EN

DOMINO

DPX Fume Extraction System Product Manual

DPX500

DPX1000

DPX1500

DPX2000

Domino. Do more.

DOMINO

DPX Fume Extraction Systems Product Manual.

This manual, Domino Part No. 27759, has been produced for use in the maintenance and operation of the Domino DPX Fume Extraction Systems.

Domino UK has a policy of continuous product improvement. The Company, therefore, reserves the right to modify the specification contained in this manual without notice.

For sales and service assistance, please contact your local Domino Distributor, or:

Domino UK
Bar Hill
Cambridge CB23 8TU
United Kingdom
Tel: +44 1954 782551
Fax: +44 1954 782874

AMENDMENT RECORD

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PREFACE

This product manual, Domino Part No. 27759, is for use in the operation and maintenance of DPX fume extraction systems by operators and to reinforce and complement any training program available with the product. It is not designed to replace any such training program.

DPX1000

This reference guide is the official authority for the operation and maintenance of the DPX fume extraction systems. It is the source document for all translated versions. It is the “Original Instructions” for the purposes of the Machinery Directive.

Only engineers trained and certified by Domino should carry out repairs. Genuine Domino parts must always be used to ensure quality and performance.

Users of this equipment are warned that it is essential to read, understand and act according to the information given in this manual. This part of the product manual also specifies a set of symbols which are used elsewhere in the product manual to convey special warnings or requirements. It is, therefore, essential that users are also familiar with these symbols and act accordingly.

CONTENTS OF
EC DECLARATION OF CONFORMITY

EC Directives 2014/30/EU, 2014/35/EU, 2006/42/EC

Responsible Person Mr K Andrew Easey
Purex International Limited
Purex House
Capitol Park
Thorne
Doncaster
DN8 5TX
United Kingdom

Apparatus Domino DPX500, 1000, 1500, 2000

Technical Construction File Purex Engineering File – Issue 3

Date 4th November 2016

Standards Applied EN 60950-1:2005/A2:2013
EN 60950-1:2006/A2:2014
UL 60950-1:2007/R:2014-10
CAN/CSA C22.2 No.60950-1:2007/A2:2014-10
FCC CFR 47: Part 15: B: 2015
ICES-003: 2012
EN 61000-6-1:2007
EN 61000-6-3:2007+A1:2011

Meeting the Requirements of 2014/30/EU EMC Directive
2006/42/EC Machinery Directive
2011/65/EU RoHS Directive

We certify that the Purex equipment stated above conforms with the protection requirements of the Council Directives indicated above on the approximation of the laws of the Member States relating to electromagnetic compatibility, low voltage and machinery safety.

Signed:Andrew Easey
Position: Operations Director
Date: 2nd August 2017

EC DECLARATION OF CONFORMITY

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EC Directive	2014/30/EU, 2014/35/EU, 2006/42/EC
Responsible Person	Mr Andrew Easey Purex International Limited QWP House Capitol Park Thorne Doncaster DN8 5TX United Kingdom
Apparatus	DPX500, DPX1000, DPX1500, DPX2000
Technical Construction File	Purex Engineering File - Issue 3
Date	4th November 2016
Standards Applied	IEC 60950-1:2005/A2:2013 EN 60950-1: 2006/A2:2013 UL 60950-1:2007/R:2014-10 CAN/CSA C22.2 No.60950-1:2007/A2:2014-10 FCC CFR 47: PART 15: B: 2015 ICES-003: 2012 EN 61000-6-1:2007 EN 61000-6-3:2007+A1:2011
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Signed:	Andrew Easey
Position:	Operations Director
Date:	2nd August 2017

www.purex.co.uk purex@purex.co.uk

DPX FUME EXTRACTION SYSTEMS

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WARNINGS, CAUTIONS AND NOTES

The warnings, cautions and notes used throughout this product manual are highlighted by the use of international hazard symbols. The following definitions for all three of these notices are described below in the format they are presented in this product manual.

WARNING:	**A hazard that may cause death or injury.**
	

CAUTION:	*A hazard that may cause damage to equipment or the environment.*
	

Note: *Important additional information.*

WARNING AND CAUTION SYMBOLS

The symbols below are used to highlight specific warnings and cautions.


Warning or Caution, read and comply with the warning or caution text to avoid physical injury, damage to equipment or damage to the environment.


Risk of fire by igniting flammable material.


Risk of coming into contact with electricity.


Eye protection must be worn.


Protective gloves must be worn.


A protective face mask must be worn.


Heavy object. Two people are required to lift.


Read the instructions.

DPX WARNING AND CAUTION LABEL

The image below illustrates the warning and caution label that is fixed to the DPX cabinet.

GENERAL WARNINGS AND CAUTIONS

WARNING:	**Flammable material. Risk of fire.**
	Remove any debris from the area around the laser beam. Inspect the area around the hose (including edges and welded seams of the extraction nozzle) as specified in “Recommended Routine Maintenance” on page 28**.** Do not operate the equipment with its door open.

WARNING:	**Potentially harmful substance. Risk of personal injury**
	Set up the DPX **carefully** to extract fumes & particulates. Operate it in a well ventilated environment. Carry out a risk assessment and implement the necessary additional controls to meet local and national safety regulations. Take particular care when changing any parameters of the laser process. These may change the requirements of the filtration, for example: • Different substrates being lasered • Laser outputs/volumes • Air circulation/ventilation.
	Always wear appropriate Personal Protective Equipment (PPE) as identified during your risk assessment, when changing filters. Do not operate the equipment without the filters installed.

WARNING:	**Heavy equipment. Risk of personal injury**
	Carry out a risk assessment before moving the equipment. Do not lift the equipment by yourself.

CAUTION:	*Risk of damage to equipment.*
	Follow the recommended routine maintenance schedule (given later in this manual). A good level of housekeeping will promote serviceability and reduce downtime. Consult local regulations concerning fume extraction systems, as these may be subject to periodic checks by authorised agencies and the re-issue of certificates of compliance, or equivalent.

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INTRODUCTION

The DPX fume extraction system takes fumes and particulates, generated by the laser beam on the substrate, away from the head of the laser. This keeps the environment around the laser head cleaner and maintains the performance of the laser system.

It is the responsibility of the user of the DPX to carry out a risk assessment that ensures local regulations (on the provision of work equipment to employees) are complied with. Risk assessments should be carried out whenever anything changes and must take into consideration factors such as: the substrate, laser power, air circulation, ventilation and factors that may affect filter efficacy.

The DPX provides both audible and visual alerts if a filter is blocked and is equipped with sensors designed to detect VOC (Volatile Organic Compounds) or particles in the exhaust air. The extractor models have similar control, blower and capture (hose) systems, but have different multi-stage filtration systems.

Filtered air and blower cooling air vents at the rear of the cabinet, are designed against water penetration to IP46 standard. All extractor cabinets are stainless steel.

The DPX2000 is epoxy coated on the interior of the filter compartment within the cabinet. It features thumb screw door locks and nylon door hinge screws.

The cabinets are fully mobile on lockable, high strength, corrosion resistant castors. Stainless steel castors are optional as an accessory.

All cabinets have a door for access to a general purpose filter system, consisting of:

- A Pre-filter Bag.
- A Main Filter, containing HEPA and active carbon stages.

