

Ductless fume cabinets are open-fronted enclosures designed to provide operator protection by removing chemical fume contaminants generated within the work zone during routine procedures. The filtered air is then recirculated back to the room.

The Esco Airstream® Ductless Fume Cabinet is the second generation of our original and most popular ductless fume cabinet product, offering a sensible balance of quality, performance features and cost-effectiveness. Consider for example the high-quality, extremely durable, all-metal carcass which creates an air-tight outer shell for the best possible toxic fume containment possible (as opposed to a non airtight plastic frame). This innovative design is also supplemented by the frameless glass sliding sash front window which is more air-tight than conventional plastic systems. In addition, these models feature Esco's latest key innovations: user-friendly Esco Sentinel™ microprocessor control, generously-sized main filters with higher chemical retention capacities, over-sized high air volume blower systems, unique motorised impellers for better airflow uniformity and external rotor motors for low energy consumption.

Some example applications for which these cabinets can be used are: Pilot scale pharmaceutical manufacturing, slide staining operations, graphic arts preparation, PCR operations, solvent bonding, welding or decanting, robotic enclosures, powder weighing and dispensing, drum decanting etc.

*Image: Standard 4ft width model (ADC-4AX) on an optional support stand with caster wheels. Shown with 1 optional factory-fitted PP round drip cup and 1 optional swan-neck faucet in the internal work zone.



- ◆ All metal construction
- ◆ Stainless steel work surface
- ◆ Frameless front glass sliding sash
- ◆ Microprocessor-based control system
- ◆ Compliant to international standards, such as the ANSI/ASHRAE110-1995

► **Proven technology:** activated carbon filtration removes most common chemical fumes and vapours * - multiple carbon filter types available depending on application. Built-in pre-filter with a rated efficiency of 20% traps large airborne particles and extends main filter life.

*NOTE: Ductless recirculating fume cabinets are NOT suitable for all chemical applications, consult Esco for advice concerning your individual application.

► **Energy-saving:** cabinet does not remove tempered air from the laboratory as compared to conventional fume hoods.

► **Reliable:** all metal construction (as compared to plastic construction employed by the competition).

► **Safe:** higher volumetric airflow rates mean a larger number of air changes in the work zone and thus a higher degree of protection for the user.

► **Durable:** chemical and abrasion resistant stainless steel work surface will never rust or chip.

► **Convenience:** Tempered glass sliding front sash is easier to operate as compared to the usual hinged designs (sash can also be shut fully to isolate the work zone when the cabinet is not in use).

► **Your safety is assured:** microprocessor-based airflow alarm and control system that is fully configurable according to the user's requirements. Additional safety features such as Admin PIN and Fan PIN provide the laboratory supervisor with full control of the cabinet and its functions.

► **Ergonomics:** Ergonomically sloped front design for greater operator comfort, while the front control panel is downward-sloping for easier view of and access to the microprocessor control buttons.

► **Mobile and easily portable:** optional support stand (see photo above), base cabinet with caster wheels are available.

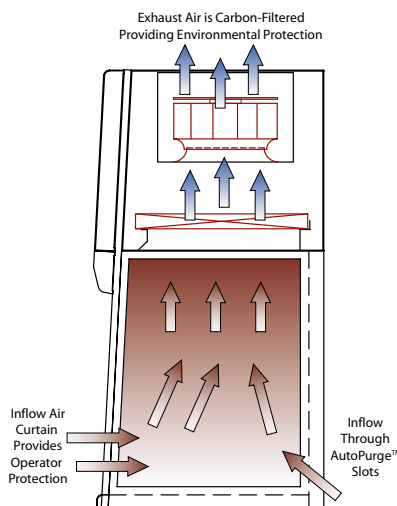
► **Compliant to International Standards:** Esco Airstream® Ductless Cabinets are designed and manufactured to meet and exceed the requirements of **ASHRAE 110, AS2243.9 - 1991, BS 7989 - 2001, AFNOR NF X 15-211 and ANSI/AIHA Z9.7-1998.**

CABINET AIRFLOW PROFILE

An inflow air curtain from the ambient environment into the cabinet with an average velocity of 0.5 m/s or 100 fpm is induced by the cabinet blower system. Additional inflow air taken through the AutoPurge™ slots at the back of the work zone prevents fume accumulation for better operator protection.

