The Winterhalter MT Series –
Hygienic and Economical on a Large Scale
Winterhalter is big on professional kitchens – including yours

Commercial kitchens have their own rules. That is why you can only trust specialists when it comes to dishwashing technology. How good to know that you can now count on Winterhalter to help with the largest machines as well.

For more than fifty years, catering and hotel management businesses have known that Winterhalter dishwashing solutions are a byword for quality and reliability. Being the industry’s engine of innovation, we are always a step ahead, often redefining the standard, and we are carrying on this tradition with the development of our new multi-tank conveyor dishwashers. They guarantee you top-rate hygienic, economic washing with dishwashing equipment fit for even the largest of professional kitchens. This is why commercial catering operations turn first to Winterhalter when they need help. Because for us, hygienically clean dishes are not merely a matter of the dishwasher’s size, but a total concept covering machine technology, detergent products, water treatment and accessories. And our professional planning, consultancy and engineering services work with you to fulfil your specific requirements. That’s how we deliver a total dishwashing solution.
Staff canteens, hospital kitchens, retirement and nursing homes or student refectories – professional kitchens come in many forms. And the best name for hygienically clean dishwashing is Winterhalter.
Modularity as a principle – tailored to your specific requirements

Of course you have your very own ideas about how your future dishwashing solution should look. Winterhalter’s innovative machine concept will show you how to combine a maximum of individuality with a maximum of efficiency.

Based on modules and equipment options designed for practical working, the dishwashing processes of the new multi-tank rack conveyor dishwashers (MT) can be tailored to your individual business. The intelligent building-block system offers us the greatest possible degree of creative freedom to ensure we fulfilled all your requirements and at the same time provide economical dishwashing. This principle carries on into day-to-day operations, for instance, there are special programmes for washing glasses and containers, as well as additional ways to adjust the machine to different kinds of dishes and how dirty they may be. Especially innovative is the fact that all features and options are available on both the flight-type (MTF) as well as the rack conveyor dishwashers (MTR), since the only difference between them are their conveyor systems.

The modular concept and the slim dimensions of the MT Series are proven to be beneficial. They make it easier to get the machine in place and leave more room where space is at a premium.
Does the MTF or the MTR offer the right dishwashing solution? The overview in our table will help you.

<table>
<thead>
<tr>
<th>primary area of application</th>
<th>MTF flight-type dishwashing</th>
<th>MTR rack conveyor dishwashing</th>
</tr>
</thead>
<tbody>
<tr>
<td>student refectories, hospitals, larger canteens, banqueting and nursing facilities</td>
<td>medium-size hotels, restaurants, motorway service areas, staff restaurants and nursing facilities</td>
<td></td>
</tr>
<tr>
<td>Volume of dishes</td>
<td>continuous</td>
<td>irregular</td>
</tr>
<tr>
<td>Dishwashing times</td>
<td>fixed</td>
<td>variable</td>
</tr>
<tr>
<td>Dishes</td>
<td>uniform</td>
<td>non-uniform</td>
</tr>
<tr>
<td>How conveyor is loaded</td>
<td>plates, trays, bell jars, thermos systems, containers, etc. stand free on conveyor belt; glasses, cutlery, small items in racks</td>
<td>all items sorted in appropriate racks</td>
</tr>
<tr>
<td>Operating staff</td>
<td>at least two persons</td>
<td>at least one person</td>
</tr>
<tr>
<td>Organisation</td>
<td>straight loading zones and outlet zones</td>
<td>flexible inlet and outlet lengths (also with bends)</td>
</tr>
<tr>
<td>Scraping</td>
<td>as a rule, only scrapping off food residues (no manual pre-wash)</td>
<td>as a rule, additional manual scrapping using pre-wash basin outside machine</td>
</tr>
<tr>
<td>90° corner entry</td>
<td>–</td>
<td>optional</td>
</tr>
<tr>
<td>90° outlet curve</td>
<td>–</td>
<td>optional</td>
</tr>
<tr>
<td>180° outlet curve</td>
<td>–</td>
<td>optional</td>
</tr>
<tr>
<td>dishes sorted</td>
<td>after unloading, by sorting into stacks or in dispenser trolleys, etc.</td>
<td>before loading, by sorting into racks</td>
</tr>
</tbody>
</table>
Sophisticated and Unique – Enhanced Hygiene for Your Safety

Perfect dishwashing needs a well-thought-out hygiene system. This is especially true for inside the dishwasher, where the actual hygienic condition of the machine is out of sight. With the Enhanced Hygiene of its MT Series, Winterhalter is once again setting the hygiene standard for flight-type and rack conveyor dishwashers.

