Ancare Changing Stations

Universal Changing Stations

Double-Sided Changing Stations

Safe Solutions for Animal Research Labs
Containment and Protection
The Ancare Double-Sided Changing Station provides clean air performance to help protect investigators and animal handlers from exposure to animals and animal products, which can cause occupational hazards such as asthma and allergies.

The Double-Sided Changing Station protects the operator from airborne contamination during cage changing or other procedures. At the same time, the workstation protects the animals or work product from external and cross-contamination and protects the environment from allergens and particulate emissions.

Key Features
• Microprocessor controller supervises all functions.
• Independent gauges indicate both supply and exhaust filter pressures.
• Long Life ULPA filters protect supply and exhaust airflow (IEST-RP-CC001.3).
• Activated carbon filter removes odors.
• Work area lighting is bright and uniform to help improve productivity.
• Angled edges on drain area and integral work surface/grille component removal simplify cleaning.
• Recessed airflow grille prevents blockage to maintain performance.
• Antimicrobial coating on all painted surfaces.
• Retractable power cord stores easily for moving workstation from one lab to another. (115V, AC Model only).
The push/pull airflow system creates a non-recirculating vertical laminar flow of ISO Class 4 clean air across the work surface per ISO14644.1.

The cabinet work zone is fully accessible from two sides to permit multiple user access.

A large 350 mm (14”) opening accommodates standard size animal cages.

Hinged windows on both sides can be opened for a 530 mm (20.5”) access for handling larger items.

Comfortable Ergonomic Design, Portable
All Ancare Double-Sided Changing Stations are engineered for comfort, utility value and safety.

Angled viewing windows reduce glare and permit easier reach into the work area from either side.

Instant-start 5000k fluorescent lamps operate on electronic ballasts for energy efficiency.

Lamps deliver 1100 Lux (> 102 foot-candles) to the work surface for overall illumination.

The work surface height is electronically adjustable from 864 to 1164 mm (34” to 46”) for ergonomic comfort and operator convenience.

The Changing Station is easily moved on non-marking 125 mm (5”) wheels with locking brakes.

When fully lowered to a height of 1918 mm (75.5”) the cabinet can be wheeled from lab to lab. A stainless steel push/pull bar is mounted on one end.

Integrated Filtration System
A combination of twin ULPA filters, an activated carbon filter and an intake air pre-filter give the workstation a fully integrated envelope for animal, operator and environmental protection.

- Mini-pleat ULPA filters are tested to >99.999% efficiency for 0.1-0.3 micron particulates, better than HEPA filters.
- An improved mini-pleat separation technique maximizes filter surface area, improves efficiency and extends filter life over conventional separation.
- The disposable pre-filter traps larger particulates before they enter the blower chamber and protects the supply ULPA filter to extend filter life.
- The supply ULPA filter supplies clean air to the work surface in a gentle vertical laminar flow.
- An activated carbon filter removes odors from the ULPA filtered exhaust air stream before returning air to the laboratory.
- The exhaust ULPA filter removes all allergens and particulates acquired from the work surface before the air is exhausted to the room.

Balanced Airflow
- Contaminated room air does not enter the work area.
- Intake and exhaust ratios are factory balanced before shipment to assure proper performance of the resulting air curtain.
- The inflow of room air is captured in the slots peripheral to the work surface before it can contaminate the work area.
- Independent gauges display both supply and exhaust filter pressures.

Blower Efficiency
The Double-Sided Changing Station system is designed for maximum energy efficiency and minimal maintenance.

- Two independent blowers are used, one for the supply filter and one for the exhaust filter.
- Centrifugal, direct-drive, external rotor motors are selected to reduce operating cost.
- Unique Ancare motor/blower orientations minimize noise and vibration.
- Built-in solid-state variable speed controllers are infinitely adjustable from OFF to Maximum.
- Built-in RFI and electrical noise filters eliminate interference with adjacent instrumentation.
Cabinet Airflow System

- The Model ACS-DS4 Double-Sided Changing Station employs a total exhaust, non-recirculating airflow configuration. The blower system pulls ambient intake air through the pre-filter, trapping larger dust particles and extending the useful life of the ULPA filter.
- Air flows through the main ULPA supply filter and bathes the work zone in clean air with a non-turbulent airflow.

