REF. 772

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

2 pieces carbon steel ball valve between flanges (wafer) with full bore for Chemical industries, petrochemical industries, hydraulic installation, heating, water distribution, compressed air.
Ball valve with firesafe certificate ISO 10497 to reduce risks in case of fire.
Fugitive emission according to EN 15848-1 :2003 A Class for an excellent tightness on the stem and to prevent external leakage.
3 PTFE filled with 15% graphite chevrons rings on stem, PTFE seat.
Compatible with explosive atmosphere, ATEX Zone 1&21 and Zone 2&22 thanks to the double antistatic device.
Handling possible with locking device, gearbox, oval handwheel or stem extension.
Thanks to the ISO 5211 plate, an actuator can be installed on the valve.

FIRE SAFE ISO 10497

Certificate 3.1

PED/2014/68/UE

NACE MR01-75



Size :	DN15 to DN200 (NPS 1/2" to 8")
Connection :	Between flanges Class 150 PN20 RF
Min Temperature :	-28°C
Max Temperature :	+200°C
Max Pressure :	20 Bars
Specifications :	Double antistatic device, ATEX ISO 5211 mounting pad Anti blow-out stem, full bore Fugitive emissions ISO 15848-1 Fire safe ISO 10497
Materials :	Forged carbon steel ASTM A105

Information provided as an indication and subject to possible modification

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

SPECIFICATIONS :

- Full bore
- Anti blow-out stem
- With ISO 5211 mounting pad
- Wafer type
- Between flanges R.F. Class 150 (PN20)
- Double antistatic device
- Fire safe according to ISO 10497 (ISO-FT marking)
- Contents ball with removable body
- With exhaust hole in the ball from DN50 to DN200 (located in the top of the ball to avoid overpressure in it)
- Machining of the seat for pressure relief DN65 to DN200 (respect the flow direction indicated by the arrow)
- Threaded flanges holes
- Fugitive emissions according to ISO 15848-1 : 2003 Class A
- 3 PTFE filled with graphite chevrons rings on stem
- Packing with elastic rings
- Polyamid epoxy painting blue color RAL5012, 35 µ thickness

USE :

- Chemical and pharmaceutical industries, petrochemical industries, hydraulic installation, compressed air
- Min and max Temperature Ts : - 28°C to + 200°C
- Max Pressure Ps : 20 bars
- Vacuum : 10^{-5} torr (without upstream pressure)
- 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

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

NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"	5"	6"	8"
DN (mm)	15	20	25	32	40	50	65	80	100	125	150	200
THREADED	M14	M14	M14	M14	M14	M16	M16	M16	M16	M20	M20	M20
Torque (Nm) for carbon steel bolting	135	135	135	135	135	205	205	205	205	400	400	400
Torque (Nm) for stainless steel bolting	84.3	84.3	84.3	84.3	84.3	128	128	128	128	250	250	250

TORQUE VALUES (in Nm without safety coefficient) :

NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"	5"	6"	8"
DN (mm)	15	20	25	32	40	50	65	80	100	125	150	200
Torque (Nm) PN20	5.7	11.2	13.8	16.5	31.5	41	68	80	144	165	380	560

We recommend a safety coefficient of 2 to choose the actuator

RANGE :

- Forged carbon steel body Class 150 (PN20) **Ref. 772** from DN 15 to DN 200 (NPS 1/2“ to 8“)
  Gearbox recommended from DN150 to DN200
- Possible with gear box IP67 **Ref. 9830260 to 263** from DN 15 to DN 200 (NPS 1/2“ to 8“)

Information provided as an indication and subject to possible modification

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

ACCESSORIES AND OPTIONS :

- Locking device **Ref. 9830140 to 9830148** from DN 15 to DN 200 (NPS 1/2“ to 8“)
- Stainless teel handle **Ref. 9830170 to 9830178** from DN 15 to DN 200 (NPS 1/2“ to 8“)
- Steel oval handle **Ref. 9830271 to 9830272** from DN 15 to DN 32 (NPS 1/2“ to 1“1/4)
- Stainless steel oval handle
- Stainless steel bolting
- Carbon steel stem extension 100 mm **Ref. 9830273 to 9830280** from DN 15 to DN 200 (NPS 1/2“ to 8“)
- Stainless steel stem extension 100 mm **Ref. 9830193 to 9830200** from DN 15 to DN 200 (NPS 1/2“ to 8“)
- Deadman **Ref. 9830160 to 9830165** from DN 15 to DN 50 (NPS 1/2“ to 2“)
- Dry cleaned oxygen **Ref. 9830150 to 9830155** from DN 15 to DN 200 (NPS 1/2“ to 8“)
- 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