OptiWash – always perfect hygiene

The OptiWash equipment package makes it unnecessary to keep constantly inspecting your dishwashing results:

+ The pressure pump ensures constant, perfect rinsing – regardless of the incoming water pressure
+ The pressure and angle of the nozzles are specifically set for what you are washing and how dirty it is
+ Lateral wash arms for dishes requiring special treatment
+ Constant wash water filtration by means of the “Mediamat” system tested and proven all over the world
+ Special programmes for containers and glasses
+ Shortest possible service response times thanks to automatic remote transmission of hygiene-related data by SMS or e-mail directly to the head of the kitchen, technician or other responsible person in charge

SelfControl – the best possible control thanks to the Hygiene Log

In professional kitchens, a reliable safety system for monitoring and tracing machine operation according to hygiene criteria is essential. That is why the MT machines come with a Hygiene Log as a standard feature. This guarantees you:

+ That all discrepancies trigger an alarm
+ That all data relevant to HACCP are documented and archived

Some features shown in brochure are extras.
**AutoClean – the unique self-cleaning system**

This automatic self-cleaning system guarantees ongoing cleaning for the interior of the machine, which is essential for hygienic dishwashing:

+ The interior is rinsed out with fresh, hot water when the machine stops running
+ Rotating nozzles clean the interior roof panel
+ The patented cleaning system (DE 10 2005 050 305 B3) protects the heat exchanger against deposits

**HygieneDesign – the anatomy of the machine guarantees hygiene**

To make sure that dirt and bacteria find no nooks or crannies, smooth, seamless surfaces in all areas of the machine's interior are of the utmost importance:

+ Smooth surfaces on the inside of the doors, deep-drawn hygienic tanks and an exhaust air system without seams, corners or edges
+ 180° pivoting hygiene doors offer much better access to the machine's interior and the inside of the doors than conventional machines with sliding doors
+ The back panel in the machine's interior has no pipes or risers
+ A grease filter protects the exhaust air channel against soiling
All in your interest – the machine concept with outstanding savings potential

The MT Series has innovative solutions and technology developed to give you the best possible efficiency. All savings potentials – from effective use of employees up to economical use of detergent, rinse aid, water and energy – are exploited to the full.

**CostManagement – minimises operating costs**

The innovative concept of the MT Series reduces resource consumption and connected load, thus leading to a noticeable reduction in operating costs.

- The Mediamat wash water filtration system makes use of centrifugal forces and constantly removes dirt particles from the wash water in all pre-wash and main wash zones – this substantially reduces the detergent requirements and the wash water stays so clean that it can be used all day long – this means lasting savings on water and energy.
- A gradual rise in temperature in the triple rinse zone saves approx. 3 kWh per hour of energy, as well as wear and tear on the dishes.
- Various energy recovery systems take advantage of the machine’s heat to preheat the cold water feed.
  - a heat exchanger in the pre-wash zone saves up to 3 kWh per hour.
  - an exhaust air heat recovery Energy can lower the energy requirement by up to 12 kWh per hour.
  - installing a heat pump brings more savings, amounting to 14 kWh per hour.
- The fresh air drying zone of the MT Series only requires a heating output of 4 kW to dry dishes.

Some features shown in brochure are extras.
Temperature and humidity emission of conveyor dishwashing machines

**Temperature** of the vapour

<table>
<thead>
<tr>
<th>Machine Model</th>
<th>Absolute Humidity [g of water/m³ of air]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winterhalter MTR rack conveyor dishwasher</td>
<td></td>
</tr>
</tbody>
</table>

- **MT machines with a detergent saving device channelized part of the used rinse water right back into the pre-wash zone.** This reduces the detergent requirement by up to 50%.
- **The contents-controlled zone activation stops the zone from operating during idle periods and activates the pumps and blowers only when there are dishes in the zone.**
- **The MT Series can also be optionally equipped with a rinse water which reduces the consumption of fresh water by 25 – 30%. At the same time the demand for energy, detergent and rinsing aid can be reduced.**

**TimeManagement – reduces payroll costs**

Time is money. That is why the MT Series minimises the time needed to run and care for the machine, as well as enabling optimised use of staff.

