Stainless Steel RBC Flume

RBC flumes are used to measure the quantity of water that flows through a certain place, such as an irrigation channel. The RBC flume has been specially designed for use in smaller water ways or earthen channels (irrigation channels, in-outlets, furrow, ditches). Royal Eijkelkamp offers a trapezium shaped RBC flume for four flow rate ranges. Compared to other well-known flumes, such as the WSC and the Parshall flume, the RBC flume is the most accurate.

Trapezium shaped flumes have two important advantages:

- Accurate for a wide range of flow rates
- Fits better in canals which often are trapezium shaped by design (more reliable flow pattern upstream of the flume and inside the flume)

Thanks to its small weight and dimensions, the flumes can be easily used and transported. This is particularly advantageous in the event of multiple temporary measurements.

Key Features

The software enables you to configure and to read out the data directly. The data can be used in spreadsheet programs. The user-friendly PC-software has the following functions:

- Program the datalogger clock
- Read data stored in the datalogger
- Set interval time and logging parameters
- Show current data of the sensor
- Automatic data storage in 2 different data formats
- Selection of language
- Password protected functions

Applications

- Infiltration research
- Discharge measurements

Specification	
Registration type	Manual or logging
Discharge measurement, respectively	0.1-8.7 / 0.9-49 / 1.6-86 / 2-145 litre/sec
Product material	Stainless steel
Flux	0.1 - 8.7 L/sec
Package size, respectively	24 x 70 x 51 cm / 48 x 149 x 101 cm / 175 x 60 x 126 cm / 70 x 210 x 150 cm
Weight, respectively	5,4 / 24 / 35 / 60 kg

Method

To obtain correct measurements it is essential that the flume is placed in such a way that the water can flow from the flume without obstruction. After the flume has been placed in a horizontal position, measuring can begin by reading the measure of water surge near the threshold. The measure of water surge can be read in the stilling well at the end of the flume.

Using standard formulas the flow through quantity (the discharge) is calculated.

Automatic measurement

Instead of reading the stilling well manually, it is also possible to install a pressure transducer connected to a datalogger. This allows for automatic measuring (or activation), storage and reading. In case of an automated flume, the sill-referenced water level is recorded using a very accurate pressure sensor connected to a datalogger. Automatic registration instead of manual determination of the flow rate provides the following advantages:

- Maximum and minimum values are recorded in relation to time, from which the response rate of the discharge can be deduced.
- Average discharge rates as well as the cumulative discharge are accurately determined by continuous recording.
- Automatically recording flow rates is less time consuming and is very convenient in remote areas.
- High flow rates during rain periods can selectively be recorded.

You can even connect the datalogger to a modem (such as the GDT-S Prime) to have the measured data transferred. Contact our sales team to find the most suitable logger and modem for your situation.

Variations

The following variations and measuring are available. Larger ranges can be made to order.

- 13.17.02 RBC flume, flow range 0.1-8.7 litre per second
- 13.17.04 RBC flume, flow range 0.9-49 litre per second
- 13.17.06 RBC flume, flow range 1.6-86 litre per second
- 13.17.08 RBC flume, flow range 2-145 litre per second

The measuring range of the large flume can be substantial, even in shallow water