- Recessed air grilles on the peripheral work surface collect ambient air. Combined with vertical laminar downflow, the ACS-DS4 creates an air curtain to protect the operator from contaminates released from the work surface.
- An activated carbon filter removes odors.
- The exhaust ULPA filter removes contaminants before air is returned to the environment.

Microprocessor Control, Alarm, Monitoring System

The Ancare microprocessor-based control system supervises operation of all cabinet functions.
- Control levels are locally configurable to meet user requirements.
- Continuous monitoring of cabinet airflow is displayed on a bright, easy-to-read LCD panel.
- Integrated, temperature-compensated true airflow velocity sensors provide the highest control accuracy.

Additional functions are factory set to default OFF. These can be user activated through the touchpad data entry access point.
- Automatic start-up sequence will prepare the cabinet for normal operation and advise user when safe conditions are established.
- An administrator controlled PIN (Personal Identification Number) can be set to restrict access to main menu.
- An independent airflow probe (standard) can be activated to warn of unsafe conditions.

Consult your Ancare Double-Sided Changing Station Operating Manual or contact your Ancare Representative for information on expanded programming capabilities built into the microprocessor platform.

Electrical Safety and Certification

All components used in Ancare products meet or exceed applicable safety requirements.
- Retractable power cord stores easily for moving from one location to another (110-130 V, 60Hz model only).
- Each cabinet is individually factory tested for electrical safety.
- Documentation specific to each cabinet serial number is maintained on file.
- The Ancare Double-Sided Changing Stations meet general safety requirements set forth by independent testing laboratories (See Specifications).
- UL listing pending for USA and Canada.

Cabinet Design and Construction

Robust construction and enhanced safety features qualify the workstation for the most demanding laboratory applications.
- A recessed central area and stainless steel drain pan contain spills and prevent liquids from entering the lower filtration and blower systems.
- Work surface air intake grilles are configured to prevent obstructions by objects placed outside the work zone.
- The cabinet structure is constructed of industrial-grade electrogalvanized steel.
- External surfaces are coated with Ancare antimicrobial coating to protect against surface contamination and inhibit bacterial growth. Our antimicrobial coating eliminates 99.9% of surface bacteria within 24 hours of exposure.

The stainless steel work surface is easy to clean. Tray components lift, tilt and fix position to provide access and simplify surface decontamination.
Warranty

The Ancare Double-Sided Changing Station is under warranty for 3 years excluding consumable parts and accessories. Contact your local Ancare Representative for specific warranty details.

Accessories and Options

Contact your Ancare Representative for details.

- Electrical outlet, ground fault
- Electrical outlet
- Plastic shield
- Foldable side tray
General Specifications | ACS-DS4 Double-Sided Changing Station
---|---
External Dimensions (W x D x H) | 1344 x 760 x 1918 mm (52.9” x 30.0” x 75.5”) minimum height 1344 x 760 x 2220 mm (52.9” x 30.0” x 87.5”) maximum height
Internal Work Area (W x D x H) | 1251 x 740 x 584 mm (49.3” x 29.1” x 23.0”)
Downflow Velocity | Initial setpoint 0.30 meters/second (60ft/min.)
Pre-filter | Disposal, non-washable polyester fiber, 85% arrestance, EU3 rated
ULPA Filter Typical Efficiency | >99.999% at 0.1 to 0.3 microns
Sound Emission | Typically <59 dBA at initial blower speed setting (measured 1m from front of center of work opening, subject to acoustic properties of test environment)
Fluorescent Lamps | >1,100 Lux (> 102 foot-candles) measured at work surface level, zero background
Construction, Main Body | 1.5 mm (16 gauge) electrogalvanized steel with white oven-baked epoxy powder coating
Electrical | Model | Voltage
---|---|---
ACS-DS4 | 110-130V, AC, 60Hz, 1 Ph, 9 amps
Shipping Dimensions, Maximum (W x D x H) | 1440 x 830 x 2100 mm (56.7” x 32.7” x 82.6”)
Shipping Weight | 286 kg (632 lbs)
Shipping Volume, Maximum | 2.5 m³ (88.3 cu.ft.)

