

Esco Lifesciences is committed to delivering innovative solutions for the clinical, life sciences, research, industrial, laboratory, pharmaceutical, and IVF communities. With the most extensive product line in the industry, Esco has passed a number of international standards and certifications. Esco Lifesciences represents innovation and forward-thinking designs, that are of the highest standard quality since 1978.

**Availability and Accessibility.** Esco Lifesciences has headquarters in Singapore, Indonesia, and Philippines, with manufacturing facilities located in Asia and Europe. Research and Development (R&D) is conducted worldwide spanning the US, Europe and Asia. Sales, services, and marketing subsidiaries are located in 42 major markets including US, UK, Japan, China and India. Esco regional distribution centers are located in Singapore, Malaysia, Thailand, Vietnam, Myanmar, Indonesia, Philippines, Bangladesh, Hong Kong, Taiwan, South Korea, China, Japan, India, UAE, Central and South Africa, Denmark, Germany, Italy, Lithuania, Russia, United Kingdom, and USA. Because of our worldwide presence, you can be sure that Esco is within your reach.

**High Quality, Reliable, and Dependable.** Esco Lifesciences products are of high quality, reliable, and dependable. Crossfunctional teams from Esco Production, R&D, Quality Assurance, and Senior Management, are regularly assembled to review and implement areas for improvement.

**Esco Lifesciences Cares for Your Safety.** Esco Lifesciences focuses on providing safety not just for your samples, but also for you and the environment.

**Esco Lifesciences Cares for Your Comfort.** Building ergonomic designs and reducing noise levels of the units ensure comfort for our users.

**Esco Lifesciences Cares for the Environment.** Esco Lifesciences incorporates the latest proven technologically advanced components available. One in every four of Esco's employees is involved in Research and Development and are evaluating new components or designs for better efficiency. Whenever a new technology is available, Esco Lifesciences redesigns technology into our new products that will use lesser energy.

**Customer Service and Support.** Our service does not stop once purchase has been done. Esco Lifesciences gives on-time customer service such as service training, preventive maintenance, and re-certification, to respond to your equipment needs. Esco Lifesciences also offers free end-user seminars and provides educational materials and informative videos.

As Esco Lifesciences takes the opportunity to respond to the world's needs, we aim not only to contribute to the advancement of scientific discoveries but also in making the world a safer, healthier, and better place to live in.



## **OVERVIEW**

Some laboratories have minimal spaces that make the installation of a full-sized equipment burdensome. Small doors and narrow walkways are also a common problem when transporting regular-sized laboratory apparatus.

Without comprising the equipment's quality, Esco provides compact-sized solution! Airflow containment equipment such as: Biosafety Cabinet, Laminar Flow Cabinet, and Ductless Fume Hood are designed with smaller widths that will fit small laboratory spaces. Thermostatic, Cold Storage and General Equipment are available in small capacities that are perfect for small-scale laboratory applications.

## **Airflow Containment**

- Biological Safety Cabinet
- Laminar Flow Cabinet
- Ductless Fume Hood

## **Chemical Storage**

• Filtered Storage Cabinet

## **Thermostatic Equipment**

- Laboratory Incubator
- Laboratory Oven
- CO<sub>2</sub> Incubator

## **Sample Storage and Preservation**

• Laboratory Refrigerator and Freezer

## **General Equipment**

- Laboratory Centrifuge
- PCR Cabinet
- PCR Thermal Cycler





## Airstream<sup>®</sup>

## Class II Biological Safety Cabinets

#### **Features**

- Energy saving DC ECM blower
- Isocide<sup>™</sup> antimicrobial powder coating
- H14 filter or ULPA fiter with 99.999% efficiency at 0.1 0.3 μm selection.
- Large performance envelope
- Ergonomic design
- Low noise
- Easy to clean

External Dimension (W x D x H): 730 mm x 810 mm x 1400 mm

## Introduction

Esco's Biological Safety Cabinet is a primary engineering control which provides user protection against biohazards as the inflow air creates airflow barrier preventing accidental release of biohazards from the cabinet's working area and at the same time provides product protection with the airflow barrier inside the work zone which is on the other hand created by the downflow air.

Esco is a world leader in biological safety cabinets, offering the industry's widest product range, with thousands of installations in leading laboratories in more than 100 countries around the globe. Esco's biological safety cabinets have earned more independent certifications in more countries, in more languages, than any other product, demonstrating our commitment to the industry's best safety and quality.

