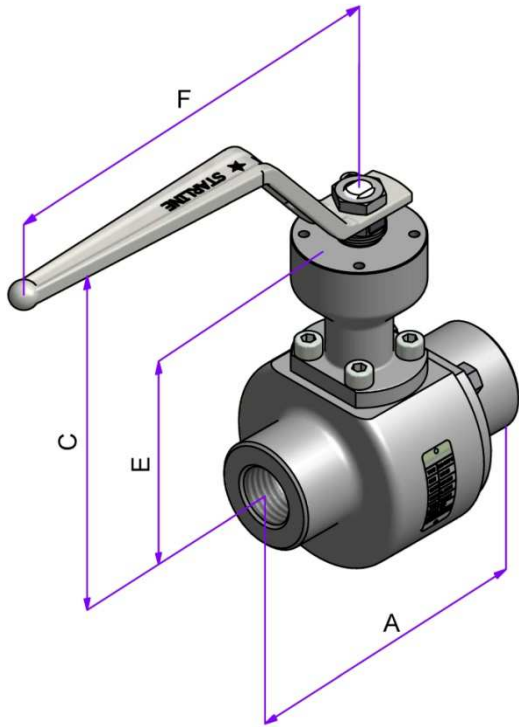
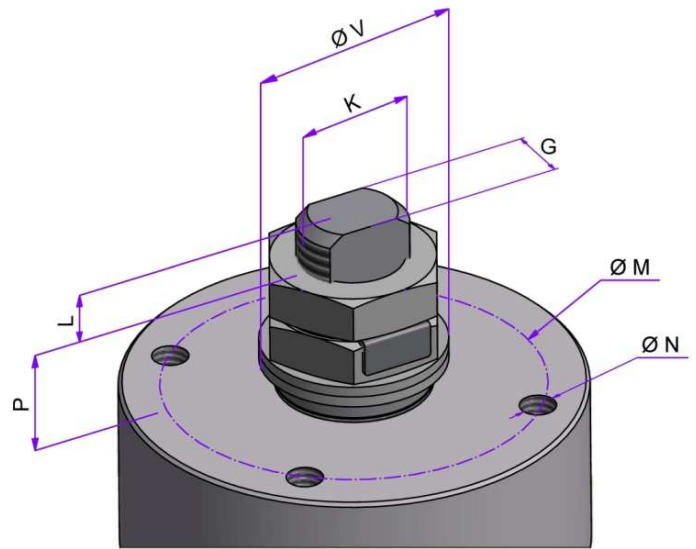


ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316	316	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718



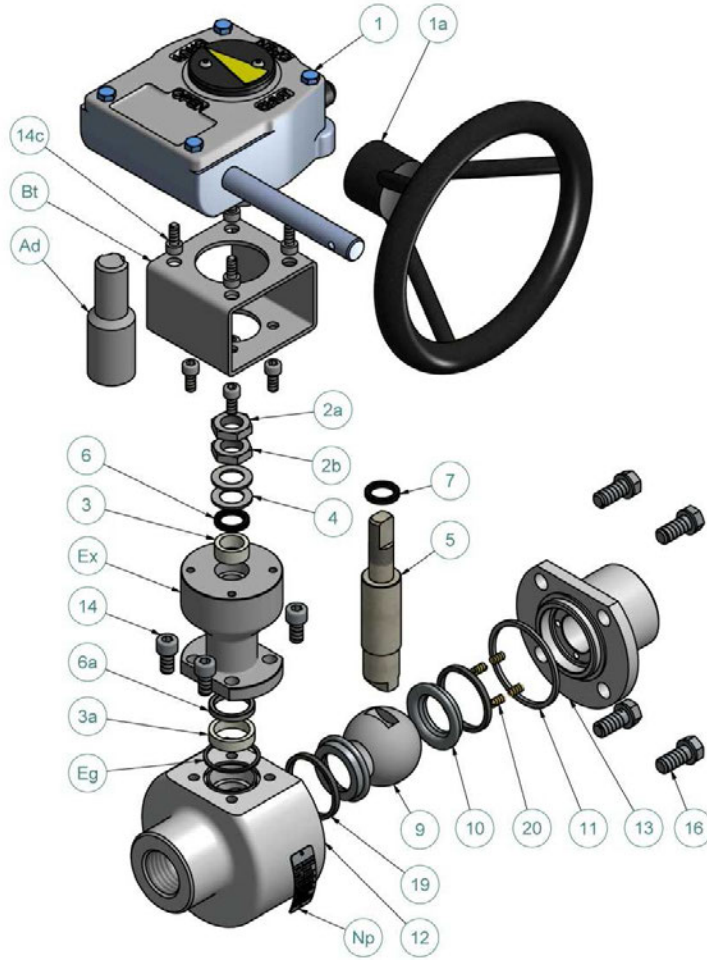
**NPT-BSPP-BSPT**



**TOP VIEW**

FULL BORE							
VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	NPT-BSPP-BSPT
		NPT-BSPP-BSPT					
1/4" x 1/4"	08 x 08	106	13	176	106	172.5	3.5
3/8" x 3/8"	10 x 10	106	13	176	106	172.5	3.5
1/2" x 1/2"	15 x 15	106	13	176	106	172.5	3.2
3/4" x 3/4"	20 x 20	110	19	180	111	172.5	4.5
1" x 1"	25 x 25	127	25	190	116	218	7

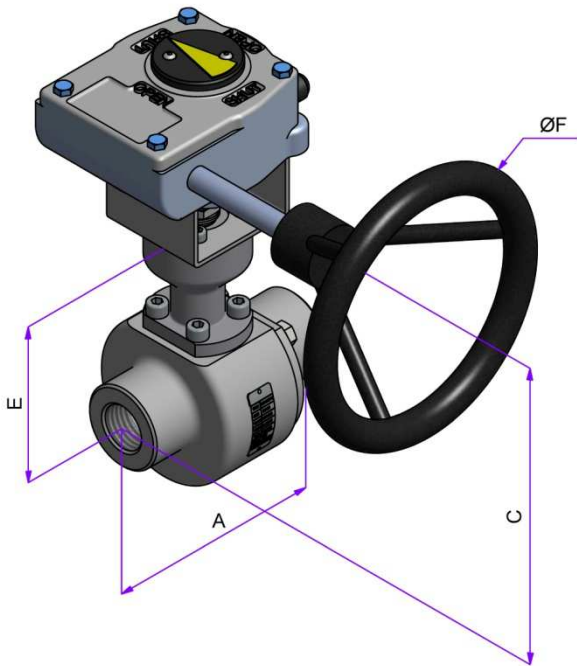
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
1/4" x 1/4"	08 x 08	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
3/8" x 3/8"	10 x 10	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1/2" x 1/2"	15 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
3/4" x 3/4"	20 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1" x 1"	25 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05



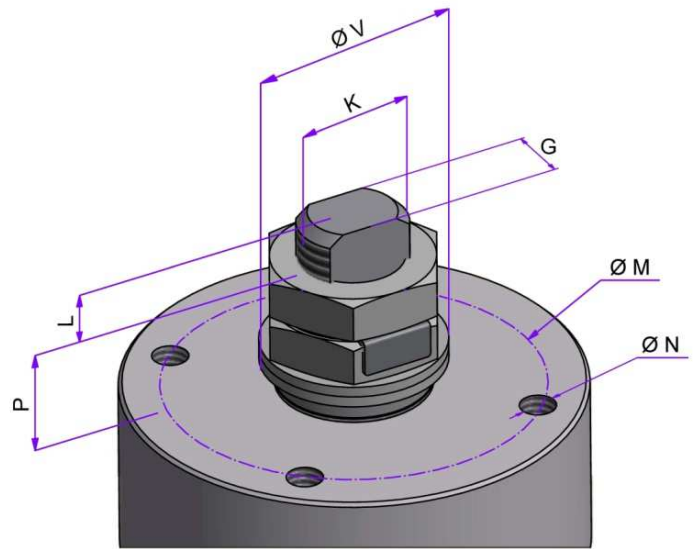
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	4 <sup>Note1</sup>	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: Qty 6 for DN 50 - 2"

RECOMMENDED SPARE PARTS FOR START-UP OR COMMISSIONING



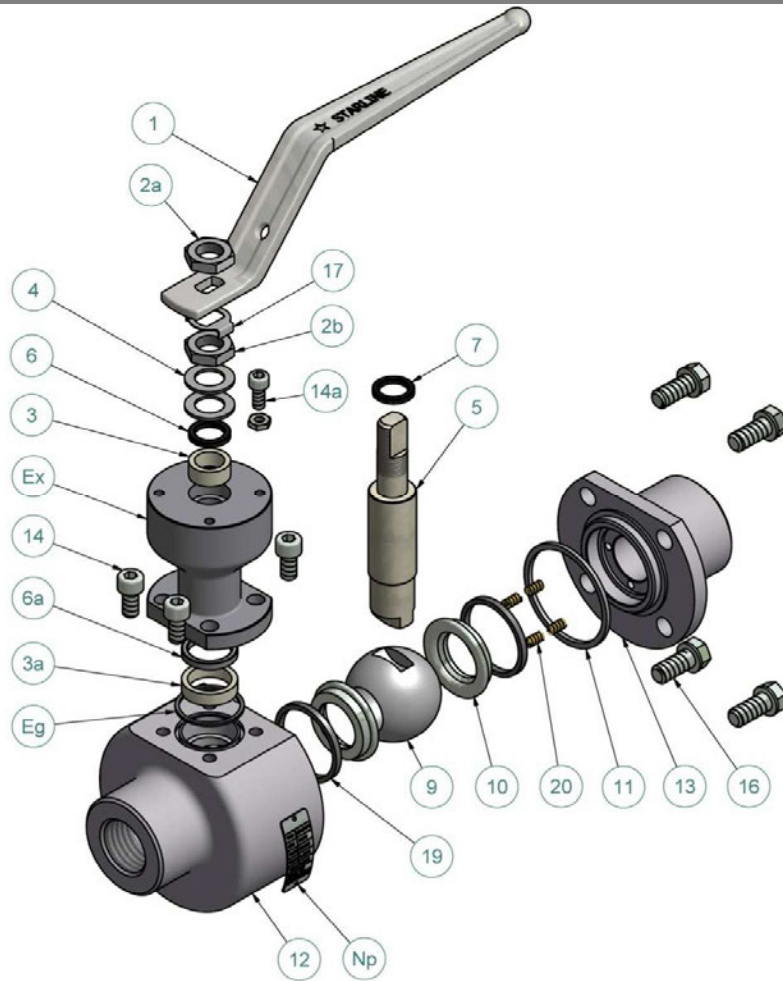
**NPT-BSPP-BSPT**



**TOP VIEW**

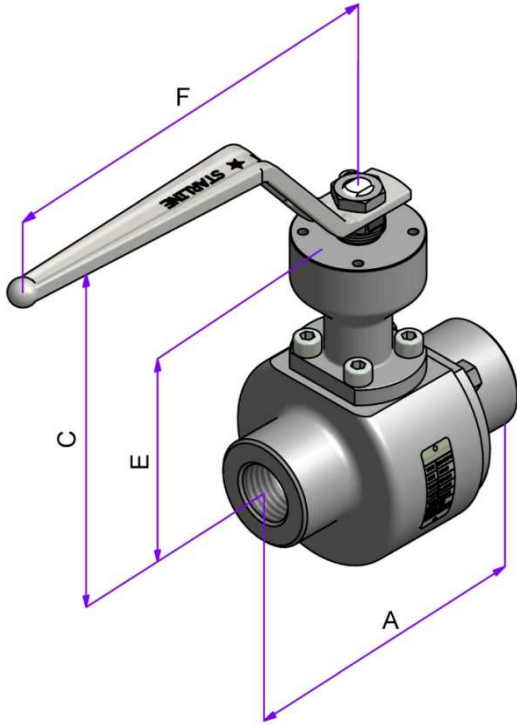
FULL BORE							
VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	NPT-BSPP-BSPT
		NPT-BSPP-BSPT					
1.1/4" x 1.1/4"	32 x 32	180	38	266	153	300	11
1.1/2" x 1.1/2"	40 x 40	180	38	266	153	300	11
2" x 2"	50 x 50	216	50	281	168	300	16

TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
1.1/4" x 1.1/4"	32 x 32	15	21.5	36	M22x1.5	16	M8x12	70	F07
1.1/2" x 1.1/2"	40 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07
2" x 2"	50 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07

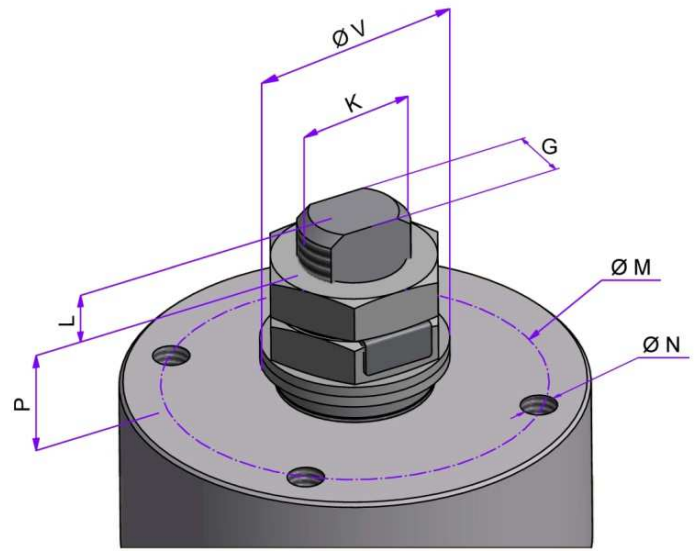


ITEM NO.	Q .TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316	316	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

RECOMMENDED SPARE PARTS FOR START-UP OR COMMISSIONING



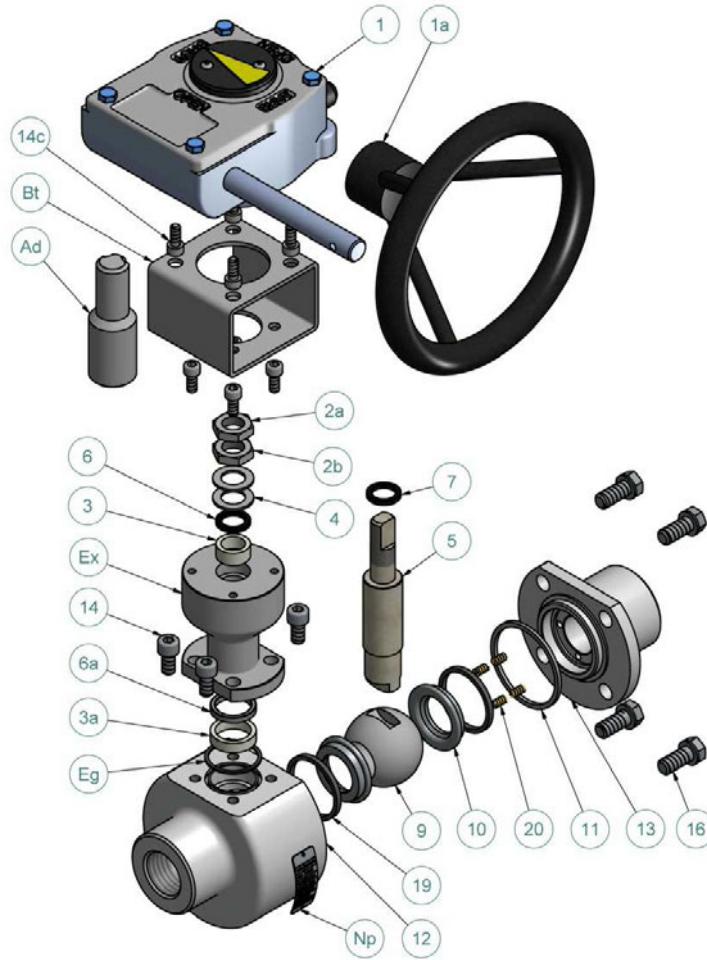
**NPT-BSPP-BSPT**



**TOP VIEW**

REDUCED BORE							
VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	NPT-BSPP-BSPT
		NPT-BSPP-BSPT					
3/4" x 1/2"	20 x 15	106	13	176	106	172.5	3.2
1" x 3/4"	25 x 20	110	19	180	111	172.5	4.5
1.1/4" x 1"	32 x 25	127	25	190	116	218	7
1.1/2" x 1"	40 x 25	180	25	190	116	218	7

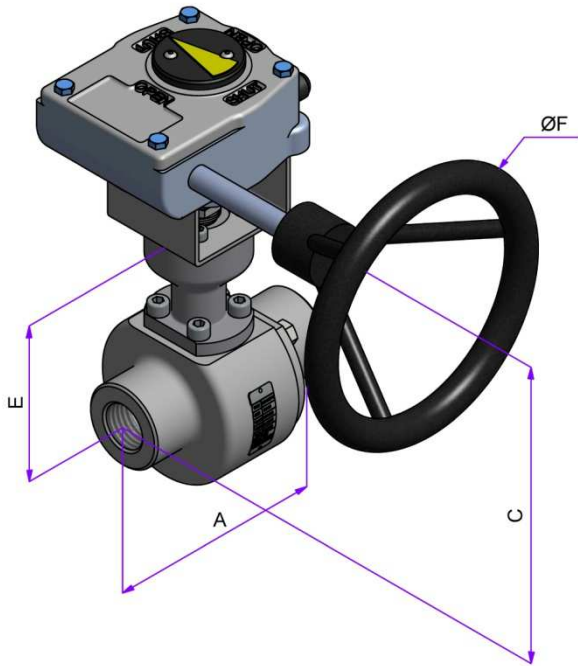
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
3/4" x 1/2"	20 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1" x 3/4"	25 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1.1/4" x 1"	32 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05
1.1/2" x 1"	40 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05



