

GTB CONTROL VALVE

LINEAR

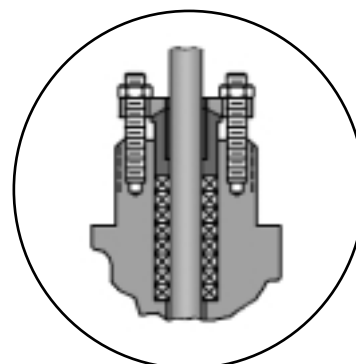
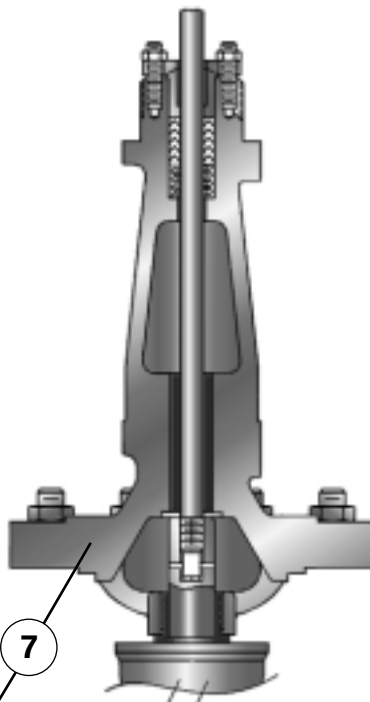
Reliable and Proven Technology for the 21st Century

The Top & Bottom Guided Control Valve design has been successfully applied for over 50 years in chemical, refining, power, paper, and H.V.A.C. industries worldwide. Typical applications include clean and dirty liquids, gases and steam.

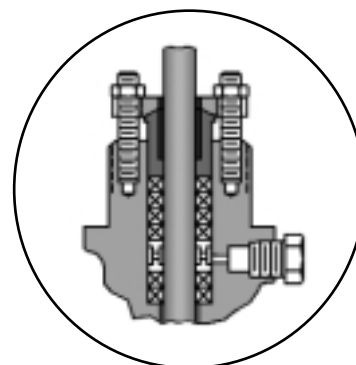
Typical Extended Bonnet

8

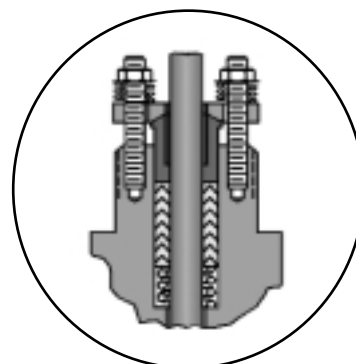
Packing



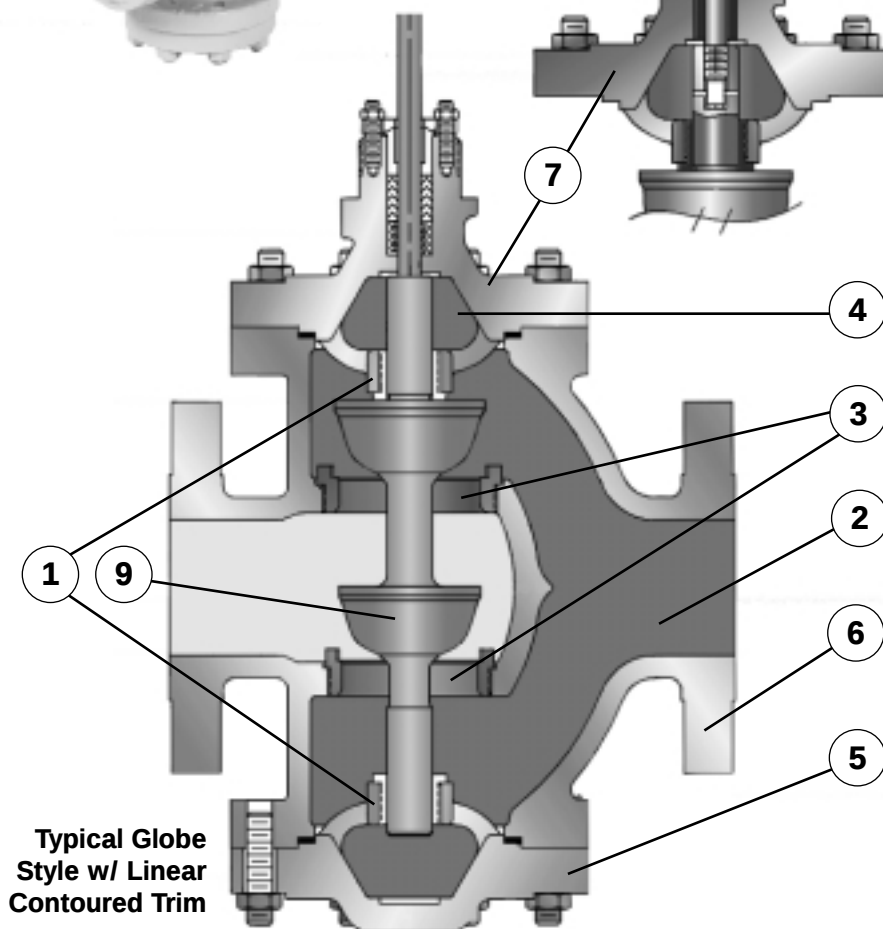
TC/BTG



LG w/ Lubricator



Environmental



**Typical Globe
Style w/ Linear
Contoured Trim**

GTB CONTROL VALVE

Solution-Engineered Features for Demanding Applications

1. Top & Bottom Stem Guiding

The valve plug is supported and rigidly guided by upper and lower guide bushings. This two-point guiding provides for exceptional stability and minimal valve plug deflection even under high pressure drop conditions, and allows for precise control and characterization of fluid.

2. High Capacity Body Designs

The body configuration incorporates large flow areas which maximize the flow capacity of each size. This enlarged flow area maintains acceptable fluid velocities in the valve body, which increases trim life and provides for quieter operation.

3. Balanced Double Port Design

Since inlet pressure exerts force on the upper and lower plugs, the forces are balanced. This balancing effect reduces the net thrust of the actuator, allowing for smaller actuators to be used in higher pressure drop applications. The result is a lower overall installation cost and dimensional envelope.

4. Plug Throttling Design

Plug characterization, stem guiding, and balancing effect give this design the combination best suited for handling dirty, sticky, and erosive applications in refinery plants where cage guided valves have consistently failed.

