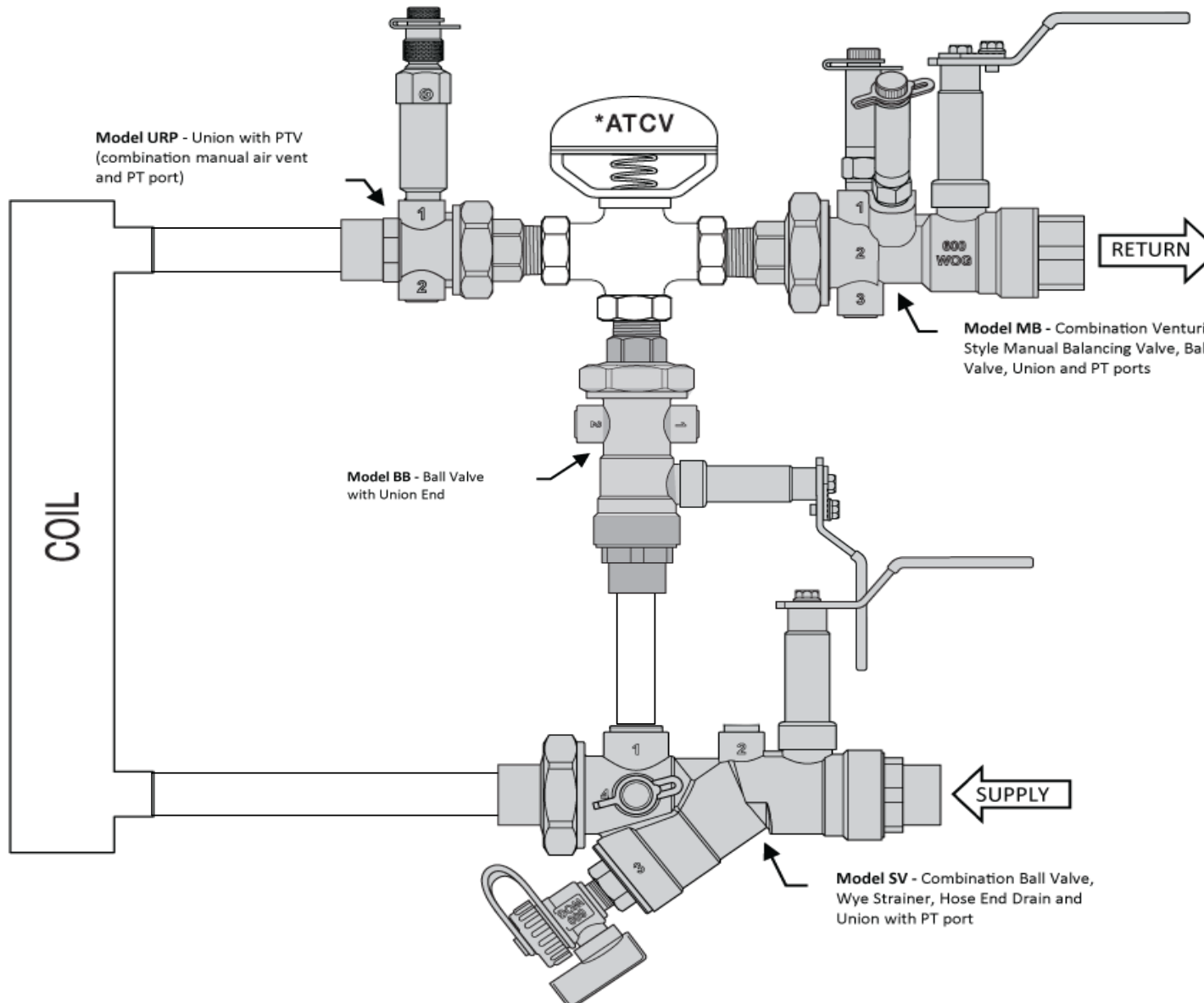


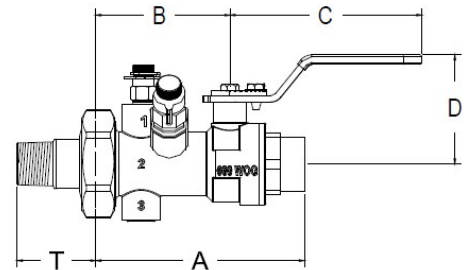
Description: MODEL # 3RS-MV with Extensions

Job Name: _____
 Location: _____
 Engineer: _____
 Contractor: _____



Submitted By:
Tunstall Corporation
 118 Exchange St
 Chicopee, MA 01013
 Phone: 413-594-8695
 Fax: 413-598-8109

Model MB is a venturi style manual balancing valve with 100% positive shut-off full port plated ball. Permanently installed venturi section, Teflon seats, double o-ring shaft seals, Pressure/Temperature readout ports, adjustable memory stop with position indicator and union end with o-ring seal. Available with multiple combinations of end connection types and sizes.



