

**2 PIECES BALL VALVE FLANGED JC RANGE  
CLASS 150 PN20**



ISO 9001 : 2015  
BUREAU VERITAS  
Certification



ISO 14001:2015  
BUREAU VERITAS  
Certification



PED/2014/68/UE  
BUREAU VERITAS  
Certification



**Certificate 3.1**

**NACE MR01-75**



**JC  
VALVES**



**FIRE SAFE**



**Size :** DN 15 to 300 mm ( NPS 1/2" to 12" )  
**Ends :** Class 150 PN20 R.F. Flanges  
**Min Temperature :** -29°C  
**Max Temperature :** + 230°C  
**Max Pressure :** 20 Bars  
**Specifications :** ISO 5211 mounting pad  
 Fire safe according to ISO 10497 : 2004, API 607  
 5<sup>th</sup>, BS 6755 Part 2 and API 6FA  
 Fugitive emissions EN 15848-1:2006 and TALUFT  
 Atex, PTFE seat

**Materials :** Carbon steel ASTM A216 WCB

\*the installation defects and wear defects are not covered by the guarantee

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**SPECIFICATIONS :**

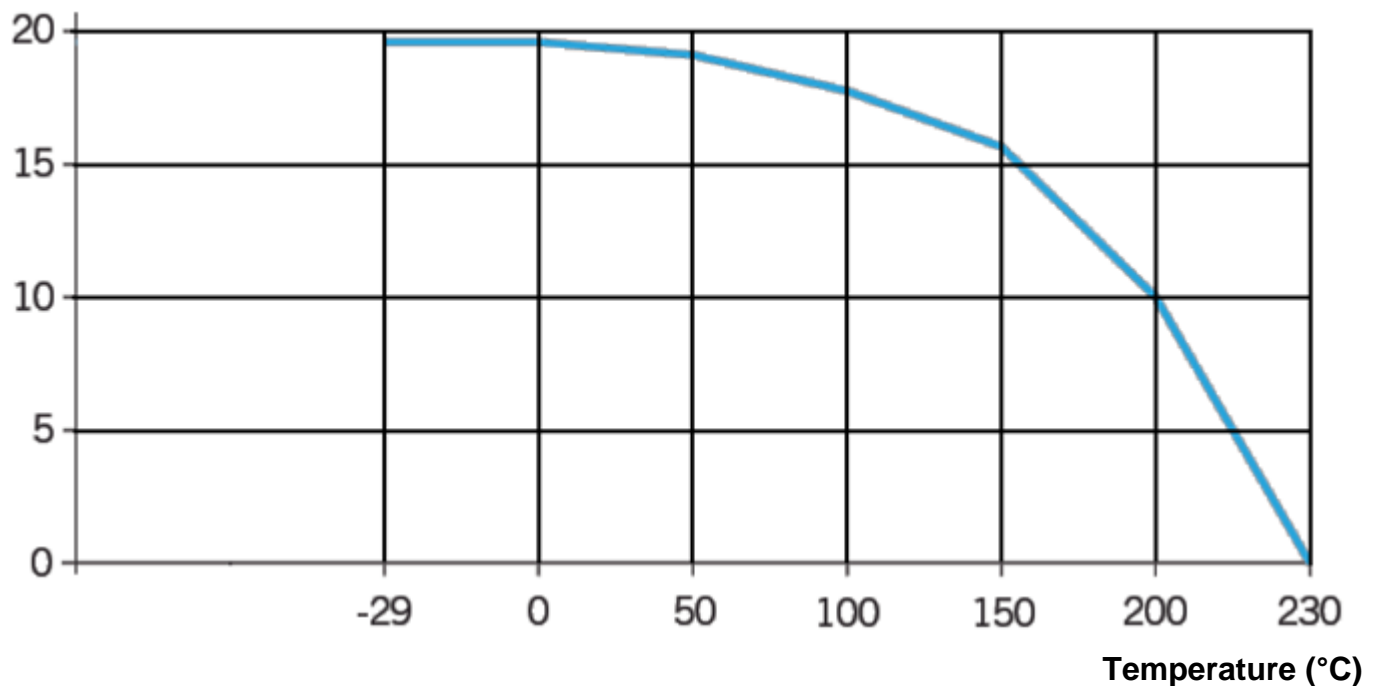
- Full bore
- Anti blow-out stem
- PTFE seat
- Locking device on request
- ISO 5211 mounting pad
- 2 pieces type ( Split body )
- Class 150 PN20 Flanges R.F.
- Antistatic device
- Fire safe ISO 10497 : 2004, API 607 5th, BS 6755 Part.2 and API 6FA
- Fugitive emissions EN 15848-1 : 2006 and TA LUFT VDI 2440
- Graphite packing + FKM O ring on stem
- With exhaust hole in the ball ( located in the top of the ball to avoid overpressure in it )
- Trunnion mounted hollow ball over from DN250 (10") to DN300 (12")

**USE :**

- Chemical industries, petrochemical industries, hydraulic installation, heating, water distribution, compressed air
- Min and max Temperature Ts : -29°C to + 230°C
- Max Pressure Ps : 20 bars ( see graph )
- Vacuum 10<sup>-2</sup> torr
- Compressed air (ambient temperature) : 16 bars maximum
- Steam : 12 bars maximum

**PRESSURE / TEMPERATURE GRAPH ( STEAM EXCLUDED ) :**

**Pressure (Bar)**



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**FLOW COEFFICIENT Kvs (in m<sup>3</sup>/h) :**

NPS ( " )	1/2"	3/4"	1"	1"1/2	2"	3"	4"	6"	8"	10"	12"
DN	15	20	25	40	50	80	100	150	200	250	300
Kvs ( m <sup>3</sup> / h )	20	40	75	170	270	1000	1650	4200	9000	15000	20800

**TORQUE VALUE ( in Nm without safety coefficient ) at 20 bars :**

NPS ( " )	DN	BTO*	RTO	ETO	BTC	RTC	ETC*	MAST
1/2"	15	9	5	5	7	5	7	26
3/4"	20	13	7	8	10	7	10	26
1"	25	17	9	10	13	9	14	26
1"1/2	40	30	15	18	23	15	24	85
2"	50	43	22	26	32	22	34	85
2"1/2	65	66	33	40	50	33	53	176
3"	80	95	48	57	71	48	76	246
4"	100	150	75	90	113	75	120	305
6"	150	326	163	196	245	163	261	974
8"	200	729	365	437	547	365	583	1387
10"	250	1280	640	768	960	640	1024	1387
12"	300	1500	750	900	1125	750	1200	2541