5. Field Reversible Trim

EQ% V-Port/ EQ%, Linear and Quick Opening Contoured plugs are easily reversed in the field so that either a fail open or closed action can be obtained using the same actuator. This reduces the need for parts inventory, and adds flexibility.

6. Sizes and End Connections

The GTB valve is available in sizes 1" through 16" (25-400 mm). End connections include raised face, ring type joint flanges and threaded ends.

7. Bonnet Options

Bonnet options include the standard bolted configuration and extension bonnet for temperatures below 32°F (0°C) and above 450°F (232°C). The standard and extension bonnets are available with lubricator and oversized construction.

8. Packing

Teflon® Chevron/Braided Teflon® Graphite (TC/BTG)

Split rings allow packing replacement without removal of actuator. Graphite impregnated PTFE provides 500°F (260°C) service temperature, lowered stem hysteresis, better "memory" and sealing than pure teflon rings, and is ideal for fluids that contain suspended solids.

Laminated Braided Graphite (LBG)

Precision die-cut laminated graphite rings in combination with braided graphite rings provide a reliable, tight stem seal up to operating temperatures of 1050°F (565°C).

9. Trim Options

The GTB design is available in double seat direct action (push-to-close) and reverse action (push-to-open) construction and is designed to meet the widest variety of applications.

Quick Opening Plug Contoured

Generally utilized for open and shut (on/off) service, or for applications requiring rapid flow change for small load demand changes. As this type of inner valve trim leaves the seating surfaces, the open port area increases rapidly; maximum capacity is obtained at a relatively short valve lift.

Linear Plug Contoured

Primarily used for throttling applications where relatively quick changes in opening are required with small load demand changes. In linear contoured inner valves, the flow is directly proportional to travel.

Equal Percentage V-Port or Plug Contoured

Used for relatively long time lags and large load changes with a linear controller output. The equal percentage trim provides an equal percentage of flow change per unit of lift at a constant pressure drop. The solid contoured trim is more desirable for applications involving suspended solids, viscous fluids, and corrosive or scale-forming fluids. The V-Port trim provides additional guiding for high pressure drop applications, where noise and vibration are present.

Reduced Trim

For applications requiring accurate control of smaller flow rates, all valve sizes have two sizes of trim reductions available for all trim characteristics.

Hardened Trim

For applications requiring trim with superior wear resistance. The complete size range is offered in three levels of hardened trims that utilize Alloy 6®.

- **Partial Stellite® A** is an overlay on the plug and seat ring surfaces.
- **Partial Stellite® B** is an overlay on the guide bushings, plug posts and seating surfaces of the plug and seat ring.
- **Full Stellite®** is an overlay on the complete plug contour, plug posts, seat ring and plug seating surfaces, seat ring bore and guide bushings.

GTB TRIM CONFIGURATIONS

GTB trim designs allow you to choose the ideal construction/characteristic for each application. All trim modules are 100% field interchangeable providing extraordinary flexibility and value.

DOUBLE SEATED LINEAR CONTOURED



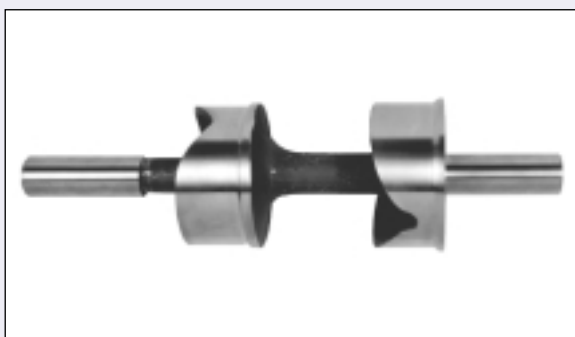
-20°F - 1050°F
-29°C - 565°C
SHUTOFF CLASS III

DOUBLE SEATED EQ% CONTOURED



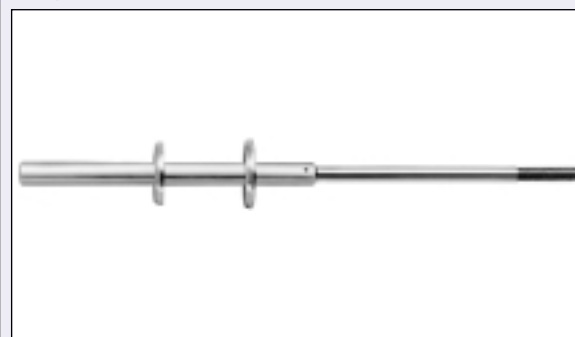
-20°F - 1050°F
-29°C - 565°C
SHUTOFF CLASS III

DOUBLE SEATED EQ% V-PORT



-20°F - 1050°F
-29°C - 565°C
SHUTOFF CLASS III

DOUBLE SEATED QUICK OPENING CONTOURED



-20°F - 1050°F
-29°C - 565°C
SHUTOFF CLASS III

GTB END CONNECTIONS

Valve Size in/mm	ANSI CLASS 150	ANSI CLASS 300	ANSI CLASS 600
1 / 25	RF RTJ T	RF T RTJ	RF T RTJ
1.5 / 40	RF RTJ T	RF T RTJ	RF T RTJ
2 / 50	RF RTJ	RF RTJ	RF T RTJ
3 / 75	RF RTJ	RF RTJ	RF RTJ
4 / 100	RF RTJ	RF RTJ	RF RTJ
6 / 150	RF RTJ	RF RTJ	RF RTJ
8 / 200	RF RTJ	RF RTJ	RF RTJ
10 / 250	RF RTJ	RF RTJ	RF RTJ
12 / 300	RF RTJ	RF RTJ	RF RTJ
14 / 350	RF RTJ	RF RTJ	RF RTJ
16 / 400	RF RTJ	RF RTJ	RF RTJ

