

Premium Quality.
Designed, developed
& **MADE IN GERMANY**



AIR DIAMOND

INTELLIGENT SOLUTION FOR CLEAN SURGERY ROOM AIR

ROOM
CLASSIFICATION **Ib**

COMPETENCE IN QUALITY AND SERVICE

HIGHEST DEMANDS GO TO STANDARD WITH US

As a specialist for ventilation and air conditioning systems, **APODIS Medical** GmbH has been developing systems for more than 20 years with a focus on the reduction and elimination of microbial contamination and the highest possible purity of room air in compliance with the required target values in operating and procedure rooms, preparation rooms and intensive care units.

The innovation award-winning **AIR DIAMOND** forms the backbone of operating and procedure rooms in medical facilities.

With its high performance, it meets **room classify Ib** according to **DIN 1946-4 // VDI 6022** and benefits from optimal upgrade & retrofit conditions.

INNOVATION - AWARD
1. PLACE SENETICS
Dr. Wolfgang Sening

APODIS
MEDICAL 



**ROOM
CLASSIFICATION Ib**



YOUR PLANNING OUR PROMISE



PRODUCT WITH DISTINCTION

The **AIR DIAMOND** is not only known for its long-term use and its established good reputation - formerly Klimaecke / Klima Diamant. With the 1st place as the most innovative product in the healthcare sector, awarded by Senetics, the device forms a fundamental building block for medical room air technology for upgrades & retrofits.



GREAT PERFORMANCE IN A SMALL SPACE

The **AIR DIAMOND** adapts individually to the required height dimension of your premises and, with its integrated technology, takes up a minimum of space on only 1.3 m². This means that no additional ventilation ducts or separate technical rooms are required.



ENERGY-EFFICIENT AND SUSTAINABLE

The installed technology of the **AIR DIAMOND** is kept up to date by continuous development. The heating or cooling of the rooms made possible by the heat pump, avoids unnecessary energy consumption and reduces the associated costs.



QUICK INSTALLATION

With the inspection of your premises by our service staff at your site, installation is possible within a very short time. Depending on the room, the device can be set up within 2-3 days, thus avoiding long downtimes.



SERVICE AND MAINTENANCE

The service and maintenance contract offers an “all-round carefree package”. With forethought, we undertake the service overview and scheduling for you. Our specialists for clean air technological devices (RLT) are at your disposal, from the installation to the service and maintenance of the devices. Besides this individually customized maintenance contract, you profit additionally from our 10-year device warranty.



ACCEPTANCE BY HYGIENIST

In connection with the installation, in consultation with you, we arrange the recovery test appointment (recovery time measurement), which is carried out by an independent specialist in technical hygiene in healthcare.



FIXED PRICE GUARANTEE

We also want to be completely transparent when it comes to prices and guarantee our customers a fixed price with no hidden or subsequent costs. The **AIR DIAMOND** offers full planning security - from ordering to installation and commissioning.



ESTABLISHED
20 YEARS

WARRANTY^{*}
10 YEARS

24h/7DAYS^{*}
SERVICE!



^{*}Specifications refer to individual requirements and completion of a maintenance contract | ^{*}24/7 telephone service incl. remote maintenance possible

INTELLIGENT SOLUTIONS FOR PURE SURGICAL ROOM AIR

The **AIR DIAMOND** ensures a constant climate through automated temperature control, effectively removes suspended particles and prevents the penetration of microorganisms through its overpressure generated in the room.

Holistic, optimal solution with achievement of the required particle and germ counts according to standards:

- DIN 1946-4
- VDI 6022

The backbone of the **AIR DIAMOND** air handling unit is the in-house developed filter system, the latest generation of technologies and the medically optimized material composition.

Due to the decentralized installation, in the corner of the room on only 1.3 m², the **AIR DIAMOND** does not require additional ventilation ducts or a separate technical room.



Recovery-Test
High

*Depending on room conditions



COANDA
Airflow technology



Guaranteed commis-
sioning by a hygienist



Elimination of viruses
and bacteria



Reduction of
heating costs

HYGIENE & CONDITION

The self-supporting frame & housing construction is made of anodized aluminum and offers an all-around protected smooth surface. protected smooth surface.
The **AIR DIAMOND** adapts individually to the required ceiling height according to configuration.

