

FlowSensor (TrawlSpeed/Symmetry)

The FlowSensor has two available functions:
TrawlSpeed and Symmetry

The TrawlSpeed function measures the speed of
the waterflow into the trawl opening

The Symmetry function measures the side
currents into the opening

The sensor is used to assure optimal towing speed
and trawl symmetry to reduce fuel costs and loss
of catch



Flow Sensor (TrawlSpeed / Symmetry) – the sensor that controls the geometry

Scanmar has delivered TrawlSpeed / Symmetry sensors for 20 years and they are absolutely indispensable for those who have begun to use them. More and more open their eyes to how important this combination is for efficient fishing, giving full control over the trawl geometry while simultaneously assuring optimal towing speed.

Flow Sensor on the headline

All trawls have an optimal water flow rate. This varies according to design, mesh size, thickness of purse line, knots, age of materials, etc.

Because of underwater currents, the trawl speed will deviate from the vessel's GPS speed and must be compensated.

If the trawl moves too fast through the sea, a "bucket effect" will be created in the trawl, forming an area of pressure ahead of it. If towing is too slow, this will give fish an opportunity to escape, especially large ones, with their greater swimming power and endurance.

The Trawl Speed function helps you adjust to changes in water flow and maintain the correct towing speed.

The Symmetry function shows if there is a side current into the opening leading to a skewed trawl, which is very ineffective. Side currents can be caused by wrong warp lengths, underwater currents and towing in hillsides. Unless this is corrected with differing warp lengths, the trawl will not be symmetrical to the water

flow. This will in turn lead to the meshes being closed on one side and wide open on the other, allowing current and fish to pass through the side panel.

Flow Sensor in the tunnel

Because the trawl's circumference and mesh is smaller further back in the trawl, a lot of the water has to get out through the side panels. This is when a bucket effect occurs, which makes the mesh stretch. If this happens in an area with large mesh the fish escape or the trawl walls will be clogged with fish.

As the cod-end fills up, the bucket effect will increase and move forward within the trawl. This is why we notice that it takes such a long time to fill up the forward end of the cod-end. Generally speaking, it is better to haul in and reshoot.

Using the Flow sensor in the tunnel with the Trawl-Speed and Symmetry function the skipper can monitor the waterflow's angle and speed to avoid a bucket effect and loss of catch.

Technical Specification

MEASUREMENT

Waterflow along trawl path	0 to 6 knots
Waterflow across trawl path	0 to +/- 3 knots
Accuracy	± 10% of value (min. ± 0.1 knots)

OPERATION

Update rate	Approx. 25 sec
Operation time TrawlSpeed and Symmetry mode	Approx. 60 h
Operation time Symmetry mode only	Approx. 100 hrs
Max. Depth	1200 m

BATTERY

Type	NiCd, 2x12 V / 600 mAh
Charging time	1.5 hour

UPLINK

Frequency range	38.9 – 43.4 kHz
Source level	190 dB // 1uPa @ 1m
Beam width	55 deg [-3dB]
Range to vessel	Approx. 2500 m ¹

WEIGHT

In air	10.8 kg
In water	4.2 kg

MAIN DIMENSIONS

Length	280 mm
Width	255 mm
Height	111 mm

APPROVALS



Note: All specifications are subject to change without prior notice.

Note 1: Depends on acoustic conditions, ship's noise, mounting and alignment of sensors and hydrophone.