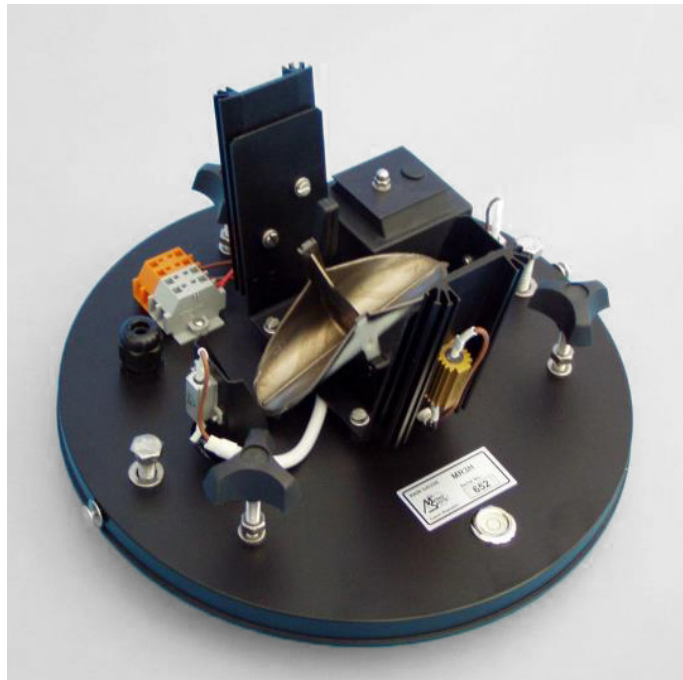


MR3, MR3H

Rain Gauges

The MR3 is non-heated rain gauge intended for a liquid precipitation measurement and the MR3H is heated rain gauge intended for a liquid and solid precipitation measurement.



Tipping bucket



High precision



High intensities



Reliable

A principle of the rain gauges function lies in an utilization of “tipping bucket” mechanism to get electrical pulses in dependence on a precipitation quantity.

Rain gauges are made from non-corrosive materials. The cylindrical casing, funnel, and also the circle in the upper part of the rain gauge, which creates the exact surface for the falling rain (catching area of the rain gauge) - all these parts are made from aluminum alloy.

The tipping bucket mechanism is placed inside the rain gauge body on the plastic base.

Together with the bucket there are also:

- a water level for checking the rain gauge horizontal position,
- a terminal board for the cable connection,

- arresting screws for calibrating,
- two openings for water outflow,
- a heating system including thermostat (MR3H),
- three screws for adjustment of the horizontal position.

The tipping bucket mechanism (movable body and immovable holder as well) is made from plastic, the bucket axis is from stainless steel wire.

Above the outflow opening there is a spring attached, preventing gross mechanical impurities from entering the outflow. The spring is extended in some kind of “antenna”, which vibrates and breaks the layer of impurities around the funnel outflow, if there is any.

The heating (MR3H) is provided by thermal resistors placed under the funnel in a space near the “tipping bucket” on the

rain gauge base. The funnel is warmed by means of heat transmission from that space.

The thermal resistors provide heating also for the rain gauge outflow openings. The switching on and off of the rain gauge heating is controlled by thermostat.

MR3[xx] / MR3H[xx] Technical data

Catch area	500 cm ²
Output	pulses - switching contact
Voltage for heating (MR3Hxx only)	42 to 46 V AC
Performance of heating elements (MR3Hxx only)	48 to 57 W
Dimensions (height without fixing screw x diameter)	347 x 278 mm
Temperature for switching on the thermostat (MR3Hxx only)	+5 °C
Weight	MR3H (xx) 4.5 kg MR3 (xx) 4.25 kg
Operating temperature	MR3H (xx) -20 °C to +60 °C MR3 (xx) +2 °C to +60 °C
Fastening screw size	M8 x 50

Variants and its parameters

	Resolution	Measuring range	Measurement error for different rainfall	
			Intensity	Measurement error
MR3-01S-C	0.1 mm	0 to 500 mm/h	< 20 mm/h 20 to 500 mm/h	< 1 % < 2 %
MR3-02S-C	0.2 mm	0 to 550 mm/h	< 20 mm/h 20 to 550 mm/h	< 1 % < 2 %
MR3-02V-C	0.2 mm	0 to 1200 mm/h	< 20 mm/h 20 to 600 mm/h	< 1 % < 2 %
MR3-01S	0.1 mm	0 to 500 mm/h	< 20 mm/h 20 - 60 mm/h 60 - 200 mm/h	< 4 % < 9 % < 18 %
MR3-02S	0.2 mm	0 to 550 mm/h	< 20 mm/h 20 - 60 mm/h 60 - 200 mm/h	< 1 % < 5 % < 9 %
MR3-02V	0.2 mm	0 to 1200 mm/h	< 20 mm/h 20 - 60 mm/h 60 - 200 mm/h	< 0.5 % < 2 % < 5 %