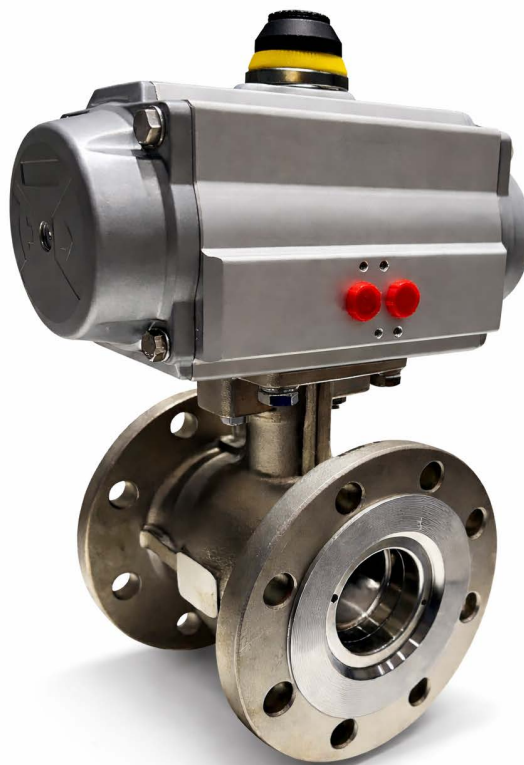


VtekTM

Controls

SERIES VSG

Segmented V-Ball Control Valve



Design Specifications

- **Full Port Sizes :** 1" – 12"
- **Body Materials:** CF8M / WCB / CF3M / Duplex
- **Seats:** RTFE, CTFE (25%Carbon / 75% PTFE), & Metal Seats Available
- **Adjustable Packing Flange** (Inverted) Allows In-line stem packing adjustments
- **ISO 5211 Direct Mount**
- **ANSI 150 / 300 RF**
(ANSI 600 Avail. Non-Direct Mount)
- **Blow-Out Proof Stem / Trunnion Design**
- **High Cv Flow Coefficient**
- **General & Industrial Applications**

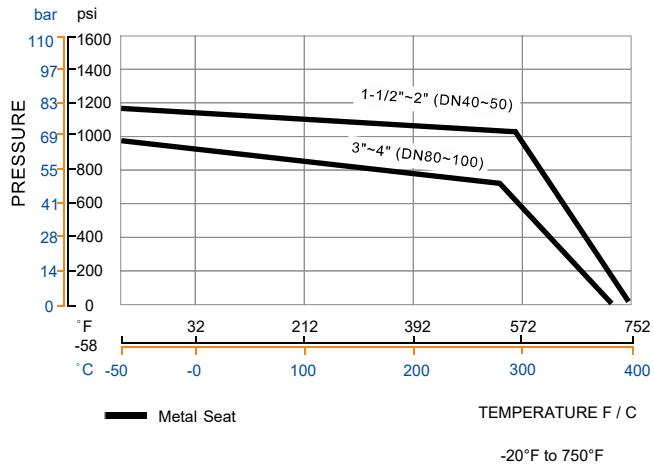
Standards

- **Compliance Standard:**
Standard ISA S75.04 Face to Face.
ASME B16.34 Design
Option: ANSI B16.10 Long Pattern
- **Quality Assurance:** ISO 9001, 5209
- **Inspection and Test:** API 598
- **ISO-15848**
- **Class Shut Off:**
Class VI - Soft Seat
Class IV - Metal Seat

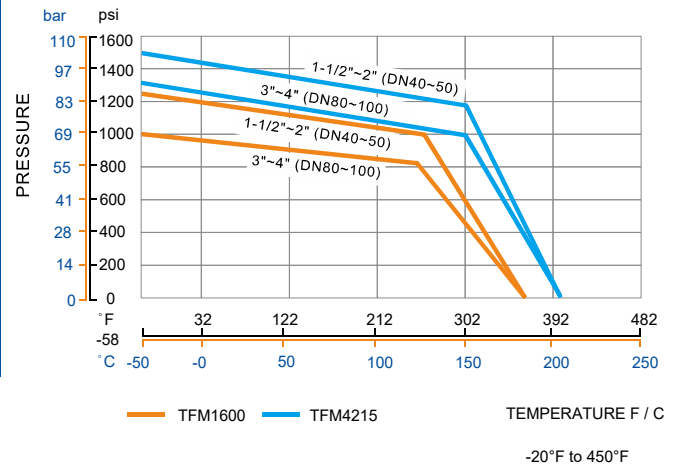
Data:

Pressure Vs. Temperature Chart

Metal Seated



Soft Seated



Breakaway Torque (RTFE Soft Seat) In-Lbs.

