

Mark 701/702 Series

High-Flow and Super High-Flow Control Valves

The Mark 701/702 high-flow and super high-flow sliding gate control valves provide:

- Shorter Stroke than a globe or plug-style valve
 - Faster response
 - Longer packing and seat life
 - Stem packing is four times deeper than stem travel – for greater protection against leakage
 - Smaller and lighter weight than globe-style valves
- Straight through flow
 - Less turbulence, erosion and noise
 - Fewer spare parts
 - Self-cleaning seats
 - No gaskets or o-rings
- Ease of maintenance
 - Interchangeable seats and Cv's
 - Fewer spare parts
 - Self-cleaning seats
 - No gaskets or o-rings



SPECIFICATIONS

Sizes: 1/2" through 2" (DN15 through DN50)

End Connections

- Threaded (NPT, BSPT, BSPP)
- ANSI Flanges (150#, 300#)
- DIN Flanges (PN10/16; PN25/40)

Body Materials

- Ductile Iron
- Bronze
- Carbon Steel (WCB)
- Stainless Steel (CF8M)

Trim Materials

- 303SS for CI, DI, BRZ & CS body valves
- 316SS for SS body valves

Seat Materials

- Jorcote on SST – standard

Yoke: Cast Iron

Actuator: Steel

Diaphragm: Buna-N (standard, to 200°/93°C)

Stem Packing: Spring-loaded Teflon (to 450°F/232°C); Graphite (to 1200°/649°C)

Service: steam, water, oil, gas, air and chemicals

Shutoff: ANSI Class IV

Ranges: 3-15, 3-9, 9-15, 6-30 psi (0,21-1,03; 0,21-0,62; 0,62-1,03; 0,41-2,1 bar)

Action

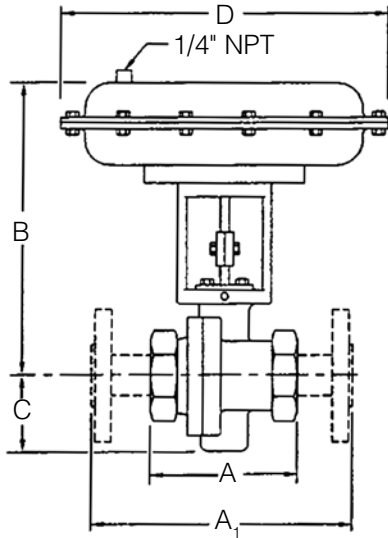
- Direct (air signal closes valve)
- Reverse (air signal opens valve)

Positioner: Side or top mounted positioners are available to ensure that the valve stem position is always directly proportional to the control system output signal. See the Positioner section for more details.

Body Rating

- Ductile Iron up to 988 psi (68,1 bar) @ 100°F (38°C) and 715 psi (49,3 bar) @ 650°F (343°C)
- Carbon Steel and Stainless Steel up to 1440 psi (99 bar) @ 100°F (38°C) and 890 psi (61 bar) @ 650°F (343°C)
- Bronze up to 500 psi (35 bar) @ 100°F (38°C) and 325 psi (22 bar) @ 500°F (260°C)
- Temperature limit of -20°F (-29°C) on all materials; for other temperatures, consult factory

DIMENSIONS



• Mark 701/702: Flanged Ends

Size	ANSI Flange	Dimensions (inches)				Weight (lbs)
		A ₁	B	C	D	
1/2"	150#	7.25	10.38	2.18	12.5	37
	300#	7.50	10.38	2.18	12.5	39
3/4"	150#	7.25	10.38	2.18	12.5	41
	300#	7.62	10.38	2.18	12.5	45
1"	150#	7.25	10.62	2.62	12.5	41
	300#	7.75	10.62	2.62	12.5	45
1-1/4"	150#	7.87	10.87	2.62	12.5	41
	300#	8.37	10.87	2.62	12.5	45
1-1/2"	150#	8.75	10.87	2.75	12.5	46
	300#	9.25	10.87	2.75	12.5	55
2"	150#	10.00	11.00	3.00	12.5	50
	300#	10.50	11.00	3.00	12.5	57

• Mark 701/702: Flanged Ends (metric)

