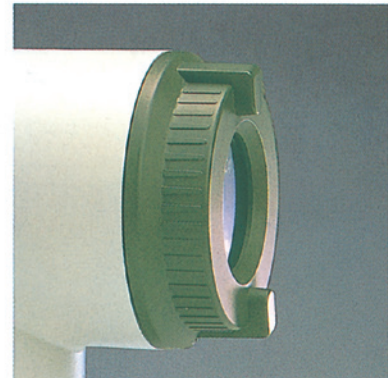
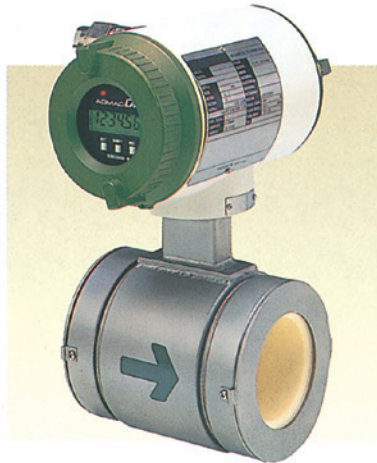
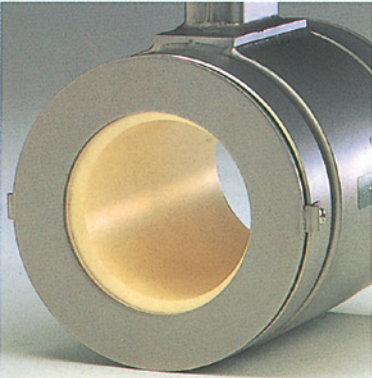


Capacitance Magnetic Flowmeter

ADMAG CA

ADMAG CA extends the lower limit of conductivity measurement to $0.01\mu\text{S}/\text{cm}$ while providing accurate ($\pm 0.5\%$ of rate) and reliable measurement in applications prone to plugging, build up and corrosion, thus reducing maintenance costs. ADMAG CA is available with general purpose or explosion-proof construction.



Measures minimum flowrates on ultra-low conductivity liquids from 0.01 $\mu\text{S}/\text{cm}$.

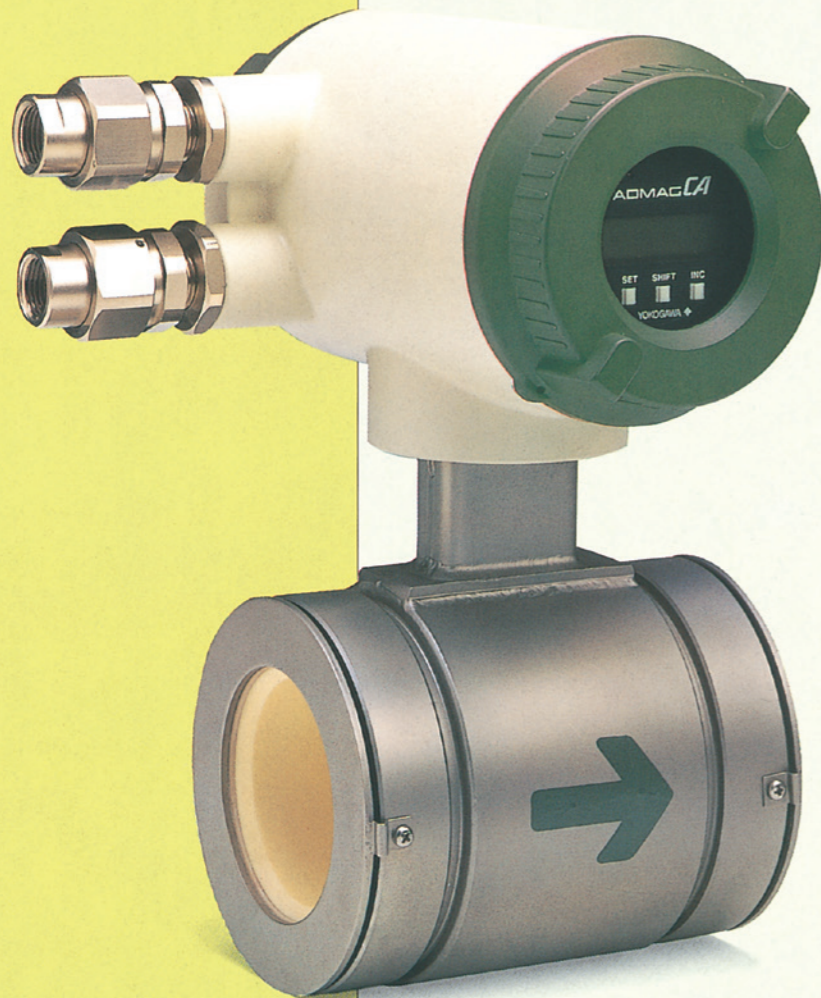
Measures ultra-low conductivity fluids to 0.01 $\mu\text{S}/\text{cm}$

