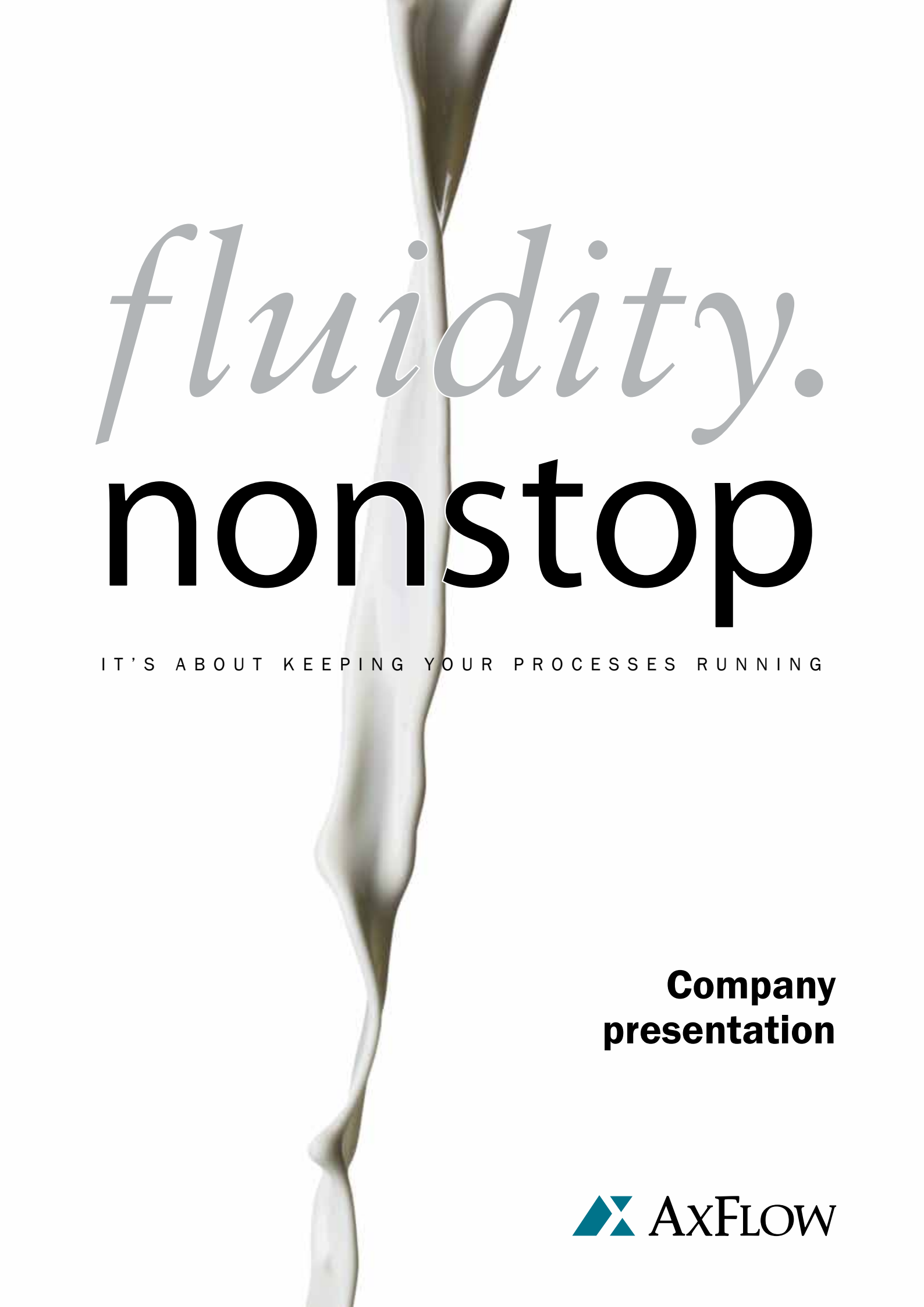


Company presentation

AxFlow

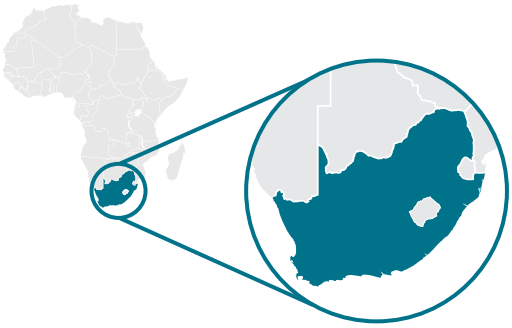
Company profile

Since its foundation in 1989 AxFlow has been representing leading world producers of industrial and laboratory pumps and their accessories in the European market.

AxFlow Group in the world

- 570 professionals in fluid dynamics and pump systems
- branches in 27 countries in Europe and South Africa
- deliveries within 48 hours from European Distribution Centre
- AxFlow Systems - design and construction of pump units and fluid handling systems
- financially stron and farsighted owner Axel Johnson established back in 1873

SOUTH AFRICA



EUROPE

CENTRAL WAREHOUSE, LELYSTAD, THE NETHERLANDS

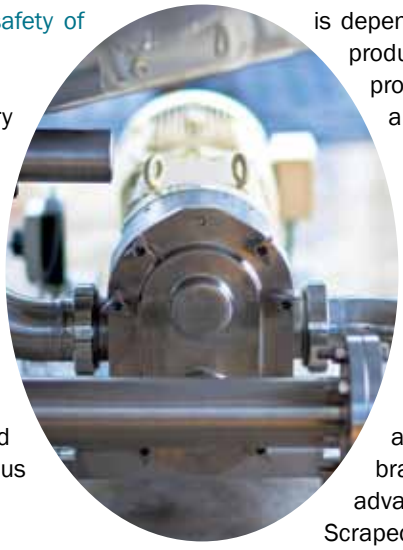
In the Czech Republic and Slovakia AxFlow s.r.o. offers:

- wide range of positive displacement and centrifugal pumps and liquid ring vacuum pumps
- range of fluid handling process equipment
- comprehensive on-site technical services
- consultancy, engineering, training
- regional service and availability in times important to customers
- quick service
- updated product information on www.axflow.cz and www.axflow.sk

COMPANY HEADQUARTERS, PRAGUE

Pump – the heart of your production

Pumping equipment plays a crucial part in each production process. The right choice of a pump matters to productivity, profitability, reliability and safety of the entire process.



At first sight, the pump choice is very simple. You know the required flow rate, the pumped product and the safety standards. In fact, the choice of the right pumping equipment is more complicated.

While choosing from different pumping equipment we always have to take into account a lot of parameters such as the effect of aggressive fluids on pumps and mixers or their use in extreme or dangerous environment.

