

FUEL FLOW METER AIC - 4015 / 4020 VERITAS®

**Diesel consumption flow meter for
engines up to 4000 KW (5400 HP)
Permanent mounting system, ideal for
fuel management systems**

888
Instruktor

900
VERITAS®

1000

4000
VERITAS®

5000
Fuel flow
Master

6000
Swissline

FS

Board
Computer
and
Totalizer



The AIC-4015 and 4020 VERITAS® flow meter are designed for permanent mounting in fuel management application where cumulated fuel consumption values have to be monitored.

Made for pulsating liquids, the true consumption of the vehicle, machine, generator engine is measured by redirecting the return flow from the tank to the fuel supply line.

Application

- Train, Generators, Boats, large construction machines, etc.

Media that can be measured

- any light fuel oil, Diesel, MDO, incl. any bio-fuel oil.

Features and benefits

- **Up to 15 % of fuel economy, through a constant control of the driver**
- Reliable display of flow totalising
- Instrument protected with spin on fuel filter
- Mechanical meter using proven technology for more than 30 years
- No interferences with vehicle existing on-board electronic (CAN-Bus)
- AIC flow meters work on all fuel injection type
- Suitable for engines with fuel injection of latest generation

CE certified
EME Test according
to 95/54/CE directives

Measuring Systems

A complete measuring systems consist of :

- flow meter AIC-4015 VERITAS or AIC-4020 VERITAS
- Spin on fuel oil filter (included)
- totalizer AIC-RT2
- cables for electrical connection
- Fittings for installation



Measuring principle

In the interests of simple installation each compact unit includes the measurement cell with protecting hood, the fuel filter, the vortex head and mounting bracket. All parts are manufactured in stainless steel or anodized aluminium.

Fuel flow measurement:

The consumption of fuel for engines can be measured in 2 ways :

- Direct (means that there is no fuel returning to the tank, the return flow is re-injected in the fuel circulation flow of the injection circuit.
- Differential (means that the return flow is subtracted from supply flow). The return fuel goes back to the tank.

For over 30 years AIC SYSTEMS Ltd. has developed and recommends **DIRECT flow measurement** which is most accurate solution. Direct flow measurement allows a true measurement of the consumption fuel flow, with an uncertainty of better than $\pm 1\%$ o.r ($\pm 0.2\%$ repeatability).

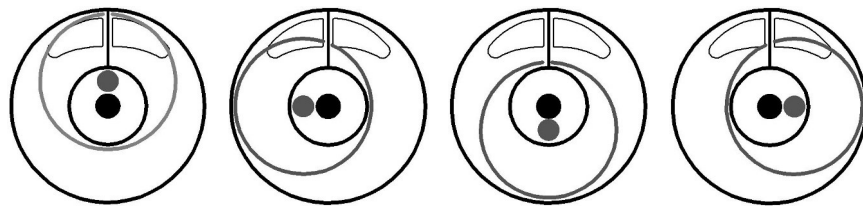
In opposition, the differential fuel flow solution shows measurements with errors from 5 % to 15%.

High pulse rate output:

The control and pulse technology is based on the latest SMD technology and is moulded to be water tight and vibration resistant (Pat. AIC). This allows high pulse count per flow quantity unit. The AIC-4015 VERITAS© is supplied with 833 ppl, and the AIC-4020 VERITAS© is with 278 ppl (pulses per one litre).

Rotary piston technology:

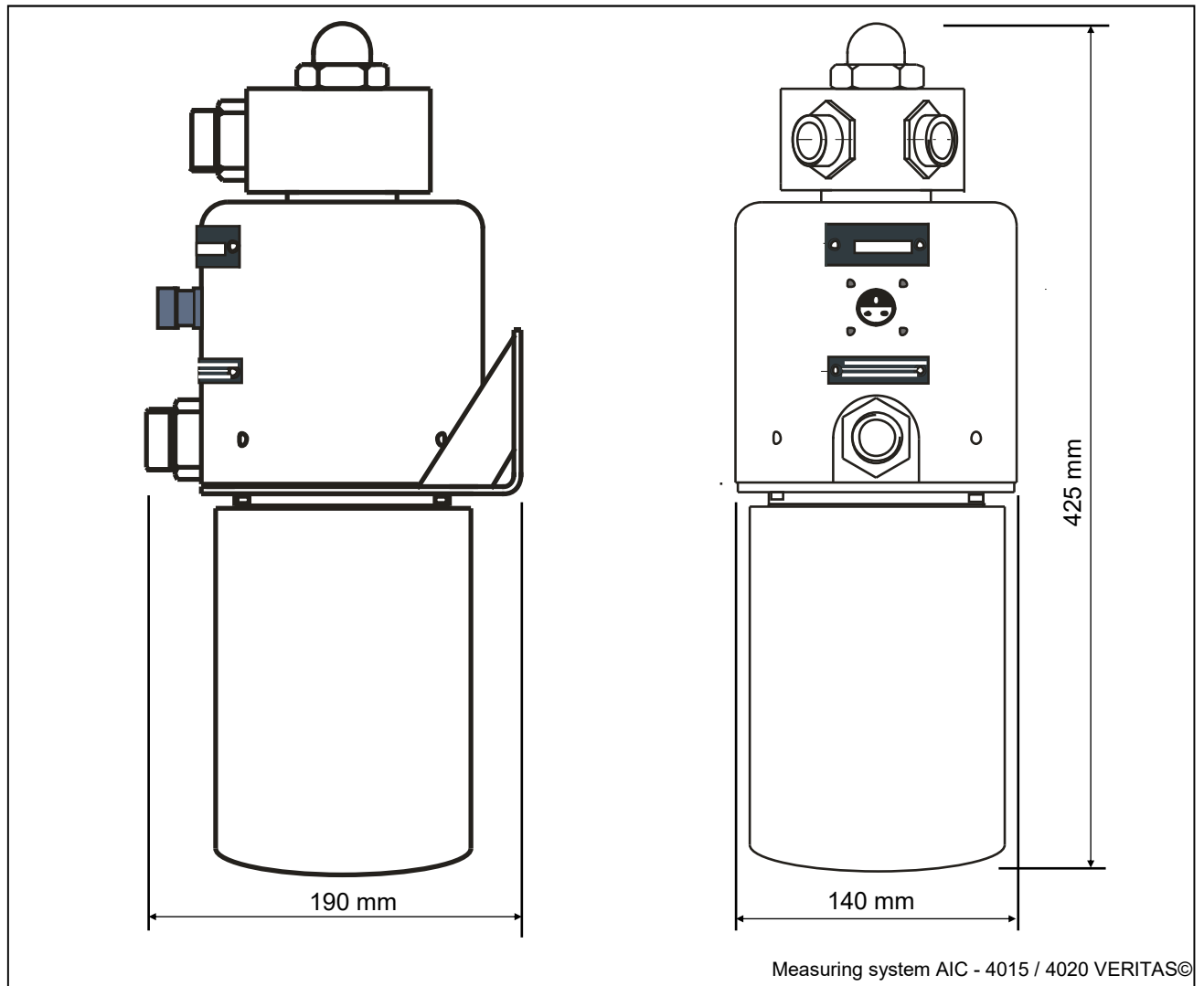
After decades of experience, AIC SYSTEMS Ltd. make has opted for the reliable volumetric flow meter technology. The rotary piston technology fits the fuel consumption measuring principle ideally. A single moving piston oscillates softly in a measuring chamber protected by a thin layer of fuel maintaining the piston self floating. This allows the meter to have the less possible mechanical friction, thus reduced wear. Under normal working conditions the pressure loss ahead of the measuring cell is of max. 200 mbar.



