TSURUMI PUMP

Application Reports in 2008

Energiewerke Nord, Lubmin, Germany

The Project:

Pumping of residue from thermal groundwater treatment through a filter

Contractor:
Energiewerke Nord GmbH, Lubmin

The Problem:

Cleaning of a decomposition basin as a custom solution.

The Solution:

A model 80U23.7 drainage pump was rebuilt to permit the suction line to be mounted directly on the pump intake.
This allowed a flexible suction nozzle to be connected on the suction side, and a complete filter on the pressurized side for the retention of solids (slag, shavings, small parts). Used entirely underwater for flexible positioning, since there was no container sump and a flat container floor.

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Cooling water supply, Germany

The Project:

Supply of cooling water from a drainage ditch

Contractor:
Steuber Elektrotechnik GmbH, Siegen

The Problem:

For an emergency cooling water supply, water had to be taken from a drainage ditch.

The Solution:

A pump in the KTZ series was used, secured with a steel cage. Particular value was placed on operational safety, which was guaranteed at all times thanks to the quality of our pumps.

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Riebel concrete plant, Freimar, Germany

The Project:

Installation of multiple pumps in the recycling system of the concrete plant

Contractor:
Xaver Riebel GmbH&Co Transportbeton KG

The Problem:

Pumping of abrasive water in different parts of a recycling plant.

The Solution:

Model KTZ21.5, KTZ22.2, KTZ33.7, and KTZ43.7 pumps were installed:
- for pumping into the scales
- as a boom pump for washing vehicles
- for overflow
- in the runoff basin

Moosach subway tunnel, Munich, Germany

The Project:

Renovation of the U3 between the Olympia shopping centre and Moosach

Contractors:
ARGE U-Bahn Line 3 North, construction lot 2:
Wayss & Freytag Ingenieurbau
Hochtief Construction
Bauer Spezialtiefbau

The Problem:

Groundwater drainage during the entire construction phase: Laying of sewers, construction of subway tunnels and stations.

The Solution:

Multiple submersible pumps from the LSC series (puddle sucker) were used.
The special characteristics of Tsurumi pumps, such as an internal mechanical seal, upstream shaft sleeve with gasket and a patented oil lifter allow them to be used in snore mode over an extended period.

Rupp gravel plant, Dillingen, Germany

The Project:

Preparation/clarification of rinse water from gravel processing

Contractors:
Josef Rupp GmbH&Co. KG

The Problem:

The condensed slurry from the clarification tower is pumped into the buffer silos of the chamber filter press. The consistency of the medium ranges from fluid to a thickly flowing mud. Lime is added to the mud for conditioning. The high proportion of abrasive sediments could not be pumped satisfactorily using the pumps in use until now. The result was a high degree of wear and replacement part costs.

The Solution:

Use of a GPN3-100 with an agitator in long-term use. Thanks to its quality features, this model can be used and operated long-term with a high proportion of sediment. This is ensured using high-quality ball bearings and double inside mechanical seals made of silicon carbide and additional shaft protection sleeves.

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Höllberg A38 tunnel, Thüringen, Germany

The Project:

Traffic project German Unity No. 13
A38 Breitenworbis-Bleicherode segment
Construction of the Höllberg tunnel

Contractor:
Baresel GmbH

The problem:

Drainage via open dewatering during tunnelling operations.

The Solution:

Multiple submersible pumps from the KTV and KTZ series were used. The special characteristics of Tsurumi pumps, such as an inside mechanical seal, shaft sleeve with oil ring and a patented oil lifter allow them to be used in 24-hour suction operation.

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Badische Stahlwerke GmbH, Kehl, Germany

The Project:

Drainage of a shearing trench

Contractors:
Biergans Pumpen-Vertrieb GmbH
Badische Stahlwerke GmbH, Kehl

The Problem:

Pumping of abrasive and cinder-loaded water Water carrying cinders must be conveyed to a height of about 4 m, where it is reintroduced to the water circulation. The water is cooling water for the rolling process, which runs off into the shearing trench over different paths. In the trench, there is a gravel curb to catch fragments from a shaping shear.

The Solution:

It was not possible to devise a normal drain for the water at a reasonable cost. The installation of a powerful, robust pump was thus the only practical solution.
Two model GPN3-80 pumps were provided, with one pump on standby. The pump in use is operated around the clock, seven days a week, without visible wear.

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Renovation of underground parking garage, Munich, Germany

The Project:

Renovation of an underground parking garage built in 1971 in downtown Munich

Contractor:
Hangsicherung u. Sanierungs GmbH&Co.KG

The Problem:

Renovation of an area of 4000m², construction time 12 months. Removal of concrete surface with high-pressure equipment at up to 3000 bar water pressure. Draining water jets (up to 240 liters/min) with a high mud load must be pumped away.

The Solution:

The incoming muddy water is pumped out with a total of ten model LCS1.4S pumps. These are abrasion-resistant residual water pumps, which pump out the water down to a height of 1mm. The built-in check valve allows continuous suction operation; no personnel is needed to monitor the pump operation.

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Free training sessions, Germany

The Project:

Performance of free training for new and existing customers

Participants:
Klaus Stewering GmbH&Co. KG
Biergans Pumpen-Vertrieb GmbH
(Tsurumi partner)

The Task:

Addition of Tsurumi to the machine inventory. Training in maintenance and repair for new equipment.

The Solution:

Provision of free training directly at the end customer, in the workshop or on the construction site. Qualified Tsurumi personnel provide the customer their entire experience. This makes it possible for the customer to undertake repairs quickly and at the lowest possible cost, and to carry out proper maintenance to avoid unnecessary expenses.

