

9700 Series (Full Port 1/2" - 1 1/2"; Reduced Port 2")



Quick Spec	
Product Scope	
Size Range	1/4" - 1 1/2" (DN8 - DN40) FP; 2" (DN50) RP
Body Type	2-piece Seal Welded
Pressure Rating	Up to 6000 psi (Class 2500) WOG; 150 psi (10 bar) with saturated steam
Temperature Range	-4°F to 176°F (-20°C to 80°C) with Delrin seats; -4°F to 464°F (-20°C to 240°C) with PEEK seats
Body	Stainless or Carbon Steel Body
Stem	SS 316
Seat	Delrin standard; PEEK optional
Stem Packing & Seals	Graphite
Anti-Static	SS 316 / SS 304
Design Standards	
End Connection	ASME B1.20.1 (NPT); ASME B16.11 (SW); SAE J1926 (ORB)
Fire Test	API 607
Testing Standards	
Pressure Testing	API 598

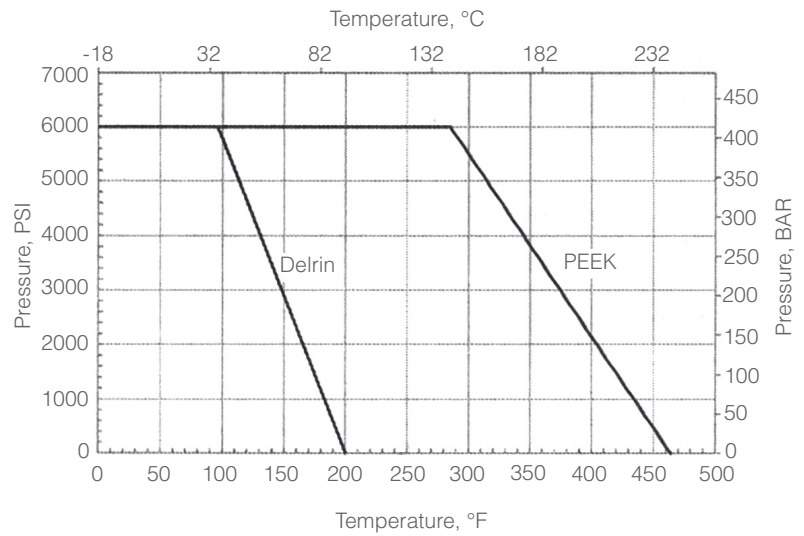
Features

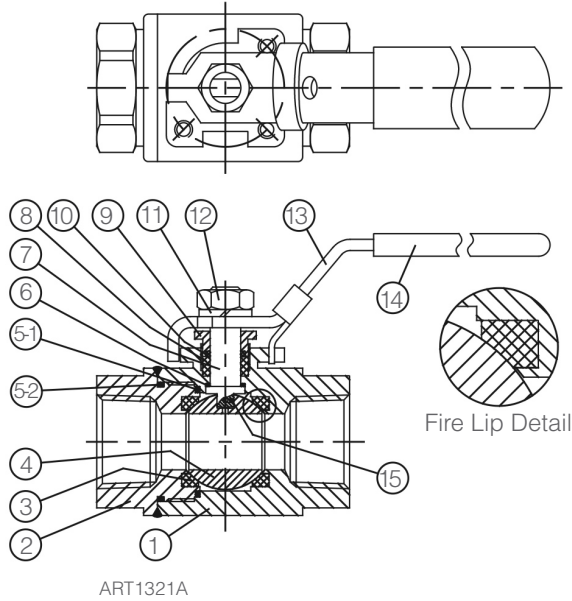
- Threaded-in and seal-welded body - end cap joint
- ISO 5211 mounting pad
- Locking handle standard
- Blowout-proof stem design
- Fire safe API 607 5th/6th edition (with Delrin seats)
- Pressures up to 6000 psi
- Female NPT threaded ends per ASME B1.20 standard
- Body Material: ASTM CF8M (DIN 1.4408) standard
- Seal material: Delrin seats and graphite packing
- Size range: 1/4" - 2" (DN8 - DN50)

