

ALL GLASS FLOWRATOR METER MODELS 10A1027A & 10A1028A

The Models 10A1027A and 10A1028A all glass Flowrator* meters are larger size low cost laboratory type flowmeters. Refer to Specification 10A4/10A1017 for smaller sizes.

MATERIALS OF CONSTRUCTION

Tube: Borosilicate brand glass – Beadguide* design only.

Note: Borosilicate acid glass tubes are not recommended for either hot or strong alkalis, fluorine, hydrofluoric acid or steam.

Float

Type 316 Stainless steel

- ✓ Nickel
- ✓ Durimet
- ✓ Tantalum
- ✓ Monel
- ✓ Hastelloy^a
- ✓ Metallized Kel-F^b
- ✓ Porcelain

Float Stops

Model 10A1027A: Hard natural rubber

Model 10A1028A

- Stainless steel
- ✓ Hastelloy
- ✓ Durimet
- ✓ Nickel
- ✓ Monel
- ✓ Aluminum
- ✓ Brass
- ✓ Teflon^c

Fittings

Model 10A1027A: Rubber hose

Model 10A1028A: Conical glass flanges, aluminum, cast iron

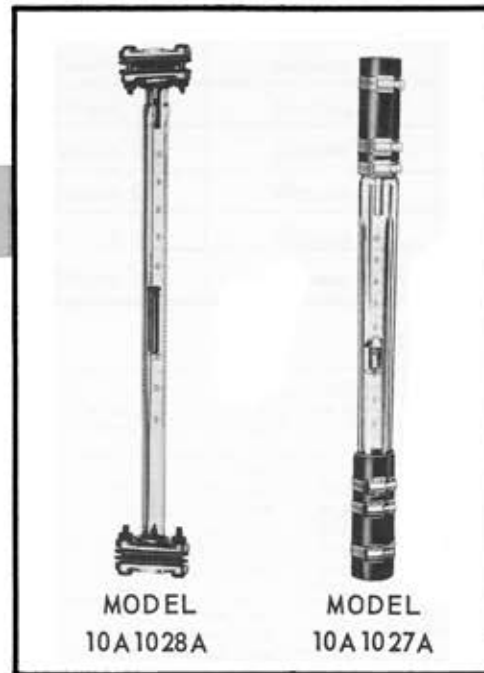
Hose Clamps

Model 10A1027A: Stainless steel

SCALES (etched on tube)

- 5-inch or 10-inch Percentage
- ✓ 5-inch or 10-inch Direct reading
- ✓ 5-inch or 10-inch Millimeter
- ✓ Optional

- a. T.M. Union Carbide & Carbon Corp.
- b. T.M. The M. W. Kellogg Co.
- c. T.M. E. I. DuPont de Nemours & Co.



PERFORMANCE

Accuracy: ±2 per cent maximum flow rate,
✓ ±1 per cent maximum flow rate

Rangeability: 12-1/2 to 1

OPERATIONAL LIMITS

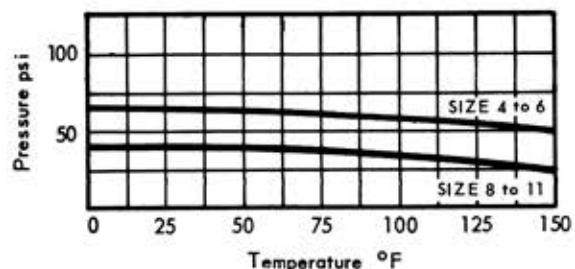
Temperature Rating

Model 10A1027A: 150 F continuous; 225 F intermittent

Model 10A1028A: 175 F continuous; 225 F intermittent

(Thermal shock differential 200 F maximum both models)

PRESSURE RATING



CONNECTIONS

| Meter Size (Inches) | 4 | 5 | 6 | 8 | 9 | 11 | Orientation | |
|---------------------|-----|-------|-------|-------|-------|-------|-------------|--------|
| | | | | | | | Inlet | Outlet |
| 10A1027A ID Hose | 7/8 | 1-1/4 | 1-1/2 | 2 | 2-1/2 | 3-1/2 | Bottom | Top |
| 10A1028A | 1/2 | 1 | 1 | 1-1/2 | 2 | 3 | Bottom | Top |

*Supersedes specification 10A4/10A1027.
Asterisk in body of specification designates specific revisions.

FISCHER & PORTER



Complete Process Instrumentation INDEX 114.150

WEIGHT

| SIZE | MODEL 10A1027A | MODEL 10A1028A |
|------|----------------|----------------|
| 4 | 4 pounds | 5 pounds |
| 5 | 6 pounds | 7 pounds |
| 6 | 7 pounds | 8 pounds |
| 8 | 10 pounds | 12 pounds |
| 9 | 12 pounds | 14 pounds |
| 11 | 14 pounds | 16 pounds |

