

Gemini Valve B.V.

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516AIT



2 PIECES CARBON STEEL BALL VALVE PN16/40 FLANGED JC RANGE SHORT PATTERN (DIN 3202-1 F4/F5) PTFE SEAT

2 pieces split body ball valve JC with full bore for Chemical industries, petrochemical industries, hydraulic installation, heating, water distribution, compressed air.

Ball valve with firesafe certificate ISO 10497 and API 607 to reduce risks in case of fire.

Fugitive emission according to EN 15848-1 :2006 B Class and TA LUFT for an excellent tightness on the stem and to prevent external leakage.

PTFE seat for a temperature up to +230°C.

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.



Certificate
3.1

NACE
MR01-75



JC
VALVES



Size : DN15 to DN300
Connection : Flanged PN16/40 RF
Min Temperature : -29°C
Max Temperature : +230°C
Max Pressure : 40 Bars up to DN50, 16 bars over
Specifications : PTFE seat
ISO 5211 mounting pad
Anti blow-out stem, full bore
Fire safe ISO 10497 : 2004, API 607 5th, BS
6755 Part 2 and API 6FA

Materials : Carbon steel EN 1.0619

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

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SPECIFICATIONS :

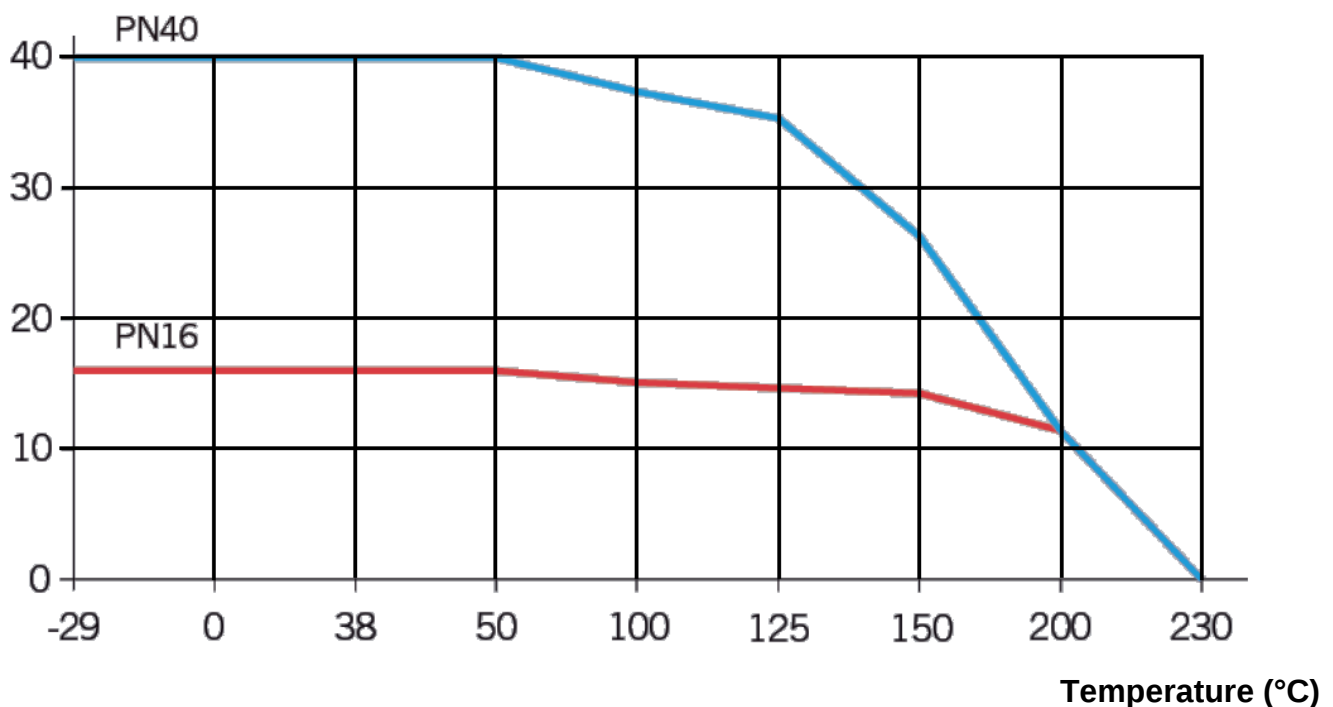
- Full bore
- Anti blow-out stem
- PTFE seat
- Locking device on request
- ISO 5211 mounting pad
- 2 pieces type (Split body)
- PN40 Flanges R.F. up to DN50, PN16 over
- Antistatic device
- Fire safe ISO 10497 : 2004, API 607 5th, BS 6755 Part.2 and API 6FA
- Fugitive emissions EN 15848-1 : 2006 and 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 DN200
- Blue painting RAL 5009, 15-50 μ 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 : 40 bars up to DN50, 16 bars over (see graph)
- Vacuum 10⁻² torr
- Compressed air (ambient temperature) : 40 bars maximum up to DN50, 16 bars over
- Steam : 12 bars maximum

PRESSURE / TEMPERATURE GRAPH (STEAM EXCLUDED) :

Pressure (Bar)



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FLOW COEFFICIENT Kvs (in m³ / h) :

DN	15	20	25	32	40	50	65	80	100	125	150	200	250	300
Kvs (m ³ / h)	20	40	75	130	170	270	550	1000	1650	3000	4200	9000	15000	20800