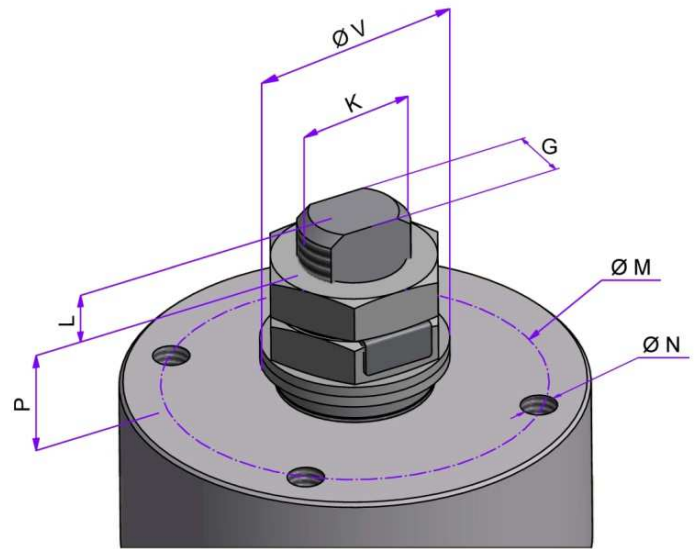
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	4 <sup>Note1</sup>	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: Qty 6 for DN 80 - 3"

RECOMMENDED SPARE PARTS FOR START-UP OR COMMISSIONING



***NPT-BSPP-BSPT***

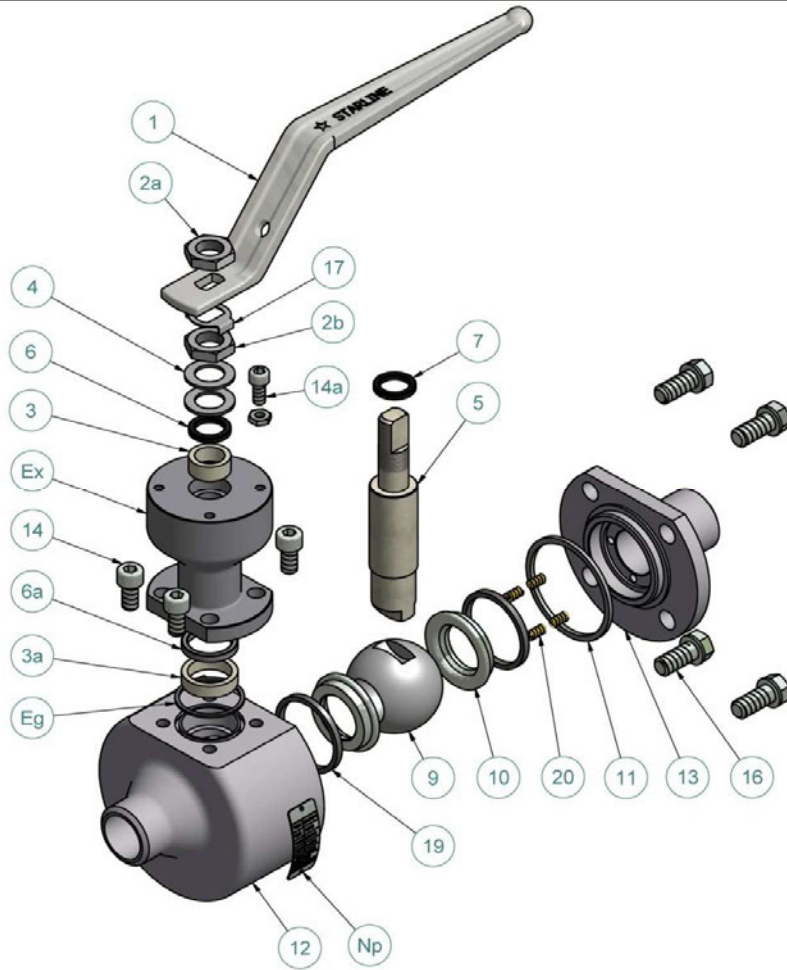


***TOP VIEW***

REDUCED BORE							
VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	NPT-BSPP-BSPT
		NPT-BSPP-BSPT					
2" x 1.1/2"	50 x 40	180	38	266	153	300	11
2.1/2" x 2"	65 x 50	216	50	281	168	300	16
3" x 2"	80 x 50	216	50	281	168	300	16

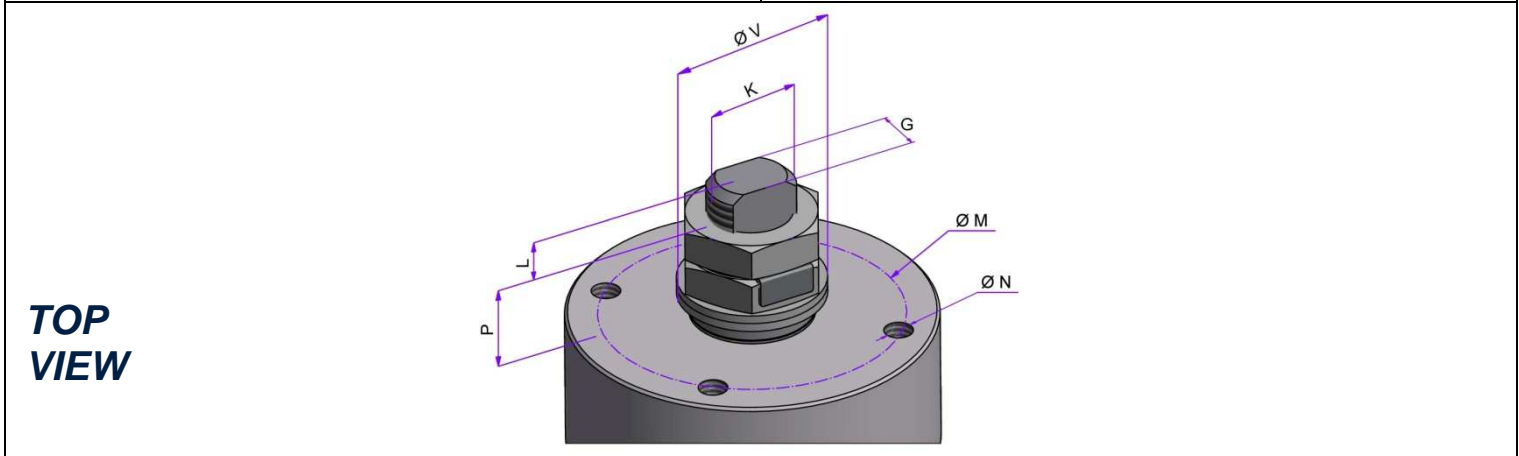
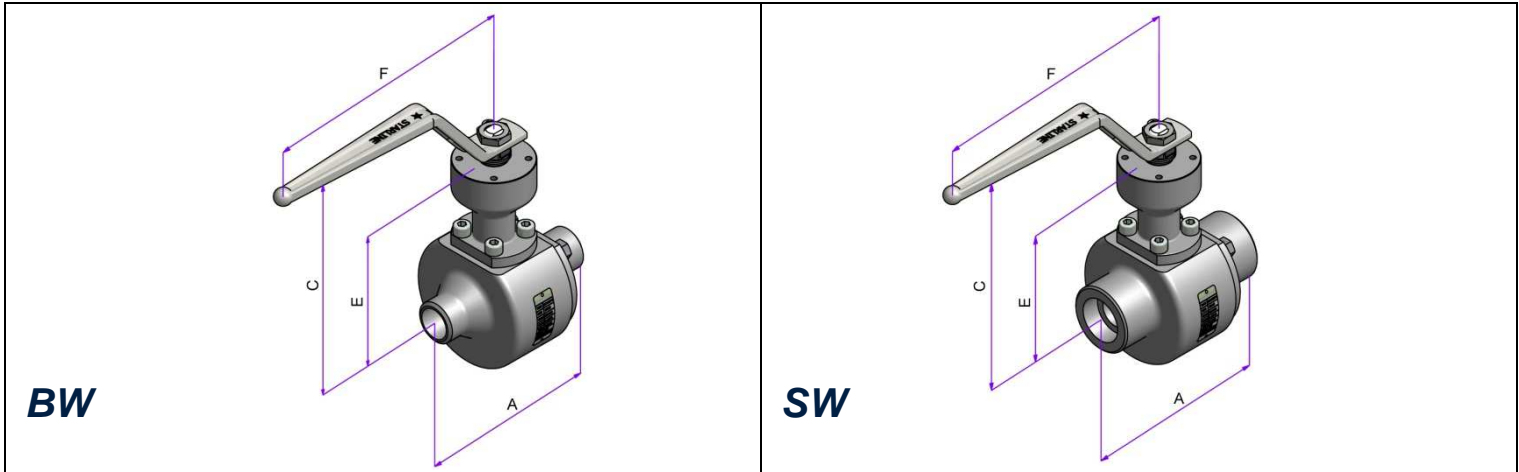
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
2" x 1.1/2"	50 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07
2.1/2" x 2"	65 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07
3" x 2"	80 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07





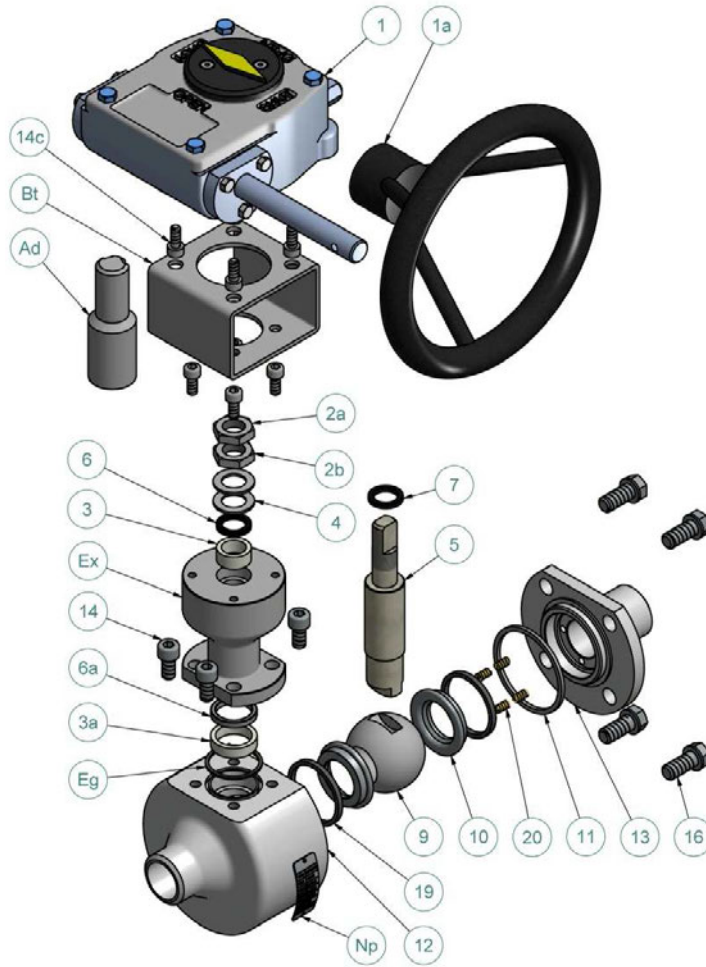
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316	316	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

***DIMENSIONS WELDING ENDS - CLASS 150÷600***



FULL BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	BW	SW
		BW	SW						
1/4" x 1/4"	08 x 08	106	106	13	176	106	172.5	3.5	3.5
3/8" x 3/8"	10 x 10	106	106	13	176	106	172.5	3.5	3.5
1/2" x 1/2"	15 x 15	106	106	13	176	106	172.5	3.2	3.2
3/4" x 3/4"	20 x 20	110	110	19	180	111	172.5	4.5	4.5
1" x 1"	25 x 25	127	127	25	190	116	218	7	7

TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
1/4" x 1/4"	08 x 08	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
3/8" x 3/8"	10 x 10	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1/2" x 1/2"	15 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
3/4" x 3/4"	20 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1" x 1"	25 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05

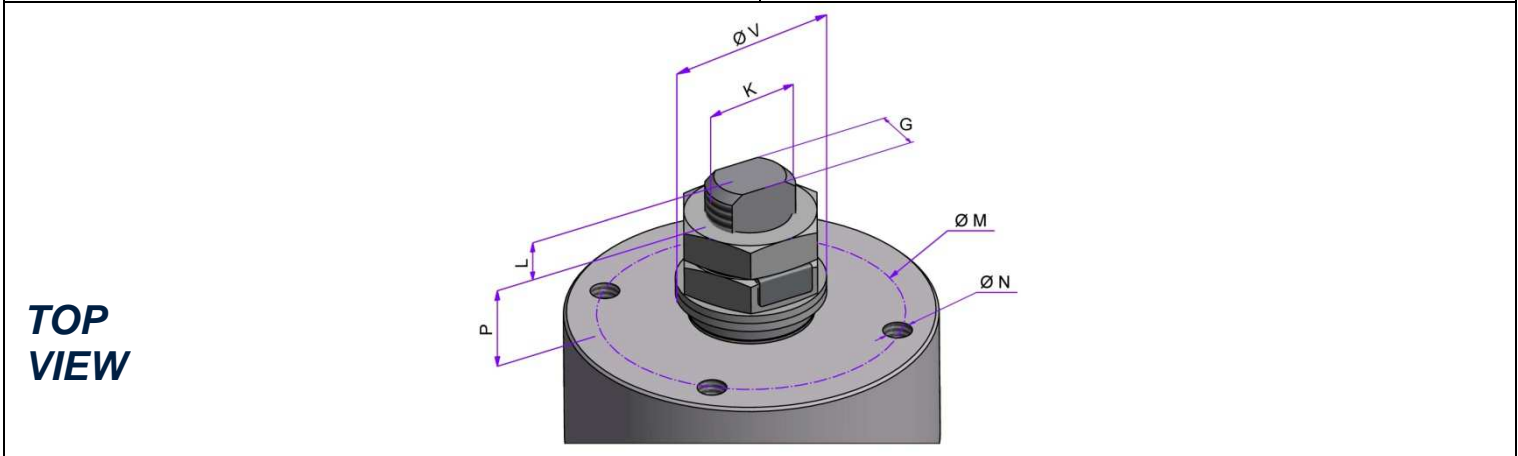
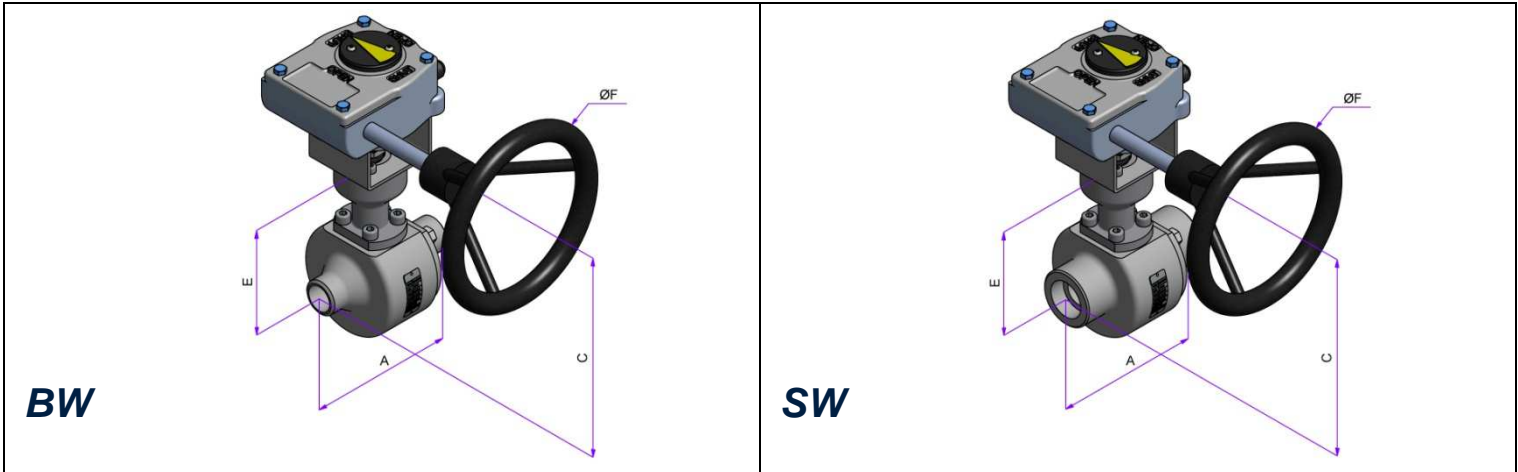


ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	4 <sup>Note1</sup>	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: Qty 6 for DN 50 - 2"

