

Ventilated Balance Enclosure (VBE)

Ensuring Stability and Accuracy of Powder Weighing Tasks



Introduction

The Ventilated Balance Enclosure (VBE) is designed specifically for stability and accuracy while maintaining a high level of operator protection during handling of hazardous airborne powders. Using our aerodynamic sash design and arm rest plus a sectionalized baffle, the powders are well-contained inside the enclosure and are exhausted out through a HEPA filter or directly to the lab exhaust.

Key Features

- Airflow is directed inward toward the exhaust making it suitable for applications requiring a high level of operator protection from hazardous airborne particles
- Disposal Port is equipped with an O-Ring to provide a sealed trash bag for additional powder containment solution
- Modular Design using VBE modules allow the unit to be fully customized
- Filtration System VBE can be equipped with a Filter Module or a Portable Filter Module, and for an added airflow control, a Blower Module can be added.
- Sentinel microprocessor controller with airflow monitoring

Optional Control System Package/s

- Add-on RH/Temperature Sensor: 1 unit Vaisala HM120T sensor with LCD

Filtration Package

- **SINGLE Filtration System:** Single Bag-in/Bag-out (BIBO) Filter
- **DUAL Filtration System (Standard):** Two (2) BIBO Filter installed on top of each other
 - Efficiency: 99.995% at 0.3 micron
 - Classification: H14
 - Media: Glass Fiber
 - Sealing Method: Gasket

Warranty

One (1) year warranty (excluding consumables). Consumables are ballast, fluorescent, and filters. The warranty will cover all other parts including the blower, fan switch, and electrical mainboard. During the period of warranty, any repair, modification, testing, and commissioning performed by any unauthorized party other than the Escó Service Team shall void the warranty of the unit.

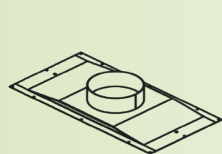
Guide to Ventilated Balance Enclosure (VBE) Models

VBE-2 A 8-03 S A

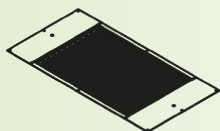
Model	Internal Width (mm)	Size	Configuration	Electrical Code	Enclosure Module	Filter Module	Exhaust Type
VBE	610	2	A - Standard	7 - 100V 50/60Hz	01 - without filter and blower 02 - with filter 03 - with filter and blower	S - Single Filtration D - Double Filtration	A - Ducted B - Ductless C - Portable Duct
	915	3		8 - 230V 50/60Hz			
	1220	4		9 - 115V 50/60Hz			
	1525	5	B - Tall				
	1830	6					
	2135	7	C - Tall and Deep				
	2440	8					

EXHAUST MODULE

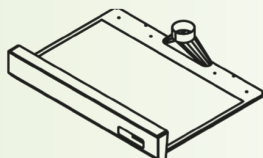
VBE has three (3) options for Exhausting Filtered Air such as **DUCTED**, **DUCTLESS**, **PORTABLE**.



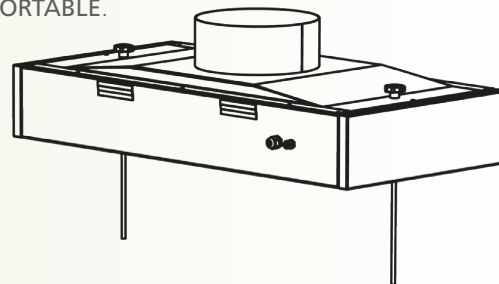
*Ducted
(Standard)*



Ductless



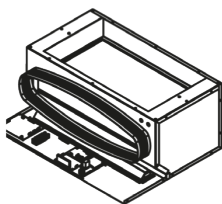
Ducted or Portable



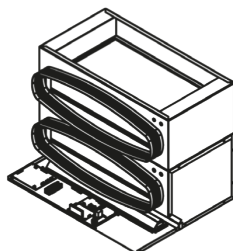
FILTER MODULE

Filter Module can be configured as **Single** or **Dual** Filter. Each module section quantity may vary from 1 - 3 depending on the width of the enclosure. Additional carbon filter may be supplied for odor control.

