



FTNON

Multifunctional Washer



A highly flexible washing solution
for fruits and vegetables

FRESH-CUT, ROBOTICS, STEAMING

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The multifunctional washer is designed to remove adhering soil particles and debris from the surface of the products. By keeping the product in constant motion, the entire surface of the product is submerged and washed.

Functional description

The multifunctional washer consists of a wash tank, a transport conveyor with flights, overhead spray nozzles, pump tank with filter and control panel.

Infeed

The product needs to be discharged into the wash tank in a constant flow, either by hand or by a conveyor. The water reduces the impact and minimizes product bruising. The transport conveyor runs near the bottom of the washer and impact damage by the top of the flights is thus prevented by the layer of water overhead. The infeed is equipped with a rear-end slotted plate, and two solid side guides. Together they guide the product towards the conveyor, and in between the flights. Water injection jets, positioned at the rear end, inject water through the slotted plate. The water flow pushes the product towards the transport conveyor. Heavier sinking products sink straight onto the conveyor.

Transport conveyor

The transport conveyor is perforated to allow the passage of sand and small heavy debris. The conveyor is adjustable in speed and equipped with flights and running side guides. Slowly the conveyor rises until the flights are just below the water surface. The product now floats in between the flights and is transported towards the wash section.

Wash section

The product, floating between the flights of the conveyor is sprayed by overhead nozzles. The nozzles not only clean the surface, but also cause the product to rotate, guaranteeing a proper washing result. The side of the washer is equipped with a manually adjustable weir. By adjusting the weir, the water level in the wash tank and thus in between the conveyor flights can be adjusted to optimize the washing result for various products. The

water level can be lowered for heavier, non-floating products, so that these experience a turbulent water flow caused by the nozzles. The nozzles are powered by the pump, the amount of water can be adjusted with a manual ball valve. An overhead stainless steel hood contains the deflected water spray and minimizes water spoilage.

Discharge section

The conveyor rises and lifts the product from the wash tank. The product is rinsed with an overhead fresh water spraying pipe. The fresh water is used to replenish the water in the pump tank. After rising out of the water, the conveyor runs horizontally again and discharges the product. Please note: the use of a flighted conveyor means that there will always be some falling height when discharging the product. Products that are highly sensitive to bruising require additional attention.

Pump tank with filter

The pump tank is positioned on the right hand side of the washer and is covered by a wedge wire filter deck. Water, with floating debris, flows over the top of the weir and onto the static filter. The water drains into the pump tank, the debris remain on the filter deck and need to be removed by hand.

The pump takes the water from the pump tank and recirculates the water to the spraying nozzles and the water injection jets.

Controls

Stainless steel control panel with:

- Main isolator
- Start-Stop buttons
- Emergency stop
- Reset button
- Pot meter for frequency inverter

Products

Various kinds of fruit like grapes, berries, apples and melons, whole vegetables like courgette, cucumber, bell pepper, etc.

JBT FTNON can change the execution if this does not impact the functionality of the equipment. All mentioned sizes, capacities and figures are indicative. No rights may be derived from the information provided.

JBT FTNON delivers tailor-made machines. Therefore capacity and dimensions will depend on your product and specific requirements. All our machines are constructed of stainless steel wherever possible and comply with the stringent, international standards in the field of safety and hygiene.

Technical specifications - Multifunctional Washer

	MFW 042	MFW 092
WASHING TIME	Adjustable in between 30 and 180 seconds	Adjustable in between 30 and 180 seconds
EFFECTIVE WIDTH	424 mm / 17"	924 mm / 36"
TOTAL WIDTH	1600 mm / 63"	2000 mm / 79"
EFFECTIVE LENGTH	2000 mm / 79"	2000 mm / 79"
TOTAL LENGTH	4300 mm / 169"	4300 mm / 169"
INFEED HEIGHT	850 mm / 33"	850 mm / 33"
OUTFEED HEIGHT	1250 mm / 49"	1250 mm / 49"
FILTER DECK	Wedge wire, 750 µm	Wedge wire, 750 µm
BELT	Blue modular belt, Intralox series 800 Flush grid, running side guides	Blue modular belt, Intralox series 800 Flush grid, running side guides
FLIGHTS	76.2 or 101.6 mm / 3" or 4"	76.2 or 101.6 mm / 3" or 4"
DRIVE	Geared motor drive on frequency inverter	Geared motor drive on frequency inverter

Hygiene

At the infeed, the slotted plate can be removed from the washer, allowing the side guide to hinge upwards out of the wash basin. The transport conveyor is lifted from the wash basin by a manual winch. The conveyor can be locked into the cleaning position to create a safe working environment. The wash tank and the pump tank are both equipped with a manual drain to flush sand and debris out easily.

Options

1) Air injection

To improve the wash effect, air injection is installed in the wash tank. A hygienic design ventilator injects air through perforated tubes which are mounted on the bottom of the washer. The injected air will create a "Jacuzzi" like turbulence in the water.

2) Pneumatic conveyor lift system instead of manual winch

The manual winch to lift the conveyor from the wash tank for cleaning is replaced by an air cylinder. The cylinder is mounted

on top of the same lifting frame as the winch. The safety lock in the cleaning position remains the same.

3) Rotating filter instead of static filter

All the recycled water is being filtered by means of a rotating filter. The rotating filter filters very fine, as a result of which the water needs to be refreshed less often. During production the filter does not require attention. The filter system is executed as a rotating wedge wire drum through which the water flows. Because of the wedge wire sieve profile, it is almost not possible for dirt to pile up in the filter gaps. The drum turns at a very low speed and dirt is scraped off from the outside. The water is buffered in the pump tank under the filter.

4) Cooling coil

In the pump tank, a cooling coil is mounted which is connected to a glycol cooling system. The heat generated by the pump and ventilator (if present) is absorbed by the water. Without cooling, the temperature of the washing water would rise. The cooling coil can keep the washing water at a constant temperature of 4° C (38° F). The cooling coil comes complete with flanges for easy connection.

Technical specifications - Rotating filter

	MFW 042	MFW 092
TYPE	Rotating	Rotating
FILTER OPENING	Wedge wire 750 µm	Wedge wire 750 µm
DRIVE	Geared motor drive	Geared motor drive

Technical specifications - Cooling coil

	MFW 042	MFW 092
WATER TEMPERATURE	+4° C (38° F)	+4° C (38° F)
GLYCOL TEMPERATURE, IN	-7° C (16° F)	-7° C (16° F)
GLYCOL COOLING SYSTEM	Not included	Not included
GLYCOL CONTROL VALVE	Not included	Not included
TEMPERATURE SENSOR PT100	Not included	Not included
PRODUCT TEMPERATURE IN	Max. +4° C (38° F)	Max. +4° C (38° F)
REFRESHMENT WATER TEMPERATURE	Max. +4° C (38° F)	Max. +4° C (38° F)
AMBIENT TEMPERATURE	Max. +4° C (38° F)	Max. +4° C (38° F)
GLYCOL CONTROLS	Excluded	Excluded

5) Automatic electric valve for fresh water spraying pipe

The advantage of this electric valve is that when the pump stops, the valve automatically closes. This saves water. The manual valve remains, to set the flow.

6) Automatic filling valve

The washer can be executed with a fixed connection to an automatic filling valve. With this, the washer can be filled quickly and automatically. The valve closes automatically when a high water level is reached in the system.

Technical specifications - Valve

	MFW 042	MFW 092
VALVE	Pneumatic	Pneumatic
SUPPLY FRESH WATER	Pipe 2"	Pipe 2"

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