

Introduction

Purex offers an extensive range of fume extraction solutions. These range from machines to protect a single person to powerful centralised systems to cater for multiple users or high volume continuous automated processes (e.g. a PCB production line).

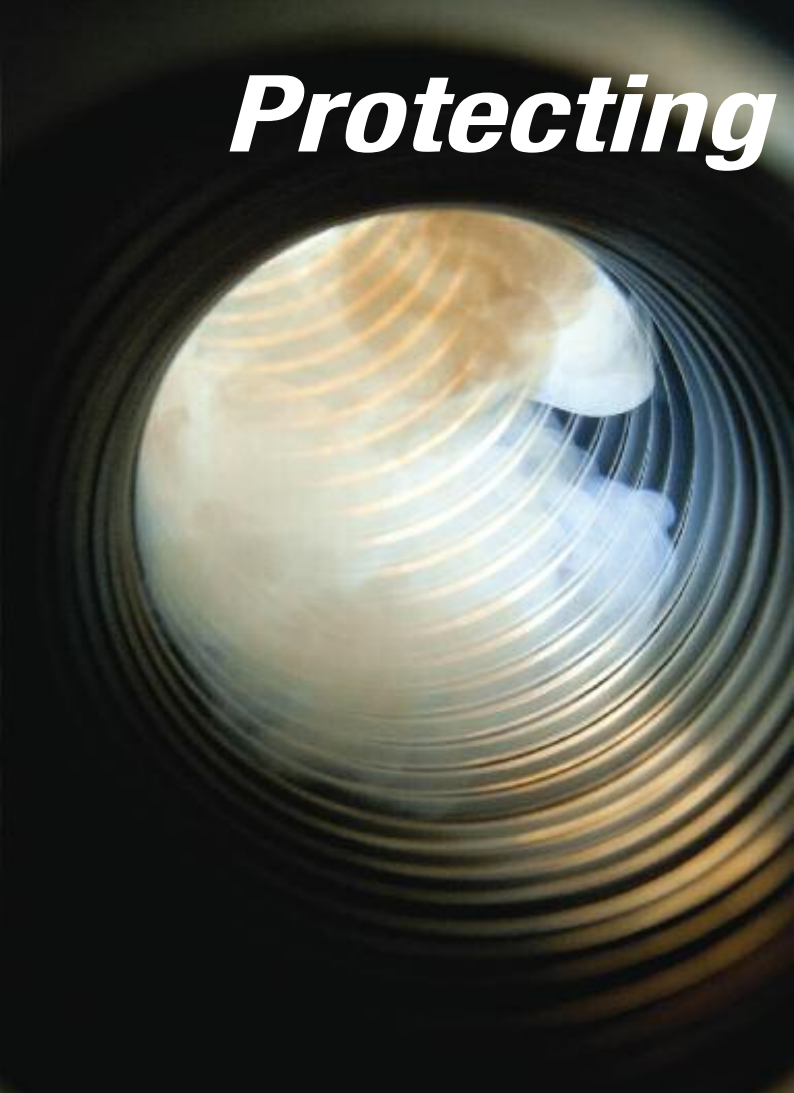
Purex has the experience, products and support infrastructure to help ensure that:

- The correct machine is specified first time.
- The process performs at the optimum level.
- Employees are protected from hazardous fumes.
- The company complies with health & safety legislation
- Product quality is maintained
- Process machinery is protected from dust and fumes.
- Contaminated air is filtered, not pumped into the environment.

APPLICATIONS

- Laser Coding and Marking
- Continuous Ink Jet Coding and Marking
- Laser Engraving
- Wide Format Printing
- Dye Sublimation
- Reflow & Wave Soldering
- Manual Soldering
- Laser & Robotic Soldering
- Underfill & Conformal Coating
- Cleanrooms & Laboratories
- Education & Engineering

Protecting



NEW....

FumeCube Max

- Ideal for dusty applications & lead free solder.
- Can be used with small lasers, in dentistry, in jewellery making and many other applications.
- Uses patented filter technology.



NEW....

Tip Extraction Kits

- Individual kits to fit tip extraction onto popular models of soldering iron.
- Prevents tip cooling.
- Simple to install and comfortable to use.



NEW....

Large Diameter Arms

- Ideal for applications requiring high airflow.
- Can be attached to a Purex extractor to give mobility.
- Fully adjustable.



NEW....

- 113669 filter for Acidic Vapours such as HCN or for engraving ABF plastic.
- 200316 high performance F8/F9 pre-filter pad for FumeCubes.
- 125mm connection kits for conformal coating and other systems.
- Parts and Spares information for easy reference.

People and the Environment with Innovative Technology

Health & Safety Legislation

Local and international health and safety legislation (such as COSHH, NIOSH, OSHA etc) states that it is the employers responsibility to protect the health, welfare and safety of their employees. Failure to do so can result in expensive legal action, potential fines and poor employee relations.