Size	150LB 145 PSI Soft Seat	150LB 145 PSI Metal Seat	150LB 290 PSI Metal/Soft Seat	300LB 500 PSI Metal/Soft Seat	600LB 1000 PSI Metal/Soft Seat
1"	117	117	266	752	1859
1,25"	221	221	319	929	2932
1.5"	266	266	354	1593	3363
2"	310	310	372	1682	6461
2.5"	443	443	549	3363	8231
3"	531	708	841	3363	8851
4"	708	1062	1239	4691	8851
5"	974	1593	1947	6373	19472
6"	1505	2655	3186	10444	22127
8"	2124	4425	5222	15489	33633
10"	3806	7966	9736	24782	57530
12"	5310	12391	13276	35402	88508
14"	10621	17702	22127	69036	115945
16"	15391	28322	35403	79657	159314
18"	26552	39828	49564	121255	212418
20"	40713	57530	72576	131187	274373

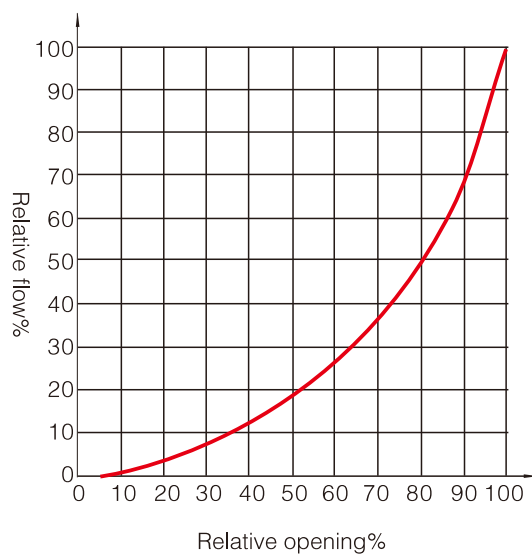
Break Away Torque 30% safety factor included. Standard valves are assembled with silicon-free based lubricant.

Torque for dry gas applications, please consult factory.

For Metal Seated Torque, please consult factory.

Flow Characteristics

The intrinsic flow characteristic of V Type regulating ball valve is approximately Equal Percent



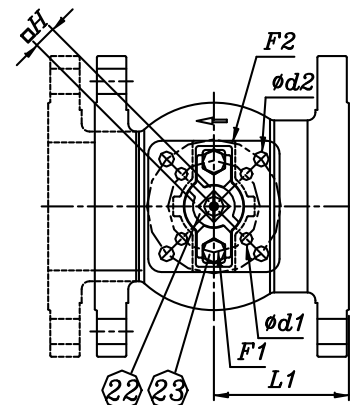
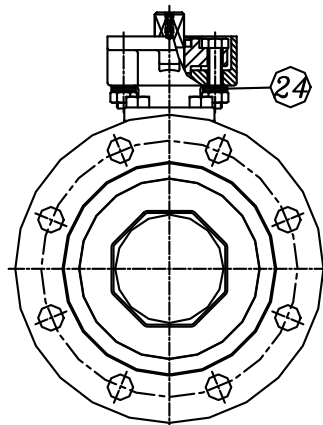
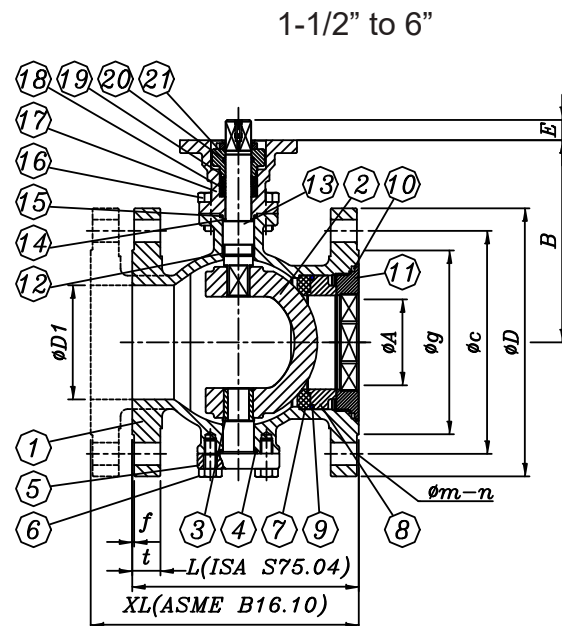
CV Values of Standard Products

