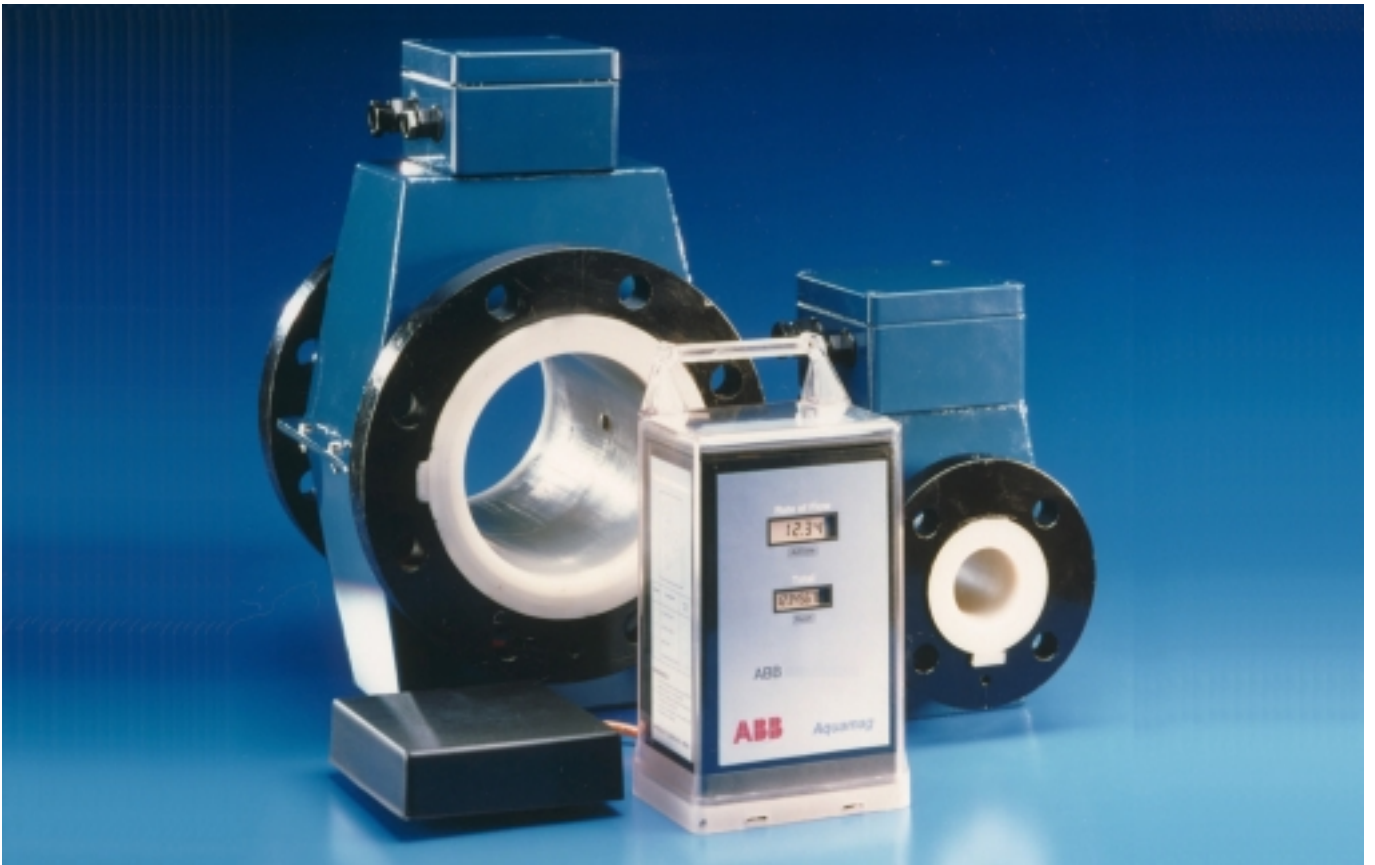


Specification DataFile



Aquamag sensors, transmitter and battery.

