

ESCO

WORLD CLASS. WORLDWIDE.



Escro HP Series **HIGH PERFORMANCE** **Laboratory Refrigerators and Freezers**

HIGH PERFORMANCE PROTECTION FOR YOUR PRECIOUS SAMPLES

Superior Design and Construction - exterior with anti-bacterial coating, stainless steel interior, Forced-air design for rapid cool-down and fast recovery, triple-pane glass doors on refrigerators, standard casters or wheels on all models.

Safety - open door alarm, high/low temperature alarm, power failure alarm, condenser filter alarm, dry contacts to connect to remote alarms, key lock.

Environmentally Friendly - CFC free, eco friendly refrigerants, low energy consumption, internal LED lighting, very low noise level.

Electronic Control - 0.1°C resolution, intelligent automatic defrost, password protection, choice of five languages.

GENERAL SPECIFICATIONS

FREEZER	HF2-140S	HF2-400S	HF2-700S	HF2-1500S	HF3-400S	HF3-700S
Temperature Range	-10 °C to -20 °C		-10 °C to -25 °C		-20 °C to -40 °C	
Temperature Uniformity Range	±3°C					
Internal 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)	360 lt (12.72 cu ft)	544 lt (19.22 cu ft)
Door	One Solid Door			Two Solid Doors	One Solid Door	
Alarms	Open door, high/low temperature, power failure, clogged condenser, external dry alarm contacts standard					
Controller	Backlight alphanumeric electronic display with 0.1C resolution, password protection, 5 languages					
Defrost	Intelligent automatic defrost optimizes thermal performance while managing the thermal variation for true high performance protection of samples					
Warranty	2 years					
Certifications	CE mark. Manufactured in an ISO 9001:2008, ISO 13485:2004 facility					
Door lock	Key lock standard					
Lighting	Long life, low temperature LED lighting					
Interior walls	Stainless Steel					
Castors	Small Castors	Standard Castors	Wheels		Standard Castors	Wheels
External Dimensions (W x D x H) cm	52 x 63.5 x 83.5	60 x 63 x 195.5	72 x 80 x 205	144 x 82 x 205	67 x 82.5 x 194	72 x 86 x 205
Standard Shelves	2 shelves, optional drawers	4 shelves, optional drawers	4 shelves, optional drawers	8 shelves, optional drawers	4 shelves, optional drawers	4 shelves, optional drawers
Power Consumption (kW/24H)	5.2	8.6	12.1	14.3	13.8	14.2
Noise level (<dBa)	43	49	52	55	50	55

REFRIGERATOR	HR1-140	HR1-400	HR1-700	HR1-1500	COMBINATION REFRIGERATOR AND FREEZER	HC6-400S	HC6-700S	
Temperature Range	2 °C to 15 °C				Temperature Range	2 °C to 15 °C		
Temperature Uniformity Range	±3°C					Refrigerator Compartment	-10 °C to -24 °C	
Internal 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)	Freezer Compartment	±3°C		
External Dimensions (W x D x H) cm	52 x 63.5 x 83.5	60 x 65.5 x 195.5	72 x 82.5 x 205	144 x 82 x 205	Temperature Uniformity Range	±3°C		
Door	1 triple-pane glass door			Two triple-pane glass doors	Internal Capacity	Refrigerator Compartment	170L	260L
Interior walls	Stainless Steel				Freezer Compartment	160L	265L	
Alarm	Open door, high/low temperature, power failure, clogged condenser, external dry alarm contacts standard				External Dimensions (W x D x H) cm	60 x 63 x 201.5	72 x 86 x 205	
Controller	Backlight alphanumeric electronic display with 0.1C resolution, password protection, 5 languages				Door	Two solid doors		
Defrost	Intelligent automatic defrost optimizes thermal performance while managing the thermal variation for true high performance protection of samples				Interior walls	Stainless Steel		
Warranty	2 years				Alarm	Open door, high/low temperature, power failure, clogged condenser, external dry alarm contacts standard		
Certifications	CE mark. Manufactured in an ISO 9001:2008, ISO 13485:2004 facility				Controller	Backlight alphanumeric electronic display with 0.1C resolution, password protection, 5 languages		
Lighting	Long life, low temperature LED lighting				Defrost	Intelligent Automatic Defrost		
Castors/Wheels	Small Castors	Standard Castors	Wheels		Warranty	2 years		
Power Consumption (kW/24H)	2.2		2.9	4.9	Certifications	CE mark. Manufactured in an ISO 9001:2008, ISO 13485:2004 facility		
Standard Shelves	2 shelves, optional drawers	4 shelves, optional drawers		8 shelves, optional drawers	Lighting	Long life, low temperature LED lighting		
Noise level (<dBa)	39.5	46	51	54	Castors/Wheels	Standard Castors	Wheels	
					Power Consumption (kW/24H)	7.8	13.8	
					Standard Shelves	4 shelves, optional drawers		
					Noise level (<dBa)	53	55	