T = Threaded

RF = Raised Face

RTJ = Ring Type Joint

GTB Cv TABLE - LINEAR

LINEAR

Valve Size in/DN	Stroke in/mm	Large Seat Dia. in/mm	Small Seat Dia. in/mm	Min Cv STD	RATED Cv @ PERCENT OF STROKE									
					10	20	30	40	50	60	70	80	90	100
1 / 25	0.49/12	0.88/22	0.75/19	0.08	0.64	1.28	1.92	2.56	3.2	3.84	4.48	5.12	5.76	6.4
	0.49/12	0.88/22	0.75/19	0.18	0.91	1.82	2.73	3.64	4.55	5.46	6.37	7.28	8.19	9.1
	0.69/17	1.12/28	1.00/25	0.38	1.92	3.84	5.76	7.68	9.6	11.5	13.4	15.4	17.3	19.2
1.5 / 40	0.69/17	1.12/28	1.00/25	0.38	1.92	3.84	5.76	7.68	9.6	11.5	13.4	15.4	17.3	19.2
	0.69/17	1.31/33	1.19/30	0.64	3.18	6.36	9.54	12.7	15.9	19.1	22.3	25.4	28.6	31.8
	0.94/23	1.62/41	1.50/38	0.95	4.75	9.5	14.3	19	23.8	28.5	33.3	38	42.8	47.5
2 / 50	0.69/17	1.31/33	1.19/30	0.64	3.18	6.36	9.54	12.7	15.9	19.1	22.3	25.44	28.62	31.8
	0.94/23	1.62/41	1.50/38	0.95	4.75	9.5	14.3	19	23.8	28.5	33.3	38	42.8	47.5
	1.06/27	2.00/51	1.88/48	1.30	6.5	13	19.5	26	32.5	39	45.5	52	58.5	65
3 / 80	1.06/27	2.00/51	1.88/48	1.30	6.5	13	19.5	26	32.5	39	45.5	52	58.5	65
	1.19/30	2.56/65	2.44/62	2.40	11.8	23.6	35.4	47.2	59	70.8	82.6	94.4	106	118
	1.38/35	3.12/79	3.00/76	3.60	17.9	35.8	53.7	71.6	89.5	107	125	143	161	179
4 / 100	1.19/30	2.56/65	2.44/62	2.40	11.8	23.6	35.4	47.2	59	70.8	82.6	94.4	106	118
	1.38/35	3.12/79	3.00/76	3.60	17.9	35.8	53.7	71.6	89.5	107	125	143	161	179
	1.75/44	4.00/102	3.88/99	5.80	28.8	57.6	86.4	115	144	173	202	230	259	288
6 / 150	1.75/44	4.00/102	3.88/99	5.80	28.8	57.6	86.4	115	144	173	202	230	259	288
	1.88/48	5.00/127	4.88/124	7.30	36.5	73	110	146	183	219	256	292	329	365
	2.38/60	6.00/152	5.88/149	11.0	56.5	113	169.5	226	282.5	339	395.5	452	508.5	565
8 / 200	1.88/48	5.00/127	4.88/124	7.30	36.5	73	110	146	182	219	256	292	329	365
	2.38/60	6.00/152	5.88/149	11.0	56.5	113	170	226	282	339	396	452	509	656
	2.50/64	8.00/203	7.88/200	19.0	95	190	285	380	475	570	665	760	855	950
10 / 250	2.38/60	6.00/152	5.88/149	11.0	56.5	113	170	226	283	339	396	452	509	565
	2.50/64	8.00/203	7.88/200	19.0	95	190	285	380	475	570	665	760	855	950
	3.00/76	10.0/254	9.88/251	29.0	144	288	432	576	720	864	1008	1152	1296	1440
12 / 300	2.50/64	8.00/203	7.88/200	19.0	95	190	285	380	475	570	665	760	855	950
	3.00/76	10.0/254	9.88/251	29.0	144	288	432	576	720	864	1008	1152	1296	1440
	3.50/89	12.0/305	11.88/302	44.0	218	436	654	872	1090	1308	1526	1744	1962	2180
16 / 400	3.00/76	10.0/254	9.88/251	29.0	144	288	432	576	720	864	1008	1152	1296	1440
	3.50/89	12.0/305	11.88/302	44.0	218	436	654	872	1090	1308	1526	1744	1962	2180
	3.50/89	14.6/371	14.12/359	61.0	304.5	609	913.5	1218	1532	1827	2132	2436	2741	3045