Certain pumps are designed for prolonged and sustained use without manual intervention. Others are set automatically. In critical applications it may be necessary to build in redundancy and the level of redundancy is dependent on how critical that stage is in the production process. In applications where production lines are changed regularly, ease and speed of cleaning and the ability to minimize waste and capture product residues become even more important. There are lots of questions and plenty to think about. We have been gaining our experience in this field for several decades.

AxFlow offers its customers an extra wide range of positive displacement and centrifugal pumps of proven brands as well as technically enormously advanced vacuum pumps and compressors. Scraped heat exchangers and a wide range of process accessories are also an integral part of our assortment.

AxFlow
Services

AxFlow Service – is about keeping your processes running

Quality, fast and professionally performed installation of pumps, design and assembly of pumping systems and their subsequent service according to current customer needs and requirements are the basis of efficiently and reliably operating technologies and production lines.

AxFlow provides these services directly on the operation site or in authorized service centres in times important to customers and with expertise gained during almost twenty years in the field and thanks to close cooperation with renowned pump producers.

Our customers have an advantage of guaranteed, planned and economic service solutions, thus eliminating unexpected failures of technological equipment.

All AxFlow service technicians and partners are regularly trained within product seminars of AxFlow Group or directly in production plants of suppliers.

Thanks to the technical know-how and background of our company, we provide these services not only to products distributed by us but also to other types of pumps and technologies including original spare parts.

Our offer

European Distribution Centre – fast deliveries of stock spare parts.

AxFlow Systems – small, medium, and large. It's not about size. It's about the perspective.

AxFlow Systems

- application know-how
- design background
- documentation
- high-quality pumps, vacuum pumps, compressors, mixers, heat exchangers, munchers, homogenizers, sensors and controls
- own service
- fast delivery of spare parts
- reference installations throughout Europe

AxFlow is not only the supplier of individual pumps or vacuum pumps and compressors.

We also build comprehensive pump, vacuum and compressor systems tailored to customers' application and production needs.

It does not matter whether you need to dose chemicals, exhaust vapours in the food industry, or CIP clean pharmaceutical production line. We keep delivering more and more systems to our customers and we enjoy it.

Contact us and we will build one for you!

AXFLOW SYSTEMS - THIS IS HOW WE WORK:

- Thorough consultation with the customer
- System design and complete documentation in 2D and 3D
- Professionally performed system assembly
- System testing and detailed documentation
- Delivery and installation to the customer
- Subsequent service and maintenance

Cooling/heating system

The heart of the system is a scraped heat exchanger allowing in-line cooling/heating of media from low-viscosity products in dairy farming to high-viscosity meat mixtures. By connecting the hopper with Waukesha rotary pistons and a CIP unit we can get a comprehensive system for heating/cooling including CIP cleaning necessary in food plants.

- dosing units
- filling units
- vacuum units
- product cooling and heating
- CIP units

SCRAPED HEAT EXCHANGER

HOPPER WITH ROTARY LOBE PUMPS

CLEAN-IN-PLACE UNIT

Mobile pumping unit

A sanitary rotary lobe pump pumps cottage cheese into a filling unit. Mounted into a mobile frame, made of stainless steel SS316/SS304.

Compact dosing unit

Unit for dosing dyes and flavours in the production of sweets, including a control panel.

Food & Beverage

Vacuum unit

A fluid ring vacuum pump sucks in vapours from a reboiler in muesli production. The vapours cool down, condense in a plate heat exchanger, then the liquid part is separated in a separator and pumped into a service liquid tank of the vacuum pump. Dried vapours are conducted away from the system.

Pharmaceutical

Dosing unit

A unit for exact dosing of two kinds of ingredients. Sanitary design, electrolytically polished stainless steel with a maximum roughness of Ra 0.5.

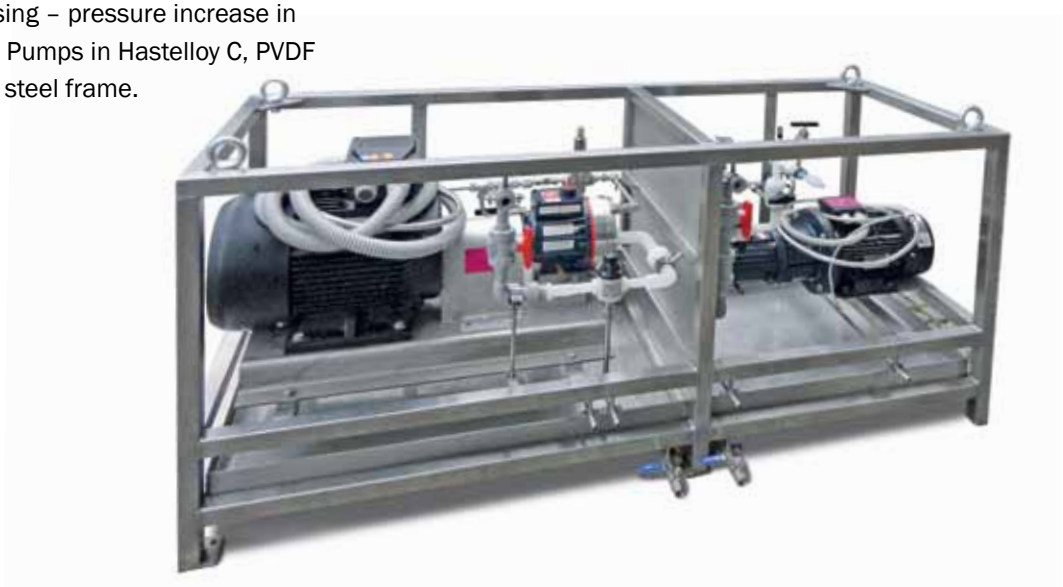
Mobile unit

A mobile storage and dosing system for the pharmaceutical industry. Sanitary design, electrolytically polished stainless steel with a maximum roughness of Ra 0.5.

Chemical

Dosing unit

A dosing system with piston-diaphragm pumps designed for chemicals dosing – pressure increase in subsoil in oil production. Pumps in Hastelloy C, PVDF design. SS304 stainless steel frame.



Petrochemical

Compressor unit

A system for compressing C1–C4 hydrocarbons in ATEX design. Fluid ring compressor, air/fluid exchanger, separator, sensors, valves.

Dosing unit

A unit for dosing inhibitors in the petrochemical industry with a progressive cavity pump with flushed seal system according to API 53B plan.

Dosing unit

Dosing system for exact dosing with high pressure. Operated by control panels of exact peristaltic pumps that inject a medium into piston-diaphragm pumps. These pumps compress the medium to achieve high pressures over 160 bar.