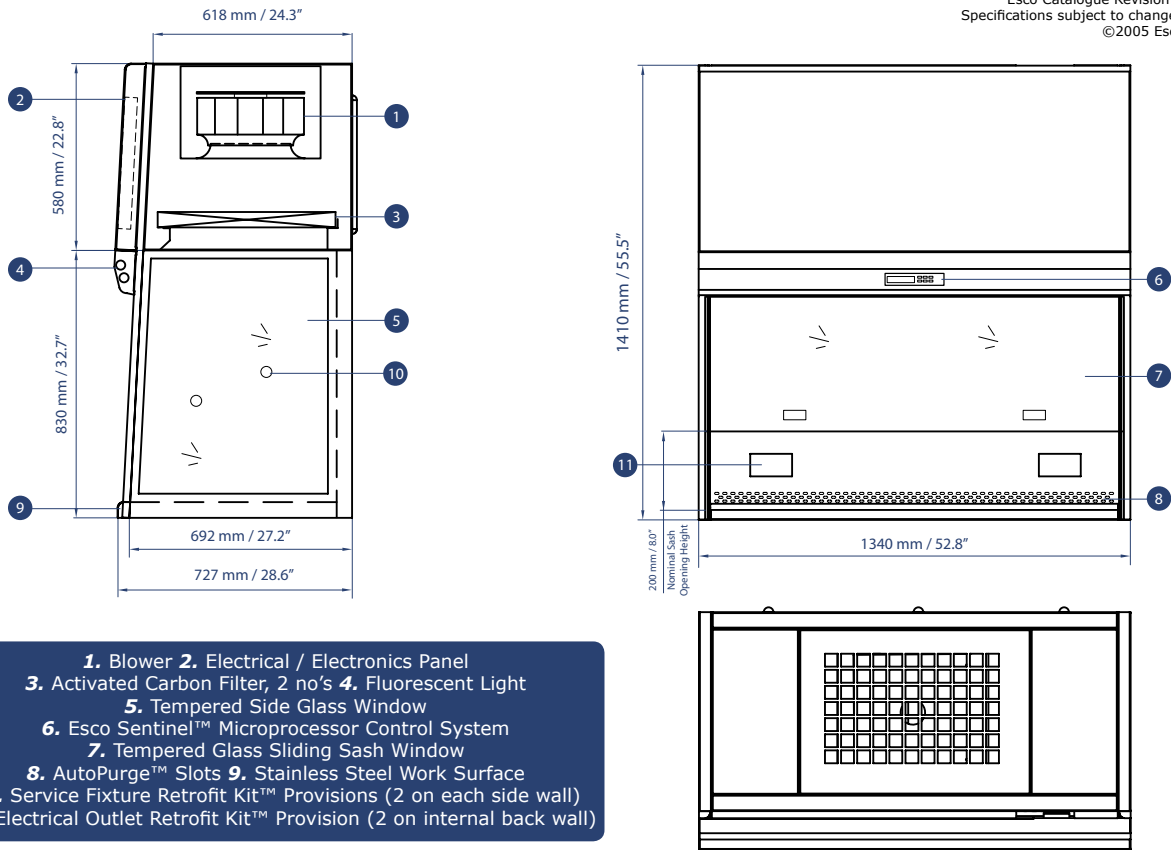
The inflow flushes the entire work zone of the cabinet; within the main chamber of the cabinet, negative pressure (relative to the ambient environment) is maintained in order to ensure that no chemical fumes or vapours escape the work zone.

Air is taken through an activated carbon filter mounted in the interior; this removes all fumes from the exhaust air stream; exhaust air is recirculated directly back to the room from the top of the cabinet.



