2 PIECES FLANGES BALL VALVE PN 16/40 FIRE SAFE ADLER TYPE FM2

FIRE SAFE
ISO 10497

Size :	DN 15 to 300 mm
Ends :	Flanges PN16/40 R.F.
Min Temperature :	- 28°C
Max Temperature :	+ 200°C
Max Pressure :	40 Bars up to DN80, 16 bars over
Specifications :	With ISO 5211 mounting pad Fire safe ISO 10497 Double tightness body / End Atex
Materials :	Forged carbon steel or stainless steel

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SPECIFICATIONS :

- Full bore
- Anti blow-out stem
- With ISO 5211 mounting pad
- 2 pieces type (Split body)
- Flanges R.F. PN40 up to DN 80 excepted for DN65 PN16, PN16 over
- Double antistatic device
- Fire safe ISO 10497 (ISO-FT marking)
- Fugitive emissions according to ISO 15848-1 : 2003 Class A
- Double tightness body / end
- With exhaust hole in the ball from DN50 to DN300 (located in the top of the ball to avoid overpressure in it)
- Machining of the seat for pressure relief DN65 to DN300 (respect the flow direction indicated by the arrow)
- 3 PTFE filled with 15% graphite chevrons rings on stem
- Packing with elastic rings
- Forged carbon or stainless steel body
- Polyamid epoxy painting blue color RAL5012, 35 µ thickness for carbon steel types

USE :

- Chemical and pharmaceutical industries, petrochemical industries, hydraulic installation, compressed air
- Min and max Temperature Ts : - 28°C to + 200°C
- Max Pressure Ps : 40 bars up to DN80 , 16 bars over
- Vacuum : 10^{-5} torr
- Compressed air (ambient temperature) : 10 bars up to DN50, 8 bars from DN65 to 100
- Steam : 8 bars up to DN50, 6 bars from DN65 to 100

RANGE :

- Carbon steel body PN40 up to DN80 excepted for DN65 PN16 and PN16 over **Ref. 750** from DN 15 to DN 300 (*)
- Stainless steel body PN40 up to DN80 excepted for DN65 PN16 and PN16 over **Ref. 751** from DN 15 to DN 300 (*)
- Possible with gear box IP67 **Ref. 9830260 to 265** from DN 15 to DN 300

(*) : PN40 on request

ACCESSORIES AND OPTIONS :

- Locking device **Ref. 9830140 to 9830148** from DN 15 to DN 200
- Stainless steel handle **Ref. 9830170 to 9830178** from DN 15 to DN 200
- Steel oval handwheel **Ref. 9830271 to 9830272** from DN 15 to DN 32
- Stainless steel oval handwheel
- Stainless steel bolting
- Carbon steel stem extension 100 mm **Ref. 9830273 to 9830280** from DN 15 to DN 200
- Stainless steel stem extension 100 mm **Ref. 9830193 to 9830200** from DN 15 to DN 200
- Deadman **Ref. 9830160 to 9830165** from DN 15 to DN 50
- Dry cleaned oxygen **Ref. 9830150 to 9830155** from DN 15 to DN 200
- Standard dry cleaned
- Seat PTFE filled with glass, graphite, stainless steel or metal
- Pocket less seat PTFE or PTFE filled with glass
- Heating jacket carbon or stainless steel
- Specials coated
- Hole in the ball for overpressure device
- Double o ring on stem

ENDS:

- Flanges R.F. PN40 up to DN80 excepted for DN65 PN16 , PN16 over

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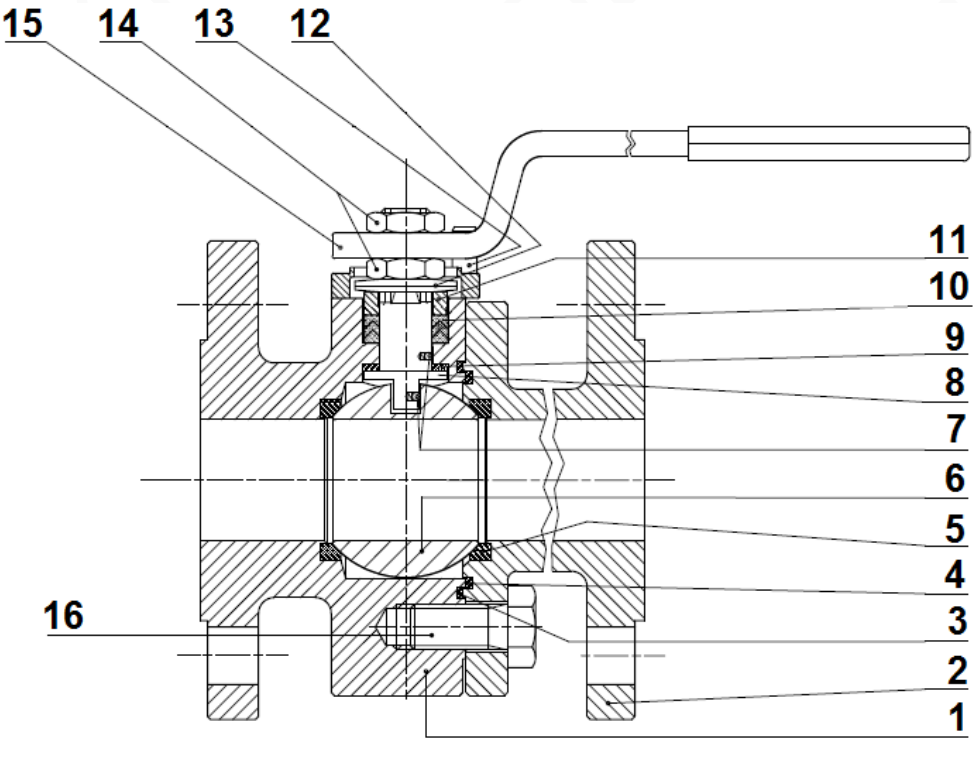
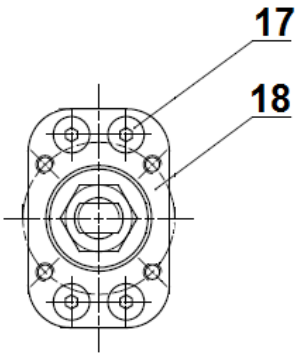
MATERIALS :

PACKING GASKETS :





(* : Included in gaskets kit)

Item	Designation	Materials Ref. 750	Materials Ref. 751
1	Body	ASTM A105	ASTM A479 316L
2	Nipple	ASTM A105	ASTM A479 316L
3*	O ring	FKM	
4*	Body gasket	PTFE	
5*	Seat	PTFE	
6	Ball	ASTM A351 CF3	ASTM A351 CF3M
7	Double antistatic device	ASTM A479 S31600	
8	Stem DN 15 - 32	ASTM A182 F 316 L	
8	Stem DN 40 – 300	ASTM A182 F 304 L	ASTM A182 F 316 L
9*	Stem gasket	PTFE	
10*	Chevron packing	PTFE filled with 15% graphite	
11	Gland follower	ASTM A479 S31603	
12	Elastic rings	C72 / 50 Cr V4	
13	Pin	UNI A2-70	
14	Nut	UNI 3740-6S galvanized	
15	Handle	UNI 5946 Fe 37 galvanized	
16	Screw	UNI 3740-8.8 galvanized	
17	ISO 5211 screw (DN 15-80)	UNI 3740-10.9 galvanized	
18	ISO 5211 mounting pad (DN15-80)	ASTM A351 CF8M	

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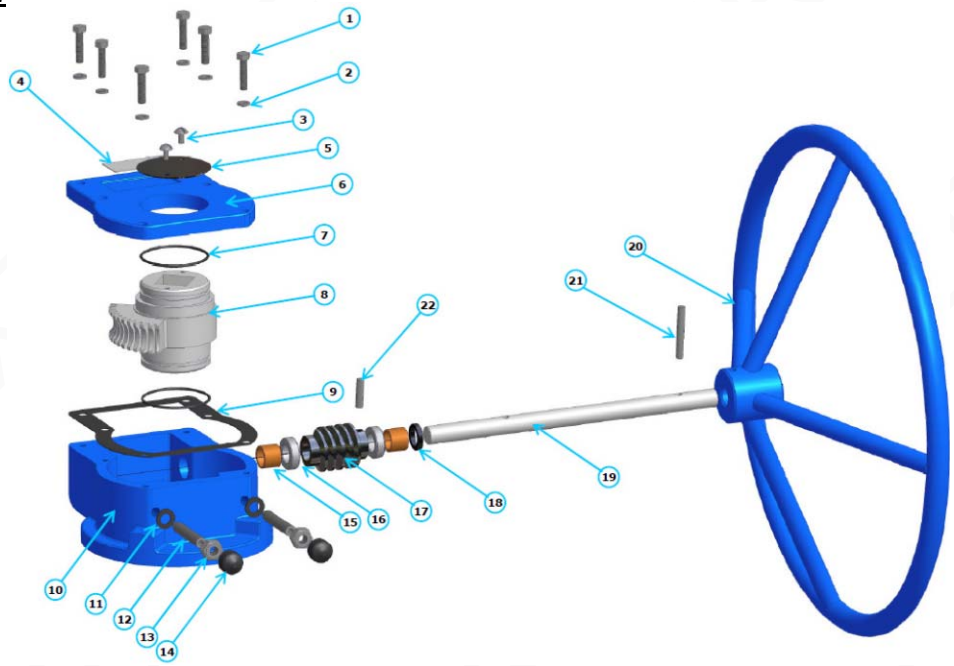
MATERIALS GEAR BOX :



