

**FIRE SAFE BALL VALVE CLASS 150 (PN20) FLANGED  
EXCELLENCE RANGE**



**NACE MR01-75**



**Certificate 3.1**

**Size :** DN 15 to 200 mm ( NPS 1/2" to 8" )  
**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 ISO 10497 : 2004  
Fugitive emissions EN 15848-1 : 2006  
Atex

**Materials :** Carbon steel ASTM A216 WCB

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**SPECIFICATIONS :**

- Full bore
- Anti blow-out stem
- Pure PTFE TFM1600 seat ( PMD FF )
- Locking device
- ISO 5211 mounting pad
- 2 pieces type ( Split body )
- Class 150 (PN20) R.F. Flanges
- Antistatic device
- Fire safe ISO 10497 : 2004
- Fugitive emissions EN 15848-1 : 2006
- 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 )
- Black painting colour RAL 9004 , 5-15 microns thickness

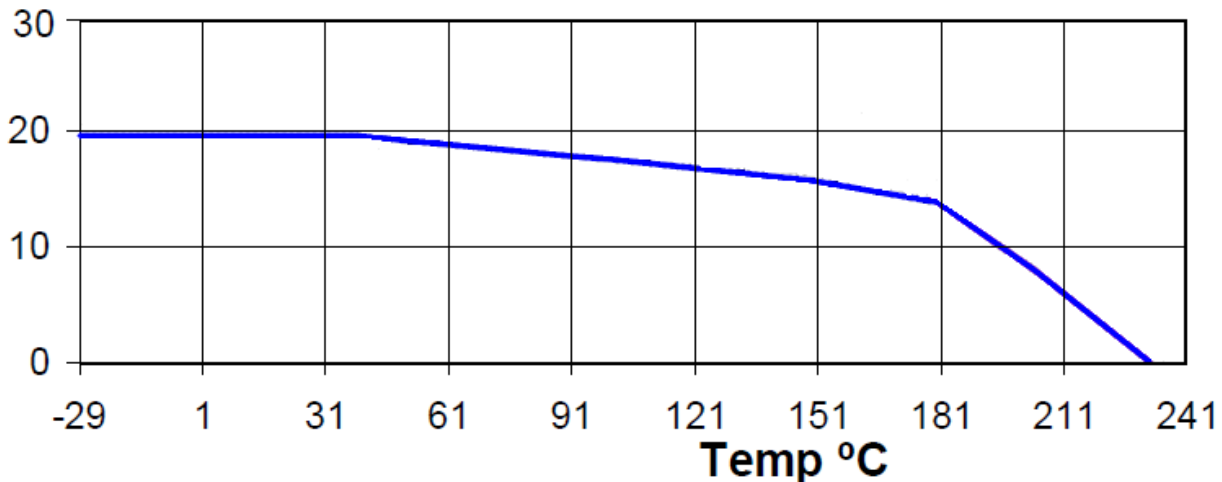
**USE :**

- 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) : 8 bars maximum
- Steam : 12 bars maximum

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

**PRESSURE**

**P Bar**



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

DN (mm)	15	20	25	40	50	65	80	100	150	200
NPS (")	1/2"	3/4"	1"	1"1/2	2"	2"1/2	3"	4"	6"	8"
Kvs (m <sup>3</sup> /h)	20	40	75	170	270	550	1000	1650	4200	9000

**TORQUE VALUE (in Nm without safety coefficient) :**

DN (mm)	15	20	25	40	50	65	80	100	150	200
NPS (")	1/2"	3/4"	1"	1"1/2	2"	2"1/2	3"	4"	6"	8"
Torque (Nm)	6	8	12	22	36	50	79	130	220	630

