



## Fume Extraction Systems

**OK** International has been a leading manufacturer of tools for the electronics assembly workbench for almost 60 years. And, under the Metcal and Impell brand names, OK International has been an innovator in efficient, cost-effective systems to protect operators from hazardous fumes.

Now, all of our fume extraction products feature the OK International name. These are part of our family of complementary products that also include soldering, rework and fluid dispensing systems.

OK International's fume extraction line of products offers a range of products that include portable single and dual user systems, tip extraction systems and under-bench multi-user systems. All systems provide the power and choice of filters to do the job, yet they are flexible to fit into today's manufacturing environments. Our systems are developed to incorporate innovative designs, professional performance and ease of use, all within your budget.

Our systems are set apart by a well designed series of filters, including HEPA filters. These filters capture the most harmful fumes, even those produced by new lead-free solders. In addition, we also have systems with filters that efficiently remove gases and vapors from heavy duty bench-top applications.

Known. Trusted. Quality. That's OK International. With decades of experience we are committed more than ever to provide customer driven solutions and the reliable products you demand.





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## Powerful, Portable Fume Extraction

OK International's BVX-100 Series Fume Extraction Systems are powerful, but low noise units that need no external ducting or compressor. Simply move these lightweight systems from station to station, plug them in and switch them on for instant fume extraction. Just 279mm (11") tall, with a 305mm x 229mm (12" x 9") plenum chamber, the units easily fit on any bench-top or, when space is at a premium, take advantage of the under-bench mounting bracket.

Rated at 85-Watts, the systems deliver high quality filtration without compromise. A powerful 85m<sup>3</sup>/hr-airflow rate provides immediate extraction of fumes, particles and vapors from operator breathing areas. When a larger capture range is needed, an innovative adaptor quickly transforms the plenum into an arm extraction system.

Two filtration configurations are available for heavy soldering and light dust applications, or light duty organic solvent and adhesive applications. A bi-colored LED light indicates when the filters are blocked and require replacing.



## Two Station Design for Dynamic Fume Extraction

The BVX-200 Series Fume Extraction Systems are revolutionary two-arm units that combine powerful fan performance with efficient filtration, quiet operation and complete portability. They can be placed under or next to the bench-top and fitted with either two 50mm (2") diameter BVX arms or one 63mm (2.5") diameter Omniflex arm.

Using the proven fan motor of the BVX-100 Series Fume Extraction Systems, the BVX-200 Series Fume Extractions Systems add a proprietary one-stage impeller design that doubles the total free-blowing airflow. The result is a maximum free-blowing airflow of 250m<sup>3</sup>/h (150cfm), with a maximum suction force of 850 Pa (3.5"WC). This suction force provides ample capability in reserve to handle any clogging that may occur during the normal life of the filter. In fact, the suction rating for this unit is one of the best in its class offered for such compact and portable systems.

The BVX-201 Fume Extraction System is designed mainly for solder fumes and incorporates both pre- and main-filters which can be changed independently to maximize the working life of each filter and lower the total cost of ownership. The main filter has a HEPA efficiency of 99.97% at 0.3 micron, plus an activated carbon filter to remove additional gases. For applications that require a high capacity of gas filtration, such as cleaning with solvents or conformal coatings, the BVX-203 Fume Extraction System features a deep-bed gas filter.



