

# LCT Round basket cleaning machine

## Series HTW

- Completely made from stainless steel
- Power-actuated rotating rack with motor protection
- Compact design, easy handling
- High cleaning power
- Effective and economical
- Energy-efficient

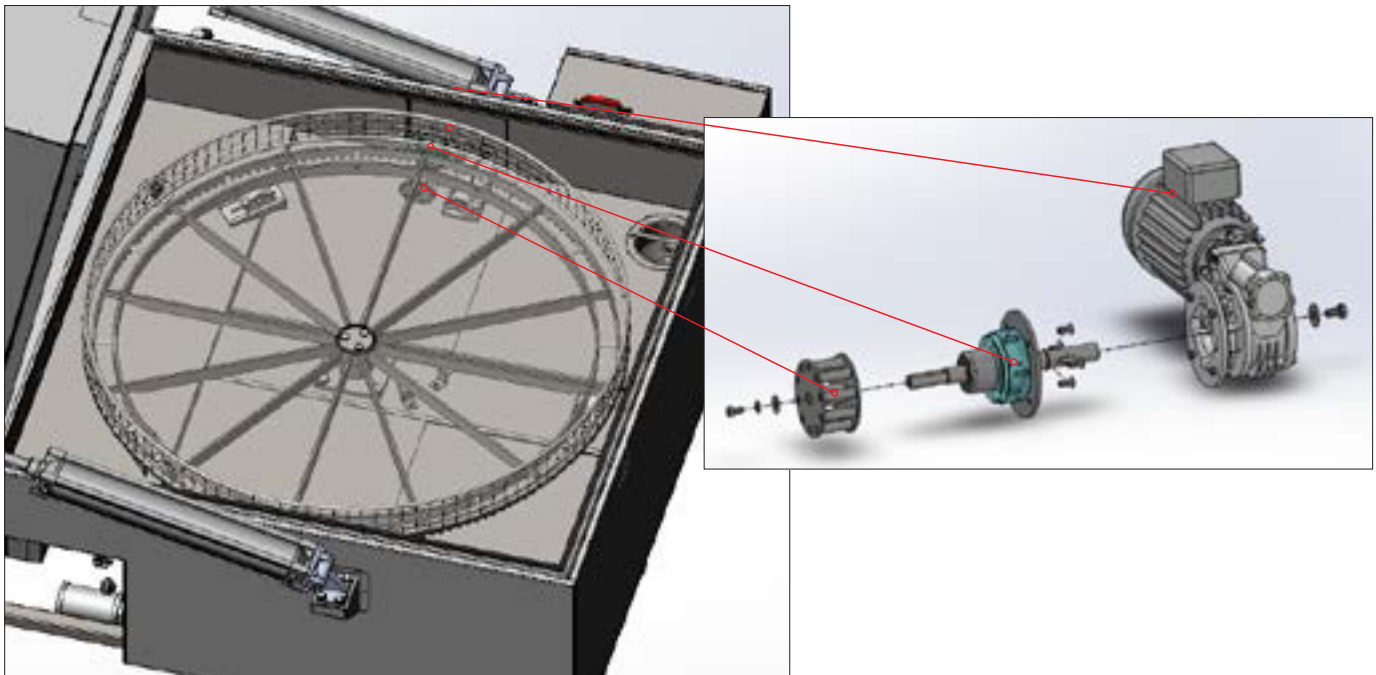


	HTW 800	HTW 1000	HTW 1200	HTW 1500
Overall width x overall depth (mm)	1180 x 1145	1370 x 1210	1580 x 1505	2080 x 1681
Height with lid closed/open with angled exhaust duct (mm)	1361 / 1790	1524 / 2005	1580 / 2200	1840 / 2700
Inner diameter of rack, approx. (mm)	775	975	1175	1500
Useful height max. (mm)	350	450	650	750
Maximum payload (kg)	150	350	350	350
Cleaning liquid tank – capacity (L)	150	300	485	770
Total weight of the cleaning device (kg) excl. tank filling, payload and supplementary equipment (kg)	280	350	350	550
Connected value total (kW) excl. supplementary equipment approx.	6	8.5	11.5	21.5
Power supply – 3-phase current (V)/ frequency (Hz)	400/50	400/50	400/50	400/50
Pump – automatic cleaning: flow rate (m³/h/delivery head m H₂O)	4.8/3.8	12.0/3.8	12.0/3.8	14.5/4.5
Electric heating in the washing tank (kW)	4,5	6	9	2 x 9
Treatment temperature (guide value) (°C/°F)	10-85+/-2 / 50 -185 +/- 3,6	10-85+/-2 / 50 -185 +/- 3,6	10-85+/-2 / 50 -185 +/- 3,6	10-85+/-2 / 50 -185 +/- 3,6

# Options and spare parts for the LCT HTW

## Automatic rack drive

The devices are equipped with a laterally mounted geared motor which actuates the rack. This way, the parts are cleaned 360° from all sides; this means that also components with complex geometries will be completely cleaned/wetted with our cleaning fluid. The steady rotation of the rack allows for optimal cleaning results (one rack rotation per minute)



## Pushbutton with two-hand control for rotation the rack outside the cleaning process

This equipment makes loading and unloading of components into and from the washing rack easier. The pushbutton with two-hand control for rotating the rack works with the lid open and also with the lid closed on the HTW models. The rack can be rotated manually using pushbuttons 1. and 2.

The two pushbuttons are positioned in such a way that operating personnel will not pose a hazard when the rack is actuated. Pushbutton no. 1 has to be actuated with the one hand, and pushbutton no. 2 with the other hand. If one lets go of either pushbutton, manual rotation will stop immediately.



## 10016 Lid opening 80° with pneumatic cylinder

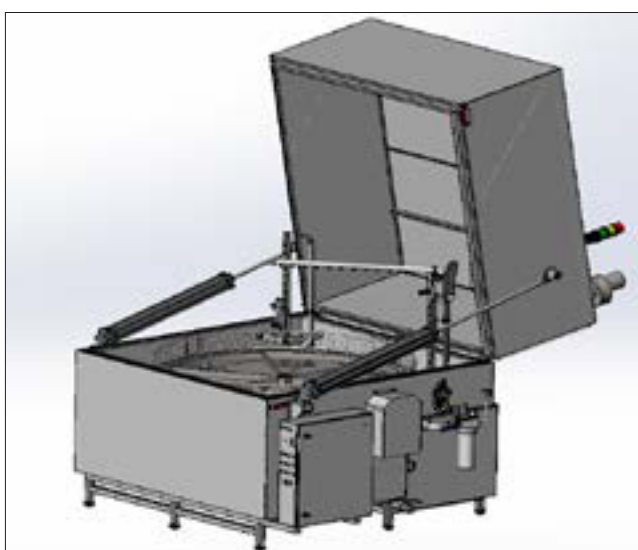
The pneumatic lid opening facilitates safe and easy handling when opening the device lid and loading the device by means of a crane; opening occurs by means of two pneumatic cylinders.

These cylinders are controlled via a two-hand control on the control panel of the device.

This option is only available for device with rack diameters of 1000 mm or more. On devices with a rack diameter of 1500mm and on devices with hot-air drying, pneumatic lid opening is a standard feature

The pneumatic lid opening is not available in combination with the eccentric sharp handle. When opening and closing the lid, the operator has to make sure that there

there are no objects behind the device that might block the lid while opening. For opening, pushbuttons no.1 and mno.3 are pushed at the same time. For closing the lid, pushbuttons no.1 and no.4 are pushed at the same time. If one lets go of either pushbutton, lid opening/closing will stop immediately.