*Additional voltages available

Standards Compliance

<table>
<thead>
<tr>
<th>Air Quality</th>
<th>Filtration</th>
<th>Electrical Safety</th>
</tr>
</thead>
</table>

• The Ancare Double-Sided Changing Station is easily accessible from two sides permitting multiple users to work at the same time.

• A large 350 mm (14”) opening accommodates standard size animal cages.

• The transparent side panel opens and locks in position to simplify loading or unloading of the work surface.

• The entire cabinet elevation can be adjusted by an integrated electric hydraulic lift with an up/down switch mounted on the control panel.

• The cabinet lowers to 1918 mm (75.5”) for easy transport from lab to lab through a standard doorway. Cabinet shown in semi-elevated position to fit user preference.
Ancare Universal Changing Station

Safety for Animal Research Laboratories

Containment Protection

The Ancare Universal Changing Station provides Class II type performance to help protect investigators and animal handlers from animal exposure, which can create occupational hazards such as asthma and allergies. In addition, the Universal Changing Station can be used for a variety of general laboratory applications that require clean air and containment.

Key Features

• Provides Class II type protection.
• Unique Dynamic Chamber™ plenum delivers quiet, uniform airflow.
• Negative pressure plenum surrounds contaminated positive pressure plenum; no fabric bags are used.
• Long-life ULPA filters for supply and exhaust airflow. (IEST-RP-CC001.3)
• Programmable microprocessor supervises all cabinet functions.
• Frameless, shatterproof sash is easy to clean, offers large, unobstructed viewing area.
• Ergonomically angled front improves reach and comfort.
• Angled supply filter matches cabinet profile to achieve best downflow uniformity.
• One-piece work surface removal simplifies cleaning.
• Raised airflow grille prevents blockage to airflow; maintains safety.
• Improved lighting is brighter, more uniform, reduces glare.
• Optional UV lamp is located away from direct line of sight; lamp operates on programmable timer.
• Antimicrobial coating on all painted surfaces.
• Activated carbon filter removes odors.

Model ACS-4 (available in 1.2 and 1.8 meter models / 4ft. and 6ft.) shown with standard infinitely adjustable stand, raised position.

The Changing Station protects the user from airborne contaminants during cage changing and other procedures. It protects animals from external and cross contamination and protects the environment from particulate emissions.

Shown with standard mobile hydraulic height-adjustable support stand fully lowered.
The laminar airflow system creates a recirculating vertical flow of ISO Class 3 Clean air across the work surface per ISO14644.1. A large 305 mm (12”) sash opening accommodates standard size animal cages, provides ample room for surgical procedures and other animal research protocols. The sliding window opens to 450 mm (17.7”) for insertion and removal of larger instrumentation and equipment.

**Integrated Filtration System**
A combination of twin ULPA filters, an activated carbon filter and an intake air pre-filter give the Universal Changing Station a fully integrated envelope for animal, operator and environment protection.

- ULPA filters (per IEST-RP-CC001.3) are tested to a typical efficiency of >99.999% for 0.1 to 0.3 micron particles.
- An improved mini-pleat separation technique maximizes filter surface area, improves efficiency and extends filter life over conventional separation.
- A disposable carbon pre-filter removes odors, traps larger particulates before they enter the blower chamber, and protects the supply ULPA filter to extend filter life.
- The supply ULPA filter provides clean air to the work surface in a gentle vertical laminar flow.
- The exhaust ULPA filter removes all particulates acquired from the work surface before the air is exhausted to the room.
- An activated carbon filter removes odors from the ULPA filtered exhaust air stream before returning air to the laboratory.

**Balanced Airflow**
Intake and exhaust ratios are factory balanced before shipment to assure proper performance of the resulting air curtain.

