

Sonimix 4001

Ozone generator – Primary transfer standard

Description

The Sonimix 4001 ozone primary transfer standard is mainly composed of a complete self re-generable zero air generator, including compressor, drying filter and O₃, NO, NO₂ scrubber and an air humidificator.

A constant flow air generator is using pressure regulator and sonic nozzles and an ozone generator includes thermostatisation and regulation by UV light measurement with atmospheric pressure and temperature corrections. The ozone analyser is built with 2 reference UV light detectors.

Functioning principle:

The Sonimix 4001 uses the US EPA method of UV absorption by ozone (Beer-Lambert law). With its 2 reference UV photometers, the device measure in alternance the UV intensity without any ozone and then the same UV light but through the generated ozone. With these 2 values, the processor calculates the amount of ozone generated.

The instrument generates an outflow of 3 NI/min air containing 10 to 1000 ppb O₃, with stability and reproducibility of the concentration better than 1% relative. The extended range model generate 10 ppb to 10 ppm at 3 L/min and 10 ppm to 35 ppm at 0.9 L/min.

The device is able to generate the ozone together with dry or wet air (optional). This able to easily diagnosticate an eventual interference of the humidity on the ozone monitors.

The Sonimix 4001 does not need any external gas cylinder and allows calibrating the ozone monitors in several points. To transfer the calibration values from the national standards, it includes a function of self linearization. Due to it's LCD touch pad display and it's menus, the device is a highly user friendly instrument.

The precision, stability and reproducibility of the generated mixtures are due to the joint use of sonic nozzles, high precision mechanical pressure regulators and the 2 reference UV detectors.



- ☒ **Stable and accurate**
- ☒ **Calibration with dry & wet air**
- ☒ **LCD Touch Screen display**
- ☒ **LED ref. UV lamp**

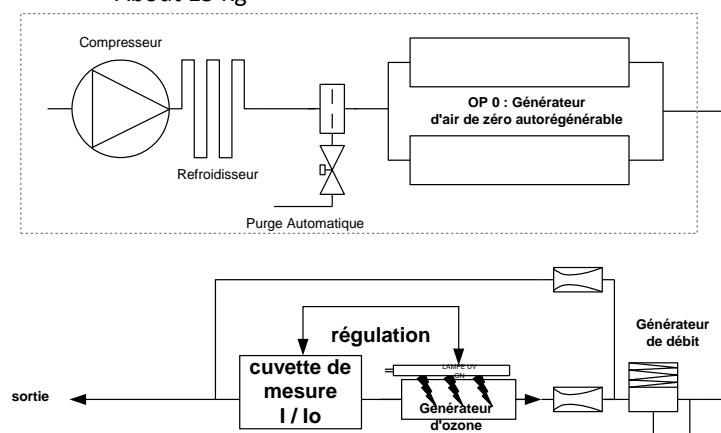
Applications



The Sonimix 4001 is a stand alone ozone primary standard, designed to transfer ozone concentration between the network's laboratory reference and the air pollution monitoring stations.

Specifications

Generated gas flow :	3000 Nml/min for the mixture (extended range @ 0.9 L/min)
Dilution air :	Dry air from internal zero air or external source with dry air
Range of ozone generation :	From 10 to 1000 ppb in 1 ppb steps @ 3 L/min
Range of ozone for the extended range	From 10ppb to 10 ppm @ 3 L/min + 10ppm to 35 ppm @ 0.9 L/min
Accuracy :	10 ppb to 100 ppb : +/- 2 ppb >100 ppb : 1.5% relative
Repeatability of ozone concentration :	Better than 1% relative
Long term stability (3months) :	Less than 1 ppb (over 24H) Less than 2%
Concentration stabilisation time:	Inferior to 15 minutes
Start up time :	45 minutes (depending of the ambient temperature)
O3 settings:	By selection of the desired value with the LCD touch pad display
O3 regulation :	Measure of the UV light absorption of the generated ozone by UV reference photometer. (US EPA method and Beer Lambert law). Including atmospheric pressure and room temperature corrections.
UV lamp life time :	About 10'000 hours (with a mean concentration of 1 ppm)
Zero air generator life time :	Annual preventive maintenance
Zero air quality :	O3, NO and NO2 < 1 ppb - H2O < -40°C dew point
Outlet port :	Teflon 1/4" Swagelok fitting
Power consumption :	230V/50-60Hz – 117V/60Hz – 100V/60Hz
Dimensions :	19cmx36cm, 50cm deep
Weight :	About 15 Kg



Options – Accessories – Spare parts

Models:

6800 15 000	Sx 4001 multipoint ozone primary standard (10 ppb to 1000 ppb)
6800 15 001	SX 4001 with extended range : 10 ppb to 35 ppm

Options:

6800 08 016	Integrated self re-generable zero air generator
6800 15 010	Wet / dry air generator



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