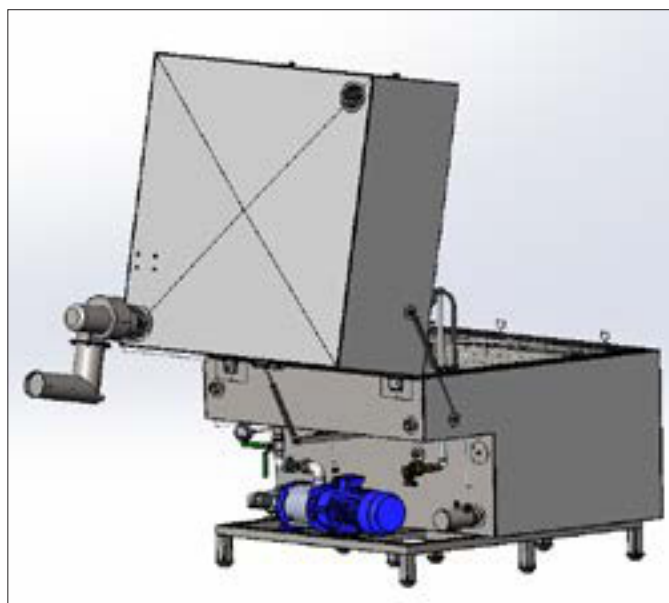


## 10017 Lid opening 80° with additional gas shock absorber

**Not available for insulated LCT HTW 1200**

The lid opening 80° with additional gas shock absorber facilitates safe and easy handling when opening the device lid and loading the device by means of a crane; opening occurs by means of 3 gas pressure springs. The lid is opened and closed manually by operating personnel.

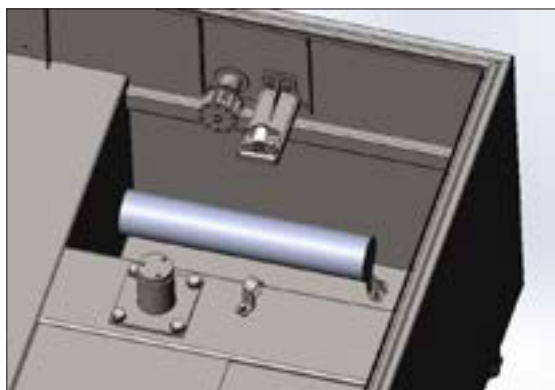
This option is only available for device size of up to 1200mm and non-insulated systems.



## Stainless - steel suction filter for the pump/s

This equipment prevents the nozzle of the spray system from clogging and protects the suction pump from particles bigger than 2mm. The filtration of the cleaning fluid also guarantees better cleaning results.

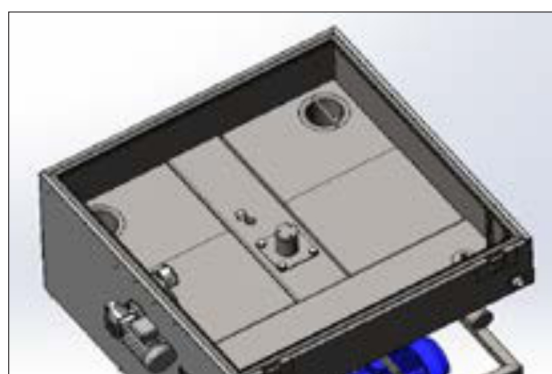
The stainless -steel suction filter is located in the wash tank on the suction side of the pump. The filter should be pulled out and cleaned at regular intervals.



## Tank over and sieve filter under the stainless-steel rack

The tank is separated from the treatment chamber by two cover plates. These cover plates feature one opening and one filter insert (perforated plate, d-2,0 mm) each for fluid return flow; they serve to clean the washing liquid, i.e. They retain the rinsed-off coarse contaminations.

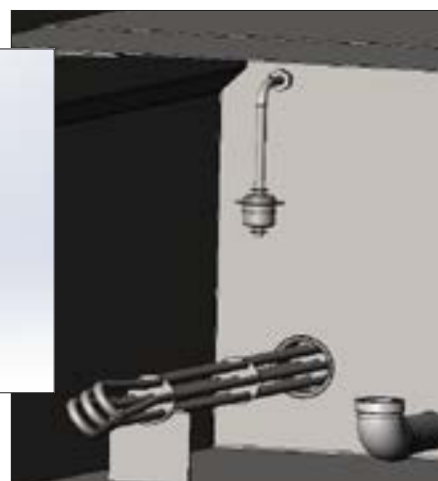
In order to guarantee that the system runs smoothly, the openings of the cover plates need to be checked at regular intervals and cleaned if necessary. If the filter inserts (perforated plate) are damaged, they have to be replaced immediately. After dismantling the rotating rack (3 screws), the cover plates are easy to take out and clean.



## Dry-run protection

The filling level in the storage tank is monitored by means of a level switch in order to prevent the pump and the heating element from running dry.

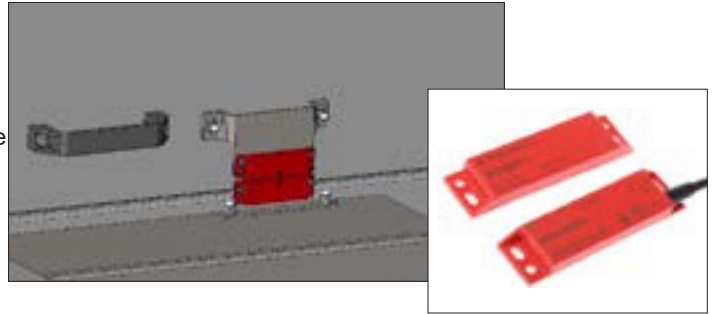
If the washing liquid level in the storage tank drops below a pre-set minimum value, the parts washer will switch off automatically.





## Lid safety switch

The coded safety switch (magnetic) prevents switching on the device with the lid open; moreover, the device will immediately switch to standstill if its opened while in full operation.

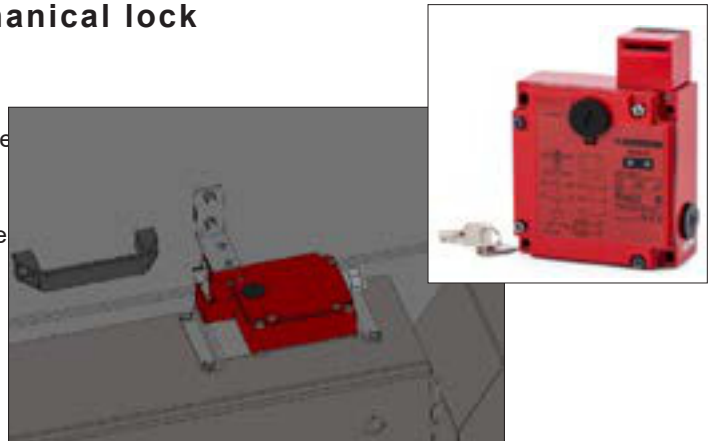


## Safety switch with mechanical lock

The safety switch with mechanical lock prevents switching on the device with the lid open; moreover, the device lid can only be opened once the washing cycle has been finished automatically or manually. Being able to protect the device from unauthorized use by means of a lock and key on the safety switch is another advantage.

### Importante note!

Cannot be used on devices with pneumatic lid opening.



## Heating element with safety temperature limiter

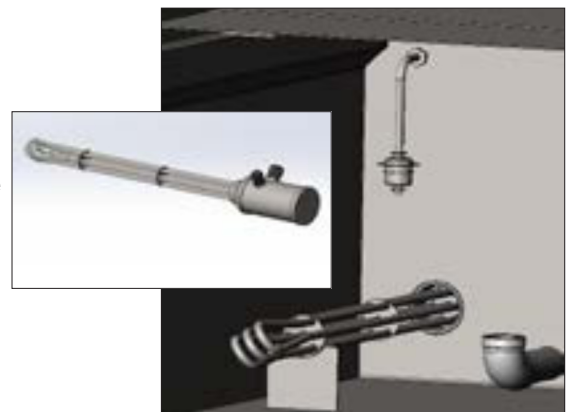
The cleaning system is equipped with an electrical heating in the wash tank. The heater coils are protected from running dry by means of a level control with automatic freshwater supply (optional extra). In order to protect the electrical heating and the washing fluid from overheating, a safety temperature limiter has been integrated in the electrical heating, which will switch off the electrical heating at 110°C/230°F

maximum temperature.

