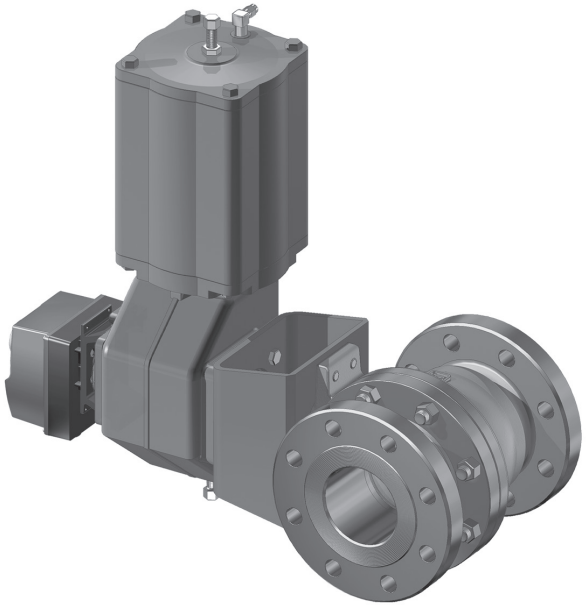
Neles™ flanged full bore MBV ball valve

Series M1 for PN ratings

Neles modular ball valve series M1, offers optimized performance of pulp and paper applications. Series M, incorporates our leading pulp and paper application know-how in valve technology. Several decade experience of Valmet has fine tuned this product to deliver P&P customers easy product selection with industry leading performance. Valve series includes seat supported and trunnion mounted ball valve designs covering seat types, size ranges and material options offering comprehensive coverage for most pulp and paper applications needs. Valve deliveries excellent tightness for shutoff as well as delivering good control performance for pulp and paper applications. Optimized modularity can be used as an advantage to cut down costs via reduced spare part inventory and product suitability for wide scope of process applications.



Applications

- Pulp & paper
- Digesters and fiberlines
- Liquor service
- Chemical recovery
- Sludge treatment
- TMP-plants
- Deinking and recycling plants
- Steam
- Paper mill application

Design features

Size range

- DN 25 ... 600.

Pressure classes

- PN 10, 16, 25 and 40.

Tightness

- Separate ball and shaft assure good tightness, even with metal seats, at low shut-off pressure.
- Bubble tight shut-off with soft seats.

Versions, details

- V-ring gland packing ensures long maintenance-free operation.
- Spiral wound body joint gasket for leak free operation.
- Live loaded packing as an option.
- Q-trim option for reduced noise and cavitation.
- Scraping seat as standard, can be locked.
- Metric threading
- Trunnion design in DN 250 ... 600
- ATEX

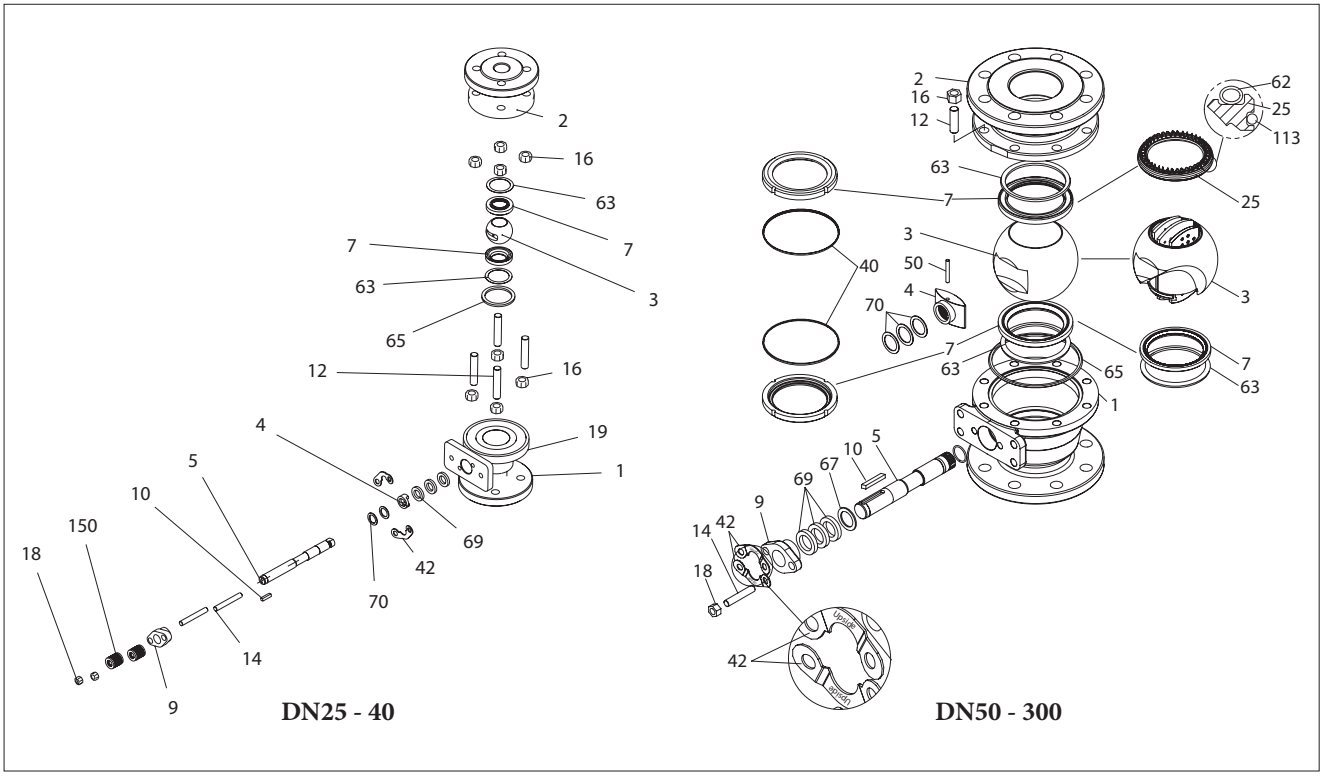
Full bore

- High C_v per nominal size.
- Straight ball opening offers low flow resistance.
- True full bore ball (cylindrical flow path).