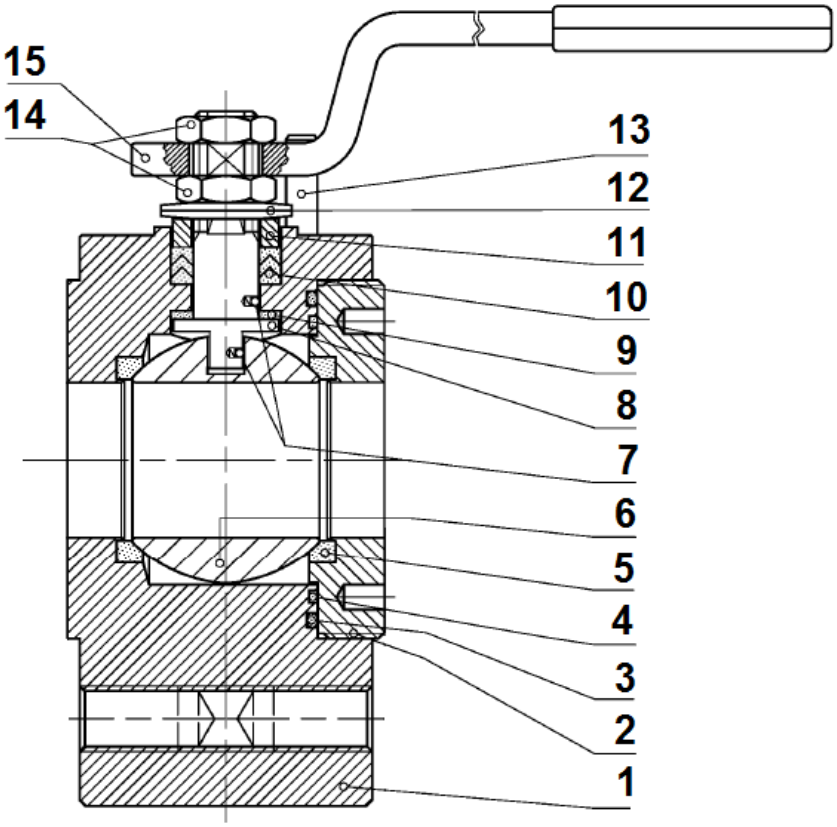
ENDS :

- Between flanges Class 150 (PN20) R.F.

Information provided as an indication and subject to possible modification

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

MATERIALS DN 15-40 (ADLER FA1 TYPE) :



PACKING GASKETS :



Repairability :



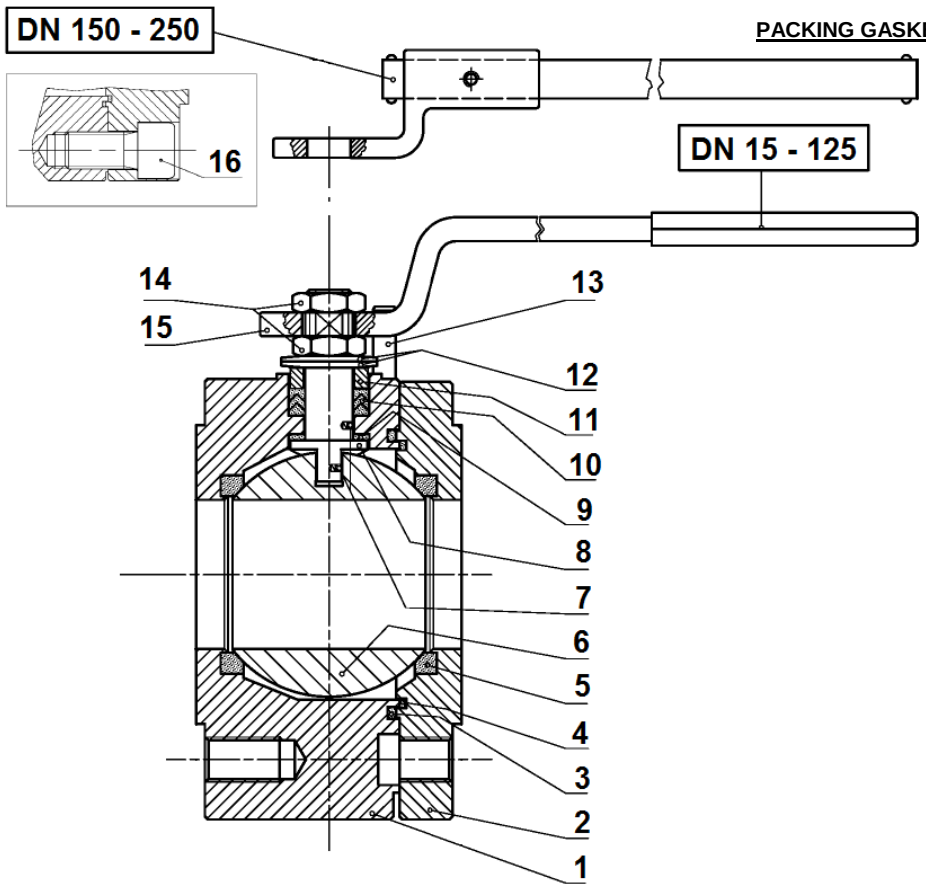
*Gaskets kit (items 3, 4, 5, 9 and 10)	
DN15	9830204
DN20	9830205
DN25	9830206
DN32	9830207
DN40	9830208

(* : Included in gaskets kit)