- **Thanks to time-controlled start-up the machine can be programmed to be ready for operation when the employees arrive.**
- **The "AutoClean" automatic self-cleaning system substantially reduces the need for manual cleaning and finishes by pumping the machine empty and switching it off.**
- **The hygiene enhancing features – such as wash arms that can be removed in blocks or one at a time and deep-drawn hygiene tanks – make upkeep and maintenance that much easier.**

**FeelGood – all the best for the air in your rooms**

Humidity, heat and noise are among the primary causes of discomfort in dishwashing operations; the following features and options will help you rekindle these conditions:

- **Installing a heat pump greatly improves the air in the room, since the heat reduced air from the machine is cooled and dehumidified.**
- **The double-walled insulating paneling reduces noise and heat emissions.**
- **The contents-controlled zone activation prevents operating during idle times, and thus conserves heat and noise. Pumps and blowers are only activated when dishes in the zone.**

Some features shown in brochure are extras.

**Enhanced Convenience**

- Improved washing environment and simple controls – at your finger tips

**or Flight-Type Dishwasher? Winterhalter Rack Conveyor **

Enhanced Convenience

Improved washing environment and simple controls – at your finger tips
**Planned Stage by Stage – the Way to Your Dream Machine**

**Basic features**
- Wash water temperature between 40 °C and 50 °C (in compliance with DIN 10510) prevents starch residues from sticking
- Four-way wash water filtration system with two total coverage tank cover filters, inline pump filter and Mediamat
- Air extracted from the room to reduce humidity and aid efficiency
- Unobstructed area for unloading and shelf for setting down dishes
- Conveyor stop switch in case dishes are not unloaded in time

**Optional**
- Second and third main wash zones

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Winterhalter MT Series

Meets the most stringent hygiene requirements. Simply take a look backstage – inside the machine!
SmartTouch – intelligent and easy machine controls

Winterhalter is the first German dishwasher manufacturer to develop a multifunctional touch screen. This is entirely self-explanatory and very convenient to use:

* The most important operating functions: temperature, conveyor speed, error management, self-cleaning programme, container washing programme and glass washing programme are visible at all times.

* Symbols and animation help you go step by step through the menu – operating errors simply cannot happen. Employees can be instructed easily and in very little time.

* Three different levels of access ensure security:
  1st level: dishwashing staff can operate the machine
  2nd level: head of kitchen can access operating data safeguarded by a PIN
  3rd level: service technician can access the machine parameters safeguarded by a PIN

* Language-independent controls thanks to self-explanatory pictograms and animations.
Correct planning, sorting tables, conveyors and system design. Simple organisation and the correct tools ensure Winterhalter is able to improve the efficiency of all commercial ware wash operations.
From planning to accessories – Winterhalter gives you all-round dishwashing solutions

Perfect dishwashing operations begin with proper planning. A dishwashing system will only be a success if all aspects of the operation are considered. All processes and work flows must be understood to achieve an outstanding result. Winterhalter can vouch for this dishwashing quality – thanks to its many years’ experience as a specialist solutions provider. Only a specialist can:

+ Go through your dishwashing plans to ensure that every detail is thought through
+ Match our accessories to your specific dishwashing situation and
+ Get together with you to define the best possible work routines.

Of course, we are the right people to ask whenever you have any questions about dishwashing, and we are also happy to pass on our expertise in our training courses. This is because Winterhalter is focused on producing hygienically clean dishwashing.