Insures minimum effect of measurement errors due to build up and coating

Stable measurement of high-consistency slurries

Integral explosion-proof design

High accuracy: $\pm 0.5\%$ of rate



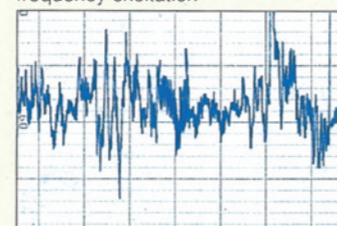
Flow Rate Measurement of Ultra-low Conductivity Liquids

The high-frequency excitation method ensures unparalleled immunity to flow noise when measuring the flow rate of low-conductivity fluids. And that's not all. Zero drift, which occurs at high excitation frequencies, is completely stabilized by the improved coil-excitation circuit and capacitance-through electrode.

ADMAG CA's ultra-low range of conductivity measurement allows us to extend ADMAGs' use into applications previously requiring other technologies.



Wetted electrodes with low-frequency excitation

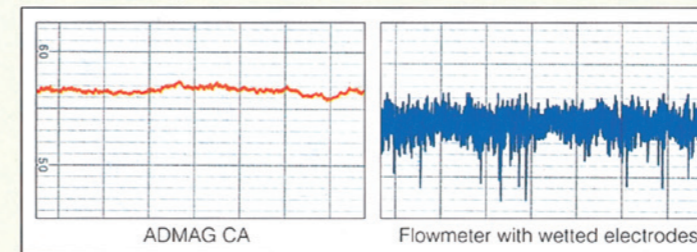


Measurement of a fluid of 1 $\mu\text{S}/\text{cm}$ (ethylene glycol)

Measurement of Materials Causing build up and coating

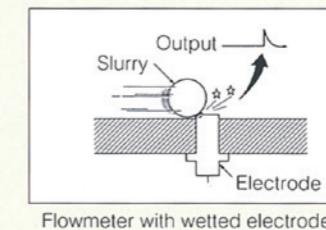
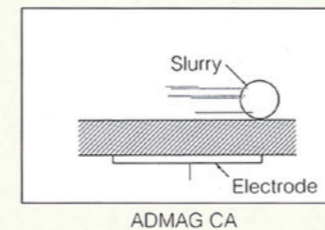
The ADMAG CA is ideal for processes the pipes must be periodically cleaned. Because of its unique electrode design, the ADMAG CA's measurement remains stable, even if coating and build up occurs.

Output reading indicating glycerin build up



Stable Measurement of High-density Slurry

Slurry noise generated by particles colliding with wetted electrodes is no longer a problem, ADMAG CA adopts an innovative high frequency excitation method to reduce noise in low conductivity fluids. In addition, the standard ceramic lining resists abrasion caused by the slurry - just the job for measuring the flow rate of dense, hard slurries.



Integral Explosion-proof Model

The new ADMAG CA series includes an integral, explosion-proof model allowing measurement of low-conductivity fluids in hazardous areas.

No More Maintenance!

Immunity of the effect of build up and coating

High-reliability Design

99.9% Alumina Ceramic
ADMAG CA utilizes 99.9% pure alumina ceramic in the flowtube for unsurpassed corrosion and abrasion resistance. Alumina ceramic is one of the most corrosion-resistant and mechanically strong materials available.

Decreased Environmental Influences

Completely isolated chambers for the terminals and amplifier ensure protection against process or water seepage through the wiring port.

Universal AC/DC Power Supply and 24 V DC Model

The same model can be driven by either 100-240 V AC or 100-120 V DC. A 24V DC powered type is also available.

Extensive Features

Communications

Parameter setting via the BT200 handheld terminal and communication with supervisory systems are possible allowing direct reading of the various data values from a remote location.



Self-diagnostics

The self-diagnostics function checks and displays any internal errors in the flowmeter and other errors such as I/O signal errors.

