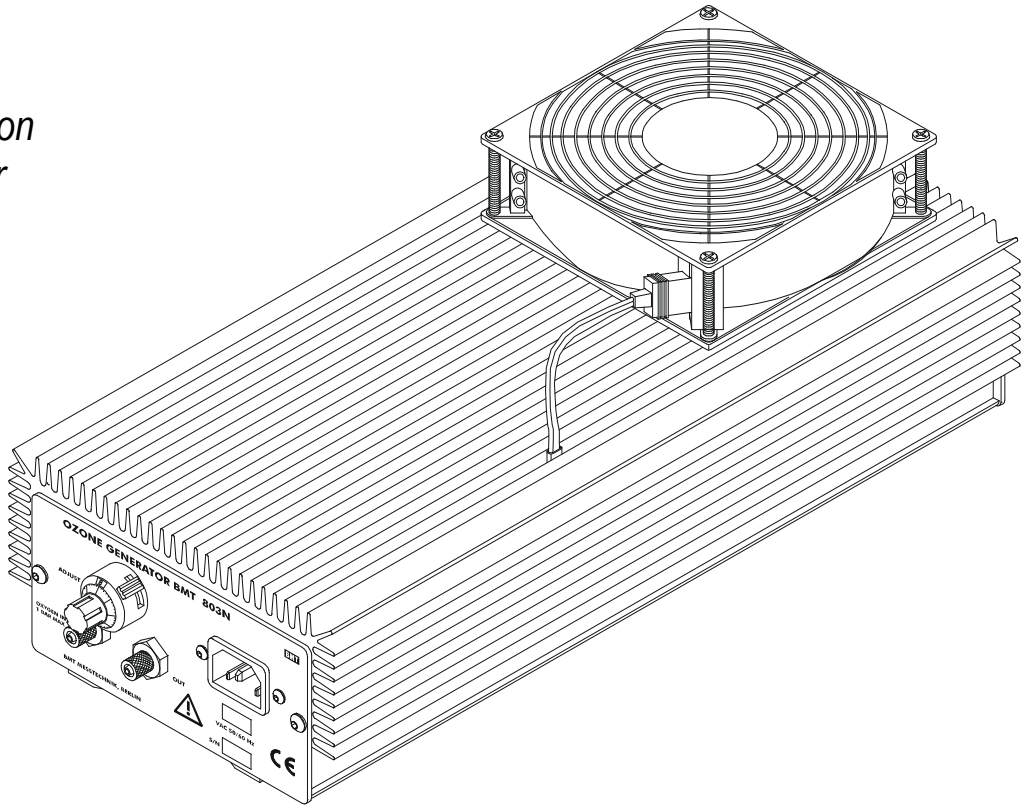
OZONE GENERATOR BMT 803N

Air Cooled
High Concentration
Ozone Generator



FEATURES

- Ozone generation in a box not much bigger than a shoe box
- Air cooled
- Ozone production 8 g/h (at 100 g/Nm^3, 20°C)
- Highest O_3 concentration exceeding 250 g/Nm^3
- Life expectancy of many years
- Power control via potentiometer, or by a control voltage of 0 - 5 VDC (optional)
- Control range 1:7
- Rugged aluminium enclosure

APPLICATIONS

- Ozone generation in the laboratory
- Pilot plants for ozone processes
- Small ozone systems
- Sterilisation of medical instruments
- Deactivation of bacteria and viruses in water
- Bottled water pre-treatment
- Medical ozone application
- Pharmaceutical production
- Semiconductor ozone processes

The OZONE GENERATOR BMT 803N is a small air-cooled ozone generator for oxygen as the feed gas. The dielectric is plain ceramic. The electrodes are tungsten.

The enclosure of the instrument is an aluminium extrusion profile which acts as a large heat sink. Additionally a fan is mounted externally which also helps in ventilating the internal.

Dimensions of the generator are approx. 391 x 170 x 151 mm, not much bigger than a shoe box. The weight is approx. 5.6 kg. Input voltage is 230 VAC, or 115 VAC. Inlet and outlet fittings are for 3 x 5 mm (or 1/8" x 3/16") PTFE tubing.

Maximal power consumption is about 155 W, including the 20 W for the fan.

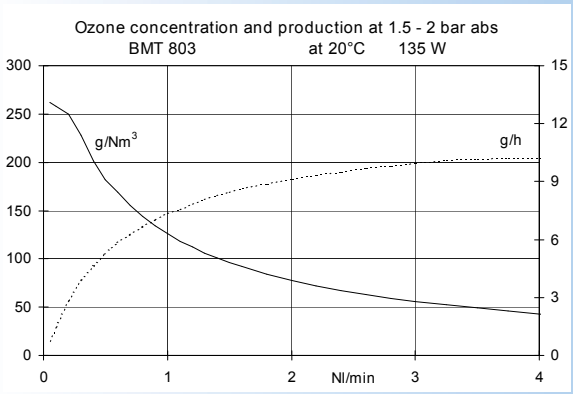
The operating pressure must not exceed 1 bar gauge. For higher pressure applications the model BMT 803N HP is available which is optimised for operation at 2 bar gauge. Between 0.5 and 1.0 bar gauge (1.5 to 2.0 bar abs), 100 g/Nm^3 and 20°C ambient temperature, the ozone production is 8 g/h or more. The maximally obtainable ozone concentration exceeds 250 g/Nm^3.