Size	CV values
DN25 (1")	36
DN32 (1 1/4")	56
DN40 (1 1/2")	94
DN50 (2")	152
DN65 (2 1/2")	262
DN80 (3")	358
DN100 (4")	540
DN125 (5")	906
DN150 (6")	1424
DN200 (8")	2176
DN250 (10")	3532
DN300 (12")	5732
DN350 (14")	8245
DN400 (16")	10651
DN450 (18")	12878
DN500 (20")	16343

Materials & Dimensions Soft Seat 150 RF (1-1/2" to 6"):

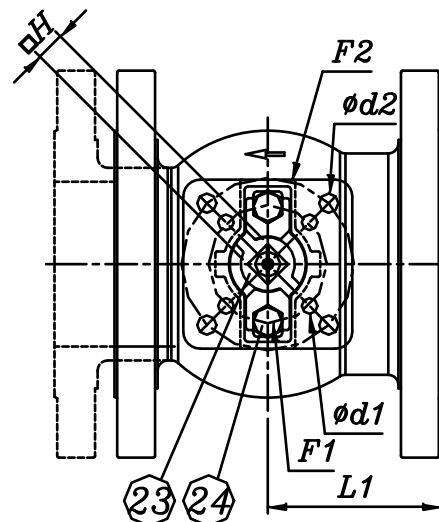
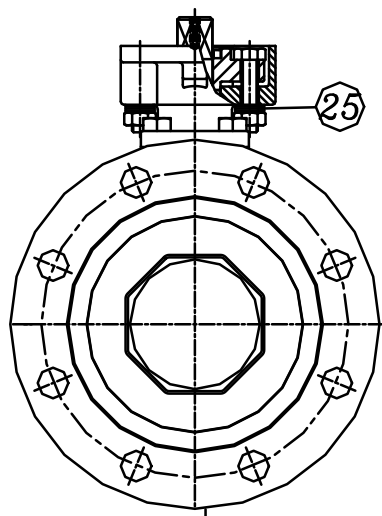
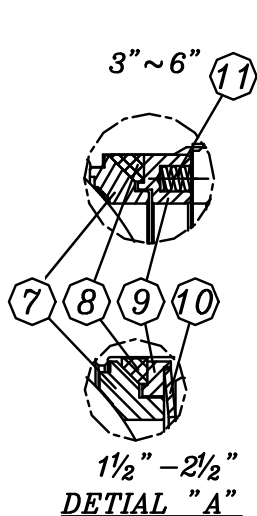
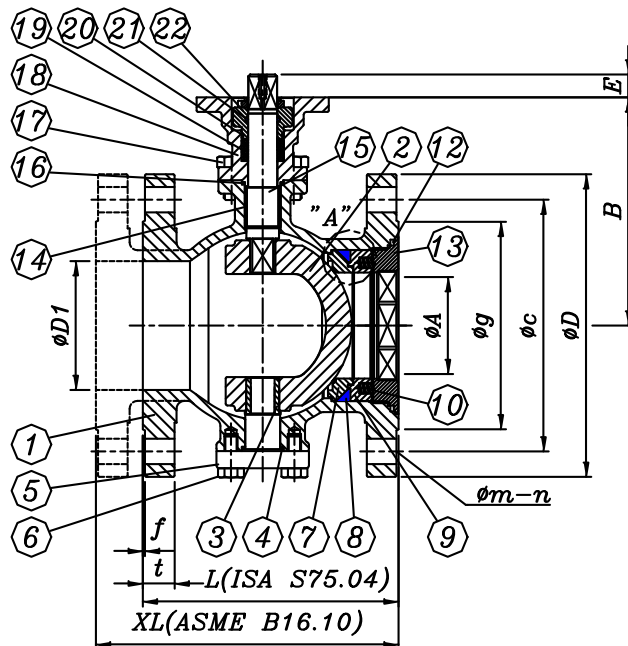
Materials

