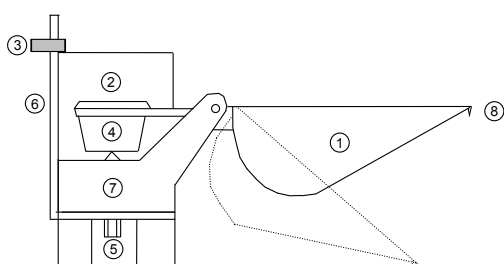


# Rain-O-Matic Meteorological Snow & Rain

## Technical specifications

### Rain collector/Tipping bucket

Rain-O-Matic Meteorological Snow & Rain measures the precipitation and snowfall by means of a heated copper funnel (orifice 200 cm<sup>2</sup>), which leads the water down into the self-emptying tipping POM bucket, held in place by a hard ferrite magnet. The magnet always exerts just enough tension to allow the measuring bucket to empty in one quick movement (less than 300 ms) and then return to its normal position, ready to once again collect precipitation. This means the counter weight always remains the same opposite to other conventional two spoons tipping bucket rain gauges.



1. Self-emptying bucket
2. PCB with reed switch
3. Screw to hold the entire unit
4. Magnet
5. Adjustment screw
6. Angle brackets
7. Holder for bucket
8. Drip catcher

### Styrosun

The rain gauge is mainly made in moulded modified high-impact polystyrene also known as STYROSUN which is a highly weather-resistant polymer that reduces breakdown and discoloration.

STYROSUN which has passed the Arizona test is extremely resistant against the sun's UV radiation and it is frost- and heat resistant standing all climatically conditions.

STYROSUN is resistant to common household cleaners, recyclable and easily decorated.

### PCB

The electronic printed circuit board with individually tested and high quality reed switches is protected against extreme weather conditions such as extreme frost or heat. This include corrosion from salt water due to the PCB is coated with weather-resistant varnish.

Rain-O-Matic Meteorological Snow & Rain uses PCB No. 9602 (NC—Normally closed, NO—Normally open) Terminal strip, 4 connections / 2 outlets) and 2 reed switches, connected-up in series by 1 k W 1/4W resistor.

### Capacity per minute with 12 tips

0,10 mm:	1,2 mm
0,20 mm:	2,4 mm
0,25 mm:	3,0 mm
0,50 mm:	6,0 mm

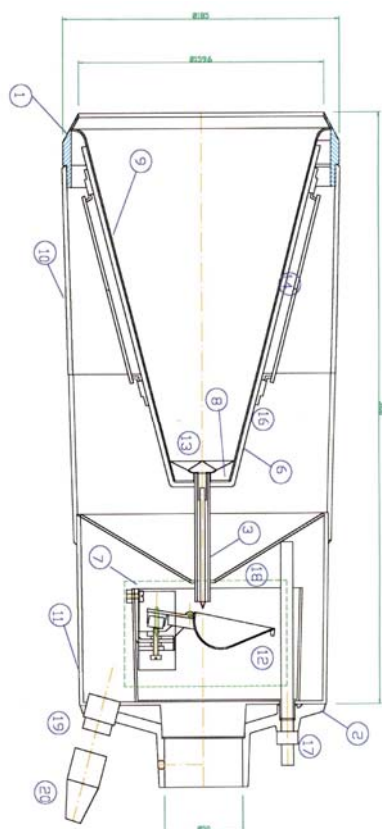
### Typical switching times for PCB 9602

Resolution	Terminal 1-2 Normally closed	Terminal 3-4 Normally open
0,10 mm	443ms $\sigma = 14\text{mS}$	352ms $\sigma = 14\text{mS}$
0,20 mm	307ms $\sigma = 12\text{mS}$	278ms $\sigma = 12\text{mS}$
0,25 mm	326ms $\sigma = 11\text{mS}$	301ms $\sigma = 12\text{mS}$
0,50 mm	322ms $\sigma = 7\text{mS}$	305ms $\sigma = 8\text{mS}$

$\sigma$  = Standard deviation

Filter design: Max 200msec recommended.

