LAKE MONITORS

BASIC

Data Sheet No. B-699

IN-LINE LIQUID FLOW RATE MONITORS

FOR 1/4 – 2 INCH PIPE SIZES

CHOICE OF THREE MATERIALS OF CONSTRUCTION

Select from aluminum, brass or stainless steel to meet system and liquid requirements.

UNRESTRICTED MOUNTING

Allows the designer to install the monitor in any orientation – horizontal, vertical or inverted.

SUPERIOR EXTERIOR DESIGN

Weather-tight for use outdoors and/or on systems where wash downs are required.

GOOD VISCOSITY STABILITY

A sharp-edged orifice provides excellent measurement stability to a minimum of 500 SSU.

RUGGED AND RELIABLE

Designed as a hydraulic service tool, this monitor will provide years of maintenance-free performance.

HIGH PRESSURE OPERATION

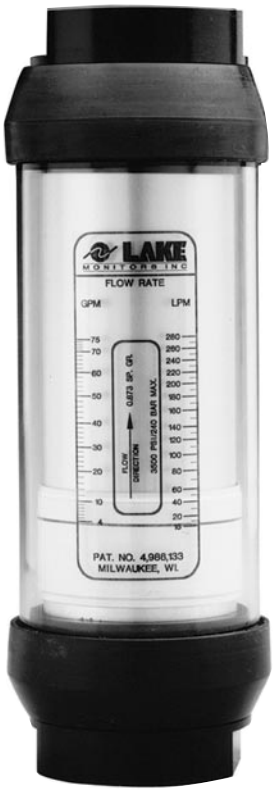
The magnetically coupled follower design allows operation to 6000 PSIG and use with opaque liquids.

TWENTY-THREE DIFFERENT PORTS AVAILABLE

Standard selection of NPT, SAE and BSP ports reduces the amount of adapters required for installation.

LOW COST PRECISION

Mid-scale measuring accuracy within ±2.5%. Full-scale accuracy within ±4%.



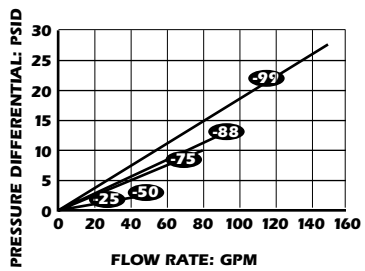
ENGINEERING SPECIFICATION

THE IN-LINE FLOW RATE MONITOR SHALL:

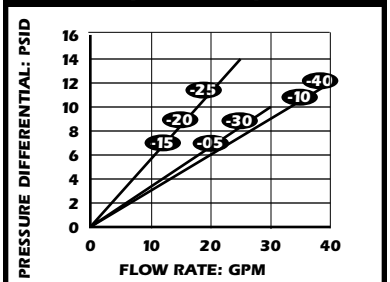
- use the variable annular orifice technique with compression spring recovery.
- not require inlet or outlet straight plumbing, or require vertical pipe mounting.
- have a measuring accuracy of ±2.5% of full scale in the center third of the measuring range, and ±4% of full scale accuracy over the entire flow measuring range.
- have a stainless steel sharp-edged orifice.
- have a weather-tight external construction.
- be Lake Monitors No. B _ _ – _ _ _ – _ _

PRESSURE DIFFERENTIAL VS FLOW RATE

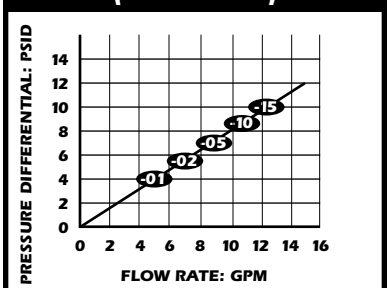
SERIES 5 MONITORS (1-1/4″ - 2″)



SERIES 4 MONITORS (3/4″ - 1″)



SERIES 3 MONITORS (1/4″ - 1/2″)



LAKE MONITORS

IN-LINE LIQUID FLOW RATE MONITORS

MATERIALS OF CONSTRUCTION (WETTED COMPONENTS)

	ALUMINUM	BRASS	STAINLESS STEEL
High-pressure casing, end ports and tapered shaft	Aluminum	Brass	#304 Stainless Steel
Seals	Buna-N (STD), EPR, Viton® or Kalrez®	Buna-N (STD), EPR, Viton® or Kalrez®	Viton® with Teflon® backup (STD), Buna-N, EPR or Kalrez®
Transfer Magnet	Teflon coated Alnico	Teflon coated Alnico	Teflon coated Alnico
Floating Orifice Disk	Stainless Steel	Stainless Steel	Stainless Steel
All other internal parts	Stainless Steel	Stainless Steel	Stainless Steel

MATERIALS OF CONSTRUCTION (NON-WETTED COMPONENTS)

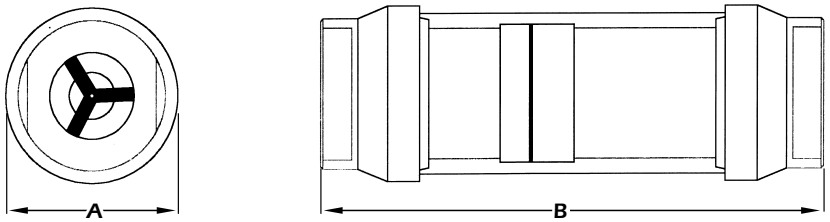
	ALUMINUM	BRASS	STAINLESS STEEL
Window Tube	Polycarbonate (STD), Pyrex	Polycarbonate (STD), Pyrex	Polycarbonate (STD), Pyrex
Window Seals	Buna-N (STD), Teflon	Buna-N (STD), Teflon	Buna-N (STD), Teflon

Teflon is a registered trademark of duPont de Nemours & Co.
Viton and Kalrez are registered trademarks of Dow DuPont Elastomers.

PERFORMANCE

Measuring accuracy:	±2.5% of full-scale in the center third of the measuring range; ±4% of full-scale over the entire scale range.
Repeatability:	±1% of full-scale
Flow measuring range:	0.05-150 GPM (0.2-560 LPM)
Maximum operating pressure:	aluminum and brass monitors: 3500 PSIG (240 Bar) stainless steel monitors: 6000 PSIG (410 Bar)
Maximum operating temperature:	240°F (116°C) Note: for operation to 600°F (316°C), see our High Temperature Data sheet.
Pressure differential:	see graphs
Standard calibration fluids:	Oil monitors: DTE 25 @ 110°F (43°C), 0.873 sg Water monitors: tap water @ 70°F (21°C), 1.0 sg

MECHANICAL



SIZE CODE

DIM	SERIES 3	SERIES 4	SERIES 5	SERIES 5
A	1-7/8″ (48mm)	2-3/8″ (60mm)	3-1/2″ (90mm)	3-1/2″ (90mm)
B	6-9/16″ (167MM)	7-5/32″ (182mm)	10-1/8″ (258mm)	12-5/8″ (322mm)
PORT SIZES	NPTF: 1/4″, 3/8″, 1/2″ SAE: #6, #8, #10 BSP: 3/8″, 1/2″	NPTF: 3/4″, 1″ SAE: #12, #16 BSP: 3/4″, 1″	NPTF: 1-1/4″, 1-1/2″ SAE: #20 BSP: 1-1/4″	NPTF: 2″ SAE: #32 BSP: 2″

Note: Consult factory for SAE brass monitor requirements.