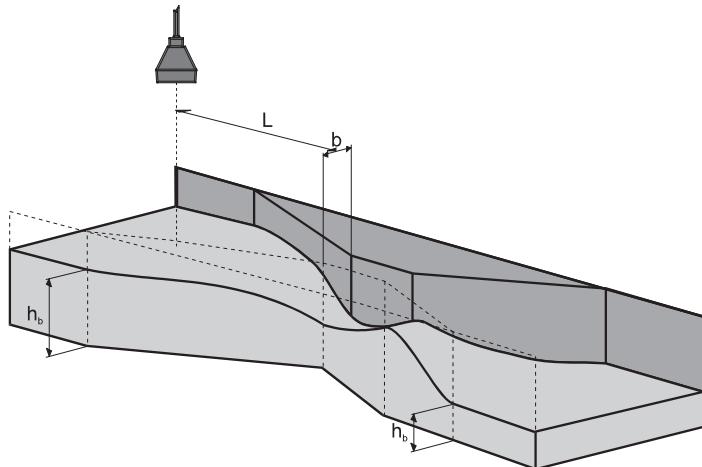


Parshall flumes



Note!

General

It is very important for the overall measuring accuracy to comply with the installation instructions on the next page.

At free flow, only the level h_a is measured. The location of the sensor is important and must be carried out as illustrated below. It is important to have a laminar flow (horizontal streaming calm water with no whirls) at the outlet and inlet from the flume, and the outlet must be unobstructed.

The flume must extend upstream at least ten times the width of the inlet section of the flume. On the outlet side the only demand is that the water should run freely.

The flow is calculated from the formula:

$$Q = k \times h_a^n$$

where: Q = flow in m^3

b = throat width

h_a = water level before the throat [m]

h_b = water level in the throat [m]

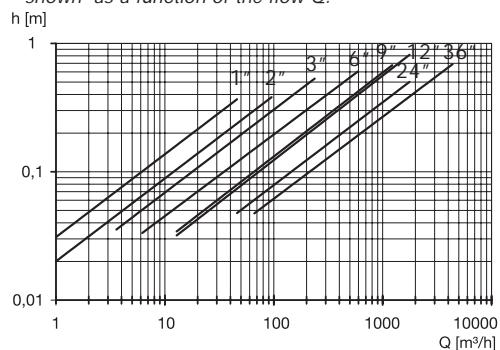
L = distance to the sensor = 3 to 4 $\times h_{a \max}$

The factor k and exponent n are constants. The formula complies to free flow, $h_{b \max} < 0,7 \times h_{a \max}$

Table for determination of the constants k , n and the distance to the sensor.

b	k	n	L
2"	425	1,548	0,27
3"	630	1,548	0,30
6"	1310	1,574	0,41
9"	1851	1,528	0,58
12"	2407	1,519	0,89

Q/h diagram for Parshall flumes, the height h_a is shown as a function of the flow Q .



Specifications

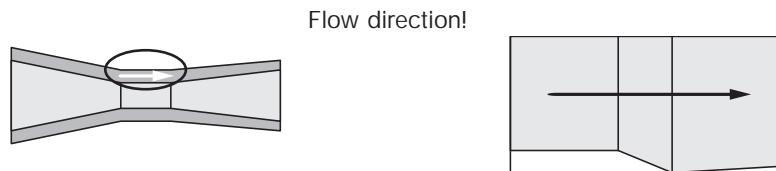
	Size	Q_{\min}	Q_{\max}	H_{\max}	Weight
2 inch	50 mm	10 m^3/h	100 m^3/h	393 mm	10.3 kg
3 inch	75 mm	27,5 m^3/h	275 m^3/h	591 mm	16.5 kg
6 inch	150 mm	60 m^3/h	600 m^3/h	609 mm	33.0 kg
9 inch	225 mm	12 m^3/h	1200 m^3/h	753 mm	43.5 kg
12 inch	300 mm	20 m^3/h	2000 m^3/h	885 mm	100.0 kg
	Material	Fibre glass			
	pH range	pH 3 - 10			
	Temperature range	- 20 ... +30 °C, for short periods up to 90 °C			

Installation instructions

Mounting of the flume

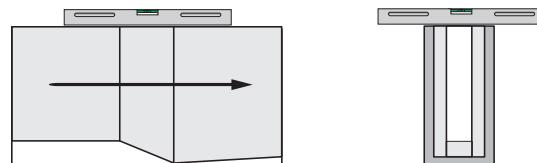
The flume is designed to be moulded into concrete. Concrete with a low content of water should be used - a plasticizer can be mixed in.

- 1 Position the flume correctly in relation to the flow direction. Observe the flow direction as indicated with an arrow on the top edge of the flume:



- 2 Fix the flume in the shuttering and make sure it is precisely leveled in both directions.

Levelled both laterally and longitudinally!



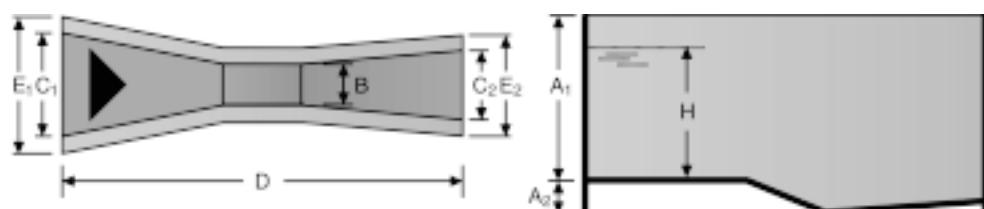
- 3 Cover inlet and outlet with plywood board or similar and put a piece of wood inside the flume to support its sides.
- 4 Fill concrete into the shuttering until it lies a little higher than the bottom of the flume and vibrate, so that the concrete becomes well distributed under the flume.

NB! Let the concrete harden before filling the sides of the shuttering, so the flume will be firmly secured in the concrete.

- 5 Fill both sides with concrete. **Do not** vibrate the concrete at the sides of the flume!
- 6 A 10 mm elastic infill along both sides of the flume is recommended to prevent water penetration and possible frost fracture.
- 7 Mount the sensor bracket so that the sensor will be located at a distance 'L' from the flume throat as explained on the front page.

Sensor distance

Dimensions



Size	A1	A2	B	C1	C2	D	E1	E2
2 inch	410	58	50.8	214	135	774	334	255
3 inch	610	75	76.2	259	178	914	379	298
6 inch	610	155	152.4	397	394	1525	517	514
9 inch	762	143	228.6	575	381	1626	695	501
12 inch	914	270	304.8	845	610	2867	965	730

All measurements in mm