

Excellent Embryo Hosting for High Success Rates

MIRI®

Laminar Flow Cabinet

ESCO[®]
MEDICAL



MIRI® Laminar Flow Cabinet

Comes with advanced features that will help alleviate the workflow in your laboratory.



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MIRI®

Laminar Flow Cabinet



Esco MIRI® Laminar Flow Cabinet brings your laboratory a sophisticated approach to handle your sample.

The MIRI® Laminar Flow Cabinet has been designed with the capability to maintain a controlled work surface for laboratory applications requiring a clean and sterile workspace, which is achieved through the use of vertical laminar airflow pattern.

Clean filtered air travels from the top of the cabinet downwards onto the working surface. Laminar flow cabinets are ideal to be used for our customers who requires a clean and sterile workspace to provide good protection towards the sample.

FEATURES:

ISO Class 3 Cleanliness

Esco cabinets deliver ISO Class 3 air cleanliness within the working zone, which is much cleaner than the competition's Class 4 designation. This is achieved through the employment of 100% polyester fiber pre-filter with 85% arrestance and the main HEPA/ULPA filtration system.

Air Cleanliness Standards (ISO 14644.1, Air Cleanliness Particle Limits) (No. of Particles / m ³)						
Particle Size (µm)	Cleanliness Class					
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6
0.1	10	100	1000	10000	100000	1000000
0.2	2	24	237	2370	23700	237000
0.3	1	10	102	1020	10200	102000
0.5	-	4	35	352	3520	35200
1.0	-	-	8	83	832	8320
5.0	-	-	-	3	29	293

Built-in Mini-PC + Monitor (Optional)

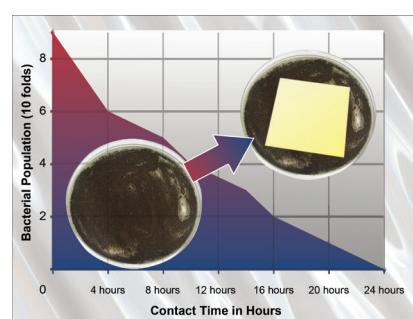
- User may opt to have a touchscreen monitor to be integrated in the cabinet.
- Allows the user to connect with the microscope through a camera.
- Provides the user easier analysis of the specimen being observed under the microscope.
- Provides the possibility to integrate MIRI® Evidence RFID Witnessing and Traceability System.

Integrated Microscope Pole (Optional)

- Enables the user to install the microscope easier.
- Compatible with the most commonly used microscope brand.

Anti-Microbial Growth Mechanism

Most of Esco manufactured products are coated with a silver-ion-impregnated ISOCIDE™ powder, can effectively inhibit and eliminate unwanted microbial growth. Therefore it is able to provide further sample protection against possible contamination.





Advanced Cabinet designed to help the workflow in your laboratory setting

Integrated Light Source (Optional)

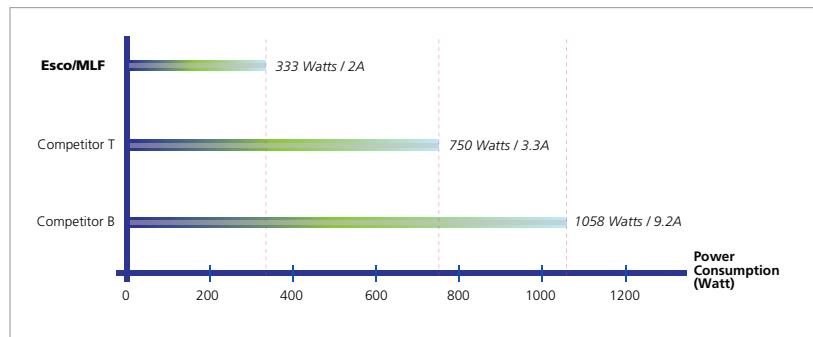
The Cabinet comes with its own LED light source which provides the user with better energy efficiency.

Outstanding Sample Protection

The MIRI® Laminar Flow operates by applying the vertical laminar airflow pattern, in which the clean filtered air will travel downward from the filter located on top of the cabinet to the working surface. The HEPA/ULPA filtration system provides a particulates filtering capability of 99.9995%, maximising the air quality that goes onto the working zone.

