DOMINO

DPX
FUME EXTRACTION SYSTEMS

OPERATOR'S REFERENCE GUIDE

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DPX
FUME EXTRACTION SYSTEMS

This manual, Domino Part No. 27759, has been produced for use in the maintenance and operation of the DPX Fume Extraction Systems, and to reinforce and complement any training program available with the product. It is not designed to replace any such training program.

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.

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CONTENTS OF EC DECLARATION OF CONFORMITY

EC Directives 2004/108/EC, 2006/95/EC, 2006/42/EC, 2011/65/EU

Responsible Person	Mr K Andrew Easey Purex International Limited Purex House Farfield Park Rotherham S63 5DB United Kingdom
Apparatus	Domino DPX500, 1000,1500,2000
Technical Construction File	Purex Engineering File – Issue 2
Date	29th March 2013
Standards Applied	EN 61000-3-2:2006/A2:2009 EN 61000-3-3:2008 EN 61000-6-1:2007 EN 61000-6-3:2007/A1:2011 EN 60950-1:2006/A12:2012 EN 60335-1:2012 EN50581:2012
Meeting the Requirements of	2004/108/EC EMC Directive 2006/95/EC Low Voltage Directive 2006/42/EC Machinery Directive 2011/65/EU RoHS Directive

We certify that the DPX range 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, machinery safety and RoHS

Signed for and on behalf of

Domino UK
Bar Hill
Cambridge
29 April 2013

K Andrew Easey
Purex General Manager

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AMENDMENT RECORD

Amendment	Date
All pages at Issue 2	April 2005
All pages at Issue 3	October 2006
All pages at Issue 4	September 2009
All pages at Issue 5	May 2013
All pages at Issue 6	September 2017

DPX
FUME EXTRACTION SYSTEMS

CONTENTS

WARNINGS AND CAUTIONS

WARNINGS:

(1) An inspection of the area around the hose, including all edges and welded seams of the extraction nozzle, must be made as specified in "Recommended Routine Maintenance" on page 26. Any debris from the lasing process must be removed. An accumulation of debris can result in hot lumps breaking off and causing a fire.

(2) Operation of this equipment without filters installed will cause potentially harmful fumes and particulates to be discharged into the workplace.

(3) Never operate the device with open door.

(4) Full protective clothing must be worn when changing filters. Use the filter change kits provided with each filter.

(5) Laser coding onto certain materials will create toxic gases. The DPX extraction system is designed to extract these gases and provide cleaned air back into the work place.

(6) Do not attempt to lift heavy equipment by yourself. Use lifting equipment or a two-man lift.

CAUTIONS:

(1) Operation of this equipment without filters installed will cause particulates to accumulate in the blowers and other internal components.

(2) Follow the recommended routine maintenance schedule given later in this manual. A good level of housekeeping will promote serviceability and reduce downtime.

(3) Domino recommend a hazard risk assessment is completed and the necessary equipment is obtained to meet local and national regulatory requirements.

(4) 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.

INTRODUCTION

The DPX fume extraction systems are designed to protect personnel from any hazardous dust and fumes produced by the laser printing process. They provide both audible and visual alerts if a filter is blocked, or if toxic gases or particulates are found in the exhaust air. The extractors have similar control, blower and capture (hose) systems, but have different multi-stage filtration systems.

Purified air and blower cooling air vents at the rear of the cabinet, are designed against water penetration to IP46 standard. All extractor cabinets are corrosion resistant, i.e. 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 Filter Bag to remove larger particulates.
- A Main Filter, which removes 99.997% of particles larger than 0.3 microns in size and 95% of particles down to 0.01 microns in size. This Main Filter also has an activated charcoal/chemical section, which removes toxic gases.

The DPX2000 cabinet is taller to accommodate the larger filtering (see page 14) and has a door for access to a filter system consisting of:

- A Super-filter Bag
- A Double Main Filter.

It also has:

- A chemical absorbent pad fitted into the bottom of the cabinet to collect condensate containing hazardous chemical agents and should be replaced at the same time as the Super-filter bag.

DPX Fume Extractors are equipped with a monitoring device to detect the presence of toxic gases within the exhaust air stream. This device is not calibrated to meet regulatory requirements of a continuous monitoring device, it only provides a recommendation to the user.