POLLUTANTS DO NOT GET A SURFACE

The surface finish is subject to complex medical requirements. Basic points such as longevity, low cleaning requirements, weather resistance (non-rusting), space-saving and visually appealing, are elementary and given for every design.

SAFETY FOR DOCTORS, SPECIALISTS AND PATIENTS

Thanks to the coordinated air and climate concept, as well as the easy-to-clean surfaces, the **AIR DIAMOND** meets the required medical standards.

- DIN 1946-4
- VDI 6022
- Room-Classification **Ib**

INDIVIDUALLY TAILORED

Tailored to your spatial conditions and requirements, the devices are individually manufactured by our specialists in our factory in Germany and installed at your site.



- High-end technology **from Germany**
- Fan/ventilators with CE-external rotor motors of the newest technological generation
- Fast delivery of parts/ warehousing in Germany
- Commissioning within 2-3 days possible
- Fully automated air conditioning
- Fully automated filter status
- Low installation costs and installation times
- Connection of the AIR DIAMOND controls in the existing intranet is possible
- Zeolite and silver-ion coated interior
- Patented **SEPA.TEX** coated filter
- Material and technology for sterile interaction and function

	AIR DIAMOND	Market competitors*
Cascade filtration Prefilter Outer filter Final filter	G4 F9 H14	G4 F7 H13
Technology room	Not necessary	Separate room necessary
Ventilation ducts/channels	Not necessary	necessary
Controls	Touch panel	—
Filter status	Fully automated (digital)	Manual (interval)
Status of device	remote maintenance (ifm technology)	On-site

*Specifications/calculations on the basis of average values as well as existing market analysis

MORE THAN ONLY MEDICAL CLEAN AIR

SPECIALIST CLINICS AND DOCTORS

No requirements are too complex when it comes to health, medical safety and related individual space requirements. The innovative development of the **AIR DIAMONDS** is based on the individual demands of doctors, hygienists as well as the requirements of procedure & operating rooms with the highest safety standards.



SURGERY ROOMS AND INTERVENTIONAL ROOMS

Due to the high risk of contamination, medical facilities must be prevented from being besieged with bacteria as well as viruses and from spreading. By multiple removal of harmful aerosols, the requirements for **1b according to DIN 1946-4** are met.

SURGERY UNDER SEDATION

If surgery is carried out under sedation or general anaesthetic, then a recovery or restroom must be planned after the operation. This is where the **AIR DIAMOND** can serve the adjacent rooms sufficiently including the fresh air supply.

STERILE SUPPLY

The filter classes and additional safety levels installed in the **AIR DIAMOND** ensure that even prolonged exposure of open sterile supplies in the procedure room is ensured.

AIR DIAMOND

INTELLIGENT SOLUTION FOR CLEAN SURGERY ROOM AIR

DIN 1946-4
**ROOM-
CLASSIFICATION 1B**
RECOVERY-TEST

STRENGTH OF PHYSICS OPTIMAL AIRFLOW

THE COANDĂ EFFECT

A small distance between the air outlet and the boundary surface creates a vacuum between the inflow and the ceiling. This causes a deflection of the flow upwards and adheres to the bottom of the ceiling. Consequently, the distance of force expands and the incoming air can be distributed better and

only sinks slowly into the room. This effect not only ensures draught-free operation but also prevents surgical flue gases or particles of the surgical team from being flushed into the situs.