TORQUE VALUE (in Nm without safety coefficient) :

DN	BTO*	RTO	ETO	BTC	RTC	ETC*	MAST stem A479 F316	MAST stem A182 F51	Ps (bars)
15	11	6	7	8	6	9	26	57	40
20	14	7	8	11	7	11	26	57	40
25	20	10	12	15	10	16	26	57	40
32	25	13	15	19	13	20	69	151	40
40	33	17	20	25	17	26	85	185	40
50	46	23	28	35	23	37	85	185	40
65	61	31	37	46	31	49	176	386	16
80	97	49	58	73	49	78	246	539	16
100	133	67	80	100	67	106	305	668	16
125	226	113	136	170	113	181	607	1329	16
150	320	160	192	240	160	256	974	2131	16
200	694	347	416	521	347	555	1387	3034	16
250	1120	560	672	840	560	896	1387	3034	16
300	1500	750	900	1125	750	1200	2541	5559	16

RANGE :

- Carbon steel body ball valve with handle flanged PN40 **Ref. 540AIT** from DN 15 to DN 50
- Carbon steel body ball valve with handle flanged PN16 **Ref. 516AIT** from DN 65 to DN 150
- Carbon steel body ball valve with free stem PN16 **Ref. 516AIT** DN200
- Carbon steel body ball valve with free stem PN16 **Ref. 1516AIT** from DN250 to 300

CONNECTION :

- PN40 Flanges R.F. up to DN50, PN16 over

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ACCESSORIES :



- Reinforced locking device

DN	15	20	25	32	40	50	65	80	100	125	150	200
Ref.	9830120	9830121	9830122	9830123	9830124	9830125	9830126	9830127	9830128	9830129		

- Stainless steel handle

DN	15	20	25	32	40	50	65	80	100	125	150
Ref.	9830513	9830514	9830515	9830516	9830517	9830518	9830519	9830520			

- Stainless steel oval handwheel

DN	15	20	25	32	40	50
Ref.	9830575	9830578	9830576	9830577		

- Gearbox

DN	125	150	200
Ref.516	9830598	9830592	9830593
Ref.540			983595

- Single stainless steel stem extension 100 mm

DN	15	20	25	32	40	50	65	80	100	125	150
Ref. JC	9810615	9810616	9810617	9810618	9810619	9810620	9810621	9810622			

- Stainless steel stem extension 100 mm with ISO plate

DN	15	20	25	32	40	50	65	80	100	125	150	200
Ref. SF	JCRISO015020	JCRISO025	JCRISO032	JCRISO040050	JCRISO065	JCRISO080	JCRISO100	JCVSSBI125	JCVSSBI150	JCVSSBI200		

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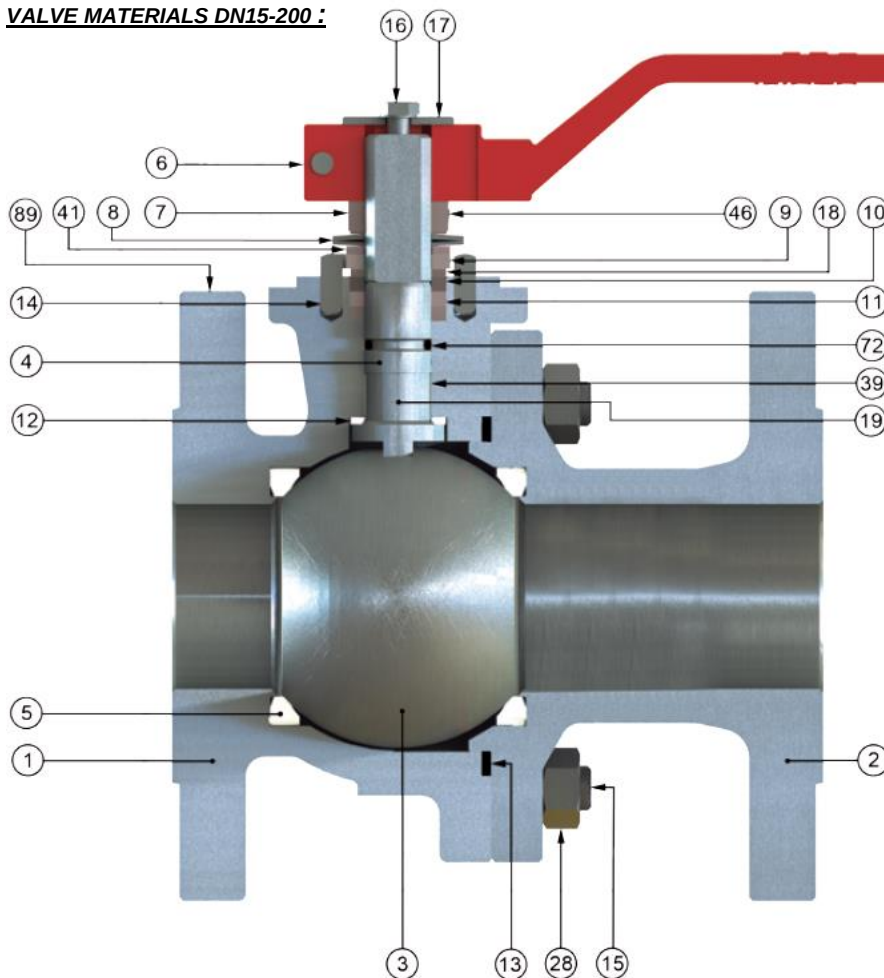
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2 PIECES CARBON STEEL BALL VALVE PN16/40 FLANGED JC RANGE SHORT PATTERN (DIN 3202-1 F4/F5) PTFE SEAT