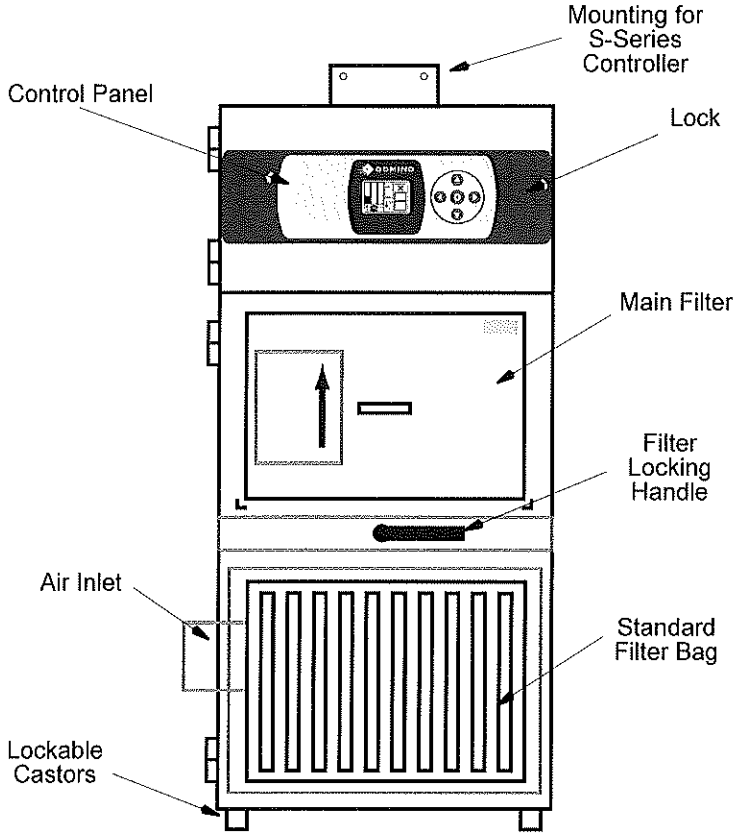
SPECIFICATION

	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	3m (9.8ft) 3 wire/1ph.	4.6m (15ft) 3 wire/1ph.	4.6m (15ft) 3 wire single phase.	4.6m (15ft) 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

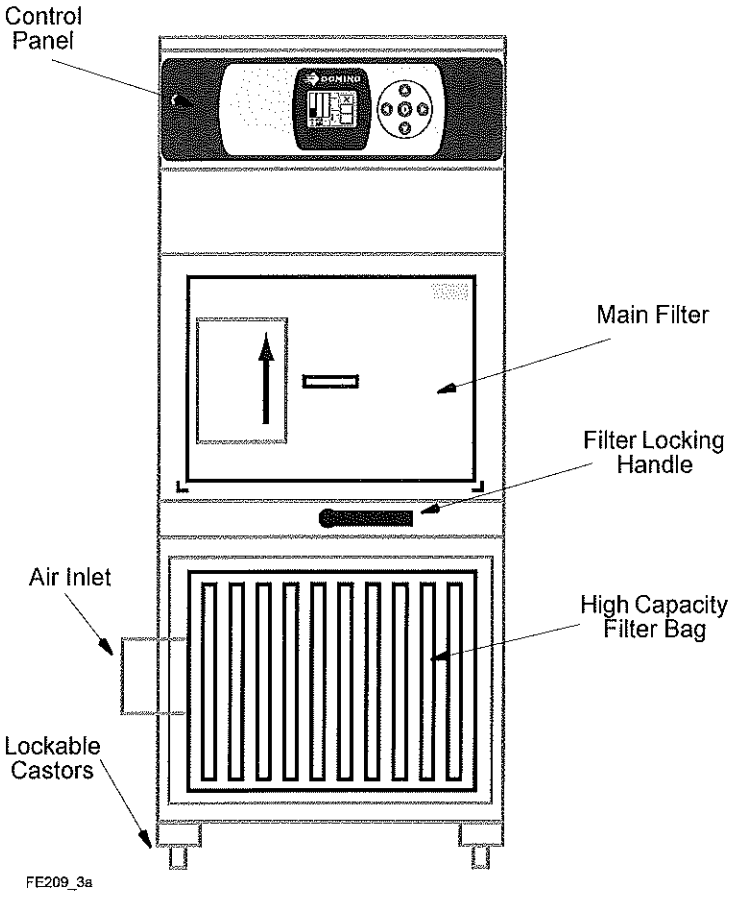


Notes: (1) The Control Panel lock requires a dedicated tool to open. The Filter door lock can be opened by hand.

(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.

DPX500

DPX1000

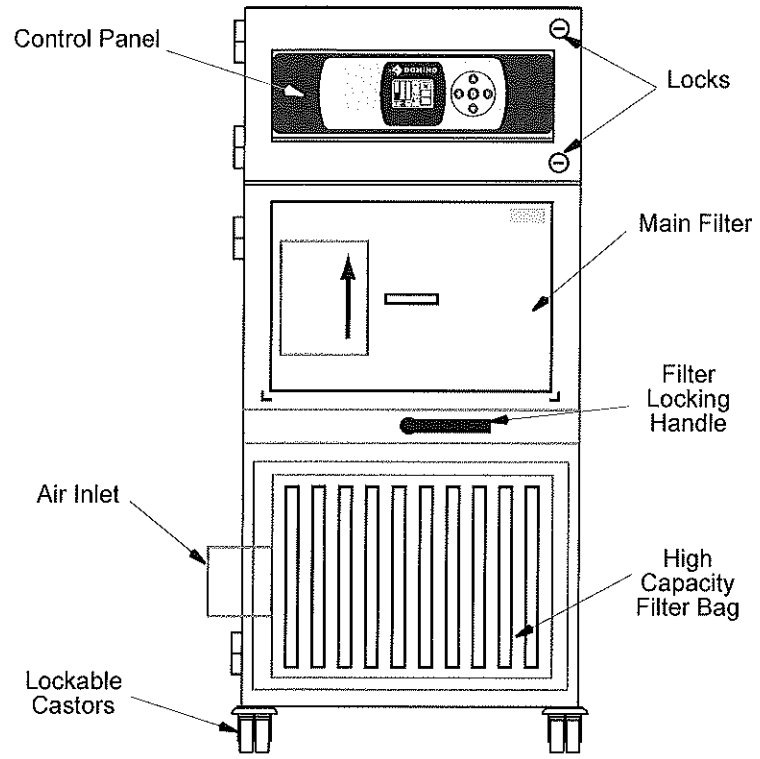


Notes: (1) The Filter door locks can be opened by hand.