Minimized emissions

- Uninterrupted circular spiral wound body gasket.
- No bending forces to gland packing.
- Live loaded gland packing available

Exploded view, seat supported valves

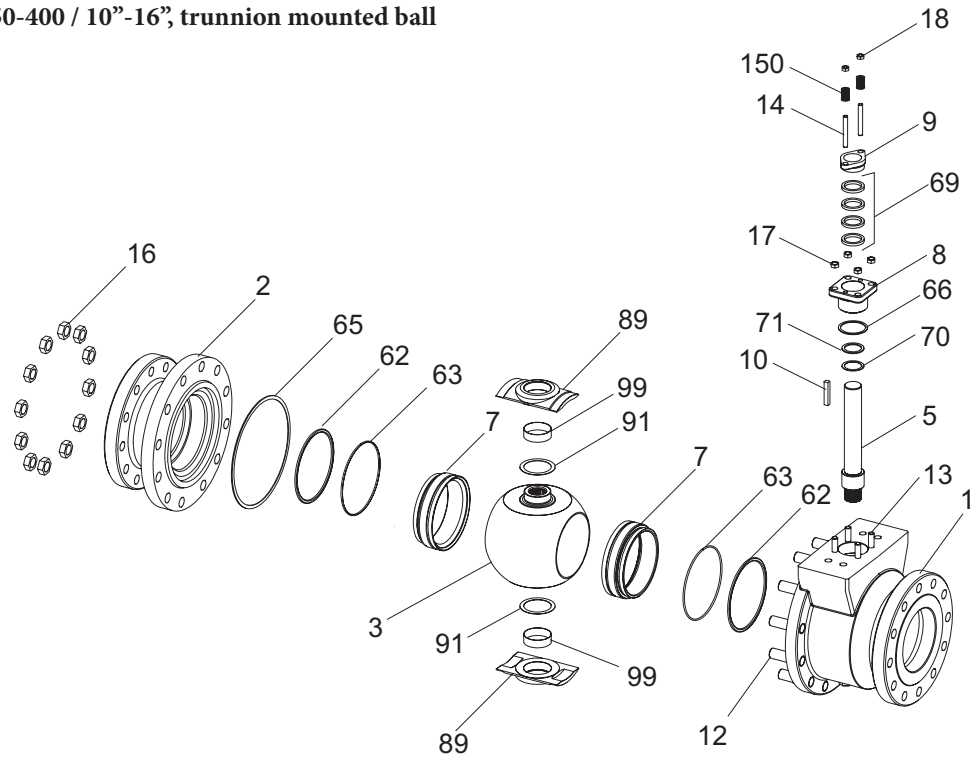


Parts list

Item	Part description	Material		
1	Body	Stainless steel CF8M / CG8M		
2	Body cap	Stainless steel CF8M / CG8M		
3	Ball / Q-Trim™ ball	Stainless steel AISI 316/CF8M/ CG8M		
4	Spline driver DN50 ... 300 Thrust ring DN25 ... 40	Stainless steel CF8M AISI 316		
5	Stem	Stainless steel AISI 329		
7	Seat	Stainless steel + cobalt based alloy	PTFE	Xtreme™
9	Gland	Stainless steel CF8M		
10	Key	Stainless steel AISI 329		
12	Stud	Stainless steel A2-70		
14	Stud	Stainless steel A2-70		
16	Hexagon nut	Stainless steel A2-70		
18	Hexagon nut	Stainless steel A2-70		
25	Seat (E)	Stainless steel + cobalt based alloy		
40	Locking ring DN 250 - DN 300	Stainless steel AISI 316		
42	Retainer plate	Stainless steel AISI 316		
50	Cylindrical pin	Stainless steel AISI 316		
62	Spring	UNS N06625		
63	Back seal	PTFE		
65	Body gasket	PTFE, Stainless steel AISI 316 + PTFE, filled spiral wound		
67	Thrust ring	Stainless steel AISI 316		
69	Packing	PTFE or graphite		
70	Thrust bearing	PTFE		
113	Back seal	FPM (O-ring) as standard, PTFE + polyester (lip seal) optional		
150	Disc spring set	Electroless nickel plated spring steel (EN 10083 - 1.8159)		

Exploded view, trunnion mounted valves

Sizes DN 250-400 / 10”-16”, trunnion mounted ball

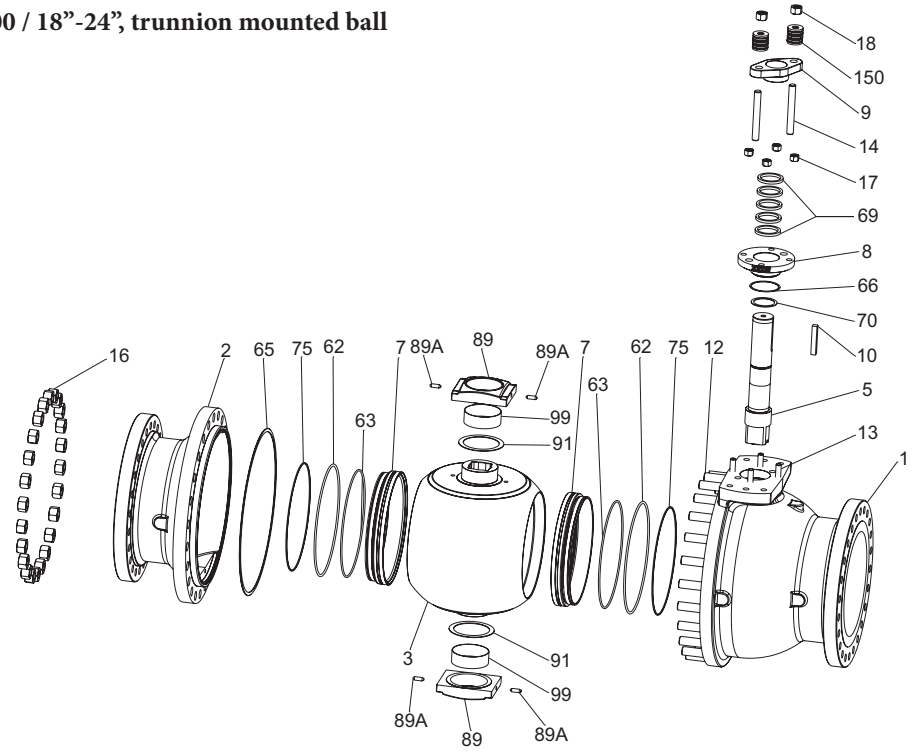


Parts list (S-seat)

