



Series  
RM

# Rate-Master® Flowmeters

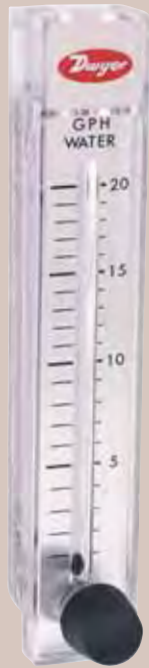
Polycarbonate, Gas Flow from 0.05-1800 SCFH, Water Flows to 10 GPM

FLOW

Flowmeters, Variable Area



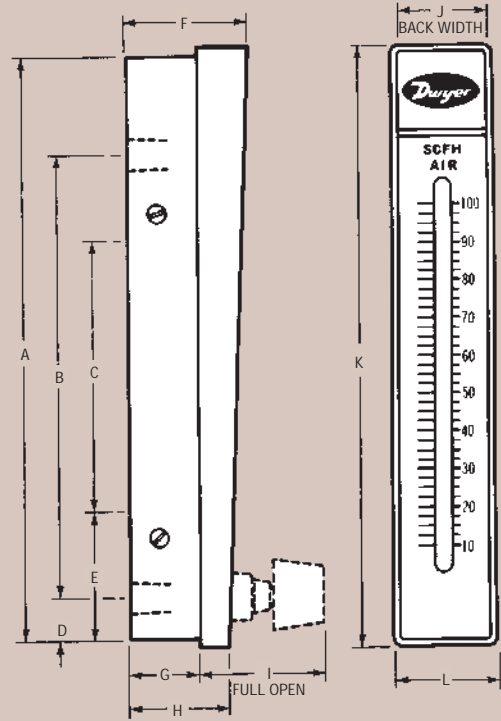
Model RMC-SSV 10" scale, 15-3/8" high



Model RMB-SSV 5" scale, 8-3/4" high



Model RMA-SSV 2" scale, 4-13/16" high



| Dimensions in Inches (Centimeters) |                 |                 |                 |
|------------------------------------|-----------------|-----------------|-----------------|
|                                    | Model RMA       | Model RMB       | Model RMC       |
| A                                  | 4 -9/16 (11.59) | 8-1/2 (21.59)   | 15 -1/8 (38.42) |
| B                                  | 3 (7.62)        | 6-7/16 (16.35)  | 12 -1/4 (31.12) |
|                                    | 1/8 NPT CONN.   | 1/4 NPT CONN.   | 1/2 NPT CONN.   |
| C                                  | 1-5/8 (4.13)    | 3-15/16 (10.00) | 8-3/4 (22.23)   |
|                                    | 10 - 32 Thds.   | 1/4 - 20 Thds.  | 10 - 32 Thds.   |
| D                                  | 3/8 (.95)       | 5/8 (1.59)      | 1 (2.54)        |
| E                                  | 1-1/16 (2.70)   | 1-7/8 (4.76)    | 2-3/4 (6.99)    |
| F                                  | 1-3/16 (3.02)   | 1-3/4 (4.45)    | 2-1/2 (6.35)    |
| G                                  | 11/16 (1.75)    | 1 (2.54)        | 1-7/16 (3.65)   |
| H                                  | 61/64 (2.42)    | 1-7/16 (3.65)   | 1-31/32 (5.00)  |
| I                                  | 1-3/8 (3.49)    | 1-13/16 (4.60)  | 2-1/2 (6.35)    |
|                                    | (OPEN)          |                 |                 |
| J                                  | 3/4 (1.91)      | 1-1/4 (3.18)    | 2 (5.08)        |
| K                                  | 4-13/16 (12.22) | 8-3/4 (22.23)   | 15-3/8 (39.05)  |
| L                                  | 1 (2.54)        | 1-1/2 (3.81)    | 2-1/4 (5.72)    |

**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 ±4% of full scale reading; Series RMB within ±3%; large Series RMC within ±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

**Model RMA**

**Model RMA-X**, Standard RMA ..... **\$28.75**

**Model RMA-X-BV**, RMA with Brass Valve ..... **\$36.00**

**Model RMA-X-SSV**, RMA with Stainless Steel Valve ..... **\$38.25**

**Model RMA-X-TMV**, RMA with Top Mounted Valve ..... **\$52.50**

**Model RMB**

**Model RMB-X**, Standard RMB ..... **\$38.00**

**Model RMB-X-BV**, RMB with Brass Valve ..... **\$46.00**

**Model RMB-X-SSV**, RMB with Stainless Steel Valve ..... **\$48.00**

**Model RMC**

**Model RMC-X**, Standard RMC ..... **\$83.00**

**Model RMC-X-BV**, RMC with Brass Valve ..... **\$105.00**

**Model RMC-X-SSV**, RMC with Stainless Steel Valve ..... **\$114.00**

**Popular Ranges**

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

\*Accuracy ±8% add \$13.50 to price.

+Accuracy ±5%.

**SPECIFICATIONS**

**Service:** Compatible gases and liquids.

**Wetted Materials:** Body: Polycarbonate; O-ring: Neoprene and Buna-N; Metal parts: stainless steel (except for optional brass valve); Float: stainless steel, 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.

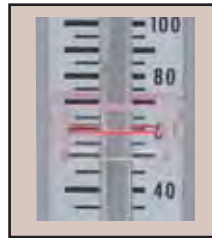
**Process Connection:** RMA: 1/8"; RMB: 1/4"; RMC: 1/2" female NPT.

**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.



**Top Mounted Metering Valves** – Same precision construction for vacuum applications. RMA models only.

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

**Model RMA-X-APF**, Adjustable Pointer Flag for RMA Series ..... **add \$3.70 net**

**Model RMB-X-BPF**, Adjustable Pointer Flag for RMB Series ..... **add 3.90 net**

**Model RMC-X-CPF**, Adjustable Pointer Flag for RMC Series ..... **add 3.90 net**

**Model RKA**, Regulator Kit for RMA Series ..... **\$155.00**

**Model RK-RMB**, Regulator Kit for RMB Series ..... **155.00**

FLOW

Flowmeters, Variable Area