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

DPX1000

DPX1500

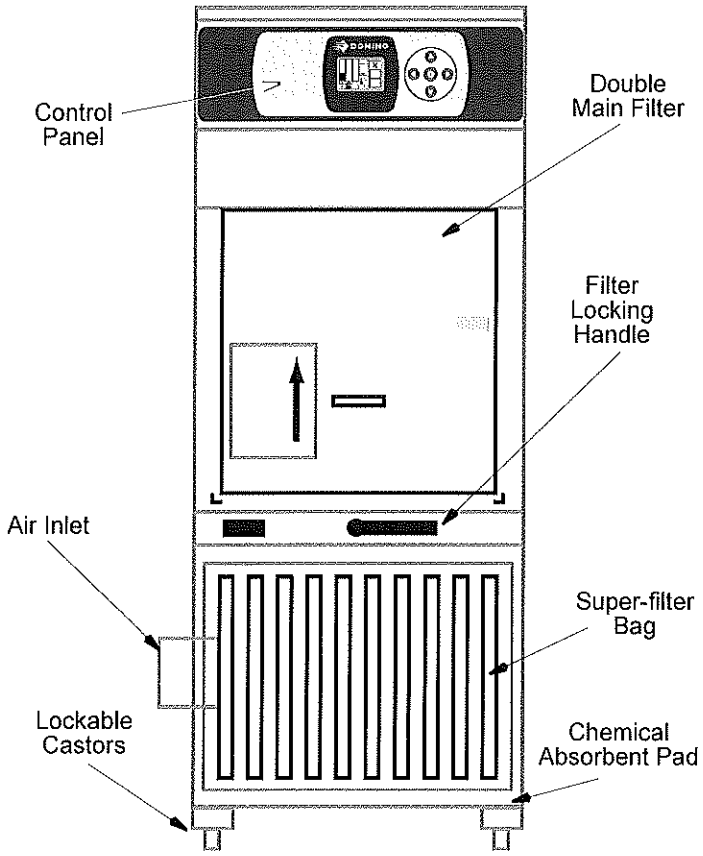


Notes: (1) The Control Panel locks require a dedicated tool to open.

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

DPX1500

DPX2000



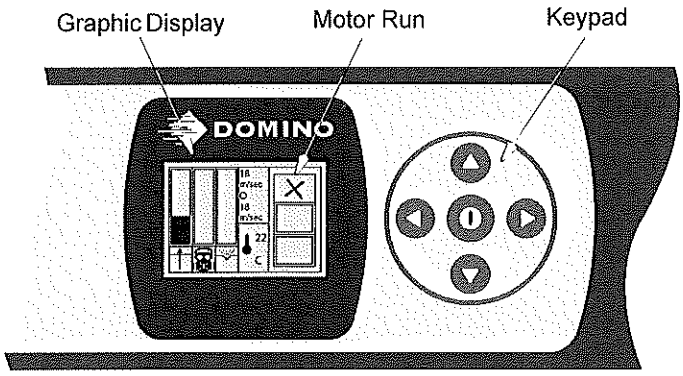
Notes: (1) The Filter door locks can be opened by hand.

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.

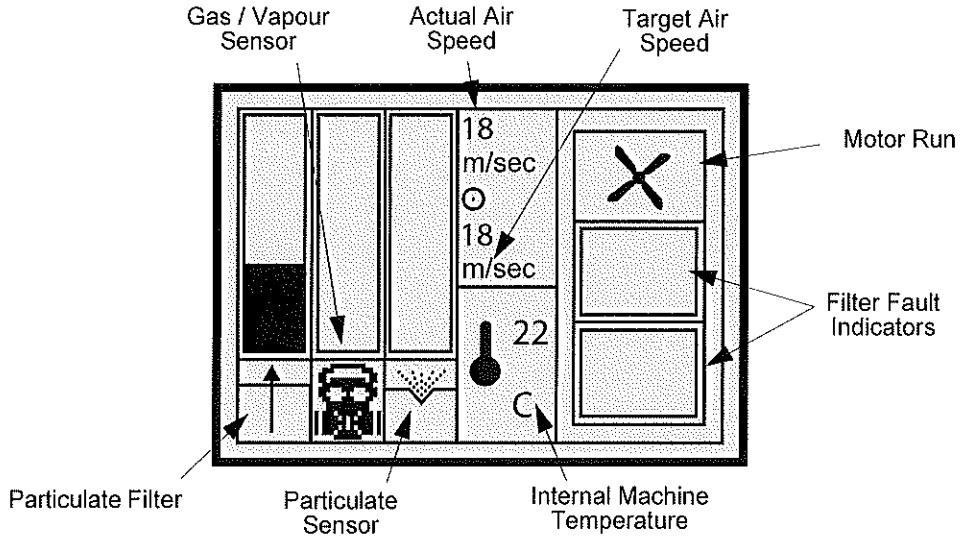
To switch off, press the central button again, the button will extinguish and the motor run indicator will stop rotating.