Energy Efficient

MIRI® Laminar Flow Cabinet comes with the latest generation of ECM blower which prevails in the minimum cabinet power consumption without sacrificing the cabinet's performance.



Sentinel Gold Microprocessor Control System



Displays all safety information on one screen; there's also the standby mode which allows users to switch to an energy saving mode when the cabinet is not in use.



Quiet Operation

MIRI® Laminar Flow has a state-of-the-art design and features resulting in very low noise and vibration level that makes the workstation suitable for sensitive microscopic work. The high-efficiency ECM blower creates less noise and causes minimal vibrations on the cabinet, thus providing better working conditions for the user.

- Reduce the possibility of distraction due to loud noise, improving work concentration.



Energy Efficient

Electrical wires can be easily arranged without disturbing the working area layout of the user during sample handling since the MIRI® Laminar Flow cabinet comes with cable pass-through channel which enables the wires to run through the back wall.



Cable Pass-Through Tunnel

Cable Wire

MIRI® Laminar Flow Cabinet

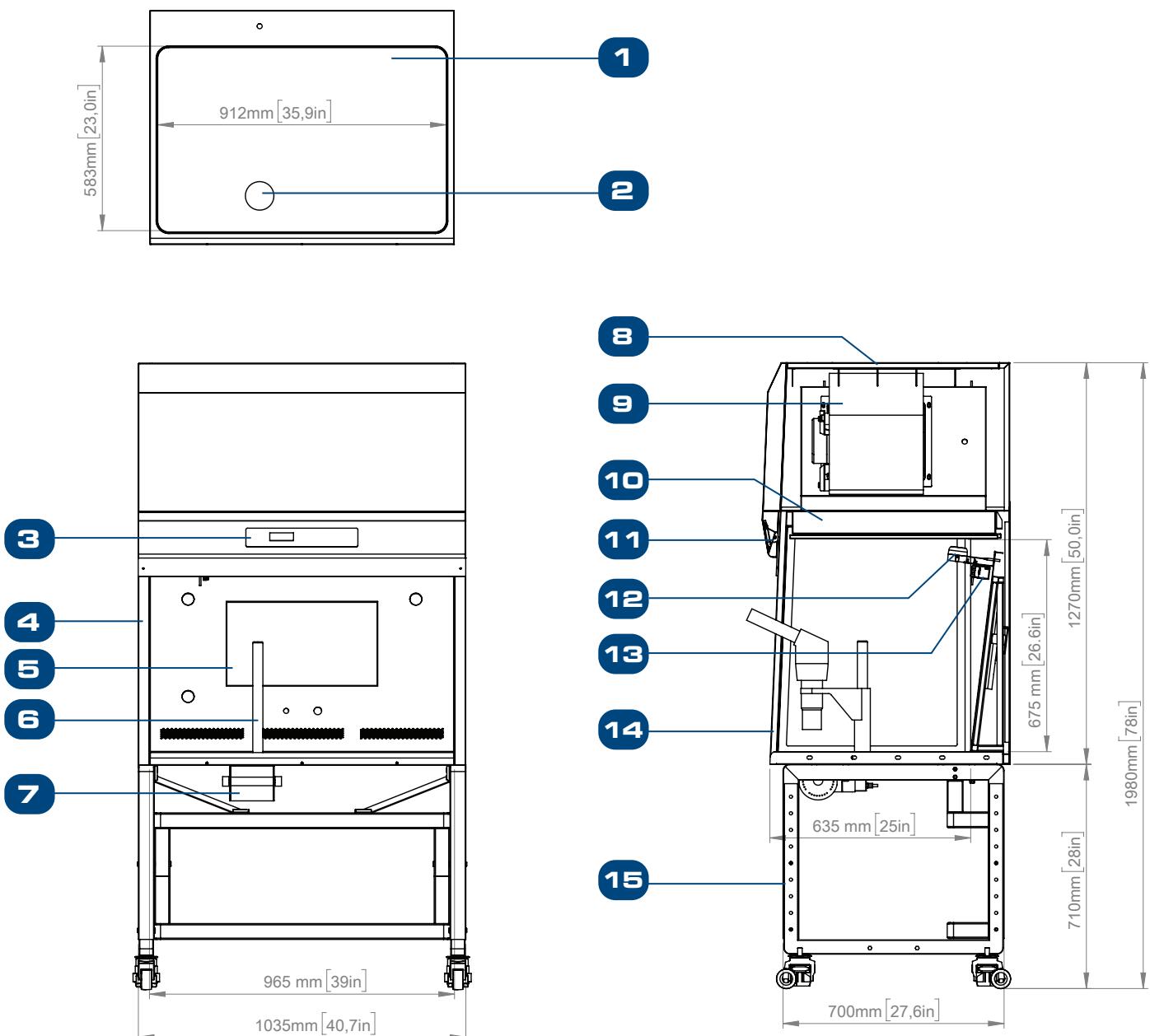
- Outstanding sample protection.
- Low noise and energy-efficient ECM blowers.
- Provision for microscope.*
- Integrated transmitted LED light source.*
- ISOCIDE™ Anti-microbial growth mechanism.
- Built in Mini-PC + Monitor*
- Wide range of cabinet size selection, between 3 feet, 4 feet, 5 feet or 6 feet

