

# RATE-MASTER® POLYCARBONATE FLOWMETERS

2", 5" or 10" Scale, Interchangeable Bodies



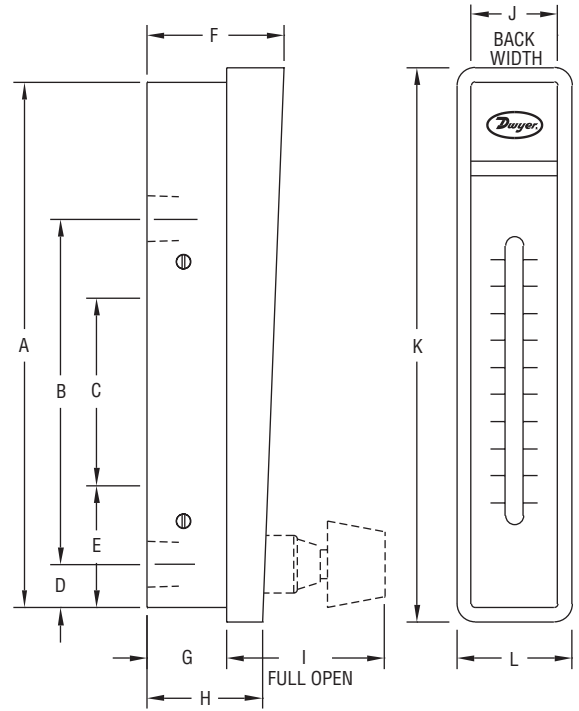
**Model RMC**  
10" scale, 15-3/8" high



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



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



| DIMENSIONS - FLOWMETER |                  |                   |                   |
|------------------------|------------------|-------------------|-------------------|
|                        | 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]     |

Flowmeters,  
Variable Area & In-Line



The **SERIES RM** Rate-Master® Flowmeters are a line of general use, direct reading precision flowmeters suitable for both gas and liquid applications. This Series consists of 2" (51 mm), 5" (127 mm) and 10" (254 mm) scales that can be panel or surface mounted with optional precision metering valves. Within a given Series, the Rate-Master® flowmeter bodies can be instantly interchanged, allowing the piping to remain undisturbed, interchangeability of the ranges, and easy cleaning.

#### FEATURES/BENEFITS

- Direct reading scales eliminate the need for troublesome conversions
- Stainless steel backbone absorbs piping torque reducing installation damage and cost
- Shatter-proof polycarbonate allows for long operation life
- Precision injection molding around a precision tapered pin enables high repeatability
- Increased reading accuracy with special integral flow guides that stabilize float movement
- Scale graduations on both side of the indicating tube allow for instantaneous flow reading saving time

#### APPLICATIONS

- Medical equipment
- Air samplers
- Gas analyzers
- Pollution monitors
- Chemical injectors
- Cabinet purging

# RATE-MASTER® POLYCARBONATE FLOWMETERS

Gas Flow from 0.05 to 1800 SCFH, Water Flow to 10 GPM

| SPECIFICATIONS   |  |
|--|--|
| <b>Service:</b> Compatible gases and liquids.  |  |
| <b>Wetted Materials:</b> 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.  |  |
| <b>Temperature Limit:</b> 130°F (54°C).  |  |
| <b>Pressure Limit:</b> 100 psi (6.9 bar).  |  |
| <b>Accuracy:</b> RMA: 4%; RMB: 3%; RMC: 2% of FS.  |  |
| <b>Process Connection:</b> RMA: 1/8"; RMB: 1/4"; RMC: 1/2" female NPT.   |  |
| <b>Weight:</b> RMA: 4 oz (113.4 g); RMB: 13 oz (368.5 g); RMC: 39 oz (1105.6 g).   |  |
| <b>CAUTION:</b> 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. |  |

| MODEL CHART  |                                |
|--|--------------------------------|
| 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     |
| <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 |
| <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 |
| <b>How To Order:</b> Series-Range No.("X")-Valve-Option  |                                |
| <b>Example:</b> RMA-2-SSV<br>(Series RMA with .1-1 SCFH air range & stainless steel valve)   |                                |
| *Provide same precision construction but for vacuum applications.<br>+Valve is designed for flow adjustment only, not intended to be used as an open/shut-off valve. |                                |

