

ZAPF
Avantgarde4
Vertical flow cabinet



commerce ⇔ construction ⇔ fabrication ⇔ installing ⇔ service

Magnum Vibrations-free-tables, ICSI guard2 horizontal flow, ICSI guard3 vertical flow, Easy & Basic2 heated Lab tables, Classic2 horizontal flow Cabinet, Avantgarde4 vertical flow Cabinet, IVF guard Class II Cabinet, Flow H Cabinet, Flow V Cabinet, SafeFAST Class II Cabinet, Varocell CO2 Incubators, Laboratory accessories, IVF accessories

Cabinet

The Avantgarde4 is a ISO 3 Class 100 vertical laminar air flow cabinet with guarantee excellent product protection, by providing a clean working area. The cabinet operates under positive pressure, with a front-window. Follow features is standard included:

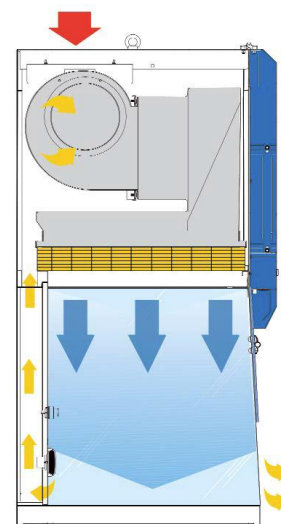
- two stage ventilation-system with 0,32 and 0,38 m/s
- auto start function
- automatic digital display indicating air-velocity
- hinged front-glass (ESG)
- safety side wall windows (ESG)
- all services from the front side
- warming area 680 x 380 mm
- we installing Stereo microscopes from all manufactories
- leveling base stand powder painted , work surface high 835 mm
- available in three sizes



Operating principles

The environment air is drawn from the top of the cabinet via a pre-filter and then pulled down words and filtered by virtue of H14 HEPA/ULPA filter into the working area in vertical laminar air flow pattern. About half of the volume is exhausted outside into the environment and remaining volume is re-circulated by means of slots positioned at the bottom of the back Panel.

- ▶ Room air / dirty air
- ▶ re-circulated air
- ▶ Filtered air



Safety glass windows

The Cabinet, is the hanging front wind-shield for the microscope is cut.
 Imported: Operate the hanging wind-shield is exclusively with two hands!



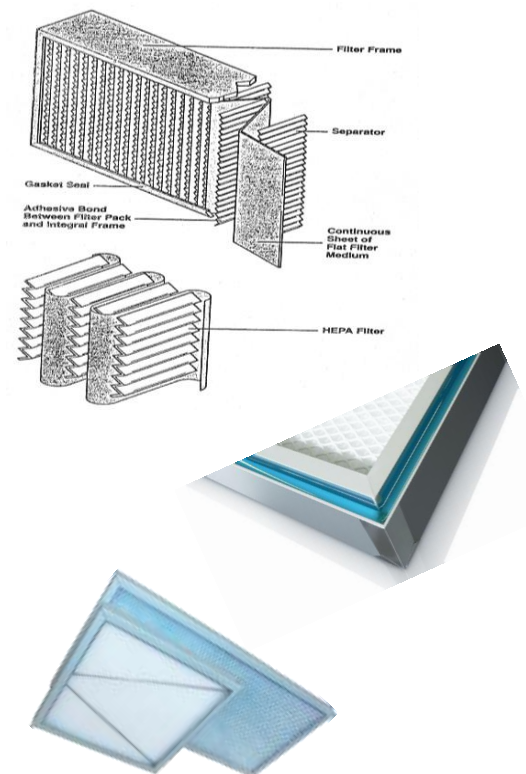
Main filter

The H14 HEPA-filter (high efficiency-particular air-filter) are efficiency for the highest and provide the required particle-separation. The filter separation is 99,995 % and absorbed particles $> 0,3 \mu\text{m}$.

The aluminum frame has special seals on both sides.

Remarks:

The durability of the filter-elements is in dependence of the air quality in the Laboratory.



Pre filter

The G3 filter is a coarse-dust-filter and has a separation efficiency of 82%.
 Self cleaning is possible by blowing.

Work surface

The polish stainless steel work surface is designed and tested, for standard works on the current international IVF laboratories. The newly developed countertop has a specially curved front edge, for relaxing work. All parts from the work surface is easy to clean.



Warming plate

The heating area is highlighted with a Laser characteristic visible. The basic construction of the heat surface consists of a glued-on aluminum plate. Inside the milled grooves, is heating conductors placed with highest safety. The heating plate is from the bottom insulated and protected with a cover. The Working temperature $\text{RT}+5^{\circ}\text{C} \sim 50^{\circ}\text{C} \pm 0,2^{\circ}\text{C}$ without use air-flow. Temperature sensor is Pt100. The electric heating is switching OFF with 60°C safety-switch. The microscope light bases are mounted under the warming plates.