The DPX2000 cabinet is taller to accommodate the larger filtering (see page 16) and has a door for access to a filter system consisting of:

- A Super-filter Bag
- A Double Main Filter.
- A chemical absorbent pad fitted into the bottom of the cabinet to collect condensate, it is recommended to replaced at the same time as the Super-filter bag.

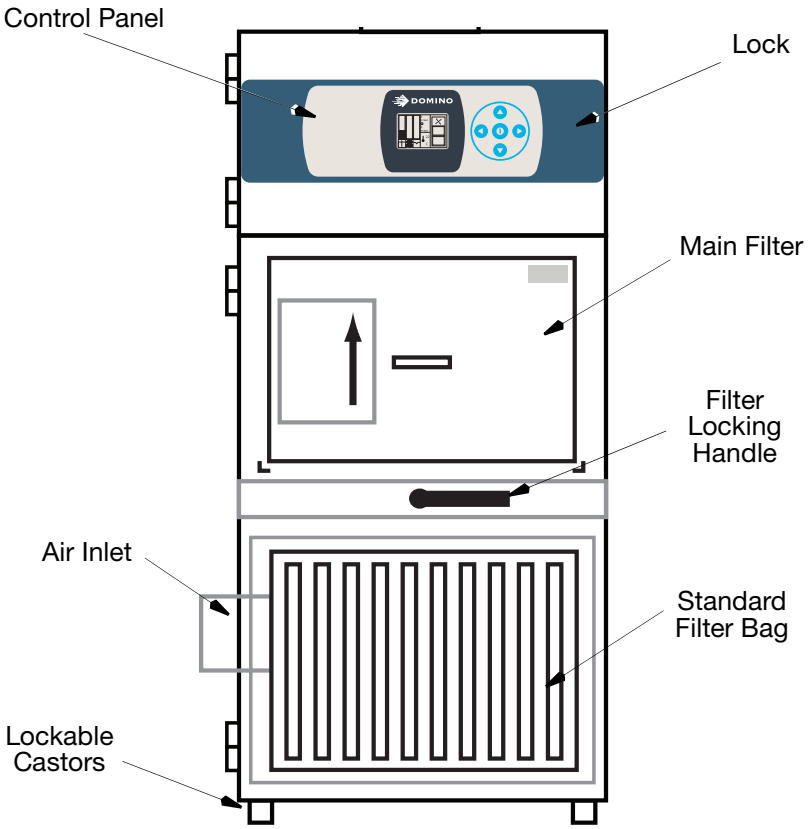
DPX Fume Extractors are equipped with a monitoring device to detect the presence of VOC gases within the exhaust air stream. This device is not calibrated to measure air quality in the environment, it provides a recommendation to the user, that the main filter requires changing.

SPECIFICATION

	DPX500	DPX1000	DPX1500	DPX2000
Flow rate (max)*	166m^3/hr (98cfm)	320m^3/hr (188cfm)	600m^3/hr (353cfm)	320m^3/hr (188cfm)
Vacuum (max)*	1633mm WG (64.5" WG)	1143mm WG (45" WG)	1067mm (42" WG)	1143mm WG (45" WG)
Supply Power	120V 50/60Hz 0.45kVA or 230V 50/60Hz 0.45kVA	120V 50/60Hz 1.10kVA or 230V 50/60Hz 1.20kVA	120V 50/60Hz 2.20kVA or 230V 50/60Hz 2.40kVA	120V 50/60Hz 1.10kVA or 230V 50/60Hz 1.20kVA
Power Connector	4,5m (14.7ft) 3 wire/1ph.	4,5m (14.7ft) 3 wire/1ph.	4,5m (14.7ft) 3 wire/1ph. (hard wired)	4,5m (14.7ft) 3 wire/1ph.
Controls/Information	Illuminated On/Off Switch Visual/Audible Filter Status Visual/Audible Particle Status Visual/Audible Gas Status	Illuminated On/Off Switch Visual/Audible Filter Status Visual/Audible Particle Status Visual/Audible Gas Status	Illuminated On/Off Switch Visual/Audible Filter Status Visual/Audible Particle Status Visual/Audible Gas Status	Illuminated On/Off Switch Visual/Audible Filter Status Visual/Audible Particle Status Visual/Audible Gas Status
Sound Rating	61dBA	52dBA	65dBA	52dBA
Cabinet size	H 885mm (34.8in) W 430mm (17in) D 487mm (19.2in)	H 1065mm (41.9in) W 430mm (17in) D 515mm (20.3in)	H 1145mm (45.1in) W 520mm (20.5in) D 666mm (26.2in)	H 1181mm (46.5in) W 430mm (17in) D 515mm (20.3in)
Cabinet weight	50kg (110lbs)	55kg (122lbs)	80kg (176 lbs)	77kg (170lbs)
Consumables	Main Filter Standard Filter Bag	Main Filter High Capacity Filter Bag	Main Filter High Capacity Filter Bag	Double Main Filter Super-filter Bag Chemical Absorbent Pad
Hose	50mm x 6m (2in. x 20ft)	50mm x 6m (2in x 20ft)	63mm x 6m (2.5in x 20ft)	50mm x 6m (2in x 20ft)
Cabinet integrity	Designed to IP46	Designed to IP46 (Special cowl to IP56 on request)	Designed to IP46	Designed to IP46 (Special cowl to IP56 on request)
Operating temperature	5 - 45°C	5 - 45°C	5 - 45°C	5 - 45°C
Operating Humidity	10 - 90% non-condensing	10 - 90% non-condensing	10 - 90% non-condensing	10 - 90% non-condensing
Air monitoring	Gas/Particulates/Filter Status	Gas/Particulates/Filter Status	Gas/Particulates/Filter Status	Gas/Particulates/Filter Status
Stainless Steel	430 Grade**	430 Grade**	430 Grade**	316 Grade**

*Maximum values are for the 230V version. **Do not clean with chloride based cleaning products.

DPX500



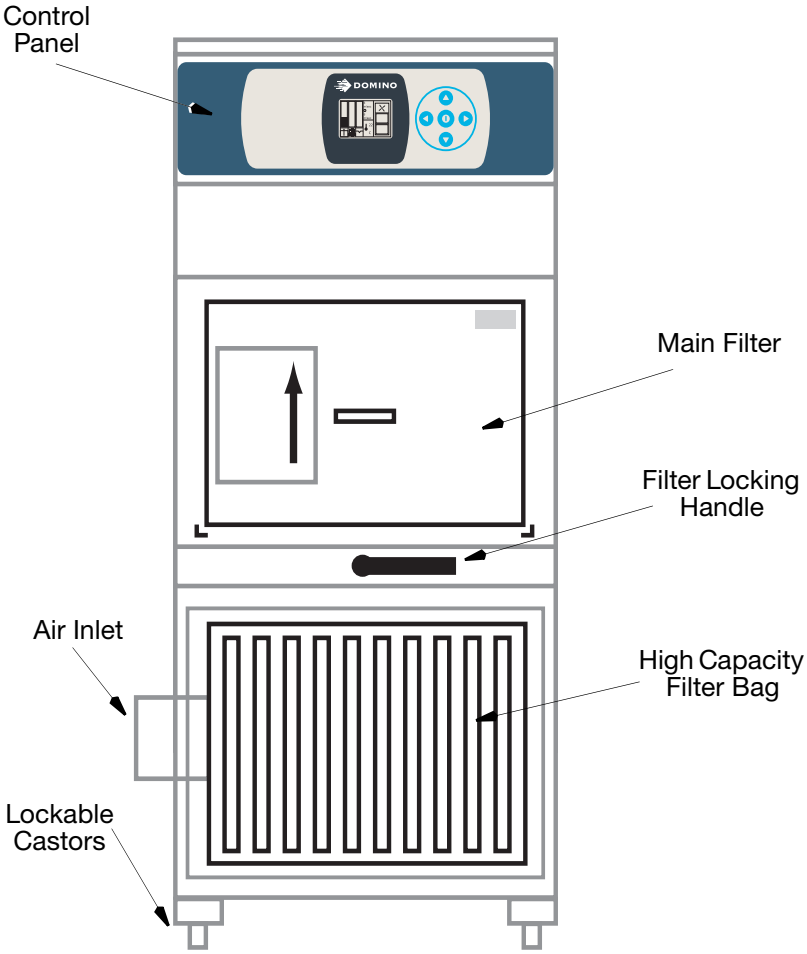
Notes: (1) The Control Panel lock requires a dedicated tool to open. The Filter door lock can be opened by hand.

