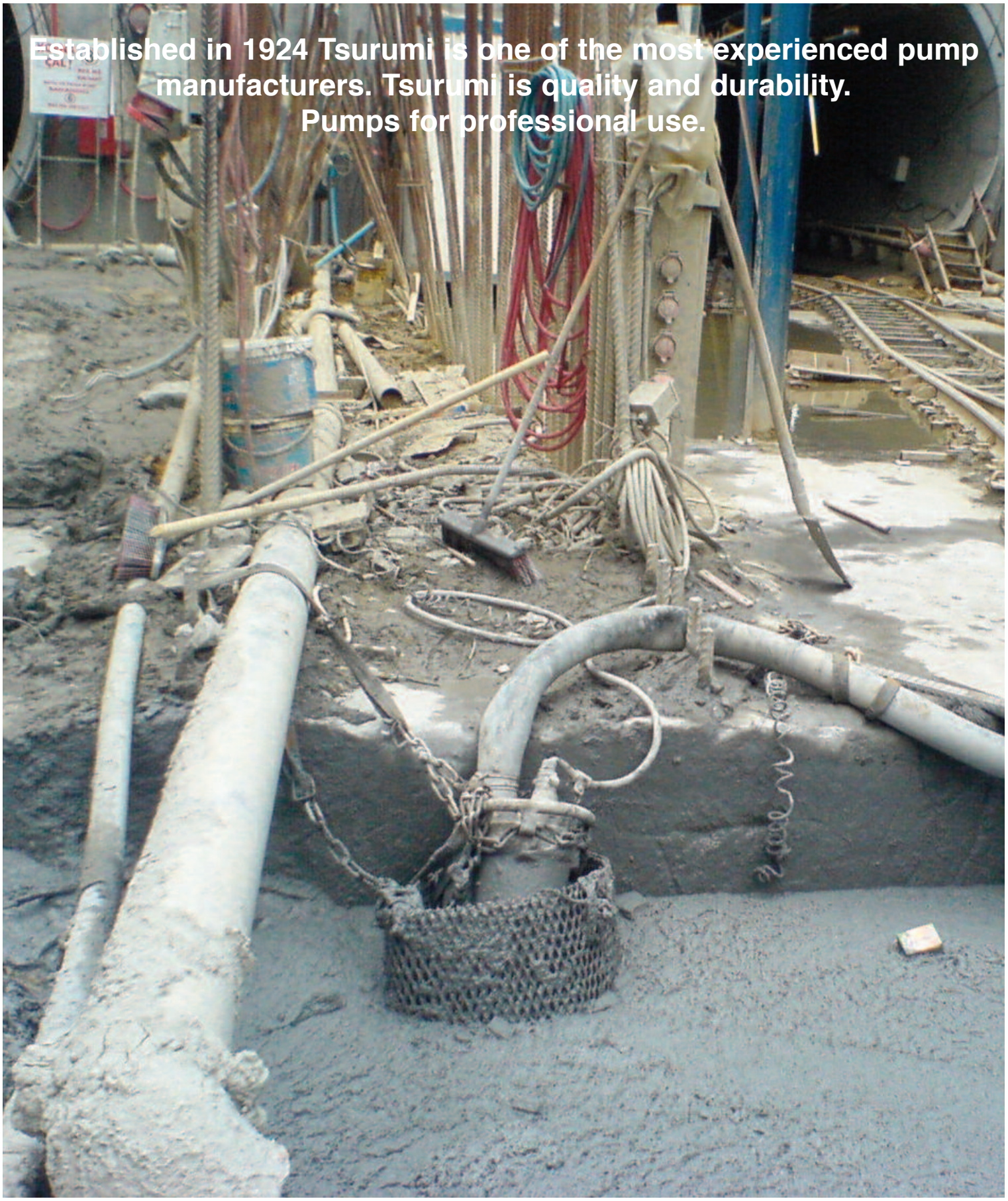
TSURUMI PUMP

Application Reports in 2009



B462 extension, Gaggenau, Germany

The project:

Construction of an underpass to connect to the Rotherma Roundabout

Executing companies:
Grötz GmbH&Co. KG
BML Baumaschinen AG

The problem:

The depth of the construction pit meant that a height differential of 14 m had to be bridged. This is well beyond the pumping capacity of a normal centrifugal pump.

The solution:

Deployment of a high pressure LH311W-50 pump from the for-hire range of BML Baumaschinen GmbH. The delivery height was achieved without problem and the surface and ground water that was in situ was pumped over the pit lining.