• *Microscope, LED light source and the built-in monitor are optional accessories. Be sure to specify the configuration you desire when ordering.



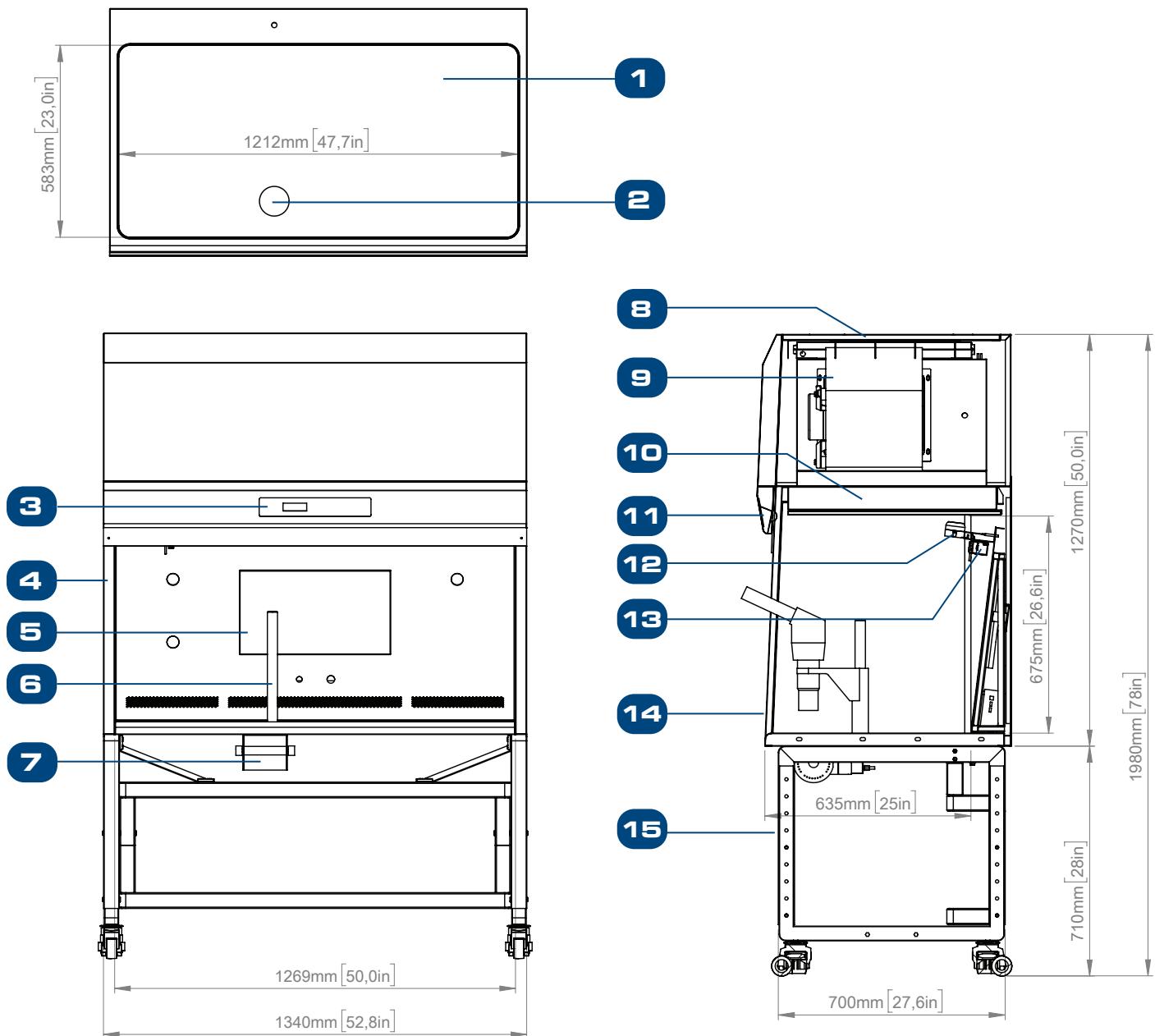
MIRI® Laminar Flow Workstation

MLF-3D-MON w/LS



- 1. Tabletop
- 2. Transmitted Light Source
- 3. Esco Sentinel™ Gold
- 4. Tempered Glass Side Panel
- 5. Monitor (Optional)
- 6. Microscope Mounting Pole
(Microscope not Included)
- 7. Light Source
- 8. Pre-Filter
- 9. ECM Blower
- 10. HEPA/ULPA Filter
- 11. LED Light
- 12. Airflow Sensor
- 13. UV Light (Optional)
- 14. Polycarbonate Cover (Optional)
- 15. STA-3A0 (TELESCOPIC)

