



Labculture®

In Vitro Fertilization Workstation

Introduction

The Labculture IVF workstation is specially designed for use in fertility laboratories for research work in the fields of human and animal reproduction. A controlled work environment is of high priority due to the complexity of the process. This includes hygienic conditions to minimise microbial contamination, a warmed work surface for the sustenance of biological matter and provisions for the use of microscopes.

In the Labculture IVF workstation, air is taken in from above the workstation and passed through an ULPA filter. The filtered air is then passed through the main chamber in a vertical laminar (unidirectional) air stream before being exhausted through the front opening.

Main Features

- Warmed work top keeps temperature at a constant $37^{\circ}\text{C} \pm 1^{\circ}\text{C}$ (98.6°F). Work top temperature is constantly displayed on the front panel, and temperature is easily adjustable from the controller.
- An optional microscope mount is available upon request.
- An optional removable warming block to hold test samples can be easily slotted in from the top of the work zone, reducing the need for frequent movement of sensitive samples.

Designed for Enhanced Usability

The Labculture IVF workstation incorporates a number of features to ensure operator comfort and enhanced productivity.

- The workstation interior is constructed of stainless steel, making the work zone easy to clean. The interior surface will not chip, rust or generate particles.
- The ergonomically designed work surface with a curved front edge is designed for maximum operator comfort.

- Built-in warm white, electronically ballasted, 5000k lighting provides excellent illumination of the work zone and reduces operator fatigue. The reliable lighting system is zero-flicker and instant start.
- The removable perforated filter diffuser on all models provides protection to the filter and improves airflow uniformity.

Enhanced Filtration System

The enhanced filtration system on IVF workstation is designed to provide the highest level of air quality within the work zone, meeting all relevant standards (see technical specifications for details).

- Esco IVF workstation provides ISO Class 3 air cleanliness within the work zone as per ISO 14644.1, significantly cleaner than the usual Class 5 classification on workstations offered by the competition.
- High quality ULPA filters use an improved mini-pleat separation technique to maximize surface area, improve efficiency and extend the life of the filter. Filters operate at a typical efficiency of >99.999% at 0.1 to 0.3 micron sizes, providing superior product protection over conventional HEPA filters.
- An additional disposable pre-filter traps large particles in the inflow air prior to reaching the main filter, protecting it against damage and prolonging its life.
- Auto-Purge™ slots at the back of the work zone recirculate air back into the blower plenum, minimizing turbulence, eliminating dead air zones, prolonging main filter life and enhancing product and cross-contamination protection.

User-Friendly Control System

The Esco Sentinel microprocessor-based control system supervises all workstation functions. The controls are easily configurable to meet user requirements and come equipped with a number of enhanced features.

- Accurate true airflow velocity sensing technology measures all critical workstation airflow parameters allowing superior monitoring. Temperature compensated sensors ensure increased accuracy.
- Built-in solid state variable speed controllers, is superior to conventional "step" controllers and offer infinite adjustment from zero to maximum setting.
- Password-protected administration can be set to restrict access to the main menu.
- Audible and visual alarms ensure product protection by alerting the user in the event of low airflow.
- A bright, easy-to-read, LCD display provides continuous monitoring of workstation airflow.
- The intelligent blower system automatically

adjusts to maintain airflow as the filter becomes loaded with particulates, eliminating the need for constant adjustment and ensuring optimum performance and product protection.

- The work surface temperature is adjustable.

The Highest Quality Workstation Construction

All Esco products are manufactured for the most demanding laboratory applications.

- All components are designed for maximum chemical resistance and enhanced durability for a long service life.
- The main body of the workstation is constructed of industrial-grade electro-galvanized steel.
- All workstation components are clean room compatible.
- Esco Isocide exterior coating eliminates 99.9% of surface bacteria within 24 hours of exposure.

Blower Efficiency

- The Labculture IVF workstation incorporates a permanently lubricated direct drive centrifugal blower.
- The energy efficient external rotor motor design reduces operating costs and has extremely low noise and vibration levels.
- The intelligent blower system maintains airflow as the filter becomes loaded, ensuring optimum efficiency and product protection.