Note: Minimum, Intermediate, and Maximum CV's are shown for reference

GTB Cv TABLE - EQUAL PERCENTAGE

LINEAR

Valve Size in/DN	Stroke in/mm	Large Seat Dia. in/mm	Small Seat Dia. in/mm	Min Cv STD	RATED Cv @ PERCENT OF STROKE									
					10	20	30	40	50	60	70	80	90	100
1 / 25	0.49/12	0.88/22	0.75/19	0.10	0.17	0.23	0.46	0.7	0.92	1.33	1.8	2.61	3.89	5.8
	0.49/12	0.88/22	0.75/19	0.18	0.23	0.30	0.61	0.91	1.22	1.75	2.36	3.42	5.09	7.6
	0.69/17	1.12/28	1.00/25	0.36	0.54	0.72	1.45	2.17	2.9	4.16	5.61	8.14	12.1	18.1
1.5 / 40	0.69/17	1.12/28	1.00/25	0.36	0.54	0.72	1.45	2.17	2.9	4.16	5.61	8.14	12.1	18.1
	0.69/17	1.31/33	1.19/30	0.53	0.79	1.06	2.11	3.17	4.22	6.07	8.18	11.9	17.7	26.4
	0.94/23	1.62/41	1.50/38	0.83	1.22	1.62	3.24	4.86	6.48	9.32	12.6	18.2	27.1	40.5
2 / 50	0.69/17	1.31/33	1.19/30	0.53	0.79	1.06	2.11	3.17	4.22	6.07	8.18	11.9	17.7	26.4
	0.94/23	1.62/41	1.50/38	0.83	1.22	1.62	3.24	4.86	6.48	9.32	12.6	18.2	27.1	40.5
	1.06/27	2.00/51	1.88/48	1.20	1.8	2.4	4.8	7.2	9.6	13.8	18.6	27	40.2	60
3 / 80	1.06/27	2.00/51	1.88/48	1.20	1.8	2.4	4.8	7.2	9.6	13.8	18.6	27	40.2	60
	1.19/30	2.56/65	2.44/62	2.20	3.15	4.2	8.4	12.6	16.8	24.2	32.6	47.3	70.4	105
	1.38/35	3.12/79	3.00/76	3.30	4.8	6.4	12.8	19.2	25.6	36.8	49.6	72	107	160
4 / 100	1.19/30	2.56/65	2.44/62	2.20	3.15	4.2	8.4	12.6	16.8	24.2	32.6	47.3	70.4	105
	1.38/35	3.12/79	3.00/76	3.30	4.8	6.4	12.8	19.2	25.6	36.8	49.6	72	107	160
	1.75/44	4.00/102	3.88/99	4.50	6.93	9.24	18.5	27.7	37	53.1	71.6	104	155	231
6 / 150	1.75/44	4.00/102	3.88/99	4.50	6.93	9.24	18.5	27.7	37	53.1	71.6	104	155	231
	1.88/48	5.00/127	4.88/124	6.70	10.1	13.4	26.8	40.2	53.6	77.1	104	151	225	335
	2.38/60	6.00/152	5.88/149	10.7	16	21.3	42.6	64	85.3	123	165	240	357	533
8 / 200	1.88/48	5.00/127	4.88/124	6.70	10.1	13.4	26.8	40.2	53.6	77.1	104	151	225	335
	2.38/60	6.00/152	5.88/149	10.7	16	21.3	42.6	64	85.3	123	165	240	357	533
	2.50/64	8.00/203	7.88/200	17.0	26.1	34.9	69.8	105	140	201	270	392	584	872
10 / 250	2.38/60	6.00/152	5.88/149	10.7	16	21.3	42.6	64	85.3	123	165	240	357	533
	2.50/64	8.00/203	7.88/200	17.0	26.2	34.9	69.8	105	140	201	270	392	584	872
	3.00/76	10.0/254	9.88/251	26.0	39.3	52.4	105	157	210	301	406	590	878	1310
12 / 300	2.50/64	8.00/203	7.88/200	17.0	26.2	34.9	69.8	105	140	201	270	392	584	872
	3.00/76	10.0/254	9.88/251	26.0	39.3	52.4	105	157	210	301	406	590	878	1310
	3.50/89	12.0/305	11.88/302	40.0	59.4	79.2	158	238	317	455	614	891	1327	1980
16 / 400	3.00/76	10.0/254	9.88/251	26.0	39.3	52.4	105	157	210	301	406	590	878	1310
	3.50/89	12.0/305	11.88/302	40.0	59.4	79.2	158	238	317	455	614	891	1327	1980
	3.50/89	14.6/371	14.12/359	55.0	82.8	110.4	221	331	442	635	856	1242	1849	2760

GTB Cv TABLE - QUICK OPENING

Valve Size in/DN	Stroke in/mm	Large Seat Dia. in/mm	Small Seat Dia. in/mm	Min Cv STD	RATED Cv @ PERCENT OF STROKE									
					10	20	30	40	50	60	70	80	90	100
1/ 25	0.4/10	1.12/28	1.00/25	0.38	6.65	14.3	17.5	18.4	18.6	18.7	18.8	18.9	19	19
1.5 / 40	0.5/13	1.62/41	1.5/40	1.10	18.5	39.8	48.8	51.4	51.9	52.2	52.5	52.7	52.9	53
2 / 50	0.6/15	2.00/51	1.88/48	1.20	20.3	43.5	53.4	56.3	56.8	57.1	57.4	57.7	57.9	58
3 / 80	0.9/23	3.12/79	3.00/76	3.70	64.1	137	168	178	179	180	181	182	183	183
4 / 100	1.1/28	4.00/102	3.88/99	6.40	112	240	294	310	314	315	317	318	319	320
6 / 150	1.6/41	6.00/152	5.88/149	12.0	217	465	570	601	608	611	614	617	619	620
8 / 200	1.8/46	8.00/203	7.88/200	22.0	382	818	1003	1057	1068	1074	1079	1085	1087	1090
10 / 250	2.4/61	10.00/254	9.88/251	33.0	578	1238	1518	1601	1617	1625	1634	1642	1646	1650
12 / 300	2.5/61	12.00/305	11.88/302	50.0	872	1868	2291	2415	2440	2453	2465	2478	2464	2490
16 / 400	3.5/89	14.62/371	14.12/359	70.0	1218	2610	3202	3376	3410	3428	3445	3463	3471	3480

GTB Cv TABLE - EQUAL PERCENTAGE V-PORT

LINEAR

Valve Size in/DN	Stroke in/mm	Large Seat Dia. in/mm	Small Seat Dia. in/mm	Min Cv STD	RATED Cv @ PERCENT OF STROKE									
					10	20	30	40	50	60	70	80	90	100
1 / 25	0.49/12	0.88/22	0.75/19	0.10	0.2	0.3	0.52	0.78	1.04	1.5	2.02	2.93	4.36	6.5
	0.49/12	0.88/22	0.75/19	0.18	0.25	0.33	0.66	1	1.33	1.91	2.57	3.74	5.56	8.3
	0.69/18	1.12/28	1.00/25	0.36	0.54	0.72	1.45	2.17	2.9	4.16	5.61	8.15	12.1	18.1
1.5 / 40	0.69/18	1.12/28	1.00/25	0.36	0.54	0.72	1.5	2.17	2.9	4.16	5.61	8.15	12.1	18.1
	0.69/18	1.31/33	1.19/30	0.53	0.79	1.05	2.1	3.16	4.21	6.05	8.15	11.8	17.6	26.3
	0.94/24	1.62/41	1.50/38	0.83	1.25	1.66	3.3	5	6.66	9.57	12.9	18.7	27.9	41.6
2 / 50	0.69/18	1.31/33	1.19/30	0.53	0.79	1.05	2.1	3.16	4.21	6.05	8.15	11.8	17.6	26.3
	0.94/24	1.62/41	1.50/38	0.83	1.25	1.66	3.33	4.99	6.66	9.57	12.9	18.7	27.9	41.6
	1.06/27	2.00/51	1.88/48	1.20	1.77	2.36	4.72	7.08	9.44	13.6	18.3	26.6	39.5	59
3 / 80	1.06/27	2.00/51	1.88/48	1.20	1.77	2.36	4.72	7.08	9.44	13.6	18.3	26.6	39.5	59
	1.19/30	2.56/65	2.44/62	2.20	3.33	4.44	8.88	13.3	17.8	25.5	34.4	50	74.4	111
	1.38/35	3.12/79	3.00/76	3.30	4.95	6.6	13.2	19.8	26.4	38	51.2	74.3	111	165
4 / 100	1.19/30	2.56/65	2.44/62	2.20	3.33	4.44	8.88	13.3	17.8	25.5	34.4	50	74.4	111
	1.38/35	3.12/79	3.00/76	3.30	4.95	6.6	13.2	19.8	26.4	38	51.2	74.3	111	165
	1.75/44	4.00/102	3.88/99	4.50	6.72	8.96	17.9	26.9	35.8	51.5	69.4	101	150	224
6 / 150	1.75/44	4.00/102	3.88/99	4.50	6.72	8.96	17.9	26.9	35.8	51.5	69.4	101	150	224
	1.88/48	5.00/127	4.88/124	6.70	10.1	13.4	26.8	40.2	53.6	77.1	104	151	225	335
	2.38/60	6.00/152	5.88/149	10.7	16	21.3	42.6	64	85.3	123	165	240	357	533
8 / 200	1.88/48	5.00/127	4.88/124	6.70	10.1	13.4	26.8	40.2	53.6	77.1	104	151	225	335
	2.38/60	6.00/152	5.88/149	10.7	16	21.3	42.6	64	85.3	123	165	240	357	533
	2.50/64	8.00/203	7.88/200	17	26.2	34.9	69.8	105	140	201	270	392	584	872
10 / 250	2.38/60	6.00/152	5.88/149	10.7	16	21.3	42.6	64	85.3	123	165	240	357	533
	2.50/64	8.00/203	7.88/200	17	26.2	34.9	69.8	105	140	201	270	392	584	872
	3.00/76	10.0/254	9.88/251	26	39.3	52.4	105	157	210	301	406	590	878	1310
12 / 300	2.50/64	8.00/203	7.88/200	17	26.2	34.9	69.8	105	140	201	270	392	584	872
	3.00/76	10.0/254	9.88/251	26	39.3	52.4	105	157	210	301	406	590	878	1310
	3.50/89	12.0/304	11.88/302	40	59.4	79.2	158	238	317	455	614	891	1327	1980
16 / 400	3.00/76	10.0/254	9.88/251	26	39.3	52.4	105	157	210	301	406	590	878	1310
	3.50/89	12.0/304	11.88/302	40	59.4	79.2	158	238	317	455	614	891	1327	1980
	3.50/89	14.6/371	14.12/359	55	82.8	110	221	331	442	635	856	1242	1849	2760

