



LaboGene SCANdinavian by design.

ORION  
ALMOST Rocket Science

## Safety Class 2 100% exhaust

Probably the best Class 2 with  
100% exhaust for work with animal  
handling or high concentrations  
of organic solvents





The Orion cabinet utilizes revolutionary new design concept of providing Class 2 safety and exhausting 100% - when traditional recirculation is not possible.



The low cabinet height allows the operator freely to decide on table top location or support stand – Orion is only 2,0 meter high with work position of 75 cm when mounted on a support stand.



High angled front window allows easy supervision of the samples and work area also gives an ergonomically correct working position when seated.



The high window opening of 40 cm and the safe change pre-filter system makes the Orion ideally suited for animal cage changing and animal manipulations.

**Orion is a Safety Class 2 Safe Change Cabinet with 100% exhaust – B2 type, designed for working with inflammable liquids, chemicals and acids, and organic solvents where one would normally use a standard fume hood.**

**Also applicable as an animal Cage Change unit or manipulation station.**

## Features

High angled front window allows easy supervision of the samples and work area also gives an ergonomically correct working position when seated. With side windows, glare free rear wall and easy visibility of the surroundings, ensures a comfortable working environment.

Diffused laminator technology allows shadow free light distribution throughout the chamber with light adjustment of 0-2000 Lux. illumination.

The provision of non restricted air via 3 digitally controlled blowers which are easy to adjust precisely, the diffuser technology of true laminar flow with deviations of less than 10% makes the Orion the cabinet of choice.

High capacity HEPA-filters of 11 cm depth achieves the lowest noise level of less than 55 dB(A) – generally every 3 dB(A) reduction leads to 50% less noise.

A unique pre-filter system makes for easy cleaning, avoidance of splashes and prolongation of HEPA-filter life.

## Operator safety

The air-intake via the front window aperture is above 0.4 m/s which gives full operator protection.

V-shaped air inlet grills – allows for air to pass the operators arms without restricting the safety grills and also guards against incorrect use of the table top, thereby maintaining operator safety.

Down flow and exhaust air are continuously monitored with air-flow sensors ensuring optimum safety at all times.

Visual and acoustic alarms alerts the operators of any unsafe air-flow conditions.

If the cabinet is externally ducted a 3rd pressure sensor can be provided for location in the exhaust duct to warn the operator of insufficient extract air flow. This facility also includes potential free contacts for connecting to a BMS or other monitoring systems.

## Running costs

Digital Technology gives the benefits of low energy consumption at only 1.3 Amp. Having 3 fans as compared to either 2 or 1 equates to a less restricted construction and allows for the use of 11 cm deep HEPA-filters. The low volume cabinet construction

saves unnecessary movement of expensive air - prolonging the life of HEPA- filters and fans. The low energy consumption also gives low energy transmission to the work chamber, which in turn equates to a low temperature elevation of less than 1 °C – thus lowering evaporation rates from any samples in the cabinet. Savings on expensive air conditioning of the room is also a benefit worth considering.

## Slim, compact design

A slim compact design, total depth of less than 80 cm, allows easy installation and relocation without any need of disassembly.

The low cabinet height allows the operator freely to decide on table top location or support stand – Orion is only 2,0 meter high with work position of 75 cm when mounted on a support stand.

## Designed for most applications

The Orion Class 2 cabinet airflow pattern, which gives full operator protection as a normal Class 2 cabinet can also act a fume hood due to its 100% exhaust capability. This makes the Orion also applicable for working with inflammable liquids, chemicals and acids with complete safety.

The high window opening of 40 cm and the safe change pre-filter system makes the Orion ideally suited for animal cage changing and animal manipulations as it can either re-circulate or be ducted to dispel any associated odours.

## Service

All service is performed from the front of the cabinet. Including safe exchange of the bottom HEPA-filters, exchange or adjustment of circuit boards and sensors.

All alarms and fan speeds adjustments are made from the micro-processor control panel. (Includes DOP valves)

## Cleanroom design

The cabinet is designed for easy internal cleaning with corners radiused and contoured.