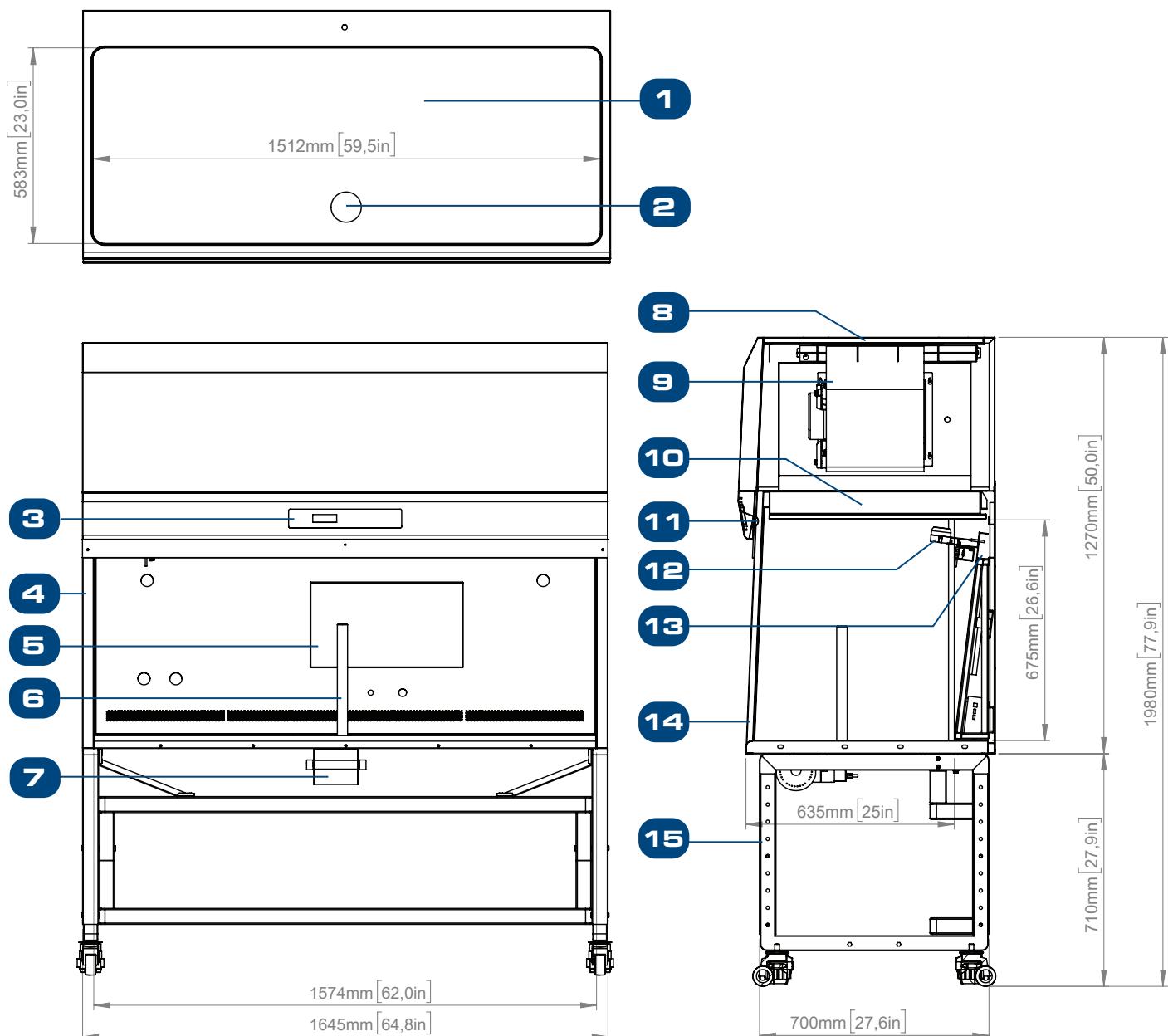
MLF-4D-MON w/LS



- 1. Tabletop
- 2. Transmitted Light Source
- 3. Esco Sentinel™ Gold
- 4. Tempered Glass Side Panel
- 5. Monitor (Optional)
- 6. Microscope Mounting Pole
(Microscope not Included)
- 7. Light Source
- 8. Pre-Filter
- 9. ECM Blower
- 10. HEPA/ULPA Filter
- 11. LED Light
- 12. Airflow Sensor
- 13. UV Light (Optional)
- 14. Polycarbonate Cover (Optional)
- 15. STA-4A0 (TELESCOPIC)

