

XTRACT 2100 SERIES

XT2100 Mini

XT2100

XT2100 Plus

INSTALLATION, OPERATION & MAINTENANCE

Odour Control Unit for Commercial Kitchens



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TABLE OF CONTENTS

	Page
Plasma Clean Welcome	1
SECTION 1 – SAFETY INSTURCTIONS & WARNINGS	
1.1 Important Safety Warnings	2
1.2 General Safety Precautions	2
1.3 Working Safely with UV-C Light	2
1.4 Working Safely with Ozone	3
1.5 Specification.....	3
1.6 Technical Information	3
SECTION 2 – INSTALLATION	
2.1 Preparation for Installation.....	3
2.2 Wall Mounting	4
2.3 Connection to Ductwork	4
2.4 Electrical Connections	4
2.5 Commissioning	4
2.6 Installation Diagram.....	5
SECTION 3 –USER OPERATION, MAINTENANCE & SERVICE	
3.1 General Information	6
3.2 Pre-Filters	6
3.3 How to Inspect & Replace Pre-Filters.....	6
3.4 LED Indicator Lamps.....	6
3.5 Housing Maintenance.....	6
3.6 Disposal.....	6
3.7 Ordering Spare Parts	6
WARRANTY	7
CONTACT INFORMATION.....	8

Congratulations on purchasing a Plasma Clean air purifier

Thank you for purchasing a Plasma Clean air purifier and we hope you will have many years of trouble-free service from this product.

Plasma Clean air purifiers utilise advanced air cleaning technology developed by the University of Manchester, UK. Unlike most products in the marketplace which simply mask the problem, Plasma Clean air purifiers act by effectively reducing odours and destroying microbes in the air, helping to dramatically improve air quality, leaving your environment smelling fresh and clean.

Before you start to enjoy the benefits of your Plasma Clean air purifier product, please read this manual carefully and in particular the Safety Precautions section. Once you have read the information, please keep this manual safe for future reference.

If you have any questions, please do not hesitate to contact your Plasma Clean representative, who will be only too happy to help,

Thank you,

The Plasma Clean Team

Section 1: Safety Instructions & Warnings

The manufacturer does not accept any liability for the damage to the product or personal injury caused by non-observance of the safety instructions in this manual, or by negligence during installations, use or maintenance.

Everyone working on or with the product must be familiar with the contents of this manual.

Always keep the manual with the product.

The user of the product is fully responsible for observing local safety instructions and regulations.

1.1 Important Safety Warnings



 **DANGER HIGH VOLTAGE** - Do not remove cover

 This product contains lamps that emit UV-C light. Immediate or prolonged exposure to UV-C light can result in painful eye injury, skin burn, premature skin aging or skin cancer.

 The unit has an internal differential pressure switch to ensure that it is interlocked to air flow.

 Only approved personnel familiar with the assessment of hazards and risks associated with industrial electrical and ventilation equipment such as fans and air handling units should install, operate and maintain the product.

 If the installer or user is unable to understand the information in this manual, or has any doubt that a safe and reliable installation, operation and maintenance of the equipment can be assured, plasma clean or their representative should be contacted for advice.

 Additional warnings and safety information relevant to specific operations are contained at the start of the sections to which they apply.

1.2 General Safety Precautions

The unit is intended for commercial use only and must be installed by a suitably qualified electrician.

This air cleaner is built to CE standards and must be operated in strict accordance to this manual.

This air cleaner is designed for indoor installation only and must be protected from excess moisture.

Do not install in explosion risk areas.

Always ensure that good access is provided for system maintenance

Do not remove cover

Do not place the unit, plug or mains cable in direct contact with any liquids

Do not place near flammable, explosive or toxic products

Do not operate near open flames, fires or heating appliances

Do not open, or disassemble the unit other than as specified in the cleaning instructions under Care and Maintenance.

Do not touch any internal components as this may result in an electrical shock

Do not touch the fan (where installed), or insert any item through the fan grills

Do not insert any objects into the unit as this may result in an electric shock

Do not operate with pre-filter or covers removed

Do not operate if mains cable or plug is damaged

Do not operate if unit malfunctions

Do not operate if unit has been dropped or is damaged

If the plug or mains cable are damaged or require replacement this must be undertaken by your Plasma Clean representative or a similarly qualified individual

1.3 Working Safely with UV-C Light

 Do not Look Directly at UV-C Light

 Ultra-violet light in the C Band can damage the skin and eyes.

