

RUHRPUMPEN

Specialist for Pumping Technology

RUHRPUMPEN CHINA IS OPEN FOR BUSINESS

→ p.2

RuhrPumpen Decoking Business Unit

→ p.3

RuhrPumpen announces its newly re-designed line of the RDP Pump Line

→ p.4

Red Rock Hydroelectric Project

→ p.5

Iraq Crude Oil Export Expansion Project

→ p.6

RuhrPumpen Nuclear Service Center

→ p.7

RuhrPumpen Fire Pumps installed at the largest Petrochemical Plant of Mexico

→ p.8

Seawater Lift Pumps for Cyrus FPSO

→ p.9

COVER TOPIC

RUHRPUMPEN CHINA IS OPEN FOR BUSINESS!

Once again RuhRPumpen opens a new manufacturing plant.



The new 376,737 ft² (35,000 m²) RuhRPumpen facility in Changzhou, China is complete and processing our first orders. This marks a new milestone as our second RuhRPumpen facility in Asia. We will be focusing on Pipeline and Petrochemical Industries as well as other engineered products in cooperation with the RuhRPumpen facility in Witten, Germany.

We are already working on a package of three (3) large HVN pumps for the domestic petrochemical market, service work on several cryogenic VS6 pumps and building our own vertical test lab boosters. We are also working on a series of sample orders, including several BB3 and BB5 pumps, to demonstrate the factory capabilities and further develop our staff.

The new state-of-the-art machines have been installed and are undergoing calibration and include:

- Toshiba CNC Horizontal Boring Mill 3000 x 2300 x 1600
- Toshiba CNC Vertical Lathe 2400 x 1700
- Shenyang horizontal lathe 4000 x 1100
- Shenyang Radial Drill 2500
- Schenck 3 ton 5000 x 2000 Balancer

The test stand has been designed for 140,892 GPM (32,000 m³/h) and 2,682 HP (2 MW), featuring a 33 ft (10 m) deep test tank. Future expansion will be up to 8,046 HP (6 MW) allowing us to test the full range of our lines.

We are looking forward to serving the Asian market as well as furnishing support for all of the RuhRPumpen family.



The new facility is located at:
29 Baotashan Rd.
Xinbei Dist, Changzhou 213133
Peoples Republic of China
+86 519-8988-9199

COVER TOPIC

RUHRPUMPEN DECOKING BUSINESS UNIT

Decoking BU commissioned another Decoking System in India.

After installation and start-up of the RuhrPumpen Hydraulic Decoking System at Mangalore Refinery in India (MRPL) the first successful cut of coke was made in spring 2014.

The good cooperation of RuhrPumpen with Punj Lloyd (as contractor) and MRPL (as end user) was the reason for this success.



RuhrPumpen will continue to be a world leader and partner for this special and innovative "Hydraulic Decoking Technology".

NEWS

CPO

RuhrPumpen is excited to announce the release of our newest product line "CPO".

This rugged process pump is ANSI B73.1 compliant and operates even in the toughest industrial applications, complementing our existing range of ANSI B73.1 products.

With 31 hydraulics this open impeller design covers a wide range of service conditions (including low-flow region) while providing industry-leading low NPSHR performance and high efficiencies.

CPO is designed around a modular concept which allows provision of multiple hydraulics with a small number of power frames. In addition these power frames are interchangeable with models of other common pump manufacturers.



HIGHLIGHT TOPIC

RUHRPUMPEN ANNOUNCES ITS NEWLY RE-DESIGNED RDP LINE

RuhrPumpen is constantly expanding its pump range and the latest innovation is our line of Reciprocating Plunger Pumps.

In 1982, RuhrPumpen delivered the first reciprocating triplex plunger pump, model RDP. The pump was delivered to Lurgi for gas treatment in China. Subsequently to this over 400 RDP plunger pumps were delivered to customers around the world.