VALVE MATERIALS DN15-200 :



Repairability :



*Gaskets kit (Item 5,11, 12, 13, 18, 46 and 72)	
DN	Ref.
DN15	9804600
DN20	9804601
DN25	9804602
DN32	9804603
DN40	9804604
DN50	9804605
DN65	9804606
DN80	9804607
DN100	9804608
DN125	9804609
DN150	9804610
DN200	9804611

(* : Included in gaskets kit)

Item	Designation	Materials
1	Body	EN 1.0619
2	Ends	
3	Ball DN15-25	ASTM A479 Tp.316
	Ball DN 32-200	Inox ASTM A 351 CF8M
4	Stem	ASTM A479 Tp.316 or Duplex ASTM A182 F51
5*	Seat	PTFE
6	Handle	A216 WCB
7	Packing nut	Carbon Steel
8	Elastic ring	Carbon Steel
9	Stop washer	Carbon Steel
10	Packing gland	AISI 303
11*	Packing	Graphite
12*	Gasket	PTFE filled with 25% glass

Item	Designation	Materials
13*	Body spiral seat	AISI 316L + PTFE + Graphite
14	Pin	Carbon Steel
15	Screw (stud DN32-100)	DIN 933 8.8 zinc dichrom.
16	Handle screw	DIN 933 A4-70
17	Washer	Zinc plated carbon steel
18*	Thrust washer	PTFE filled with 25% glass
19	Antistatic device	Stainless steel
28	Nut (DN32-100)	DIN 934 8.8 zinc dichrom.
39	Stem bushing (DN25-200)	PTFE filled with 25% glass
41	Spacer (DN40-200)	Carbon Steel
46*	Washer	AISI 304
72*	O ring	FKM
89	ID plate	Stainless steel

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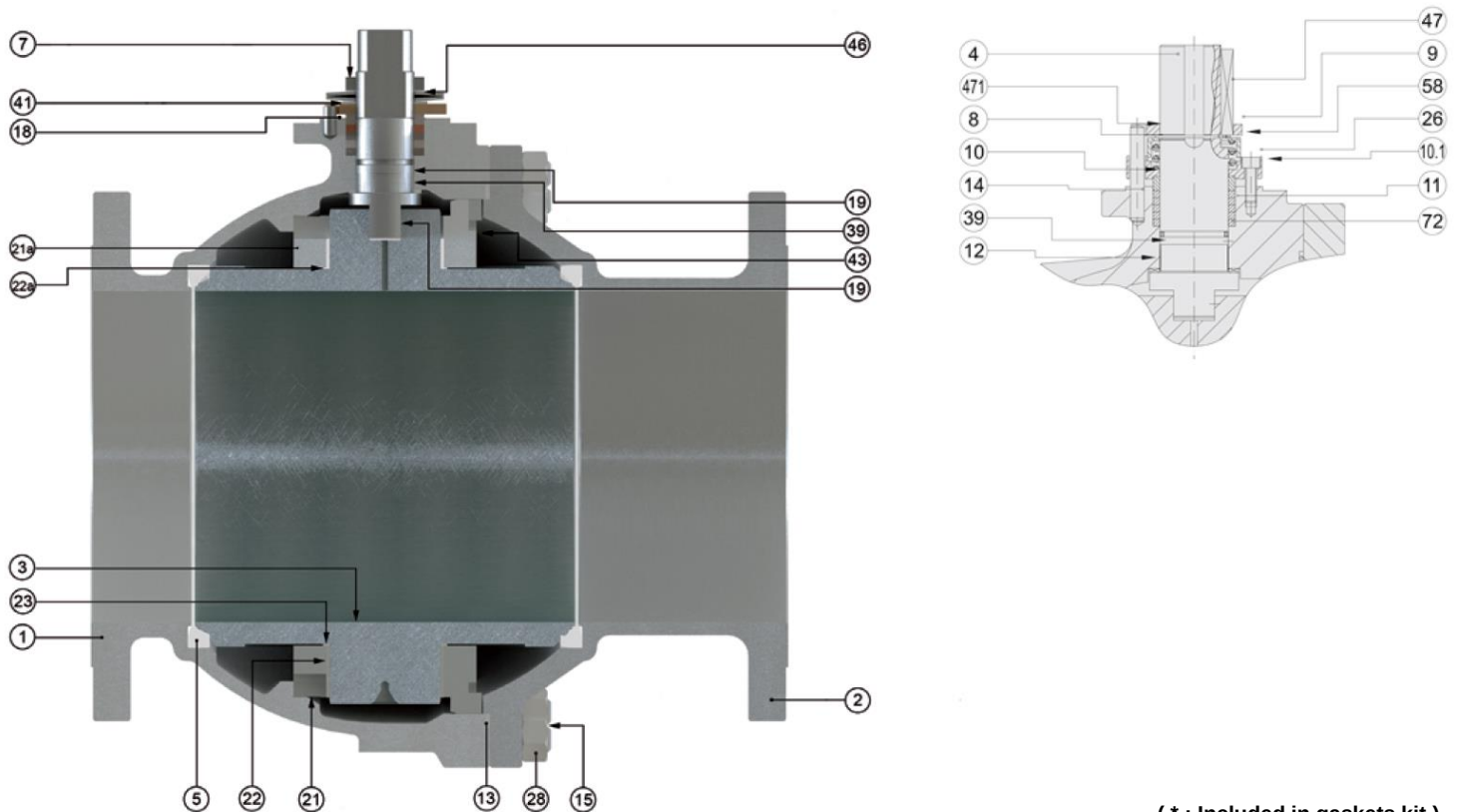
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2 PIECES CARBON STEEL BALL VALVE PN16/40 FLANGED JC RANGE SHORT PATTERN (DIN 3202-1 F4/F5) PTFE SEAT

