

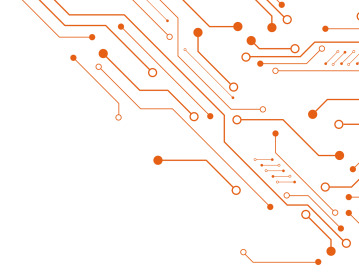


HyperCLEAN III

Config Guide

Updated March 2025

Plan 04



TOP AND
BOTTOM SPRAY



TRACEABILITY



HOT AIR
DRYER



OSCILLATION



AUTOMATION

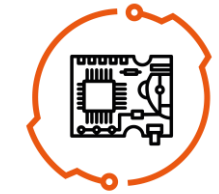


MES
CONNECTIVITY

Automatic cleaning machine

Large volume PCBA cleaning

Single chamber Spray-In-Air technology



PCBA

Features

- SINGLE Basket or DOUBLE Basket
- Large Chamber for High Capacity
- Quick & Easy Loading with Pushcart
- Rapid Wash and Rinse
- Fast Drying
- Basket Oscillation (Short version only)
- Short Cycle Time
- Low Operational Costs
- Convenient Maintenance

Machine chamber

SHORT

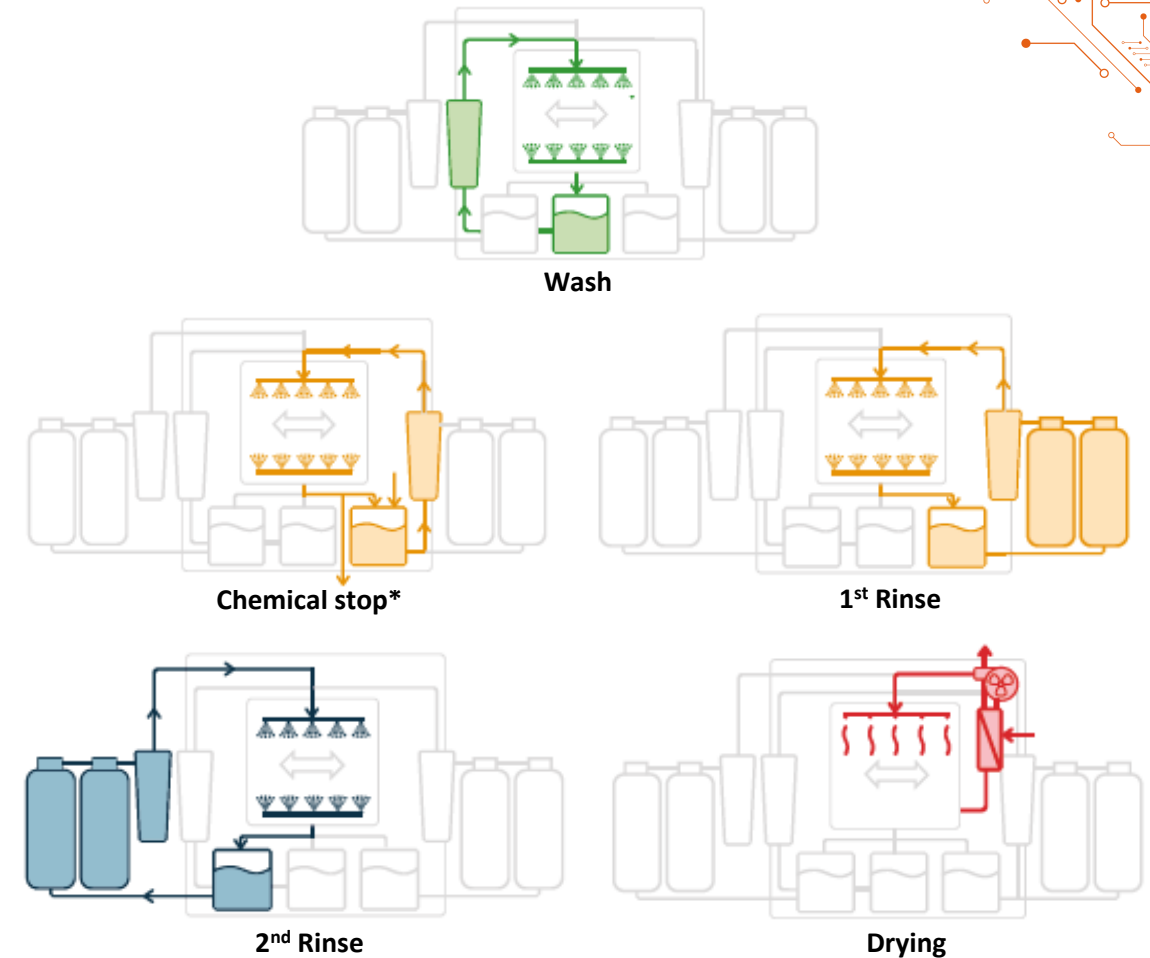
- SHORT version can be equipped with an oscillation mechanism
- Uses SHORT version of the pushcart, basket, and nozzle arms
- Perfect for PCBs and pallets

LONG

- Oscillation not possible for LONG
- Uses LONG version of the pushcart, basket, and nozzle arms
- Perfect for big intercoolers and large components

Applications

- Defluxing – removing all kinds of solder residues
- Cleaning of fine mechanical components
- Removing contamination from handling and board manufacturing, FOD
 - components such as BGA, CSP, BTC, QFN, MELF
- Cleaning of power electronics
- Cleaning of electronic assemblies requiring extra short process time
- Ideal for double-sided misprints on complex assemblies
- Cleaning before conformal coating and wire bonding



HyperCLEAN III	MECHANICAL FILTERS			
	Wash	1 st Rinse	2 nd Rinse	DI water cart
	3	3	3	2
	5 µm 20" length	1 µm 20" length	1 µm 20" length	1 µm 20" length

* Integral part of Rinse process.