Item	Designation	Materials Ref. 9830260 to 9830265
1	Box screw	DIN 933 class 8.8
2	Washer	C72
3	Indicator screw	DIN 86 class A2
4	ID plate	Steel S235 JR
5	Indicator	Steel S235 JR
6	Cover	Ductile iron EN GJS-400-15
7	O ring	NBR 70 Shore A
8	Wheel	Ductile iron EN GJS-500-7
9	Cover gasket	SL509AT
10	Box	Ductile iron EN GJS-400-15
11	Gasket	NBR 70 Shore A
12	Adjusting bolt	DIN 915 class 12.9
13	Nut	DIN 934 class 8G
14	Bolt cap	NBR 70 Shore A
15	Bushing	G Cu Sn10
16	Axial ball bearing	-
17	Worm	C45 + NiP
18	Gasket	NBR 70 Shore A
19	Input shaft	C45 + NiP
20	Handwheel	Steel S235 JR
21	Dowell pin	DIN 7 Class A2
22	Dowell pin	DIN 7 Class A2

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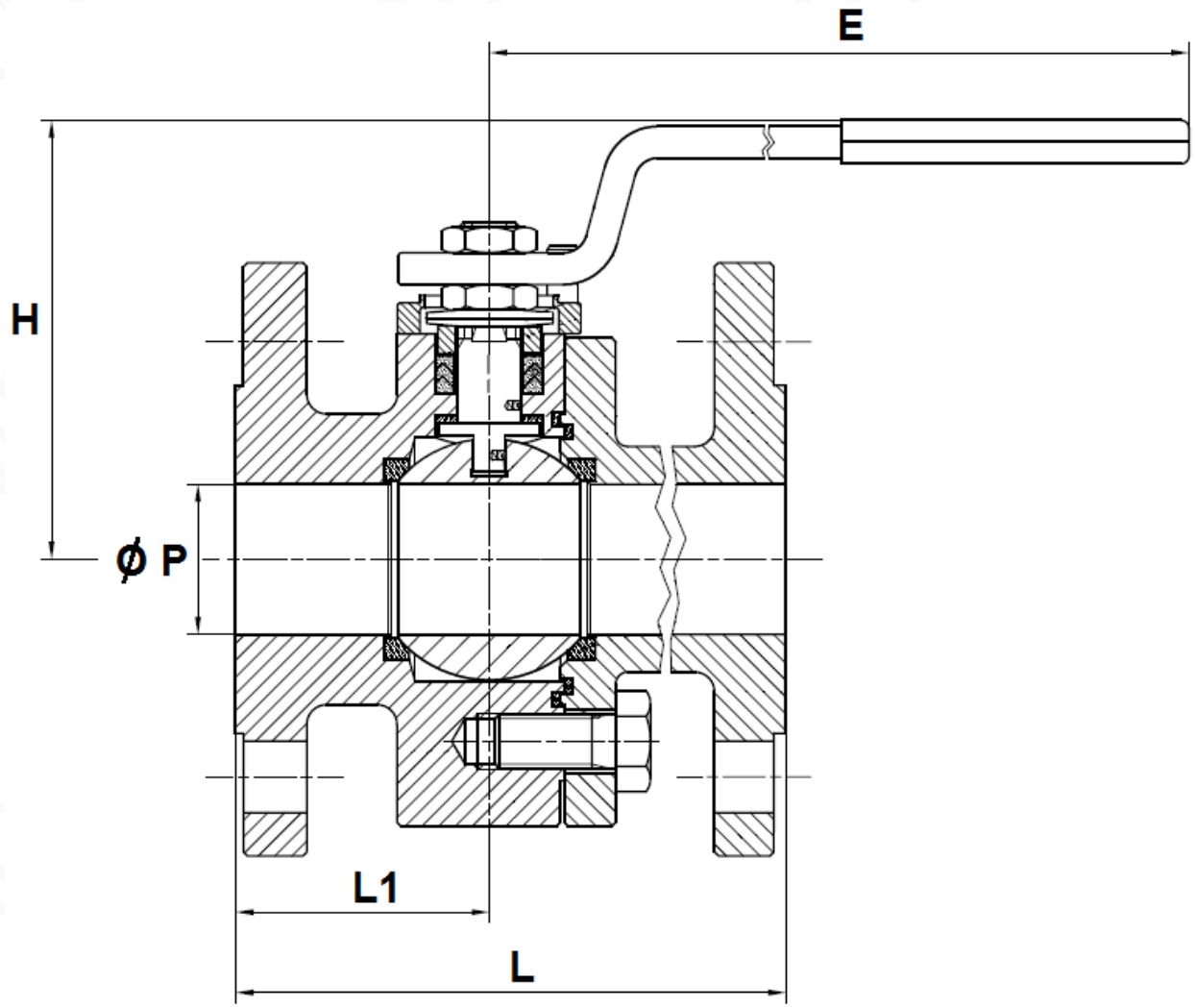
VALVES SIZE DN 15 - 80 (in mm) :



