

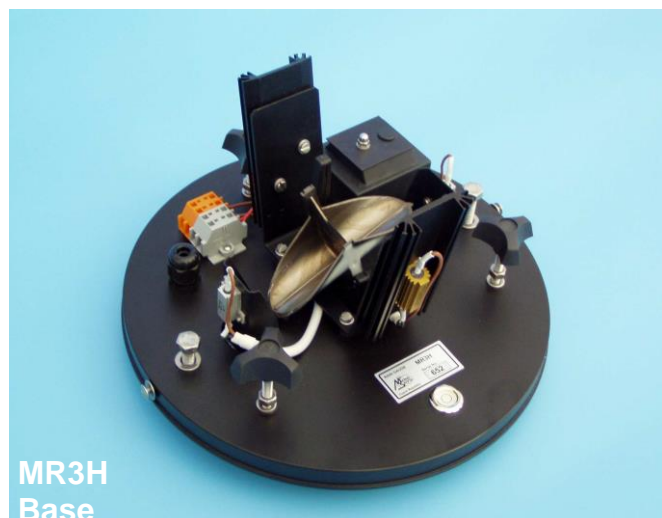
MR3 and MR3H Rain Gauge

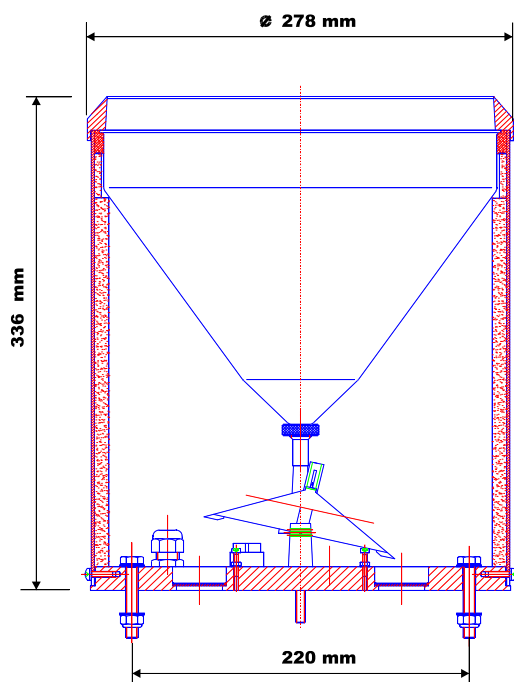
The rain gauges are based on utilisation of "tipping bucket" mechanism to get electrical pulses in dependence on a precipitation quantity. The MR3 is unheated rain gauge intended for a liquid precipitation measurement and the MR3H is heated rain gauge intended for a liquid and solid precipitation measurement.



Rain gauges are made from non-corrosive materials. The cylindrical casing is made from stainless steel. The funnel, and also the circle in the upper part of the rain gauge, which creates the exact area for the falling rain (catching area of the rain gauge) - all these parts are made from aluminium alloy. The tipping bucket mechanism is placed inside the rain gauge body on the plastic base. Together with the bucket there are also: a spirit 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), and 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. The inner space of bucket is coated by titanium layer and exposed to accelerated weathering. Above the catching opening there is a vertical sieve, preventing gross mechanical impurities from entering the outflow.

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 heated 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 and MR3H Rain Gauges are standardly supplied with resolution 0,1 mm per one bucket tipping. It is possible to order them optionally with 0,2 mm resolution (MR3-02 and MR3H-02 models) or with 0,5 mm resolution (MR3-05 and MR3H-05)

MR3 front view with basic dimensions

MR3 and MR3H Technical Data	
Catching area	500 cm ²
Resolution (amount of precipitation per one tipping)	
- standardly	0,1 mm
- optionally . MR3-02 and MR3H-02	0,2 mm
- optionally . MR3-05 and MR3H-05	0,5 mm
*Accuracy (for MR3 or MR3H only)	
- max. error at rainfall intensity to 30 mm / hour	under - 2 % of the measured amount
- max. error at rainfall intensity to 100 mm / hour	under - 10 % of the measured amount
- max. error at rainfall intensity to 200 mm / hour	under - 15 % of the measured amount
Output	pulses– switching contact
Voltage for heating (for MR3H, MR3H-02, MR3H- 05 only)	40 - 46 V AC
Power of heating resistors (for MR3H, MR3H-02, MR3H- 05 only)	48 - 57 W
Temperature for thermostat switching (for MR3H, MR3H-02, MR3H- 05 only)	+15°C ± 3°C
Weight	4,25 kg (MR3, MR3-02, MR3-05) 4,5 kg (MR3H, MR3H-02, MR3H-05)
Operating temperature	+2 °C ... + 60 °C (MR3, MR3-02, MR3-05) -20 °C ... + 60 °C (MR3H, MR3H-02, MR3H-05)
Fixing bolt dimension	M8 x 50

* Above mentioned accuracy is valid for liquid precipitation only and for rain gauges with Calibration Certificate by METEOSERVIS v.o.s.

Optionally it is possible to supply the rain gauge with the description of error function (dependence of the error on the precipitation intensity). The correct using of this function allows to reduce the error of measuring under 5 % in range 0 .. 350 mm/ hour of precipitation intensity.