**RANGE :**

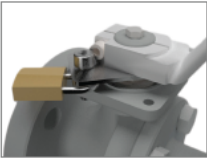
- Carbon steel body ball valve with handle flanged Class 150 PN20 **Ref. 515AIT** from DN 15 to DN 150 (NPS 1/2" to 6")
- Carbon steel body ball valve with free stem Class 150 PN20 **Ref. 515AIT** DN200 (NPS 8")
- Carbon steel body ball valve with free stem Class 150 PN20 **Ref. 1515AIT** from DN250 to 300 (NPS 10" to 12")

**ENDS:**

- Class 150 PN20 R.F. Flanges

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**ACCESSORIES :**



- Locking device DN 15-200 Ref.9830130-9830138



- Reinforced locking device DN 15-200 Ref.9830120-9830129



- Stainless steel handle DN 15-150 Ref. 9830513-9830520



- Oval stainless steel handwheel DN 15-50 Ref.9830575-9830577



- Gearbox DN 125-300 Ref. 9830397-9830401



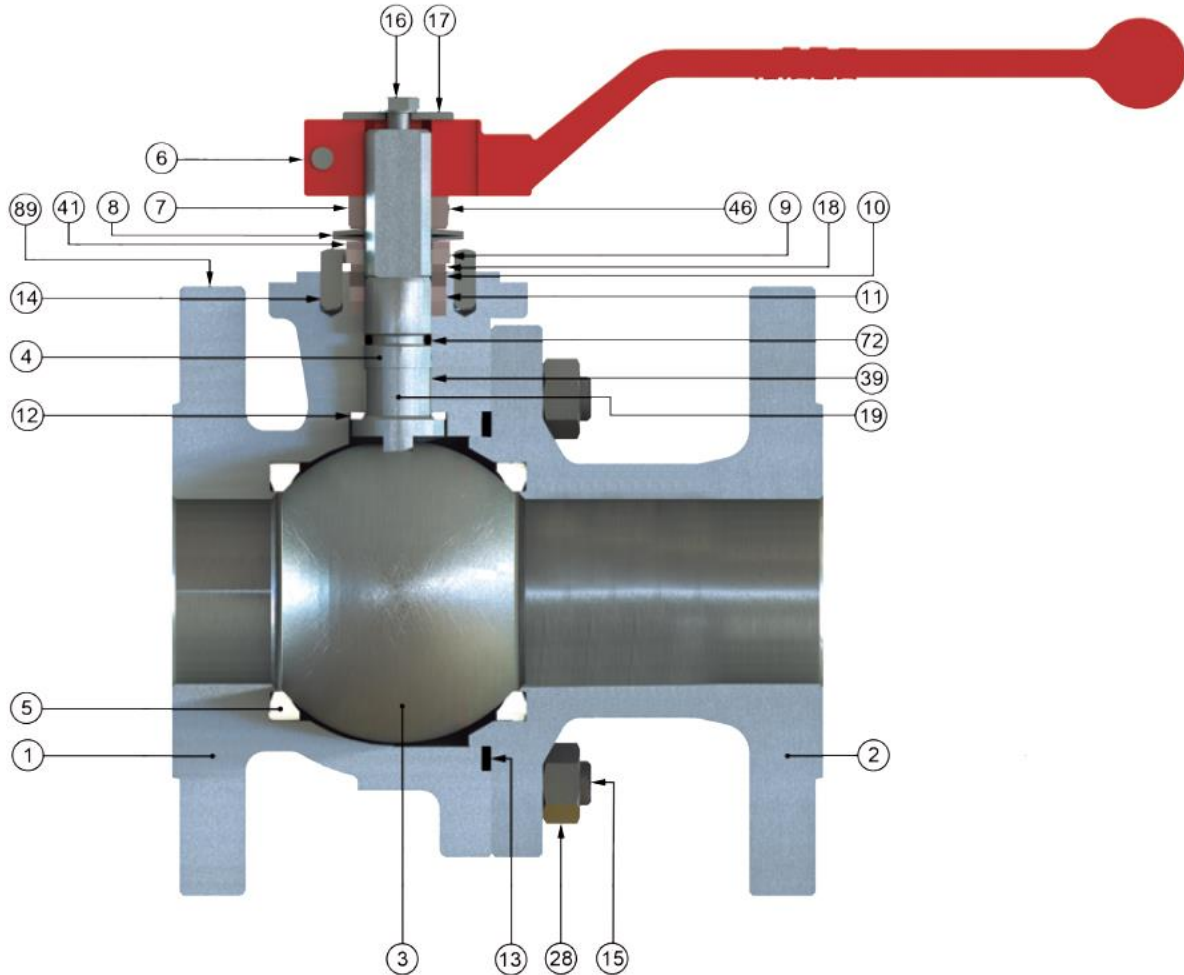
- Single stainless steel stem extension DN 15-200 Ref. 9810615-9810623



- ISO 5211 carbon steel stem extension DN 15-100 Ref. 9810624-9810627
- ISO 5211 stainless steel stem extension DN 15-100 Ref. 9810628-9810631

