

3 PIECES BALL VALVE FORGED A350LF2 CARBON STEEL CLASS 1500



FIRE SAFE
API 607



- Size :** DN 15 to 50 (NPS 1/2" to 2")
Ends : Threaded NPT, or Socket Welding
Min Temperature : - 20°C
Max Temperature : + 150°C
Max Pressure : 250 Bars (Class 1500)
Specifications : Antistatic device
With ISO 5211 mounting pad
Anti blow-out stem
Fully encapsulated bolts
Fire safe according to API607 version 4
Atex

Materials : Forged ASTM A350 LF2

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SPECIFICATIONS :

- Full bore
- Anti blow-out stem
- Packing with elastic ring
- Double tightness on stem by PTFE filled with 25% glass fiber packing and FKM O ring
- Double tightness between body and ends by FKM O ring and graphite gasket
- Antistatic device
- Fire safe according to API 607 version 4
- Atex
- With ISO 5211 mounting pad
- Fully encapsulated bolts
- Class 1500
- On request : locking device, handwheel or T handle

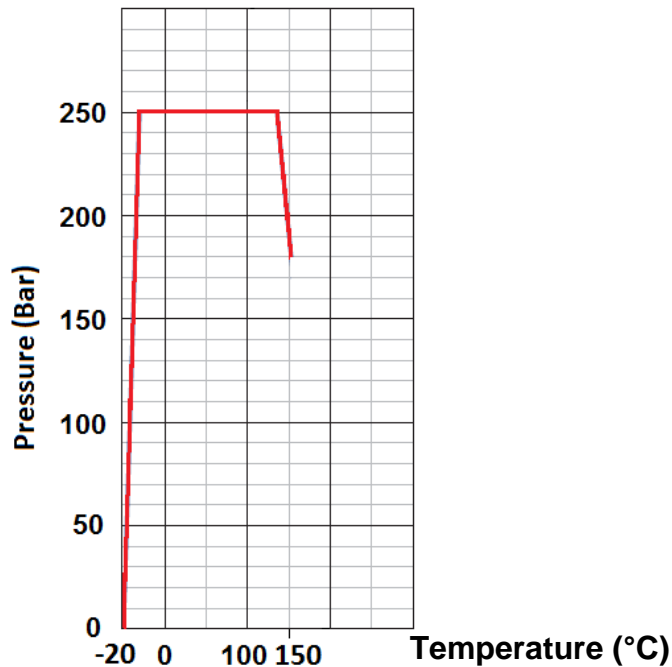
USE :

- Chemical and pharmaceutical industries, petrochemical industries, hydraulic installation, compressed air
- Steam : 12 bars maximum
- Min and max Temperature Ts : - 20°C to + 150°C
- Max pressure Ps : 250 bars (see graph under)

FLOW COEFFICIENT Kvs (M3 / h) :

DN	15	20	25	32	40	50
NPS	1/2"	3/4"	1"	1"1/4	1"1/2	2"
Kvs (m3/h)	10.4	28.5	41.5	71.8	103.8	216.2

PRESSURE / TEMPERATURE GRAPH :



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TORQUES VALUES (in Nm without safety coefficient) :

DN	15	20	25	32	40	50
NPS						
Pressure (bar)	1/2"	3/4"	1"	1"1/4	1"1/2	2"
20	6.8	10.1	13.5	16.9	27	56.9
35	6.8	10.1	16.9	20.3	33.8	74.5
50	6.8	10.1	20.3	27	47.4	101.6
70	6.8	13.5	22.4	33.8	59.6	162.7
105	8	17.5	33.8	40.6	67.8	244
138	16.9	33.8	56.2	77.3	135.3	284.7

BOLT TIGHTENING TABLE (in Nm) :

