

OPERATOR MANUAL

FOOD WASTE BIO-DIGESTER



CONTENTS:

Chapter	Description	Page
1.	Introduction	1
2.	Ratings and Specifications	2
3.	Product Safety	3
4.	INSTALLATION INSTRUCTIONS	7
5.	Operating Instructions	12
6.	On-Going Machine Requirements	15
7.	After Sales and Service Support	15



Chapter 1. INTRODUCTION

Thank you for purchasing Mechline's food waste bio-digester. When correctly installed, commissioned and operated in accordance with this Operator Manual, the bio-digester will provide many years of service.

Best practice dictates the removal of food waste quickly and completely from commercial kitchens, eliminating unpleasant odours and spillages and the risk of contaminating fresh or uncooked food. The machine facilitates the efficient, on-site, safe and hygienic removal of food preparation waste, plate scrapings, out-of-date produce and unwanted soft, organic food waste – both raw and cooked.

The machine rapidly digests soft food waste and converts it into waste water which runs away to drain - simply throw in the food and walk away. The process is called aerobic digestion, and a naturally occurring blend of microorganisms help with this process.

In this document, important operating, maintenance and safety advice is provided to get the most out of Mechline's food waste bio-digester. Please read all the information provided and keep this document in a safe and easily accessible place.

It is the client's responsibility to ensure that the services required for any device or appliance supplied by Mechline are suitable and adequate and in accordance with the manufacturer's installation requirements.

SAVE THESE INSTRUCTIONS








Chapter 2. RATINGS and SPECIFICATIONS

Model numbers	W20.180.3	W20.400.3
Region	UK/EU	US
ELECTRICAL SPECIFICATIONS		
	Mechline’s food waste bio-digester is configured for the appropriate electrical supply.	
Voltage	230 VAC	120 VAC
Frequency	50 Hz	60 Hz
Power	1100 W	1000 W
Input supply requirements	230 V, 50 Hz, 1 phase, 10 A	120 V, 60 Hz, 1 phase, 10 A
Cordset	3 Core 0.75mm² (L, N+E) supplied with a moulded plug. Conn A: IEC CEE 7/7 plug (EU) BS 3pin Plug (UK)* <i>*UK model fitted with 10-amp fuse</i>	N/A Terminal box for field wiring. Use min. 75°C rated conductors. Use copper conductors only.
Input protection	Mechline’s food waste bio-digester is to be connected to an appropriately rated Branch Circuit protected supply. THIS MACHINE MUST BE GROUNDED/EARTHED.	
ENVIRONMENTAL		
Ambient temperature	5°C to 40°C	41°F to 104°F
Water supply temperature	Continuous (24-hour) dedicated warm-water supply at 50°C (122°F)	
Maximum water hardness	We recommend that the water hardness is 70mg/L or less	
Altitude	Less than 2000 m	Less than 6562 ft
Noise	Emissions do not exceed 70dB at workstation position	
MECHANICAL		
Dimensions	Length (side to side): 1096mm Depth (back to front): 1015mm Height (lid closed): 1332mm	Length (side to side): 43 ³ / ₁₆ inches Depth (back to front): 39 ¹³ / ₁₆ inches Height (lid closed): 52 ¹ / ₂ inches
Weight (approx, when empty)	230 Kg	506lbs
Chain speed (approx)	9.5 m/min	

Chapter 3. PRODUCT SAFETY

3.1 SAFETY SYMBOLS

The following safety symbols are used upon the product and throughout the product documentation:

MEANING/DESCRIPTION	SYMBOL/SYMBOLE	SIGNIFICATION/DESCRIPTION
Protective Earth (Ground) To identify any terminal which is intended for connection to an external conductor for protection against electric shock in case of a fault or the terminal of a protective earth (ground) electrode.		Terre de Protection Pour marquer bornes destinées à être raccordées à un conducteur de protection extérieur contre les chocs électriques en cas de défaut d'isolement, ou pour marquer la borne de la terre de protection.
Dangerous Voltage To indicate hazards arising from dangerous voltages.		Tension Dangereuse Pour indiquer les dangers résultant des tensions dangereuses.
Warning/Caution An appropriate safety instruction should be followed or caution to a potential hazard exists.		Avertissement Une consigne de sécurité appropriée doivent être suivies ou garde d'un danger potentiel existe.
Refer to Manual Refer to the relevant instructions detailed within the product manual.		Référez au Manuel Reportez-vous aux instructions applicables, indiquées dans le manuel du produit.
Heavy This product is over 18 Kg and reference should be made to the safety instructions for provisions of lifting and moving.		Lourd Ce produit n'est plus 18 Kg et convient de se référer aux consignes de sécurité pour les dispositions de levage et de déplacement.
Rotating Parts To indicate hazards arising from rotating parts.		Pièces Rotatives Pour indiquer les dangers résultant des les pièces rotatives.
Wear Gloves To indicate that appropriate gloves should be worn.		Porter des Gants Pour indiquer que des gants appropriés doivent être portés.

3.2 SAFETY INSTRUCTIONS



It is important to note that this appliance is not intended for use by children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.

ENGLISH	FRENCH
1. All servicing and maintenance require the equipment to be isolated from the power source and disconnected. (Refer to Chapter 6.)	1. Toute intervention de nettoyage et d'entretien de l'équipement nécessite de l'isoler à partir de la source d'alimentation et de débrancher l'appareil. (Reportez-vous au Chapitre 6.)
2. Mechline's food waste bio-digester weighs 230 Kg (506lbs) and requires appropriate equipment to lift.	2. La machine pèse 230 Kg (506lbs) et nécessite l'équipement approprié pour soulever.
3. Should a fault occur with the food waste bio-digester, immediately isolate and disconnect the incoming power.	3. En cas de problème avec la machine, isoler immédiatement et débrancher l'alimentation d'entrée.
4. When the machine is being transported, it should be bolted upright to a flat pallet during transport.	4. Lorsque la machine est transportée, elle doit être boulonnée en position verticale sur une palette à plat pendant le transport.
5. When the machine is not in use, it should be disconnected from the electrical supply. See 5.2.15 to re-start.	5. Lorsque la machine n'est pas utilisée, elle doit être déconnectée de l'alimentation en électrique. (Reportez-vous au 5.2.15.)
6. Ensure the equipment is installed, operated and maintained by trained and authorised personnel.	6. S'assurer que le matériel est installé, utilisé et entretenu par du personnel qualifié et autorisé.
7. Children should not be allowed to play with the appliance.	7. Les enfants ne doivent pas avoir accès à la machine.
8. Keep hands and loose clothing away from the machine when in operation.	8. Ne portez pas de vêtements amples et évitez de mettre les mains dans la machine.
9. Always isolate the machine before unblocking or doing maintenance.	9. Toujours isoler la machine avant le déblocage ou la maintenance.
10. Always ensure the machine is level when in use.	10. Toujours s'assurer que la machine est à niveau horizontal lors de l'utilisation.
11. In the event of an emergency, press the red emergency knock-off (STOP) button situated on the front of the machine. Note: Emergency stop button does not isolate all mains circuits.	11. En cas d'urgence appuyez sur le bouton d'arrêt rouge (STOP) situé sur la face avant du machine.
12. The machine should be used as provided and should not be tampered with or altered as the machine contains inbuilt safety systems which could be compromised by any interference.	12. La machine doit être utilisée telle qu'elle a été livrée sans aucune modification, car les systèmes de sécurité pourraient s'en trouver altérés.
13. Do not use this appliance to dispose of hard materials such as glass and metal.	13. Ne pas utiliser la machine pour traiter des matériaux durs (verre, métal...)
14. The output water from the appliance is perfectly safe for drains, but it is waste water and not to be drunk or used on plant life or recycled for use in any other area on the site. Allow it to go to the foul water drain where it will be treated by the local water treatment facility in the area and subsequently returned to the community.	14. Les rejets d'eaux sont sans risques pour les canalisations. Il s'agit néanmoins d'eaux usées qu'il ne faut pas boire, ni utiliser comme engrais ni recycler à un autre endroit du site. Connecter les rejets aux sorties d'eaux usées, ils seront ainsi traités par les services d'eau et retourneront à la communauté.
15. Ensure safe storage/positioning of electrical cabling when not in use. Should the electrical cable become damaged, do not operate the machine.	15. S'assurer de la sécurité du câblage (installation-conservation) même en temps d'arrêt. Ne pas utiliser la machine si le câblage est abîmé.
16. Any modifications to the electrical supply must be carried out by a qualified electrician in accordance with the appropriate Codes of Practice.	16. Toute modification du circuit électrique doit être exécuté par un électricien qualifié, conformément à la réglementation.
17. Replacement of the power cord must be carried out by Mechline, or Mechline's service agent.	17. Le remplacement du cordon d'alimentation électrique doit être effectué par Mechline ou un de ses intervenants délégués.
18. The mains socket should be installed in an accessible area close to the equipment to enable disconnection.	18. La prise d'alimentation principale doit être facilement accessible pour faciliter une coupure de courant.
19. Mechline recommends that the appliance is checked for its electrics each year.	19. Mechline préconise une révision annuelle d'électrique.