## BVX-100 Series

**BVX-101**  
Bench-Top, single user arm/plenum system, Pre-HEPA-Gas, 100-240 VAC

**BVX-103**  
Bench-Top, single user arm/plenum system, Pre-Gas, 100-240 VAC

**BVX-101-S**  
Bench-Top, single user plenum system without arm, Pre-HEPA-Gas, 100-240 VAC

**BVX-103-S**  
Bench-Top, single user plenum system without arm, Pre-Gas, 100-240 VAC

### FILTERS

**FG-BVX**  
Deep Bed Gas Filter

**FM-BVX**  
Main Filter (Combined HEPA/Gas)

**FP-BVX**  
Pre-Filter (Pack of 5)

### ACCESSORIES

**BVX-ADT**  
Replacement Arm-To-Plenum Adaptor

**BVX-IADT**  
Inverted Arm Adaptor, ESD Safe

**BVX-BCK**  
Under Bench Mounting Bracket



## BVX-200 Series

**BVX-201-KIT**  
Filter unit with 2 flexible arms, 1.2m long, Pre-HEPA-Gas

**BVX-201**  
Filter unit for 2 stations, Pre-HEPA-Gas

**BVX-203**  
Filter unit for 2 stations, Pre-Deep Bed Gas

### FILTERS

**FP-BVX200**  
Pre Filter (Pack of 5)

**FM-BVX200**  
Main Filter HEPA Carbon

**FG-BVX200**  
Deep Bed Gas Filter

### ACCESSORIES

**BVX-ARM-K1**  
1 BVX arm 710mm (28") long with 1.8m (6') long hose and table bracket with C-clamps

**BVX-ARM**  
Arm flexible ESD safe, 710mm (28") long

**BVX-ARML**  
Arm flexible ESD safe, 1.2m (48") long

**BVX-TB01**  
Table bracket with 2 C-clamps

**BVX-CH01**  
Connection hose, 50mm (2") diameter, 1.8m (6') long

**BVX-CH02**  
Connection hose, 50mm (2") diameter, 3.6m (12') long



## Technical Specifications

	BVX-100 Series	BVX-200 Series
Static Pressure (suction force)	1250 Pa (5"WC)	850 Pa (3.5"WC)
Fan Capacity	110m <sup>3</sup> /h (65 cfm)	250m <sup>3</sup> /h (150 cfm)
Flow Rate (with filter)	85m <sup>3</sup> /h (50 cfm)	2 x 75m <sup>3</sup> /h (45 cfm)
Air Inlets/Number of Stations	1	2
HEPA Efficiency	99.97% at 0.3 micron	99.97% at 0.3 micron
Noise Level	< 55 db A	< 55 db A
Dimensions	(W x D x H) 300mmx230mmx290mm (11.8" x 9.1" x 11.4")	508mmx 254mmx388mm (20" x 10" x 15.3")
Weight	9kg (20 lbs)	9kg (20 lbs)
Voltage	100-240 VAC	100-240 VAC
Frequency	50-60 Hz	50-60 Hz
Power	85 watt	85 watt
Certification	UL, CSA, CE	UL, CSA, CE





## Setting a New Benchmark In Performance

OK International's multi-user MFX-2200 Series Fume Extraction Systems set a new benchmark in performance, delivering a maximum airflow of 900m<sup>3</sup>/h and a maximum suction force of 1,075 Pa.

Capable of providing filtration for up to eight manual assembly workstations, the MFX-2200 Series Fume Extraction Systems' power can also be harnessed to remove particulates and gases from exhaust cabinets and even small bench-top wave and reflow soldering ovens.

For general electronics assembly applications, a combined filtration model features pre, HEPA (99.97% efficient @ 0.3µm) and gas filters. For more specific applications, such as removing solvent vapors from bonding and under-fill operations, a gas filtration model is available featuring a pre-filter and 11kg high capacity activated carbon cartridge.

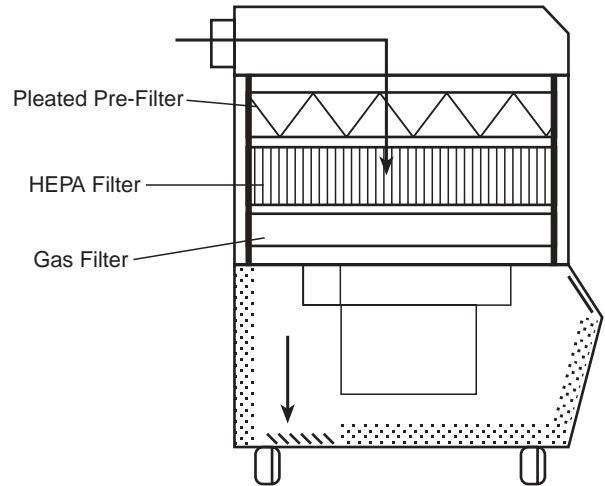
Measuring 450mm wide, by 525mm deep and 670mm tall, the unit can accept either a 457mm by 406mm by 120mm HEPA filter or the activated carbon filter. Due to the size of the filter, the MFX-2200 Series Fume Extraction Systems can process more fumes for substantially longer periods before requiring a filter change, thereby reducing maintenance costs and workplace disruption.