Also, the STB will be triggered if the heating element is clogged with solids (e.g. sludge, grease) and cannot heat up properly. For resetting the STB on the heating element, remove the cover cap on the heating housing (at the back of the device) and actuate the little button (see illustration).

### Screw-in heating element with safety temperature limiter:

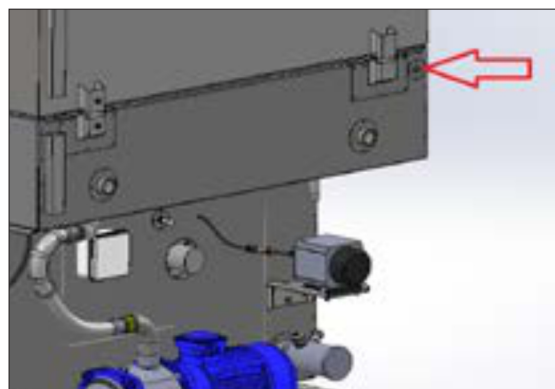
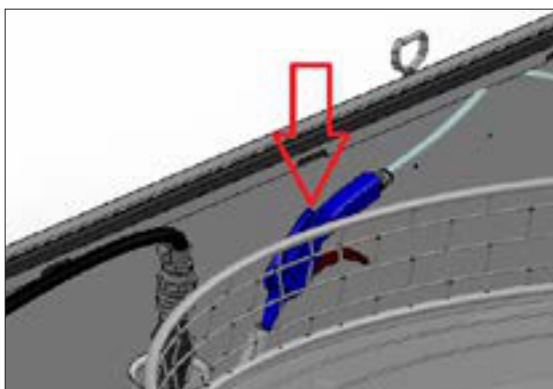
STB: Safety temperature limiter; this safety device is triggered if the surface temperature on the heating element exceeds 110°C/230°F. The temperature excess is signalled by the fault indicator light "Störung Übertemperatur" (high temperature alarm) lighting up in red on the control panel of the device. Its protects from overheating or continuous operation of the heating element if e.g. The float switch (level control) and/or the thermostat will not switch off. In that case, the heating would heat up to



## Compressed-air supply and compressed-air pistol with safety nozzle in the cleaning chamber

These functions are only possible with the lid closed.

This equipment serves for optimal after-treatment (drying) of components that feature e.g. blind holes from which residual fluid needs to be removed.

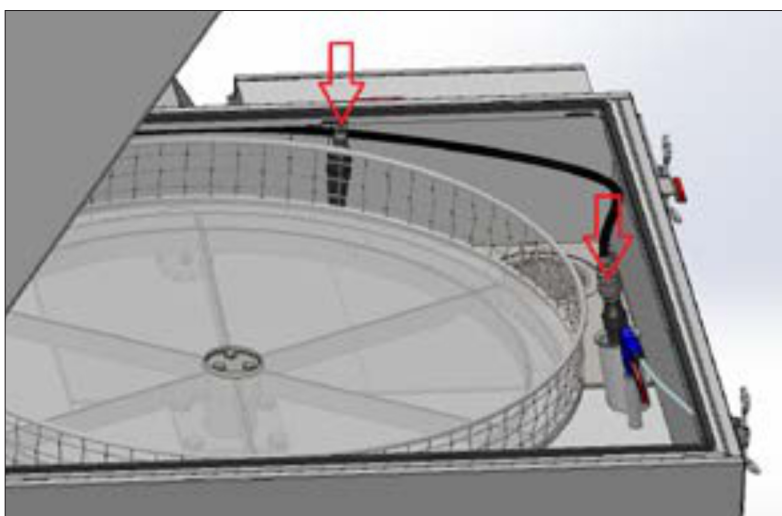


## Manual cleaning by means of flow brush or vario nozzle (with quick-release coupling)

These functions are only possible with the lid closed.

This equipment serves for optimal after-treatment of components that feature e.g. very complex geometries, making sure that exiting residual particles will be removed manually.

The quick-release coupling facilitates a swift change between the cleaning variants of vario nozzle (spray nozzle with 2,5 bar and variable fan jet) and flow brush.

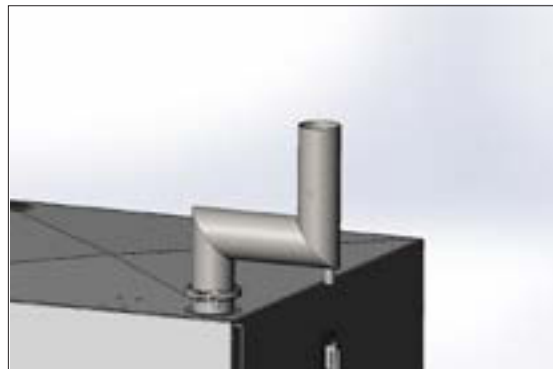


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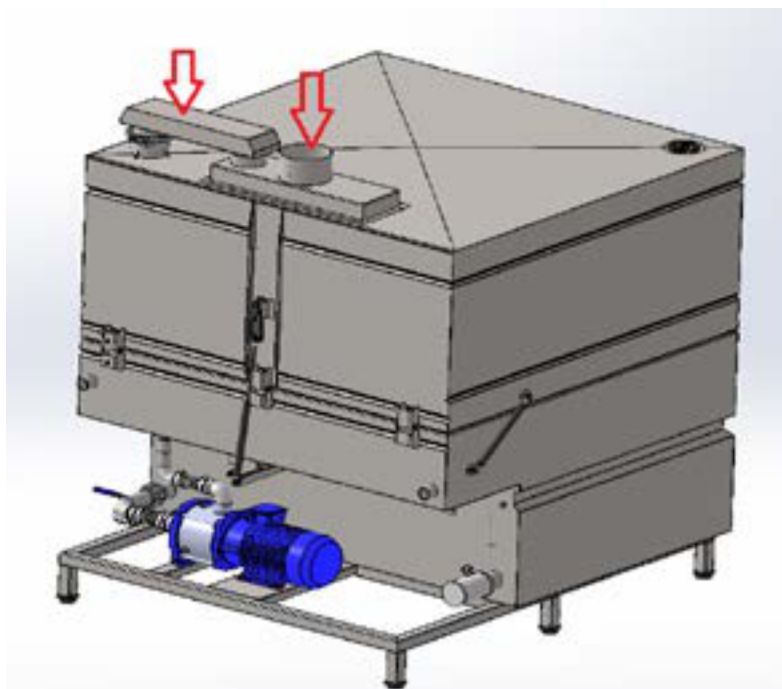
## Condensate recovery arc

The condensate recovery arc is an exhaust air arc mounted on the device lid. Thanks to its special design, it captures the occurring condensate which will then be automatically redirected into the device via a hose.

Optimal results can be achieved by also installing the exhaust hose.



The exhaust air system with integrated condensate recovery is a standard feature on HTW devices with a size of 1200 or more. (This system is also integrated in HTW 1000 devices with a 7-bar pump.) The exhaust air system ensures maximum absorption of evaporated water; the condensed water will be returned to the tank.