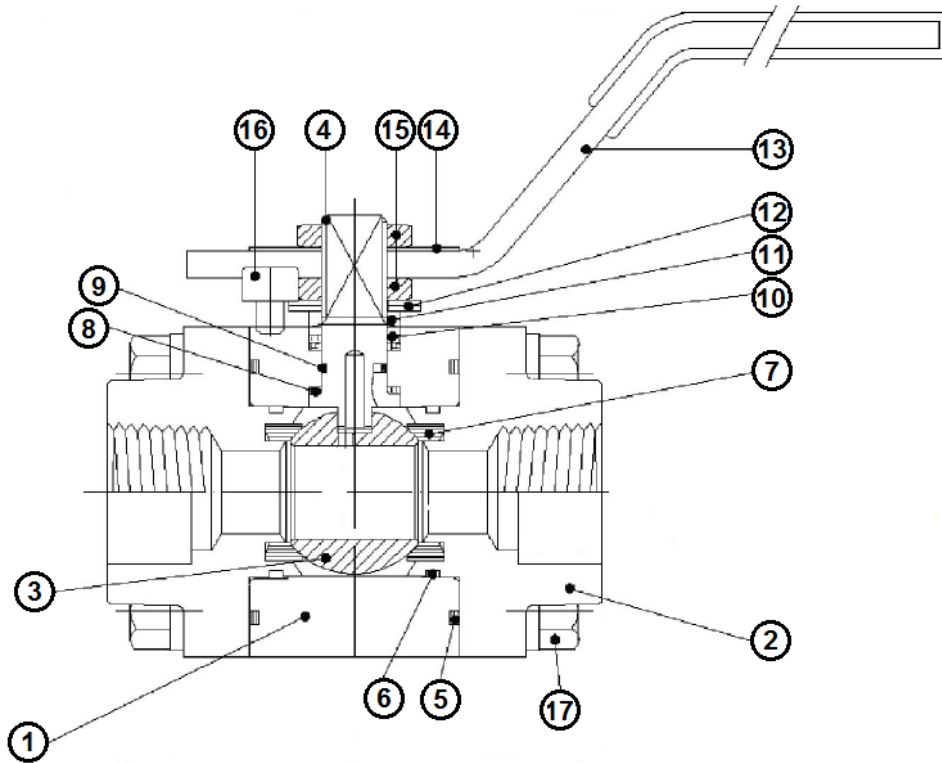
Ref.	DN (mm)	15	20	25	32	40	50
	NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"
746 / 7461	Torque (Nm)	31.9	31.9	56	56	143.3	279.9

RANGE :

- Ball valve Class 1500 threaded NPT **Ref.746** from DN 15 to 50 (NPS 1/2" to 2")
- Ball valve Class 1500 with Socket Welding ends **Ref. 7461** from DN 15 to 50 (NPS 1/2" to 2")

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MATERIALS :