## **Basic Principle**

Ambient air is pulled through front grille to create inflow, without going through the work surface. Inflow is joined by half of the downflow, to create front air curtain that is fine-tuned to create a large performance envelope. The combined air stream travels through the back air column towards the blower. Approximately 1/3 of the air in the common plenum is exhausted through the ULPA filter to the room. The remaining 2/3 of the air is passed through the downflow ULPA filter and into the work area as a vertical laminar flow air to create ISO Class 3 work surface and prevents cross contamination.

Near the work surface, the downflow splits. About half goes to the front grille, and half goes to the rear grille. A small portion enters the side capture zones to prevent dead air corners (small blue arrows). The design was optimized to give large performance envelope, that provides operator and product protection at wide Inflow and Downflow variation from the Nominal point.



















TÜV NORD, Germany JIS K3800

## **OPTIONS AND ACCESSORIES**



**Support Stands** 

- Fixed height, with levelling feet or casters
- Telescoping height, with levelling feet or casters
- Electronic adjustable height, with levelling feet or casters



**Electrical Outlet** 

- European/ Worldwide Style, available in Type C, D, E, F, G, H, I
- North American style



**Germicidal UV Lamp** 

- Emission of 253.7 nanometers for most efficient decontamination
- Lamp is positioned away from operator's line-of-sight for safety and proper exposure to interior surfaces



**Service Fixtures** 

- European/ Worldwide style
- North American style
- Electronic adjustable height, with levelling feet or casters



**Ergonomic Foot Rest** 

- Angled, helps maintain proper posture
- Easily adjustable from 3" to 11" in 1" increment, 20" wide
- Anti-skid coating, chemical-resistant finish



**Ergonomic Lab Chair** 

- Laboratory-grade construction
- Alcohol-resistant PVC materials
- Adjustable height 395-490 mm (15.6"-19.3")



**Pre-filter** 

PVC Arm Rest
 Chemically treated, improves operator comfort, easy to clean

Pre-filter on paper catch

## **Other Accessories**

Accessories	Description
Decontamination bag	Plastic decontamination bag for formalin decontamination on all BSC
Port	<ul><li>Airtight cable port, installed on right side wall</li><li>Holds 1 to 4 cables</li></ul>
Microscope Viewing Pouch	<ul><li>Factory-installed</li><li>Mounting and viewing pouch integrated into sash</li></ul>
IQ/OQ	Installation Qualification and Operational Qualification Protocol



# Airstream<sup>®</sup> Gen 3 Laminar Flow Cabinets

#### **Features**

- Energy saving DC ECM Blower
- Isocide<sup>™</sup> antimicrobial powder coating
- ULPA Filter with >99.999% efficiency at 0.1 0.3 μm
- Low noise
- Sentinel™ Gold Microprocessor Control System
- Recessed central work tray to contain spills
- Ergonomic design

## External Dimension (W x D x H)

Horizontal Laminar Flow: 1035 x 795 x 1118 mm Vertical Laminar Flow: 1035 x 784 x 1270 mm





## Introduction

Esco laminar flow cabinets are the premium selection for the discerning researcher, offering a combination of value, high quality construction, low operating noise levels, and a wide product range to suit all budgets from the industry leader. Laminar flow cabinets are used in applications where there is no generation of biohazardous materials, hence operator protection is not required.

## **Basic Principle**

# Airstream® Horizontal Laminar Flow Stainless Steel Side Wall Version

- Room air is taken in from the top of the cabinet through a disposable pre-filter with 85% arrestance; this serves to trap larger particles and increase the life of the main filter.
- Air is forced evenly across the ULPA/H14 filter(s); the result is a stream of clean laminar air within the workzone of the cabinet; this dilutes and flushes all airborne contaminants from the interior.
- A nominal filter face velocity of 0.45 m/s or 90 fpm ensures that there is a sufficient number of air changes within the enclosed area of the cabinet to maintain cleanliness.
- The purified air travels across the internal work zone of the cabinet in a horizontal, unidirectional stream and leaves the main work chamber across the entire open front of the cabinet.



# Airstream® Vertical Laminar Flow Stainless Steel Side Wall Version

- Room air is taken in from the top of the cabinet through a disposable pre-filter with 85% arrestance; this serves to trap larger particles and increase the life of the main filter.
- Air is forced evenly across the ULPA/H14 filter(s); the result is a stream of clean laminar air within the workzone of the cabinet; this dilutes and flushes all airborne contaminants from the interior
- A nominal filter face velocity of 0.45 m/s or 90 fpm ensures that there is a sufficient number of air changes within the enclosed area of the cabinet to maintain cleanliness.
- The purified air travels across the working zone of the cabinet in a vertical, unidirectional stream and leaves the main work chamber across the entire open front of the cabinet and through Auto-Purge™ slots at the back wall of the work zone which are designed to eliminate air turbulence and the possibility of dead air corners in the work zone.