Optional Accessories

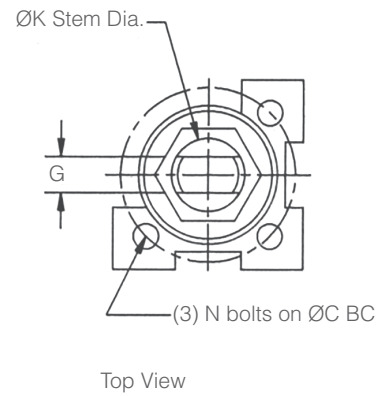
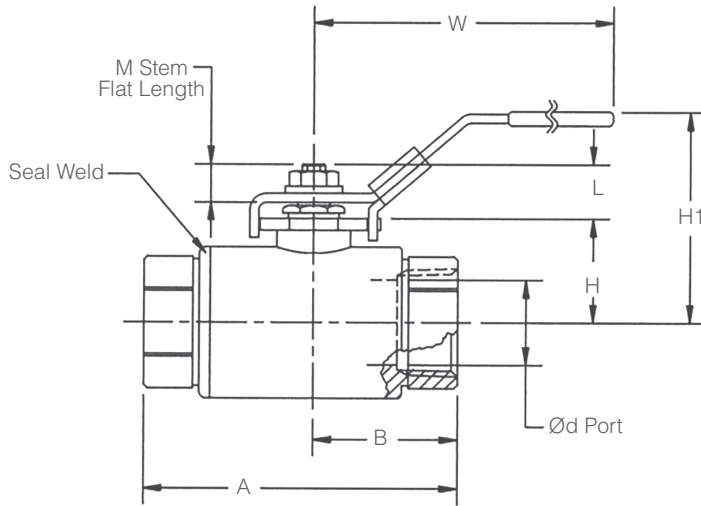
- Ends: in addition to standard NPT ends, consult factory for socket weld and SAE J1926 (o-ring boss seal) ends
- Materials:
 1. Body - in addition to standard ASTM CF8M (316SS), WCB (DIN 1.0619), and CF8 (DIN 1.4308) available on special order
 2. Seat and seals - in addition to standard Delrin seats, PEEK is optional on special order

Pressure - Temperature Curves





Materials of Construction		
Item No.	Part Name	Material
1	Body	CF8M/WCB
2	End Cap	CF8M/WCB
3	Seat	Delrin standard; PEEK optional
4	Ball	CF8M
5-1	Body Seal, Inner	Graphite
5-2	Body Seal, Outer	Viton
6	Thrust Washer, Stem	PTFE & Graphite
7	Stem	SS 316
8	Packing, Stem	Graphite
9	Gland Nut	SS 304
10	Thrust Washer, Packing	PTFE
11	Lock Washer	SS 304
12	Nut	SS 304
13	Handle	SS 304
14	Handle Sleeve	Vinyl
15	Anti-Static	SS 316 / SS 304



Dimensions, Inches														
Valve Size	d	A	B	H	H1	W	ISO 5211	C	N	G	K	L	M	Weight (lb)
1/4"F	0.45	3.00	1.34	0.99	2.4	5.1	F03	1.42	M5	0.236	0.39	0.59	0.37	1.4
3/8"F	0.50	3.00	1.34	0.99	2.4	5.1	F03	1.42	M5	0.236	0.39	0.59	0.37	2.0
1/2"F	0.50	4.00	2.00	0.99	2.4	5.1	F03	1.42	M5	0.236	0.39	0.59	0.37	2.1
3/4"F	0.75	4.25	1.94	1.34	2.9	5.9	F04	1.65	M5	0.315	0.47	0.80	0.51	3.0
1"F	1.00	4.50	2.06	1.64	3.2	7.1	F05	1.97	M6	0.315	0.57	0.89	0.63	5.5
1-1/4"F	1.26	4.88	2.19	2.19	4.5	10.1	F07	2.76	M8	0.472	0.79	1.17	0.91	8.3
1-1/2"F	1.50	5.24	2.27	2.51	4.9	10.1	F07	2.76	M8	0.472	0.79	1.22	0.91	13.3
2"R	1.50	6.26	2.83	2.51	4.9	10.1	F07	2.76	M8	0.472	0.79	1.22	0.91	20.1