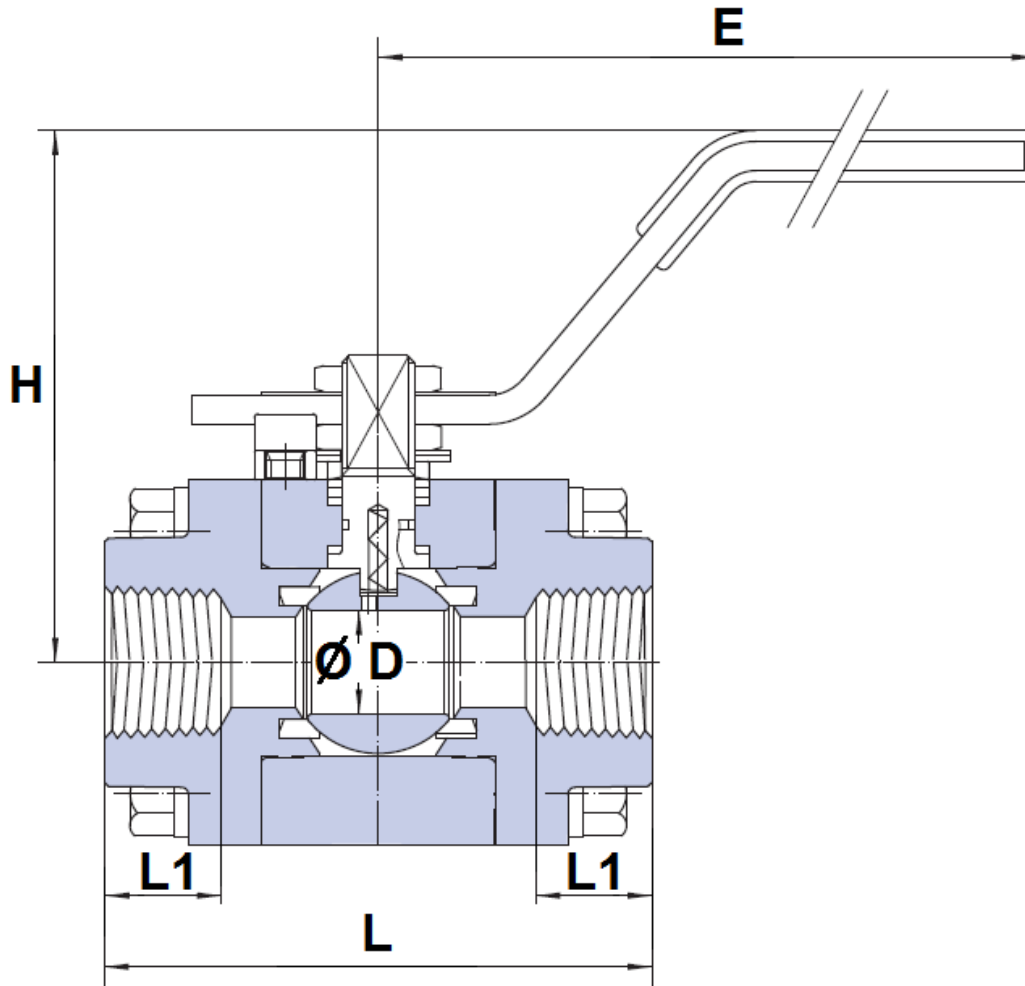


Item	Designation	Materials
1	Body	ASTM A350 LF2
2	Ends	ASTM A350 LF2
3	Ball	ASTM A479 316
4	Stem	ASTM A479 316
5*	Body gasket	Graphite
6*	O ring	FKM
7*	Seat	DEVLON®
8*	Thrust washer	PTFE filled with 25% glass fiber
9*	O ring	FKM
10*	Packing	Graphite
11	Gland	SS 316
12	Elastic ring	SS 301
13	Handle	Steel
14	ID plate	Aluminium
15	Nut	ASTM A582 303
16	Stop Pin	Steel 8.8
17	Bolting	ASTM A320 L7

(* : Included in gaskets kit)

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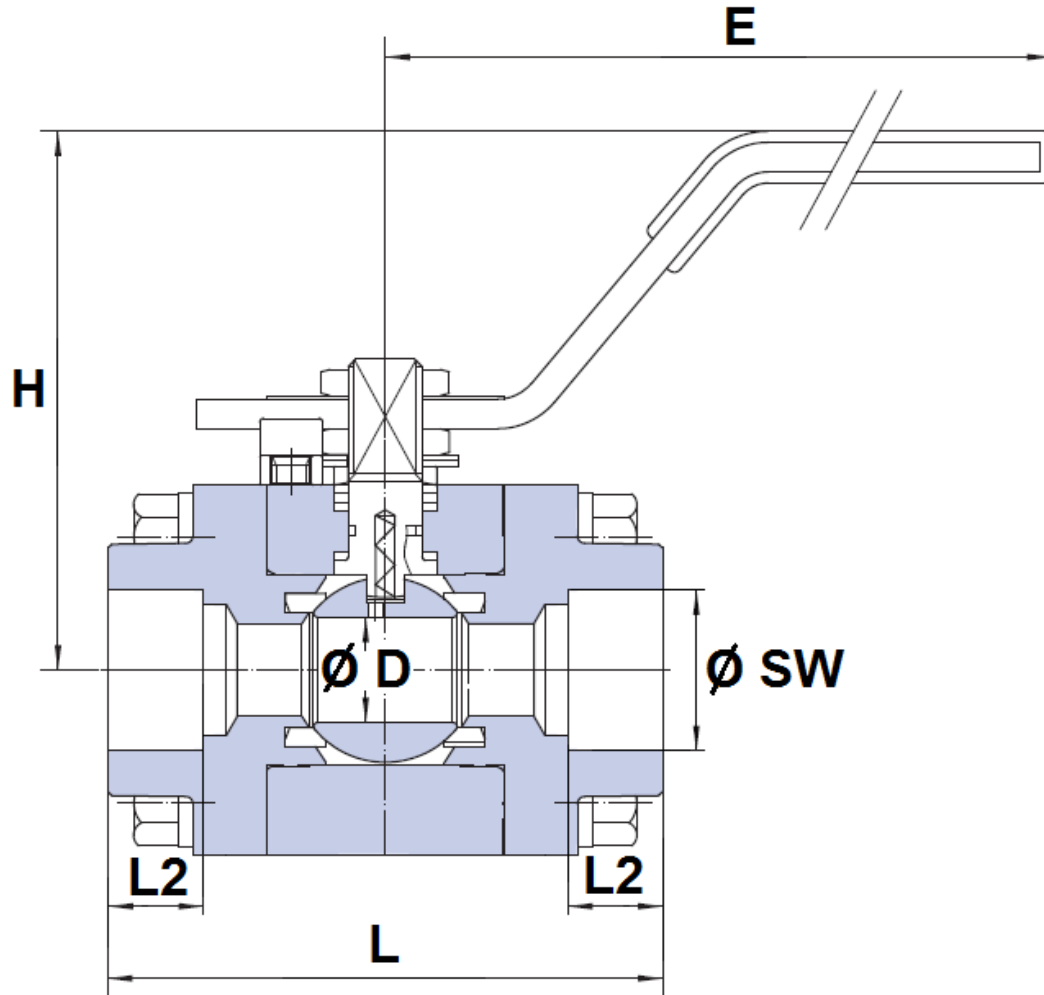
SIZE THREADED NPT TYPE (in mm) :