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Laboratory Refrigerator and Freezer, Flyer, Ad, v3.2, June 2013
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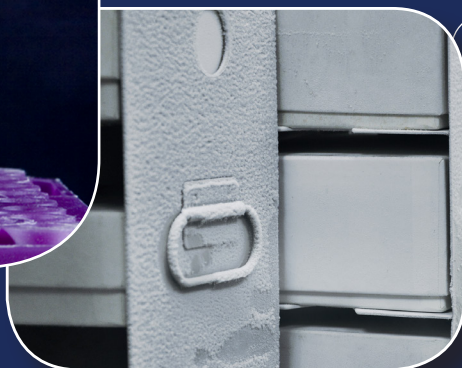
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Esco HP Series

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





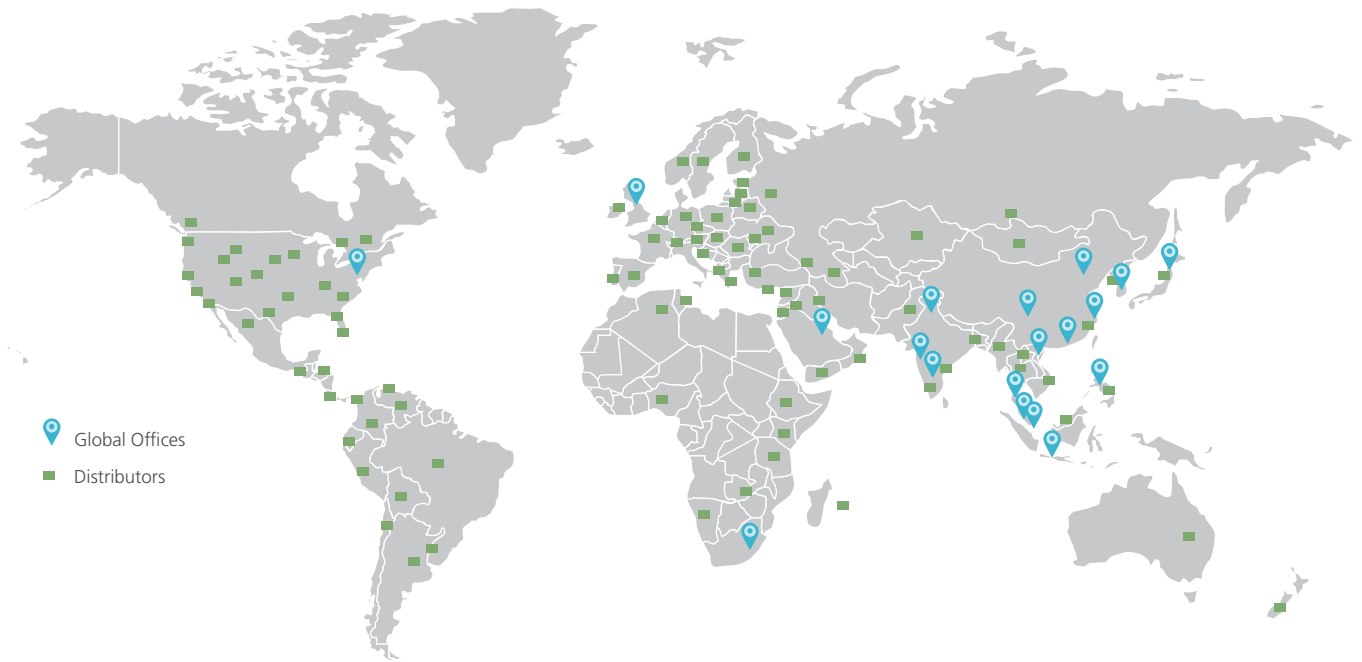
WELCOME TO ESCO

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.



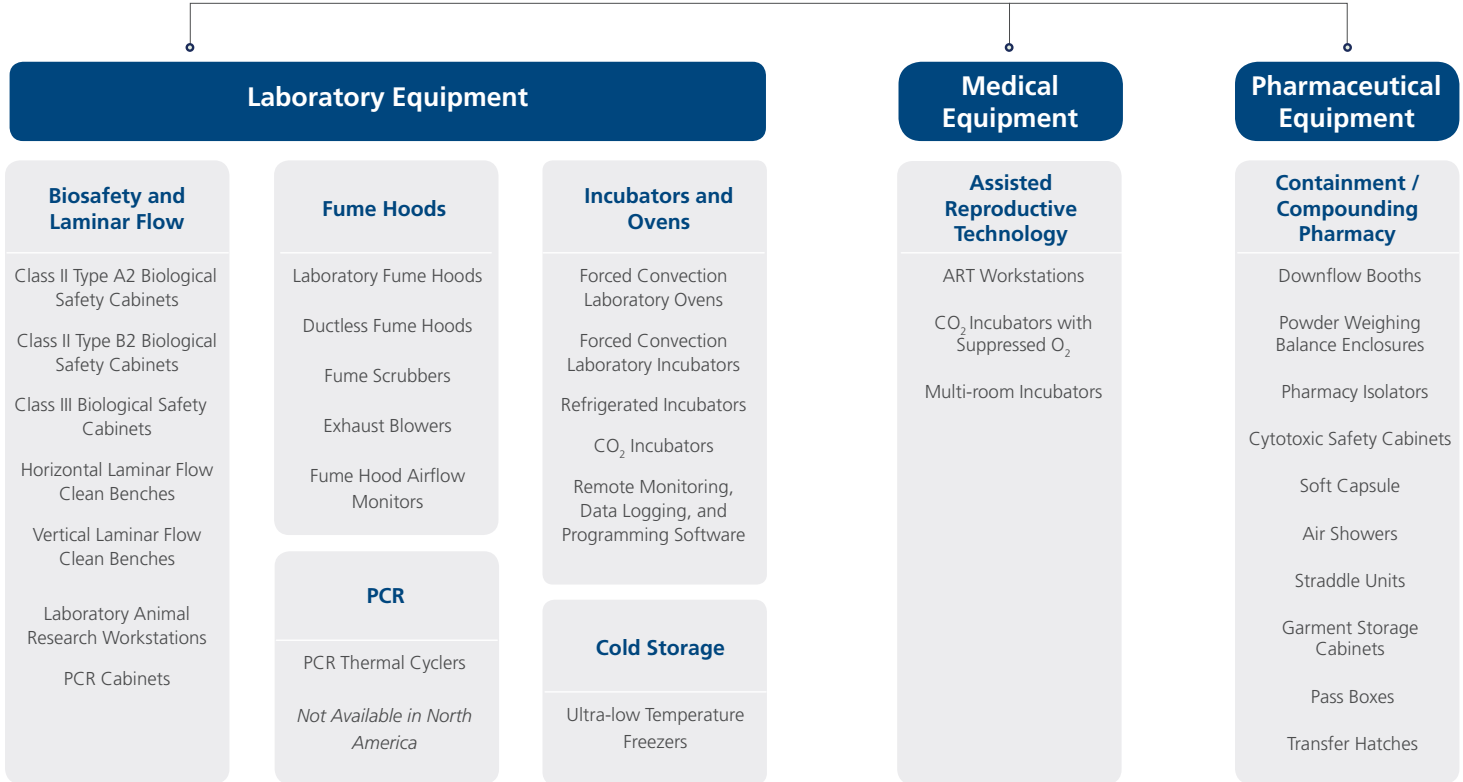
GLOBAL NETWORK



📍 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!