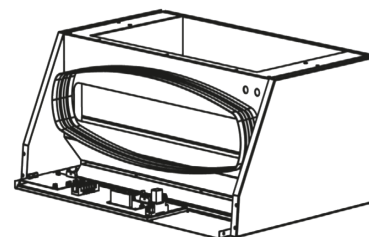
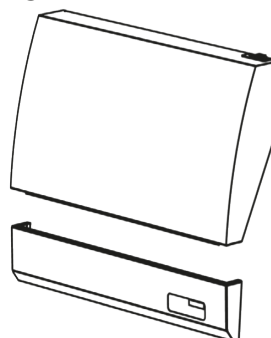
Optional Carbon Filter housing (on top): additional 200 mm in external height



*Single Filtration Module
(Standard)*



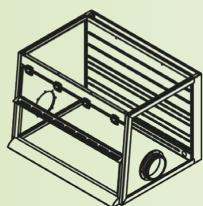
Dual Filtration Module



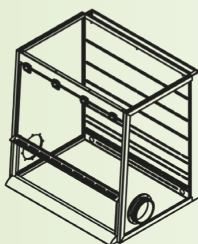
ENCLOSURE MODULE

VBE Enclosure covers a wide range of weighing and powder handling options and requirements. We have **SMALL**, **MEDIUM**, **LARGE** models.

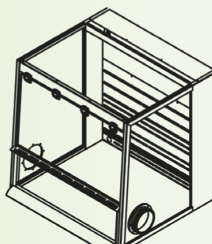
- **Small Models** are perfect for small spaces, and by adding portable filter options, the end-user can save a great amount of ceiling space.
- **Medium Models** are perfect if you are using tall equipment when weighing powders.
- **Large Models** are perfect for large scale powder handling, it can also be combined with our Worktop with Drum Access Options.



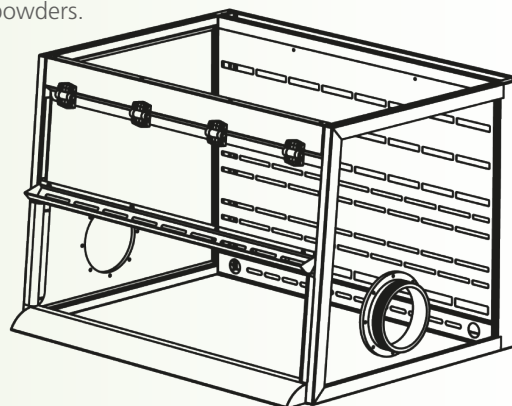
*Small Model
(Standard)*



Medium Model



Large Model



WORKTOP AND BASE (OPTIONAL)

There are three (3) types of Worktop available: **SOLID EPOXY**, **STAINLESS STEEL (SS 316L)**, **GRANITE** (to prevent vibration)

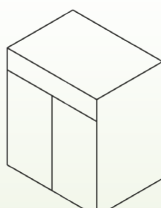
Worktop Options: - **SS 316L:** additional 50 mm in external height

- **Granite/Solid Epoxy:** additional 91 mm in external height

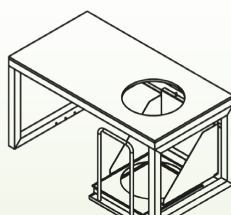
For the Base, **SUPPORT STAND**, **CABINET**, **SUPPORT STAND w/ DRUM ACCESS** can be ordered. In addition to this, **Castor wheel** or **Leveling feet** can be selected as footing options.