Size	ANSI PN	Dimensions (mm)				Weight (kgs)
		A ₁	B	C	D	
DN15	10/16	130	263	55	318	16,8
	25/40	130	263	55	318	17,7
DN20	10/16	150	263	55	318	18,6
	25/40	150	263	55	318	20,4
DN25	10/16	160	270	67	318	18,6
	25/40	160	270	67	318	20,4
DN32	10/16	180	276	67	318	18,6
	25/40	180	276	67	318	20,4
DN40	10/16	200	276	70	318	20,9
	25/40	200	276	70	318	24,9
DN50	10/16	230	284	76	318	22,7
	25/40	230	284	76	318	25,9

Cv VALUES AND MAXIMUM ALLOWABLE DIFFERENTIAL PRESSURE RATINGS

Cv	Valve Size	Seat Material	Max ΔP, PSI * (BAR)	
			55M Actuator	35M w/Positioner
6.4 (5,5)	1/2" & 3/4" (DN15 & 20)	SST	125 (8,6)	150 (10,3)
		Jorcote	200 (13,8)	250 (17,2)
7.0 (6,0)	1/2" (DN15)	SST	125 (8,6)	150 (10,3)
		Jorcote	200 (13,8)	250 (17,2)
9.5 (8,2)	3/4" (DN20)	SST	125 (8,6)	150 (10,3)
		Jorcote	200 (13,8)	250 (17,2)
15 (12,9)	1" & 1-1/4" (DN25 & 32)	SST	100 (6,9)	100 (6,9)
		Jorcote	150 (10,3)	200 (13,8)
18 (15,5)	1" (DN25)	SST	100 (6,9)	100 (6,9)
		Jorcote	150 (10,3)	200 (13,8)
25 (22)	1-1/4" DN32)	SST	100 (6,9)	100 (6,9)
		Jorcote	150 (10,3)	200 (13,8)
30 (26)	1-1/2" & 2" (DN40 & 50)	SST	100 (6,9)	100 (6,9)
		Jorcote	150 (10,3)	200 (13,8)
35 (30)	1-1/2" & 2" (DN40 & 50)	SST	100 (6,9)	100 (6,9)
		Jorcote	150 (10,3)	200 (13,8)
45 (39)	1-1/2" (DN40)	SST	100 (6,9)	100 (6,9)
		Jorcote	150 (10,3)	200 (13,8)
50 (43)	2" (DN50)	SST	100 (6,9)	100 (6,9)
		Jorcote	150 (10,3)	200 (13,8)
65 (56)	1-1/2" (DN40)	SST	100 (6,9)	125 (8,6)
		Jorcote	150 (10,3)	150 (10,3)
70 (61)	2" DN50)	SST	100 (6,9)	125 (8,6)
		Jorcote	150 (10,3)	150 (10,3)

• Mark 701/702: Threaded Ends

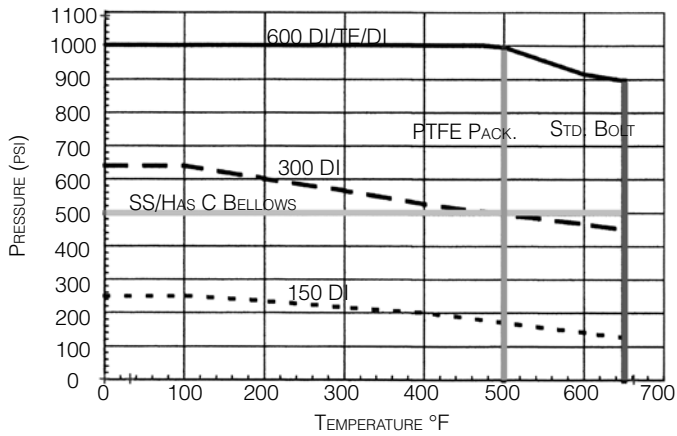
Size	Material	Dimensions (inches)				Weight (lbs)
		A	B	C	D	
1/2"	DI/BRZ	3.62	10.38	2.18	12.50	35
	CS/SS	3.65	10.38	2.18	12.50	35
3/4"	DI/BRZ	3.62	10.38	2.18	12.50	35
	CS/SS	3.65	10.38	2.18	12.50	35
1"	DI/BRZ	4.12	10.62	2.62	12.50	37
	CS/SS	4.12	10.62	2.62	12.50	39
1-1/2"	DI/BRZ	4.50	10.87	2.62	12.50	40
	CS/SS	5.00	10.87	3.00	12.50	43
2"	DI/BRZ	4.50	11.00	2.62	12.50	40
	CS/SS	5.50	11.00	3.00	12.50	43