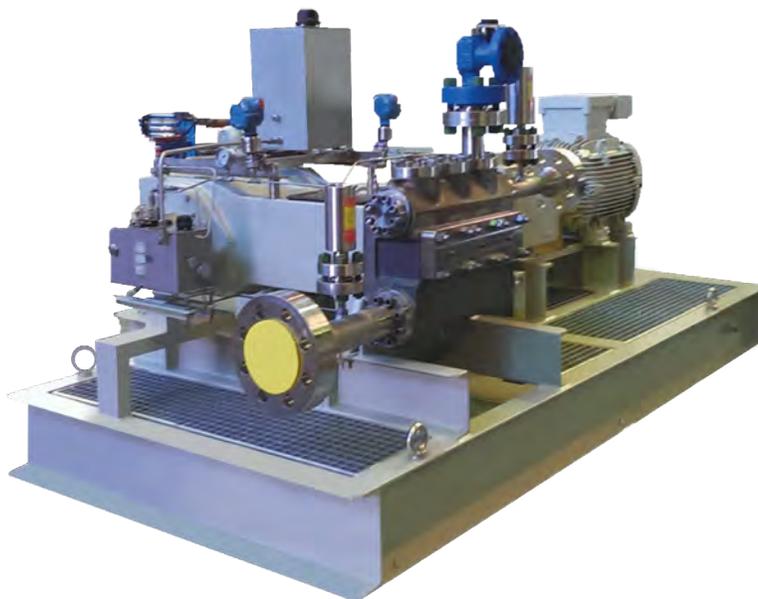
Today, RuhrPumpen is continuing this RDP heritage with the production of reciprocating triplex and quintuplex plunger pumps.

The re-designed RDP line is a series of reciprocating plunger pumps, suitable for handling most liquids in a wide range of markets, including Oil and Gas. A variety of sizes are offered and the range is designed according to API 674 3rd edition / ISO 13710 (but also suitable for applications where API 674 is not specified).

The configurable design allows for ease in meeting any customer needs and this line complements our complete pump offering in the high pressure application range.

The RDP center of excellence will be RuhrPumpen UK Ltd. This facility, located in the South Coast of England comprises 1,700 ft² (158 m²) offices and workshop of 18,000 ft² (1,672 m²).

Located at this facility are the design team for the RDP product.



HIGHLIGHT TOPIC

RED ROCK HYDROELECTRIC PROJECT

RuhrPumpen Pumps used in the new Hydroelectric Power Plant will provide electricity for the next 100 years.

This year RuhrPumpen was awarded a contract for two (2) 1500 VLT pumps and three (3) 1100 VLTF-L pumps for a new hydroelectric power plant being built at the U.S. Army Corp of Engineers (USACE) Red Rock Dam on the Des Moines River in Marion County, Iowa.

The Red Rock Hydroelectric Plant (RRHP) will produce about 73,756 HP (55 MW) of electric power and is being built to provide electricity for the next 100 years.

The RRHP facilities will be constructed close to the existing spillway largely within the envelopment section where the earthfill wraps around the end of the concrete dam. The approach channel and intake structure will be located upstream of the dam. Two penstocks will run from the intake structure through penetrations in the dam to the powerhouse located just left of the existing spillway tailrace. A tailrace channel will extend from the downstream end of the powerhouse to the existing spillway tailrace.

Each penstock will supply water to a vertical Kaplan-type hydraulic turbine and each turbine will be directly connected to a generator.

Electricity from each generator will then be transferred through the plant to the plant substation, which will transform the electricity from 13,800 volts to 69,000 volts. From there, the electricity will flow through the transmission line to a substation located on the west side of Pella, Iowa, which connects to the regional transmission grid. The rated project generating capacity will be 48,813 HP (36.4 MW) at normal reservoir level (El. 742) and a combined flow rate of 8,900 ft³/s (252 m³/s). The combined maximum generating capacity will be 73,756 HP (55 MW) at higher reservoir levels and/or flows. The estimated annual energy produced by the project will be 238,701,932 HPh (178,000 MWh), or enough to power approximately 18,000 homes.

RRHP will be operated in a “run-of-release” mode. This means that the USACE will determine how much water will be released from Lake Red Rock, just like they do today, and all, a portion, or none of the water will be directed through the hydroelectric facility depending on the amount of water that the USACE chooses to release.



