OrbiCult™

Temperature-Controlled Incubator Shakers

Seamless Precision for Superior Laboratory Performance

Welcome to Esco

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

The Esco Lifesciences Group is committed to deliver innovative solutions for the clinical, life sciences, research, industrial, laboratory, pharmaceutical, and IVF community. With the most extensive product line in the industry, Esco have passed a number of international standards and certifications. Esco represents innovation and forward-thinking designs, that are of the highest standard quality since 1978.

Availability and Accessibility. Esco has headquarters in Singapore, Indonesia, and Philippines, with manufacturing facilities are 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 products are of high quality, reliable, and dependable; assuring customers of research accuracy. Cross functional teams from Esco Production, R&D, Quality Assurance, and Senior Management, are regularly assembled to review and implement areas for improvement.

Esco Cares for Your Safety. Esco focuses on providing safety not just for your samples but also for you and the environment.

Esco Cares for Your Comfort. Building ergonomic designs and reducing noise levels of the units ensures comfort for our users.

Esco Cares for the Environment. One in every four of Esco's employees is involved in R&D and a number of them evaluate new components and/or designs to produce energy efficient equipment. Being GREEN is more than just modifying parts used to produce a new energy efficient technology, it is also embodied in the every aspect of the company.

Customer Service and Support. Our service does not stop once purchase has been done. Esco gives on-time customer service and offers end-user seminars, service training, preventive maintenance, and provides educational materials and informative videos.

As Esco takes the opportunity to respond to the world's needs, we aim not only to contribute in the advancement of scientific discoveries but also in making the world a safer, healthier, and better place to live in.

OrbiCult™

Temperature-Controlled Incubator Shakers

Products and Application

Laboratory Equipment

Sample Handling and 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
- CO_2 Incubators, Direct Heat Air-Jacketed
- CO_2 Incubators with Cooling System
- CO_2 Incubators with High Heat Sterilization
- Laboratory Shakers

Amplification and Detection
- Conventional Thermal Cyclers
- Microplate Shakers
- PCR Cabinets

Sample Storage & Sample Protection Solutions
- Ultra-low Temperature Freezers
- Lab Refrigerators and Freezers
- Sample Database Management Software
- Intelligent Remote Monitoring Application Protocol
- Remote Monitoring, Datalogging, 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

Medical / IVF Equipment

Controlled Embryo Handling
- Esco Multi-Zone ART Workstation
- Esco Multi-Zone ART Workstation Class II
- AVT Anti-Vibration Table
- Semi-Closed Environment (SCE) IVF

Safe Embryo Culture
- MIRI® Multiroom Incubator
- MIRI® II Multiroom Incubator
- Mini MIRI® Humidified Incubator
- Mini MIRI® Dry Incubator
- CelCulture® CO_2 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
- 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 Isoaltor (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-Convertible Class III/Class I Biosafety Cabinet (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)
- General Processing Platform Isolator
  - GPPI-Inflatable Seal (GPPI-IS)
  - GPPI-Static Seal (GPPI-SS)
- Streamline® Compounding Isolator
  - SCI - Isolator Configuration
  - SCI - Class III Biosafety Cabinet (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

Ventilation Containment
- Ventilated Balance Enclosure

Esco VacciXcell Products
Bioreactors and Fermenters
- CelXrocker™
- CelCradle™
- CelShaker™
- CelCradle™ X
- CelCradle Semi-Automated Harvesting System™ (CCX-SAH)
- BioXcell™
- StirCradle™
- StirCradle™ PRO
- TideXcell™
- TideXcell™ Harvesting System (TXLHS)
- VXL™ Hybrid Bioreactor

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
- Filling Line Isolators
- cRabs (close restricted access barriers)
- oRabs (open restricted access barriers)

Integrated Solutions
- Cell Processing Isolator
- Cell Processing Center

Esco TaPestle Rx Products
Pharmacy Compounding Solutions
- Compounding Pharmacy Isolators (SCI, HPI, CBI, GPPI)
- Safety Cabinets and Enclosures (CYT, Class II BSC, VBE, LFC)
- Aseptic Filling Systems

