

DEHYDRA DSA3.0 STAND ALONE

The Stand Alone DSA3.0 is a stainless steel vertical base designed to assemble, in a compact unit, all the parts of the de-watering system.

The self-supporting vertical base groups together:

1 – De-watering unit (a self discharging centrifugal press)

The de-watering unit, placed in the upper side of vertical base unit is made up by (see picture):

- A – a cylinder containing rotating parts (a micro perforated cylindrical screen with a very fine mesh (1,5 mm. diameter holes) and an auger
- B – an engine that ensures the movements to the micro cylindrical sieve and auger
- C – a driving belts and pulleys system to move the screen and the auger at different speed
- D – a inlet flange for the wastewater (a mix of ground food waste and water)
- E – a discharge chute of the dehydrated waste
- F – a draining outlet for the process water

2 – PLC Control Panel

3 – Elastic Impeller Pump with geared motor

The Stand Alone de-watering unit allows:

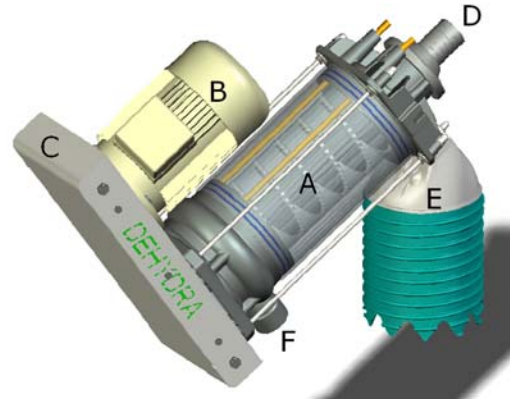
1 – To assemble the different parts of the dehydrating system in an intelligent manner, avoiding the placement and installation “on site” of the single parts with obvious savings in installation costs.

2 – To get a variety of configurations of the single parts of the system as the different parts can be placed at variable heights in accordance with operational and/or installation needs.

3 – An exemplary pre-wire and pre-plumbing assembly in terms of functional and aesthetic viewpoint, tested before delivery.

The Stand Alone unit is designed to work remotely in a modular system (multiple free standing disposer units connected via a dedicated drainage line to a temporary storage tank and then to one or more de-watering units).

Its interface with the other parts of the system is managed by the PLC control panel which communicates with the PLC control panels, lodged inside the free standing units' cabinets, and the storage tank.



WORKING PRINCIPLE

The food waste, once ground by various free standing units is sent to a temporary storage tank, it is, then, pumped away by means of an elastic impeller pump into the de-watering unit.

The "hydro-extractor" is the unit that physically makes the de-watering process, separating the liquid from the ground waste. While the watery component is directed to the sewerage system, the organic waste (food waste), drastically reduced in weight (about 50%) and volume (about 80%) and, therefore, with reduced fermentability, is easily stored into a bin and recycled for a possible re-use.

Operationally, the hydro-extractor keeps/retains the shredded particles present in the wastewater by means of a perforated micro cylinder sieve in which turns an auger.

While the material is squeezed by the movement of the auger along and against the micro cylindrical sieve and it is "dried" by the centrifugal force, the process water is filtered by the fine meshes of the micro cylindrical sieve and flushed down the drain into the sewerage system.

At then end, the de-watered material is pushed towards a discharge chute and it drops inside an elastic sleeve, into a collected bin.

Once the food waste has been disposed of, the system automatically selfcleans to minimize operator time, thanks to a PLC system control panel (3).

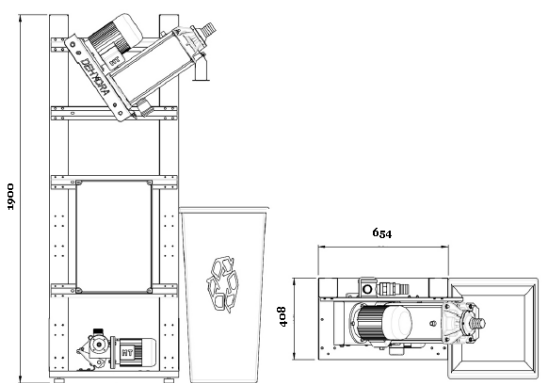
The remaining processed food waste can be used as a highly quality feedstock for Anaerobic Digester system or for Composting.

In a modular system, the stand alone unit is a key part of the whole system.

The Stand Alone Unit and the Temporary Storage Tank are automatically controlled by the PLC control panel which also communicates with the PLC control panels of the free standing units by means of a duplex cable.

The attendance of the operator at this step of processing is not required if not, occasionally, only for the replacement of the waste collecting bag.

Overall dimension and technical features

<p>Width: 408 mm Height: 1900 mm Length: 654 mm</p> <p>Weight: 70 kg</p>	
<p>Pump with geared motor 0,75 kW – Hydro-extractor model "DEHYDRA" 1,1 kW</p> <p>Electrical connection: Power supply : 3 phase 400V – 50Hz Power input : 1.85 kw Socket : 3P+Earth – 16 Amp (4 wires)</p> <p>De-Watering capacity: up to 30 litres of wastewater per minute.</p> <p>Water connection: cold water ¾ or ½ piping size - 2.5 bar hot water: ¾ o ½ piping size - 2.5 bar</p> <p>Tank connection: 50 mm. pipe is required</p> <p>Sewage system connection: 50 mm. pipe is required</p> <p>Warranty: 1 Year</p>	

All the working parts of the unit are in compliance with CE rules, in particular the **DEHYDRA DSA3.0 STAND ALONE** is complying with the following pertinent rules and technical specification:

EC Machine Directive 2006/43/CE

EMC Directive 2004/108/CE – Electromagnetic compatibility directive

Main technical standards applied: **UNI EN ISO 12100-1 - UNI EN ISO 13857 - UNI EN 954-1 - CEI EN 60204-1**