 Personal protective equipment must be worn and direct viewing must be avoided.

⚠ Access to the lamps is gained through an access cover on the front of the UV-C reactor. Care is to be taken to prevent unauthorised access of the equipment.

⚠ The ozone that is generated by the UV-C lamps is an irritant.

⚠ The unit must not be operated without the kitchen extraction fan running.

1.4 Working Safely with Ozone

⚠ Exposure limit value: 0.1PPM (V/V) 8 hour weighted average according to EH 38 (UK)

⚠ Ozone is an irritant and a powerful oxidising agent.

⚠ Ozone has a half-life of around 20 minutes

⚠ This unit is designed to inject ozone and ions directly into ductwork for odour and grease control purposes only

⚠ In the event that ozone is accidentally released into the room, evacuate immediately. Ventilate the room by opening all external doors and windows. Do not attempt to enter the room until sufficient time has elapsed for the ozone concentration to be at a safe level

⚠ In an emergency use an activated carbon filter breathing mask to gain access to the area

The UK Health and Safety Executive (HSE) have issued Health and Safety Guidelines concerning ozone:

EH38 'Ozone: health hazards and precautionary measures'

EH40 'Occupational Exposure Limits'

A Materials Safety Data Sheet is available from Plasma Clean on request.

1.5 Specification

The Plasma Clean Xtract odour control system is designed to inject ozone and charged ions into ductwork to assist in the reduction of odours in accordance with DEFRA, 2005: Guidance on the Control of Odour and Noise from Commercial Kitchen Exhaust Systems. The unit should be sized to deliver approximately 1ppm/V ozone in normal operating conditions. Where there is excessive odour, smoke or grease present in the ductwork, a greater input of ozone and charged ions may be required.

The unit is easy to install and will provide satisfactory operation subject to 'good housekeeping' i.e. regular cleaning and inspection.

1.6 Technical Information

Description:	Xtract 2100 Mini	Xtract 2100	Xtract 2100 Plus
Type:	2100 series	2100 series	2100 series
Model:	2100-UV-2-01	2100-UV-4-02	2100-UV-6-02
Voltage:	220V	220V	220V
Phase	1PH	1PH	1PH
Frequency:	50 / 60Hz	50 / 60Hz	50 / 60Hz
Power:	77W	154W	233W
Current:	0.38A	0.75A	1.1A
Fuse:	2 Amp T2 Slow	2 Amp T2 Slow	2 Amp T2 Slow
Weight:	6.0kg	6.45kg	7.5 kg
Dimensions:	307 X 185 X 343 mm		

Section 2: Installation

2.1 Preparation for Installation

This product is suitable for the control of gaseous odours and should always be used in combination with pre-filters where grease and smoke particulate are present in the exhaust air.

For best results, position the unit with an injection point located closest to the source of odours in order to maximize dwell time. In any case the dwell time must be no less than 2 seconds.

⚠ The unit is to be installed by a suitable electrically qualified person only.

⚠ Do Not Remove Unit Cover As this Will Invalidate Warranty

⚠ Before installation ensure that the unit is not damaged.

⚠ Ensure that your electrical supply matches that of the Plasma Clean Xtract unit and observe all building and electrical codes before proceeding.

⚠ This Unit Must Be Operated Under Negative Pressure Only

⚠ Do Not Position the Unit Where Grease From Ductwork Can Drip Into The Outlet

Always keep in a vertical position and mount on a stable vertical surface, allowing sufficient air circulation

Leave at least 2m of space from televisions and radios to prevent electrical interference

Do not obstruct the inlets or outlet of the unit with fabrics or furniture. This will cause overheating and affect efficiency of operation.

The Xtract 2100 contains an internal differential pressure switch which monitors air flow through the unit to ensure that the unit only operates when the main system fan is running.

You may require the following items which are not supplied as standard, but which can be ordered from Plasma Clean:

- Suitable wall screws and raw plugs
- Installation kit
- High velocity sealant
- Anemometer (fan-type)
- Spare pre-filters (available in 6 and 12 month supply)
- External power monitor

The Plasma Clean Xtract unit should be mounted in a horizontal position at a height where easy access for maintenance can be achieved. The unit is designed for wall mounting and care should be taken that the wall has sufficient load bearing capacity.

