



# CDU

## Central Destruction Unit

### PRODUCT SHEET

A leading-edge system designed for large Nitrous Oxide destruction volumes, the CDU system accommodates multiple treatment room setups and offers caregivers an optimal method of reducing work environment risks and greenhouse gas emissions. The CDU combines low energy consumption with ease of use and operates at an efficiency level of > 96 %.

# Product specifications

- Facilitates a healthy work environment for the personnel
- Eliminates > 96 % of the collected nitrous oxide entering the unit
- Low noise level and no vibrations
- Low energy consumption
- Monitoring through the web and/or on site
- Easy to install

The CDU is a centrally installed nitrous oxide destruction unit with the capacity of handling multiple treatment rooms. The unit is compact and contains functionality for continuous real-time monitoring through the built-in display or through a web interface.

CDU is built with a low airflow technique which results in a unit with low noise level and insignificant vibrations.

The unit is in operation 24/7 and the staff only needs to start the extraction system in the treatment room.

## Energy efficient gas cleaning using a unique technique

For the decomposition process, where the nitrous oxide is decomposed into oxygen and nitrogen, a high temperature is needed. Medclair has developed a unique technique using a heat exchanger and isolation that results in a high degree of energy recycling which significantly reduces the energy consumption needed after the initial heating up of the unit.

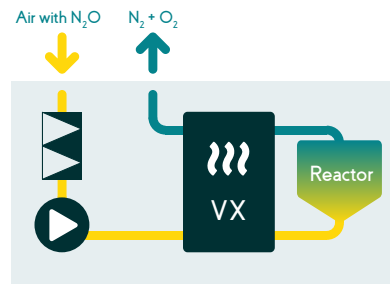
The nitrous oxide contained in the exhaled air is decomposed to a degree of minimum 96 % using a climate smart catalytic purification system where the environmentally hazardous nitrous oxide (N<sub>2</sub>O) gas is decomposed into nitrogen (N<sub>2</sub>) and oxygen (O<sub>2</sub>) which are the main components in air.

## Control and monitoring

The operation is continuously monitored and processing data, such as nitrous oxide concentration, gas flow and energy consumption, is being logged. The saved data is available from the built-in display as well as through a standardized web interface and data is presented per hour, day and month. The unit can also be connected to the facility's operational centre.

## Installation and operation

Medclair delivers a turnkey product that makes the installation easy and quick. The unit only needs to be hooked up to existing ventilation and power.



Thanks to the innovative design with few moving parts the system is quiet and vibration free combined with high reliability and long product lifespan.



## Accessories

### Nitrous Oxide Detector

The NOD is a personal work environment tool that provides the user with indications of overexposure and logs data for user evaluation. The unit is suitable for anyone who works with N<sub>2</sub>O for safeguarding the work environment.

### Exhalation device (ED)

A unique patented valve that governs the supply of N<sub>2</sub>O to the patient and enables the capture of exhaled N<sub>2</sub>O for subsequent destruction.

### Tubes, masks etc.

Medclair can also provide needed consumables e.g. tubes, masks etc.

# Technical Data & Certification

Power supply	400 VAC, 50Hz, 3-phase
Current	10 A max
Pipe connection	Ø35 mm

## Operational conditions

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Temperature	Max 35°C
Relative moisture	10 – 80 %
Height above sea level	<2000 meter
Normal system pressure	ca 2500 Pa
Normal outlet temperature	80-120°C

## Incoming gas

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Temperature	Max 35°C
Relative moisture	Max 100 %
Gas flow	0-30 m <sup>3</sup> /h
Decomposition degree (nitrous)	> 96 %

## Energy consumption

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Start-up	2,4 kW
Operation	0,8 – 1,1 kW

## Size

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Length, Width, Height	90 x 80 x 190 cm
Weight	300 kg

## Certification

CDU is CE certified and fulfils following directives and standards:

### EU directive:

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2006/42/EG	Machinery directive
2014/30/EU	Electromagnetic compatibility, EMC
2014/35/EU	Low voltage directive
2011/65/EU	Restriction of the use of certain hazardous substances (RoHS)

### Swedish work environment directive:

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AFS 2008:3	Arbetsmiljöverkets föreskrifter om maskiner
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Medclair, founded in 2013, is a Swedish research and development company with leading-edge expertise in process gas purification, gas measurement, ventilation and control. We solve healthcare and environmental challenges through innovation.

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