3.3 PRODUCT CONFORMITY

3.3.1 UK/EU: Mechline's food waste bio-digester conforms to the Machine Safety Directive 2006/42/EC and to the protection requirements of the Electro Magnetic Compatibility Directive 2014/30/EU. The appliance also meets the requirements of the Low Voltage Directive 2014/35/EU.


3.3.2 US: Conforms to UL standard 430. Safety requirements for motor operated household and commercial disposers rated 600 V or less and intended to be used in accordance with the National Electrical Code, ANSI/NFPA 70. These disposers are intended to convert organic types of waste material to a form that can be accommodated by plumbing systems. The requirements also cover field-installed control assemblies and accessories specifically intended for use with disposers covered by this standard.

3.4 BOOSTER BLOCK - SAFETY DATA SHEET *Prepared in accordance with Commission Regulation (EU) No 2015/830*

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier**
Product name: BOOSTER BLOCK - SOFT (Part No.: W20.BOOST)
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
Use of substance / mixture: A water soluble block containing microorganisms to be used in conjunction with a food waste bio-digester for digesting soft organic food waste.
- 1.3 Distributor details:** Mechline Developments Ltd, ONE Brudenell Drive, Brinklow, Milton Keynes, England MK10 0DE T: +44 (0)1908 261 511 F: +44 (0)1908 261 522 E: info@mechline.com
- 1.4 Emergency telephone:** T: +44 (0) 1908 261 511 (9am-5:30pm GMT)

2. HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture**
Classification under CLP: Eye Dam. 1: H318; Skin Irrit. 2: H315
Most important adverse effects: Causes skin irritation. Causes serious eye damage.
- 2.2 Label Elements**
Hazard statements: H315: Causes skin irritation. H318: Causes serious eye damage.
Signal words: Danger.
Hazard pictograms: GHS05: Corrosion 

Precautionary statements: P264: Wash hands thoroughly after handling. P280: Wear protective gloves and eye protection. P302+350: IF ON SKIN: Gently wash with plenty of soap and water. P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310: Immediately call a physician.

- 2.3 Other hazards**
PBT: This product is not identified as a PBT/vPvB substance.

3. COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Mixtures**
Hazardous ingredients: COCONUT MONOETHANOLAMIDE

EINECS	CAS	PBT / WEL	CLP Classification	Percent
-	68140-00-1	-	Skin Irrit. 2: H315; Eye Dam. 1: H318	20-40%

Contains: COCONUT MONOETHANOLAMIDE

4. FIRST AID MEASURES

- 4.1 Description of first aid measures**
Skin contact: Wash immediately with plenty of soap and water.
Eye contact: Bathe eye with running water for 15-mins. Consult a doctor.
Ingestion: Rinse mouth & throat with water and give sips of water to drink.
Inhalation: Remove victim to fresh air and seek medical attention if symptoms occur.
- 4.2 Most important symptoms and effects, both acute and delayed**
Skin contact: There may be irritation and redness at the site of contact.
Eye contact: There may be pain and redness. The eyes may water profusely. There may be severe pain. The vision may become blurred. May cause permanent damage.
Ingestion: There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.
Inhalation: There may be irritation of the throat with a feeling of tightness in the chest.
Delayed / immediate effects: Immediate effects can be expected after short-term exposure.
- 4.3 Indication of any immediate medical attention and special treatment needed:** Eye bathing equipment should be available on the premises.

5. FIRE FIGHTING MEASURES

- 5.1 Extinguishing media:** Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.
- 5.2 Special hazards arising from the substance or mixture**
Exposure hazards: Not applicable.
- 5.3 Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and procedures:** Refer to section 8 for personal protection details.
- 6.2 Environmental precautions:** Do not discharge into drains or rivers.
- 6.3 Methods and materials for containment and cleaning up**
Clean-up procedures: Transfer to a closable, labelled salvage container for disposal by an appropriate method.
- 6.4 Reference to other sections:** Refer to section 8.

7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling:** Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area.
- 7.2 Conditions for safe storage, including any incompatibilities:** Store in a cool, well ventilated area. Keep container tightly closed.
- 7.3 Specific end use(s):** No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Control parameters**
Workplace exposure limits: No data available.
DNEL/PNEC Values: No data available.
- 8.2 Exposure controls**
Engineering measures: Not applicable.
Respiratory protection: Respiratory protection not required.
Hand protection: Protective gloves.
Eye protection: Safety glasses. Avoid contact with the eyes. Ensure eye bath is to hand.
Skin protection: Not applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 Information on basic physical and chemical properties**

State: Solid
Colour: Pale Yellow
Odour: Characteristic odour
Evaporation: No data available.
Oxidising: No data available.
Solubility in water: Soluble
Viscosity: No data available.
Boiling point/range°C: >100
Flammability limits %: lower: No data available.
Flash point°C: >100
Autoflammability°C: No data available.
Relative density: No data available.
VOC g/l: No data available.
Melting point/range°C: >60
upper: No data available.
Part.coeff. n-octanol/water: No data available.
Vapour pressure: No data available.
pH: No data available.

- 9.2 Other information:** No data available.

10. STABILITY AND REACTIVITY

- 10.1 Reactivity:** Stable under recommended transport or storage conditions.
- 10.2 Chemical stability:** Stable under normal conditions.
- 10.3 Possibility of hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.
- 10.4 Conditions to avoid:** Heat.
- 10.5 Incompatible materials to avoid:** Strong oxidising agents. Strong acids.
- 10.6 Hazardous decomposition products:** No data available.

11. TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects**

Relevant effects for mixture:

Hazard	Route	Basis
Skin corrosion/irritation	DRM	Hazardous: calculated
Serious eye damage/irritation	OPT	Hazardous: calculated

- 11.2 Symptoms / routes of exposure:** Refer to section 4.2.

12. ECOLOGICAL INFORMATION

- 12.1 Toxicity**
Ecotoxicity values: No data available.
- 12.2 Persistence and degradability:** Biodegradable.
- 12.3 Bioaccumulative potential:** No bioaccumulation potential.
- 12.4 Mobility in soil:** Readily absorbed into soil.
- 12.5 Results of PBT and vPvB assessment**
PBT identification: Product is not identified as a PBT/vPvB substance.
- 12.6 Other adverse effects:** No data available.