Removes debris and residues of wash medium from cleaned components before the Rinse begins.

Lowers contamination of Rinse water and prolongs durability of mechanical filters.

Increases safety of the cleaning process.

Base

VM-00003635-X

HyperCLEAN

- Cleaning chamber with backlight
- Recuperation unit
- Drying fan with heating up to 110°C
- Signal tower
- Touch display
- Mechanical filtration for each loop, (3x 20" wound filter cartridge per filter, porosity 5 µm for Wash loop, porosity 1 µm for 1st Rinse and 2nd Rinse loops)



Power Supply

VM-00001715-X

Power Supply HyCL III 230/400VAC, 50/60Hz

- Switchboard, electrical wiring, safety units
- PLC
- Control system with touchscreen HMI
- For power supply other than 230V/400V AC, 50/60Hz, insulation transformer is necessary

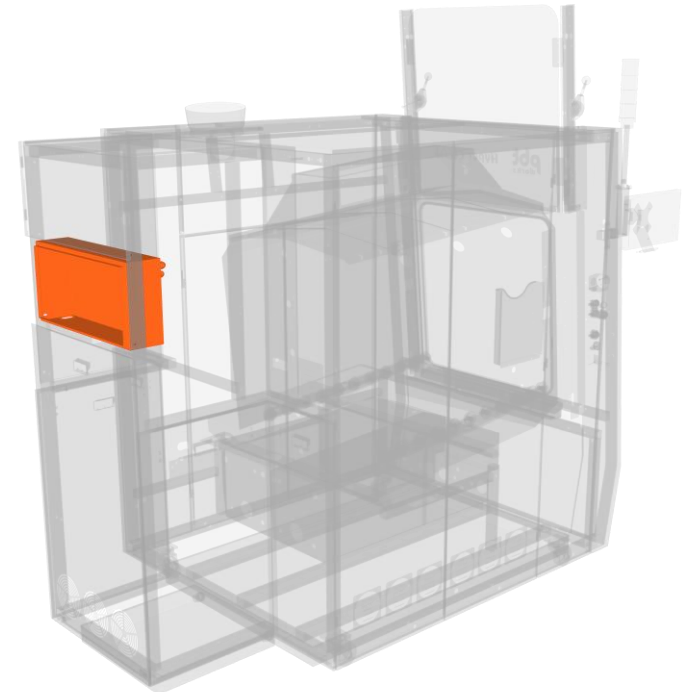


Control box

VM-00002970-X

Pneumatic Distribution box HyCL III

- Pneumatic system for air-powered components



Liquid system

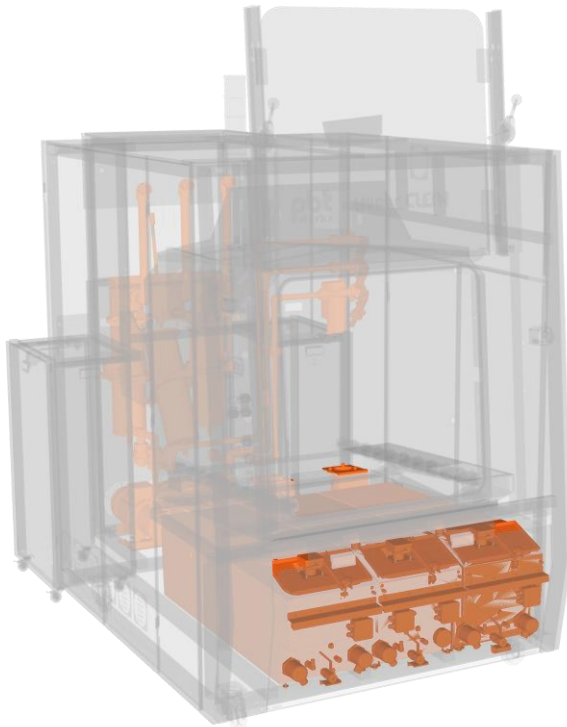
VM-00001739-X

Liquid System HyCL III 50Hz

- One wash tank and two rinse tanks of capacity 114 L each
- Pump and piping for each tank
- Heating elements (one in 1st Rinse tank, two in Wash tank and two in 2nd Rinse tank)
- Level and temperature sensors
- Chemical stop

