Lake Monitors
Basic In-line Liquid Flow Rate Monitors

FOR 1/8" – 2" PIPE SIZES

Ideal for monitoring case drain flows, pump performance and media flows through hydraulic circuits and sub-circuits

STYLE B

CHOICE OF THREE MATERIALS OF CONSTRUCTION

Select from aluminum, brass or stainless steel to meet system and media compatibility 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 stainless steel orifice provides excellent measurement stability for viscosities from 0-500 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 and rigid pressure vessel design allows operation to 6000 PSIG and use with opaque liquids.

24 DIFFERENT PORTS AVAILABLE

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

LOW COST ACCURACY

±2.5% of range accuracy in center third of scale; ±4% in upper and lower thirds.

BI-DIRECTIONAL AND REVERSE FLOW OPTION OFFERED

Basic in-line monitors are also available in bi-directional and reverse flow versions. Contact Lake Monitors for more information.

ENGINEERING SPECIFICATION

THE IN-LINE FLOW RATE MONITOR SHALL:

- Use the variable annular orifice technique with compression spring recoil.
- 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% in upper and lower third.
- Have a stainless steel sharp-edged orifice.
- Have a weather-tight external construction.
- Be Lake Monitors No. B _ _ – _ _ _ – _ _

Basic 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	#303 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

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

MATERIALS OF CONSTRUCTION (NON-WETTED COMPONENTS)

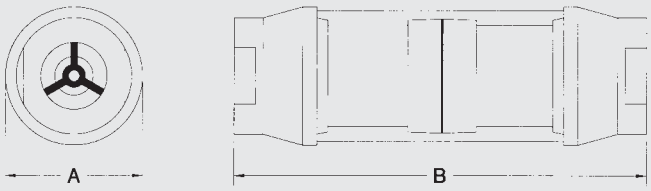
	ALUMINUM	BRASS	STAINLESS STEEL
Window Tube	Polycarbonate (STD)	Polycarbonate (STD)	Polycarbonate (STD)
Window Seals	Buna-N (STD), Teflon®	Buna-N (STD), Teflon®	Buna-N (STD), Teflon®

PERFORMANCE

Measuring accuracy:	±2.5% of full-scale in the center third of the measuring range; ±4% in upper and lower thirds
Repeatability:	±1% of full-scale
Flow measuring range:	.05-150 GPM (0.2-560 LPM)
Pressure differential:	See graphs on the right for typical pressure differentials. For specific differential information, refer to Lake data sheet PDDS-404.
Maximum operating pressure:	aluminum and brass monitors: 3500 PSIG (240 Bar) stainless steel monitors: 6000 PSIG (410 Bar)
Maximum operating temperature:	240ºF (116ºC) Note: for operation to 600ºF (316ºC), see our High Temperature data sheet.
Standard calibration fluids:	Oil monitors: DTE 25® @ 110ºF (43ºC), 0.873 sg Water monitors: tap water @ 70ºF (21ºC), 1.0 sg
Filtration requirements:	74 micron filter or 200 mesh screen minimum

DTE 25 is a registered trademark of Exxon Mobil

MECHANICAL SIZE CODE



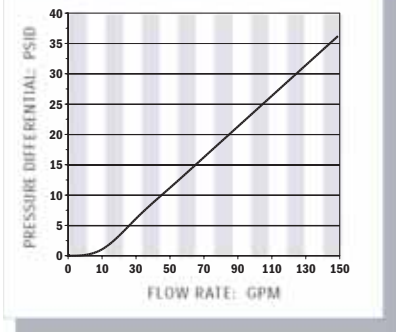
DIM	SERIES 2	SERIES 3	SERIES 4	SERIES 5	SERIES 5
A	1-1/4" (32mm)	1-7/8" (48mm)	2-3/8" (60mm)	3-1/2" (90mm)	3-1/2" (90mm)
B	4-13/16" (122MM)	6-9/16" (167MM)	7-5/32" (182mm)	10-1/8" (258mm)	12-5/8" (322mm)
Port Sizes	NPTF: 1/8", 1/4"	NPTF: 1/4", 3/8", 1/2" SAE: #6, #8, #10 BSP: 3/8", 1/2"	NPTF: 3/4", 1" SAE: #12, #16 BSP: 3/4", 1"	NPTF: 1-1/4", 1-1/2" SAE: #20, #24 BSP: 1-1/4", 1-1/2"	NPTF: 2" SAE: #32 BSP: 2"

Note: Consult factory for SAE brass monitor requirements.

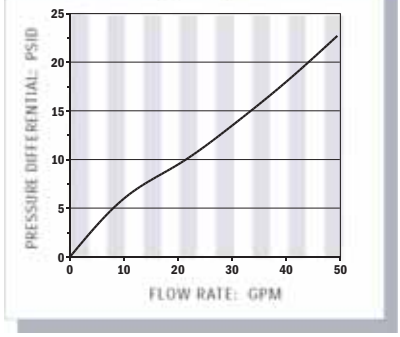
TYPICAL PRESSURE DIFFERENTIALS

For specific differential graphs, refer to Lake data sheet PDDS-404.

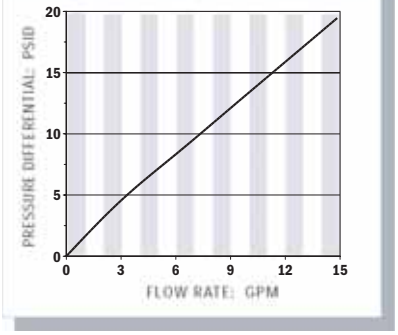
SERIES 5 MONITORS 1-1/4" - 2"



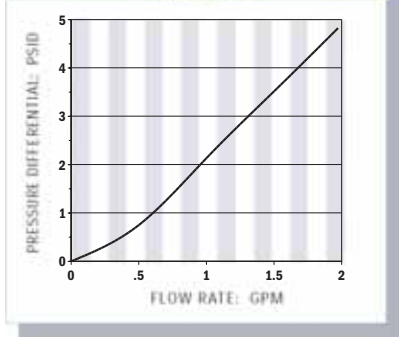
SERIES 4 MONITORS 3/4" - 1"



SERIES 3 MONITORS 1/4" - 1/2"



SERIES 2 MONITORS 1/8" - 1/4"



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