Externally the cabinet is constructed on a box design concept with no screws and knobs, thus cleaning is unrestricted and safe. If required the cabinet can be wall mounted saving valuable floor space.

## Airflow pattern

The Orion cabinet utilizes a revolutionary new design concept of having 1 down-flow fan and two exhaust fans with 110 mm deep HEPA filters. This allows for lower noise levels, better air distribution and longer filter life. When used together with our unique laminator technology the down-flow air is excellently balanced and more uniform, ensuring superior product protection under a turbulence-free laminar flow atmosphere.

The work surfaces anti-vibration characteristics improves operator comfort and reduces stress characteristics. Noise levels are further reduced and filter life extended by having the down-flow speed set at 0.25m/s  $\pm$ 10%.

The digital fan system is controlled directly and precisely from the microprocessor. This improves velocity control and ensures the monitoring and warning of any malfunctions.

The cabinet can easily be adjusted from the service mode by authorized personnel. Down flow speeds can be adjusted from 0.10 m/s up to 0.55 m/s.

## Eye Level control panel

All cabinet functions can be viewed from either a seated or standing position without upsetting working procedures.

The control panel includes functions for reduced speed, re-settable hour counter, light and UV-timer, exhaust down flow and window alarms. Service access is protected via a key pad code.

The digital blower system and alarm settings are precisely controlled through the microprocessor giving excellent airflow performance.

## Compact

Being only 799 mm deep, the cabinet can easily be transported through 800 mm wide doorways. The compact design also saves on valuable laboratory space. The cabinet is available in 3 sizes 1200, 1500 and 1800 working widths.

## Microprocessor control

A digitally controlled fan allows precise direct setting of fan speed and gives up to 75% more power compared to similar analogue units. The noise levels are much lower – the energy consumption correspondingly lower. Air flow meters are used for the direct control of the down flow air and the exhaust air.

A Pressostat measurement option can also be added if required. Pressure measurement is an indirect measurement and can therefore be used as an indicator of any HEPA filter blockage. The air flow speeds may be read out directly. Energy saving reduced speed facility for fast, easy and safe start up and for maintaining the cabinets integrity whilst unattended, is a standard feature. Decontamination programme for either Formalin or VHP is also included if required.

A 3rd sensor option is available which allows the measurement of the pressure drop in the exhaust ducting and warns the operator if the exhaust air is insufficient. This is particularly useful if the cabinet is connected to a common ducting system where multiple cabinets and/or fume hoods are also connected.

## USB-port

USB port option makes it possible for monitoring and documenting the full performance of the cabinet on PC – for GMP work- the daily logging of air flow speeds, alarms, settings, which functions are used where and when.

## High work opening.

The normal work opening is at a comfortable height of 40 cms or as an option a hinged window or an electrically operated window are also available, giving the best operator barrier.

## Accessories

A wide accessory program is available. Please contact us for further information.



Work with:  
High concentrations of odours  
or where recirculation can cause  
disruption or disturbances.



Work with:  
High concentrations of organic solvents.  
A class 2 and fume hood in one  
– explosion proof version.

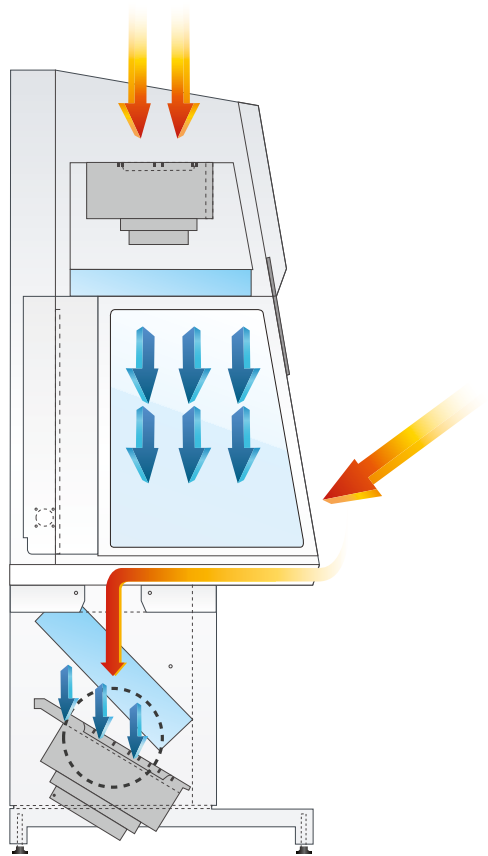


Work with animal handling:

- Surgery
- Cage change
- Research

## Specifications

Model	Unit	Orion 1200	Orion 1500	Orion 1800
Catalogue no.		9.005.551.001	9.005.551.002	9.005.551.003
External dimensions (D×W×H)	mm	798×1303×1998	798×1603×1998	798×1903×1998
Working chamber, dimensions (D×W×H)	mm	750×1200×720	750×1500×720	750×1800×720
Front opening, fixed	mm	400	400	400
Working height	cm	75 - 105	75 - 105	75 - 105
Air velocity, vertical flow	m/s	0,35	0,35	0,35
Air velocity, deviation	±%	10	10	10
Down Flow speed	m/s	0,25	0,25	0,25
Exhaust volume	m <sup>3</sup> /h	1100	1300	1500
Noise level, ISO 6081	dB(A)	<55	<56	<56
Light intensity variable	Lux	0-2000	0-2000	0-2000
HEPA filters, H-14 according to EN1822. Filter efficiency is 99.999 % against 0.3µm particles	H-14	H-14	H-14	
Voltage/frequency	V/Hz	220/50 or 115/60	220/50 or 115/60	220/50 or 115/60
Power	W	300	350	400
Fuses	A	10	10	10
Net weight	kg	275	300	325
Shipping volume	m <sup>3</sup>	2,9	3,5	4,1
Window material		Hardened / laminated glass	Hardened / laminated glass	Hardened / laminated glass
Cabinet material		Polyestercoated steel / AISI 304 Stainless steel	Polyestercoated steel / AISI 304 Stainless steel	Polyestercoated steel / AISI 304 Stainless steel



Class 2 Airflow diagram showing true turbulent-free laminar air-flow that provides operator, product and environmental protection, with lowest noise level available today.



Diffused laminator technology allows shadow free light distribution throughout the chamber with light adjustment of 0-2000 Lux. illumination.



The cabinet can easily be adjusted from the service mode by authorized personnel. Down flow speeds can be adjusted from 0.10 m/s up to 0.55 m/s.



**LaboGene™** is a Danish Company that specialises in the design, development, manufacture and sales of laboratory and industrial equipments in the fields of Clean Air & Laminar Flow, Vacuum & Cooling and Centrifugation.

## Clean Air & Laminar Flow

**ScanLaf** represents the best in Class II and laminar flow cabinets with the advantage of low energy consumption, digital control and ergonomic design. The Industrial **ScanLaf** program offers a range of Down Flow modules and enclosures for powder and animal handling as well Air showers and Glove boxes, all of which can be produced to Customers specifications. A truly unique bespoke portfolio!

## Vacuum & Cooling

**ScanVac** epitomizes the best in Freeze Drying and Vacuum Concentration equipments and offers a wide range of bench or floor standing units with temperatures down to -110 °C.

Together with accessories and components compatible with previous Danish produced models , **ScanVac** can offer continuity of supply, service, advice and assistance.

**ScanCool** the brand that describes a range of Ultra Freezers for sample storage offering a choice of Chest or Upright models from 100 to 600 litres capacity. Environmentally friendly and energy saving design concepts are standard features of all units in the ScanCool range.

The **ChillSafe** range of cooling & cryogenic baths and circulators with capacities of 8 to 18 litres and temperatures from -30 °C to -90 °C completes the ScanCool offering.

## Centrifugation

**ScanSpeed**, the name that defines quality centrifuges from **LaboGene**. Offering bench-top high and low speed models with or without refrigeration for today's discerning laboratory technician.

Quality engineering with modern designs and features that exemplifies Danish craftsmanship.



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