

# SELF-EMPTYING PRECIPITATION GAUGE

*1041 TPWE*

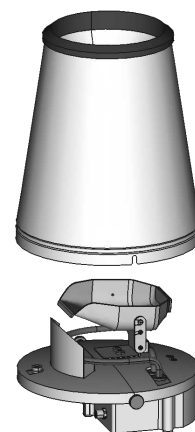


- Automatic self-emptying mechanism
- Solid and liquid precipitation measurement
- Integrated auto-diagnostic system
- Elimination of the wind vibration

# Description

The TPWE series weighing gauge is designed to measure different types of atmospheric precipitation by measuring the weight of the precipitation itself. Whether it is rain, snow, or mixed, it precisely measures the precipitation weight defining both its amount and intensity. The TPWE is equipped with a special self-emptying mechanism making possible measurement of precipitation which is not limited by the bucket capacity. Once the bucket is almost full it tips and the water flows out through the outlet in the base plate. The emptying occurs fully automatically thanks to the special shape of the bucket. The process is very quick (less than one second) and therefore it doesn't affect the measurement.

The weighing system is protected by an enclosure in order to make the measurement not be influenced by the external environment. Furthermore, the integrated circuit board of the instrument can manage both self-diagnostic operations and processing for the correction of measurement errors due to vibrations caused by wind, dust in the air, temperature fluctuations and other parameters.



## Main Features

- **Automatic self-emptying mechanism**
- **Electronic filtering of: vibrations, particles, others.**
- **Easy and fast maintenance**
- **Total sum of precipitation rain duration**

## Technical Specifications\*

### Measurement performance

	TPWE-2	TPWE-3	TPWE-4
Collecting area	200 cm <sup>2</sup>	314 cm <sup>2</sup>	400 cm <sup>2</sup>
Measurement range	unlimited		
Maximum rain intensity	120 mm/min (7200 mm/hr)		
Accuracy (rainfall amount)	± 0.1%		
Accuracy (rainfall intensity)	0.025 mm/min		
Resolution	0.001 mm		
Threshold	0.025 mm	0.016 mm	0.013 mm

### Operating conditions

Temperature	0 °C ÷ +70 °C		
Temperature (with heating)	-10 °C ÷ +70 °C (higher range below zero upon request)		
Humidity	0 ÷ 100 %		

### Outputs

Pulse	relay contact; 1/0.1/0.01 mm/pulse		
RS485-Modbus	precipitation amount and intensity		
SDI-12	precipitation amount and intensity		

### Power supply and consumption

Voltage supply	5 ÷ 28 Vdc		
Power consumption	7 mA (average)		
Heating supply	12 W / 12 V, 48 W / 24 V		

### Mechanical specifications

	TPWE-2	TPWE-3	TPWE-4
Dimensions	Ø255 x 350 mm	Ø255 x 390 mm	Ø255 x 410 mm
Protection class	instrument: IP65 load cell: IP68		
Weight	4.6 kg	5.2 kg	5.3 kg

\*Changes on technical performances can be applied upon request of specific calibration.