## 2 PIECES BALL VALVE FLANGED JC RANGE CLASS 150 PN20

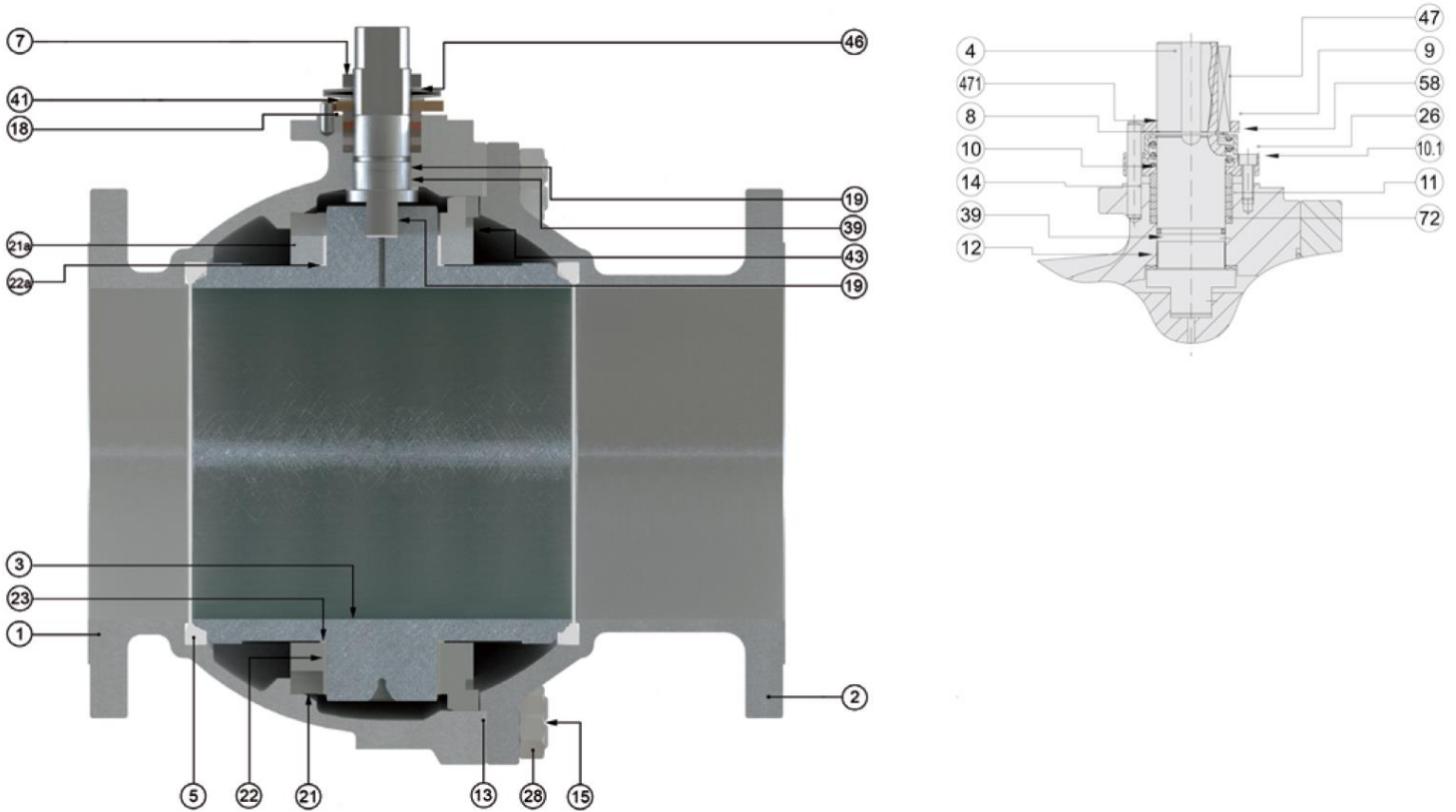
**VALVE MATERIALS DN15-200 (NPS 1/2" to 8") :**



Item	Designation	Materials	Item	Designation	Materials
1	Body	ASTM A216 WCB 1.0619	13	Body spiral seat	AISI 316L + PTFE + Graphite
2	Ends		14	Pin	Carbon Steel
3	Ball DN15-25	ASTM A479 Tp.316	15	Screw (stud DN32-100)	A193 Gr. B7M zinc dichr .
	Ball DN 32-200	Inox ASTM A 351 CF8M	16	Handle screw	DIN 933 A2-70
4	Stem	ASTM A479 Tp.316	17	Washer	Zinc plated carbon steel
5	Seat	PTFE	18	Thrust washer	PTFE filled with 25% glass
6	Handle	Ductile iron	19	Antistatic device	Stainless steel
7	Packing nut	Carbon Steel	28	Nut (DN32-100)	A 194 Gr. 2HM zinc dichr .
8	Elastic ring	Carbon Steel	39	Stem bushing (DN25-200)	PTFE filled with 25% glass
9	Stop washer	Carbon Steel	41	Spacer (DN40-200)	Carbon Steel
10	Packing gland	AISI 303	46	Washer	AISI 304
11	Packing	Graphite	72	O ring	FKM
12	Gasket	PTFE filled with 25% glass	89	ID plate	Stainless steel

**2 PIECES BALL VALVE FLANGED JC RANGE  
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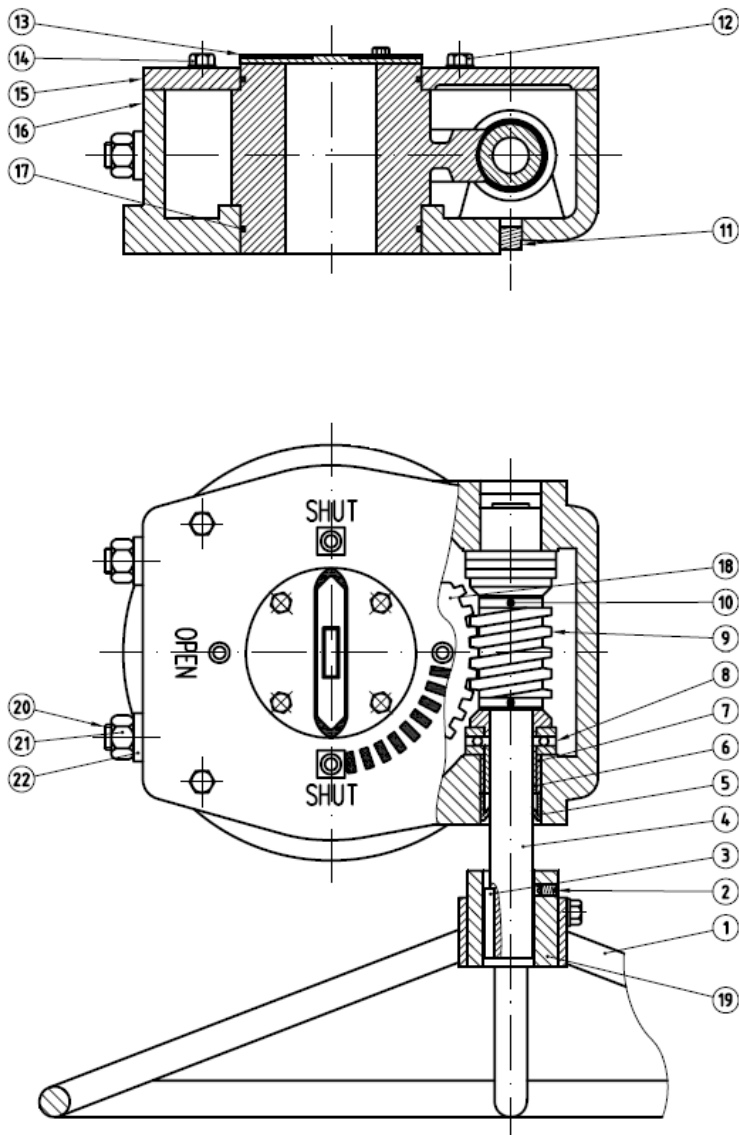
**VALVE MATERIALS DN 250-300 (NPS 10" to 12") :**



