

EnduroDry

Submersible Pumps for Sewage and Wastewater with Cooling Jacket



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EnduroDry Submersible Pumps for Sewage and Wastewater with Cooling Jacket

Discharge Flange : DN 80 DN 200

Operating Pressure : 10 Bar

Operating Temperature : Up to 40 °C

Speed Range : 1000 - 3000 rpm

Flow Range : 30 – 900 m³/h

Pumping Height Range : 10 – 75 m



Areas of Application

Groundwater supply and well applications,

Industrial water circulation and process water applications,

Transportation of liquids containing sludge, fibres, and solid particles,

Construction, infrastructure, and drainage systems,

Wastewater treatment plants and sewerage applications.

Shaft Properties

The rotor shafts used in EnduroDry series pumps are manufactured using AISI 420 stainless steel material as a standard. The shafts are manufactured in our modern machines and made more precise with fine grinding. Thus, the blade and pump impeller are designed to deviate minimally on the same axis. They can be manufactured using different materials depending on the area of application and customer requirements.

Bearing

The EnduroDry series pumps utilise double-row and single-row ball bearings to balance axial and radial loads.

Design Features

The EnduroDry series of submersible pumps with cooling jackets features a new generation of pump solutions developed for high performance and nonstop operation under challenging conditions.

The innovative motor design with a cooling jacket keeps the motor at its optimum temperature. This provides both a long service life and outstanding energy efficiency. The cooling jacket integrated into the pump body effectively cools the motor by circulating water around it. This allows the pump to operate safely even at low flow rates or in confined spaces.

EnduroDry series submersible pumps are designed and manufactured in accordance with the EN 12599 standard.

User and motor safety are prioritized through the use of an asynchronous motor with H-class insulation, available in 2-, 4-, or 6-pole configurations, featuring IP 68 protection and IE3 efficiency class in accordance with EN 60529.

Special impeller design and the ability to pump different types of wastewater based on impeller structure allow for applications in many areas.

The durable material structure and the coating applied to surfaces in contact with the fluid provide long-term use against corrosion and wear.

The helical packing box adopts an innovative design, protects the mechanical seal by keeping solid particles in the wastewater away from it, and offers a long service life.

The electrode system is used against the water leakage caused by a worn mechanical seal or other reasons. A thermistor is used to protect the motor against overheating.

The pump casing allows easy access to and inspection of the impeller by removing the cover in the suction area beneath the casing, without removing the impeller from the motor casing. The distance between the cover and the volute casing can be adjusted using the adjustment screws located on the cover. Adjusting the clearance caused by wear using adjustment bolts ensures that the distance between the impeller and the casing/cover can be adjusted, thereby maintaining the pump's cutting and shredding efficiency at all times and preventing efficiency losses.

Sealing Applications and Cooling Water Circulation

The EnduroDry series pumps feature a double mechanical seal with SiC surfaces for more reliable sealing.

The first seal prevents the pumped fluid from leaking into the coolant. The second seal prevents the coolant from penetrating the blade-stator block.

The coolant is composed of a glycol-water mixture.

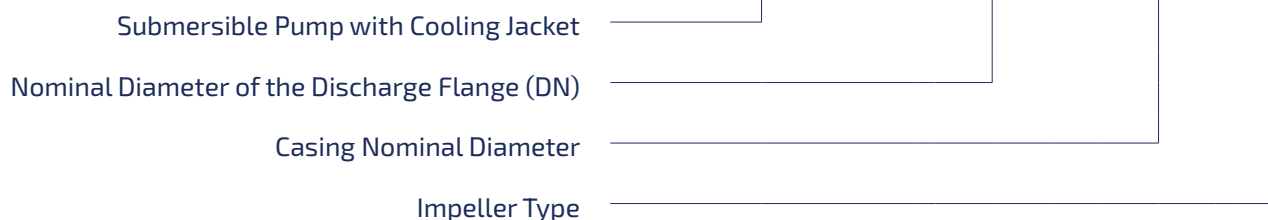
A second impeller made of stainless steel is located in the interface of the double mechanical seal structure to allow the coolant to circulate through the motor body.

In addition to the two mechanical seal systems operating independently of one another, a cartridge-type seal system can also be installed on request.

For the selection of mechanical seals and O-rings when operating with liquids other than water, please consult Masdaf.

Pump Coding

EnduroDry X - X X



Discharge Flange DN: 80 / 100 / 150 / 200 **Casing Nominal Diameter:** 250 / 315 / 400 / 500 **Impeller Type:** P / D / X

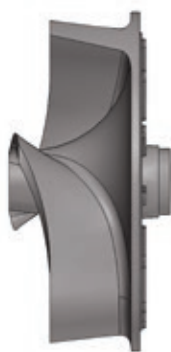
D-Type Double-Bladed Impellers



These types of impellers are designed for liquids that contain sludge and solid particles up to a certain size, but no fibres, gas, or air. The symmetrical design allows for vibration-free, balanced operation.