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 particle filter column will fill as the filter becomes blocked. When nearly completely blocked, an audible alarm will sound every 20 seconds and the keypad will flash every 10 seconds.

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

Chemical filter status When gas is sensed, the chemical filter column will fill, an audible alarm will sound every 20 seconds and the keypad will flash (red) every 10 seconds.

When the chemical filter is completely saturated, the audible alarm will sound and the keypad will flash (red) every second. Also, the chemical 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 becomes blocked, 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

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.

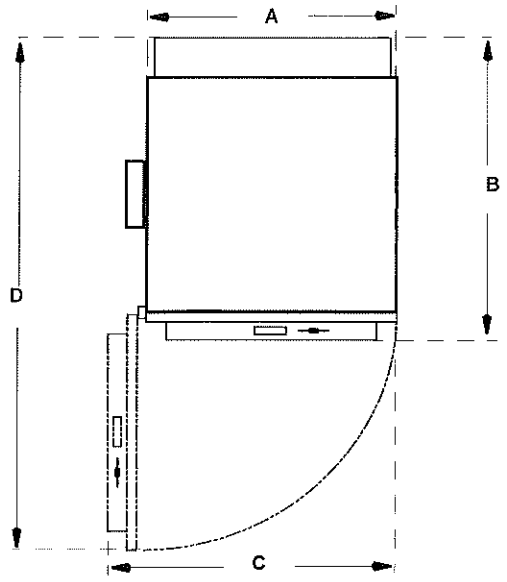
INSTALLATION

SITE REQUIREMENTS

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

- Front- for operator control and maintenance access
- Side (left)- for hose system and electrical connection (DPX1500 only)

Once in position, lock the two front castors.



Note: *220mm clearance required for hose attachment on left side.*
(See also the dimensions on page 10).

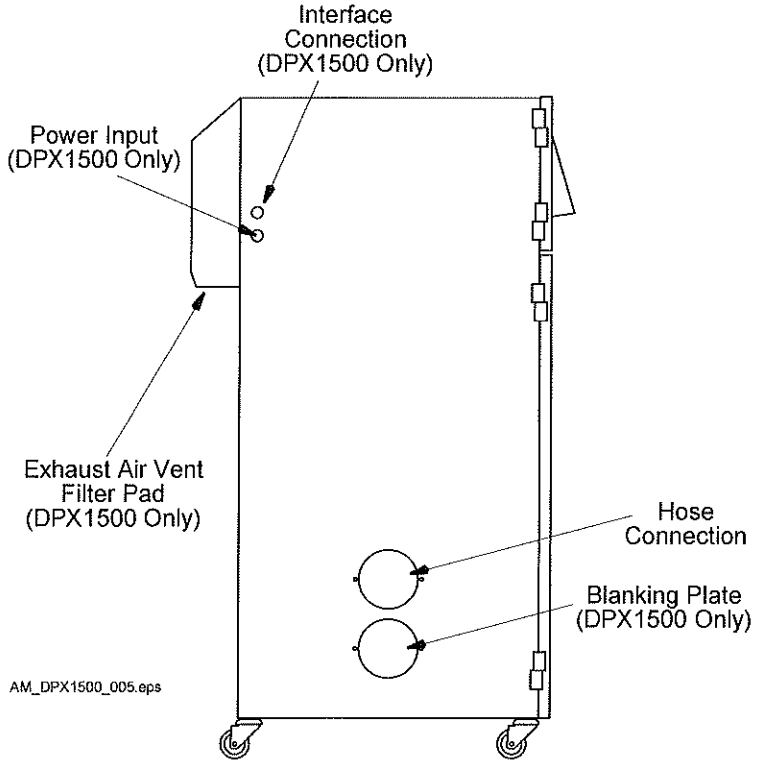
	DPX500	DPX1000	DPX1500	DPX2000
A	455mm	455mm	535mm	455mm
B	500mm	530mm	666mm	530mm
C	457mm	457mm	598mm	457mm
D	930mm	937mm	1135mm	937mm

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: *These are maximum values and must not be exceeded.*