- **Turndown up to 400:1**
- **High accuracy maintained at very low flowrate.**
- **Low installation costs.**
- **No maintenance required.**
- **Compatible with most data loggers.**
- **Integral rate and total displays.**

Introduction

The AQUAMAG flowmeter consists of a sensor, a transmitter and a power supply, normally a non-rechargeable 12V battery.

The design of the sensor is unique, permitting installation directly in an underground pipeline, without the need of a chamber, simply by back-filling and making good.

The transmitter has a microprocessor which provides all the necessary control functions, including the provision of intermittent energisation of the sensor field windings, to give a battery life in excess of one year.

The housing of the transmitter is rated IP68 and connections are made via 'Military Style' robust metal plugs and sockets. The output signals are in the form of pulses suitable for input to Data Loggers, etc. The flow measurement parameters can be set/reset by a terminal using an RS232C/RS423 communications interface.

Specification

Sensor

Sizes (Nominal Bore):

50, 65, 80, 100, 150, 200, 250, 300, 350, 400, 450, 500 and 600mm

Sensor Tube:

304 Stainless Steel

Electrodes:

Stainless Steel

Lining:

Up to 80mm: PFA (UK WFBS Listed)
100 - 600mm: Elastomer (UK WFBS Listed)

Flange Material:

Carbon Steel

Earthing Rings (Optional):

Stainless Steel

Housing:

Up to 150mm: Die-cast aluminium
200-300mm: ABS
350-600mm: GRP

Flanges:

To mate with BS4504 16 bar or ANSI B16.5 Class 150

Suitable Fluids:

Liquids with conductivities above 10 $\mu\text{S}/\text{cm}$

Electrical Connections:

Sealed cable 10 or 30 metres long terminated with suitable connectors

Temperature Limits:

-20°C to +70°C

Protection:

IP68 (Sizes \leq 150mm: 5 metres indefinitely)
IP68 (Sizes $>$ 150mm: 10 metres indefinitely)

Weights:

50mm – 15kg	300mm – 100kg
65mm – 20kg	350mm – 134kg
80mm – 21kg	400mm – 172kg
100mm – 25kg	450mm – 207kg
150mm – 34kg	500mm – 241kg
200mm – 57kg	600mm – 309kg
250mm – 73kg	

Transmitter

Housing:

Polycarbonate

Protection:

IP68 (1.5 metres for up to 12 months)

Connectors:

Interface: Metal bodied bayonet locking

12V dc Supply:

Screw locking metal body socket

Programming:

To operate with most RS232C/423 terminals (e.g. PSION organiser, IBM PC, etc), 4800 Baud at 10m maximum

Display:

4 digit flowrate
8 digit totaliser with/without reset facility

Operating Modes:

Continuous or intermittent

Outputs:

4 open drain MOSFETS – 100 & 1000 Hz max. for both forward and reverse flows

Output Rating:

30V d.c. max. (off state)
50mA max. (on state)
10 Ω max. on resistance

Weight:

0.5kg

Temperature

Limitation: -20°C to +50°C (with Totaliser)
-20°C to +70°C (without Totaliser)

Temperature Effect:

$\pm 0.02\%/^{\circ}\text{C}$

System

Comprises sensor, transmitter and 12V dc battery or power supply.

System Accuracy:

$\pm 1\%$ of rate or 2mm/sec. velocity whichever is the greater

System range:

Up to 10 metres/sec., bi-directional

RFI Specification:

1. Conforms to BS6667 Part 3
("Radiated susceptibility to 10V/m")
2. Conforms to BS6527
("Terminal voltage and radiated emissions")

Enquiry and Ordering Information

Please copy this page for each different device required and, after entering the relevant details (or deleting as appropriate), mail or fax with letterhead to the local distributor.