NO.	NAME OF PARTS	MATERIALS OPTION
1	BODY	A351 Gr. CF8M A216 Gr. WCB
2	SEGMENT BALL	A351 Gr. CF8M
3	BEARING	TFM4215
4	GASKET	TFM1600
5	BOTTOM CAP	A351 Gr. CF8M A216 Gr. WCB
6	BOTTOM CAP BOLTS	SS 304
7	SEAT	TFM1600/ TFM4215
8	SEAT HOUSING	SS 316
9	BACK SEAL	VITON(O-RING)
10	INSERT GASKET	TFM1600
11	INSERT CAP	A351 Gr. CF8M A216 Gr. WCB
12	STEM BEARING	PEEK
13	STEM	SS 630(17-4PH)
14	THRUST WASHER	TFM1600
15	BONNET GASKET	TFM1600
16	BONNET BOLTS	SS 304
17	BONNET	A351 Gr. CF8M A216 Gr. WCB
18	STEM PACKING	TFM1600
19	GLAND SEAL	VITON(O-RING)
20	STEM SEAL	VITON(O-RING)
21	GLAND	A351 Gr. CF8
22	STOP PLATE	SS 304
23	GLAND BLOT	SS 304
24	BELLEVILLE WASHER	SS 301



Materials & Dimensions Metal Seated 150 RF (1-1/2" to 6"):

NO.	NAME OF PARTS	MATERIALS OPTION
1	BODY	A351 Cr. CF8M A216 Cr. WCB
2	SEGMENT BALL	CF8M(HARDENED)
3	BEARING	17-4(HARDENED)
4	GASKET	GRAPHITE
5	BOTTOM CAP	A351 Cr. CF8M A216 Cr. WCB
6	BOTTOM CAP BOLTS	SS 304
7	SEAT	SS316+STELLITED
8	SEAT BACK SEAL	GRAPHITE
9	SEAT HOUSING	SS 316
10	SPRING DISK	INCONEL 750
11	SEAT SPRING	INCONEL
12	INSERT GASKET	GRAPHITE
13	INSERT CAP	A351 Cr. CF8M A216 Cr. WCB
14	STEM BEARING	17-4(HARDENED)
15	STEM	SS 630(17-4PH)
16	BONNET GASKET	GRAPHITE
17	BONNET BOLTS	SS 304
18	BONNET	A351 Cr. CF8M A216 Cr. WCB
19	STEM PACKING	GRAPHITE
20	GLAND SEAL	VITON(O-RING)
21	STEM SEAL	VITON(O-RING)
22	GLAND	A351 Cr. CF8
23	STOP PLATE	SS 304
24	GLAND BLOT	SS 304
25	BELLEVILLE WASHER	SS 301



Dimensions (IN)