VM-00001746-X

Liquid System HyCL III 60Hz



Door

VM-00001871-X

Manual glass door HyCL

- Manually operated glass door
- Safety lock system



VM-00001765-X

Automatic glass door HyCL

- Automatically operated glass door
- Safety lock system



Oscillation

VM-00010822-X

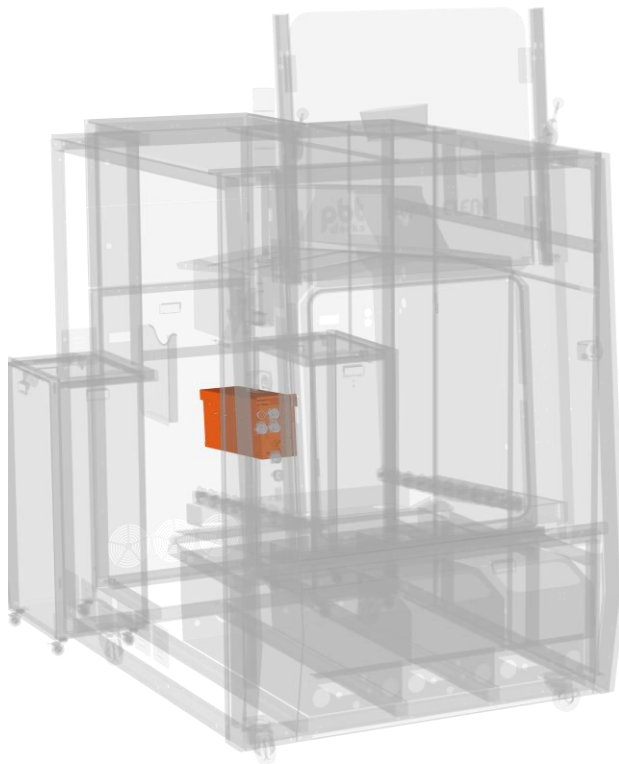
Oscillation for SHORT

- For SHORT configuration only - SHORT pushcart
- Improves efficiency of the cleaning process by moving the basket back and forth
- Allows to reach areas, which are hardly accessible due to shadowing

VM-00001791-X

Without Oscillation

- To be selected if no oscillation is required



Ventilator

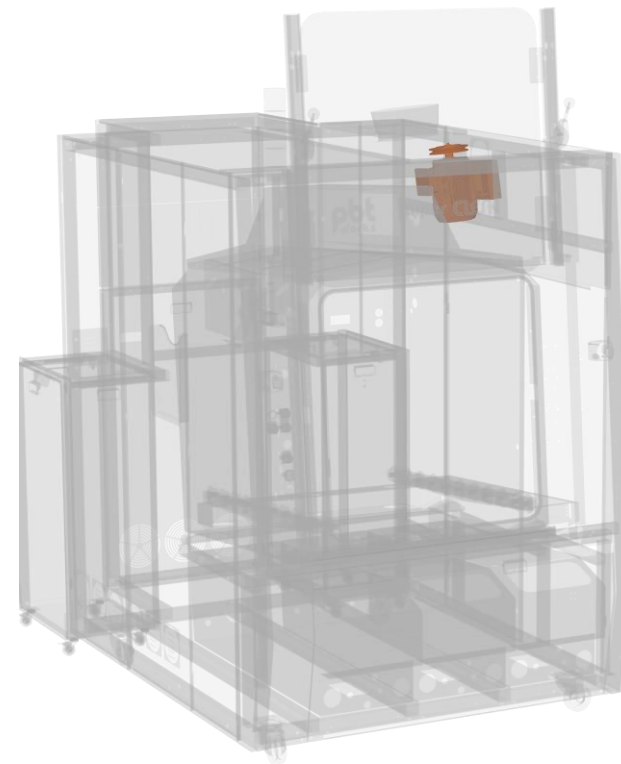
VM-00001762-X

Drying Ventilator 50Hz

- Powerful fan helps to decrease drying times

VM-00001764-X

Drying Ventilator 60Hz

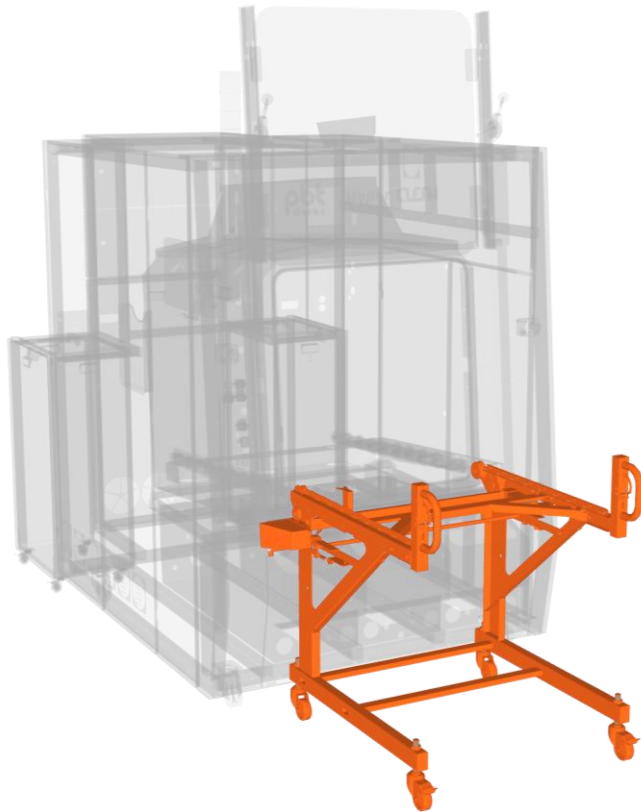


Pushcart loading

VM-0000966-X

Manual pushcart loading SHORT_with pneumatic docking

- SHORT pushcart with pneumatic lock
- Equipped with sensors detecting presence of the pushcart in the docking position using pneumatic valves for locking the pushcart to the machine
- Unlock button to be found on the main screen monitor