VALVE MATERIALS DN 250-300 :



(* : Included in gaskets kit)

Item	Designation	Materials
1	Body	EN 1.0619
2	Ends	
3	Ball	ASTM A 351 CF8M
4	Stem	ASTM A479 Tp.316 or Duplex ASTM A182 F51
5*	Seat	PTFE
7	Packing gland	Ductile iron
8	Elastic washer	Carbon steel
9	Pin	
10	Gland	
10.1	Ring	AISI 303
11*	Packing	Graphite
12*	Gasket	PTFE filled with 25% glass
13*	Body seat	AISI 316L + Graphite
14	Stop pin	Carbon steel
15	Stud	Carbon steel 8.8 zinc plated

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)	DIN 934 8 Zinc plated
39	Stem bushing (DN250)	PTFE + 50% Stainless steel
39	Stem bushing (DN300)	AISI 316 + PTFE
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	DIN 933 A2-70

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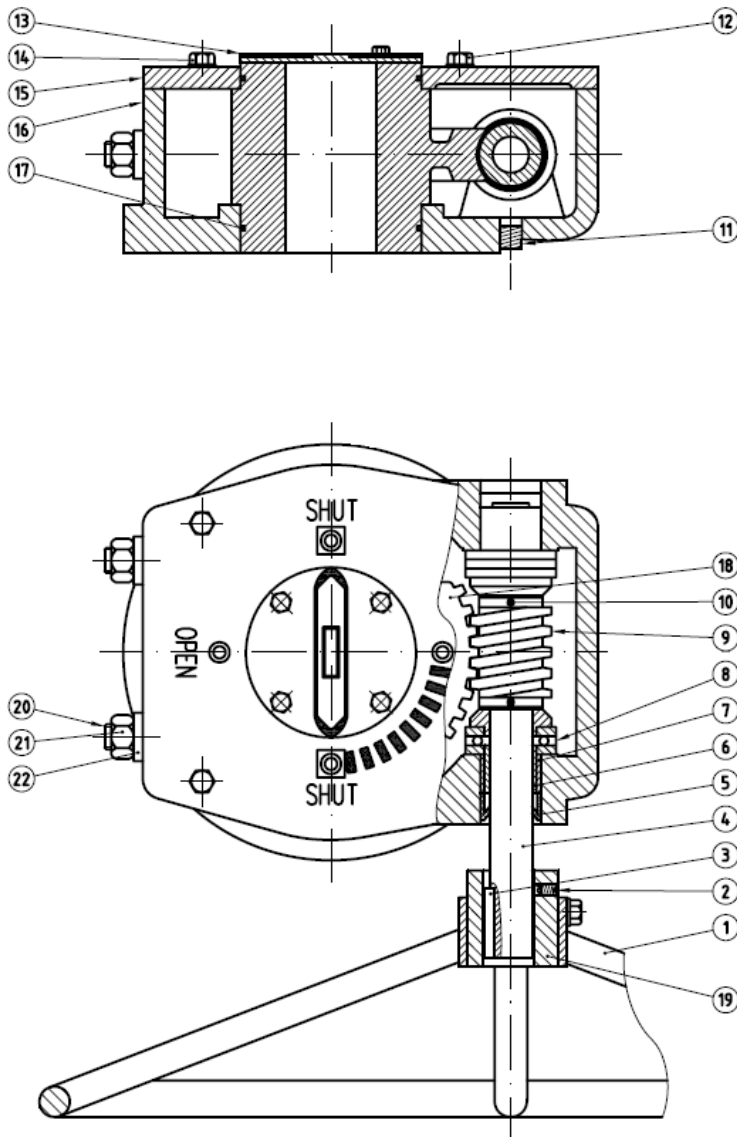
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2 PIECES CARBON STEEL BALL VALVE PN16/40 FLANGED JC RANGE SHORT PATTERN (DIN 3202-1 F4/F5) PTFE SEAT