Designed and Built to Exceed Safety Criteria

All components used in Esco products meet or exceed all applicable safety requirements.

- Each workstation is individually factory tested for safety and performance in accordance with international standards.
- Most of electrical components are UL listed or UL recognized, ensuring superior electrical safety for the operator.
- Esco Labculture IVF workstation meets general safety requirements set by independent testing laboratories.

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General Specifications, IVF Workstations

Note to customer: Insert electrical voltage number into last model number digits _ when ordering

Model	IVF-4A			
External Dimensions (W x D x H)	1340 x 800 x 1350 mm (52.8" x 31.5" x 53.1")			
Internal Work Area (W x D x H)	1240 x 645 x 660 mm (48.8" x 25.4" x 26")			
Air Volume (At Initial Velocity)	1368 cmh / 805 cfm			
Laminar Airflow Velocity	Average of 0.45 m/s or 90 fpm (+/-0.025 m/s or 5 fpm)			
Filter Efficiency	Minimum: 99.9991% at 0.3µm / 99.9985% at 0.12µm / 99.9982% at MPPS Typical: 99.9998% at 0.3µm / 99.9998% at 0.12µm / 99.9997% at MPPS			
Pre-Filter	Disposable and non-washable polyester fibers with 85% arrestance / EU3 rated			
Sound Emission	62.5 dBA			
Fluorescent Lamp Intensity At Zero Ambient	>950 lux (>88 foot candles)			
Workstation Construction	Main Body	1.2 ~ 1.5mm / 0.05" ~ 0.06" / 16 gauge electro-galvanized steel with white oven-baked epoxy powder coated finish		
	Work Zone	1.2mm / 0.05" / 18 gauge stainless steel grade 304		
Electrical	Model	IVF-4A1	IVF-4A2	IVF-4A3
	Voltages	220 - 240 V, AC, 50Hz, 1Ø	110 - 130 V, AC, 60Hz, 1Ø	220 - 240 V, AC, 60Hz, 1Ø
	Cabinet Power / Amp	2210 W / 9.7 A	TBA	2210 W / 9.7 A
	Outlet Max. Amp	5 A	TBA	5 A
	Total Max. Amp	14.7 A	TBA	14.7 A
	BTU / Hr	4508	TBA	4508
Net Weight (Approximate)	160 kg (352 lbs)			
Shipping Weight*	280 kg (616 lbs)			
Shipping Dimensions, Maximum (W x D x H)*	1500 x 950 x 1880 mm (59" x 37.4" x 74")			
Shipping Volume, Maximum*	2.68 cbm (94.8 cu.ft)			

* Workstation only; excludes optional stand

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Standards Compliance	Workstation Performance	Air Quality	Filtration	Electrical Safety
	AS 1386.5, Australia IEST-RP-CC002.2, Worldwide	ISO 14644.1, Class 4, Worldwide IEST-G-CC1001, Worldwide IEST-G-CC1002, Worldwide	EN-1822 (H14), Europe IEST-RP-CC001.3, Worldwide IEST-RP-CC007.1, Worldwide IEST-RP-CC034.1, Worldwide	IEC 61010-1 CSA C22.2, No. 61010-1, Canada EN 61010-1, Europe UL 61010-1, USA

Accessories and Options

Esco offers a variety of options and accessories to meet local applications. Contact Esco or your local Sales Representative for ordering information.