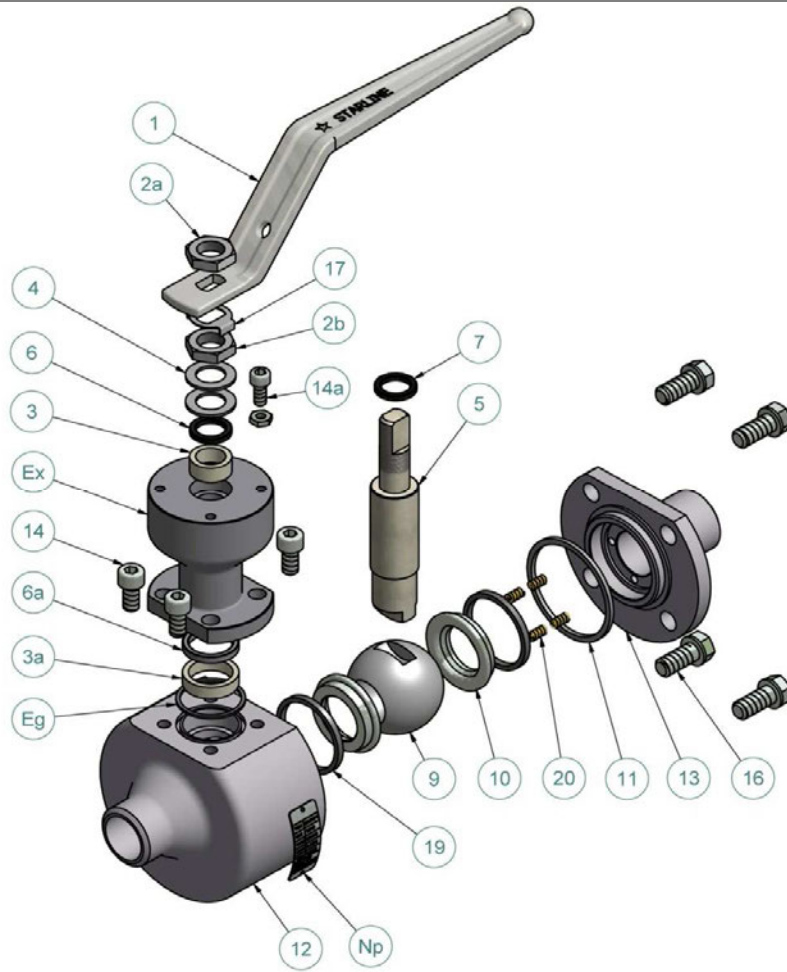
RECOMMENDED SPARE PARTS FOR START - UP OR COMMISSIONING

***DIMENSIONS WELDING ENDS - CLASS 150÷600***



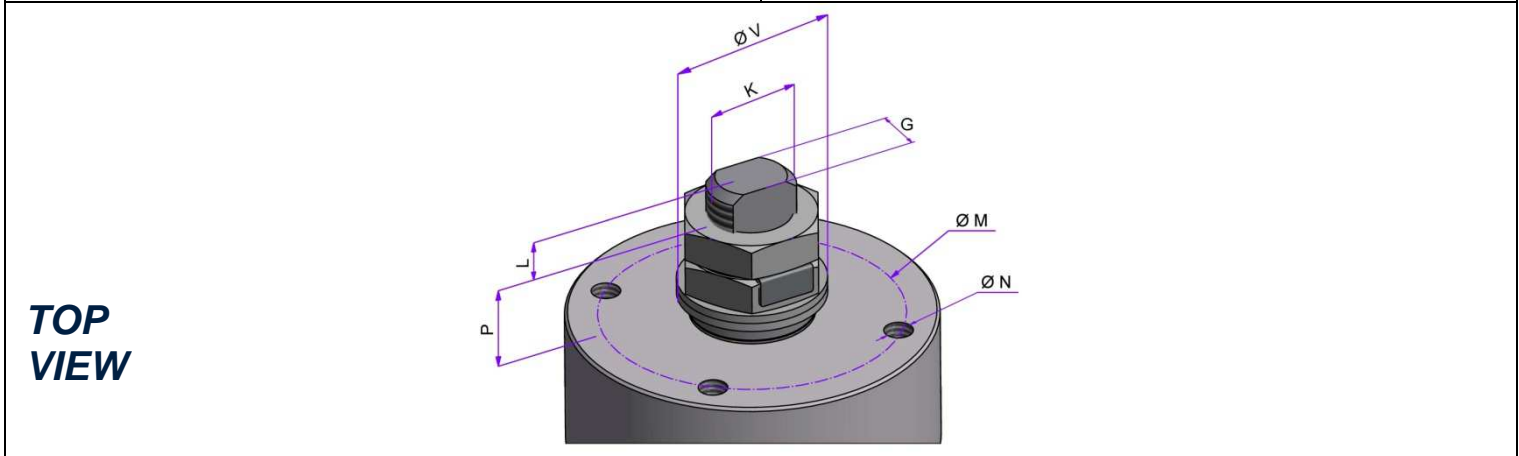
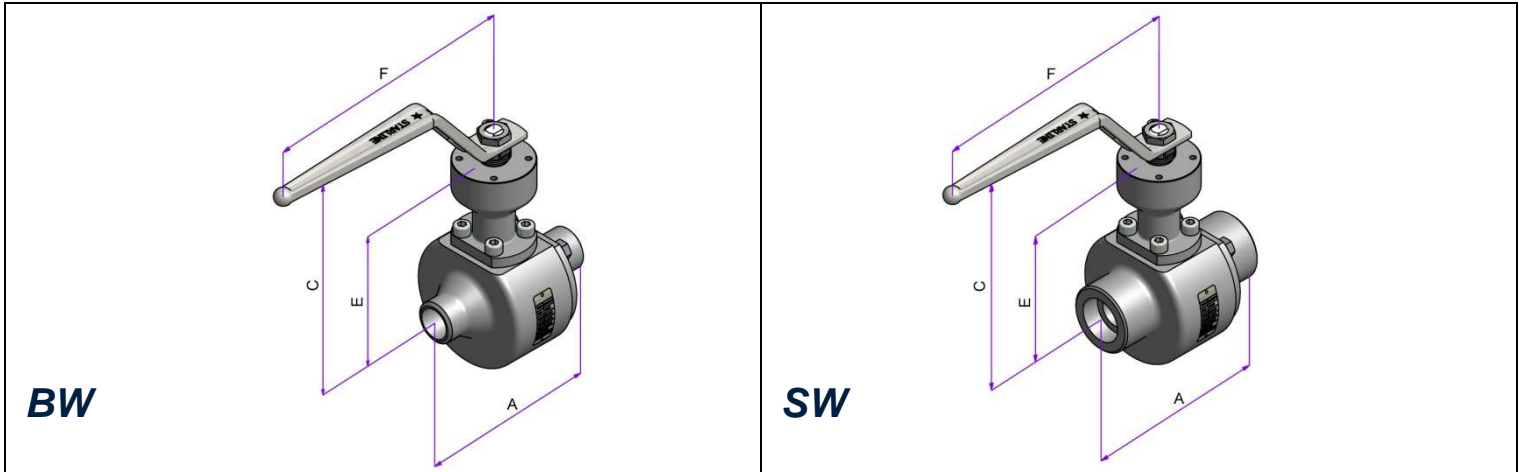
FULL BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	BW	SW
		BW	SW						
1.1/4" x 1.1/4"	32 x 32	180	180	38	266	153	300	11	11
1.1/2" x 1.1/2"	40 x 40	180	180	38	266	153	300	11	11
2" x 2"	50 x 50	216	216	50	281	168	300	16	16

TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
1.1/4" x 1.1/4"	32 x 32	15	21.5	36	M22x1.5	16	M8x12	70	F07
1.1/2" x 1.1/2"	40 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07
2" x 2"	50 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07



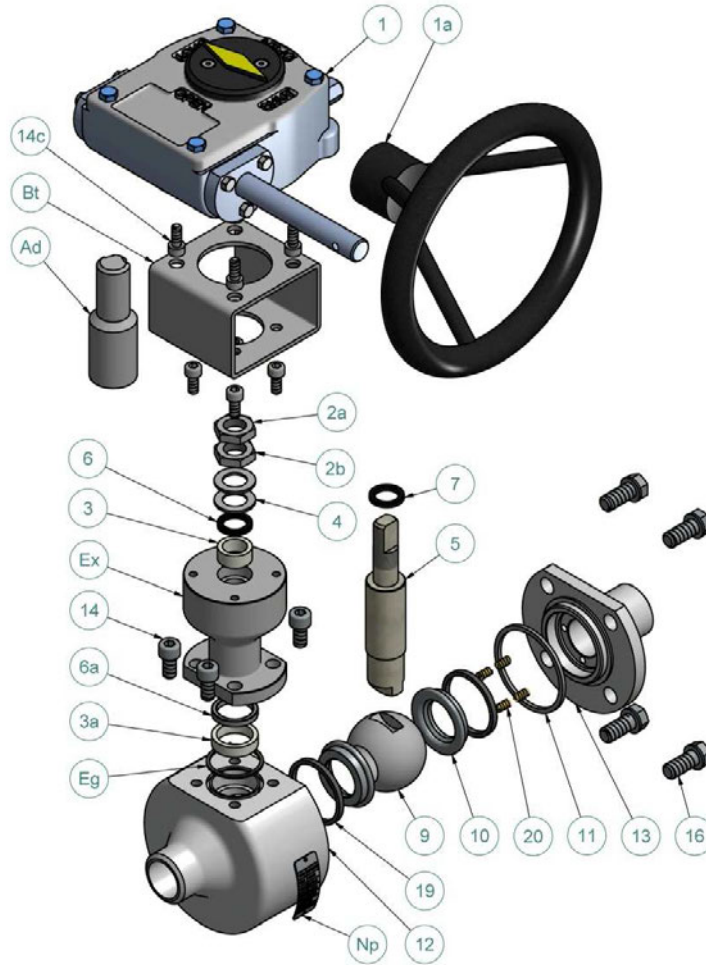
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316	316	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

***DIMENSIONS WELDING ENDS - CLASS 150÷600***



REDUCED BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	BW	SW
		BW	SW						
3/4" x 1/2"	20 x 15	106	106	13	176	106	172.5	3.2	3.2
1" x 3/4"	25 x 20	110	110	19	180	111	172.5	4.5	4.5
1.1/4" x 1"	32 x 25	127	127	25	190	116	218	7	7
1.1/2" x 1"	40 x 25	180	180	25	190	116	218	7	11

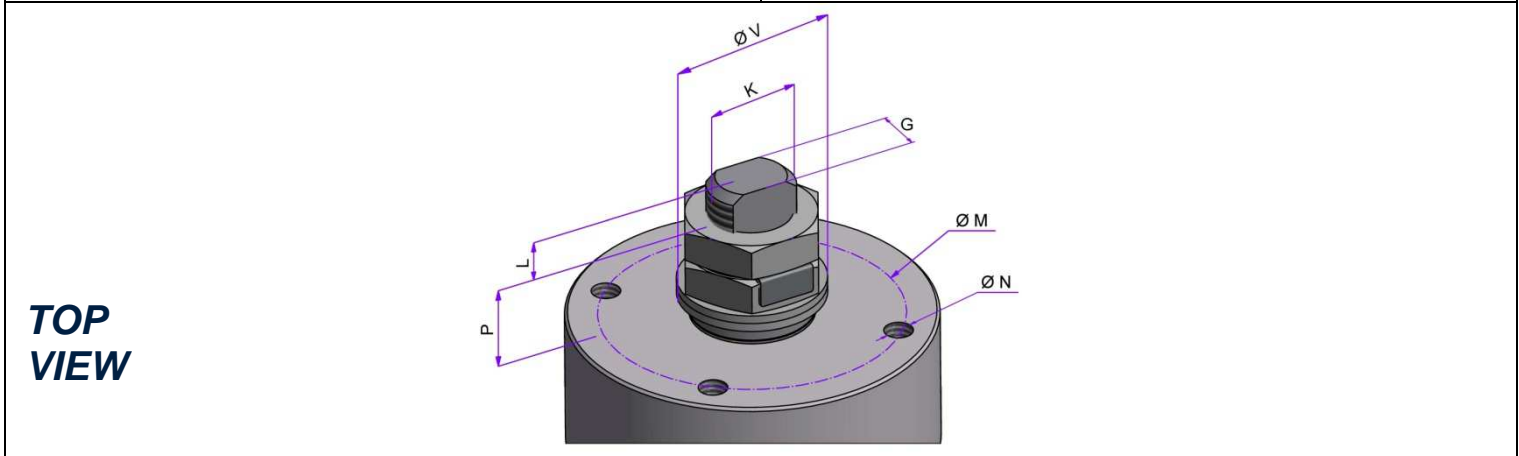
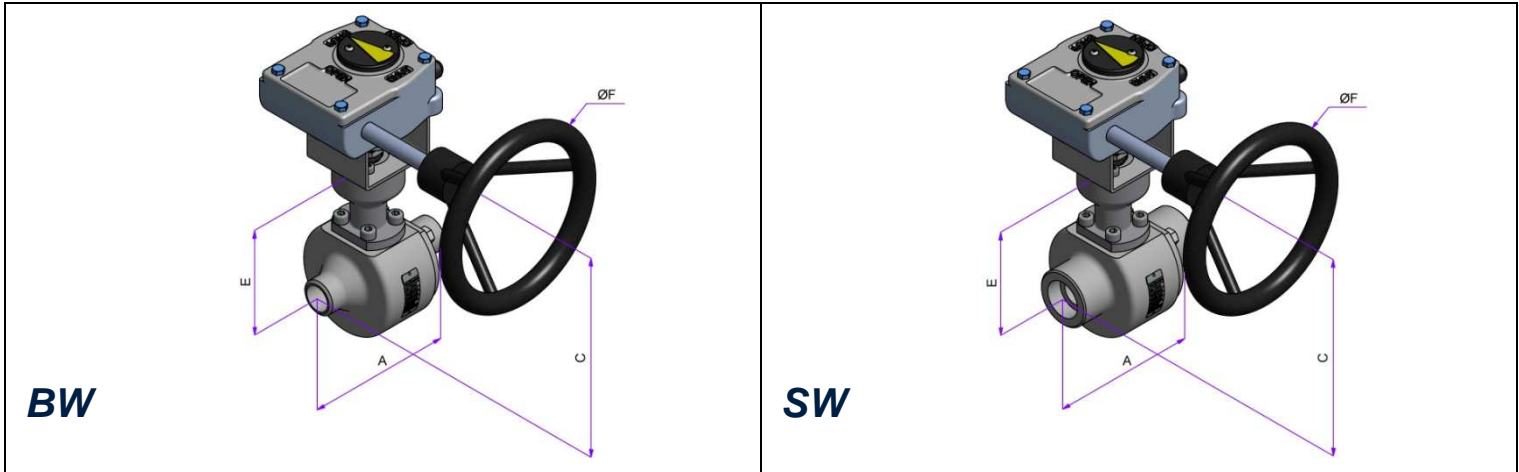
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
3/4" x 1/2"	20 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1" x 3/4"	25 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1.1/4" x 1"	32 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05
1.1/2" x 1"	40 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05



ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	4 <sup>Note1</sup>	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: Qty 6 for DN 80 - 3"

RECOMMENDED SPARE PARTS FOR START - UP OR COMMISSIONING

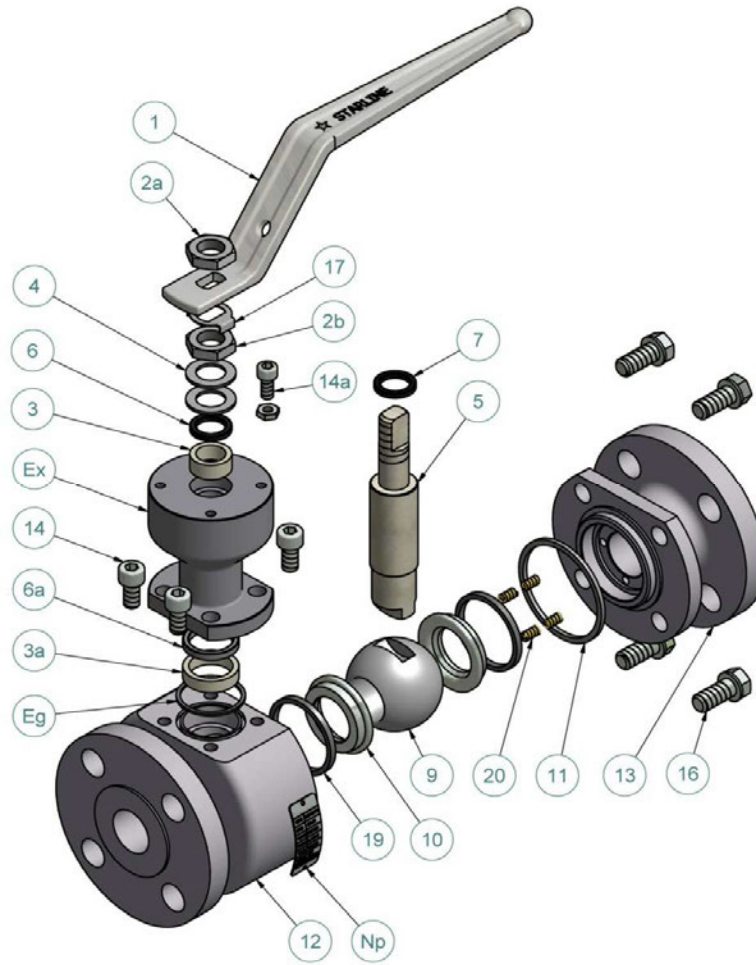


S

REDUCED BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	BW	SW
		BW	SW						
2" x 1.1/2"	50 x 40	180	180	38	266	153	300	11	11
2.1/2" x 2"	65 x 50	216	216	50	281	168	300	16	16
3" x 2"	80 x 50	216	216	50	281	168	300	16	16