* CAPACITIES

| Size | Maximum Flow Rate | | ΔP H ₂ O (1) | V.I.C. (2) | Min. psia for gas service (3) |
|------|---|-----------------------------------|---------------------------------------|---------------|-------------------------------------|
| | gpm H ₂ O $\rho = 1.0$ g/cc visc = 1 cps | scfm Air @ 14.7 psia & 70 F | | | |
| 4 | 0.270 | 1.12 | 0.8 | 2.9 | 5.5 |
| | 0.315 | 1.30 | 0.8 | 2.9 | 3.5 |
| | 0.425 | 1.74 | 0.8 | 2.9 | 2.7 |
| | 0.620 | 2.55 | 2.3 | 5.1 | 11.5 |
| | 0.810 | 3.35 | 2.4 | 5.1 | 8.4 |
| | 1.12 | 4.60 | 4.6 | 7.1 | 16.2 |
| 5 | 1.52 | 6.25 | 5.8 | 1.1 | 18.6 |
| | 1.96 | 8.0 | 3.8 | 10.4 | 13.6 |
| | 2.70 | 11.0 | 4.4 | 10.4 | 9.6 |
| | 3.55 | 14.6 | 5.4 | 1.6 | 9.6 |
| | 5.05 | 20.8 | 10.9 | 2.2 | 19.8 |
| | 6 | 4.70 | 19.2 | 7.6 | 14.8 |
| 6.30 | | 26.0 | 10.4 | 2.2 | 11.5 |
| 6.60 | | 27.0 | 11.1 | 14.8 | 6.8 |
| 7.50 | | 31.0 | 14.3 | 16.9 | 8.9 |
| 8.80 | | 36.0 | 16.6 | 2.2 | 6.8 |
| 10.0 | | 41.0 | 21.4 | 2.5 | 8.9 |
| 8 | *16.0† | 66.0 | 60.0 | 2.0 | 35.0 |
| | 13.4 | 55.0 | 7.9 | 27.6 | 15.4 |
| | 15.4 | 63.5 | 10.6 | 33.0 | 22.0 |
| | 17.6 | 72.0 | 8.8 | 4.2 | 15.4 |
| | 20.4 | 84.0 | 11.8 | 5.0 | 22.0 |
| | *30.0† | 120.0 | 30.0 | 3.0 | 45.0 |
| 9 | 26.5 | 110.0 | 12.4 | 26.5 | 16.4 |
| | 35.0 | 144.0 | 19.8 | 18.5 | 21.2 |
| | 41.0 | 169.0 | 22.2 | 3.3 | 21.2 |
| | *60.0† | 250.0 | 40.0 | 3.0 | 45.0 |
| 11 | 57.0 | 236.0 | 21.0 | 88.0 | 10.0 |
| | 78.0 | 320.0 | 25.0 | 13.0 | 10.0 |

† These capacities do not follow standard percent scale but are available with direct reading or special percent scales.

- (1) Pressure drop is total pressure loss across the meter.
- (2) Meter is unaffected by viscosity when the value of $\text{cps}/\sqrt{\rho}$ (using operating density in g/cc and viscosity in centipoises) is less than V.I.C. (viscosity immunity ceiling). V.I.C. is applicable to liquids only; all gas flows fall below Viscosity Immunity Ceiling.
- (3) Meters not recommended for gas service where pressure is below minimum shown. This minimum pressure is based on close coupling the throttling valve to the meter outlet.

TYPICAL SPECIFICATIONS

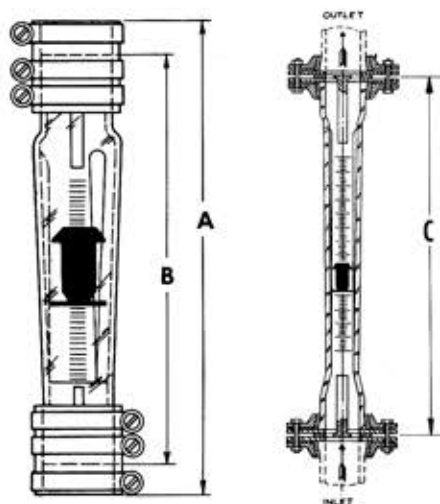
The flowmeter shall be of the variable-area type with a glass metering tube and (rubber hose) (conical glass flange) connections. The meter shall have a (specify material) metering float and (specify material) float stops. The (direct reading) (percentage) (millimeter) flow scale shall be etched directly on the metering tube. The flow range shall be (specify) of (specify liquid or gas) specific gravity (specify), viscosity (specify) metered at (specify operating temperature and pressure). The maximum operating temperature and pressure is (specify).

Pub. 14367a

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Printed in U.S.A. May 1967

DIMENSIONS



| METER SIZE | SCALE INCHES | 10A1027A | | 10A1028A |
|------------|--------------|----------|----------|----------|
| | | A | B | C |
| 4 | 5 | 14-1/4 | 10-3/4 | 12-1/8 |
| | 10 | 19-1/16 | 15-9/16 | 17 |
| 5 | 5 | 16-5/16 | 11-13/16 | 14-1/8 |
| | 10 | 21-3/16 | 16-11/16 | 19 |
| 6 | 5 | 17-7/8 | 13-3/8 | 14-1/8 |
| | 10 | 22-3/4 | 18-1/4 | 18 |
| 8 | 5 | 18-15/16 | 14-7/16 | 14-1/4 |
| | 10 | 23-3/4 | 19-1/4 | 19-1/8 |
| 9 | 5 | 21-3/8 | 16-7/8 | 16-3/8 |
| | 10 | 26-1/4 | 21-3/4 | 21-1/4 |
| 11 | 5 | 22 | 16-7/8 | 19-7/8 |
| | 10 | 26-7/8 | 21-3/4 | 24-3/4 |

Note: All Dimensions in Inches

STANDARD MODELS

10A1027A Hose clamp connections

10A1028A Conical glass flanges

ORDERING INFORMATION

Complete model number

Materials of construction

Size

Accuracy

Scale

Operating Conditions

Fluid measured

Maximum flow rate

Fluid density

Fluid viscosity

Operating and maximum temperature

Operating and maximum pressure



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