

Isotherm[®]

Forced Convection Laboratory Incubators

Introducing Esco Isotherm[®] - world class laboratory incubators from Esco for thermal convection applications such as bacteria culture and Coliform determination among many others. With ergonomic design, microprocessor PID controls, 4-zone heated air jacket and precisely tuned and tested ventilation and insulation package, Esco Isotherm[®] is your reliable incubator for universal application.

Quality Esco Construction

- Electro-galvanized steel exteriors
- Isocide[™] coated external surfaces to eliminate 99.9% of surface bacteria within 24 hours of exposure

Superior Insulation

- Improves chamber stability while reducing external surface temperatures
- Reduces heat load output to the laboratory and operating power consumption, and lowers operating costs

SmartSense[™] Microprocessor PID Control Technology

- Connected to an instrument-grade precision platinum-temperature probe
- Ensures fast ramp time. Prevents overshoot and ensures stable temperature once set point is achieved
- Twin temperature display for easy monitoring ("Actual" and "Set Point" displays)
- Diagnostic LEDs simplify service

Glass Door

- For observing samples inside the chamber during operation



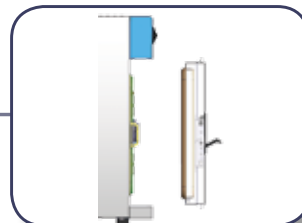
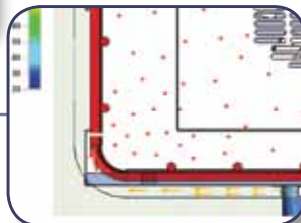
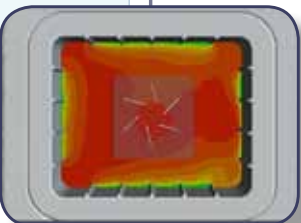
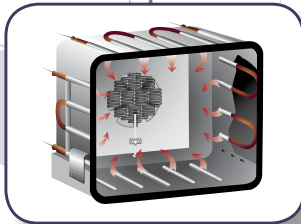
Isotherm[®] Forced Convection Laboratory Incubator, Model IFA-110-8

Solaris[™] Pre-Heat Chamber Technology

- Guarantees maximum thermal performance
- 4-zone heated air jacket ensures stable heating and maximum temperature uniformity in the chamber
- Standard temperature range of up to 300°C for maximum application stability
- 2-point door seal and eccentric hinge ensures maximum gasket compression for stable chamber temperature

Ventiflow[™] Ventilation System

- Forced convection design produces faster temperature response rates, improves uniformity and reduces fluctuation
- Permanently lubricated and maintenance-free German-made EBМ-PAPST fan for uniform air circulation
- Low energy consumption and low noise level
- Adjustable fan speed and air exchange rates
- Fresh air entry from the base of the chamber, combined with the rounded corners of the chamber interior and air exhaust at the rear of the chamber, creates uniform air circulation ensuring maximum temperature uniformity



Guide to Models, Forced Convection Laboratory Incubators

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External Width	Code	Electrical Rating	Code
32 L	32	220-240 VAC, 50-60 Hz, 1Ø	8
54 L	54	110-120 VAC, 50-60 Hz, 1Ø	9
110 L	110		
170 L	170		
240 L	240		