Item	Part description	Material	
1	Body	Stainless steel CF8M / CG8M	
2	Body cap	Stainless steel CF8M / CG8M	
3	Ball	Stainless steel AISI 316/CF8M / CG8M	
5	Shaft	Stainless steel XM-19	
7	Seat	Stainless steel + cobalt based alloy	PTFE
8	Bonnet	Stainless steel CF8M	
9	Gland	Stainless steel CF8M	
10	Key	Stainless steel AISI 329	
12	Stud	Stainless steel A2-70	
13	Stud	Stainless steel A2-70	
14	Stud	Stainless steel A2-70	
16	Hexagon nut	Stainless steel A2-70	
17	Hexagon nut	Stainless steel A2-70	
18	Hexagon nut	Stainless steel A2-70	
62	Seat spring	Alloy 625	
63	Back seal	O-ring (FKM)	
65	Body gasket	Stainless steel AISI 316 + PTFE filled spiral wound	
66	Bonnet gasket	PTFE	
69	Packing ring	PTFE	
70	Thrust bearing	Cobalt based allo	
71	Thrust bearing	Cobalt based alloy	
89	Trunnion plate	Stainless steel, ASTM A 351 gr. CF8M	
91	Bearing spacer	Cobalt based alloy	
99	Trunnion bearing	PTFE + Stainless steel	
150	Disc spring set	Electroless nickel plated spring steel (EN 10083-1.8159)	

Exploded view, trunnion mounted valves

Sizes DN 450-600 / 18”-24”, trunnion mounted ball



Parts list (P-seat)

Item	Part description	Material
1	Body	Stainless steel CF8M
2	Body cap	Stainless steel CF8M
3	Ball	Stainless steel CF8M
5	Shaft	EN 10088-1.4460 Duplex 329
7	Seat	Stainless steel AISI 316/CF8M + cobalt based alloy
8	Bonnet	Stainless steel CF8M
9	Gland	Stainless steel CF8M
10	Key	Stainless steel AISI 329
12	Stud	Stainless steel A2-70
13	Stud	Stainless steel A2-70
14	Stud	Stainless steel A2-70
16	Hexagon nut	Stainless steel A2-70
17	Hexagon nut	Stainless steel A2-70
18	Hexagon nut	Stainless steel A2-70
62	Seat spring	UNS N06625
63	Back seal	O-ring (FFKM)
65	Body seal	Stainless steel AISI 316 + PTFE filled spiral wound
66	Bonnet gasket	PTFE
69	Packing ring	PTFE
70	Thrust bearing	AISI 316 + PTFE
75	Braided seal square	PTFE
89	Trunnion plate	Stainless steel CF8M
89A	Pin	AISI 316
91	Thrust bearing	AISI 316 + PTFE
99	Trunnion bearing	AISI 316 + PTFE
150	Disc spring set	AISI 304

Technical specification

Product type

Flanged full bore, ball valve.
Split body design.
Seat supported design DN 25 ... 300
Trunnion design DN 250 … 600

Pressure ratings

PN 10, 16, 25, 40.

Size range

DN 25 … 600.

Temperature range

-50 … +260 °C. Depending on the seat material.

Design standards

Valve body	DIN 3840, ISO 7121
Valve flanges	PN 10 - 40
Face-to-face	ISO 5752/EN 558-1. Basic series 3, 4 or 12 depending on size and pressure class.

Standard materials

Body	CF8M.
Ball	CF8M + hard chrome.
Bearings	PTFE + graphite.
Seats	Stainless steel + cobalt based alloy, Xtreme™ Optional PTFE or filled PTFE.
Seals/gaskets	PTFE, graphite, FPM.
Body gasket	Spiral wound with PTFE or graphite filler.
Gland packing	PTFE (V-rings), graphite.
Bolting	A2-70

Certification

EN 10204 - 3.1 material certificates for body and body cap / bonnet.

Standard options

Degreasing.
Q-Trim.
Anti-Static. (ATEX).
Live loaded construction.

Valve testing

Each valve is tested for body integrity and seat tightness.
The body test pressure is 1.5 x PN. The seat test pressure for metal seated valves is 1.1 x PN. The seat test pressure for soft seats is 6 bar.
The test medium is inhibited water. Air test upon request.

Valve tightness

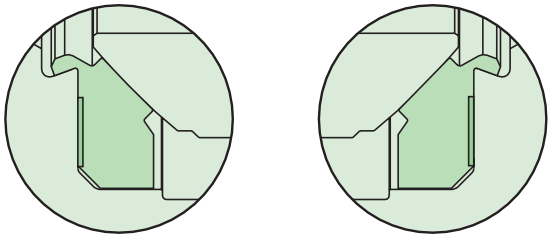
ISO 5208 Rate D for metal seats as standard.
Soft seated seat supported valves are bubble tight.
Other tightness rates upon request.

C_v (K_v) -values and resistance coefficients

Valve size DN	M1			M1 with Q-Trim	
	C_v 90°	K_v 90°	ξ 90°	C_v 90°	K_v 90°
25	105	91	0.08	–	–
40	250	220	0.07	–	–
50	490	425	0.06	84	73
65	830	720	0.06	–	–
80	1160	1000	0.05	245	210
100	2200	1900	0.05	530	460
125	3360	2900	0.05	–	–
150	5100	4400	0.04	1360	1180
200	9300	8000	0.04	2330	2020
250	15200	13200	0.04	3920	3400
300	22400	19400	0.03	5600	4850
350	30500	26400	0.03	6860	5930
400	39800	34500	0.03	9190	7950
450	50900	44000	0.03	–	–
500	65200	56400	0.03	–	–
600	99500	86100	0.03	–	–

Standard seat options

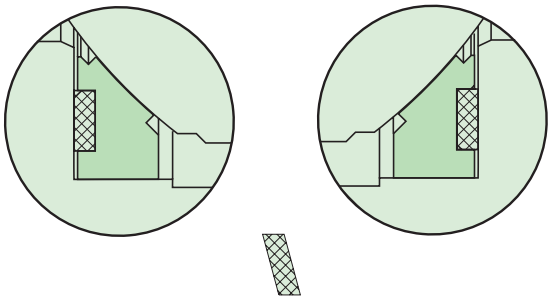
Locked scraping seat P, V & C



Materials:

Seats	Stainless steel + cobalt based alloy (P) See optional materials from type code
Seals	PTFE
Temperature range	-50 ... +260 °C
Size range	DN 25 - 300

General scraping seat S



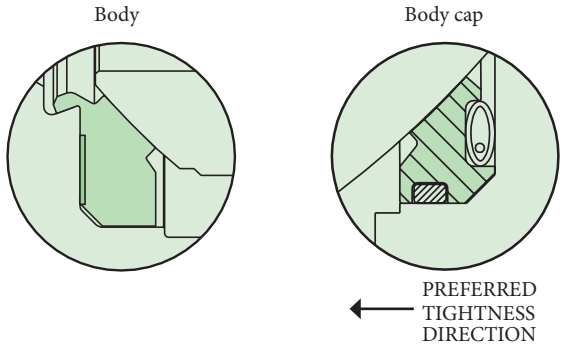
Non-compressed form of the PTFE back seal.