Company name Contact/Reference

Previous Quotation Number

Quotation/Ordering Details

Calibrated Bore : mm

Max. Flow Rate :

Number off :

Flange Spec : To mate with BS4504 (16 bar) or ANSI B16.5 Class 150

Fitting Kit :

Earthing Rings :

Calibration : Std (3 Point) / 8 Point / NAMAS / Witnessed

Cable Length : 10 or 30 metres : metres

Intermittent Interval : 15 min. (Std) / min. / Continuous

Display Units : Litres/sec. (Std) /

Quantity represented by each Output Pulse :

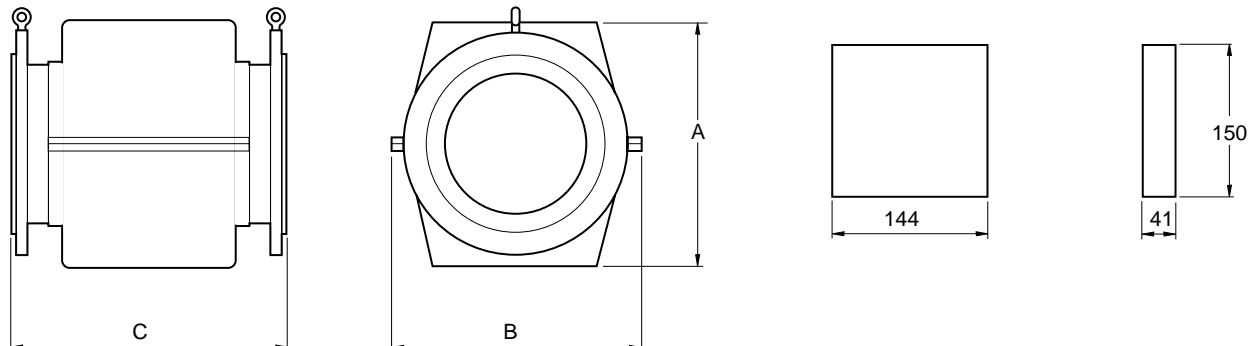
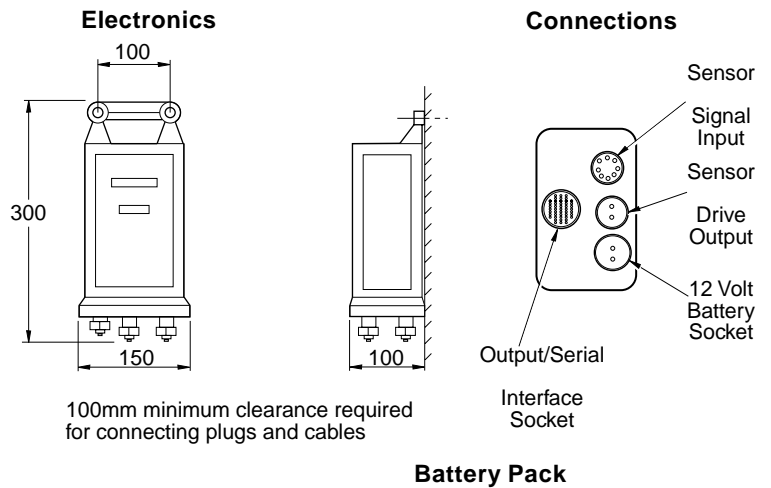
Power Supply : Battery (Std) / Supply Cable

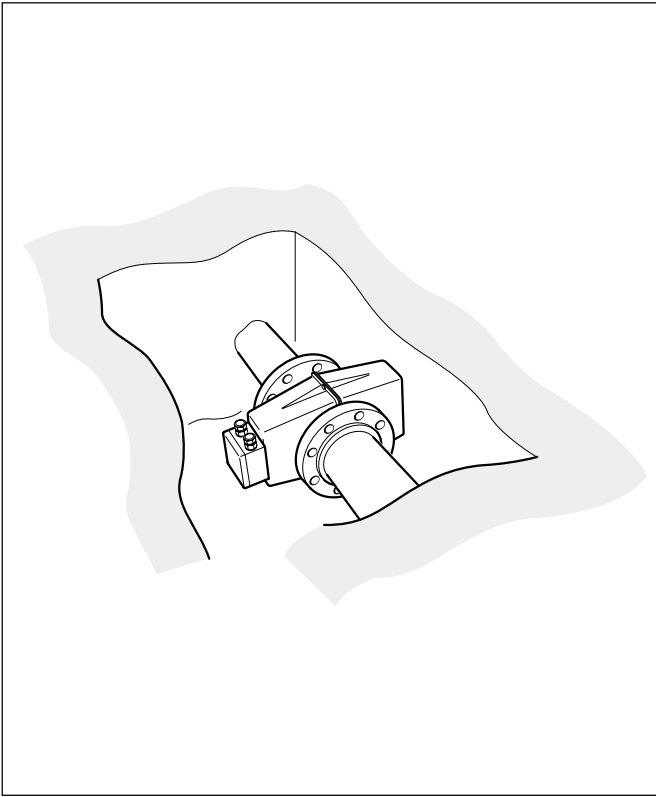
Programming Cable : NO/YES If YES, type e.g. PSION

