CLOUDBURST WEIGHING PRECIPITATION GAUGE

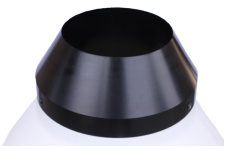
SG-400 Series

Introduction

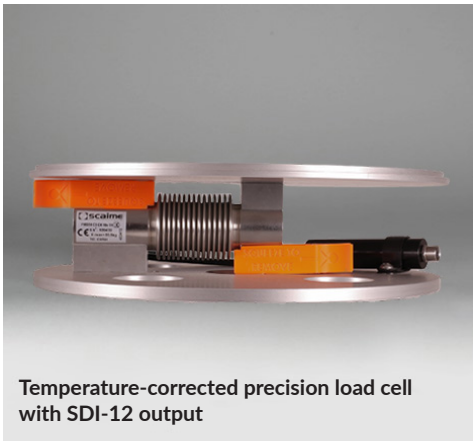
The Apogee Cloudburst weighing precipitation gauge measures total precipitation from rain, snow, sleet, and hail with an algorithm to correct for temperature, evaporation, and vibration.

The SG-400 series models are available in SDI-12 outputs. Inlet options include heated or unheated, with 8-inch (900 mm / 35 inches capacity) or 200 cm^2 (1500 mm / 59 inches capacity) openings to meet National Weather Service (NWS) and World Meteorological Organization (WMO) recommendations.

NWS Inlet



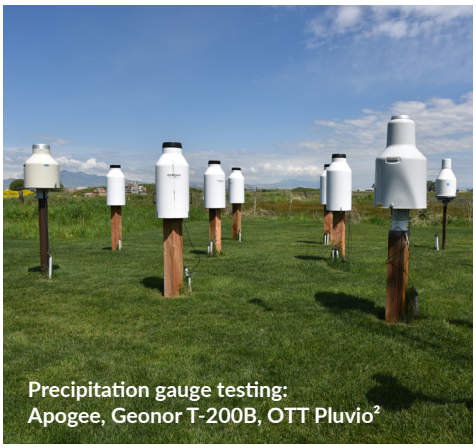
WMO Inlet



Temperature-corrected precision load cell with SDI-12 output

Features

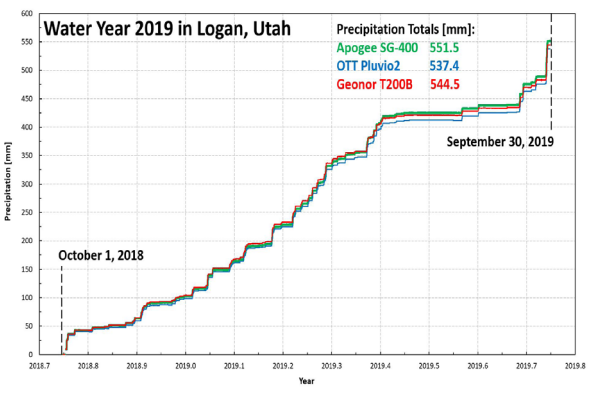
- Rugged, large capacity, all-weather weighing precipitation gauge with no moving parts
- High-accuracy, stable, stainless steel load cell enables easy recalibration or replacement when necessary
- Black inlet adds natural solar heating, and heated inlet option prevents snow from capping on top of the gauge
- Algorithm to filter the influences of evaporation, vibration, and temperature on measurements
- Matches the research-quality measurements of competing gauges at a lower price



Precipitation gauge testing: Apogee, Geonor T-200B, OTT Pluvio²

Precipitation Gauge Comparison

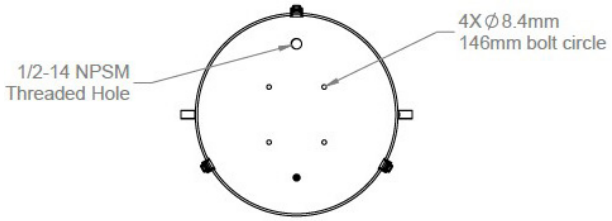
Data were collected at an Apogee field test site during water year 2019 (October 1, 2018 to September 30, 2019)

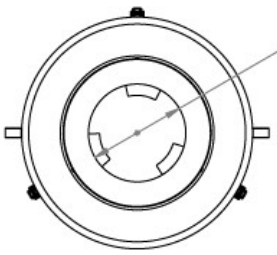


Product Specifications

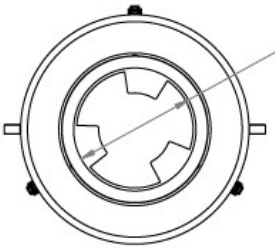
	SG-400	SG-410	SG-420	SG-430
Precipitation Type	Liquid, solid, mixed			
Inlet Diameter/Area	8-inch inlet diameter / 324 cm^2 inlet area (NWS)		6.3-inch inlet diameter / 200 cm^2 inlet area (WMO)	
Preciptitation Capacity	900 mm / 35 in (NWS)		1500 mm / 59 in (WMO)	
Bucket Capacity	30 L / 8 gal			
Inlet Heater	No Heater	Heater	No Heater	Heater
Rate (Intensity) Range	0 to 3,000 mm $hour^{-1}$ (0 to 50 mm min^{-1})			
Rate (Intensity) Threshold (1 min data)	6 mm hr^{-1} (0.1 mm min^{-1})			
Calibration Accuracy (for Cumulative Amount)	0.1 mm < 5 mm, 1 % for > 5 mm			
Calibration Accuracy (for Rate/Intensity)	5 % for > 2 mm hr^{-1}			
Measurement Resolution	0.01 mm			
Output Interval	1 min (unfiltered data); 1 to 30 min (filtered data)			
Communication Interface	SDI-12 v 1.4			
Temperature Sensitivity	± 0.01 mm C^{-1}			
Long-term Drift (non-stability)	Less than 0.5 % yr^{-1}			
Non-linearity	Less than 0.1 mm			
Transducer	Stainless steel strain-gauge bridge load cell			
Voltage Input	5.5 to 26 V DC			
Current Draw	20 mA			
Power Requirement	240 mW at 12 V DC			
Operating Environment	-20 to 60 C; 0 to 100% relative humidity			
IP Rating	IP67 (load cell and circuitry)			
Dimensions	38 cm diameter, 80 cm height			
Mass	12 kg (empty bucket)			
Cable	5 m of 3-conductor wire, M8 connector (IP67)			
Mounting	Holes for 15.24 cm wood post; Adapter for 10.16 cm pipe			
Inlet Heater Voltage Requirement	-	24 V DC	-	24 V DC
Inlet Heater Current Draw	-	2.1 A	-	2.1 A
Inlet Heater Power Requirement	-	50 W (maximum)	-	50 W (maximum)

Dimensions





200 cm^2 inlet (WMO)



8-inch diameter inlet (NWS)

Rev: 30-Oct-2023