Materials:

Seats	Stainless steel + cobalt based alloy
Seals	PTFE
Temperature range	-50 ... +230 °C
Size range	DN 25 - 300

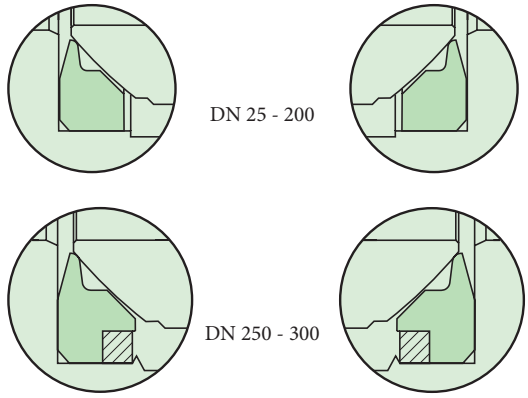
Standard seat options

Scraping seat E for low Δp-applications



Seats	Stainless steel + cobalt based alloy
Locked seals	PTFE
Spring assisted seals	Viton® GF O-ring.
Springs	UNS N06625
Temperature range	-30 ... +200 °C
Maximum Δp	16 bar.
Note	Available only on sizes DN 50 - 300

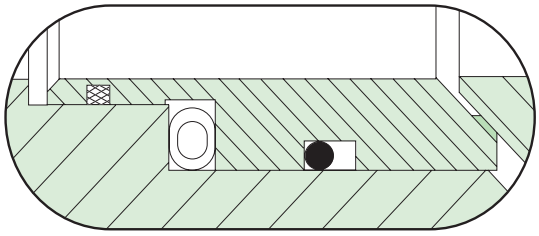
Soft seat X, for general use



Temperature ranges:

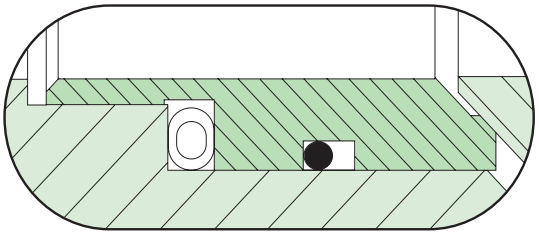
Xtreme (X)	-50 ... +260 °C DN 25 - 200
PTFE (T)	-50 ... +200 °C DN 250 & 300
Reinforced with carbon (M)	-50 ... +230 °C DN 125, 250 & 300

P seat for trunnion valves, solids containing fluids



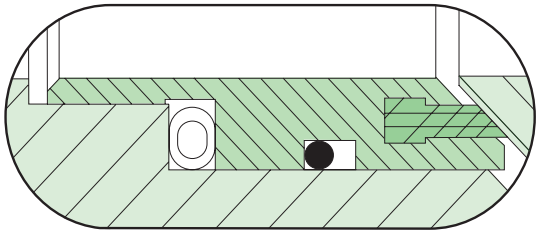
Ball seat:	SS steel +Cobalt based alloy
Seat seal:	FFKM O-ring, braided PTFE.
Spring:	INCONEL 625.
Temp. range:	-10 ... +225 °C

S seat for trunnion valves, clean fluids



Ball seat:	SS steel +Cobalt based alloy
Seat seal:	Viton® GF O-ring.
Spring:	INCONEL 625.
Temp. range:	-30 ... +200 °C

T soft seat



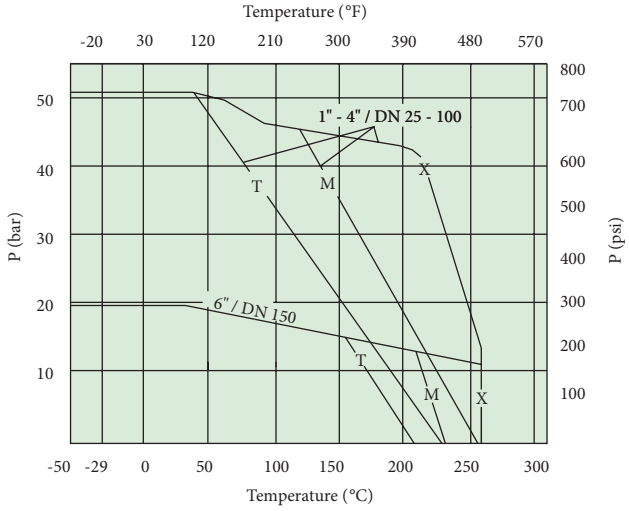
Ball seat:	PTFE.
Seat body:	Stainless steel.
Seat seal:	Viton GF O-ring.
Spring:	INCONEL 625.
Temp. range:	-30 ... +200 °C

For temperatures over the specified ranges contact Neles.
Note: Max. operating pressure differentials for each seat type, see page 7.

