High pressure wash-out system
The Pemat high pressure wash-out systems PHR is a modern technique with rotating spray heads. The Pemat 3D spray head system has proven its outstanding efficiency in many different industries under extreme conditions.

For many years, we have installed high pressure wash-out systems on our different types of mixers.

The 3D rotation of the spray heads guarantees an optimal cleaning at low water consumption, which reduces operation costs at a minimum.

The spray heads are fed by a water and dust tight piston pump. The pump, the valve unit and the float chamber (200 l) are mounted on a frame. All parts in contact to the medium are made of inoxydable material. On request, operation of the pump is possible either by push-button or integrated in the plant control.

In case of frost, water supply can be interrupted manually and furthermore it would be possible to blow out the piping by compressed air in order to avoid damages to the unit.

On request, this process could also be made automatically.
PHR High pressure wash-out system

Main Advantages of Pemat wash-out systems

- Optimal cleaning effect
- Due to the design of the Pemat wash-out unit a permanent buffer of 200 litres water is available
- Longer life time of the mixer
- Improved working conditions for the plant staff
- Reduced maintenance costs as a result of lower water consumption compared to manual cleaning
- Longer utilisation of the plant due to reduced cleaning and maintenance time

- The standard unit includes a manual valve allowing in case of frost to blow out the water from the pump and piping by use of compressed air; additionally an air bleed cock has been installed
- The incorporation of automatic frost control is given on request
- The Pemat wash-out unit is designed on a modular base, for adaption in all plant situations.
- It would be possible to install the Pemat wash-out system on any mixer, bucket-conveyor etc.

Economical companies have the sensation for high pressure wash-out system. Pemat, has the technical equipment.
The cleaning process can be started either manually by push-button or automatically when integrated in the plant control.

The attached table indicates the number of spray heads for each model. In the standard layout up to 4 spray heads can be operated at the same time. To achieve optimal cleaning effects all spray heads are activated simultaneously, thus to minimize the cleaning cycle.

On wash-out systems with more than 4 spray heads they are activated alternatively. In that case a maximum water supply of 48 l/min at minimum 3 bars pressure is required. The operating pressure of our system is maximum 120 bars.

Hereafter you may find the main components of the Pemat high pressure wash-out system.

The Pemat high pressure wash-out systems mainly consisting of:

1. High pressure pump unit
2. Distribution valve
3. Ball valve electrically controlled
4. Spray head
5. Hand lance
6. Ball valve with L-boring electrically controlled
7. High pressure solenoid valve

A. Water inlet from main supply
B. Air inlet
Some outcomes impress once.

Specials always

High pressure wash-out system at a Pemat Pan mixer Type PM

1. Spray Head 1
2. Spray Head 2
3. Hand lance
4. Pump unit
5. Electric motor
6. Frame
7. Manometer
8. Main switch
9. Water tank
10. Water inlet
11. Float valve
12. Ball valve
13. Distribution pipe
14. Flexible pressure tube

High pressure wash-out system at a Pemat Planetary mixer Type PMP

1. Spray Head 1
2. Spray Head 2
3. Hand lance
4. Pump unit
5. Electric motor
6. Frame
7. Manometer
8. Main switch
9. Water tank
10. Water inlet
11. Float valve
12. Ball valve
13. Distribution pipe
14. Flexible pressure tube
The economical operation of the automatic wash-out system on one side and, environmental aspects on the other side, are the two essential factors to attracting your interest in our material.
## Economics’ calculation in the ready-mix industry:

- **Operation of mixer 8 hours per shift**
- **Cleaning by customer’s staff**

### Manual cleaning:

<table>
<thead>
<tr>
<th>Cleaning time/day</th>
<th>cost of man power/day</th>
<th>Over time</th>
<th>Water consumption/day</th>
<th>Cost of cleaning per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 cleanings each 1 hour i.e. working time 2 hours</td>
<td>2 working hours each 22,00 EUR</td>
<td>to assure similar output of the mixer, in many cases cleaning is made after regular working time, this means 2 extra hours</td>
<td>0,004 EUR /liter x 1000 liters</td>
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### Cleaning by automatic wash-out system:

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<td>2 cleanings each 10 minutes i.e. 20 minutes</td>
<td>0,5 working hours each 22,00 EUR</td>
<td>to assure similar output of the mixer, only 0,5 extra hours are necessary</td>
<td>0,004 EUR /liter x 500 liters</td>
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### Economics in the ready-mix industry for 2 cleanings per day:

- **Each day**
- **Per year (at 220 working days)**

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**Technical Datas high pressure wash-out system – Planetary mixer**

- **Model**
- **Number of spray heads**
- **Number of pump unit kW**
- **Number of pump unit kW**
- **Cleaning time with pump min.**
- **Cleaning time with 2 pumps min.**
- **Water consumption per cycle**
- **Dry filling max. litres**
- **Dry filling max. kg**
- **Mixing pan diameter mm**

### Additional Information:

- **Operation of mixer 8 hours per shift**
- **Cleaning by customer’s staff**
- **Manual cleaning**
- **Cleaning by automatic wash-out system**
- **Economics in the ready-mix industry for 2 cleanings per day**
- **Economics in the prefab industry for 4 cleanings per day**
- **Technical Datas high pressure wash-out system – Planetary mixer**

### Additional Notes:

- **PHR High pressure wash-out system**
- **Cleaning**

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**In the Ready-mix industry**, mixers are recommended to be cleaned twice a day (at mid-day and end of shift). Each cleaning takes about 1 working hour.

**In the Prefab industry**, mixers should be cleaned several times a day, whenever there is a change of product or maybe colour. In continuous production process, it is recommended to clean the mixer even within the shift, in order to avoid too much deposit of concrete.

Here, the economics calculation is based on 4 wash-out process a day.

Cleaning of the mixer by the automatic wash-out system takes max. 10 minutes, which represents a time saving of about 50 respectively 200 minutes per day and, consequently this time can be added to your production process.

Water consumption of the automatic high pressure wash-out system moreover is about 40% inferior to manual cleaning.
If our high pressure wash-out system has convinced you and you are searching for further solutions we gladly present you high-quality alternatives from our product range. Our offer includes a wide range of mixers (planetary mixer, pan mixer, conical mixer, rotating pan mixer) to meet your requirements, skip hoist and complete batching plants.

As you can see we are ready for everyone future venture and would be pleased to contribute to your next project. On Pemat you can rely!