



Esco HP Series

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





Welcome to Esco Lifesciences

Esco Lifesciences' vision is to provide enabling technologies for scientific discoveries to make human lives healthier and safer.

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. Cross-functional 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.



Products and Applications

Life Sciences Laboratory Equipment

Sample Preparation

- Class I Biological Safety Cabinets
- Class II Biological Safety Cabinets
- Class II Type A2 Biological Safety Cabinets
- Class II Type B1 Biological Safety Cabinets
- Class II Type B2 Biological Safety Cabinets
- Class III Biological Safety Cabinets
- Horizontal Laminar Flow Cabinets
- Vertical Laminar Flow Cabinets
- Laboratory Animal Research Workstations
- Laboratory Centrifuges

Sample Cultivation

- CO₂ Incubators, Direct Heat Air-Jacketed
- CO₂ Incubators with Cooling System
- CO₂ Incubators with High Heat Sterilization
- Laboratory Shakers

Amplification and Detection

- Conventional Thermal Cyclers
- Microplate Shakers
- PCR Cabinets

Sample Storage & Sample Protection Solutions

- Laboratory Refrigerators and Freezers
- Ultra-low Temperature Freezers
- Remote Monitoring, Datalogging, and Programming Software
- Wireless Monitoring System

Chemical Research

- Ducted Fume Hoods
- Ductless Fume Hoods
- Filtered Storage Cabinets
- Powder Weighing Balance Enclosure
- Exhaust Blowers
- Fume Hood Airflow Monitor

General Equipment

Laboratory Thermostatic Products

- Forced Convection Laboratory Oven
- Forced Convection Laboratory Incubator
- Natural Convection Laboratory Incubator
- Refrigerated Laboratory Incubator

Medical / IVF Equipment

Sample Handling

- Esco Multi-Zone ART Workstation
- AVT Anti-Vibration Table
- Versati™ Tabletop Centrifuge Refrigerated

Embryo Culture

- MIRI® Multiroom Incubator
- MIRI® II-12 Multiroom Incubator
- Mini MIRI® Humidity Incubator
- Mini MIRI® Dry Incubator
- CelCulture® CO₂ Incubator

Innovative Time-Lapse Imaging

- MIRI® Time-lapse Incubator

Accurate Quality Control

- MIRI® GA Gas and Temperature Validation Unit

Unique Consumables

- CultureCoin®

Healthcare

Esco Pharma Products

Airflow Containment

- BioBooth®
- Ceiling Laminar Airflow (CLAF)
- Cytoculture® Cytotoxic Safety Cabinet (CYT)
- Pharmacon™ Downflow Booth
- Esco Garment Storage Cabinet
- Esco Glassware Hoods
- Laminar Flow Horizontal/Vertical Trolley (LFH/VT)
- Laminar Flow Straddle Units
- Evidence Drying Cabinet

Isolation Containment

- Advanced Processing Platform Isolator (APPI)
- Aseptic Containment Isolator (ACTI)
- Blood Cell Labelling Isolator
- Streamline® Closed Restricted Access Barrier System (SLC-RABS)
- Containment Barrier Isolator (CBI)
 - CBI-Unidirectional (CBI-U)
 - CBI-Turbulent (CBI-T)
 - CBI-Class III Biosafety Cabinet (CBI-III)
 - CBI-Hybrid (CBI-H)
- Isoclean® Healthcare Platform Isolator (HPI)
 - HPI-G3-Without Filter Below Work Zone
 - HPI-G3-With Filter Below Work Zone
 - HPI-Inflatable Seal (HPI-IS)
 - HPI - Inflatable Seal - BioVap™ (HPI-IS-BVP)
- General Processing Platform Isolator (GPPI)
 - GPPI-Inflatable Seal (GPPI-IS)
 - GPPI-Static Seal (GPPI-SS)
- Streamline® Compounding Isolator (SCI)
- Streamline® Containment Isolator - Class III (SCI-III)
- Technetium Dispensing Isolator
- Turbulent Flow Aseptic Isolator™ (TFAI™)
- Weighing and Dispensing Containment Isolator (WDCI)

Cross Contamination Facility Integrated Barrier

- BioPass™ Pass Through
- Cleanroom Air Showers
- Dynamic Pass Boxes/ Dynamic Floor Laminar Hatches
- Infinity® Air Shower Pass Box
- Esco Sputum Booth
- Infinity® Pass Boxes
- Infinity® Cleanroom Transfer Hatch
- Soft Capsule® Soft Wall Cleanroom

Esco VacxiCell Products

Tide Motion Bioreactors

- CelXrocker™ (CXR)
- MiniTide®
- CelCradle™ (CC)
- CelCradle X® (CCX)
- TideXcell® (TXL)

Stirred Tank Bioreactors

- BioXcell®
- StirCradle™
- StirCradle™ PRO
- VXL™ Hybrid

Harvesting System

- CelShaker™
- CelCradle X® Semi-automated Harvester System (CCX-SAH)
- TideXcell® Harvester System (TXLHS)

Cell Culture Monitoring, Media and Consumables

- Super Plus™
- Plus™ Vero
- Plus™ MDCK
- Plus™ MDCK II
- BioNOC™ II macrocarriers
- GlucCell™ Glucose Monitoring System
- CVD Kit

Filling Line Equipment

- Traditional Filling Line
- cRABS (Closed Restricted Access Barrier System)
- oRABS (Open Restricted Access Barrier System)

Integrated Solutions

- Cell Processing Isolator (CPI)
- Cell Processing Center

Esco TaPestle Rx Products and Services

Pharmacy Automation and Compounding Supply

- Compounding Pharmacy Isolators (SCI, HPI, CBI, GPPI)
- Safety Cabinets and Enclosures (CYT, Class II BSC, VBE, LFC)
- Aseptic Filling Systems
- Radiopharmacy Equipment
 - Blood Cell Labeling Isolator
 - Cytoculture® Lead-Shielded Class II Biosafety Cabinet
 - Frontier® Radioisotope™ Fume Hood
 - GMP-compliant Radioisotope Dispensing Isolator
 - Radiopharmacy Hood (Lead Shielded Biological Safety Cabinet)
 - Technetium Dispensing Isolator

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 Laboratory Refrigerators and Freezers are the best choice—providing high-performance protection for your precious samples!



HR1-140S-

HR1-400S-

HR1-700S-

HR1-1500S-

HP SERIES LABORATORY REFRIGERATORS



HF2-140S-

HF2-400S-

HF2-700S-

HF2-1500S-

HC6-400S-

HC6-700S-

HP SERIES LABORATORY FREEZERS

HP SERIES LABORATORY COMBINATION REFRIGERATORS AND FREEZERS

KEY FEATURES

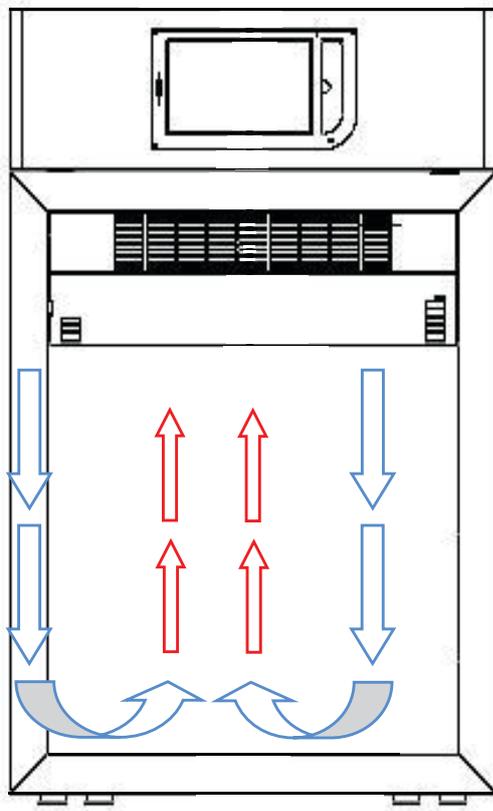
High-performance protection for your precious samples!