13. DISPOSAL CONSIDERATIONS

- 13.1 Waste treatment methods**
Disposal operations: Larger volumes should be sent for disposal by an approved waste contractor.
Disposal of packaging: Dispose of as normal industrial waste.
NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

14. TRANSPORT INFORMATION

Transport class: Product does not require a classification for transport.

15. REGULATORY INFORMATION

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
Specific regulations: Not applicable.
- 15.2 Chemical safety assessment:** Not applicable.

16. OTHER INFORMATION

This safety data sheet is prepared in accordance with Commission Regulation (EU) No 2015/830.

* indicates text in the SDS which has changed since the last revision.

Compilation date: 13/04/17

Revision No: 1

Phrases used in s.2 and s.3: H315: Causes skin irritation.

H318: Causes serious eye damage.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

3.5 BIO-FLUID - SAFETY DATA SHEET *Prepared in accordance with Commission Regulation (EU) No 2015/830*

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier**
Product name: WASTE₂O BIO-FLUID (Part No.: W20.EPAK)
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
Use of substance / mixture: Highly specialised biological preparation for odour control and breaking down organic matter in waste systems.
- 1.3 Distributor details:** Mechline Developments Ltd, ONE Brudenell Drive, Brinklow, Milton Keynes, England MK10 0DE T: +44 (0)1908 261 511 F: +44 (0)1908 261 522 E: info@mechline.com
- 1.4 Emergency telephone:** T: +44 (0) 1908 261 511 (9am-5:30pm GMT)

2. HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture**
Classification under CLP: This product has no classification under CLP.
- 2.2 Label Elements**
Precautionary statements:
P264: Wash hands thoroughly after handling.
P402+404: Store in a dry place. Store in a closed container.
- 2.3 Other hazards**
PBT: This product is not identified as a PBT/vPvB substance.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

Hazardous ingredients: PROPAN-2-OL

EINECS	CAS	PBT / WEL	CLP Classification	Percent
200-661-7	67-63-0	-	Flam. Liq. 2: H225; Eye Irrit. 2: H319; STOT SE 3: H336	1-5%

4. FIRST AID MEASURES

- 4.1 Description of first aid measures**
Skin contact: Wash immediately with plenty of soap and water.
Eye contact: Bathe eye with running water for 15-mins.
Ingestion: Wash out mouth with water.
Inhalation: Remove victim to fresh air and seek medical attention if symptoms occur.
- 4.2 Most important symptoms and effects, both acute and delayed**
Skin contact: There may be mild irritation at the site of contact.
Eye contact: There may be irritation and redness.
Ingestion: There may be irritation of the throat.
Inhalation: No symptoms.
- 4.3 Indication of any immediate medical attention and special treatment needed:** Not applicable.

5. FIRE FIGHTING MEASURES

- 5.1 Extinguishing media:** Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.
- 5.2 Special hazards arising from the substance or mixture**
Exposure hazards: Not applicable.
- 5.3 Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures:** Refer to section 8 for personal protection details.
- 6.2 Environmental precautions:** No special environmental concerns.
- 6.3 Methods and materials for containment and cleaning up**
Clean-up procedures: Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.
- 6.4 Reference to other sections:** Refer to section 8.

7. HANDLING AND STORAGE

- 7.1 Precautions for safe handling:** Not applicable.
- 7.2 Conditions for safe storage, including any incompatibilities:** Store in a cool, well ventilated area. Keep container tightly closed.
- 7.3 Specific end use(s):** No data available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Hazardous ingredients: PROPAN-2-OL

Workplace exposure limits:			Respirable dust:	
State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	999 mg/m3	1250 mg/m3	-	-

DNEL/PNEC Values: No data available.

8.2 Exposure controls

- Engineering measures:** Not applicable.
- Respiratory protection:** Respiratory protection not required.
- Hand protection:** Not required.
- Eye protection:** Not required.
- Skin protection:** Not required.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

State: Liquid
Colour: Pale Brown
Odour: Slight fermentation odour
Evaporation rate: No data available.
Oxidising: No data available.
Solubility in water: Soluble
Viscosity: No data available.
Boiling point/range°C: >100
Flammability limits %: lower: No data available.
Flash point°C: No data available.
Autoflammability°C: No data available.
Relative density: 1.02 g/cm³
VOC g/l: No data available.
Melting point/range°C: >0
upper: No data available.
Part.coef. n-octanol/water: No data available.
Vapour pressure: No data available.
pH: 6-8

9.2 Other information:

No data available.

10. STABILITY AND REACTIVITY

- 10.1 Reactivity:** Stable under recommended transport or storage conditions.
- 10.2 Chemical stability:** Stable under normal conditions.
- 10.3 Possibility of hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.
- 10.4 Conditions to avoid:** Heat.
- 10.5 Incompatible materials to avoid:** Strong oxidising agents. Strong acids.
- 10.6 Hazardous decomposition products:** No data available.

11. TOXICOLOGICAL

11.1 Information on toxicological effects

Hazardous ingredients: PROPAN-2-OL

IVN	RAT	LD50	1088	mg/kg
ORL	MUS	LD50	3600	mg/kg
ORL	RAT	LD50	5045	mg/kg
SCU	MUS	LDLO	6	gm/kg

Toxicity values: No data available.

11.2 Symptoms / routes of exposure:

Refer to section 4.2.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Ecotoxicity values: No data available.

12.2 Persistence and degradability:

Biodegradable.

12.3 Bioaccumulative potential:

No bioaccumulation potential.

12.4 Mobility in soil:

Readily absorbed into soil.

12.5 Results of PBT and vPvB assessment

PBT identification: Product is not identified as a PBT/vPvB substance.

12.6 Other adverse effects:

Negligible ecotoxicity.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal operations: Small amounts of unwanted product may be flushed with water to sewer.

Disposal of packaging: Dispose of as normal industrial waste.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

14. TRANSPORT INFORMATION

Transport class: Product does not require a classification for transport.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Specific regulations: Not applicable.

15.2 Chemical safety assessment:

In accordance with REACH a chemical safety assessment has been carried out for substances where necessary by the raw material supplier/s.

16. OTHER INFORMATION

This safety data sheet is prepared in accordance with Commission Regulation (EU) No 2015/830.

* indicates text in the SDS which has changed since the last revision.

Compilation date: 13/04/17

Revision No: 1

Phrases used in s.2 and s.3: H225: Highly flammable liquid and vapour.

H319: Causes serious eye irritation.

H336: May cause drowsiness or dizziness.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

Chapter 4. INSTALLATION INSTRUCTIONS



Refer to Chapter 3 of this manual, relating to safety.

4.1 INSTALLATION REQUIREMENTS

Mechline's food waste bio-digester is delivered as a complete unit and is designed for installation on a firm flat surface in a well-ventilated indoor location. The appliance must not be installed outside and exposed to the elements. If it's outside; it must be covered by a fully rain-proof shelter and protected from temperatures lower than 5°C (41°F) and higher than 40°C (104°F).

Ensure that the designated area for the appliance is of solid construct to withstand and support the operational weight of 275 Kg (605lbs).

If the appliance is relocated or reinstalled after commissioning, Mechline must be notified. Failure to do this could invalidate the warranty.