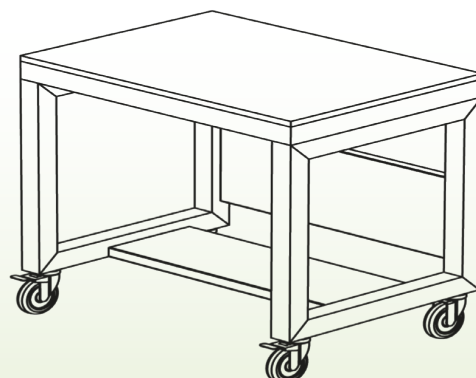
*Standard
Support Stand*



Cabinet Type

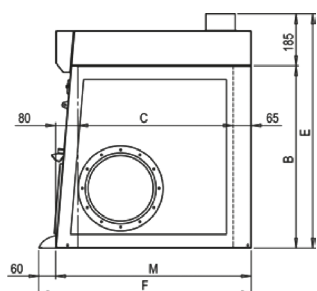
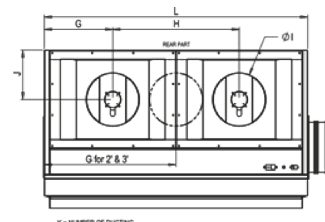
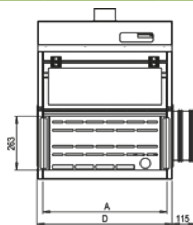


*Drum Access**

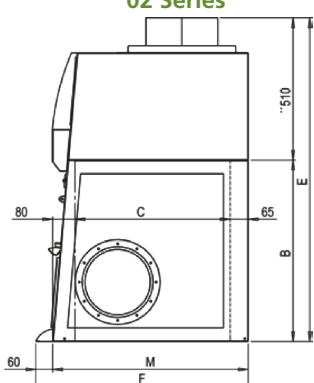


*Support stand with drum access

- Only available for VBE-5C_, VBE-6C_, VBE-7C_ and VBE-8C_ Deep Enclosures (Customized units).

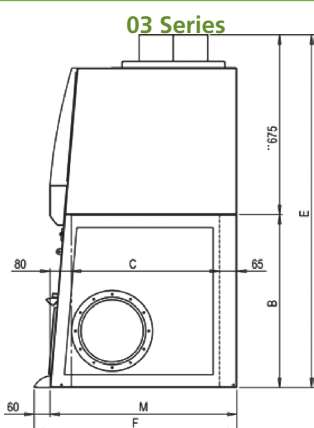


01 Series



02 Series

**External Height Reference for Ductless "02 series":
- Single filtration: + 385mm
- Double Filtration: + 670mm
- With ducting : + 125mm



03 Series

**External Height Reference for Ductless "03 series":
- Single Filtration: + 550mm
- Double Filtration : + 835mm
- With ducting : + 125mm