Unit for oil emulsion preparation and dosing

A mixer vessel for the preparation of oil emulsion which is then dosed by air-controlled pumps.

Vacuum system

A vacuum unit with complete circulation of service liquid. A fluid ring vacuum pump exhausts vapours; the liquid part of the service liquid is separated in a separator and then it cools down in a compact heat exchanger and is conducted back to the vacuum pump.

Sanitary industrial rotary lobe pumps

Waukesha Cherry-Burrell

Pump characteristics: pulse-free operation, economical pumping, dry run option, high pumping efficiency, without dead spaces.

Other advantages:

- materials: wet parts SS316L, rotors Alloy 88
- robust design for heavy-duty applications and trouble-free operation
- mechanical and O-ring seals
- connection size: 1”– 8”
- prepared for CIP cleaning
- option of fully stainless pump body

Use in food and pharmaceutical industries:
Pumps developed for applications in food and pharmaceutical industries where it is necessary to pump products economically and under maximally hygienic conditions.

Industry use:
Thanks to a robust design, option of pressurized seals according to API 53A/B, ATEX certification and option of Armoloy coating the pumps are widely used also in the majority of other industry applications.

Accessories:
Heated lid, ventilated lid, safety valve, various kinds of rotors, extended ports, Armoloy coating for highly abrasive media (hardness 78 HRC).

UNIVERSAL I

Maximum parameters of the Universal I line		
Capacity:	102	m^3/h
Pressure:	14	bar
Product temperature:	149	°C

UNIVERSAL UII WITH A MOTOR ON A BASE PLATE

Maximum parameters of the Universal II line		
Capacity:	150	m^3/h
Pressure:	34	bar
Product temperature:	149	°C

MDL

Maximum parameters of the MDL line		
Capacity:	120	m^3/h
Pressure:	10	bar
Product temperature:	90	°C

SANDPIPER

Diaphragm pumps driven by compressed air

Pump characteristics: self-priming, chemically resistant, dry-run option, ability to pump abrasive liquids.

Other advantages:

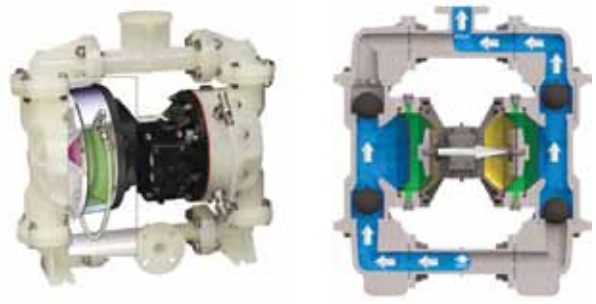
- materials: PP, PVDF, SS316, Hastelloy-C, aluminium, cast iron
- self-lubricated maintenance-free air operation
- special construction for high pressures, flap valves, external valve chamber
- connection size: 1/4“ to 4“

HEAVY DUTY NON-METALLIC FLAP

Maximum parameters		
Capacity:	60	m^3/h
Pressure:	17	bar
Product temperature:	100	°C

HEAVY DUTY METALLIC FLAP

HEAVY DUTY BALL



CONTAINMENT DUTY BALL WITH DIAPHRAGM DAMAGE DETECTION

Heavy-duty construction:

- strengthened air control
- thick-wall casting up to 30 mm
- flap valves:
  - high throughput of particles up to 75 mm
  - for fluid with solid particles
- external chamber (ball):
  - valve balls with a steel core
  - sedimentation will not cause diaphragm rupture
  - for highly concentrated abrasive suspensions

Accessories:

Tranquilizer – active pulsation dampener
AirVantage – air control saving up to 50 % of air
Pulse counter

TRANQUILIZER

Diaphragm pumps driven by compressed air

Pump characteristics: self-priming, chemically resistant, dry-run option, for extreme chemical applications.

Other advantages:

- materials: PE-UMW, PTFE, SS316, SS316L, cast iron, aluminium
- self-lubricated maintenance-free air operation
- special construction with a duplicated housing
- with a heating/cooling option
- connection size: 1/4“ to 3“
- DME line – electrically driven compact pumps
- with a heating/cooling option

Accessories

Active pulsation dampeners, double diaphragms, mixers for homogenization of pumped products.

Maximum parameters		
Capacity:	51	m^3/h
Pressure:	16	bar
Product temperature:	100	°C

DIAPHRAGM PUMPS OF THE DME LINE DRIVEN BY AN ELECTRICAL MOTOR

PLASTIC ALL-TEFLON PUMP, UNIVERSAL CHEMICAL RESISTANCE, ALSO AVAILABLE IN CONDUCTIVE DESIGN – ATEX

HYGIENIC DESIGN WITH DUPLICATED HOUSING FOR WATER, OIL OR VAPOUR HEATING FOR LIQUIDS WITH HIGH DEPENDENCY OF VISCOSITY ON TEMPERATURE

A wide range of spare parts for air-operated diaphragm pumps of other brands

AODD aftermarket parts – qualitatively equal parts at favourable prices for pump brands:

- ARO
- BLAGDON
- DEPA
- FLUX
- GRACO
- VERDERAIR
- VERSA-MATIC
- WILDEN
- YAMADA

Industrial peristaltic pumps

Pump characteristics: dry-run option, reversible, sealless, self-priming, cleanable, chemically resistant and abrasion resistant.

Other advantages:

- robust construction for permanent trouble-free operation up to 16 bar; APEX up to 8 bar
- developed for economical pumping of abrasive and chemically aggressive liquids
- fast hose replacement
- patented direct-coupled mounting with unparalleled durability
- duplicated design – space saving

APEX	with direct drive for medium-pressure industrial applications
BREDEL	with direct drive for heavy-duty industrial applications
CIP	with automatic cam tilting for external cleaning

APEX 28 / APEX 35 – APEX LINE EXTENSION FOR HIGHER FLOW RATES

F-NBR HOSES FOR HYGIENIC APPLICATIONS – FDA, EC, EHEDG, 3A CERTIFICATIONS

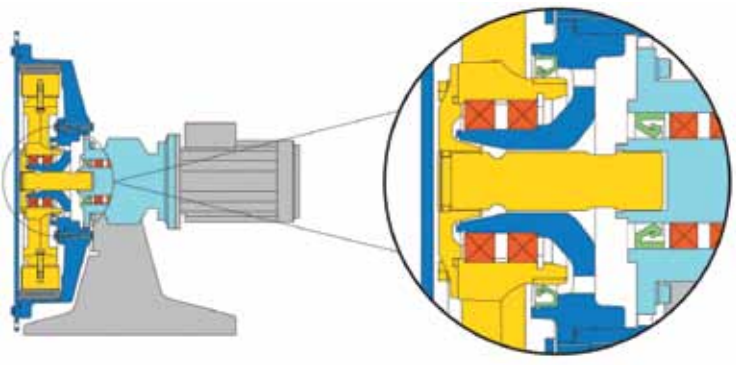
Hoses: NR, NBR, F-NBR, EPDM, CSM, Marprene, sizes DN 10 to DN 100
APEX hoses: NR, NBR, F-NBR, EPDM, CSM, with a new type of cord layers and adapted wall thickness for up to 50 % longer life
Endurance hoses: NR, longer hose life and resistance to abrasion

Accessories
Pulsation dampers, hose damage sensors.

