

Pioneering for You

**wilo**<sup>®</sup>

*Product overview*

## **Wilo TRE 312**

High efficiency submersible mixers with two-stage planetary gear



## Count on maximum effectiveness.

Even in energy-intensive continuous duty.



### Biological cleaning defined cost-effectively.

Intake quantities to wastewater treatment plants can vary seasonally or due to weather conditions. In the TRE 312 series, Wilo has developed a highly efficient submersible mixer that is ideally suited to sludge activation using the MBBR method. The small propeller diameter means it can also be used in smaller activated sludge tanks. The new mixer ensures effective suspension and flow generation in the continuous biological cleaning process. This makes the Wilo TRE 312 an ideal addition to the existing product range of slow-running Wilo submersible mixers, complementing the existing range perfectly.

### Benefits you can count on.

- Operational reliability. Clogging-free thanks to backward-curved incoming flow edge.
- Long service life. Low-wearing propeller due to abrasion-resistant plastic.
- Efficiency. Low energy and operating costs thanks to optimum thrust figure due to innovative blade geometry and energy-efficient IE3 motor.
- Smooth operation. Even at high thrust ranges and with unfavorable inflow conditions.

### Rely on sophisticated technology.

The Wilo TRE 312 has a propeller made of the low-wearing plastic PA 6C in solid material. This is pre-assembled on a newly developed stainless steel hub. The propeller has 3 blades with a nominal diameter of 47 inches (120 cm). The mixer is reduced by a two-stage planetary gear whose planetary gear speed can be replaced to ensure optimum configuration to the system parameters. The gearbox bearings are dimensioned extra-large to absorb the resultant thrust. The submersible motor and its oversize motor bearing and IE energy efficiency class (based on IEC 60034-30) ensure maximum efficiency in the mixer.

### Technical data:

- IE3 motor technology
- Power connections: 3~ 460v
- Propeller diameter 47 in (1.200 mm)
- Propeller speed 96 to 155 l/min
- Thrust 97–526 lbf (430–2340 N)
- Operating mode: Continuous duty (S1)
- Max. immersion depth: 65 ft (20 m)

Amortization  
period:  
about 1 year

General conditions		
Number of basins	3	
Submersible mixers per basin	2	
Running time	10 years	
Comparison of mixers:		
Submersible mixer	TR 90-2.23-6/16	TRE 312.144-4/17
Nominal propeller diameter	35.5 in (900 mm)	47 in (1200 mm)
Propeller speed	230 rpm	144 rpm
Thrust	2000 N	2050 N
Power consumption P1.1	6.6 hp (4.9 kW)	4.7 hp (3.5 kW)
Energy cost saving calculation		
Difference in power consumptions	P1.1 (TR 90-2) – P1.1 (TRE 312)	1.9 hp (1.4 kW)
Energy saving per basin	1.9 hp (1.4 kW) × 2	3.8 hp (2.8 kW)
Annual operating time in hours	365 d × 24 h	8.760 h
Energy costs		\$ 0.12/kWh
Energy cost saving per basin/year*	8,760 h × US\$ 0.12/kWh × 2.8 kW	\$ 2,943
Energy cost saving for 3 basins/year*	\$ 2,943 × 3 units	\$ 8,829
Total energy cost saving for system*	\$ 8,829 × 10 years	\$ 88,290
Energy cost saving calculation		
Investment costs for the TR 90-2.23-6/16	6x \$ 9,166	\$ 55,000
Investment costs for the TRE 312.144-4/17	6x \$ 11,466	\$ 68,800
Extra cost of IE3 energy efficiency class (based on IEC 60034-30)		\$ 13,800
Energy cost saving for 3 basins/year*		\$ 8,829
Amortization period for extra costs**		19 months

\* Given constant energy costs of US\$ 0.12/kWh.

\*\* Only the direct energy costs were included in the amortization calculation.

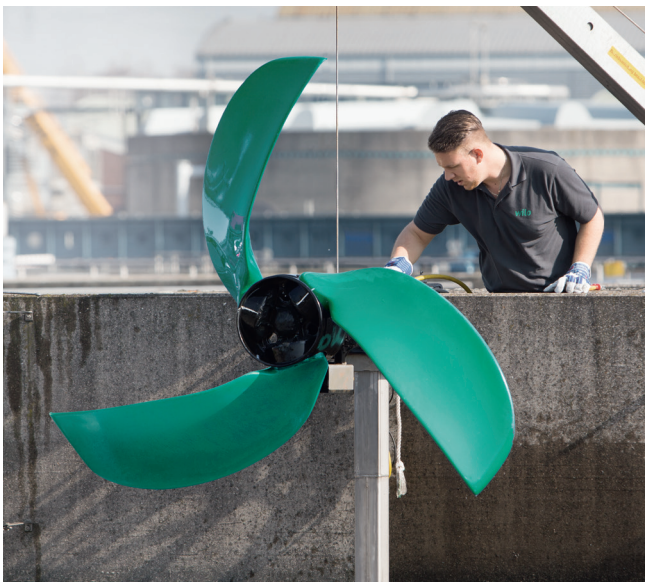
### Wilo TRE 312. Saving costs – even in continuous duty.

The newly developed submersible mixer enables you to save energy costs.

The new blade geometry and the highly efficient submersible

motor ensure outstanding energy efficiency – even in energy-intensive continuous duty. And as the annual overall saving shows, the thrust required here can also be cost-effective.

## Try & Buy. Try it out, then decide.



At Wilo, giving you the best advice means we want you to be 100% satisfied with our submersible mixer before you buy. What beats testing it yourself? This is why we offer a unique service: Try & Buy.

Before you buy, try out the chosen Wilo submersible mixer, no strings attached. Experience the quality, ease of installation and efficiency for yourself.

Make the most of “Try&Buy”. Contact us today!



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