Contents

- 03
- 04
- The advantages at a glance
 Top products for the Oil & Gas Industry
 Customized solutions and optimum execution
- References 10

Pumps, systems and packages. Top products for the Oil & Gas Industry.

Customized consultation for each application.

We develop customer-specific skids, systems, packages and units for a wide variety of applications. We have already developed numerous individualized solutions with our customers. We are happy to assist you with your specific process and work together to develop the optimal solution.



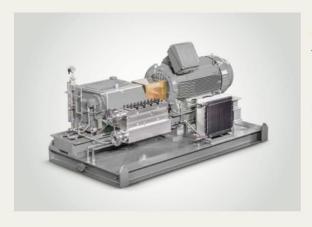
ecoflow® diaphragm process pump

The ecoflow diaphragm process pump, according to API 675, is a advanced pump, able to meet extremely high pressure applications. The construction with its tried-and-tested modular system makes it possible to combine pump heads and drive units in variable segment construction with series or boxer design. The DPS diaphragm protection system ensures maximum process reliability. The diaphragm process pump achieves flow rates of up to 19 m³/h per pump head and discharge pressures of up to 1,200 bar.



triplex® diaphragm process pump

The triplex is a rugged process diaphragm pump, relating to API 675 with the patented DPS diaphragm protection system. It is the right solution for high-pressure processes in all industries and for a wide variety of fluids. Thanks to the space-saving monoblock design, it is ideally suited for small installation spaces such as offshore platforms, for example. The triplex achieves flow rates of up to 180 m³/h and discharge pressures of up to 1,200 bar.



high-pressure plunger pump

The plunger pump, with an integrated gear unit, is a high-performance and versatile plunger pump for high-pressure applications in various industries, acording to API 674. It is a robust and efficient solution especially for la rge hydraulic performances. The plunger pump implements flow rates up to 207 m³/h per pump and a maximum pressure of 3,500 bar.



Pump Skid

We are your contact for ready-to-operate, custom-designed pump skid units with a small-footprint design. Our expertise in the pump industry allows us to handle every stage in the creation of a pump skid – from design to commissioning. Our portfolio includes skids featuring a flow rate between 10 ml/h and 180 m³/h at discharge pressure levels of up to 3,500 bar.



Chemical Injection Package

designs and builds efficient Chemical Injection Packages for specialist applications in the oil, gas, and chemical industries. Chemical Injection Packages meet all demands for reliability and easy maintenance on offshore platforms and in extremely hot or cold environments. Our portfolio includes systems featuring a flow rate between 5 ml/h and 180 m³/h at discharge pressure levels of up to 3,500 bar.

are



Flow Distribution System (FDS)

Injecting chemicals at different locations is possible with Flow Distribution Systems (FDS). The system is space-saving and has numerous monitoring and control options with a centrally installed pump and multiple injection strands. Flow rates from 0.3 l/h to 5,000 l/h and pressures of up to 1,000 bar are possible using a Flow Distribution System.



Nitrogen Generation Package

Our portfolio includes high-quality, optimally tailored solutions for the continuous generation of nitrogen for different applications in the oil and gas industry. Nitrogen purity levels of up to 99.5% are achieved with the Nitrogen Generation Packages.



Customized solutions and optimum execution.

- Computer-aided fluid - Customized design for - Internal acceptance tests - Challenges taken - Worldwide - Lifetime services - Ongoing quality dynamics calculations in each project into account as early service network - Globally uniform stan-- Maintenance contracts the pipelines as the production - Consideration of all - Technical service at - Lean production dards for the specifica-- Qualified and certified stage (e.g. offshore - Suitable integration of national and internations of quality standard every location, in ac-- Flexibility in production installation) employees (global pulsation dampers tional regulations cordance with uniform - Customized tests standards for consistent - Short delivery times quality standards according to customer quality) specifications Onshore and offshore - Original spare parts Flexible storage tank design The storage tanks can be designed in rectangular or cylindrical designs. If necessary, we use a multi-chamber system, depending Depending on the application and customer requirements, we offer welded piping or tubing systems which are designed and built on an individual basis. Control concept Exceptional efficiency We offers standardized or customer-specific control and regulation systems for a wide variety of environmental conditions. Integration into process control systems as well as process displays is possible. We offers the most efficient pump technology. This allows us to select the most optimized solution, particularly in special applications where only a low or limited amount of electric power is available. International standards We are certified in accordance with ISO 9001, ISO 14001 and ISO 45001. Our pumps, systems and units are compliant with all major international standards such as EN, API, ASME, NORSOK, EHEDG and FDA. Design calculation of the base plate We provide designs for extreme acceleration forces, which is impor-tant for the base plate, such as for the installation of the system in High-alloy design materials Different drive types We provide the flexibility you need to respond to environmental conditions. The pumps in our packages are driven by electricity (including solar energy), compressed air, gas or diesel engines. In addition to standard materials like austenitic stainless steel, we also use high-alloy materials like Incoloy, Monel, titanium and Hastelloy when designing a package.