**RANGE :**

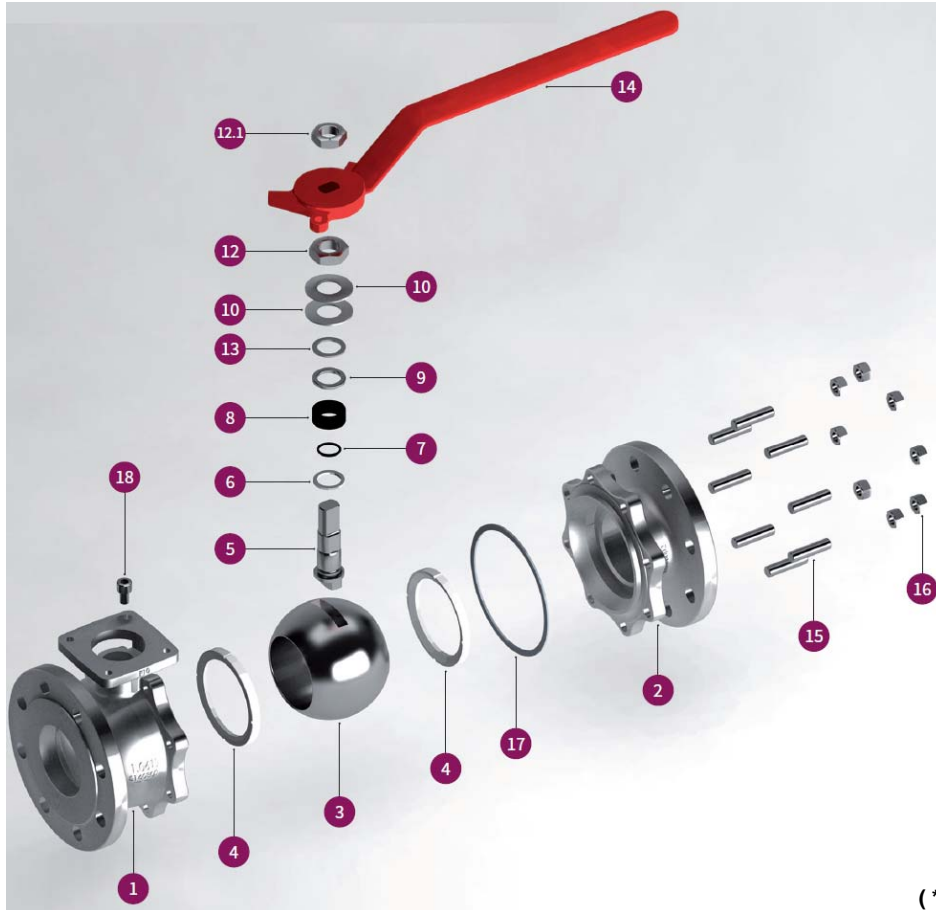
- Carbon steel ball valve **Ref. 756** DN 15 to DN 200 ( NPS 1/2" to 8" )
- Possible with gearbox **Ref. 9830221 and 9830266-267** from DN 100 to 200 ( NPS 4" to 8" )
- Stainless steel handle ASTM A351 CF8M **Ref. 9812090-9812097** from DN 15 to DN 200 ( NPS 1/2" to 8" )

**ENDS :**

- Class 150 (PN20) R.F. Flanges

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**VALVE MATERIALS :**

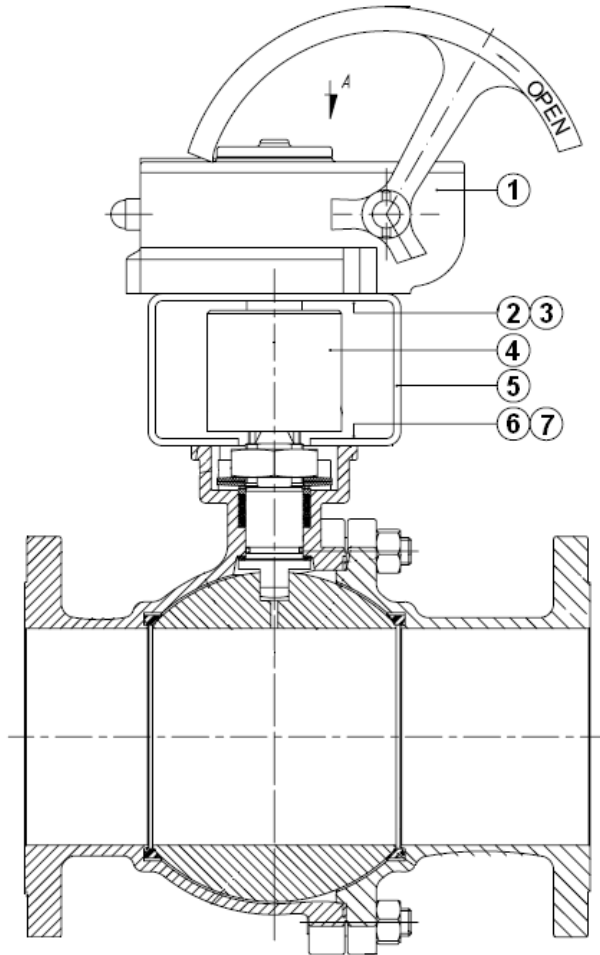


(\* : Included in gaskets kit )