# MFX-2200C Particle Fume Extraction System

OK International's new multi-user MFX-2200C Fume Extraction System provides the ultimate performance in a compact size that easily fits under most workbenches. It is ideal for removing solder fumes and filtering laser fumes. The lid features 4 air inlet ports for connection to Omniflex arms. By using a hose splitter in conjunction with BVX arms, the number of connected arms can be doubled.

## Features

- Excellent air flow performance
- Large, pleated pre-filter
- HEPA filter rating of 99.97% at 0.3 micron
- Casters as standard
- Dust filter seal keeps filter housing clean
- Minimum operating noise
- Compact size, unit fits under most workbenches
- Connects up to 4 Omniflex arms with rectangular nozzle (EA1122) or large hood (EA1126)
- Connects up to 8 BVX arms or 8 Omniflex arms with tapered nozzle (EA1124)



## Controls and Filter Monitor

- Unit On/Off Switch with power indicator light
- Thermal overload protection
- Analog models with filter status gauge
- Digital models with filter status indicator lights and other control options

## Options

- AC2204** Top Cover with 2 Air Inlets Ø100mm (4") and 2 Air Inlets Ø63mm (2.5")

## Replacement Filters

- FIL22P030** Prefilter Pleated 60% Efficiency (Pack of 2)  
**FIL22H070** Combination Filter HEPA/Carbon

## Technical Specifications

	MFX-2200C-A (Analog) MFX-2200C-D (Digital) <b>110V</b>	MFX-2206C-A (Analog) MFX-2206C-D (Digital) <b>230V</b>
Air Inlet Openings	4 x Ø2.5"	4 x Ø63mm
Fan Capacity	600 cfm	900m <sup>3</sup> /h
Flow Rate	400 cfm	600m <sup>3</sup> /h
HEPA Efficiency	99.97% at 0.3 micron	99.97% at 0.3 micron
Static Pressure	4.5" WC Maximum	1075 Pa
Power Supply	100-120VAC, 60Hz	220-240VAC, 50Hz
Power	400 Watt	400 Watt
Noise Level	58 dBA	58 dBA
Dimension (W x D x H)	17.7" x 20.75" x 26.4"	450 x 525 x 670mm
Weight	93 lbs	43 kg
Certification	UL, CSA	CE



# MFX-2200G Gas Fume Filtration System

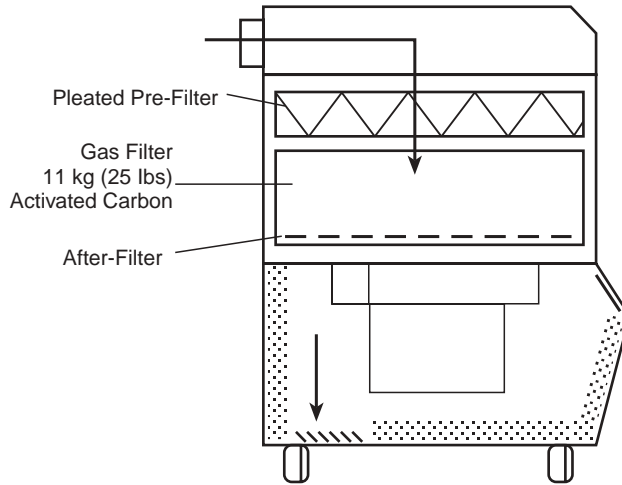
The new MFX-2200G Fume Extraction System has been specifically designed for the removal of gases and vapors from a range of heavy duty bench-top applications, including solvent cleaning, gluing/bonding and conformal coatings. The unit's high capacity gas filter cartridge ensures a long dwell-time of the gases inside the filter media, resulting in the most efficient removal of gases. The unit's lid features 100mm (4") and 63mm (2.5") air inlet flanges, making it suitable for the connection of exhaust arms or cabinets.