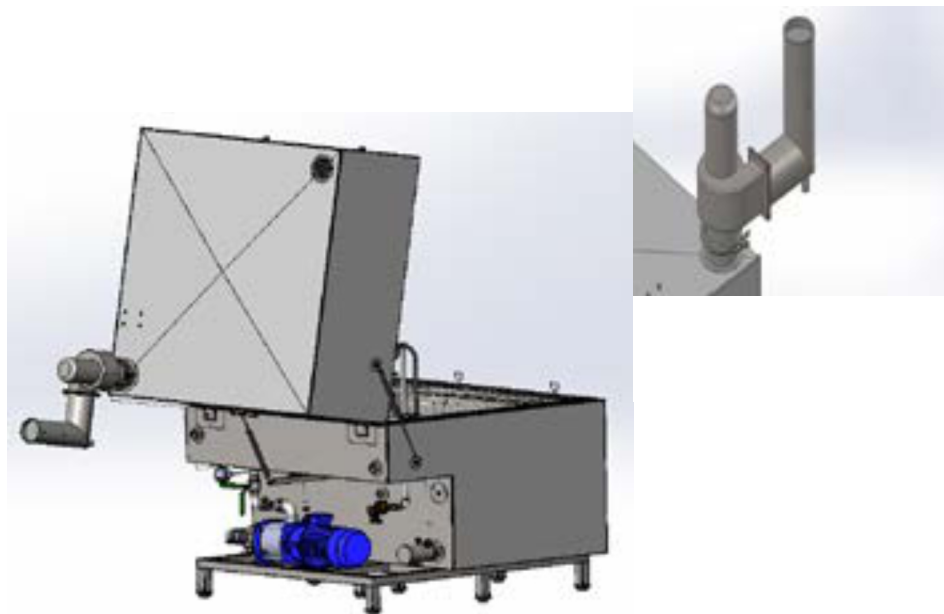


## 10020 Vapour extraction

An extraction fan can be mounted on the device, which will extract the vapours generated during the cleaning process. Extraction time can be defined continuously (0-3 minutes) by means of a timer in the electric control cabinet. The vapour extraction device, which is available as an optional extra, can be equipped with an appropriate exhaust pipe at the customer's site if the vapours are to be extracted from the room. It is indispensable for the exhaust pipe to be fitted to the inner diameter of the exhaust opening and to be sealed 100 % against condensation water.

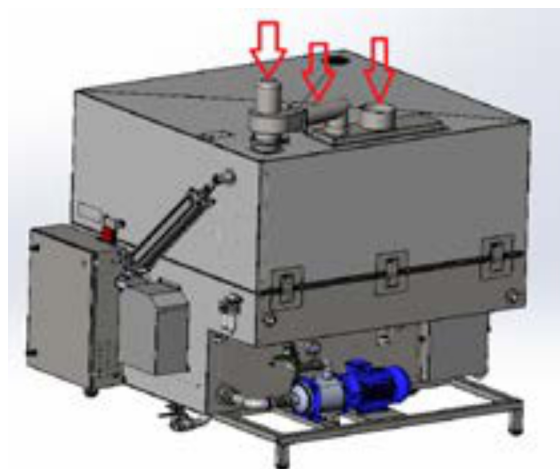
It is recommended that the exhaust pipeline consists of customary POLO-KAL® plastic pipes that facilitate optimal sealing around the transitions.

Provide for a flexible connecting line of approx. 2.5 m between the exhaust fan and the actual exhaust pipe (because of the device lid that has to be operated manually). The vapour extraction device extracts the vapours remaining in the treatment chamber before the device lid is opened and moves them out of the device. If the vapours are disruptive, they can be moved outside the room by means of an exhaust pipe to be provided by the customer.



The exhaust air system with integrated condensate recovery is a standard feature on HTW devices with a size of 1200 or more. (This system is also integrated in HTW 1000 devices with a 7-bar pump).

The exhaust air system ensures maximum absorption of evaporated water; the condensed water will be returned to the tank.





## Insulation(ECO Variante)

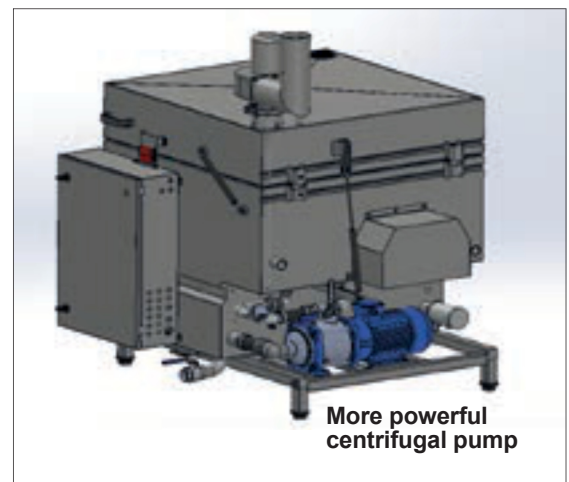
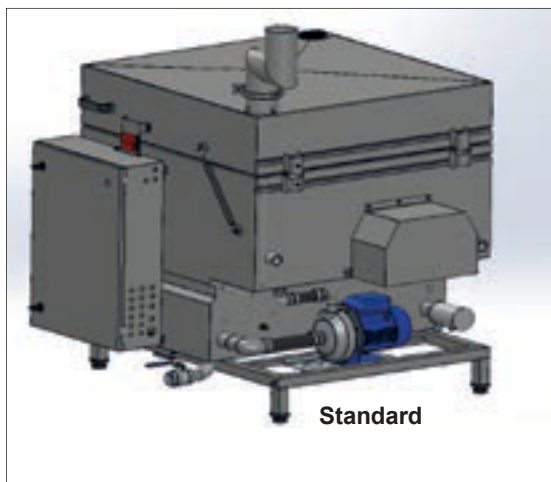
The cleaning devices are fully covered on all sides in non-flammable insulation sheets type XPS-EN 13164-T2-DS (23,90) - CS (10/Y) – TR400 – 20 mm. These insulation sheets are in turn covered by stainless-steel lining plates made of 1,5-mm stainless-steel sheet so that the insulation is not visible. The benefits of these insulation sheets are that they save energy, lower the noise level, and prevent scalding on the hot surface of the device if it is operated at more than 50°C/122°F

10022

## Increase of operating pressure from 2.5 to 4 bar

This option increases the operating pressure of the HTW 800 from 2.5 to 4 bar. This is facilitated by a more powerful centrifugal pump. Optimally suited for heavily contaminated components.

**Important note!**  
**Only relevant for the HTW 800!**

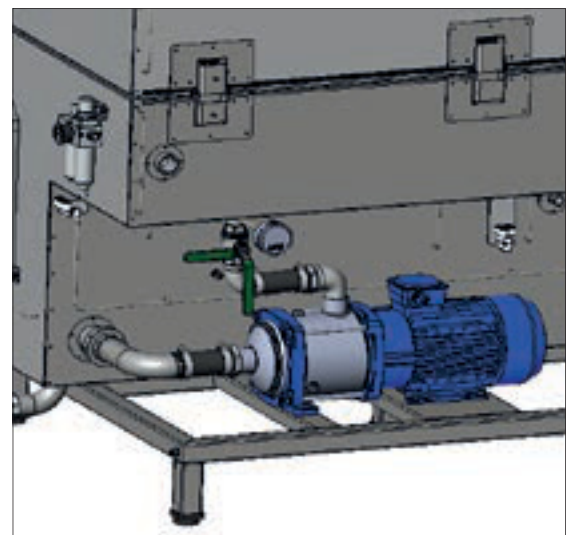


10023

## Operating-pressure control 2.5-4 bar

The operating pressure is controlled by means of a ball valve integrated on the discharge side and a glycerine pressure gauge.

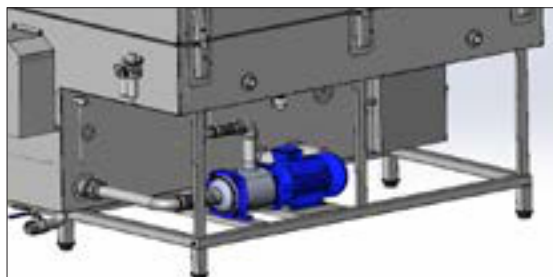
This way, by means of this ball valve, the operating pressure can be adjusted between 2.5-4 bar on all models.



10024

## Increase in operating pressure from 4 to 7 bar including soft start

From the HTW 1000 on, the operating pressure can be increased from 4 bar to 7 bar. The 7-bar pump provides soft starting in order to avoid explosive overpressure when starting the device. In addition, the pressure of 7 bar can be reduced to 4.5 bar by means of a ball valve with a glycerine pressure gauge.



### Important note!

► This Option cannot be added at a later date.