Item	Designation	Materials DN15-40
1	Body	ASTM A105
2	Ends	
3*	O ring	FKM
4*	Body gasket	PTFE
5*	Seat	PTFE
6	Ball	ASTM A479 304L
7	Double antistatic device	ASTM A479 316
8	Stem	ASTM A479 304L
9*	Stem gasket	PTFE
10*	Chevron packing	PTFE filled with 15% graphite
11	Gland follower	ASTM A479 304
12	Elastic ring	C72 / 50 Cr V4 galvanized
13	Pin	UNI 3740 8.8 galvanized
14	Nut	UNI 3740-6S galvanized
15	Handle	AISI 1010 galvanized

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

MATERIALS 772 DN 50-200 (ADLER FA2 TYPE) :



PACKING GASKETS :



Repairability :



*Gaskets kit (items 3, 4, 5, 9 and 10)	
DN50	9830209
DN65	9830210
DN80	9830211
DN100	9830212
DN125	9830213
DN150	9830214
DN200	9830215

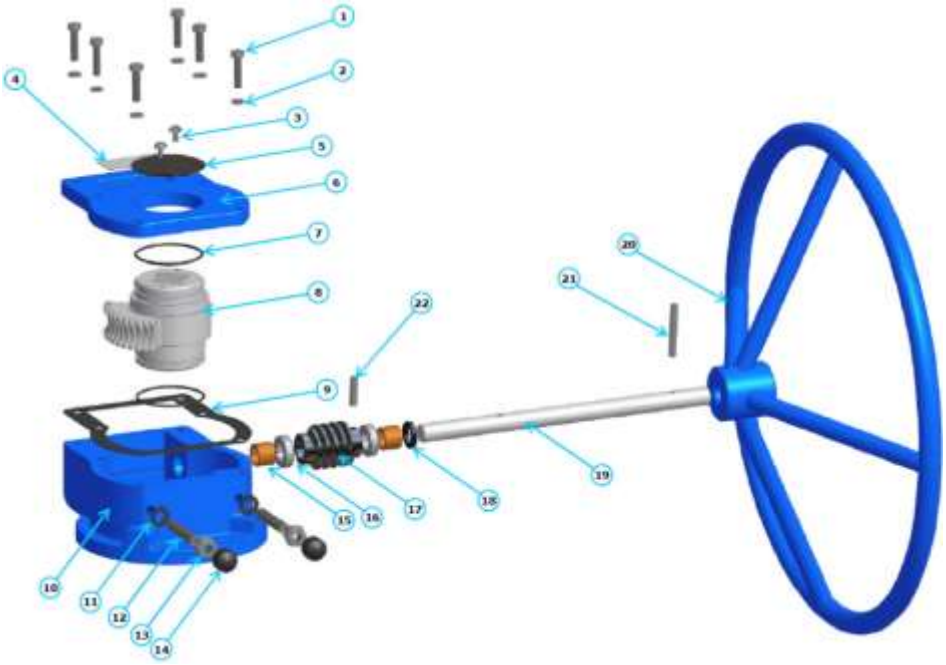
(* : Included in gaskets kit)

Item	Designation	Materials DN50-200
1	Body	ASTM A105
2	Ends	
3*	O ring	FKM
4*	Body gasket	PTFE
5*	Seat	PTFE
6	Ball	ASTM A479 304L
7	Double antistatic device	ASTM A479 316
8	Stem	ASTM A479 304L
9*	Stem gasket	PTFE
10*	Chevron packing	PTFE filled with 15% graphite
11	Gland follower	ASTM A479 304
12	Elastic ring	C72 / 50 Cr V4 galvanized
13	Pin	UNI 3740 8.8 galvanized
14	Nut	UNI 3740-6S galvanized
15	Handle	AISI 1010 galvanized
16	Screw	UNI 3740 8.8 galvanized