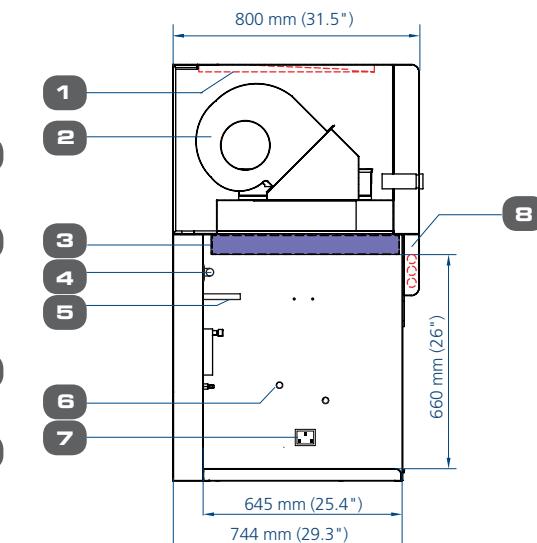
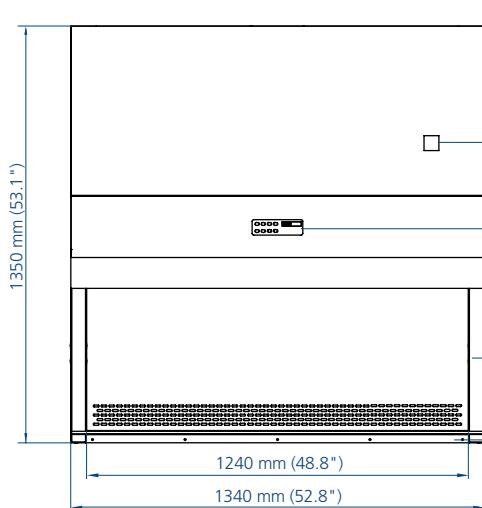
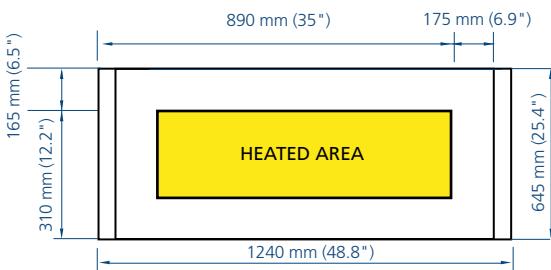
- Support stands
- Electrical outlet, ground fault, North America
- Electrical outlet, Euro/Worldwide
- Petcock (air, gas, vacuum)
- Germicidal UV lamp
- Transparent front cover (recommended when UV lamp is used)
- PVC armrest
- Height-adjustable lab chair
- Ergonomic foot rest

- IV Bar, with hooks
- All cabinet components are clean room compatible.
- Isocide eliminates 99.9% of surface bacteria within 24 hours of exposure.

Warranty

The Esco IVF workstation is covered by an extended 3 year warranty, excluding consumable parts and accessories. Contact your local Sales Representative for specific warranty details.

Model IVF - *In Vitro* Fertilization Workstation Technical Specifications



1. Pre-Filter
2. Blower
3. Downflow Filter
4. Standard UV Light Retrofit™ Kit Provision
5. Air Velocity Sensor

6. Plugged Service Fixture Provisions (2 on each side wall)
7. Electrical Outlet Retrofit™ Kit Provision
8. Fluorescent Lights
9. Temperature Controller with Display

10. Esco Sentinel™ Microprocessor Control System
11. Stainless Steel Side Wall
12. Stainless Steel Work Surface



Esco Containment, Clean Air and Laboratory Equipment Products

Biological Safety Cabinets, Class II, III
 Fume Hoods, Conventional, High Performance, Ductless Carbon Filtered
 Laminar Flow Cabinets, Horizontal, Vertical, PCR
 Animal Containment Workstations
 Hospital Pharmacy Isolators, Cytotoxic Safety Cabinets
 Specialty Workstations: *In-Vitro* Fertilization, Powder Weighing
 PCR Thermal Cyclers, Conventional, Real-Time
 Cleanroom Fan Filter Units, Modular Rooms, Air Showers, Pass Thrus

Since 1978, Esco has emerged as a leader in the development of controlled environment, laboratory and cleanroom equipment solutions. Products sold in more than 100 countries include biological safety cabinets, fume hoods, ductless fume hoods, laminar flow clean benches, animal containment workstations, cytotoxic cabinets, hospital pharmacy isolators, and PCR cabinets and instrumentation. With the most extensive product line in the industry, Esco has passed more tests, in more languages, for more certifications, throughout more countries than any biosafety cabinet manufacturer in the world. Esco remains dedicated to delivering innovative solutions for the clinical, life science, research and industrial laboratory community. www.escoglobal.com.

NSF / ANSI 49 Biological Safety Cabinets • Animal Containment Workstations • Fume Hoods • Clean Benches

ESCO

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