Item	Designation	Materials
1	Body	ASTM A216 WCB 1.0619
2	Ends	
3	Ball	ASTM A 351 CF8M
4	Stem	ASTM A479 Tp.316
5	Seat	PTFE
7	Packing gland	Zinc plated carbon steel
8	Elastic washer	Carbon steel
9	Pin	
10	Gland	AISI 303
10.1	Ring	
11	Packing	Graphite
12	Gasket	PTFE filled with 25% glass
13	Body seat	AISI 316L + Graphite
14	Stop pin	Carbon steel
15	Stud	A193 Gr. B7M

Item	Designation	Materials
18	Bushing	PTFE filled with 25% glass
19	Antistatic device	Stainless steel
21/21a	Ball trunnion	AISI 316
22/22a	Trunnion bearing	PTFE + 50% Stainless steel
23	Bearing	PTFE
26	Bolt	DIN 912 8.8 zinc plated
28	Nut (only for DN250)	A 194 Gr. 2HM
39	Stem bushing	PTFE + 50% Stainless steel
41	Spacer	Carbon steel
43-47	Key	AISI 316
46	Locking washer	AISI 304
58	Spring protection	Carbon steel
72	O ring	FKM
89	ID plate	Stainless steel
471	Retainer	Carbon steel

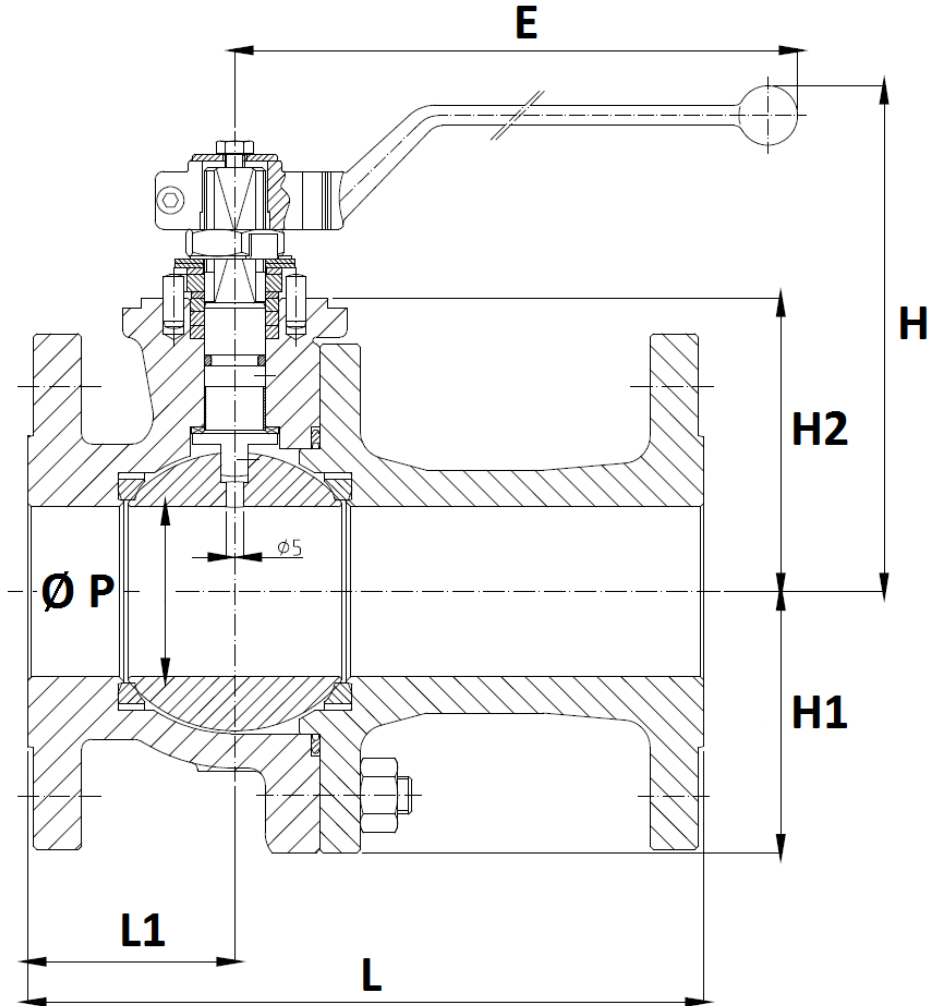
## 2 PIECES BALL VALVE FLANGED JC RANGE CLASS 150 PN20

**GEARBOX MATERIALS :**


Item	Designation	Materials
1	Handwheel	Carbon steel
2	Screw	
3	Stem key	
4	Input shaft	AISI 1045
5	Oil seal	Rubber
6	Bearing	Cu Base Alloy
7	Oil bearing	
8	Thrust bearing	Carbon steel
9	Worm	AISI 1045
10	Pin	Carbon steel
11	Plug	
12	Screw	
13	Indicator plate	Cast iron
14	Screw	Carbon steel
15	Cover	Cast iron
16	Housing	
17	O ring	Rubber
18	Worm gear	Ductile iron
19	Nut	Carbon steel
20	Stop screw	
21	Nut	
22	Hex nut	
23-24	Spur gear cover+housing	Cast iron
25	Seal cover	Rubber
26-27-28	Screw+washer	Carbon steel
29	Gear	
30	Bearing	Cu Base Alloy
31	Bolt	Carbon steel
32	Slotted spring pin	
33	Spur gear	
34	Locator pins	