- Consistent air circulation
- Incoming air slowly descends into the room
- Air draught is avoided
- Laminar flow
- Without turbulence and cross-currents
- No swirling of particles // gases

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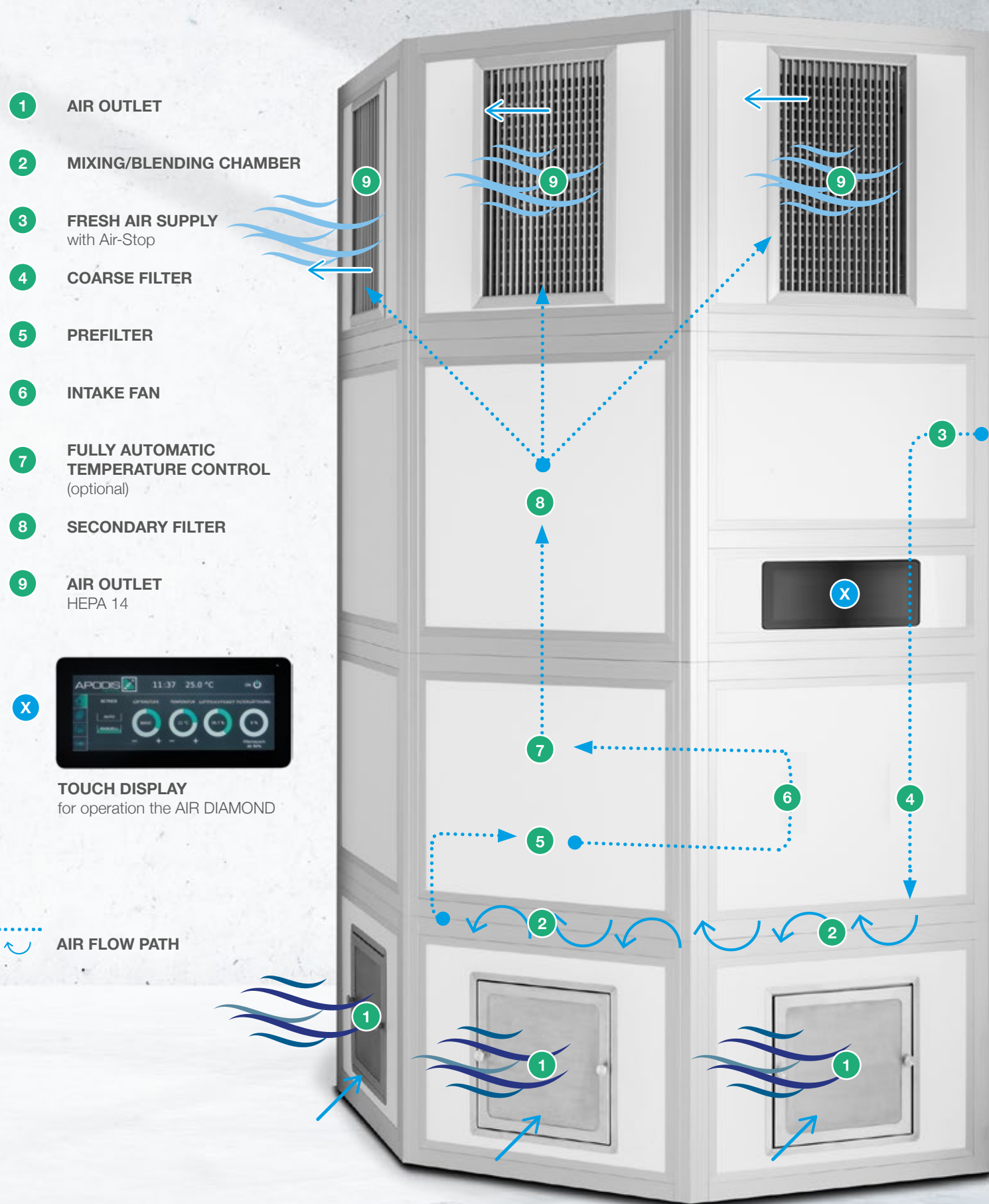
ROOM
CLASSIFICATION **1b**