Technical Specifications and Engineering Diagram

Esco Catalogue Revision ADC.v2.2.2005
 Specifications subject to change without notice
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- 1. Blower
- 2. Electrical / Electronics Panel
- 3. Activated Carbon Filter, 2 no's
- 4. Fluorescent Light
- 5. Tempered Side Glass Window
- 6. Esco Sentinel™ Microprocessor Control System
- 7. Tempered Glass Sliding Sash Window
- 8. AutoPurge™ Slots
- 9. Stainless Steel Work Surface
- 10. Service Fixture Retrofit Kit™ Provisions (2 on each side wall)
- 11. Electrical Outlet Retrofit Kit™ Provision (2 on internal back wall)

| General Specifications | ADC-4AX |
|-------------------------------------|---|
| External Dimensions (L x W x H) | 1340 x 727 x 1410 mm / 52.8" x 28.6" x 55.5" |
| Internal Work Zone (L x W x H) | 1268 x 678 x 780 mm / 50.0" x 26.7" x 30.7" |
| Standards Compliance | Designed and manufactured to meet and exceed the requirements of: ASHRAE 110, AS2243.9 - 1991, BS 7989 - 2001, AFNOR NF X 15-211 and ANSI/AIHA Z9.7-1998. Electrical safety: IEC 61010-1 / EN 61010-1 / UL 61010A-1 / CSA C22.2 No. 1010.1-92 |
| Inflow Air Velocity | Initial setpoint: 0.50 m/s or 100 fpm |
| Inflow | 463 cmh / 273 cfm |
| Light Intensity | >1000 Lux / >93 footcandles (measured at work surface level, zero background) |
| Standard Filtration Elements | Pre-filter: Washable non-woven polyester fibers with an efficiency of 20% against particles Exhaust filter: Activated carbon filters (2) with 50mm / 2" granular media bed (see table below for filter options) |
| Activated Carbon Media | Total Weight: 20 kgs / 44 lbs (10 kgs / 22 lbs each) |
| Main Body Construction | 1.5mm / 0.06" / 16 gauge electro-galvanised steel with white oven-baked epoxy powder-coated finish |
| Power Supply Options | Choose from the following options and specify number when ordering (e.g. ADC-4A2 for a 110-130VAC 60HZ) 1. 220-240VAC 50HZ, 1 phase 2. 110-130VAC 60HZ, 1 phase 3. 220-240VAC 60HZ, 1 phase 4. 110-130VAC 50HZ, 1 phase 5. 100-110VAC 50HZ / 60HZ |
| Max Shipping Dimensions (L x W x H) | 1440 x 830 x 1510 mm / 56.7" x 32.7" x 59.4" |
| Max Shipping Volume | 1.80 cbm / 63.8 cbf |

OPTIONAL ITEMS:

1. **Support stand with caster wheels or levelling feet.** Available heights: 28" (for a sitting operator) or 34" (for a standing operator)
2. **Powder-coated panel-mounted single electrical outlet** - Available in all international socket outlet types. Specify when ordering.
3. **Service fixture outlets** for air / water / vacuum / gas supplies within the working area of the cabinet.
4. **Swan-neck faucet and PP round drip cup sink** for water connections. (Must be factory-fitted).
5. Custom models available with **HEPA filter** as a substitute to carbon filter OR in addition to carbon filter.
6. **Wide range of filters are available.** Refer to table below for details. **NB:** It is important to choose the suitable filter type for your applications.

| CODE | NAME | SUITABLE APPLICATIONS |
|------|--------------------------|---|
| A | Standard Filter | All common laboratory chemicals, especially with organics. When no specific requirements are present, or when more than one type of chemical is used. |
| B | Acid Filter | Applications involving sulphur dioxide, hydrofluoric acid fumes. Removes inorganic / organic acid vapours and fumes |
| C | Mercury Compounds Filter | Highly effective for removal of mercury vapour and compounds. (Stable, non-volatile mercuric sulphide filter media) |
| D | Sulphur Compounds Filter | Removal of sulphur compounds. |
| E | Halogen Compounds Filter | Removal of halogen compounds like Chlorine, Fluorine, Iodine, Bromine, Astatine etc. |
| F | Aldehyde Filter | Formaldehyde applications or when aldehydes are present. Hospital pathology and endoscopy applications. |
| G | Ammonia / Amines Filter | High performance removal of ammonia/amines by chemisorption. |

ESCO® Esco Fume Filtration Division

Esco Fume Filtration Division is a highly focused manufacturer of carbon-filtered ductless fume cabinets for the laboratory with a history of quality cabinets since 1978. We are predominantly oriented towards the international marketplace, with sales in more than 60 countries and 90% of turnover exported. Our products are designed to comply with standards such as ASHRAE110 and BS 7989-2001. All products are manufactured under an ISO 9001 registered quality system.



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