Ref.	DN	15	20	25	32	40	50	65	80
750 / 751	Ø P	15	19	25	30	38	51	64	76
	L	115	120	125	130	140	150	170	180
	L1	49	51.5	50	51.5	59	61.5	70.5	73
	E	145	145	185	185	280	280	370	370
	H	86	88	113	119	110	120	144	152
	Weight (Kg)	3	4	5.2	7	10	13.5	21.5	26

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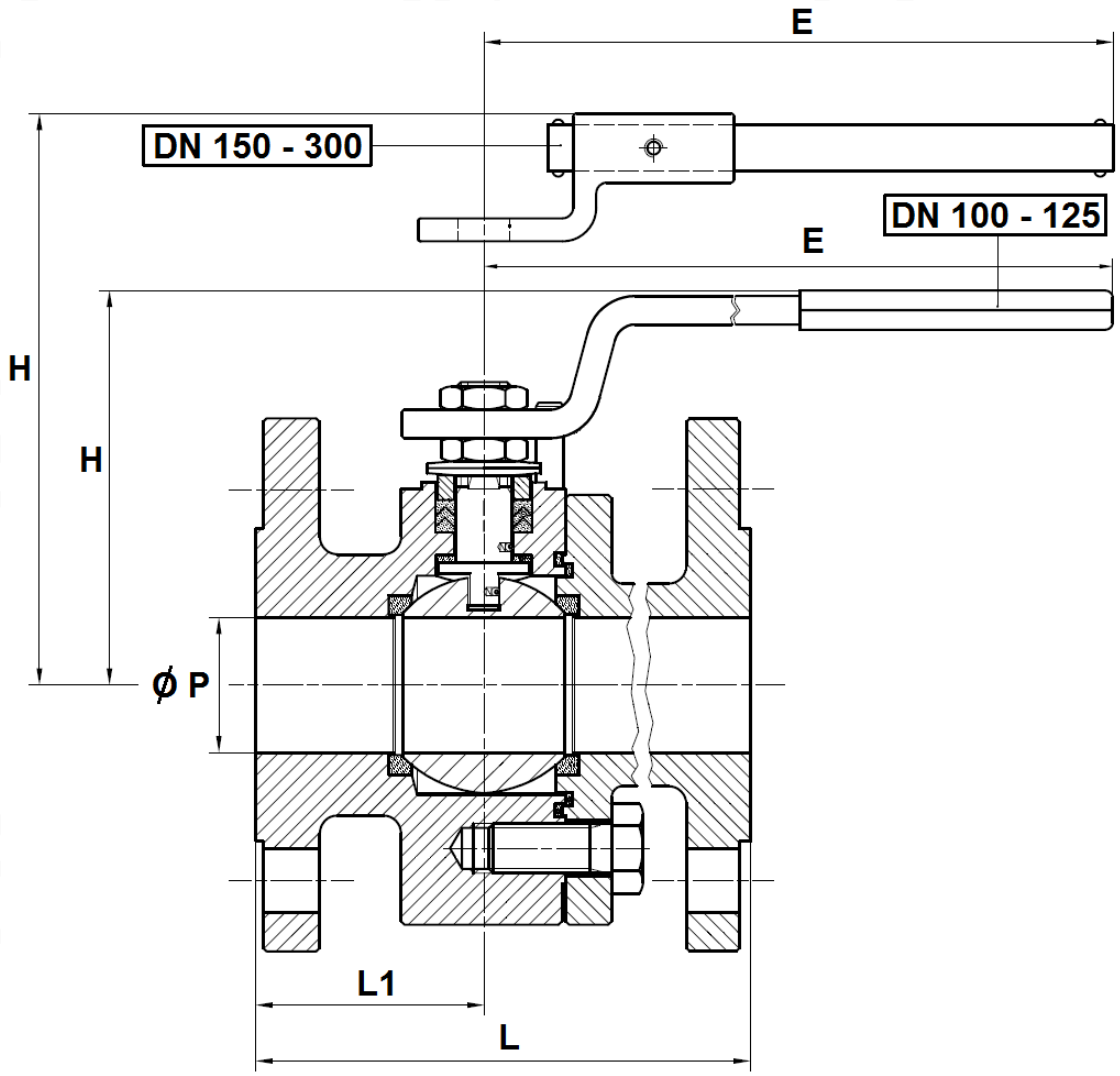
VALVES SIZE DN 100 - 300 (in mm) :