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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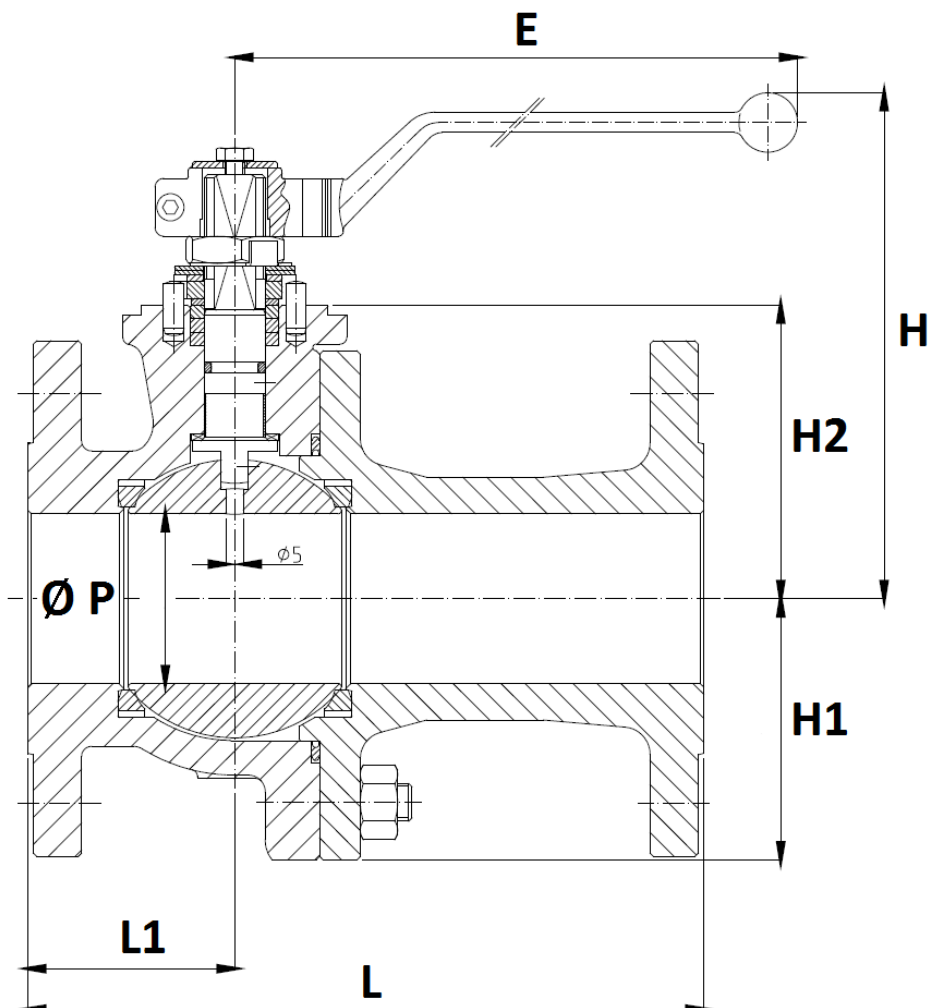
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2 PIECES CARBON STEEL BALL VALVE PN16/40 FLANGED JC RANGE SHORT PATTERN (DIN 3202-1 F4/F5) PTFE SEAT

VALVE SIZE DN15-200 (in mm) :



DN	15	20	25	32	40	50	65	80	100	125	150	200*
Ø P	15	20	25	32	40	50	65	80	100	125	151	203
L	115	120	125	130	140	150	170	180	190	325	350	400
L1	53	52	48.5	54	55	61	75.5	82	90.5	120	135	200
E	164	164	164	210	213	213	348	445	495	698	698	868
H	111	118	130	131	148	155	169	207	232	265	298	353
H1	-	-	-	-	-	-	-	-	118	138	160	208
H2	46	53	58	66.5	76	83.5	97	111	133	156	183	233
Weig. (Kg)	2.8	3.6	5	7	9	12	16	22	32	52.5	76	111
Ref.	540AIT 015	540AIT 020	540AIT 025	540AIT 032	540AIT 040	540AIT 050	516AIT 065	516AIT 080	516AIT 100	516AIT 125	516AIT 150	516AIT 200

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

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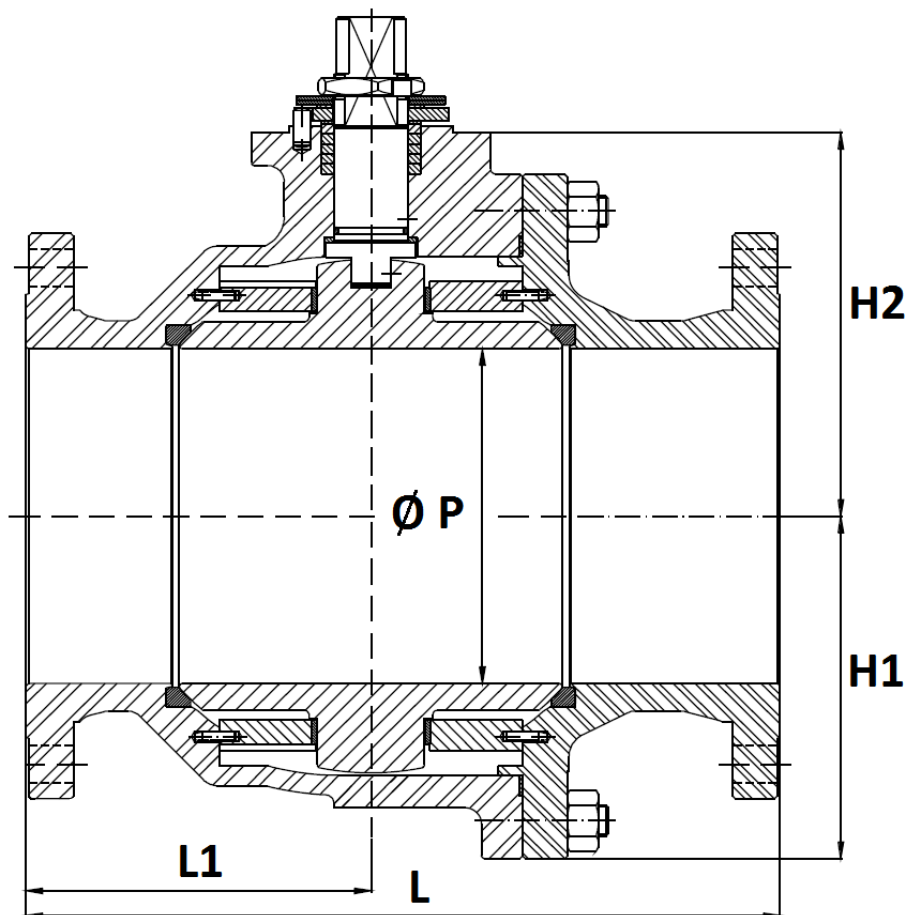
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2 PIECES CARBON STEEL BALL VALVE PN16/40 FLANGED JC RANGE SHORT PATTERN (DIN 3202-1 F4/F5) PTFE SEAT