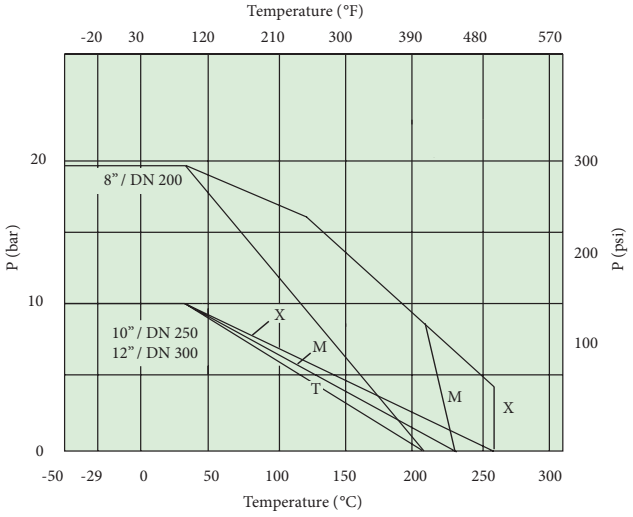
Valve seat ratings

Seat supported valves, maximum operating pressure for soft seats

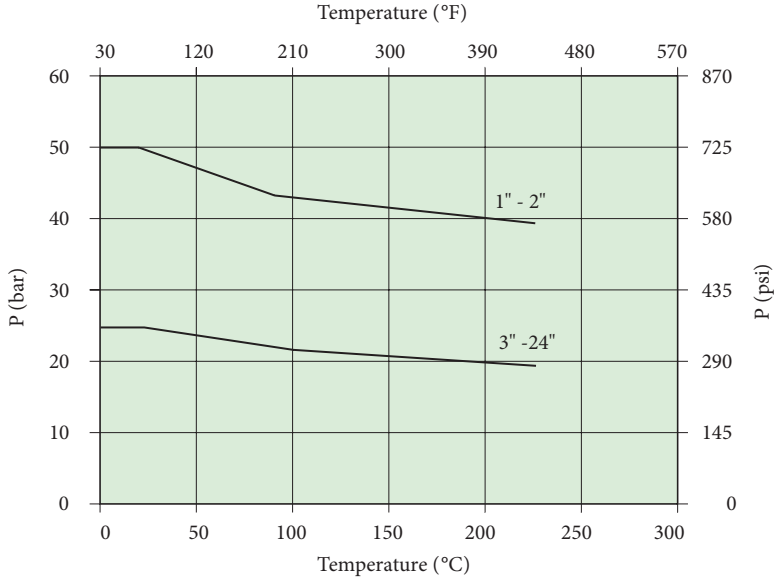
1" - 6" / DN 25 - 150



8" - 12" / DN 200 - 300



Maximum operating pressure for metal seats



Soft seat ratings are based on differential pressure with the valve ball in fully closed position and refer seats only.

Actuator selection

M1-valve can be equipped with the following Neles actuator types:

B1C/B1J Pneumatic double acting or spring return actuator. Actuators available for size range DN 25 - 600.

M M-series manual gear operator for valve sizes DN 25-300.

LK Hand lever for valve sizes DN 25-100.

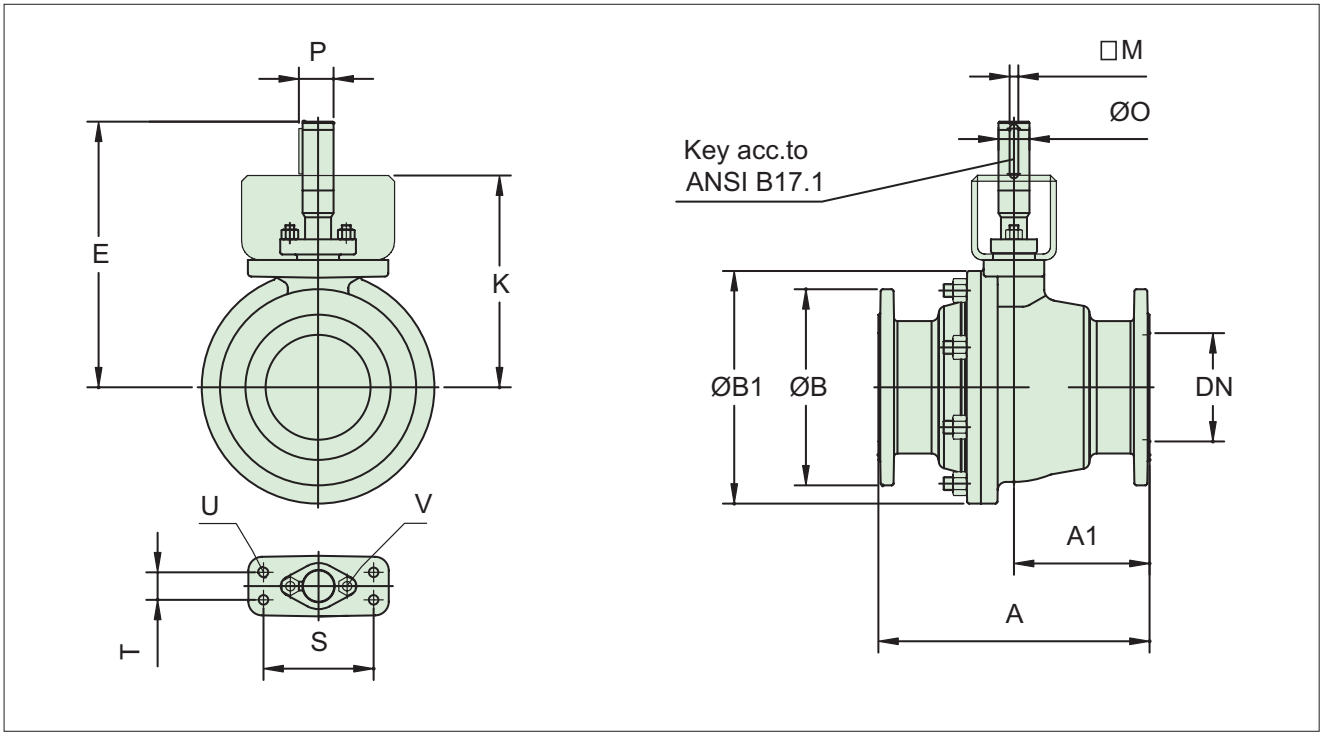
When selecting other than Neles actuators please contact your local Valmet representative.

For the correct actuator selection you need to know the following process data:

- valve size and seat type
- supply pressure for the actuator
- maximum operating differential pressure over the valve in closed position

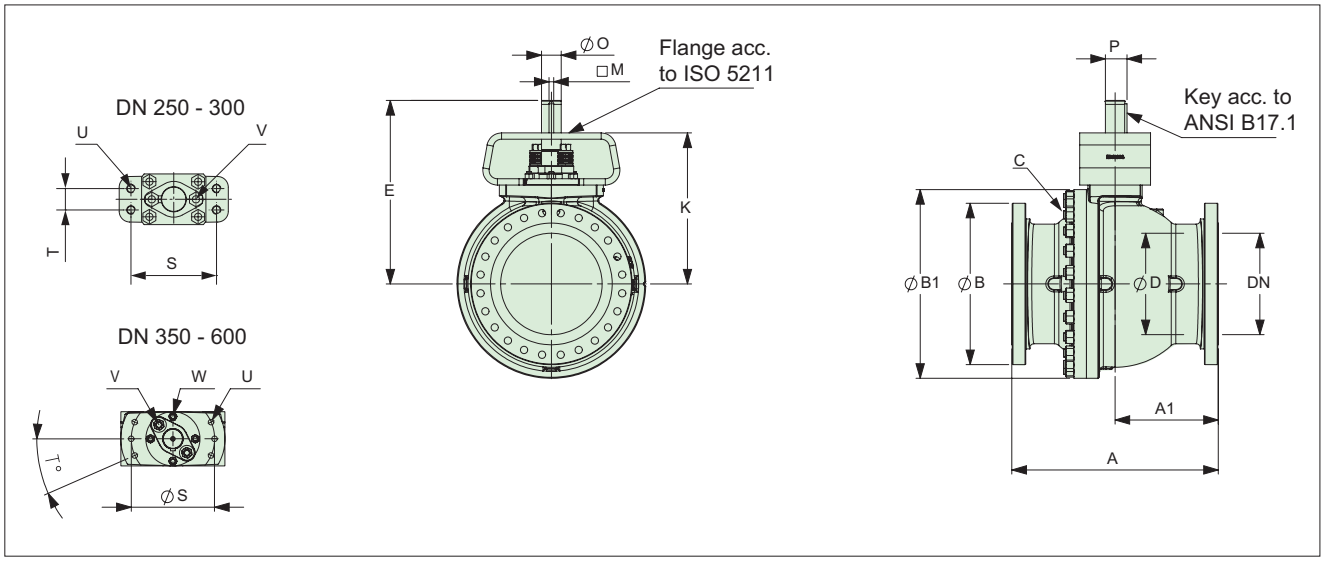
For pneumatic actuator selection use Nelprof™ control and onoff sizing and selection software, www.neles.com/nelprof.