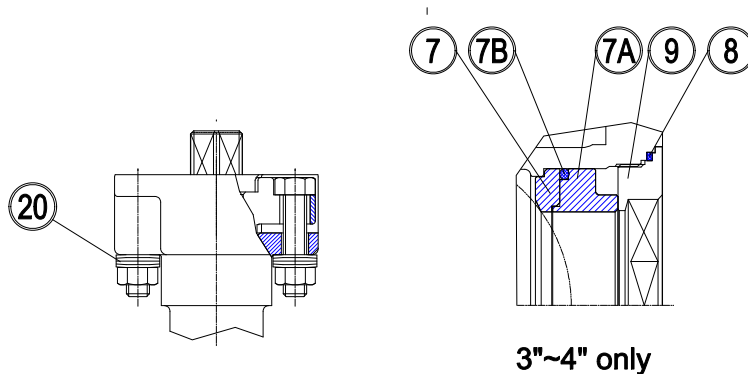
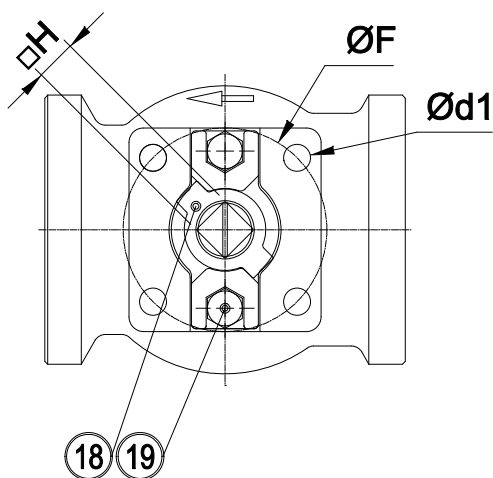
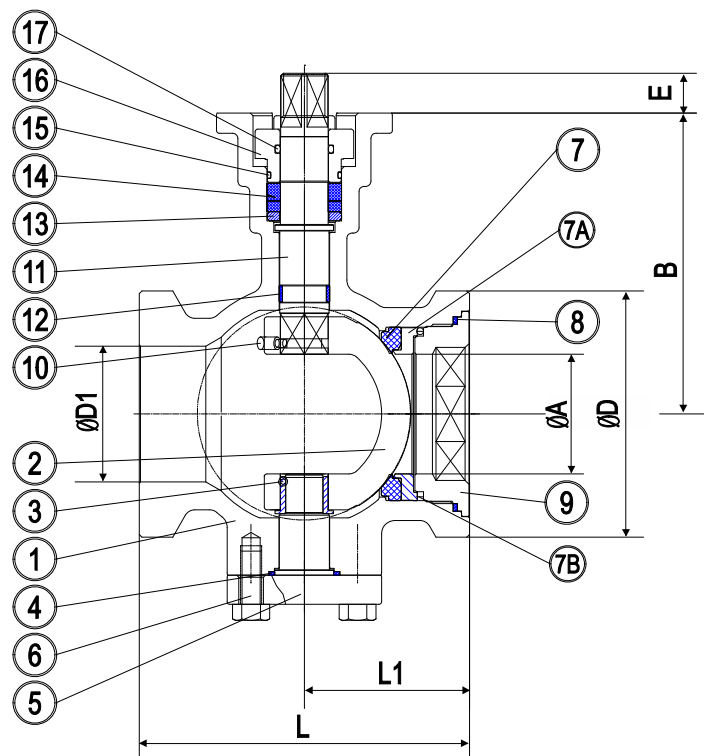
UNIT: MM/INCH

SIZE		A	B	D1	E	F1	F2	d1	d2	H	XL	L	L1	FLANGE DIMENSIONS (CLASS 150)						
														D	BOLT HOLE			t	g	f
															c	m	n			
1½"	MM	35	108	40	14	50	70	7.0	9.3	14	165.1	114.3	57	127	98.5	15.9	4	14.2	73.2	1.6
	INCH	1.378	4.252	1.575	0.55	1.969	2.756	0.276	0.366	0.551	6.5	4.5	2.244	5.0	3.88	0.625	4	0.56	2.88	0.06
2"	MM	45	112.6	50	14	50	70	7.0	9.3	14	178	124	62	152	120.5	19.1	4	15.7	91.9	1.6
	INCH	1.772	4.433	1.969	0.55	1.969	2.756	0.276	0.366	0.551	7.0	4.88	2.441	6.0	4.75	0.75	4	0.62	3.62	0.06
2½"	MM	54	144.7	63.5	15	70	102	9.3	11.4	14	190	140	79.1	178	139.5	19.1	4	17.8	105	1.6
	INCH	2.126	5.696	2.50	0.59	2.756	4.016	0.366	0.449	0.551	7.5	5.5	3.114	7.0	5.49	0.75	4	0.70	4.13	0.06
3"	MM	66	150.2	82.5	17	70	102	9.3	11.4	17	203	165.1	87	190	152.5	19.1	4	19.1	127	1.6
	INCH	2.589	5.913	3.248	0.67	2.756	4.016	0.366	0.449	0.669	8.0	6.5	3.425	7.5	6.0	0.75	4	0.75	5.00	0.06
4"	MM	80.2	172.7	97.5	17	70	102	9.3	11.4	17	228.6	193.5	102.8	229	190.5	19.1	8	23.9	157.2	1.6
	INCH	3.157	6.799	3.839	0.67	2.756	4.016	0.366	0.449	0.669	9.0	7.6	4.047	9.0	7.5	0.75	8	0.94	6.19	0.06
6"	MM	114	203	153	22	—	102	—	11.4	22	266.7	228.6	124	279	241.5	22.2	8	25.4	215.9	1.6
	INCH	4.488	8.543	6.024	0.87	—	4.016	—	0.449	0.866	10.5	9.0	4.881	11.0	9.5	0.875	8	1.00	8.50	0.06

Vtek Controls reserves the right to change product designs and dimensional specifications without notice.

