



CV4700F-XXX-CS Series Full Port Valve

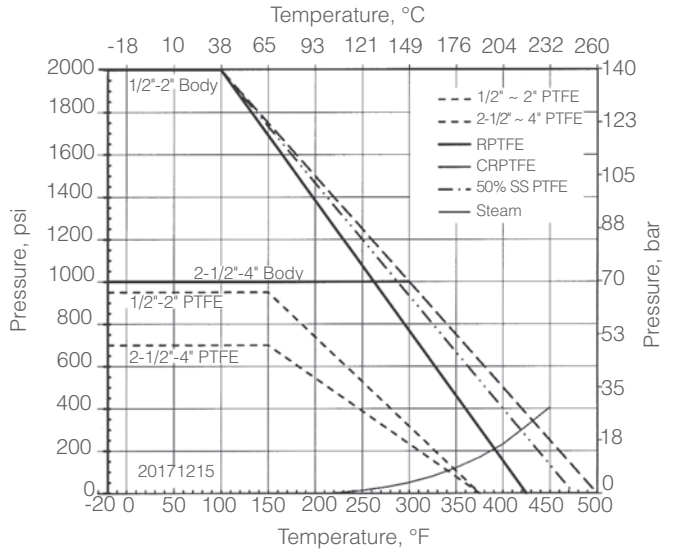
CV4700F-XXX-S6 Full Port Valve

Quick Spec	
Product Scope	
Size Range	1/2" – 2", Full Port
Body Type	3-pc, non swing-out w/FNPT ends (weld ends optional)
Standard Characterized Balls	30° or 60° V-port
Pressure Rating	1/2" to 2": 2000 psi WOG (138 bar)
Temperature Range / WSP	-20°F thru +450°F / 150 psi steam -29°C thru +232°C / 10,3 bar steam
Body	Stainless or Carbon Steel Body
Ball & Stem	Stainless Steel, Anti-Static Design
Ball Seats	RPTFE
Stem Packing & Seals	Graphoil packing, with Viton stem o-ring
Operator/Mounting Pad	Manual Locking Lever / ISO 5211
Design Standards	
Design	ASME B16.34, Class 800
Thread Design	ASME B1.20.1
Testing Standards	
Pressure Testing	API 598
Approvals	
CRN0C5539.5	
API 607, 5th Ed.	

Features

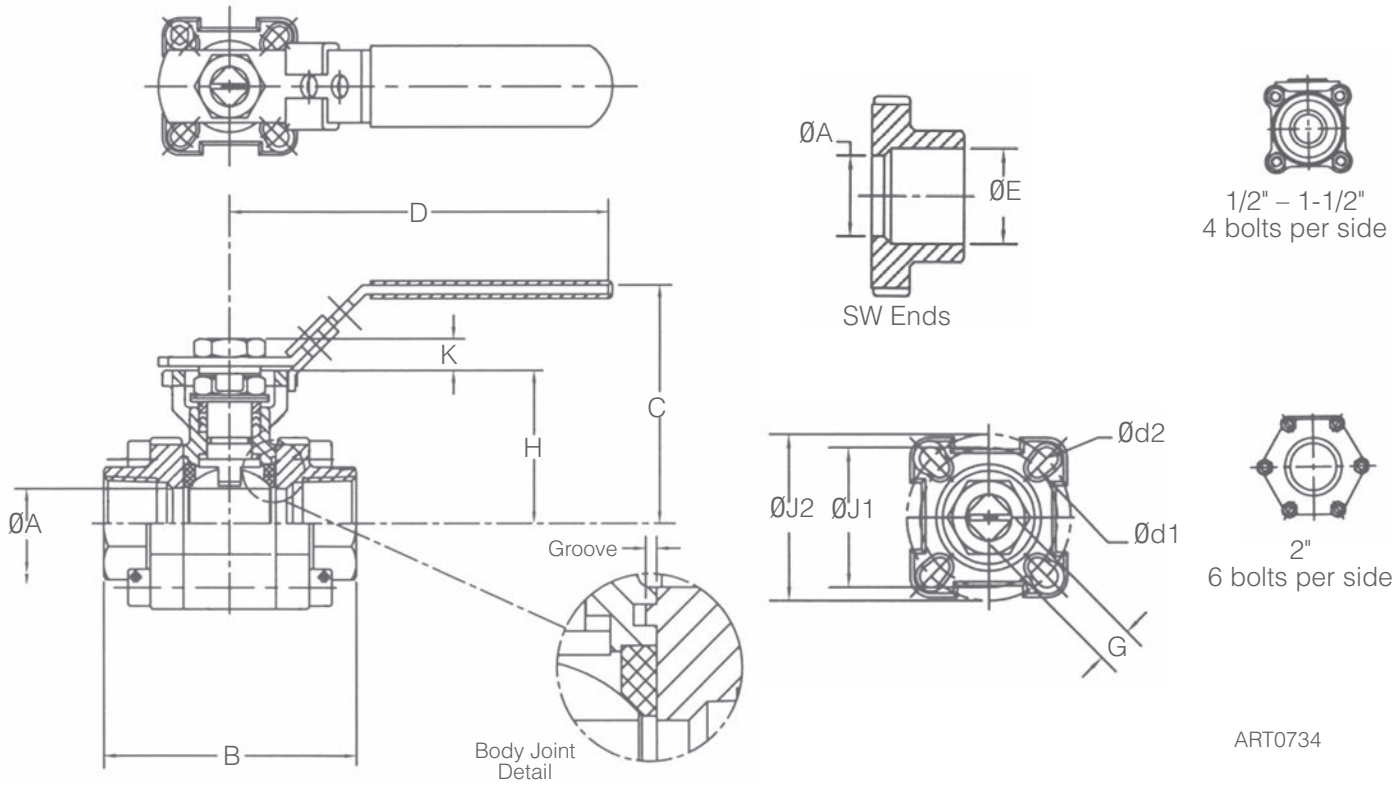
- Characterized control valve with v-port ball
- Investment cast body construction
- ISO 5211 actuator mounting pad
- Blow-out proof stem
- Reinforced PTFE seats
- Graphoil packing
- API 598 inspection and testing
- API 607 5th Edition fire tested
- Locking lever operator