Radiopharmacy Equipment Solutions
- Radioisotope Fume Hood
- Lead-lined Biosafety Cabinet
- Technetium Dispensing Isolator
- Blood Cell Labeling Isolator
- GMP-compliant Radioisotope Dispensing Isolator

Key Features

Double Layer Transparent Window

3-Tier User Management Control

Stable & Energy-Efficient Drive System
High-Speed Performance with Minimal Energy Consumption

- Advanced 3D Triple-Axis Eccentric Drive: Delivers high-speed, high-load operation while minimizing energy expenditure

- Powerful Brushless Motor: Minimize vibration for durable, maintenance-free operation.

- Built-in Filter Magnetic Ring: Reduce wavelength interference for enhanced stability and smooth operation.

Standard Dual UV Sterilisation Design
Maximized Effectiveness with Flexible Control

- Bidirectional Sterilization: Ensures thorough sterilization with minimal dead spots.

- Independent Function Control: Separate controls for lighting and UV functions for customizable use.

Space-Saving Stacking Design
Optimized Space Efficiency with Ergonomic Access

- Three-Tier System: Features downward and upward-opening doors for easy access and space maximization.

- Independent Layer Control: Allows simultaneous or separate operation at different parameter settings.

Superior Structural Features
Durable and Easy-to-Maintain Design

- Stainless Steel Interior: Resists bacterial growth, easy to clean, and features coved corners.

- High-Strength Casing: Electrostatic spray coating for excellent insulation.

- Double-Layer Safety Glass Doors: Provides superior insulation and anti-fogging properties.

- Stable & Energy-Efficient: Noise levels below 55 dB for a quieter working environment.

OrbiCult™

Temperature-Controlled Incubator Shakers

Linear Motion Shakers with Push-pull Rails

CO_2 Infrared Sensor

Uniform & Stable Temperature Control System
Precise Regulation for Optimal Performance

- PID Control and Variable Frequency Compressor: Ensure accurate and stable temperature with minimal fluctuations.
- Dual Cross-Flow Fans: Efficient air circulation maintains excellent uniformity.
- Automatic Defrosting: Guarantees stable operation even at low temperatures.

Clean & Responsive CO_2 Control System
Reliable Monitoring for a Clean Environment

- DCS Infrared CO_2 sensor Provides precise CO_2 detection, unaffected by temperature and humidity.
- Efficient Contamination Prevention: Multiple high-efficiency filters ensure a clean environment.

Customizable Humidity Control System
Adaptable Humidity Management for Equipment Protection

- Active Humidification: Rapidly increase humidity to specific humidity level.
- Automatic Water Replenishment: Automatically maintains safe water level to ensure consistent humidity level.

Powerful & Fast Program Control System
Intuitive Operation with Versatile Programming

- 10-Inch Color Touchscreen: Intuitive interface with screen lock, timeout, and password protection.
- Real-Time Parameter Tracking: Displays live and historical data.
- Multi-Stage Programming: 12-stage automation for diverse environments.
- 3-Tier User Management Control: Prevents misuse or operation by unauthorized personnel.

Precise & Safe Speed Control System
Accurate and Gentle Operation for Sample Protection

- Feedback Mechanism: Maintains precise speed control under heavy loads.
- Gentle Shaking Design: Slow start and stop prevent cell rupture and spillage, ensuring sample safety.
- Automatic Safety Stop: Automatically pauses operation when the door is opened to ensure operator's safety

Intelligent Safety System for Maximum Protection
Comprehensive Safety with Smart Features

- Advanced Alarm System: Multiple audio and visual alarms with recording and retrieval.
- Smart Program Recovery: Automatically resumes operation according to the original program after power is restored following a power outage.
- Robust Data Handling: Stores over 912 days of data that can be exported via USB and displays operation trend data for the past 7 days on the equipment.

OUR SERVICES

Safeguard Your Equipment with Our Service and Warranty Package!

We Provide a One-stop Solution from Installation to Decommissioning of Your Equipment!