(2) Mounting points are provided at the rear of the cabinet for an Air Filtration Kit and a Beacon Assembly. A Cord Wrap Bracket is fitted as standard.

(3) The lid is fitted with M5 blind inserts to allow the mounting of BCP7 Controllers.

DPX500

DPX1000

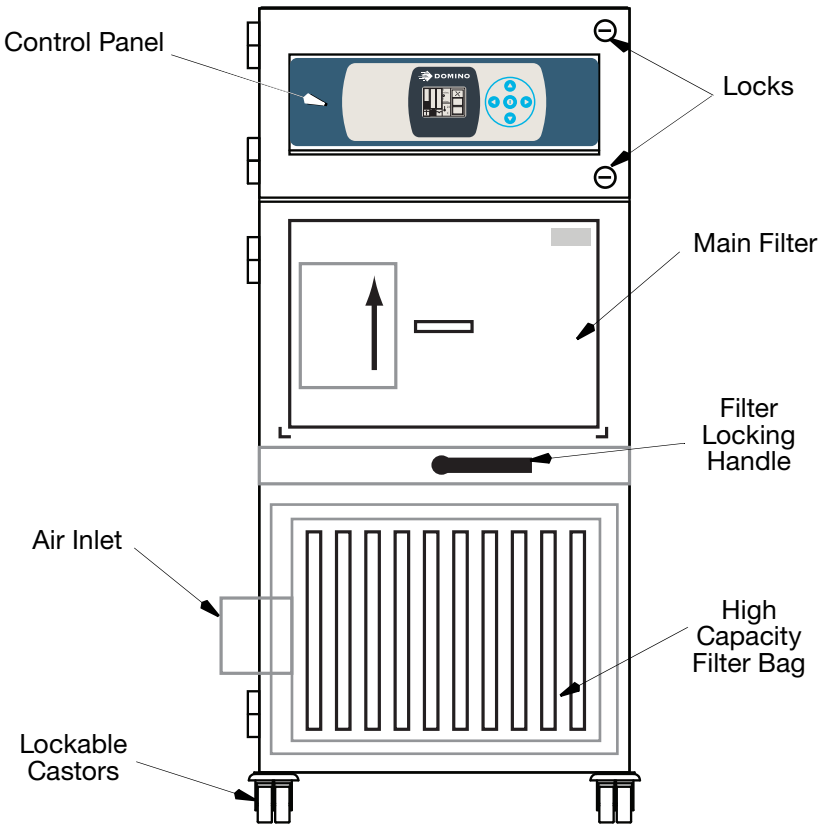


Notes: (1) The Filter door locks can be opened by hand.

(2) The lid is fitted with M5 blind inserts to allow the mounting of BCP7 Controllers.

DPX1000

DPX1500

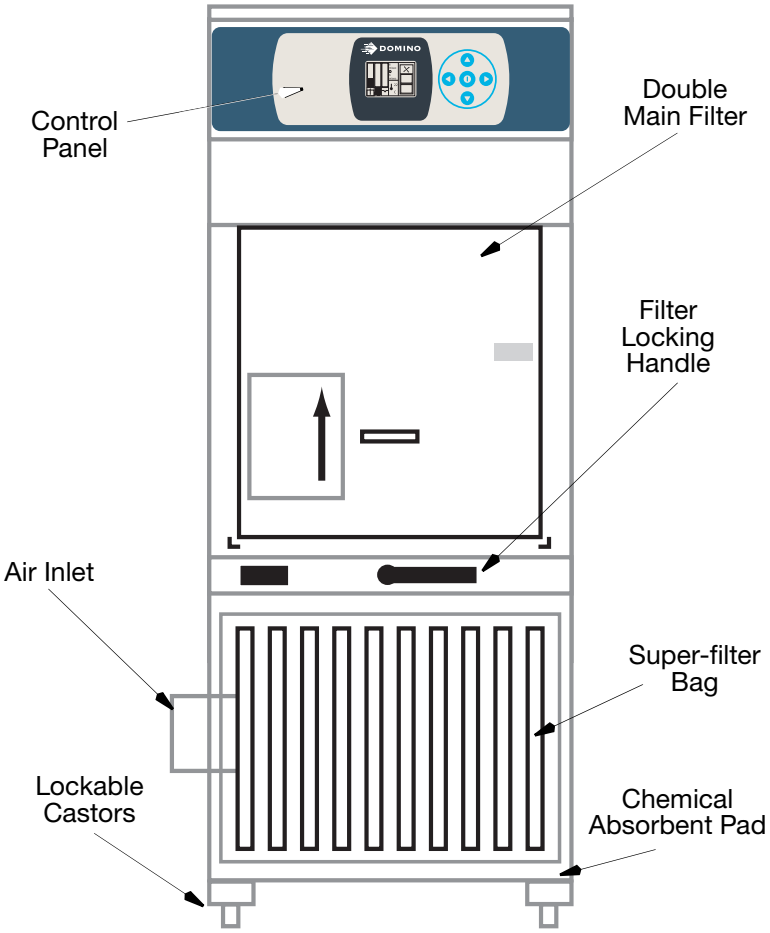


Notes: (1) The Control Panel locks require a dedicated tool to open.

(2) The lid is fitted with M5 blind inserts to allow the mounting of BCP7 Controllers.

DPX1500

DPX2000



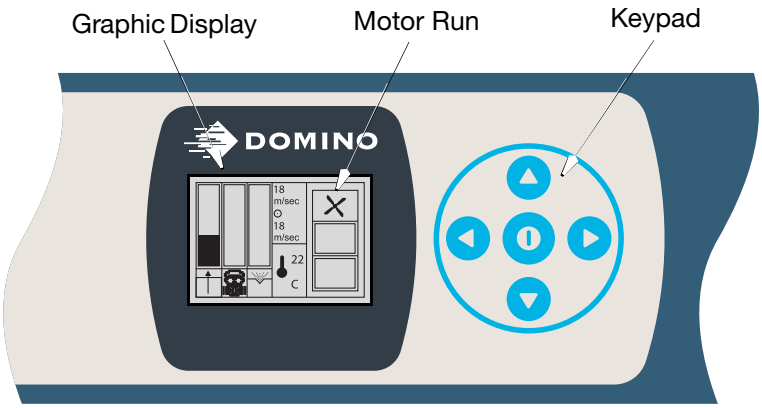
Notes: (1) The Filter door locks can be opened by hand.