Dillig-Zaubzer Gravel Works, Dorfkemmathen, Germany

The project:

Extraction of fine sand from gravel works

Executing company:
Dillig-Zaubzer, Dorfkemmathen

The problem:

Extraction of fine sand from a gravel works using a pump as an alternative to an excavator system.

The solution:

A GPN3-100 with quick coupling was fitted to an excavator. Pumping of medium with a water content of 60-70% allows fine grains of sand to be flushed out. Once the pumped mass has settled, all that is needed is for the sand to be sent through a screening plant.
A cost-effective alternative for medium-sized sand and gravel pits.

Dorfner Potash Works, Hirschau, Germany

The project:

Reduction of ground water in the potash works

Executing company:
Erwin Hofmann, Schnaittenbach

The problem:

Ground water reduction – deployment of a submersible sewage pump on a pontoon to pump off polluted water.

The solution:

Deployment of a LH430 high pressure pump with 30 kW motor rating. Controller with frequency inverter, continuous pump start-up, various operating points possible.
Unlike a centrifugal pump installed dry, the LH430 does not need to be protected from frost. No additional housing or heater needed.

Felderhalde Tunnel Consortium, Germany

The project:

Wastewater plant for general site facilities

Executing companies:
ARGE Tunnel Felderhalde (Felderhalde Tunnel Consortium)
Alfred Kunz Untertagebau, Munich
Riebel

The problem:

The wastewater contains mud and sand.
A robust wastewater pump with vortex impeller was needed.

The solution:

Deployment of a 80U23.7 with vortex impeller.
Installation with connection elbow and guide tubes results in straightforward maintenance.

In the event of abrasive and corrosive utilization, stronger wear and tear will take place naturally in certain components. With regards to the above application wear and tear can take place mainly in impeller, agitator, suction plate, shaft sleeve, oil ring, mechanical seal, pump casing, strainer, motor casing and discharge coupling. Depending on the working conditions the lifetime of those parts might vary significantly and can be shorter than the legal warranty period.
In this regard, please pay attention to our general conditons of sales (www.tsurumi.eu/english/GCS.htm) that we also send to you by mail on request.

Schwäbisch Gmünd Tunnel, Germany

The project:

Construction of a two-lane tunnel with escape galleries to provide a direct route through the town of Schwäbisch Gmünd without the inconvenience of traffic lights at crossings, etc.

Executing companies:
Fa. Baresel
Fa. Hinteregger + Söhne Bauges. mbH
Fa. Züblin
Fa. Östu-Stettin

The problem:

Tunnel advance using tunnel boring methods; advance on a downhill gradient at some points; incursion of ground and fissure water to be expected; tunnel bore to pass under the River Rems. High mud content due to soluble mudstone, high risk of abrasion due to quartz content of the sandstone.

The solution:

Approximately 30 KTZ and KTV pumps with motor ratings up to 7.5 kW are being employed.
These pumps are sturdy, requiring little maintenance; if any additional ones are required these can be supplied immediately on call-off at any time.

In the event of abrasive and corrosive utilization, stronger wear and tear will take place naturally in certain components. With regards to the above application wear and tear can take place mainly in impeller, agitator, suction plate, shaft sleeve, oil ring, mechanical seal, pump casing, strainer, motor casing and discharge coupling. Depending on the working conditions the lifetime of those parts might vary significantly and can be shorter than the legal warranty period.
In this regard, please pay attention to our general conditons of sales (www.tsurumi.eu/english/GCS.htm) that we also send to you by mail on request.

NSN Stone Works, Mühlacker, Germany

The project:

Rainwater disposal in road ballast works

Executing companies:
NSN GmbH & Co. KG
Münchinger, Bretten

The problem:

Disposal of rainwater with sand and dirt content, height differential of 50 metres.
Cleaning of the exit with the water that is pumped off.
Maintenance and repair of the pump used in the past was costly in both money and time.

The solution:

After careful evaluation, it was decided to employ a TSURUMI LH311W running at 11 kW. The LH-W pumps have a high delivery pressure and can withstand sand, so wear is reduced. A KTZ47.5 at 7,5kW is employed additionally for cleaning HGVs.

In the event of abrasive and corrosive utilization, stronger wear and tear will take place naturally in certain components. With regards to the above application wear and tear can take place mainly in impeller, agitator, suction plate, shaft sleeve, oil ring, mechanical seal, pump casing, strainer, motor casing and discharge coupling. Depending on the working conditions the lifetime of those parts might vary significantly and can be shorter than the legal warranty period.
In this regard, please pay attention to our general conditons of sales (www.tsurumi.eu/english/GCS.htm) that we also send to you by mail on request.