Maximum parameters		
Capacity:	80*	m^3/h
Pressure:	16	bar
Product temperature:	80	°C

**with regard to long hose life*

BREDEL 40



PATENTED "DIRECT COUPLED" MOUNTING – DIRECT CONNECTION OF THE PUMP WITH THE GEAR MOTOR

Laboratory peristaltic pumps

- developed for dosing and filling distribution of liquids
- laboratory and industrial design up to IP 66
- OEM models for machines and equipment producers
- multi-channel pumping and low-pulse heads
- dosing accuracy of up to +/- 0.5 %
- fixed revolutions; manual, analogue (0–5 V, 4–20 mA) or digital control (RS232, RS485)
- speed regulation from 0.1 rpm

Accessories:
Filling needles, racks, external switches, hose couplings. LoadSure for easy replacement.

Tubes:
Selection of different materials to ensure mechanical life and chemical compatibility with a pumped medium: MARPRENE, PUMPSIL, BIOPRENE, NEOPRENE, STA-PURE PFL, STA-PURE PCS, PUREWELD XL.

OEM LINE

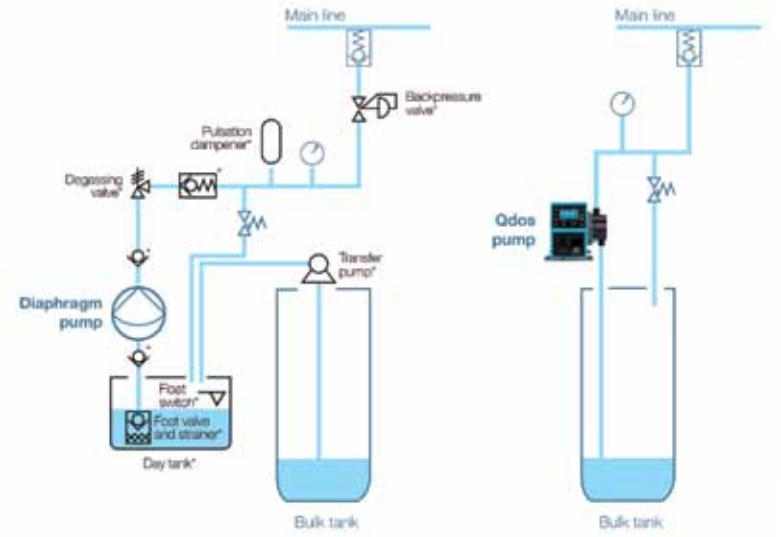
300 LINE

Maximum parameters of line 100–800		
Capacity:	8	m^3/h
Pressure:	4	bar
Product temperature:	80	°C

Maximum parameters of the Qdos line		
Capacity:	0.12	m^3/h
Pressure:	7	bar
Product temperature:	80	°C

Qdos line: 30 - 60 - 120

- an alternative to diaphragm dosing pumps
- valve-free design
- also able to dose aerated products
- quick and easy maintenance with low costs
- dosing accuracy up to +/- 1 %, repeatability +/- 0.5 %
- broad control possibilities: manual on the display input/output: 4–20 mA, remote control, PROFIBUS (DP V0)



SIMPLIFIED CONNECTION WITH THE USE OF QDOS PUMPS AS COMPARED TO DIAPHRAGM PUMPS

QDOS 30

Piston-diaphragm pumps, single- and multi-acting, sealless

Pump characteristics: robust pumps for high-pressure pumping, dry-run option, ability to pump abrasive liquids, accuracy +/- 1 %, linearity +/-3 %, repeatability +/- 3 %.

Other advantages:

- materials: SS316, cast iron, brass, PP, PVDF, Hastelloy-C, Kalrez
- multi-diaphragm, piston, sealless pump with high efficiency
- Kell-Cell – anticavitation system – prevention of pump damage by cavitation
- hydraulic drive of the diaphragm – long life
- process and dosing design
- connection size: 1/2“ to 2½“
- P line for dosing, T line complying with API 674

Accessories

Safety, relief, bleed valves, oil cooler, pulsation dampeners, control unit with a control panel for exact dosing.

HYDRA-CELL G LINE – NEW SIZE G66

Maximum parameters of the G line		
Capacity:	15	m^3/h
Pressure:	172	bar
Product temperature:	120	°C

Industrial use:

Thanks to the robust construction and material possibilities of the pump (e.g. Kalrez diaphragms) it is specially suitable for heavy-duty chemical applications, but also for mining.

HYDRA-CELL P LINE – FOR EXACT DOSING

Maximum parameters of the P line		
Capacity:	3	m^3/h
Pressure:	172	bar
Product temperature:	120	°C

HYDRA-CELL PUMPS OF THE T (TRIPLEX) AND Q (QUINTUPLEX) SERIES COMPLYING WITH API 674

Maximum parameters of the T line		
Capacity:	35.7	m^3/h
Pressure:	345	bar
Product temperature:	120	°C

Bran+Luebbe

Piston-diaphragm, piston and plunger dosing pumps

Pump characteristics: highly precise dosing up to high pressures, dry-run, complies and exceeds API 675 requirements: accuracy > 0.5 %, linearity > 3 %, repeatability > 1.5 %

Other advantages:

- materials: stainless steel SS316, SS316L, SS316Ti, SS304L, PP, PVC, PVDF, special at request
- unique double-acting pump head
- diaphragm sealless pump with high efficiency
- hydraulic drive of the diaphragm – long life
- parallel dosing of several products at once with individual regulation
- mechanical, electronic or pneumatic stroke regulation
- custom construction of customer systems

Accessories
Safety, relief, bleed valves, pulsation dampeners, calibration pots.

