

# ESCO

WORLD CLASS. WORLDWIDE.



## Esco HP Series

**Laboratory Refrigerators and Freezers**  
*High-Performance Protection For Your Precious Sample*





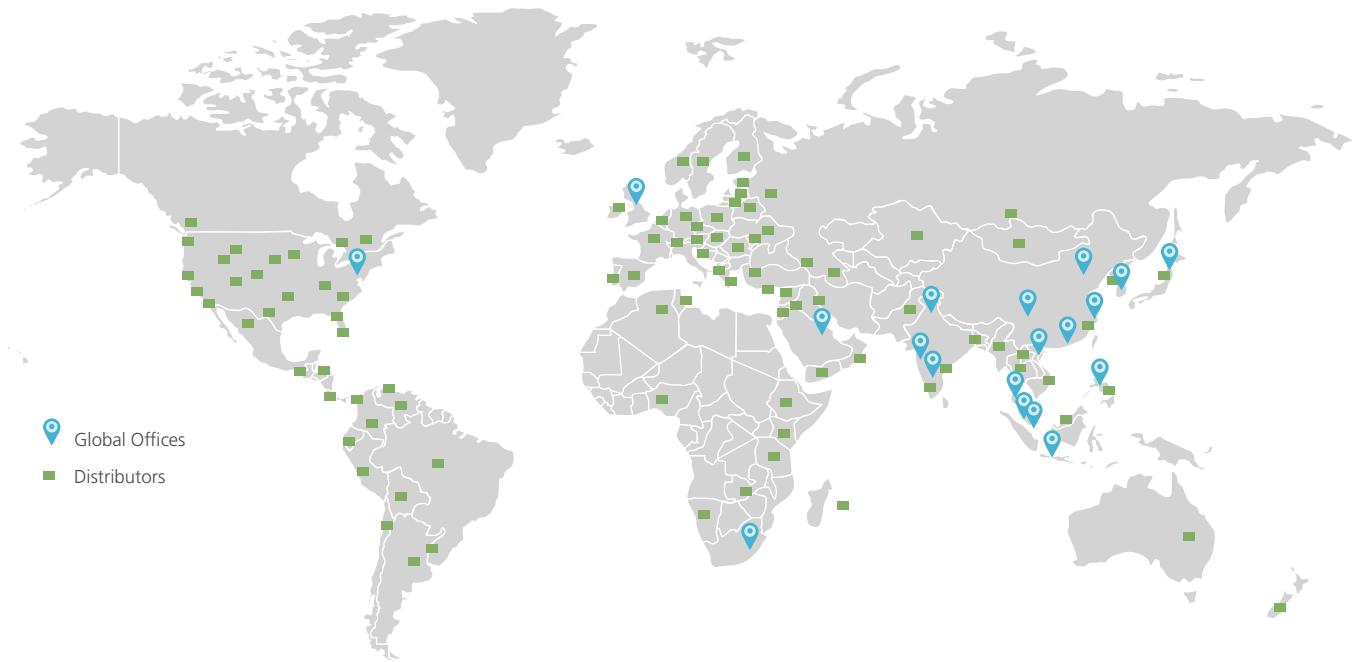
## WELCOME TO ESCO



*Esco's Vision is to provide enabling technologies for scientific discoveries to make human lives healthier and safer.*

- A leader in the development of controlled environment, laboratory and pharmaceutical equipment solutions.
- A world leader in biological safety cabinets.
- Esco has established offices in 13 countries such as Bahrain, China, India, Japan, Korea, Malaysia, Philippines, Singapore, UK, US, Vietnam, South Africa and Indonesia and is continually expanding.
- North American facilities in Pennsylvania; sales, service, logistics for US & Canada.
- Group total of more than 600 employees.
- Distributors in more than 100 countries.
- Products independently tested to international standards.
- Large R&D investments, world leading technologies.
- State-of-the-art production; vertically integrated manufacturing floor space.
- Worldwide service played out over a geographic expanse so broad that the sun never sets on what we do.



