

# Tipping Bucket Flow Gauge

Water Flow

## General Description

KISTERS' tipping bucket flow gauge TB6/40 Series II is used for **measuring water flow coming out of a pipe or a drain**. The unit comes with a dual reed switch, thus, when connected to a KISTERS' data logger flow data can be logged and collected manually when required. In addition, the flow gauge can be telemetered by connecting to a ML-IoT device or to a 3G/4G data logger. The only routine maintenance required for the flow gauge is cleaning.

The TB6/40 flow gauge operates on the tipping bucket principle. A receiver of 200 mm diameter collects the water which is strained by a gauze filter before being passed to the tipping bucket measuring system. Tips of the bucket occur with each 40 millilitres of water collected. A reed switch detects these events and produces a momentary contact closure signal for connection to a data logger (e.g iRIS logger or IoT device).

A fully sealed dual reed switch assembly with varistor protection is provided for several reasons:

- Two isolated switches permit the control of two separate circuits; e.g. a local counter and a telemetry circuit.
- Parallel connection of both switches increases the current carrying capacity of the contact system if required.
- Parallel switch operation confers a degree of redundancy in locations where data from the flow gauge is critical to flood warning etc.

All gauges have been calibrated by KISTERS prior to despatch.

## Applications

The TB6/40 is suitable for all applications where water flow out of a pipe or similar outlet needs to be monitored. Typical situations may include:

- Monitoring at basin outlets of any kind of industrial water, grey water or storm water retention basins
- Sewer network injections into a collection basin
- Drain to or from a tailings dam
- Water discharge out of a treatment or intermittent storage basin
- Pump testing

## Features

- Non-corrosive materials
- Suitable for harsh environments
- Accurate readings
- Fast and easy cleaning
- Low maintenance
- Outer enclosure keyed to enable the release of the outer enclosure without the need for the removal of the three securing screws
- Insect covers: In-built mesh in the base and stainless steel mesh on the enclosure covering all openings to prevent insects and ants entering gauge
- Robust



## Technical Specifications

**Receiver** 200 mm + 0.3 diameter heavy duty cast aluminium, powder coated for 1.0 mm

**Bucket** Metal; capacity 40 mls of water flow

**Sensitivity** One tip

**Calibration accuracy 1 mm bucket**

Flow Rate	Error	Flow Rate	Error
0.5 litre/min	-2 %	2.0 litre/min	-14 %
1.0 litre/min	-8 %	3.0 litre/min	-20 %

**Temperature and Humidity**

- Operating Temperature +4 to +70 °C
- Ambient Temperature -20 to +70 °C
- Humidity 0 to 100 %

**Contact System**

- Dual reed switches moulded using TECHNOMELT® PA 657 high performance thermoplastic polyamide rubber with varistor protection
- Maximum capacity: 0.5 amp, 24 Volts
- Resistance: Initial contact resistance 0.1 Ohms
- M.T.B.F: 10<sup>8</sup> to 10<sup>9</sup> operations

**Technology**

Straight through (no syphon)

**Base**

Injection moulded non-hydroscopic ASA plastic, UV stabilised

**Level**

Bulls eye level fitted to base

**Mounting Holes**

3 slots 20 mm L x 10 mm W equi-spaced @ 244 mm PCD in feet moulded to outside diameter of base

**Drain Fittings**

To attach 12 mm inside diameter tubing, to catch rainfall after passing through buckets

**Bucket Pivot System**

Ground sapphire pivots with tough 316 g stainless steel shaft

**Height and Weight**

Standard: 330 mm, 2.2 kg

**Packed Dimensions and Weight**

Standard: 27 cm L x 27 cm W x 42 cm H (0.03m<sup>3</sup>), 5 kg

## Accessories



### IRIS dataloggers and data modems:

- Robust housing
- IP over one or two channels of your choice: 3G/4G / GPRS, satellite, IoT
- I/O: analog, digital, SDI-12, Modbus
- iLink software
- Telemetry or cloud app



### datasphere:

KISTERS datasphere is a global all-in-one solution for sensor data. The cloud-based solution with easy-to-use viewing, alarming and integration features is the perfect basis for a range of applications - from simple sensor network management to environmental monitoring, infrastructure/asset monitoring, smart cities, internet

of things, through to new data-based business models. More information in the web: [datasphere.online](http://datasphere.online)

### Custom Solutions:

KISTERS' engineering and fabrication workshop and experienced engineering staff can provide tailor-made, ready to deploy solutions for any of your monitoring requirements.

[Please ask for details.](#)

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