Easily Visible Display

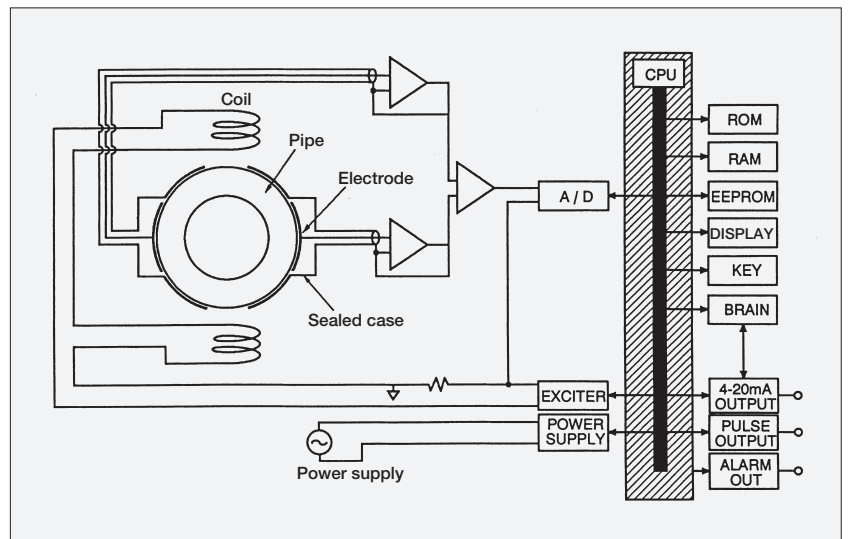
ADMAG CA, the newest member of the proven ADMAG family, measures the electromotive force generated in a fluid flow by plate electrodes from outside of the ceramic pipe. Its unique ability to be unaffected by noise when measuring the flow of low conductivity fluids and its stable zero completely eliminate the inherent problems of other magnetic flowmeters. The ADMAG CA promises stable flow rate measurement of ultra-low conductivity fluids containing materials that coat or build up, and high-density slurries.

Specifications

Application	General purpose	Explosion-proof
Nominal size in mm (inch)	15 (1/2), 25 (1), 40 (1.5), 50 (2), 80 (3), 100 (4), 150 (6), 200 (8)	
Construction	IP67, Type 4X	FM, CSA and TIIS (for sizes 15 to 100 mm)
Accuracy	±0.5% of rate (for sizes 25 to 100 mm), ±1% of rate (for sizes 15, 150 and 200 mm) (depends on specifications)	
Fluid conductivity	0.01 µS/cm or more (for sizes 15 to 100 mm), 1 µS/cm or more (for sizes 150, 200mm)	
Lining	Alumina ceramic (99.9%)	
Electrode structure	Non-wetted electrodes	
Fluid temperature	-10 to 120°C (14 to 248°F)	
Fluid pressure	Nominal dia. of 50 (2") mm or less: -0.1 to 4 MPa {-1 to 40 kgf/cm ² } (-14 to 570 psig) Nominal dia. of 80 (3") mm or more: -0.1 to 2 MPa {-1 to 20 kgf/cm ² } (-14 to 285 psig)	
Ambient temperature	-20 to 50 °C (-3 to 122°F)	
Installation	Wafer	
Output signals	· 4-20 mA DC · Pulse or alarm output	
Power supply voltage range	· 80 to 264 V AC, 100 to 130 V DC (AC/DC universal) · 20.4 to 28.8 V DC	
Power supply frequency range	47 to 63 Hz	
Power consumption	Maximum of 14 W	
Communication method	BRAIN communication	
Converter functions	<ul style="list-style-type: none"> · Flow rate indication (current flow rate and totalized flow rate) · Span setting · Damping (1 to 200 sec) · Pulse output · Alarm output · Selection of flow direction · Power recovery handling function (data memory on EEPROM) · Self-diagnostics · Automatic zero adjustment 	

Measurement Principle

The measurement principle of the capacitance magnetic flowmeter is fundamentally the same as that of conventional magnetic flowmeters with wetted electrodes. The difference is that plate electrodes are attached to the outside of the flowmeter pipe. These electrodes pick up the electromotive force generated by the flow of the fluid, through the capacitance of the ceramic pipe wall. The flowmeter pipe consists of the ceramic pipe, capacitance electrodes encircling it, and magnetic circuit including the coil cores, earth ring, and sealed case. To avoid the effects of floating capacitance, the sealed case is designed to enclose the capacitance electrodes, thus producing "sealed drive" capacitance electrodes.



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