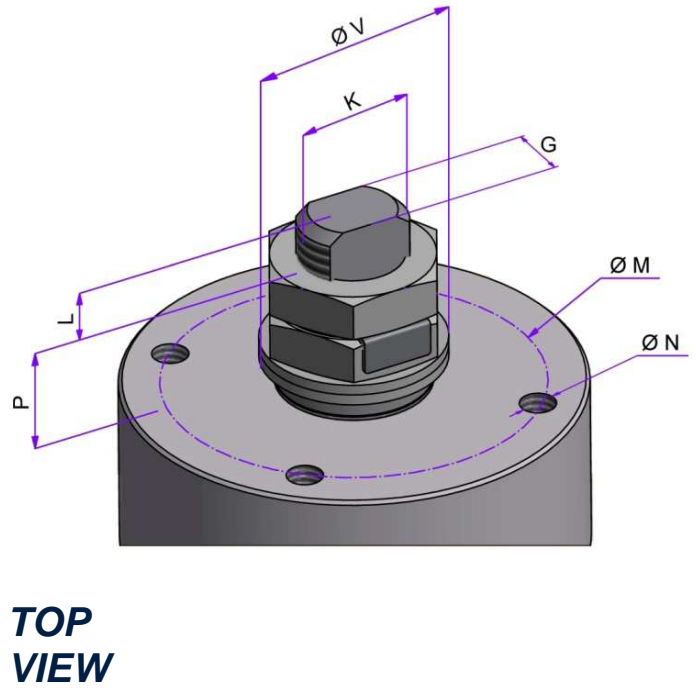
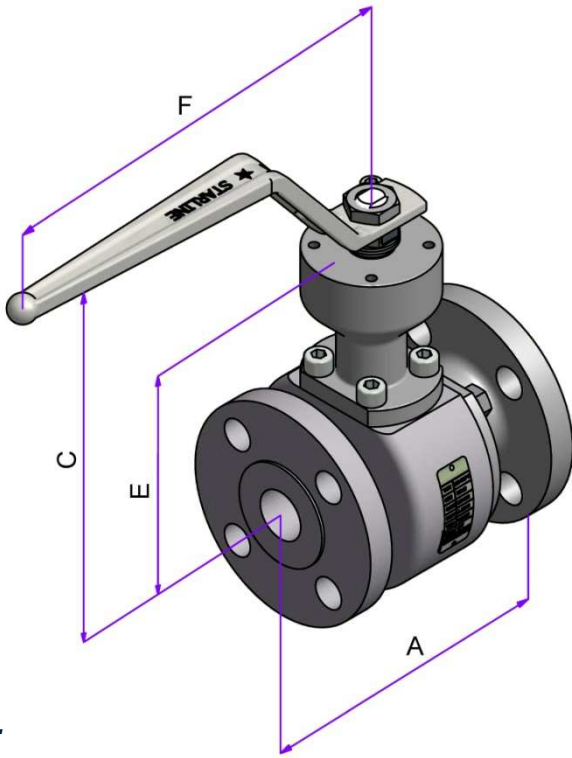
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
2" x 1.1/2"	50 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07
2.1/2" x 2"	65 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07
3" x 2"	80 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07





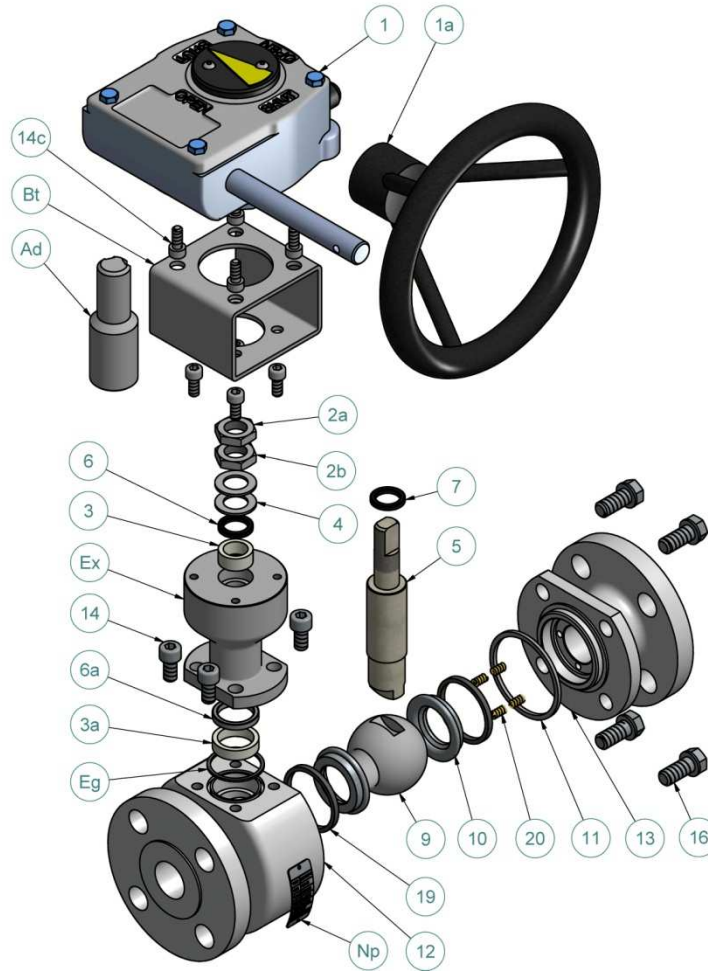
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316 <sup>Note1</sup>	316 <sup>Note1</sup>	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: AISI 316 + Plastic from DN 32 - 1.1/4" to DN 40 - 1.1/2"



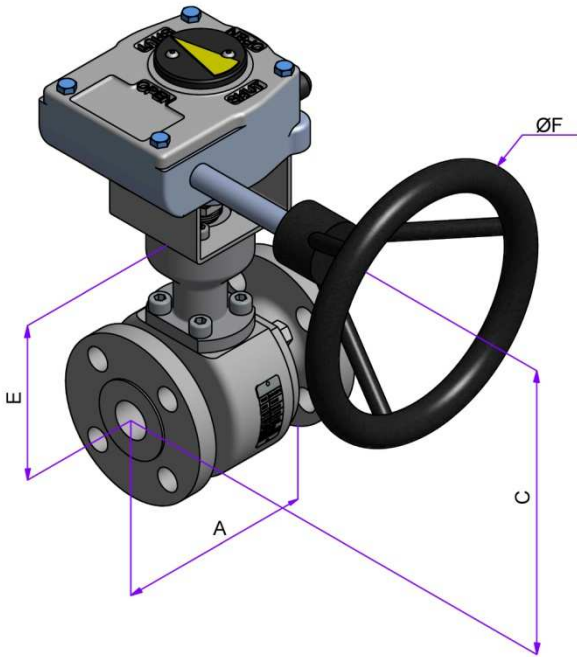
FULL BORE							
VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	RF
1/2" x 1/2"	15 x 15	108	13	176	106	172.5	4.5
3/4" x 3/4"	20 x 20	117.5	19	180	111	172.5	5.5
1" x 1"	25 x 25	127	25	190	116	218	7.5
1.1/4" x 1.1/4"	32 x 32	140	38	232	153	420	13
1.1/2" x 1.1/2"	40 x 40	165	38	232	153	420	14

TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
1/2" x 1/2"	15 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
3/4" x 3/4"	20 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1" x 1"	25 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05
1.1/4" x 1.1/4"	32 x 32	15	21.5	36	M22x1.5	16	M8x12	70	F07
1.1/2" x 1.1/2"	40 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07

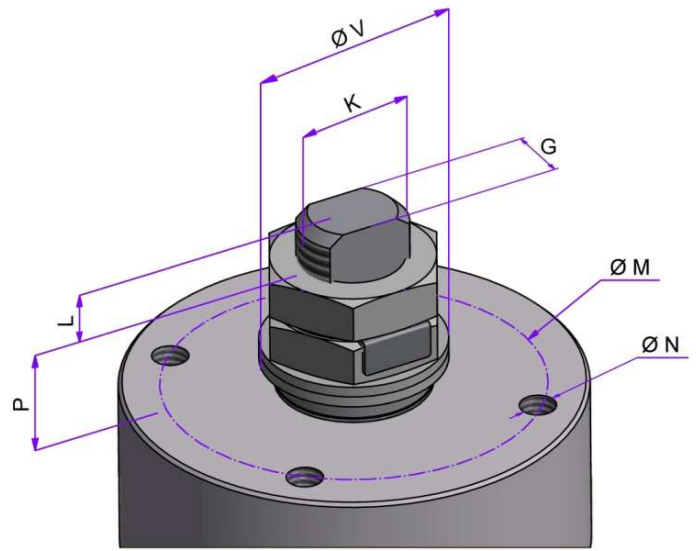


ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	6	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

RECOMMENDED SPARE PARTS FOR START-UP OR COMMISSIONING



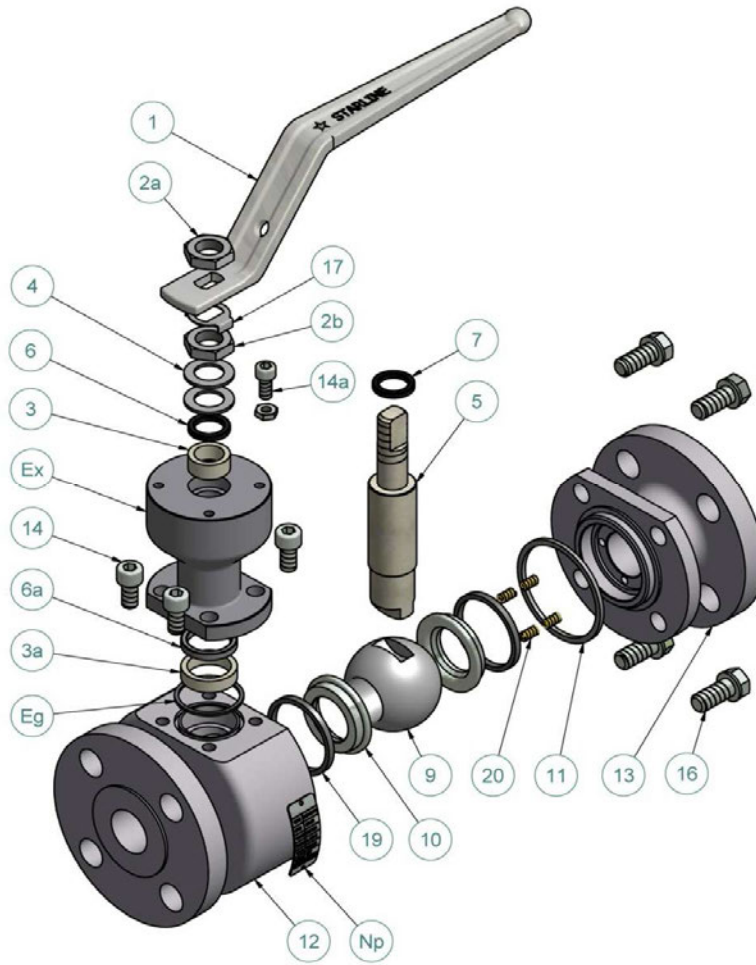
**RF**



**TOP  
VIEW**

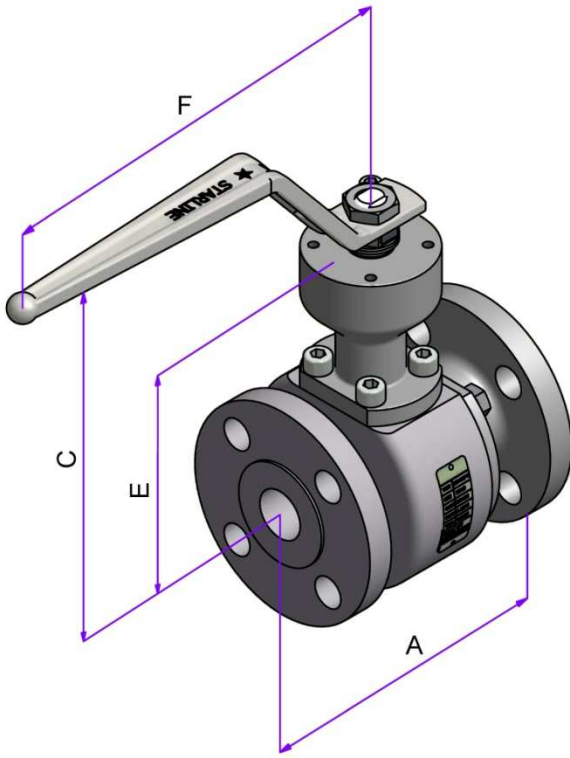
FULL BORE							
VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	RF
2" x 2"	50 x 50	178	50	281	168	300	20

TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
2" x 2"	50 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07

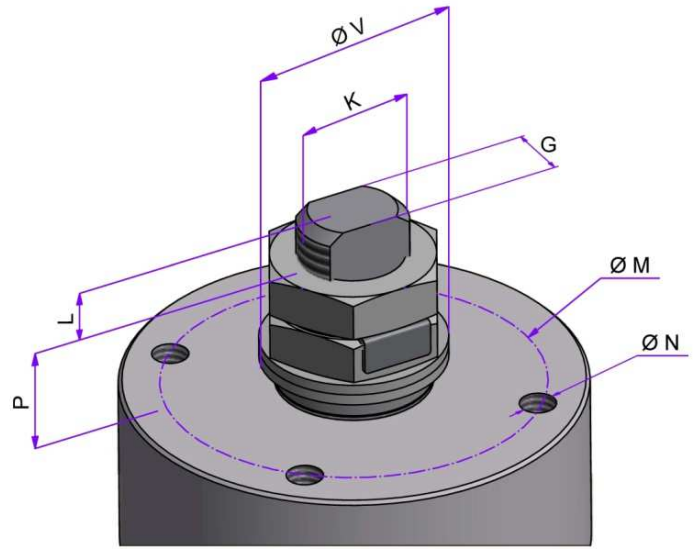


ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316 <sup>Note1</sup>	316 <sup>Note1</sup>	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	AISI 316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: AISI 316 + Plastic for DN 50 - 2"



RF



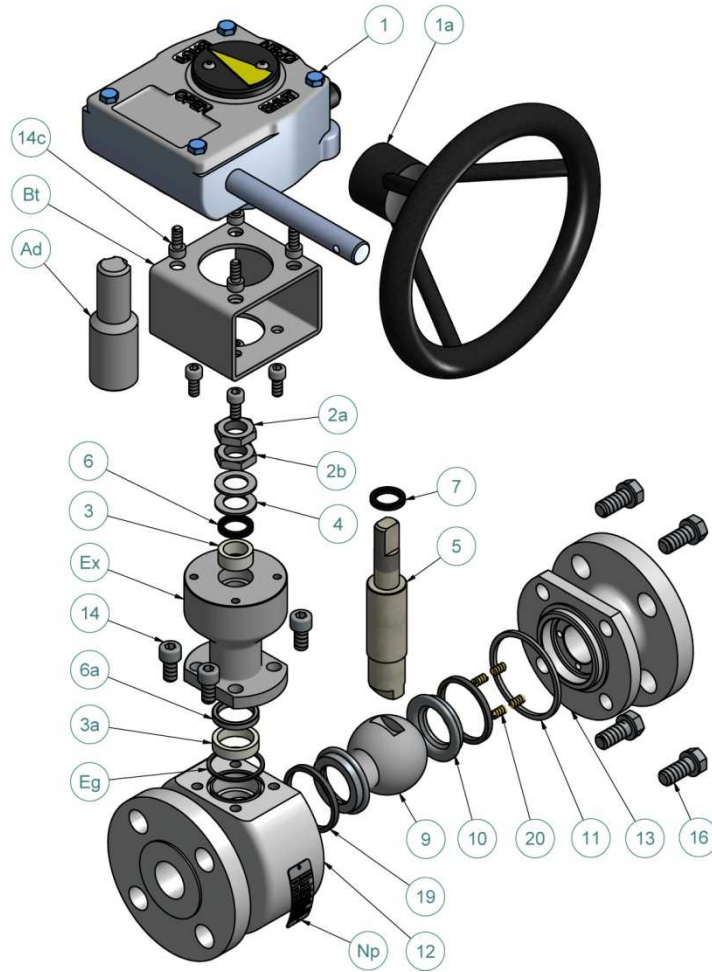
TOP  
VIEW

**REDUCED BORE**

VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	RF
3/4" x 1/2"	20 x 15	117.5	13	176	106	172.5	5
1" x 3/4"	25 x 20	127	19	180	111	172.5	6
1.1/4" x 1"	32 x 25	140	25	190	116	218	8.5
1.1/2" x 1"	40 x 25	165	25	190	116	218	8.5
2" x 1.1/2"	50 x 40	178	38	232	153	420	17

**TOP MOUNTING**

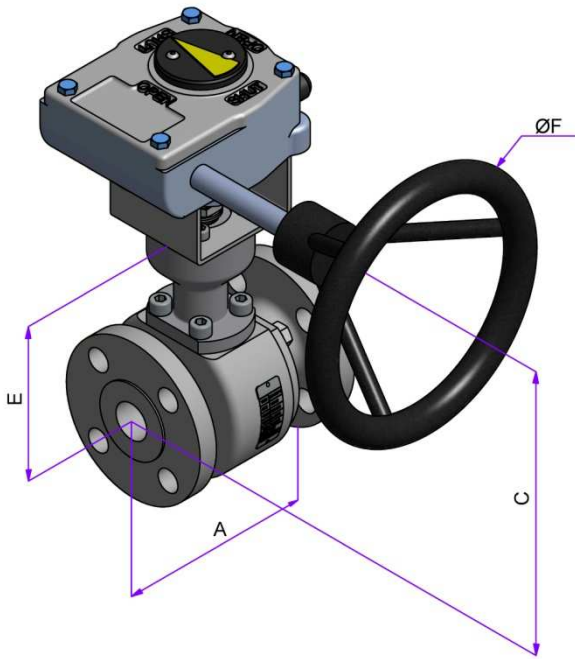
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
3/4" x 1/2"	20 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1" x 3/4"	25 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1.1/4" x 1"	32 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05
1.1/2" x 1"	40 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05
2" x 1.1/2"	50 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07



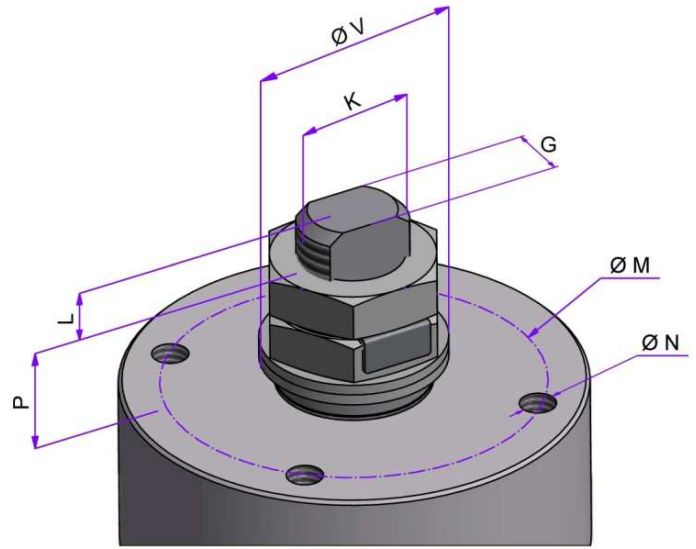
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	4 <sup>Note1</sup>	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: Qty 6 for DN 80 - 3"