The Need for Fume Extraction

Many types of dust and fume are hazardous to health if inhaled. People can become permanently sensitised to fumes which means that continued exposure, even to very small amounts of fume, may cause asthma attacks or other respiratory diseases. A high performance fume extraction system will help to:-

- Protect employee health.
- Ensure compliance with Health & Safety regulations such as **OSHA, NIOSH C.O.S.H.H, MAK, AFNOR and HSG258** or equivalent.
- Increase production speeds.
- Reduce complaints by operators due to odours, dust and vapours.

- Avoid the possible cost of health compensation claims.
- Reduce the cost & time to clean laser lenses, conveyors, guarding, soldering machines and other equipment.
- Reduce product contamination.
- Provide a better working environment.
- Reduce downtime.

Which Extraction System?

There are usually two types of extraction system available:-

- External - pump contaminated air outside
- Internal - at source capture and filtration or LEV (local exhaust ventilation) system

In our opinion the best system to use is an LEV system such as a Purex. These capture fumes at the source thereby preventing fumes escaping into the workplace. They also filter hazardous particles and gasses which would otherwise be pumped into the outside environment causing pollution.

Using an internal filter system also avoids issues with environmental regulations and potential complaints from neighbouring businesses about fumes and odours.

Purex LEV systems sit next to the process and the extraction rate can be altered precisely to suit the application. Purex machines are also easy to move if the process moves.

LEV systems have additional benefits over external exhaust systems.

See comparison table below...

“Purex LEV engineers are qualified to BOHS P601 or P602”

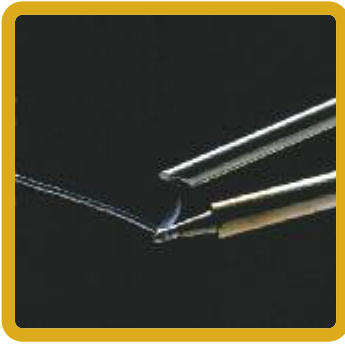


COMPARISON: Exhaust into the Environment System “vs” Purex LEV System...

Comparison Question	Exhausting into the Environment	Purex LEV System
How long will it take to install the system?	Several days on average.	In many cases just minutes.
Will there be any disruption in the workplace?	Scaffold, ladders etc. may be required in several places, disrupting work for lengthy periods.	Minor, if any.
Can the system be moved?	Only with scaffold etc. and disruption to work.	Yes. Simply disconnect and push to new location.
Are holes in the building required?	Yes. They need to be specially cut and sealed.	No.
Are external emissions regulations a problem?	Company must investigate and obey local laws.	Not applicable.
Is there any energy lost e.g. heating costs?	Energy (and therefore money) is wasted when heated or conditioned air is pumped outside.	No energy or heat is lost as the air is recycled. So costs are lowered.
Are there any ducting / installation costs?	Potentially expensive - as ducting needs to be purchased and specialist installation is required.	Minimal if any, depending on process.
Are there any cleaning costs?	Specialist cleaning required to prevent risk of fire or contamination. Again, scaffold, disruption & cost.	One annual service is recommended to comply with regulations such as COSHH.
Are there any decontamination costs?	Specialist decontamination may be required.	None.
Can fumes be drawn back into the workplace?	Yes. Through windows or vents.	Fumes are captured by highly efficient filters
Could there be disputes with my neighbours?	Yes. Over hazardous fumes and odours.	Not applicable.



Fume Extractor Selector Guide



SOLDERING & ELECTRONICS MANUFACTURING

	Arm Extraction, Cabinets & Cows			Tip Extraction	Reflow	Wave
Machine	Max No. Arms 38mm	Max No. Cleancab Extraction Cabinets	Max No. Cows	Max No. Soldering Iron Tips	Oven Extract Volume Required m³/hr	Oven Extract Volume Required m³/hr
FumeCube (inc MAX)	1 or 2	-	1 or 2	1*	-	-
FumeBuster	-	1 or 2	1 or 2	-	-	-
FumeSafe	-	-	-	3 up to 15	-	-
2tiP	-	-	-	1 or 2	-	-
200	3	1	2	up to 30	-	-
400	6	1-2	4	-	-	-
200i	3	1	2	up to 30	-	-
200i-HP	-	-	-	up to 50	-	-
400i	6	1-2	4	-	-	-
800i	9	2-4	6	-	-	-
1500i	12	4-8	8	-	Below 900	-
2000i	15	6-12	10	-	Below 1500	Below 1500
5000i	36	12-24	20	-	Over 1500	Over 1500

Notes:

1. The selection is based on the use of a standard connection kit.
2. A larger extraction machine may be required depending on the layout and the type of fume or dust.
3. * Point-to-point soldering machines only, not suitable for handheld tip extraction.

4. Continuous use may require a machine with larger filtration capacity.
IMPORTANT: Choose a vacuum control machine for Arm and Tip extraction and a volume control machine for other applications. We also have solutions for conformal coating, selective soldering, vapour phase and more, please contact us for more information.