SERIES	CONFIG	SIZE	WORK SPACE			EXTERNAL			TOP LAYOUT					BASE SIZE	
			A	B	C	D	E	F	G	H	I	J	K	L	M
01 Series	A	2	610	650	555	666"	835	760	330	-	4"	110	1	660	700
		3	915	650	555	971"	835	760	483	-	4"	110	1	965	700
		4	1220	650	555	1276"	835	760	330	610	4"	110	2	1270	700
		5	1525	650	555	1581"	835	760	407	763	4"	110	2	1575	700
		6	1830	650	555	1886"	835	760	483	915	4"	110	2	1880	700
		7	2135	650	555	2191"	835	760	559	1068	4"	110	2	2185	700
		8	2440	650	555	2496"	835	760	432	814	4"	110	3	2490	700
		8	2440	955	555	2496"	1140	760	432	814	4"	110	3	2490	700
	B (TALL)	2	610	955	555	666"	1140	760	330	-	4"	110	1	660	700
		3	915	955	555	971"	1140	760	483	-	4"	110	1	965	700
		4	1220	955	555	1276"	1140	760	330	610	4"	110	2	1270	700
		5	1525	955	555	1581"	1140	760	407	763	4"	110	2	1575	700
		6	1830	955	555	1886"	1140	760	483	915	4"	110	2	1880	700
		7	2135	955	555	2191"	1140	760	559	1068	4"	110	2	2185	700
		8	2440	955	555	2496"	1140	760	432	814	4"	110	3	2490	700
		8	2440	955	705	2496"	1140	910	432	814	4"	110	3	2490	850
	C (TALL & DEEP)	2	610	955	705	666"	1140	910	330	-	4"	110	1	660	850
		3	915	955	705	971"	1140	910	483	-	4"	110	1	965	850
		4	1220	955	705	1276"	1140	910	330	610	4"	110	2	1270	850
		5	1525	955	705	1581"	1140	910	407	763	4"	110	2	1575	850
		6	1830	955	705	1886"	1140	910	483	915	4"	110	2	1880	850
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		8	2440	955	705	2496"	1140	910	432	814	4"	110	3	2490	850
		8	2440	955	705	2496"	1140	910	432	814	4"	110	3	2490	850
02 Series	A	2	610	650	555	666"	1160	760	330	-	10"	238	1	660	700
		3	915	650	555	971"	1160	760	483	-	10"	238	1	965	700
		4	1220	650	555	1276"	1160	760	330	610	10"	238	2	1270	700
		5	1525	650	555	1581"	1160	760	407	763	10"	238	2	1575	700
		6	1830	650	555	1886"	1160	760	483	915	10"	238	2	1880	700
		7	2135	650	555	2191"	1160	760	559	1068	10"	238	2	2185	700
		8	2440	650	555	2496"	1160	760	432	814	10"	238	3	2490	700
		8	2440	955	555	2496"	1465	760	432	814	10"	238	3	2490	700
	B (TALL)	2	610	955	555	666"	1465	760	330	-	10"	238	1	660	700
		3	915	955	555	971"	1465	760	483	-	10"	238	1	965	700
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		8	2440	955	705	2496"	1465	910	432	814	10"	238	3	2490	850
03 Series	A	2	610	650	555	666"	1325	760	330	-	10"	238	1	660	700
		3	915	650	555	971"	1325	760	483	-	10"	238	1	965	700
		4	1220	650	555	1276"	1325	760	330	610	10"	238	2	1270	700
		5	1525	650	555	1581"	1325	760	407	763	10"	238	2	1575	700
		6	1830	650	555	1886"	1325	760	483	915	10"	238	2	1880	700
		7	2135	650	555	2191"	1325	760	559	1068	10"	238	2	2185	700
		8	2440	650	555	2496"	1325	760	432	814	10"	238	3	2490	700
		8	2440	955	555	2496"	1630	760	432	814	10"	238	3	2490	700
	B (TALL)	2	610	955	555	666"	1630	760	330	-	10"	238	1	660	700
		3	915	955	555	971"	1630	760	483	-	10"	238	1	965	700
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		8	2440	955	705	2496"	1630	910	432	814	10"	238	3	2490	850

* = with Disposal Port, additional +116mm
Note: - SS 316L worktop: refer to External Width "L"
- Granite/Epoxy worktop: refer to External Width "D"

Volume Flow Rate with standard 263 mm sash opening height

2ft: 173 m ³ /hr (102 cfm)	6ft: 520 m ³ /hr (306 cfm)
3ft: 260 m ³ /hr (153 cfm)	7ft: 606 m ³ /hr (357 cfm)
4ft: 347 m ³ /hr (204 cfm)	8ft: 693 m ³ /hr (408 cfm)
5ft: 433 m ³ /hr (255 cfm)	

TOP COVER

Designed to be ducted or ductless

BIBO RING WITH BIBO BAG

to provide hazard free filter change procedure

SENTINEL MICROPROCESSOR

To provide control, visual monitoring and alarm system

SASH SWEEP – Incoming air from this area sweep airborne particle away from sash

SIDE AIRFOILS – Designed to maximize the airflow to the enclosure by pulling air from sides