SUPERIOR DESIGN

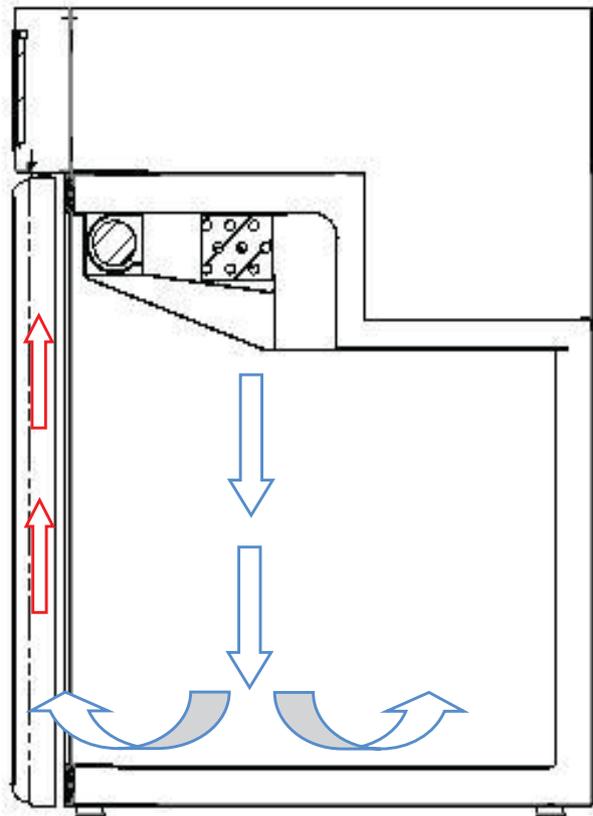
In a laboratory, the average value of samples can reach \$50,000 USD, emphasizing the need for optimal storage. Our advanced refrigerators and freezers ensure superior temperature control and robust insulation, safeguarding your valuable samples. Invest in our solutions to preserve their integrity and values!

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!



Front View



Side View

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.



HP Series Laboratory Refrigerator

Esco HP Series Laboratory Refrigerators are designed for laboratory use offering superior product protection with long term reliability and exceptional product quality. Laboratory Refrigerators are widely used by laboratories, hospitals, clinics and pharmacies. They ensure optimal storage conditions for temperature-sensitive biological and medical products in order to meet the accurate storage temperature required. Its temperature ranges from +2°C to +15°C.

Door Lock

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



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



Stainless Steel Interior

- Avoids corrosion and protects your precious samples from contamination



Wheels

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



Small Castor



Standard Castor



Controller

- Displays data about the unit and used to control temperature and other menu



Touchscreen Controller



Standard Controller

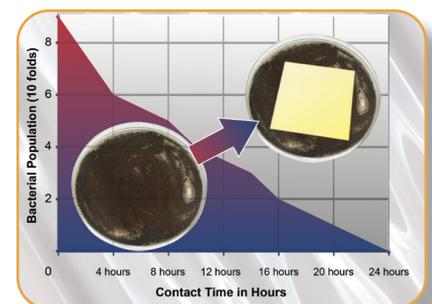
Triple-Pane Glass Door

- Easily locate needed samples or reagents with the door closed, preventing unnecessary warming of samples or reagents risk. Triple-pane doors provide superior insulation compared to any other glass door technology

- Door automatically closes under 90° when released to maintain temperature and to protect samples

Quality Esco Construction

- Electrogalvanized steel with white, oven-baked epoxy-polyester, anti-microbial, ISOCIDE™ powder-coated finish to eliminate 99.9% of surface bacteria within 24 hours of exposure



HR1-400S-

Guide to Models, HP Series Laboratory Refrigerator

H R 1 - 400 -

Product Line	Code	Type	Code	Temperature Range	Code	Volume	Code	Controller	Code	Electrical Code	Code
High Performance	H	Refrigerator	R	+2°C to +15°C (35.6°F to 59°F)	1	128 L (4.5 cu. ft)	140	Standard	S	220-240 VAC, 50 Hz	1
						347 L (12.2 cu. ft)	400				
						620 L (21.9 cu. ft)	700	Touchscreen	T	110-120 VAC, 50/60 Hz	2
						1355 L (47.8 cu. ft)	1500			220-240 VAC, 60 Hz	3
										220-240 VAC, 50/60 Hz	8