VM-00009484-X

Manual pushcart loading LONG with pneumatic docking

- LONG pushcart with pneumatic lock
- Equipped with sensors detecting presence of the pushcart in the docking position using pneumatic valves for locking the pushcart to the machine
- Unlock button to be found on the main screen monitor

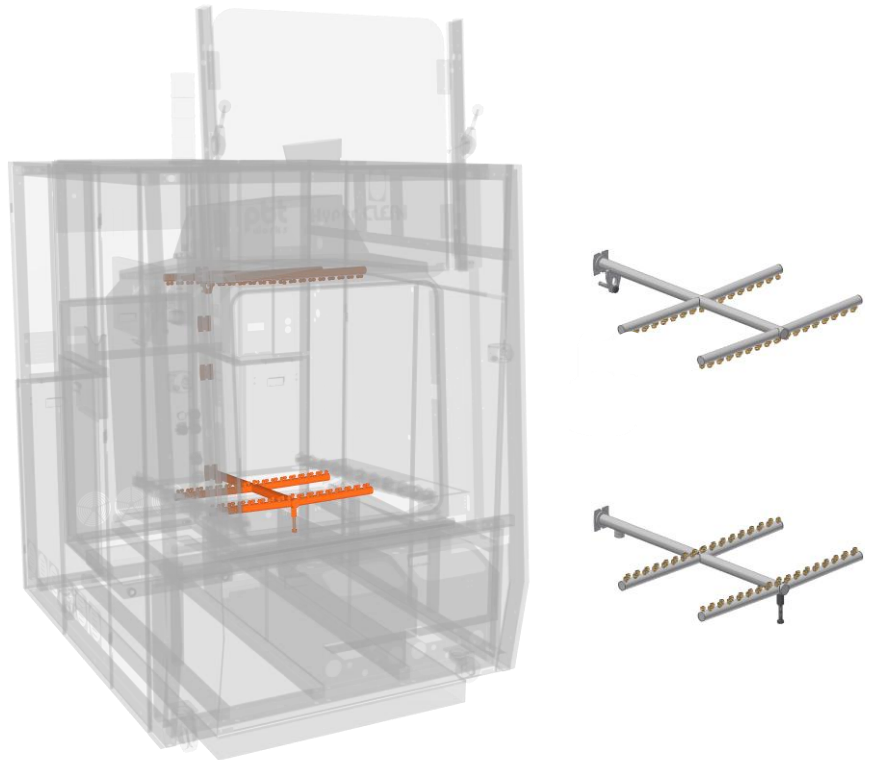


Nozzle arms SHORT

VM-00001998-X

Spray nozzles COMBO 1 SHORT

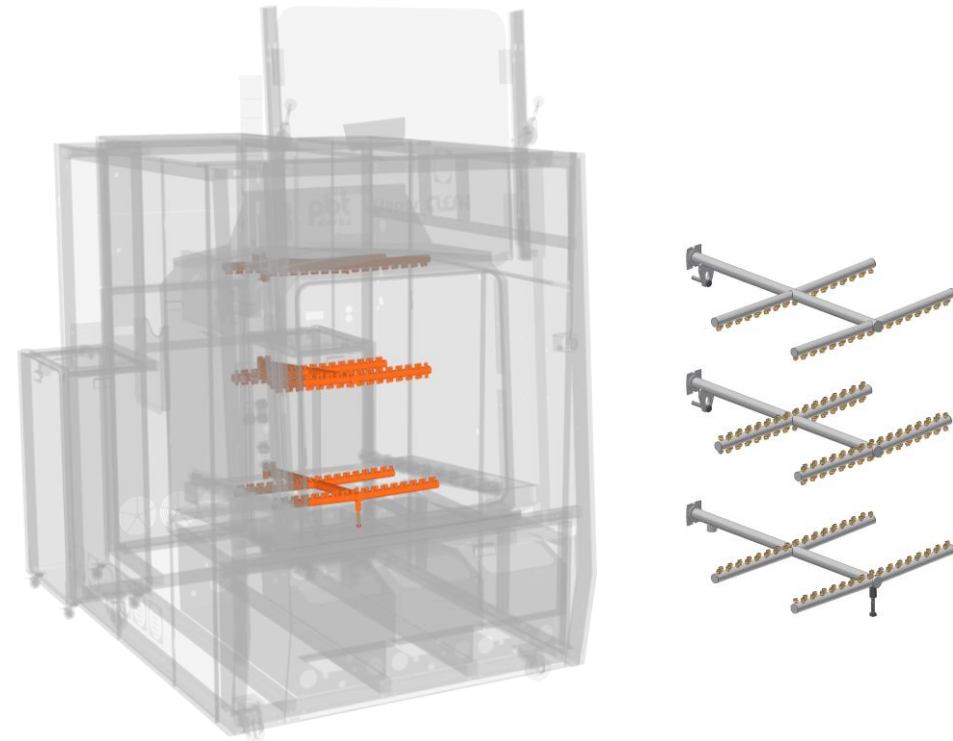
- Upper and lower spray nozzle arms SHORT



