



## **Maxirotor KD 31**



**Danish Wastewater  
Equipment**

# Maxirotor KD 31



Sewage treatment plants world-wide have different aeration systems. There are different types and functions of aeration systems resulting also in variations with regard to efficiency and investment costs.

The Maxirotor KD 31, which is a surface aeration system, is one possibility to achieve efficient oxygen supply in sewage water.

The advantages are

- A strong and simple construction
- A long working life
- Simple operating methods
- Low service and maintenance costs
- Low energy requirements

The Maxirotor KD 31 is available in four lengths and with single or two-speed gear motors.

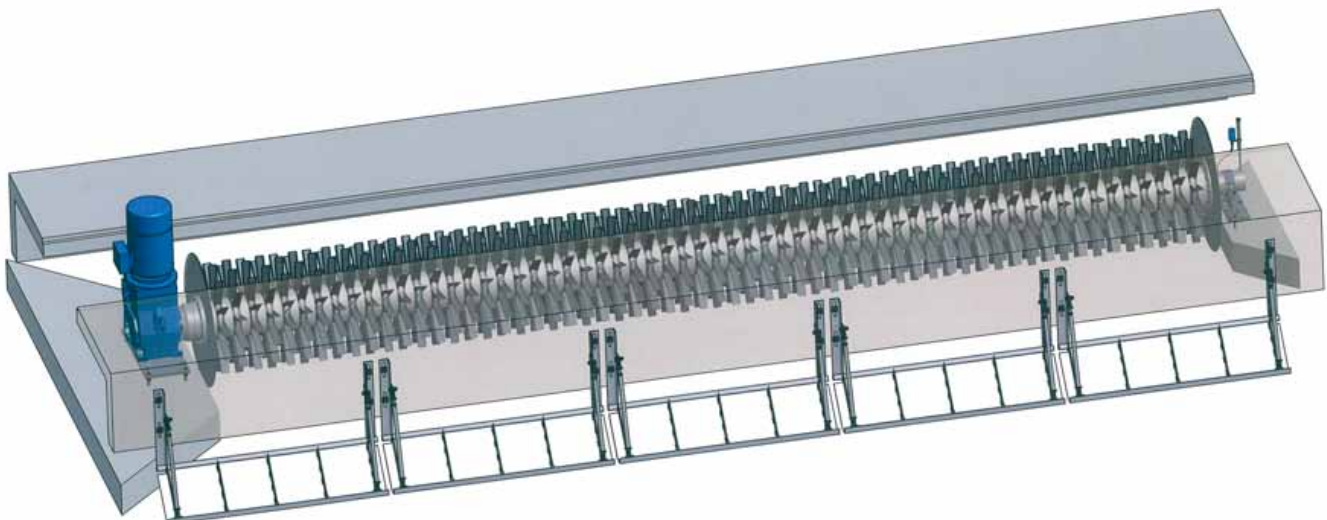
The gear motor is a compact, oiled motor and is equipped with an equalising reservoir. The output shaft is provided with mechanical shaft seal. It is connected to the rotor shaft via a flexible torque coupling with rubber

insertion. The coupling evens out peak loads during start/stop and absorbs vibrations from operation.

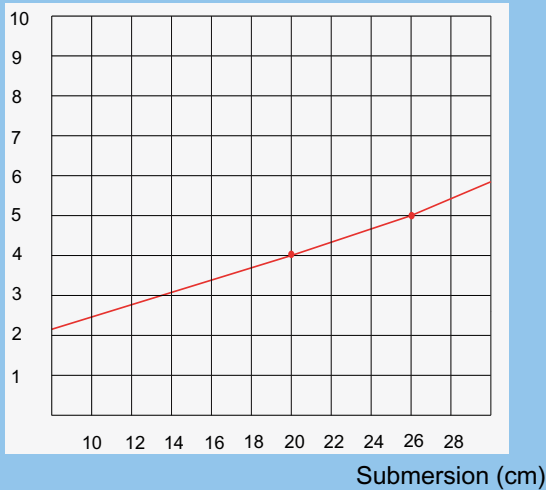
The rotor shaft is manufactured from St.52-3 which is surface treated with 3 layers of epoxy paint in order to obtain optimum corrosion resistance. Furthermore, end plates are fitted at both ends in order to prevent splashing on gear motor and end bearing.