- Screened sewage
- Mechanically treated sewage
- Industrial wastewater
- Activated Sludge
- Floodwater

P-Type Grinder Non-Clogging Type Impellers



The EnduroDry series of submersible sewage and wastewater pumps, featuring a shredder design, can grind fibres in liquids and transport them to the system. This prevents clogging in EnduroDry submersible pumps.

The shredder impellers are designed to operate under challenging conditions. The shredder impellers are manufactured from steel that is resistant to corrosive effects and mechanical impacts, and are made resistant to wear and tear even under the most challenging operating conditions following a heat treatment process.

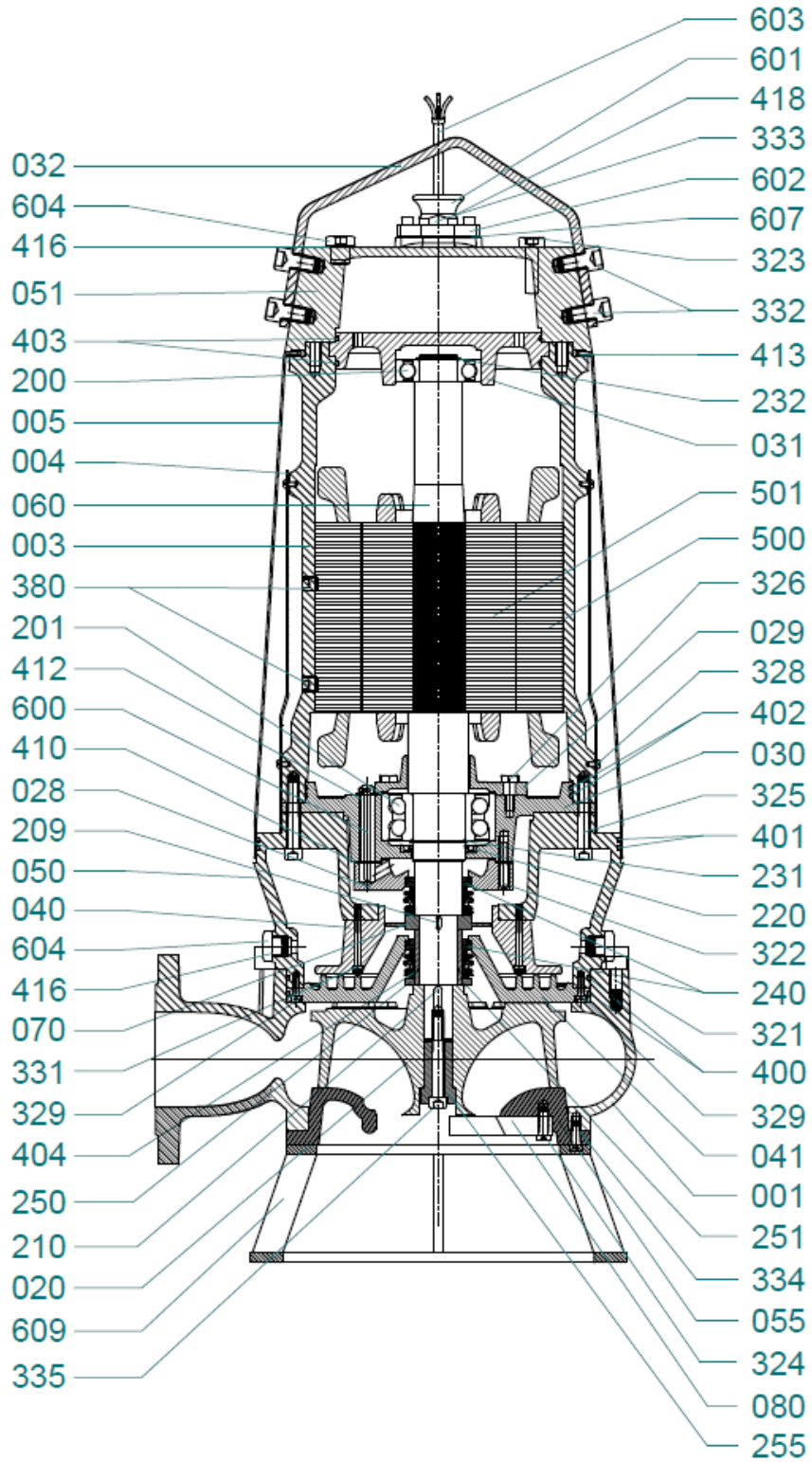
X-Type Vortex Impellers



In this type of impeller, fluid transfer is achieved by the vortex flow in front of the impeller. The liquids are directed to the discharge flange by minimising contact with the impeller. These types of pumps are suitable for pumping long fibers (hair, yarn, etc.), small solid particles, and liquids containing a certain amount of gas or air