• Mark 701/702: Threaded Ends (metric)

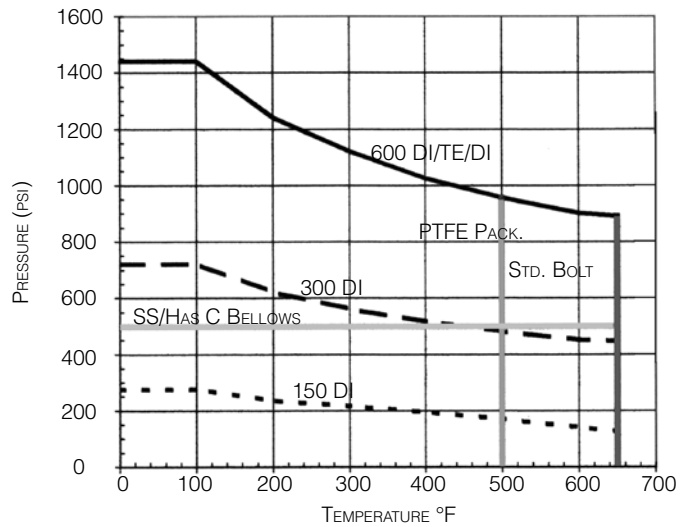
Size	Material	Dimensions (mm)				Weight (kgs)
		A	B	C	D	
DN15	DI/BRZ	92	264	55	318	16
	CS/SS	93	264	55	318	16
DN20	DI/BRZ	92	264	55	318	16
	CS/SS	93	264	55	318	16
DN25	DI/BRZ	105	270	67	318	17
	CS/SS	105	270	67	318	18
DN40	DI/BRZ	114	284	67	318	18
	CS/SS	140	284	76	318	20
DN50	DI/BRZ	114	284	67	318	18
	CS/SS	140	284	76	318	20