PROCAM SMART – BASIC LINE OF PISTON/ PISTON-DIAPHRAGM PUMPS WITH A MECHANICALLY DRIVEN DIAPHRAGM

Maximum parameters of the PROCAM line		
Capacity:	3	m^3/h
Pressure:	80	bar
Product temperature:	80	°C

NOVADOS WITH A DOUBLE-ACTING HEAD

NOVADOS
– PISTON/PISTON-DIAPHRAGM PUMP WITH A HYDRAULICALLY BALANCED DIAPHRAGM

Maximum parameters of the NOVADOS line		
Capacity:	40	m^3/h
Pressure:	1,000	bar
Product temperature:	150	°C

DOUBLE-ACTING PUMP HEAD

- patented Bran+Luebbe technology
- combination of two pumping heads – the pump also doses during the reverse movement of the piston
- double flow rate with the same layout dimensions

NOVAPLEX – HIGHLY EFFICIENT PISTON-DIAPHRAGM PUMP WITH A HYDRAULICALLY BALANCED DIAPHRAGM AND SPEED REGULATION

Maximum parameters of the NOVAPLEX line		
Capacity:	120	m^3/h
Pressure:	1,000	bar
Product temperature:	150	°C

AxFlow

Piston pumps

Piston and plunger pumps

Pump characteristics: robust construction, high efficiency of 90 %, wide range of materials, complies with API 674, ATEX.

Other advantages:

- materials: cast iron, steel, SS316, duplex stainless, aluminium/bronze, hastelloy
- hardened pistons – ceramics, tungsten carbide
- easy maintenance
- use for heavy-duty applications, abrasive media, cold/hot applications
- three-head/five-acting design – lower pulsation

Maximum parameters		
Capacity:	362	m^3/h
Pressure:	690	bar
Product temperature:	150	°C

Drum pumps

Drum pumps

Pump characteristics and advantages:

- materials: SS316, PP, PVC, PVDF, PTFE
- lengths: 61-69-102-122-183 cm
- diameters: 3.2 - 3.8 - 5.1 cm
- drives: electrical, with speed regulation, air, for non-explosive environment
- Food Grade option – A3 certification

Accessories: flowmeters with cumulative and filling-distribution function, hoses, guns, filters, wall bracket.

PF	line for continuous operation, tapping and filling distribution
EF	economy line for medium load
HVDP	line with a screw rotor for viscosities of up to 100.000 mPas and 25 l/min
TM	drum mixers

Maximum parameters		
Capacity:	9	m^3/h
Pressure:	2.4 (9.1*)	bar
Product temperature:	105	°C

**HVDP line*

FTI – DRUM PUMPS

Progressive cavity pumps with an eccentric rotor

Pump characteristics: self-priming, pulse-free, economical pumping, high-pressure versions, high pumping efficiency.

Other advantages:

- materials: cast iron, SS316, SS316L
- developed for industrial applications for the pumping of viscous and abrasive liquids
- connection size: DN 25 to DN 200
- EZSTRIP version with easily removable chamber for easy servicing without piping disassembly

COMPACT	pump of a simple joint construction with longer life
EPSILON	pump for high load with a flexible shaft (Flexishaft)
WIDETHROAT	pump with a rectangular hopper and screw feeder for highly viscous non flowing media (drained sludge, paste, purée etc.)
API 676	pump complying with API 676 standard

G-Range, M-Range, Merlin, CP – economy lines for low flow rates.

Maximum parameters		
Capacity:	420	m^3/h
Pressure:	24	bar
Product temperature:	90	°C

EZSTRIP™ PUMP VARIANT WITH AN EASILY REMOVABLE CHAMBER – ALLOWS FAST PUMP SERVICING IN-SITU WITHOUT PIPING DISASSEMBLY

Mono®

EPSILON LINE WITH A FLEXIBLE SHAFT (FLEXISHAFT)

MONO FLEXISHAFT

- patented Mono flexible shaft dealing with eccentric movement without complicated shaft mounting
- significantly longer rotor life
- no need of shaft lubrication – no product contamination

DOSING PUMPS OF THE L LINE FOR FLOW RATES OF UP TO 1250 L/H

UNIVERSAL PARTS
– QUALITY SPARE PARTS FOR SEEPEX, NETZSCH, PCM, ALWEILER, ROBBINS & MYERS, BORNEMANN, ORBIT, MOYNO PUMPS

AxFlow

Industrial pumps with internal and external gear

Pump characteristics: self-priming, robust, reversible, pulse-free, ability to pump highly viscous products, hot and abrasive fluids, pump versions according to API 676, lines with internal and external gear.

Other advantages:

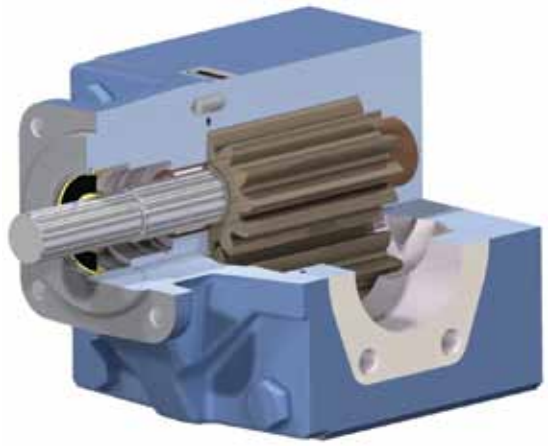
- materials: cast iron, ductile iron, steel, SS316
- internal gear – maximization of flow rate, minimum parts subject to wear
- connection size: 1/4“ to 10“ in a standard design
- more than 100 years of tradition
- heated versions (electrically or with a heat-conductive medium)

UNIVERSAL SEAL	heavy-duty pump with constructional modifications and seal options
MOTOR SPEED	pump designed for high speed and medium load
UMD	heavy-duty pump with a magnetic drive
SPUR GEAR	pump with external gear for high pressures
LVP	heavy-duty pump for low-viscosity fluids
LPG	for pumping liquefied gas

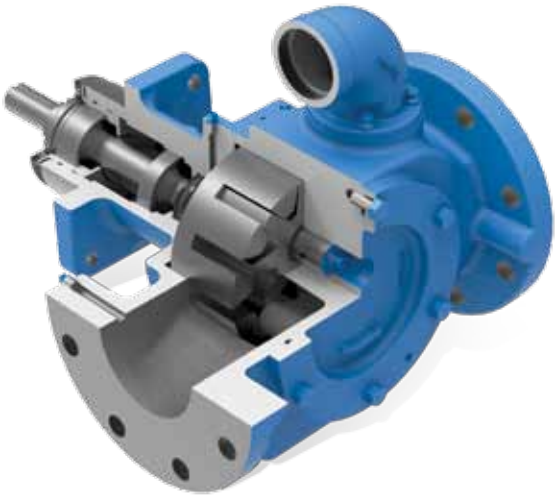
Accessories Duplicated housing, hardened parts, integrated safety valves, special mechanical and cartridge seals, suction baskets.