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VALVE SIZE DN15-200 (NPS 1/2" to 8") ( in mm ) :



NPS ( " )	1/2"	3/4"	1"	1"1/2	2"	2"1/2	3"	4"	6"	8"*
DN	15	20	25	40	50	65	80	100	150	200*
Ø P	15	20	25	40	50	65	80	100	151	203
L	108	117	127	165	178	190	203	229	394	457
L1	47	50	52	65	61	75	78.5	90	174	200
E	164	164	164	213	213	348	445	495	698	868
H	111	118	130	148	155	169	207	232	299	353
H1	-	-	-	-	-	-	-	120	168	208
H2	46	53	58	76	83.5	97	111	133	183	233
Weight (Kg)	2	3	3.5	8	11	16	23	38	88	155

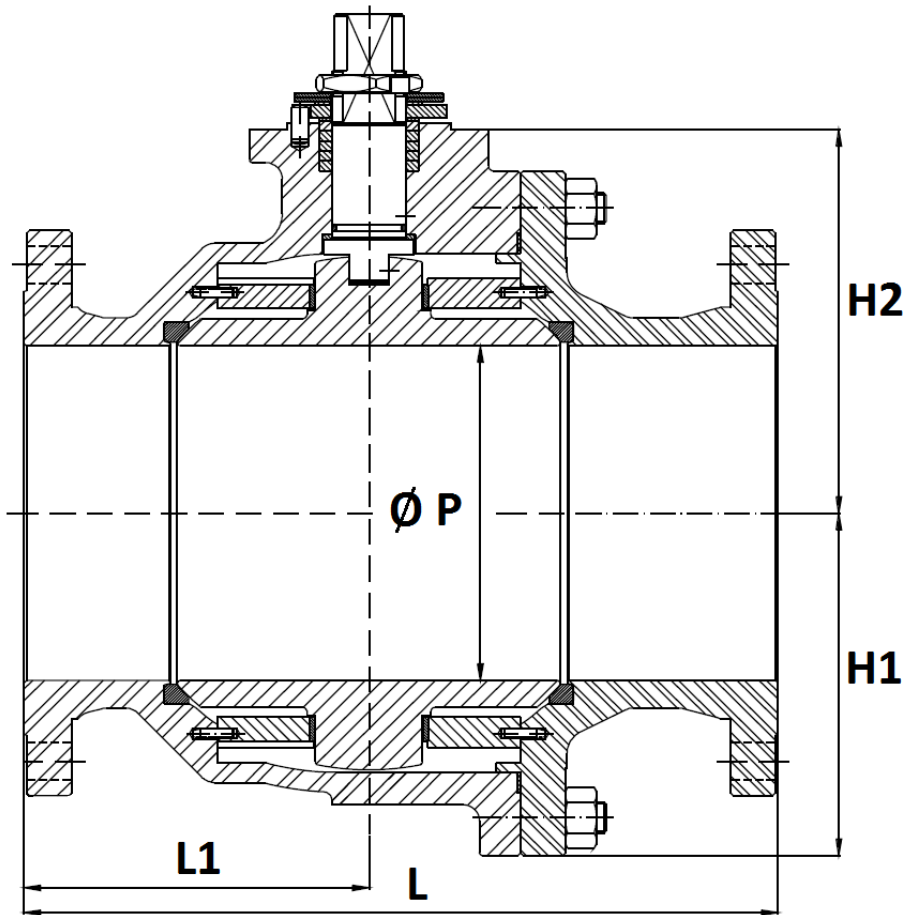
\* Handle on request for DN200 (free stem in standard)

Sferaco 90 rue du Ruisseau 38297 St Quentin Fallavier Tel: + 33 (0) 474.94.15.90 Fax: + 33 (0) 474.95.62.08 Internet: [www.sferaco.fr](http://www.sferaco.fr) E-mail: [sferaco@sferaco.fr](mailto:sferaco@sferaco.fr)



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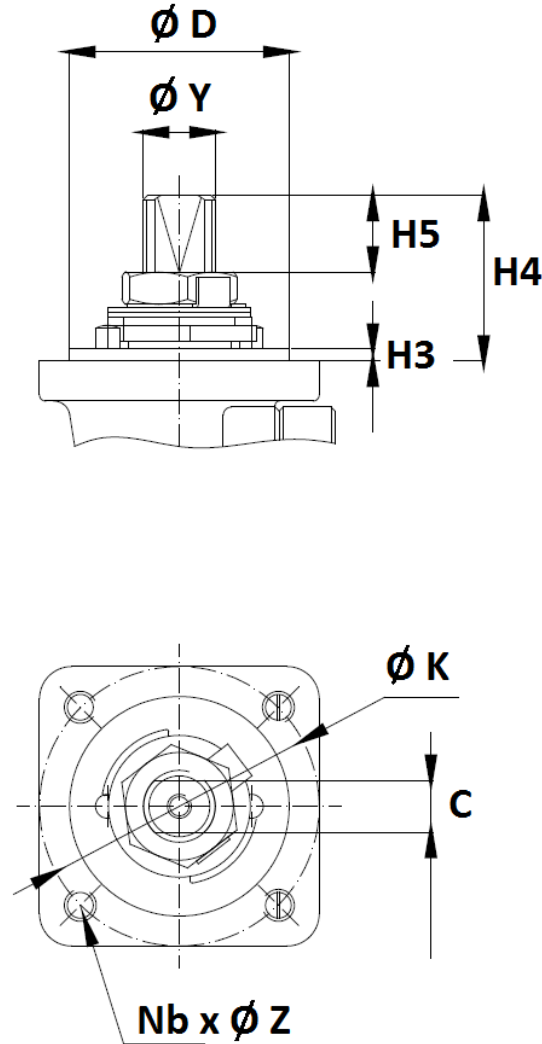
VALVE SIZE DN 250-300 (NPS 10" to 12") ( in mm ) :