MIRI® Laminar Flow Workstation

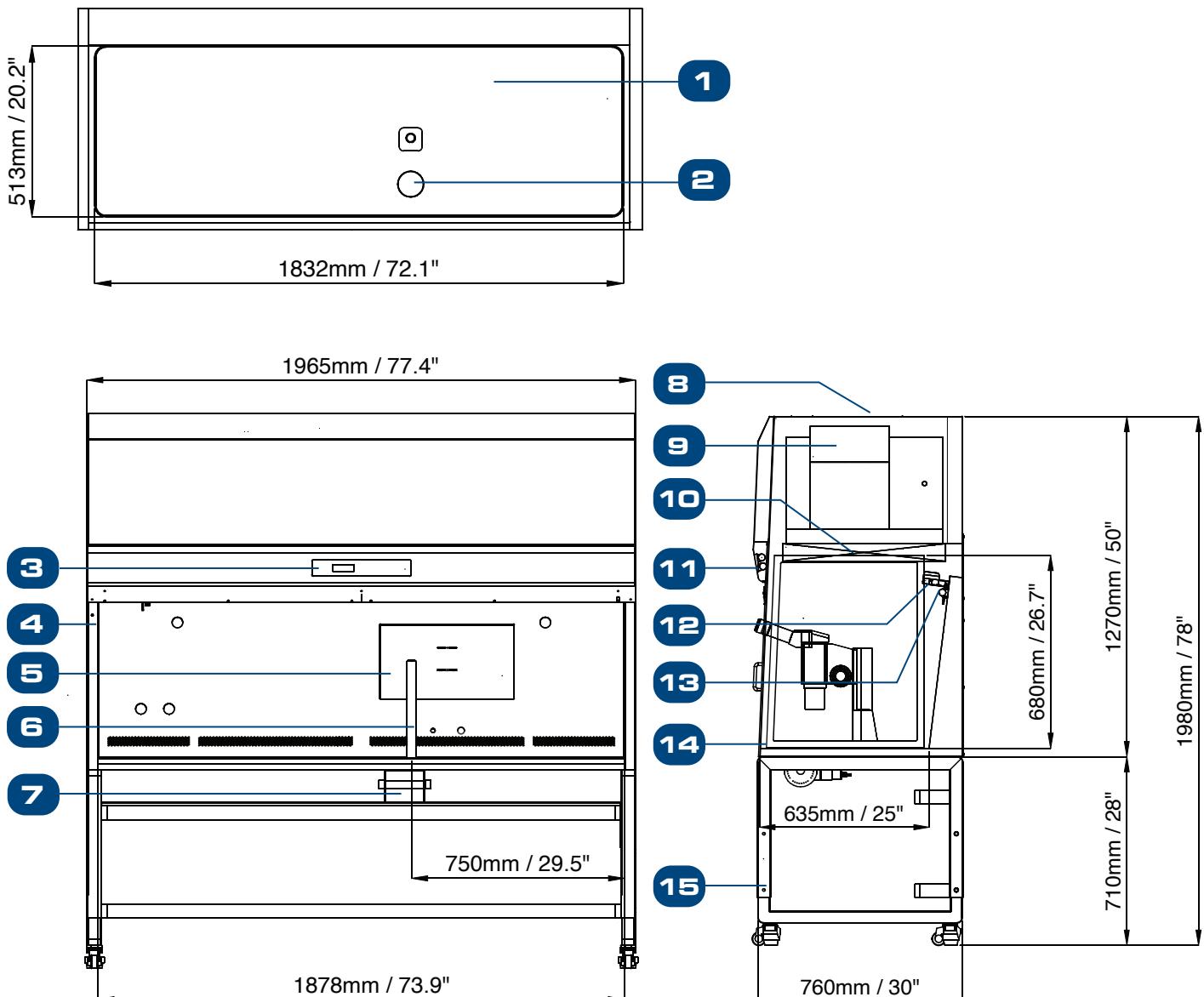
MLF-5D-MON w/LS



1. Tabletop
2. Transmitted Light Source
3. Esco Sentinel™ Gold
4. Tempered Glass Side Panel
5. Monitor (Optional)
6. Microscope Mounting Pole (Microscope not Included)
7. Light Source

8. Pre-Filter
9. ECM Blower
10. HEPA/ULPA Filter
11. LED Light
12. Airflow Sensor
13. UV Light (Optional)
14. Polycarbonate Cover (Optional)
15. STA-5A0 (TELESCOPIC)

MLF-6D-MON w/LS



- 1. Tabletop
- 2. Transmitted Light Source
- 3. Esco Sentinel™ Gold
- 4. Tempered Glass Side Panel
- 5. Monitor (Optional)
- 6. Microscope Mounting Pole
(Microscope not Included)
- 7. Light Source
- 8. Pre-Filter
- 9. ECM Blower
- 10. HEPA/ULPA Filter
- 11. LED Light
- 12. Airflow Sensor
- 13. UV Light (Optional)
- 14. Polycarbonate Cover (Optional)
- 15. STA-6A0 (TELESCOPIC)