Mayer Ballast Works, Mötzingen, Germany

The Project:

Rainwater disposal in a ballast works

Executing companies:
The ballast works owner, J. Mayer
Eberle-Hald GmbH&Co. KG, Stuttgart

The problem:

Disposal of rainwater with sand and dirt content, height differential of 30 metres.
The 22 kW pump used in the past was to be replaced on account of the high repair costs.

The solution:

Deployment of a KTZ411 running at 11 kW in its cast iron version. Due to its resistance to the effects of sand, this type of pump is ideal for the use in question. In addition, the motor rating used can be decreased by half. In the adjoining concrete works, a KTZ35.5 at 5.5 kW is also in use in the concrete recycling plant.

In the event of abrasive and corrosive utilization, stronger wear and tear will take place naturally in certain components. With regards to the above application wear and tear can take place mainly in impeller, agitator, suction plate, shaft sleeve, oil ring, mechanical seal, pump casing, strainer, motor casing and discharge coupling. Depending on the working conditions the lifetime of those parts might vary significantly and can be shorter than the legal warranty period.
In this regard, please pay attention to our general conditons of sales (www.tsurumi.eu/english/GCS.htm) that we also send to you by mail on request.

Schorn Gravel Works, Cologne, Germany

The problem:

The need to pump out abrasive media from the sedimentation tank of the open cast mine and extract mud.

The project:

Evacuation of the sedimentation tank of the open cast mine in the gravel works

Executing companies:
Kieswerk Schorn (Schorn Gravel Works)
Holschbach Pumpen- u. Anlagen GmbH, Cologne

The solution:

Portable single phase submersible LB-480 and HS2.75S pumps for mobile deployment at different places in the works. Installation of a four-pole KRS2-150 agitator pump with a motor rating of 9 kW.

In the event of abrasive and corrosive utilization, stronger wear and tear will take place naturally in certain components. With regards to the above application wear and tear can take place mainly in impeller, agitator, suction plate, shaft sleeve, oil ring, mechanical seal, pump casing, strainer, motor casing and discharge coupling. Depending on the working conditions the lifetime of those parts might vary significantly and can be shorter than the legal warranty period.
In this regard, please pay attention to our general conditons of sales (www.tsurumi.eu/english/GCS.htm) that we also send to you by mail on request.

Emscher Cooperative, Germany

The project:

Deployment of TSURUMI wastewater pumps in the filtration plant.

Executing companies:
Emschergenossenschaft (Emscher Cooperative)
Biergans Pumpen-Vertriebs GmbH, Duisburg

The problem (1):

Feed pit of the filtration plant: The pump can become obstructed by blockages and then needs to be cleaned at length and recommissioned.

The solution (1):

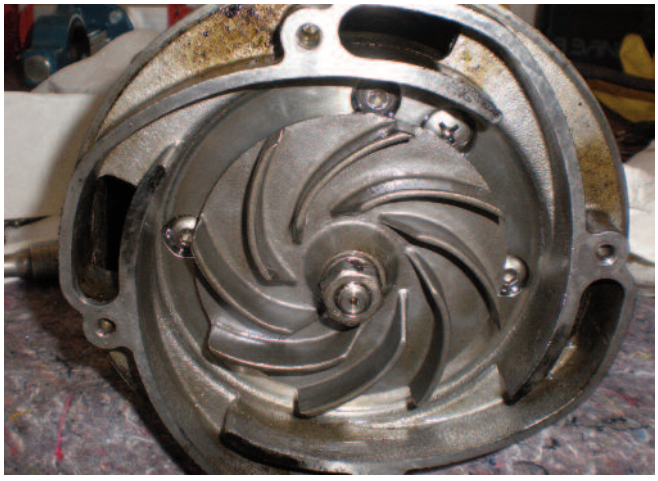
Supply and installation of a 100C43.7 with guide tubes and connection elbow (small pit, very little room for manoeuvre). This pump is equipped with cutters to prevent blockages.

The problem (2):

Overflow structure for media that are contaminated by chemicals.

The solution (2):

Deployment of a corrosion-resistant 50SQ2.4S pump (0.4 kW) in stainless steel to pump the medium at the structure.