## Features

- Excellent filtration efficiency
- Large, pleated pre-filter
- Casters as standard
- Minimum operating noise
- Provides air flow for two exhaust cabinets

## Controls and Filter Monitor

- Unit On/Off Switch with power indicator light
- Thermal overload protection
- Analog models with filter status gauge
- Digital models with filter status indicator lights and other control options



## Options

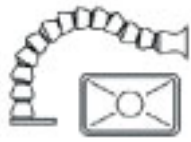
- AC2202** Top Cover with 4 Air Inlets Ø63mm (2.5")

## Replacement Filters

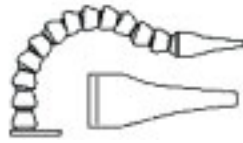
- FIL22P040** Pre-Filter Pleated 85% Efficiency  
**FIL22G010** Gas Filter Cartridge 11kg (25lbs)  
**FIL22G020** Carbon Refill Kit 11kg (25lbs)

## Technical Specifications

	MFX-2200G-A (Analog) MFX-2200G-D (Digital) <b>110V</b>	MFX-2206G-A (Analog) MFX-2206G-D (Digital) <b>230V</b>
Air Inlet Openings	2 x Ø4" and 2 x Ø2.5"	2 x Ø100mm and 2 x Ø63mm
Fan Capacity	600 cfm	900m <sup>3</sup> /h
Flow Rate	350 cfm	550m <sup>3</sup> /h
Static Pressure	4.5" WC Maximum	1075 Pa Maximum
Power Supply	100-120VAC, 60Hz	220-240VAC, 50Hz
Power	400 Watt	400 Watt
Noise Level	58 dBA	58 dBA
Dimension (W x D x H)	17.7" x 20.75" x 28"	450 x 525 x 710mm
Weight	115 lbs	52 kg
Certification	UL, CSA	CE



A



B



C



D

## Features

- 140m<sup>3</sup>/h (85cfm) air flow rating (varies with nozzle)
- 63mm (2.5") diameter
- 0.6m (24") long with optional extensions of 300mm (12")

## Omniflex Arms

Omniflex Arms (Ø63mm) are designed for higher airflow rates and effective fume capture from greater distances. A unique ball/socket design provides an unmatched flexibility in maneuvering and positioning. The arms can be adjusted in working length or radius, simply by adding or removing Omniflex components. ESD conformance is ensured through the use of fully conductive material.

## Part Numbers

A	<b>EA1122</b>	Omniflex Arm ESD with Rectangular Nozzle
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B	<b>EA1124</b>	Omniflex Arm ESD with Tapered Nozzle
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C	<b>EA1126</b>	Omniflex Arm ESD with Large Hood 350 x 212mm (14" x 8.5")
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D	<b>AC1101</b>	Damper for Omniflex Arm
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	<b>AC1102</b>	Omniflex Arm Extension 300mm (12") long
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All Omniflex arms are supplied with mounting plates and C-clamps.



## BVX Arms

BVX Arms (Ø50mm) are the most economic solution while providing good airflow rates and high flexibility. The spiral rolled duct can be tightened in stiffness and can be positioned precisely. The BVX Arm-K2 kit includes a mounting plate and C-clamps for universal mounting. A Y-connection piece is available to connect two BVX Arms to one hose.

## Features for BVX Arms

- 75m<sup>3</sup>/h (45cfm) air flow rating
- 50mm (2") ducting with 40mm (1.75") nozzle
- 710mm (28") long