General Specifications

MIRI® Laminar Flow Cabinet

Model	MLF-3D_	MLF-4D_	MLF-5D_	MLF-6D_			
Work Area Dimension (W x D x H)	965 x 635 x 675 mm (39.0" x 25.0" x 26.6")	1269 x 635 x 675 mm (50.0" x 25.0" x 26.6")	1574 x 635 x 675 mm (62.0" x 25.0" x 26.6")	1879 x 635 x 675 mm (74.0" x 25.0" x 26.6")			
External Dimensions without Support Stand (W x D x H)	1035 x 760 x 1270 mm (40.7" x 29.9" x 50.0")	1340 x 760 x 1270 mm (52.8" x 29.9" x 50.0")	1645 x 760 x 1270 mm (64.8" x 29.9" x 50.0")	1950 x 760 x 1270 mm (76.8" x 29.9" x 50.0")			
External Dimension with "STL" Type Support Stand (W x D x H)	1035 x 760 x 1980 mm (40.7" x 29.9" x 78.0")	1340 x 760 x 1980 mm (52.8" x 29.9" x 78.0")	1645 x 760 x 1980 mm (64.8" x 29.9" x 78.0")	1950 x 760 x 1980 mm (76.8" x 29.9" x 78.0")			
Cabinet Construction	Main Body	1.2 mm (0.05") 18-gauge electro-galvanized steel with white oven baked epoxy-polyester powder coated finish					
	Work Zone	1.2 mm (0.05") 18-gauge stainless steel, grade 304, with 4B finish					
	Side Walls	UV-absorbing tempered glass 5mm (0.2"), colourless and transparent					
	Sash						
Airflow Velocity	0.45 ± 0.025 m/s, (90 ± 5 fpm)						
Power Supply	MLF-D8	220-240V, 50/60Hz					
	MLF-D9	110-130V, 50/60Hz					
Motor Type	ECM Motor						
Pre-Filter	Disposable and non-washable 100% polyester fiber with 85% arrestance, EU-3 rated						
Filter Efficiency	HEPA/ULPA filtration with 99.9995% efficiency						
ISO Classification	ISO Class 3						
Noise Level Reading*	≤48 dB(A)*						
Control System	Esco Sentinel™ Gold Microprocessor Controller						
Microscope Pole Provision (optional)	Position for 1 microscope						
Transmitted Light Source (optional)	1 set						
Advanced Option (optional)	Touchscreen Monitor**						
Net Weight	±191 kg	±206 kg	±221 kg	±236 kg			
Cabinet Weight with Support Stand	±265 kg	±280 kg	±295 kg	±310 kg			

*Noise reading in open field condition/ anechoic chamber. Noise reading in normal room varies by room size, layout, and background noise, but may reach roughly 3-4 dBA above these values.

** Monitoring screen system comes as accessory, you are required to specify in your quotation

Ordering Information

Item Code	Model Code	Description
Laminar Flow Cabinet		
2070255	MLF-3D8	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 220-240V, 50/60Hz
2070259	MLF-3D9	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 110-130V, 50-60Hz
2070256	MLF-4D8	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 220-240V, 50/60Hz
2070260	MLF-4D9	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 110-130V, 50-60Hz
2070257	MLF-5D8	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 220-240V, 50/60Hz
2070261	MLF-5D9	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 110-130V, 50-60Hz
2070258	MLF-6D8	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 220-240V, 50/60Hz
2070262	MLF-6D9	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 110-130V, 50-60Hz
Laminar Flow Cabinet with Monitor		
2070247	MLF-3D8-MON	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 220-240V, 50/60Hz with screen monitor integration
2070251	MLF-3D9-MON	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 110-130V, 50-60Hz with screen monitor integration
2070248	MLF-4D8-MON	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 220-240V, 50/60Hz with screen monitor integration
2070252	MLF-4D9-MON	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 110-130V, 50-60Hz with screen monitor integration
2070249	MLF-5D8-MON	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 220-240V, 50/60Hz with screen monitor integration
2070253	MLF-5D9-MON	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 110-130V, 50-60Hz with screen monitor integration
2070250	MLF-6D8-MON	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 220-240V, 50/60Hz with screen monitor integration
2070254	MLF-6D9-MON	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 110-130V, 50-60Hz with screen monitor integration