Ref.	DN (mm)	15	20	25	32	40	50
	NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"
746 Threaded NPT	Ø D	14	19	25	32.5	38	51
	L	87	110	120	140	160	200
	L1	27.5	27	27	43	49	62
	E	170	170	230	230	310	400
	H	91	98	119	124	147	168
	Weight (in Kg)	2.5	3.2	4.7	6.7	10	20

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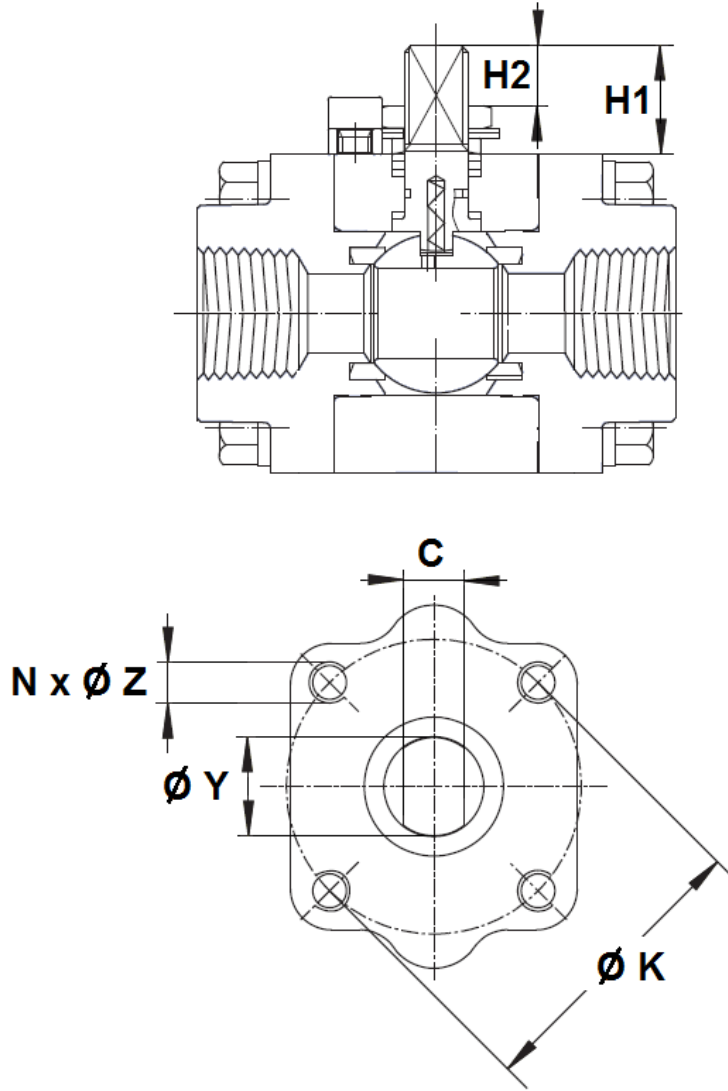
SIZE S.W. TYPE (in mm) :