Information provided as an indication and subject to possible modification

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

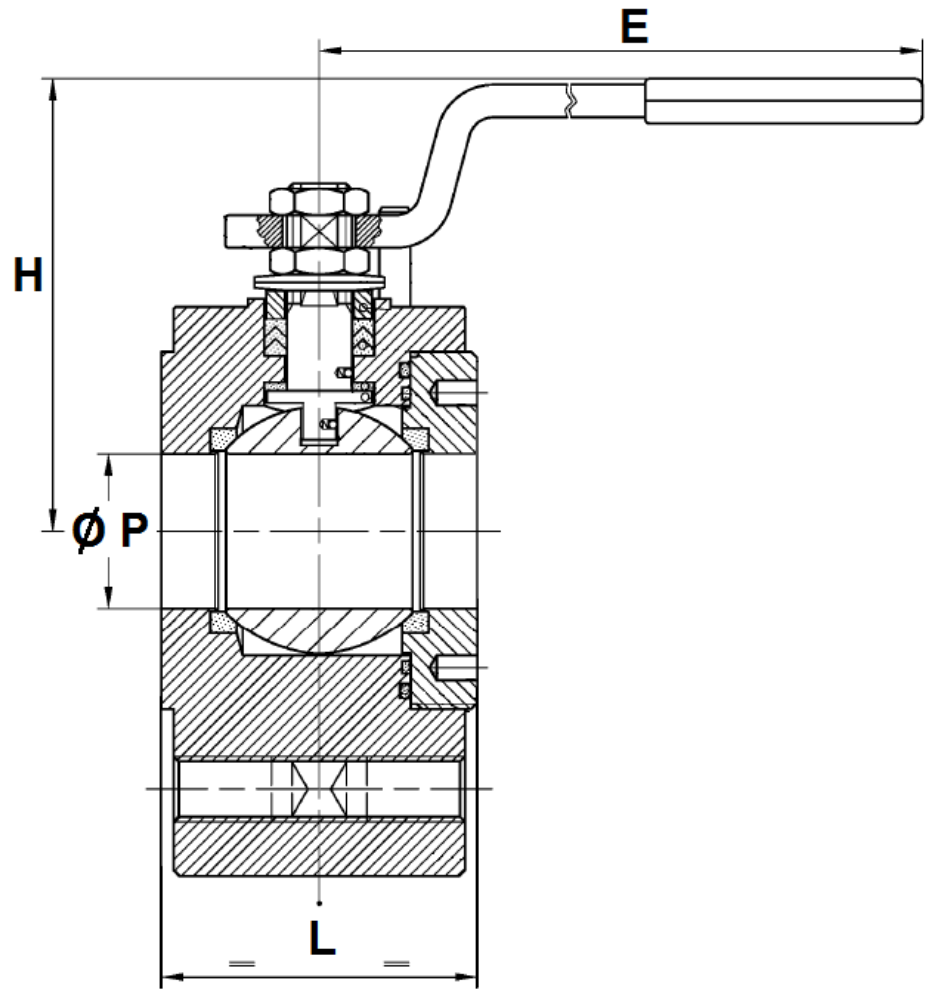
GEARBOX MATERIALS :



Item	Designation	Materials Ref. 9830260 to 9830263
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

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

SIZE DN 15 – 40 (NPS 1/2" – 1"1/2) FA1 TYPE (in mm) :