## Airstream® Gen 3 Laminar Flow Cabinets

The Leading Solution for Research Laboratories

Esco Airstream® Laminar Flow Cabinets are designed to provide superior product protection for your samples in research laboratories by preventing the entry of room and airborne contaminants. They are built with the latest laminar flow technology and innovation, and offers a wide range of options for user preferences.

## **OPTIONS AND ACCESSORIES**



**Germicidal UV Lamp** 

- Emission of 253.7 nanometers for most efficient decontamination
- Lamp is positioned away from operator's line-of-sight for safety and proper exposure to interior surfaces



**IV Bars with Hooks** 

- Stainless steel construction, Max Load 6 Kg (13 lbs)
- Available for all standard Esco cabinets



**Support Stands** 

- Fixed height, with levelling feet or casters
- Telescoping height, with levelling feet or casters
- Electronic adjustable height, with levelling feet or casters



**Electrical Outlet** 

- European/ Worldwide Style, available in Type C, D, E, F, G, H, I
- North American style



**PVC Arm Rest** 

• Chemically treated, improves operator comfort, easy to clean



Pre-filter

Pre-filter on paper catch





# **Ascent**<sup>™</sup> Ductless Fume Hoods

#### **Features**

- "GREEN" solution
- Environment-friendly
- Does not discharge toxic gases to the environment
- Saves energy, and reduces total carbon footprint

#### • Safe carbon filtration

- Compliance to international standards
- Optional VOC sensor system to detect filter saturation
- FiltraCheck™ service to qualify your application's suitability for a ductless solution

#### Low cost

- No ductwork required

#### • Convenience

- No installation hassle and portable



External Dimension (W x D x H): 730 x 736 x 1460 mm

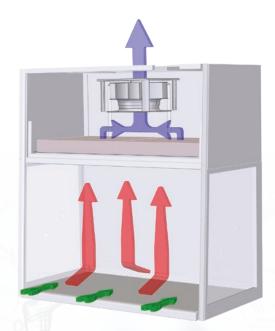
## Introduction



Esco Ascent™ Ductless Fume Hoods provide protection to both laboratory personnel and the environment from toxic fumes and are quickly becoming a viable alternative to conventional fume hoods. Unlike conventional fume hoods, these hoods filter out chemical fumes and recycle air directly back to the laboratory, providing energy savings, personnel and environmental protection, convenience as you do not have to deal with complicated ducting systems, and mobility, since ductless hoods are independent systems which do not require connection to extraction systems.

## **Cabinet Filtration System**

- The inflow moves from the ambient environment into the work zone through the hood front opening with an average velocity of 0.4 m/s.
- Negative pressure is maintained within the main chamber of the hood to ensure that no chemical fumes or vapors escape the work zone.
- Air is taken through a pre-filter and activated carbon mounted in the interior of the hood. The carbon filter removes all fumes from the exhaust air stream and filtered clean air is exhausted directly back to the room.



Ascent™ Max Ductless Fume Hood, ADC Models

- Carbon-filtered air
- Unfiltered / potentially contaminated air
- Room air / Inflow air

## **OVERVIEW OF MODELS**



## **Ascent™ Max Series**

Model: ADC-3C (with Secondary Carbon Filter)

- Main Filter: Carbon Filter Secondary: Carbon Filter
- Optional VOC sensor
- External Dimension (W x H x D): 1035 x 736 x 1455 mm



**Ascent™ Max Series** 

Model: ADC-3E (with Secondary HEPA Filter)

- Main Filter: Carbon Filter
   Secondary Filter: HEPA filter
- Optional VOC sensor
- External Dimension (W x D x H): 1035 x 736 x 1455 mm

## **OPTIONS AND ACCESSORIES**



Support Stand with Caster Wheels



**Electrical Outlet** 



**European Style Service Fixture** 



Support Stand with Leveling Feet



Swan-neck Faucet



**VOC Sensor** 



**Base Cabinet** 



American Style Service Fixture



**Carbon Filter** 





# Ascent<sup>™</sup> Opti Series **Ductless Fume Hoods**

## **Features**

- Safe Carbon Filtration
- Acrylic construction
- Double Hinged mechanism sash
- Has ergonomic arm ports
- Portable and environment-friendly

External Dimension (W x D x H): 840 x 700 x 1125 mm





## Introduction

Esco Ascent™ Opti Ductless Fume Cabinet is a full-featured ductless fume hood at cost-effective pricing. This equipment offers protection from toxic chemicals fumes. It is designed with ergonomic features, providing user comfort without compromising safety.