Item	Designation	Materials
1	Body	ASTM A216 WCB
2	Ends	
3	Ball	ASTM A351 CF8M
4*	Seat	Pure PTFE TFM 1600 ( PMD FF )
5	Stem	ASTM A479 type 316
6*	Stem thrust seal	PTFE filled with 25% Glass
7*	Stem O ring	FKM
8*	Gland Packing	Graphite
9	Gland	AISI 303
10	Elastic ring	Inconel 718
12	Gland nut	AISI 303
12.1	Handle nut	AISI 303
13	Antifriction washer	PTFE filled with 25% Glass
14	Handle	Nodular iron
15	Stud	A 193 Gr. B7M
16	Nut	A 194 Gr. 2HM
17*	Spiralwound gasket	SS 316L + PTFE + Graphite
18	Bolt	A2

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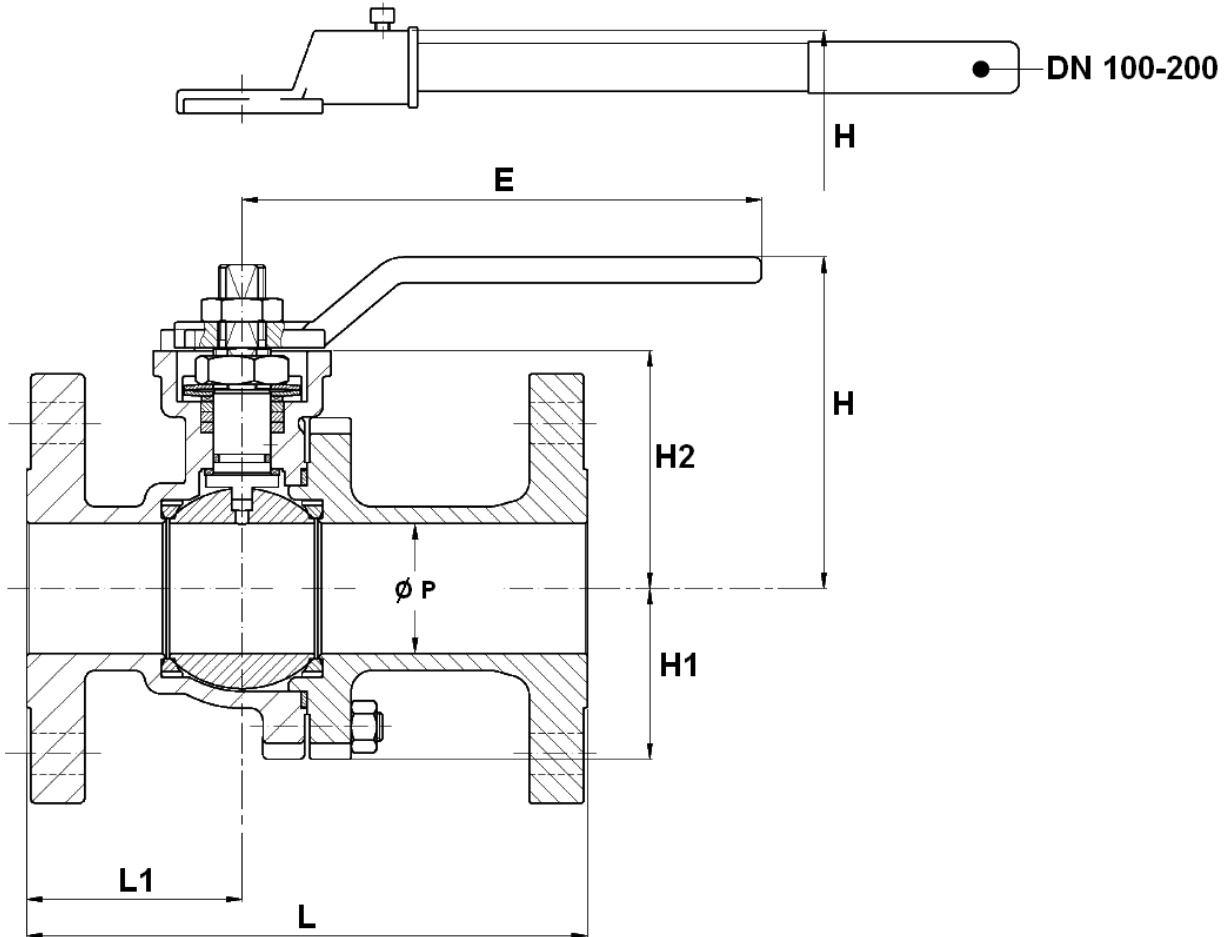
GEARBOX MATERIALS :



