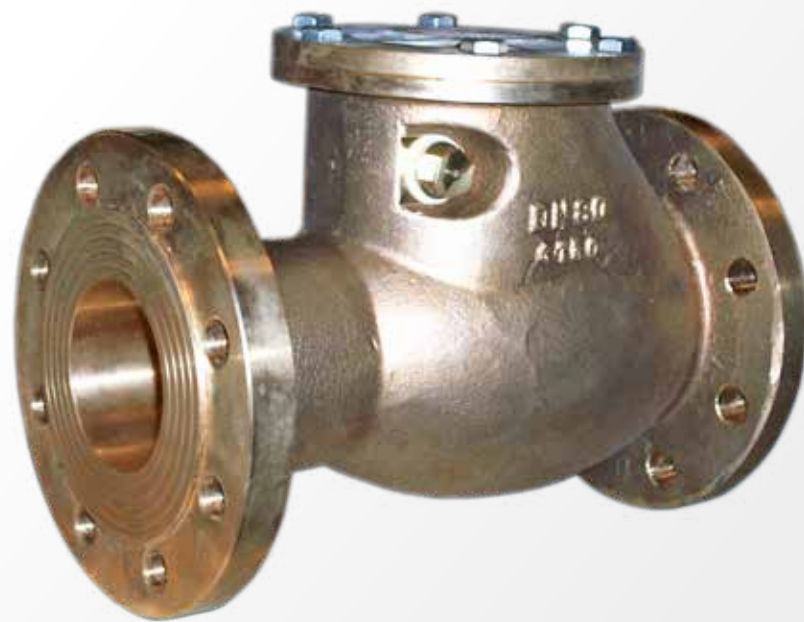


SIZE (")	DN (MM)	A (MM)	B (MM)	C (MM)
1/2	15	85	250	120
3/4	20	95	260	130
1	25	100	300	130
1 1/4	32	105	310	135
1 1/2	40	115	320	150
2	50	125	350	165
2 1/2	65	145	400	180
3	80	155	450	200
4	100	175	450	200
5	125	200	500	250
6	150	240	540	280

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 MSS-SP-80		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	MANUFACTURER STANDARD		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
FLANGED ENDS	ASME B16.5/DIN 2501/JIS/MIL		PACKING	PTFE, Reinforced PTFE, ...
TOP FLANGE	ISO 5211		SPECIAL REQUIREMENTS	Under request
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			



# 4. CHECK VALVES



A check valve, also called a one-way valve, is a device that allows the flow of fluids to move only in one direction.

The primary purpose of a check valve is to prevent backflow in the system. Check valves are cheap, effective, and easy solutions to a potential issue.

## Advantages:

Minimum disk stroke to fully open position  
Rapid action

STANDARDS	
DESIGN	ASME B16.34 MSS-SP-80
FACE TO FACE	ASME B16.10 DIN 3202
FLANGED ENDS	ASME B16.5/DIN 2501
TOP FLANGE	ISO 5211
PRESSURE TESTS	EN12266-1/API 598/API 6D
VISUAL INSPECTION	MSS-SP-55

Manufactured in bronze, in its different alloys:  
Rg-5 (B-62), Rg-10 (B-584), B-61 and B-148  
(aluminium bronze), among others

Metal or PTFE disc

LB 411-416 figure:

From ½" to 2"

BSP or NPT thread

LB 412-417 figure:

From DN-15 to DN-50.

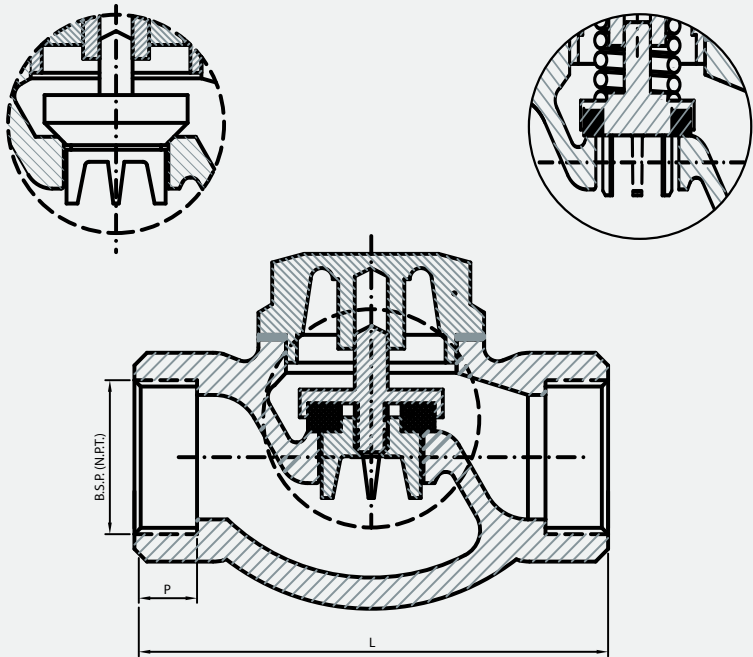
DIN or ASA flanges, RF or FF

L=DIN or ASME.