Microscope glass

The adjustable Standard-glass is \varnothing 60 mm light through glass is flush with the work surface.

In option heated warming glasses \varnothing 90 mm, from OKO etc.

In option \varnothing 84 mm glasses with the modern VisiLED light system



Temperature controlling

(WARMING PLATE ONLY)

The standard temperature control is via a double-display-controller with a restive display of target SET and ACTUAL value. The controller are self-calibrating and therefore do not require any maintenance. The electronics components we assemble at or below the work surface, to the best operability of the user work process. This controller is easy to operate and visibly mounted in the front edge of the worktop.

In option we offer a two-channel 3,5" touch-screen-monitor.



Double Temperature controlling

(WARMING PLATE & TOKAI-HIT-HEATING GLASS)

The standard temperature control is via a double-display-controller with a restive display of target SET and ACTUAL value.

The second temperature control is via double-display-controller for Tokai-Hit heating glass. The electronics components we assemble at or below the work surface, to the best operability of the user work process. The heating glass is \varnothing 90 mm for the Stereo microscope.



Touch-screen Monitor Temperature controlling

(WARMING PLATE & OKO-HEATING GLASS)

DICON touch screen Temperature Program Controller 3,5" TFT color display (320 x 420 Pixel, 256 colors) double Channel controlling included weekly-timer. The monitor has integrated two separate weekly timer-functions. For update etc. is installing a USB-port.

This two channel touch-screen-monitor we installing together with OKO warming glass. The heating glass is \varnothing 90 mm for the Stereo microscope.

1st Line: warming plate controlling / with timer function

2nd Line: OKO warming glass controlling / with timer function



Light source

We install original stereo-microscope systems from Leica, Olympus, Nikon, Zeiss etc. Here it should be noted that the light remains easy to use only original in microscope.

We offer a Halogen-light-version of, in which the brightness of light, takes place from the front of the work surface.



VisiLED Light systems

The latest modern version is a Schott-LED-light flicker free high brightness daylight (5.600K) Ø84 mm with dimming function, adjustment for Segment-light and rotation, pillar Ø32 mm, with which the cultures are very high contrast visible. The controller system is installing on the top from the work-surface.



USB Adapter

The USB adapter is inside and outside from the cabinet. The Cable connection between this adapter is installing inside or Manufactory. This option is for the microscope camera.

Remarks:

This option is for working with microscope camera. The electrical connection-line from the camera to the inside USB and from the outside USB to your computer must connect the user.



Gas flow meter

We use a gas flow meter into the back wall, per warming plate. The setting range is from 4 to 40 l/h. The pipe-connection is automatically after acceptance from the gas. These options are free of Service.

Monitor

This 19" flat Monitor with a aluminum front panel is equipment with a TN panel. Varolab provides only this high-end Monitor. This monitor is mounted in the rear wall. The electrical connections are made internally devices. The Video Connector Type "DVI-D" outside of navigation system is easily accessible for the customer. The user of the Monitor frame is easily accessible in the aluminum front.



and many options more...

Detail Specifications

Order No.:	A47 - 120	A47 - 121	A 47 - 150	A 47 - 151	A 47 - 180	A 47 - 181	A 47 - 182	A 47 - 183
Model	single	solo	single	solo	single	solo	twin	dual
Exterior	1350 x 760 x 1500		1655 x 760 x 1500		1960 x 760 x 1500			
Interior	1192 x 580 x 740		1497 x 580 x 740		1802 x 580 x 740			
display	2-lines LCD double display							
Net Weight	175 kg		225 kg		232 kg		242 kg	
Power	1/PE AC, 230V 50 Hz							
kW	1,3		1,7		1,7		2,0	
dB(A)	<52		<54		<54			
D.O.P. inlet	standard							
Power socket	1		1		2			
Gas flow meter	1		1		1		2	
Microscope	0	1	0	1	0	1	1	2
Warming plate (optional)	1		1		1		2	
Temp.-Range	+ 5°C above ambient temperature to + 40°C							
Temp. Uniformity	+/- 0,2 °C							
Temp. stability	+/- 0,1 °C							
Control display	2-lines digital double digital							
UV-Light 254 nm	optional							
Electric base frame	optional							
19" LCD Monitor	optional							
Electric pass tunnel	optional							
Advanced Light source	optional							
OKO heating glass *	optional							
Incubator in the back wall	optional							
Schott VisiLED Light *	optional							
Castors	optional							
USB Adapter	optional							
Monitor	optional							

[Sizes W / D / H = mm]

Remarks: * VisiLED light and heating glass goes not together!