Item	Designation	Materials
1	Gearbox	Painted steel
2	Screw	DIN 912 A2
3	Washer	DIN 912 A2
4	Coupling	Stainless steel
5	Mounting bracket	Stainless steel
6	Screw	DIN 912 A2
7	Washer	DIN 912 A2

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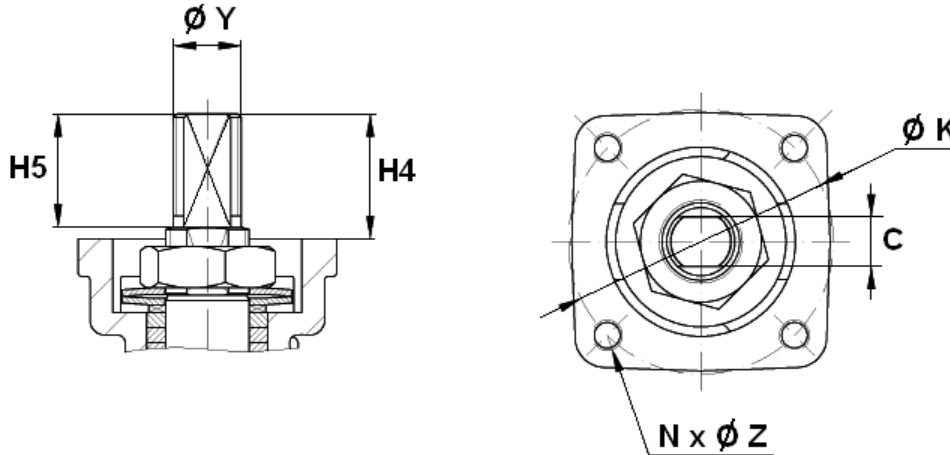
VALVES SIZE ( in mm ) :



Ref.	DN (mm)	15	20	25	40	50	65	80	100	150	200
	NPS ( " )	1/2"	3/4"	1"	1"1/2	2"	2"1/2	3"	4"	6"	8"
756	Ø P	15	20	25	40	50	65	78	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	209
	E	170	170	170	215	215	335	430	466	680	845
	H	68	70	86	122.5	127.5	140	190	192.5	259	319
	H1	31	33	39	48	63	78	87	108	152	202
	H2	41	43	58.5	86.5	91.5	104	118.5	144	203	250
	Weight ( Kg )	1.7	2.2	2.9	6	8.5	13.3	18.5	29.3	64.5	123.2

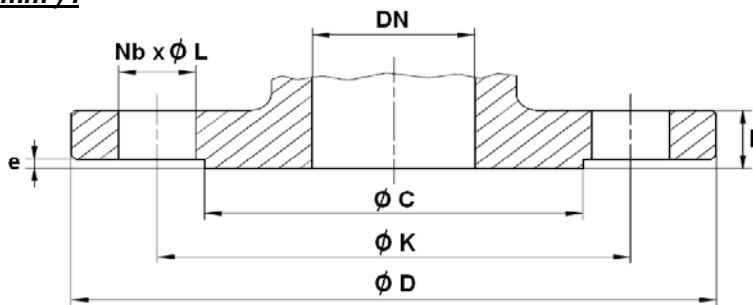
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**ISO MOUNTING PAD AND STEM SIZE ( in mm ) :**