## Also available in transparent back wall:







## **Optional Accessories:**



**Mobile Cart** 



**Carbon Filter** 



# Ascent™ Filtered Storage Cabinet

## **Features**

- Isocide<sup>™</sup> antimicrobial powder coating
- Sentinel<sup>™</sup> microprocessor controller
- Door safety lock restricts access
- Multiple filter configurations

External Dimension (W x D x H): 685 mm x 700 mm x 2050 mm





## Introduction

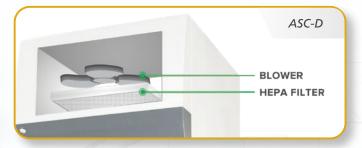
Fumes from chemical containers often result to the storage cabinet's corrosion and contaminated air in the laboratory. Ascent™ storage cabinet is ideal in providing a safe and convenient storage solution. This cabinet is equipped with Nanocarb™ filters that effectively adsorb chemical fumes to provide operator and environment protection.

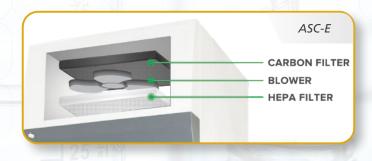
## **Overview of Models:**













## **Isotherm**®

## Forced Convection Laboratory Incubators

#### **Features**

- Ventiflow<sup>™</sup> Ventilation System forced air convection design
- Pre-heat Chamber Technology 4-zone heated air jacket
- SmartSense<sup>™</sup> Microprocessor PID Control Technology
- Isocide<sup>™</sup> antimicrobial powder coating
- Door keylock
- Multiple redundant over-temperature protection system
- Superior insulation

External Dimension (W x D x H):  $550 \times 437 \times 615$  mm IFA Temperature Range: Ambient +7.5°C to 100°C





## Introduction

Esco Isotherm® world class laboratory incubators are used for thermal convection applications such as bacteria culture and Coliform determination among many others. With ergonomic design, microprocessor PID controls, 4-zone heated air jacket and precisely tuned and tested ventilation and insulation package, Esco Isotherm® is your reliable incubator for universal application.



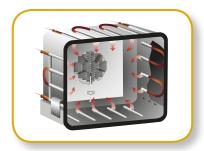
## **Ventiflow™ Ventilation System**

- Forced convection design produces faster temperature response rates, improves uniformity and reduces fluctuation
- Low energy consumption and low noise level



Multiple redundant over-temperature protection system

- Over-all temperature protection meets DIN 12880 Class 3.1 standards
- All electrical components are UL recognized



## **Pre-Heat Chamber Technology**

- 4-zone heated air jacket ensures stable heating and maximum temperature uniformity in the chamber
- 2-point door seal and eccentric hinge ensures maximum gasket



# SmartSense<sup>™</sup> Microprocessor PID Control Technology

- Connected to an instrument-grade precision platinum temperature probe
- Ensures fast ramp time. Prevents overshoot and ensures stable temperature once set point is achieved



## **Isotherm**®

## **Natural Convection Laboratory Incubators**

## **Features**

- Pre-heat Chamber Technology 4-zone heated air jacket
- SmartSense<sup>™</sup> Microprocessor PID Control Technology
- Isocide<sup>™</sup> antimicrobial powder coating
- Superior insulation

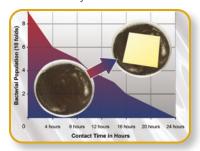
External Dimension (W x D x H):  $630 \times 437 \times 652$  mm INA Temperature Range: Ambient +7.5°C to 80°C





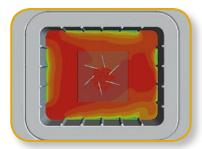
## Introduction

Esco Isotherm® world class laboratory incubators are used for thermal applications that prefers natural convection design to minimize disturbance to the items being cultured such as bacteria culture and Coliform determination among many others. With ergonomic design, microprocessor PID controls, 4-zone heated air jacket and precisely tuned and tested insulation package, Esco Isotherm® is your reliable oven for universal application.