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



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

Remote On-Off connections

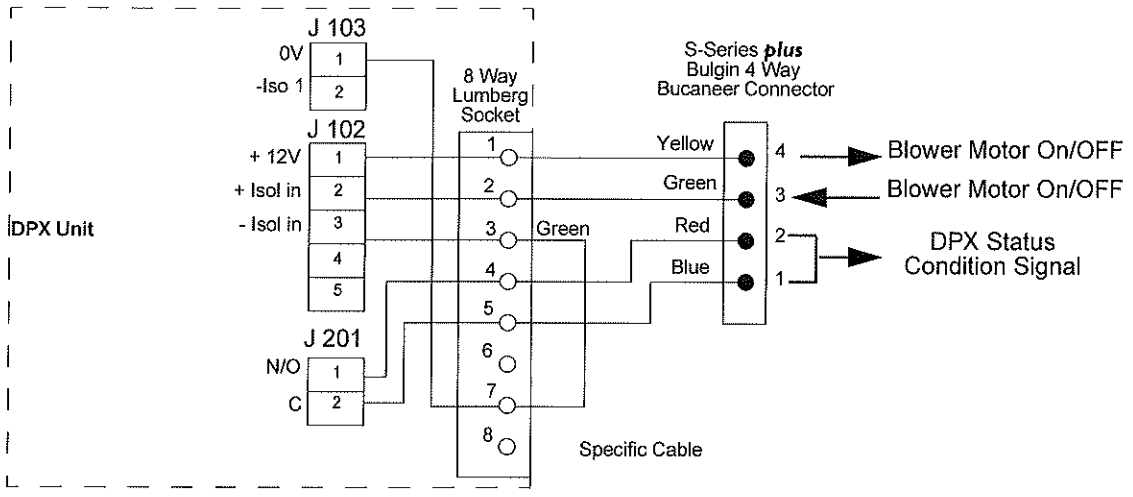
DDC3 and S-Series *plus* Remote Control Wiring

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 system has a Lumberg connector at the rear panel to provide remote On/Off switching and status feedback.
For DDC3 and S-Series ***plus*** 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 DDC3 and S-Series ***plus*** laser systems.

Please refer to the following wiring diagram for connection details.

The control voltage is provided by the DPX Fume Extraction System and is switched by the DDC3 and S-Series ***plus*** controller.

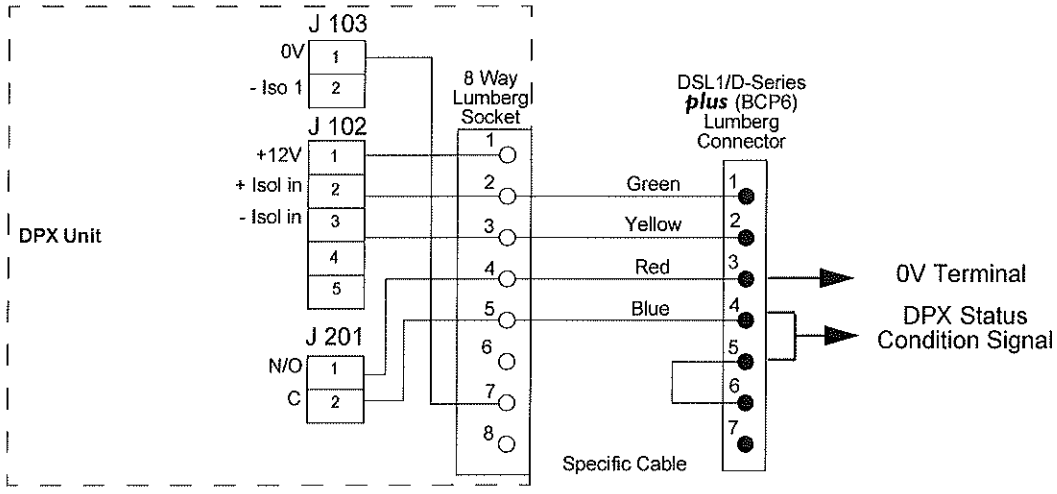


*DDC3 and S-Series **plus** Remote Control Wiring*

DSL1/D-Series *plus* (BCP6) 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 DSL1/D-Series ***plus*** (BCP6) 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 ***plus*** (BCP6) laser systems.
If a control voltage of 12 or 24VDC is applied to pin 2 of the DPX rear mounted Lumberg 8-way connector, the blower motor will be switched on. The control voltage is provided by the DSL1/D-Series ***plus*** (BCP6) controller.



*DSL1/D-Series **plus** (BCP6) Remote Control Wiring*

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

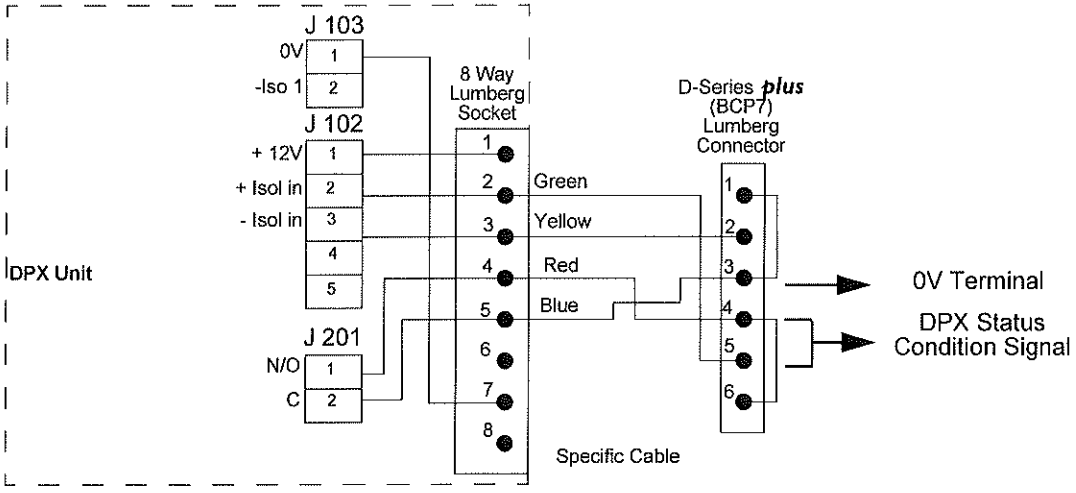
The DPX fume extraction system must be connected to the mains supply before it can be switched on by the laser controller via the interfacing cable. If mains supply is not provided the DPX unit will be unable to recognise the remote switch on signal.