RECOMMENDED SPARE PARTS FOR START-UP OR COMMISSIONING



**RF**

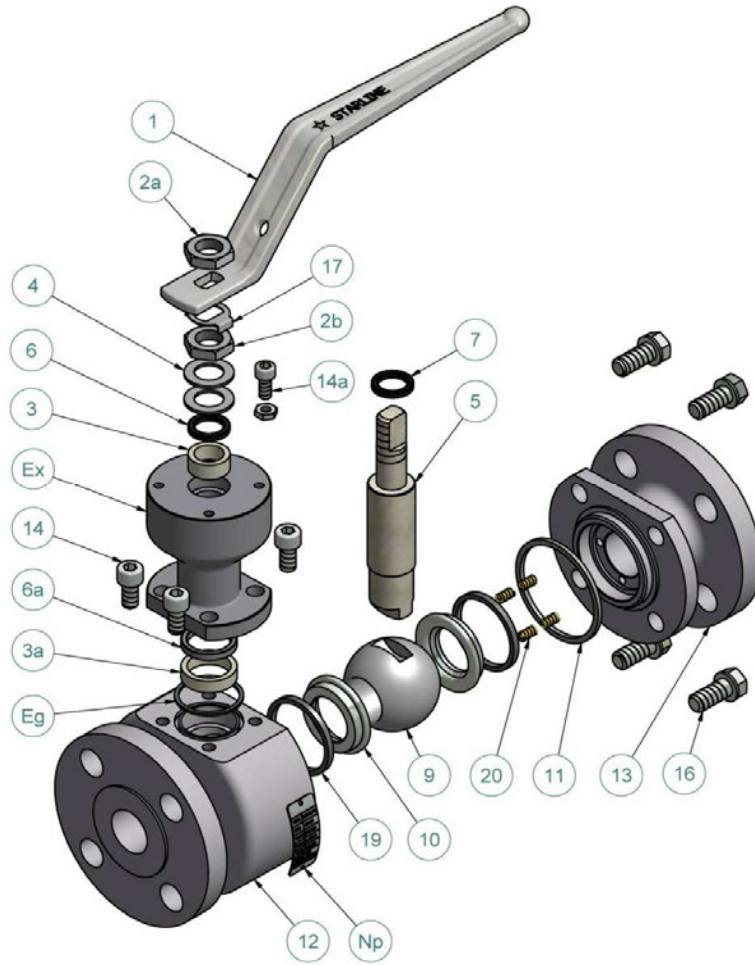


**TOP  
VIEW**

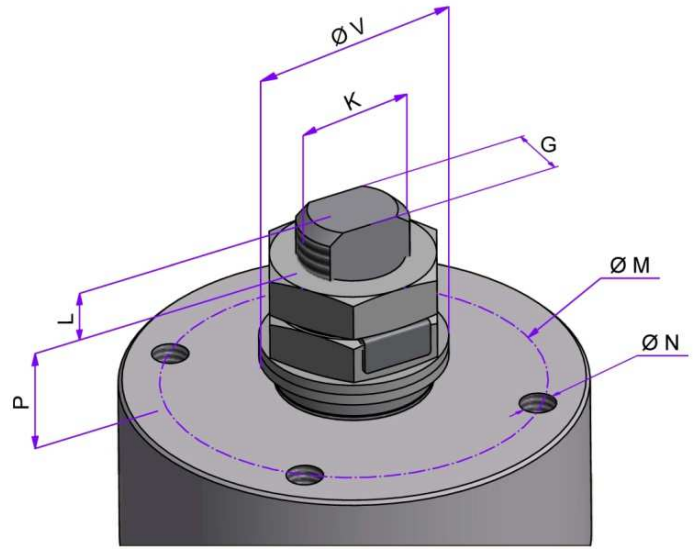
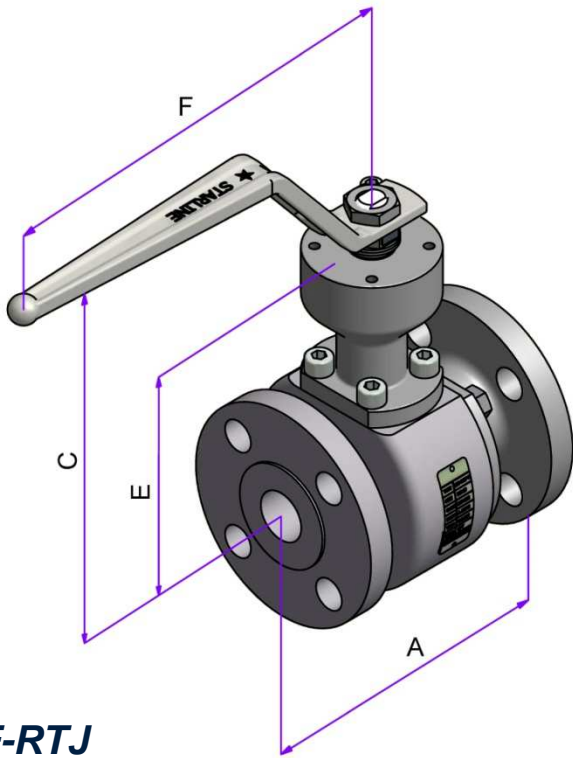
REDUCED BORE							
VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	RF
2.1/2" x 2"	65 x 50	191	50	281	168	300	26
3" x 2"	80 x 50	203	50	281	168	300	28

TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
2.1/2" x 2"	65 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07
3" x 2"	80 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07



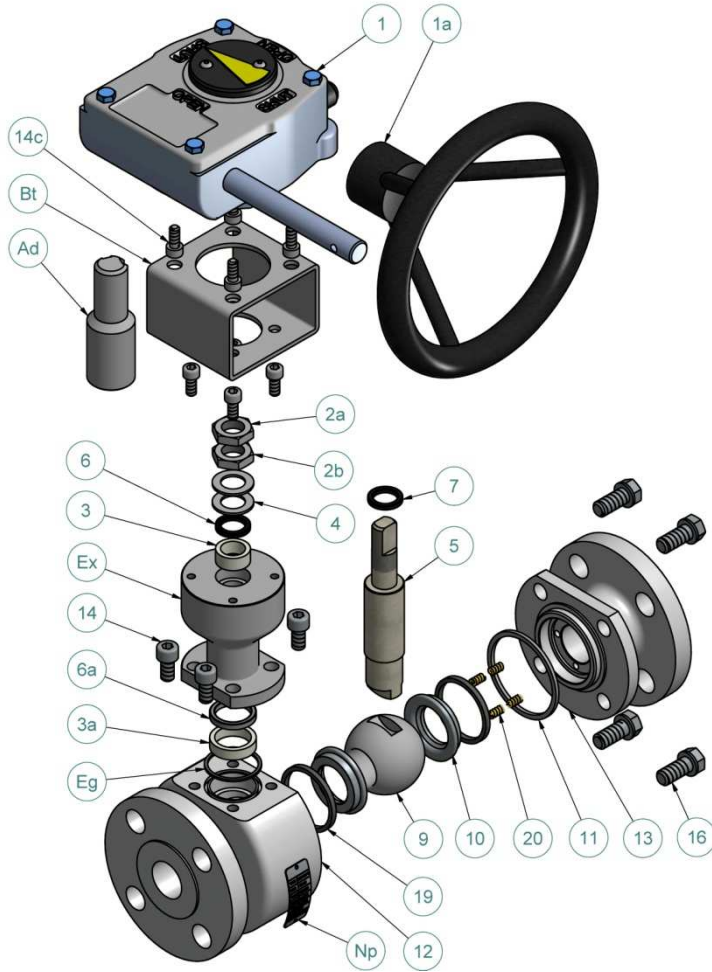


ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316	316	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718



FULL BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	RF	RTJ
		RF	RTJ						
1/2" x 1/2"	15 x 15	140	151	13	176	106	172.5	5	5
3/4" x 3/4"	20 x 20	152	165	19	180	111	172.5	6.5	6.5
1" x 1"	25 x 25	165	178	25	190	116	218	9	9

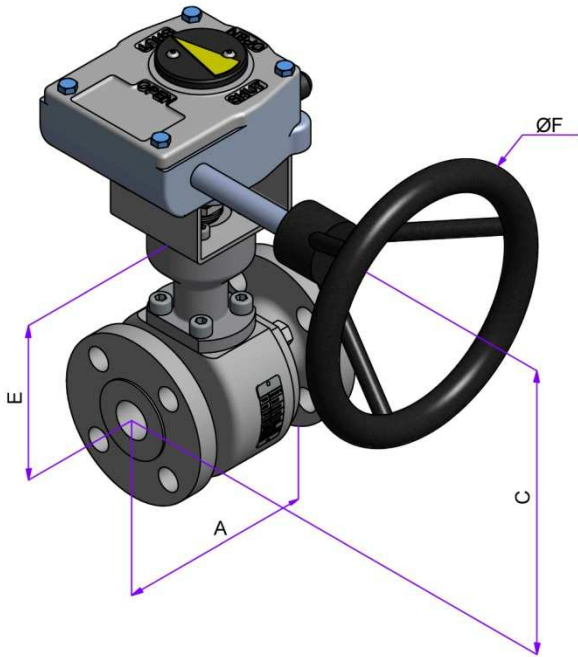
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
1/2" x 1/2"	15 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
3/4" x 3/4"	20 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1" x 1"	25 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05



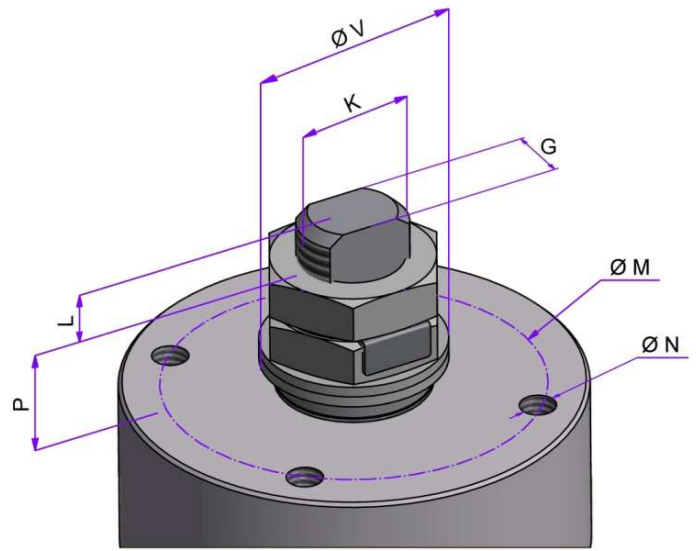
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	4 <sup>Note1</sup>	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: Qty 6 for DN 50 - 2"

RECOMMENDED SPARE PARTS FOR START - UP OR COMMISSIONING



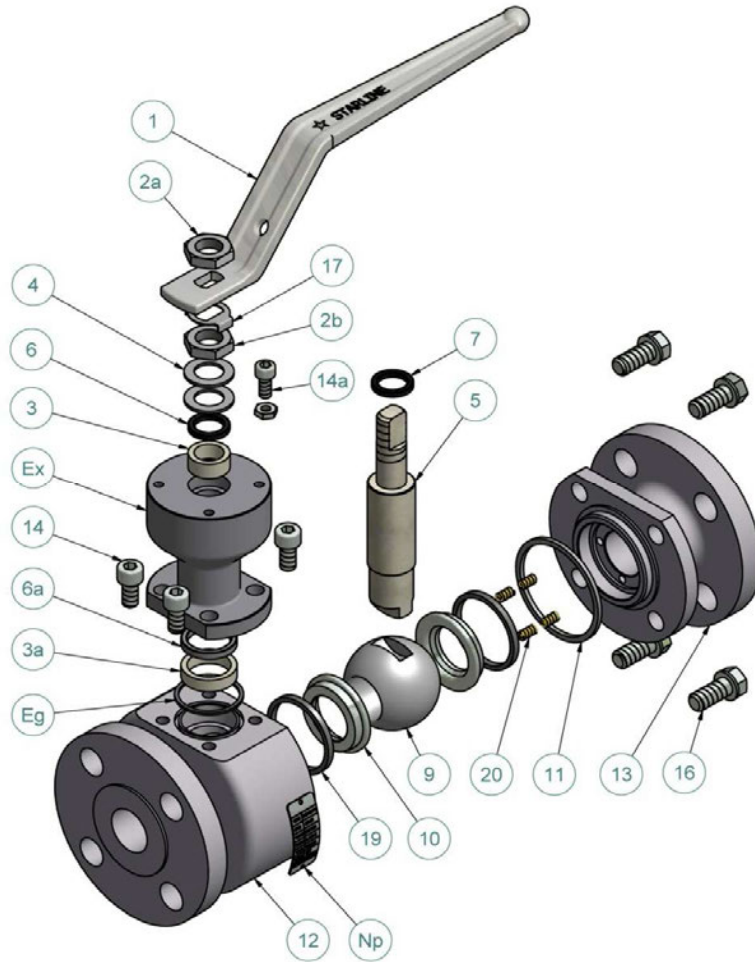
**RF-RTJ**



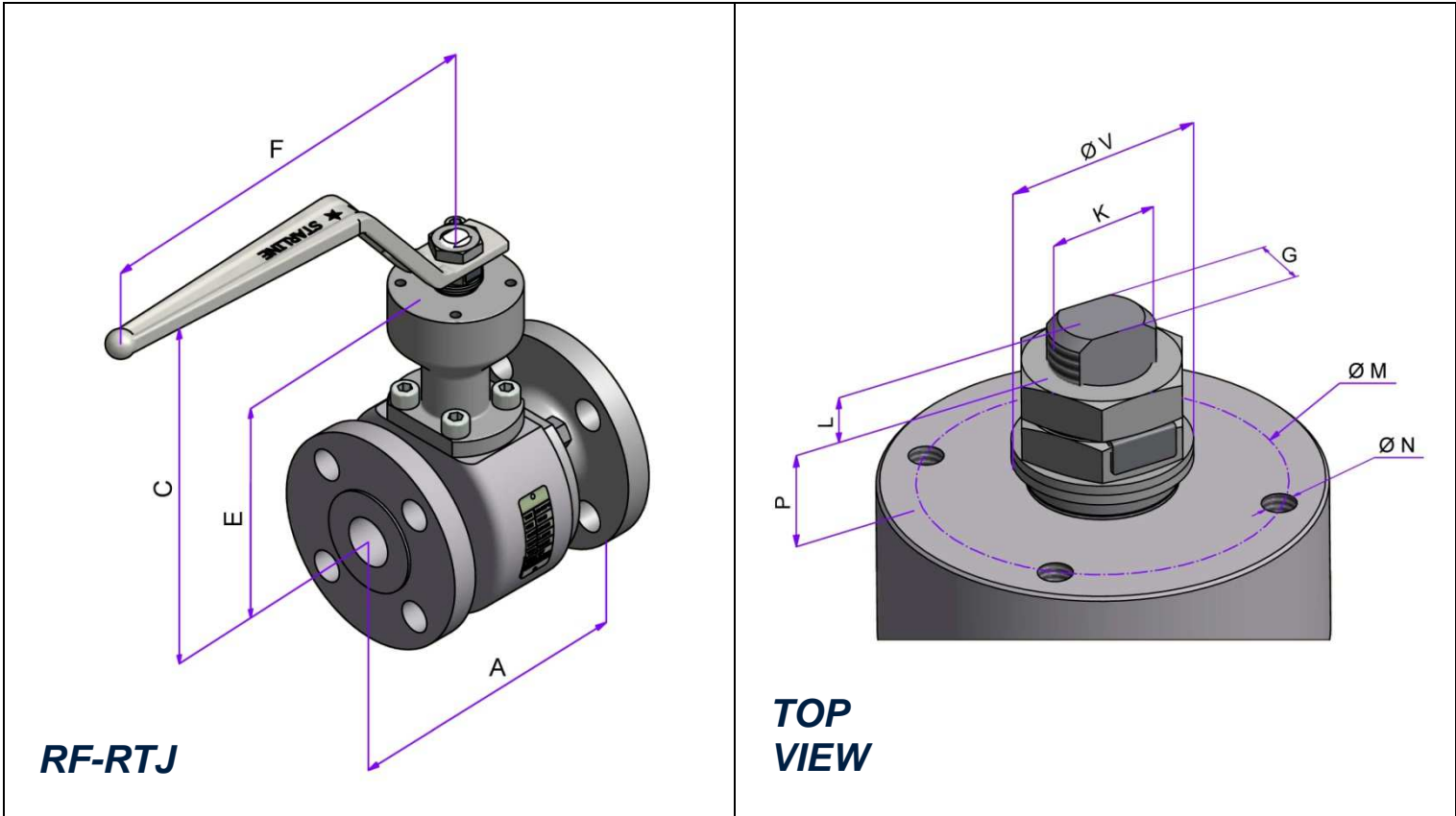
**TOP VIEW**

FULL BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	RF	RTJ
		RF	RTJ						
1.1/4" x 1.1/4"	32 x 32	178	191	38	266	153	300	15	15
1.1/2" x 1.1/2"	40 x 40	191	203	38	266	153	300	17	17
2" x 2"	50 x 50	216	232	50	281	168	300	24	24

TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
1.1/4" x 1.1/4"	32 x 32	15	21.5	36	M22x1.5	16	M8x12	70	F07
1.1/2" x 1.1/2"	40 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07
2" x 2"	50 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07