Series4700 Pressure-Temperature Ratings



Maximum flowing differential pressure 500 psi

Materials of Construction		
Part	Carbon Steel	Stainless Steel
Body	WCB	CF8M
End Cap	WCB	CF8M
Seat	RPTFE	
Ball	CF8M/316	
Stem	AISI 316	
Seal, Body	Graphite	
Thrust Washer	RPTFE	
Packing	Grafoil	
Belleville Spring Washer	AISI 301	
Gland Ring	AISI 304	
Handle, Locking		
Nut, Stem		
Stop Screw		
Locking Tab		
Cover, Handle	Vinyl	
Bolt, Body	A2-70	8.8
O-Ring Stem	Viton	
Anti-static Ball	AISI 316	
Anti-static Spring		
Name Plate	SS	



Valve Size	Size Range 1/2" – 2"														
Inches	ØA	B	C	D	ØE	G Sq.	H	K	ISO Pattern	ØJ1 (BC)	ØJ2 (BC)	Ød1	Ød2	ISO Pattern	Weight, lbs
1/2"	0.63	2.95	2.8	4.4	0.86	0.354	1.67	0.32	F03	1.42	1.65	0.24	0.24	F04	1.9
3/4"	0.79	3.15	2.9	4.4	1.07	0.354	1.78	0.32	F03	1.42	1.65	0.24	0.24	F04	2.3
1"	0.96	3.54	3.3	5.3	1.34	0.433	2.13	0.40	F04	1.65	1.97	0.24	0.28	F05	3.8
1-1/4"	1.26	4.33	3.5	5.3	1.68	0.433	2.33	0.40	F04	1.65	1.97	0.24	0.28	F05	5.7
1-1/2"	1.50	4.72	4.3	6.5	1.92	0.551	2.89	0.58	F05	1.97	2.76	0.28	0.35	F07	8.2
2"	1.97	5.51	4.7	6.5	2.41	0.551	3.26	0.58	F05	1.97	2.76	0.28	0.35	F07	14.6

Valve Size	Size Range DN15 – DN50														
NPS	ØA	B	C	D	ØE	G Sq.	H	K	ISO Pattern	ØJ1 (BC)	ØJ2 (BC)	Ød1	Ød2	ISO Pattern	Weight, kgs
DN15	16,0	74,9	71	110	21,8	9	42,4	8,0	F03	36,1	41,9	6,0	6,0	F04	0,9
DN20	20,1	80,0	74	110	27,2	9	44,7	8,0	F03	36,1	41,9	6,0	6,0	F04	1,0
DN25	24,4	89,9	84	135	34,0	11	54,1	10,0	F04	41,9	50,0	6,0	7,0	F05	1,7
DN32	32,0	110	90	135	42,7	11	59,2	10,0	F04	41,9	50,0	6,0	7,0	F05	2,6
DN40	38,1	120	110	165	48,8	14	73,4	14,8	F05	50,0	70,1	7,0	9,0	F07	3,7
DN50	50,0	140	119	135	61,2	14	82,8	14,8	F05	50,0	70,1	7,0	9,0	F07	6,6