| RANGE CHART - RMA 2" SCALE - POPULAR RANGES |             |           |               |
|---|-------------|-----------|---------------|
| Range No.                                   | SCFH Air    | Range No. | LPM Air       |
| 1   | .05 to .4   | 26        | .5 to 5       |
| 2   | .1 to 1     | 21        | 1 to 10       |
| 3   | .2 to 2     | 22        | 2 to 25       |
| 4   | .5 to 5     | 23        | 5 to 50       |
| 5   | 1 to 10     | 24        | 5 to 70       |
| 6   | 2 to 20     | 25        | 10 to 100     |
| 7   | 5 to 50     |           |               |
|   |             | Range No. | CC/Min. Water |
| 8   | 10 to 100   | 32        | 5 to 50       |
| 9   | 15 to 150   | 33        | 10 to 110     |
| 10  | 20 to 200   | 34        | 20 to 300     |
| Range No.                                   | CC/Min. Air | Range No. | GPH Water     |
| 151*  | 5 to 50     | 42        | 1 to 11       |
| 150*  | 10 to 100   | 43        | 2 to 24       |
| 11  | 30 to 200   | 44        | 4 to 34       |
| 12  | 50 to 500   | 45        | 5 to 50       |
| 13  | 100 to 1000 |           |               |
| 14  | 200 to 2500 |           |               |

\*Accuracy ±8%

| OPTIONS   |  |
|---|--|
| To order add suffix:  | Description                            |
| <b>-NIST</b>  | NIST traceable calibration certificate |
| <b>-APF</b>   | Adjustable pointer flag for Series RMA |
| <b>-BPF</b>   | Adjustable pointer flag for Series RMB |
| <b>-CPF</b>   | Adjustable pointer flag for Series RMC |
| <b>Note:</b> Special ranges, scales, mounting arrangements, etc., are available on special order, or in OEM quantities. |  |

| RANGE CHART - RMB 5" SCALE - POPULAR RANGES |           |           |                       |
|---|-----------|-----------|-----------------------|
| Range No.                                   | SCFH Air  | Range No. | SCFH & LPM Air        |
| 49*   | -5        | 50D       | 1.2 to 10/0.6 to 5    |
| 50  | 1 to 10   | 51D       | 2 to 20/1 to 9.5      |
| 51  | 3 to 20   | 52D       | 4 to 50/2 to 23       |
| 52  | 4 to 50   | 53D       | 10 to 100/5 to 50     |
| 53  | 10 to 100 | 54D       | 20 to 200/10 to 95    |
| 54  | 20 to 200 |           |                       |
|   |           | Range No. | GPH & LPM Water       |
| 55  | 40 to 400 | 82D       | 1 to 12/0.06 to 0.76  |
| 56  | 50 to 500 | 83D       | 1 to 20/0.065 to 1.25 |
| 57  | 60 to 600 | 85D       | 10 to 100/0.8 to 6.2  |
| Range No.                                   | GPH Water |           |                       |
| 82  | 1 to 12   |           |                       |
| 83  | 1 to 20   |           |                       |
| 84  | 4 to 40   |           |                       |
| 85  | 10 to 100 |           |                       |

\*Accuracy ±5%

| RANGE CHART - RMC 10" SCALE - POPULAR RANGES |             |           |           |
|--|-------------|-----------|-----------|
| Range No.                                    | SCFH Air    | Range No. | GPH Water |
| 101  | 5 to 50     | 134       | 2 to 20   |
| 102  | 10 to 100   | 135       | 8 to 90   |
| 103  | 20 to 200   |           |           |
|  |             | Range No. | GPM Water |
| 104  | 40 to 400   | 141       | .1 to 1   |
| 105  | 60 to 600   | 142       | .2 to 2.2 |
| 106  | 100 to 1000 | 143       | .4 to 4   |
| 107  | 120 to 1200 | 144       | .8 to 7   |
| 108  | 200 to 1800 | 145       | 1.2 to 10 |
| Range No.                                    | SCFM Air    |           |           |
| 121  | 1 to 10     |           |           |
| 122  | 2 to 20     |           |           |
| 123  | 4 to 30     |           |           |



**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.

| ACCESSORIES   |                              |
|---------------|------------------------------|
| Model         | Description                  |
| <b>RKA</b>    | Regulator kit for Series RMA |
| <b>RK-RMB</b> | Regulator kit for Series RMB |



**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.