

Reference

Turo® TA Vortex Pumps

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Raw sewage with Turo® TA Vortex-Pumps

What's the trouble with raw sewage?

Over recent years, the composition of wastewater has changed dramatically, and raw sewage has become increasingly challenging.

Clogging problems and related pump stoppages have steadily increased. The causes of this are a decline in drinking water consumption through more prudent use of water resources, accompanied by an increase in suspended solids through increased concentration of the pollution load in wastewater.

Directly linked to it is as well the tendency of separation of the sewer system (rain water / household waste water). In the household waste water pipings a regular strong flushing during raining periods is missing. Particularly critical is the operation of pumps after a storage sewer. In raining periods accumulations of waste and fibres are entering like a surge into the pump pits.

Change in consumer's waste disposal habit's

Due to decreasing wastewater volumes, many pump stations increasingly operate at partial load. The decrease in flow velocity in the collector, piping and pumps and, in particular, the resulting flow pattern also increase susceptibility to faults.

A further problem is caused by changes in the disposal and consumer habits of private households. In particular, the increased use of hygiene articles and their disposal in toilets causes pump station operators many problems.

Today's tear-resistant hygienic wipes and cleaning rags do not decompose on the way to the pumping station like normal toilet paper. Instead they form big shaggy balls what is one of the main reasons today of pump cloggings.

What happens inside a pump with the fibres ?

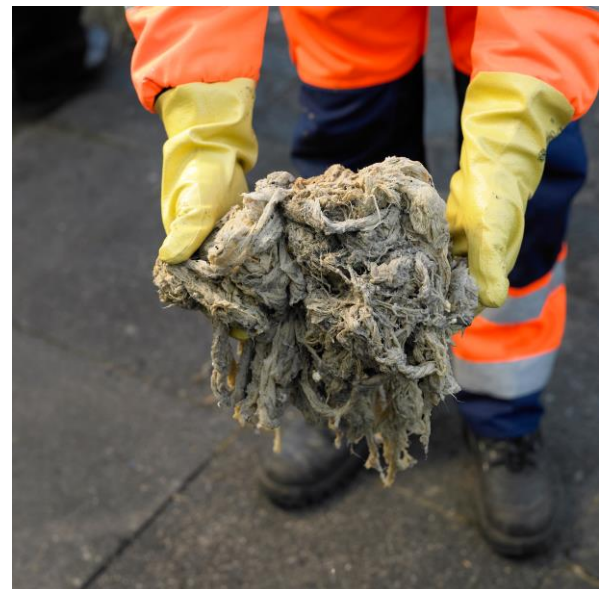
On the one hand fibres are entering inside the gaps between the rotating impeller and the casing/casing cover. When they're accumulating there, the impeller can be blocked completely and a total failure of the pump is the consequence.

On the other hand fibres are accumulating already in the sewer systems, pit chambers or suction lines and are creating twisted plaits and/or shaggy balls. They settle down in front of the impeller or inside the impeller and causing a decreasing of

flow/pressure or in extreme cases a total failure of the pump. The first case happens often with single vane hydraulics, the second case concerns more multi-vane or vortex hydraulics.

Patented vortex hydraulic Turo® TA

For decades, Egger Turo® vortex pumps have proven successful in pumping wastewater. Changes to the composition of raw sewage presents a particular challenge in



itself. During extensive research and field trials, Egger developed an impeller which is specially designed to tackle clogging problems and thus added a new TA wastewater impeller to the tried and trusted range of Turo® pumps.

Meanwhile many Turo® TA raw sewage pumps are in continuous operation in critical pumping stations and assuring a trouble-free service where pump failures happened frequently in the past. As extensive cleaning- and maintenance works are over now, operational safety is increasing and operational costs are clearly reduced.

Page 2 is showing a selection of successful operating raw sewage references.