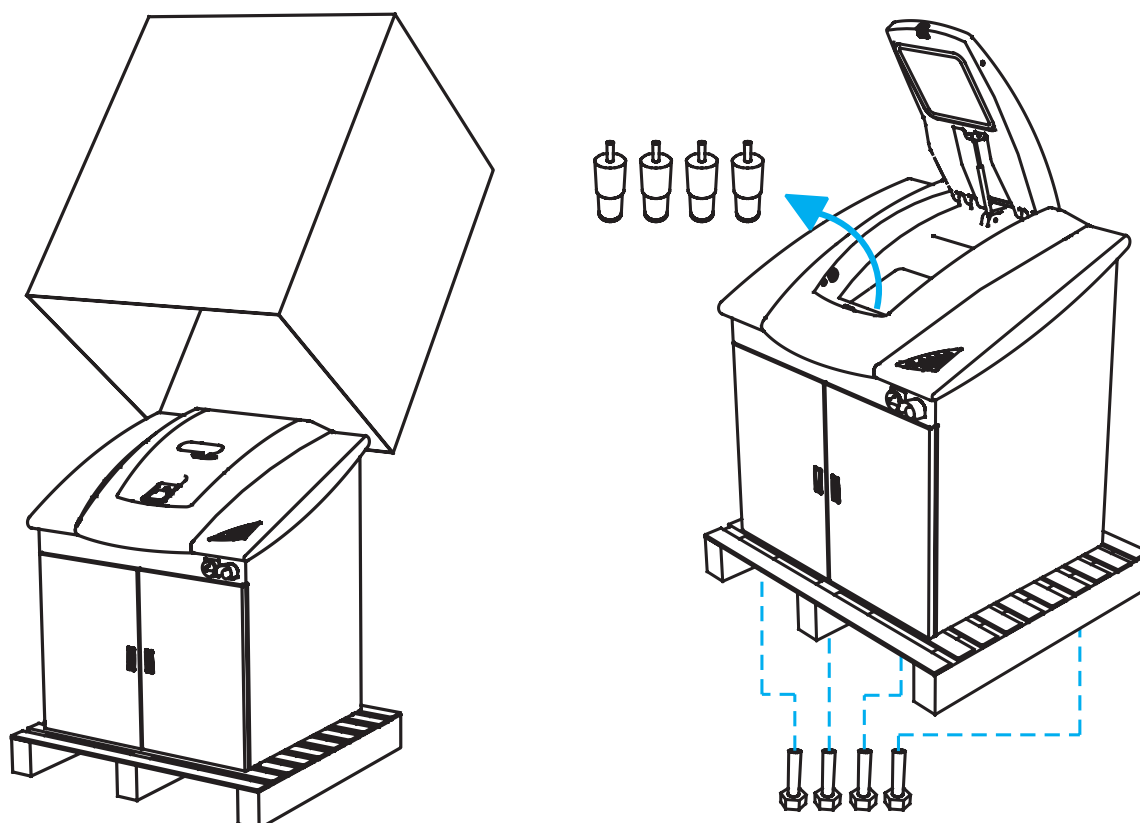
NOTE: Installation must be carried out in accordance with local authority requirements. The appliance incorporates Mechline's WRAS-approved AB-Type air gap backflow prevention device.

4.2 PRE-OPERATION CHECKS (UNPACKING)



NOTE: This is a minimum 2-person operation.

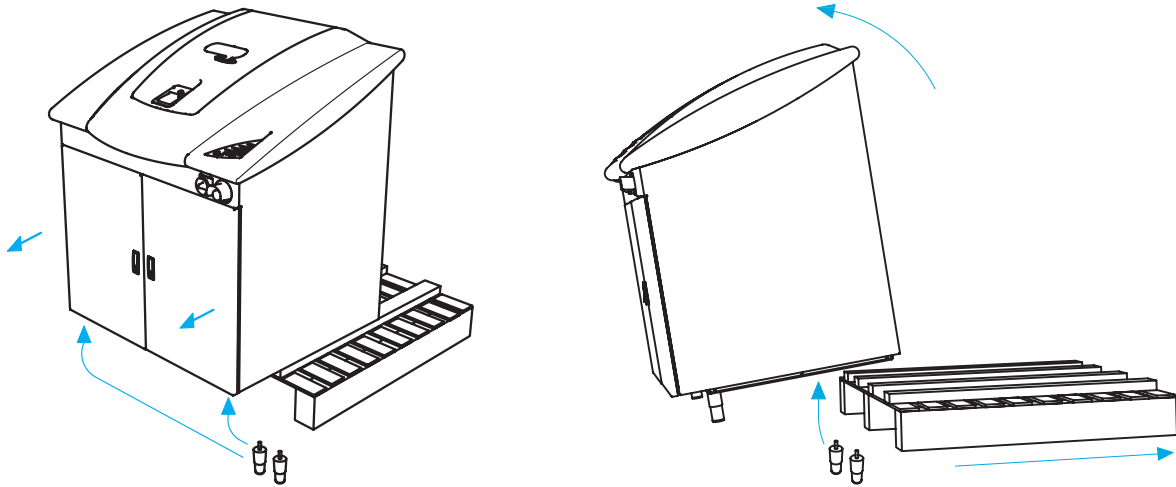
- 4.2.1 Carefully remove the cardboard sleeve that covers the appliance. Inspect the appliance for damage and inform Mechline immediately if any damage is found. Claims for damage cannot be entertained once the appliance has been removed from the pallet.
- 4.2.2 Open the appliance lid and remove the pack of 4 adjustable legs. Close the appliance lid
- 4.2.3 Use a 17mm (¹¹/₁₆ inch AF) socket/spanner or wrench to remove the 4 transit fixing bolts from the underside of the appliance's pallet.



Cont'd...

4.2.4 Carefully slide the appliance forward on the pallet so that the appliance edge overhangs by approximately 200mm (8 inches).

4.2.5 Tighten two of the four adjustable legs into the transit bolt fixing holes.



4.2.6 Carefully TILT APPLIANCE FROM BASE and slide out pallet. DO NOT LIFT MOULDED APPLIANCE TOP.

4.2.7 Tighten final two adjustable legs to the rear transit bolt fixing holes.

4.2.8 Gently lower appliance.

4.2.9 Dispose of the pallet responsibly, or return to Mechline for reuse.

4.2.10 Peel off the plastic protective film from the outer panels.

4.2.11 Position the appliance relative to any other equipment to which it is to be connected. Ensure the machine is not yet connected to the electrical supply.

The appliance is to be floor mounted and requires the following clearances:

Top: 600mm (24 inches) for lid opening

LHS: 600mm (24 inches) for service access, if available*

RHS: 600mm (24 inches) for service access, if available*

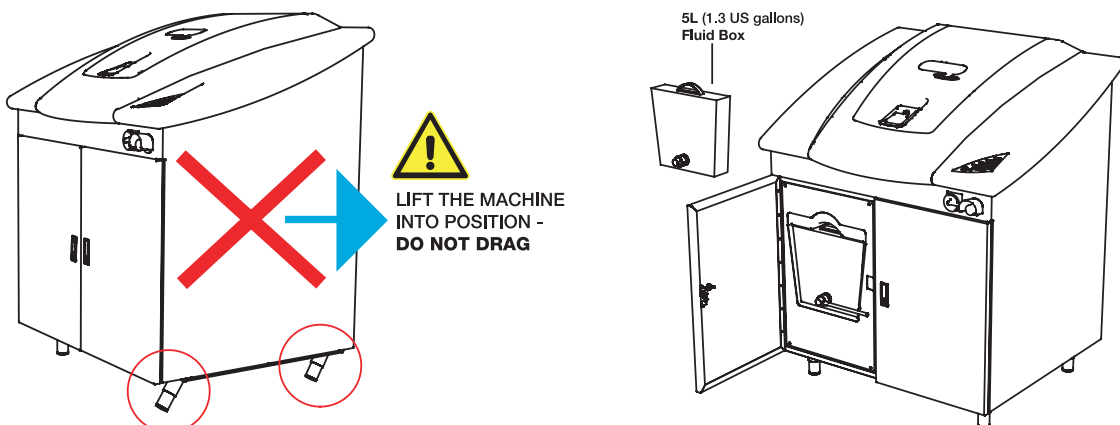



***NOTE:** In many locations space to the sides of the appliance may not be available. This will not adversely affect the operation of the appliance, but it may be necessary to move the machine forward in order to gain access for service.