1 Loading conveyor  
2 Cutlery holder  
3 Hose reel  
4 Mobile pre-soak sink  
5 Bridge with two chutes  
6 Tray stacker  
7 Tray stacking trolley  
8 Glass sorting table  
9 Flight-type dishwasher (MTF)  
10 Plate stacker  
11 Rack dispenser trolley
Zones and Accessories

Configured for a perfect fit – the building blocks for your ideal multi-tank dishwasher

**MTF – flight-type dishwashing machine**
- **Loading zone and inlet tunnel**
  - 900 / 1,100 / 1,300 / 1,500 mm
- **Inlet table and inlet tunnel**
  - 175 mm

**Machine zones for MTF and MTR**

<table>
<thead>
<tr>
<th>Pre-wash zone</th>
<th>Main wash zone</th>
<th>Rinse zone</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>M</strong></td>
<td><strong>L</strong></td>
<td><strong>M</strong></td>
</tr>
<tr>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
<td><img src="image" alt="Diagram" /></td>
</tr>
</tbody>
</table>

**MTR – rack conveyor dishwashing machine**

- 700 mm
- 1,050 mm
- 700 mm
- 1,050 mm
- 700 mm

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20
1 Dustbin with lid and wheels
2 Carrousel for dishes, with two levels
3 Inlet table with sink, splash back collection grates
4 5 tier storage rack
5 Pre-spray unit
6 Single-hole mixer tap
7 Reverse osmosis unit
8 Water softener
9 Detergent and rinse aid
10 Rack conveyor dishwashing machine MTR
11 180° outlet curve
12 Swivel-mounted outlet roller table, with end stop switch
13 3 three tier storage racks
14 Rack dispenser trolley
### Flight-type dishwashing machine MTF

<table>
<thead>
<tr>
<th>Model</th>
<th>MTF 3-2500 MM</th>
<th>MTF 3-3000 ML</th>
<th>MTF 3-3500 LM</th>
<th>MTF 4-3500 MLMM</th>
<th>MTF 4-4000 MLMM</th>
<th>MTF 4-4400 LMLMM</th>
<th>MTF 4-4400 MLMM</th>
<th>MTF 4-5000 LLMM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of dishwashing tanks in conformance with DIN 10510</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Number of dishwashing programmes</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Machine performance, theoretical*</td>
<td>1,400</td>
<td>1,800</td>
<td>2,000</td>
<td>2,200</td>
<td>2,200</td>
<td>2,500</td>
<td>2,500</td>
<td>2,800</td>
</tr>
<tr>
<td>Intensive programme (plates/hr., racks/hr.)</td>
<td>1,800</td>
<td>2,200</td>
<td>2,600</td>
<td>2,800</td>
<td>2,800</td>
<td>3,200</td>
<td>3,200</td>
<td>3,300</td>
</tr>
<tr>
<td>Standard programme**</td>
<td>2,500</td>
<td>3,000</td>
<td>3,500</td>
<td>3,900</td>
<td>3,900</td>
<td>4,400</td>
<td>4,400</td>
<td>4,500</td>
</tr>
<tr>
<td>Fast programme (plates/hr., racks/hr.)</td>
<td>2,500</td>
<td>3,000</td>
<td>3,500</td>
<td>3,900</td>
<td>3,900</td>
<td>4,400</td>
<td>4,400</td>
<td>4,500</td>
</tr>
</tbody>
</table>

### Dimensions, overall

- Machine length (without inlet tunnel, drying, loading and unloading zones) [mm]:
  - Made in Germany
  - Water safety device, Type 'AB' in conformance with EN1717
  - Master switch
  - Belt reversal
  - Maintenance interval display
  - Other equipment / features:
    - Electronic control with multi-functional Touch Screen
    - Maintenance interval display
    - Belt reversal
    - Master switch
    - Water safety device, Type 'AB' in conformance with E1717
    - Made in Germany

### Pre-wash zone

- Medium
- Large
- with detergent saving device
- with detergent and energy saving device

### Main wash zone(s)

- Medium
- Large
- Total number

### Triple rinse zone

- Integrated pump rinse
- Number of rinse arms (units)
- Total length [mm]

### Drying zone

- Medium
- Large
- eXtra Large
- Heat output, optional (depends on length of module) [kW]
- Length of module, optional [mm]

### Blowing-out zone**

- Heating capacity [kW]
- Module length [mm]

### Water consumption

- Tank capacity
- Rinse consumption** [l/h]
- inRinse (optional)**

### Enhanced hygiene consisting of:

- GSM module for remote data transmission
- Glass washing programme
- Container washing programme
- Hygienic exhaust air system with grease filter and fan
- Automatic self-cleaning system
- Mediatwash water filtration in all pre-wash and main wash zones
- Interior roof cleaning system
- Hygiene Log with data memory
- Lateral wash arms
- Cleaning system for heat exchanger
- Data interface to customer’s PC
- 180° pivoting hygienic doors
- Deep-drawn hygienic tanks
- Tanks in pre-wash zone can be emptied individually