DPX2000

OPERATION

The DPX fume extractors have similar control systems.

CONTROL PANEL



Control Panel - Controls and Indicators

Keypad

The Keypad provides buttons for starting and stopping the machine and for setting machine parameters.

Central button

Starts and stops the machine. To switch on, press the central button, the button will illuminate green and the motor run indicator in the graphic display will rotate.

To switch off, press the central button again, the button will extinguish and the motor run indicator will stop rotating.

Up/down buttons

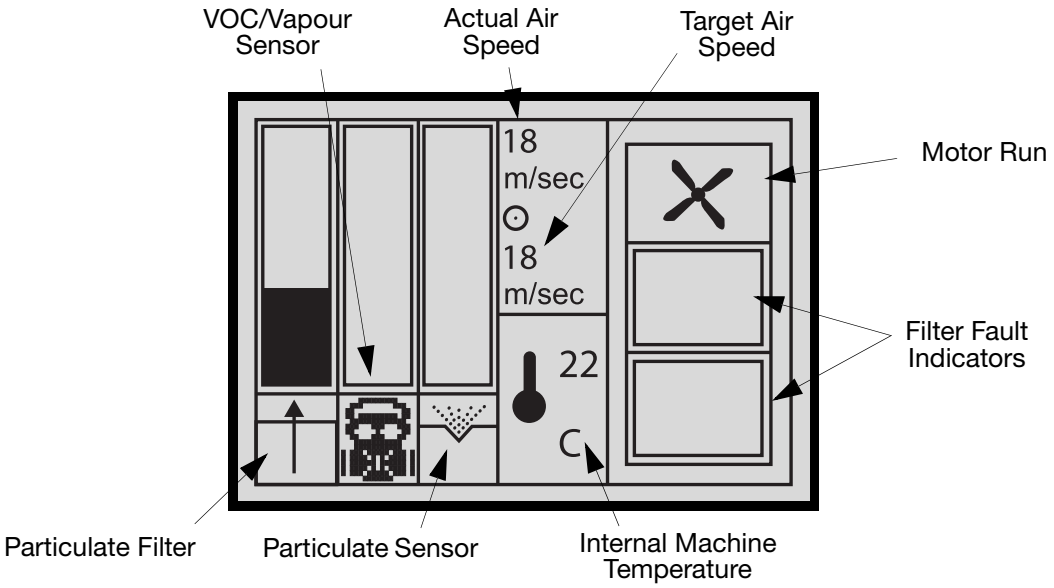
Used to set the rate of air speed. To change the air speed rate, press the Up and Down buttons together. Both buttons will flash red. To increase the air speed, press the Up button, to decrease the air speed, press the Down button.

When the correct value is achieved, after 5 seconds the buttons will stop flashing and the value will be stored.

Left/right buttons

Used to set other parameters and are password protected.

Graphic Display



The graphic display shows the operating status of the machine.

Particulate Filter status

The column of the particulate filter display will fill as the filter becomes full. When nearly full, an audible alarm will sound every 20 seconds and the keypad will flash every 10 seconds.

When completely full, the audible alarm will sound and the keypad will flash every second. Also, the particle filter icon will flash.

VOC/Vapour Sensor status

When Volatile Organic Compounds (VOCs) are sensed, an audible alarm will sound every 20 seconds and the keypad will flash (red) every 10 seconds.

With higher VOC/Vapour concentrations, the keypad will flash (red) every second. Also, the VOC/Vapour filter icon will flash to show which filter needs attention.

Particulate Sensor

When particulates are sensed, the audible alarm will sound every 20 seconds and the keypad will flash (red) every 10 seconds.

If the problem continues, the audible alarm will sound and the keypad will flash (red) every second. Also, the particulate filter icon will flash every second to show which filter needs attention.

Target/Actual Air Speed

The target air speed can be set to the required level. The machine will automatically raise or lower the motor speed to achieve an actual air speed equal to the target air speed.

As the particle filter fills, the air speed resistance increases. The machine will constantly adjust the motor speed to ensure actual air speed always equals the target air speed with a variance of less than 1%. At a pre-determined point the motor can no longer compensate and the filter blocked alarm will actuate

Internal Machine Temperature

When the internal machine temperature exceeds a preset limit, the audible alarm will sound every 20 seconds and the keypad will flash (red) every 10 seconds.

If the problem continues, the audible alarm will sound and the keypad will flash (red) every second.

Motor Run indicator

The icon will rotate when the motor is running.

Filter Fault indicator

Displays combined particle/chemical filter status, or separate chemical and particle filter status, depending upon the machine setup.

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INSTALLATION

INSTALLATION WARNING

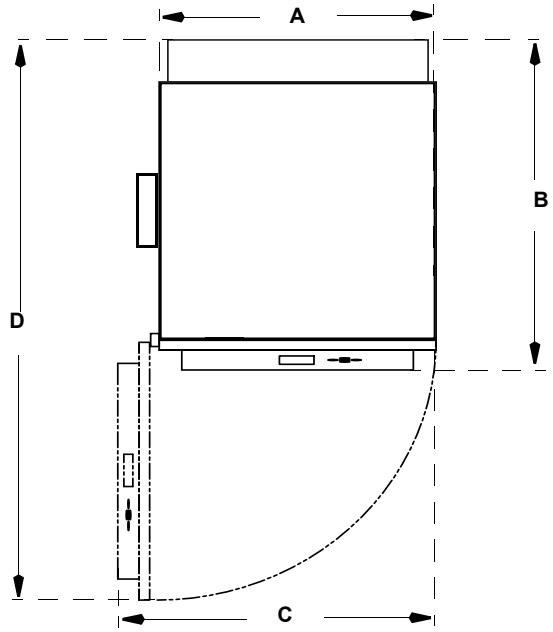
WARNING:	Flammable material. Risk of fire
	Paper label and small cardboard applications that are at risk of being drawn into the extractor, must be fitted with a spark arrestor device unless the production line risk assessment indicates otherwise.

SITE REQUIREMENTS

The fume extractor should be as near to the laser head as possible. The following floor area and access is required:

- Front of cabinet - for operator control and maintenance access
- Side (left) of cabinet - for hose system and electrical connection (DPX1500 only)
- Power connection - to remove the plug in case there is a need for urgent disconnection.

Once in position, lock the two front castors.



Note: 220mm clearance required for hose attachment on left side.
(See also the dimensions on page 12).

