

Balance Principle Precipitation Gauge

METEOROLOGY

General Description

HyQuest Solutions' PreciBal is an innovative **high-quality precipitation gauge** using the weighing principle for measuring liquid, solid and mixed precipitation within a wide temperature range. The PreciBal **conforms to the most stringent requirements of the WMO** and is subsequently well suited for meteorological offices, weather monitoring network operators, atmospheric research institutes and hydrometeorological institutes.

PreciBal achieves **very high levels of accuracy** by means of correcting the data to eliminate the influence of wind vibration, particles, unrealistic weight variations, evaporation, and temperature fluctuation.

Regarding the bucket orifice different PreciBal versions are on hand of 200, 400 and 500 cm². The following readings are available via serial interfaces:

- One-minute rain intensity
- Total sum of precipitation
- Rain duration

The tried and proven design of the PreciBal ensures **long-term accurate and repeatable results**. It is manufactured from high quality, durable materials ensuring longterm stability in the harshest of environments. Above that, PreciBal has no moving parts. Rain and snow are weighted using a strain-gauge bridge. The PreciBal excels by means of cou-

pling a simple mechanical construction with advanced weight measuring cells and sophisticated firmware.

PreciBal fulfils the highest expectations and at the same time stands out with relatively **low operating costs** due to less frequent site visits and less time spent per device to clean. This allows for more efficient staff planning. In addition, the PreciBal's USB interface allows quick field checks of the device.

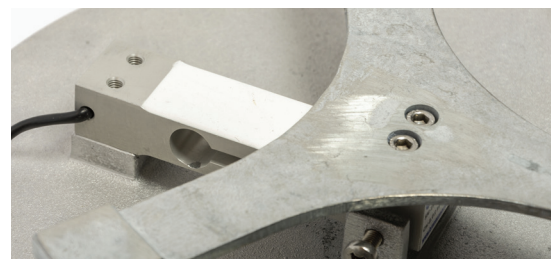
Applications

The PreciBal is especially suitable for

- Classical Meteorology and Climatology
- Hydrometeorology
- Environmental, Hydrological and Air Quality Monitoring

Features

- Modern weighting rain gauge
- Local data processing for increased accuracy
- Hardly any maintenance
- Autodiagnostic and self-check
- Orifice heating included
- Various types of data output
- In-situ functional test via USB port
- Local and remote diagnostics



Technical Specifications

	PreciBal 2S	PreciBal 5S	PreciBal 2X	PreciBal 4X
Orifice Area	200 cm ²	500 cm ²	200 cm ²	400 cm ²
Range of Precipitation	750 mm	250 mm	1500 mm	750 mm
Accuracy (absolute / relative)	absolute: 0.1 %; relative: +/- 1 %			
Accuracy of Amount	0.025 mm	0.01 mm	0.025 mm	0.0125 mm
Accuracy of Intensity	0.025 mm/min	0.01 mm/min	0.025 mm/min	0.0125 mm/min
Treshold Amount	0.05 mm/40 min	0.02 mm/40 min	0.05 mm/40 min	0.025 mm/40 min
Treshold Intensity	0.05 mm/min	0.02 mm/min	0.05 mm/min	0.025 mm/min
Maximum Rain Intensity	120 mm/min			
Resolution	0.001 mm			
Measuring element	Strain-gauge bridge			
Power Supply	5 to 30 VDC / max. 4 mA@12V			
Heating Supply	10 to 30 V / 0.83 to 2.5 A			
Output contact (1/0.1/0.01 mm)	U _{max} = 30 V / I _{max} = 300 mA f = 2 Hz			
Serial Output	RS-485 / SDI-12			
Digital Output	3.3 V (inverted, pulse 250 ms, space 250 ms)			
Dimension	Ø 360×540 mm	Ø 360×380 mm	Ø 385×650 mm	Ø 385×610 mm
Weight	8 kg		9.5 kg	
Operating Range	Temperature: -40°C to +70 °C; Humidity: 0 to 100 %			
Protection Class	IP65			

Options & Accessories

Options for PreciBal: The following features are optionally available:

- Air temperature measurement
- Rain detector
- Wind speed estimation
- Corrected data eliminating wind influence

Wind Shield: The WS200-500 wind shield protects rain gauges with catchment areas of 200 up to 500 cm² from inaccuracies induced by wind turbulence. The shield is particularly effective on solid precipitation in the winter season.



iRIS dataloggers and data modems:

- Robust housing
- IP over one or two channels of your choice: xG / GPRS, satellite, IoT
- I/O: analog, digital, SDI-12, Modbus
- iLink software
- Telemetry or cloud app

Please ask for details.

Reseller

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