Rear: 90mm (3½ inches)

4.2.12 Ensure that the reset buttons and emergency stop button are easily accessible.

4.2.13 The appliance must be placed on a flat, level and stable surface that is able to support the machine.



4.2.14  Place a 5L (1.3 US gallons) box of bio-fluid in the fluid chamber and connect as per the instructions on the fluid box.

4.3 CONNECTING TO THE SERVICES

Before commissioning, the operator is responsible for ensuring the appliance is in position with the following three services connected:

4.3.1 Power supply



4.3.1.1 The appliance must be electrically installed in accordance with the local regional electrical codes by a qualified engineer.

4.3.1.2 The appliance must be protected by Branch Circuit Protection rated 10 Amps.

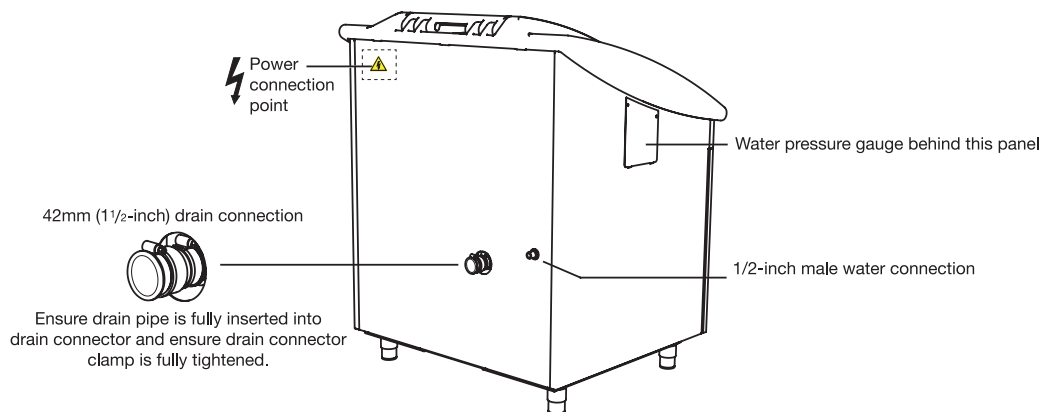


4.3.1.3 The appliance must be grounded.

4.3.1.4 **UK/EU** power connection: 10-amp, 1 ph. Supplied with 1.5m cable and moulded 3-pin plug.

US power connection: 10-amp, 1 ph. Supplied with a terminal box for field wiring.

4.3.1.5 The mains socket should be installed in an accessible area close to the equipment to enable disconnection.

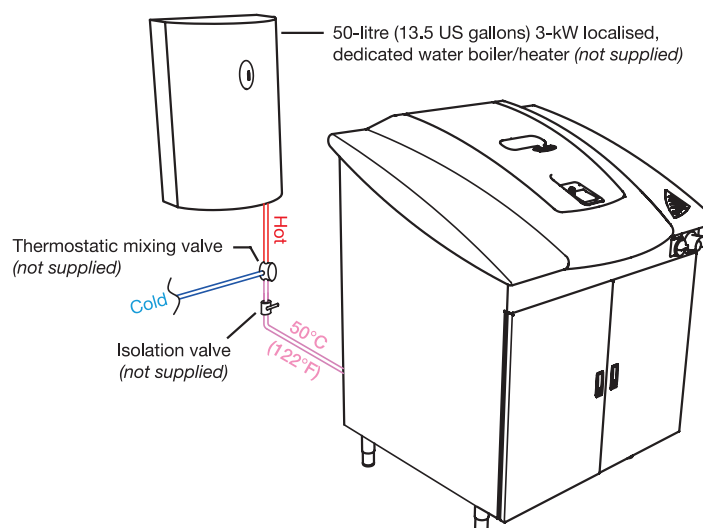


4.3.2 Water supply

4.3.2.1 Continuous (24-hour) dedicated warm-water supply at 50°C (122°F) between 2-5 bar (200,000-500,000 pascals or 30-70 PSI) pressure. Maximum water hardness of 70mg/L.



NOTE: DO NOT CONNECT THE APPLIANCE TO A COLD-WATER SUPPLY OR TO A SUPPLY THAT COULD RUN COLD OVERNIGHT OR AT WEEKENDS OR AT ANY OTHER TIME. If necessary, install a localised dedicated water boiler/heater specifically to continuously feed the appliance. A minimum 3-kW water boiler/heater with a minimum 50-litre (13.5 US gallons) storage capacity is required.



4.3.2.2 Install the localised water boiler/heater as close to the inlet point of the appliance as possible. Do not connect other appliances or fittings to the hot or warm-water supply to avoid the possibility of them drawing off the hot water.

4.3.2.3 The use of a thermostatically-controlled mixer valve to provide a controlled blended supply is recommended.

Cont'd...

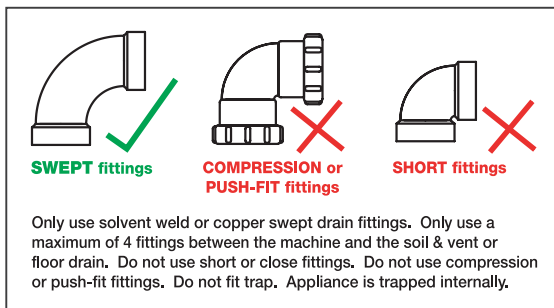
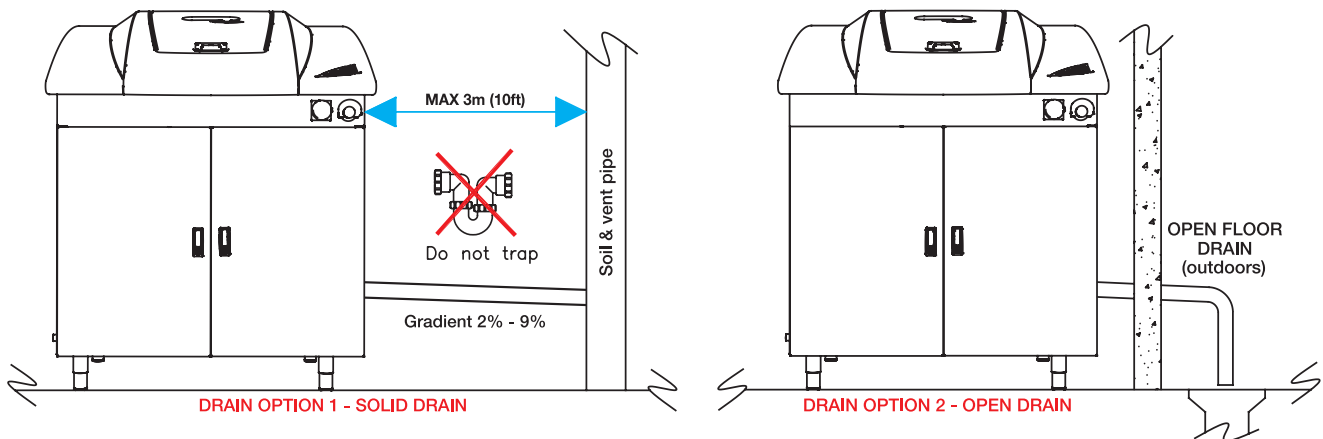


NOTE: The machine uses approximately 600 litres (158.5 US gallons) water per 24 hours, and 2.6 litres (0.7 US gallons) in a 30-second period when the spray jets are running, with a 7-minute recovery time. A 2-bar (200,000 pascals or 30 PSI) minimum pressure is required, 5-bar (500,000 pascals or 70 PSI) maximum.