Accreditation

Our Field Service Representatives undergo annual safety training and hold credentials such as NSF, TÜV NORD, NEBB, IFBA, and CETA-CNBT.

Fast Response

On-site response within 24 hours for priority cases/ clients. Easy to reach customer service, through email and phone call

Strong Global Network

We provide reliable services through our global network of Field Service Representatives, offering ready parts, technical support, field engineers, factory experts, and after-sales support.

Good Global Reputation

Our Service Team is dedicated to providing service of the highest standards. We provide timely, responsive service while meeting or even exceeding customer's expectations.

Why Choose OrbiCult™ Series?

Modular Design

The OrbiCult™ incubator shaker features 2 different capacities and a 3-Tier stackable design that allow users to maximize experiment output with minimum equipment footprint. Each unit operates independently with different parameters further enhancing the flexibility and efficiency in experiment setups.

Precise Control

This advanced system offers meticulous regulation of temperature, rotation speed, CO_2 concentration and humidity, ensuring that optimal conditions are maintained for various laboratory applications. Its integrated feedback mechanism prevents deviations and maximizes experimental reproducibility.

Versatility

Standard refrigeration model and multi-section programmable function allow the OrbiCult™ incubator shaker to meet diverse research and production requirements. Capable of supporting a wide array of applications from cell cultivation, DNA & protein production to plasmid cloning, this system serves as a highly adaptable tool for modern laboratory workflows.

TECHNICAL SPECIFICATIONS								
Model	OrbiCult™ 30 Incubator Shaker <u>without</u> CO$_2$ Control				OrbiCult™ 30 Incubator Shaker <u>with</u> CO$_2$ Control			
	OC-30 (2200038T)	OC-30T (2200039T)	OC-305 (2200040T)	OC-305T (2200041T)	OC-30C (2200042T)	OC-30CT (2200043T)	OC-30C5 (2200044T)	OC-30C5T (2200045T)
Orbit Diameter	φ26mm		φ50mm		φ26 mm		φ50 mm	
Door Opening	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top
Temperature Range	Room temperature minus 18 °C ~ 60 °C (lowest temperature is 4 °C)							
Temperature Control Accuracy	0.1 °C							
Temperature Uniformity	± 0.3 °C (at 37 °C)							
Speed Range	0 (Stop), 30~300 rpm							
Speed Accuracy	± 1 rpm							
CO$_2$ Sensor	-				IR (infrared)			
CO$_2$ Control Range	-				0~20%			
CO$_2$ Control Accuracy	-				0.1%			
CO$_2$ Stability	-				± 0.3%			
Humidity Control	-				Passive / Active (add-on) Humidification			
Maximum Humidity	-				90%			
Active Humidification	-				Optional			
Automatic Water Replenishment	-				Optional			
Illumination	Bi-directional Lighting							
Sterilization	Bi-directional UV Sterilization							
Screen Display	10" Color Touchsreen							
Time Set Range	0-999 hours 59 minutes							
Parameter Display (Graph)	Temperature, Speed				Temperature, Speed, CO$_2$, Humidity			
Maximum Load and Working Volume	20 kg and 30 L							
Exterior Material	Surface-coated carbon steel							
Shaker Platform Material	Stainless steel							
Shaker Platform Size	770 x 470 mm							
Internal Dimensions (W x D x H)	865 x 598 x 480 mm							
External Dimensions (W x D x H)	Overall Dimensions: 1240 x 785 (+75 handle) x 590 (+80 base height) mm Rack: 1240 x 752 x 384.5 mm							
Height from Shaker Platform to Chamber Top	305 mm (φ26 mm) / 300 mm (φ50 mm)							
Net Weight (Approx.)	255 - 280 kg							
Heating Power	≤ 850 W							
Cooling Power	70 - 180 W							
Power Supply	AC 220 V ± 22 V, 50 Hz/ 60 Hz							
Data Export	Available (USB)							
Data Record Interval and Storage Period	1 minute, ≈ 912 days							
User Management	3-Tier User Management Control							