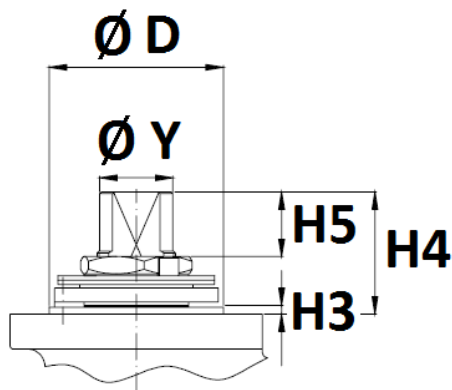
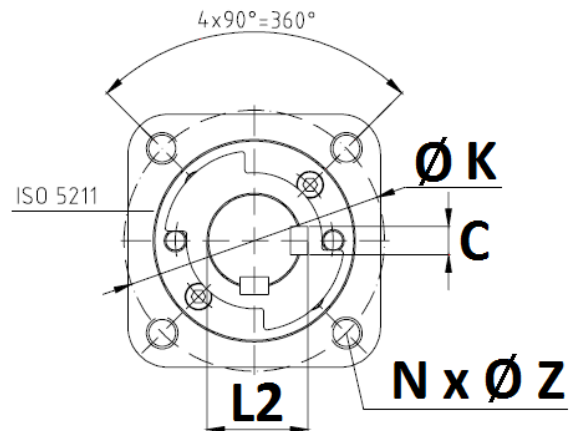
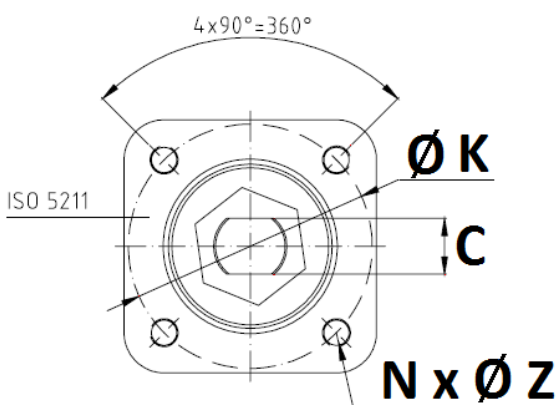
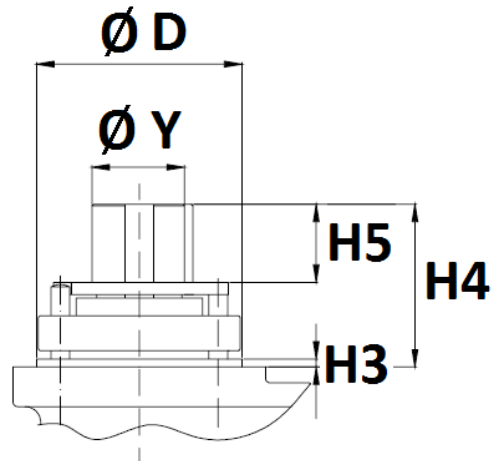
NPS ( " )	10"	12"
DN	250	300
Ø P	254	305
L	533	610
L1	225	245
H1	239	288
H2	256	297
Weight (in Kg)	237	357

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**ISO MOUNTING PAD AND STEM SIZE DN15-200, NPS 1/2" to 8" ( in mm ) :**



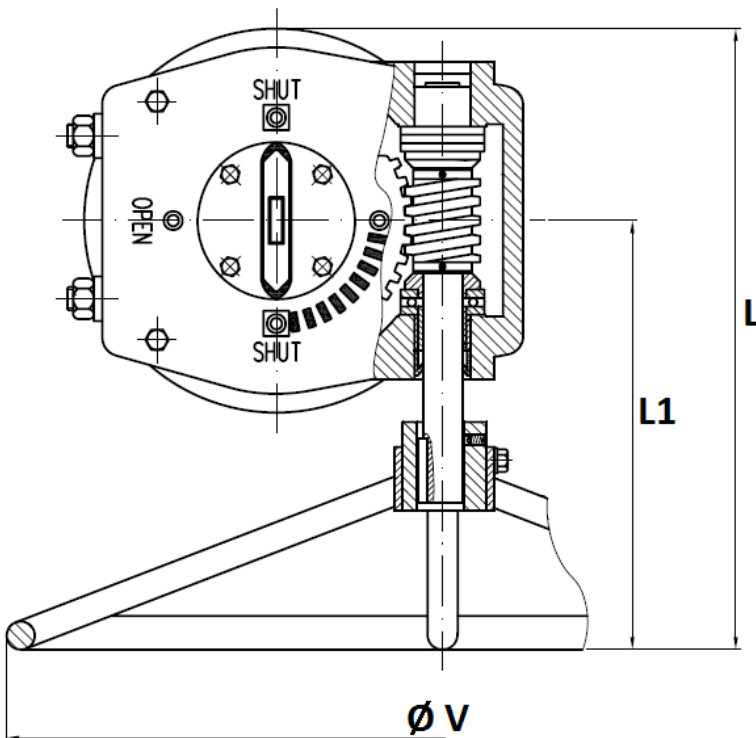
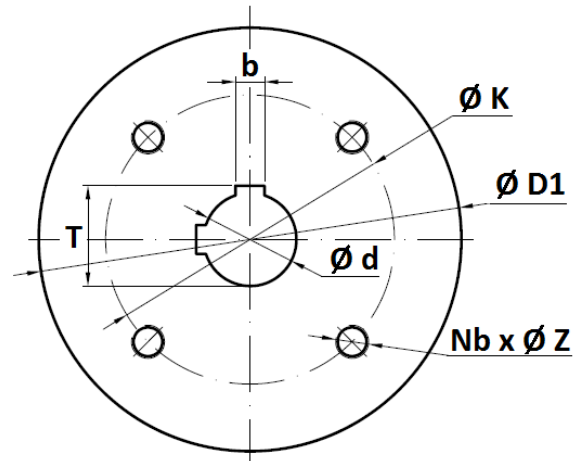
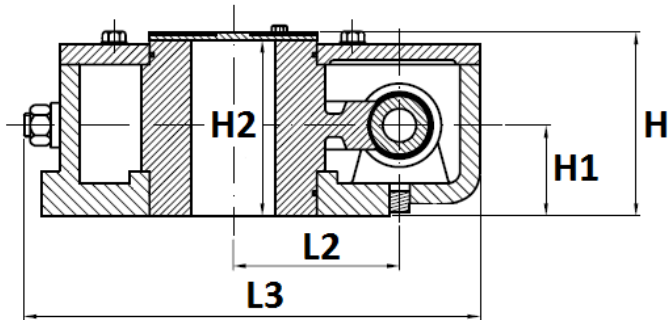
NPS ( " )	1/2"	3/4"	1"	1"1/2	2"	2"1/2	3"	4"	6"	8"
DN	15	20	25	40	50	65	80	100	150	200
H3	1.5			3						4
H4	11.2	14.7	22.7	41.5	41.5	44	44.5	56.5	68	72
H5	5	8.5	9.5	18.3	18.3	18.6	18.6	27.8	37.1	36.5
C	9	9	9	13	13	16	18	20	29	32
Ø Y	M12x1.5			M18x1.5		M22x1.5	M25x1.5	M28x1.5	M40x2	M45x2
Ø D	35			55			70		85	100
Ø K	50			70			102		125	140
ISO	F05			F07		F10		F12	F14	
N x Ø Z	4 x M6			4 x M8		4 x M10		4 x M12	4 x M16	