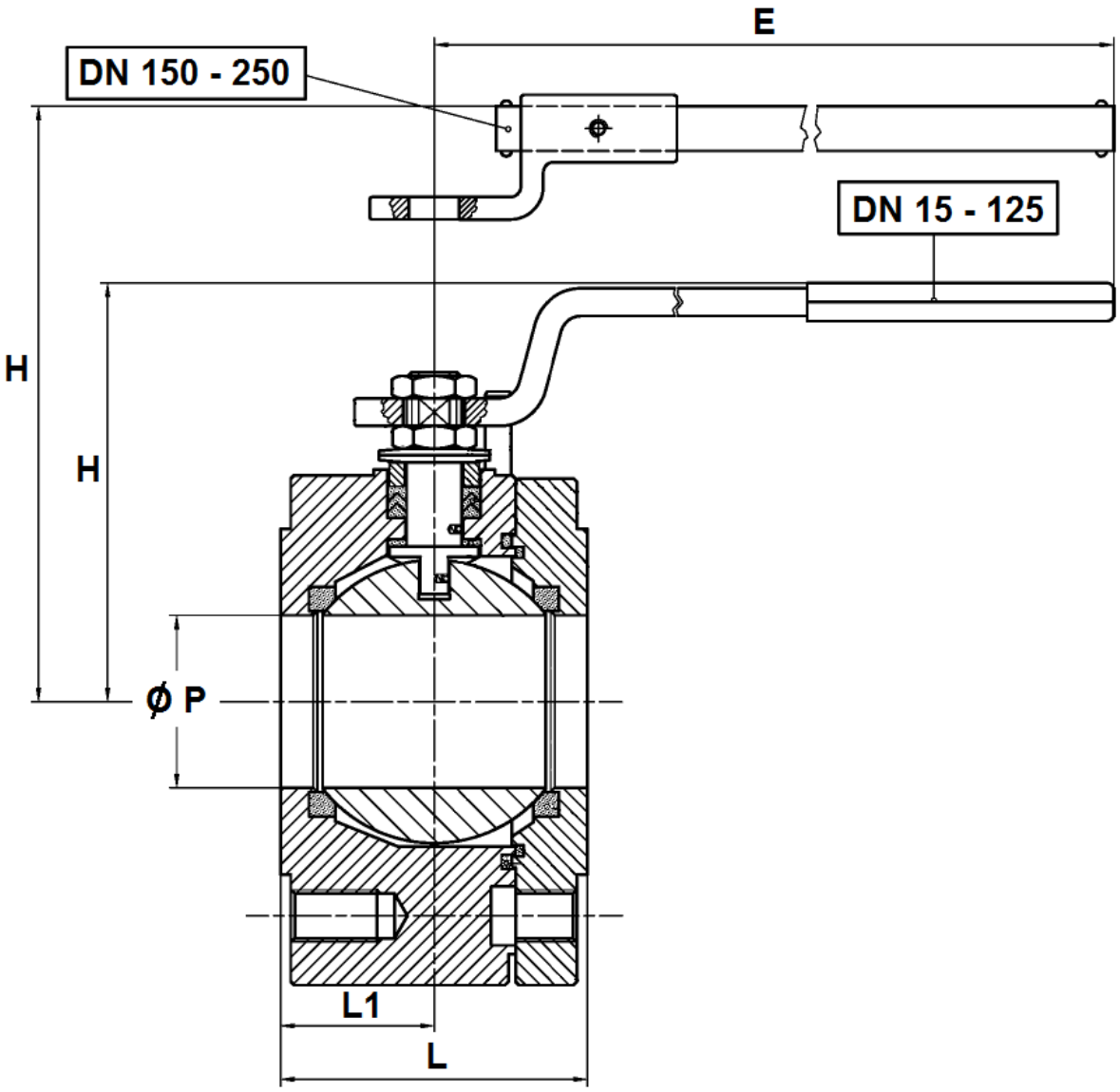


NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2
DN (mm)	15	20	25	32	40
Ø P	15	19	25	30	38
L	35	35	43	51	64
E	145	145	185	185	280
H	66	68	85	91	110
Weight (in Kg)	1.6	1.9	2.8	4.8	7.2
Ref.	772015	772020	772025	772032	772040

Information provided as an indication and subject to possible modification

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

SIZE 772 DN 50 - 200 FA2 TYPE (in mm) :

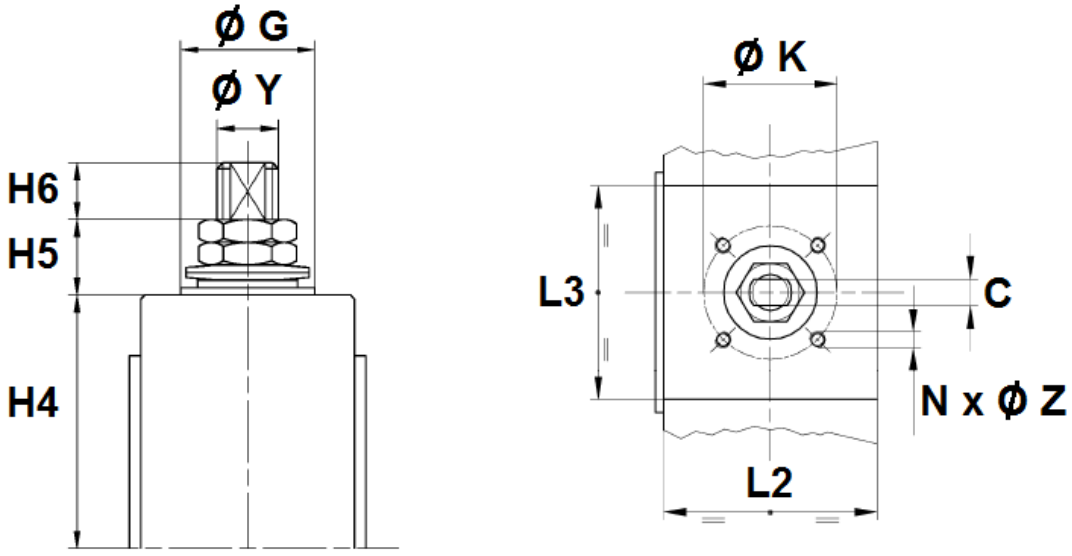


NPS (")	2"	2"1/2	3"	4"	5"	6"	8"
DN (mm)	50	65	80	100	125	150	200
Ø P	51	64	76	101	118	152	203
L	85	103	120	155	182	234	310
L1	42.5	51.5	60	77.5	91	117	155
E	280	370	370	470	650	750	900
H	120	144	152	174	188	256	294
Weight (Kg)	11.5	18	23.5	35	51	90	121
Ref.	772050	772065	772080	772100	772125	772150	772200

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

STEM AND ISO MOUTNING PAD SIZE DN 15 – 40 FA1 TYPE (in mm) :

DN 15 – 40 (FA1 TYPE)