TECHNICAL SPECIFICATIONS

Model	OrbiCult™ 40 Incubator Shaker without CO_2 Control				OrbiCult™ 40 Incubator Shaker with CO_2 Control			
	OC-40 (2200046T)	OC-40T (2200047T)	OC-405 (2200048T)	OC-405T (2200049T)	OC-40C (2200050T)	OC-40CT (2200051T)	OC-40C5 (2200052T)	OC-40C5T (2200053T)
Orbit Diameter	φ26 mm		φ50 mm		φ26 mm		φ50 mm	
Door Opening	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top
Temperature Range	Room temperature minus 18 °C ~ 60 °C (lowest temperature is 4 °C)							
Temperature Control Accuracy	0.1 °C							
Temperature Uniformity	± 0.5 °C (at 37 °C)							
Speed Range	0 (Stop), 30~300 rpm							
Speed Accuracy	± 1 rpm							
CO_2 Sensor	-				IR (infrared)			
CO_2 Control Range	-				0~20%			
CO_2 Control Accuracy	-				0.1%			
CO_2 Stability	-				± 0.3%			
Humidity Control	-				Passive / Active (add-on) Humidification			
Maximum Humidity	-				90%			
Active Humidification	-				Optional			
Automatic Water Replenishment	-				Optional			
Illumination	Bi-directional Lighting							
Sterilization	Bi-directional UV Sterilization							
Screen Display	10" Color Touchsreen							
Time Set Range	0-999 hours 59 minutes							
Parameter Display (Graph)	Temperature, Speed				Temperature, Speed, CO_2 , Humidity			
Maximum Load and Working Volume	20 kg and 40 L							
Exterior Material	Surface-coated carbon steel							
Shaker Platform Material	Stainless steel							
Shaker Platform Size	900 x 560 mm							
Internal Dimensions (W x D X H)	1005 x 705 x 500 mm							
External Dimensions (W x D x H)	Overall Dimensions: 1400 x 890 (+75 handle) x 598.5 (+79.5 base height) mm Rack: 1403 x 846 x 384.5 mm							
Height from Shaker Platform to Chamber Top	335 mm (φ26 mm) / 330 mm (φ50 mm)							
Net Weight (Approx.)	315 - 320 kg							
Heating Power	≤ 850 W							
Cooling Power	70 - 180 W							
Power Supply	AC 220 V ± 22 V, 50 Hz/ 60 Hz							
Data Export	Available (USB)							
Data Record Interval and Storage Period	1 minute, ≈ 912 days							
User Management	3-Tier User Management Control							

Maximum Loading Capacity

Model	Accessories		50 mL Flask	100 mL Flask	150 mL Flask	200 mL Flask	250 mL Flask	500 mL Flask	1000 mL Flask	2000 mL Flask	3000 mL Flask	5000 mL (Thomson) Flask
OrbiCult™ 30	Maximum Capacity	Flask Clamp	104	45	45	45	40	25	15	12	/	/
		Self-Adhesive Siicon Pad	112	72	60	45	40	28	15	12	/	6
OrbiCult™ 40		Flask Clamp	135	60	60	60	60	38	24	15	12	/
		Self-Adhesive Silicon Pad	187	112	104	84	77	40	28	15	15	8