Ordering Information

Item Code	Model Code	Description
Laminar Flow Cabinet with Lightsource		
2070217	MLF-3D8 w/LS	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 220-240V, 50/60Hz
2070220	MLF-3D9 w/LS	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 110-130V, 50-60Hz
2070218	MLF-4D8 w/LS	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 220-240V, 50/60Hz
2070221	MLF-4D9 w/LS	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 110-130V, 50-60Hz
2070182	MLF-5D8 w/LS	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 220-240V, 50/60Hz
2070222	MLF-5D9 w/LS	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 110-130V, 50-60Hz
2070219	MLF-6D8 w/LS	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 220-240V, 50/60Hz
2070236	MLF-6D9 w/LS	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 110-130V, 50-60Hz
Laminar Flow Cabinet with Monitor and Lightsource		
2070238	MLF-3D8-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 220-240V, 50/60Hz with screen monitor integration
2070242	MLF-3D9-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 3ft (0.9 meter), 110-130V, 50-60Hz with screen monitor integration
2070239	MLF-4D8-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 220-240V, 50/60Hz with screen monitor integration
2070243	MLF-4D9-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 4ft (1.2 meter), 110-130V, 50-60Hz with screen monitor integration
2070240	MLF-5D8-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 220-240V, 50/60Hz with screen monitor integration
2070244	MLF-5D9-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 5ft (1.5 meter), 110-130V, 50-60Hz with screen monitor integration
2070241	MLF-6D8-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 220-240V, 50/60Hz with screen monitor integration
2070245	MLF-6D9-MON w/LS	Esco MIRI® Laminar Flow Cabinet, 6ft (1.8 meter), 110-130V, 50-60Hz with screen monitor integration

Accessories

Item Code	Model Code	Description
5131566	STA-3B0	Support Stand w/ Caster Wheels and Leveling Feet (28" and 36") for 3ft cabinets
5131395	STA-4B0	Support Stand w/ Caster Wheels and Leveling Feet (28" and 36") for 4ft cabinets
5131567	STA-5B0	Support Stand w/ Caster Wheels and Leveling Feet (28" and 36") for 5ft cabinets
5131568	STA-6B0	Support Stand w/ Caster Wheels and Leveling Feet (28" and 36") for 6ft cabinets
5170251	UV-15A-L	UV lamp for 3ft MLF cabinet
5170255	UV-30A-L	UV lamp for 4ft, 5ft, and 6ft MLF cabinet
5171182	FC-MLF-3A	Polycarbonate front cover for MLF cabinet 3ft
5171183	FC-MLF-4A	Polycarbonate front cover for MLF cabinet 4ft
5171245	FC-MLF-5A	Polycarbonate front cover for MLF cabinet 5ft
5171184	FC-MLF-6A	Polycarbonate front cover for MLF cabinet 6ft
1817320	Touchscreen Monitor	21.5" touchscreen monitor
1817319	Mini PC	Mini PC

Recommended List of Microscopes and the Base Stand Types

Stereomicroscope Provisions	
Microscope Types	Base stand
Esco Stereomicroscope MS-1	Standard 1320375
Nikon SMZ series	C-PS / C-PS160 / C-DSS
Olympus SZX series	SZX-ST / SZX2-ST/SZ2-ST
Carl Zeiss	Stand N / V8 with T-Pillar
Leica	S8APO
Optica	SZM-2/SZM-D

ESCO LIFESCIENCES GROUP



Esco Medical Products:

MIRI® Multiroom Incubator
MIRI® Humidity Multiroom Incubator
MIRI® II-12 Multiroom Incubator
Mini MIRI® Dry Multiroom Incubator
Mini MIRI® Humidity Multiroom Incubator

MIRI® TL6 Time-Lapse Incubator
MIRI® TL12 Time-Lapse Incubator
Multi-Zone ART Workstation
MIRI® Laminar Flow Cabinet
MIRI® Evidence RFID Witnessing & Traceability System

CelCulture® CO₂ Incubator
MIRI® GA (Gas and Temperature Validation Unit)
MIRI® AVT
CultureCoin®

Infertility is a problem that has a significant social, psychological, and economic impact on afflicted individuals and couples. It is a global concern that knows no race or creed. It has been estimated that 1 in 6 couples struggle with infertility at least once in their lifetime.

Esco Medical is one of the divisions of the Esco Lifesciences Group. We provide innovative technological solutions for fertility clinics and laboratories. We aim to become the leading manufacturer of high-quality equipment such as long-term embryo incubators, ART workstations, anti-vibration tables, and time-lapse incubators.

Our products are designed with the Silent Embryo Hypothesis as a guiding principle. The Silent Embryo Hypothesis states that the less disturbed an embryo can remain, the better its developmental potential will be. Most of our products are designed in Denmark and made in the EU. Our primary focus is to increase pregnancy success rates and patient satisfaction.



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