SPECIFICATIONS

Pressure Ratings:	600 PSI (4140 kPa)
Temperature Ratings:	250°F (121°C)
Accuracy:	± 3% of flow rate
Body Material:	Forged Brass
End Connections:	Brass - Fixed End: SWT, FNPT & Press End Union End: SWT, FNPT, MNPT & Press End
Flow Element:	Brass Venturi, Permanently installed
Seals:	EPDM
Seats:	Teflon
Ball:	Chrome Plated Brass. <i>Optional 316 Stainless Steel.</i>
Stem:	Brass. <i>Optional 316 Stainless Steel.</i>
Handle:	Full size Zinc Plated lever w/Vinyl Grip
Memory Stop:	Zinc Plated Steel
Available Options:	"PTV" combination PT & Air Vent, DV hose end Drain Valve & Extensions.

NOMINAL DIMENSIONS & WEIGHTS

MODEL	SIZE		Flow Range GPM (10"-100")		A		B	C	D	*T SWT	WEIGHT	
	in	mm			FNPT	SWT					lbs	kg
MB1A-050-L MB1B-050-H	0.50"	15	(L) 0.4 - 1.3 (H) 1.5 - 5.0	in mm	4.14 105.14	4.50 114.30	2.45 62.23	2.33 59.18	1.64 41.65	1.50 38.09	1.37	0.62
MB1A-075-L MB1B-075-H	0.75"R	20	(L) 0.4 - 1.3 (H) 1.5 - 5.0	in mm	4.26 108.20	4.79 121.66	2.45 62.23	2.33 59.18	1.64 41.65	1.55 39.37	1.45	0.66
MB1A-100-L MB1A-100-H	1.00"R	25	(L) 0.4 - 1.3 (H) 1.5 - 5.0	in mm	4.59 116.58	5.04 128.01	2.45 62.23	2.33 59.18	1.64 41.65	1.75 44.45	1.52	0.69
MB2A-075-L MB2B-075-H	0.75"	20	(L) 1.6 - 5.0 (H) 4.0 - 13.0	in mm	4.36 110.74	4.93 125.22	2.46 62.69	3.66 92.99	2.08 52.83	1.56 39.62	1.97	0.89
MB2A-100-L MB2B-100-H	1.00"	25	(L) 1.6 - 5.0 (H) 4.0 - 13.0	in mm	4.57 116.07	5.22 132.58	2.46 62.69	3.66 92.99	2.08 52.83	1.75 44.45	2.06	0.93
MB2A-125-L MB2B-125-H	1.25"R	32	(L) 1.6 - 5.0 (H) 4.0 - 13.0	in mm	4.75 120.64	5.30 134.61	2.46 62.69	3.66 92.99	2.08 52.83	1.80 45.72	2.25	1.02
MB3A-125	1.25"	32	6.7 - 21.0	in mm	6.51 165.35	7.49 190.24	3.48 88.39	5.03 127.76	2.26 57.40	1.80 45.72	4.16	1.89
MB3A-150	1.50"	40	6.7 - 21.0	in mm	6.51 165.35	7.76 190.24	3.48 88.39	5.03 127.76	2.26 57.40	1.80 45.72	4.23	1.92
MB4A-200	2"	50	15.0 - 50.0	in mm	6.57 166.90	7.36 187.00	4.45 113.00	5.66 143.60	2.83 71.90	1.98 50.29	7.10	3.22

* Please reference the tailpiece data sheet #Bulletin-MB-TP for other sizes and connections.

Dimensions not for construction purposes unless certified by factory.