From PN-16 (232 psi) to PN-25 (362 psi)

PISTON CHECK VALVE FEMALE-THREADED  
1/2" - 2" PN25 - CLASS 150  
BACK PRESSURE, METAL OR PTFE DISC

FIG. FHT-LB 411-D PN25

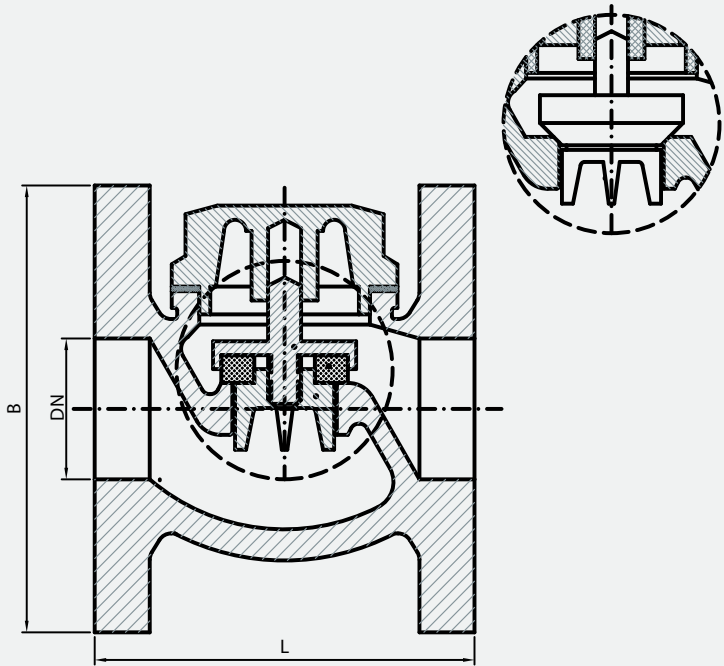


SIZE (")	DN (MM)	P (MM)	H (MM)	L (MM)
1/2	15	11	38	65
3/4	20	13	42	76
1	25	14	52	90
1 1/4	32	17	60	108
1 1/2	40	17	75	120
2	50	21	85	138

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 MSS-SP-80		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	MANUFACTURER STANDARD		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
THREADED ENDS	ISO228-1/ANSI B1.20.1		SPECIAL REQUIREMENTS	Under request
TOP FLANGE	ISO 5211			
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			

PISTON CHECK VALVE FLANGED  
1/2" - 2" PN25 - CLASS 150  
METAL OR PTFE DISC

FIG. FHT-LB 412-D PN25

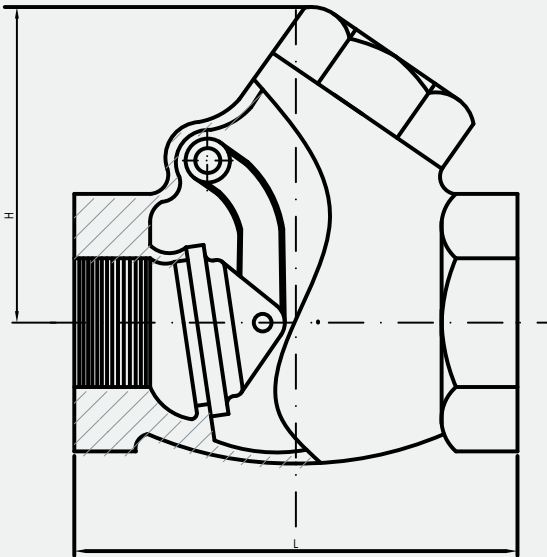


SIZE (")	DN (MM)	Ø 1 (MM)	Ø 2 (MM)	B (MM)	L (MM)	L2 (MM)
1/2	15	88,9	95	38	108	115
3/4	20	98,4	105	48	117	120
1	25	107,9	115	52	127	125
1 1/4	32	117,5	140	60	140	130
1 1/2	40	127	150	75	165	140
2	50	152	165	85	178	150

L ASME B16.10  
L2 DIN 3202 F4/R27  
Ø1 ASME B16.5 150#  
Ø2 DIN 2501 PN16

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 MSS-SP-80		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	ASME B16.10/DIN 3202		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
FLANGED ENDS	ASME B16.5/DIN 2501/JIS/MIL		SPECIAL REQUIREMENTS	Under request
TOP FLANGE	ISO 5211			
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			