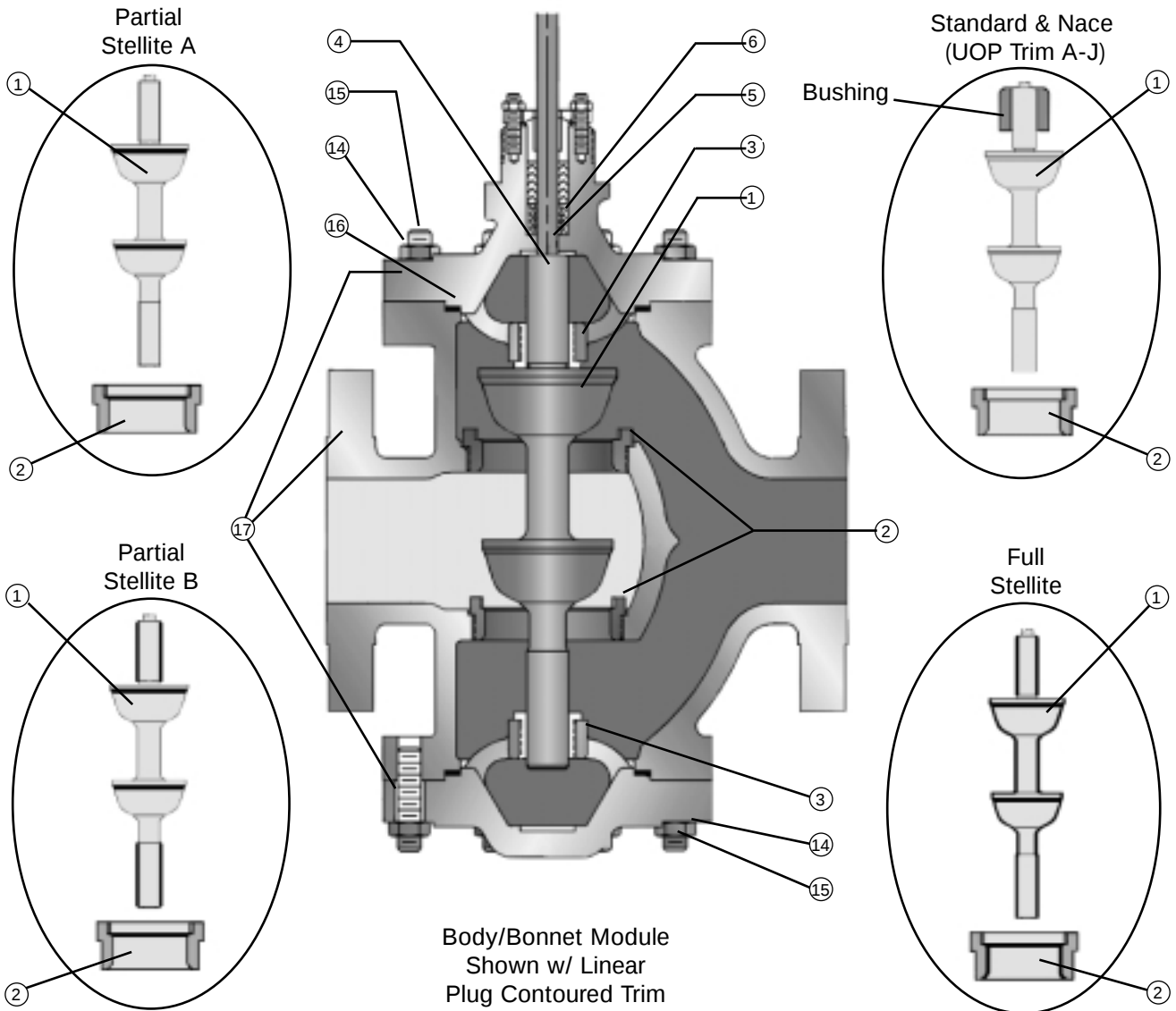
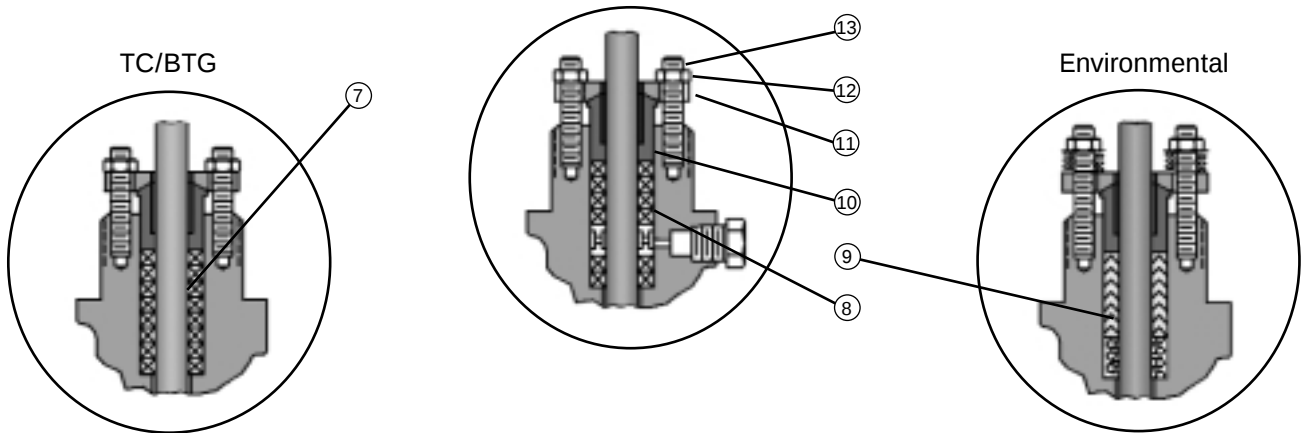
Note: Minimum, Intermediate, and Maximum CVs are shown for reference

