



## A superior ventilation system that combines optimal image-guided therapy with ultra-clean air in Hybrid ORs

### Don't compromise - optimal images and ultra-clean conditions

The challenge for Hybrid ORs has been to reach the same air hygiene levels as in normal operating rooms for infection sensitive surgery. The ceiling mounted C-arm systems make it a challenge for the ventilation system to deliver ultra-clean conditions. This is especially true for the traditional LAF/UDF systems due to their sensitivity to obstacles in the downflow. At the same time, there is still a need for low numbers of CFUs (colony forming units) in order to protect the patient and instruments/ catheters during the intervention.

### Ultra-clean in the whole OR

By using gravity as a driving force, Opragon handles such obstacles in

a superior way. The surrounding air showers ensure ultra-clean conditions in the entire OR. This allows for increased flexibility for operating room staff and equipment positioning i.e. a better and safer surgical workflow.

### Safe and comfortable for staff

At the same time, staff is protected by the falling air which minimizes risk of infectious airborne transmissions. The system also provides high quality working conditions for the staff, i.e. low noise, no draught, any temperature that you like and a flexible working area, all with less than 10 CFU/m<sup>3</sup>.

### A scientifically validated system

Experience from 200+ clinical installations since 2007 has allowed

for extensive scientific validation. All aspects of the system are developed with real world usage in mind and all systems are validated with bacteria measurement during ongoing surgery. It is furthermore validated using the toughest validation standards in Europe and USA.

### An integrated technical solution for ultra-clean surgery

The Opragon ventilation system is uniquely adaptable to be integrated with other high tech equipment to secure ultra-clean operating conditions. The adaptation of the Opragon Hybrid solution with image-guided therapy system leads to optimal performance for all systems without compromise.

## SIMULATIONS ALSO CONFIRM ULTRA-CLEAN CONDITIONS IN THE WHOLE OR

The Opragon Hybrid system has a scientifically proven capability to wash airborne bacteria down to the floor where they are swept away to the sides and out via the peripheral exhausts.

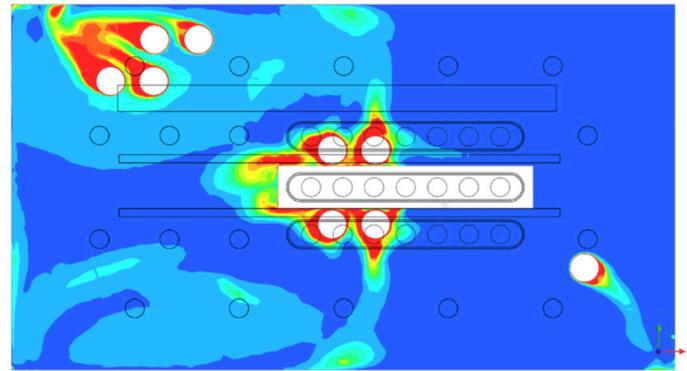
This leads to ultra-clean conditions in the whole OR.



The Opragon Hybrid system will secure  $< 10$  CFU/m<sup>3</sup> according to CFD analysis performed by the Royal Institute of Technology in Stockholm, Sweden in 2019.

OR Exhaust

OR Exhaust



OR Exhaust

OR Exhaust



## A Ventilation System that actually works

Avidicare has customized operating room ventilation systems to fit the different versions of advanced image systems and even MRIs. The majority of these installations are located in Sweden and the Netherlands.

Note that Opragon uses gravity created by slightly cooled air to create the uni-directional downflow. This leads to a system less sensitive to obstacles, which is a major challenge for traditional laminar air flow systems. This means that both the patient and the instruments are protected at all times, including the area where the catheters are placed. Compared to mixed ventilation, better cleanliness is assured, even with comfortable clothing.

### OVERALL SPECIFICATIONS

#### HYBRID OPRAGON 21

- Numbers of airshowers: 21 (7 x 3)
- Airflow Opragon: 7,350 m<sup>3</sup>/h
- Material: Laser cut sheet metal
- Color: RAL9016 (standard) alternatively powder coated in desired color or in stainless sheet metal

#### PERIPHERAL AIRSHOWERS

- Room dependent - 350 m<sup>3</sup>/h per airshower
- Typical example: 18 external airshowers. Air volume 6,300 m<sup>3</sup>/h

#### TOTAL SYSTEM

- The total air volume for this example is 13,650 m<sup>3</sup>/h
- Specifications are unique to each version

*"The new Hybrid OR is a more comfortable Hybrid OR compared to our older one. We feel no draught anymore. Additionally, the sterile area where we perform our work is more flexible and gives us more space"*

Hans Blansjaar, Head of OKC Surgery at Rijnstate

## A Tailored Solution

Avidicare can and already has customized solutions with suppliers like GE, Siemens, Philips and Canon Medical. Please contact us for a free design solution for your Hybrid ORs.



## CONTACT

Avidicare AB  
Medicon Village  
Sweden

info@avidicare.com  
www.avidicare.com

# AVIDICARE

TOWARDS ZERO INFECTIONS