

GENERAL

Matheson Instruments flowmeters combine construction and performance features essential to accurate low flow measurement described on Customer Engineering Information Sheets. Information herein is intended as a guide to efficient use and care; careful compliance should result in long and useful service.

INSTALLATION

1. Immediately after unpacking, inspect unit for any damage which may have been incurred during shipment.
2. Before installation, remove dust caps from the inlet and outlet fittings; if unit is supplied with an integral valve, be sure valve is open. Invert unit and check that float in flow tube moves freely. Occasionally, especially in very low flow rate tubes, foreign particles prevent continuous motion of float. (See section on service.)
3. It is recommended that a 25 micron filter be installed upstream of meters where dirt can interfere with the operation of flowmeters.

MOUNTING

4. The meter is mounted in a vertical position, the inlet (lowest end of a scale reading) at the bottom. Inclination of meter more than 5 degrees on any axis will affect the accuracy of the meter. Panel mounted meters should be installed in position before connecting to process piping. Care must be taken when pipe or tube fittings are joined to the connectors on the meter. General good piping practice should be observed to prevent trapped fluid up or down stream of the meter. Connectors on the meter are supplied with wrench flats which must be held firmly when threading mating connections. Paste sealants are preferred. Tape sealants are prone to shred.
5. Leak test final joints prior to operation. Leaks are often the cause of misleading flow indication and inaccuracy of operation.

ACCESSORIES

Valves, controller, base plates, etc., may be furnished with unit. See appropriate instructions.

OPERATION

1. START-UP CAUTION. Avoid sudden pressure surges. The impact of the float at the top of the flow tube can damage the meter if exposed directly to full line pressure. Shock can be avoided by closing the inlet valve before start-up, the pressure can then be introduced into the meter by slowly opening the valve.
2. FLOW READING Flow indication is read at the center of ball floats. Units of flow (SCCM, SCFH, etc.) are noted on the side of the tube. Tubes with millimeter, percent of maximum flow, or linear scales require a corresponding calibration curve to apply to the fluid metered.

SERVICE

The meter, as furnished, is ready for use. It is tested and checked at the factory. Occasionally, service is required to maintain satisfactory performance. The following steps should be taken in order to insure trouble-free operation.

1. DISASSEMBLY (PM)

Units with valve on inlet: The meter is housed in the channel by means of a slotted plug at the top end and the valve bonnet at the bottom end.

- * 1. Loosen piping connector at the plug end one turn.
2. Remove top plug with a screwdriver. Remove valve bonnet with a 1/2" hex wrench. The plastic body should slide forward in the channel until free. Note: Occasionally the piping connectors must be loosened in the channel.
3. With tweezers remove float stop; invert meter to remove ball float.
4. Cleaning, use mild detergent with water. Care must be exercised to protect scale from strong agents which could affect acrylic.
5. Replace o-rings where required, clean hardware and lubricate with inert grease, or halocarbon grease.
6. Reassemble: Steps 1 through 4 reversed.
7. Check for leaks before start-up.

Units with valve on outlet: Disassemble as above except remove the retainer set screw at bottom of channel.

Units with plug in lieu of valve: Follow steps 1 through 5 except use 5/32" "Allen" wrench to remove plug.

Units without plug or valve: Disassemble per steps 1 through 5 except remove retainer set screw at bottom of channel.

2. DISASSEMBLY (PG)

The procedure is the same as for PM with the following exceptions:

1. After removal of plug, remove pressure spring, flow tube and o-ring seal.
2. Clean the flow tube as follows: Remove float stops and float, flush tube and float with detergents using pipe cleaners to dry thoroughly. Replace float and float stops - be certain float stops are secure in tube, crimp if necessary. The top float stop should protrude 3/16" above tube to prevent pressure surge blow-out. Replace o-ring in plastic housing and repeat steps 1 through 5 under PM meters above.

*IMPORTANT:

THE PIPING CONNECTOR AT THE PLUG END SHOULD BE LOOSENED AT THE TIME OF REASSEMBLY TO INSURE PROPER ALIGNMENT OF THE PLUG, CHANNEL, AND BLOCK. AFTER PLUG IS ENGAGED INTO CHANNEL, THE PIPING CONNECTOR SHOULD BE TIGHTENED. AFTER THE METER IS REASSEMBLED, ALL JOINTS SHOULD BE CHECKED FOR LEAKS.