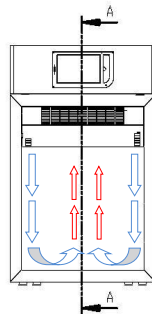
KEY FEATURES

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!

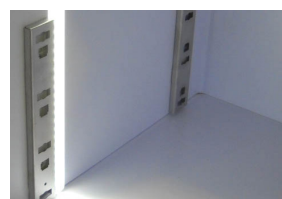


FORCED-AIR DESIGN

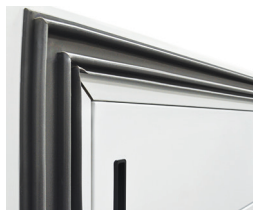
- Superior forced-air design instead of regular cold wall for both refrigerators and freezers.
- Rapid cooldown and very fast recovery due to fan assistance.
- Fast temperature equilibration; superior sample protection!

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.



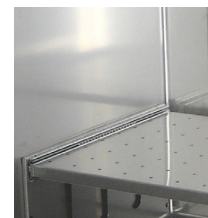
TRIPLE-PANE GLASS DOORS FOR REFRIGERATOR MODELS

- 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

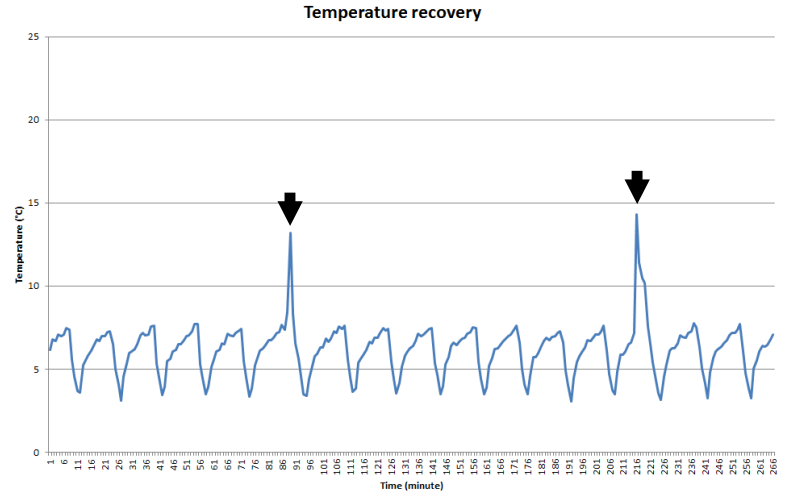
FAST TEMPERATURE RECOVERY AFTER DOOR OPENING

- 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.

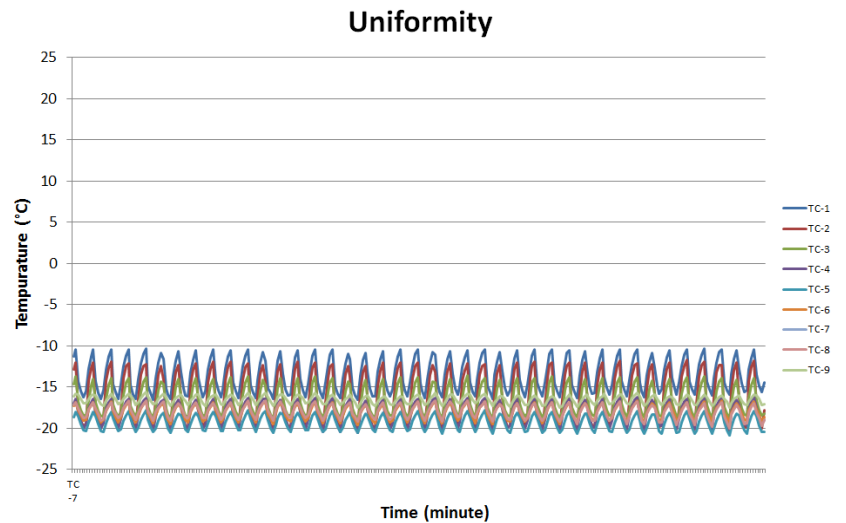
Temperature Recovery	Peak1	Peak2
Max(°C)	13.2	14.3
Min(°C)	3.4	3.1
Rate(°C/min)	1.63	1.24