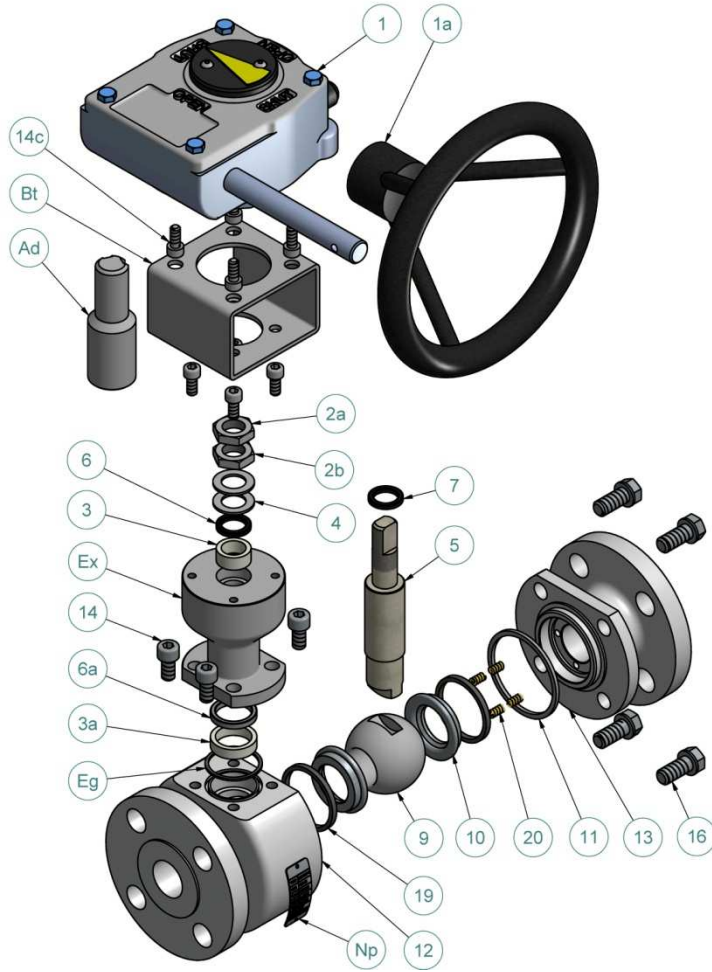


ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316	316	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718



REDUCED BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	RF	RTJ
		RF	RTJ						
3/4" x 1/2"	20 x 15	152	165	13	176	106	172.5	6	6
1" x 3/4"	25 x 20	165	178	19	180	111	172.5	7.5	7.5
1.1/4" x 1"	32 x 25	178	191	25	190	116	218	11	11
1.1/2" x 1"	40 x 25	191	203	25	190	116	218	17	17

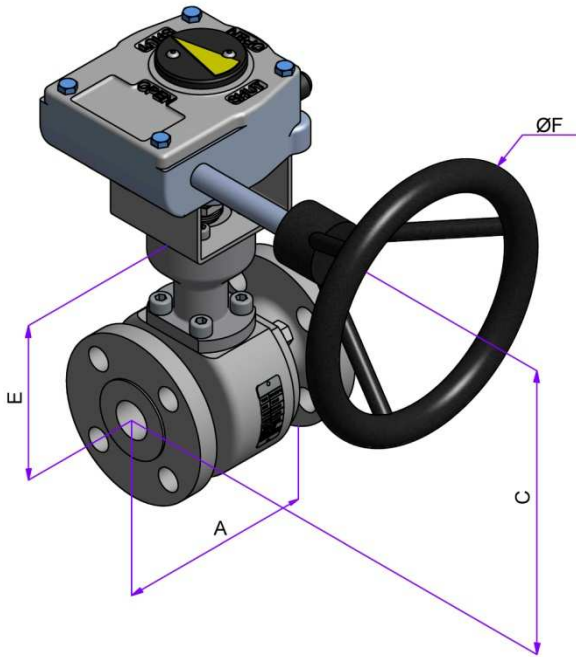
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
3/4" x 1/2"	20 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1" x 3/4"	25 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1.1/4" x 1"	32 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05
1.1/2" x 1"	40 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05



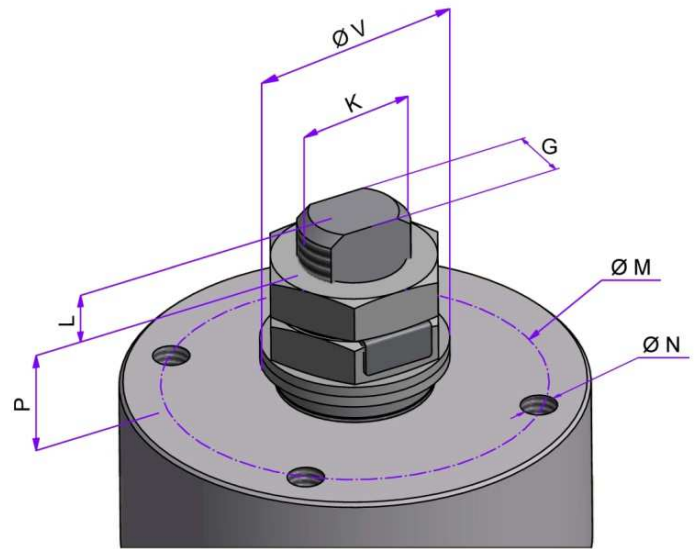
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	4 <sup>Note1</sup>	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: Qty 6 for DN 80 - 3"

RECOMMENDED SPARE PARTS FOR START - UP OR COMMISSIONING



**RF-RTJ**

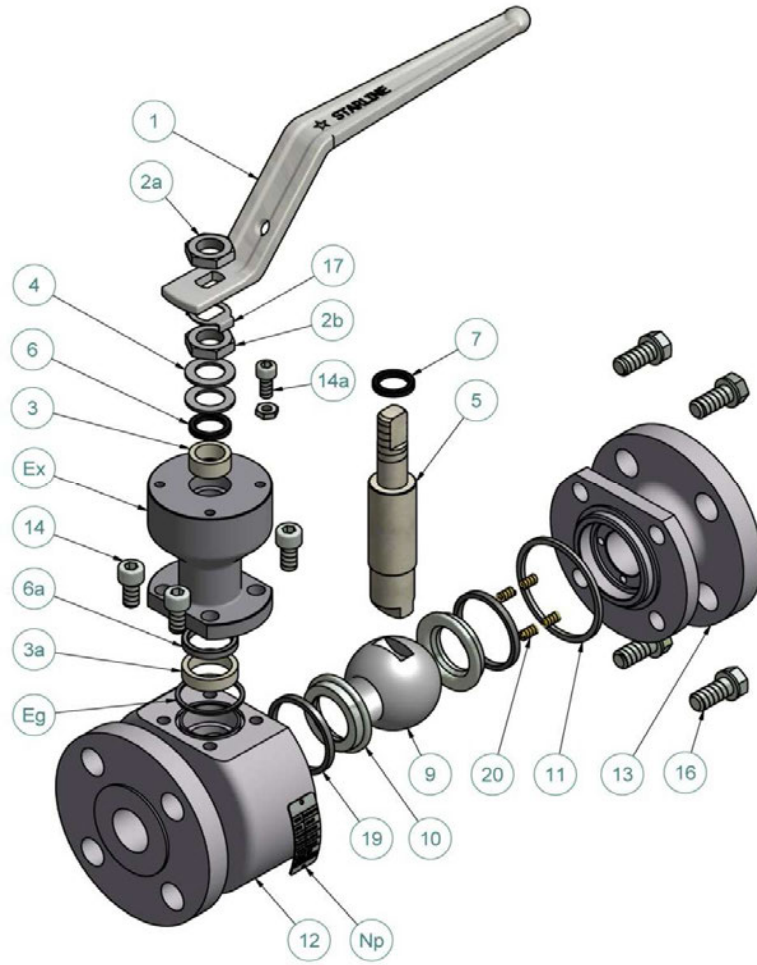


**TOP VIEW**

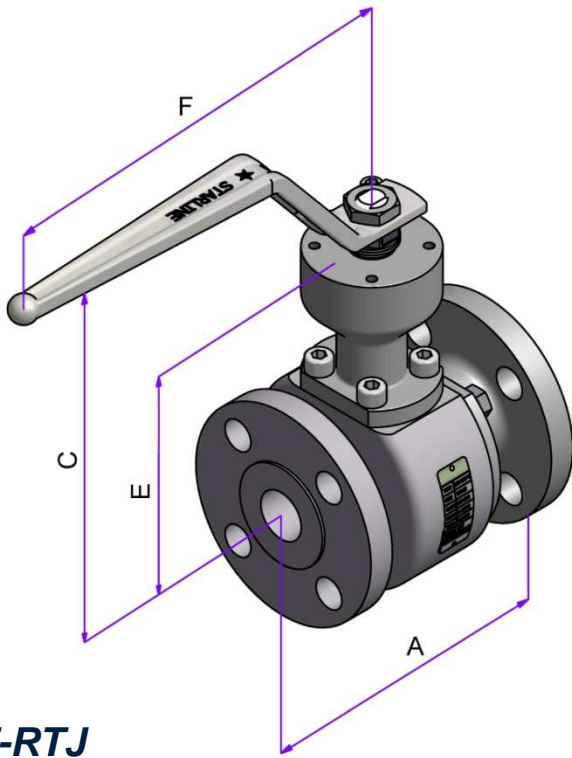
REDUCED BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	RF	RTJ
		RF	RTJ						
2" x 1.1/2"	50 x 40	216	232	38	266	153	300	21	21
2.1/2" x 2"	65 x 50	241	257	50	281	168	300	29	29
3" x 2"	80 x 50	283	298	50	281	168	300	32	32

TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
2" x 1.1/2"	50 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07
2.1/2" x 2"	65 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07
3" x 2"	80 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07

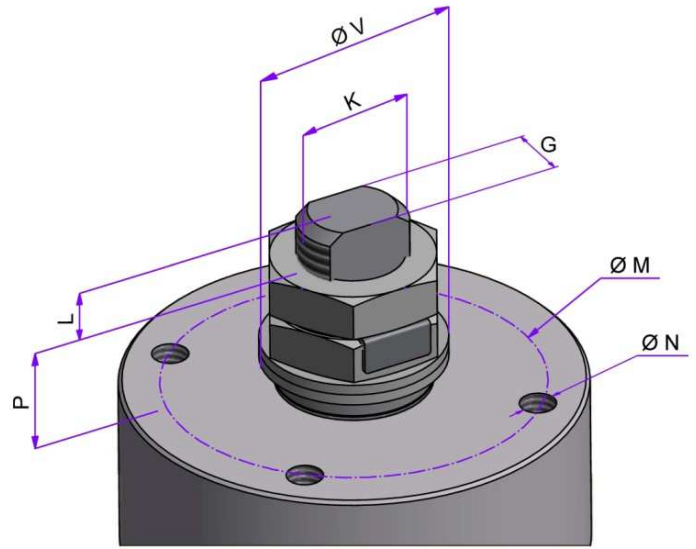




ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316	316	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718



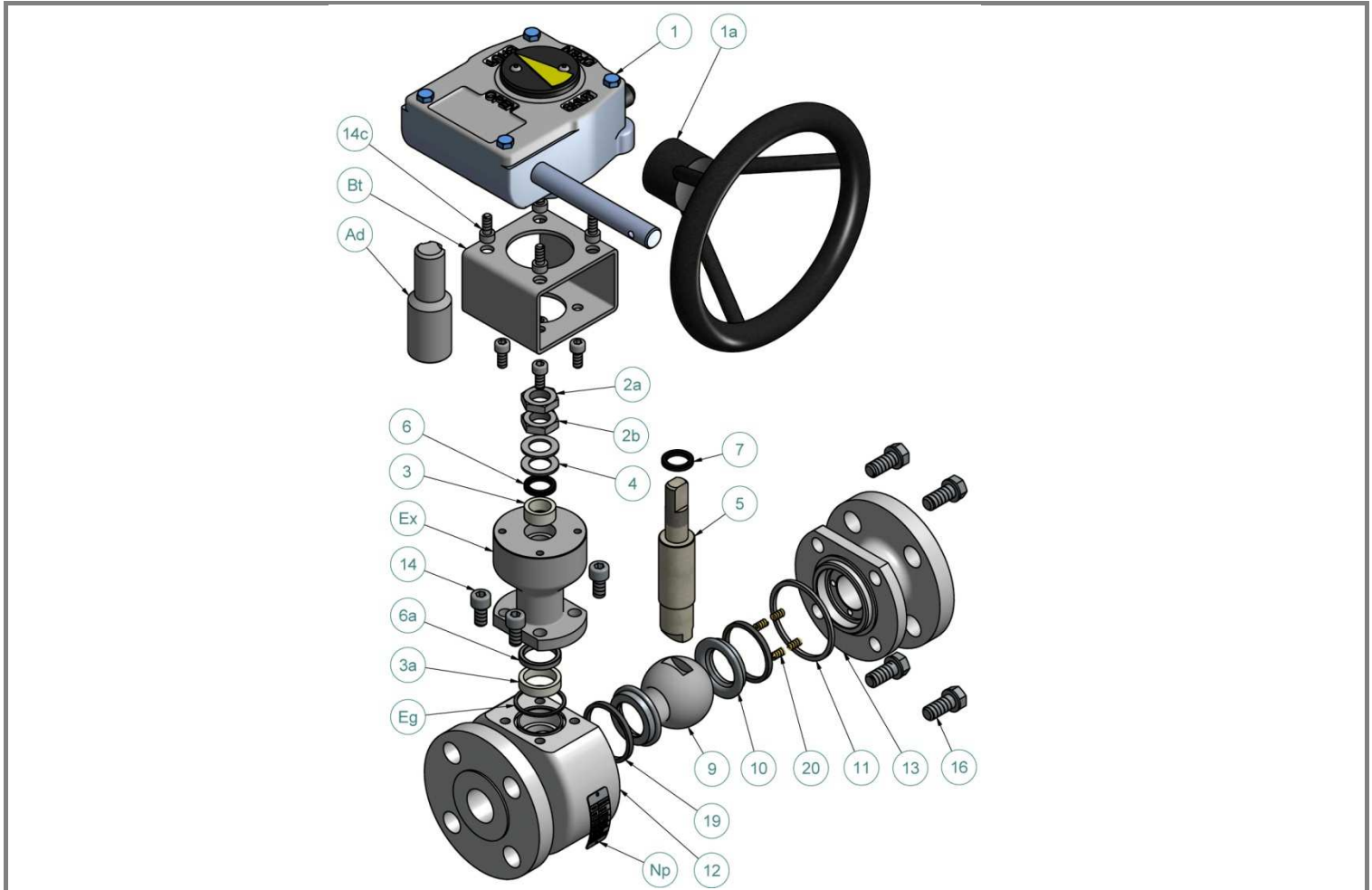
**RF-RTJ**



**TOP VIEW**

FULL BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	RF	RTJ
		RF	RTJ						
1/2" x 1/2"	15 x 15	165	163.5	13	176	106	172.5	7	7
3/4" x 3/4"	20 x 20	191	191	19	180	111	172.5	10.5	10.5
1" x 1"	25 x 25	216	216	25	190	116	218	13.5	13.5

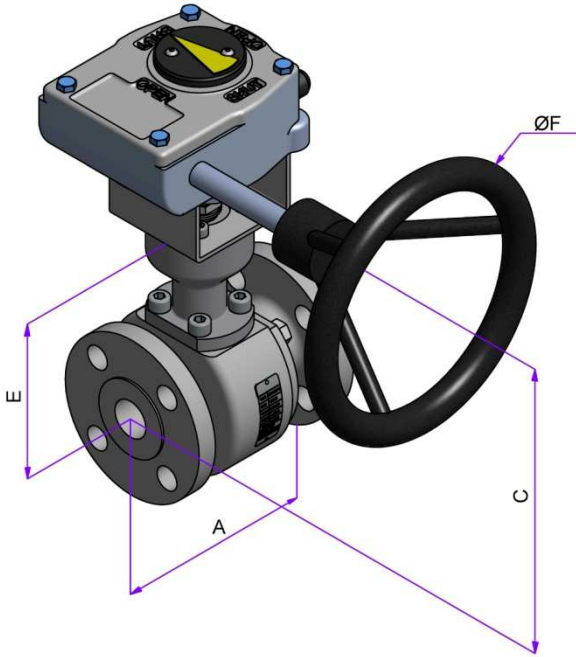
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
1/2" x 1/2"	15 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
3/4" x 3/4"	20 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1" x 1"	25 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05



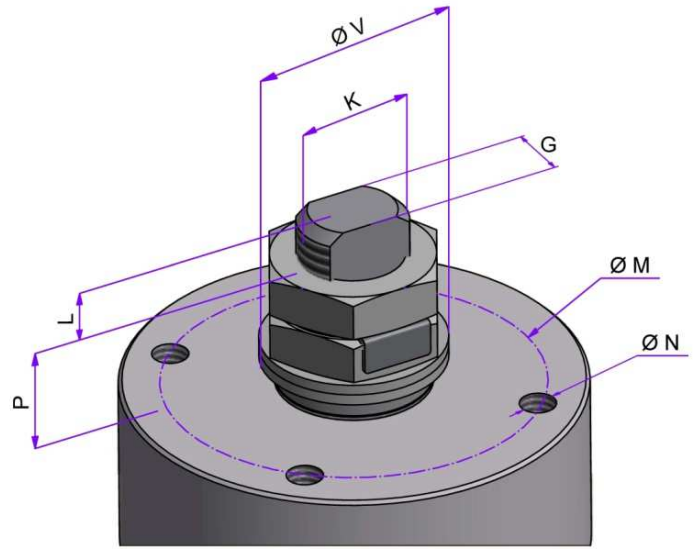
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	4 <sup>Note1</sup>	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: Qty 6 for DN 50 - 2"