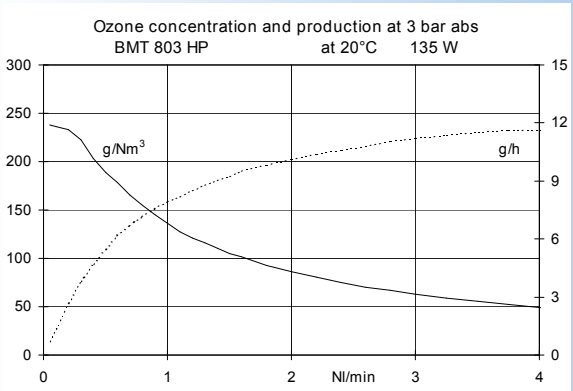
The ozone production decreases with increasing ambient air temperature by approx. 0.8% per degree centigrade.

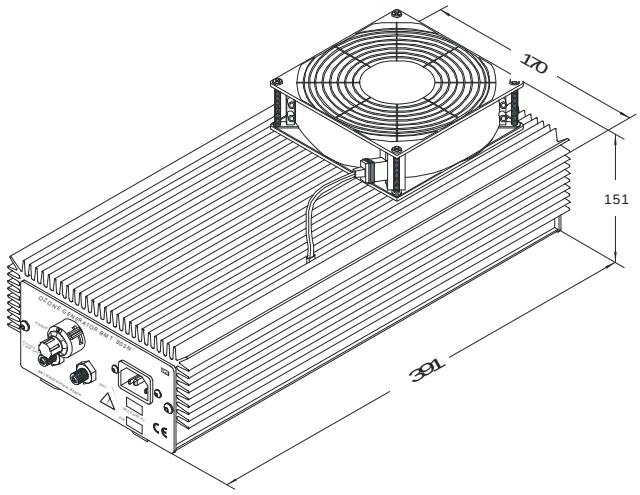
SPECIFICATIONS

feed gas	oxygen
flow rate	0.1 to 4 l/min
ozone production	8 g/h (at 100g/Nm³ / 20°C) 9 g/h (BMT 803N HP)
max. O_3 concentration	> 250 g/Nm³
adjustment range	15 to 100% ozone output at 0 to 100% control input
max. pressure	1 bar gauge (2 bar abs) 2 bar gauge (BMT 803N HP)
cooling	ambient air
life expectancy of fans	40,000 hours
ambient temperature	0 to +40°C (non-condensing)
temperature effect	output decreasing by approx. 0.8% / K
materials in contact with ozone	Al_2O_3 ceramic and 35µm anodised aluminium, SS, PTFE
gas ports	for PTFE tubing 3 x 5 mm, or 1/8" x 3/16" 1/4" Swagelok on request 1/4" VCR on request (both inlet & outlet with male body)
power	230 VAC, 50/60 Hz, 155 W or 115 VAC (please specify)
dimensions (W x H x D)	391 x 170 x 151 mm
weight	approx. 5.6 kg

Typical Performance Curves:



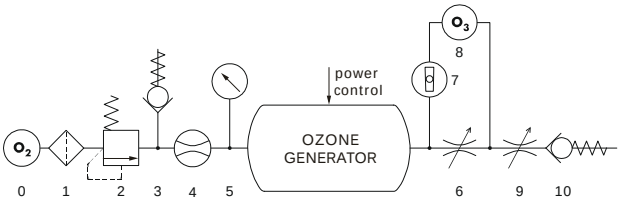




The OZONE GENERATOR BMT 803N is a building block. We recommend installation according to the schematic shown below. The generator should be operated at constant pressure, and the flow be adjusted by a throttle valve at the outlet. The pressure relief valve (3) is important for protection from overpressure when the outlet throttle is closed. Flow should be measured on the oxygen side. The filter (1) is important namely for oxygen coming from a PSA and/or when a thermal mass flow meter is used for flow measurement (4).

Measurement of ozone content (e.g. with our OZONE ANALYZER BMT 964) can be made with the total flow passing the analyser (up to about 1 Nl/min), or with the analyser in a bypass configuration (higher flow). Connecting tubing should be PTFE, even on the oxygen side.

We are ready to assist you in planning the installation of the OZONE GENERATOR BMT 803N.



0 oxygen source (5 bar max.)
1 filter (optional)
2 pressure regulator
3 pressure relief valve (safety valve)
4 flow meter (oxygen mass flow)
5 pressure gauge
6 throttle valve (bypass)
7 rotameter
8 ozone analyzer (flow < 1 l/min)
9 main throttle valve
10 check valve

A broad spectrum of ozone measurement products and field proven accessories is also available, e.g.:

- OZONE GENERATOR BMT 802N (4 g/h)
- OZONE ANALYZER BMT 964 for ozone measurement
- OZONE-IN-WATER SENSOR BMT 964 AQ
- OZONE MONITOR BMT 930 for TLV monitoring

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