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).*

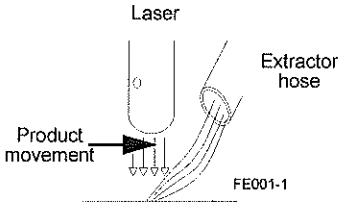
The internal DPX board has a potential free contact connected to pin 4 and 5 of the Lumberg connector on the rear panel of the DPX fume extraction system. If the extractor motor is running and no alarm condition is detected, the contact will be closed. If the control voltage is switched off, the contact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

HOSE SYSTEM

WARNING: **An inspection of the area around the hose, including all edges and welded seams of the extraction nozzle, must be made as specified in "Recommended Routine Maintenance" on page 26. Any debris from the lasing process must be removed. An accumulation of debris can result in hot lumps breaking off and causing a fire.**

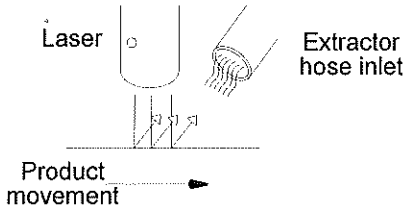
The normal hose connection between the printing location and the extractor cabinet air inlet is by a 50mm (2") flexible hose for the DPX500, 1000 and 2000, or 63mm (2.5") for the DPX1500. The flexible hose is supplied with the extractor. At the extractor cabinet end, the hose is a push-fit onto the inlet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

- Fumes can be carried along by the local air movement caused by the product movement. Place the extraction hose inlet downstream from the print position.



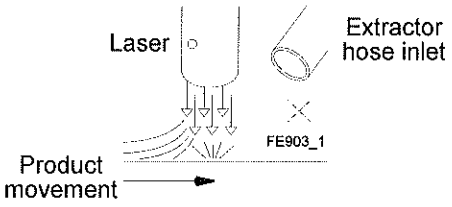
Correct positioning of extractor input

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



Correct positive air - fumes being drawn into extractor hose inlet

FE902_1



Incorrect positive air - fumes being blown away from extractor hose inlet

FE902_2

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.

In some installations, additional precautions are recommended to avoid hot particle build up on host machine parts or nozzle edges located close to the air flow inlet opening (extraction nozzle). In such situations it may be possible for this build up to suddenly break off and be sucked into the extraction unit. If this lump is hot enough it could cause the pre filter to smoulder or ignite.

If the extraction nozzle is drawing the fumes and debris from the marking process at an angle of less than 90 degrees from the laser beam orientation, the path, followed by the dust particles, can be partially blocked by part of the host machine itself. After some time, the particle collection starts building up forming a lump of debris hanging down from the edge of that part. In high production rate applications and in combination with high demanding lasing processes, there may be no

opportunity for the hot particles to cool down and therefore the temperature in the lump starts building up too. After a while the lump may become heavy enough to break off of the edge of the machine part. Under influence of the air flow into the extraction nozzle, the hot lump will be sucked into the extraction hose, eventually landing in the pre-filter (dust bag) inside the extraction unit itself. This hot lump could then smoulder in the pre filter and potentially ignite the pre filter material or dust that is already in there.

The extraction nozzle should be installed in the product movement direction after the marking process location. Particularly at high product speed, the gases are drawn along with the product and are therefore transported in the direction of the extraction nozzle.

Best Practice for Fire Risk Minimisation

- Implement maintenance checks at the appropriate frequency.
- Establish an appropriate regime for inspecting and cleaning the extraction hose and filters.
- Ensure that flammable 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 solvents using good housekeeping techniques (clean up any spillages and dispose of any tissues in accordance with local regulations)
- Ensure that the carton material and its ink coating are appropriate for the laser. This should be specified and recorded. Any variation from this specification should be assessed for fire hazards.
- 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 non-combustible. Solid metal is recommended, where practical. It should be as short and straight as possible without multiple windings. This helps avoid the build-up of combustible material in the hose.
- Establish an appropriate regime for inspecting and cleaning the laser head area and the extraction hose. It must include keeping the lens clean as well as fire prevention.
- 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 must be assessed and it may be necessary to modify the dust extraction system.
- Establish the best response to a fire.
- Provide fire extinguishers/fire blankets within easy reach.
- An assessment of the risk should include the possibility of locating the filter assembly so as to minimise loss in the event of fire. (e.g. outside)
- Install temperature detection in the filter housing together with an alarm, if cost permits. This provides advance warning of a possible danger. The detection system must be independent of the laser and production line in order to pick up delayed combustion.
- Install smoke detection in the filter housing together with a remote alarm, if cost permits. This provides out-of-hours notification and may need a radio link if flexibility in the location of the filter unit is required.
- 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.