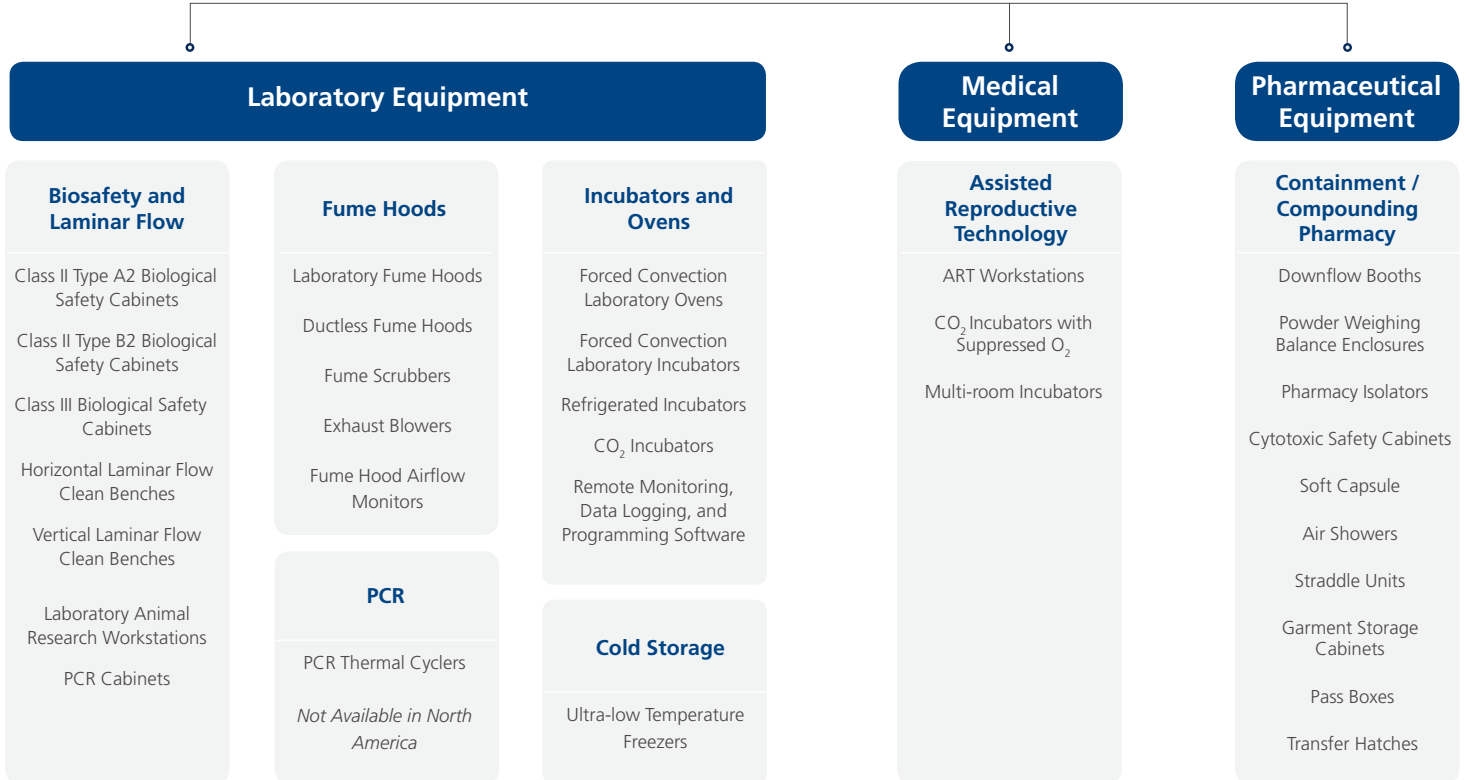
# GLOBAL NETWORK



 Global Offices  
 Distributors

## PRODUCTS AND APPLICATION

### Esco Life Science Tools





# HP Series

## Laboratory Refrigerators and Freezers

### INTRODUCTION

ESCO HP Series refrigerators and freezers are 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 high-performance protection for your precious samples!