VALVE SIZE DN 250-300 (in mm) :



DN	250	300
Ø P	254	305
L	450	500
L1	225	245
H1	239	288
H2	256	297
Weight (in Kg)	223	323
Ref.	516AIT250	516AIT300

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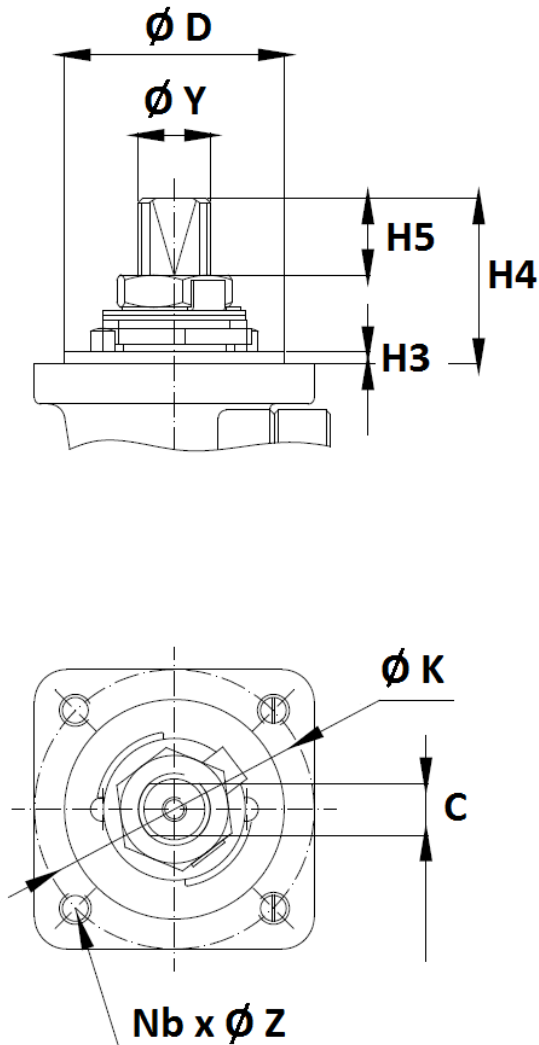
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2 PIECES CARBON STEEL BALL VALVE PN16/40 FLANGED JC RANGE SHORT PATTERN (DIN 3202-1 F4/F5) PTFE SEAT

ISO MOUNTING PAD AND STEM SIZE DN15-200 (in mm) :



DN	15	20	25	32	40	50	65	80	100	125	150	200
H3	1.5				3							4
H4	11.2	14.7	22.7	32	41.5	41.5	44	44.5	56.5	56	68	72
H5	5	8.5	9.5	13	18.3	18.3	18.6	18.6	27.8	24.7	37.1	36.5
C	9	9	9	12	13	13	16	18	20	25	29	32
$\varnothing Y$	M12x1.5			M16x1.5	M18x1.5		M22x1.5	M25x1.5	M28x1.5	M35x2	M40x2	M45x2
$\varnothing D$	35				55			70		85		100
$\varnothing K$	50	50	50	50	70	70	70	102	102	125	125	140
ISO	F05	F05	F05	F05	F07	F07	F07	F10	F10	F12	F12	F14
N x $\varnothing Z$	4 x M6	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 M12	4 x M16