Optional Accesories

No	Item Code	Description
1	2200054T	Erlenmeyer Flask Clamp 50 mL
2	2200055T	Erlenmeyer Flask Clamp 100 mL
3	2200056T	Erlenmeyer Flask Clamp 150 mL
4	2200057T	Erlenmeyer Flask Clamp 200 mL
5	2200058T	Erlenmeyer Flask Clamp 250 mL
6	2200059T	Erlenmeyer Flask Clamp 500 mL
7	2200060T	Erlenmeyer Flask Clamp 1000 mL
8	2200061T	Erlenmeyer Flask Clamp 2000 mL
9	2200062T	Erlenmeyer Flask Clamp 3000 mL
10	2200063T	Test Tube Rack 40 × Ø14 mm, 5 mL Tubes
11	2200064T	Test Tube Rack 40 × Ø16 mm, 10 mL Tubes
12	2200065T	Test Tube Rack 40 × Ø18 mm, 15 mL Tubes
13	2200066T	Test Tube Rack 27 × Ø22 mm, 20 mL Tubes
14	2200067T	Test Tube Rack 21 × Ø30 mm, 50 mL Tubes
15	2200068T	Test Tube Rack, SS, 36 × Ø21.5 mm, 20 mL
16	2200069T	Test Tube Rack, SS, 36 × Ø18.5 mm, 15 mL
17	2200070T	Test Tube Rack, SS, 55 × Ø15.5 mm, 10/15 mL
18	2200071T	Test Tube Rack, SS, 15 × Ø30 mm, 50 mL
19	2200072T	Test Tube Rack, SS, 24 × Ø30 mm, 50 mL
20	2200073T	Adjustable Test Tube Rack, SS, 24 × Ø30 mm, 50 mL
21	2200074T	Fixed Centrifuge Tube 21 × Ø30 mm, 50 mL, W/ Stabilizing Dev
22	2200075T	Fixed Centrifuge Tube 40 × Ø18 mm, 15 mL, W/ Stabilizing Dev
23	2200076T	Fixed Centrifuge Tube Rack 10 × Ø30 mm, 50 mL, W/ Stabilizing Dev
24	2200077T	Fixed Centrifuge Tube Rack 24 × Ø18 mm, 15 mL, W/ Stabilizing Dev
25	2200078T	Adjustable Test Tube Rack 40 × Ø14 mm, 5 mL
26	2200079T	Adjustable Test Tube Rack 40 × Ø16 mm, 10 mL
27	2200080T	Adjustable Test Tube Rack 40 × Ø18 mm, 15 mL
28	2200081T	Adjustable Test Tube Rack 40 × Ø16 mm, 10mL, w/ Stabilizing Dev
29	2200082T	Adjustable Test Tube Rack 27 × Ø22 mm, 20 mL
30	2200083T	Adjustable Test Tube Rack 21 × Ø30 mm, 50 mL
31	2200084T	Adjustable Test Tube Rack 21 × Ø28 mm, 50 mL, w/ Stabilizing Dev
32	2200086T	Multifunctional Spring Rack, 165 × 165 × 80 mm
33	2200087T	Multifunctional Spring Rack, 720 × 440 × 80 mm
34	2200088T	Multifunctional Spring Rack, 899 × 539 × 81.5 mm
35	2200089T	Fixture Separating Funnel 4 Clamps

No	Item Code	Description
36	2200090T	Fixture Separating Funnel, For Funnel > 500 mL
37	2200091T	Infusion Bottle Clamp 500 mL, SS
38	2200092T	Infusion Bottle Clamp 1000 mL, SS
39	2200093T	Self-Adhesive Silicon Pad, S
40	2200094T	Self-Adhesive Silicon Pad, L
41	2200095T	Micro Plate Holder
42	2200096T	24-Deep Well Plate Holder, 127 x 85 x 51 mm
43	2200097T	Deep Well Plate Clamp, 780 x 450 x 84 mm
44	2200098T	Static Shelf, 864 x 500 mm, For Culture Dish
45	2200099T	Static Shelf, 1005 x 600 mm, For Culture Dish
46	2200100T	Stacking Stand, For OC-30
47	2200101T	Stacking Stand, For OC-40
48	2200102T	Automatic Water Replenishment Device
49	2200103T	Active Humidifier
50	2200104T	Reservoir, 240W x 240D x 449H mm, 15 L (PH and AH)

Self-adhesive silicon pad

Erlenmeyer flask clamp

Adjustable test tube rack
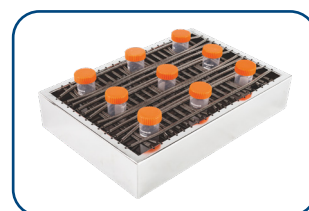

Test tube rack

Microplate holder

Deep well plate clamp

Active humidifier

Infusion bottle clamp

Multifunctional spring rack

ESCO
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