STANDARD COMPONENTS

 	PT	Pressure / Temperature test port with brass body, dual durometer EPDM core, brass cap with O-ring seal and neoprene retainer strap. Accepts standard 1/8" (4mm) gauge adapter or thermometer stem. Rated to 500 PSI (3450 kPa) and 275°F (135°C)
	MS	Memory stop with position indicator, zinc coated steel.

Please reference data sheet #Bulletin-MB-Accessories for optional accessories.

Optional features and accessories available for this Macon product are an extra charge, and not included in the standard model price.

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Section: Components Bulletin-MB-MB-1216.02

Differential Pressure Table - Model MB - 0.50" to 2.00"

Model MB Venturi Type Balancing Valve 0.50" - 2.00"

Differential Pressure: Inches W.C.

Flow GPM	MB1A-	MB1B-	MB2A-	MB2B-	MB3A-	Flow GPM	MB3A-	MB4A-
	050-L 075R-L	050-H 075R-H	075-L 100-L 125-L	075-H 100-H 125-H	125 150		125 150	200
0.10	1					18.00	71	14
0.20	2					19.00	79	15
0.30	5					20.00	87	17
0.42	10	0.8				21.00	96	19
0.50	14	1.1	1			22.00	106	21
0.75	31	2.3	2			23.00	116	23
1.00	55	4.4	4			24.00	126	25
1.25	86	6.8	6			25.00	137	27
1.35	101	7.9	7	1		26.00	148	29
1.50	124	10	9	1.4		27.00	159	31
2.00	221	17	16	2.5		28.00	171	34
2.25		22	21	3	1.1	29.00	184	36
2.50		27	25	4	1.4	30.00	197	39
3.00		39	36	6	2.0	31.00	210	41
3.50		53	50	8	2.7	32.00	224	44
4.00		70	65	10	3.5	33.00	238	47
4.50		88	82	13	4.4	34.00	253	50
5.00		109	101	15	5.5	35.00	268	53
5.50		132	123	19	6.6	36.00		56
6.00		157	146	22	7.9	37.00		59
6.50		184	171	26	9.2	39.00		65
7.25		229	213	33	11.5	40.00		69
7.50		245	228	35	12.3	41.00		72
8.00				40	14.0	42.00		76
8.50				45	15.8	43.00		79
9.00				50	17.7	44.00		83
9.50				56	19.7	45.00		87
10.00				62	21.9	48.50		101
10.50				68	24.1	55.00		130
11.00				75	26.4	60.00		154
11.50				82	28.9	65.00		181
12.00				89	31.5	70.00		210
12.50				97	34.2	75.00		241
13.00				105	36.9			
14.00				121	42.8			
15.00				139	49.2			
16.00				159	56.0			
17.00				179	63.2			
FF	0.1346	0.479	0.4967	1.2704	2.139	FF	2.139	4.8274

Flow Formulas

$$\text{GPM} = \text{FF} \times (\sqrt{\text{DP}})$$

$$\text{DP} = (\text{GPM}/\text{FF})^2$$

$$\text{PPL} = \text{DP} \times 0.12$$

Notes:

- 1) Accuracy $\pm$ 3% of flow rate.
- 2) Repeatability $\pm$ 0.25% of rate.
- 3) Values in **BOLD** type represents traditional 10" to 100" sizing range.
- 4) All valves will function above and below ranges shown. Pressure drop and readability should be taken into account.

Optional features and accessories available for this Macon product are an extra charge, and not included in the standard model price.

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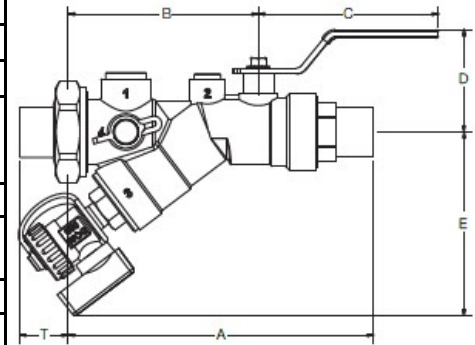
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Phone (413) 594-8695 · Fax (413) 598-8109
Section: *Components* Bulletin-MB-MB-1216.02

Model SV is a combination ball valve, wye strainer and union. The 20 mesh stainless steel strainer is removable for cleaning and inspection. The ball valve has a chrome plated ball with Teflon seats, blowout proof stem with double EPDM O-ring seals. The union has an EPDM O-ring seal and tailpiece available in MNPT, FNPT and SWT end connections.

