FURUNO®

THRU-HULL MOUNT • Speed • Temperature

S650, ST650

With Self-Closing Valve

U.S. Patent No.: 4,898,029; 5,186,050
Canadian Patent No. 1,313,775
Australian Patent No. 605,281
Japanese Patent No. 1851014

Self- closing valve eliminates "gusher" when speed/temperature insert is removed

Plastic, bronze, and stainless housings

Low profile and flush mount housings

The S650/ST650 sensor incorporates a patented self-closing valve which minimizes the flow of water into the boat when the speed/temperature insert is removed. This allows routine paddlewheel cleaning without getting wet. Fins straighten water flow onto paddlewheel and improve flow stability and accuracy at low speeds. Because of the high degree of tooling, the ST650 is priced comparably with standard paddlewheel sensors.

The S/ST650 paddlewheel and valve assembly can be retrofitted into Airmar speed/temperature series: S/ST100, S/ST500, and S/ST550. Boaters can upgrade to a self-closing S/ST650 without changing their thru-hull fitting or hauling the vessel. Consult Airmar for the part number of the correct retrofit kit for your needs.

The S650 and ST650 are available in low profile and flush mount styles.

Fins straighten water flow onto paddlewheel increasing flow stability and accuracy. Particularly effective when a cross flow is present.

Specifications

- Paddlewheel has four asymmetrical, hydrodynamic blades
- Hall-effect magnetic sensor for high-level pulse output
- Unitary bearing inside the paddlewheel hub assures exact alignment and minimal rotational friction
- Polished paddlewheel shaft for quick start up
- Dual O-rings for superior sealing
- Reverse polarity protection
- Shielded cable to minimize noise pick-up and emission
- Designed to meet CE requirements
- Arrow and notch on housing facilitates installation
- Alignment key for easy speed/temperature assembly removal and insertion in difficult access locations
- Installation requires 51mm (2") diameter hole
- Rubber washer allows tightening hull nut to irregular surfaces.
- Blanking plug included
- Standard cable length: 9 m (30')

Applications

- Plastic not for use in wood hulls
- Bronze for fiberglass or wood hulls only
- Stainless steel compatible with any hull material

Options

- No fins on either side of paddlewheel
- Two wire speed circuit
- Temperature sensor
- Pulse division circuitry for other pulse rates
- Bronze cap nut for bronze housing #02-029
- Over-voltage protection (OVP)

Notes

- Use matching low profile or flush depth transducer for echosounders requiring depth, speed and temperature input
- For Parts and Accessories See pages p2 through p4

AIRMAR
TECHNOLOGY CORPORATION

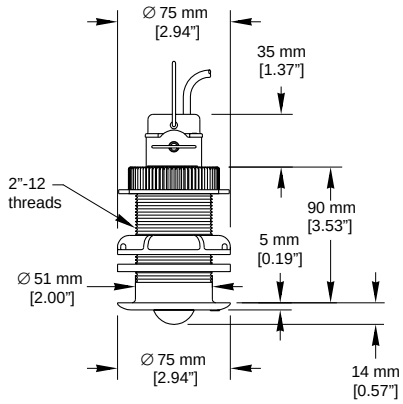
2000 #17-1205

Housing	Min. Hull Thickness	Max. Hull Thickness	Weight
P17	6 mm (1/4")	55 mm (2 1/8")	0.7 kg (1.4 lb.)
P217, P314	9 mm (3/8")	63 mm (2 1/2")	0.7 kg (1.4 lb.)
B17, B119, SS557	6 mm (1/4")	55 mm (2 1/8")	1.3 kg (2.8 lb.)
B21	9 mm (3/8")	63 mm (2 1/2")	1.3 kg (2.8 lb.)

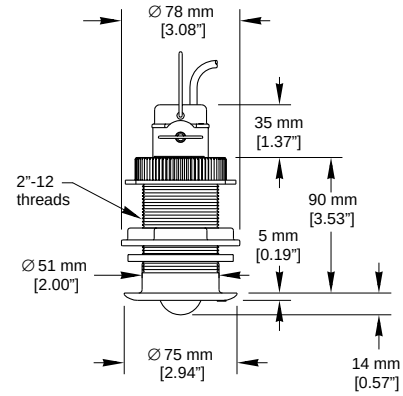
Specifications[1]	
Speed range[2]	2–45 knots (2–52 MPH)
Linearity	Refer to *Airmar Technical Data Catalog*
Pulse rate (with fins)	17,000 pulses per nautical mile (4.8 Hz per knot)
Pulse rate (no fins)	20,000 pulses per nautical mile (5.6 Hz per knot)
Supply voltage	5–25 VDC
Supply current: "OFF"	2.3 mA
"ON"	8 mA at 5 VDC
Circuitry: standard	3 wire format
optional	2 wire format

1. Refer to "Application Notes" for more detailed information.
2. Requires correction for non-linearity below 3 knots (3 MPH).

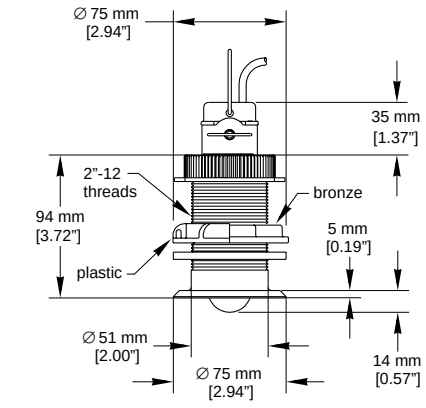
P17 Low Profile



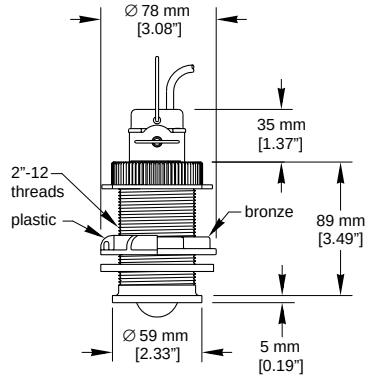
B17 Low Profile



P314, B21 Flush



P217, B119 Flush



SS557 Low Profile