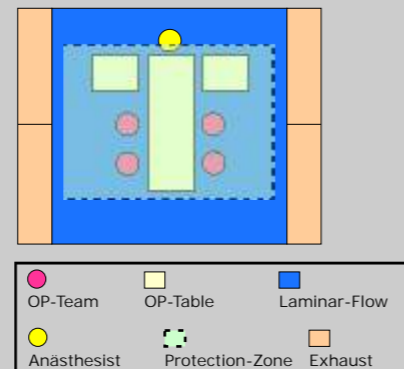


11 Advantages OF THE STERILE AIR SUPPLY UNIT OPI

- 1. Large Filter Surface**
 - » The suspended particulate filters are distributed over the complete air outlet area.
 - » Service life of filters 4 to 8 years.
- 2. Low differential pressure**
 - » Due to reduced speed of air at the outlet of 0,25 m/s the pressure drop across the particulate filters is about 55 Pa (reduced energy consumption)
- 3. Large Safety Area**
 - » With the rectangular air outlet area and two different air flow zones not only the operation table will be in the air stream free of particles but the surgeon and the medical team and the instrument table too.
- 4. Better Air Distribution**
 - » The air distribution benefits from the two-stage pressure system built up by the particulate filters and the CG-frame resp. (reduced degree of turbulence)
- 5. Very Safe Filter Sealing**
 - » The particulate filters are designed with a special sealing system which results in a filter with no leakage and no sealing groove necessarily and no mechanical filter contact pressure.
- 6. Simple Filter Change**
 - » The particulate filters can be changed without any tools and within minutes.
- 7. Diffusers**
 - » Better air distribution and noise abatement, connection from circulation air modules to the filter pressure chamber.
- 8. Operation Theatre Lamp Installation**
 - » The design allows reduced area for the light tube feed through and therefor reduced zones with reduced air flow.
- 9. Improving the System with Circulation Air Modules**
 - » The basic assembly can be upgraded with circulation air modules with integral cooling coils for dry air cooling.
- 10. Materials**
 - » Carbon steel galvanized metal sheet powder coated enameled.
- 11. Standard Filters**
 - » The type and size of dust filters and suspended particulate filters are standard and available from all filter traders.



OPI-Protect Zone



The most significant steps in the development of air-supply-units since 1970:



Your Specialist for Clean Air!

OPI STERILE AIR UNIT FOR OPERATING ROOMS, TYPE OPI



Your Specialist for Clean Air!

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Sterile Air Unit, Type OPi

STERILE AIR UNIT FOR OPERATING ROOMS, TYPE OPi

Medical Arguments:

...ensures a pleasant climate in an operating theatre

The OPi, works with a laminar air flow at a reduced air speed of 0,25m/sec. Thus, the cool air flow hardly deviates from the temperatures in the surrounding area and no longer disturbs the staff in the operating theatre. Moreover, this technique also avoids loss of body heat of the partly unprotected patient on the operating table.

...reduces contamination

The OPi, substantially extends the elbowroom in the protected area above the operating table. The unit area of at least 2,7x2,7 up to the optimum of 3,7x3,7 metres prevents the spread of contamination in the critical areas of the wound, which may otherwise be caused by the staff's movements. The fairly low germinal level <10KBE assures great operational safety in the protection area of the primary air flow.

...provides more convenience at work

Equipped with an integrated, non-cleanable basic lighting, the OPi, guarantees a proper basic illumination of the operating field. The sterile instruments easily find plenty of space in the work place within the primary air current, which is contained inside transparent air-controlling aprons. Upgrading the sterile air unit to an operation unit with media structure facilitates a clear separation between the sterile work space at the operating table and the operating area.

...reduces the patients' duration of stay

Applying the principle of "low-turbulence displacement flow the OPi helps to drastically decrease the number of wound infections caused by contaminated air. In consequence, also the patients' cost-intensive average duration of stay in hospital is significantly reduced. One single averted infection virtually covers the investment costs of a sterile air unit OPi.

Economic Arguments:

...reduces investment costs

When OPi is operated in compliance with all the currently required norms, it will help to decrease the costs of constructing or reconstructing operating theatres. The integration of circulating air modules makes larger, most up-to-date supply sterile air plants possible. Compared with conventional systems that need to operate with far larger, centrally purified supply air volumes, the increase in costs is of little consequence. The use of equally large operating supply sterile air plants (e.g. 2,7x2,7) will even lower the investment costs significantly!