Applications and processes.

Over 70 years of experience in the industry.





BP relies on systems

We are reliable and certified partner of

the BP Global Projects Organization. The contract with the BP Global Projects Organization includes all systems and skids that will be used on onshore and offshore oil and gas fields for the injection of corrosion inhibitors and scale inhibitors, demulsifiers as well as biocides as a part of a fiveyear agreement.



Customer: BP Exploration (Epsilon) Ltd, Oman Project: Khazzan EPC: Jacobs UK Industry: Oil & Gas

Installation location: Oman (onshore) Application: Onshore gas production, Scale Inhibitor Injection (prevention of crusting)

Our solution:

-7x Chemical Injection Package, each with 2x LDB-1







Industry: Oil 5 Gss Installation location: Ordiore Canada Application: H.S. + CD, re-rijection Our solution: - Triples GSIJ disphragm pump, M500, 21 m³/h, 230 bar.

Industry: Oil 6 Gas Installation location: Algerian desert Application: Injection of corrosion inhibitors Our solution: — Solar-powered MLM solenoid-driven pump, M200, 1.5 Vh, 200 bar



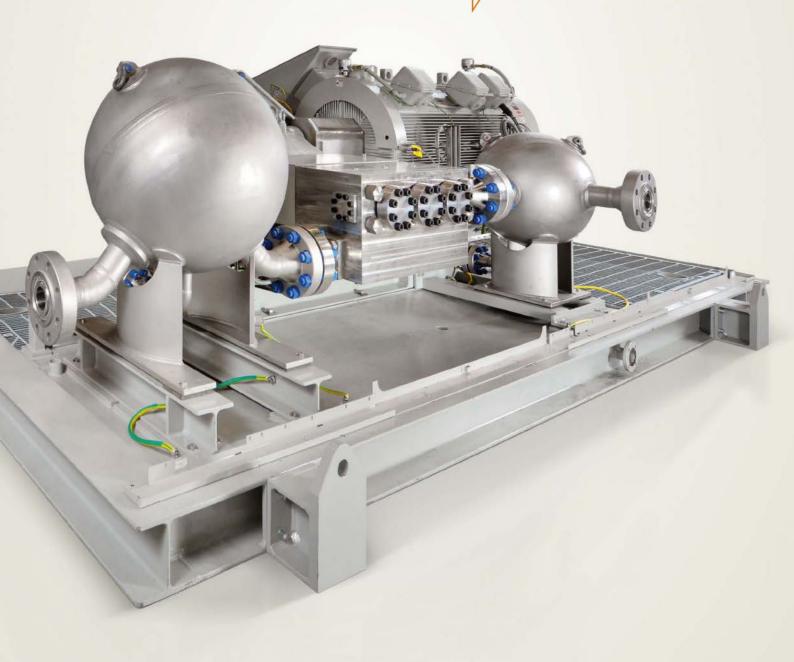
Industry: Oil B Gas Installation location: Middle East (onshore) Application: Onshore gas production, methanol injection Our solution: — 2x solar-powered LDB-3 pumps





Industry: Oil & Gas + Gas field
Installation location:
Papua New Guinea
Application:
Produced Water Re-Injection
Our solution:
- API 674 plunger pump, G3K550, 20 m³/h, 439 bar









Special requirements require special expertise: as a leading provider for systems in the oil and gas industry has built the largest Chemical Injection Package in the history of the company. The module weighs 715 tons and measures 2.1.3 x 20 x 10 meters.

This ambitious project represents a large challenge to our engineers. The giant has been implemented in more than 7,500 engineering hours. The essential components include over 40 Lewa diaghirating and process pumps in accordance with the API 675 standard as well as 40 IRCDs for additional control of the injection volume. 18 tanks made of stainless steel with a volume of 210 m² and a GRP tank with a volume of 5 m² are added to the second layer. The third layer is a platform with 27 individual tote-tanks for chemicals that is protected against sparking as a result of special rubber insulation.

During the design, a wide array of technical standards and requirements had to be taken into account. The pumps and pipelines were made out of special titanium materials to withstand highly corrosive chemicals. Additionally, all of the equipment for the seven and nine-headed pump systems was housed in a tight space. The package itself is used on a Brazilian FPSO – a production and storage ship for natural gas and crude oil – off the coast of Singapore, once again confirmed its one-of-a-kind expertise as the global leader in pump manufacturing and system integratior with this special solution.

Properties	Chemical Injection Packages
Dimensions	21.3 x 20 x 10 m
Weight	715 t
Pumps	40 diaphragm and process pumps with 40 IRCDs
Injection locations	More than 120
Valves, tools	Over 3,000 components
Storage tanks	18
Pipelines	Over 3,500 m of tubing and piping