## Part Numbers for BVX Arms

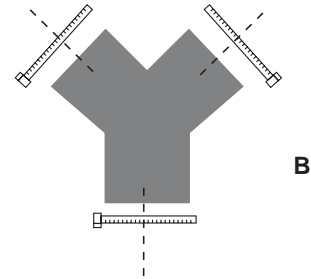
**BVX-ARM-K2**

BVX Arm ESD with Nozzle, Mounting Plate and C-Clamps

For Individual Components Refer To BVX Section

## Connection Hoses for Omniflex and BVX Arms

<b>A CH0251</b>	Connection Hose 2.5m x Ø63mm (8' x 2.5") with clamps
<b>A CH0252</b>	Connection Hose 3.5m x Ø63mm (12' x 2.5") with clamps
<b>A CH0253</b>	Connection Hose 7.5m x Ø63mm (25' x 2.5") with clamps
<b>B AC2025</b>	Y-Piece for Ø63mm (2.5") hose with clamps



## EC1500 Exhaust Cabinet

Volatile vapors and gases with high toxic levels often require the use of exhaust cabinets to protect the user.

The EC1500 is an ideal bench cabinet for such applications. A hinged and clear viewing panel maintains excellent visibility while at the same time reducing the airflow demand on the cabinet.

### Features

- Dimensions W x D x H  
760 x 510 x 560mm (30" x 20" x 22")
- Connection Flange Ø100mm (4")



### Part Numbers

**EC1500** Exhaust Cabinet with Clear Viewing Panel

**CH0047** Connection Hose 2.5m (8') Long Ø100mm (4") with Clamps



## Precision and Power In Tip Extraction

Due to its powerful vacuum, OK International's BTX-208 Fume Extraction System offers high performance extraction of solder fumes directly from the tip of any hand soldering iron and can be easily configured to form an extraction network for up to eight workstations.

The unit's pre-filter is followed by a main filter offering HEPA efficiency exceeding 99.97% and an activated carbon filter to remove gases. Both pre- and main- filters can be changed independently to maximize the working life of each filter and lower the total cost of ownership.

Measuring 508mm wide by 254mm deep by 388mm high and weighing just 9kg, the BTX-208 Fume Extraction System has been designed specifically for under-bench installation. With a universal power supply that accepts 100 to 240V at 50 or 60Hz, and with UL, CSA and CE certifications, the unit can be used anywhere in the world.

To complement the BTX-208 Fume Extraction System, Metcal has developed a new plug-and-play ducting system, which offers a simple, flexible, low cost solution for faster configuration of tip extraction installations.

## Portable for up to Eight Operators

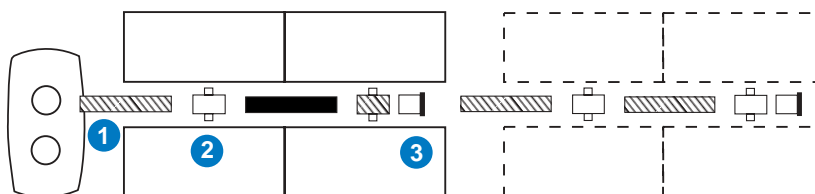
The BTX-208 Fume Extraction System is a tip extraction unit with a high vacuum blower motor and a capacity for up to eight workstations. The unit's universal hose connection kit provides maximum flexibility and eliminates the need for a traditional layout and design of tip extraction ducting. The compact design and easy set-up make it truly portable.