Maximum parameters		
Capacity:	364	m^3/h
Pressure:	170	bar
Product temperature:	371	°C

UNIVERSAL SEAL – HEAVY-DUTY LOAD LINE



SPUR GEAR – LINE WITH EXTERNAL GEAR FOR HIGH PRESSURES



MOTOR SPEED – LINE FOR HIGH SPEED
POSSIBILITY OF DIRECT CONNECTION TO THE MOTOR WITHOUT A TRANSMISSION

VIKING PUMP

Industrial pumps with internal gear according to API 676

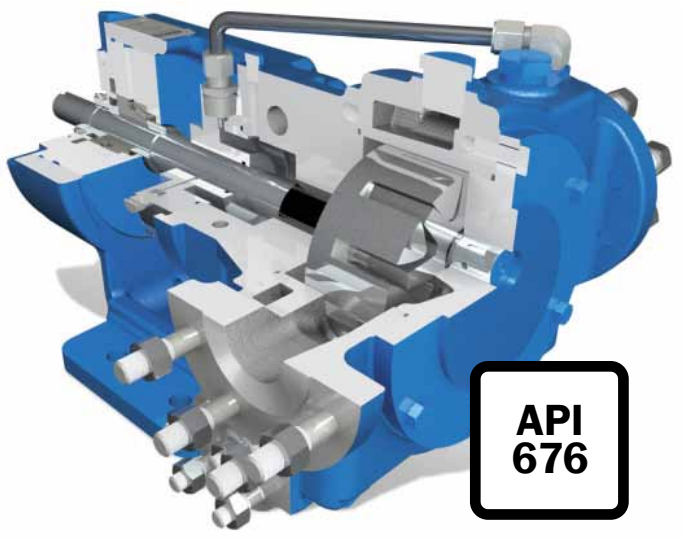
Viking pumps offer 3 possibilities of meeting API 676

UNIVERSAL SEAL	basic version with cartridge seal inspired by the API 676 standard
UNIVERSAL 682	pump with cartridge seal according to API 682, with exceptions from the API 676 standard
XPD 676	pump fully meeting the API 676 standard with cartridge seal according to API 682

Maximum parameters of the lines according to API 676		
Capacity:	250 (364*)	m^3/h
Pressure:	14	bar
Product temperature:	205	°C

**UNIVERSAL 682 LINE*

UNIVERSAL 682 LINE – WITH CARTRIDGE SEAL ACCORDING TO API 682



XPD 676 LINE – FULLY MEETING THE API 676 STANDARD WITH CARTRIDGE SEAL ACCORDING TO API 682

Hygienic pumps with internal gear

For use in the food and pharmaceutical industries

- materials: SS316 body, hygienic materials
- sanitary design
- EHEDG, 3A, FDA, USDA certification
- O-ring or mechanical seal
- fast CIP/COP cleaning
- medium viscosity of up to 220,000 mPas

Maximum parameters of the hygienic line		
Capacity:	73	m^3/h
Pressure:	10	bar
Product temperature:	107	°C

HYGIENIC LINE OF THE VIKING PUMPS

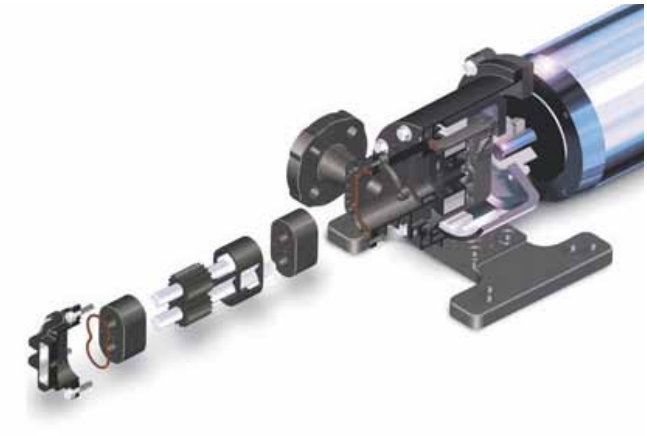
Accessories Duplicated housing, safety valves, different optional ports, suction strainers.

AxFlow

All-plastic and metal gear pumps with a magnetic drive

Pump characteristics and advantages:

- metal and all-plastic design
- materials: PVDF, SS316
- cases: C, SiC
- seals: Viton, EPDM, Kalrez
- connection sizes: 1/4“ to 1 1/2“
- high chemical resistance
- sealless design and minimum number of parts serviceable without piping disassembly
- dry-run option



Maximum parameters		
Capacity:	7.5	m^3/h
Pressure:	10	bar
Product temperature:	65	°C

Precise micro-gear pumps with a magnetic drive

Pump characteristics and advantages:

- materials: SS316, Hastelloy-C276 and B2, Titanium
- connection size: 1/8“ to 3/4“
- sealless design, pulse-free operation, high system pressures
- suction shoe version – constant parameters Q/H for the whole service life
- OEM construction, integrated 12 and 24 VDC drives with optional speed regulation

GJ LINE

GB LINE

Maximum parameters		
Capacity:	2.5	m^3/h
Pressure:	8.7	bar
Product temperature:	177	°C

Pumps with external gear

Isochem – magnetic drive pumps
ECO – pumps with mechanical seal

Pump characteristics and advantages:

- materials: SS316, Hastelloy-C, Alloy 20
- connection size: 1/4“ to 2“
- high dosing accuracy, pulse-free operation
- accessories: safety and back-pressure valve, duplicated housing for heating

ISOCHEM GMC

Maximum parameters		
Capacity:	14	m^3/h
Pressure:	14	bar
Product temperature:	232	°C

Gear pumps

High-pressure pumps with external gear for exact pulse-free dosing

Pump characteristics and advantages:

- materials: cast iron, hardened steel SS440B, SS316, surface treatment ADLC (diamond micro-layer), PEEK
- connection size: 1/4“ to 1“
- various seal designs
- suitable for the pumping of pigments, resins, polyurethane, dyes, silicone, adhesives, coatings etc.
- accuracy +/-2 %
- repeatability +/- 0.5 %
- the quality and tradition of a Swiss brand

Maximum parameters		
Capacity:	1.2	m^3/h
Pressure:	100	bar
Product temperature:	135	°C

POMTAVA 2610-1-1

Rotary lobe pumps

Coated rotary lobe pumps

Pump characteristics and advantages: self-priming, reversible, abrasion resistant.