GTB FLOW COEFFICIENTS

Flow Coefficients for GTB Trim Configurations	Direct		Reverse	
	FL	X _T	FL	X _T
Dbl. Seated Linear Contoured	0.9	0.78	0.91	0.79
Dbl. Seated Equal % Contoured	0.95	0.78	0.96	0.79
Dbl. Seated Equal % V-Port Contoured	0.95	0.78	0.96	0.79
Dbl. Seated Quick Opening Contoured	0.88	0.74	0.89	0.75

GTB PARTS

LBG w/ Lubricator



GTB MATERIAL/TEMPERATURE SPECIFICATIONS

Balanced, Double Ported Trim Modules

LINEAR

Operational Description	Material Specification	Temp. Range
Trim Modules (Standard & Nace)		
1 Plug	316 Stainless Steel ASTM A351 Grade CF8M	-20—1050°F (29°C—565°C)
2 Seat Rings	316 Stainless Steel ASTM A351 Grade CF8M	-20—1050°F (29°C—565°C)
3 Bushing ¹	17-4PH® SST ASTM A654 Type 630 ²	-20—1050°F (-29°C—565°C)
4 Pin ¹	302 Stainless Steel ²	-20—1050°F (29°C—565°C)
5 Stem ¹	316 Stainless Steel ²	-20—1050°F (29°C—565°C)
Trim Module (Partial Stellite® A & B) (Full Stellite®)		
1 Plug	316 Stainless Steel w/ Stellite®	-20—1050°F (29°C—565°C)
2 Seat Rings	316 Stainless Steel w/ Stellite®	-20—1050°F (29°C—565°C)
Trim Module (UOP Trim A)		
3 Bushings	440C Stainless Steel	-20—1050°F (29°C—565°C)
Trim Module (UOP Trim B)		
1 Plug	17-4PH® Stainless Steel	-20—1050°F (29°C—565°C)
2 Seat Ring	416 Stainless Steel	-20—1050°F (29°C—565°C)
3 Bushings	440C Stainless Steel	-20—1050°F (29°C—565°C)
Trim Module (UOP Trim C)		
1 Plug	316 Stainless Steel w/ Stellite® on guides	-20—1050°F (29°C—565°C)
Trim Module (UOP Trim D & G)		
1 Plug	316 Stainless Steel	-20—1050°F (29°C—565°C)
2 Seat Rings	316 Stainless Steel	-20—1050°F (29°C—565°C)
3 Bushings	Solid Stellite®	-20—1050°F (29°C—565°C)
Trim Module (UOP Trim H & J)		
1 Plug	Monel®	-20—800°F (29°C—426°C)
2 Seat Ring	Monel®	-20—800°F (29°C—426°C)
3 Bushings	Monel®	-20—800°F (29°C—426°C)
4 Pin	Monel®	-20—800°F (29°C—426°C)
5 Stem	Monel®	-20—800°F (29°C—426°C)
Packing Module (Standard Materials & Nace)		
6 Spring (V-Ring Packing)	316 Stainless Steel	-20—1050°F (-29°C—565°C)
7 Packing Set	TC/BTG	-40—450°F (-40°C—232°C)
7 Packing Set	TC/BTG w/ Extension Bonnet	-40—800°F (-40°C—426°C)
8 Packing Set	LBG	-20—1050°F (29°C—565°C)
9 Packing Set	Environmental	-20—500°F (29°C—260°C)
9 Packing Set	Environmental w/ Extension Bonnet	-20—800°F (29°C—426°C)
10 Packing Follower	316 Stainless Steel	-20—1050°F (29°C—565°C)
11 Packing Flange	Cadmium Plated Steel	-20—1050°F (29°C—565°C)
12 Hex Nut	316 Stainless Steel	-20—1050°F (29°C—565°C)
13 Studs	316 Stainless Steel	-20—1050°F (29°C—565°C)
Body/Bonnet Materials (Standard & Nace)		
14 Nut	ASTM A-194 Gr.2H	-20—800°F (-29°C—427°C)
14 Nut	ASTM A-194 Gr.7	-20—1050°F (-29°C—565°C)
15 Stud	ASTM A-193 Gr.B7	-20—800°F (-29°C—427°C)
15 Stud	ASTM A-193 B 16	-20—1050°F (-29°C—565°C)
16 Gasket	Grafoil®	-120—1000°F (-195°C—538°C)
17 Body/Bonnet/Cover	Iron ASTM A-126 Class B	-20—450°F (-29°C—232°C)
17 Body/Bonnet/Cover	*ASTM A-216 Steel Gr.WCB	-20—800°F (-29°C—427°C)
17 Body/Bonnet/Cover	ASTM A-217 Gr.WC9	-20—1050°F (-29°C—565°C)
17 Body/Bonnet/Cover	*ASTM A-351 Gr.CF8M	-20—1050°F (-29°C—565°C)

NOTE:

STELLITE® is a trademark of Stoodly Deloro Stellite, Inc.