Check before installing that adequate space is available for access and for exchange of the pre-filters. At least 300mm access is required at the inlet side of the unit (see Figure 1)



Figure 1

Ensure that the unit is positioned within 1m of the ductwork, with at least 300mm at the air inlet side to enable the end plate to be removed to replace the pre-filter.

2.2 Wall Mounting

Check that the unit position complies with the guidance provided in this section.

Using suitable wall screws and wall plugs mount the unit upright onto a suitable load bearing vertical surface using the keyhole mounting holes on the back of the unit.

Note: if the ducting between the unit and the main extraction ductwork is too long (>1m) or has too many bends then this can introduce pressure drop which affects

air flow through the unit. If this occurs, then reduce the length of the ducting.

Ensure that the unit is positioned within 1m of the ductwork, and in a position upstream from the main fan in the ductwork system. This will ensure that the unit is subjected to negative pressure.

2.3 Connection to Ductwork

The outlet of the Plasma Clean Xtract is connected to the ductwork by a suitable length of 100mm diameter ozone resistant ducting joined by a suitable spigot-type connector.

2.4 Electrical Connections

⚠ The Xtract 2100 is to be powered via a fused spur located within 1 metre of the unit.

⚠ The Unit is Interlocked To Air Flow In The Main Ventilation Ductwork via an internal differential pressure switch.

The unit is pre-wired and fully tested for operator safety and complies with Health and Safety regulations. Mains cable entry is made at the isolator.

Ensure the cable does not represent a trip hazard.

2.5 Commissioning

⚠ The linear velocity of air flowing through the unit should be between 1-2m/s as measured by a fan type anemometer at the inlet.

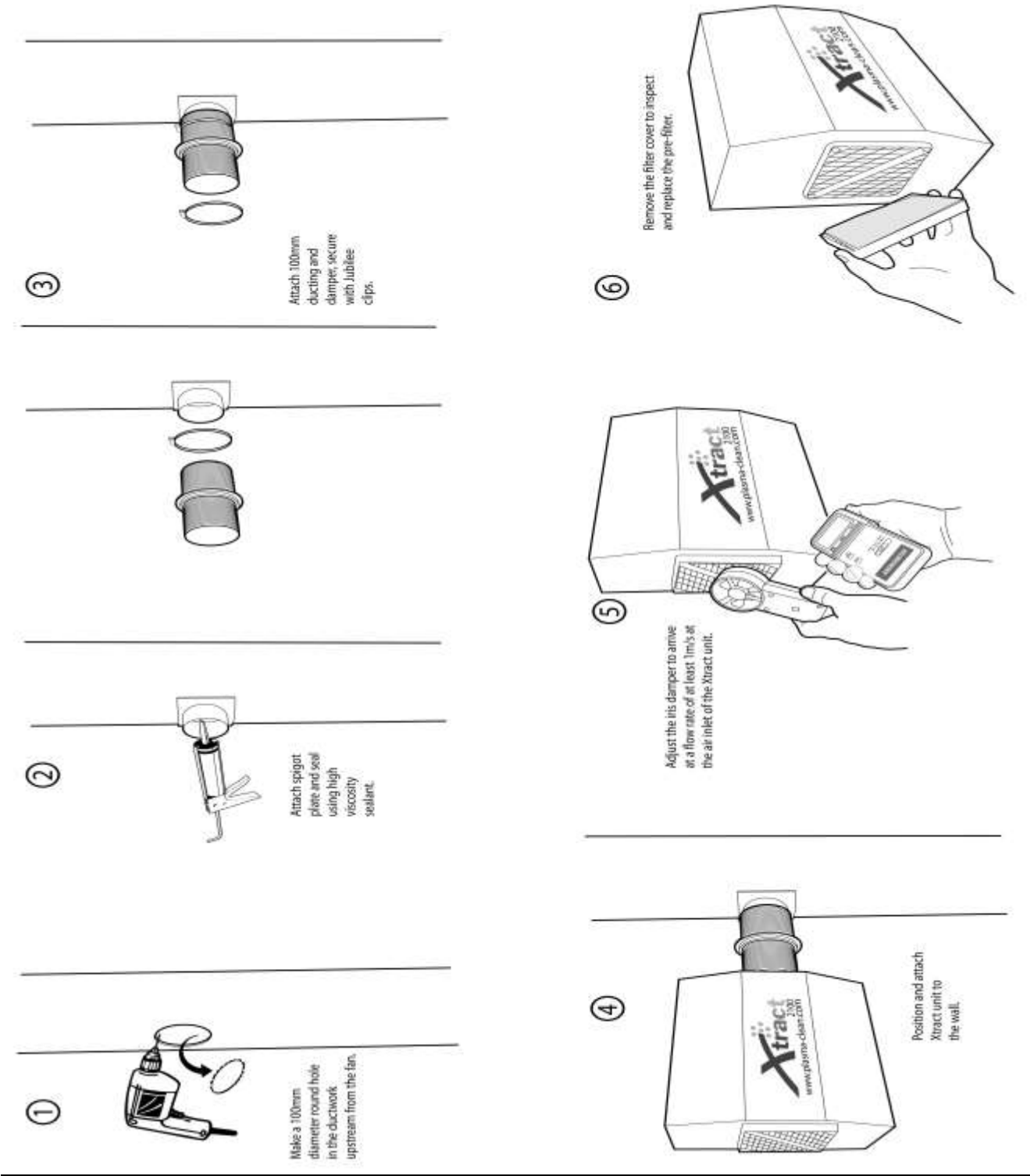
2.5.1 The unit has an internal flow proving switch which illuminates the Air Flow LED on the face of the unit to indicate adequate air flow.