...makes resource saving installation possible

The OPi provides the amount of air required in the operating theatre using an integrated air circulation of the existing air and an attached air conditioner.

Elongated ventilation ducts connected with the ventilation system of the building are thus no longer needed. Construction and installation costs for air ducts, additional air conditioners and breakthroughs will be drastically reduced!

...diminishes off periods of operating theatres

Planning and carrying out the installation of the OPi takes 75% less time than for any other standard units currently customable in the trade. On average, the installation of the new unit takes merely 1 (!) week - compared with an average of 14 weeks for other current plants.

...causes only little operating expenses

Owing to a novel flow system the OPi operates with a low amount of air and is - except for the periodical replacement of the pre-filters - completely maintenance-free. The integrated air conditioning of the unit renders the additional operation of a large air conditioner unnecessary. This ensures that overhead costs will be reduced on a short-term basis.

Technical Arguments:

...offers functional technique fulfillment

Due to its low overall height of 450mm and its easily transportable components, the OPi can very easily and quickly be fitted into the intermediate ceiling of the operation theatre. The functionality of the unit is based on a well-tried concept and ensures high planning reliability by a clear definition of interfaces. Nevertheless, since the number of circulating air modules is determined with regard to the necessary air volume flow, a maximum flexibility concerning the dimension of the machine can be ensured.

...regulates the thermal stress directly in the operating theatre

In contrast to other standard units, the OPi regulates the thermal stress directly in the operating theatre. The integral air conditioning system compensates the thermal stress in the room immediately at the point of production. A superfluous energy loss in the air ducts can thus be avoided. The system is intrinsically stable.

...controls the required air velocity

The OPi possesses a closed loop system and regulates the air velocity as well as the amount of air according to the required cooling capacity. In this way, the essential low-turbulence flow of clean air can be maintained at any time.

...applies safest suspended particle filters with filter sealings

The OPi is equipped with top quality standard filters, which can be replaced without any further tools within only a few minutes. As these are fitted into a specific fluidic sealing, no further inspection of leak tightness is necessary. The suspended particle filters are distributed over the entire blow area. The diffusers used allow of an improved air distribution and sound insulation.

Technical Data:

class of clean room:	ISO 5
maximum tolerable concentration of particles in the clean air area:	100particles > 0,5micron/ 28 l
Number of germs in the work space:	<10 KBE
air velocity:	~0,25m/s
entire volume of air flow:m_/h
fresh-air connection: (BxH)
rate of fresh air:m_/h
temperature/ fresh air:°C
filter cells for suspended particles:	
type:	JF700
filter class:	EU14 / H14
degree of deviation	
acc. to prEN 1822 (MPPS-DEHS):	99,995%
frame:	anodized aluminum
filter medium:	micro glass fibre
spacer:	synthetic string
class of flammability	
acc. to ONORM B 3800:	B1
touch protection:	on both sides
maximum thermal resistance:	125°C
installed filters for suspended particles:	
..... piece (WxLxH) 1220 x 610 x 70mm	
..... piece (WxLxH) 915 x 610 x 70mm	
..... piece (WxLxH) 610 x 610 x 70mm	
..... piece (WxLxH) 305 x 610 x 70mm	
area of entire filter:	suspended particle filters m_
lighting: pieceW
fluorescent lighting appliances:	230V/50Hz
Dimensions:	width (x height) x length
weight: kg
area of clean air: x mm
filter casing: x 450 xmm
make:	Cleanroom Technology Austria GmbH
type:	OPi
size:
circulating air modules:	
width:	900mm
length:	800mm
height:	450mm
weight:	80kg
maximum volume of air flow:	1615m_/h
electric junction:	3~380V/50Hz
maximum power input:	275W
sound intensity level:	<48dB(A)
cooling medium:	water
cooling performance:	1,5kW
pre-filters:	
type:	C15/100
degree of deviation:	82%
filter class acc. to DIN EN 779:	G3
temperature resistant:	60°C
thickness of material:	8mm
dimensions:	350x900mm