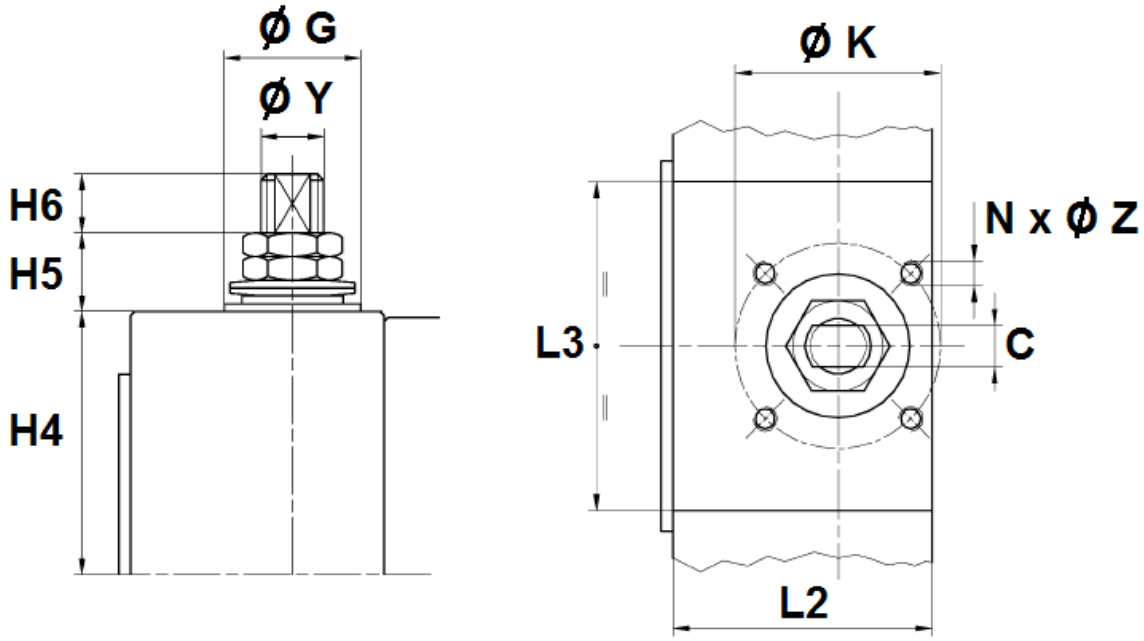


NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2
DN (mm)	15	20	25	32	40
H4	32.5	35	41	46.5	55
H5	7.5	7.5	16.5	16.5	19.5
H6	7	7	10	10	10
C	6	6	8	8	10
Ø Y	10	10	12	12	16
Ø K	36	36	36	36	50
ISO	F03	F03	F03	F03	F05
N x Ø Z	4 x M5	4 x M5	4 x M5	4 x M5	4 x M6
Ø G	25	25	25	25	35
L2	33	33	40	48	58
L3	69	78	81	105	102

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

STEM AND ISO MOUTNING PAD SIZE DN50-200 FA2 TYPE (in mm) :

DN 50 – 200 (FA2 TYPE)