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-700L Refrigerator

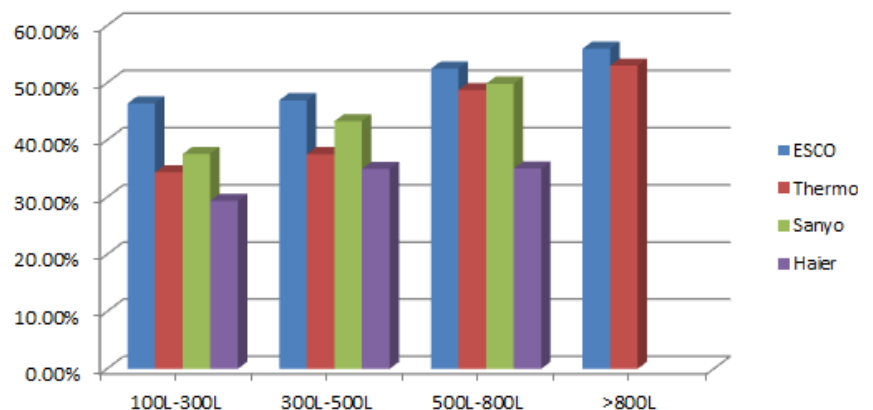


SUPERIOR CABINET DESIGN

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

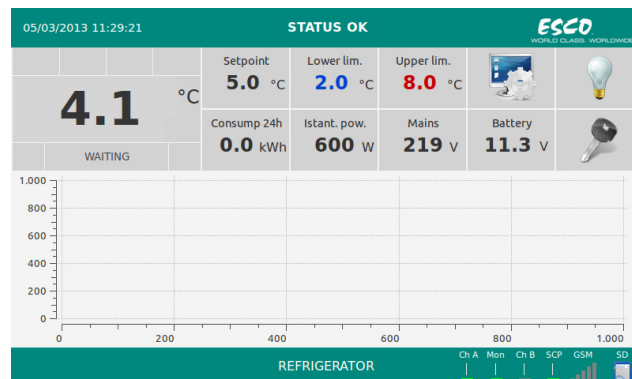
STANDARD CONTROLLER



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.

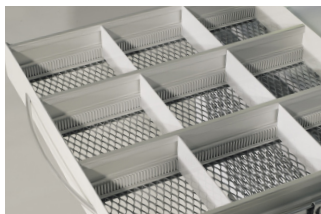
OPTIONS AND ACCESSORIES

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 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	
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
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 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 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	Standard castors	Wheels	
Casters	Small castors	Standard castors	Wheels	4.9
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
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 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 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
Power Consumption (kW/24H)	13.8	14.2
Interior Walls	Stainless steel	2.2
Shelves or Drawers	4 shelves	4 shelves
Noise Level (<dBa)	50	55
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 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 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	Wheels
Casters	Standard castors	Wheels
Power Consumption (kW/24H)	7.8	13.8
Interior Walls	Stainless steel	4 shelves
Shelves or Drawers	4 shelves	4 shelves
Noise Level (<dBa)	53	55
External Dimensions (W x D x H)	520 x 635 x 865 mm (20.5" x 25" x 34")	520 x 635 x 1000 mm (20.5" x 25" x 39.4")
Shipping Weight	140kg	193kg



- ART Equipment
- Biological Safety Cabinets
- CO₂ 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.

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



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