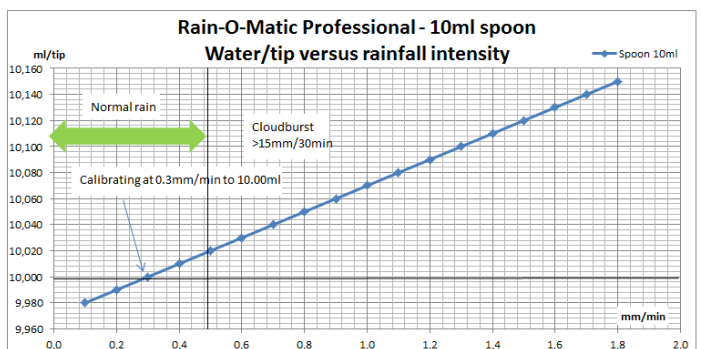
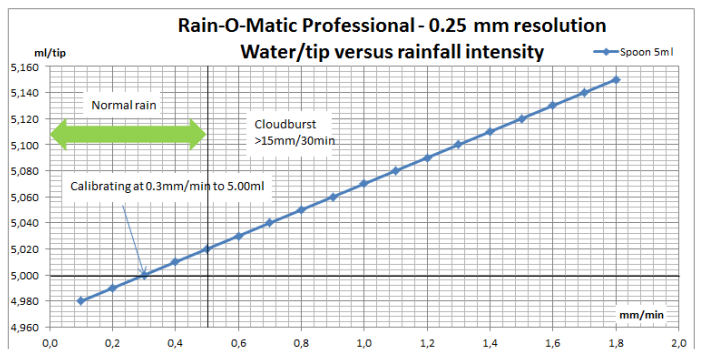
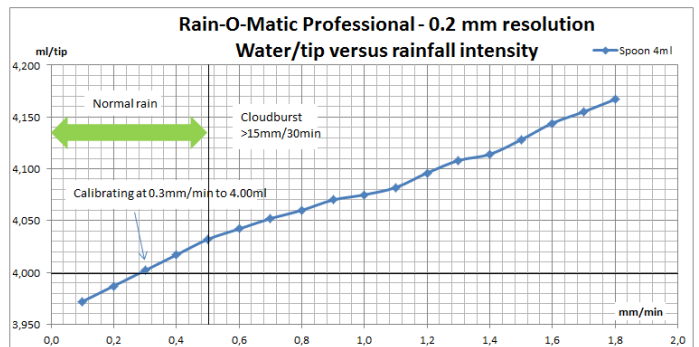
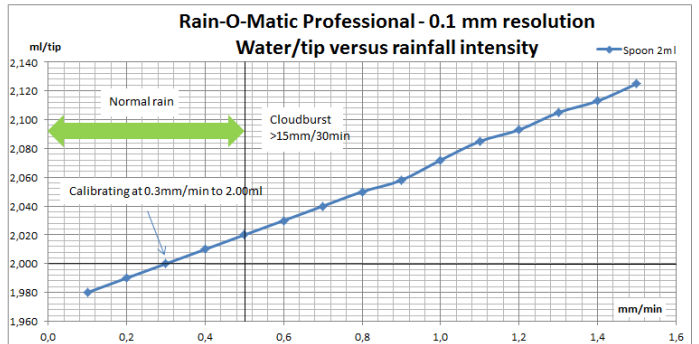
1. Top ring
2. Aluminium flange
3. Funnel tube
6. Aluminium plate with heating element
7. Electronic regulator
8. Copper ring
9. Copper funnel
10. Middle ring
11. Bottom compartment
12. Measuring unit
13. Drip filter
14. Heating regulator for funnel
16. Heating element
17. Drain pipe
18. Heating element for drain
19. Male connection plug
20. Female connection plug