General Specifications, HP Series Laboratory Refrigerator

Model	220-240 VAC, 50 Hz	HR1-140S-1 2130175	HR1-140T-1*	HR1-400S-1 2130002	HR1-400T-1 2130013	HR1-700S-1 2130174	HR1-700T-1 2130173	HR1-1500S-1*	HR1-1500T-1*
	110-120 VAC, 50/60 Hz	HR1-140S-2 2130023	HR1-140T-2*	HR1-400S-2 2130025	HR1-400T-2 2130027	HR1-700S-2 2130028	HR1-700T-2 2130029	HR1-1500S-2 2130030	HR1-1500T-2 2130031
	220-240 VAC, 60 Hz	HR1-140S-3*	HR1-140T-3*	HR1-400S-3 2130024	HR1-400T-3 2130026	HR1-700S-3*	HR1700T-3*	HR1-1500S-3*	HR1-1500T-3*
	220-240 VAC, 50/60 Hz	HR1-140S-8 2130001	HR1-140T-8 2130172			HR1-700S-8 2130003	HR1-700T-8 2130014	HR1-1500S-8 2130004	HR1-1500T-8 2130015
Capacity	128 L (4.5 cu. ft)		347 L (12.2 cu. ft)		620 L (21.9 cu. ft)		1355 L (47.8 cu ft)		
Temperature Range	+2°C to +15°C (35.6°F to 59°F)								
Temperature Uniformity Range	±3°C (37.4°F)								
Ambient Temperature	N - ST (+16°C to +38°C)								
Door	1 glass door with triple-pane glass panels with ergonomic handle						2 glass doors with triple-pane glass panels and ergonomic handle		
Alarms	Open door, High/Low temperature, Clogged condenser								
Controller	Standard Controller with 0.1°C resolution, password protected	Touchscreen Controller	Standard Controller with 0.1°C resolution, password protected	Touchscreen Controller	Standard Controller with 0.1°C resolution, password protected	Touchscreen Controller	Standard Controller with 0.1°C resolution, password protected	Touchscreen Controller	
Defrost	Intelligent Automatic								
Warranty	2 years								
Certifications	CE Mark								
Door Lock	Key Lock	Electronic Lock	Key Lock	Electronic Lock	Key Lock	Electronic Lock	Key Lock	Electronic Lock	
Dry Contacts Alarm	Dry contact to connect to remote alarms								
Lighting	LED								
Wheels	Small Caster (3.5 cm)				Standard Caster (10.5 cm)				
Refrigerant	R134a	R452A			R134a				
	Available for R290**								
Heat Emission according to EN 12900	25 W		30 W		40 W		125 W		
Hold Over Time at 20°C Ambient (from +5°C to +15°C)	3.4 h		2.1 h		5 h		3.3 h		
Energy Consumption at 20°C Ambient (kWh/24h)	0.6		0.7		1		2.5		
Power Consumption (Standby)	50 W								
Interior Walls	AISI 304 Stainless Steel								
Default Number of Shelves	2 shelves		4 shelves		3 shelves		6 shelves		
Maximum Number of Shelves/Drawers	3/5		7/14		7/14		14/28		
Typical Noise Level (<dBA)	40		45		50		55		
Internal Dimensions (W x D x H)	440 x 516 x 560 mm (17.3" x 20.3" x 22")		500 x 485 x 1400 mm (19.7" x 19.1" x 55.1")		600 x 685 x 1500 mm (23.6" x 27.0" x 59")		1300 x 670 x 1500 mm (51.2" x 26.4" x 59")		
Type of Insulation	Polyurethane Foam								
Insulation Thickness	40 mm (1.6")		70 mm (2.7") rear / 50 mm (2") sides		75 mm (3")		70 mm (2.7")		
External Dimensions (W x D x H)	520 x 635 x 830 mm (20.5" x 25" x 32.7")	520 x 635 x 935 mm (20.5" x 25" x 36.8")	600 x 660 x 1960 mm (23.6" x 25.9" x 77.1")		750 x 845 x 2100 mm (29.5" x 33.3" x 83")		1440 x 830 x 2070 mm (56.7" x 32.7" x 81.5")		
Net Weight <i>*without any internal fittings</i>	53 Kg (116.8 lbs)	55 Kg (121.2 lbs)	108 Kg (238 lbs)		144 Kg (317.5 lbs)		223 Kg (491.6 lbs)		
Shipping Weight	71.5 Kg (157.6 lbs)	74.5 Kg (164.2 lbs)	132 Kg (291 lbs)		174 Kg (383.6 lbs)		263 Kg (579.8 lbs)		
Shipping Volume	1.03 m³ (36.3 cu. ft)		1.19 m³ (42.0 cu. ft)		1.72 m³ (60.7 cu. ft)		3.02 m³ (106.7 cu. ft)		
Shipping Dimensions (W x D x H)	600 x 770 x 1030 mm (23.6" x 30.3" x 40.5")	600 x 770 x 1240 mm (23.6" x 30.3" x 48.8")	720 x 770 x 2130 mm (28.3" x 30.3" x 83.8")		840 x 940 x 2140 mm (33" x 37" x 84.2")		1560 x 910 x 2140 mm (61.4" x 35.8" x 84.2")		

*Available upon request

**Available only for the HR1--1 and HR1--3 models



HP Series Laboratory Freezer

Esco HP Series Laboratory Freezers are designed for laboratory use offering superior product protection with long term reliability and exceptional product quality. Laboratory Freezers are generally used for storing non-volatile reagents and biological specimens for a longer period of time. The temperature ranges from -10°C to -40°C .

Door Lock

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



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



*for HF2 models only

Stainless Steel Interior

- Avoids corrosion and protects your precious samples from contamination



Wheels

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



Small Caster



Standard Caster

Controller

- Displays data about the unit and used to control temperature and other menu



Touchscreen Controller



Standard Controller

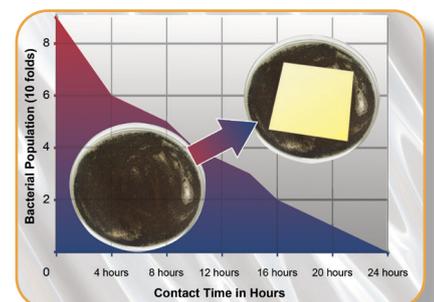
Solid Door

- Provides superior insulation. Door automatically closes under 90° when released to maintain temperature and to protect samples



Quality Esco Construction

- Electrogalvanized steel with white, oven-baked epoxy-polyester, anti-microbial, ISOCIDE™ powder-coated finish to eliminate 99.9% of surface bacteria within 24 hours of exposure



HF2-400S-

Guide to Models, HP Series Laboratory Freezer

HF2 - 140 -

Product Line	Code	Type	Code	Temperature Range	Code	Volume	Code	Controller	Code	Electrical Code	Code
High Performance	H	Freezer	F	-10°C to -20°C (14°F to -4°F) for 140 L units	2	128 L (4.5 cu. ft)	140	Standard	S	220-240 VAC, 50 Hz	1
						347 L (12.2 cu. ft)	400	Touchscreen	T	110-120 VAC, 50/60 Hz	2
				-10°C to -25°C (14°F to -13°F) for 400 / 700 / 1500 L units		620 L (21.9 cu. ft)	700			220-240 VAC, 60 Hz	3
						1355 L (47.8 cu. ft)	1500				