VM-00000829-X

Spray nozzles COMBO 2 SHORT

- Upper, middle and lower spray nozzle arms SHORT

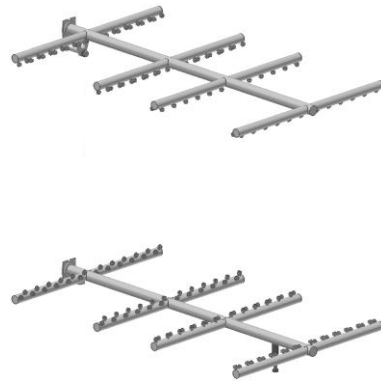
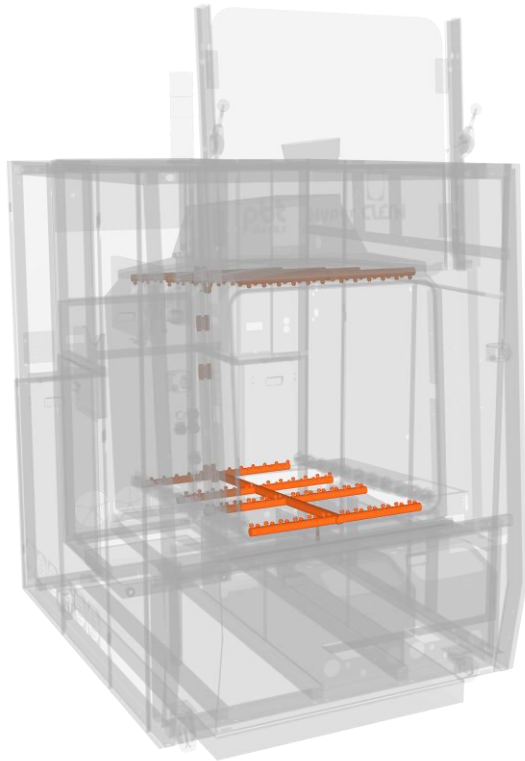


Nozzle arms LONG

VM-00001997-X

Spray nozzles COMBO 1 LONG

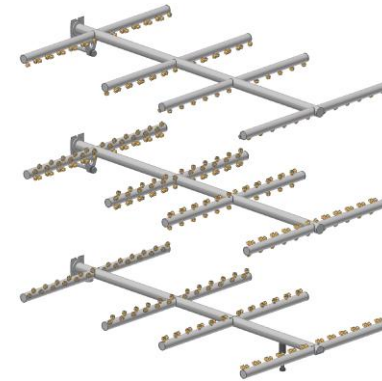
- Upper and lower spray nozzle arms LONG



VM-00001999-X

Spray nozzles COMBO 2 LONG

- Upper, middle and lower spray nozzle arms LONG



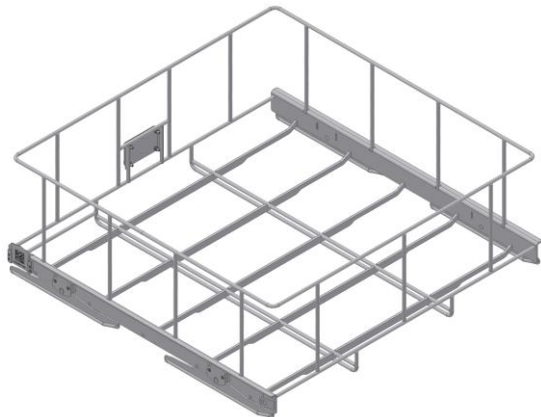
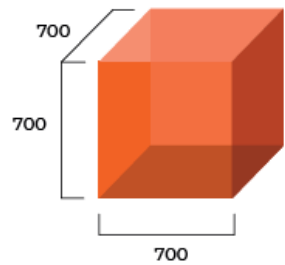
Basket

VM-00000912-X

Basket holder SHORT

- Usable space of basket 700x700x700 mm
- Oscillation is possible with this basket
- Max load for SHORT is 50 kg incl. basket and clamping

Standard clamping usable space

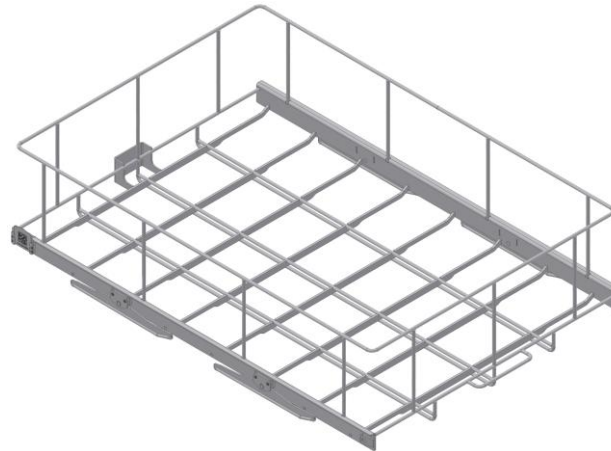
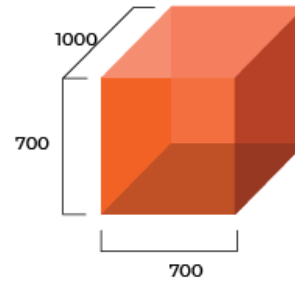