COANDĂ
EFFECT

TECHNICAL DETAILS

ROOM
CLASSIFICATION **Ib**



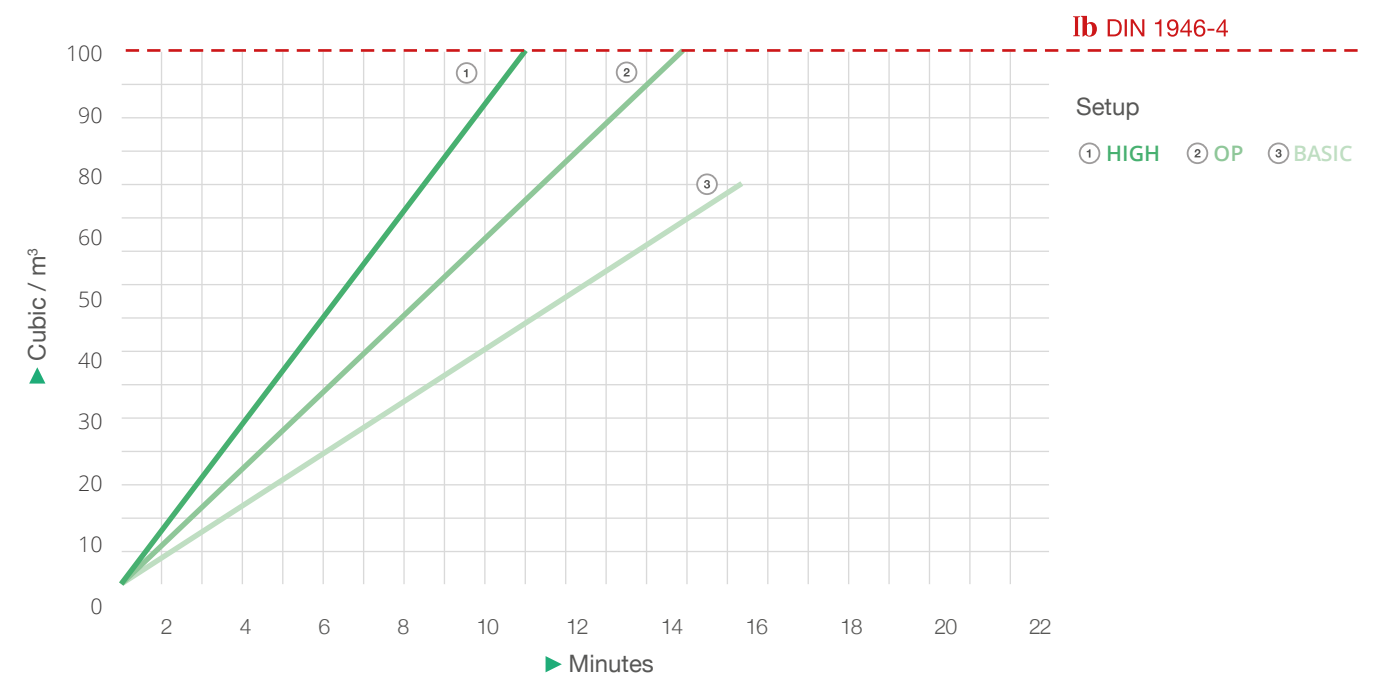
AIR DIAMOND CONTROLS AND EFFICIENCY

Air pollution consists of highly complex mixtures of various organic and inorganic components of natural or anthropogenic origin. The AIR DIAMOND works on the basis of particulate and gaseous nature.

Control level BASIC Standby ventilation	Control level SURGERY ROOM Operation phase	Control level HIGH Pre-clean before surgery start
Air flow volume total: 1.600 m³/h	Air flow volume total: 2.000 m³/h	AIR flow volumen total: 2.300 m³/h
Constant fresh air inflow: 1.200 m³/h pro m²	Constant fresh air inflow: 1.200 m³/h pro m²	Constant fresh air inflow 1.200 m³/h pro m2
16 times air circulation	20 times air circulation	24 times air circulation

AIR DIAMOND RECOVERY TEST

According to the specification Standard 1946-4 the Recovery Test (recovery measurement) at 20 minutes. The **AIR DIAMOND** reached the average value much faster than the target value according to the norm.



All the calculations are based on 100 m³/h with a fresh air supply of 1,200 m³/h per m². Guideline values! May deviate due to room conditions Subject to changes and errors. Our specialists will be happy to advise you individually.

OVER 20 YEARS FLAWLESS CLIMATE

DEVELOPMENT IN COOPERATION WITH ESTABLISHED DOCTORS AND HYGIENISTS

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