General Specifications, HP Series Laboratory Freezer

Model	220-240 VAC, 50 Hz	HF2-140S-1 2130005	HF2-140T-1 2130109	HF2-400S-1 2130006	HF2-400T-1 2130016	HF2-700S-1 2130007	HF2-700T-1 2130017	HF2-1500S-1 2130008	HF2-1500T-1 2130018
Model	110-120 VAC, 50/60 Hz	HF2-140S-2 2130033	HF2-140T-2*	HF2-400S-2 2130035	HF2-400T-2 2130037	HF2-700S-2 2130039	HF2-700T-2 2130041	HF2-1500S-2 2130043	HF2-1500T-2 2130045
Model	220-240 VAC, 60 Hz	HF2-140S-3 2130032	HF2-140T-3*	HF2-400S-3 2130034	HF2-400T-3 2130036	HF2-700S-3 2130038	HF2-700T-3 2130040	HF2-1500S-3 2130042	HF2-1500T-3 2130044
Capacity	128 L (4.5 cu. ft)		347 L (12.2 cu. ft)		620 L (21.9 cu. ft)		1355 L (47.8 cu. ft)		
Temperature Range	-10°C to -20°C (14°F to -4°F)		-10°C to -25°C (14°F to -13°F)						
Temperature Uniformity Range	±3°C (37.4°F)								
Ambient Temperature	N (+16°C to +32°C)								
Door	1 solid door, steel white color with aluminum handle and powder-coated with ISOCIDE™						2 solid doors, steel white color with aluminum handle and powder-coated with ISOCIDE™		
Alarms	Open door, High/Low temperature, Clogged condenser								
Controller	Standard Controller with 0.1°C resolution, password protected	Touchscreen Controller	Standard Controller with 0.1°C resolution, password protected	Touchscreen Controller	Standard Controller with 0.1°C resolution, password protected	Touchscreen Controller	Standard Controller with 0.1°C resolution, password protected	Touchscreen Controller	
Defrost	Intelligent Automatic								
Warranty	2 years								
Certifications	CE Mark								
Door Lock	Key Lock	Electronic Lock	Key Lock	Electronic Lock	Key Lock	Electronic Lock	Key Lock	Electronic Lock	
Dry Contacts Alarm	Dry contact to connect to remote alarms								
Lighting	LED								
Wheels	Small Caster (3.5 cm)				Standard Caster (10.5 cm)				
Refrigerant	R452A (Available for R290**)								
Heat Emission according to EN 12900	155 W		187 W		208 W		417 W		
Hold Over Time at 20°C Ambient (from -20°C to 0°C)	1.6 h		1.8 h		2.4 h				
Energy Consumption at 20°C Ambient (kWh/24h)	3.7		4.5		5		10		
Power Consumption (Standby)	50 W								
Interior Walls	AISI 304 Stainless Steel								
Default Number of Shelves	2 shelves		4 shelves		3 shelves		6 shelves		
Maximum Number of Shelves/Drawers	3/3		5/7		6/7		12/14		
Typical Noise Level (<dBA)	40		45		55		60		
Internal Dimensions (W x D x H)	440 x 516 x 560 mm (17.3" x 20.3" x 22")		500 x 485 x 1400 mm (19.6" x 19" x 55.1")		600 x 685 x 1500 mm (23.6" x 27.0" x 59")		1300 x 670 x 1500 mm (51.2" x 26.3" x 59")		
Type of Insulation	Polyurethane Foam								
Insulation Thickness	40 mm (1.6")		70 mm (2.7") rear / 50 mm (2") sides		75 mm (3")		70 mm (2.7")		
External Dimensions (W x D x H)	520 x 635 x 830 mm (20.5" x 25" x 32.7")	520 x 635 x 935 mm (20.5" x 25" x 36.8")	600 x 655 x 1960 mm (23.6" x 25.8" x 77.2")		750 x 855 x 2100 mm (29.5" x 33.6" x 82.6")		1440 x 840 x 2070 mm (56.7" x 33" x 81.5")		
Net Weight <i>*without any internal fittings</i>	51 Kg (112.4 lbs)		53 Kg (117 lbs)		101 Kg (222.7 lbs)		134 Kg (295.4 lbs)		212 Kg (467.4 lbs)
Shipping Weight	69.5 Kg (153.2 lbs)		72.5 Kg (159.8 lbs)		125 Kg (275.5 lbs)		164 Kg (361.5 lbs)		252 Kg (555.5 lbs)
Shipping Volume	1.03 m³ (36.3 cu. ft)		1.19 m³ (42.0 cu. ft)		1.72 m³ (60.7 cu. ft)		3.02 m³ (106.7 cu. ft)		
Shipping Dimensions (W x D x H)	600 x 770 x 1030 mm (23.6" x 30.3" x 40.5")	600 x 770 x 1240 mm (23.6" x 30.3" x 48.8")	720 x 770 x 2130 mm (28.3" x 30.3" x 83.8")		840 x 940 x 2140 mm (33" x 37" x 84.2")		1560 x 910 x 2140 mm (61.4" x 35.8" x 84.2")		

*Available upon request

**Available only for the HF2_-1 and HF2_-3 models

Guide to Models, HP Series Laboratory Freezer

Product Line	Code	Type	Code	Temperature Range	Code	Volume	Code	Controller	Code	Electrical Code	Code
High Performance	H	Freezer	F	-20°C to -40°C (-4°F to -40°F)	3	360 L (12.7 cu ft)	400	Standard	S	220-240 VAC, 50 Hz	1
						544 L (19.2 cu. ft)	700	Touchscreen	T	110-120 VAC, 50/60 Hz	2
										220-240 VAC, 60 Hz	3

General Specifications, HP Series Laboratory Freezer

Model	220-240 VAC, 50 Hz	HF3-400S-1 2130009	HF3-400T-1 2130019	HF3-700S-1 2130010	HF3-700T-1 2130020
	110-120 VAC, 50/60 Hz	HF3-400S-2 2130047	HF3-400T-2 2130049	HF3-700S-2 2130051	HF3-700T-2 2130053
	220-240 VAC, 60 Hz	HF3-400S-3 2130046	HF3-400T-3 2130048	HF3-700S-3 2130050	HF3-700T-3 2130052
Capacity	360 L (12.7 cu. ft)			544 L (19.2 cu. ft)	
Temperature Range	-20°C to -40°C (-4°F to -40°F)				
Temperature Uniformity Range	±4°C (39.2°F)				
Ambient Temperature	C (+16°C to +25°C)				
Door	1 solid door, steel white color with aluminum handle and powder-coated with ISOCIDE™				
Alarms	Open door, High/Low temperature, Clogged condenser				
Controller	Standard Controller with 0.1°C resolution, password protected	Touchscreen Controller		Standard Controller with 0.1°C resolution, password protected	Touchscreen Controller
Defrost	Intelligent Automatic				
Warranty	2 years				
Certifications	CE Mark				
Door Lock	Key Lock	Electronic Lock		Key Lock	Electronic Lock
Dry Contacts Alarm	Dry contact to connect to remote alarms				
Wheels	Small Caster (3.5 cm)			Standard Caster (10.5 cm)	
Refrigerant	R452A (Available for R290**)				
Heat Emission according to EN 12900	315 W			460 W	
Hold Over Time at 20°C Ambient (from -40°C to 0°C)	5.5 h			4.8 h	
Energy Consumption at 20°C Ambient (kWh/24h)	7.5			11	
Power Consumption (Standby)	50 W				
Interior Walls	AISI 304 Stainless Steel				
Default Number of Shelves	4 shelves			3 shelves	
Maximum Number of Shelves/Drawers	6/6			7/7	
Typical Noise Level (<dBA)	55			60	
Internal Dimensions (W x D x H)	510 x 610 x 1255 mm (20.1" x 24" x 49.4")			600 x 686 x 1300 mm (23.6" x 27.0" x 51.2")	
Type of Insulation	Polyurethane Foam				
Insulation Thickness	80 mm (3.1")			75 mm (2.9")	
External Dimensions (W x D x H)	670 x 810 x 1940 mm (26.4" x 32" x 76.4")			750 x 880 x 2085 mm (29.5" x 34.6" x 82")	
Net Weight <i>*without any internal fittings</i>	132 Kg (291 lbs)			150 Kg (331 lbs)	
Shipping Weight	157 Kg (346.1 lbs)			182 Kg (401.2 lbs)	
Shipping Volume	1.61 m³ (56.9 cu. ft)			1.72 m³ (60.7 cu. ft)	
Shipping Dimensions (W x D x H)	780 x 910 x 2120 mm (30.7" x 35.8" x 83.4")			840 x 980 x 2110 mm (33" x 38.5" x 83")	

