



Rotating Vane High Speed Batching System for low Viscosity Liquids



measuring
•
monitoring
•
analysing

DOB



- Measuring range: 1 ... 70 L/min
- Viscosity range: low viscous
- Accuracy: ± 1.5 % of reading (with steady flow)
- Material: Brass
- p_{\max} : 10 bar; t_{\max} : +80 °C
- Output: Pulses, LCD display, batching



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Overview

The DOB high speed batching system has been specifically packaged as an installation-ready metering assembly suitable for the most common of liquid transfer applications throughout industry.

Inferential brass flowmeter with integral strainer and solenoid valve are supplied close coupled and wired to the integral batch controller ready for installation. Simply pipe in and connect power and the system is ready to use.

Preset values, Batch total and Accumulated total are displayed on a large LCD display. Operation is prompted by scrolling text, smaller LCD text prompts announce the status of the batch controller at each phase of the batch process.

Principle of operation

A single impeller is rotated by the flow, magnets within the impeller activate the electronic outputs (reed switch and solid state Hall Effect).

The meter has integral flow conditioning ports, combined with integral strainer, flow conditioning base plate and diaphragm to direct fluid flow onto the impeller, which eliminates the requirement for straight pipe runs, allowing the meter to be located in restricted piping arrangements.

The DOB is not limited to clean liquids, the impeller concept will tolerate liquids bearing a degree of suspended particles which may pass the strainer. Larger particles can be cleaned from the inlet strainer screen at periodic intervals.

Applications

The batching of small to medium volumes of water or similar low viscosity liquids is a common requirement within many industries. Typical applications are found in the manufacture of car care products, food & beverage solutions, adhesives, building products, cosmetics, pharmaceutical, paint, selected solvents & chemicals.

Technical Details

Materials

Housing:	Brass, tin coated
Magnets:	Ceramic permanent Magnets
Body Retaining	
Pressure Plate:	Steel

Wetted parts (flow meter)

Housing (inner part):	Brass
Impeller:	Polypropylene
Inlet strainer:	Polypropylene
Flow Conditioning	
Base Plate:	Polyphenylene Oxide
Diaphragm	
(Pressure Plate):	Polyphenylene Oxide
Magnet Housing	
Support:	PTFE

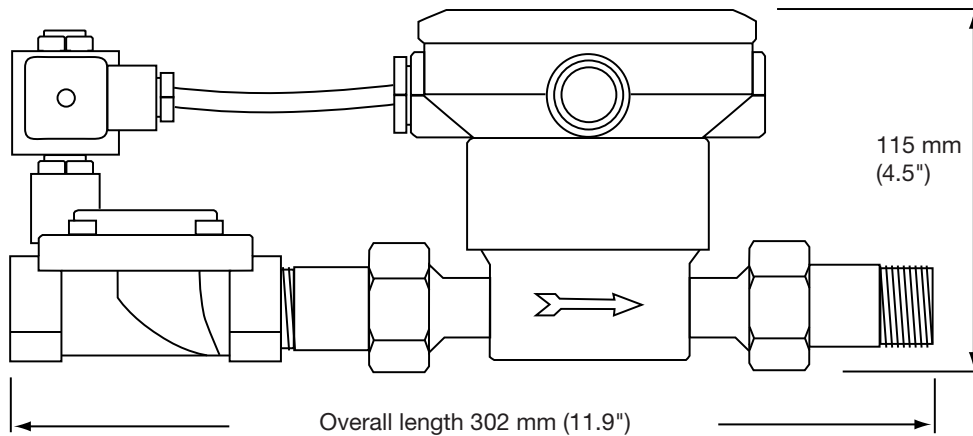
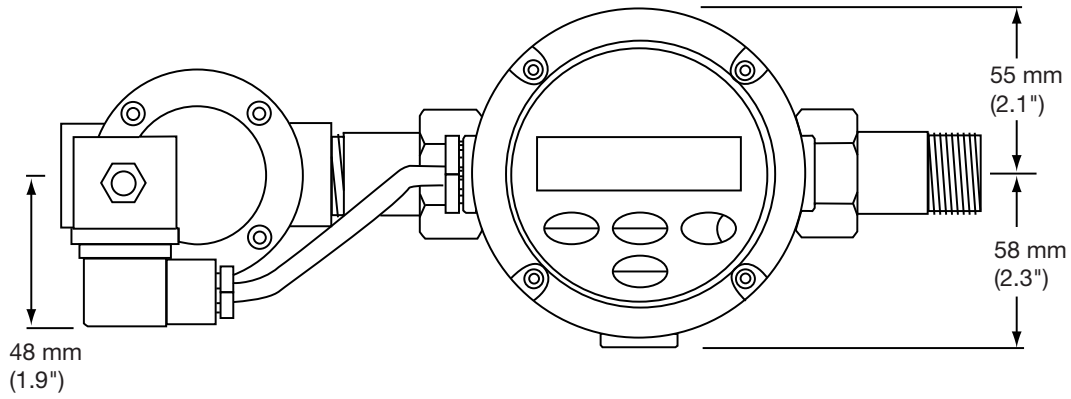
Bearing Bush:	Polyamide
Impeller shaft	
(centre pin):	Stainless steel
O-ring/ Coupling gasket:	NBR

Wetted parts (solenoid valve)