## **Quality Esco Construction**

- Electro-galvanized steel exteriors
- Isocide<sup>™</sup> coated external surfaces to eliminate 99.9% of surface bacteria within 24 hours of exposure



## **Pre-Heat Chamber Technology**

- 4-zone heated air jacket ensures stable heating and maximum temperature uniformity in the chamber
- 2-point door seal and eccentric hinge ensures maximum gasket



# SmartSense<sup>™</sup> Microprocessor PID Control Technology

- Connected to an instrument-grade precision platinum temperature probe
- Ensures fast ramp time. Prevents overshoot and ensures stable temperature once set point is achieved





## **Isotherm**®

## Forced Convection Laboratory Oven

#### **Features**

- Ventiflow<sup>™</sup> Ventilation System –forced air convection design
- Pre-heat Chamber Technology 4-zone heated air jacket
- SmartSense<sup>™</sup> Microprocessor PID Control Technology
- Isocide<sup>™</sup> antimicrobial powder coating
- Door keylock
- Multiple redundant over-temperature protection system
- Superior insulation

External Dimension (W x D x H):  $550 \times 437 \times 615$  mm OFA Temperature Range: Ambient  $+7.5^{\circ}$ C to  $300^{\circ}$ C





## Introduction

The Esco Isotherm® world class laboratory ovens are used for high-forced volume thermal convection applications such as drying and curing among many others. With ergonomic design, microprocessor PID controls, 4-zone heated air jacket and precisely tuned and tested ventilation and insulation package, Esco Isotherm® is your reliable oven for universal application.



## **Ventiflow™ Ventilation System**

- Forced convection design produces faster temperature response rates, improves uniformity and reduces fluctuation
- Low energy consumption and low noise level



## **Pre-Heat Chamber Technology**

- 4-zone heated air jacket ensures stable heating and maximum temperature uniformity in the chamber
- 2-point door seal and eccentric hinge ensures maximum gasket



# Multiple redundant over-temperature protection system

- Over-all temperature protection meets DIN 12880 Class 3.1 standards
- All electrical components are UL recognized



# SmartSense<sup>™</sup> Microprocessor PID Control Technology

- Connected to an instrument-grade precision platinum temperature probe
- Ensures fast ramp time. Prevents overshoot and ensures stable temperature once set point is achieved

# **OPTIONS AND ACCESSORIES (for Isotherm® products)**



## Wall bracket (only for 32 L and 54 L chambers)

- Accommodates desired operating heights



## **Reversed Door Swing (Factory-installed)**



## **Voyager Software Kit**

- Esco Voyager is a PC-based software package developed for remote monitoring, datalogging and programming/device configuration of Esco controlled environment laboratory equipment



## Support stands fixed height at 720 mm (28.3")



## **Additional Shelf**

- Two shelves are included for 32 L, 54 L, 110 L, 170 L and 240 L models as standard. Additional shelves may be ordered.



## **Optional Stainless Steel Exterior**

- Robust construction and corrosion-resistant surface that meets pharmaceutical and clinical laboratory requirements





# CelCulture® CO<sub>2</sub> Incubator

#### **Features**

- VivoCell<sup>™</sup> precise parameter control
- Infrared (IR) CO<sub>2</sub> sensor
- VentiFlow<sup>™</sup> forced convection
- SteriSafe<sup>™</sup> ULPA filtration system
- SwiftCon™ 90°C moist heat decontamination cycle
- Isocide<sup>™</sup> antimicrobial coating
- Gas inlet filter
- Intuitive user interface with data and event logging

External Dimension (W x D x H): 500 x 500 x 655 mm







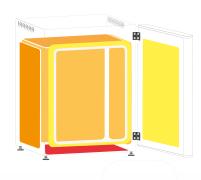


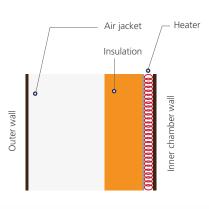


## Introduction

 $CO_2$  incubators are widely used in scientific research to grow and maintain cell cultures. Typical fields of application include tissue engineering and other mammalian cell research applications. Sleek, reliable and intuitive, Esco CelCulture®  $CO_2$  incubators provide complete sample protection that brings your scientific dreams one step closer to reality.

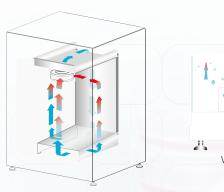
#### **DIRECT HEAT AND AIR JACKET**





- Direct heating enables rapid temperature recovery while air jacket provides isolation against ambient temperature fluctuations.
- Precise heating in the chamber is achieved by using 8 heaters located in 3 zones.
   The 3 zones are intelligently controlled by the microcontroller for best temperature uniformity and minimal fluctuation.
- The main heater provides precise temperature control.
- The bottom heater warms the water pan and provides humidity.
- The outer door heater prevents condensation on glass door and facilitates temperature recovery.