General Specifications, Forced Convection Laboratory Incubators

Model	220-240 VAC, 50/60 Hz, 1Ø	IFA-32-8 2100001	IFA-54-8 2100002	IFA-110-8 2100003	IFA-170-8 2100014	IFA-240-8 2100015
		IFA-32-8-SS 2100021	IFA-54-8-SS 2100022	IFA-110-8-SS 2100016	IFA-170-8-SS 2100024	IFA-240-8-SS 2100025
	110-120 VAC, 50/60 Hz, 1Ø	IFA 32-9 2100017	IFA-54-9 2100018	IFA-110-9 2100020	IFA-170-9 2100049	IFA-240-9 2100050
		IFA-32-9-SS 2100052	IFA-54-9-SS 2100051	IFA-110-9-SS 2100053	IFA-170-9-SS 2100054	IFA-240-9-SS 2100055
Volume		32 L (1.1 cu. ft)	54 L (1.9 cu. ft)	110 L (3.9 cu. ft)	170 L (6.0 cu. ft)	240 L (8.5 cu. ft)
Temperature Range		Ambient +7.5°C to 100°C				
Temperature Variation	37°C	≤± 0.3°C	≤± 0.3°C	≤± 0.3°C	≤± 0.4°C	≤± 0.4°C
	50°C	≤± 0.3°C	≤± 0.3°C	≤± 0.5°C	≤± 0.7°C	≤± 0.6°C
Temperature Fluctuation	37°C	≤± 0.3°C	≤± 0.3°C	≤± 0.3°C	≤± 0.5°C	≤± 0.3°C
	50°C	≤± 0.3°C	≤± 0.3°C	≤± 0.3°C	≤± 0.5°C	≤± 0.3°C
Heating Up Time*	37°C	28 min	23 min	30 min	38 min	35 min
	50°C	35 min	35 min	52 min	46 min	55 min
Recovery Time after 30 sec door open*	37°C	1.5 min	1.5 min	3 min	1 min	1.5 min
	50°C	4 min	3 min	5.5 min	3 min	3 min
Noise Level		49 dBA	48 dBA	49 dBA	51 dBA	51 dBA
Oven Construction	Main Body	Electro-galvanized steel with Epoxy-polyester hybrid Isocide™ powder coating				
	Chamber	Stainless steel, grade 304				
Number of shelves	Standard	2	2	2	2	2
	Maximum	4	5	6	7	9
Maximum Load per Shelf		15 Kg (33 lbs)	15 Kg (33 lbs)	30 Kg (66 lbs)	30 Kg (66 lbs)	30 Kg (66 lbs)
External Dimensions (W x D x H)		550 x 437 x 615 mm (21.7" x 17.2" x 24.2")	550 x 527 x 695 mm (21.7" x 20.7" x 27.4")	710 x 587 x 785 mm (28" x 23.1" x 30.9")	740 x 800 x 910 mm (28.8" x 31.5" x 35.8")	800 x 827 x 1030 mm (31.5" x 32.5" x 40.6")
Internal Dimensions (W x D x H)		400 x 250 x 320 mm (15.7" x 9.8" x 12.6")	400 x 340 x 400 mm (15.7" x 13.4" x 15.7")	560 x 400 x 490 mm (22" x 15.7" x 19.3")	580 x 500 x 580 mm (22.8" x 19.7" x 22.8")	645 x 527 x 700 mm (25.4" x 20.7" x 27.6")
Net Weight		45 Kg (99 lbs)	55 Kg (121 lbs)	79 Kg (174 lbs)	118 Kg (260 lbs)	144 Kg (318 lbs)
Shipping Weight		57 Kg (126 lbs)	69 Kg (152 lbs)	98 Kg (216 lbs)	140 Kg (309 lbs)	166 Kg (366 lbs)
Shipping Dimensions (W x D x H)		620 x 530 x 840 mm (24.4" x 20.9" x 33.1")	630 x 620 x 920 mm (24.8" x 24.4" x 36.2")	780 x 680 x 1020 mm (30.7" x 26.8" x 40.2")	900 x 900 x 1100 mm (35.4" x 35.4" x 43.3")	900 x 900 x 1200 mm (35.4" x 35.4" x 47.2")
Shipping Volume		0.37 m³ (13.1 cu. ft)	0.49 m³ (17.3 cu. ft)	0.61 m³ (21.5 cu. ft)	0.89 m³ (31.4 cu. ft)	0.97 m³ (34.3 cu. ft)

*Up to 98% of the set value

Note:

- All technical specifications are specified for units with standard equipment at an ambient temperature of 25°C and a voltage fluctuation of ±10%.
- The temperature data are determined in accordance to DIN 12880 standards as per factory type test condition.
- Stainless steel exterior option is available for all sizes.