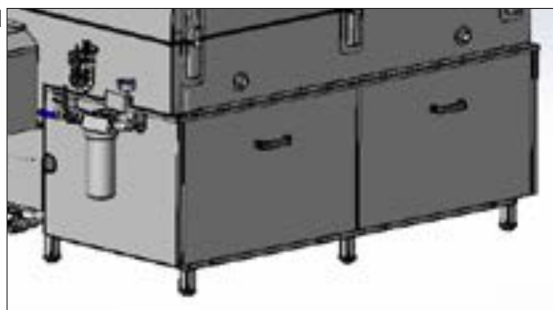
10025

## Noise protection cover, recommended with the 7 bar pump

This option minimizes the background noise generated by the more powerful centrifugal pump.

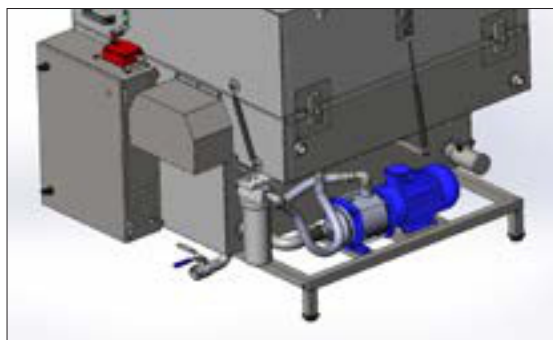
**(Important: not more than 70 dB)**

This noise level is minimized by means of the noise protection cover.



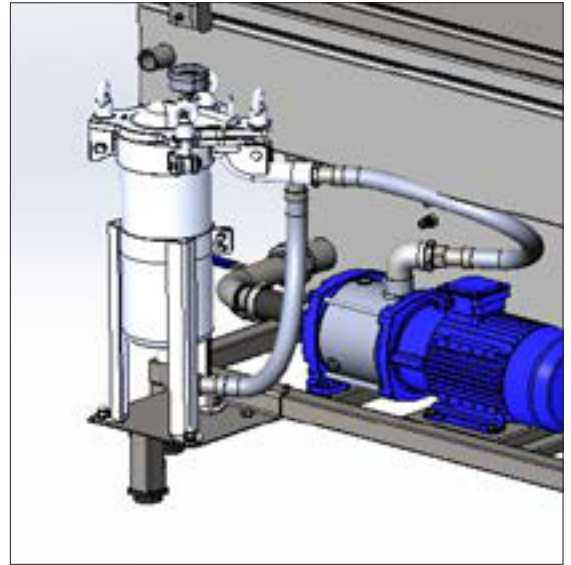
## Stainless-steel filter set incl. screw fitting and connection hose

The filter set consists of a VA filter housing that is connected on the discharge side after the pump. The filter unit consists of a VA filter housing that contains a filter cartridge. Depending on the requirements, this filter cartridge can be selected as a 100-  $\mu$ m or 350-  $\mu$ m nylon filter (washable) or as a 25  $\mu$ m coil cartridge filter (non-washable).



## Filter housing for filter bags

The cylindrical stainless-steel container is locked with a hinged lid and eye bolts. The product ingresses laterally via the container housing, and exits at the bottom in the middle. The filter housing is connected on the discharge side after the pump. Depending on the requirements, this filter cartridge can be selected as 100 µm or 350 µm nylon filter (washable) or as a 25µm needle felt bag ( non-washable)



GRP grating, mesh size 38x38 mm  
for rack diameter 800

GRP grating, mesh size 38x38 mm  
for rack diameter 1000

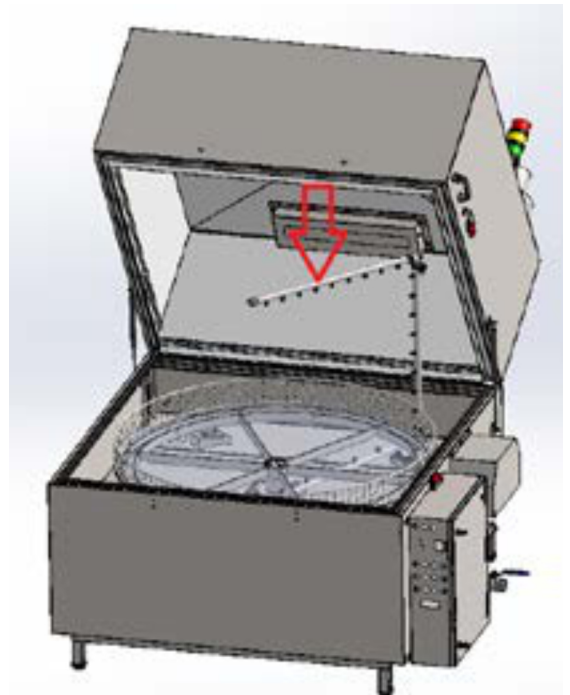
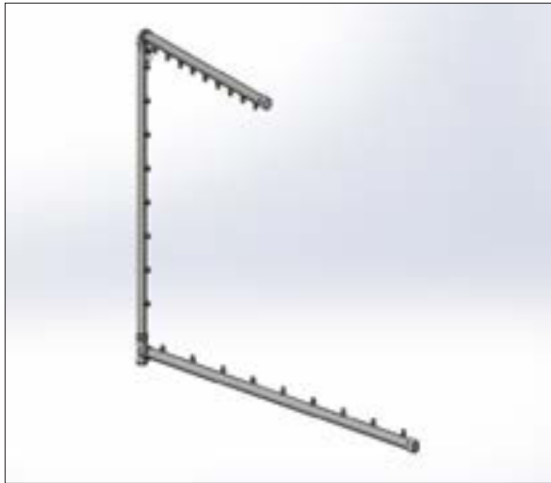
GRP grating, mesh size 38x38 mm  
For rack diameter 1200



The GRP gratings are intended for the protection of compounds with delicate surfaces (e.g. Aluminium parts) that may be damaged by the standard stainless-steel washing rack.

## Fan nozzles

The nozzle pipe system contains fan nozzles 1/4" FL 12, 60°. These nozzles increase the cleaning performance of the nozzle fitting. The fan nozzles are positioned in such a way that optimal cleaning and wetting also occurs in the presence of complex geometries ( the fluid is sprayed in a fan jet)

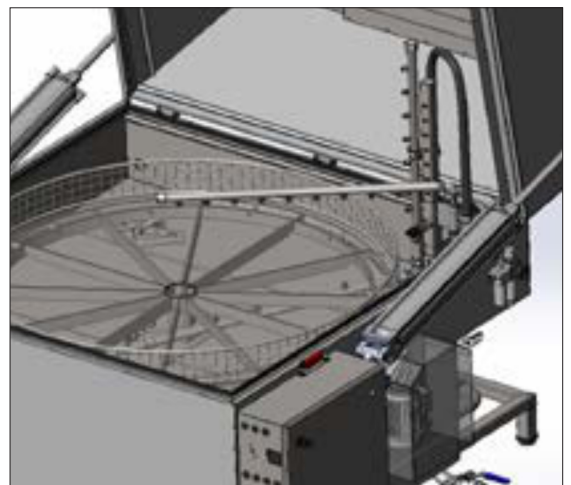


10046

## Nozzle fitting height-adjustable for each nozzle system

The height-adjustable nozzle fitting serves for the optimal cleaning of components featuring different heights. The usable height is variable and can be adjusted individually by the user. The setting of the nozzle fitting is determined by means of a guide tube

and a locking pin. This option can be used in the fluid system and in the air system; in the case, please make sure though that you order two height-adjustable nozzle fittings.



## Rotary nozzle arm

The rotary nozzle arm serves for optimal wetting and cleaning of components with slight to medium contamination levels. The rotary nozzle arm works in such a way that the upper nozzle arm can pivot and is put in rotation by means of the output of the centrifugal pump. This way, also components with many geometries will be cleaned optimally.