## KEY FEATURES

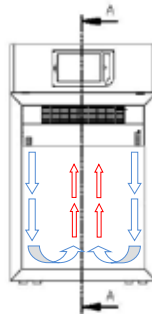
### ESCO HP SERIES LABORATORY REFRIGERATORS AND FREEZERS

*High-performance protection for your precious samples!*



### SUPERIOR DESIGN

The AVERAGE value of samples in a Lab Refrigerator or Freezer is \$50,000 USD!  
For long-term reliability and product quality – protect samples!



### FORCED-AIR DESIGN

- Superior forced-air design instead of regular cold wall for both refrigerators and freezers.
- Rapid cooldown and very fast recovery due to fan assistance.
- Fast temperature equilibration; superior sample protection!

### INTELLIGENT AUTOMATIC DEFROST FOR ADDITIONAL SAMPLE PROTECTION

- High Performance units use intelligent defrost to maximize sample protection.
- Computer has a thermocouple on the evaporator.
  - Detects ice formation.
  - Defrosts only when needed to keep units at optimum performance.
  - Keeps chamber temperature within safe limits.
  - No sample risk when cold wall



# OTHER FEATURES



## DOOR LOCK

Provides additional security for expensive samples and reagents from unauthorized users.

## QUALITY ESCO CONSTRUCTION

- Electrogalvanized steel with white, oven-baked, epoxy-polyester, antimicrobial, powder-coated finish.
- External surfaces are powder coat Esco **ISOCIDE™** to eliminate 99.9% of surface bacteria within 24 hours of exposure.

## INTERNAL LED LIGHTING

Save up to 70% power with less heat exposure to precious samples. LED lighting also has a longer lifetime than fluorescent or incandescent lighting.



## TRIPLE-PANE GLASS DOORS FOR REFRIGERATOR MODELS

- Easily locate needed samples or reagents with the door closed, preventing unnecessary warming or sample or reagent risks. Triple-pane doors provide superior insulation compared to any other glass door technology.
- The door will automatically close under 90° when released to maintain temperature and to protect samples.



## WHEELS/CASTERS PROVIDED



Provided as a standard to make units easy to locate and move.



## STAINLESS STEEL INTERIOR

- Avoids corrosion.
- Protects samples from pollution.

# EXCELLENT PERFORMANCE

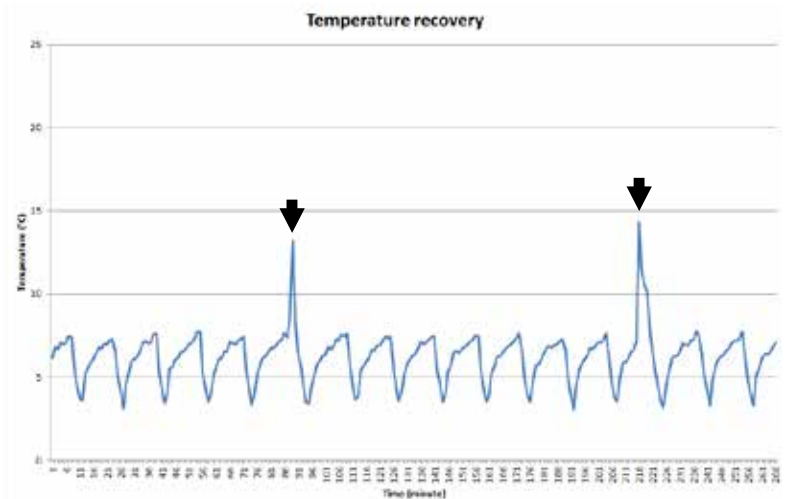
## FAST TEMPERATURE RECOVERY AFTER DOOR OPENING

- With a laboratory-grade sealed system, ESCO HP series provide FAST TEMPERATURE RECOVERY from door open events.
- Bigger compressor with longer life.
- More refrigeration power for fast cool down and high stability.