- The cabinet creates an airflow ratio of 60% recirculation to 40% exhaust, similar to a Class II, Type A2 biological safety cabinet.
- The inflow of room air is captured in the slots peripheral to the work surface opening before it can contaminate the work area.
- Contaminated room air does not enter the work area.

**Blower Efficiency**
The Universal Changing Station blower system is designed for maximum energy efficiency and minimal maintenance.

- One permanently lubricated independent blower is used.
- The centrifugal, direct-drive, external rotor motor is selected to reduce noise and vibration and to improve motor bearing life.
- Self-regulating airflow system automatically compensates for filter loading to extend filter life.
- The proprietary Ancare motor/blower orientation minimizes noise (less than 65 dBA for ACS-4) and vibration at the work surface.
- The built-in solid-state variable speed controller is infinitely adjustable from Off to Maximum.
- A built-in RFI and electrical noise filter eliminates interference with adjacent instrumentation.

**Programmable Microprocessor Control System**
When programmed ON
- The start-up sequence status with Air Safe and local time display.
- The Personal Identification Number (PIN) access restricts unauthorized adjustments.
- An airflow alarm warns of deviations from normal velocities.

**Integrated Filtration System**
A combination of twin ULPA filters, an activated carbon filter and an intake air pre-filter give the Universal Changing Station a fully integrated envelope for animal, operator and environment protection.

- ULPA filters (per IEST-RP-CC001.3) are tested to a typical efficiency of >99.999% for 0.1 to 0.3 micron particles.
- An improved mini-pleat separation technique maximizes filter surface area, improves efficiency and extends filter life over conventional separation.
- A disposable carbon pre-filter removes odors, traps larger particulates before they enter the blower chamber, and protects the supply ULPA filter to extend filter life.
- The supply ULPA filter provides clean air to the work surface in a gentle vertical laminar flow.
- The exhaust ULPA filter removes all particulates acquired from the work surface before the air is exhausted to the room.
- An activated carbon filter removes odors from the ULPA filtered exhaust air stream before returning air to the laboratory.

**Balanced Airflow**
Intake and exhaust ratios are factory balanced before shipment to assure proper performance of the resulting air curtain.

- The cabinet creates an airflow ratio of 60% recirculation to 40% exhaust, similar to a Class II, Type A2 biological safety cabinet.
- The inflow of room air is captured in the slots peripheral to the work surface opening before it can contaminate the work area.
- Contaminated room air does not enter the work area.

**Blower Efficiency**
The Universal Changing Station blower system is designed for maximum energy efficiency and minimal maintenance.

- One permanently lubricated independent blower is used.
- The centrifugal, direct-drive, external rotor motor is selected to reduce noise and vibration and to improve motor bearing life.
- Self-regulating airflow system automatically compensates for filter loading to extend filter life.
- The proprietary Ancare motor/blower orientation minimizes noise (less than 65 dBA for ACS-4) and vibration at the work surface.
- The built-in solid-state variable speed controller is infinitely adjustable from Off to Maximum.
- A built-in RFI and electrical noise filter eliminates interference with adjacent instrumentation.

**Programmable automatic UV light timer simplifies operation, enhances contamination control, extends UL lamp life and saves energy.**

**Microprocessor Control, Alarm, Monitoring System**
The Ancare microprocessor-based control system supervises operation of all cabinet functions.

- Control levels are locally configurable to meet user requirements.
- Continuous monitoring of cabinet airflow is displayed on a bright, easy-to-read LCD panel.
- Integrated, temperature-compensated true airflow velocity sensors provide the highest control accuracy.

Additional functions are factory set to default OFF. These can be user activated through the touchpad data entry access.

- Automatic start-up sequence will prepare the cabinet for normal operation and advise user when safe conditions are established.
• An administrator controlled PIN (personal identification number) can be set to restrict access to main menu.
• An independent airflow probe (standard) can be activated to warn of unsafe conditions.

Consult your Ancare Operating Manual or contact your Ancare Representative for information on expanded programming capabilities built into the microprocessor platform.

