

JOB:
REPRESENTATIVE:

 UNIT TAG:
 ENGINEER:
 CONTRACTOR:

 ORDER NUMBER:
 SUBMITTED BY:
 APPROVED BY:

 DATE:
 DATE:
 DATE:

DESCRIPTION

The Bell & Gossett Circuit Sentry™ is a combination automatic flow limiting valve, commissioning valve, and shut-off valve for use in closed HVAC systems. Valves are furnished with a removable flow limiting diaphragm cartridge to allow easy access for inspection, cleaning or flow rate changes without disturbing the piping. Two 1" pressure / temperature ports and a hanging ID tag for commissioning are standard. A variety of end connections are available on both the fixed and union ends.

Circuit Sentry®

Model AC

 Combination Commissioning Valve
 & Automatic Flow Limiting Valve

CONSTRUCTION

Body: Brass C37710
Ball: Chrome Plated Brass C37710
Ball Seal: PTFE
Stem: Blow-out Proof
O-Rings: EPDM
Cartridge:
 "A" Body: Brass 36000
 "B" Body: Brass 36000
 "C" Body: 304 Stainless Steel
Diaphragm: Reinforced EPDM
Spring: Stainless Steel

MAXIMUM WORKING PRESSURE

400 psig (2,758 kPa)

TEMPERATURE RANGE

-4°F (-20°C) to 250°F (121°C)

CONTROL RANGE

Min: Varies on size and flow. See
 submittal A-606.22.
 Max: 60 psi (414 kPa)

Accuracy

+/- 5%

*See Instruction Sheet V50844

Note: AC Valves are not intended for
 use in open systems.

SCHEDULE

VALVE SIZE FIXED END	TAGGING INFORMATION	QUANTITY
1/2" Sweat Female		
1/2" NPT Female		
3/4" Sweat Female		
3/4" NPT Female		
1" Sweat Female		
1" NPT Female		
1L" Sweat Female		
1L" NPT Female		
1 1/4" Sweat Female		
1 1/4" NPT Female		
1 1/2" Sweat Female		
1 1/2" NPT Female		
2" R Sweat Female		
2" R NPT Female		
LARGE BODY		
1 1/2" L Sweat Female		
1 1/2" L NPT Female		
2" Sweat Female		
2" NPT Female		
2 1/2" Sweat Female		
2 1/2" NPT Female		

FLOW RATES

Fixed End Size In. (mm)	FLOW RATES* (GPM)																					
½" (12.7)	0.33	0.5	1	1.5	1.75	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	9	10	11	12
¾" (19)	0.33	0.5	1	1.5	1.75	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	9	10	11	12
1" (25.4)	0.33	0.5	1	1.5	1.75	2	2.5	3	3.5	4	4.5	5	5.5	6	6.5	7	7.5	8	9	10	11	12
1"L (25.4)	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	22	24	26	28	30	32
1¼" (31.75)	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	22	24	26	28	30	32
1½" (38.1)	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	22	24	26	28	30	32
2"R (50.8)	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	22	24	26	28	30	32

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½" (12.7)	13	14							
¾" (19)	13	14							
1" (25.4)	13	14							
1"L (25.4)	34	36	38	40	42	44	46	48	50
1¼" (31.75)	34	36	38	40	42	44	46	48	50
1½" (38.1)	34	36	38	40	42	44	46	48	50
2"R (50.8)	34	36	38	40	42	44	46	48	50

