plasmaNorm®*

plasmaNorm®*-Technology

Applications

The technology was developed for the complete removal of cooking odours, and simultaneously sterilises the air. The *plasmaNorm®* gas cleansing technology (a non-thermal, plasma chemical process with atmospheric i.e. normal pressure plasma) treats intake, ambient or exhaust air for the environmentally safe **removal of the smallest gaseous, organic carbon compounds such as odour molecules, viruses, bacteria, spores etc.** Solids and aerosols are removed in a *hydroSorp®* pre-filter.

The plasma chemical technology was developed by
the Leibniz-Institute for Plasma Science and Technology, Germany.

plasmaNorm® technology consists of several stages:

1. Pre separation

Here, the polluted gas is stripped of solids, aerosols and particulates. Appropriate filter media such as bag filters (e.g., the *hydroSorp®* separator for damp or oily air) are used according to the air impurities to be removed.

2. Reaction processes and oxidation

After pre-filtering, the air is subjected to a plasma-based reaction and oxidation process. While passing through a high-voltage discharge source (atmospheric plasma) enriches the pre-filtered dirty gas with monoatomic oxygen.

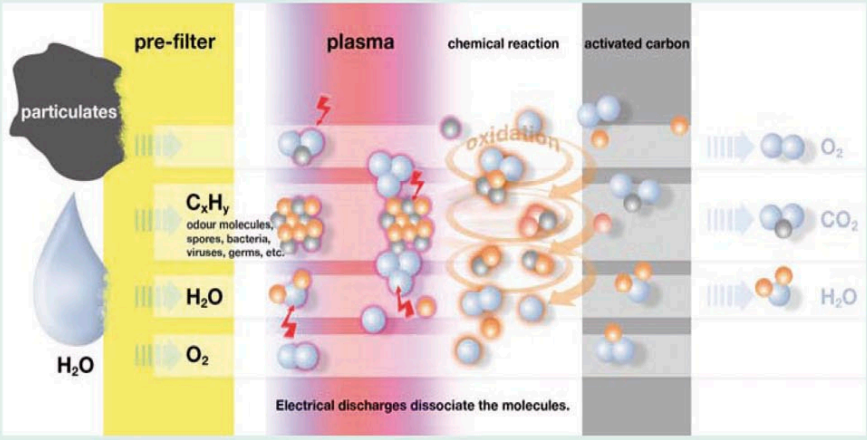
Highly reactive radicals and ions initiate an oxidation and decomposition process in which the carbon compounds are either stimulated to reactions or react directly with the oxygen atoms.

3. Active carbon storage

Compounds not yet been oxidised are retained in the activated carbon bed and oxidised there. The activated carbon functions as a storage reactor that, among other effects, reverts ozone to atmospheric oxygen. The special characteristic of this technology is the economical, **extremely long serviceable life of the activated carbon,** as it **regenerates itself** during the process; exchange is only necessary in exceptional cases.

Servicing and residues

The pre-filter of a *plasmaNorm®* installation must be regularly cleared of separated residues (*hydroSorp®* **filters can be cleaned in a washing machine**). *plasmaNorm®* installations should be inspected occasionally.



Schematic diagram of a *plasmaNorm®* process

BA·RO AIR HYGIENE
Wolfstall 54–56 42799 Leichlingen Tel: 02174-799-505 Fax: 02174-799-799 info@baero.com www.baero.com

plasmaNorm® - exhaust air unit (standard)

Abluftanlagen (Standard)

BÄRO AIR HYGIENE

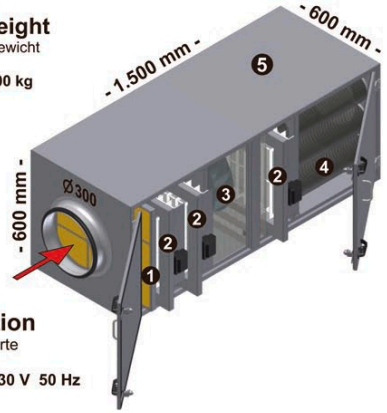
airflow 1.500 - 10.000 (m³/h)
Luftvolumen

(kitchen sytem)

pN 1.500

max. airflow Max. Luftvolumen **weight** Gewicht

1500 m³/h /150 Pa ext. 100 kg



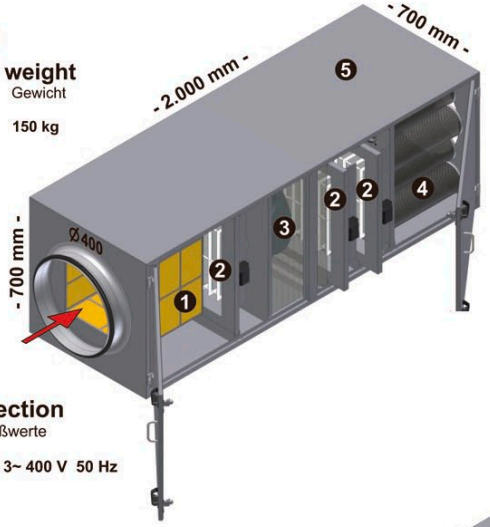
power connection
Elektrische Anschlußwerte