## VENTIFLOW™ FORCED CONVECTION





- No disturbance to cell culture.
- Blower automatically stops when door is opened to minimize mixing of chamber and room air.
- Accelerates recovery of chamber air to ISO Class 5 Cleanliness after door closing to prevent contamination.
- Improves CO<sub>2</sub>, humidity and temperature uniformity.
- Filtered air circulates across water pan to accelerate humidifying process.

## **OPTIONS AND ACCESSORIES**



#### **Humidity Display**

This option allows the incubator to monitor the relative humidity inside the chamber. The probe for the sensor works in freezing conditions (-70°C) and also in temperatures up to 180°C. The sensor is easy to install and has excellent accuracy. The airflow in the chamber does not affect the measurement. The sensor is maintenance-free. It does not need to be removed during 90°C moist heat decontamination cycle.



#### CO, Backup

This option allows two tanks of  $CO_2$  to be connected to the incubator. It will automatically switch from the primary tank to the secondary tank when low gas pressure is detected on the primary tank.



#### **Analog Output**

A set of relay contacts is provided at the rear of the incubator that allows the incubator to output analog signals representing the temperature,  $CO_2 / O_2$  content and relative humidity, depending on the options available in your incubator. This allows the chamber to be connected to an in-house data acquisition or alarm system. This option can also be field-installed.

The analog signal outputs can be set to operate in either voltage DC (0-5 Vdc) or current (4-20 mA) mode. The factory default setting is voltage. Switch on the board to toggle between the modes.



#### Sealed Inner Door Kit with 2 glass doors (50L)

CelCulture® CO<sub>2</sub> incubators can be equipped with 2 doors, that can be opened horizontally which allows access to defined sections of the incubator without affecting much the inner atmosphere of the chamber. This minimizes recovery time and contamination risks. The sealed-inner door is also reversible as same as the outer door which can be installed to be opened either from-right-to-left or from-left-to right. The sealed-inner door is available as a factory-installed option or field installed retrofit kit.



#### N, Back-up

This option allows two tanks of  $N_2$  to be connected to the incubator. It will automatically switch from the primary tank to the secondary tank when low gas pressure is detected on the primary tank.



#### Floor Stand 200 mm (8.0") With Adjustable Feet

Floor stands are available with adjustable feet, with a nominal range of 180 mm to 250 mm (7.1" to 9.8") for comfortable access to the incubator and to avoid floor contamination.



#### 2-Stage Gas Regulator for CO<sub>2</sub>/N<sub>2</sub>

 $CO_2$  and  $N_2$  gas input regulators reduce pressure from the tank to the incubator. It has dual pressure gauges, barbed line connection and shut-off valve. It prevents over-pressurization of the gas supply into the incubator which could cause the tubing to burst.



## Extra Shelf (Stainless Steel) for Standard Stainless Steel Chamber

Each CelCulture® CO<sub>2</sub> incubator comes standard with 3 shelves and it can accommodate up to a maximum of 4 shelves for 50 L



#### Stacking Kit

The stacking kit is a provision to stack one incubator on top of another incubator. Four stacking brackets are included as standard inside the Accessories Kit Box with each incubator.



## Electronic CO<sub>2</sub> Analyzer, For CO<sub>2</sub> / Temp Measurement Electronic CO<sub>2</sub> + O<sub>2</sub> Analyzer, For CO<sub>2</sub> / O<sub>2</sub> / Temp Measurement

Electronic CO<sub>2</sub> + O<sub>2</sub> + RH Analyzer, For CO<sub>2</sub> / O<sub>2</sub> / RH / Temp Measurement

The electronic analyzer allows the measurement of  $CO_2$  concentration,  $O_2$  concentration, relative humidity and temperature (temperature probe already included).



#### 6" Chart Recorder, Temp/RH, 115/230VAC 50/60 Hz

The chart recorder provides an easy-to-read graph of data vs time. It is a reliable, accurate, and stable instrument for on-the-spot written documentation of incubator chamber temperature. This model offers 6" chart of temperature and humidity data.



## **HP Series**

## Laboratory Refrigerators and Freezers

#### **Features**

- Forced-air design
- Intelligent automatic defrost
- Excellent temperature uniformity
- Door lock
- Triple-pane glass doors for refrigerators
- Isocide<sup>™</sup> antimicrobial powder coating
- High-quality stainless-steel interior for sample protection
- Internal LED lighting that saves up 70% power with less heat exposure
- Standard wheels for easy location or movement
- Audible and visual alarms







## Introduction

Laboratory professionals invest time, money and hard work on irreplaceable samples. A cold storage equipment can store thousands to millions of dollars' worth of valuable products. Once proper storage requirements are not met, these precious samples may be put at risk and eventually lead to sample spoilage and wastage. That is why, it is important to carefully choose the cold storage that can assure optimal product protection.