### Efficiency enhancing consisting of:

- Exhaust air recovery Energy
- Heat pump
- Detergent saving device
- Triple rinse with temperature levels
- Double-skinned insulated paneling (Stainless steel rear cover)
- Contents-controlled zone activation
- Time-controlled start-up
- Osmosis water saving system
- Pressure pump for fresh water rinse
- inRinse (optional)**

### Other equipment / features:

- Electronic control with multi-functional Touch Screen
- Maintenance interval display
- Belt reversal
- Master switch
- Water safety device, Type ‘AB’ in conformance with E1717
- Made in Germany

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* Plate performance MTF in relation to standard conveyor belt
** In conformance with DIN 10510 for professional dishwashing in conveyor machines
** Not possible in machines with heat pump or feedwater temperature > 40 °C
<table>
<thead>
<tr>
<th>Rack conveyor dishwashing machine MTR</th>
<th>5-5800</th>
<th>5-6200</th>
<th>2-115</th>
<th>2-130</th>
<th>3-155</th>
<th>3-170</th>
<th>4-210</th>
<th>4-240</th>
<th>4-250</th>
<th>4-300</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTF</td>
<td>LLMLM</td>
<td>LLMLM</td>
<td>MMM</td>
<td>MMM</td>
<td>MLM</td>
<td>MLM</td>
<td>MMMM</td>
<td>MMLM</td>
<td>MLLL</td>
<td>MLLM</td>
</tr>
<tr>
<td>MTR 2-115</td>
<td>5 - 5800</td>
<td>5 - 6200</td>
<td>1,390</td>
<td>1,390</td>
<td>1,390</td>
<td>1,390</td>
<td>1,390</td>
<td>1,390</td>
<td>1,390</td>
<td>1,390</td>
</tr>
<tr>
<td>MTR 2-130</td>
<td>175</td>
<td>175</td>
<td>175</td>
<td>175</td>
<td>175</td>
<td>175</td>
<td>175</td>
<td>175</td>
<td>175</td>
<td>175</td>
</tr>
<tr>
<td>MTR 3-155</td>
<td>1,910</td>
<td>1,910</td>
<td>1,910</td>
<td>1,910</td>
<td>1,910</td>
<td>1,910</td>
<td>1,910</td>
<td>1,910</td>
<td>1,910</td>
<td>1,910</td>
</tr>
<tr>
<td>MTR 3-170</td>
<td>2,010</td>
<td>2,010</td>
<td>2,010</td>
<td>2,010</td>
<td>2,010</td>
<td>2,010</td>
<td>2,010</td>
<td>2,010</td>
<td>2,010</td>
<td>2,010</td>
</tr>
<tr>
<td>MTR 4-210</td>
<td>4,100</td>
<td>4,100</td>
<td>4,100</td>
<td>4,100</td>
<td>4,100</td>
<td>4,100</td>
<td>4,100</td>
<td>4,100</td>
<td>4,100</td>
<td>4,100</td>
</tr>
<tr>
<td>MTR 4-240</td>
<td>5,800</td>
<td>5,800</td>
<td>5,800</td>
<td>5,800</td>
<td>5,800</td>
<td>5,800</td>
<td>5,800</td>
<td>5,800</td>
<td>5,800</td>
<td>5,800</td>
</tr>
<tr>
<td>MTR 4-250</td>
<td>6,000</td>
<td>6,000</td>
<td>6,000</td>
<td>6,000</td>
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<td>6,000</td>
<td>6,000</td>
<td>6,000</td>
<td>6,000</td>
<td>6,000</td>
</tr>
</tbody>
</table>

*Under ideal conditions. The fresh water consumption depends on the on-site conditions. The precise adjustment takes place during commissioning.

**Only possible in combination with the following drying zone M

***Not possible in combination with heat pump, detergent saving devices, osmosis water saving device or high temperature variants

O = optional

● = standard

– = not available

Technical specifications are subject to change without notice