- 4.3.2.4 Install a local isolation valve. Insulation of the pipe work between the water boiler/heater and the appliance is recommended to minimise heat loss. Flush pipework clean before connecting to appliance.
- 4.3.2.5 Ensure there is no danger of the water temperature setting being altered by unauthorised users. Do not reuse old water fittings or hoses.

4.3.3 Drain connections

- 4.3.3.1 Ensure 42mm (1½-inch) drain connection. Do not reduce.
- 4.3.3.2 Drain lines should be cleaned before appliance connection. Drain is pump assisted, but will not run uphill. Run an independent drain line. Do not tee in with any other fittings or appliances.
- 4.3.3.3 A maximum distance of 3 metres (10 ft) to the main soil connection is recommended with a gradient between 2-9%.
- 4.3.3.4 Only use swept drain fittings with a maximum of 4 fittings between the machine and the soil & vent or floor drain. If the appliance is to be discharged to an open drain, we recommend that the drain is located outdoors to minimise odours. Ensure connection is to foul water drain (main sewer).
- 4.3.3.5 Do not use compression or short (non-swept) waste fittings as the joints could fail and cause a flood.
- 4.3.3.6 Do not fit a trap – appliance is trapped internally.
- 4.3.3.7 Only discharge to the site's foul water drain (main sewer).
- 4.3.3.8 Do not mount any pipework or other equipment to the machine in such a way that it impedes access to the service panels and will preclude servicing the machine.
- 4.3.3.9 Do not connect to any grease interceptor or grease recovery device which will impede the discharge from the machine. The machine's maximum discharge rate is 22 litres in 12 seconds.



When installation has been completed, inform Mechline's Service Manager on:
0044 (0)1908 261511
 or e-mail service@mechline.com or contact your dealer so that the procedure for setting a commissioning date can be started.
 See Section 4.4.

4.4 COMMISSIONING

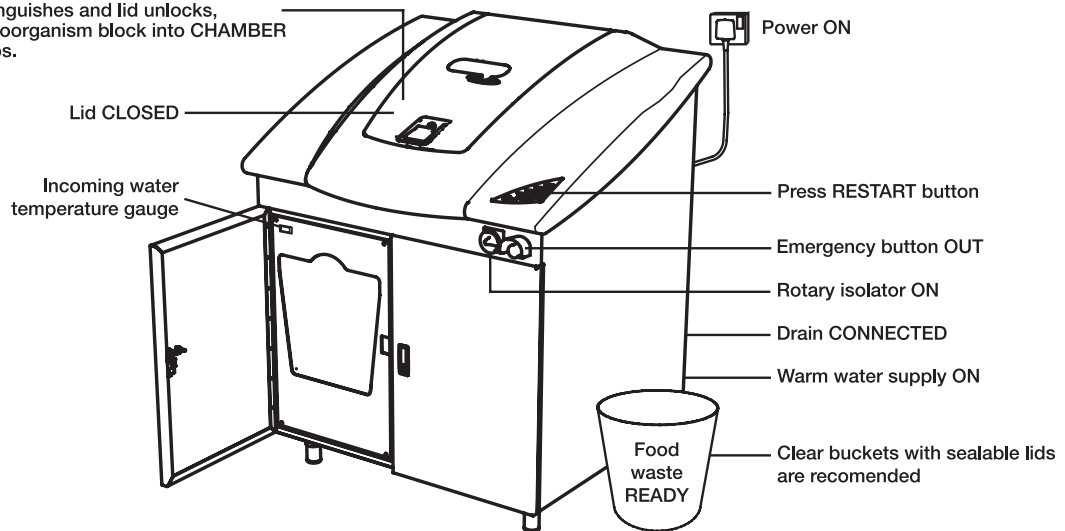
Commissioning is a service included in the purchase price of the appliance, unless otherwise stated. It checks that the appliance is correctly installed and ready for use (as per Section 4.3 *Connecting to the Services*). Commissioning is NOT part of the installation and will only be undertaken by an authorised Mechline representative or engineer. Commissioning is done after installation and is carried out when the appliance is ready to be put into operation.



NOTE: Have a minimum of 5 Kg (11lbs) of food waste ready. You must not commission the appliance without having food waste ready.

ONCE THE APPLIANCE HAS BEEN COMMISSIONED, IT MUST BE LEFT RUNNING AND MUST BE REGULARLY FED FOOD WASTE. **DO NOT COMMISSION THE APPLIANCE UNTIL IT IS READY TO BE USED REGULARLY.**

When 'WAIT' light extinguishes and lid unlocks, add food waste & microorganism block into CHAMBER on top of the poly-chips.



4.5 START-UP

- 4.5.1 Open the appliance lid and check that nothing has been left inside the chamber other than the poly-chips.
 - 4.5.2 Firmly close the appliance lid.
 - 4.5.3 Turn ON the warm water supply and if a localised water boiler/heater has been installed, ensure it is switched ON and is **fully up to temperature**. Draw off any cold water in the supply line.
 - 4.5.4 Turn ON the power supply. Ensure that the rotary isolator on the front of the appliance is turned to the ON position. Ensure that the emergency stop button on the front of the appliance is pulled out (i.e. not depressed). Press the green 'RESTART' button on the appliance's control panel.
 - 4.5.5 The appliance will start in 'warm up' mode and the 'WAIT' & 'RUNNING' lights will illuminate on the control panel. Please allow 20 minutes for the machine to complete the 'warm up' cycle. See Section 5.3.2.
 - 4.5.6 After 20 minutes have elapsed, open the left-hand door and check the temperature reading on the LED screen. The reading should be approximately 50°C (122°F).
- NOTE:** This reading will fluctuate and rise as water is drawn into the appliance, and 50°C (122°F) (+/- 3°C or +/- 5.4°F) should be the high reading. If necessary, adjust the incoming water temperature.
- 4.5.7 After 20 minutes the 'WAIT' light will extinguish and the appliance will switch to its normal operating condition ready to receive food waste.
 - 4.5.8 Add the food waste and the water-soluble block of microorganisms. Firmly close the appliance lid.

Once Commissioning and Start-Up have occurred, the appliance is now operational. The individual in charge of this appliance must keep this manual and keys in a safe place and accessible to all operators. It is the site's responsibility to ensure adequate training and instruction have been provided to all associated personnel involved in the operation of the appliance. If you are unsure about any part of this operation, contact Mechline service@mechline.com or your dealer.

Chapter 5. OPERATING INSTRUCTIONS

5.1 GENERAL ADVICE

The following advice is a general guideline for the operator of the appliance. If any questions, please do not hesitate to contact Mechline service@mechline.com or your dealer.

- 5.1.1 Be sure the appliance is left on once it is commissioned. There is no on/off switch to operate.
- 5.1.2 Ensure the food waste is the right kind of food waste to throw into the appliance.
- 5.1.3 Do not exceed the recommended amount of food waste at any one time.
- 5.1.4 Allow the appliance sufficient time to digest before introducing more food waste.

5.2 FREQUENTLY ASKED QUESTIONS

5.2.1 How do I put food waste into the appliance?

Simply open the appliance lid and pour the food waste through the hatch onto the poly-chips inside, then close the lid.

5.2.2 How much organic food waste can I put in the appliance?

Operators should aim to add 1x 20-litre bucket (approx. 22.5 Kg or 50lbs) of food waste every 3 hours to achieve maximum performance. Much like the human digestive system, the appliance gradually processes the food.

Trying to put too much food waste into the appliance at one time will overload the appliance, slow the digestion process and could damage the appliance. The appliance can process a maximum of 180 Kg (400lbs) of organic food waste over a 24-hr period but this **MUST** be staged over the course of 24 hours. If your operation does not run for 24 hours, you will be able to process proportionately less food waste. Any issues related to overloading could be construed as misuse and void the warranty. Mechline can prepare a loading guide based on your operating hours. Please contact Mechline service@mechline.com or your dealer if you would like one sent to you.