Esco HP Series is designed for laboratory use offering superior product protection with long term reliability and exceptional product quality. When superior levels of cold storage performance, reliability, and flexibility are needed, the Esco HP series of Laboratory Refrigerators and Freezers is the best choice—it provides a high-performance protection for your precious samples! Laboratory Refrigerators are generally used for storing non-volatile reagents and non-volatile biological specimens.



+2°C to +15°C External Dimension (W x D x H): 520 x 635 x 835 mm

Laboratory Refrigerators



HF2-140S-\_

(HF2): -10°C to -25°C External Dimension (W x D x H): 520 x 635 x 835 mm

**Laboratory Freezers** 

## **OPTIONS AND ACCESSORIES**



## Shelf Kits (SK\_)

Atoxic, plastic-coated steel, supported by anti-tilt clips. It is for additional space inside your chamber where you can place your samples. It also provides a good support for your samples to prevent damage and maintain organization of samples.



## Drawer Kits (DK\_)

A drawer extractible on telescopic slides, adjustable in height, bottom made of painted steel, beehive structure type, supplied with adjustable dividers made of polypropylene, front is fitted with an ergonomic aluminum handle, for the storage of samples in a more convenient and organized way.



## Digital Monitor (DM\_)

An independent visual/acoustic alarm and recording system, with an accuracy of 0.1°C due to the PT100 probe used for temperature detection. It will take over alarm failures, together with standard rechargeable batteries that record event such as unauthorized personnel.



## Access Port (AP\_)

A 15 mm or 35 mm diameter hole that will be placed at the back of the unit, closed with a white plastic cap, used for the access of additional probes inside the chamber.



## **Chart Recorder**

The chart recorder provides an easy-toread graph of data vs time. It is a reliable, accurate, and stable instrument, for on-the-spot written documentation of chamber temperature.

Model	Item Code	Description
SK1	1330063	Shelf Kits for HR1-140, HF2-140 (Standard and Touchscreen models)
DK1	1330067	Drawer Kits for HR1-140, HF2-140 (Standard and Touchscreen models)
DM1	1330072	Digital Monitor for single chamber models for Touchscreen models only
DM2	1330073	Digital Monitor for dual chamber models for Touchscreen models only
AP15	1330074	15 mm Access Port for all models (Standard and Touchscreen models)
AP35	1330075	35 mm Access Port for all models (Standard and Touchscreen models)
Backup Battery	1330127	Standard backup battery for acoustic and visual alarm during power failure (Standard and Touchscreen models)
4-20 mA	1330129	4-20 mA Output (Touchscreen models)
GSM	1330216	GSM Module (Touchscreen models)
Chart Recorder	1330185	Chart Recorder for all models (Standard and Touchscreen models)
IQOQ	9010179	Installation Qualification Operation Qualification for all models



# Versati<sup>™</sup> Centrifuge

#### **Features**

- Distinct control panel and intelligent Versati™ Microprocessor Control System
- Genuine-Protec<sup>™</sup> safety lid lock
- V-balance<sup>™</sup> weight imbalance protection
- Smartdrive<sup>™</sup> rotor auto recognition
- Diverse choices of rotor (swing-out and fixed-angle rotors)
- Temperature range from -20°C to 40°C with 1°C increments (Refrigerated models only)
- Maintenance-free, brushless Motor
- CFC-free refrigeration system
- Emergency switch
- Storage of up to 99 programs





## Introduction

Versati™ centrifuges are equipped with maintenance-free motors, robust mechanism, and intelligent Versati™ microprocessor control system that offers extreme reliability and safety. Versati™ has a strong versatility covering micro centrifuge and low-to-high speed general-purpose centrifuge with variety of rotors, adapters, and accessories to fit all your application needs and suit various consumable tubes, strips, and plates.

## **Versatile and Outstanding Features**

- **Compact Design -** Small footprint and curved design ensure comfortable loading and unloading of samples and cleaning of the unit.
- **Incredible Flexibility** Wide choice of easy and interchangeable rotors meets all your application needs. Huge selection of adapters allows centrifugation of practically all commercially available tubes.
- **High Temperature Ramp Rate** Compressor in Versati<sup>™</sup> centrifuges has strong power which allows fast cooling rate. The time cost can be as low as 10 mins when temperature decreases from room temperature to 4°C.
- Fast Pre-cooling Versati™ centrifuges provide fast pre-cooling function that is maintained even when centrifuge is not in use. This feature is useful if the samples are temperature-sensitive.
- Overspeed Protection Equipped with speed detection system, Versati™ centrifuges show the actual speed on the screen. Once the speed exceeds the safety range, the alarm will sound off and rotation is halted.
- Over Temperature Protection The unit will stop running once an over temperature is detected in the chamber, rotor, and frequency converter. This provides comprehensive protection which prolong the life span of Versati™ centrifuges.
- Aerosol-tight and Autoclavable High-quality, extremely robust aluminum lid of rotor allows aerosol-tight centrifugation. Rotor, buckets, lids, and adapters are autoclavable (20 min, 121°C) to ensure sterility of the centrifuge environment.