Dimensions



Seat supported valves

TYPE PN	DN	DIMENSIONS (mm)													WEIGHT (kg)	
		A	A1	ØB	ØB1	E	K	M	ØO	P	S	T	U	V	M1	Q-M1
M1M PN40 (10, 16, 25)	25	165	74	124	110	178	150	4.76	15	17	70	-	M10	M8	5	-
	40	165	70	155	145	206	168	4.76	20	22	70	-	M10	M10	8	-
	50	178	79	165	146	215	168	6.35	25	27.8	110	32	M12	M10	13	14
M1M PN40 (25)	65	270	135	185	154	223	176	6.35	25	27.8	110	32	M12	M10	20	-
	80	282	141	200	195	237	190	6.35	25	27.8	110	32	M12	M10	30	32
	100	305	152.5	235	252	309	250	9.52	35	39.1	130	32	M12	M10	50	55
	125	325	162.5	270	280	331	272	9.52	35	39.1	130	32	M12	M10	80	-
	150	403	201.5	300	346	386	305	12.70	45	50.4	160	40	M16	M14	120	130
M1L PN25	200	502	251	360	432	476	385	12.70	55	60.6	160	55	M20	M14	200	220
	250	568	284	425	512	582	472	15.87	65	71.9	230	90	M24	M20	295	335
	300	648	324	485	584	685	555	19.05	75	83.1	307.4	120	M30	M20	450	505
M1K PN16 (10)	65	270	135	185	154	223	176	6.35	25	27.8	110	32	M12	M10	20	-
	80	203	101.5	200	184	237	190	6.35	25	27.8	110	32	M12	M10	20	22
	100	229	114.5	220	236	309	250	9.52	35	39.1	130	32	M12	M10	35	37
	125	325	162.5	270	280	331	272	9.52	35	39.1	130	32	M12	M10	80	-
	150	394	197	285	338	386	305	12.70	45	50.4	160	40	M16	M14	100	110
M1K PN16	200	457	228.5	340	426	476	385	12.70	55	60.6	160	55	M20	M14	160	180
	250	533	266.5	405	512	582	472	15.87	65	71.9	230	90	M24	M20	280	320
	300	610	305	460	584	685	555	19.05	75	83.1	307.4	120	M30	M20	420	475
M1J PN10	200	457	228.5	340	426	476	385	12.70	55	60.6	160	55	M20	M14	160	180
	250	533	266.5	405	512	582	472	15.87	65	71.9	230	90	M24	M20	280	320
	300	610	305	460	584	685	555	19.05	75	83.1	307.4	120	M30	M20	420	475

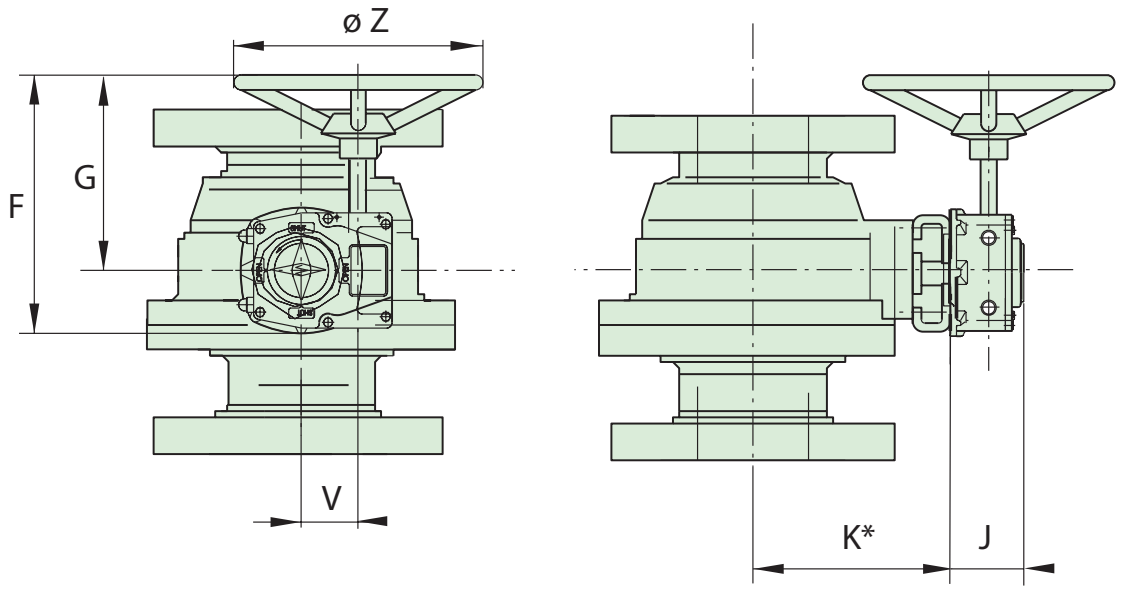


Trunnion type valves

TYPE / PN	DN	DIMENSIONS, mm											U	V	Weight, kg	
		A	A1	ØB	ØB1	E	K	M	ØO	P	S	T			M1	Q-M1
M1JW/M1JZ /PN 10	250	533	267	395	514	562	472	12.70	55	60.60	230	90	M24	M14	325	360
	300	610	305	445	592	605	515	12.70	55	60.60	230	90	M24	M14	480	530
M1KW/M1KZ / PN 16	250	533	267	405	514	562	472	12.70	55	60.60	230	90	M24	M14	325	360
	300	610	305	460	592	605	515	12.70	55	60.60	230	90	M24	M14	480	530
M1LW/M1LZ / PN 25	250	568	284	425	580	562	472	12.70	55	60.60	230	90	M24	M14	330	370
	300	648	324	485	652	605	515	12.70	55	60.60	230	90	M24	M14	610	660
M1MW/M1MZ / PN 40	250	568	284	450	580	562	472	12.70	55	60.60	230	90	M24	M14	330	370
	300	648	324	515	652	605	515	12.70	55	60.60	230	90	M24	M14	610	660