ca. 0,48 KW 2,4 A ~ 230 V 50 Hz

pN 3.000

max. airflow Max. Luftvolumen **weight** Gewicht

3000 m³/h /150 Pa ext. 150 kg



power connection
Elektrische Anschlußwerte

ca. 1,43 KW 3,0 A 3~ 400 V 50 Hz

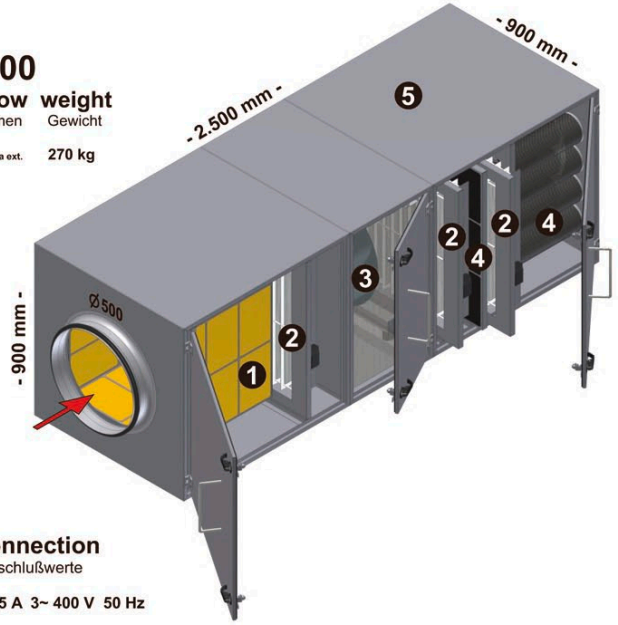
Legend:
Legende:

1. **hydroSorp aerosol separator**
   hydroSorp Aerosol-Abscheider
2. **plasmaNorm® stainless steel-electrodes**
   plasmaNorm® Edelstahl-Elektroden
3. **centrifical fan**
   Ventilator
4. **activated carbon storage**
   Aktivkohle
5. **encasement** **stainless steel**
   Gehäuse Edelstahl 1.4301

pN 5.000

max. airflow Max. Luftvolumen **weight** Gewicht

5000 m³/h /150 Pa ext. 270 kg



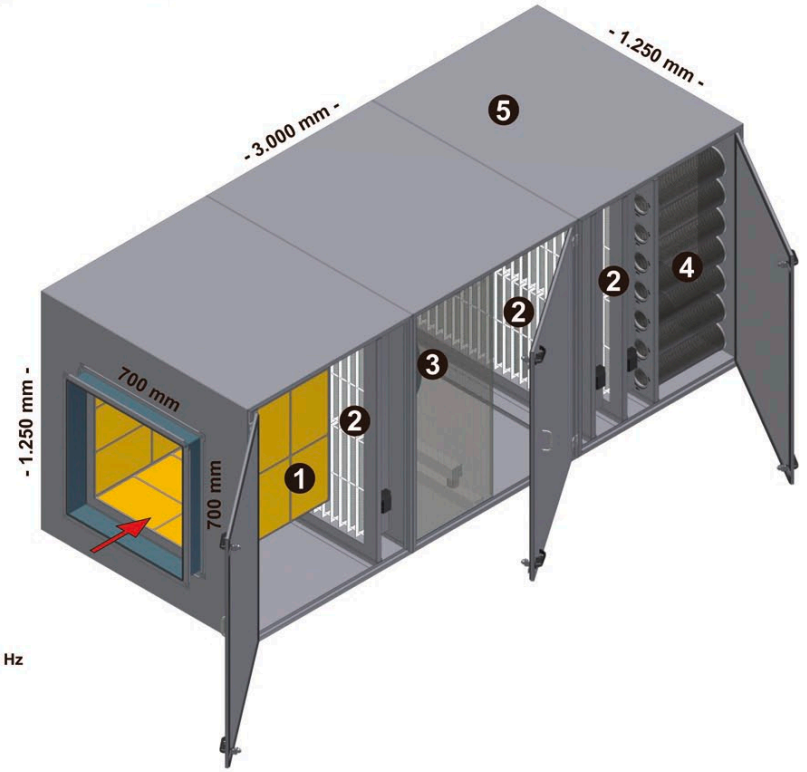
power connection
Elektrische Anschlußwerte

ca. 2,5 KW 4,5 A 3~ 400 V 50 Hz

pN 10.000

max. airflow Max. Luftvolumen **weight** Gewicht

10000 m³/h /150 Pa ext. 600 kg



power connection
Elektrische Anschlußwerte

ca. 4,09 KW 7,45 A 3~ 400 V 50 Hz

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