OTHER SUPERB FEATURES OF ISOTHERM® LABORATORY THERMOSTATIC PRODUCTS



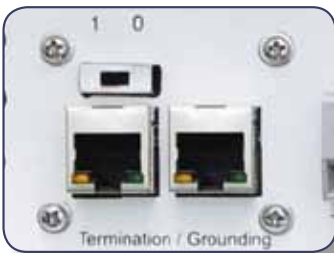
Safe, Superior Protection for Sample, User and the Environment

- Multiple redundant over-temperature protection systems guarantee maximum sample and user protection
- Over-all temperature protection meets DIN 12880 Class 3.1 standards
- All electrical components are UL recognized
- Electrical circuit protection is in accordance with UL requirements



Ergonomic Design

- Access port for temperature validation and mapping



RS485 Communication Port

- Provides serial communication port for PC that can be daisy chained from product to product and connected to a PC



Ergonomic Door Handle with Keylock

- For gravity assisted operation and prevents unauthorized access to sensitive samples



Easy-To-Clean

- "Cleanroom" design, single-piece stainless steel chamber with rounded corners and dismantlable glass door



Easy-To-Service

- Diagnostics functions include historical read-out of temperatures, sensor inputs and controller settings
- Service can be carried out from the front and electrical components are isolated from the work chamber and easily accessible for replacement
- Low service costs

APPLICATIONS

Forced Convection Laboratory Oven

Application	Material/Sample
Drying	Glassware
	Powder
	Paper & Textile
	Soil and Sand
	Electronics
	Pharmaceutical Preparations
	Tape
Material Testing	Cables
	Plastics
Curing	Adhesives
	Plastics
	Metals
Heated Storage	Drugs and Pills
Vulcanization	Rubber

Forced and Natural Convection Laboratory Incubators

Application	Material/Sample
Microbiological Culture	Bacteria, Yeasts and Molds
Coliform Determination	Bacteria
Egg Incubation	Eggs
Heated Storage	Media & Samples
Gene Cloning	Bacteria, Yeasts and Molds
Pharmaceutical Stability Testing	Pathogenic Bacteria
Food and Beverage Testing	Bacteria, Yeast and Molds
Paraffin Embedding	Paraffin

Refrigerated Incubators

Application	Material/Sample
BOD Determination of Wastewater and Sewage	Bacteria
Plant Cell Growth	Plant Cell
Fish and Insect Cell Growth	Fish and Insect Cells
Fermentation Studies	Bacteria and Yeasts
Microbiological Culture	Bacteria, Yeast and Molds
Pharmaceutical Stability Testing	Pathogenic Bacteria

OPTIONS AND ACCESSORIES



Wall bracket (only for 32 L and 54 L chambers)

- Accommodates desired operating heights



Reversed Door Swing (Factory Installed)



Voyager® Software Kit

- Esco Voyager® is a PC-based software package developed for remote monitoring, datalogging and programming/device configuration of Esco controlled environment laboratory equipment



Support stands fixed height at 703 mm (27.7")



Additional Shelf

- Two shelves are included for 32 L, 54 L, 110 L, 170 L and 240 L models as standard. Additional shelves may be ordered.



Optional Stainless Steel Exterior

- Robust construction and corrosion-resistant surface that meets pharmaceutical and clinical laboratory requirements



Stacking Kit

- Stacking kit is a provision to stack one thermostatic product on top of another unit. Four stacking brackets are included as standard inside the Accessories Kit Box with each incubator.