*Performance Testing-700L Refrigerator*

*Remark: two spikes mean Door Openings.*

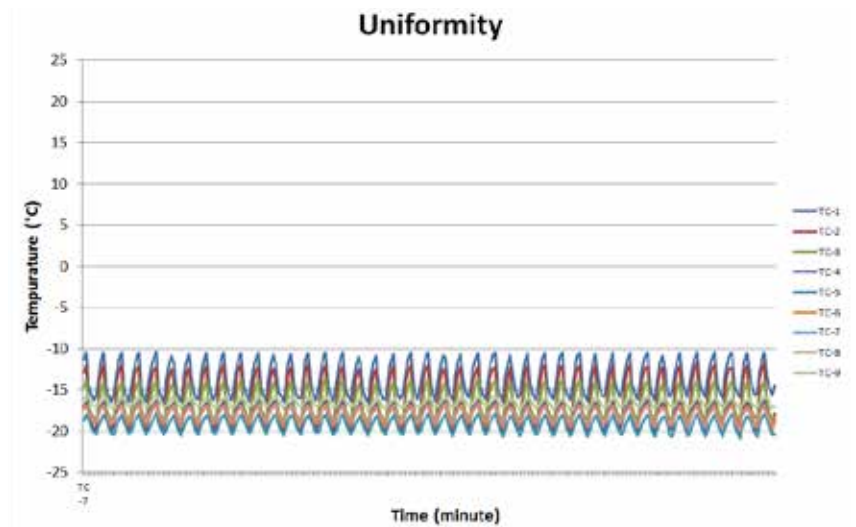
Temperature Recovery	Peak1	Peak2
Max(°C)	13.2	14.3
Min(°C)	3.4	3.1
Rate(°C/min)	1.63	1.24



## EXCELLENT UNIFORMITY

- Uniformity tests measure the difference between the coldest spot and warmest spot in the freezer chamber when the freezer is operating at a set temperature.
- ESCO HP series has excellent chamber uniformity. This guarantees that all samples are protected regardless of their location.

*Performance Testing-400L freezer*

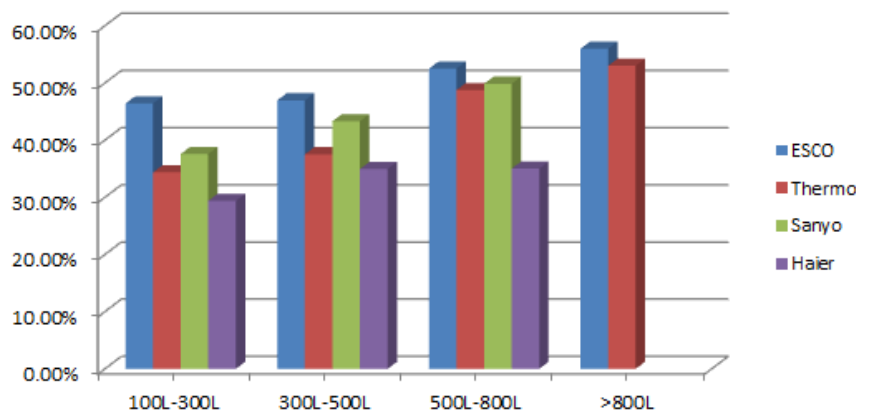


## SUPERIOR CABINET DESIGN

A ratio of capacity and external dimension is a very good measure of the value of the effective capacity of the refrigerator.

ESCO reserve capacity surpasses that of all major brands below.

### Ratio of capacity and external dimension



# CONTROL SYSTEM

## STANDARD CONTROLLER



### Features:

- Advanced defrost monitoring: lower power consumption and greater guarantee of temperature uniformity.
- Stop-on-door: minor thermal shock after door opening.

## OPTIONAL TOUCHSCREEN CONTROLLER



### Features:

- Multiuser management with passwords.
- Live and historical graphing of temperature.
- Data storage on SD card.
- Ethernet connection.
- Electronic door lock.

# OPTIONS AND ACCESSORIES

HP series can be customized with the following accessories:



**Additional wire shelves** in a-toxic, plastic-coated steel, supported by anti-tilt clips.

**Stainless steel basket** mounted on anti-tilt side slides.



**Aluminum drawer**, totally extractible on telescopic slides, adjustable in height, bottom made of painted steel, beehive structure type, supplied with adjustable dividers made of polypropylene. The front is fitted with an ergonomic aluminum handle.