Comfortable Ergonomic Design
The ACS-4 cabinet is engineered for comfort, utility value and safety.
• The 10º angled viewing window and narrow profile front grille improves reach into the work area.
• The instant-start 5000k fluorescent lamp operates on an electronic ballast to reduce heat, improve comfort and conserve energy.
• The lamp delivers uniform lighting to the work surface for greater comfort, reduced glare and improved productivity; see Specifications.
• The front armrest is raised above the work zone to improve comfort and to ensure that the operator’s arms do not block the forward airflow perforations.

Front Sash Assembly
Integrated sash proximity contacts sense proper sash position, serve as an interlock for the UV lamp, and activate alarm upon improper position.
• The sash is frameless to simplify cleaning by removing the side sash profile.
• All sash surfaces are easily accessible for cleaning from the front access; no tools required.
• The sash is counterbalanced for effortless one-handed operation.
• The inherently safe counterbalancing system remains in a safe position even if 1 out of the 2 cables is detached. The cabling system is rated to 6× maximum weight of frontal sash.
• The laminated glass maintains containment even if the sash is inadvertently broken.

Cabinet Construction
The cabinet is fully assembled and ready to install and operate when shipped.
• The interior work area is formed from a single piece of stainless steel with large radius corners to simplify cleaning.
• The cabinet work zone has no welded joints to collect contaminants or rust.
• All stainless steel work surfaces are accessible for cleaning.

• Tray lift handle allows user to easily lift the tray and encourages surface decon.
• A recessed central area and stainless steel drain pan channels spills and prevents liquids from entering the lower filtration and blower systems.
• The drain pan is flush with the side walls to eliminate concealed or hard-to-clean spaces.
• There are no screws in the front or sides to trap contaminants or complicate cleaning.
• Optional service fittings are offset for easier access.
• External surfaces are coated with proprietary antimicrobial coating to protect against surface contamination and inhibit bacterial growth. Our antimicrobial coating eliminates 99.9% of surface bacteria within 24 hours of exposure.

Electrical Safety and Certification
All components meet or exceed applicable safety requirements.
• Each cabinet is individually factory tested for electrical safety.
• Documentation specific to each cabinet serial number is maintained on file.
Model ACS-4 Universal Changing Station Technical Specifications

1. Exhaust ULPA filter
2. Blower
3. Angled downflow ULPA filter
4. Carbon pre-filter
5. 2 GFI Certified electrical outlets
6. Electrical/Electronics panel
7. Fluorescent light
8. Plugged service fixture provisions (2 on each side wall) for gas/vacuum/nitrogen
9. Stainless steel single-piece work tray
10. Stainless steel armrest
11. Ancare microprocessor control system
12. Laminated glass sliding sash window
13. Stainless steel back wall and side wall
14. Removable side panel for plumbing access

The ACS-4 Universal Changing Station mounted on motorized adjustable height mobile support stand, shown in fully elevated position.

The ACS-4 Universal Changing Station mounted on motorized adjustable height mobile support stand, shown in fully lowered position for safe movement through hallways and standard doorways.
Warranty and Documentation
The Changing Station cabinet is under warranty for 3 years excluding consumable parts and accessories.
- Each cabinet is shipped with a comprehensive User’s Manual complete with a report documenting all test procedures.
- Additional IQ/OQ/PQ documentation is available upon request.
- Contact your Ancare Representative for specific warranty details or document requests.

Accessories and Options
Ancare offers a variety of options and accessories to meet local applications. Contact your Ancare Representative for ordering information on these and other accessories.