HIGHLIGHT TOPIC

IRAQ CRUDE OIL EXPORT EXPANSION PROJECT

RuhrPumpen deliver a turn-key Tanker Loading Station in Iraq.

RuhrPumpen has already built and tested ten (10) loading pumps, model ZMI 530/09x2 to be driven by a SIEMENS SGT-600 Gas Turbine.

The pumps are designed for 24,000 US GPM (5,465 m³/h) Crude Oil and a head of 3,090 ft (942 m).

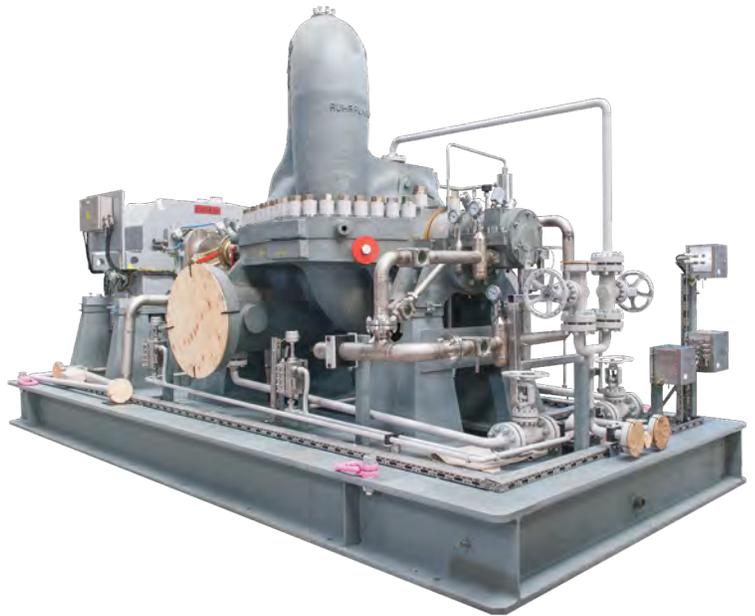
The plant is divided into two lines while maximum four (4) pumps are running in parallel and one spare.

The selected pumps are in accordance to API-610 with horizontal split casing, two stage double suction impeller and diffusers in both stages.

The pumps are coupled to a gear box reducing the turbine speed of 7,200 rpm down to pump speed of 3,200 rpm.

The plant is located in the very south of Iraq close to the city of Fao (Al Faw).

Each pump was mechanically tested in Germany and one String Test (with the Gas Turbine) was conducted on August 20th, 2015 at SIEMENS Finspang / Sweden with the attendance of the customer SCOP/SOC from Iraq.



HIGHLIGHT TOPIC

RUHRPUMPEN NUCLEAR SERVICE CENTER

RuhrPumpen now is building, repairing and providing parts and pumps for Nuclear Utilities.

RuhrPumpen's first Nuclear Service Center opened its doors in September 2014.

Having received ASME Nuclear Certificates of Authorization "N" and "NPT" along with the National Board of Boiler and Pressure Vessel Inspectors Certificate of Authorization "NR", our Nuclear Service Center is now authorized and prepared to provide new pumps, service, repairs, replacements and spare parts for ASME Class 2 & 3 pumps, as well as safety related and commercial pumps for Nuclear Utilities.

N-type Certificates of Authorization issued by ASME signify that a Certificate Holder has been through a rigorous audit to verify the effective implementation and flawless execution of the quality assurance program. Authorization "N" allows companies to provide vessels, pumps, valves, piping systems, storage tanks, core support structures, concrete containments and transport packaging, Authorization "NPT" is for parts appurtenances, welded tubular products and piping sub-assemblies, and Authorization "NR" for repair and replacement of nuclear components.

Some of the applications for these vertical or horizontal ASME Class 2 & 3 N stamped pumps and Safety related are:

- Feed-water
- Service water
- Emergency cooling water
- Condensate
- Circulating water
- Screen wash
- Heater drain
- Fire pump
- Cooling tower
- Diesel fuel transfer



The address is: 400 Rotary St Hampton VA, 23661.