5.2.3 What can I put in the appliance?

The appliance will take soft, organic food waste such as fruit, vegetables, cooked and uncooked meat, fish and so on. For advice on what can be processed by the appliance, please refer to Table 1. The general rule is that if a human can eat the food, the machine will process the food. The appliance and the microorganisms are designed to process a wide range of food waste types in mixed quantities.

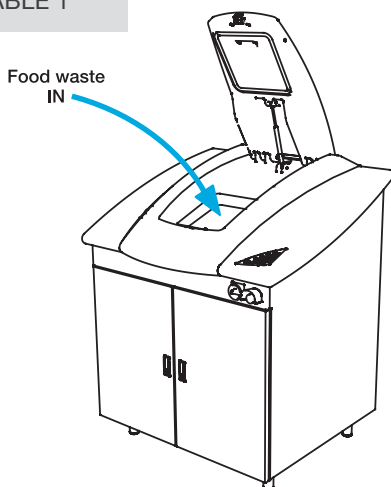
5.2.4 What can't I put in the appliance?

The appliance cannot process anything that is not organic food waste and cannot be easily broken down such as bones, seeds and stones, flower stems, packaging, general waste, cutlery, crockery, cocktail sticks, etc. For a suggested list of what can be processed by the appliance, please refer to Table 1. The general rule is that if a human cannot eat the product, then the machine cannot process the product. This is important because placing the wrong products into the appliance could cause damage and could void the warranty.

5.2.5 What if there is a period of the day when a significant amount of food waste is produced?

This is very common and is easily overcome by scheduling the loads of food waste put into the appliance. Food waste in excess of what the appliance can process at any one time should be stored ready to be put into the appliance later, once the appliance has had a chance to process what it already holds. Consider using clear sealable buckets for storing waste to be loaded later. Buckets are available at an additional cost, if required.

TABLE 1



WHAT GOES IN: Soft organic material such as

- Meats (cooked or uncooked)
- Fish
- Vegetables
- Pasta, noodles, bread crumbs, rice
- Fruit
- Dairy products (milk, cheese, eggs, etc.)

WHAT STAYS OUT:

- Meat and fish bones
- Raw dough, flours, yeast
- Pineapple tops & other hard fibrous foods
- Corn husks, flower stems
- Egg shells in large quantities
- Fruit & vegetable seeds and stones such as mango, avocado, peach etc.
- Oil, fats, soups, large quantities of butter or lard
- Frozen or chilled food (wait until food is room temperature)
- Packaging, cocktail sticks and other inorganic material

NOTE: The appliance and the microorganisms are designed to process a wide range of food waste types in mixed quantities. If your operation disposes of a large quantity of one type of food waste, contact Mechline service@mechline.com or your dealer for advice before operating the appliance.

5.2.6 Is there anything else I need to do to keep the appliance running?

Yes. You must ensure that there is always a box of bio-fluid (microorganisms) in the appliance and that the box is properly connected. This is essential because every time the appliance hatch is opened, a tiny amount of the microorganism is sprayed onto the food waste. If the microorganisms are not regularly topped up in this way, they will eventually die out and the appliance will not be able to function. Annually, a 'booster block' of microorganisms is also required to maintain a healthy level of microorganisms in the chamber.

5.2.7 When does the bio-fluid need replacing?

The blue 'REPLACE FLUID' light on the control panel will illuminate and a buzzer alarm will sound. See Section 5.3.3. Follow the replacement instructions on the fluid box. For more fluid, contact Mechline or your dealer. Always keep a spare box of fluid in stock to avoid running out.

5.2.8 How will I know the appliance is overloaded or jammed?

If the appliance senses that too much food waste is added at one time and/or the rotor is jammed, the appliance will move into 'Service' mode. The red 'SERVICE - OVERLOADED' button will illuminate and a buzzer alarm will sound. The excess food waste or blockage will have to be removed in order to restart the machine. See Section 5.3.6.

5.2.9 Is it safe to remove excess food waste, non-organic items or free a jam or blockage inside the machine by hand?



Yes, but disconnect the appliance from the power source first and ensure that rubber gloves are worn before retrieving anything from inside the appliance. When finished, close the lid and turn on the power to restart the machine. Follow re-start procedure advice in Section 5.2.15.

5.2.10 Why are there poly-chips in the appliance?

The poly-chips become impregnated with the specially blended microorganisms that break up the food waste. They must stay in the machine to host the microorganisms and only need topping up if some are lost through any repairs over the course of its service life.

5.2.11 Can I put refrigerated or frozen food waste into the appliance?

No. Please allow for the food waste to come to room temperature before adding. If very cold food waste is added it will change the conditions in the chamber and could kill the microorganisms that break up the food waste.



TEMPERATURE IS IMPORTANT. In order to maximise the performance of the appliance, the chamber temperature must be maintained at between approximately 40°C and 45°C (104°F and 113°F).

- Do not place large quantities of chilled or frozen food in the chamber.
- Do not store food waste outdoors in winter months.

5.2.12 Is there any sludge or by-product to manage?

No. All of the organic food waste will be digested and will run away to drain as waste water. The only items that will need removing from the appliance from time to time are non-digestible items that may accidentally fall into the appliance.

5.2.13 Why is a continuous, 24-hour supply of warm water important?

The microorganisms require a warm, moist environment to survive and perform at maximum efficiency. Failure to ensure the appliance has a continuous, warm-water (50°C/122°F) supply could void the warranty. If a dedicated boiler/heater is installed, it must be a minimum 3-kW water boiler/heater with a 50-litre (13.5 US gallons) storage capacity. Install the localised water boiler/heater as close to the inlet point of the appliance as possible. Do not connect other appliances or fittings to the hot or warm water supply to avoid the possibility of them drawing off the hot water. The use of a thermostatically-controlled mixer valve to provide a controlled blended supply is recommended. Mixing-valves can be supplied at additional cost, if required. Contact your dealer for more information.

5.2.14 What if small puddles of water sometimes appear under the appliance?

If the appliance is installed in an area where the temperature and relative humidity can fluctuate, condensation may form on the appliance's inner panels which can result in puddles on the floor under the appliance. This will not damage the appliance and does not require a service call.

5.2.15 What if there is a power cut, or someone turns off the power to the appliance or someone presses the emergency knock-off (STOP) button?

The machine will not automatically restart. Once the power is restored, follow the procedure:

- 5.2.15.1 Turn the isolator on the front of the appliance to the 'ON' position.
- 5.2.15.2 Ensure the emergency knock-off (STOP) button is pulled out.
- 5.2.15.3 Press the green 'RESTART' button on the control panel to restart the machine.

NOTE: The yellow 'WAIT' light will illuminate for 20 minutes while the appliance warms up. After 20 minutes the appliance can be used in the normal way.

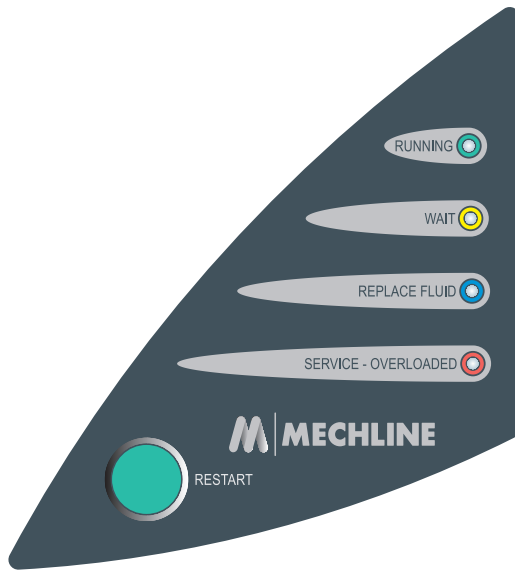
5.2.16 What if the appliance is left unused for a long period of time?