## 10047 Air shower incl. nozzle fitting with solenoid valve

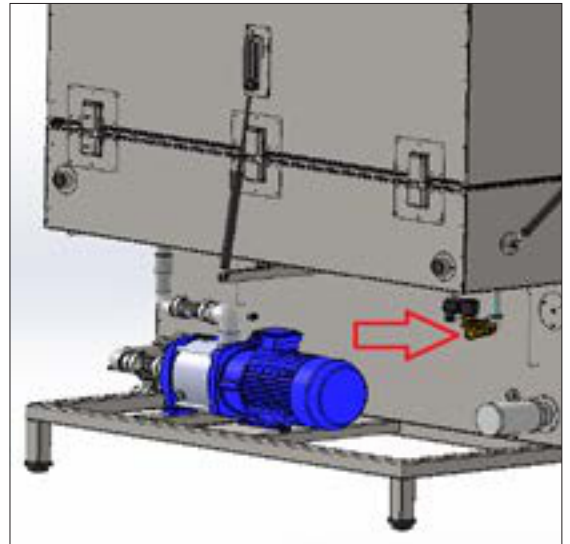
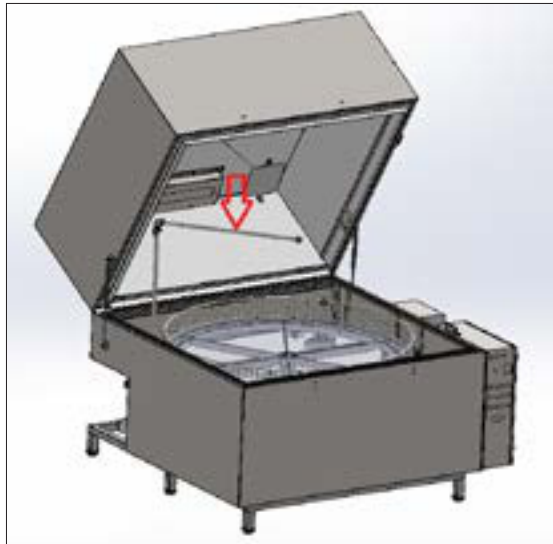
### Important note!

This option requires compressed air.

Spray nozzle system shower. The airshower is intended for easy drying and the removal of fluid residues from eventual blind holes in the cleaned parts. The air shower is actuated directly after the cleaning process.

The nozzle pipe system consists of 3 nozzle pipes with  $\varnothing 2$  mm openings. The volume flow is  $4,6 \text{ m}^3/\text{min}$ .

At a connection pressure of 6 bar; the running time of the drying can be determined variable by means of a timer (KT2) that can be found in the switch cabinet, together with an instruction manual.





10032

### Air shower incl. nozzle fitting with solenoid valve and fan nozzle

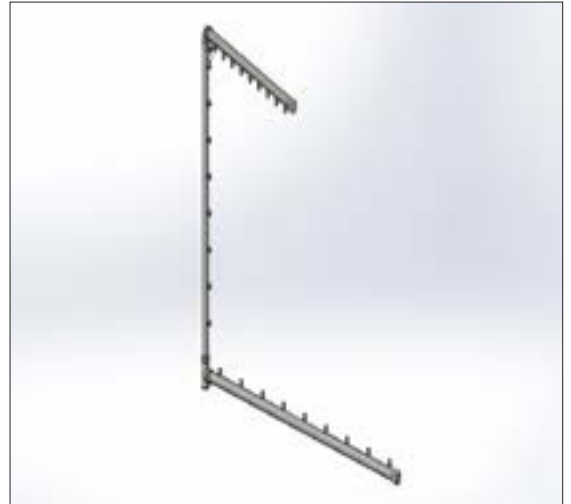
**Important note!**

This option requires compressed air.

The nozzle pipe system contains fan nozzles  $\frac{1}{4}$ " FL 12,60°. These nozzles increase drying performance of the nozzle fitting. The fan nozzles are positioned in such a way that optimal drying also occurs in the presence of complex geometries (the air is sprayed in a fan jet)

**Important note:**

Not optimally suited for components with blind holes.



### 10051 Heating: Timer for pre-programming the heating element

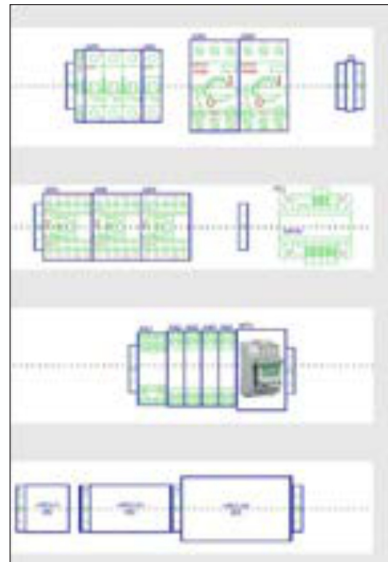
By means of the weekly timer, the times for switching the device heating on/off can be set.

For instance:

On Monday 8:00 a.m.,  
Off Monday 5:00 p.m.,  
On Tuesday 8:00 a.m.,  
Off Tuesday 5:00 p.m.,  
On Wednesday 8:00 a.m.,  
Off Wednesday 5:00 p.m.,  
On Thursday 8:00 a.m.,  
Off Thursday 5:00 p.m.,  
On Friday 8:00 a.m.,  
Off Friday 5:00 p.m.,  
Saturday --:--,  
Sunday --:--

The timer for pre-programming the heating element is located in the switch cabinet.

This position was chosen to hinder any offhanded unauthorized changing of the clock.

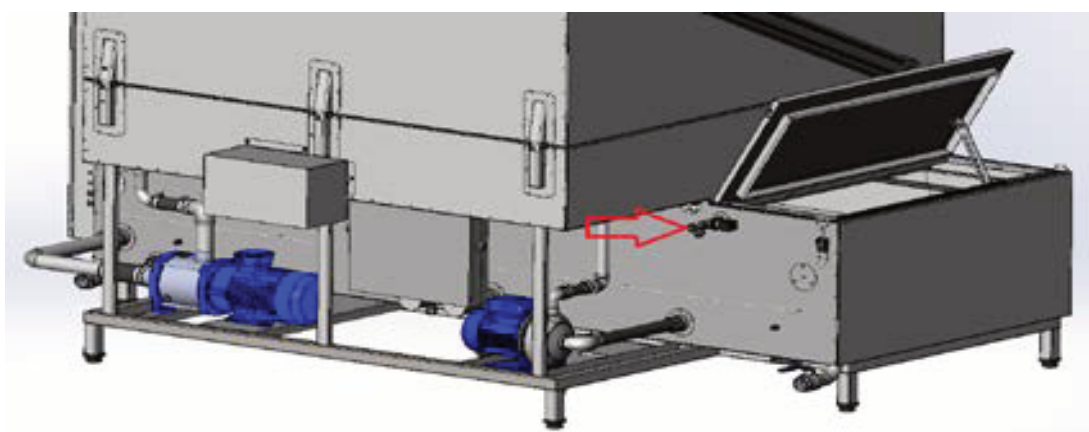
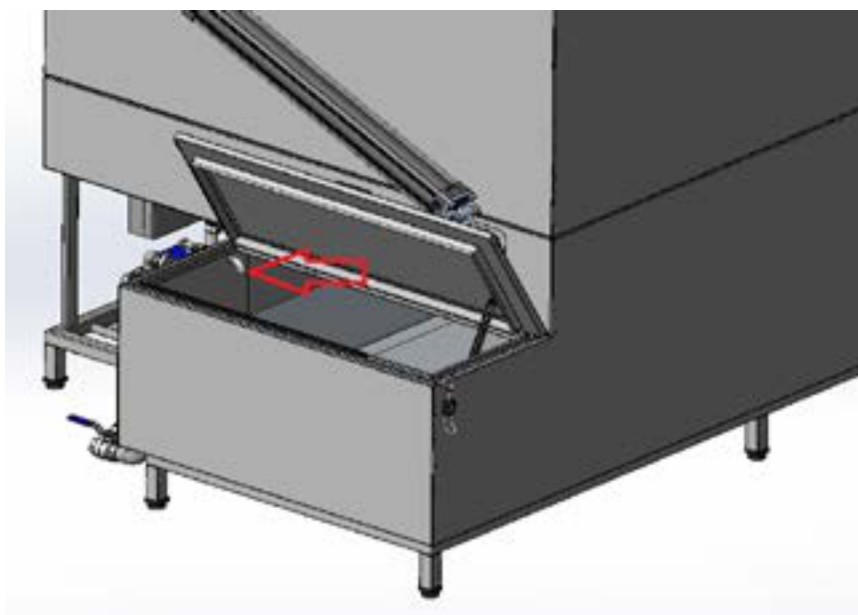
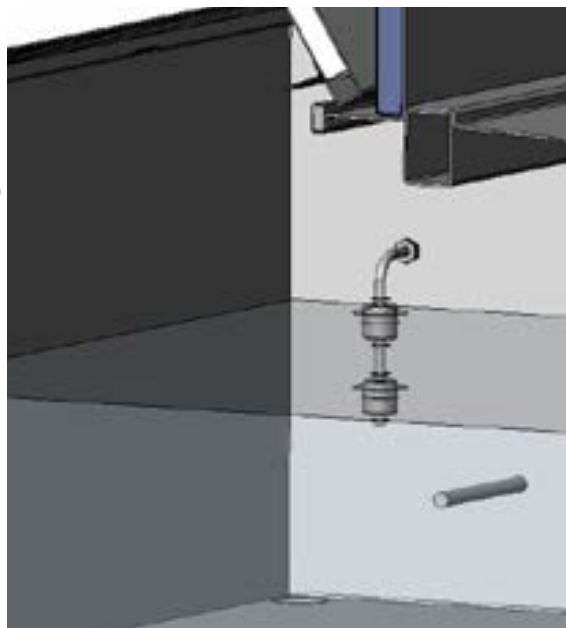