Ref.	DN (mm)	15	20	25	40	50	65	80	100	150	200
	NPS ( " )	1/2"	3/4"	1"	1"1/2	2"	2"1/2	3"	4"	6"	8"
756	C	7	7	8	12	12	15	15	19	24	32
	H4	18	18	22	33	33	34	34	45	56	69
	H5	11	11	21	32	32	33	33	43.5	54.5	67
	Ø Y	M10	M10	M12	M18	M18	M22	M22	M28	M36	M48
	Ø K	50	50	50	70	70	70	102	102	125	140
	ISO	F05	F05	F05	F07	F07	F07	F10	F10	F12	F14
	N x Z	4 x M6	4 x M6	4 x M6	4 x M8	4 x M8	4 x M8	4 x M10	4 x M10	4 x M12	4 x M16

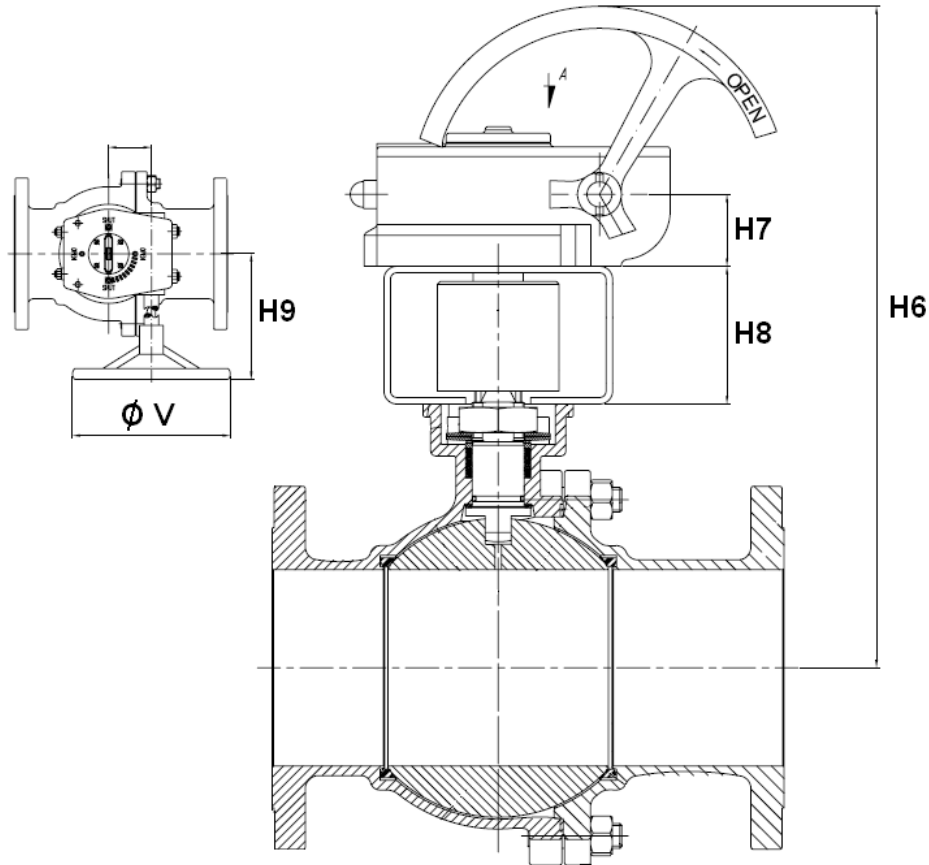
**FLANGES SIZE ( in mm ) :**



Ref.	DN (mm)	15	20	25	40	50	65	80	100	150	200
	NPS ( " )	1/2"	3/4"	1"	1"1/2	2"	2"1/2	3"	4"	6"	8"
756	Ø C	35	43	51	73	92	105	127	157	216	270
	Ø D	88.9	98.5	108	127	152	178	191	229	279.5	343
	Ø K	60.5	69.8	79.24	98.55	120.65	139.7	152.4	190.5	241.3	298.4
	Nb x Ø L	4 x 15.8	4 x 15.8	4 x 15.8	4 x 15.8	4 x 19	4 x 19	4 x 19	8 x 19	8 x 22.2	8 x 22.2
	b	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
	e	11.2	11.2	11.2	14.3	15.8	17.6	19	23.9	25.5	28.5

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GEARBOX SIZE ( in mm ) :