Fixed End Size In. (mm)	FLOW RATES* (LPS)																					
½" (12.7)	0.02	0.03	0.06	0.09	0.11	0.13	0.16	0.19	0.22	0.25	0.28	0.32	0.35	0.38	0.41	0.44	0.47	0.50	0.57	0.63	0.69	0.78
¾" (19)	0.02	0.03	0.06	0.09	0.11	0.13	0.16	0.19	0.22	0.25	0.28	0.32	0.35	0.38	0.41	0.44	0.47	0.50	0.57	0.63	0.69	0.78
1" (25.4)	0.02	0.03	0.06	0.09	0.11	0.13	0.16	0.19	0.22	0.25	0.28	0.32	0.35	0.38	0.41	0.44	0.47	0.50	0.57	0.63	0.69	0.78
1"L (25.4)	0.32	0.38	0.44	0.50	0.57	0.63	0.69	0.76	0.82	0.88	0.95	1.01	1.07	1.14	1.20	1.26	1.39	1.51	1.64	1.77	1.89	2.02
1¼" (31.75)	0.32	0.38	0.44	0.50	0.57	0.63	0.69	0.76	0.82	0.88	0.95	1.01	1.07	1.14	1.20	1.26	1.39	1.51	1.64	1.77	1.89	2.02
1½" (38.1)	0.32	0.38	0.44	0.50	0.57	0.63	0.69	0.76	0.82	0.88	0.95	1.01	1.07	1.14	1.20	1.26	1.39	1.51	1.64	1.77	1.89	2.02
2"R (50.8)	0.32	0.38	0.44	0.50	0.57	0.63	0.69	0.76	0.82	0.88	0.95	1.01	1.07	1.14	1.20	1.26	1.39	1.51	1.64	1.77	1.89	2.02

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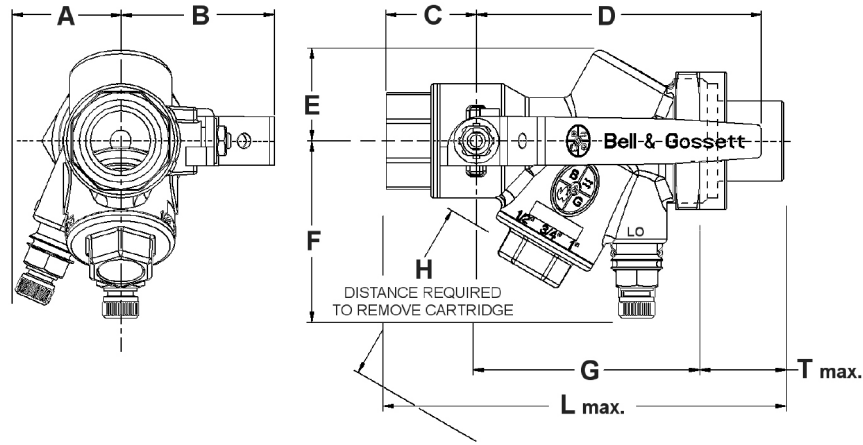
½" (12.7)	0.82	0.88							
¾" (19)	0.82	0.88							
1" (25.4)	0.82	0.88							
1"L (25.4)	2.14	2.27	2.40	2.52	2.65	2.78	2.90	3.03	3.15
1¼" (31.75)	2.14	2.27	2.40	2.52	2.65	2.78	2.90	3.03	3.15
1½" (38.1)	2.14	2.27	2.40	2.52	2.65	2.78	2.90	3.03	3.15
2"R (50.8)	2.14	2.27	2.40	2.52	2.65	2.78	2.90	3.03	3.15

LARGE BODY FLOW RATES

Fixed End Size In. (mm)	FLOW RATES* (GPM)																					
1½"L (38.1)	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100	110	120	130	140	150
2" (50.8)	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100	110	120	130	140	150
2½" (63.5)	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	100	110	120	130	140	150

Fixed End Size In. (mm)	FLOW RATES* (LPS)																						
1½"L(38.1)	0.95	1.26	1.58	1.89	2.21	2.52	2.84	3.15	3.47	3.79	4.10	4.42	4.73	5.05	5.36	5.68	5.99	6.31	6.94	7.57	8.20	8.83	9.46
2"(50.8)	0.95	1.26	1.58	1.89	2.21	2.52	2.84	3.15	3.47	3.79	4.10	4.42	4.73	5.05	5.36	5.68	5.99	6.31	6.94	7.57	8.20	8.83	9.46
2½"(63.5)	0.95	1.26	1.58	1.89	2.21	2.52	2.84	3.15	3.47	3.79	4.10	4.42	4.73	5.05	5.36	5.68	5.99	6.31	6.94	7.57	8.20	8.83	9.46