Ref.	DN	100	125	150	200	250	300
750 / 751	Ø P	101	118	152	203	254	305
	L	190	325	350	400	450	500
	L1	85	100	144	180	196	237
	E	470	650	750	900	1000	1000
	H	174	188	256	294	343	381
	Weight (Kg)	30.5	61	96	157	215	255

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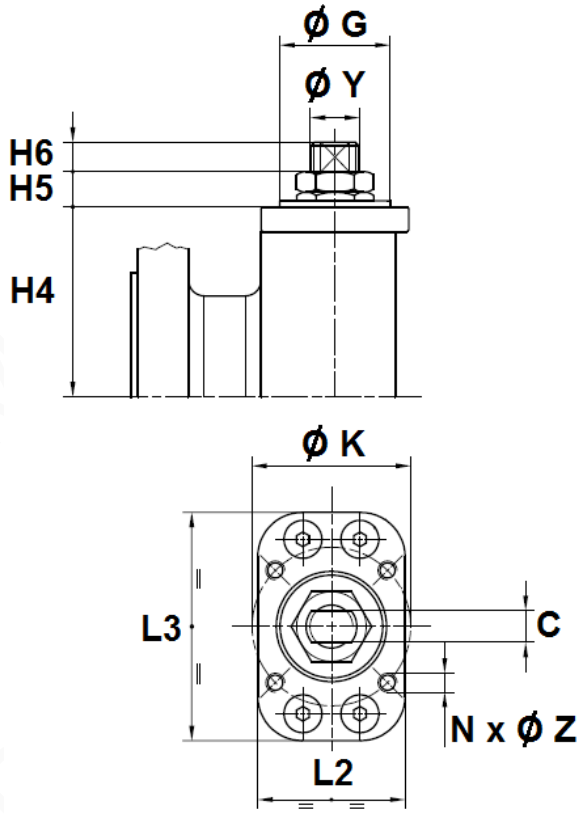
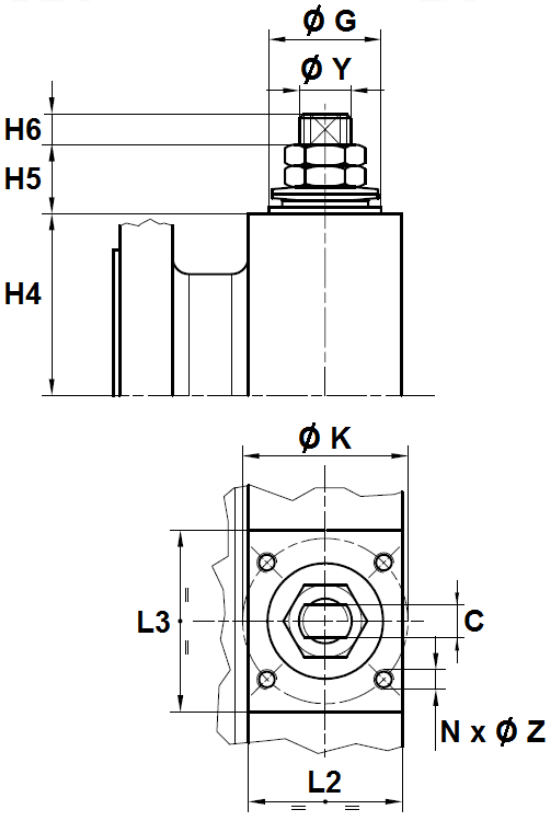
ISO 5211 MOUNTING PAD AND STEM SIZE (in mm) :

