TURBOSTAR Mixer

Efficient Mixing

Air
Water
Biosolids
General

The TURBOSTAR Mixer is used in wastewater lagoons, equalization basins and activated sludge tanks. It provides for directed circulation and thorough mixing. As the electrical motor is placed above the water surface the TURBOSTAR Mixer is an exceptionally sturdy and reliable machine.

Description

The TURBOSTAR Mixer essentially consists of an air-cooled electric motor in mounting position B 35, a coupling, shaft and three-blade propeller. The shaft rotates at motor speed inside a protective housing, which is flange-mounted to the motor. The unit is foot mounted on a float assembly or a mounting bracket. For vertical installation the TURBOSTAR Mixer can be fitted with motors in mounting position B5.

Materials and Design

TURBOSTAR Mixers are intelligently but simply designed and very sturdy. They are manufactured from non-corrosive materials. Standard material for the shaft, the propeller and all small parts is stainless steel AISI 304 which is appropriate in most cases. If required, stainless steel AISI 316Ti is available as well. The protective housing is made of glass fibre reinforced plastics.

The drives are a.c.-motors supplied by well-established manufacturers in the European Community. They are highly efficient, adequately rated and equipped with permanently lubricated grooved ball bearings. The motor housings are made of high-quality cast iron or aluminium with an additional coat of protective paint.

The shaft is connected to the motor by means of a special conical coupling which can easily be mounted and disassembled. This precision-turned component is produced on numerically-controlled machines. An extruded seamless steel tube with tight production tolerances is used for the shaft. Dynamical balancing of coupling and propeller in conjunction with the motor ensures smooth operation. The immersion section does not contain any seals or bearings. Consequently, TURBOSTAR Mixers are almost maintenance free.
Wide-Ranging Applications

The TURBOSTAR Mixer is an outstanding unit for effective mixing not only of municipal and industrial wastewater but also of sewage sludge in holding tanks. In addition, the TURBOSTAR Mixer is ideal for upgrading, retrofitting or replacing mixing equipment no longer operating at an optimal level.

In storm water tanks and applications where close to the ground sediments have to be swirled up the submersible TURBOSTAR Mixer is the machine of choice. For applications with the need of vertical mixing the TURBOSTAR Mixer can be fitted with motors in mounting position B5 (please ask for separate leaflet).

Installation

All TURBOSTAR Mixers can be handled easily thanks to their low weight. Due to easy installation, the operation of the treatment plant will not be interrupted and no basin has to be emptied when the mixers are installed.

In lagoons or equalization basins TURBOSTAR Mixers are installed on sturdy flotations kept in position by mooring cables.

Flotations for TURBOSTAR Mixers essentially consist of at least two pontoons and a hot-dip galvanized framework.

In concrete basins with constant water level the TURBOSTAR Mixer is usually fixed with mounting brackets to a bridge or a side wall. The mounting brackets are made of hot dip galvanized steel and customized to the tank dimensions in each individual case.
The TURBOSTAR Mixer: Advantages

- Self cleaning propeller
- High-efficiency mixing and circulation
- Negligible noise level
- Easy handling and mounting due to low weight
- High-quality floatations, trouble-free installation
- Almost maintenance free

Technical Data

The TURBOSTAR Mixer TS is available in all IEC motor sizes from 2.2 kW to 22.0 kW.

Standard motors are 230/400 V resp. 400/690 V, 50 Hz, 3-phase. Other voltages and 60 Hz are available. Motor speed is ≤ 1,500 r.p.m. at 50 Hz, resp. ≤ 1,800 r.p.m. at 60 Hz.

<table>
<thead>
<tr>
<th>TURBOSTAR Type</th>
<th>Nominal Power</th>
<th>Nominal Current</th>
<th>Nominal Speed</th>
<th>Length</th>
<th>Weight</th>
<th>Immersion Depth</th>
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<tr>
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</table>

Data for TS at 45° and standard motors 400 V/50 Hz. Other voltages, 60Hz as well as larger units on request. The data are subject to technical change.