## BTX-208 Tip Extraction Duct Layout

### BTX-CK2-25

2 Couplings/2.5m Hose



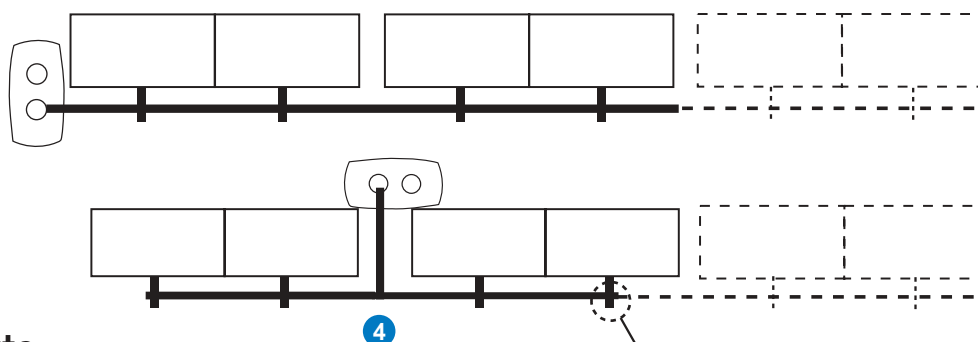
### BTX-CK4-50

4 Couplings/5m Hose

or

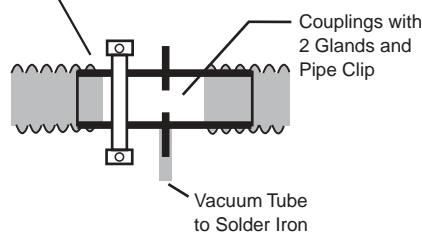
### BTX-CK4-75

4 Couplings/7.5m Hose



## Individual Parts

ITEM	PART No.	DESCRIPTION
1	CH0121	Flexible Hose Ø35mm x 2.5m (8') Long
1	CH0122	Flexible Hose Ø35mm x 5m (16') Long
1	CH0123	Flexible Hose Ø35mm x 7.5m (25') Long
2	AC-TX001-4	Couplings with 2 Glands 5.6mm (Pack of 4)
3	18566S-5	End Plug (Pack of 5)
4	AC-TX002-2	T-Piece Connector (Pack of 2)
-	19115S-10	Pipe Clip (Pack of 10)



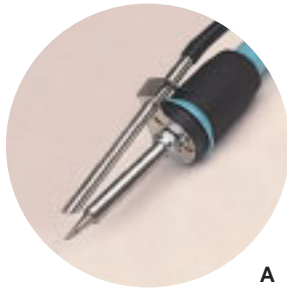
## Connection Kits

Item	Description	BTX-CK2-25	BTX-CK4-50	BTX-CK4-75
	Max number of stations	2	4	4
	when using 5.6mm tubes	4	8	8
		<b>Qty</b>	<b>Qty</b>	<b>Qty</b>
1	Flexible Hose Ø32mm (1.25")	2.5m (8')	5.0m (16')	7.5m (25')
2	Coupling with 2 Glands 5.6mm	2	4	4
3	End Plug	1	2	2
4	T-piece Connector	0	1	1
-	Pipe Clip	2	5	5
-	Roll of Vinyl Tape	1	1	1

# Tip Extraction Iron Adapter Kit

	Kit Part#	Description	Replacement Tubes (5) Part #
A	<b>DS03-902</b>	Macro Adapter Kit for Weller / Pace IR-70 (stand not included)	<b>17235S-5</b>
	<b>DS03-902S</b>	Weller Replacement Spring and Receptacle Only	<b>N/A</b>
	<b>DS03-951</b>	Weller Micro Iron Adapter Kit EC-1302A	<b>17235S-5</b>
	<b>DS03-926</b>	Hakko Micro Iron Adapter Kit (900S)	<b>17235S-5</b>
	<b>DS03-927</b>	Hakko 5.6mm Macro Iron Adapter Kit (900M/900L)	<b>17235S-5</b>
B	<b>DS03-929</b>	Metcal STSS/MX/RM3E/ - Hakko 907/936/937 Adapter Kit - 5.6mm	<b>20233S-5</b>
B	<b>DS03-930</b>	Metcal SP-HC1 (SP200 Base) Iron Adapter Kit - 5.6mm	<b>20233S-5</b>
B	<b>DS03-931</b>	OK International* PS-800 Iron Adapter Kit 5.6mm	<b>20233S-5</b>
	<b>SP-Cradle</b>	Replacement Metcal Stand Insert for DS03-930	<b>N/A</b>
	<b>DS03-955</b>	Universal Iron Adapter Kit fits 6.4mm Heating Element w/5.6mm Tube	<b>17235S-5</b>
C	<b>18863S-5</b>	Plastic Clip for Metcal MX (5 per pack)	<b>N/A</b>
C	<b>18864S-5</b>	Plastic Clip for Metcal SP (5 per pack)	<b>N/A</b>
C	<b>18865S-5</b>	Plastic Clip for OK International* PS-800 (5 per pack)	<b>N/A</b>
	<b>DS03-910-5</b>	Brush Brass for tip ext tube (5 per pack)	<b>N/A</b>
	<b>DS03-965-10</b>	Spring Strain Relief for 5.6mm (10 per pack)	<b>N/A</b>