# Rain-O-Matic Meteorological Snow & Rain



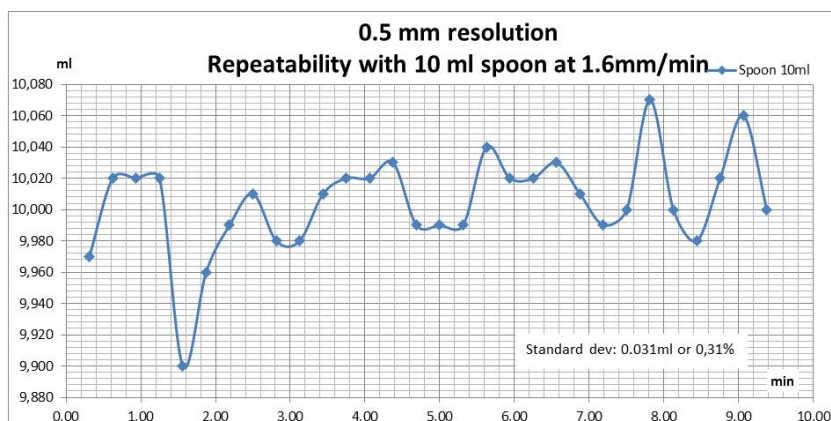
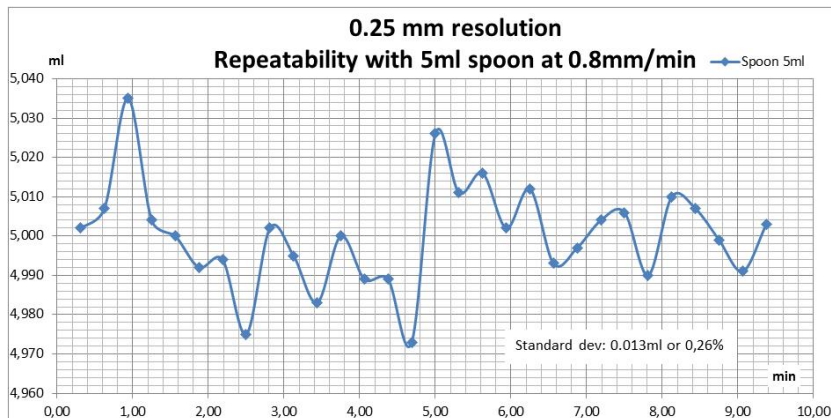
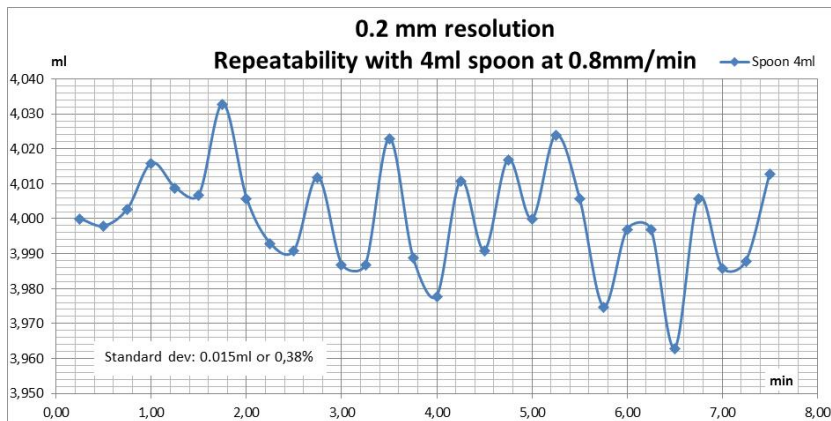
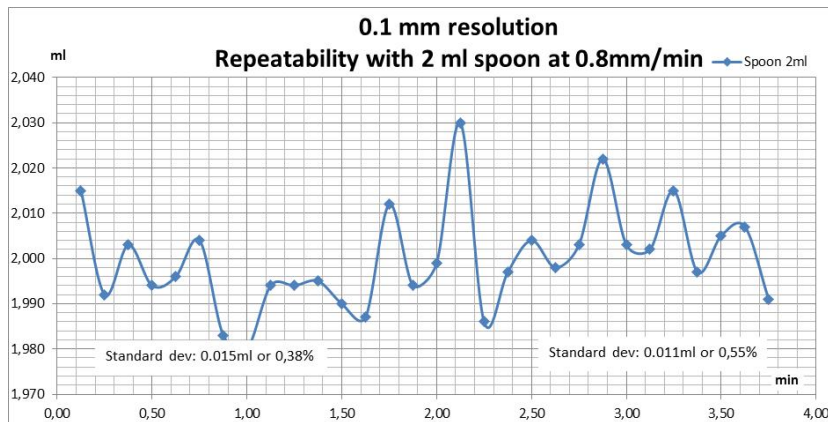
## Rainfall intensity diagrams