TYPE PN	DN	DIMENSIONS, mm																Weight, kg	
		ØD	A	A1	ØB	ØB1	E	K	M	ØO	P	ØS	T°	U	V	W	C	M1	Q-M1
M1JW/ M1JZ / PN 10	350	340	686	343	505	665	741	607	19.05	75	83.15	330	21.3	M30	M20	M20	M30	635	710
	400	390	762	381	565	750	779	633	22.23	85	94.63	330	21.3	M30	M20	M20	M30	840	940
	450	436	864	432	615	800	794	648.5	22.23	85	94.63	330	21.3	M30	M20	M20	M27	980	1100
	500	487	914	457	670	885	811.5	665.5	22.23	85	94.63	330	21.3	M30	M20	M20	M27	1290	1470
	600	589	1067	533.5	780	1041	987	831	22.23	95	104.83	400	23.6	M30	M30	M24	M30	2040	2320
M1KW/ M1KZ PN / 16	350	340	686	343	520	665	741	607	19.05	75	83.15	330	21.3	M30	M20	M20	M30	635	710
	400	390	762	381	580	750	779	633	22.23	85	94.63	330	21.3	M30	M20	M20	M30	840	940
	450	436	864	432	640	800	794	648.5	22.23	85	94.63	330	21.3	M30	M20	M20	M27	1010	1130
	500	487	914	457	715	885	811.5	665.5	22.23	85	94.63	330	21.3	M30	M20	M20	M27	1330	1510
	600	589	1067	533.5	840	4041	987	831	22.23	95	104.83	400	23.6	M30	M30	M24	M30	2140	2420
M1LW/ M1LZ / PN 25	350	340	762	381	555	665	741	607	19.05	75	83.15	330	21.3	M30	M20	M20	M30	680	750
	400	390	838	419	620	750	779	633	22.23	85	94.63	330	21.3	M30	M20	M20	M30	890	980
	450	436	914	457	670	785	794	648.5	22.23	85	94.63	330	21.3	M30	M20	M20	M24	1100	1220
	500	487	991	495.5	730	880	811.5	665.5	22.23	85	94.63	330	21.3	M30	M20	M20	M27	1440	1620
	600	589	1143	571.5	845	1050	987	831	22.23	95	104.83	400	23.6	M30	M30	M24	M30	2220	2500
M1MW/ M1MZ / PN 40	350	340	762	381	580	700	741	607	19.05	75	83.15	330	21.3	M30	M20	M20	M36	800	870
	400	390	838	419	660	799	779	633	22.23	85	94.63	330	21.3	M30	M20	M20	M39	1015	1100
	450	436	914	457	685	825	794	648.5	22.23	85	94.63	330	21.3	M30	M20	M20	M36	1210	1330
	500	487	991	495.5	755	906	882	726	22.23	95	104.83	400	23.6	M30	M30	M24	M39	1650	1830
	600	589	1143	571.5	890	1060	1090	885	31.75	120	133.75	460	~~23.6~~ 23.0	M30	M30	M24	M39	2710	2990

Valve with manual gear operator series M



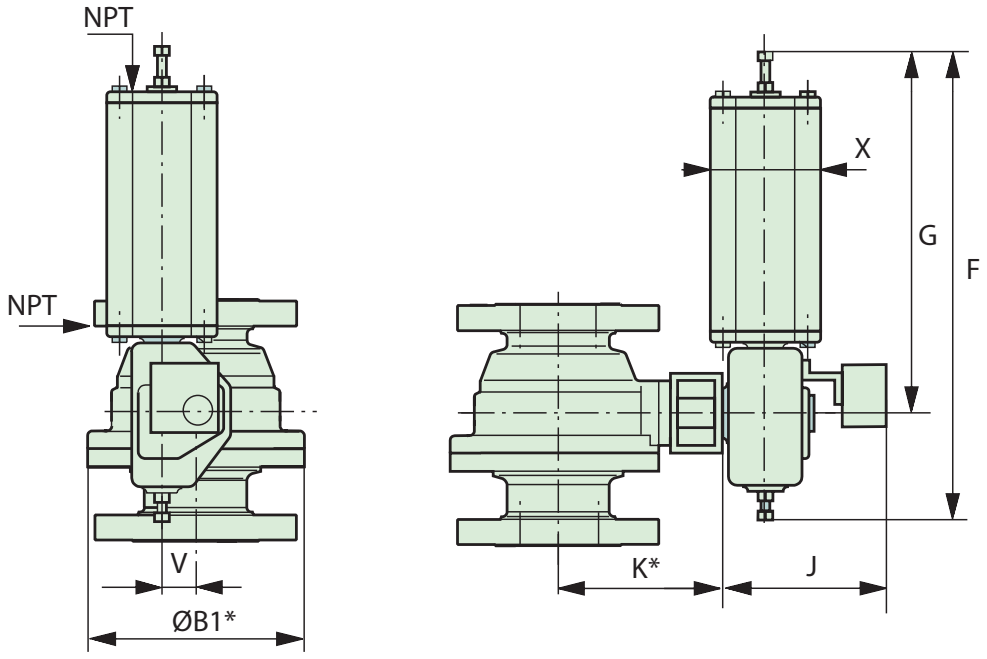
*) see K dimensions from tables on pages 8 & 9

Type	DIMENSIONS, mm					kg
	F	G	J	V	øZ	
M07	196	152	58	38	125	3
M10	297	239	67	52	200	5
M12	357	282	81	66	250	10
M14	435	345	93	89	457	18
M15	532	406	105	123	457	31
M16	642	466	126	154	610	45

Type	DIMENSIONS, inch					lbs
	F	G	J	V	øZ	
M07	7.72	5.98	2.28	1.52	4.92	6
M10	11.69	9.41	2.64	2.05	7.87	11
M12	14.06	11.10	3.19	2.63	9.84	21
M14	17.13	13.58	3.68	3.52	17.99	40
M15	20.94	15.98	4.15	4.84	17.99	68
M16	25.28	18.35	4.98	6.06	24.02	99

Topwork assembly dimensions

Valve + B1C/B1J/B1JA



*) See K and ØB1 dimensions from tables on page 8 and 9.