DN 15 – 80



DN 100 - 300



DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300
H4	33.1	35.4	49.3	54.8	64.8	74.8	93.5	102	99.5	113	144	183	220	258.5
H5	6.6	6.6	8.2	8.2	9.7	9.7	11	11	26.5	26.5	34	36	44	44
H6	7	7	9.5	9.5	10	10	12	12	16.5	16.5	19	20	20	20
C	6	6	8	8	10	10	14	14	18	18	28	32	36	36
Ø Y	10	10	12	12	16	16	22	22	30	30	42	48	56	56
Ø K	36	36	36	36	50	50	70	70	70	102	125	140	165	165
ISO	F03	F03	F03	F03	F05	F05	F07	F07	F07	F10	F12	F14	F16	F16
N x Ø Z	4 x M5	4 x M5	4 x M5	4 x M5	4 x M6	4 x M6	4 x M8	4 x M8	4 xM8	4 xM10	4 xM12	4 xM16	4 xM20	4 xM20
Ø G	25	25	25	25	35	35	55	55	55	70	85	100	130	130
L2	35	35	35	35	46.5	46.5	64.5	64.5	65	93	113	130	153	153
L3	58	58	58	58	72.5	72.5	90	90	70	97	112	130	153	153

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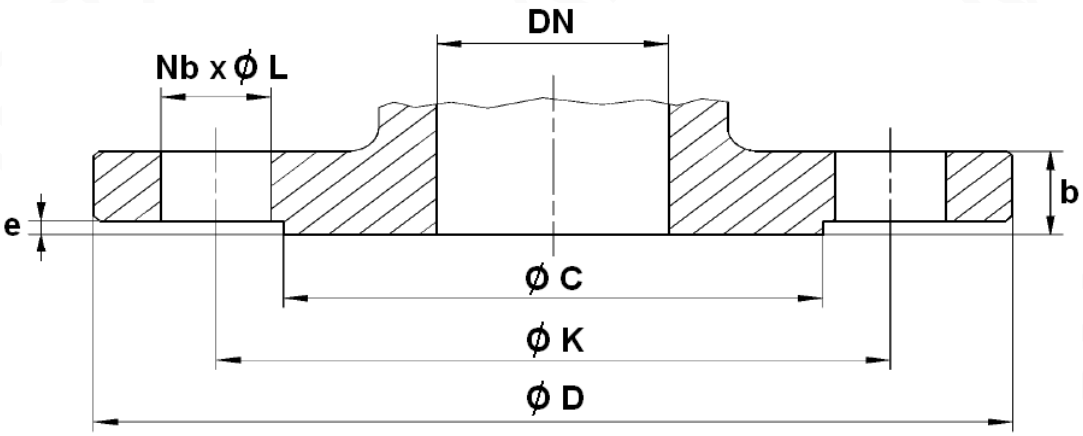
FLANGES SIZE (in mm) :



DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300
Ø C	45	58	68	78	88	102	122	138	158	188	212	268	320	378
Ø D	95	105	115	140	150	165	185	200	220	250	285	340	405	460
Ø K	65	75	85	100	110	125	145	160	180	210	240	295	355	410
Nb x Ø L	4 x 14	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18	8 x 18	8 x 22	12 x 22	12 x 26	12 x 26
b	16	18	18	18	18	20	18	24	20	22	22	24	26	28
e	2	2	2	2	3	3	3	3	3	3	3	3	3	4