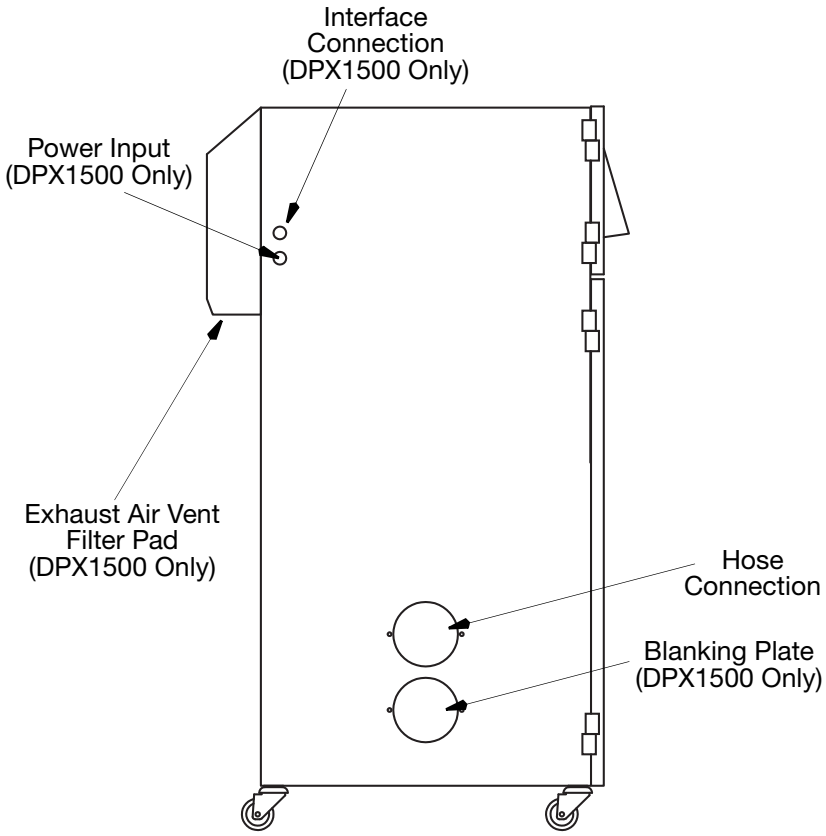
	DPX500	DPX1000	DPX1500	DPX2000
A	455mm	455mm	535mm	455mm
B	500mm	530mm	666mm	530mm
C	457mm	457mm	598mm	457mm
D	930mm	937mm	1135mm	937mm

ELECTRICAL CONNECTIONS

Various connection methods are available to order. Prior to connecting the power supply, ensure that the voltage, frequency and power requirements are correct as shown on the label attached to the cabinet rear.

CAUTION:	*Electricity. Risk of damage to the printer.*
	Do not exceed the voltage, frequency or power requirements, as shown on the label on the cabinet rear. Ensure the power plug is accessible in case there is a need for urgent disconnection.

It is important that the local power supply is protected by a circuit breaker of the correct rating, and that the cabling and plug type used are similarly rated.



Note: *The Power input and Interface connections are provided on the rear panel for the DPX500, DPX1000 and DPX2000.*

DPX Fume Extractor Cabinet - Side View

D-Series i-Tech and *plus* (BCP7) Remote Control Wiring

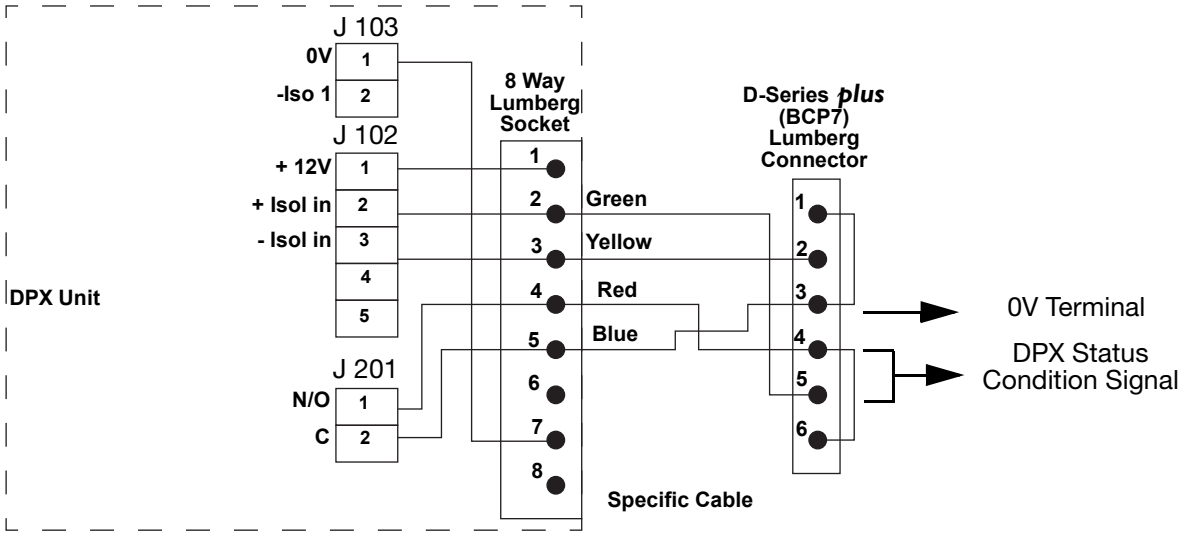
The DPX fume extraction system must be connected to the mains supply before it can be switched on by the laser controller via the interfacing cable. If mains supply is not provided, the DPX unit will be unable to recognise the remote switch on signal.

The DPX fume extraction has a Lumberg connector at the rear panel to provide remote On/Off switching and status feedback.

For D-Series systems the correct interfacing cable must be used. The correct cable will be supplied with the DPX unit when ordered. For more detail refer to the manuals for the DSL1/D-Series laser systems.

If a control voltage of 12 or 24VDC is applied to pin 2 of the rear mounted Lumberg 8-way connector, the blower motor will be switched on.

The control voltage is provided by the D-Series controller.



*D-Series i-Tech and **plus** (BCP7) Remote Control Wiring*

Alarm and Motor Status Connections

*Note: The alarm connections are common to the DDC3/S-Series **plus,** DSL1 and D-Series (i-Tech and **plus** (BCP6 and BCP7).*

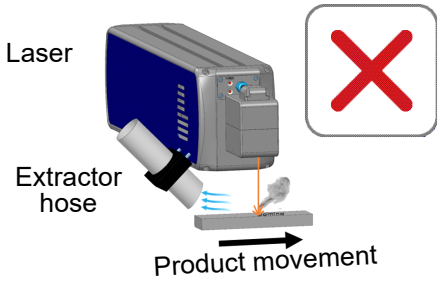
The internal DPX board has a potential free contact connected to pin 4 and 5 of the Lumberg connector on the rear panel of the DPX fume extraction system. If the extractor motor is running and no alarm condition is detected, the contact will be closed. If the control voltage is switched off, the contact opens and the extractor motor will continue to run for a factory set period and then stop.

HOSE SYSTEM

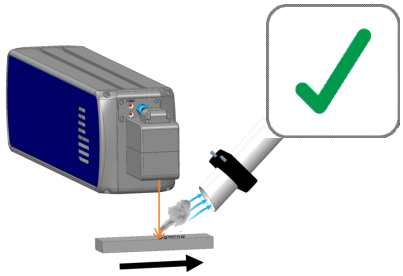
WARNING:	Flammable material. Risk of fire.
	Remove any debris from the area around the laser beam. Inspect the area around the hose (including edges and welded seams of the extraction nozzle) as specified in “Recommended Routine Maintenance” on page 28.

The normal hose connection between the printing location and the extractor cabinet air inlet is by a 50mm (2”) flexible hose for the DPX500, 1000 and 2000, or 63mm (2.5") for the DPX1500. The flexible hose is supplied with the extractor. At the extractor cabinet end, the hose is a push-fit onto the inlet connection. The following guidelines should be applied at the laser head end:

- Install the extraction nozzle downstream of the marking process location, to ensure that fumes are transported in the direction of the extraction nozzle.