ORDERING INFORMATION

Unit Ordering

Model	Item Code	Description
OFA-32-8	2110001	Isotherm® General Purpose Oven, 32 L, 220-240 VAC, 50/60 Hz
OFA-32-9	2110010	Isotherm® General Purpose Oven, 32 L, 110-120 VAC, 50/60 Hz
OFA-32-8-SS	2110012	Isotherm® General Purpose Oven, Stainless Steel Exterior Cabinet, 32 L, 220-240 VAC, 50/60 Hz
OFA-32-9-SS	2110023	Isotherm® General Purpose Oven, Stainless Steel Exterior Cabinet, 32 L, 110-120 VAC, 50/60 Hz
OFA-54-8	2110002	Isotherm® General Purpose Oven, 54 L, 220-240 VAC, 50/60 Hz
OFA-54-9	2110009	Isotherm® General Purpose Oven, 54 L, 110-120 VAC, 50/60 Hz
OFA-54-8-SS	2110013	Isotherm® General Purpose Oven, Stainless Steel Exterior Cabinet, 54 L, 220-240 VAC, 50/60 Hz
OFA-54-9-SS	2110022	Isotherm® General Purpose Oven, Stainless Steel Exterior Cabinet, 54 L, 110-120 VAC, 50/60 Hz
OFA-110-8	2110003	Isotherm® General Purpose Oven, 110 L, 220-240 VAC, 50/60 Hz
OFA-110-9	2110008	Isotherm® General Purpose Oven, 110 L, 110-120 VAC, 50/60 Hz
OFA-110-8-SS	2110014	Isotherm® General Purpose Oven, Stainless Steel Exterior Cabinet, 110 L, 220-240 VAC, 50/60 Hz
OFA-110-9-SS	2110011	Isotherm® General Purpose Oven, Stainless Steel Exterior Cabinet, 110 L, 110-120 VAC, 50/60 Hz
OFA-170-8	2110006	Isotherm® General Purpose Oven, 170 L, 220-240 VAC, 50/60 Hz
OFA-170-9	2110020	Isotherm® General Purpose Oven, 170 L, 110-120 VAC, 50/60 Hz
OFA-170-8-SS	2110015	Isotherm® General Purpose Oven, Stainless Steel Exterior Cabinet, 170 L, 220-240 VAC, 50/60 Hz
OFA-170-9-SS	2110024	Isotherm® General Purpose Oven, Stainless Steel Exterior Cabinet, 170 L, 110-120 VAC, 50/60 Hz
OFA-240-8	2110007	Isotherm® General Purpose Oven, 240 L, 220-240 VAC, 50/60 Hz
OFA-240-9	2110021	Isotherm® General Purpose Oven, 240 L, 110-120 VAC, 50/60 Hz
OFA-240-8-SS	2110016	Isotherm® General Purpose Oven, Stainless Steel Exterior Cabinet, 240 L, 220-240 VAC, 50/60 Hz
OFA-240-9-SS	2110025	Isotherm® General Purpose Oven, Stainless Steel Exterior Cabinet, 240 L, 110-120 VAC, 50/60 Hz

Model	Item Code	Description
IFC-110-8	2100010	Isotherm® Refrigerated Incubator, 110 L, 220-240 VAC, 50/60 Hz
IFC-110-8-SS	2100026	Isotherm® Refrigerated Incubator, Stainless Steel Exterior Cabinet, 110 L, 220-240 VAC, 50/60 Hz
IFC-170-8	2100035	Isotherm® Refrigerated Incubator, 170 L, 220-240 VAC, 50/60 Hz
IFC-170-8-SS	2100056	Isotherm® Refrigerated Incubator, Stainless Steel Exterior Cabinet, 170 L, 220-240 VAC, 50/60 Hz
IFC-240-8	2100011	Isotherm® Refrigerated Incubator, 240 L, 220-240 VAC, 50/60 Hz
IFC-240-8-SS	2100027	Isotherm® Refrigerated Incubator, Stainless Steel Exterior Cabinet, 240 L, 220-240 VAC, 50/60 Hz