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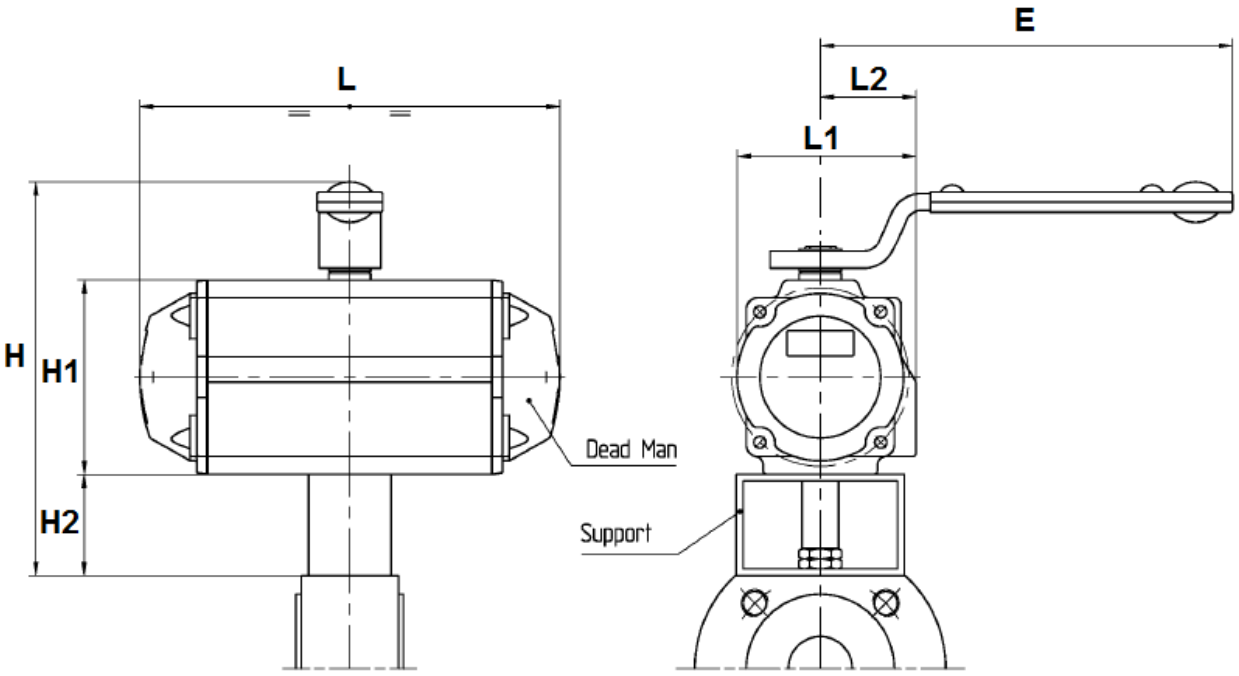
DEADMAN SIZE (in mm) :



DN	15	20	25	32	40	50
Ref.	9830160	9830161	9830162	9830163	9830164	9830165
L	142	142	161	161	214	252
L1	70.5	70.5	83.5	83.5	94	105
L2	41.5	41.5	47.5	47.5	51	55.5
E	185	185	185	185	280	370
H	157	157	169	169	215	233
H1	69	69	85	85	102	115
H2	40	40	40	40	60	60