RECOMMENDED SPARE PARTS FOR START-UP OR COMMISSIONING



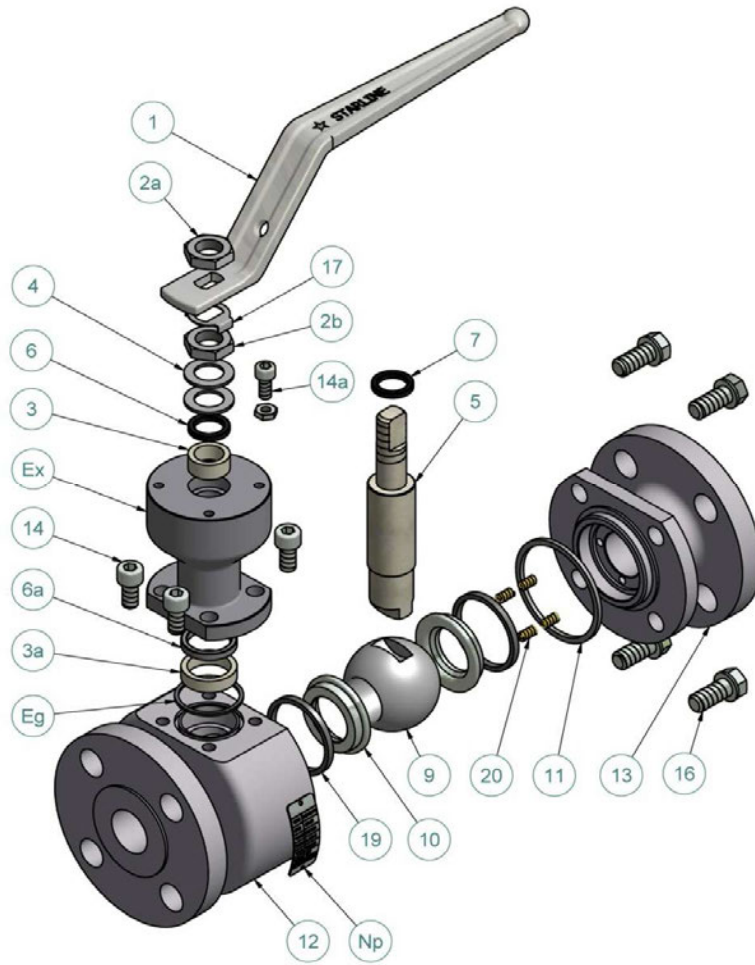
**RF-RTJ**



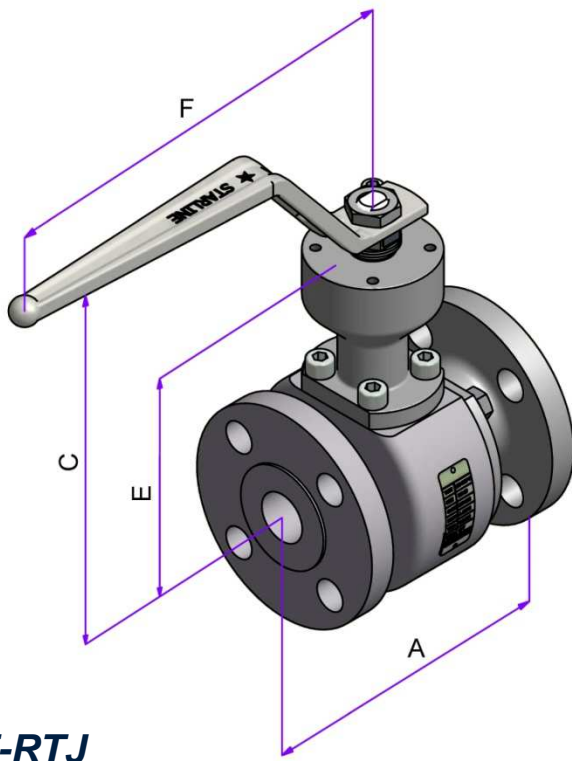
**TOP VIEW**

FULL BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	RF	RTJ
		RF	RTJ						
1.1/4" x 1.1/4"	32 x 32	229	229	38	266	153	300	25.5	25.5
1.1/2" x 1.1/2"	40 x 40	241	241	38	266	153	300	28	28
2" x 2"	50 x 50	292	295	50	281	168	300	34	34

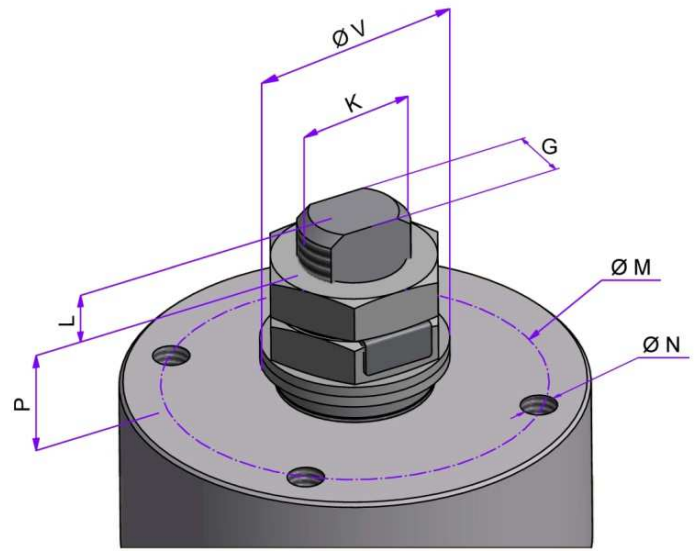
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
1.1/4" x 1.1/4"	32 x 32	15	21.5	36	M22x1.5	16	M8x12	70	F07
1.1/2" x 1.1/2"	40 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07
2" x 2"	50 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07



ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316	316	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718



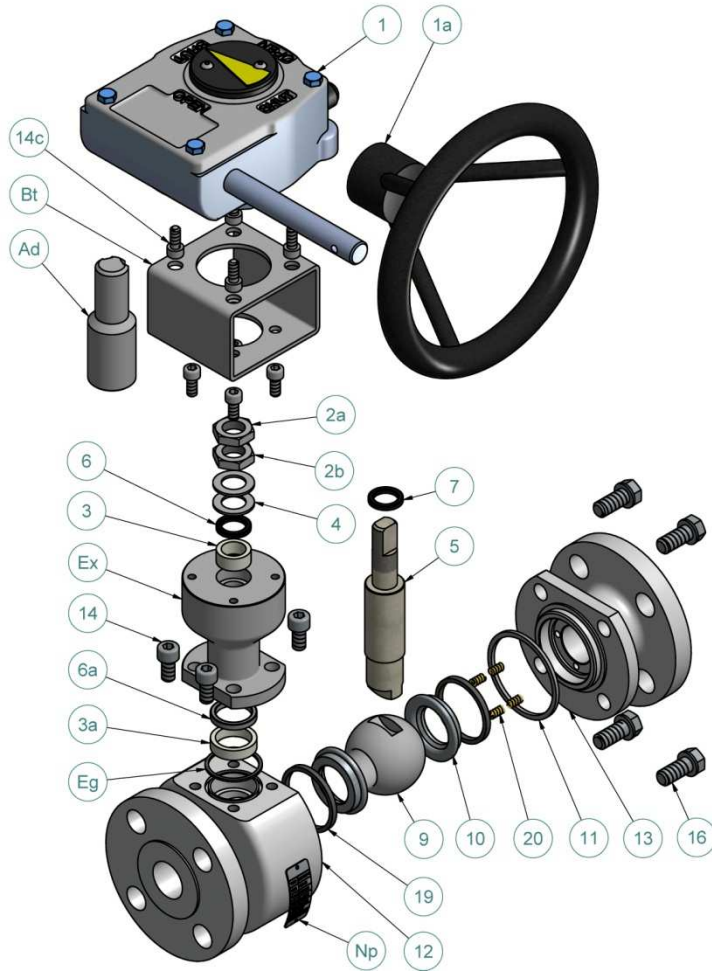
**RF-RTJ**



**TOP VIEW**

REDUCED BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	RF	RTJ
		RF	RTJ						
3/4"x 1/2"	20 x 15	191	191	13	176	106	172.5	8	8
1"x 3/4"	25 x 20	216	216	19	180	111	172.5	12.5	12.5
1.1/4"x 1"	32 x 25	229	229	25	190	116	218	15	15
1.1/2"x 1"	40 x 25	241	241	25	190	116	218	28	28

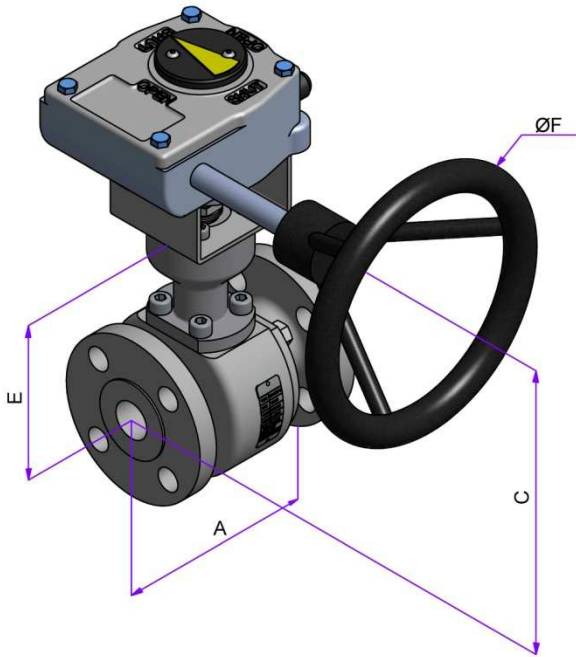
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
3/4"x 1/2"	20 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1"x 3/4"	25 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1.1/4"x 1"	32 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05
1.1/2"x 1"	40 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05



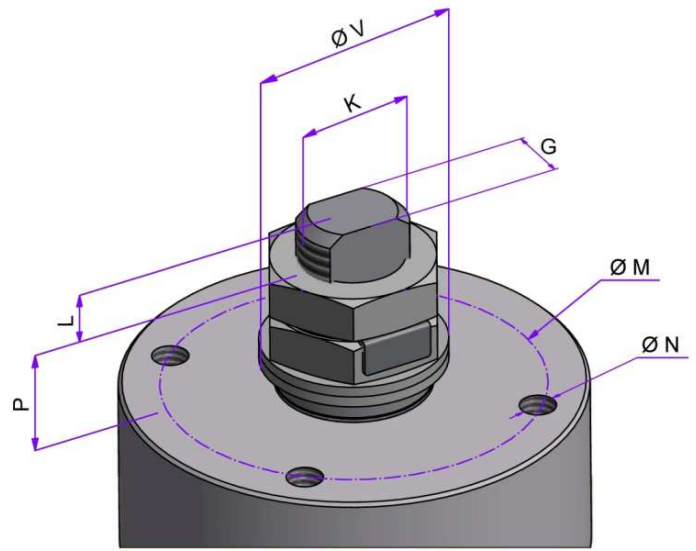
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	4 <sup>Note1</sup>	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: Qty 6 for DN 80 - 3"

RECOMMENDED SPARE PARTS FOR START - UP OR COMMISSIONING



**RF-RTJ**

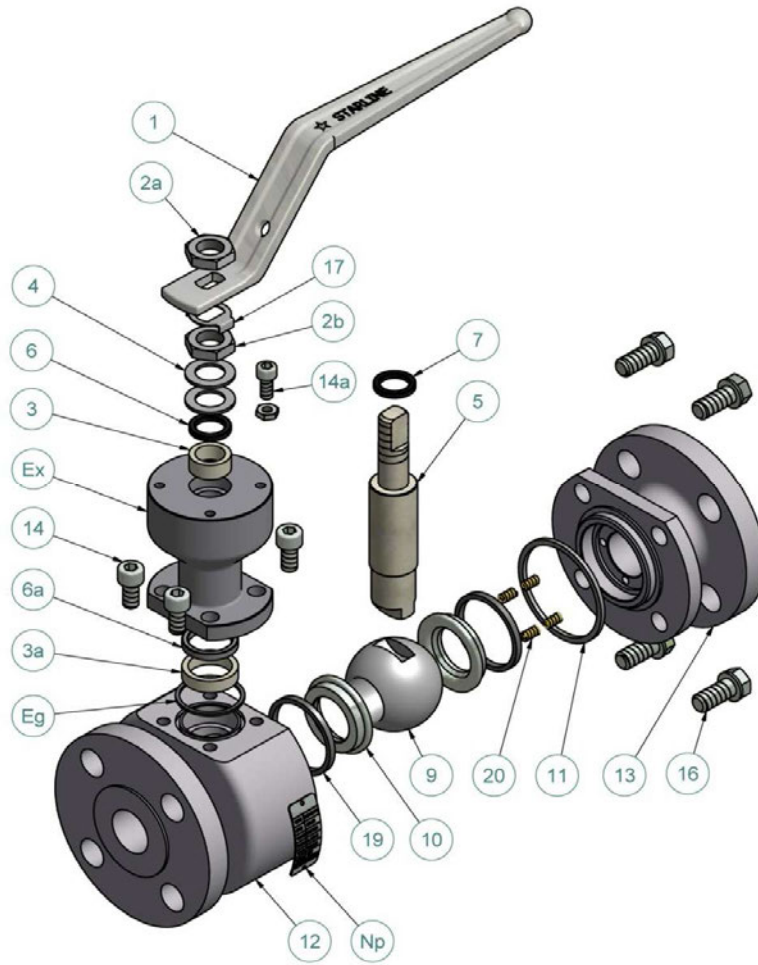


**TOP VIEW**

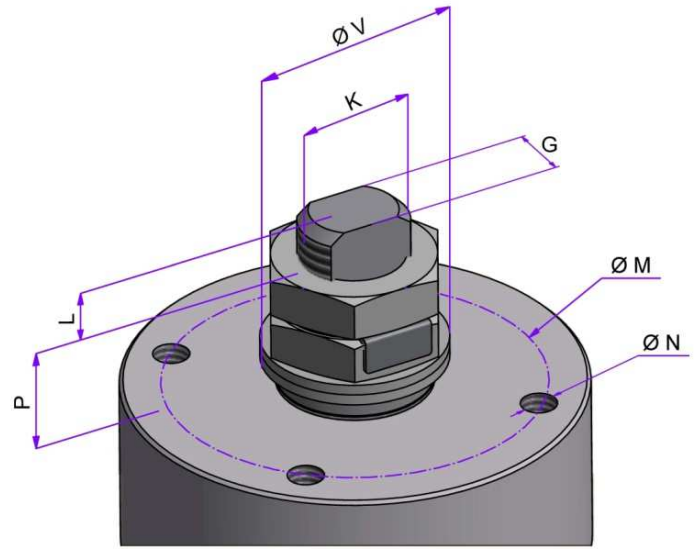
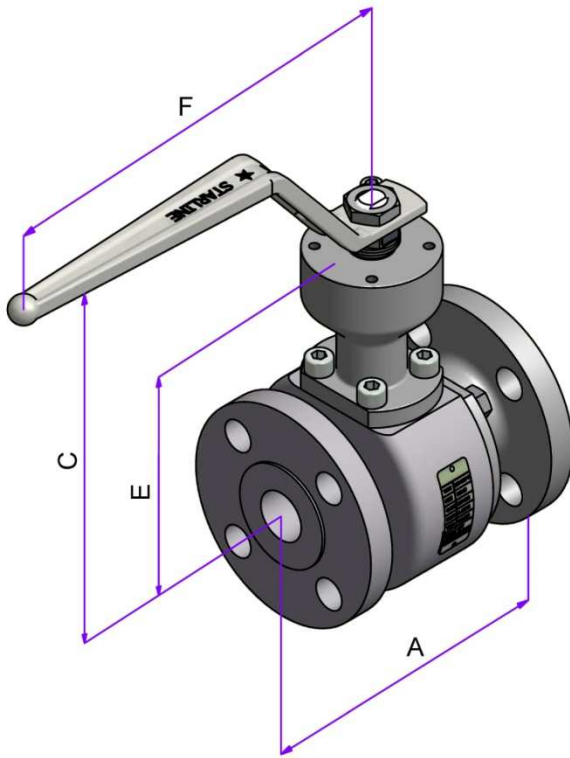
REDUCED BORE									
VALVE SIZE		DIMENSIONS [ mm ]						WEIGHT [Kg]	
NPS	DN	A		BORE	C	E	F	RF	RTJ
		RF	RTJ						
2" x 1.1/2"	50 x 40	292	295	38	266	153	300	36	36
2.1/2" x 2"	65 x 50	330	333	50	281	168	300	39.5	39.5
3" x 2"	80 x 50	356	359	50	281	168	300	44	44

TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
2" x 1.1/2"	50 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07
2.1/2" x 2"	65 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07
3" x 2"	80 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07





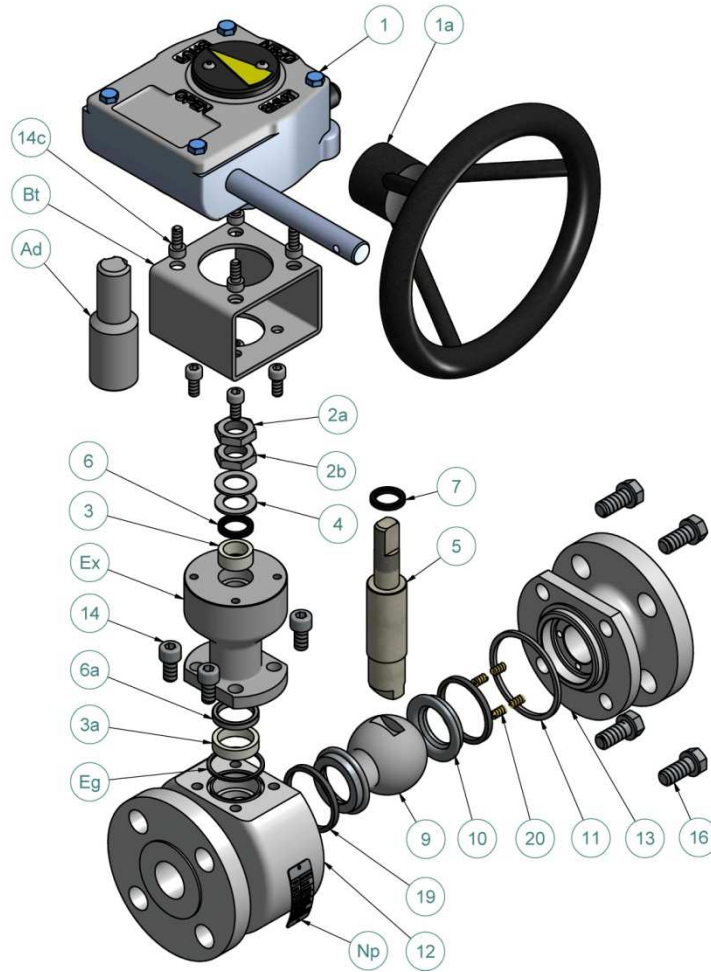
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316	316	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718