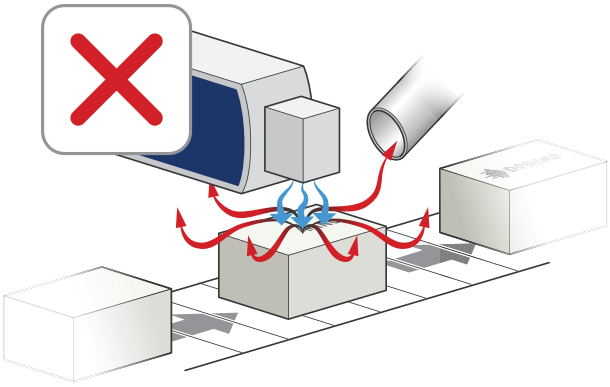


Incorrect *nozzle position - fumes being drawn along with the product movement away from the nozzle*

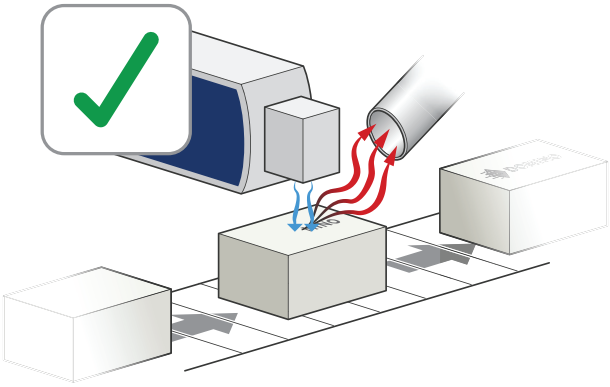


Correct *nozzle position - fumes being drawn along with the product movement into the nozzle*

- Ensure that the air supply to the laser head lens is not too strong as to blow fumes away from the extraction hose inlet.



Incorrect *lens air (too strong) - fumes being blown away from extractor hose inlet*



Correct *lens air - fumes being drawn into extractor hose inlet*

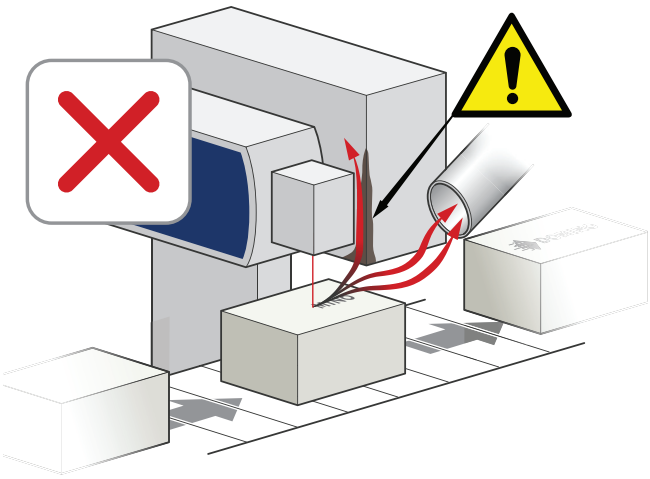
When the final position of the Fume Extractor and extractor hose is established, the hose should be routed to have a minimum number of bends and shortened to achieve the shortest practical length.

The hose can be shortened by removing the end connector with an internal thread, cutting the hose with a knife and wire cutters, then refitting the connector to the hose. Special extraction enclosures may be required for optimum performance, contact a local Domino distributor for assistance.

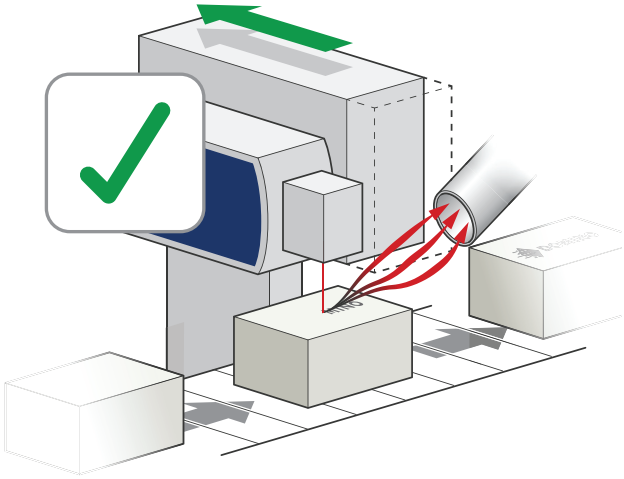
WARNING:	Flammable material. Risk of fire.
	Installations must be such that they avoid hot particle build up on host machine parts or nozzle edges located close to the air flow inlet opening (extraction nozzle). It is possible for the build up to break off and enter the extraction unit; where the build up is hot, it can ignite the dust in the DPX.

If incorrectly setup and maintained, particle collections can build up, forming lumps of debris. In high production rate applications and/or with some materials, these lumps may be hot.

If the debris lumps get large enough, they may break free and enter the extraction nozzle where, if hot enough, they could ignite the dust within the pre-filter.



Incorrect *machine part blocking fume path - build up of debris*



Correct *machine part out of fume path - no build of debris*

Best Practice for Fire Risk Minimisation

WARNING:	Flammable material. Risk of fire
	Paper label and small cardboard applications that are at risk of being drawn into the extractor, must be fitted with a spark arrestor device unless the production line risk assessment indicates otherwise.

WARNING:	Flammable material. Risk of fire
	Carry out the following recommendations. Smouldering debris can be drawn from the laser head into the DPX. This represents a fire risk. The practices detailed below, will reduce that risk.

- Carry out a risk assessment for your installation.
- Implement maintenance checks at the appropriate frequency (“Recommended Routine Maintenance” on page 28).
  Increased inspection, based on risk assessment by the user, may be required in certain high volume and dusty applications.
- Carry out a new risk assessment as soon as anything is changed on the product line or the product itself (e.g. volume throughput, substrate, any guarding/shroud, etc.).
- Establish an appropriate regime for inspecting and cleaning the extraction hose and filters based on risk assessment by the user and the guidance contained in this manual.
- Ensure that flammable vapours (such as solvent vapours) are not present in the area. Solvents may be used for cleaning or other operations in the area. Make an assessment of the fire risk if they may be present. Consider all sources of ignition, including the laser head, electrical equipment and instrumentation. Eliminate the flammable vapours using good housekeeping techniques (clean up any spillages and dispose of any tissues in accordance with local regulations)
- Ensure that the substrates used are appropriate for the laser and the extraction unit. This should be specified and recorded. Any variation from this specification should be assessed for fire hazards, e.g. due to more dust creation and therefore potential dust and/or debris build-ups in the extracting area .
- Ensure that the Fume Extraction system operates correctly with adequate extraction when the laser is in use. Use either an interlock or an operating procedure together with appropriate training for operators. The extraction must be strong enough to remove dust efficiently from the area of the laser head. It must not be so strong as to disturb the marking process.
- The extraction hose should be as short and straight as possible with minimum gentle curves. This helps avoid the build-up of combustible material in the hose.
- Prevent the build-up of dust on sharp edges and corners. Individual dust particles are unlikely to cause ignition but an accumulation of dust may. If dust does accumulate, then the extraction setup must be assessed and modified by the user to reduce dust build-up.
- Consider the risk of fire in a final risk evaluation and install adequate procedures.
- Establish appropriate training for operators. Training for laser printing and/or the production line must include the fire risk and appropriate response to a fire. Establish an appropriate regime of refresher training.

