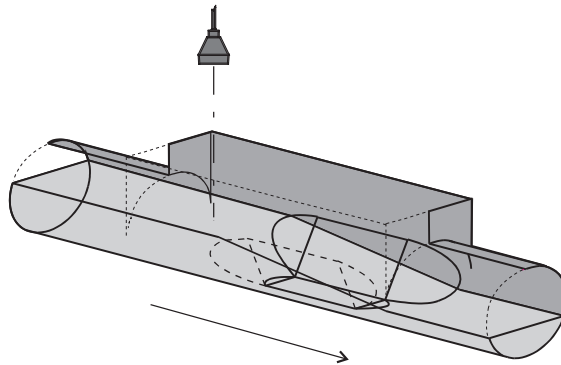


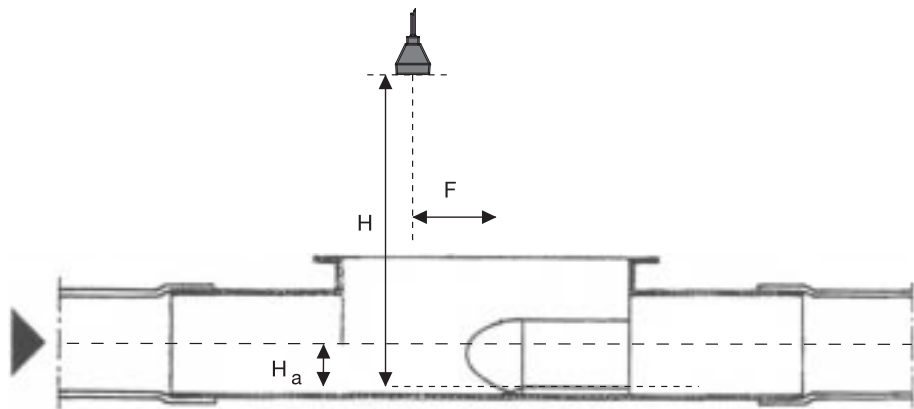
## Palmer & Bowlus flumes



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

**General** The Palmer & Bowlus flume is characterized by its circular connection which makes it easy to install in pipelines. The flume is aimed at measurement in the scale of 20 - 100 % of the nominal flow. No simple formula can be set up for the Palmer & Bowlus flumes; the formulas are defined individually for every flume.

For the Palmer & Bowlus flumes with the dimensions as listed in the table below, the flow formulas are defined and incorporated in the flow converter and is chosen in the menu "Programming of flow calculation".



**Flume sizes**

Size:	$Q_{min}$	$Q_{max}$	F	H	$H_a$	Weight
8" DN 200 (Ø 200 mm)	14 m <sup>3</sup> /h	70 m <sup>3</sup> /h	100 mm	See note	151 mm	2.8 kg
10" DN 250 (Ø 250 mm)	22 m <sup>3</sup> /h	110 m <sup>3</sup> /h	125 mm	below.	179 mm	3.5 kg
12" DN 315 (Ø 315 mm)	40 m <sup>3</sup> /h	200 m <sup>3</sup> /h	150 mm		240 mm	4.8 kg
15" DN 400 (Ø 400 mm)	65 m <sup>3</sup> /h	325 m <sup>3</sup> /h	200 mm		277 mm	9.8 kg
24" DN 600 (Ø 600 mm)	220 m <sup>3</sup> /h	1100 m <sup>3</sup> /h	300 mm		453 mm	15.6 kg
30" DN 800 (Ø 800 mm)	330 m <sup>3</sup> /h	1750 m <sup>3</sup> /h	400 mm		540 mm	30.1 kg
Material:	8", 10", 12": Glass fibre reinforced polyester / PVC 15", 24", 30": PVC					
pH range:	pH 3 - 10					
Temperature range:	- 20 ... +30 °C, for short periods up to 90 °C					

**Note:** Max. height H must never exceed the measuring range for the flowmeter + deadband.

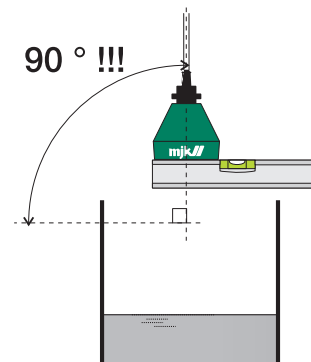
## Installation instructions

### Mounting of the flume

- 1: The flume should be mounted in-line in the pipe without contractions both upstream and downstream.
- 2: The flume section should be mounted in **absolute level**.
- 3: To obtain a precise measurement, it is important that both the upstream and the downstream pipe slopes downwards equally to ensure the water never accumulates in the measuring section of the flume.
- 4: 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.

### Mounting of the ultrasonic sensor

- 1: It should be mounted firmly.
- 2: It should be mounted absolutely vertical. **Use a spirit level in TWO directions.**
- 3: The ultrasonic sensor should be mounted so the ultrasonic signal can pass without any obstructions from pipes, cables and other installations.



### Q/h diagram for Palmer & Bowlus flumes

Q/h diagram for the MJK Palmer & Bowlus flumes, the height  $h_a$  is shown as a function of the flow Q.

