

Series  
RM

# Rate-Master® Flowmeters

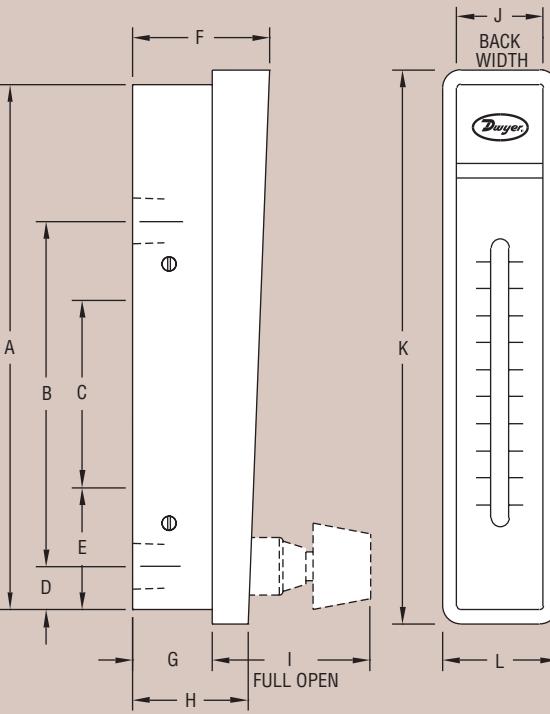
Polycarbonate, Gas Flow from 0.05-1800 SCFH, Water Flows to 10 GPM

FLOW

Flowmeters, Variable Area

Model RMC  
10" scale, 15-3/8" highModel RMB-SSV  
5" scale, 8-3/4" highModel RMA-TMV  
2" scale, 4-13/16" high

Scan here to watch product video

**Flowmeter Dimensions**

Model RMA	Model RMB	Model RMC
A 4-9/16 [115.90]	8-1/2 [215.90]	15-1/8 [384.20]
B 3 [76.20]	6-7/16 [163.50]	12-1/4 [311.20]
1/8 NPT CONN.	1/4 NPT CONN.	1/2 NPT CONN.
C 1-5/8 [41.28]	3-15/16 [100.00]	8-3/4 [222.30]
10-32 MTG. HOLES	1/4-20 MTG. HOLES	3/8-24 MTG. HOLES
D 3/8 [9.525]	5/8 [15.88]	1 [25.40]
E 1-1/16 [26.99]	1-7/8 [47.63]	2-3/4 [69.85]
F 1-3/16 [30.16]	1-3/4 [44.45]	2-1/2 [63.50]
G 11/16 [17.46]	1 [25.40]	1-7/16 [36.51]
H 61/64 [24.21]	1-7/16 [36.51]	1-31/32 [50.00]
I 1-3/8 [34.92]	1-13/16 [46.04]	2-1/2 [63.50]
J 3/4 [19.05]	1-1/4 [31.75]	2 [50.80]
K 4-13/16 [122.20]	8-3/4 [222.30]	15-3/8 [390.50]
L 1 [25.40]	1-1/2 [38.10]	2-1/4 [57.15]

**The Rate-Master®** flowmeter line of direct reading precision flowmeters incorporates many unique user features at moderate cost. These low cost flowmeters are ideal for general use.

**Easy to read design** — The direct reading scales eliminate troublesome conversions. The scales are brushed aluminum, coated with epoxy and the graduations are on both sides of the indicating tube. Special integral flow guides stabilize the float throughout the range to keep it from hunting or wandering in the bore. The float is highly visible against a white background.

**Construction assures accuracy** — All Rate-Master® flowmeter bodies are injection molded of tough, clear, shatter-proof polycarbonate plastic around a precision tapered pin. The result is accurate and repeatable readings. The single piece plastic body is mounted to a stainless steel back bone into which pipe thread inserts are welded to absorb piping torque. Precision metering valves of brass or stainless steel (specify BV or SSV on order) are available as an optional extra and permit precise flow adjustments. For vacuum applications, Model RMA units are available with top mounted valves (specify TMV). The small Series RMA models are accurate within  $\pm 4\%$  of full-scale reading; Series RMB within  $\pm 3\%$ ; large Series RMC within  $\pm 2\%$ .

**Installation is simple** — The Rate-Master® Flowmeter can be neatly panel mounted to keep flow tube centers in the same plane as the panel surface or surface mounted on the panel by means of tapped holes in the backbone. When through-panel mounted, the bezel automatically positions the instrument at the correct depth in the panel cutout. Surface mounted units can also be held in place by the piping. All mounting hardware plus installation and operating instructions are included.

**Easy-to-Interchange bodies** — Within a given Series Rate-Master® flowmeter bodies can be instantly interchanged. Simply "unplug" the body from backbone and replace it with another. O-rings provide a tight seal on inlet and outlet. Piping remains undisturbed. Interchangeability is useful where different scale ranges are sometimes required at the same location in the laboratory or plant.

**Cleaning is easy** — To release the plastic flowmeter body from the stainless steel backbone, just remove four screws. Pipe thread flow connections remain undisturbed. Remove the slide cover and the plug ball stop, clean the flow tube with soap and water and reassemble. It's that simple.