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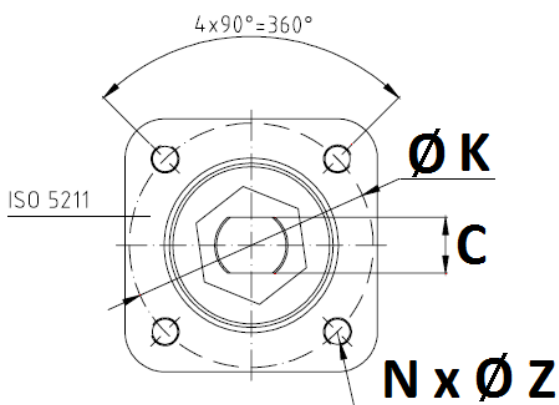
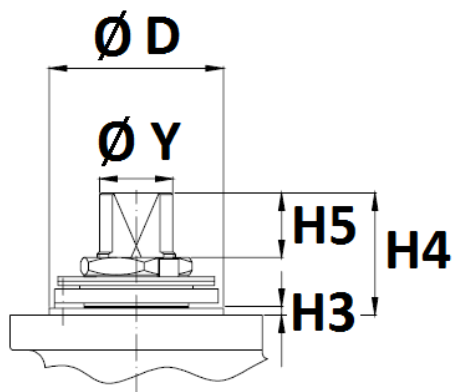
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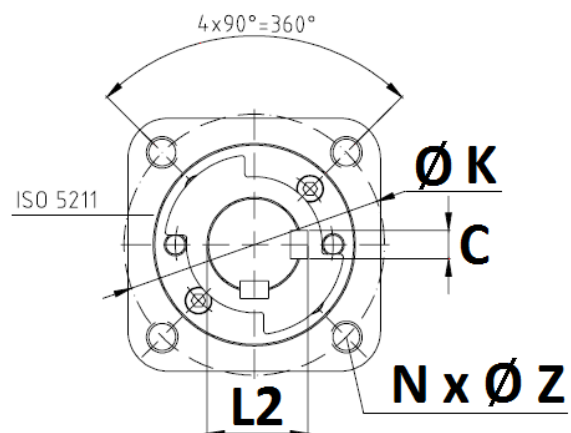
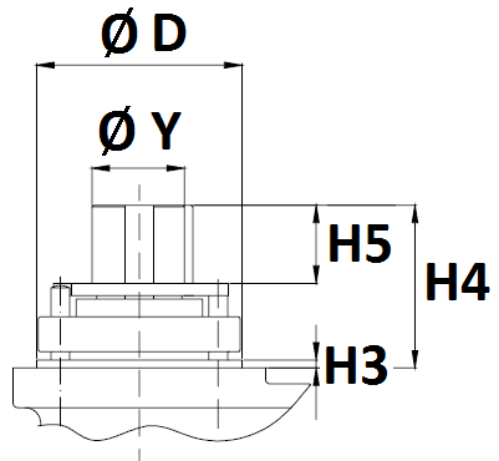
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ISO MOUNTING PAD AND STEM SIZE DN250-300 (in mm) :

DN 250



DN300



DN	250	300
H3	4	4
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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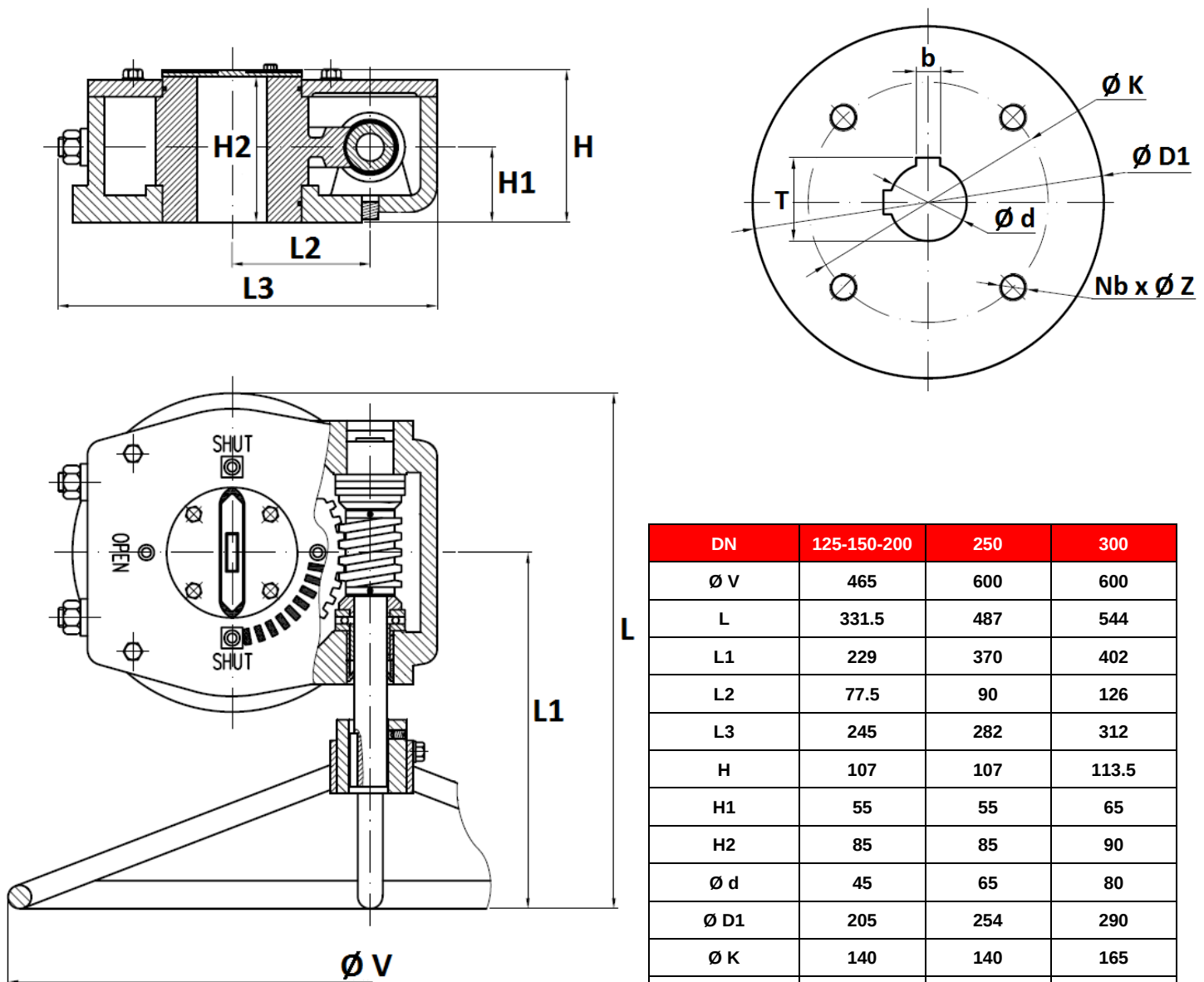
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GEARBOX SIZE DN125-300 (in mm) :