MAINTENANCE

WARNING:	Flammable material. Risk of fire.
	Installations must be such that they avoid hot particle build up on host machine parts or nozzle edges located close to the air flow inlet opening (extraction nozzle). It is possible for the build up to break off and enter the extraction unit. If the build up is hot, it can ignite the dust in the DPX unit. Remove debris from the lasing process. Inspect the area around the hose (including edges and welded seams of the extraction nozzle) as specified in “Recommended Routine Maintenance” on page 28**.**

WARNING:	Potentially harmful substance. Risk of personal injury
	Always wear appropriate Personal Protective Equipment (PPE) as identified during your risk assessment, when working on the equipment and when changing filters. Dispose of Used filters in the plastic bag provided in the filter change kit according with local waste regulations.

WARNING:	Heavy equipment. Risk of personal injury
	Carry out a risk assessment before moving the equipment. The main filter is heavy. Do not lift the equipment by yourself.

Notes: (1) The DPX has visual alarms: refer to “Fault Finding and Repair” on page 33.

(2) Instruction sheets are provided with each filter exchange kit, not in this manual.

(3) Check the following for debris build-up at least daily, but more frequently depending upon production rate and laser power applied:

Extraction nozzle
Flexible hose
Air inlet

RECOMMENDED ROUTINE MAINTENANCE

The User's own risk assessment of the laser equipment setup, the materials being lasered and any changes to the setup, plus their experience of local conditions (e.g. dust build up) must be used to create a preventative maintenance and replacement schedule.

Due to the local variations that may be present in any particular laser application, the following Daily, Weekly, Monthly, Annual frequencies are for guidance only and must be backed up by local risk assessment and experience.

Daily

Check the following for debris build-up:

Extraction nozzle
Flexible hose
Air inlet

Visually check for and remove any debris that might have built up in the extractor hose nozzle and (if fitted) the shroud, see "How to Empty a Hose" on page 30.

Visually check that fumes are being drawn into the extractor. See "Hose System" on page 24

The laser marking application may require checks more frequently, depending upon the substrate quality, the marking rate and laser power applied.

Weekly

As Daily above, plus:

Check the extraction unit display status of the control panel. See "Graphic Display" on page 18

Check extraction unit setup to see if required airflow is maintained.

Check if the filters are showing signs of blockage or saturation. See "Changing Filter Bags" on page 30

Check hose and nozzle to ensure there is no blockage See "Hose System" on page 24

Monthly

As Weekly, plus:

Check the exhaust of the extraction unit to determine if any odours are passing through the filter system undetected

Check the exhaust from the extraction unit to see if there is any sign of dust carry over See "Hose System" on page 24

6 Monthly

As Monthly, plus:

Change the main filter. See "Changing Main Filter" on page 31

Example of a Maintenance Schedule:

Activity	Interval		
	D	W	M
Extraction nozzle Removal of debris build-ups onto the nozzle or within the extraction area	x		
Extraction nozzle and hose Check correct installation condition and that all fumes are being drawn into the nozzle	x		
Check and Clean Lens Check correct positioning of extraction nozzle to ensure it has not been moved dangerously close to the position of the laser marking area	x		
Extraction unit display status Check the display status of the control panel		x	
Extraction unit setup Check extraction unit setup to see if required airflow is maintained		x	
Filters Check if the filters are showing signs of blockage or saturation		x	
Extraction nozzle and hose Check hose and nozzle to ensure there is no blockage		x	
Exhaust of the extraction unit Check the exhaust of the extraction unit to determine if any odours are passing through the filter system undetected			x
Exhaust of the extraction unit Check the exhaust from the extraction unit to see if there is any sign of dust carry over			x
Main filter Change Main filter	At least 6 monthly		

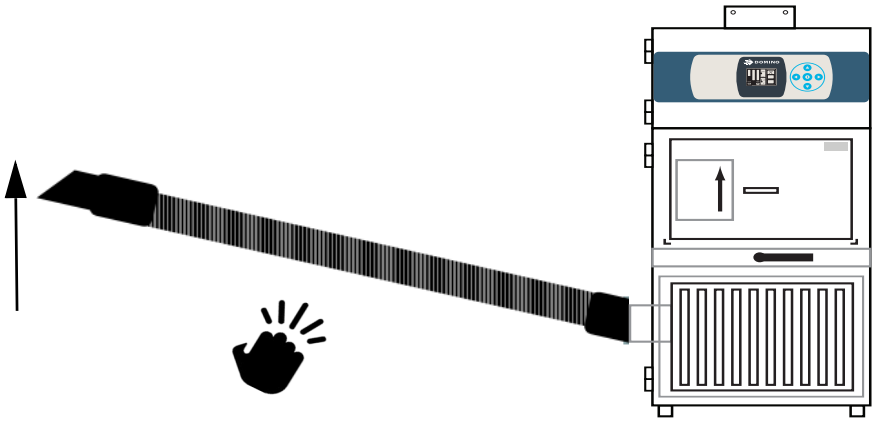
D = daily W = weekly M = monthly

Note: *Ignored maintenance can:*
- increase the likelihood of causing a fire in the filter
- result in production line downtime
- result bad or unreadable codes
- loss of filtration.

HOW TO EMPTY A HOSE

In order to remove any dust deposits in the hose, we recommend to tap the hose while the extraction unit is running. If possible, position the hose in such a way that a gradient is created in the direction of the extraction, so detached dust residues can be sucked into the pre-filter.

Never tap out or empty the hose outdoors!



CHANGING FILTER BAGS

WARNING:	**Potentially harmful substance. Risk of personal injury**
	Always wear appropriate Personal Protective Equipment (PPE) as identified during your risk assessment, when working on the equipment and when changing filters. Filters must be changed in accordance with the instruction sheet provided with the filter kit. Dispose of Used filters in the plastic bag provided in the filter change kit according with local waste regulations.

Note: *Filter alerts may be caused by debris build up in the extraction nozzle, hose or air inlet. Always check these areas are free from debris before changing the filter.*

The filter bag is situated in the bottom compartment.

(1) Turn off the extractor.

(2) Ensure the wheel/castor locks are on. Turn the two door latches on the front of the machine 90°, then open the cabinet door.

(3) Using the filter change kit provided with each new filter, pull the Filter Bag off the air inlet, ensuring the bag inlet faces away from the operator, and remove.

(4) Bag and seal the old filter in the bag provided.

(5) Insert the new Filter Bag, pushing the entry hole in the filter over the air inlet. Ensure that the filter entry is fully pushed onto the inlet pipe. Spread out the bag equally in the filter compartment.

(6) Close the cabinet door, turning the latches fully in their respective directions.

(7) ***For DPX2000 only*** - Replace the chemical absorbent pad that is supplied with the Super Filter bag.

CHANGING MAIN FILTER

WARNING:	Potentially harmful substance. Risk of personal injury
	Always wear appropriate Personal Protective Equipment (PPE) as identified during your risk assessment, when working on the equipment and when changing filters. Filters must be changed in accordance with the instruction sheet provided with the filter kit.

(1) Remove power to the extractor.

(2) Ensure the wheel/castor locks are on. Open the cabinet door.

(3) Turn the filter locking handle 180° counter clockwise, so that it is horizontal and in the filter unlocked position.

WARNING:	Heavy equipment. Risk of personal injury
	Carry out a risk assessment before moving the equipment. The main filter is heavy. Do not lift the equipment by yourself. Do not use the filter handle to carry the filter. The handle is only to be used to pull the filter forward.