**TOP VIEW**

FULL BORE							
VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	PN 10 ÷ 40
3/8" x 3/8"	10 x 10	130	13	176	106	172.5	5
1/2" x 1/2"	15 x 15	130	13	176	106	172.5	5
3/4" x 3/4"	20 x 20	150	19	180	111	172.5	6.5
1" x 1"	25 x 25	160	25	190	116	218	9

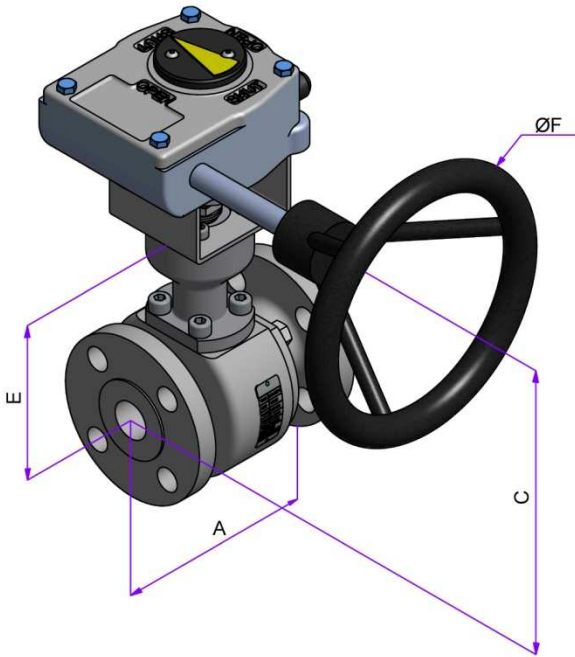
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
3/8" x 3/8"	10 x 10	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1/2" x 1/2"	15 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
3/4" x 3/4"	20 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1" x 1"	25 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05



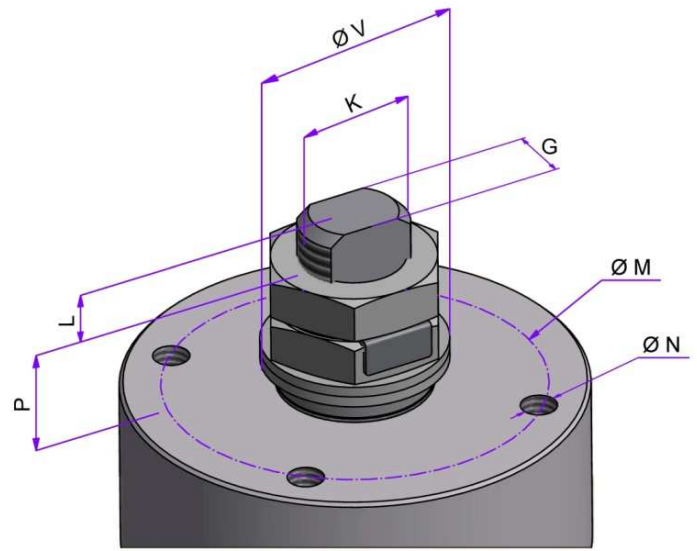
ITEM NO.	Q .TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	4 <sup>Note1</sup>	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: Qty 6 for DN 50 - 2"

RECOMMENDED SPARE PARTS FOR START - UP OR COMMISSIONING



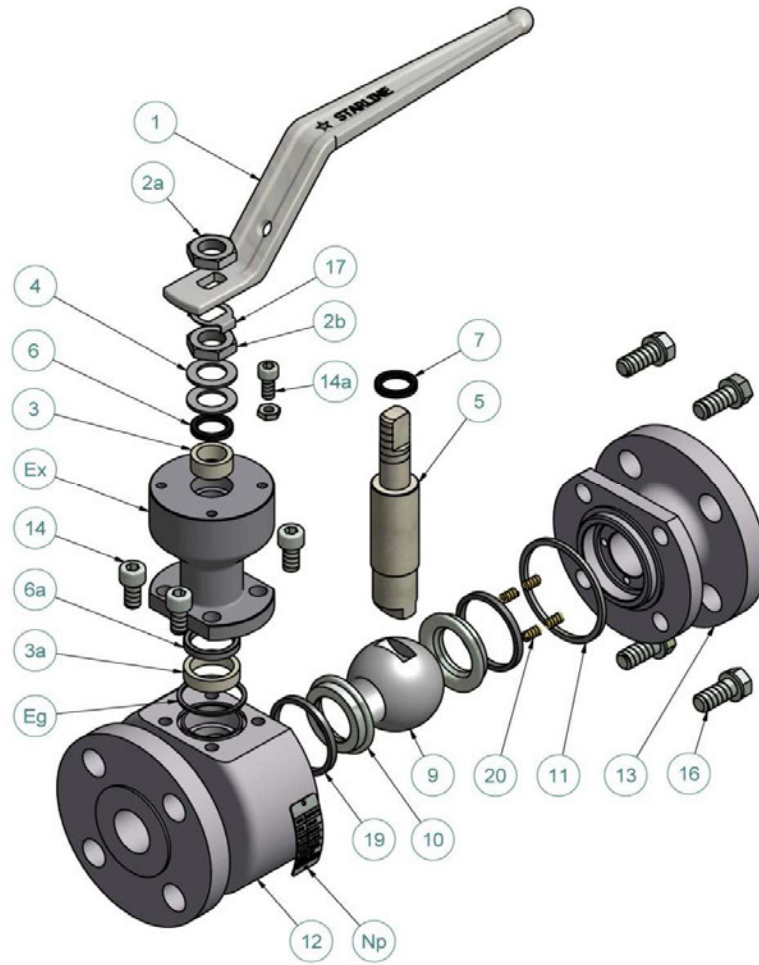
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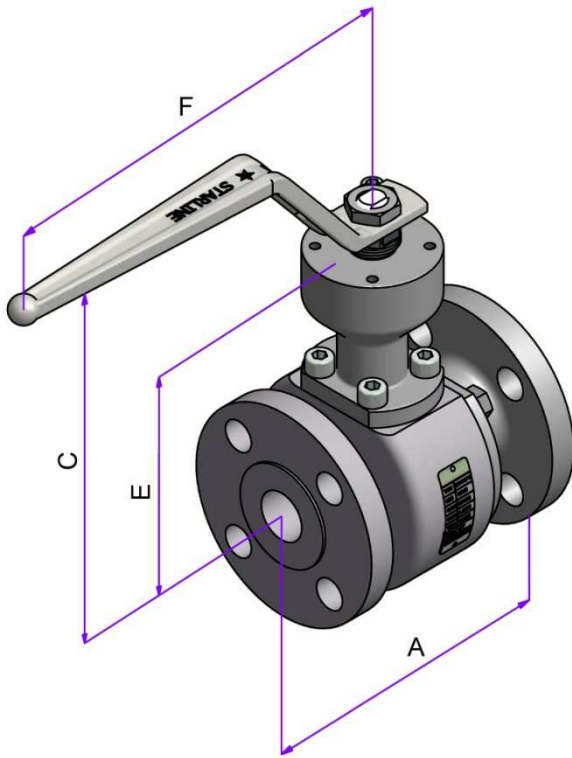
**TOP  
VIEW**

FULL BORE							
VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	PN 10 ÷ 40
1.1/4" x 1.1/4"	32 x 32	180	38	266	153	300	15
1.1/2" x 1.1/2"	40 x 40	200	38	266	153	300	17.5
2" x 2"	50 x 50	230	50	281	168	300	25

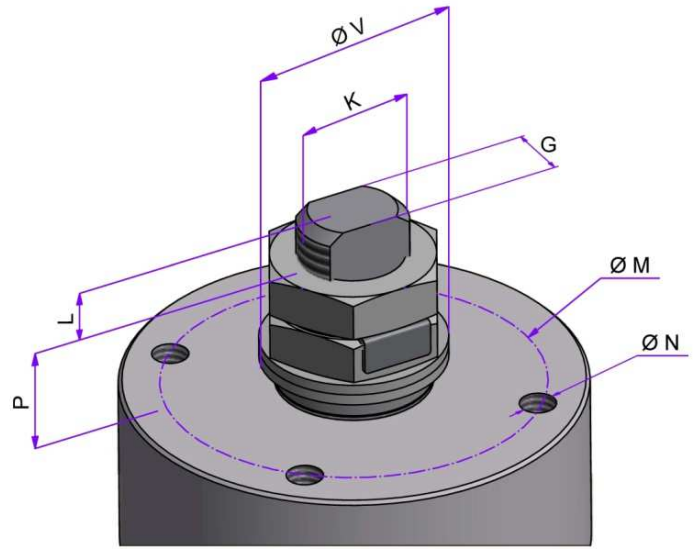
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
1.1/4" x 1.1/4"	32 x 32	15	21.5	36	M22x1.5	16	M8x12	70	F07
1.1/2" x 1.1/2"	40 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07
2" x 2"	50 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07



ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Handle	316	316	
2a	2	Handle nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14a	1	Stop-pin	316	316	
16	4	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
17	1	Stop washer	304	304	316
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718



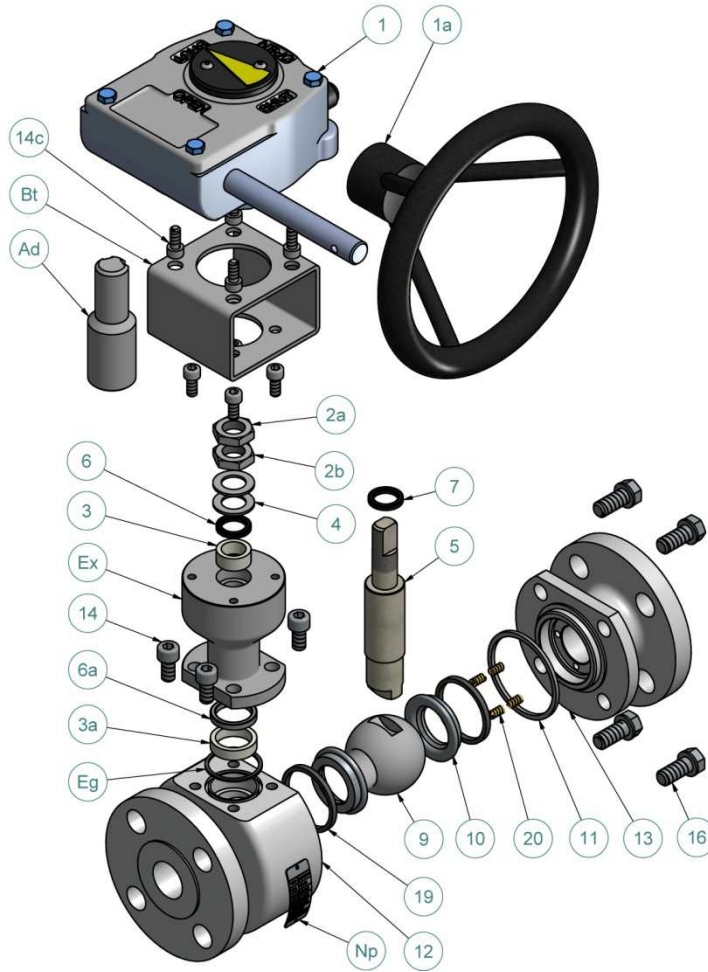
**RF**



**TOP VIEW**

REDUCED BORE							
VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	PN 10 ÷ 40
3/4" x 1/2"	20 x 15	150	13	176	106	172.5	6
1" x 3/4"	25 x 20	160	19	180	111	172.5	7.5
1.1/4" x 1"	32 x 25	180	25	190	116	218	11
1.1/2" x 1"	40 x 25	200	25	190	116	218	17.5

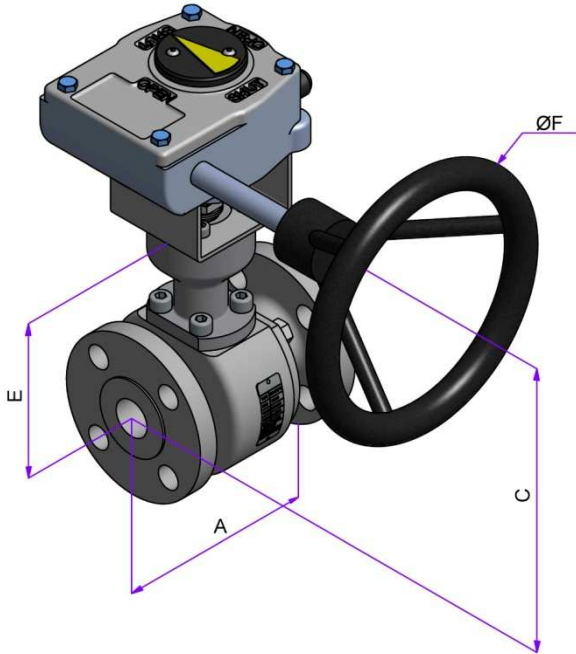
TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
3/4" x 1/2"	20 x 15	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1" x 3/4"	25 x 20	6	15.5	22	M12x1.25	7.5	M5x8	42	F04
1.1/4" x 1"	32 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05
1.1/2" x 1"	40 x 25	7.7	18.3	26	M15x1.5	8.9	M6x10	50	F05



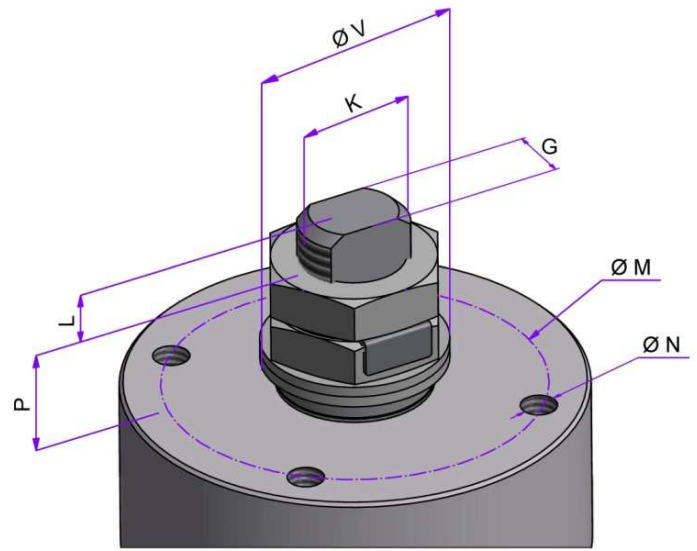
ITEM NO.	Q.TY	PART NAME	MATERIAL (LF2/316)	MATERIAL (316/316)	OPTIONS AVAILABLE
Np	1	Name Plate	316	316	
Ad	1	Adaptor	304	304	316
Bt	1	Bracket	Carbon Steel	304	316
Ex	1	Extension	LF2	316/316L Dual Certified	Special materials
Eg	1	Extension gasket	Graphite	Graphite	
1	1	Gear	Cast Iron	Cast Iron	Ductile Iron
1a	1	Handwheel	Carbon Steel	Carbon Steel	
2a	2	Packing nuts	304	304	316
2b					
3	1	Extension packing ring	Graphite	Graphite	
3a	1	Body packing ring	Graphite	Graphite	
4	2	Spring washers	316 Treated	316 Treated	
5	1	Antistatic stem	Duplex UNS S31803	Duplex UNS S31803	XM-19
6	1	Extension gland packing	316	316	
6a	1	Body gland packing	316	316	
7	1	Thrust washer	316	316	
9	1	Ball	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
10	2	Seats	316/316L Dual Certified	316/316L Dual Certified	Special materials
			Tungsten Carbide Coated	Tungsten Carbide Coated	Chrome Carbide Coated
11	1	Body Gasket	Graphite	Graphite	
12	1	Body	LF2	316/316L Dual Certified	Special materials
13	1	End connections	LF2	316/316L Dual Certified	Special materials
14	4	Extension screw	316	316	
14c	4+4	Bracket-Gear screw	316	316	
16	4 <sup>Note1</sup>	Bolts	A320 L7 + Zinc Plated	A193 B8	Special materials
19	2	Seat seals	Graphite	Graphite	
20	4	Seat springs	Inconel X750	Inconel X750	Inconel X718

Note 1: Qty 6 for DN 80 - 3"

RECOMMENDED SPARE PARTS FOR START - UP OR COMMISSIONING



**RF**



**TOP  
VIEW**

REDUCED BORE							
VALVE SIZE		DIMENSIONS [ mm ]					WEIGHT [Kg]
NPS	DN	A	BORE	C	E	F	PN 10 ÷ 40
2" x 1.1/2"	50 x 40	230	38	266	153	300	22
2.1/2" x 2"	65 x 50	290	50	281	168	300	32
3" x 2"	80 x 50	310	50	281	168	300	34

TOP MOUNTING									
VALVE SIZE		DIMENSIONS [ mm ]							ISO 5211
NPS	DN	L	P	V	K	G	N	M	
2" x 1.1/2"	50 x 40	15	21.5	36	M22x1.5	16	M8x12	70	F07
2.1/2" x 2"	65 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07
3" x 2"	80 x 50	15	21.5	36	M22x1.5	16	M8x12	70	F07