VM-00002307-X

Basket holder LONG

- Usable space of basket 700x1000x700 mm
- Oscillation is not possible with this basket
- Max load for LONG is 100 kg incl. basket and clamping

Standard clamping usable space



Filtration

VX-00000006-X

Closed loop DI water cart for Rinse HyCL (Carbon, Mixed Large)

- Closed loop with chemical filtration and a mechanical filter
- 1x external cart containing large Mixed and Carbon, 1µm 20" filter cartridge



Extra cart

VM-00000929-X

Extra pushcart SHORT with pneumatic docking

- Additional pushcart



VM-00014301-X

Extra pushcart LONG with pneumatic docking

- Additional pushcart



Traceability

VX-00000025-X

Traceability XML ONLINE HyCL

- Keeps track of cleaned items as well as all program parameters and detailed information about the cleaning cycle
- XML files provides background for further machine processing and data analysis
- IR handheld 2D code scanner, converter, SW license

VM-00001576-X

Traceability XML ONLINE prep kit HyCL

- Preparation kit for later retrofitting of XML Online Traceability

The screenshot displays the HyperCLEAN III control interface. The main display area shows the following information:

- WASH OFF:** 00:00 mm:ss, 00:00/20:00 Drip, 00:00/02:00 Drip, 5,1 30 °C
- 2ND RINSE OFF:** 00:00, 07:30, 25,7 °C, 25,0 °C
- DRYING OFF:** 00:00, 20:00, 24,9 °C, 110,0 °C
- OFF:** Recipe: PBT Works Test, Batch: [empty]

The log window on the right shows the following messages:

```

5:07:13 PM: MAIN_MODULE: You have to scan a batch before starting the
process.
5:07:46 PM: MAIN_MODULE: Actual batch is empty. You have to scan a
batch.
5:08:20 PM: MAIN_MODULE: Cleaning process started.
5:08:29 PM: MAIN_MODULE: Cleaning process paused.
5:08:33 PM: MAIN_MODULE: Cleaning process resumed.
5:08:39 PM: MAIN_MODULE: Cleaning process paused.
5:08:40 PM: MAIN_MODULE: Cleaning process interrupted.

```

The XML data window on the left shows the following messages:

```

<Messages>
  <Message Number="1">
    <Date>31.10.2023</Date>
    <Time>17:08:20</Time>
    <ID>999</ID>
    <Body>Cleaning process started.</Body>
    <Type_message>S</Type_message>
  </Message>
  <Message Number="2">
    <Date>31.10.2023</Date>
    <Time>17:08:29</Time>
    <ID>999</ID>
    <Body>Cleaning process paused.</Body>
    <Type_message>S</Type_message>
  </Message>
  <Message Number="3">
    <Date>31.10.2023</Date>
    <Time>17:08:33</Time>
    <ID>999</ID>
    <Body>Cleaning process resumed.</Body>
    <Type_message>S</Type_message>
  </Message>
  <Message Number="4">
    <Date>31.10.2023</Date>
    <Time>17:08:39</Time>
    <ID>999</ID>
    <Body>Cleaning process paused.</Body>
    <Type_message>S</Type_message>
  </Message>
  <Message Number="5">
    <Date>31.10.2023</Date>
    <Time>17:08:40</Time>
    <ID>999</ID>
    <Body>Cleaning process interrupted.</Body>
    <Type_message>S</Type_message>
  </Message>
</Messages>

```

Concentration measuring

VM-00001777-X

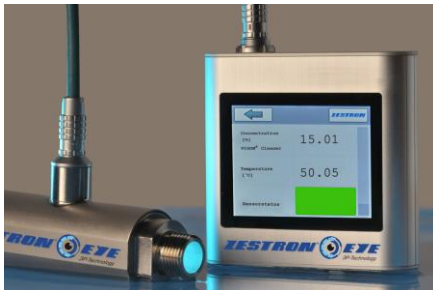
ZESTRON EYE – concentration measuring and data acquisition system HyCL

- Concentration monitoring of cleaning medium in wash loop
- The set includes sensor, controller and cable
- The sensor is calibrated for Zestron cleaning agents only

VM-00001766-X

KYZEN ANALYST – concentration measuring and data acquisition system HyCL

- Concentration monitoring of cleaning medium in wash loop
- The set includes sensor, controller, HMI and cable
- The sensor is calibrated for Kyzen cleaning agents
- Calibration for other cleaning agents is possible

