

FEATURES

- * Accuracy: $\pm 0.5\%$ of rate from 0.3 to 10m/s.
Repeatability: $\pm 0.2\%$
- * Wide flow range performance.
- * Virtually maintenance free with no moving parts.
- * Eliminates head-losses and need for filters.
- * Handles wide range of aggressive liquids.
- * Robust construction for industrial use.
- * Frequency and analogue outputs.
- * AC or DC powered options.
- * Process temperature range:
Integral unit to 60 °C, Remote unit to 135 °C.
- * Fully programmable via HART protocol or local display.
- * Empty pipe detection.
- * Approved for Class III hazardous applications (NEMA 4X).
- * New Sanitary Tri-Clamp Stainless Steel option.



RMS electromagnetic flowmeters are capable of operating over a very wide flow range. They offer excellent performance (accuracy $\pm 0.5\%$), are ideal for measurement of water-based admixtures, wastewater and many other chemical, pharmaceutical and metallurgical applications. Almost any liquid can be measured, provided a minimum 5 microsiemens/cm conductivity is present. With no moving parts, and an obstruction-less bore, this type of flowmeter provides the highest level of performance - unaffected by specific gravity or viscosity variations, or the most contaminated of fluids, whilst maintaining a high degree of accuracy. Application examples include use in bulk chemical delivery tanker loading and transfers, tradewaste applications, plant and process measurement, recycle/slurry water batching applications in concrete plants.

The RMS wafer sensor is available in standard sizes from 4mm to 150mm, with a standard light-weight integral wafer mount cast iron sensing tube with standard ETFE Tefzel liner and stainless steel electrodes (options include different liner/electrode materials and remote-mounted transmitters). The RMS-S Sanitary Tri-Clamp sensor is available in sizes 25, 40 and 50mm. The IP66 rated transmitter housing is either a standard integral head mounted to the sensor tube, or remotely connected by a low voltage cable. The housing is explosion-proof and RFI/EMI protected. Power is by standard 85-250 vac 50-60Hz, or optional 15-50 VDC.

Units are fully programmed to application requirements and wet tested. If requested, as an option, the units are fully fitted out with mounting pipe flanges, earthing rings and electrically wired. This fit-out ensures easy install and commissioning. An optional plug-in display module (housed in the transmitter) is available which indicates flowrate and total display and alarm conditions. Onsite re-programming of set parameters is possible via the display.

FLOWRANGE PERFORMANCE (Litres/minute) and SIZING TABLE

Size mm	Minimum Litres/min	Transitional Litres/min	Maximum Litres/min	Abrasive Slurries Litres/min optimum range
	@ $\pm 10\%$	@ $\pm 0.5\%$	@ $\pm 0.5\%$	
4	0.01	0.2	6.2	-
8	0.05	0.8	25.1	-
15	0.15	3.6	107	-
25	0.5	10	305	-
40	1.0	25	720	-
50	2.0	40	1180	110 to 375
80	4.0	90	2616	270 to 935
100	8.0	140	4500	425 to 1465
150	20.0	341	10225	955 to 3290
200	40.0	590	19340	-

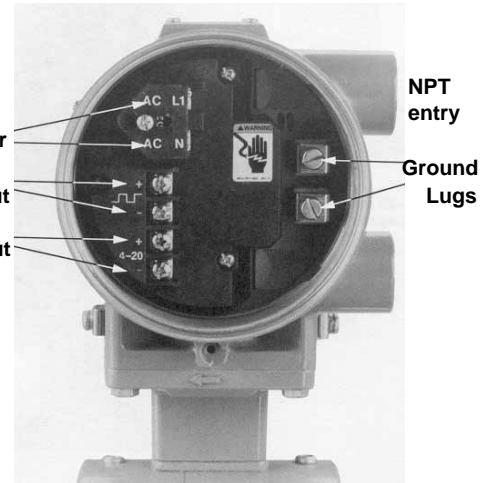
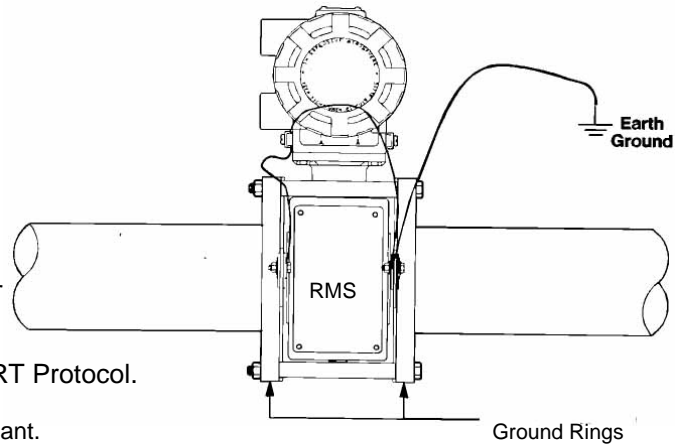
SPECIFICATIONS