**Stainless steel rack**, dimensions in cm –14 x 50 x 15H (max nr 3 pieces for every shelf)



**Electric digital key lock**: the door opens by pressing the icon “key” on the touchscreen. This function can be password protected to avoid access from unauthorized personnel. In case of power failure, the door can be opened manually using a supplied tool.



**Backup batteries kit** for acoustic and visual power failure alarm: this accessory includes nr 8 eco-friendly batteries, Ni-MN type, easily replaceable for end users.

# HP SERIES SPECIFICATIONS

Laboratory Refrigerator: HR1 Series

The professional glass door refrigerators, HR1 range, specifically developed to be used by laboratories, hospitals, clinics, and pharmacies, ensure optimal storage conditions for temperature-sensitive medical products and biological material in order to meet the accurate storage temperature control required. Available with a wide range of solutions, HR1 refrigerators are compliant with all national and international regulatory requirements.



## SPECIFICATIONS AND ORDERING INFORMATION

### HR1 PRODUCT LINE

MODEL	HR1-140S	HR1-400S	HR1-700S	HR1-1500S
Temperature Range	+2 / +15 °C			
Temperature Uniformity Range	±3°C			
Capacity	128 lt (4.53 cu ft)	347 lt (12.26 cu ft)	620 lt (21.91 cu ft)	1355 lt (47.87 cu ft)
Door	1 glass door with triple-glass panels			2 glass doors with triple-glass panels
Interior Walls	stainless steel			
Alarms	Open door, high/low temperature, power failure, clogged condenser filter			
Controller	Standard controller with 0.1°C resolution, password protection			
Defrost	Intelligent automatic			
Warranty	2 years			
Certifications	CE mark			
Lighting	LED			
Dry Contacts Alarm	Dry contact to connect to remote alarms			
Casters	Small castors	Standard castors	Wheels	
Insulation thickness (side/back, mm)	40/40	50 / 70	60/60	70/70
Typical Power Consumption (kW/24H)	2.2	2.2	2.9	4.9
shelves or drawers	2 shelves	4 shelves	4 shelves	8 shelves
Typical Noise Level (<dBa)	39.5	46	51	54
Internal Dimensions (W x D x H)	440x516x560 mm (17.3" x 20.3" x 22")	500x493x1405 mm (19.7" x 19.4" x 55.3")	600x686x1505 mm (23.6" x 27" x 59.3")	1300x690x1510 mm (51.2" x 27.2" x 59.4")
External Dimensions (W x D x H)	520 x 635 x 835mm (20.5" x 25" x 32.8")	600 x 655 x 1955mm (23.6" x 25.8" x 77")	720 x 825 x 2050mm (28.3" x 32.5" x 80.7")	1440 x 820 x 2050mm (56.7" x 32.3" x 80.7")
Shipping Dimensions (W x D x H)	550 x 690 x 1020mm (21.7" x 27.2" x 40.2")	660 x 710 x 2120mm (26" x 28" x 83.5")	760 x 870 x 2220mm (30" x 34.3" x 87.4")	1500 x 870 x 2120mm (59" x 34.3" x 83.5")
Shipping Weight	67kg	135kg	172kg	264kg



Laboratory Freezer: HF2 and HF3 series

Available in a wide range of dimensions and capacities, all ESCO professional upright freezers cover a wide range of temperatures. ESCO's freezers can be used for a wide variety of applications in life sciences.