**Available only for the HF3_-1 and HF3_-3 models

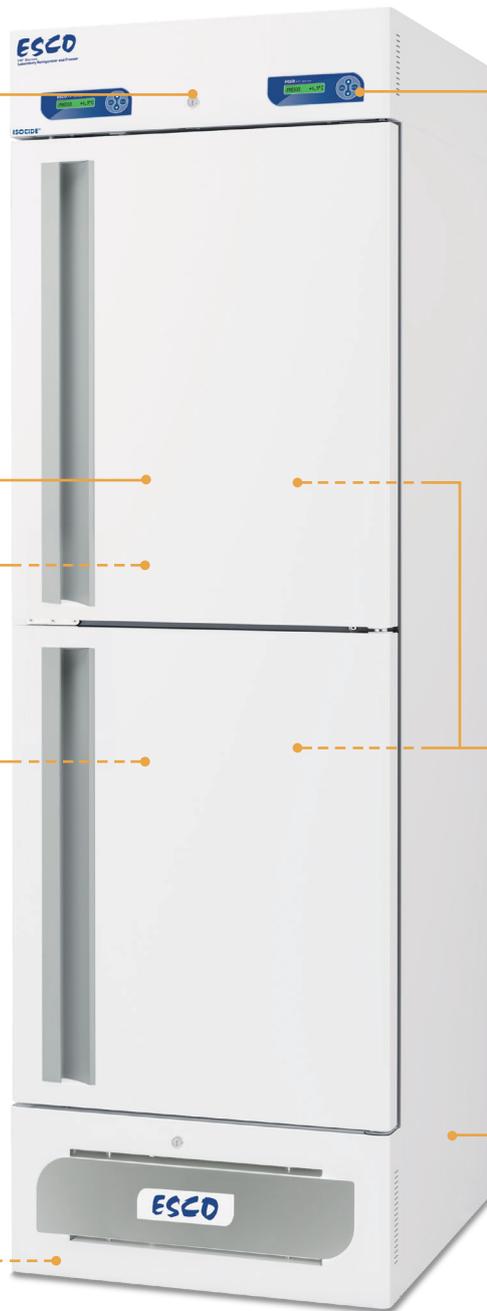


HC6-400S-

HC6-700S-

HP Series Combination Laboratory Refrigerator and Freezer

Esco HP Series Laboratory Combination Refrigerators and Freezers are designed for laboratory use offering superior product protection with long term reliability and exceptional product quality. It is a double temperature equipment featuring two independent component. It can be used for a wide variety of applications in life science. Its temperature ranges from +2°C to +15°C for refrigerator and -10°C to -24°C for freezer.



Door Lock

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



Solid Steel Door

- Solid doors provide superior insulation
- Doors automatically close under 90° when released to maintain temperature and to protect samples

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



Wheels

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



Small Caster



Standard Caster

Controller

- Displays data about the unit and used to control temperature and other menu



Touchscreen Controller



Standard Controller

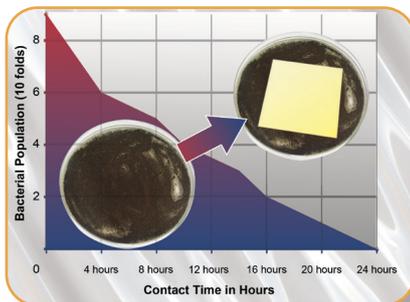
Stainless Steel Interior

- Avoids corrosion and protects your precious samples from contamination



Quality Esco Construction

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



HC6-400S-

EXCELLENT PERFORMANCE

Fast Temperature Recovery After Door Opening

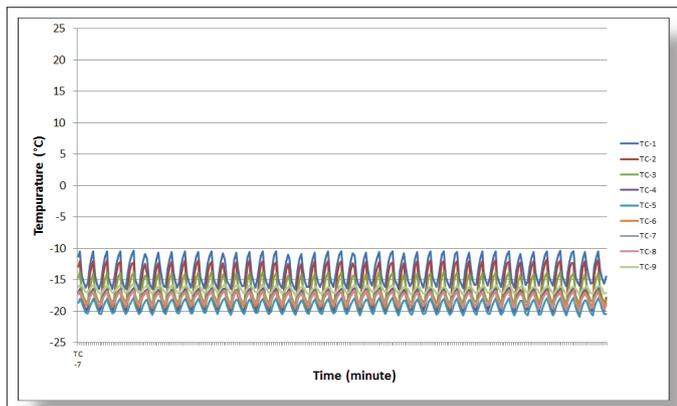
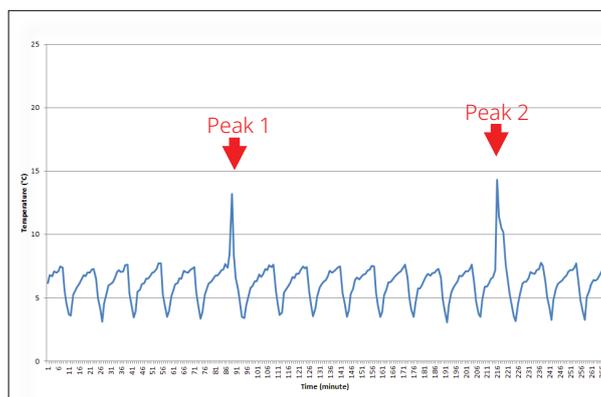
- With a laboratory-grade sealed system, Esco HP Series provide FAST TEMPERATURE RECOVERY from door open events.
- Bigger compressor with longer life.
- More refrigeration power for fast cool down and high stability.

Excellent Uniformity

- Uniformity test measures 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.

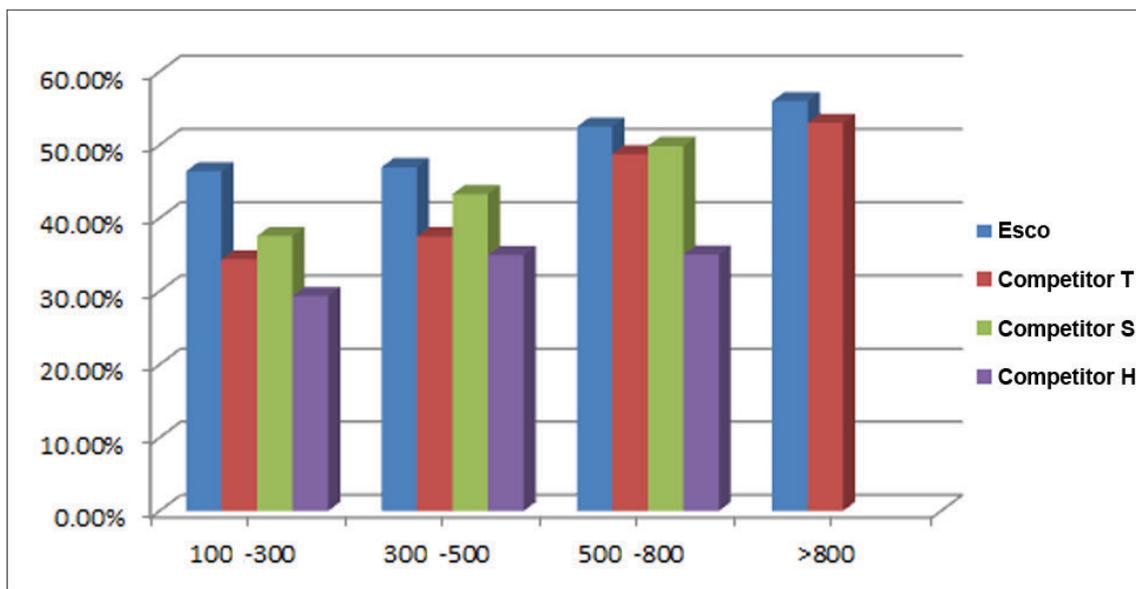
Performance Testing-700 L Refrigerator
Remark: Two spikes mean door openings.

