

## BIOREACTOR



**Technology Service Contact** The recycling process is completely automatic - food waste is shredded, dried and sterilized without human intervention.

Everyday usage simply involves the filling of the feeder with the waste to be processed. The only requirement of the operator is that they properly segregate the waste before filling the feeder.

A list of products suitable for processing is contained within the instructions for use.



Garbage can be disposed of at any time, as needed throughout the day, and is subject only to the maximum processing capability of the bioreactor - a daily limit of 120 kg of waste.

Once a day, at 6 o'clock in the morning, the machine automatically ejects the recycled matter into a special container designed specifically for this use. The recycled matter is a high quality compost which research has shown is extremely beneficial for the healthy growth of a wide range of plants.



Each 100kg of food waste produces approximately 15kg of compost which, when mixed with soil in a ratio of 1kg of compost to 4kg of soil, will provide a valuable source of fertilizer for your garden or greenhouse.

### Installation

The only installation requirement for the KWM 120 bioreactor is that it should be placed in a ventilated room with a floor area of at least 7 m<sup>2</sup>.

There is no need for any plumbing to remove fluid waste because as much as 85% of the water contained in the waste is evaporated into the atmosphere.

### Economy

The EU legislation (EC regulation 1774/2002 and consequent regulations in member states) concerning catering and gastronomic waste, as well as different regulations regarding specific hygienic aspects of the handling, storage and transport of the kitchen waste, lead to that this waste can not be treated together with the general waste stream and substantial costs are consequently generated.

A study shows that the cost of kitchen waste removal and processing in most EU member countries runs between 0,23 € and 0,75 € per kilogram.

The Bioreactor can process up to 120 kg of wet waste per day giving gross savings of at least 30 € per day. The operating costs of the Bioreactor are 4 to 6 € per day (electricity).

Taking into consideration yearly service and spare parts costs of approximately 550 € the resulting net savings, not including capital costs, are approximately 24 € per day or 8,760 € per year for the minimum waste removal cost scenario.

If the waste removal cost is 0,75 € per kg the savings are 30,660 € per year.



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Elimination of conventional wet waste removal cost:  $120 \text{ kg/day} \times 0.25 \text{ €/kg} = 30 \text{ €/day}$  (savings)

Electricity Bioreactor cost:  $50 \text{ kWh/day} \times 0.075 \text{ €/kWh} = 3,75 \text{ €/day}$ ,

other costs (service, replacement parts etc:  $\sim 1,5 \text{ €/day}$

- total cost excluding capital costs are  $\sim 6 \text{ €/day}$

Net savings per day:  $30 \text{ €/day} - 6 \text{ €/day} = 24 \text{ €/day}$

For the year:  $365 \text{ days} \times 24 \text{ €/day} = 8,760 \text{ €/year}$

When one considers the economy of a Bioreaktor installation also the simplification of the HACCP, handling, labour and storage costs should be considered because the alternative of conventional waste removal by specialized waste companies requires separate refrigerated storage, expands the HACCP procedure, thorough documentation, contracting and accounting. It is quite difficult to estimate these costs but one can safely assume them to at least 0,10 € per kg. With these additional savings of 4,380 € per year

**the total net savings after an installation of a Bioreaktor exceed 13,140 € yearly!**

**Dimensions:** length 2,225 mm,  
width 1,000 mm,  
height 2,000 mm,  
height of feeder 900 mm

**Area:** 2.25 m<sup>2</sup>

**Weight:** 550 kg

**Material:** stainless steel SS2333,  
ABS plastic and  
polyurethane foam

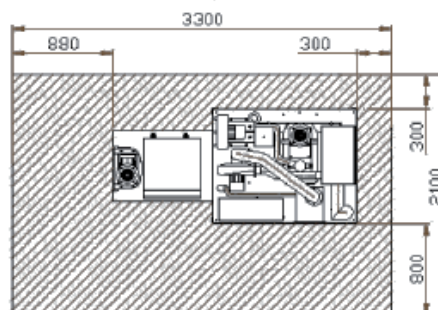
**Efficiency:**  $\sim 100 \text{ kg}$  ( $\sim 120\text{-}150 \text{ litres}$ )  
of solid waste a day (not  
liquid) equal to the waste  
from approx. 350 meals

**Power:** 400V AC, 16A

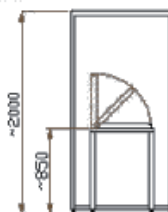
**Electronics:** PLC  
Unitronics "Jazz" JZ10-11  
24V DC

**Installation:** Ventilated rooms. No  
plumbing needed.

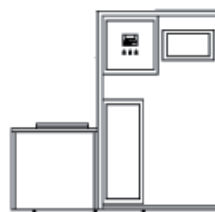
Horizontal projection of installation



Side view



Front view



## BIOREACTOR

### GUARANTEE:

In the unlikely case of your bioreactor developing any faults, or if you have any queries regarding its use and maintenance, please contact us and our professional technical support team will provide you with any assistance that you might need.

- Each device comes with a 2-year guarantee which includes the free replacement of parts and rectification of manufacturing faults. Please note however that the guarantee does not include problems arising from the improper use of the bioreactor or intentional damage.
- Please keep your receipt.
- If you wish to report a fault or other damage please contact our service team.

### SERVICE:

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