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**ISO MOUNTING PAD AND STEM SIZE DN250-300 NPS 10" to 12" ( in mm ) :**
**DN 250 (10")**

**DN300 (12")**


NPS ( " )	10"	12"
DN	250	300
H3	4	3
H4	72	106
H5	36.5	58
L2	-	53.5
C	32	14
Ø Y	M45x2	Ø50
Ø D	100	100
Ø K	140	140
ISO	F14	F14
N x Ø Z	4 x M16	4 x M16

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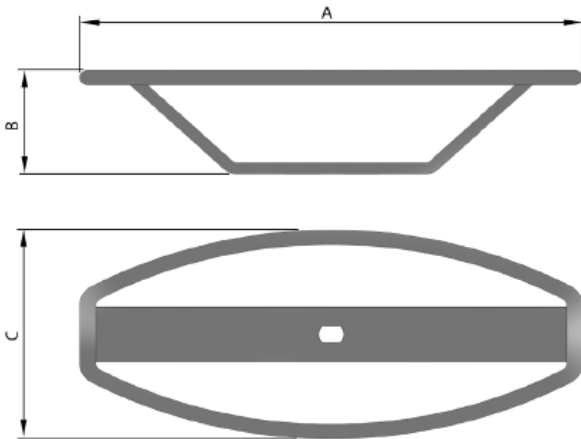
**GEARBOX SIZE DN125-300 NPS 5" to 12" ( in mm ):**



NPS ( " )	5"-6"-8"	10"	12"
DN	125-150-200	250	300
Ø V	465	600	600
L	331.5	487	544
L1	229	370	402
L2	77.5	90	126
L3	245	282	312
H	107	107	113.5
H1	55	55	65
H2	85	85	90
Ø d	45	65	80
Ø D1	205	254	290
Ø K	140	140	165
ISO	F14	F14	F16
Nb - Ø Z	4-M16x20	4-M16x20	4-M20x25
b	14	18	22
T	48.6	69.3	85.6
Weight (Kg)	17.8	22.5	36
Torque (Nm)	1200	2000	3300

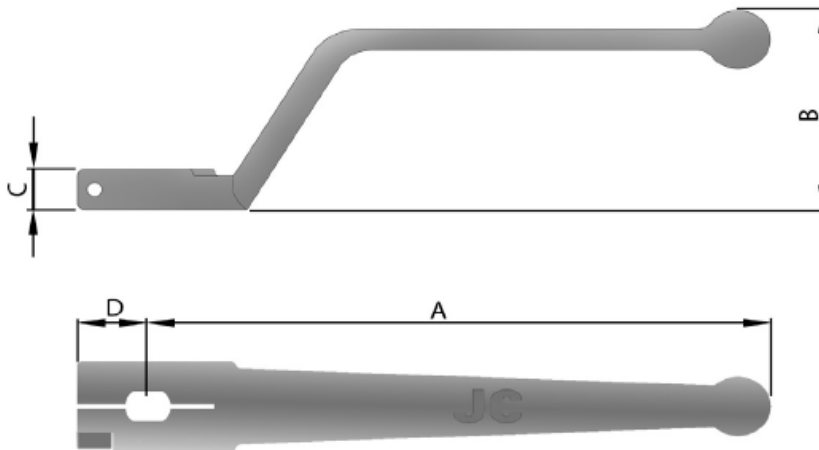
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**OVAL HANDWHEEL SIZE DN15-50 NPS 1/2" to 2" ( in mm ) :**



NPS ( " )	1/2"	3/4"	1"	1"1/4	1"1/2	2"
DN	15	20	25	32	40	50
A	160	160	160	200	216	216
B	54	54	54	56	57	57
C	75	75	75	90	100	100
Weight (Kg)	0.25	0.25	0.25	0.5	0.55	0.55
Ref.	9830575			9830576	9830577	

**STAINLESS STEEL HANDLE SIZE DN15-200 NPS 1/2" to 8" ( in mm ) :**



NPS ( " )	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"	5"	6"	8"
DN	15	20	25	32	40	50	65	80	100	125	150	200
A	163.5		300	212.5		347.5	445	495	697.5		867.5	
B	58.5		45	48.5	46.5	70	70	77.5	84.5	84.5		
C	12		16	21	20		29	30	40			
D	18.5		22	25.5			33		47		55	
Weight (Kg)	0.2		0.3	0.53		0.63	1.52	1.85	2.95	3.4	4.6	
Ref.	9830513		9830514	9830515		9830516	9830517	9830518	9830519	9830520		

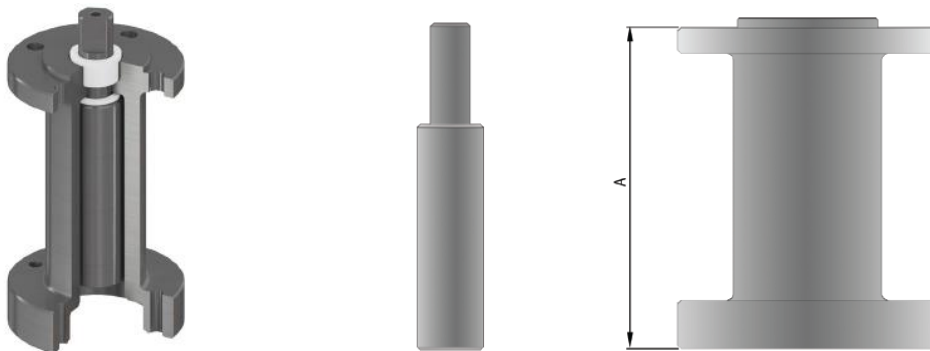
**2 PIECES BALL VALVE FLANGED JC RANGE  
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**SINGLE STAINLESS STEEL STEM EXTENSION SIZE DN15-200 NPS 1/2" to 8" ( in mm ) :**