Output Cable : NO/YES/YES + RESET FACILITY

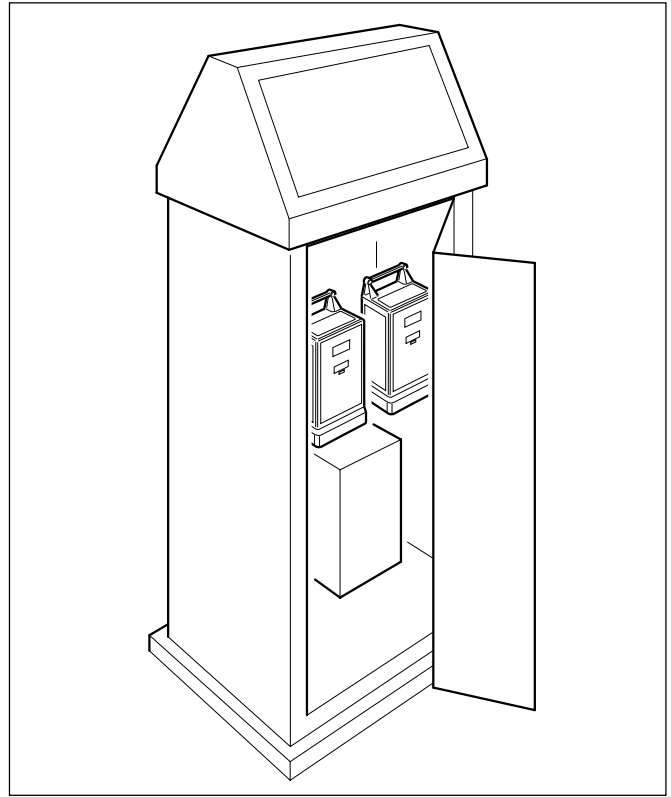
Overall Dimensions

Meter Size NB	Dimensions			Approx. Weight	
	A mm	B mm	C mm	kg	lb
50	210	176	200	10.35	22.9
65	280	219	200	18.00	39.8
80	280	219	200	18.00	39.8
100	312	230.5	250	24.4	53.9
150	370	281	300	38.0	84.0
200	400	396	418	57	126
250	446	442	488	73	161
300	508	510	538	100	220
350	560	562	568	134	295
400	614	596	618	172	378
450	656	640	698	207	455
500	710	700	768	241	530
600	810	810	918	309	680





Installation of an Aquamag sensor



Aquamag transmitter housed in a roadside enclosure



The Company's policy is one of continuous product improvement and the right is reserved to modify the information contained herein without notice.

© ABB 1997

(8.97)

SS/AMAG Issue 3

ABB Instrumentation Ltd

Oldends Lane
Stonehouse, Glos.
England, GL10 3TA
Tel: +44 (0)1453-826-661
Fax: +44 (0)1453-827-856

**ABB Automation Inc
Instrumentation Division**

125 E. County Line Road
Warminster, PA 18974 USA
Tel: +1 215-674-6000
Fax: +1 215-674-7183

ABB Instrumentation

22016 Lenno
Como
Italy
Tel: +39 (0)344-58111
Fax: +39 (0)344-58278