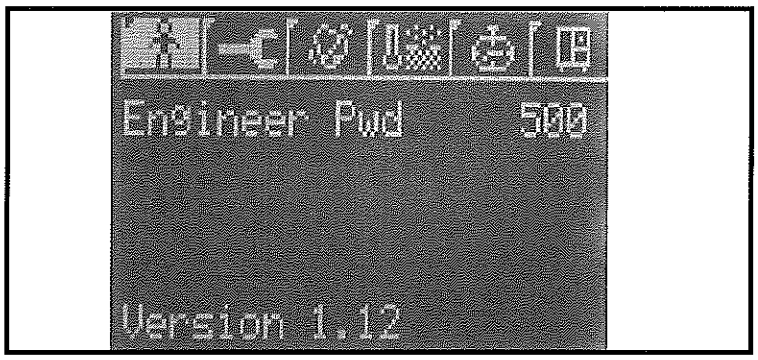
Commissioning of Extraction Unit

After installation of any DPX extraction unit (in accordance with the guidelines) and fitted with two new, clean filters, the maximum velocity calibration need to be set.

Performing the maximum velocity calibration will optimise the filter life time and the general unit performance.

Adjustable Functions for Commissioning Engineers Only

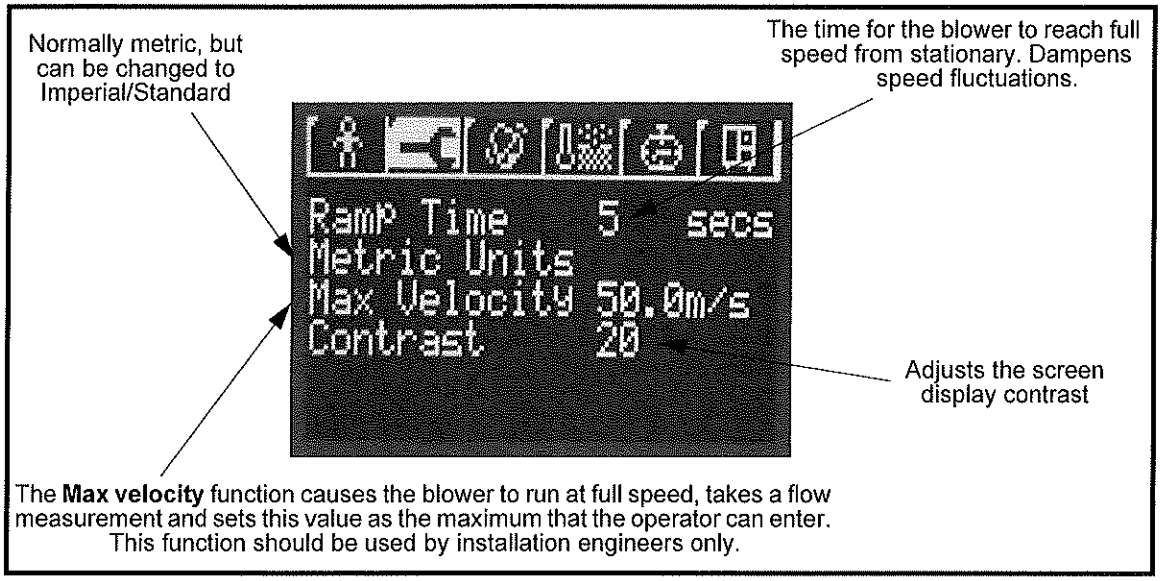
Press and hold both horizontal arrow keys simultaneously. The arrows illuminate red and flash. The following screen will display:



Use the *Up/Down* arrows to change the code number to **498** then press the right hand arrow key to confirm.

Note: If there is no key entry within 5 seconds the display returns to the default screen.

The following screen will display:



Use the *Up/Down* arrow keys to move the cursor line to just below the function to be adjusted.

For the **Ramp Time**, **Units** and **Contrast**, use the *Left/Right* arrow keys to change the parameter to the required value or setting.

To activate the **Max velocity** function, after selection with the cursor, press the *Left* arrow key.

The blower motor will start running at full speed for about 20 seconds and the value for the achievable maximum air speed will be set in the software automatically.

MAINTENANCE

WARNINGS:

(1) An inspection of the area around the hose, including all edges and welded seams of the extraction nozzle, must be made as specified in the Recommended Routine Maintenance schedule. Any debris from the lasing process must be removed. An accumulation of debris can result in hot lumps breaking off and causing a fire.

(2) Only use genuine Domino replacement parts. Other parts may not meet design or working requirements and put personnel at risk. Use of non Domino replacement parts will invalidate your warranty.

(3) Full protective clothing must be worn when changing filters. Use the filter change kits provided with each filter.

(4) Dispose of used filters in the plastic bag provided in the filter change kit according to local regulations.

(5) The main filter is heavy, use correct lifting procedures.

Notes: (1) Visual alarms: refer to "Fault Finding and Repair" on page 29.

(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

(4) The filter exchange kit includes a face mask, latex gloves and a polythene bag with wire tie for filter disposal. Protective goggles should be provided locally.

RECOMMENDED ROUTINE MAINTENANCE

Primary maintenance is filter replacement and the fume extractor control system will indicate when this is necessary. Experience of local conditions may be used to formulate a periodic replacement schedule.