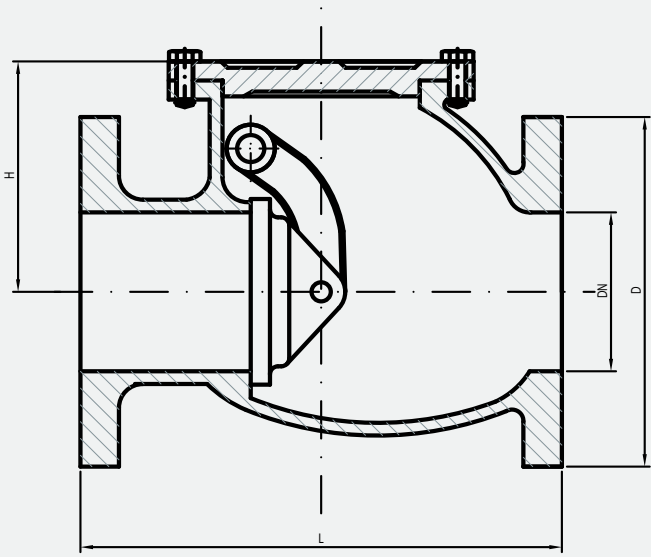
FIG. FHT-LB 416-D PN25



SIZE (")	DN (MM)	H (MM)	L (MM)
1/2	15	43	62
3/4	20	52	76
1	25	65	94
1 1/4	32	89	126
1 1/2	40	89	126
2	50	108	152

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 MSS-SP-80		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	MANUFACTURER STANDARD		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
THREADED ENDS	ISO228-1/ANSI B1.20.1		SPECIAL REQUIREMENTS	Under request
TOP FLANGE	ISO 5211			
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			

FIG. FHT-LB 417-D PN25



SIZE (")	DN (MM)	L (MM)	H (MM)	Ø1 (MM)	Ø2 (MM)
1 1/2	40	180	95	127	150
2	50	200	100	152.4	165
2 1/2	65	240	115	177.8	185
3	80	260	135	190.5	200
4	100	300	145	228.6	220

L      DIN 3202 F6  
Ø1     ASME B16.5 150#  
Ø2     DIN 2501 PN16

STANDARDS		MAIN FEATURES	MATERIALS	
DESIGN	ASME B16.34 MSS-SP-80		BODY	RG-5, RG-10, Aluminium Bronze
FACE TO FACE	MANUFACTURER STANDARD		TRIM	Bronze, Brass, Stainless steel, Monel, Exotic materials...
FLANGED ENDS	ASME B16.5/DIN 2501/JIS/MIL		SPECIAL REQUIREMENTS	Under request
TOP FLANGE	ISO 5211			
PRESSURE TESTS	EN12266-1/API 598/API 6D			
VISUAL INSPECTION	MSS-SP-80			



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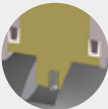
SHIPBUILDING, FPSO, TANKERS, MILITAR SERVICES, OFFSHORE, ...

# FEATURES & OPTIONS



## V-PORT

For reliable flow control applications. When more precise control is required with the simplicity and sealing features of a ball valve. Standards 15°, 30°, 60°, 90° V's are cut into the ball for diverse CV's and control requirements either in soft seated or metal seated ball valves.



## ANTISTATIC DEVICE

To ensure electrical continuity between ball-stem and body.



## CAVITY FILLER

Specially designed to avoid dead spaces inside the valve to prevent corrosion. This feature is a must in many applications on the chemical industry and solids handling.



## DOUBLE BLOCK & BLEED

Double Block and Bleed reduces the risks of product contamination, which is why many Oil & Gas companies have adopted the practice as mandatory when working on field equipment.



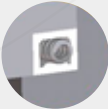
## EMERGENCY SEAT SEAL SYSTEM

Special sealants may be injected into fittings to restore sealing integrity if seat sealing surface is damaged.



## SPRING LOADED SEATS

The "Spring Loaded seats" design ensures automatic pressure cavity relief and a constant operating torque not influenced by temperature fluctuations.



## LIP SEAL

For applications where elastomeric O' rings are not reliable, different types of lip seals are used. Lip Seals are self energised seal systems, made of a Teflon and a spring. The spring provides the initial load (due to the low elasticity of Teflon), while the fluid pressure provides the load to force the lips on the sealing surfaces.



## SELF ADJUSTING

The double cone shape packing is loaded with a set of two Belleville springs which ensures a constant operating torque and prevents stem leaks during the whole life of the valve in service. This design provides highest protection against fugitive emissions even after a high number of cycles. ISO 15848-1 Fugitive emissions requirements fulfilled.



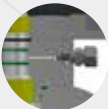
## ANTI-BLOW OUT PROOF STEM

Designed with integral "T"-type shoulder. The stem and the double cone shape stem packing are internally inserted to provide blow-out proof safety and to ensure tightness at all pressures. This design provides highest protection against fugitive emissions even after a high number of cycles. ISO 15848-1 Fugitive emissions requirements fulfilled.



## METAL TO METAL

In Metal seated ball valves for high temperature services, where elastomeric seals are not suitable, this design with double graphite seat seal allows reaching higher temperatures.



## SEALING INJECTION SYSTEM

The sealant injection system located on the body can be utilized in case of emergencies, o-ring damage, or if stem leakage occurs.



## BALANCING HOLE FOR PRESSURE

The ball with a balance hole prevents pressure from being stucked within the body cavity.

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