# SPECIFICATIONS AND ORDERING INFORMATION

## HF2 PRODUCT LINE

MODEL	HF2-140S	HF2-400S	HF2-700S	HF2-1500S
Temperature Range	-10 / -20 °C	-10/-25 °C		
Capacity	128 lt (4.53 cu ft)	347 lt (12.26 cu ft)	620 lt (21.91 cu ft)	1355 lt (47.87 cu ft)
Temperature Uniformity Range	±3°C			
Door	1 solid door, pre-coated steel white color, with ergonomic handle in aluminum			2 solid doors
Alarms	Open door, high/low temperature, power failure, clogged condenser filter			
Controller	Standard controller with 0.1°C resolution, password protection			
Defrost	Intelligent automatic			
Warranty	2 years			
Certifications	CE			
Door Lock	Key lock			
Lighting	LED			
Interior Walls	Stainless steel			
Dry Contacts Alarm	Dry contact to connect to remote alarms			
Casters	Small castors	Standard castors	Wheels	
Insulation thickness (side/back, mm)	40/40	50/70	60/60	70/70
Shelves or Drawers	2 shelves	4 shelves	4 shelves	8 shelves
Typical Power Consumption(kW/24H)	5.2	8.6	12.1	14.3
Typical Noise Level (<dBa)	43	49	52	55
Internal Dimensions (W x D x H)	440x516x560 mm (17.3" x20.3" x22")	500x490x1405 mm (19.7" x 19.3" x 55.3")	600x686x1505 mm (23.6" x 27" x 59.3")	1300x690x1510 mm (51.2" x 27.2" x 59.4")
External Dimensions (W x D x H)	520 x 635 x 835 mm (20.5" x 25" x 32.8")	600 x 655 x 1955 mm (23.6" x 25.8" x 77")	720 x 825 x 2050 mm (28.3" x 32.5" x 80.7")	1440 x 820 x 2050mm (56.7" x 32.3" x 80.7")
Shipping Dimensions (W x D x H)	550 x 690 x 1020 mm (21.6" x 27.2" x 40")	660 x 710 x 2120 mm (26" x 28" x 83.5")	760 x 870 x 2220 mm (30" x 34.3" x 87.4")	1500 x 870 x 2120mm (59" x 34.2" x 83.5")
Shipping Weight	62kg	119kg	160kg	249kg



# SPECIFICATIONS AND ORDERING INFORMATION

## HF3 PRODUCT LINE

MODEL	HF3-400S	HF3-700S
Temperature Range	-20 / -40 °C	
Temperature Uniformity Range	±3°C	
Capacity	360 lt (12.72 cu ft)	544 lt (19.22 cu ft)
Door	1 solid door, pre-coated steel white color, with ergonomic handle in aluminum	
Alarms	Open door, high/low temperature, power failure, clogged condenser filter	
Controller	Standard controller with 0.1°C resolution, password protection	
Defrost	Intelligent automatic	
Warranty	2 years	
Certifications	CE mark	
Door Lock	Key lock	
Dry Contacts Alarm	Dry contact to connect to remote alarms	
Casters	Standard castors	Wheels
Insulation thickness (side/back, mm)	80/80	60/60
Power Consumption (kW/24H)	13.8	14.2
Interior Walls	Stainless steel	
Shelves or Drawers	4 shelves	4 shelves
Noise Level (<dBa)	50	55
Internal Dimensions (W x D x H)	510 x 600 x 1255 mm (20.1" x 23.6" x 49.4")	600 x 686 x 1320mm (23.6" x 27" x 52")
External Dimensions (W x D x H)	670 x 825 x 1940 mm (26.4" x 32.5" x 76.4")	720 x 860 x 2050 mm (28.3" x 33.8" x 80.7")
Shipping Dimensions (W x D x H)	720 x 870 x 2070 mm (28.3" x 34.3" x 81.5")	760 x 870 x 2130 mm (29.9" x 34.3" x 83.8")
Shipping Weight	159kg	175kg

Laboratory Combination Refrigerator and Freezer

Range of double temperature equipment featuring two independent compartments (each one controlled by its own microprocessor), cooling units, and available in 400-liter or 700-liter capacities.