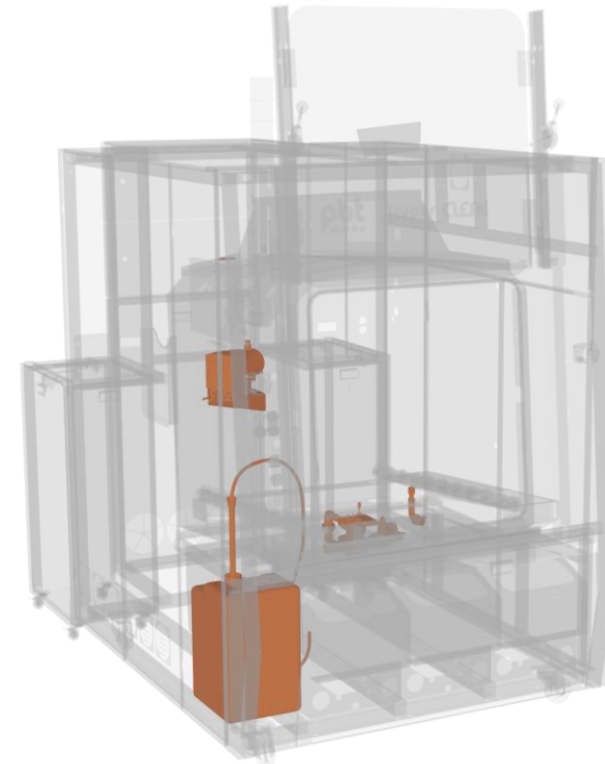


Automatic Dosing

VM-00001767-X

AD Automatic Dosing Unit HyCL

- Refills the wash tank with cleaning agent concentrate and DI water according to set concentration parameters
- Combined with the concentration measuring unit, it can work based on measured concentration (Adaptive dosing)
- Source of DI water is needed. If DI water is not available, it is necessary to purchase DI water processing cart for tap water treatment

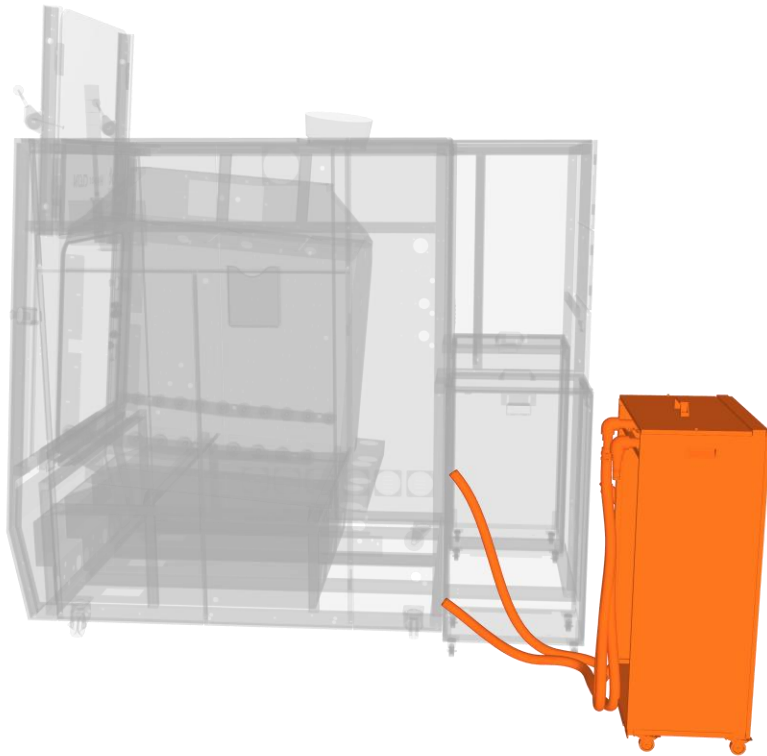


Water treatment to DI

VM-00003451-X

DI Water system (1x Mixed Bed)

- Cart containing medium Mixed Bed and piping connection
- It is used to convert tap water to DI water
- For rinse loops and/or AD dosing unit



Drain pump

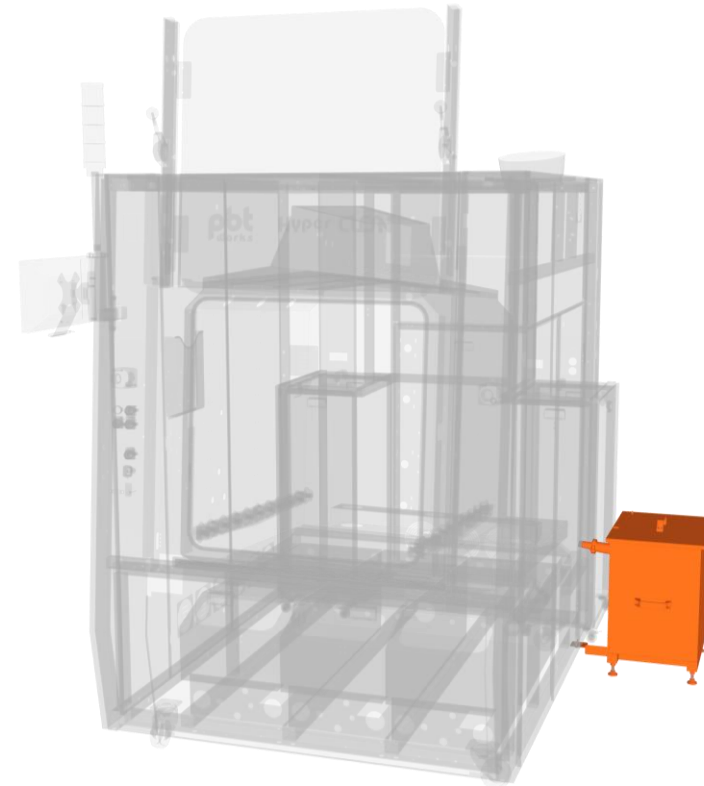
VM-00001771-X

20L external container with drain pump 50Hz

- Contains pump with float (automatic operation)
- Needed if there is no sewage system or the system is more than 1.5 meter from the machine
 - In case the sewage connection is higher than transfer pump waste outlet, the outlet pipe must be equipped with non-return valve (not included in delivery)