## 10052 Automatic level control

The level control with automatic fresh water supply prevents dry running of the heating and the pump. The minimum and maximum water level is controlled by the 2-fold level electrodes installed in the tank and their control device, which controls the solenoid valve – dimension R ½" – with dirt trap at the front for the water supply. In special versions, instead of the 2-fold level electrodes, a corresponding float switch (MIN and MAX) is installed for water level monitoring.

**Important note:**

The level control is connected to the fresh water mains. There is no automatic filling of the cleaning agent.



10053 **Light signalling system (without siren)**

10054 **Siren for light signalling system**

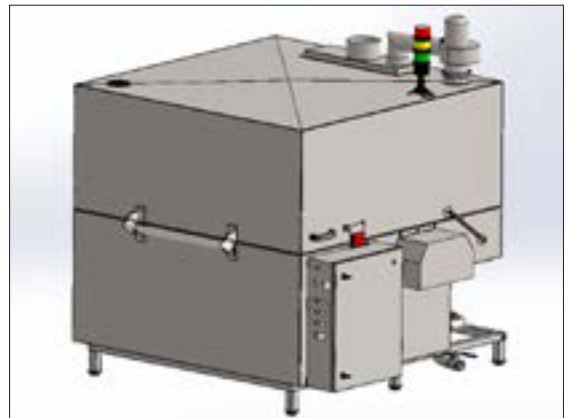
The light signalling system indicates the current status of the process that can already be inspected from afar.

The light signalling system includes:

- Green light
  - indicates that the device is ready for operation;
- Amber light
  - indicates that the device's washing cycle is under way;
- Red light
  - indicates an error in the device or that the lid is open

Siren

- indicates that the device has an error message

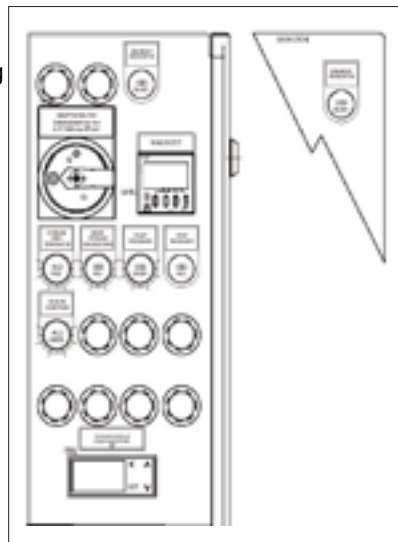


**Digital thermostat with probe EVK 401, 230V**

The display of the digital thermostat shows the current temperature of the washing liquid in the water tank. The digital thermostat is placed directly on the control panel of the switch cabinet of the device. If you want the pre-set temperature to be displayed, press the "Set" button. For setting a new temperature value of the washing liquid in the water reservoir, please also press the "Set" button. At the same time, please press the key:

- with the arrow pointing upward for entering a higher temperature,
- and
- with the arrow pointing downward for entering a lower temperature.

If the temperature of the washing liquid falls below the pre-set temperature, the heating element will be switched on automatically by means of the thermostat.

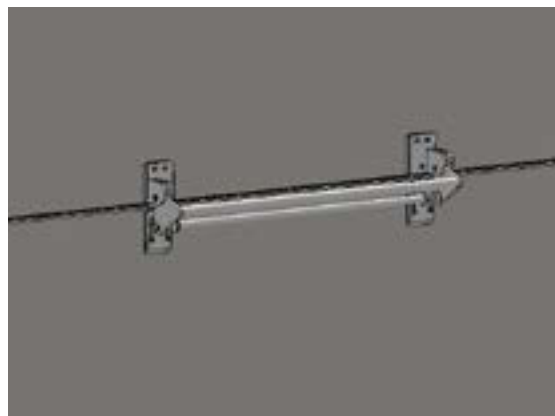


## Eccentric strap handle

The eccentric strap handle is mounted on the front of the device and facilitates fast and easy opening and closing of the lid.

### Important note!

This option is not available in combination with the lid opening 80° with pneumatic cylinder.

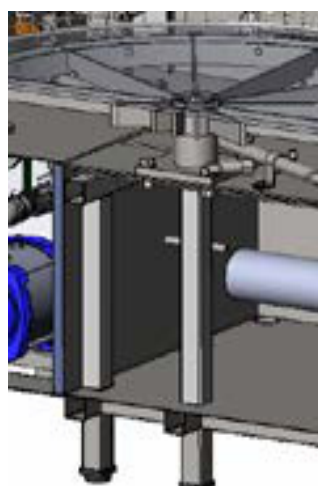
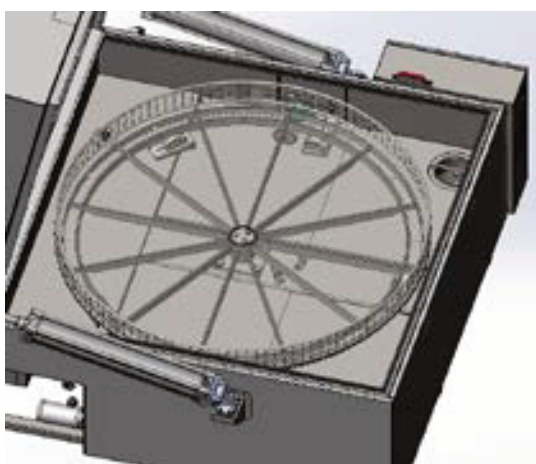


10067

## Increase of payload from 350 kg to 1000 kg

The payload is increased by means of a stronger bearing, four support rollers, and twice the number of rack struts. The devices are further reinforced by means of an additional support leg and a vertical

support profile under the bearing (only for devices with a rack diameter of 1000 mm or higher).



### Stainless-steel retaining frame

Dimensions: 945 x 280 mm for HTW 1000

### Stainless-steel retaining frame

Dimensions: 720 x 280 mm up to HTW 800

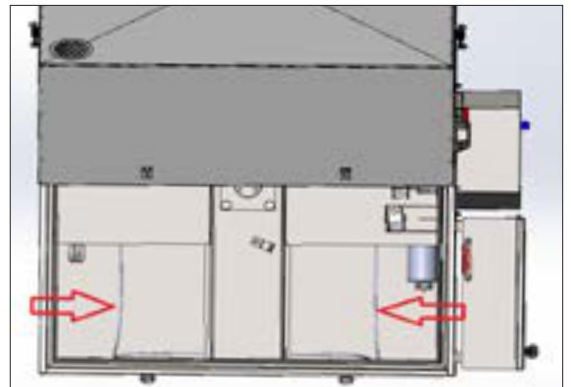
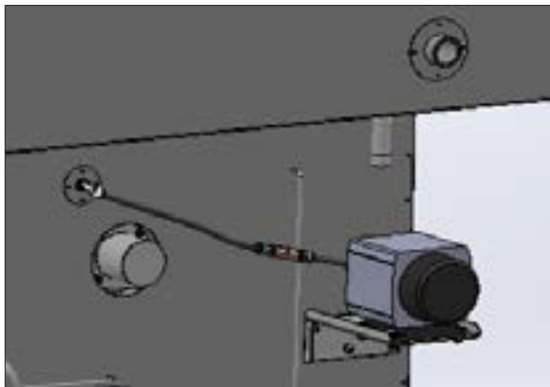
The retaining frame is manufactured from VA and serves for the optimal positioning of the components during installation.