LASER ENGRAVING

Size of Laser Engraving Machine		Alpha 200	Alpha 400	Xbase 200	Xbase 400	150 Low Profile	400i	800i 2-Tier (High Dust)	800i 3-Tier (Acrylic)	1500i	2000i	5000i
Light Use	Heavy Use*											
Small		●	■	●	■	●	-	-	▲	-	-	-
	Small	x	●	x	●	x	-	-	▲	-	-	-
Medium		x	x	x	x	x	●	■	▲	-	-	-
	Medium	x	x	x	x	x	x	●	▲	■	-	-
Large		x	x	x	x	x	x	x	▲	●	■	-
	Large	x	x	x	x	x	x	x	▲	-	●	■
Extra large open bed lasers		x	x	x	x	x	x	x	x	x	●	■

Approximate laser bed sizes:

Small - 16"x12", Medium - 24"x12", Large - Anything over this.

- Normal selection.
- Select if extra filter capacity is required and/or additional airflow is required to extract from multiple lasers or heavy duty applications.
- (-) May also be considered.
- x Unit not usually specified for application.
- ▲ Consider if continually lasing acrylic.

Notes: Always select a volume control machine.

1. The selection is based on the use of standard connection kit.
2. * Heavy use includes high proportion of cutting, lasers with a deep bed and constant use. Contact Purex for further advice.
3. The 800i 3 tier unit is designed for use where the application has low dust, but high gas emissions. The 2 tier is designed for applications producing high dust emissions.
4. In applications with extremely high dust emissions, a Cascade inline filter can be considered.



Fume Extractor Selector Guide

CODING & MARKING

Laser Coding & Marking

CPM (Codes per Minute)		FumeCube MAX*	200i	400i	800i 2-Tier (High Dust)	800i 3-Tier (High Gas)	1500i	2000i	5000i
Good Enclosure	Poor Enclosure								
<200		●	●	■	-	-	-	-	-
	<200	x	x	●	■	-	-	-	-
200-500		x	x	●	■	-	-	-	-
	200-500	x	x	x	●	■	-	-	-
>500		x	x	x	●	■	-	-	-
	>500	x	x	x	x	x	●	■	-
Machines for Lasing PVC		x	x	▲	▲	▲	▲	▲	▲

● Normal selection.

■ Select if extra filter capacity is required and/or additional airflow is required to extract from multiple lasers or heavy duty applications.

(-) May also be considered.

x Unit not usually specified for application.

▲ Optional "PVC" machines should be used when lasing onto PVC.

* For low wattage lasers or occasional use.

Notes: Always select a volume control machine.

1. The selection is based on the use of standard connection kit.
2. The 800i 3 tier unit is designed for use where the application has low dust, but high gas emissions. The 2 tier is designed for applications producing high dust emissions.
3. A poor enclosure is where less than 4 sides of the process are enclosed.

Continuous Inkjet Coding & Marking

Small Character Inkjet Printers	200	400	800i
See Notes	●	■	■

● Normal selection.

■ Select if additional airflow is required to extract from multiple inkjet heads or if the controller unit has cooling fans installed.

Notes: Always select a volume control machine.

There are many different makes and models of inkjet printers available. Please contact Purex or your local representative for advice on which model is correct for particular applications.

IMPORTANT:

- This is a guide only, many factors influence the choice of fume extraction system. For more help and information please contact Purex or your local representative
- Purex recommends the use of anti static hose with continuous inkjet printers.

WIDE FORMAT PRINTING

Printer Model		Machine Part No.		Machine Type	Connection Kit	Fittings	Manifold	Main Filter	Pre-Filter
		230V	120V						
Mimaki	JV33-130SP	080703	080702	CaptivairMAX	120309	120311	120313	113800 x 2	-
	JV33-160SP	080703	080702	CaptivairMAX	120309	120312	120313	113800 x 2	-
Roland	AdvancedJet AJ-740	0LX4000D	0LX4001D	400	120188	120299	-	113508	202260
	VersaUV LEC-300	0AL4102	0AL4103	Alpha 400	100019	120090	-	113508	202269
	VersaUV LEC-330	0AL4102	0AL4103	Alpha 400	100019	120089	-	113508	202269
Seiko	ColorPainter H-74s	080703	080702	CaptivairMAX	120303	120314	120322	113800 x 2	-
	ColorPainter H-104s	080703	080702	CaptivairMAX	120303	120314	120322	113800 x 2	-
	ColorPainter V-64s	0LX4000D	0LX4001D	400	120297	120323 x 2	-	113508	202260

Contact Purex or your local distributor for more information.

OTHER APPLICATIONS

Dye Sublimation • Laser & Robotic Soldering • Underfill & Conformal Coating • Cleanrooms & Laboratories • Education & Engineering
Dentistry • Medical • Welding • Adhesives • Solvents • and more... contact us for more information.