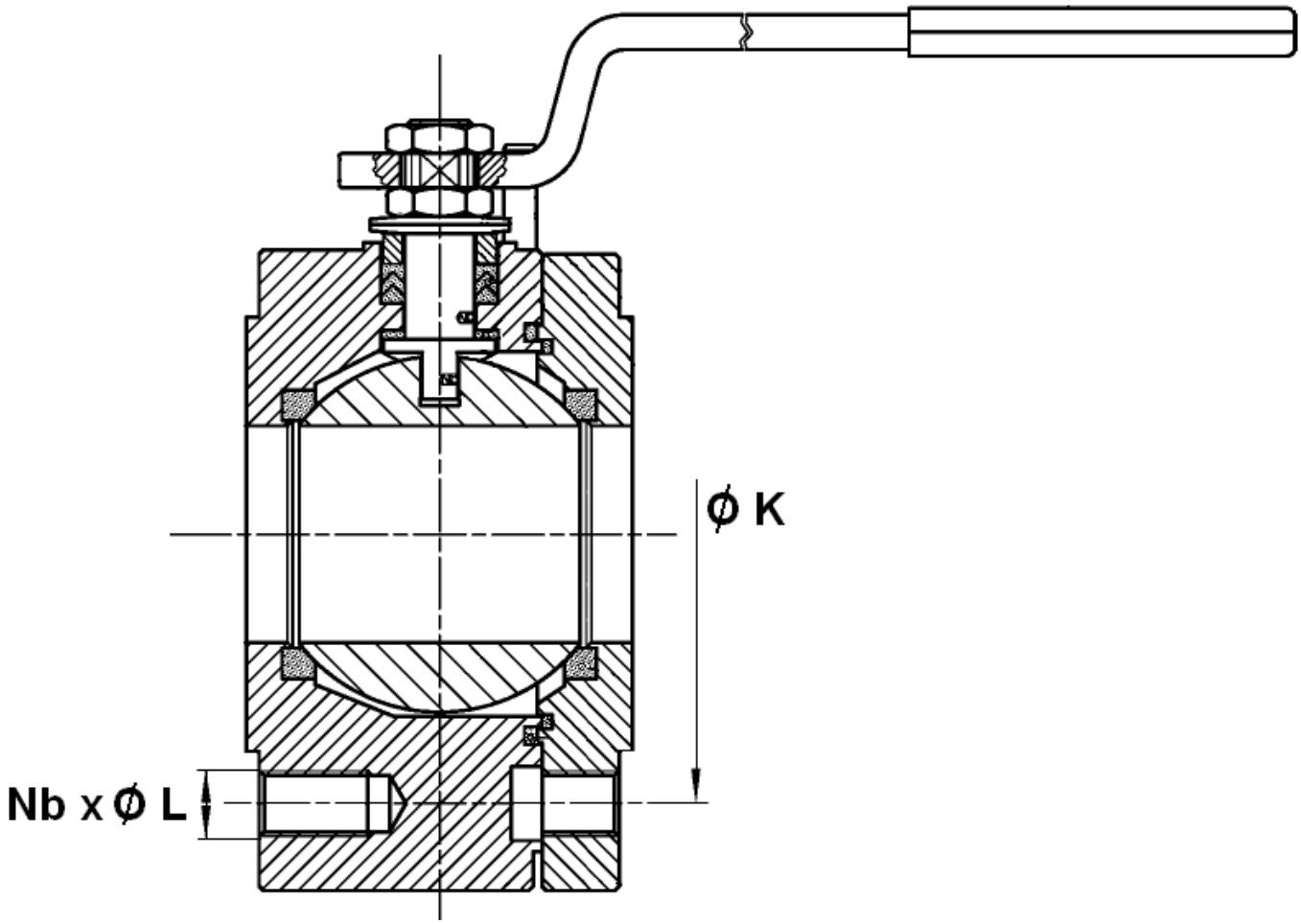


NPS (")	2"	2"1/2	3"	4"	5"	6"	8"
DN (mm)	50	65	80	100	125	150	200
H4	65	82	90.5	99.5	114	144	182
H5	21	24	24	27	26	34	37
H6	10	12	12	17	18	19	20
C	10	14	14	18	18	28	32
Ø Y	16	22	22	30	30	42	48
Ø K	50	70	70	70	102	125	140
ISO	F05	F07	F07	F07	F10	F12	F14
N x Ø Z	4 x M6	4 x M8	4 x M8	4 xM8	4 xM10	4 xM12	4 xM16
Ø G	35	55	55	55	70	85	100
L2	62	79	88	105	133	150	228
L3	102	85	80	86	112	110	95

Information provided as an indication and subject to possible modification

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

FLANGES THREADED HOLES SIZE (in mm) :

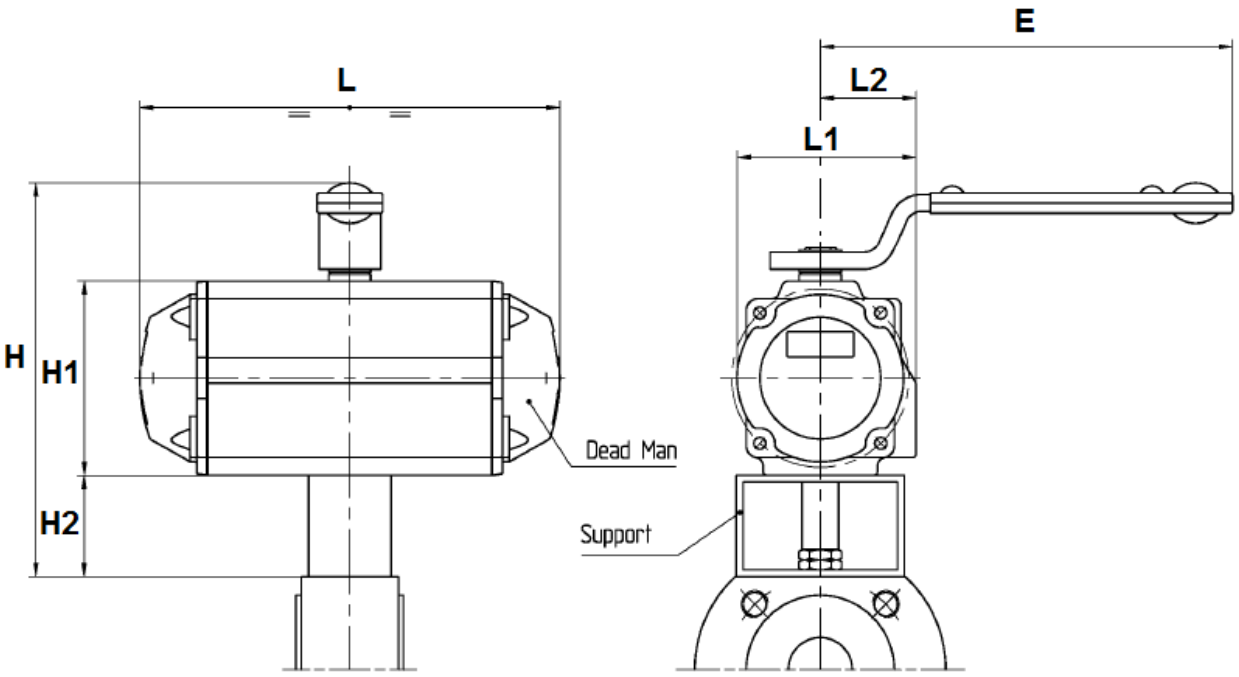


NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"	2"1/2	3"	4"	5"	6"	8"
DN (mm)	15	20	25	32	40	50	65	80	100	125	150	200
Ø K	60.5	69.9	79.4	88.9	98.4	120.4	139.7	152.4	190.5	215.9	241.3	298.4
Nb x Ø L	4 x M14	4 x M14	4 x M14	4 x M14	4 x M14	4 x M16	4 x M16	4 x M16	8 x M16	8 x M20	8 x M20	8 x M20
Screw length	30	30	30	45	35	40	40	45	45	50	50	50

Information provided as an indication and subject to possible modification

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

DEADMAN SIZE (in mm) :