Blade material is either hot-galvanised steel, stainless steel or plastic according to customer requirements. The blades are mounted on a rubber layer in order to protect the surface treatment of the rotary tube. At the opposite end of the gear motor, the rotor shaft has oiled roller bearings that are built into a strong bearing housing. The bearing housing is equipped with an oil filling pipe with oil gauge and drain screw. The shaft from the bearing housing is fitted with mechanical shaft seal.

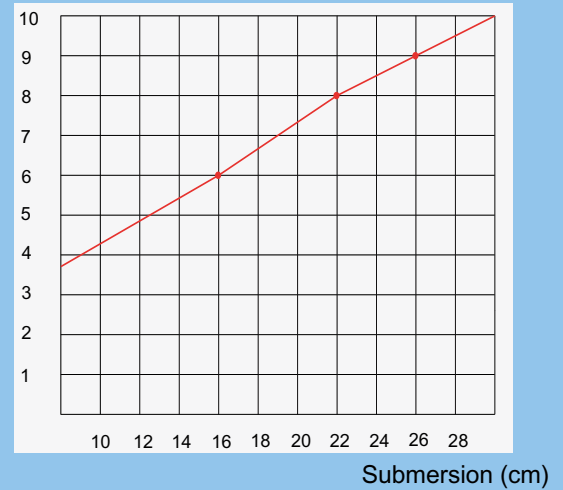
All bearing housing parts are easily interchangeable including mechanical shaft seal. Seals and bearing are all standard parts, type SKF or similar.



Power consumption (kW/m rotor)



Oxygen output (kg O<sub>2</sub>/m rotor/hour)



The above picture shows rotor blade material qualities. Shown from left to right are hot-galvanised – stainless steel (AISI304) – acid-resistant (AISI316) – and glass fibre reinforced plastic blades.

In co-operation with leading gear manufacturers, KD rotor standard version can be delivered with either UNIMAX gear from Desmi A/S (Denmark), or with block gear from Nordgear (Germany).

Both gear types are specially made for operation in an extremely aggressive environment to meet the strict demands for surface treatment and shaft seals.

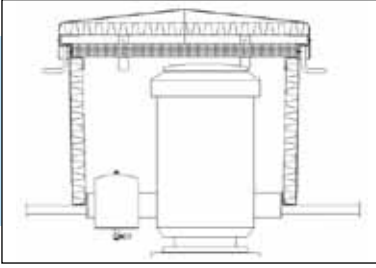
Motors can be delivered as one or two speed motors at your request. Standard motors are delivered with standstill heater and thermal sensor.

Gear and end bearing have been given the same surface treatment as the rotor shaft.



Type	Effective length	Number of blades	Power (kW)	Torque (Nm)	Rotor (rpm)
KD 31-4500 S	4.5 m	360	22	2883	73
KD 31-4500 D	4.5 m	360	16 / 23	3165	48 / 73
KD 31-6000 S	6.0 m	480	30	3928	73
KD 31-6000 D	6.0 m	480	20 / 30	3951	48 / 73
KD 31-7500 S	7.5 m	600	37	4828	73
KD 31-7500 D	7.5 m	600	24 / 36	4738	48 / 73
KD 31-9000 S	9.0 m	720	45	5872	73
KD 31-9000 S	9.0 m	720	55	7195	73
KD 31-9000 D	9.0 m	720	30 / 45	5887	49 / 73

# Accessories



A sound absorbing cap reduces noise from the gear motor. It consists of a steel frame lined with a glass fibre plate and is provided with holes for airing of motor. On the inside, the sound absorbing cap is insulated with special sound absorbing plates manufactured from a synthetic material.



Guide plates force water current and oxidation downwards enabling oxidised water and air bubbles to mix with the subjacent water. The guide plates are made of pressure treated wooden planks mounted on galvanised steel fittings.



An aerosol shield made of fibre glass enables encapsulation of some of the aerosols that are liberated by air bubbles rising to the surface after the rotor.

An aluminium cover is used on the ramp over the Maxirotor. The cover consists of prefabricated cassettes with non-skid floor plate surface.



The oil pump KD31-OP facilitates regular change of oil considerably. The oil is pumped out of the gearbox and the end bearing by means of a suction pipe. The oil is then pumped into another container thereby avoiding oil slick and oil pollution. The pump is operated by pressure air and power supply is, therefore, not required as the pump can be operated by e.g. a mobile compressor. All parts are manufactured from oil-resisting steel.