NPS ( " )	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"	5"	6"	8"
DN	15	20	25	32	40	50	65	80	100	125	150	200
A	100											
Weight (Kg)	0.25		0.57	0.56		0.78	1.03	1.42	1.67	2.25	2.97	
Ref.	9810615		9810616	9810617		9810618	9810619	9810620	9810621	9810622	9810623	

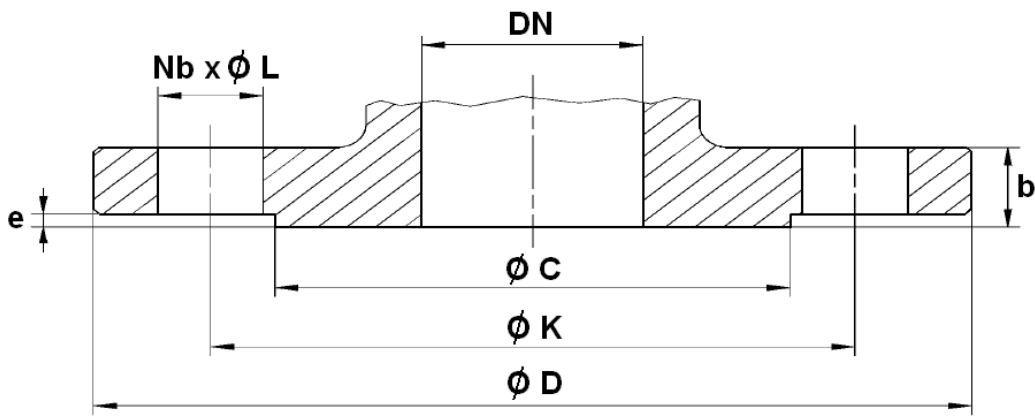
**STANDARD ISO 5211 STEM EXTENSION (CARBON AND STAINLESS STEEL) DN15-100 NPS 1/2" - 4" (mm) :**



NPS ( " )	1/2"	3/4"	1"	1"1/2	2"	3"	4"
DN	15	20	25	40	50	80	100
A	100						
Weight (Kg)	1.24			2.63		4.78	4.18
Ref. Carbon steel	9810624			9810625		9810626	9810627
Ref. Stainless steel	9810628			9810629		9810630	9810631

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**FLANGES SIZE ( in mm ) :**



NPS ( " )	1/2"	3/4"	1"	1"1/2	2"	2"1/2	3"	4"	6"	8"	10"	12"
DN	15	20	25	40	50	65	80	100	150	200	250	300
Ø C	34.9	42.9	50.8	73	92.1	104.8	127	157.2	215.9	269.9	323.8	381
Ø D	90	100	110	125	150	180	190	230	280	345	405	485
Ø K	60.3	69.9	79.4	98.4	120.7	139.7	152.4	190.5	241.3	298.5	362	431.8
Nb x Ø L	4 x 15.9				4 x 19.1			8 x 19.1	8 x 22.2		12 x 25.4	
b	11.2	11.2	11.2	14.3	15.8	17.6	19	24.6	25.5	28.5	30.2	31.8
e	1.6											

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**STANDARDS :**

- Fabrication according to ISO 9001:2015 and ISO 14001 : 2015
- DIRECTIVE 2014/68/EU : CE N° 0056  
Risk Category IV module H1
- Certificate 3.1 on request
- Valve designing according to EN 1983 – ISO 17292, API 6D and ASME B16.34
- Body design according to ASME VIII Div.1
- Materials according to NACE MR 01-75
- Pressure Tests according to API 598
- Marking according to EN 19
- Fire safe according to ISO 10497 : 2004, API 607 5th, BS6755 Part 2, and API 6FA 1994
- Fugitive Emissions according to EN 15848-1 : 2006 B Class and TA LUFT VDI 2440
- SIL2 according to IEC/EN 61508, SIL 3 possible according to the type of installation
- Flanges R.F. type B1 Class 150 according to ASME B16.5
- Shell finishing quality MSS SP 55
- ISO 5211 mounting pad
- Length according to ASME B16.10 Table 1 Column 18 (EN 558 series 3 up to DN100, series 12 from DN150 to 300)
- ATEX Group II Category 2 G/2Dc Zone 1 & 21 Zone 2 & 22 ( optional marking ) according to directive 2014/34/EU
- Russian certificate TRCU 10, TRCU 12 and TRCU 32 (EAC marking and declaration **on request**)

**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.



**2 PIECES BALL VALVE FLANGED JC RANGE  
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- Ensure that the valves to be used are appropriate for the conditions of the installation (type of fluid, pressure and temperature).
- Be sure to have enough valves to be able to isolate the sections of piping as well as the appropriate equipment for maintenance and repair.
- Ensure that the valves to be installed are of correct strength to be able to support the capacity of their usage.
- **Installation of all circuits should ensure that their function can be automatically tested on a regular basis (at least two times a year).**

**INSTALLATION INSTRUCTIONS :**

- **Before installing the valves, clean and remove any objects from the pipes** (in particular bits of sealing and metal) which could obstruct and block the valves.
- **Ensure that both connecting pipes either side of the valve (upstream and downstream) are aligned (if they're not, the valves may not work correctly).**
- **Make sure that the two sections of the pipe (upstream and downstream) match, the valve unit will not absorb any gaps. Any distortions in the pipes may affect the tightness of the connection, the working of the valve and can even cause a rupture.** To be sure, place the kit in position to ensure the assembling will work.
- **If sections of piping do not have their final support in place, they should be temporarily fixed. This is to avoid unnecessary strain on the valve.**
- Tighten the bolts in cross.
- It's recommended to operate the valve ( open and close ) 1 to 2 times per year