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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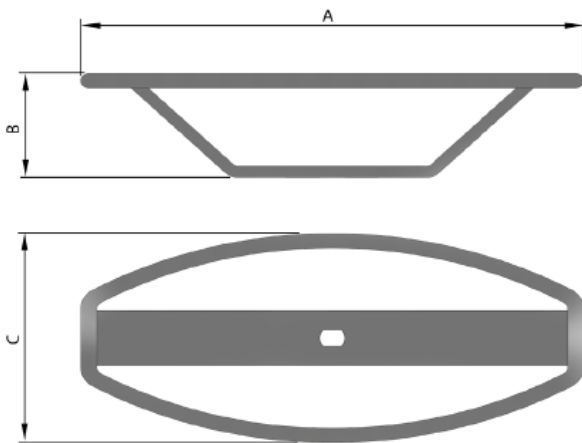
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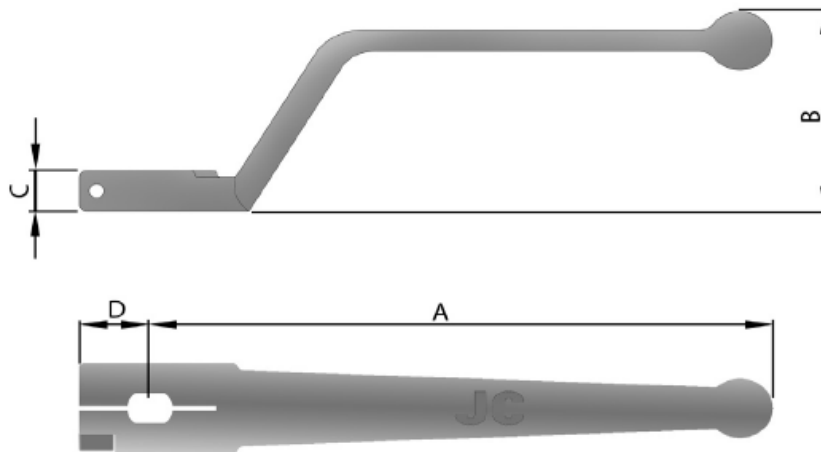
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OVAL HANDWHEEL SIZE DN15-50 (in mm) :



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	9830578		9830576	9830577	

STAINLESS STEEL HANDLE SIZE DN15-200 (in mm) :



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	

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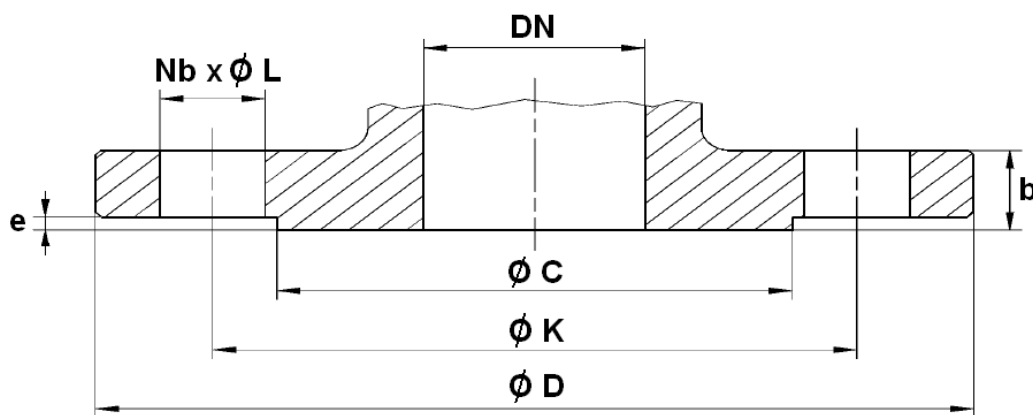
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FLANGES SIZE (in mm) :



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	323.8	381
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	320	378
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	20	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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STANDARDS :

- Manufacturer certified ISO 9001:2015 and ISO 14001 : 2015
- DIRECTIVE 2014/68/EU: For liquids or Gas of Group 1
 - DN15-25: Article 4, §3 (SEP), no CE marking
 - DN32: Risk category I, CE marking
 - DN40-50: Risk category II, CE 0056 marking
 - DN65-80: Risk category I, CE marking
 - DN100-200: Risk category II, CE 0056 marking
- Certificate 3.1 on request
- Valve designing according to EN 1983 – ISO 17292 and EN 12516
- Materials according to NACE MR 01-75
- Pressure Tests according to EN 12266-1, Rate A
- 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 according to EN 1092-1 PN16/40
- Shell finishing quality MSS SP 55
- ISO 5211 mounting pad
- Length according to EN 558 series 27 (DIN 3357-2 ff, DIN 3202-1 F4 up to DN100, F5 over)
- ATEX Group II Category 2 G/2Dc Zone 1 & 21 Zone 2 & 22 (optional marking) up to DN200 according to directive 2014/34/EU
- Russian certificate TRCU 10, TRCU 12 and TRCU 32 (EAC marking and declaration **on request**)
- Valves according to EN 14432-2024 Tank equipment for the transport of dangerous goods

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