- Orifice: 200 cm<sup>2</sup> / 31 sq. inch
- Diametre: 159,6 mm / 6,28 inch
- Total height: 420 mm / 16,5 inch
- Splashroom height: 225 mm / 8,9 inch
- Weight excl. pylon: 2100 g / 74,1 oz
  
- Resolution: 0,10 mm, 0,20 mm, 0,25 mm or 0,50 mm
  
- Max. Deviation at 12 tips/minute +/- 2%
  
- Top ring with 60 degrees Angle
  
- Material: External parts: Styrosun  
Collector funnel: Copper
  
- Electronic temperature control
- 2 seperate heated rooms: Funnel compartment 3° C, +/- 1° C  
Registration compartment 22° C, +/- 1° C
  
- Safety thermostat
  
- Powersupply: In:100-230V AC/50-60 Hz
  
- Output regulation: Out: 24V DC +/-5%  
Max. Power 50W
  
- PCB no. 9602 1 pc. NO, 1 pc. NC

# Rain-O-Matic Meteorological Snow & Rain

## Repeatability diagrams



# Rain-O-Matic Meteorological Snow & Rain

**Rain-O-Matic Meteorological Snow & Rain gauge with our patented self-emptying tipping bucket is one of the most accurate and reliable heated precipitation gauges that comply with WMO standards.**



## Tipping bucket

RAIN-O-MATIC Meteorological Snow & Rain patented self-emptying tipping bucket is one of the most accurate and reliable rain gauges on the market. It gives you advantages in:

- More accurate measurements
- Only one adjustment screw which makes it easy to recalibrate.
- Bucket made in POM, which is a more dismissive material and therefore makes dust and dirt not stick so easily on the spoon and maximize water release.

## WMO compliant

Rain-O-Matic Meteorological Rain & Snow gauge complies with World Meteorological Organization standard (WMO guide no.8) Such as:

- Deep funnel to avoid splash out and evaporation.
- 200 cm<sup>2</sup> orifice angel top-ring with sharp edges.
- Drain pipe for collection of precipitation.
- Thermal safety switches on the heating elements to avoid evaporation and reduce power consumptions.
- 2 separately heating compartments.

## Calibration

Calibration is a very important issue for Pronamic and therefore all Meteorological Snow & Rain gauges are manually calibrated. It gives you the guarantee for a very accurate measurement. Accuracy: +/- 2%.

## Flexible cable connections

We can manufacture the rain gauges with a variety of connection cables so they will fit into your system. For example:

- Multi-plug C16-1 (standard)
- Binder connection.
- Jack plug.

## Minimal maintenance

Our rain gauges require minimal maintenance due to:

- Outer shell is made from Styrosun which makes the surface easy to clean.
- High quality plastic materials and electronic components combined with a simple design for long durability.

## Applications areas

The Rain-O-Matic Meteorological Rain & Snow gauge is accurate and rugged which makes it perfect for:

- Weather stations
- Meteorological institutes
- Research facilities
- Road authorities
- Avalanche facilities
- Ski resorts

## Tests

Rain-O-Matic Meteorological Snow & Rain Gauge have been thoroughly tested by the Finish Meteorological Institute at Jokioinen Meteorological Observatory. The Rain-O-Matic Meteorological Snow & Rain gauge has been tested 100 % frost proof. All components are RoHS compliant.

## Warranty

Our rain gauges are of such a high quality that we offer 24 months of warranty on mechanical- and plastic parts. See Service & Support for further information.