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

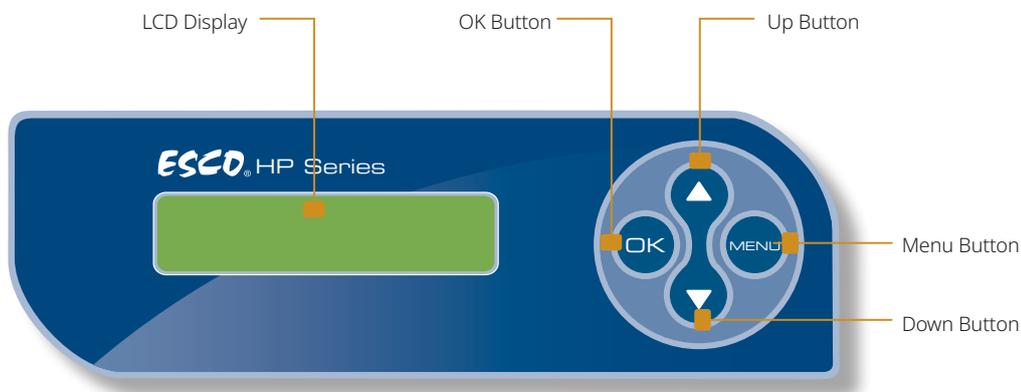


Superior Cabinet Design

- A ratio of capacity and external dimension is a very good measure of the value of the effective capacity of the refrigerator and freezer
- Esco reserve capacity surpasses that all major competitors above.



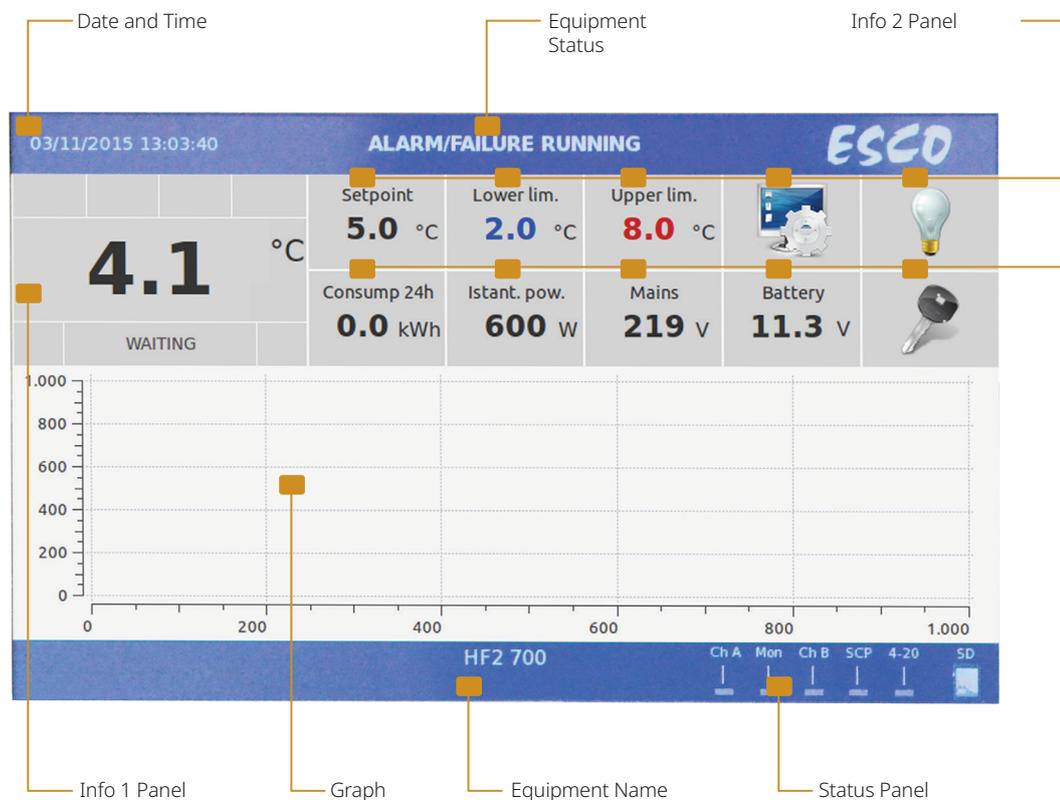
CONTROL SYSTEM



Standard Controller

Features:

- Optimized defrost monitoring enhances energy efficiency while ensuring consistent temperature uniformity.
- Clear temperature display allows users to easily monitor current conditions at a glance.
- Critical condition alerts provide immediate signaling for prompt response to temperature deviations.



Touchscreen Controller

Features:

- Secure multi-user access with password protection allows personalized control for each user.
- Real-time and historical temperature graphing for continuous monitoring and easy access to temperature trends.
- Data storage via SD card and Ethernet connection, with an electronic door lock for added security