<table>
<thead>
<tr>
<th>General Specifications</th>
<th>ACS–4 1.2 m (4’) Model</th>
<th>ACS–6 1.8 m (6’) Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Dimensions (W x D x H)</td>
<td>1420 x 815 x 1515 mm</td>
<td>2030 x 815 x 1515 mm</td>
</tr>
<tr>
<td>Maximum External Dimensions with Support Stand (W x D x H)</td>
<td>1543 x 867 x 2285 mm</td>
<td>2150 x 867 x 2285 mm</td>
</tr>
<tr>
<td>Internal Work Area (W x D x H)</td>
<td>1260 x 620 x 680 mm</td>
<td>1870 x 620 x 680 mm</td>
</tr>
<tr>
<td>Average Airflow Velocity</td>
<td>Inflow 0.45 m/s (90 fpm)</td>
<td>Downflow 0.35 m/s (69 fpm)</td>
</tr>
<tr>
<td>Airflow Volume</td>
<td>Inflow 625 m³/h (368 cfm)</td>
<td>Downflow, 60% 959 m³/h (547 cfm)</td>
</tr>
<tr>
<td>ULPA Filter Typical Efficiency</td>
<td>&gt;99.99% at 0.1 to 0.3 microns</td>
<td></td>
</tr>
<tr>
<td>Sound Emission</td>
<td>NSF 49 &lt;65 dBA</td>
<td>EN 12469 &lt;62 dBA</td>
</tr>
<tr>
<td>Fluorescent Lamp Intensity</td>
<td>&gt;1300 Lux (&gt; 120 foot-candles) measured at work surface level, zero background</td>
<td></td>
</tr>
<tr>
<td>Cabinet Construction</td>
<td>1.2 mm (18 gauge) electrogalvanized steel with white oven-baked epoxy powder coating</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electrical</th>
<th>Voltage</th>
<th>Model</th>
<th>Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACS-4</td>
<td>110-130V, AC, 60Hz, 1Ph, 11.5 amps</td>
<td>ACS-6</td>
<td>110-130V, AC, 60Hz, 1Ph, 11.5 amps</td>
</tr>
<tr>
<td>Net Weight Cabinet, excluding stand</td>
<td>305 kg (672 lbs)</td>
<td>408 kg (900 lbs)</td>
<td></td>
</tr>
<tr>
<td>Shipping Weight Cabinet, excluding stand</td>
<td>325 kg (716 lbs)</td>
<td>441 kg (973 lbs)</td>
<td></td>
</tr>
<tr>
<td>Shipping Dimensions, Maximum (W x D x H)</td>
<td>1500 x 900 x 1700 mm</td>
<td>2150 x 900 x 1700 mm</td>
<td></td>
</tr>
<tr>
<td>Cabinet only, excluding stand</td>
<td>590.0” x 35.4” x 70.0”</td>
<td>84.6” x 35.4” x 70.0”</td>
<td></td>
</tr>
<tr>
<td>Shipping Volume, Maximum</td>
<td>2.3 m³ (81 cu.ft.)</td>
<td>3.29 m³ (116 cu.ft.)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standards Compliance</th>
<th>Air Quality</th>
<th>Filtration</th>
<th>Electrical Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>EN 12469</td>
<td>ISO 14644-1, Class 3, Worldwide</td>
<td>EN-1822 (H14), Europe</td>
<td>UL-61010A-1, USA</td>
</tr>
<tr>
<td>JIS B9920, Class 3, Japan</td>
<td>IEST-RP-CC001.3, USA</td>
<td>CSA22.2, No. 1010-192, Canada</td>
<td></td>
</tr>
<tr>
<td>JIS BS5295, Class 3, Japan</td>
<td>IEST-RP-CC007, USA</td>
<td>EN61010-1, Europe</td>
<td></td>
</tr>
<tr>
<td>US Fed Std 209E, Class 1 USA</td>
<td>IEST-RP-CC034.1, USA</td>
<td>IEC61010-1, International</td>
<td></td>
</tr>
</tbody>
</table>

Support Stand
- Infinitely adjustable motorized cradle stand, with casters.
- Elevates from seating to standing work surface height with a touch of a button.
- When lowered, permits movement through standard doorway.
- Utilizes electro-hydraulic motor to adjust height.

Electrical Outlets and Utility Fixtures
- Electrical outlet, ground fault, North America
- Electrical outlet, Euro/Worldwide

Cabinet Accessories
- Germicidal UV lamp.
- Controlled by automatic UV lamp timer through microprocessor control panel.
- Emission of 253.7 nanometers for most efficient decontamination.
- Lamp is positioned away from operator line-of-sight for safety and proper exposure to interior surfaces.
- PVC armrest.
- Chemically treated, improves operator comfort, easy-to-clean. 712 mm (28”) standard size.