MAIN STREAM – The sash opening provides an airflow velocity of 0.3 m/s

BLOWER – With low level noise

HEPA FILTER – To provide high level of filtration

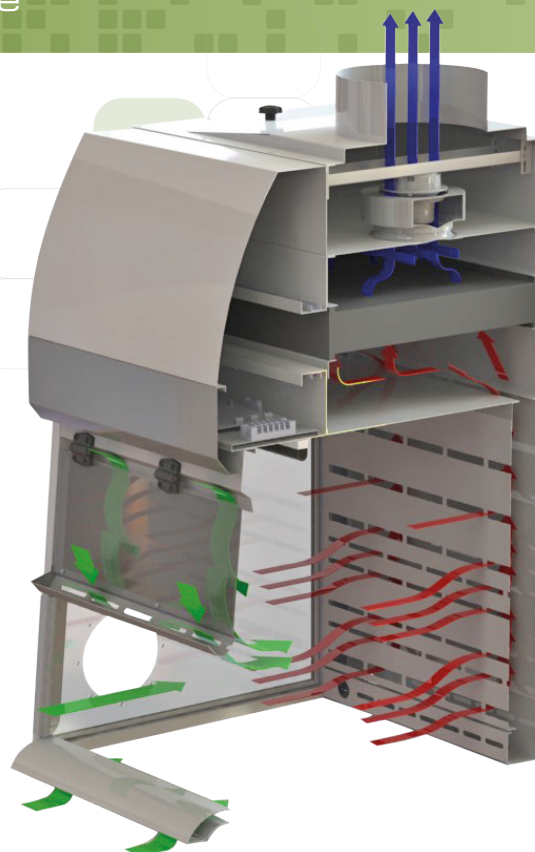
BAFFLE – Is tested to provide optimized airflow inside the enclosure

SASH HANDLE – Provides air from the top of the sash to the enclosure if the user is blocking a section of the sash during operation.

ARM REST – Provides air from bottom of the sash to the enclosure. Provides base sweep.

COMFORTABLE ERGONOMIC DESIGN

- The 5° angled front frame improves viewing on the workspace
- Lightweight sash with position hinge to provide easy access on equipment inside
- Instant start-up fluorescent lamp
- The arm rest is raised above the work zone to improve comfort and to ensure the user's arm is not blocking the airflow
- Optimized side panels provide more light inside



- Filtered air
- Room air / Inflow air
- Unfiltered / Potentially contaminated air

CABINET CONSTRUCTION

- Constructed with Isocide™ powder coated electrogalvanized steel with antimicrobial property
- The cabinet is fully assembled and ready to install and operate when shipped
- Easy to clean baffle due to pivoted design

ELECTRICAL SAFETY AND CERTIFICATION

- All components meet or exceed applicable safety requirements
- Each cabinet is individually tested at the factory for electrical safety
- Documentation specific to each cabinet serial number is maintained on file



Esco Pharma Pte Ltd

21 Changi South Street 1 Singapore 486777 • Tel: +65 65420833
Email: csis.pharma@escolifesciences.com

Esco Technologies, Inc.

2512 Metropolitan Drive, Suite 120 B Feasterville- Trevose, PA 19053-6738
Tel: 215 322 2155 • Email: eti.pharma@escolifesciences.com

Esco Gb Ltd

Unit 2 R-evolution @ Gateway 36, Kestrel Way, Barnsley, S70 5SZ
Tel: +44 (0) 1226 360 799 • Email: egb.pharma@escolifesciences.com

Esco Lifescience Offices: Bangladesh | China | Denmark | Germany | Hong Kong | Indonesia | Lithuania | Malaysia | Myanmar | Philippines | Russia | Singapore | South Africa | South Korea | Taiwan | Thailand | UAE | UK | USA | Vietnam