VM-00001778-X

20L external container with drain pump 60Hz

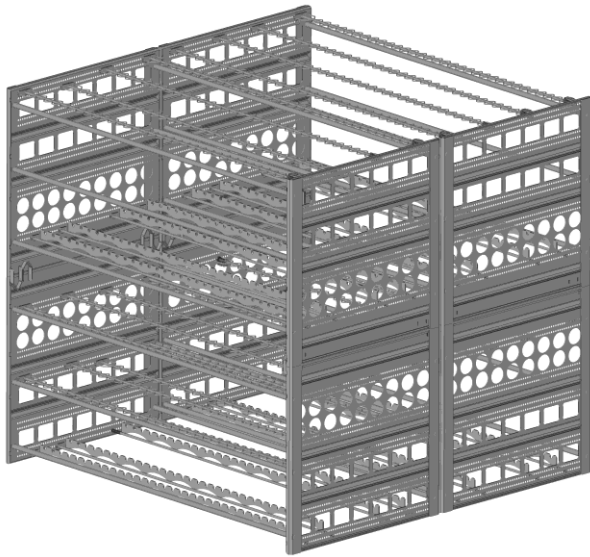


Clamping

VX-00000017-X

Baskets for PCBs into SHORT (4pcs)

- Item contains 4 stainless steel baskets with clamping for PCBs
- Fits into SHORT basket



VM-00002348-X

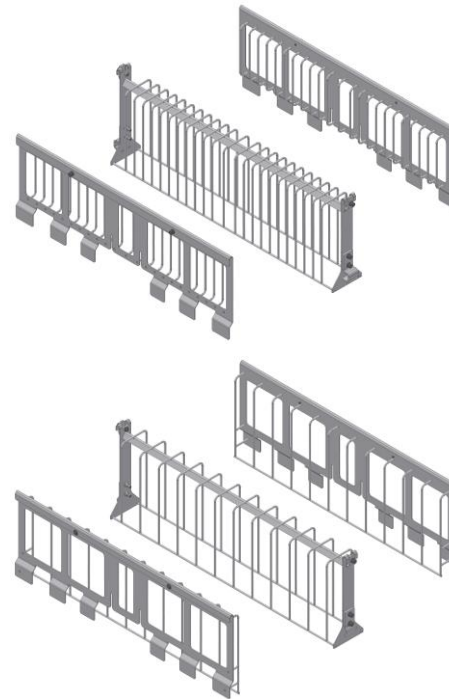
Solder pallet separator into basket SHORT - set of 3, 450x300 mm, pitch 30mm

- Usable space of basket 700x700x700 mm

VM-00005213-X

Solder pallet separator into basket SHORT - set of 3, 450x300 mm, pitch 60mm

- Usable space of basket 700x700x700 mm



VM-00002345-X

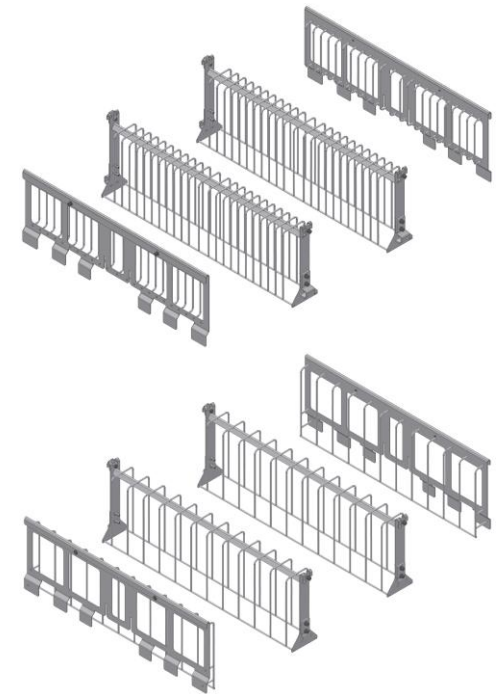
Solder pallet separator into basket LONG - set of 4, 450x300mm, pitch 30mm

- Usable space of basket 700x1000x700 mm

VM-00005199-X

Solder pallet separator into basket LONG - set of 4, 450x300mm, pitch 60mm

- Usable space of basket 700x1000x700 mm



Packing

VM-00002683-X

Transport wooden box incl. Packing Cost (HySW/HyCL) 2620 x 1701 x 2283 mm

- For machine only
- Including Heat Treatment (HT)
- Including ShockWatch shipping and handling indicator

VM-00003363-X

Transport wooden box incl. Packing Cost (MiSW) 1386 x 2300 x 1468 mm

- Smaller box for pushcart and accessories
- Including Heat Treatment (HT)
- Including ShockWatch shipping and handling indicator



HyCL SeaPack

Sea transport packaging surcharge HyCL

- Special packaging to prevent damage from climatic conditions if maritime transport



PHYTO_CERTIFICATE

Phytosanitary Certificate of Heat-Treated Wooden Box

- Certificate that the wooden box meets specified import phytosanitary requirements





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