HIGHLIGHT TOPIC

RUHRPUMPEN FIRE PUMPS INSTALLED AT THE LARGEST PETROCHEMICAL PLANT IN MEXICO

RuhrPumpen Fire Water Packages were supplied to the largest Petrochemical Plant in Mexico.

Complejo Petroquímico Cangrejera (CPQ Cangrejera) is part of the largest Petrochemical Plant in Mexico. Located southeast of Coatzacoalcos, Veracruz, CPQ Cangrejera produces household products such as cosmetics, pharmaceuticals, telephones, detergents, paint, toys, etc.

For this facility Ruhrpumpen supplied six (6) Fire Pump Packages with a rated flow of 5,000 GPM (1,135.62 m³/h) of water handling up to 7,500 GPM (1,703 m³/h) each.

Three packages are comprised of split case pumps, model ZW 16X12X20, one (1) driven by 700 HP (521,991 W) electric motor and the other two (2) driven by 800 HP (596,561 W) diesel engine, with 1,000 gallon (3.79 m³) diesel tank, electric starting system with Lead Acid batteries and each with an exhaust system with silencers.

The remaining packages are comprised of three (3) vertical turbine pumps, model VTP 24C 730, one (1) driven by a 600 HP (447,421 W) electric motor, the other two (2) driven by a 700 HP (521,991 W) diesel engine.

All these packages are in compliance with NFPA-20 and were also UL Listed and FM approved, mounted on skids with their respective drivers, controls and auxiliaries.

Every system is supplied with a special coating for corrosive and marine environments.



HIGHLIGHT TOPIC

SEAWATER LIFT PUMPS FOR CYRUS FPSO

This vessel will be moored offshore in the Gulf of Guinea (water depth of 152m).

RuhrPumpen recently sold a Seawater Lift Package that consists of three (3) Main Pumps - vertically mounted ZW 20X16X30 - and one (1) Start-Up Seawater Lift Pump - vertically mounted ZW 12X8X19(A). These sets are designed to operate according to DNV Marine Class Certification.

The startup seawater lift pump is started first to provide water for firing up the steam boilers. Once the power generation system has started, HV power supply is then available to start up the main seawater lift pumps. The main seawater lift pump will supply seawater for the topside processes such as water injection and also for the accommodation quarters.

The package will be located in the sea chest of the FPSO. The FPSO is owned and operated by Avant Garde Petroleum Co Dubai. This FPSO contains a storage capacity of 600, 000 bbl (95,392 m³) and utilizes a tri fuel (Gas, Crude oil and HFO) fired steam boilers and turbo generators to meet captive and export power requirements.



NEWS

ACHEMA 2015

In an area of 969 ft² (90 m²) RuhrPumpen exhibited a wide range of products at ACHEMA 2015, held in Frankfurt, Germany. Receiving 170,000 attendees from more than 100 countries and 3,800 exhibitors, ACHEMA is the world's most comprehensive event for the Chemical Process Industries.

During the event, RuhrPumpen presented some of its key products such as the SCE-M and CRP-M (the most powerful magnetic pumps in the industry), our Combitube Pump (Pitot Tube), the BB5 AB Pump, the well-known OH2 SCE Pump, our decoking system cutting tool, the KX/DX Pump, one of our ZW Fire packages, and two of our latest products, the BB4 Boiler Feedwater Pump and our newly re-designed RDP Reciprocating Plunger Pump.



With these products, RuhrPumpen has expanded its offering for the Chemical Process Market, becoming the leader in innovation and technology in the Pumping Industry.



Specialist for Pumping Technology



RUHRPUMPEN PLANTS

-  USA, Tulsa & Orland
-  MEXICO, Monterrey
-  BRAZIL, Rio De Janeiro
-  ARGENTINA, Buenos Aires
-  GERMANY, Witten
-  EGYPT, Suez
-  INDIA, Chennai
-  CHINA, Changzhou
-  UK, Lancing

V4-2004.16