MONEL® and INCONEL® are trademarks of The Inco Family of Co's.

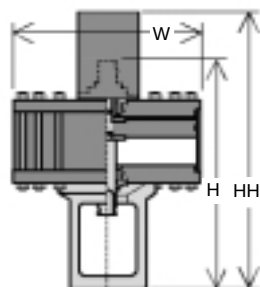
18-8® and 17-4-PH® are trademarks of Armco Steel, Inc.

Grafoil® is a trademark of Union Carbide.

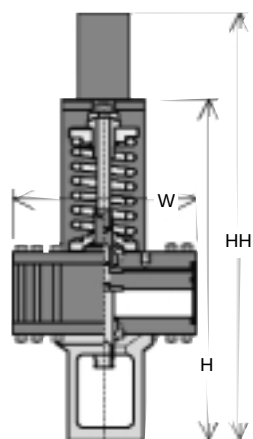
1. Included in other trim modules unless otherwise listed.

2. Nace Rc < 22 Hardness

GTB ACTUATOR DIMENSIONS



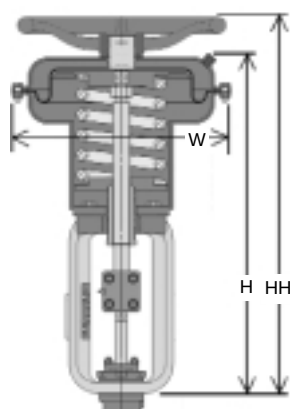
Double Acting



Spring Return

DOUBLE ACTING & SPRING RETURN ACTUATORS DIMENSIONS inches (mm), WEIGHTS pounds (kg) AND VOLUME cu.ft. (m³)

MODEL	DOUBLE ACTING		SPRING RETURN		W ²	NOM. DIA.	NOM. AREA in ² (cm ²)	WGT. ¹		SHPG. VOL. ¹	
	H	HH	H	HH				DOUBLE ACTING	SPRING RETURN	DOUBLE ACTING	SPRING RETURN
P28	16 $\frac{3}{4}$ (343)	25 $\frac{1}{2}$ $\frac{1}{6}$ (659)	27 $\frac{1}{4}$ (692)	36 $\frac{7}{16}$ (926)	7 (178)	6 (152)	28 (181)	82 (37)	122 (55)	2.1 (0.06)	2.8 (0.08)
P80	17 $\frac{1}{2}$ (457)	26 $\frac{1}{2}$ $\frac{1}{6}$ (678)	28 (787)	37 $\frac{7}{16}$ (945)	10 $\frac{1}{2}$ (267)	10 (254)	78 (503)	132 (60)	172 (78)	3.7 (0.11)	5 (0.14)
P130	28 (711)	39 (991)	48 (1219)	59 (1499)	14 (356)	13 (330)	130 (839)	232 (105)	352 (160)	8.1 (0.23)	11.8 (0.33)
P200	24 $\frac{3}{4}$ (610)	35 $\frac{3}{4}$ (908)	42 $\frac{3}{4}$ (1003)	53 $\frac{3}{4}$ (1349)	16 $\frac{1}{2}$ (419)	16 (406)	201 (1297)	295 (134)	425 (188)	9.7 (0.27)	14 (0.39)
P300	24 $\frac{3}{4}$ (610)	35 $\frac{3}{4}$ (908)	42 $\frac{3}{4}$ (1003)	53 $\frac{3}{4}$ (1349)	20 $\frac{1}{2}$ (521)	20 (508)	314 (2026)	415 (188)	535 (243)	13.8 (0.39)	20 (0.56)



Direct Acting

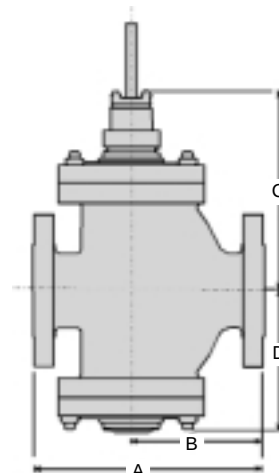
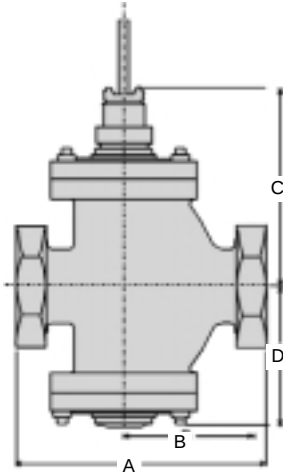
DIRECT ACTING ACTUATOR DIMENSIONS inches (mm), WEIGHTS pounds (kg) AND VOLUME cu.ft. (m³)

MODEL	DIRECT ACTING		W	NOM. DIA.	NOM. AREA in ² (cm ²)	WGT. ³	SHPG. VOL.
	H	HH					
DL-40	19.5 (493)	22.7 (577)	10.1 (257)	12.1 (310)	40 (258)	37 (17)	3.1 (0.1)
DL-85	21 (530)	22.8 (579)	14.8 (375)	16.8 (426)	85 (548)	84 (38)	5.5 (0.2)

1. Values are approximate; includes manual override.
2. Corner to corner dimension not shown.
3. Values are approximate; includes manual override.