Raw sewage references Turo® TA

Name Pumpwerk (PW) / Kläranlage (KA/ARA)	Anlage / Verband	Land	Ansprechpartner	Pumpentyp
Name Pumping station (PW) / WWTP (KA/ARA)	Installation / Waste Water association	Country	Contact person	Pump type
PW Löhre	Stadt Biel	CH	Herr Etter	TA 61-150 U4
PW Müntschemier	ARA Ins	CH	Herr Hans Weber	TA 51-80 SG4
PW Rietheim	Abwasserverband Zurzach	CH	Herr Edi Bächli	TA 61-100 U4
PW Klein Venedig	Bauverwaltung Kreuzlingen	CH	Herr Peter Meier	TA 61-100 H4
PW Lerchental	ARA St.Gallen	CH	Herr Bauer	TA 81-150 H4
PW Thundorf PW Tägerschen	Abwasserverband Lauchetal-Murgtal-Matzingen	CH	Herr Lemmenmeier	TA 71-80 V4
PW Buch	Abwasserverband Frauenfeld	CH	Herr Markus Breu	TA 61-80 U4
PW / RB Uerschhausen		CH		TA 51-80 U4
PW Lido Maroggia	Consorzio Mamero	CH	Sig. Daniele Managlia	TA 71-100 U4
PW Facchinetti		CH		TA 61-150 U4
PW Belp	ARA Region Bern	CH	Herr Ammann	TA 81-200 H6
PW Ottenbach-Jonen	Abwasserverband Kelleramt	CH	Herr Patrick Koller	TA 81-150 H4
PW Niederstadt Alpnach-Stad	ARA Sarneraatal	CH	Herr Toni Röthlin	TA 51-80 U4
STAP Domaine	STEP de Colombier	CH	Denis Fahrni	TA 71-150 V6
STAP Le Barrillet	Commune de Fully	CH	Pierre-Jean Michellod	TA 71-150 H4
STAP Châtel-St-Denis		CH	Monsieur Genoud	TA 71-100 U4
STAP	STEP AIEE Delley-Portalban	CH	Pascal Schmid	TA 51-80 U4
STAP de St-Prex		CH	Monsieur Tardy	TA 61-100 SG4
PW Lemberg	Verbandsgemeinde Pirmasens Land	DE	Herr Littig / Kelsch	TA 61-100 U6
PW Klüsserath	Verbandsgemeindewerke Schweich	DE	Herr Guggenmos / Herr Blesius	TA 61-100 V6
PW Mehring				TA 71-100 V4
PW Issel Sammler				TA 71-100 U6
PW Wolf	Verbandsgemeinde Weißenthurm	DE	Herr Kort	TA 61-100 V4
PW Kläranlage	Abwasserverband Mittleres Ilmtal	DE	Herr Steiner	TA 71-100 V6
PW Berglern	AZV Erdinger Moos, Eitting	DE	Herr Pfanzelt	TA 71-80 H4
PW Holzberg	Gemeinde Essenbach	DE	Herr Schulz	TA 71-80 V4
PW Müllen	AV Neuried-Schutterwald	DE	Herr Strosack	TA 81-150 V8
PW Schusterkrug	Stadt Kiel	DE	Herr Lange	TA 81-150 V4
PW II Lingen	Stadtentwässerung Lingen	DE	Herr Hüer	TA 91-200 V8 TA 71-150 V6
PW Kurt-Schumacher-Brücke	AZV Raum Offenburg	DE	Herr Bartsch	TA 71-150 V8
PW Niederkirch-Laupheim	Sammel-KA Stadt Laupheim	DE	Christian Brand	TA 71-100 V6
KA Teufenbach	Abwasserverband Gemeinde Teufenbach	AT		TA 51-80 VF4
PW Lemele	Waterschap Vechtstromen	NL	Herr Leo Kole	TA 71-80 HF4
Preston STW	United Utilities plc	UK	Mr John Lynch GVA jv	TA 71-100 HF4



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