Valve Size		Operating Torque, in-lb					
Inches	NPS	0 – 1250 psi	0 – 86,2 bar	1500 psi	103 bar	2000 psi	138 bar
1/2"	DN15	45	5,1	45	5,1	45	5,1
3/4"	DN20	70	7,9	70	7,9	70	7,9
1"	DN25	130	14,7	130	14,7	130	14,7
1-1/4"	DN32	190	21,5	190	21,5	250	28
1-1/2"	DN40	250	28	350	40	550	62
2"	DN50	400	45	800	90	1650	187

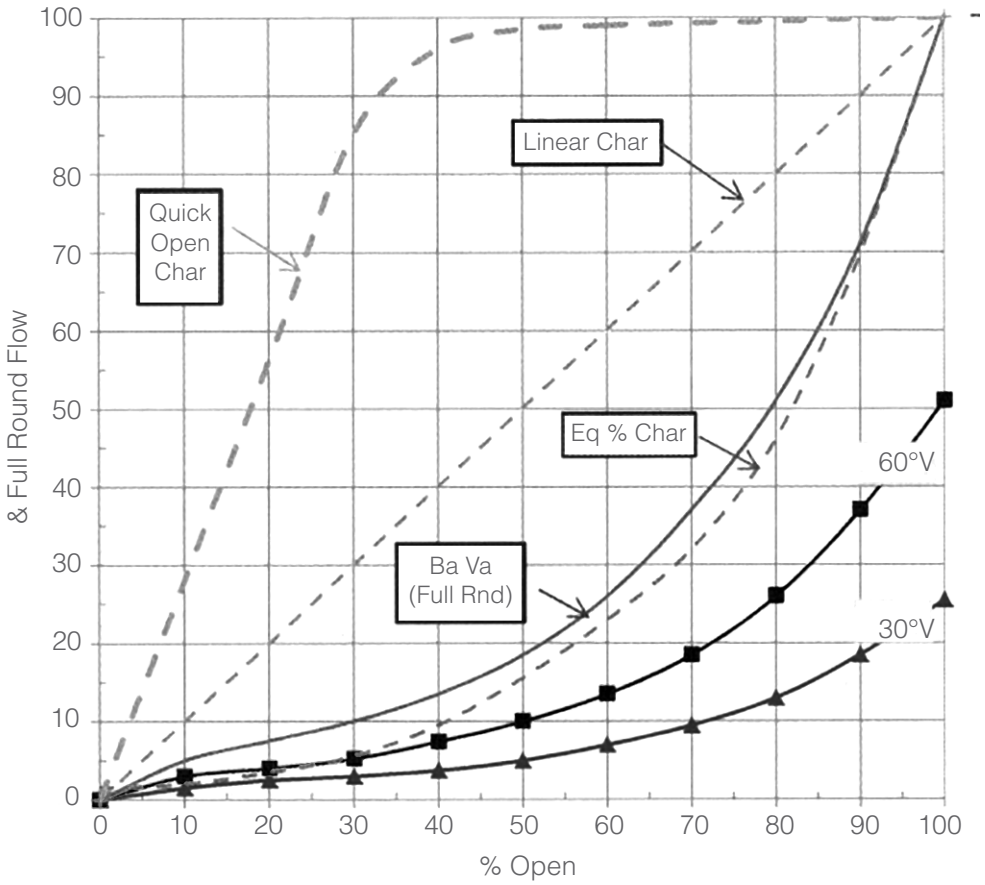
Operating torques in table are for RPTFE seats. For PTFE seats, multiply by 0.87; for CRPTFE (15% Glass PTFE), and 50% SS PTFE, multiply by 1.09. Include an appropriate service factor for sizing actuators

Flow Coefficient - Cv vs Travel (Full Port Valves)

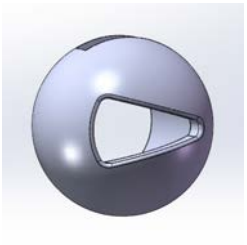
Valve Size	Slot Type	Percent Open											
		0%	10%	20%	30%	40%	50%	60%	70%	80%	85%	90%	100%
1/2"	30°V	0	0.02	0.11	0.24	0.41	0.67	1.00	1.40	1.90	2.25	2.6	3.00
	60°V	0	0.02	0.13	0.36	0.55	1.00	1.50	2.30	3.60	4.28	5.0	6.7
3/4"	30°V	0	0.02	0.21	0.56	1.00	1.60	2.40	3.40	4.60	5.4	6.2	7.3
	60°V	0	0.02	0.30	0.78	1.20	2.30	3.60	5.3	8.3	10.0	11.6	15.5
1"	30°V	0	0.02	0.39	1.00	1.80	2.90	4.40	6.4	8.6	10.0	11.4	13.5
	60°V	0	0.02	0.48	1.30	2.00	3.70	5.8	8.5	13.4	16.0	18.7	25.0
1-1/2"	30°V	0	0.02	0.55	1.70	3.40	5.7	8.3	12.1	16.6	19.4	22.2	26.5
	60°V	0	0.02	0.77	2.60	4.90	9.3	15.5	22.2	32.1	39.7	47.2	62
2"	30°V	0	0.02	1.00	3.20	6.4	10.6	15.4	22.6	31.0	36.2	41.5	49.4
	60°V	0	0.02	1.00	3.80	7.1	13.5	22.5	32.2	46.6	58	69	89