AZS ARGE Zugangsstollen, Linthal, Switzerland

The Project:

Access shaft II - Kraftwerk Linth-Limmern AG - “Project Linthal 2015”

Contractors:
AZS ARGE Zugangsstollen
RL Pumpenanlagen GmbH, Wollerau

The Problem:

Shafts with a pronounced tilt, drilling water and incoming water must be pumped out.

The Solution:

LH322W submersible pump is used, with a second pump held in reserve. The pump is frequency-controlled and regulated using a submersible pressure probe. If the water level rises, the speed is increased; when the water level falls, the speed is reduced. This type of control was chosen so that a very small pump container can be used which can be easily replaced after each new tunnel section. A model KTZ47.5 pump is built into the drainage water treatment.

NEAT Amsteg and Erstfeld construction sites, Switzerland

The Project:

New Transalpine Railway (NEAT), Amsteg and Erstfeld construction sites

Executing company:
RL Pumpenanlagen GmbH, Wollerau

The Problem:

Incoming contaminated drainage water from the tunnels are guided to the collection basin of the sand press. This was initially done with standard commercial construction pumps, but the impellers were worn out after a very short time.

The Solution:

Four GPN3-80 Tsurumi mud pumps with agitator were used. This 4-pole jacket-cooled pump is designed for use in the harshest of mud environments, so that the impeller, agitators, and suction plates are fabricated of custom-coated chromium cast iron with a Brinell hardness of 415 to 425. After 6 months of use, almost no wear could be detected.

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Zagreb Arena, Croatia

The Project:

Construction of the Zagreb Arena for the 2009 Handball World Championship

Executing company:
Ingra d.d. Zagreb
TriGranit Zagreb d.o.o.
GIP Pionir d.o.o.
VIS-Trgovina d.o.o.

The Problem:

Large amounts of groundwater and rainwater had to be pumped out of the foundation during construction.

The Solution:

Installation of a model KRS1022 pump. This pump is particularly well-suited for the pumping of larger amounts of water over a relatively low height. Due to the crowded conditions, the pump was protected using a specially fabricated cage.

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Iron deposition, Zwolle, Holland

The Project:

Deposition of iron using a submersible aerator in Zwolle, Holland

Contractor:
Distrimex Pompen&Service BV

The Problem:

The groundwater is highly impure with dissolved iron. Clarification using oxidation and filtration of iron oxide using a water softener system. Then filtration through a sand filter and finally an activated carbon element.

The Solution:

Oxidation carried out by installing a Tsurumi model 32TRN21.5 submersible aerator. The use of a submersible aerator already causes the greater part of the iron to oxidize and precipitate, so that it remains in the sand filter. The rest of the system is less contaminated, requiring fewer replacement of the expensive carbon filter. The result is that maintenance and operating costs are minimized.

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Construction of a shopping centre in Oslo, Norway

The Project:

Construction of a shopping centre at the Port of Oslo

Contractors:
Oslo Vei AS
Norwegian Maritime Museum
Intec Pumper AS

The Problem:

During bulldozer excavation of larger areas at below-freezing temperatures, water needed to be pumped out from many points. At the same time, nine shipwrecks from the 17th century were found. Archaeologists from the Norwegian Maritime Museum had to keep the sites dry.

The Solution:

Model LB-480A and KTVE21.5 pumps were distributed over the whole construction site. These pumps are equipped with a sensor that turns the pump on and off as the water level changes. This saves power and avoids unnecessary wear. Thanks to their robust constructions, the pumps can also withstand a great deal of cold.

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Caisson tunnel, Oslo, Norway

The Project:

Construction of a tunnel using caissons

Contractors:
Skanska AS
Intec Pumper AS

The Problem:

During construction of a tunnel with caissons, the individual elements had to be emptied after positioning. In addition, water flowing in along the segment had to be pumped out.

The Solution:

To pump larger quantities of water, pumps from the KTV series were used. Along the segment, model LSC pumps were installed. These flat suction pumps remove water above a residual level of 1mm, allowing work to proceed in as dry an environment as possible.

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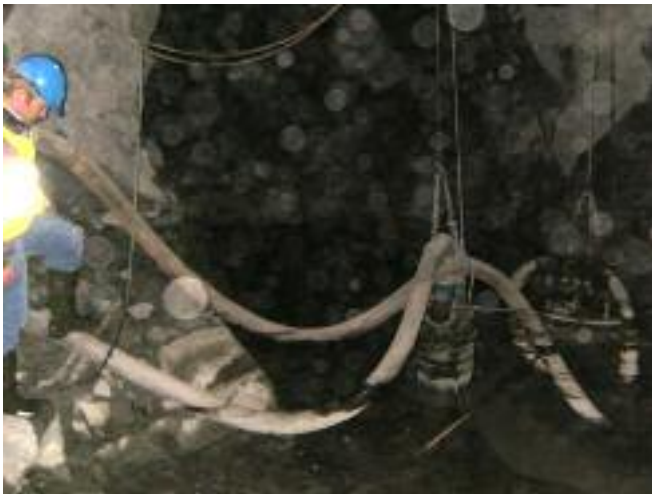
Vinterbro Tunnel, Norway



The Project:

Tunnel on the E6 South section between Vinterbro and Assurtjen, 3.605 m in length

Contractors:
Mika AS
Intec Pumper AS

The Problem:

With a falling road grade in the tunnel, the water runoff from the mountain had to be pumped upwards over longer distances.

The Solution:

Use of multiple module KTV and LH pumps. Particularly the LH series provides the conveyor pressure needed to overcome the distances between the intermediate basins.

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