Standard features include Pressure/Temperature Port, Hose End Drain Valve and plugged Bypass Port.



SPECIFICATIONS	
Pressure Ratings:	600 PSI (4140 kPa)
Temperature Ratings:	250°F (121°C)
Body Material:	Forged Brass
End Connections:	Fixed End: DZR Brass - SWT & FNPT Brass - Press End Union End: Brass - SWT, FNPT, MNPT & Press End
Seals:	EPDM
Ball:	Chrome Plated Brass, full port, 100% positive shut off. Optional 316 Stainless Steel.
Stem:	Brass. Optional 316 Stainless Steel.
Handle:	Full size Zinc Plated lever w/Vinyl Grip
Available Options:	"PTV" combination PT & Air Vent, Automatic Air Vent, Handle and Port Extensions



NOMINAL DIMENSIONS & WEIGHTS															
MODEL	SIZE		Cv*		A		B	C	D	E	**T SWT	Bypass Port-In	Flow Range	WEIGHT	
	in	mm			FNPT	SWT								lbs	kg
SV1e-050	0.50"	15	5.5	in	4.74	4.88	2.99	2.33	1.73	3.53	0.83	.50	0.35 to 5.0 GPM	1.90	0.86
				mm	120.60	124.05	79.95	59.26	43.94	89.87	21.08			1.90	0.86
SV1e-075	0.75"	20		in	4.77	5.22	2.99	2.33	1.73	3.53	0.98			2.67	1.21
				mm	121.36	132.66	79.95	59.26	43.94	89.87	24.89			2.67	1.21
SV1e-100	1.00"	25		in	4.91	5.60	2.99	2.33	1.73	3.53	0.98			2.02	0.92
				mm	124.79	142.27	79.95	59.26	43.94	89.87	24.89			2.02	0.92
SV2e-050	0.50"	15	7.0	in	5.71	5.95	3.86	3.66	2.08	3.72	0.92	.75	0.35 to 13.0 GPM	2.57	1.17
				mm	145.24	151.33	98.04	93.01	52.83	94.64	23.37			2.57	1.17
SV2e-075	0.75"	20		in	5.75	6.20	3.86	3.66	2.08	3.72	1.43			2.61	1.18
				mm	146.10	157.56	98.04	93.01	52.83	94.64	36.32			2.61	1.18
SV2e-100	1.00"	25		in	5.96	6.36	3.86	3.66	2.08	3.72	1.17			2.69	1.22
				mm	151.59	161.62	98.04	93.01	52.83	94.64	29.72			2.69	1.22
SV2e-125	1.25"	32		in	6.14	6.69	3.86	3.66	2.08	3.72	1.50			2.92	1.32
				mm	156.03	170.00	98.04	93.01	52.83	94.64	38.10			2.92	1.32
SV3-100	1.00"	25	25.0	in	8.60	9.44	5.62	5.03	2.26	4.78	1.41	.75	0.35 to 21.0 GPM	4.54	2.06
				mm	218.40	239.80	142.90	127.76	57.40	121.40	35.81			4.54	2.06
SV3-125	1.25"	32		in	8.67	9.66	5.62	5.03	2.26	4.78	1.43			4.54	2.06
				mm	220.10	245.30	142.90	127.76	57.40	121.40	36.32			4.54	2.06
SV3-150	1.50"	40		in	8.67	9.91	5.62	5.03	2.26	4.78	1.17			4.44	2.01
				mm	220.10	251.70	142.90	127.76	57.40	121.40	29.71			4.44	2.01

Components - Model SV - 0.50" to 2.00"

NOMINAL DIMENSIONS & WEIGHTS (continued)

MODEL	SIZE		Cv*		A		B	C	D	E	**T SWT	Bypass Port-In	Flow Range	WEIGHT	
	in	mm			FNPT	SWT								lbs	kg
SV4-150	1.50"	40	68.0	in	9.37	9.91	7.44	5.66	2.83	5.31	1.59	1.25	22.0 to 70.0 GPM	8.72	3.96
				mm	238.00	251.71	188.98	143.76	71.88	134.87	40.38				
SV4-200	2.00"	50		in	9.56	10.35	7.44	5.66	2.83	5.31	1.50			9.42	4.27
				mm	232.16	262.89	188.98	143.76	71.88	134.87	38.10				

* Cv values are for the body only without the screen inside.