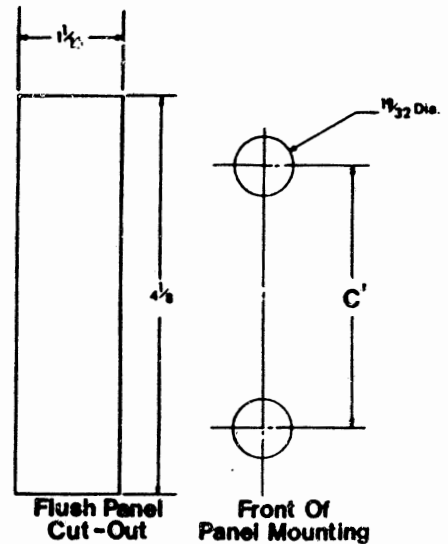
RECOMMENDED SPARE PARTS

FLOWMETER SERIES PM

The below listed parts and prices are applicable to Matheson Instruments PM meters described on Engineering Data Sheet PM-1000 and Information Drawings G-PM-1220 through G-PM-1235; recommended spare parts indicated by *.

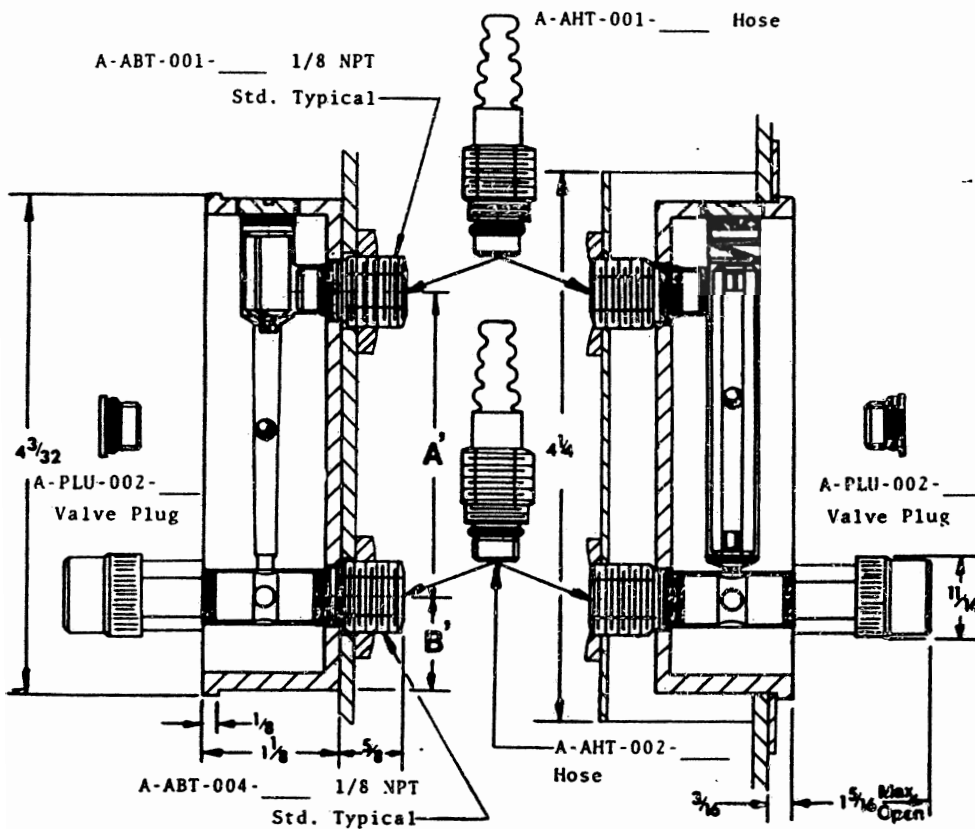
Part numbers and prices are with materials of construction. Care must be taken to select part numbers applicable.

METER	PART NUMBER	QTY.	MATERIAL	DESCRIPTION	PRICE/LOT
Aluminum	A-RNS-011-BU	4	Buna-N	"O" ring seals	\$
	A-VLV-001-AA	1	Aluminum	Valve assembly	
Brass	A-RNS-011-BU	4	Buna-N	"O" ring seals	
	A-VLV-001-BA	1	Brass	Valve assembly	
316 SS	A-RNS-011-VA	4	Viton	"O" ring seals	
	A-VLV-001-SA	1	316 SS	Valve assembly	
All Meters (PG)	A-STO-001-PB	2	TFE	Float stop (2½")	
	A-STO-002-PB	2	TFE	Float stop (3")	
	A-BAL-	2	Specify size	Ball float	
	Tube Assembly	1	Glass	Specify size & range	
OPTIONAL EQUIPMENT - CONSTANT DIFFERENTIAL RELAY					
CDR VI CDR VI CDR VO CDR VO	H21XT	1	Brass	Regulator	\$
	H21XTXXXK	1	316 SS	Regulator	
	H31XT	1	Brass	Regulator	
	H31XTXXXK	1	316 SS	Regulator	



METER	A	B	C
PG & PM	2-1/2	3/4	2-1/2
	3	1/2	3

Note: Minimum order \$50.00



SECTIONAL VIEW