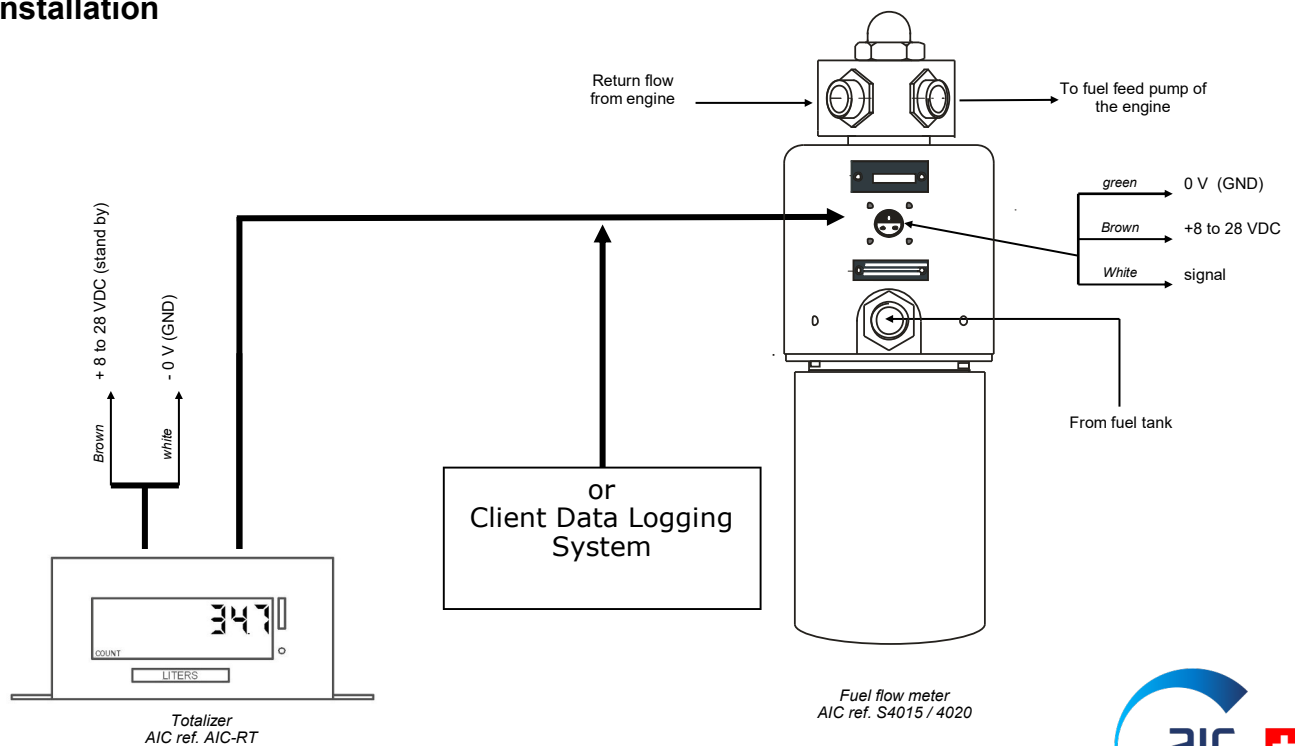
Calibration

After assembly each unit goes thru testing where accuracy and tightness are carefully tested and documented.

Dimensions



Installation



Technical data

AIC 4015 et 4020 VERITAS©

General data

Manufacturer	AIC SYSTEMS AG
Product designation	AIC-4015 VERITAS© AIC-4020 VERITAS©

Mechanical data

Dimensions (L x l x p)	AIC-4015 VERITAS & AIC-920 VERITAS 425 x 190 x 140 mm (incl. filter)
Weights	AIC-4015 7.8 kg (incl. filter) AIC-4020 8.2 kg (incl. filter)

Materials

Flow meter sensor	Ductile Iron, Brass, aluminium
O-rings	Viton®
Fittings	Steel anodized (TAAC3), stainless steel, anodised aluminium, type Parker EO size 28L
Casing	Anodised Aluminium
Mounting bracket	Stainless steel

Flow meter

Measurement Principle	Volumetric, oscillating piston, with microprocessor controlled pulse emitter (Pat. AIC)
Measuring range	AIC-4015 : 10 to 600 l/h AIC-4020 : 30 to 1500 l/h
Accuracy	better than 1 % of reading
Repeatability	better than 0.2 % of reading
Admissible pressure	- 1 to 12 bar
Mounting position	vertical
Operating temperature	-30 ... 90°C
Ingress protection	Sensor, IP 67

Electrical connection

Power supply	10 - 28 VDC
Pulse signal	Square pulse, NPN Open-Collector, pulse width 0.7 ms
Pulse rate	AIC-4015 : 833 ppl AIC-4020 : 278 ppl

Ordering structure

Flow meter

Model Type	Designation	Order code
AIC-4015 VERITAS©	for engines up to max. 1600 KW (2200 HP) 167 ppl, pulse rectangular, duty cycle 50%	S4015.00
AIC-4020 VERITAS©	for engines up to max. 4000 KW (5400 HP) 56 ppl, pulse rectangular, duty cycle 50%	S4020.00

Accessories

Connection cable	10 m cable connecting the fuel oil meter with wires end free to connect with third party data acquisition system	5620.10
	6 m extension cable, connecting the fuel oil meter to the remote totalizer RT2	5630.06

Board computer

Totalizer		References
AIC-RT2/KS	Zero resetting by key switch LCD display 8 digits, with backlight. Total and Instantaneous consumption displayed. Total consumption recorded. Body made in stainless steel, dimensions 75 x 60 x 38 mm	S1570.0



AIC SYSTEMS AG.
Ringstrasse 9,
CH - 4123 Allschwil
Switzerland

T +41 61 481 84 39
F +41 61 481 84 40

www.flowmeter-aic.com
info@flowmeter-aic.com