ORDERING INFORMATION

Laboratory Refrigerators				
Model	Item Code	Description	Controller	Electrical
HR1-140S-1	2130175	Refrigerator, Undercounter model, 128 L, +2°C to +15°C	Standard Controller	220-240 VAC, 50 Hz
HR1-140S-2	2130023	Refrigerator, Undercounter model, 128 L, +2°C to +15°C	Standard Controller	110-120 VAC, 50/60 Hz
HR1-140S-3	<i>Available upon request</i>	Refrigerator, Undercounter model, 128 L, +2°C to +15°C	Standard Controller	220-240 VAC, 60 Hz
HR1-140S-8	2130001	Refrigerator, Undercounter model, 128 L, +2°C to +15°C	Standard Controller	220-240 VAC, 50/60 Hz
HR1-140T-1	<i>Available upon request</i>	Refrigerator, Undercounter model, 128 L, +2°C to +15°C	Touchscreen Controller	220-240 VAC, 50 Hz
HR1-140T-2	<i>Available upon request</i>	Refrigerator, Undercounter model, 128 L, +2°C to +15°C	Touchscreen Controller	110-120 VAC, 50/60 Hz
HR1-140T-3	<i>Available upon request</i>	Refrigerator, Undercounter model, 128 L, +2°C to +15°C	Touchscreen Controller	220-240 VAC, 60 Hz
HR1-140T-8	2130172	Refrigerator, Undercounter model, 128 L, +2°C to +15°C	Touchscreen Controller	220-240 VAC, 50/60 Hz
HR1-400S-1	2130002	Refrigerator, Upright model, 347 L, +2°C to +15°C	Standard Controller	220-240 VAC, 50 Hz
HR1-400S-2	2130025	Refrigerator, Upright model, 347 L, +2°C to +15°C	Standard Controller	110-120 VAC, 50/60 Hz
HR1-400S-3	2130024	Refrigerator, Upright model, 347 L, +2°C to +15°C	Standard Controller	220-240 VAC, 60 Hz
HR1-700S-1	2130174	Refrigerator, Upright model, 620 L, +2°C to +15°C	Standard Controller	220-240 VAC, 50 Hz
HR1-700S-2	2130028	Refrigerator, Upright model, 620 L, +2°C to +15°C	Standard Controller	110-120 VAC, 50/60 Hz
HR1-700S-3	<i>Available upon request</i>	Refrigerator, Upright model, 620 L, +2°C to +15°C	Standard Controller	220-240 VAC, 60 Hz
HR1-700S-8	2130003	Refrigerator, Upright model, 620 L, +2°C to +15°C	Standard Controller	220-240 VAC, 50/60 Hz
HR1-700T-1	2130173	Refrigerator, Upright model, 620 L, +2°C to +15°C	Touchscreen Controller	220-240 VAC, 50 Hz
HR1-700T-2	2130029	Refrigerator, Upright model, 620 L, +2°C to +15°C	Touchscreen Controller	110-120 VAC, 50/60 Hz
HR1-700T-3	<i>Available upon request</i>	Refrigerator, Upright model, 620 L, +2°C to +15°C	Touchscreen Controller	220-240 VAC, 60 Hz
HR1-700T-8	2130014	Refrigerator, Upright model, 620 L, +2°C to +15°C	Touchscreen Controller	220-240 VAC, 50/60 Hz
HR1-1500S-1	<i>Available upon request</i>	Refrigerator, Upright model, 1355 L, +2°C to +15°C	Standard Controller	220-240 VAC, 50 Hz
HR1-1500S-2	2130030	Refrigerator, Upright model, 1355 L, +2°C to +15°C	Standard Controller	110-120 VAC, 50/60 Hz
HR1-1500S-3	<i>Available upon request</i>	Refrigerator, Upright model, 1355 L, +2°C to +15°C	Standard Controller	220-240 VAC, 60 Hz
HR1-1500S-8	2130004	Refrigerator, Upright model, 1355 L, +2°C to +15°C	Standard Controller	220-240 VAC, 50/60 Hz
HR1-1500T-1	<i>Available upon request</i>	Refrigerator, Upright model, 1355 L, +2°C to +15°C	Touchscreen Controller	220-240 VAC, 50 Hz
HR1-1500T-2	2130031	Refrigerator, Upright model, 1355 L, +2°C to +15°C	Touchscreen Controller	110-120 VAC, 50/60 Hz
HR1-1500T-3	<i>Available upon request</i>	Refrigerator, Upright model, 1355 L, +2°C to +15°C	Touchscreen Controller	220-240 VAC, 60 Hz
HR1-1500T-8	2130015	Refrigerator, Upright model, 1355 L, +2°C to +15°C	Touchscreen Controller	220-240 VAC, 50/60 Hz

Laboratory Freezers				
Model	Item Code	Description	Controller	Electrical
HF2-140S-1	2130005	Freezer, Undercounter model, 128 L, -10°C to -20°C	Standard Controller	220-240 VAC, 50 Hz
HF2-140S-2	2130033	Freezer, Undercounter model, 128 L, -10°C to -20°C	Standard Controller	110-120 VAC, 50/60 Hz
HF2-140S-3	2130032	Freezer, Undercounter model, 128 L, -10°C to -20°C	Standard Controller	220-240 VAC, 60 Hz
HF2-140T-1	2130109	Freezer, Upright model, 128 L, -10°C to -20°C	Touchscreen Controller	220-240 VAC, 50 Hz
HF2-140T-2	Available upon request	Freezer, Upright model, 128 L, -10°C to -20°C	Touchscreen Controller	110-120 VAC, 50/60 Hz
HF2-140T-3	Available upon request	Freezer, Upright model, 128 L, -10°C to -20°C	Touchscreen Controller	220-240 VAC, 60 Hz
HF2-400S-1	2130006	Freezer, Upright model, 347 L, -10°C to -25°C	Standard Controller	220-240 VAC, 50 Hz
HF2-400S-2	2130035	Freezer, Upright model, 347 L, -10°C to -25°C	Standard Controller	110-120 VAC, 50/60 Hz
HF2-400S-3	2130034	Freezer, Upright model, 347 L, -10°C to -25°C	Standard Controller	220-240 VAC, 60 Hz
HF2-400T-1	2130016	Freezer, Upright model, 347 L, -10°C to -25°C	Touchscreen Controller	220-240 VAC, 50 Hz
HF2-400T-2	2130037	Freezer, Upright model, 347 L, -10°C to -25°C	Touchscreen Controller	110-120 VAC, 50/60 Hz
HF2-400T-3	2130036	Freezer, Upright model, 347 L, -10°C to -25°C	Touchscreen Controller	220-240 VAC, 60 Hz
HF2-700S-1	2130007	Freezer, Upright model, 620 L, -10°C to -25°C	Standard Controller	220-240 VAC, 50 Hz
HF2-700S-2	2130039	Freezer, Upright model, 620 L, -10°C to -25°C	Standard Controller	110-120 VAC, 50/60 Hz
HF2-700S-3	2130038	Freezer, Upright model, 620 L, -10°C to -25°C	Standard Controller	220-240 VAC, 60 Hz
HF2-700T-1	2130017	Freezer, Upright model, 620 L, -10°C to -25°C	Touchscreen Controller	220-240 VAC, 50 Hz
HF2-700T-2	2130041	Freezer, Upright model, 620 L, -10°C to -25°C	Touchscreen Controller	110-120 VAC, 50/60 Hz
HF2-700T-3	2130040	Freezer, Upright model, 620 L, -10°C to -25°C	Touchscreen Controller	220-240 VAC, 60 Hz
HF2-1500S-1	2130008	Freezer, Upright model, 1355 L, -10°C to -25°C	Standard Controller	220-240 VAC, 50 Hz
HF2-1500S-2	2130043	Freezer, Upright model, 1355 L, -10°C to -25°C	Standard Controller	110-120 VAC, 50/60 Hz
HF2-1500S-3	2130042	Freezer, Upright model, 1355 L, -10°C to -25°C	Standard Controller	220-240 VAC, 60 Hz
HF2-1500T-1	2130018	Freezer, Upright model, 1355 L, -10°C to -25°C	Touchscreen Controller	220-240 VAC, 50 Hz
HF2-1500T-2	2130045	Freezer, Upright model, 1355 L, -10°C to -25°C	Touchscreen Controller	110-120 VAC, 50/60 Hz
HF2-1500T-3	2130044	Freezer, Upright model, 1355 L, -10°C to -25°C	Touchscreen Controller	220-240 VAC, 60 Hz
HF3-400S-1	2130009	Freezer, Upright model, 360 L, -20°C to -40°C	Standard Controller	220-240 VAC, 50 Hz
HF3-400S-2	2130047	Freezer, Upright model, 360 L, -20°C to -40°C	Standard Controller	110-120 VAC, 50/60 Hz
HF3-400S-3	2130046	Freezer, Upright model, 360 L, -20°C to -40°C	Standard Controller	220-240 VAC, 60 Hz
HF3-400T-1	2130019	Freezer, Upright model, 360 L, -20°C to -40°C	Touchscreen Controller	220-240 VAC, 50 Hz
HF3-400T-2	2130049	Freezer, Upright model, 360 L, -20°C to -40°C	Touchscreen Controller	110-120 VAC, 50/60 Hz
HF3-400T-3	2130048	Freezer, Upright model, 360 L, -20°C to -40°C	Touchscreen Controller	220-240 VAC, 60 Hz
HF3-700S-1	2130010	Freezer, Upright model, 544 L, -20°C to -40°C	Standard Controller	220-240 VAC, 50 Hz
HF3-700S-2	2130051	Freezer, Upright model, 544 L, -20°C to -40°C	Standard Controller	110-120 VAC, 50/60 Hz
HF3-700S-3	2130050	Freezer, Upright model, 544 L, -20°C to -40°C	Standard Controller	220-240 VAC, 60 Hz
HF3-700T-1	2130020	Freezer, Upright model, 544 L, -20°C to -40°C	Touchscreen Controller	220-240 VAC, 50 Hz
HF3-700T-2	2130053	Freezer, Upright model, 544 L, -20°C to -40°C	Touchscreen Controller	110-120 VAC, 50/60 Hz
HF3-700T-3	2130052	Freezer, Upright model, 544 L, -20°C to -40°C	Touchscreen Controller	220-240 VAC, 60 Hz