If the flow lamp does not illuminate when the unit is switched on and with the main ductwork fan operating, this indicates that there is insufficient air flow through the unit and so the unit needs to be repositioned to ensure adequate airflow.

2.5.2 The product requires air flow through the unit for cooling purposes. To prevent overheating due to insufficient air flow, the unit is equipped with a thermal switch. If the unit continually switches off, check the air flow through the unit and if required, inspect and change the prefilters and reposition the unit.

⚠ If the lamp does not illuminate or continually switches, check the air flow using a fan type anemometer.

2.6 Installation Diagram



Section 3: User Operating, Maintenance & Service

3.1 General Information

 Everyone working on or with the product must be familiar with the contents of this manual and pay particular attention to the important safety warnings and instructions in Section 1

 Maintenance requiring removal of the cover of the unit is to be carried out by Plasma Clean trained operatives only. Removal of the cover will invalidate your warranty. Please contact Plasma Clean to arrange a service visit.

The Plasma Clean Xtract unit incorporates:

Pre-filter – To retain dust, grease and oil particulates

Ozonating UV-C tubes - main components for ozone and ion production

Air is drawn by the main ductwork fan through the Xtract unit. Particulates are captured by the pre-filters which must be inspected and exchanged on a regular basis. Ozone and charged ions are produced as air passes through the ozoniser tubes, these active elements are injected into the ductwork where they immediately begin to act on odours.

 Attention is normally confined to the routine inspection and replacement of the pre-filter. For maximum efficiency, establish a regular inspection cycle based on routine checks during the first few weeks of use.

3.2 Pre-filters

The pre-filter(s) protects the unit from dust and grease particles. Depending on the environmental conditions, this will require changing every one to six months. It is recommended that you carry out a routine inspection of the pre-filter when the unit is first installed in order to establish the correct exchange frequency.

 REPLACEMENT FILTERS ARE ONLY AVAILABLE FROM PLASMA CLEAN LTD. INADEQUATE MAINTENANCE AND FAILURE TO CHANGE THE FILTER WILL INVALIDATE YOUR WARRANTY.

3.3 How to inspect & replace the Pre-filters

 Switch off the unit at the mains before attempting to change the Pre-filter.

The unit contains a filter which should be inspected for grease, oil or dust deposits on a monthly basis. Under normal operating conditions the filter is to be exchanged on a 3 monthly basis.

3.4 LED Indicator Lamps

There are two LED Indicator lamps on the front of the Xtract 2100 which are illuminated when the unit is switched on and the system is functioning correctly.

Air Flow Light: The unit has an internal flow proving switch which illuminates the Air Flow LED on the face of the unit to indicate adequate air flow. Following commissioning, if the Air Flow LED is not illuminated then the filter is blocked and should be exchanged.