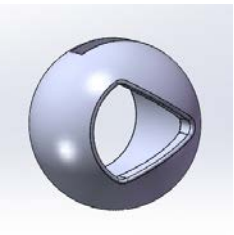
Note: Cv is defined as flow of liquid in gallons per minute thorugh a valve with a pressure drop of 1 psi across the valve at 60°F. Recommended usage is between 25% and 85% travel. Maximum flowing pressure drop limits: 300 psi steam: 500 psi liquid.

Typical Ball Valve Percent Flow vs Percent Open









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

	Model Number
CV4730F	30°V (Full Port)
CV4760F	60°V (Full Port)

Size	
05A	1/2"
07A	3/4"
10A	1"
15A	1-1/2"
20A	2"

Body Material	
CS	Carbon Steel
S6	Stainless Steel

1&2	Packing - Seat / End Connections
FA	Grafoil - RPTFE / FNPT
FB	Grafoil - RPTFE / FSW
ZZ	Non-Standard

3&4	Operation		
HL	Lever		
NN	None		
P1	UT-0A-DA STD	S6	UT-3.5-SR STD
P2	UT-0-DA STD	S7	UT-4-SR STD
P3	UT-1-DA STD	SF	UT-4.5-SR STD
P4	UT-2-DA STD	S8	UT-5-SR STD
P5	UT-2.5-DA STD	S9	UT-6-SR STD
P6	UT-3-DA STD	M1	ER-1-2.5-4 110 VAC
P7	UT-3.5-DA STD	M2	ER-2-5-4 110 VAC
P8	UT-4-DA STD	M3	ER-3-5-4 110 VAC
S1	UT-0-SR STD	M8	ER-4-10-4 110 VAC
S2	UT-1-SR STD	M4	ER-6-15-4 110 VAC
S3	UT-2-SR STD	M5	ER-10-15-4 110 VAC
S4	UT-2.5-SR STD	M9	ER-20-12-4 110 VAC
S5	UT-3-SR STD	MA	ER-20-12-4 110 VAC
ZZ	Non-Standard		

Marwin Valve
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5&6	Actuator Pressure
60	60 psi
80	80 psi
NN	N/A (no pneumatic actuator)
ZZ	Non-Standard

7&8	Solenoid Feature	Act. Type
00	None	
3A	3W 8551-120VAC N4 UT-0/5	SR
3C	3W EF8551-120VAc N7 UT-0/5	SR
3J	3W 8317G35-120VAC N4 UT-0/2.5	SR
3M	3W 8321G1-120VAC N4 UT-3/5	SR
3Q	3W EF8317G35-120VAC N7 UT-0/2.5	SR
3R	3W EF8321G1-120VAC N7 UT-3/5	SR
4A	4W 8551-120VAC N4 UT-0A	DA
4B	4W 8551-120VAC N4 UT-0/5	DA
4D	4W EF8551-120VAC N7 UT-0A	DA
4E	4W EF8551-120VAC N7 UT0/5	DA
ZZ	Non-Standard	

9&10	Limit Switch
00	None
AA	LS FMYB-5120-N4 to UT-0/3
AB	LS FMYB-5120-N4 to UT-3.5/7
AC	LS AMYB-5120-N7 to UT-0/3
AD	LS AMYB-5120-N7 to UT-3.5/7
ZZ	Non-Standard

11&12	Fail Position
NN	Fail Position N/A (No "SR" Actuator)
01	Fail Closed
02	Fail Open`

13&14	Positioner
00	None
AA	Siemens 760P (3-15) psi, for UT-0/3
AB	Siemens 760P (3-15) psi, for UT-3.5/7
AC	Siemens 760E (4-20mA), for UT-0/3
AD	Siemens 760E (4-20mA), for UT-3.5/7
AE	Siemens 2-IQ (4-20mA), for UT-0/3DA
AF	Siemens 2-IQ (4-20mA), for UT-3.5/7DA
AQ	Siemens 2-IQ (4-20mA) for UT-0/3SR
AR	Siemens 2-IQ (4-20mA) for UT-3.5/7SR
ZZ	Non-Standard