Ref.	DN (mm)	15	20	25	32	40	50
	NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"
7461 SW	Ø D	14	19	25	32.5	38	51
	L	87	110	120	140	160	200
	E	170	170	230	230	310	400
	H	91	98	119	124	147	168
	L2	12.7	14.5	16	17.5	19	22
	Ø SW	21.8	27.2	33.9	42.7	48.8	61.2
	Weight (in Kg)	2.5	3.2	4.7	6.7	10	20

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ISO 5211 MOUNTING PAD AND STEM SIZE (in mm) :



Ref.	DN (mm)	15	20	25	32	40	50
	NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"
746 / 7461	H1	11.5	20	34	35.5	35.5	40
	H2	9.5	14	21	22	24	24
	C	7.5	7.5	8.9	14	14	18
	Ø Y	12 (M12 x 1.5)	12 (M12 x 1.5)	14 (M14 x 1.5)	20 (M20 x 1.5)	20 (M20 x 1.5)	24 (M24 x 2)
	Ø K	36	36	50	70	70	70
	ISO	F03	F03	F05	F07	F07	F07
	N x Ø Z	4x M5	4x M5	4x M6	4x M8	4 x M8	4 x M8

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STANDARDS :

- Fabrication according to ISO 9001 : 2008
- DIRECTIVE 97/23/CE : **CE N° 0036**
Risk category III module H
- Construction according to ISO 17292
- Designing according to ASME B16.34
- Pressure Tests according to API 598, table 6
- Fire safe according to API 607 version 4
- Threaded NPT ends according to ANSI B1.20.1
- SW ends according to ASME B16.11
- ISO 5211 mounting pad
- ATEX Group II Category 2 G c T3 Zone 1 & 21 Zone 2 & 22 (optional marking)

ADVICE : Our opinion and our advice are not guaranteed and SFERACO shall not be liable for the consequences of damages.
The customer must check the right choice of the products with the real service conditions.

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INSTALLATION AND MAINTENANCE

BEFORE INSTALLATION :

Pipe-line must be cleaned and free from residual of weldings,rubbish,shaving and every kind of extraneous materials.
Pipe-line must be perfectly aligned and their support properly dimensioned so that there's no external constraint.

Check to use a produce compatible to the services conditions for the sealing of the threaded types.
To tighten the ends,use the appropriate tool.
Use the right bolt tightening so that the ends won't be damaged.

The welding of the ends for the SW and the BW types,must be done with the central part removed.
A gauge can be used to have the good lenght and alignment between the ends.

INSTALLATION OF THE CENTRAL PART

During the installation of the central part , tighten bolts according to the table below.Tighten bolts in cross.

BOLT TIGHTENING TABLE (in Nm) :

DN	1/2"	3/4"	1"	1"1/4	1"1/2	2"
Torque (Nm)	31.9	31.9	56	56	143.3	279.9

CLEANING AND TESTS

Keep closed the valves during the cleaning operation so that there's no impurities between the ball and the body.

Tests under pressure must be done with a cleaned pipe-line.

Open partially the valve for tests. Pressure test do not exceed the valve specifications according to EN 12266-1.

MAINTENANCE

It's recommended to operate the valve twice (open and close) 1 to 2 times per year.

When intervention on the valve, be sure there's no pressure in the pipe-line, there's no fluid in it,and that it is isolated.
The temperature must be low enough to operate without risks.
If there's a corrosive fluid,inert installation before intervention.

When the valve is under pressure :
If there's a leakage between the body and the ends, tighten bolts according to the above table

If there's a leakage at the packing, tighten it slightly so that the leakage disappears.

MAINTENANCE OPERATION IN WORKSHOP

REPLACEMENT OF SEAT GASKETS AND PACKING.

The central part must be removed.

Turn the ball at 45° and removed the seat gaskets.

Operate the valve in closed position to removed the ball.Verify the surface of the ball has no impacts and no scores.

If there are important scores or impatcs,replace the ball.

Clean inside the body valve and remove the impurities.

To replace the packing,remove the handle,unscrew the gland nut, extract the stem by the inside of the valve.

Clean the paking seat.

Reassemble thrust washer on stem, introduce stem by the inside of the valve, reassemble packing with packing nut,reassemble hand washer,hand nut and the handle.

Turn stem in closed position and insert the ball.

Then turn the ball in opened position and reassemble the seat.

Place the valve on the installation,tighten bolts according to the above table.

Then proceed to the tests in the same way that the first installation.