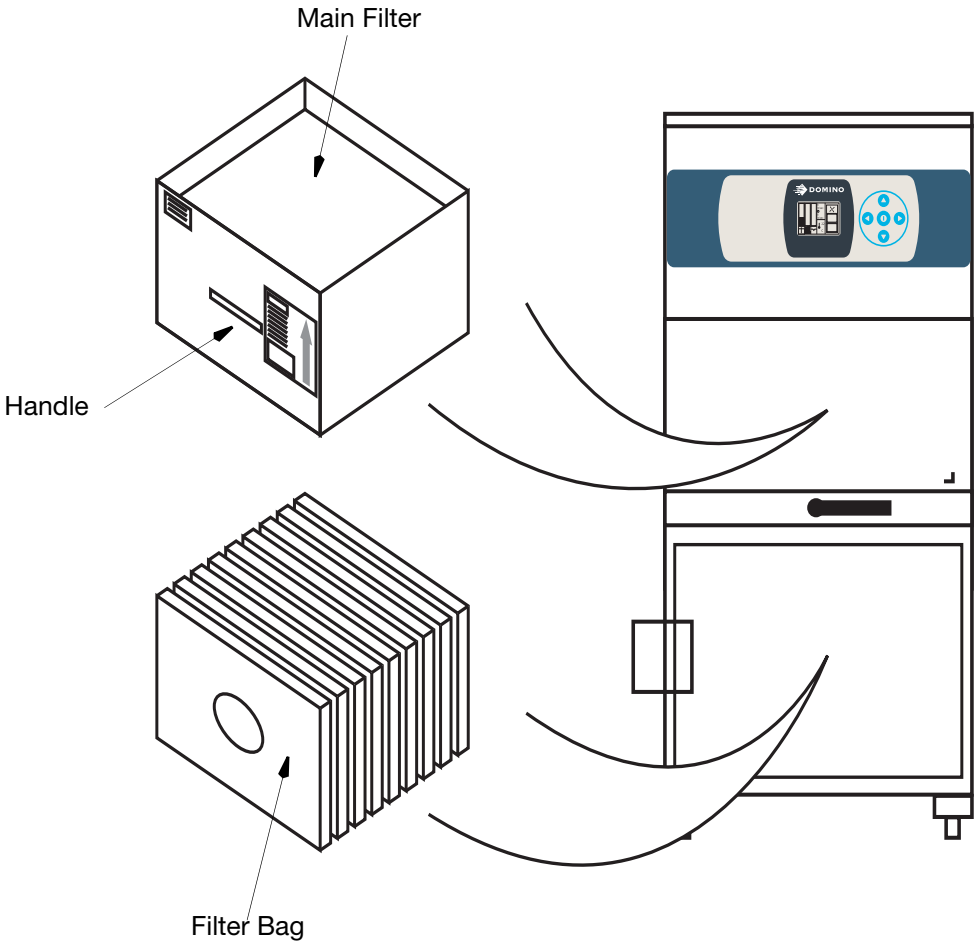
(4) The filter will drop slightly to allow release. Pull the main filter forward and remove completely.

(5) Bag and seal the old filter in the bag provided.

(6) Insert the new main filter into the machine ensuring that the filter label is in front and the airflow arrow is pointing up.

(7) Turn the filter locking handle 180° clockwise, so that it is horizontal and in the filter locked position.

(8) Close the cabinet door, turning the catch fully clockwise.



WARNING: **Do not attempt to lift the main filter by the handle.**

DPX Fume Extraction System - Filter Locations

AIRSPEED SETTING

Note: *The lowest air speed level possible should be used, so that all fumes produced by the process are drawn into the capture nozzle, and debris deposits on the laser lens, guarding and local machinery are minimal.*

To alter the required setting:

(1) Press the Up and Down buttons together. Both buttons will flash red.

(2) Increase the air speed by pressing the Up button until adequate extraction is achieved.

(3) Decrease the air speed by pressing the Down button until minimal acceptable extraction is achieved.

(4) Leave buttons undisturbed for 5 seconds and the buttons will stop flashing and the setting is stored.

FAULT FINDING AND REPAIR

FAULT SYMPTOMS, CAUSES AND REMEDIES

Warning Status

Audible alarm sounds every 20 seconds and the keypad will flash red every 10 seconds. Allows operator time to identify fault and take remedial action.

Alarm Status

Audible alarm sounds every 1 second and the keypad will flash red every 1 second. Fault should be identified and remedial action taken immediately.

Filter Icons

The filter icons, displayed on the control panel, indicate the fault area.

	Possible Cause	Remedial Action
	High capacity filter bag may be blocked. The main filter may be blocked. Unacceptably high air speed may have been entered.	Change the high capacity filter bag. If the high capacity filter has been changed recently, change the main filter. Reduce air speed.
	Extraction hose or nozzle, if fitted, may be blocked.	Check hose, nozzle and connections for blockages, and clear.
	The activated carbon of the main filter is saturated or is damaged.	Change filter.
	The seals may be damaged.	Inspect and replace as necessary.
	The filter monitor unit may be faulty.	Replace filter monitor unit.
	The particle section of the main filter is damaged, its seal is faulty, or no main filter has been fitted.	Replace the main filter and check seals as necessary.
	The filter monitor unit may be faulty.	Replace filter monitor unit.

Other Faults

Other faults will not necessarily be indicated.

Problem	Remedial Action
Extraction insufficient (Filter not blocked)	Check external pipework and connections for leaks
Extraction is not switched on with Laser	• Check cabling, circuit breaker, fuse and power supply to/from interface equipment. • Control signal absent or incorrect. Check cabling, monitor unit sensor and control signal. • Fault on control PCB. Change PCB
Blower is not working	• Check all cables and connections and ensure power supply matches machine requirement. • Control signal absent or incorrect. Check cabling, connections and control signal to/from interfaced equipment. • Blower(s) may be faulty. Change blowers in turn to determine which is faulty. • Control PCB may be faulty. Change PCB.
Start/Stop LED not illuminated	• Check all cables and connections and ensure power supply matches machine requirement • Control signal absent or incorrect. Check cabling, connections and control signal to/from interfaced equipment. • Control PCB may be faulty. Change PCB
Odour/particles in filter (no alarm)	Exhaust monitor unit may be faulty: • Check all cables and connections and ensure power supply matches machine requirement. • Control signal absent or incorrect. Check green Ethernet cable connection from the Filter Monitor to the PCB.
The main filter has a short life	Particles may be bypassing the high capacity filter bag: • Check high capacity filter bag is present and undamaged. • Ensure high capacity filter bag inlet is correctly positioned on the inlet spigot. • If problem persists, contact Domino
Alarm triggered, blower stopped	Thermal cut-out may have engaged: • Check cooling vents. • Switch off machine and allow to cool. • Possible fault on blower or electrical connection. If fault persists, contact Domino.

Domino DPX Fume Extraction System Product Manual

Domino Printing Sciences plc has a policy of continuous product improvement, the Company therefore reserves the right to modify the specification contained within this document without notice.

For additional documentation, including other available languages, either scan the QR code, or go to https://mydomino.domino-printing.com

Domino UK Limited
Trafalgar Way
Bar Hill
Cambridge CB23 8TU
United Kingdom

Tel: +44 (0)1954 782551
Fax: +44 (0)1954 782874
Email: enquiries@domino-uk.com

Domino Amjet Inc.
1290 Lakeside Drive
Gurnee IL.60031
U.S.A.

Tel: +1 800 444 4512
Fax: +1 847 244 1421
Email: solutions@domino-na.com

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