GTB Body Dimensions

LINEAR



BODY DIMENSIONS inches (mm), **WEIGHTS** pounds (kg) **AND VOLUME** cu.ft. (m³)

SIZE	A				B			C ¹	D	WGT. ²			VOL. ²		
	NPT	FLG 150	FLG 300	FLG 600	NPT, 150 FLG	FLG 300	FLG 600			NPT, 150 FLG	FLG 300	FLG 600	NPT, 150 FLG	FLG 300	FLG 600
1 (25)	6.19 (25)	7.25 (184)	7.75 (197)	8.25 (210)	3.75 (95)	4.00 (102)	4.25 (108)	5.44 (138)	4.47 (114)	55 (25)	60 (27)	65 (29)	1 (.03)	1 (.03)	1 (.03)
1 1/2 (40)	7.75 (197)	8.75 (222)	9.25 (235)	9.88 (251)	4.44 (113)	4.69 (119)	5.00 (127)	6.25 (159)	5.22 (133)	65 (29)	70 (32)	75 (34)	2 (.04)	2 (.04)	2 (.05)
2 (50)	9.19 (51)	10.00 (254)	10.50 (267)	11.25 (286)	5.44 (138)	5.69 (145)	6.06 (154)	6.88 (175)	5.78 (147)	85 (39)	92 (42)	99 (45)	2 (.05)	2 (.06)	2 (.06)
3 (80)	—	11.75 (298)	12.50 (318)	13.25 (337)	6.81 (173)	7.19 (183)	7.56 (192)	8.72 (221)	7.66 (195)	145 (66)	155 (70)	165 (75)	3 (.08)	3 (.09)	4 (0.1)
4 (100)	—	13.88 (353)	14.50 (368)	15.50 (394)	8.12 (206)	8.44 (214)	8.94 (227)	9.88 (251)	8.88 (226)	175 (79)	185 (84)	195 (88)	4 (0.1)	5 (0.1)	5 (0.2)
6 (150)	—	17.75 (451)	18.62 (473)	20.00 (508)	10.44 (265)	10.88 (276)	11.56 (294)	14.31 (363)	12.28 (312)	415 (188)	430 (195)	445 (202)	8 (0.2)	9 (0.3)	10 (0.3)
8 (200)	—	21.38 (543)	22.38 (568)	24.00 (610)	12.69 (322)	13.19 (335)	14.00 (356)	17.19 (437)	13.91 (353)	580 (263)	600 (272)	620 (281)	13 (0.4)	14 (0.4)	16 (0.5)
10 (250)	—	25.50 (648)	26.88 (683)	28.62 (727)	15.50 (394)	16.19 (411)	17.06 (433)	19.19 (487)	16.03 (407)	960 (435)	990 (449)	1020 (463)	20 (0.6)	22 (0.6)	24 (0.7)
12 (300)	—	29.75 (756)	31.25 (817)	33.00 (838)	18.00 (457)	18.75 (476)	19.62 (498)	21.88 (556)	18.88 (480)	1535 (696)	1575 (714)	1615 (733)	30 (0.8)	32 (0.9)	36 (1)
16 (400)	—	37.38 (949)	39.00 (991)	41.00 (1041)	23.38 (574)	24.19 (614)	25.19 (640)	26.69 (678)	23.94 (608)	2150 (975)	2200 (898)	2250 (1021)	51 (2)	59 (1.7)	64 (2)

NOTE: Dimensions are subject to change without notice. Request certified drawings for piping layout and construction purposes.

1. Consult factory for C dimension when an extension bonnet is to be used.
2. Approximate weight and volume

GTB ORDERING CODE

Class		Valve Size	End Connection/ Bonnet Style	Body Mat'l	Packing	Gasket	Flow Char.	Trim Mat'l	Trim Mat'l Available 1 or 2 Size Reduced	Actuator Size/ Action	Actuator Yoke	Actuator Spring	# of Manual Override	Accessories	European Approval		
K	B	H	A	4	L	3	E	F	M	5	F	B	1	M	2	C	F
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

Class - Position 1 KB
Valve Size - Position 3 C = 1" E = 1.5" F = 2" H = 3" J = 4" K = 6" L = 8" M = 10" N = 12" X = Other
End Connection/Bonnet Style - Position 4 A = Flg'd 125/150 Std. Bonnet B = Flg'd 250/300 Std. Bonnet C = NPT Std. Bonnet D = Flg'd 125/150 Ext. Bonnet E = Flg'd 250/300 Ext. Bonnet F = NPT Ext. Bonnet G = Flanged 600 Std. Bonnet H = Flanged 600 Ext. Bonnet X = Other
Body Material - Position 5 1 = Cast Iron 2 = Carbon Steel 3 = Stainless Steel 4 = Chrome Moly (C-5)
Packing Material - Position 6 T = Teflon® B = Braided Teflon® Graphite (BTG) L = Laminated Graphite (LG) X = Other
Gasket Material - Position 7 1 = Non-Asbestos 2 = PTFE 3 = Grafoil 4 = Metal X = Other
Flow Characteristic - Position 8 L = Linear E = Equal Percent Q = Quick Opening

Trim Material - Position 9 N = No Stellite on Seat & Plug A = Partial Stellite Overlay on seating surface of Plug & Seat B = Stellite Overlay on guide bushings and seating surfaces of plug, seat ring & upper and lower plug post F = Stellite Overlay on full plug contour, full seat ring bore, post and guide bushing X = Other
Trim Material - Position 10 (Available 1 or 2 Size Reduced) B = 3/4" C = 1" D = 1 1/4" E = 1 1/2" F = 2" G = 2 1/2" H = 3" J = 4" Y = 5" D = 6" L = 8" M = 10" N = 12" X = Other
Actuator Size/Action - Position 11 4 = 40 Direct sq. in. 5 = 40 Reverse sq. in. 8 = 85 Direct sq. in. 9 = 85 Reverse sq. in. N = No actuator X = Other
Actuator Yoke - Position 12 C = 2.31" Dia hub (40 act) E = 2.31" Dia hub (85, 145) F = 3" Dia hub (145, 250) H = 3" Dia bolted hub (145, 250) N = No actuator

Actuator Spring - Position 13		
CODE	SPRING RATE	MAX COMP
(Used with 40 Actuator)		
B1	= 435	1.95
B2	= 590	4.52
B3	= 875	1.95
B4	= 1180	1.52
B5	= 1850	0.92
B6	= 300	2.75
B7*	= 533	4.25
(Used with 85 Actuator)		
C1	= 900	2.04
C2	= 1250	1.52
C3	= 1850	2.04
C4	= 2500	1.52
C5	= 3867	0.92
C6	= 600	2.75
C7	= 485	8.25
NN	= No actuator	
XX	= Other	
Manual Override - Position 14		
N = None		
M = Manual Override		
# of Accessories - Position 16		
1 = 1 accessory		
2 = 2 accessories		
3 = 3 accessories		
4 = 4 accessories		
5 = 5 accessories		
6 = 6 accessories		
7 = 7 accessories		
8 = 8 accessories		
9 = 9 accessories		
0 = No accessories		
European Approval - Position 17 & 18		
CF		