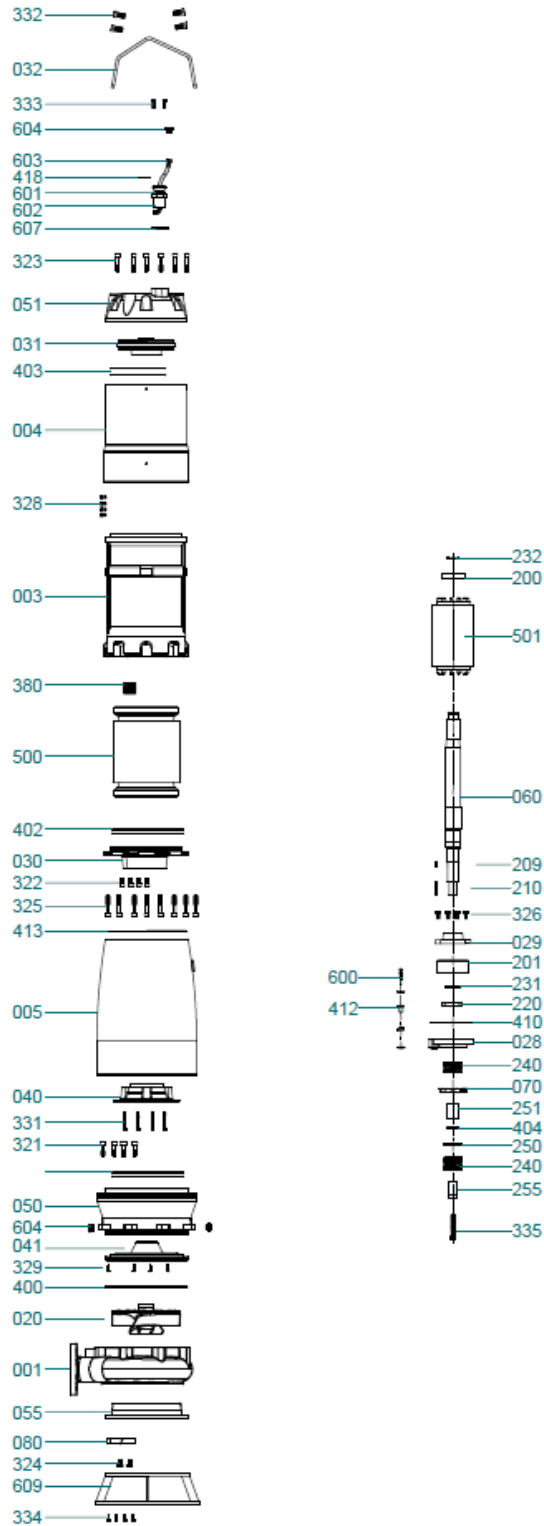
- Activated sludge
- Sludge heated during the treatment process
- Wastewater containing hair, fibers, and similar materials.
- Raw sewage

Cross-Section Drawing and List of Parts



Part No	Part Name	Part No	Part Name
609	Insert Foot	321	Socket Head Bolt
607	Gland Gasket	320	Hexagon Bolt
604	Plug	255	Clamp Bushing (Impeller)
603	Cable	251	Mechanical Seal Bushing
602	Gland	250	Mechanical Seal Pressure Bushing
601	Cable Holder Clamp	240	Mechanical Seal
600	Electrode	232	Ring
501	Rotor	231	Ring
500	Stator	220	Oil Seal
418	Gland Packing	210	Key
416	Plug Gasket	209	Key
413	U-Profile Gasket	201	Double Row Angular Contact Ball Bearing
412	Electrode Gasket	200	Single Row Fixed Ball Bearing
410	Cylinder Head Gasket for Bearing Plate	80	Guiding Breakwater
404	O-Ring	70	Circulation Impeller
403	O-Ring	60	Shaft
402	O-Ring	55	Body Cover
401	O-Ring	51	Top Cover
400	O-Ring	50	Adapter
380	Set-screw	41	Maze Plate
370	Clamp Washer (Impeller)	40	Maze Cover
334	Socket Head Bolt	32	Carrying Handle
333	Socket Head Bolt	31	Top Bearing House
332	Hexagon Bolt	30	Bottom Bearing House
331	Socket Head Bolt	29	Top Bearing Cover
329	Socket Head Bolt	28	Bottom Bearing Cover
328	Socket Head Bolt	20	Impeller
326	Hexagon Bolt	5	Cooling Jacket, Outer
325	Hexagon Bolt	4	Cooling Jacket, Inner
324	Socket Head Bolt	3	Motor Body
323	Socket Head Bolt	1	Volute Casing
322	Hexagon Bolt		

Exploded View and List of Parts



Part No	Part Name	Part No	Part Name
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The World
Better!***



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