- Accuracy - $\pm 0.5\%$ of rate (0.3 to 10m/s) Measures from 0.01m/s.
- Construction - **Wafer cast iron sensor**, lined in Tefzel with Stainless Steel electrodes, optionally Hastelloy 'C' or Titanium electrodes. ANSI-150 mounting.
- Protection - Nema 4x (IP66) sensor and transmitter, explosion proof, RFI/EMI protected.
- Pressure rating - Sizes 15-150 mm: 740psi (5.1Mpa).
 Sizes 4-8 mm: 285psi (2Mpa).
 Optional special ratings to 2000 psi.
- Fluids - 5 μ s/cm minimum conductivity.
- Outputs - All fully programmable, open collector pulse and analogue outputs.
- Output drives - Isolated protected transistor switch closure
 Upto 5.75W, 5-24VDC Load Res. 100-100K Ω
 Frequency 1-1000Hz. Analogue 4-20 mA.
- Optional Displays - M4 Flowrate & 9 digit running Totaliser indicator onboard module (programmed to application), or ME5 remote resettable display module.
 Also programmable & data comms via HART Protocol.
- Power - 90-250vac 50-60Hz, optional 15-50VDC.
 Power consumption 10 watts max. EMC Compliant.
 Connection by 2 x 3/4" -14 NPT thread entries.
- Operating temp. - Ambient Operating of Electronics -35 $^{\circ}$ C to +65 $^{\circ}$ C
 - Fluid measurement 1/ Integral -29 $^{\circ}$ C to +60 $^{\circ}$ C
 2/ Remote -29 $^{\circ}$ C to +135 $^{\circ}$ C
 3/ Remote -10 $^{\circ}$ C to +160 $^{\circ}$ C SANITARY.
- Quality - ISO9001, FM, CSA approvals.

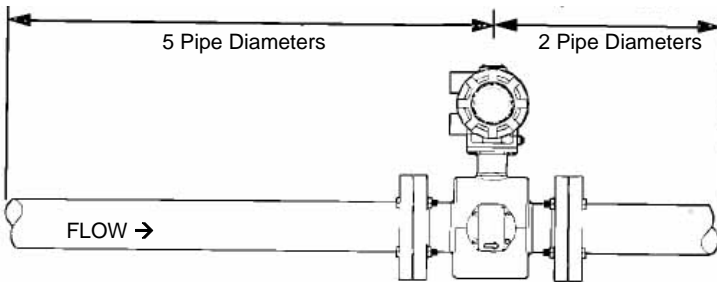
All parameters programmed by Manu Electronics to suit the specific application (e.g. Pulses per litre or Gallon). Remote versions wired with 2 metres cable. PVC or GAL Connection Kits are available.

RMS-8711 Electromagnetic Flowmeter

- **Sanitary Tri-Clamp Stainless Steel sensor** lined in PFA (Teflon) with Stainless Steel 316L electrodes (optional Hast-C276), EDPM gasket seals CIP/SIP cleanable, 3-A approved and EL Certified. Pressure rating to 300psi.