Daily (see note 3 above)

Visually check for and remove any coding debris that might have built up in the extractor hose nozzle and (if fitted) the shroud.

Visually check that fumes are being drawn into the extractor.

The laser marking application may require checks more frequently, depending upon the marking rate and laser power applied, this could be hourly.

Weekly

Check the display status on the control panel.

Annual

Consult Domino for advice.

CHANGING FILTER BAGS

WARNINGS: (1) Full protective clothing must be worn and correct disposal methods used immediately.

(2) Filters must be changed in accordance with the instruction sheet provided with the filter kit.

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) 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

WARNINGS: (1) Full protective clothing must be worn and correct disposal methods used immediately.

(2) Filters must be changed in accordance with the instruction sheet provided with the filter kit.

(1) Turn off the extractor.

(2) 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: This filter is heavy and must be removed with care.

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

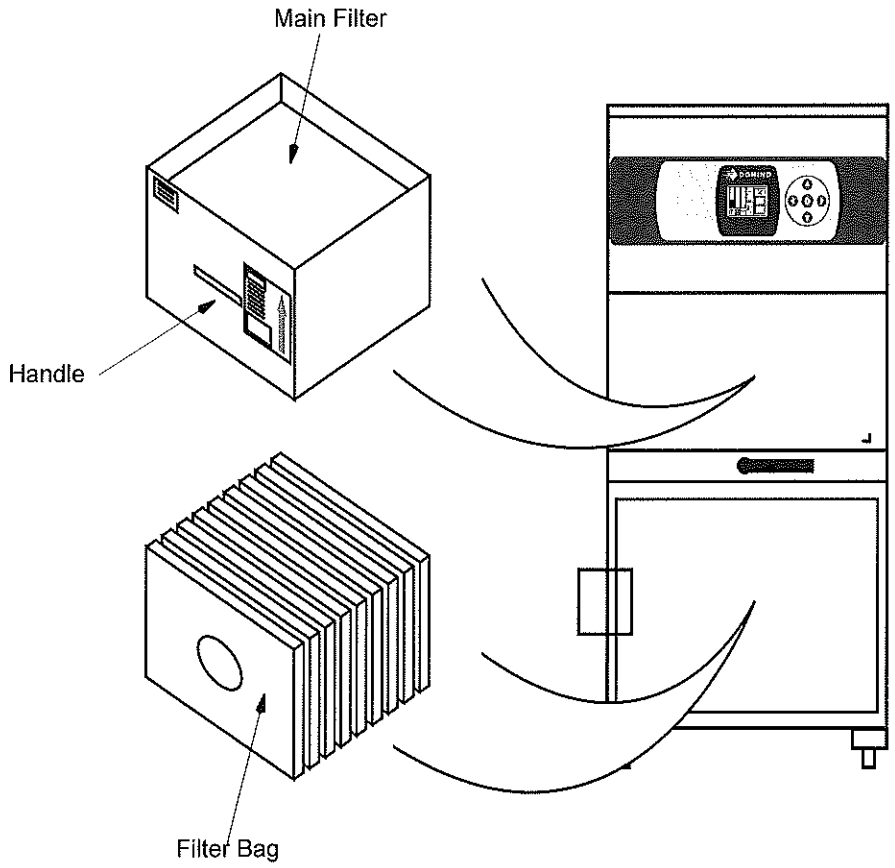
(5) Bag and seal the old filter in the bag provided.

WARNING: The handle on the filter cube is only to be used to pull the filter forward. Use of the handle to carry the filter may result in filter damage and injury to the operator.

(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 chemical element of the main filter is saturated with gas/vapour, 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.

Extraction insufficient (Filter not blocked)

(1) Check external pipework and connections for leaks.

Extraction is not switched with laser

(1) Check cabling, circuit breaker, fuse and power supply to/from interface equipment.

(2) Control signal absent or incorrect. Check cabling, monitor unit sensor and control signal.

(3) Fault on control PCB. Change PCB.

Blower(s) not working

(1) Check all cables and connections and ensure power supply matches machine requirement.

(2) Control signal absent or incorrect. Check cabling, connections and control signal to/from interfaced equipment.

(3) Blower(s) may be faulty. Change blowers in turn to determine which is faulty.

(4) Control PCB may be faulty. Change PCB.

Start/Stop LED not illuminated

(1) Check all cables and connections and ensure power supply matches machine requirement.

(2) Control signal absent or incorrect. Check cabling, connections and control signal to/from interfaced equipment.

(3) Control PCB may be faulty. Change PCB.

Odour/particles in filter (no alarm)

Exhaust monitor unit may be faulty.

(1) Check all cables and connections and ensure power supply matches machine requirement.

(2) Control signal absent or incorrect. Check green Ethernet cable connection from the Filter Monitor to the PCB.

Main filter has short life

Particles may be bypassing the high capacity filter bag.

(1) Check high capacity filter bag is present and undamaged.

(2) Ensure high capacity filter bag inlet is correctly positioned on the inlet spigot.

(3) If problem persists, contact Domino.

Alarm triggered, blower stopped

Thermal cutout may have engaged.

(1) Check cooling vents.

(2) Switch off machine and allow to cool.

(3) Possible fault on blower or electrical connection. If fault persists, contact Domino.