Laboratory Combination Refrigerator and Freezers

Model	Item Code	Description	Controller	Electrical
HC6-400S-1	2130011	Combination, Upright model, 330 L (170 L/ 160 L) +2°C to +15°C; -10°C to -24°C	Standard Controller	220-240 VAC, 50 Hz
HC6-400S-2	2130055	Combination, Upright model, 330 L (170 L/ 160 L) +2°C to +15°C; -10°C to -24°C	Standard Controller	110-115 VAC, 50/60 Hz
HC6-400S-3	2130054	Combination, Upright model, 330 L (170 L/ 160 L) +2°C to +15°C; -10°C to -24°C	Standard Controller	220-240 VAC, 60 Hz
HC6-400T-1	2130021	Combination, Upright model, 330 L (170 L/ 160 L) +2°C to +15°C; -10°C to -24°C	Touchscreen Controller	220-240 VAC, 50 Hz
HC6-400T-2	2130057	Combination, Upright model, 330 L (170 L/ 160 L) +2°C to +15°C; -10°C to -24°C	Touchscreen Controller	110-115 VAC, 50/60 Hz
HC6-400T-3	2130056	Combination, Upright model, 330 L (170 L/ 160 L) +2°C to +15°C; -10°C to -24°C	Touchscreen Controller	220-240 VAC, 60 Hz
HC6-700S-1	2130012	Combination, Upright model, 525 L (260 L/ 265 L) +2°C to +15°C; -10°C to -24°C	Standard Controller	220-240 VAC, 50 Hz
HC6-700S-2	2130059	Combination, Upright model, 525 L (260 L/ 265 L) +2°C to +15°C; -10°C to -24°C	Standard Controller	110-115 VAC, 50/60 Hz
HC6-700S-3	2130058	Combination, Upright model, 525 L (260 L/ 265 L) +2°C to +15°C; -10°C to -24°C	Standard Controller	220-240 VAC, 60 Hz
HC6-700T-1	2130022	Combination, Upright model, 525 L (260 L/ 265 L) +2°C to +15°C; -10°C to -24°C	Touchscreen Controller	220-240 VAC, 50 Hz
HC6-700T-2	2130061	Combination, Upright model, 525 L (260 L/ 265 L) +2°C to +15°C; -10°C to -24°C	Touchscreen Controller	110-115 VAC, 50/60 Hz
HC6-700T-3	2130060	Combination, Upright model, 525 L (260 L/ 265 L) +2°C to +15°C; -10°C to -24°C	Touchscreen Controller	220-240 VAC, 60 Hz

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.



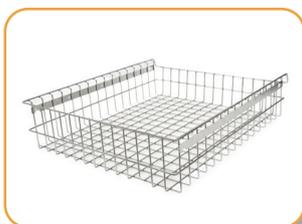
Drawer Kits (DK_)
 A drawer extractible on telescopic slides, adjustable in height, bottom made of painted stainless steel, beehive structure type, supplied with adjustable dividers made of polypropylene, front is fitted with an ergonomic aluminum handle, for the storage of samples in a more convenient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



Basket Kit (BK1)
 Made of stainless steel that provides an anti-corrosion environment for your samples. It is mounted on anti-tilt side slides and can be glided outside the chamber for the purpose of easy access to samples.



Chart Recorder
 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 chamber temperature.

Model	Item Code	Description
SK1	1330063	Shelf Kits for HR1-140, HF2-140 (Standard and Touchscreen models)
SK2	1330064	Shelf Kits for HR1-400, HF2-400 and HC6-400 (Standard and Touchscreen models)
SK3	1330065	Shelf Kits for HR1-700, HF2-700, HF3-700, HC6-700, HR1-1500 and HF2-1500 (Standard and Touchscreen models)
SK4	1330066	Shelf Kits for HF3-400 (Standard and Touchscreen models)
DK1	1330067	Drawer Kits for HR1-140, HF2-140 (Standard and Touchscreen models)
DK2	1330068	Drawer Kits for HF2-400, HR1-400 and HC6-400 (Standard and Touchscreen models)
DK3	1330069	Drawer Kits for HR1-1500, HF2-1500, HR1-700, HF2-700 and HC6 700 (Standard and Touchscreen models)
DK4	1330070	Drawer Kits for HF3-400 (Standard and Touchscreen models)
DK5	1330071	Drawer Kits for HF3-700 (Standard and Touchscreen models)
DM1	1330072	Backup battery + Digital Monitor + PT100 probe for temperature monitoring and recording during power failure. (Single Chamber, Touchscreen Models)
DM2	1330073	Backup battery + Digital Monitor + PT100 probe for monitoring and recording during power failure. (Dual Chamber, Touchscreen Models)
AP15	5171092	15 mm Access Port with inner and outer wall cover (Standard and Touchscreen models)
AP35	1330075	35 mm Access Port with inner and outer wall cover (Standard and Touchscreen models)
BK1	1330076	Stainless Steel Basket Kit for HR1-700, HR1-1500, HF2-700, HF2-1500, HF3-700 and HC6-700S (Standard and Touchscreen models)
Backup Battery	1330127	Standard backup battery for temperature monitoring during power failure (Standard Models)
4-20 mA	1330129	4-20 mA Output (Touchscreen models)
GSM	1330216	GSM Module (Touchscreen models)
Chart Recorder	1330185	Chart Recorder for all except HC6 models (Standard and Touchscreen models)
IQOQ	9010179	Installation Qualification Operation Qualification for all models

Industries where Laboratory Refrigerator and Freezer are used:



Pharmaceutical Industry

Pharmaceutical Industry – for the storage of packaged drugs, vaccines, and reagents not intended for direct bodily administration.



Laboratory Research

Laboratory Research – for the general storage of non-hazardous substances or materials in controlled environments.



Healthcare Facilities

Healthcare Facilities (excluding areas handling blood, bodily fluids, or tissues) – for storing non-flammable and non-explosive medical substances.

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