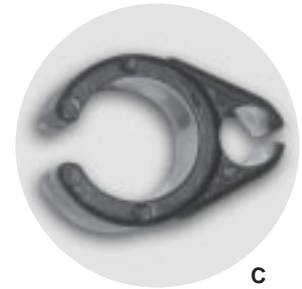
\*Previously branded Metcal



A



B



C

## Technical Specifications

	<b>BTX-208</b>
Max. Number of Stations	8
Flow Rate per Station	>28 l/min
Noise Level	<55 dBA
Dimensions W x D x H	508 x 254 x 388mm (20" x 10" x 15.3")
Weight	9 kg (20 lbs)
Voltage	100 - 240 VAC
Frequency	50 - 60 Hz
Power	85 Watt
Max Duct Run	30m (100 ft)
Certification	UL/CSA/CE

## System

### **BTX-208**

Filter Unit for 8 Tip Extraction Stations, Pre/HEPA/Gas

### **CONNECTION KITS**

BTX-CK2-25	Connection Kit for 2-4 Stations with 2.5m (8') Long Hose
BTX-CK4-50	Connection Kit for 4-8 Stations with 5m (16') Long Hose
BTX-CK4-75	Connection Kit for 4-8 Stations with 7.5m (25') Long Hose

For other part numbers refer to layout details

### **REPLACEMENT FILTERS**

FP-BVX200	Pre-Filter (Pack of 5)
FM-BVX200	Main Filter, HEPA 99.95%/Carbon



OK International provides solution based technologies to electronics manufacturing industries throughout the world. Through our sales, service and distribution centers located in North America, Europe and Asia we are able to provide seamless, proactive expertise and support to our customers worldwide.

Wherever industrial manufacturing facilities are located, OK International's global network of expertly trained distributors is there, to supply essential technical support and advanced process solutions.



#### **NORTH AMERICA**

OK International  
12151 Monarch Street  
Garden Grove,  
California 92841  
USA  
Tel: +1-714-799-9910  
Fax: +1-714-799-9533

#### **UNITED KINGDOM**

OK International Ltd.  
Eagle Close, Chandlers Ford  
Eastleigh, Hampshire SO53 4NF  
United Kingdom  
Tel: +44 (0) 2380 489100  
Fax: +44 (0) 2380 489109

#### **FRANCE**

OK International SAS  
Rue de la Saone  
Zac de Follieuses-les Echets  
01706 Miribel Cedex  
France  
Tel: +33 (0)4 72 26 20 30  
Fax: +33 (0)4 72 26 20 35

#### **JAPAN**

OK International Japan Co.  
5-3-1 Heiwajima, Ota-ku  
Tokyo 143-0006  
Japan  
Tel: +81-3-5753-0085  
Fax: +81-3-3765-8855

#### **GERMANY**

OK International GmbH  
Frankfurter Straße 74  
64521 Gross-Gerau  
Germany  
Tel: +49 (0) 61 52-71 12-0  
Fax: +49 (0) 61 52-71 12-22

#### **ITALY**

OK International  
Strada Statale 11 – No 28  
20010 Vittuone, Milano  
Italy  
Tel: +39 02 902 5161  
Fax: +39 02 901 11147

#### **SINGAPORE**

OK International  
10 Ang Mo Kio St. 65  
#05-13 Techpoint  
Singapore 569059  
Tel: +65-62810991  
Fax: +65-62853473

#### **CHINA**

OK Electronics (Beijing) Co.,Ltd.  
No. 1 Building,  
A -10 Long Qing Street  
Beijing Economic &  
Technical Developing Zone  
Beijing, 100176  
The People's Republic of China  
Tel: +86-10-67878490  
Fax: +86-10-67878491





North America

12151 Monarch Street • Garden Grove, California 92841 USA

Tel: +1-714-799-9910 • Fax: +1-714-799-9533

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