** Please reference the tailpiece data sheet #Bulletin-MB-TP for other sizes and connections.

Dimensions not for construction purposes unless certified by factory.

STANDARD COMPONENTS

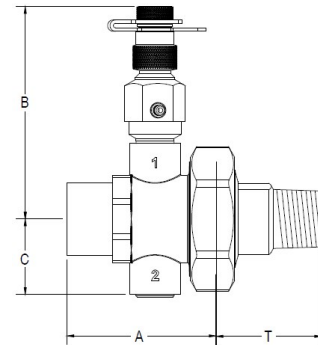
	PT	Pressure/Temperature test port with brass body, dual durometer EPDM core, threaded brass cap with O-ring seal and neoprene retainer strap. Accepts standard 1/8" (4mm) gauge adapter or thermometer stem. Rated to 500 PSI (3450 kPa) and 275°F (135°C)
	DV	Drain valve with forged brass body, chrome plated ball, Teflon seats, double EPDM O-ring stem seals, aluminum handle, 3/4" hose connection with cap and plastic retainer strap. Rated to 600 PSI (4140 kPa) WOG and 250°F (121°C)

Please reference data sheet #Bulletin-MB-Accessories for optional accessories.

STRAINERS

Model URP Union offers numerous End Connections pressure/temperature measurement and vent. The union has an EPDM O-ring seal and tailpiece available in MNPT, FNPT, SWT and Press End connections.

Standard features include "PTV" Combination PT and Air Vent.



SPECIFICATIONS	
Pressure Ratings:	600 PSI (4140 kPa)
Temperature Ratings:	250°F (121°C)
Body Material:	Forged Brass
End Connections:	Brass - Fixed End: SWT, FNPT & Press End Union End: SWT, FNPT, MNPT & Press End
Seals:	EPDM
Available Options:	"DV" Drain Valve

NOMINAL DIMENSIONS & WEIGHTS											
MODEL	SIZE			A			B	C	*T MNPT	WEIGHT	
	in	mm		FNPT	MNPT	SWT				lbs	kg
URP-038	0.375"	10	in	N/A	N/A	1.88	2.78	0.84	N/A	0.76	0.35
			mm	N/A	N/A	47.68	70.61	21.34	N/A		
URP-050	0.50"	15	in	1.90	2.25	1.88	2.78	0.84	1.50	0.86	0.39
			mm	48.26	57.23	47.75	70.25	21.34	38.10		
URP-075	0.75" R	20	in	1.98	2.19	2.12	2.78	0.84	1.55	0.79	0.36
			mm	50.29	55.65	53.85	70.61	21.34	39.37		
URP-100	1.00"	25	in	2.15	N/A	2.28	3.02	1.08	1.75	1.16	0.53
			mm	54.61	N/A	57.91	76.65	27.43	44.72		
URP-125	1.25"	32	in	2.39	N/A	2.56	3.39	1.46	1.80	2.20	1.00
			mm	60.71	N/A	65.02	86.18	37.08	45.72		
URP-150	1.50"	40	in	2.39	N/A	2.69	3.39	1.46	1.80	2.42	1.10
			mm	60.71	N/A	68.32	86.18	37.08	45.72		
URP-200	2.00"	50	in	2.49	N/A	3.03	3.70	1.76	1.98	3.42	1.55
			mm	63.25	N/A	76.96	94.08	44.70	50.17		

* Please reference the tailpiece data sheet #Bulletin-MB-TP for other sizes and connections.

Dimensions not for construction purposes unless certified by factory.

STANDARD COMPONENTS

	PTV	Combination manual air vent and pressure/temperature test port with brass body, dual durometer EPDM core, blowout-proof stem, side discharge vent with 1/8" (4mm) hose barb, threaded brass cap with O-ring seal and neoprene retainer strap. Accepts standard 1/8" (4mm) gauge adapter or thermometer stem. Rated to 250 PSI (1725 kPa) and 250°F (121°C)
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Please reference data sheet #Bulletin-MB-Accessories for optional accessories.

Optional features and accessories available for this Macon product are an extra charge, and not included in the standard model price.