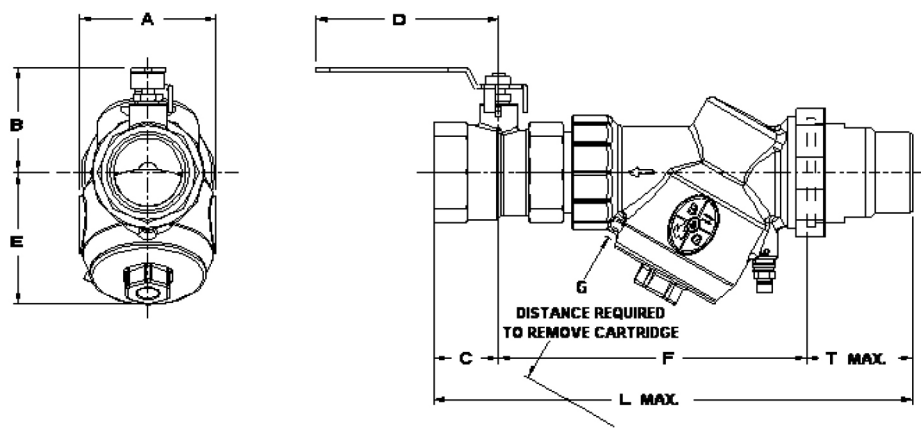
*B&G recommends following ASHRAE's design criteria for hydronic system piping, flow rates, and friction loss.