Service Light: The Service light is extinguished when a service is required

 PLEASE CONTACT PLASMA CLEAN OR A PLASMA CLEAN REPRESENTATIVE IN ORDER TO ARRANGE A SERVICE VISIT

3.5 Housing Maintenance

Disconnect from the mains and use a dry cloth to wipe its outer surface

For stubborn dirt use a soft cloth, dampened with water, taking care not to allow any water to drip inside the unit

Ensure that unit is dry then reconnect plug to the mains

Do not attempt to open the unit and clean inside

Do not use furniture polish, detergents, solvents, bleaches or any liquid sprays to clean the unit

3.6 Disposal

Please recycle where facilities exist

Electrical products should not be disposed of with normal household waste

3.7 Ordering Spare Parts

When ordering spare parts from Plasma Clean, please state:

- Product names, supply voltage and serial number (see the identification plate on the equipment)
- Part number
- Description
- Quantity

WARRANTY

Plasma Clean Limited (who is called "Plasma Clean" in this warranty) warrants that, for the warranty period set out in paragraph 2 below, the enclosed Product will be free from defects in material and workmanship, and agrees that it will, at its sole discretion, either repair or replace any defective Product subject to the following terms and conditions:

1. This limited warranty extends only to you, the customer, as the end-user of the Product. You may have additional rights under applicable law. This limited warranty does not affect such rights.
2. The warranty period is 12 (twelve) months from the date on which you purchased the Product. You are required to register the product to validate the warranty. If you do not register your product, it will invalidate your warranty and will only be covered against defect at the discretion of the manufacturer for a period not exceeding 12 months from date first supplied by the manufacturer. You must notify your reseller, dealer or Plasma Clean (or its authorised service company) of any defects as soon as possible after you have become aware of them. Please be aware that claims made 12 months after the purchase date will not be valid.
3. This limited warranty is valid and enforceable in the countries of the European Union.
4. This limited warranty does not cover general cleaning and maintenance, nor does it cover the performance or costs of any modification or adjustments which may be necessary to adapt the Product to meet any local technical or safety standards which are applicable in the country in which the Product is intended to be operated.
5. This limited warranty shall not apply in respect of the following:
 - a. any deterioration due to normal wear and tear including all surfaces and all other externally exposed parts that are scratched or damaged due to normal customer use.
 - b. defects caused by the Product being subjected to any of the following: use in contradiction with the user guide, rough handling, exposure to moisture, dampness or extreme thermal or environmental conditions or rapid changes in such conditions, corrosion, oxidation, unauthorised modifications or connections, unauthorised opening or repair, use of unauthorised spare parts, misuse, improper installation, accident due to forces of nature, spillage of food or liquid, influence from chemical products or other acts beyond Plasma Clean's reasonable control unless the defect was caused directly by defects in materials or workmanship.
 - c. any products that have not been adequately maintained.
 - d. products in respect of which the product serial number (or equivalent) has been removed, erased, defaced, altered or made illegible.
 - e. defects caused by employing the Product to other than its intended use.
 - f. defects caused by a non-Plasma Clean product being connected or used in conjunction with the Product.
 - g. products rented on a periodical basis.
6. All defective parts or Products, which have been replaced by Plasma Clean (or its authorised representative) during the warranty period, shall become the property of Plasma Clean.
7. A repaired or replaced Product(s) will be warranted for the balance of the original warranty period or for ninety days from the date of repair or replacement, whichever is the longer.
8. You are requested to keep your original proof of purchase, such as the receipt. You will need it to prove the date of purchase in respect of any warranty claims.
9. To make a claim pursuant to this limited warranty, please:
 - a. contact the retailer or dealer from whom you purchased the Product; or, call the warranty service hotline on the following number: +44 (0)161 870 2325 or e-mail us on Info@plasma-clean.com or write to us at Plasma Clean Limited, Broadstone Mill, Broadstone Road, Stockport, Cheshire SK5 7DL UK
 - b. follow the instructions given to you in respect of the Product, which may include the method of returning the Product to your reseller or dealer or to Plasma Clean (or its authorised representative) for repair or replacement; and
 - c. if requested, send to Plasma Clean, or present to the reseller or dealer from whom you purchased the Product either a legible and non-modified original warranty card which clearly indicates the name and address of the retailer or dealer from whom you purchased the Product, the date and place of purchase, the product type and the serial number (or equivalent) or a legible and non-modified original purchase receipt containing the same information.
10. In the event of a return or repair, please ensure that the unit is well protected preferably inside its original packaging to prevent further damage.
11. You may be required to pay the cost of returning any defective Product to Plasma Clean, or the re seller or dealer from whom you purchased the Product. However, Plasma Clean will pay the cost of delivering any repaired or replaced Product back to you provided that the warranty is valid.

This limited warranty is granted to you by Plasma Clean Limited (Registered no: 04949576), whose registered office is at Broadstone Mill, Broadstone Road, Stockport SK5 7DL

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