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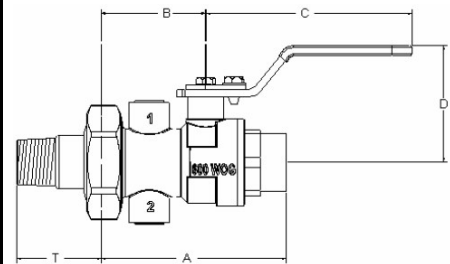


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Section: Components
Bulletin-MB-URP-0915.02

Model BB Union End Ball Valve is offers shutoff and throttling. The position indicating Memory Stop provides quick and easy flow setting with a single screw adjustment. The ball valve has a chrome plated ball, Teflon seats, a blow-out proof stem with double EPDM O-ring seals and dual plugged accessory ports. The union has an EPDM O-ring seal and tailpiece available in MNPT, FNPT, SWT and Press End connections.



SPECIFICATIONS	
Pressure Ratings:	600 PSI (4140 kPa)
Temperature Ratings:	250°F (121°C)
Body Material:	Forged Brass
End Connections:	Fixed End: DZR Brass - SWT & FNPT Brass - Press End Union End: Brass - SWT, FNPT, MNPT & Press End
Seals:	EPDM
Ball:	Chrome Plated Brass, full port, 100% positive shut-off. Optional 316 Stainless Steel.
Stem:	Brass. Optional 316 Stainless Steel.
Handle:	Full size Zinc Plated lever with Vinyl Grip
Memory Stop:	Zinc Plated Steel with position indicator
Available Options:	"PTV" combination PT & Air Vent, hose end "DV" Drain Valve & Port Extensions



NOMINAL DIMENSIONS & WEIGHTS												
MODEL	SIZE		Cv*		A		B	C	D	**T	WEIGHT	
	in	mm			MPT	lbs				kg		
BB1E-050	0.50"	15	6.0	in	3.72	4.08	2.03	3.66	1.61	1.50	1.15	0.52
				mm	94.5	103.6	51.6	93.0	40.9	38.10		
BB1E-075	0.75"	20		in	3.84	4.37	2.03	3.66	1.61	1.50	1.19	0.54
				mm	97.5	111.0	51.6	93.0	40.9	38.10		
BB2E-075	0.75"	20	9.0	in	3.92	4.49	2.03	3.66	2.08	1.56	1.54	0.61
				mm	99.6	114.0	51.6	93.0	52.8	39.70		
BB2E-100	1.00"	25		in	4.13	4.53	2.03	3.66	2.08	1.75	1.70	0.77
				mm	105.0	115.1	51.6	93.0	52.8	44.5		
BB3-125	1.25"	32	52.0	in	5.42	6.41	2.37	5.03	2.26	1.80	3.97	1.80
				mm	137.7	162.8	60.3	127.8	57.4	45.72		
BB3-150	1.50"	40		in	5.42	6.67	2.52	5.65	2.26	1.80	4.12	1.87
				mm	137.7	169.3	64.0	143.6	57.4	45.72		
BB4-200	2.00"	50	96.0	in	5.03	5.82	2.90	5.66	2.83	1.98	5.68	2.58
				mm	127.8	148.8	73.7	143.8	71.9	50.17		

* Cv values are for the body only.

** Please reference the tailpiece data sheet #Bulletin-MB-TP for other sizes and connections.

Dimensions not for construction purposes unless certified by factory.

STANDARD COMPONENTS		
	MS	Memory stop with position indicator, zinc coated steel.
Please reference data sheet #Bulletin-MB-Accessories for optional accessories.		

Optional features and accessories available for this Macon product are an extra charge, and not included in the standard model price.

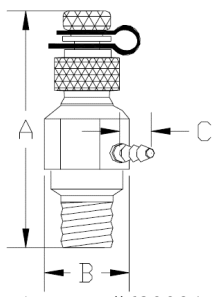
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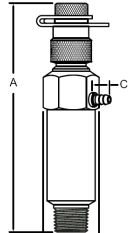
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Section: Components
Bulletin-MB-BB-0915.03