# **Accessories for Versati™ Micro Centrifuge**



**Aerosol-tight Fixed-angle Rotor** 

This  $T\ddot{U}V$  Nord Certified Bioseal Rotor is used for 1.5/2.0 ml tubes. Adapters are used to run 0.5 ml and 2.0 ml / 0.4 ml PCR tubes.



**Fixed-angle Rotor for PCR Strips** 

Rotor made of Polypropylene used for 4 x 8 (0.2 ml) PCR strips.



**Fixed-angle Rotor** 

Aluminum rotor with plastic lid used for  $30 \times 1.5 / 2.0$  ml tubes. Adapters are available to run up to 0.4 ml PCR tubes.



**Fixed-angle Rotor** 

Aluminum rotor used for 5 ml conical tubes. Adapters are also used in this rotor to run 1-1.8 ml Cryo tubes, and 1.5 ml / 2.0 ml PCR tubes.



**Fixed-angle Rotor** 

Aluminum rotor with plastic lid used for  $24 \times 1.5 / 2.0$  ml tubes. Adapters are available to run up to 0.4 ml PCR tubes.



**Fixed-angle Rotor** 

Aluminum rotor with plastic lid used for 44 x1.5 / 2.0 ml tubes. Adapters are available to run up to 0.4 ml PCR tubes.



#### **Hematocrit Rotor**

Aluminum hematocrit rotor ideal for medical field in the determination of Hematocrit value. It can run up to 24 capillaries.

Note: Available in MCV only





## **Streamline®**

## Polymerase Chain Reaction Cabinets

## **Features**

- HEPA-filtered laminar flow
- ISO Class 3 work zone
- Equipped with German-made ebm-papst® motors with external rotor design
- Isocide<sup>™</sup> antimicrobial powder coating
- UV decontamination technology

External Dimension (W x D x H): 730 x 617 x 950 mm

## Introduction

The Streamline® Polymerase Chain Reaction (PCR) Cabinet provides a controlled environment for performing PCR amplification experiments. Through HEPA-filtered airflow and UV decontamination of surfaces, DNA and RNA contamination of PCR reactions are reduced ensuring the validity of the results.

## **OPTIONS AND ACCESSORIES**



## **Support Stand with Caster Wheels (SPC)**

- For 0.6 m (2'), 0.9 m (3') and 1.2 m (4') models
- Available in two standard heights: 711mm (28.0") or 860mm (34.0")
- Durable polyurethane caster wheels with 360 degree horizontal rotation
- Total brake system on front wheels
- Maximum weight supported: 600 Kg (1323 lbs)



## Support Stand with Leveling Feet (SAL)

- For 0.6 m (2'), 0.9 m (3') and 1.2 m (4') models
- Available in two standard sizes: 737 mm (29.0") or 864 mm (34.0"), ±38.1 mm (1.5")
- Maximum weight supported: 500 Kg (1,100 lbs)



# Swift<sup>™</sup> MiniPro®

## Conventional PCR Thermal Cycler

#### **Features**

- Superior Performance
- Excellent Temperature Uniformity
- High Temperature Precision
- Outstanding Ramp Rate

#### Convenience

- Compact Footprint
- Convenient Setup, Fast Run
- Friendly Interface
- Adjustable Hot Lid
- Adjustable Ramp Rate
- Stability

## Introduction

The Esco Swift<sup>™</sup> MiniPro® thermal cycler is a low cost personal thermal cycler with a compact footprint, suitable for a variety of critical experimental applications, such as Touch Down PCR, Time Release PCR and others. The Swift<sup>™</sup> MiniPro® thermal cycler uses advanced peltier technology to achieve precise temperature control and fast ramp rates with minimal over- and under-shoot for process speed and accuracy.

# OPTION: Choose the type of block that comes with the main unit depending on your sample requirements



Block 1 24 x 0.2 ml

**Applicable consumables:** 0.2 ml tubes, 3 x 8 strips



Block 1 18 x 0.5 ml

Applicable consumables: 0.5 ml tubes



## **ESCO LIFESCIENCES GROUP**

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