Materials & Dimensions Wafer 150-600 (1-1/2" to 6"):

ITEM	PART NAME	MATERIALS
1	BODY	CF8M/ WCB
2	BALL SEGMENT	CF8M
3	BEARING	TFM4215
4	GASKET	TFM1600
5	TRUNNION CAP	CF8M
6	TRUNNION CAP BOLT	SS 304
7	SEAT	TFM1600/TFM4215
7A	SEAT HOUSING	SS 316
7B	BACK-UP SEAL	VITON(O-RING)
8	INSERT GASKET	TFM1600
9	INSERT CAP	CF8M
10	SET SCREW	SS 316
11	STEM	SS 630 (17-4PH)
12	STEM BEARING	PEEK
13	PACKING WASHER	SS 316
14	STEM PACKING	TFM1600
15	GLAND SEAL	VITON
16	GLAND	CF8
17	STEM SEAL	VITON
18	STOP PLATE	SS 304
19	GLAND BOLT	SS 304
20	BELLEVILLE WASHER	SS 301



Dimensions (IN)

SIZE		A	B	D1	E	F	d1	H	L(ISA)	L1	D
1-1/2"	MM	34	97	40	15	70	9.3	14	114.3	57	73
	INCH	1.339	3.819	1.575	0.59	2.756	0.366	0.551	4.50	2.244	2.87
2"	MM	45	113	51	15	70	9.3	14	124	62	92.5
	INCH	1.772	4.449	2.007	0.59	2.756	0.366	0.551	4.88	2.441	3.64
3"	MM	66	150.2	82.5	18.3	102	11.4	17	165.1	87	127
	INCH	2.598	5.913	3.248	0.72	4.016	0.449	0.669	6.50	3.425	5.00
4"	MM	80.5	172.7	98.5	18.3	102	11.4	17	193.5	102.8	158
	INCH	3.169	6.799	3.878	0.72	4.016	0.449	0.669	7.62	4.047	6.22

VSegment -Ball Control & Options:

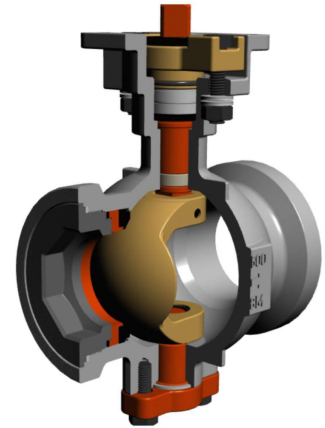
Series VSG V-Port Control Ball Valves

VSG V-Port ball valves are used for controlling the flow. High turn-down ratio delivers a precise flow control while retaining the durability and tight shutoff characteristics of a ball valve, excellent for regulating service. It is a compact and economical solution compared to traditional globe control valves.

Options:

Available in 60° and 90° V-notch configurations. Flanged Options include 150, 300, 600 ANSI RF, 900 ANSI Class upon request.

Stellite Internal Hardfacing available for abrasive services.



Ordering:

Series	Port	Body Material	Ball	Stem	End Connection	Size
VSG	V6 - V-port 60 Deg V9 - V-port 90 Deg	S - Stainless Steel C - Carbon Steel L - 316L St. Steel F - Duplex St. St.	S - 316 SS L - 316 L D - Duplex St. St.	S - 316 SS L - 316 L P - 17-4PH D - Duplex St. St.	F1 - ANSI 150 F3 - ANSI 300 F6 - ANSI 600 F9 - ANSI 900 W6- ANSI 150-600	0150 - 1-1/2" 0200 - 2" 0250 - 2-1/2" 0300 - 3" 0400 - 4" 0600 - 6" 0800 - 8" 1000 - 10" 1200 - 12" Larger Sizes Available
Seats	Packing	Body Seal	Operator	Options	Stem O-ring	
R - RTFE C - CTFE T - TFM™-1600 M - Metal	P - PTFE T - TFM™-1600 G - GRAPHITE	P - PTFE C - CTFE T - TFM™-1600 G - GRAPHITE	Blank - Bare Stem G - Gear Operated	Blank - No Options X- STELLITE HARD FACE	Blank - Viton Standard 4 - Kalrez E - EPDM S - Silicone	

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Vtek
Controls™

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