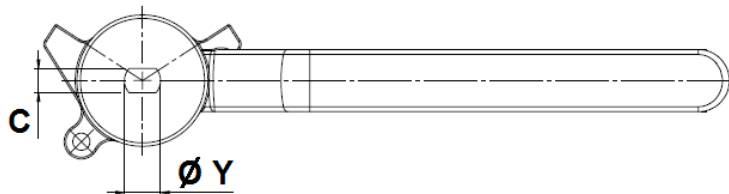
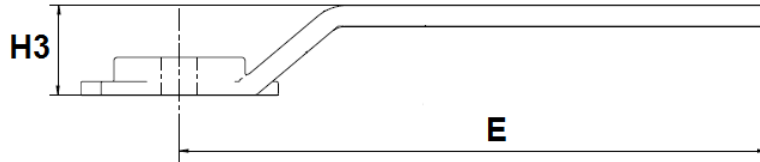
DN (mm)	100	150	200
NPS (")	4"	6"	8"
H6	521.5	596.5	643.5
H7	55	55	55
H8	90	106	106
H9	229	229	229
Ø V	465	465	465
Ref. gearbox	9830221	9830266	9830267
Weight gearbox (Kg)	17.8	19.5	19.7
Weight gearbox + valve (Kg)	47.1	84	142.9



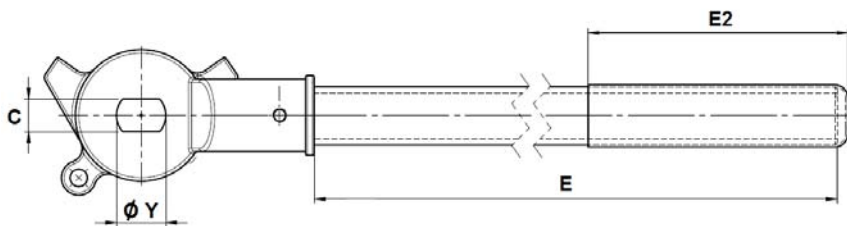
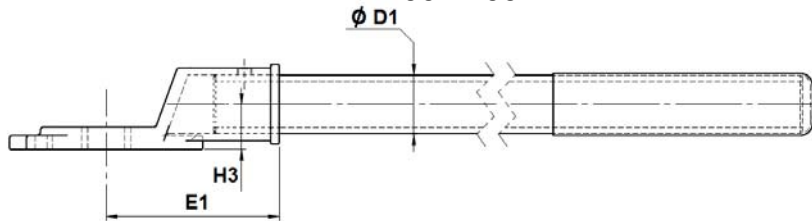
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STAINLESS STEEL HANDLE SIZE ( in mm ) :

**DN 15 - 80**



**DN 100 - 200**



DN	15-20	25-32	40-50	65	80	100	125-150	200
NPS ( " )	1/2"-3/4"	1"-1"1/4"	1"1/2"-2"	2"1/2"	3"	4"	5"-6"	8"
E	170	170	215	335	430	375	578	730
E1	-	-	-	-	-	100	115	140
E2	-	-	-	-	-	120	200	200
H3	26	26	35	35	71	26	30	36
Ø D1	-	-	-	-	-	26.8	33	42
C	7	8	12	15	15	19	24	32
Ø Y	10.5	12.5	18.5	22.5	22.5	28.5	36.5	48.5
Ref.	9812090	9812091	9812092	9812093	9812094	9812095	9812096	9812097



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**STANDARDS :**

- Fabrication according to ISO 9001:2008
- DIRECTIVE 97/23/EC : CE N° 0035  
Risk Category III module H
- Certificate 3.1 on request
- Valve designing according to EN 1983 – ISO 17292 and ASME B16.34
- Materials according to NACE MR 01-75
- Pressure Tests according to EN 12266-1, Rate A and API 598
- Marking according to EN 19
- Fire safe according to ISO 10497 : 2004
- Fugitive Emissions according to EN 15848-1 : 2006
- Class 150 (PN20) Flanges R.F. according to ASME B16.5
- ISO 5211 mounting pad and stem size according to EN 15081
- Length according to ASME B16.10 (EN 558 series 3 up to DN100, series 12 for DN150 and 200)
- ATEX Group II Category 2 G/2Dc Zone 1 & 21 Zone 2 & 22 ( optional marking ) up to DN200 according to directive 2014/34/EU

**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 INSTRUCTIONS**

**GENERAL GUIDELINES :**

- 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