**How To Order**  
Series-Range No.("X")-Valve-Option  
**Example:** RMA-2-SSV

Series RMA with .1-1 SCFH Air Range & Stainless Steel Valve

**RMA**

Model	Description
<b>RMA-X</b>	Standard RMA
<b>RMA-X-BV</b>	RMA with Brass Valve‡
<b>RMA-X-SSV</b>	RMA with Stainless Steel Valve‡
<b>RMA-X-TMV</b>	RMA with Top Mounted Valve*‡

**RMB**

Model	Description
<b>RMB-X</b>	Standard RMB
<b>RMB-X-BV</b>	RMB with Brass Valve‡
<b>RMB-X-SSV</b>	RMB with Stainless Steel Valve‡

**RMC**

Model	Description
<b>RMC-X</b>	Standard RMC
<b>RMC-X-BV</b>	RMC with Brass Valve‡
<b>RMC-X-SSV</b>	RMC with Stainless Steel Valve‡

\*Top mounted metering valves provide same precision construction but for vacuum applications.

RMA models only.

**Popular Ranges**

Model RMA-2" Scale		Model RMB-5" Scale		Model RMC-10" Scale	
Range	Range No.	Range	Range No.	Range	Range No.
SCFH Air		SCFH Air		SCFH Air	
.05-.5	1	.5-.5	49+	5-.50	101
.1-1	2	1-10	50	10-100	102
.2-2	3	3-20	51	20-200	103
.5-5	4	4-50	52	40-400	104
1-10	5	10-100	53	60-600	105
2-20	6	20-200	54	100-1000	106
5-50	7	40-400	55	120-1200	107
10-100	8	50-500	56	200-1800	108
15-150	9	60-600	57	<b>SCFM Air</b>	
20-200	10	<b>Gal. Water per hour</b>		1-10	121
<b>CC Air/min.</b>		1-12		2-20	122
5-50	151*	1-20	82	4-30	123
10-100	150*	4-40	83	<b>Gal. Water per hour</b>	
30-240	11	10-100	84	2-20	134
50-500	12	<b>SCFH &amp; LPM Air</b>		8-90	135
100-1000	13	1.2-10/0.6-5	50D	<b>Gal. Water per minute</b>	
200-2500	14	3-20/1.5-9.5	51D	1.1-1	141
<b>LPM Air</b>		4-50/2-23	52D	2-2.2	142
.5-5	26	10-100/5-50	53D	4-4	143
1-10	21	20-200/5-95	54D	8-7	144
2-25	22	<b>GPH &amp; LPM Water</b>		1.2-10	145
5-50	23	1-12/0.06-0.76	82D		
5-70	24	1-20/0.065-1.25	83D		
10-100	25	10-100/0.8-6.2	85D		
<b>CC Water/min.</b>					
5-50	32				
10-110	33				
20-300	34				
<b>Gal. Water/hr</b>					
1-11	42				
2-24	43				
4-34	44				
5-50	45				

\*Accuracy ±8%

+Accuracy ±5%

‡Valve is designed for flow adjustment only, not intended to be used as an open/shut-off valve.

**SPECIFICATIONS**

**Service:** Compatible gases and liquids.

**Wetted Materials:** Body: Polycarbonate; O-ring: Neoprene and Buna-N; Metal parts: SS (except for optional brass valve); Float: SS, black glass, aluminum, K monel, tungsten carbide depending on range.

**Temperature Limit:** 130°F (54°C).

**Pressure Limit:** 100 psi (6.9 bar).

**Accuracy:** RMA: 4%; RMB: 3%; RMC: 2% of full-scale.

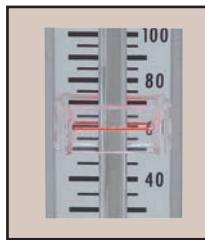
**Process Connection:** RMA: 1/8"; RMB: 1/4"; RMC: 1/2" female NPT.

**Weight:** RMA: 4 oz (113.4 g); RMB: 13 oz (368.5 g); RMC: 39 oz (1105.6 g).

**CAUTION**

Dwyer® Rate-Master® flowmeters are designed to provide satisfactory long term service when used with air, water, or other compatible media. Refer to factory for information on questionable gases or liquids. Caustic solutions, anti-freeze (ethylene glycol) and aromatic solvents should definitely not be used.

**OPTIONS & ACCESSORIES**



**Adjustable pointer flags** – Red lined pointer flags provide quick visual reference to a required flow level. Of clear plastic, they snap into place inside bezel and slide to desired level.

**Model RMA-X-APF**, Adjustable Pointer Flag for RMA Series

**Model RMB-X-BPF**, Adjustable Pointer Flag for RMB Series

**Model RMC-X-CPF**, Adjustable Pointer Flag for RMC Series



**Regulator Kits** – Available as optional extras for both Rate-Master® Flowmeters and Visi-Float® Flowmeters models. This view shows Model VFA Visi-Float® flowmeter with integrally connected constant differential pressure regulator. Recommended for use where inlet air pressure fluctuates widely and constant flow is required. The regulator maintains a constant pressure differential of approximately 3 ± .15 psig. Supply pressure must be at least 3 psig above the flowmeter discharge to operate. The standard regulator may be used with any Dwyer Series RM or VF flowmeter up to 200 scfh. For higher flow rates consult the factory.

**Model RKA**, Regulator Kit for RMA Series

**Model RK-RMB**, Regulator Kit for RMB Series

**OPTION**

-NIST, NIST traceable calibration certificate

**Specials** – Special ranges, scales, mounting arrangements, etc., are available on special order, or in OEM quantities.