10062

### Oxygen diaphragm compressor for oxygen supply via V2A air stones

The aerator system consists of a compressor, connection hoses, and two special spouts. It ensures the uninterrupted supply of vital oxygen to the microorganisms.



### 0002-5/a Pump control of the PPT or filter unit via the control panel with 230 V power outlet

This option is not available for third-party systems, nor if a filter unit or PPT is ordered separately.

1. Control panel
2. Power outlet



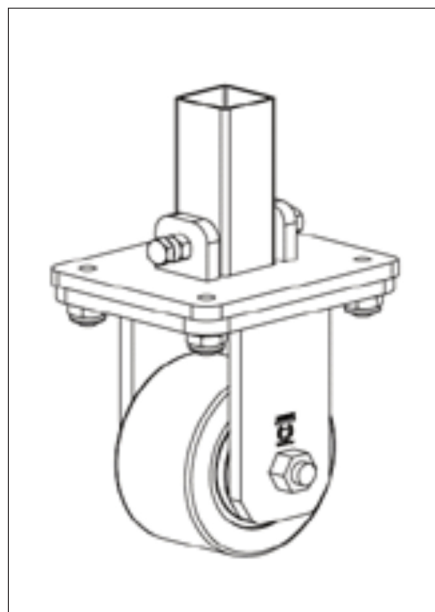
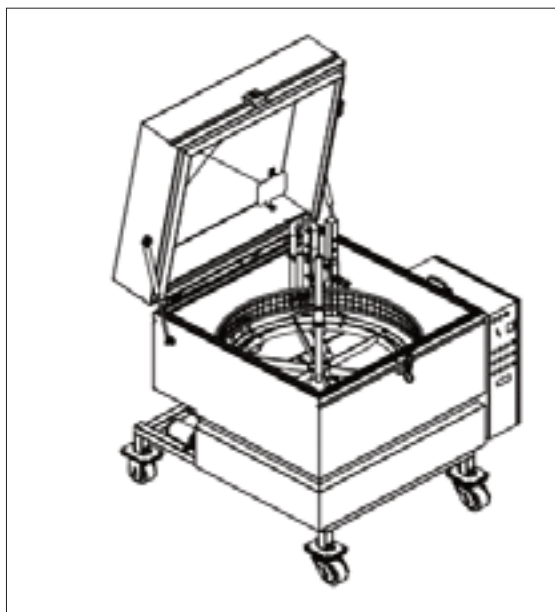


## Adapter set for the mobile version of the HTW

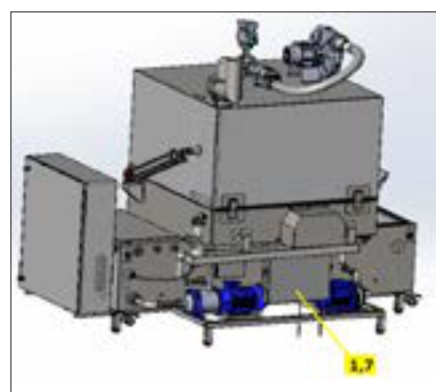
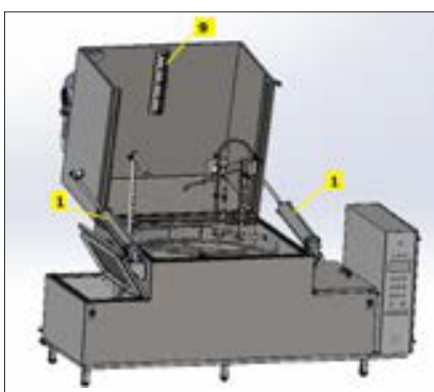
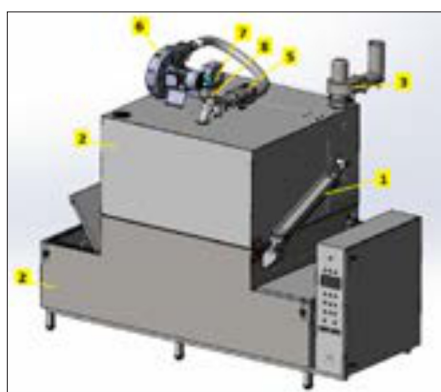
With its fixed castors and swivel castors with locking brake, the adapter set for the mobile version of the HTW device models facilitates fast and easy mobility of the device. This option has been designed in such a way that it can be mounted and dismantled at will.

### Important note!

Can only be used with devices of up to 350 kg payload and device sizes with racks of up to 1200 mm rack diameter.



## Hot-air drying for HTW Modell 1000, 1200, 1500



The hot-air drying system facilitates excellent parts drying after the washing process. This option includes:

1. Pneumatic lid opener
2. Insulation of the entire HTW body
3. Vapour extraction device
4. Siemens PLC for process control
5. Air heater
6. Air blower
7. Pneumatic actuator
8. Hot air vent
9. Air knife

## Safety key for the electronic locking of the device

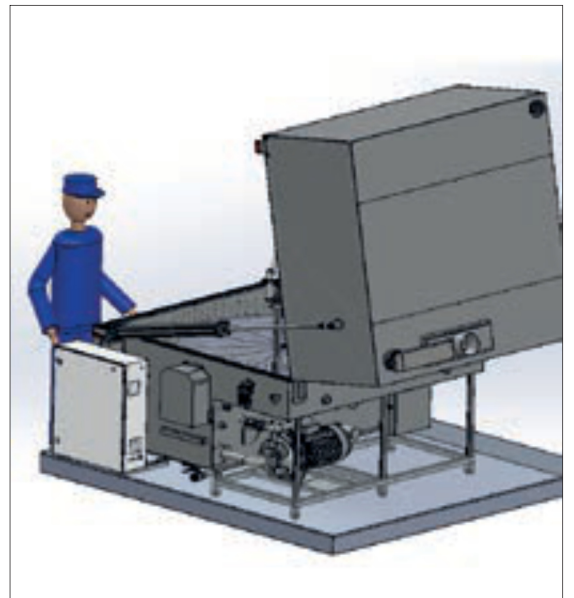
Serves to activate/deactivate the opening/closing of the device lid.



- 10075 PE-collection tray for HTW800  
1150 x 1400 x 80 mm, 10 mm thick
- 10074 PE-collection tray for HTW1000  
1300 x 1500 x 130 mm, 10 mm thick
- 10073 PE-collection tray HTW1200  
1500 x 2250 x 130 mm, 12 mm thick
- 10072 PE-collection tray HTW1500  
2500 x 2300 x 140 mm, 12 mm thick

All PE collection trays have been manufactured in compliance with the Water Resources Act (WHG). A collection tray is a safeguard measure when handling liquid substances hazardous to water.

It is designed to collect any substances leaking from the system or the storage container, thus preventing them from being released into the soil or water.



## Oxygen compressor retrofit kit

The aerator system consists of a compressor with 230 V plug, retaining plate, connection hoses, and two special V2A aerators. It ensures the uninterrupted supply of vital oxygen to the microorganisms.



## Retrofit kit with pressure regulator (compressed air)

The aerator system consists of a pressure regulator with pressure gauge, connection hoses, and two special V2A aerators. It ensures the uninterrupted supply of vital oxygen to the microorganisms.