Other advantages:

- materials: body – SS316, AISI410
  rotors – NBR, EPDM, FKM, SS316, AISI410
- ability to pump media containing large particles of up to 50 mm
- suitable for media with a viscosity of up to 100,000 mPas
- ideal pump for WWTP use a number of other optional applications, e.g. dyes and adhesives pumping
- connection: DIN 11851, Tri-clamp, SMS, ANSI flanges
- connection size: DN 50 to DN 125

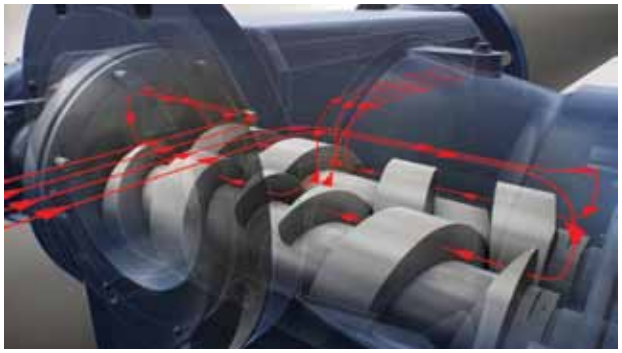
Maximum parameters		
Capacity:	120	m^3/h
Pressure:	10	bar
Product temperature:	80	°C

Screw and vane pumps for hygienic and industrial applications

Pump characteristics: very robust and reliable construction of a pump able to pump media with low and very high viscosity (up to 1,000,000 mPas).

Other advantages:

- materials: SS316L, steel, cast iron, Hastelloy, Inconel, bronze, Duplex, Super Duplex, HVOF Spray Coated
- version for heavy-duty industrial applications with ATEX option, API 676
- sanitary version for use in the food and pharmaceutical industries with 3A, EHEDG certification
- very quiet operation without pulses
- economical product pumping
- also able to pump aerated fluids
- large range of flow rates, pressures and viscosities
- low power consumption



PUMPING PRINCIPLE OF A SCREW PUMP WITH TWO PAIRS OF SCREWS

Maximum parameters		
Capacity:	1,700	m^3/h
Pressure:	24	bar
Product temperature:	180	°C

HM universal screw pump with one pair of screws
HD universal screw pump with two pairs of screws
FMH sanitary screw pump for hygienic applications

We also offer vane pumps suitable for industrial and hygienic applications.

HD LINE – SCREW PUMP WITH TWO PAIRS OF SCREWS

HYGIENIC FMH LINE WITH A HEATED CHAMBER

3PPRINZ VANE PUMP

Stainless pumps for food, pharmaceutical and other industries

Pump characteristics: horizontal, vertical and self-priming centrifugal pumps.

Other advantages:

- materials: high-quality SS316, SS316L, Duplex
- electrolytically polished surface – roughness Ra up to 0.4 µm
- hygienic seals without dead spaces
- CIP/SIP cleanability and sanitability according to EHEDG requirements
- open, semi-open, closed impellers
- wide options of hygienic connections

MCP PUMP – INDUSTRIAL MADE OF DUPLEX STEEL

PHP PUMP – PHARMACEUTICAL LINE

Maximum parameters		
Capacity:	1,000	m^3/h
Pressure:	12	bar
Product temperature:	140	°C

Plastic and stainless centrifugal pumps with a magnetic drive for chemical industry and machine and equipment producers

Pump characteristics: horizontal and self-priming design, OEM construction with a magnetic drive for integration into machines and systems with a dry-run option with graphite bushing.

Other advantages:

- materials: SS316, PP, PVDF, ETFE, PPS
- OEM construction from a flow rate of 1 l/min and displacement of 1 m with integrated drives from a power output of 2 W with a speed control possibility of 4–20 mA for voltages of 12–24 VDC, or 230/400 VAC
- design with multi-level impellers for low flow rate and high displacement
- connection sizes DN 15 to DN 80

Maximum parameters		
Capacity:	84	m^3/h
Pressure:	7	bar
Product temperature:	90	°C

OEM PI LINE – HORIZONTAL PUMP WITH A MAGNETIC DRIVE FROM 1 L/MIN WITH A SPEED CONTROL POSSIBILITY OF 4–20 mA

NH-351PW LINE
HIGH-PRESSURE PUMP WITH A MAGNETIC DRIVE

Waukesha Cherry-Burrell

Premium stainless centrifugal pumps for food, pharmaceutical and other industries

Pump characteristics: horizontal centrifugal pumps developed for hygienic applications.

Other advantages:

- materials: SS316L, electrical polishing
- surface treatment up to Ra 0.5
- robust and reliable construction
- silent operation with minimal vibrations
- specially developed five-vane impeller for better suction effects and higher efficiency
- CIP/SIP cleaning according to EHEDG certification
- 3A certification available
- possibility of different legs for easy installation
- mechanical seals and magnetic drives

Maximum parameters		
Capacity:	600	m^3/h
Pressure:	15	bar
Product temperature:	232	°C

UC complete line of premium sanitary pumps:

UC multi-level sanitary pump; up to 15 bar
UCi pump version with suction inducer for even lower NPSHr and lower cavitation risk
UCh version for high pressures
UCa aseptic pump for the pharmaceutical industry
UCs self-priming pump with low noise

UNIVERSAL CENTRIFUGAL (UC) LINE

UCI LINE – WITH SUCTION INDUCER

ECOPURE™ LINE

DETAIL OF THE UC LINE SEAL

Plastic, stainless and cast iron centrifugal pumps with a magnetic drive or mechanical seals

Pump characteristics: horizontal, vertical and self-priming design with a magnetic drive and integrated graphite bushing with a dry-run option.

Other advantages:

- materials: SS316, cast iron, PP, PVDF, ETFE
- optimized construction with a magnetic drive and efficiency of up to 70 %
- self-priming design
- modular design of vertical pumps with a magnetic drive and length of up to 152 cm
- connection NPT, BSP, flanges
- connection sizes DN 25 to DN 80

Maximum parameters		
Capacity:	329	m^3/h
Pressure:	20	bar
Product temperature:	121	°C

FTI – CENTRIFUGAL PUMPS

DB plastic centrifugal pumps with a magnetic drive; up to 50 m^3/h

SP self-priming plastic centrifugal pumps with a magnetic drive; up to 50 m^3/h

UC heavy-duty centrifugal pumps with a magnetic drive; up to 329 m^3/h, cast of ductile iron reinforced with ETFE; Viton, EPDM, Simriz, Kalrez, Aflas sealing options.

Other pump lines – plastic, cast iron, stainless; with mechanical seal/magnetic drive; self-priming; horizontal/vertical.