In the event of abrasive and corrosive utilization, stronger wear and tear will take place naturally in certain components. With regards to the above application wear and tear can take place mainly in impeller, agitator, suction plate, shaft sleeve, oil ring, mechanical seal, pump casing, strainer, motor casing and discharge coupling. Depending on the working conditions the lifetime of those parts might vary significantly and can be shorter than the legal warranty period.
In this regard, please pay attention to our general conditons of sales (www.tsurumi.eu/english/GCS.htm) that we also send to you by mail on request.

Primate enclosure, Augsburg Zoo, Germany

The problem:

The water in the baboon enclosure moat must be aerated to keep it free of ice in winter so that the baboons cannot escape from the enclosure across the ice. A robust pump was also needed for the artificial stream.

The project:

Aeration of the moat and operation of artificial stream with waterfall in the baboon and ring-tailed lemur enclosure.

Executing company:
APS Augsburger Pumpenservice

The solution:

A 50TRN2.75 pond aerator with 750 W motor rating was installed in the moat.
The water in the moat is kept in constant motion using a 100UZ43.7 wastewater pump with vortex impeller.
The artificial stream is operated using robust cast iron KTZ22.2 and KTZ32.2 sewage pumps.

Buchrain Tunnel Consortium, Switzerland

The Project:

Construction of a road tunnel as part of the Rontal motorway feeder road

Executing companies:
ARGE Tunnel Buchrain (Buchrain Tunnel Consortium)
RL Pumpenanlagen GmbH, Bilten

The problem:

Provision of treated non-drinking water for the entire site; water intake from a nearby stream.

The solution:

A KTZ33.7 pump is used to pump the untreated water out of the stream through a cyclone filter and into the water reservoir. The cyclone filter is used to separate off solids. The non-drinking water is supplied to the site via a pressure booster system.

In the event of abrasive and corrosive utilization, stronger wear and tear will take place naturally in certain components. With regards to the above application wear and tear can take place mainly in impeller, agitator, suction plate, shaft sleeve, oil ring, mechanical seal, pump casing, strainer, motor casing and discharge coupling. Depending on the working conditions the lifetime of those parts might vary significantly and can be shorter than the legal warranty period.
In this regard, please pay attention to our general conditons of sales (www.tsurumi.eu/english/GCS.htm) that we also send to you by mail on request.

Marmaray Undersea Tunnel, Turkey

The Project:

Construction of a railway tunnel under the Bosporus

Executing company:
Taisei Corporation, Japan

The problem:

Construction of a multi-track rail tunnel under the ocean floor to join the two continents.
Dewatering the site and keeping it dry during the construction period.

The solution:

To dewater the site, 14 KTZ pumps and 16 LB pumps were employed in constant use. Due to their robust cast iron design, KTZ pumps are particularly suited for use on tunnel construction sites. The LB pumps are light, single-phase pumps for emergency use.

In the event of abrasive and corrosive utilization, stronger wear and tear will take place naturally in certain components. With regards to the above application wear and tear can take place mainly in impeller, agitator, suction plate, shaft sleeve, oil ring, mechanical seal, pump casing, strainer, motor casing and discharge coupling. Depending on the working conditions the lifetime of those parts might vary significantly and can be shorter than the legal warranty period.
In this regard, please pay attention to our general conditons of sales (www.tsurumi.eu/english/GCS.htm) that we also send to you by mail on request.

Ikitelli underground railway tunnel, Istanbul, Turkey

The project:

Construction of a 15 km long underground tunnel using a TBM.

Executing company:
Taisei Corporation, Japan

The problem:

Sludge and muddy water were causing major problems during construction and had to be pumped off

The solution:

All the pumps needed to dewater the site were supplied by Tsurumi. A large number of LH, KTZ, KRS, KTV and LB pumps were used to keep the site dry.

In the event of abrasive and corrosive utilization, stronger wear and tear will take place naturally in certain components. With regards to the above application wear and tear can take place mainly in impeller, agitator, suction plate, shaft sleeve, oil ring, mechanical seal, pump casing, strainer, motor casing and discharge coupling. Depending on the working conditions the lifetime of those parts might vary significantly and can be shorter than the legal warranty period.
In this regard, please pay attention to our general conditons of sales (www.tsurumi.eu/english/GCS.htm) that we also send to you by mail on request.

Tsurumi (Europe) GmbH

Heltorfer Straße 14
D-40472 Düsseldorf

Tel.: +49-211-4179373
Fax: +49-211-4791429

sales@tsurumi.eu
www.tsurumi.eu