# SPECIFICATIONS AND ORDERING INFORMATION

## HC6 PRODUCT LINE

MODEL	HC6-400S	HC6-700S
Temperature Range	+2 / +15 °C ; -10 / -24 °C	
Temperature Stability	±3°C	
Capacity	170+160 lt (4.45 cu ft)	260+265 lt (4.53 cu ft)
Door	2 solid doors, pre-coated steel white color, with ergonomic handle in aluminum	
Alarms	Open door, high/low temperature, power failure, clogged condenser filter	
Controller	Standard controller with 0.1°C resolution, password protection	
Defrost	Intelligent automatic	
Warranty	2 years	
Certifications	CE	
Door Lock	Key lock	
Dry Contacts Alarm	Dry contact to connect to remote alarms	
Lighting	LED	
Casters	Standard castors	Wheels
Insulation thickness (side/back, mm)	50/70	60/60
Power Consumption (kW/24H)	7.8	13.8
Interior Walls	Stainless steel	
Shelves or Drawers	4 shelves	4 shelves
Noise Level (<dBa)	53	55
Internal Dimensions (W x D x H)	Refrigerator: 500x490x685mm Freezer: 500x496x730 mm	Refrigerator: 600x686x700 mm Freezer: 600x686x740 mm
External Dimensions (W x D x H)	600 x 630 x 2015 mm (23.6" x 24.8" x 79.3")	720 x 860 x 2050 mm (28.3" x 33.9" x 80.7")
Shipping Dimensions (W x D x H)	660 x 710 x 2150 mm (26" x 28" x 84.6")	760 x 870 x 2220 mm (30" x 34.3" x 87.4")
Shipping Weight	140kg	193kg



- ART Equipment
- Biological Safety Cabinets
- CO<sub>2</sub> Incubators
- Compounding Pharmacy Equipment
- Containment / Pharma Products
- Ductless Fume Hoods
- Freeze Dryer
- Lab Animal Research Products
- Laboratory Fume Hoods
- Laboratory Ovens and Incubators
- Laminar Flow Clean Benches
- PCR Cabinets
- PCR Thermal Cyclers
- Powder Weighing Balance Enclosures
- Ultra-low Freezers

*The Esco Group of Companies is a global life sciences tools provider with sales in over 100 countries. The group is active in lab equipment, pharma equipment and medical devices. Manufacturing facilities are located in Asia and Europe. R&D is conducted worldwide spanning the US, Europe and Asia. Sales, service and marketing subsidiaries are located in 12 major markets including the US, UK, Singapore, Japan, China and India. Regional distribution centers are located in the US, UK, and Singapore.*

[www.escoglobal.com](http://www.escoglobal.com)

Life Science • Chemical Research • Assisted Reproductive Technology (ART) • Pharmaceutical Equipment • General Equipment

# ESCO

WORLD CLASS. WORLDWIDE.

Esco Technologies, Inc. • 2940 Turnpike Drive, Units 15-16 • Hatboro, PA 19040, USA  
 Toll-Free USA and Canada 877-479-3726 • Tel 215-441-9661 • Fax 215-441-9660  
[us.escoglobal.com](http://us.escoglobal.com) • [usa@escoglobal.com](mailto:usa@escoglobal.com)

Esco Micro Pte. Ltd. • 21 Changi South Street 1 • Singapore 486 777  
 Tel +65 6542 0833 • Fax +65 6542 6920 • [mail@escoglobal.com](mailto:mail@escoglobal.com)  
[www.escoglobal.com](http://www.escoglobal.com)

**Esco Global Offices** | Manama, Bahrain | Beijing, China | Chengdu, China | Guangzhou, China | Shanghai, China | Bangalore, India  
 Delhi, India | Mumbai, India | Banten, Indonesia | Osaka, Japan | Kuala Lumpur, Malaysia | Melaka, Malaysia | Manila, Philippines  
 Singapore | Seoul, South Korea | Salisbury, UK || Philadelphia, PA, USA | Hanoi, Vietnam



Esco Micro Pte Ltd  
 Cert. No. 02026



PT Esco Biotek Indonesia  
 Cert. No. 02026

9010181\_HP series lab fridge brochure\_A1\_vA2\_Dec-2013  
 Esco can accept no responsibility for possible errors in catalogues, brochures and other printed materials. Esco reserves the right  
 to change specifications without notice. All trademarks and logos are the property of Esco and  
 the respective companies.