Dimensions, mm														
Valve Size	d	A	B	H	H1	W	ISO 5211	C	N	G	K	L	M	Weight (kg)
1/4"F	11,4	76,2	34,0	24	61	128	F03	36,0	M5	6	10	15,1	9,5	0,6
3/8"F	12,7	76,2	34,0	24	61	128	F03	36,0	M5	6	10	15,1	9,5	0,9
1/2"F	12,7	101,6	50,8	24	61	128	F03	36,0	M5	6	10	15,1	9,5	1
3/4"F	19,1	108	49,3	34	74	150	F04	42,0	M5	8	12	20,2	13	1,4
1"F	25,4	114,3	52,3	41,5	82	180	F05	50,0	M6	8	14,5	22,7	16	2,5
1-1/4"F	32	124	55,6	55,5	114	255	F07	70,0	M8	12	20	29,8	23	3,8
1-1/2"F	38,1	133	57,7	63,5	125	255	F07	70,0	M8	12	20	30,9	23	6,0
2"R	38,1	159	72,0	72,5	125	255	F07	70,0	M8	12	20	30,9	23	9,1

Technical Data

Valve Size, NPS	Operating Torque		Flow	
	Delrin, in-lb (N-m)	PEEK, in-lb (N-m)	Cv (US gpm psi)	Kv (m ³ /hr bar)
1/4"F	89 (10)	102 (11.5)	8	6.9
3/8"F	89 (10)	117 (13.2)	8	6.9
1/2"F	89 (10)	117 (13.2)	15	13.0
3/4"F	117 (13)	255 (29)	34	29.4
1"F	336 (38)	425 (48)	48	41.5
1-1/4"F	797 (90)	640 (73)	85	73.5
1-1/2"F	850 (96)	960 (109)	125	108
2"R	850 (96)	960 (109)	125	108

Operating torque given is for 6000 psi maximum full differential pressure, Delrin seats. For required torque for actuator sizing, apply service factor. Service factor for normal operating conditions is 1.2. More or less torque may be required depending upon operating differential pressure across closed ball, fluid, frequency of operation, etc.

How To Order

Sample Ordering Schematic

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

Model Number	
9700F	1/4"~1 1/2" Full Port
9700R	2" Reduced Port

End Connections	
A	FNPT
B	FSW
C	SAE J1926-1 ORB (1/4"~1-1/2" Full Port)

Size	
02A	1/4"F
03A	3/8"F
05A	1/2"F
07A	3/4"F
10A	1"F
12A	1-1/4"F
15A	1-1/2"F
20A	2"R

Operation	
HL	Lever
NN	None
P1	UT-0A-DA STD
P2	UT-0-DA STD
P3	UT-1-DA STD
P4	UT-2-DA STD
P5	UT-2.5-DA STD
S1	UT-0-SR STD
S2	UT-1-SR STD
S3	UT-2-SR STD
S4	UT-2.5-SR STD
S5	UT-3-SR-STD
S6	UT-3.5-SR STD
M1	ER-1-2.5-4 110 VAC
M2	ER-2-5-4 110 VAC
M3	ER-3-5-4 110 VAC
M8	ER-4-10-4 110 VAC
M4	ER-6-15-4 110 VAC
ZZ	Non-Standard

Body Material	
CS	Carbon Steel
S6	Stainless Steel

Packing / Seat	
K	Grafoil/Delrin (Standard)
L	Grafoil/PEEK

Continued on next page

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

5&6	Actuator Pressure
60	60 psi
80	80 psi
NN	N/A (no pneumatic actuator)
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

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	

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