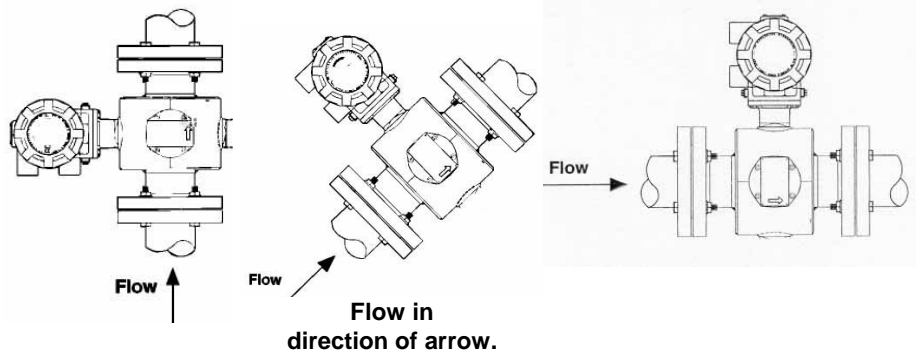


Electrical Connection

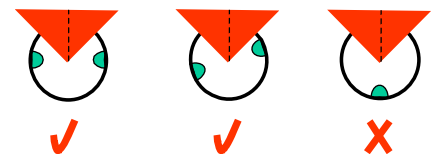


Minimum Straight Pipe Requirement

To Ensure accuracy, install the flowtube as shown in the diagrams. If flowing in downward runs, ensure back pressure is adequate so as to keep the flowtube full. The electrodes are properly orientated in a 45 degree position. The flowtube size is an important factor as it affects flow velocity. It is often necessary to select a larger or smaller size of adjacent piping to ensure a range of 0.3 to 9.1m/s (1 to 30 ft/s). When used with abrasive slurries, the optimum velocity range is 0.9 to 3.1 m/s (3-10 ft/sec).



The electrodes are properly orientated when not within 45 degrees from upright.



Due to continuous product improvement, specifications are subject to change without notice.

RMS - ORDERING AND CONFIGURATION OPTIONS

<u>Sizes mm</u>	<u>Item Part No</u>	<u>Weight¹ Kg (approx)</u> (+bolt kit)
WAFER Configuration		
4	RMS004	7
8	RMS008	7
15	RMS015	7
25	RMS025	7
40	RMS040	7
50	RMS050	8
80	RMS080	12
100	RMS100	16
150	RMS150	23
200	RMS200	30
TRI-CLAMP Sanitary		
25	RMS025-S	
40	RMS040-S	
50	RMS050-S	



Pictured: RMS050-M4 integral wafer with EFK-PVC50 connection kit

Note (1) : All weights exclude packaging. The M4 display module option adds 0.5 kg to weight.

Standard Unit (Base price):

Integral mounted electronics, Wafer sensor with Tefzel liner and Stainless Steel electrodes, 90-250 vac powered, cable glands fitted with 240vac power cord and 2 metre pulse cable. Blind open collector pulse programmed to specification requirement. Comes with Stainless Steel mounting bolt kit.

Nominate when ordering: pulse output value and 4-20mA range.

Options (add to item part no.):

<u>Part No</u>	<u>Description</u>
-M4	Onboard flowrate/running-totaliser display module (programming module).
-DC	15-50VDC powered (no additional cost).
-H	Hastelloy-C electrodes.
-R	Remote mounted electronics via 2 metres cable (nominate for extended cable lengths).

M4 display module program options:

- Flowrate and Total in
 - Litres/min or Litres/sec with total Litres, M³/hour or M³/sec with total M³, Gallons/min with total Gallons, Imperial Gallons/min with total Imperial Gallons.
- Pulse output
 - to 1000 pulses per unit (determined per application, pulse width dependant on pulse/flowrate equation).
- Current Output
 - URV – 20mA @set maximum flowrate, LRV – 4mA @set minimum flowrate.

Special Options:

Higher pressure ratings, special liners and electrode materials, KEMA/CENELEC increased safety approval. New sanitary grade stainless steel tri-clover coupling options.



Remote wafer sensors



Sanitary Magmeter Flowtube

CONNECTION KITS - PVC

- Connection Kits, for RMS Electromagnetic Flowmeter.
- PVC slip flanges to ANSI-150 with Stainless steel earthing rings and neoprene gaskets.
- supplied already earthed and mounted to flowmeter for easy install.

<u>Product Code</u>	<u>Size mm</u>
CK-PVC15	15
CK-PVC25	25
CK-PVC40	40
CK-PVC50	50
CK-PVC80	80
CK-PVC100	100
CK-PVC150	150



RMS wafer sensor flowmeter and M4 LCD display, fitted with a PVC earthed flanged Connection Kit

CONNECTION KITS - GALVANISED IRON

- for RMS Electromagnetic Flowmeter.
- Galvanised Iron threaded Bsp(f) entries with neoprene gaskets and S/S earth ring.
- supplied already earthed and mounted to flowmeter for easy install.

<u>Product Code</u>	<u>Size mm</u>
CK-GAL15	15
CK-GAL25	25
CK-GAL40	40
CK-GAL50	50
CK-GAL80	80
CK-GAL100	100

