

File Revision Date:

September 12, 2025

Data Set Description:

PI: Dr. Alexander Mangold
Instrument: Brewer
Site(s): Uccle, Royal Meteorological Institute
Measurement Quantities: Total column ozone

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DOI:

<https://evdc.esa.int/doi/10.48801/eubrewnet.uccle>

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Location of LO/L1 data archive

LO/L1 at Eubrewnet

Reference Articles:

Brewer, A replacement for the Dobson spectrophotometer, Pure and Applied Geophys., 106-108, 919-927, 1973

De Backer and De Muer, Intercomparison of total ozone data measured with Dobson and Brewer ozone spectrophotometers at Uccle (Belgium) from January 1984 to March 1991, including zenith sky observations, J. Geophys. Res., 96, 20711-20719.

Van Malderen, R., De Muer, D., De Backer, H., Poyraz, D., Verstraeten, W. W., De Bock, V., Delcloo, A., Mangold, A., Laffineur, Q., Allaart, M., Fierens, F., and Thouret, V.: Fifty years of balloon-borne ozone profile measurements at Uccle, Belgium: short history, the scientific relevance, and the achievements in understanding the vertical ozone distribution, Atmos. Chem. Phys. 21, 12385-12411, <https://doi.org/10.5194/acp-21-12385-2021>.

Instrument Description:

Brewer 016 (NDACC registered) since 1984

Co-located instrument: Brewer 178 (since Sep 2001)

Algorithm Description:

See Brewer Manuals by IOS and Kipp+Zonen or:

De Backer, Zenith observations of total ozone in Uccle, Wetenschappelijke en technische publicatie nr 8, Koninklijk Meteorologisch Instituut, Edt. H. Malcorps, Brussel, Belgium, ISSN D/1998/0224/006, 1998

Expected Precision/Accuracy of Instrument:

same or better than Dobson Instrument.

Instrument History:

Brewer 016:

Installed in 1983, automated and calibrated by IOS in 1989

Calibrations by IOS in 1994, 2001, 2003, 2006, 2008

Calibrations by Kipp&Zonen in 2010, 2012, 2014, 2016

In November 2017 the instrument #016 was refurbished by Kipp&Zonen (new electronics).

Calibration by Kipp&Zonen (reference instrument 158) in May 2018, July 2020, June 2022, May-June 2024

Since 23 May 2024: Brewer016 has new Photomultiplier !

Brewer 178:

participated in the calibrations in 2001, 2003, 2006, 2008, 2010, 2012, 2014, 2016, 2018, 2020, 2022, 2024