Body:	Brass
Cover:	Brass
Internat parts:	Stainless steel, PVDF
Seals:	NBR
Valve seat:	Brass

Flow range:	1...70 L/min
Batching Accuracy:	±1.5% of reading with steady flow
Repeatability:	0.3%
Batch range:	0.01~99999999 litres (up to 3 floating decimal points)
Supply:	24 V _{DC} ± 10 %
Display:	8 digit (count up or count down)
Operating Pressure:	0.3...10 bar
Max. Temperature:	+80 °C
Protection class	
(flowmeter and ZOD-B1):	IP 66
Protection class	
(solenoid coil plug):	IP 64
Pressure drop:	Maximum 1 bar at maximum flow rate 70 l/min
Other electronic	
features:	see data sheet for ZOD-B1
Solenoid valve specs.:	G ³ / ₄ " 24V _{DC} x 8W coil, Pilot operated diaphragm normally closed valve requiring differential pressure 0.3 bar to operate. Valve has dampened closing with low power consumption. Fluid temperature -10 °C ... +80 °C with ambient temperature -10 °C ... + 50 °C.
Mounting position:	Preferably with solenoid upright

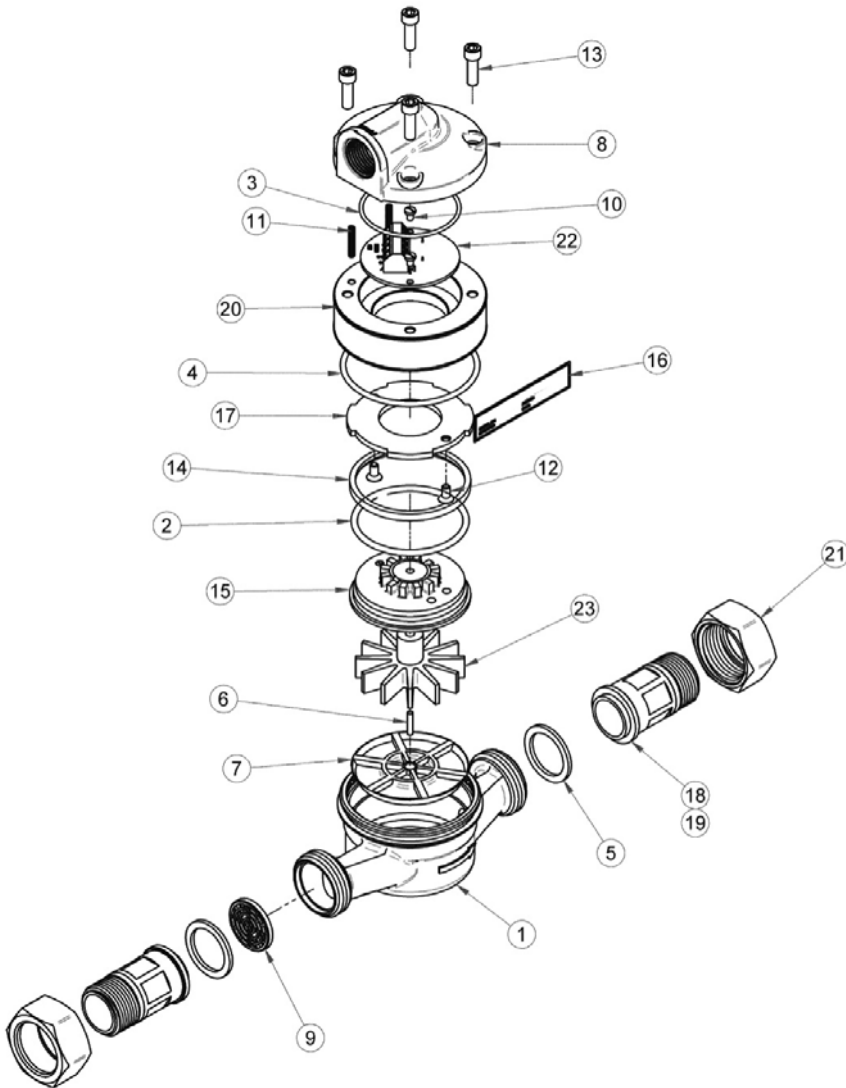
Dimensions



Order Details (Example: DOB-11F70H R5 B1)

Model	Connection Male	Electronic
DOB-11F70H (1 ... 70 L/min.)	R5 = R $\frac{3}{4}$ N5 = $\frac{3}{4}$ " NPT	B1 = LCD batch controller, Model ZOD-B1 with solenoid valve

Exploded View (flow Meter)



Spare parts:

- ① Meter Body
- ② O-Ring
- ③ O-Ring
- ④ O-ring
- ⑤ Coupling Gasket
- ⑥ Centre Pin
- ⑦ Flow Condition Base Plate
- ⑧ Cover
- ⑨ Inlet Strainer
- ⑩ Cheese Head Screw
- ⑪ Grub Screw
- ⑫ Countersunk Phillips Head Screw
- ⑬ Socket Head Cap Screw
- ⑭ Backing Ring
- ⑮ Diaphragm
- ⑯ Adhesive Label
- ⑰ Body Retaining Plate
- ⑱ Adaptor 3/4" BSP male
- ⑲ Adaptor 3/4" NPT male
- ⑳ Meter Adaptor
- ㉑ Adaptor Nut
- ㉒ Printed Circuit Board
- ㉓ Impeller Magnet Support Assembly