It is important to have a constant supply of food waste. If the appliance is not used (lid is not opened) for 1 month, the microorganisms inside the appliance chamber will die and any newly introduced food waste will not be properly digested. In this situation a 'BOOSTER BLOCK' of microorganisms must be added to the appliance chamber before the appliance is used. 'Booster blocks' can be purchased from your dealer, reference: W20.BOOST. A 'booster block' also needs to be added every year to help boost the general microorganism population.

5.2.17 What does it mean when the green light flashes?

The green light flashes when the machine lid has not been opened in 6 hours or more. This indicates the machine is in 'energy-saving' mode. See Section 5.3.4.

5.3 SUMMARY OF SIGNALS ON LED DISPLAY



5.3.1		Normal operating condition.	
5.3.2		Warming-up. Please WAIT 20 minutes.	
5.3.3		Change fluid box.	
	OR 	NOTE: If the bio-fluid is not replaced within 72 hours of the alarm sounding, the BLUE light will turn to a solid light and will not extinguish until the fluid box is replaced. See Section 5.2.7.	
5.3.4		The machine is in 'ENERGY-SAVING' mode.	
5.3.5		Lid left open warning. Close the lid to revert to normal operating condition.	

5.3.6		Rotor jammed by hard object OR machine overloaded with food waste. NOTE: See Sections 5.2.8 and 9.
5.3.7		Overflow in machine sump. Isolate machine from power supply. Lock machine lid. Turn off water supply to machine. Contact Mechline or your authorised service agent.
5.3.8		Heater pad failure. Machine will continue to run in normal operating condition, but contact Mechline or your authorised service agent.
5.3.9		Motor overheated. Turn off machine and leave for 1 hour before restarting. Follow re-start advice in 5.2.15. If problem persists, contact Mechline or your authorised service agent.
5.3.10		Machine top chamber has flooded. Isolate machine from power supply. Lock machine lid. Turn off water supply to machine. Contact Mechline or your authorised service agent.
5.3.11		Fault in air break tank. Turn off machine and restart. Follow re-start advice in 5.2.15. If problem persists, contact Mechline or your authorised service agent.
5.3.12	ALL FUNCTIONS DEAD	Emergency stop button activated OR power supply cut. Attempt to restart, see re-start advice in 5.2.15. If machine will not restart, contact Mechline or your authorised service agent.

Chapter 6. ON-GOING MACHINE REQUIREMENTS



Refer to Chapter 3 of this manual, relating to safety.

6.1 GENERAL CLEANING MAINTENANCE

The appliance should be left running and the outside of the appliance should be regularly wiped down using a disposable cloth damp with plain warm water.



- DO NOT use bleach, anti-bacterial agents or other harsh cleaning chemicals on or inside the machine.
- NEVER pour floor washing or cleaning water into the appliance as the cleaning agents may kill the microorganisms.
- DO NOT try to jet or spray wash the inside or outside of the unit. As with any electrical appliance, there is a slight possibility that using a high-pressure washing apparatus could overspray and enter the areas where the electronics are housed and lead to a fault.



If for any reason there is a need to clean the inside of the chamber for service reasons, disconnect the machine from the power supply, avoid any cleansers and remove all unwanted material. Rubber gloves should always be worn when retrieving anything from inside the appliance. When finished, close the lid and turn on the power.

6.2 OPERATIONAL TIPS

The on-going operation of the Mechline food waste bio-digester requires certain fundamental tasks to be performed by staff, on a regular basis:

- Replace bio-fluid approximately every month. See also Sections 5.2.6 and 5.2.7.
- Boost microorganisms inside the chamber every year by adding a booster block on the anniversary of the machine's commissioning. See also Sections 5.2.6 and 5.2.16.
- Top up of poly-chips may be needed, from time to time. See also Section 5.2.10.
- Ensure power is on 24/7 and the machine is supplied with a continuous warm water supply. See also Section 5.2.13.
- Ensure a continuous supply of food waste is available. See also Section 5.2.16.

Chapter 7. AFTER SALES and SERVICE SUPPORT

It is important that any technical issues regarding the appliance be brought to the attention of Mechline or your dealer. Please provide relevant details in order to log any concern with the item(s) in question. Technical support will be given by telephone. Once technical issues or concerns have been established, at your dealer's or Mechline's discretion, a service engineer may be asked to go to site. Please have the appliance's serial number to hand.

7.1 WARRANTY

7.1.1 UK mainland sales

In addition to Mechline's standard warranty policy, Mechline's food waste bio-digester is supplied with a one-year parts and labour warranty subject to:

- Correct usage
- Correct installation
- Relevant standard terms & conditions of sale for food waste bio-digester appliances

Warranty begins upon the successful completion of a machine's commissioning: warranty covers defective parts or faulty workmanship, including all parts and labour. Only Mechline or a Mechline authorised warranty provider has the authority to carry out service work on the appliance. Work carried out on equipment by others will not be covered under warranty, neither will any resultant damage caused. If a copy of Mechline's warranty documents is needed, please contact your dealer or Mechline.

7.1.2 Non UK mainland sales

Please refer to your dealer.

In the event that your dealer is no longer trading and you encounter a technical issue within one year of commissioning, please notify Mechline. Upon verification of the dealer's status Mechline will provide the balance of the one-year parts and labour warranty subject to the terms and conditions outlined in 7.1.1. above.

NOTE: If the appliance is relocated or reinstalled after commissioning, Mechline must be notified. Failure to do this could invalidate the warranty.

7.2 SERVICE CALLS and RETURNS (UK mainland only; for other regions, refer back to your dealer.)

Service calls (whether in or out of warranty) are made between 8:00a.m. and 5:00p.m. on weekdays and not on public holidays. Service outside these hours will incur an extra charge. It is the customer's responsibility to ensure that Mechline (or Mechline's approved service partner) can access the equipment to effect repairs. Waiting time and abortive calls will be charged to the customer. A covering order (Purchase Order) or pre-payment will be requested before a visit is made for service calls. If the service work is covered under warranty, the work will not be invoiced and there will be no charge. Please allow up to 48 hours for the scheduling of service calls, where possible.

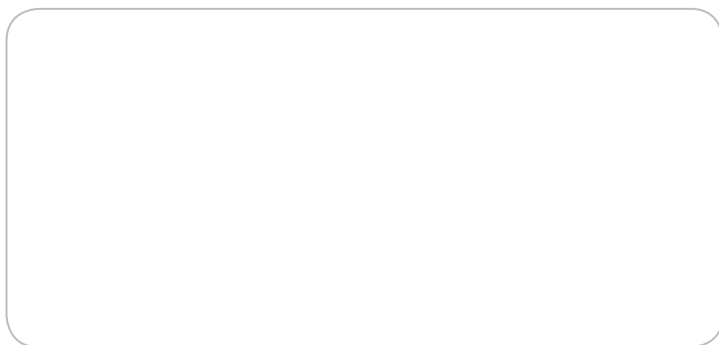
Any returns are subject to a 10% re-stocking charge. Goods must be returned unused and in original packaging.

NOTE: Accessories & peripherals for the appliances are covered under Mechline's standard warranty. Please refer to the relevant warranty documents or contact your dealer for a copy.

7.3 SPARE PARTS

Spare parts are available from your dealer.

Distributed by:



WRc-approved product



WRAS-approved air-break tank

MECHLINE DEVELOPMENTS LIMITED | Telephone: +44 (0)1908 261511 | Email: info@mechline.com | Web: www.mechline.com