Model	Description	
IFA-32-8	2100001	Isotherm® General Purpose Incubator, 32 L, 220-240 VAC, 50/60 Hz
IFA-32-9	2100017	Isotherm® General Purpose Incubator, 32 L, 110-120 VAC, 50/60 Hz
IFA-32-8-SS	2100021	Isotherm® General Purpose Incubator, Stainless Steel Exterior Cabinet, 32 L, 220-240 VAC, 50/60 Hz
IFA-32-9-SS	2100052	Isotherm® General Purpose Incubator, Stainless Steel Exterior Cabinet, 32 L, 110-120 VAC, 50/60 Hz
IFA-54-8	2100002	Isotherm® General Purpose Incubator, 54 L, 220-240 VAC, 50/60 Hz
IFA-54-9	2100018	Isotherm® General Purpose Incubator, 54 L, 110-120 VAC, 50/60 Hz
IFA-54-8-SS	2100022	Isotherm® General Purpose Incubator, Stainless Steel Exterior Cabinet, 54 L, 220-240 VAC, 50/60 Hz
IFA-54-9-SS	2100051	Isotherm® General Purpose Incubator, Stainless Steel Exterior Cabinet, 54L, 110-120 VAC, 50/60 Hz
IFA-110-8	2100003	Isotherm® General Purpose Incubator, 110 L, 220-240 VAC, 50/60 Hz
IFA-110-9	2100016	Isotherm® General Purpose Incubator, 110 L, 110-120 VAC, 50/60 Hz
IFA-110-8-SS	2100020	Isotherm® General Purpose Incubator, Stainless Steel Exterior Cabinet, 110 L, 220-240 VAC, 50/60 Hz
IFA-110-9-SS	2100053	Isotherm® General Purpose Incubator, Stainless Steel Exterior Cabinet, 110 L, 110-120 VAC, 50/60 Hz
IFA-170-8	2100014	Isotherm® General Purpose Incubator, 170 L, 220-240 VAC, 50/60 Hz
IFA-170-9	2100049	Isotherm® General Purpose Incubator, 170 L, 110-120 VAC, 50/60 Hz
IFA-170-8-SS	2100024	Isotherm® General Purpose Incubator, Stainless Steel Exterior Cabinet, 170 L, 220-240 VAC, 50/60 Hz
IFA-170-9-SS	2100054	Isotherm® General Purpose Incubator, Stainless Steel Exterior Cabinet, 170 L, 110-120 VAC, 50/60 Hz
IFA-240-8	2100015	Isotherm® General Purpose Incubator, 240 L, 220-240 VAC, 50/60 Hz
IFA-240-9	2100050	Isotherm® General Purpose Incubator, 240 L, 110-120 VAC, 50/60 Hz
IFA-240-8-SS	2100025	Isotherm® General Purpose Incubator, Stainless Steel Exterior Cabinet, 240 L, 220-240 VAC, 50/60 Hz
IFA-240-9-SS	2100055	Isotherm® General Purpose Incubator, Stainless Steel Exterior Cabinet, 240 L, 110-120 VAC, 50/60 Hz

Model	Description	
INA-32-8	2100045	Isotherm® Natural Convection Incubator, 32 L, 220-240 VAC, 50/60 Hz
INA-54-8	2100046	Isotherm® Natural Convection Incubator, 54 L, 220-240 VAC, 50/60 Hz
INA-110-8	2100044	Isotherm® Natural Convection Incubator, 110 L, 220-240 VAC, 50/60 Hz
INA-170-8	2100047	Isotherm® Natural Convection Incubator, 170 L, 220-240 VAC, 50/60 Hz
INA-240-8	2100048	Isotherm® Natural Convection Incubator, 240 L, 220-240 VAC, 50/60 Hz

ACCESSORIES ORDERING

Model Code	Item Code	Description
TOA-1005	5070326	Wall bracket for 32 L
TOA-1006	5070327	Wall bracket for 54 L
TOA-1007	5130106	Support Stand, 703 mm (27.7") for 32 L
TOA-1008	5130107	Support Stand, 703 mm (27.7") for 54 L
TOA-1009	5130108	Support Stand, 703 mm (27.7") for 110 L
TOA-1010	5130109	Support Stand, 703 mm (27.7") for 170 L
TOA-1011	5130110	Support Stand, 703 mm (27.7") for 240 L
TOA-1012	5070328	Additional Shelf, for 32 L
TOA-1013	5070329	Additional Shelf, for 54 L
TOA-1014	5070330	Additional Shelf, for 110 L
TOA-1018	5070331	Additional Shelf, for 170 L
TOA-1019	5070332	Additional Shelf, for 240 L
TOA-1022	5070609	IQ/OQ Document
Voyager®	5250001	Voyager® Software Kit
COA-2008-F	5170483	Stacking Kit

TESTING AND CERTIFICATION



Esco Isotherm® Laboratory Thermostatic Products were tested, validated and have passed the calibration conducted by Biomedis, an ISO/IEC 17025 accredited testing laboratory. The measuring installation used for calibration are regularly calibrated and traceable to the national standards of the German Federal Physical Technical Institute (PTB).

Standard Compliances	Temperature Safety	Electrical Safety
	DIN 12880 Class 3.1	UL 61010-1, USA; CAN/CSA-22.2, No. 61010-1; EN 61010-1, Europe; IEC 61010-1, Worldwide



WolfLabs

Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

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Please contact us if this literature doesn't answer all your questions.