PRESSURE-TEMPERATURE CHARTS – MK701/702

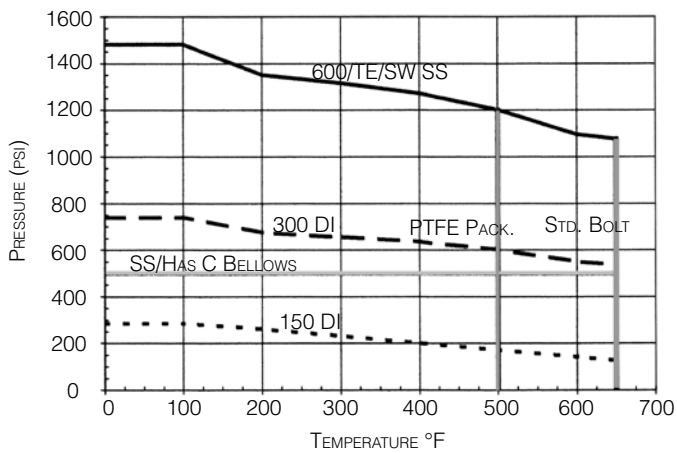
- Ductile Iron



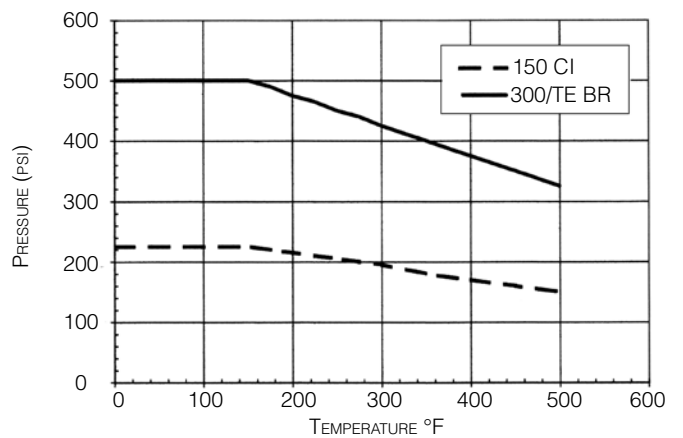
- Stainless Steel



- Carbon Steel



- Bronze



MARK 701/702 HIGH FLOW & SUPER HIGH FLOW SLIDING GATE CONTROL VALVES

ORDERING SCHEMATIC

Model	Size	Body Mat'l	/	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

	Model
701	High Flow
701SP	High Flow with Side Positioner
701TP	High Flow with Top Positioner
702	Super High Flow
702SP	Super High Flow with Side Positioner
702TP	Super High Flow with Top Positioner

3 & 4	Trim
T3	303SS/TFE Pkg
T6	316SS/TFE Pkg

	Size
050	1/2" (DN15)
075	3/4" (DN20)
100	1" (DN25)
125	1-1/4" (DN32)
150	1-1/2" (DN40)
200	2" (DN50)

5	Seat Material
A	303SST
B	316SST
Q	303SST/Teflon Coated
R	316SST/Teflon Coated
V	303SS/Jorcote
W	316SS/Jorcote

	Body Material
DI	Ductile Iron
BR	Bronze
CS	Carbon Steel (WCB)
S6	Stainless Steel (CF8M)

6	Cv		
7	6.4 (5,5)	A	25 (22)
L	6.4 (5,5)	B	30 (26)
M	9.0 (7,8)	V	35 (31)
8	9.5 (8,2)	W	45 (39)
9	15 (13)	C	50 (43)
R	18 (15,5)	Y	65 (56)
T	24 (21)	E	70 (60)

1 & 2	End Connections
PT	NPT
BT	BSPT
I5	150# IFE DI above 2" or CS or SST valves
F5	150# FE DI below 2-1/2" or BR
I7	PN10 IFE DI above 2" or CS or SST valves
F7	PN10 FE DI below 2-1/2" or BR
I6	PN16 IFE DI above 2" or CS or SST valves
F6	PN16 FE DI below 2-1/2" or BR
BP	BSPP
SW	FSW
I3	300# IFE DI above 2" or CS or SST valves
F3	300# FE DI below 2-1/2" or BR
I8	PN25 IFE DI above 2" or CS or SST valves
F8	PN25 FE DI below 2-1/2" or SST valves
I4	PN40 IFE DI above 2" or CS or SST valves
F4	PN40 FE DI below 2-1/2" or BR

7, 8, 9, 10, 11, 12	Range & Actuator	
	Range	Actuator
A3B3A3	3-15 DIR	35M
B3B3A3	3-15 REV	
G3B3A3	6-30 DIR	
H3B3A3	6-30 REV	
A5B5A5	3-15 DIR	55M
B5B5A5	3-15 REV	
G5B5A5	6-30 DIR	
H5B5A5	6-30 REV	
A8B8A8	3-15 DIR	85M
B8B8A8	3-15 REV	
G8B8A8	6-30 DIR	
H8B8A8	6-30 REV	

ORDERING SCHEMATIC, CONT.

13 & 14	Accessories
00	None
AR	Air Regulator
H3	Handwheel 35M Actuator
H5	Handwheel 55M Actuator
H8	Handwheel 85M Actuator
S6	316SS Bolting

15	Action
D	Air-to-Close
R	Alr-to-Open

16	I/P
0	None
3	I/P 35M Actuator
5	I/P 55M Actuator
8	I/P 85M Actuator

17	SMP
0	None
A	SMP DIR/REV 3-15
B	SMP DIR/REV 3-9
C	SMP DIR/REV 9-15
D	SMP/IP DIR/REV 4-20
E	SMP/IP DIR/REV 4-12
F	SMP/IP DIR/REV 12-20
G	MK16IQ-S DIR/REV 4-20 (Hart & FM-App)
H	MK16IQ-B DIR/REV 4-20 (with gauges)
J	MK16IQ-FF DIR/REV 4-20 (Fieldbus w/ gauges)
Z	Non-Standard



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