B1C actuator

Actuator	DIMENSIONS, mm					NPT	kg
	F	G	J	V	X		
B1C6	400	260	283	36	90	1/4	4.2
B1C9	455	315	279	43	110	1/4	9.6
B1C11	540	375	290	51	135	3/8	16
B1C13	635	445	316	65	175	3/8	31
B1C17	770	545	351	78	215	1/2	54
B1C20	840	575	385	97	215	1/2	73
B1C25	1040	710	448	121	265	1/2	131
B1C32	1330	910	525	153	395	3/4	256
B1C40	1660	1150	595	194	505	3/4	446
B1C50	1970	1350	690	242	610	1	830

Actuator	DIMENSIONS, inch					NPT	lbs
	F	G	J	V	X		
B1C6	15.75	10.24	11.14	1.42	3.54	1/4	9
B1C9	17.91	12.40	10.98	1.69	4.33	1/4	21
B1C11	21.26	14.76	11.42	2.01	5.31	3/8	35
B1C13	25.00	17.52	12.44	2.56	6.89	3/8	68
B1C17	30.31	21.46	13.82	3.07	8.46	1/2	119
B1C20	33.07	22.64	15.16	3.82	8.46	1/2	161
B1C25	40.94	27.95	17.64	4.76	10.43	1/2	289
B1C32	52.36	35.83	20.67	6.02	15.55	3/4	564
B1C40	65.35	45.28	23.43	7.64	19.88	3/4	983
B1C50	77.56	53.15	27.17	9.53	24.02	1	1829

B1J/B1JA actuator

Actuator	DIMENSIONS, mm					NPT	kg
	F	G	J	V	X		
B1J/B1JA6	485	368	273	36	110	3/8	8
B1J/B1JA8	560	420	279	43	135	3/8	17
B1J/B1JA10	650	490	290	51	175	3/8	30
B1J/B1JA12	800	620	316	65	215	1/2	57
B1J/B1JA16	990	760	351	78	265	1/2	100
B1J/B1JA20	1200	935	358	97	395	3/4	175
B1J/B1JA25	1530	1200	448	121	505	3/4	350
B1J/B1JA32	1830	1410	525	153	540	1	671
B1J/B1JA40	2095	1578	580	194	724	1	1100

Actuator	DIMENSIONS, inch					NPT	lbs
	F	G	J	V	X		
B1J/B1JA6	19.09	14,49	10.75	1.42	4.33	3/8	20
B1J/B1JA8	22.05	16.54	10.98	1.69	5.31	3/8	37
B1J/B1JA10	25.59	19.29	11.42	2.01	6.89	3/8	66
B1J/B1JA12	31.50	24.41	12.44	2.56	8.46	1/2	126
B1J/B1JA16	38.98	29.92	13.82	3.07	10.43	1/2	220
B1J/B1JA20	47.24	36.81	14.09	3.82	15.55	3/4	386
B1J/B1JA25	60.24	47.24	17.64	4.76	19.88	3/4	771
B1J/B1JA32	72.05	55.51	20.67	6.02	21.26	1	1479
B1J/B1JA40	82.48	62.13	22.8	7.64	28.5	1	2424

How to order

MBV modular ball valve, series M

1.	2.	3.	4.	5.	6.	7.	8.	9.		10.
	M1	M	A	150	A	P	V	A	/	

1. sign	Low noise construction
Q-	Attenuator in flow port of ball

2. sign	Valve series, face-to-face length
M1	Full bore, seat supported, f-to-f length acc. to ISO 5752 basic series 3, 4 , 12 or 15 depending on size and pressure class. Seat supported DN 025-300, trunnion mounted DN 250-600.

3. sign	Pressure rating of body and flanges
J	PN10
K	PN16
L	PN25
M	PN40

4. sign	Construction
A	Standard construction, seat supported
V	Seat supported, pure PTFE soft parts, metal thrust bearing, for peroxide service
W	Trunnion mounted 2-seats
Z	Trunnion mounted 1-seat*

*) flow direction indicated by an arrow on the body

5. sign	Size
Seat supported valves	025, 040, 050, 065, 080, 100, 125, 150, 200, 250, 300
Trunnion mounted valves	250, 300, 350, 400, 450, 500, 600

6. sign	Materials			
	Body material	Trim and coating material	Stem material	Bolting material / thread
A	CF8M	CF8M (+ Hard Chrome, if metal seat)	AISI 329 trunnion mounted: XM-19 (DN250-400)	A2 - 70 / metric
C	CG8M	CG8M (+ Hard Chrome, if metal seat)	AISI 329 trunnion mounted: XM-19 (DN250-400)	A2 - 70 / metric
U	CK-3MCuN	CK-3MCuN (& ceramic coating, if metal seat)	UNS S31254	A2 - 70 / metric
S	CF8M + Cobalt based alloy sleeves in flow ports	CF8M (cobalt based coating on ball surface and flow port)	AISI 329 Only for seat supported types	A2 - 70 / metric
T	Titanium gr C-2	Titanium gr. C-2 (soft seats only)	Titanium gr 5	A2 - 70 / metric
X	4A	4A (+ Hard Chrome, if metal seat)	AISI 329 trunnion mounted: XM-19 (DN250-400)	A2 - 70 / metric

7. sign	Materials			
	Seat type	Seat material	Bearing material	Back seal material
P	locked	SS+ Cobalt based hard facing	PTFE + Graphite	PTFE
V	locked	4A+ Cobalt based hard facing	PTFE + Graphite	PTFE
C	locked	CK-3MCuN + Cobalt based hard facing	PTFE + Graphite	PTFE
S	unlocked	SS+ Cobalt based hard facing	PTFE + Graphite	PTFE
E	low Δp	SS+ Cobalt based hard facing	PTFE + Graphite	PTFE / FPM
X	soft	Xtreme™	PTFE + Graphite	–
T	soft	PTFE	PTFE + Graphite	–
M	soft	Filled PTFE	PTFE + Graphite	–
	TRUNNION MOUNTED			
P	metal	SS + Cobalt based hard facing	PTFE + Graphite	FFKM
S	metal	SS + Cobalt based hard facing	PTFE + Graphite	FKM
T	soft	PTFE + C25	PTFE + Graphite	FKM

8. sign	Packing	Body gasket
V	PTFE V-rings, standard	PTFE
F	Graphite	Graphite
G	Live loaded graphite packing for trunnion and seat supported valves	Graphite
T	Live loaded PTFE packing for trunnion and seat supported valves	PTFE

9. sign	Model code
A	Version

10. sign	End connection style
	EN 1092-1 Type B1 (Ra 3.2 - 12.5), standard, without sign (M1)

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