SHUT OFF
VALVES

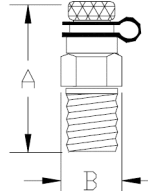
PTV - PRESSURE / TEMPERATURE VENT

 PATENT #6899317	Combination manual air vent and pressure/temperature test port with brass body, dual durometer EPDM core, blowout-proof stem, side discharge vent with 1/8" (4mm) hose barb, threaded brass cap with O-ring seal and neoprene retainer strap. Accepts standard 1/8" (4mm) gauge adapter or thermometer stem. Rated to 250 PSI (1725 kPa) and 250°F (120°C).								
	MODEL	NPT CONN		A	B	C	WRENCH SIZE	WEIGHT	
								lbs	kg
	PTV-025	1/4"	in	1.50	0.84	0.32	3/4"	0.154	0.07
			mm	40	21	9			
	PTV-050	1/2"	in	1.50	0.98	0.32	3/4"	0.225	0.10
mm			0.98	25	9				

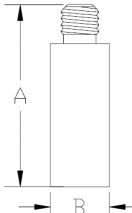
EPTV - EXTENDED PRESSURE / TEMPERATURE VENT

	Extended combination manual air vent and pressure/temperature test port with brass body, dual durometer EPDM core, blowout-proof stem, side discharge vent with 1/8" (4mm) hose barb, threaded brass cap with O-ring seal and neoprene retainer strap. Accepts standard 1/8" (4mm) gauge adapter or thermometer stem. Rated to 250 PSI (1725 kPa) and 250°F (120°C).								
	MODEL	NPT CONN		A	B	C	WRENCH SIZE	WEIGHT	
								lbs	kg
	EPTV-025	1/4"	in	3.60	0.87	0.31	3/4"	0.28	0.12
mm			91	21	8				

PT - PRESSURE / TEMPERATURE PORT

	Pressure/Temperature test port with brass body, dual durometer EPDM core, brass cap with O-ring seal and neoprene retainer strap. Accepts standard 1/8" (4mm) gauge adapter or thermometer stem. Rated to 500 PSI (3450 kPa) and 275°F (135°C).							
	MODEL	NPT CONN		A	B	WRENCH SIZE	WEIGHT	
	PT-025	1/4"	in	1.36	0.65	9/16"	0.06	0.03
			mm	34	16			
	PT-050	1/2"	in	1.36	1.01	7/8"	0.18	0.08
			mm	34	25			

PTE - PTV / PT EXTENDER

	Single and Dual Extender for PTV and PT models, used on insulated piping systems or where extended length is desired. The PTE is installed above the PTV or PT core with an O-ring seal. The PTE can be installed in the field without removing the PTV or PT from the piping system. Brass body with EPDM O-ring seal. Rated to 500 PSI (3450 kPa) and 250 ° F (120 ° C).							
	MODEL		A	B	WEIGHT			
	PTE-025 One	in	1.59	0.54	0.90	0.04		
		mm	41	14				
	PTE-025 Two	in	1.59	0.54	0.90	0.04		
		mm	41	14				

Optional features and accessories available for this Macon product are an extra charge, and not included in the standard model price.

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EH - EXTENDED HANDLE



Handle Extension, forged brass stem & collar, for extending existing handle 2".

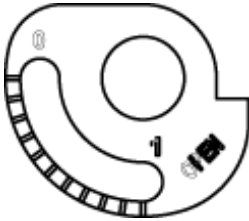
MODEL	FITS
EH-1	1/2", 3/4", & 1" R, AB, BB, MB, SB, SV, 1" SV
EH-2	1" & 1-1/4" AB, BB, MB, SB, 1-1/4" & 1-1/2" SV, AB
EH-3	1-1/2" & 2" BB, MB, SB, 2" SV, AB

SH - SHORT LEVER HANDLE



Short lever valve handle, zinc plated steel.

MS - MEMORY STOP



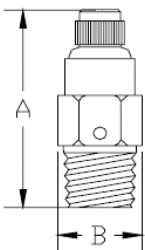
Memory stop, Zinc plated steel with position indicator and position lock screw.
For use with valve handles.

SSBS - STAINLESS STEEL BALL & STEM



316 Stainless Steel Ball & Stem.
Available in 1/2" - 2"

MAV - MANUAL AIR VENT



Manual air vent with brass body, knurled operator with screwdriver slot, blowout-proof stem, and side discharge vent.
Rated to 400 PSI (2760 kPa) and 250°F (120°C).

MODEL	NPT CONN			A	B	WRENCH SIZE	WEIGHT	
							lbs	kg
MAV-025	1/4"	in		1.75	0.625	9/16"	0.80	0.36
		mm		44	16			

Optional features and accessories available for this Macon product are an extra charge, and not included in the standard model price.

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