

## Atmospheric pressure

Instrument name: Atmospheric pressure

Instrument type: PTA-427

Manufacturer: Vaisala

Location: Institute for Geoscience, Section Meteorology, Bonn

Coordinates: Lat: 50.731233° N, Lon: 7.070733° E, Alt: 66 m asl

The Vaisala barometric pressure transducer measures pressure with silicon capacitive pressure sensor.

The sensor is mounted on a measuring mast in the backyard at the Section Meteorology, Institute for Geoscience, University of Bonn, Bonn since 1995.

### Instrument specifications

Parameter	Specification
Manufacturer	Vaisala
Instrument type	PTA-427
Data Logger	Campbell Scientific CR23XPB
Pressure range	800 – 1060 hPa
Temperature range	-40 - +60 °C
Humidity range	Non-condensing
Accuracy:	
Linearity	± 0.3 hPa
Hysteresis	± 0.03 hPa
Repeatability	± 0.03 hPa
Calibration uncertainty	± 0.2 hPa
Accuracy at 20°C	± 0.4 hPa
Temperature dependence:	
At 1000 hPa	± 0.02 hPa/K
At 800 hPa	± 0.08 hPa/K
Stability:	
Systematic offset drift	± 0.2 hPa/year
Effect of thermal and mechanical shocks	< ± 0.3 hPa
Temporal resolution (average)	1 min
Weight	160 g
Dimension (H x B x T)	128 mm x 69 mm x 31 mm

## Instrument time-line

02/03/1995 – today

backyard of Section Meteorology, Institute for Geoscience,  
University of Bonn, Bonn

## Available measurement modes

- Continuous measurements in 1 min resolution at fixed position

## JOYCE-CF Standard Operation Procedures

- Fixed location in Bonn
- Continuous operation with 1 min temporal resolution

## Data quality assurance procedures

- Raw data provided by the instrument. Quality control by operator.

## Available datasets

Data can be requested via the 'Messdatenportal' (<https://www.ifgeo.uni-bonn.de/abteilungen/meteorologie/messdaten/messdatenportal>).

Additional data or measurement time can be requested via the JOYCE-CF request sheets.

## Level 1

- Atmospheric pressure in hPa:
  - Temporal resolution: 1 min average by data logger
  - ASCII Table including header (1 file per 5 min interval)
  - File size approx. 100 kB per day

## Contact

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