Valve Size Fixed End	Connection Fixed End	DIMENSIONS* INCH (mm)										Approx. Weight Lbs. (kg)
		A	B	C	D	E	F	G	H	T (Max)	L (Max)	
1/2" (13)	Sweat Female	1.40 (35)	1.68 (43)	1.30 (33)	3.54 (90)	1.03 (26)	2.35 (60)	2.85 (72)	1.77 (45)	0.98 (25)	5.34 (135)	2.4 (1.1)
1/2" (13)	NPT Female	1.40 (35)	1.68 (43)	1.06 (27)	3.54 (90)	1.03 (26)	2.35 (60)	2.85 (72)	1.77 (45)	0.98 (25)	5.19 (132)	2.4 (1.1)
3/4" (19)	Sweat Female	1.40 (35)	1.83 (46)	1.56 (40)	3.54 (90)	1.04 (26)	2.34 (60)	2.96 (75)	1.77 (45)	0.98 (25)	5.19 (132)	2.4 (1.1)
3/4" (19)	NPT Female	1.40 (35)	1.83 (46)	1.19 (30)	3.54 (90)	1.04 (26)	2.34 (60)	2.96 (75)	1.77 (45)	0.98 (25)	5.19 (132)	2.5 (1.1)
1" (25)	Sweat Female	1.40 (35)	2.13 (54)	1.85 (47)	4.29 (109)	1.06 (27)	2.34 (60)	3.20 (81)	1.77 (45)	1.69 (43)	6.18 (157)	2.6 (1.2)
1" (25)	NPT Female	1.40 (35)	2.13 (54)	1.41 (36)	4.29 (109)	1.06 (27)	2.34 (60)	3.20 (81)	1.77 (45)	1.69 (43)	6.10 (155)	2.6 (1.2)
1"L (25)	Sweat Female	1.65 (42)	2.12 (54)	1.85 (47)	4.29 (109)	1.63 (42)	2.99 (76)	4.38 (111)	2.46 (63)	1.93 (49)	8.45 (215)	7.1 (3.2)
1"L (25)	NPT Female	1.65 (42)	2.12 (54)	1.42 (36)	4.29 (109)	1.63 (42)	2.99 (76)	4.38 (111)	2.46 (63)	1.93 (49)	8.27 (210)	7.1 (3.2)
1-1/4" (32)	Sweat Female	1.65 (42)	2.87 (73)	2.15 (55)	5.16 (131)	1.63 (42)	2.99 (76)	4.67 (119)	2.46 (63)	2.09 (53)	8.65 (220)	7.1 (3.2)
1-1/4" (32)	NPT Female	1.65 (42)	2.87 (73)	1.58 (40)	5.16 (131)	1.63 (42)	2.99 (76)	4.67 (119)	2.46 (63)	2.09 (53)	8.41 (214)	7.2 (3.3)
1-1/2" (38)	Sweat Female	1.65 (42)	3.12 (79)	2.41 (61)	5.16 (131)	1.61 (41)	2.99 (76)	4.67 (119)	2.46 (63)	2.09 (53)	8.77 (223)	7.1 (3.2)
1-1/2" (38)	NPT Female	1.65 (42)	3.12 (79)	1.87 (47)	5.16 (131)	1.61 (41)	2.99 (76)	4.93 (125)	2.46 (63)	2.09 (53)	8.49 (216)	7.1 (3.2)
2"R** (51)	Sweat Female	1.65 (42)	3.12 (79)	1.87 (47)	5.16 (131)	1.61 (41)	2.99 (76)	4.93 (125)	2.46 (63)	2.09 (53)	11.8 (300)	9.8 (4.4)
2"R** (51)	NPT Female	1.65 (42)	3.12 (79)	1.87 (47)	5.16 (131)	1.61 (41)	2.99 (76)	4.93 (125)	2.46 (63)	2.09 (53)	10.12 (257)	9.0 (4.1)
1-1/2"L (38)	Sweat Female	1.96 (49)	3.11 (79)	2.41 (61)	5.16 (131)	2.26 (57)	3.87 (98)	6.49 (165)	4.33 (110)	3.12 (79)	11.32 (287)	16.6 (7.5)
1-1/2"L (38)	NPT Female	1.96 (49)	3.11 (79)	1.83 (46)	5.16 (131)	2.26 (57)	3.87 (98)	6.49 (165)	4.33 (110)	3.12 (79)	11.47 (291)	16.7 (7.6)
2" (51)	Sweat Female	1.96 (49)	2.96 (75)	2.94 (75)	6.57 (167)	2.26 (57)	3.87 (98)	6.61 (168)	4.33 (110)	3.12 (79)	12.67 (322)	16.9 (7.7)
2" (51)	NPT Female	1.96 (49)	2.96 (75)	2.18 (55)	6.57 (167)	2.26 (57)	3.87 (98)	6.61 (168)	4.33 (110)	3.12 (79)	11.91 (302)	17.4 (7.9)

*All dimensions +/- 0.125" (3.2 mm) tolerance. Dimensions are subject to change. Not to be used for construction purposes unless certified.

** 2" Reduced Port



Valve Size Fixed End	Connection Fixed End	DIMENSIONS* INCH (mm)									Approx. Weight Lbs. (kg)
		A	B	C	D	E	F	G	T (Max)	L (Max)	
2-1/2" (64)	Sweat Female	4.0 (102)	3.07 (78)	2.55 (65)	5.35 (136)	3.85 (98)	10.78 (274)	4.33 (110)	3.12 (79)	16.45 (418)	18.8 (8.5)
2-1/2" (64)	NPT Female	4.0 (102)	3.07 (78)	4.33 (110)	5.35 (136)	3.85 (98)	10.78 (274)	4.33 (110)	3.12 (79)	18.23 (463)	19.4 (8.8)

*All dimensions +/- 0.125 (3.2 mm) tolerance. Dimensions are subject to change. Not to be used for construction purposes unless certified



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