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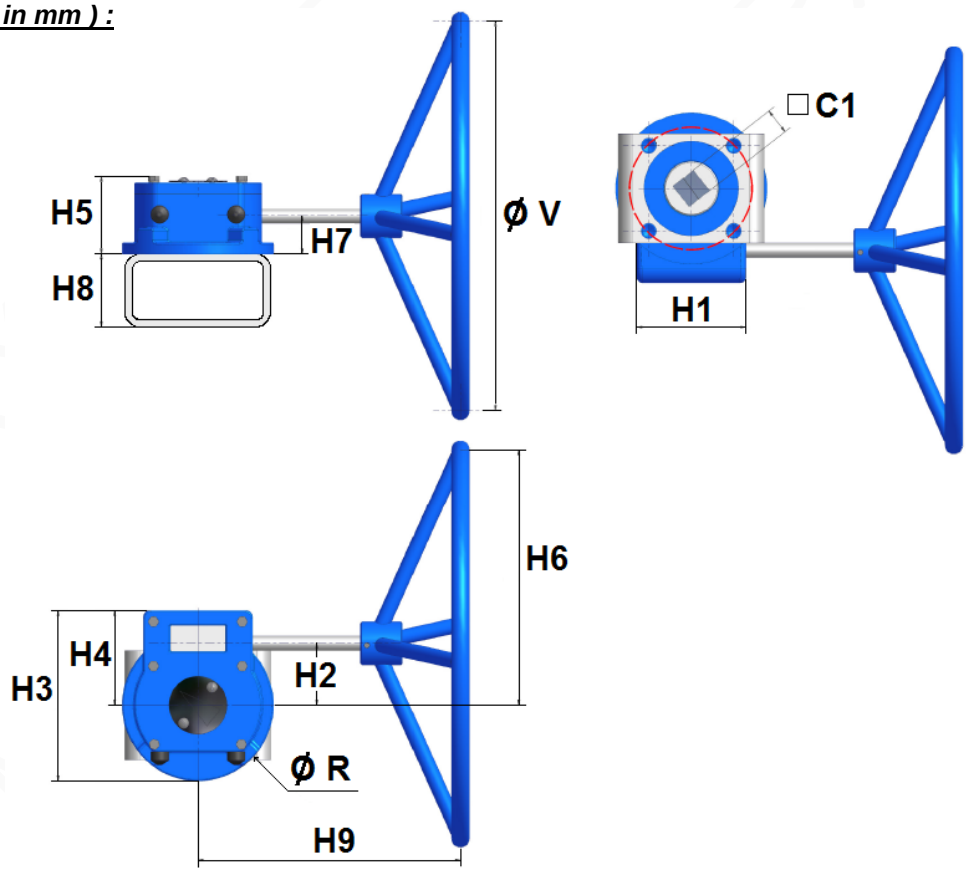
GEAR BOX SIZE (in mm) :



DN	15-50	65-80	100-150	200	250	300
C1	22	22	22	27	36	36
H1	57	57	100	120	150	186
H2	46	46	55	74	96	105
H3	98	98	143	188	237	260
H4	50.5	50.5	79.5	99	129.5	148.5
H5	56	56	73	97	106	100
H6	106	146	205	274	396	455
H7	34	34	35	48	55	48
H8	60	60	80	80	100	100
H9	117	131	250	274	365	411
Ø R	98	98	143	188	237	260
Ø V	120	200	300	400	600	700
Weight (Kg)	2.2	2.3	4.5	9.1	18.2	23.2
Ref.	9830260	9830261	9830262	9830263	9830264	9830265

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GEAR BOX SPECIFICATIONS :

DN	15-50	65-80	100-150	200	250	300
Ref.	9830260	9830261	9830262	9830263	9830264	9830265
Ratio factor	40 :1	40 :1	37 :1	34 :1	38 :1	55 :1
Input torque (Nm)	35	34	43	83	152	171
Output torque (Nm)	100	150	500	1000	2000	3250

BOLT TIGHTENING TABLE (FOR FLANGES) (in Nm) :

DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300
THREADED	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	M20	M24	M24
Torque (Nm) for carbon steel bolting	84.8	84.8	84.8	205	205	205	205	205	205	205	400	400	691	691
Torque (Nm) for stainless steel bolting	53	53	53	128	128	128	128	128	128	128	250	250	432	432

TORQUE VALUES (in Nm without safety coefficient) :

DN	15	20	25	32	40	50	65	80	100	125	150	200	250
Torque (Nm) PN16	5.4	10.8	13.5	16	31	40	66	78	140	158	340	510	800
Torque (Nm) PN40	6.5	12.5	14.5	18	33	44	72	88	156	230	520	610	1060

We recommend a safety coefficient of 2 to choose the actuator

2 PIECES FLANGES BALL VALVE PN 16/40 FIRE SAFE ADLER TYPE FM2

STANDARDS :

- Fabrication according to ISO 9001:2008
- DIRECTIVE 97/23/CE : CE N° 0038
  Risk category III module H
- Designing according to BS EN 12516-2
- Construction according to ISO 14313
- Materials according to NACE MR 01-75
- Pressure tests according to EN 12266-1, range A
- Marking according to EN 19
- Fire safe according to ISO 10497
- Fugitive emissions according to ISO 15848-1 : 2003 Range A
- SIL3 according to IEC/EN 61508 (on request)
- Flanges R.F. according to EN 1092-1 PN16/40
- ISO 5211 mounting pad
- Length according to EN 558 series 27 (DIN 3202 F4/F5)
- ATEX Group II Category 2 GDc TX Zone 1 & 21 Zone 2 &22 (optional marking)
- On request, ATEX Group II Category 1G/Dc TX Zone 0 & 20

ADVICE : Our opinion and our advice are not guaranteed and MXT 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 strenght 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 thightness 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