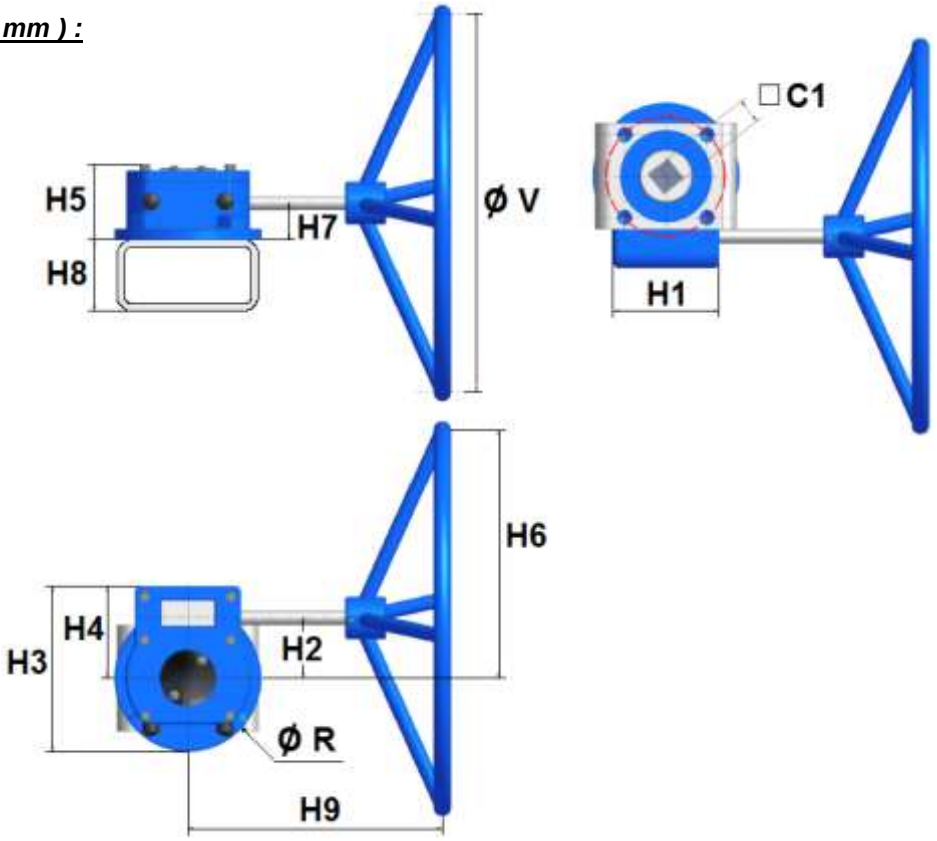


NPS (")	1/2"	3/4"	1"	1"1/4	1"1/2	2"
DN (mm)	15	20	25	32	40	50
Ref.	9830160	9830161	9830162	9830163	9830164	9830165
L	142	142	161	161	214	252
L1	70.5	70.5	83.5	83.5	94	105
L2	41.5	41.5	47.5	47.5	51	55.5
E	185	185	185	185	280	370
H	157	157	169	169	215	233
H1	69	69	85	85	102	115
H2	40	40	40	40	60	60

Information provided as an indication and subject to possible modification

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

GEARBOX SIZE (in mm) :



NPS (")	1/2" - 2"	2"1/2 - 3"	4" - 6"	8"
DN (mm)	15-50	65-80	100-150	200
C1	22	22	22	27
H1	57	57	100	120
H2	46	46	55	74
H3	98	98	143	188
H4	50.5	50.5	79.5	99
H5	56	56	73	97
H6	106	146	205	274
H7	34	34	35	48
H8	60	60	80	80
H9	117	131	250	274
Ø R	98	98	143	188
Ø V	120	200	300	400
Weight (Kg)	2.2	2.3	4.5	9.1
Ref.	9830260	9830261	9830262	9830263

Information provided as an indication and subject to possible modification

WAFER BALL VALVE ADLER TYPES FA1/FA2/FB1 CLASS 150 PN20 CARBON STEEL

GEARBOX SPECIFICATIONS :

NPS (")	1/2" - 2"	2"1/2 - 3"	4" - 6"	8"
DN (mm)	15-50	65-80	100-150	200
Ref.	9830260	9830261	9830262	9830263
Ratio factor	40 :1	40 :1	37 :1	34 :1
Input torque (Nm)	35	34	43	83
Output torque (Nm)	100	150	500	1000

STANDARDS :

- Manufacturer certified ISO 9001:2015
- DIRECTIVE 2014/68/EU: For liquids and gas of Group 1
    - DN15-25 (NPS 1/2"-1") : Article 4, §3 (SEP), no CE marking
    - DN32-50 (NPS 1"1/4-2") : Risk Category I, CE0094 or CE0038 marking
    - DN65-150 (NPS 2"1/2-6") : Risk Category II, CE0094 or CE0038 marking
    - DN200 (NPS 8") : Risk Category III, CE0094 or CE0038 marking
- Designing according to BS EN 12516-2
- Construction according to ISO 14313
- Materials according to NACE MR 01-75 on request
- Pressure tests according to ANSI B16.34
- Marking according to EN 19
- Fire safe according ISO 10497
- Fugitive emissions according to ISO 15848-1 : 2003 A Class
- SIL3 according to IEC/EN 61508 (on request)
- ISO 5211 mounting pad
- Length according to EN 558 series 100
- 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 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.