SP – SELF-PRIMING PLASTIC PUMP WITH A MAGNETIC DRIVE

UC1518L – HEAVY-DUTY CENTRIFUGAL PUMP WITH A DISPLACEMENT PRESSURE OF UP TO 20 BAR

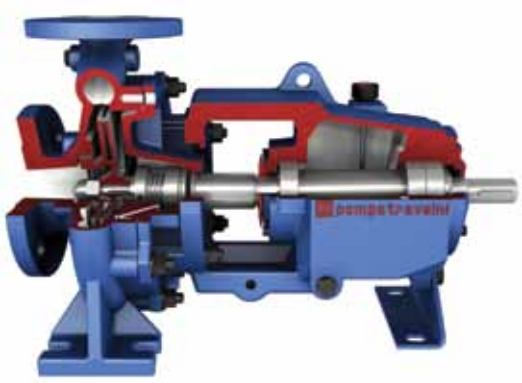
UC6410 – HEAVY-DUTY CENTRIFUGAL PUMP WITH A FLOW RATE OF UP TO 329 M^3/H

Industrial centrifugal pumps

Pump characteristics: horizontal monoblock or bare-shaft version, closed or open impellers, self-priming, one-level and multi-level, different kinds of seals or versions with a magnetic drive.

Other advantages:

- materials: ductile iron, cast iron, stainless steel SS316, Hastelloy-C, bronze and other special alloys
- standard design according to ISO 2858, 3069, 9906, 10816-3, 1940
- optionally ISO 5199 for heavy-duty chemical plants
- closed, semi-open, open, vortex impellers
- seals according to API requirements, choice of soft, mechanical, cartridge seals and magnetic drives
- independent bearing case for long service life
- TBH/GP line for LPG pumping



TCH – CONSTRUCTION WITH A CLOSED IMPELLER FOR CLEAN AND SLIGHTLY CLOUDY FLUIDS

TCH	centrifugal pumps with a closed impeller up to 2,200 m^3/h and 16 bar
TCHV	vertical pumps derived from the TCH line
TCT	centrifugal pumps with open vortex impeller up to 250 m^3/h and 7 bar
TCHM-TCTM	monoblock pumps with closed vortex impeller up to 500 m^3/h and 10 bar
TCA	one-level pumps with fully open impeller up to 100 m^3/h and 10 bar
TCD	one-level pumps for the transport of heat-exchange oils up to 250 m^3/h and 10 bar
TCK	one-level pumps with a magnetic drive up to 300 m^3/h and 16 bar
TBA	self-priming multi-level pumps with extra low NPSHr up to 35 m^3/h and 35 bar
TBH	self-priming with low NPSHr multi-level pumps up to 70 m^3/h and 40 bar; GP version for LPG pumping
TMA-TMH	multi-level pumps up to 45 m^3/h and 40 bar, alternatively up to 350 m^3/h and 64 bar

TBA – SELF-PRIMING HIGH-PRESSURE PUMP CONSTRUCTION WITH VERY LOW NPSHR, ABLE TO PUMP FLUIDS AT THEIR BOILING POINTS WITH MINIMUM CAVITATION RISK; COMPACT BEARING SHIELD, SHORT SHAFT AND COMPACT DIMENSIONS EXCLUDE VIBRATIONS, THUS EXTENDING THE LIFE OF THE BEARINGS AND SEALS.

TCD – CONSTRUCTION FOR HEAT-EXCHANGE OILS UP TO 320 °C WITH A SIMPLE MECHANICAL SEAL WITHOUT COOLING, DERIVED FROM THE DIN 24258 STANDARD OF CHEMICAL PUMPS; BEARINGS ARE LUBRICATED WITH A BEARING OIL AND NOT WITH THE PUMPED FLUID AS IN COMPETITIVE PRODUCTS.

Maximum parameters		
Capacity:	2,200	m^3/h
Pressure:	16	bar
Product temperature:	320	°C

Fluid ring and dry-run vacuum pumps, fluid ring compressors

Equipment characteristics: one-level and two-level fluid ring vacuum pumps for stable delivery of vacuum to production technologies.

TRMX	economy version in a monoblock design; economic operation with up to 20 % higher power output compared to the previous line; low consumption of sealing liquid; anticavitation system; flow rates of up to 65 m^3/h
TRVX	one-level vacuum pumps; the central casing containing a suction and a displacement port and a water inlet was optimized; 50 % lower water consumption; 30 % less material; 10 % higher capacity with the same drive power output compared to competitive products; up to 1,050 m^3/h
TRM-TRV	one-level vacuum pumps up to 270 m^3/h or 500 m^3/h and 33 mbar(a)
TRH-TRS	two-level/one-level vacuum pumps up to 3,500 m^3/h
TRVK	one-level vacuum pumps for high vacuum, up to 23,000 m^3/h
TRSK	one-level vacuum pumps for medium and high vacuum, up to 30,000 m^3/h
BORA	dry-run vacuum pumps with rotary lubes up to 3,000 m^3/h – in contrast to fluid ring vacuum pumps there is no need to use service fluid
SA	fluid ring compressors for pressures of up to 11 bar; up to 110 m^3/h

pompetravaini

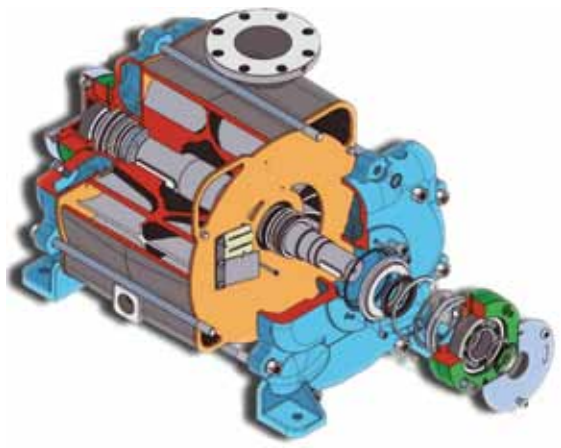
TRH LINE

BORA DRY-RUN VACUUM PUMPS

Other advantages:

- materials: SS316, cast iron
- bare-shaft and monoblock versions
- large range of flow rates and high vacuum option
- long-term experience of the producer and active development of new lines

Maximum parameters		
Capacity:	30,000	m^3/h
Vacuum:	33	mbar abs.



TRVX LINE – REVOLUTIONARY CONSTRUCTION SAVING MATERIAL AND SERVICE WATER, WITH A SPECIAL ANTICAVITATION SYSTEM TO ACHIEVE DEEP VACUUM

AxFlow

Vacuum systems using Pompetravaini components

Equipment characteristics: unique vacuum units with partial or complete circulation of service liquid.

Other advantages:

- materials: cast iron, SS316
- optional ATEX design
- compact design, low operating costs

Vacuum systems

- service fluid: water, oil, hydrocarbons etc.
- closed circulation of service liquid with a separator and heat exchanger with complete circulation of service liquid

Compact vacuum systems

- service fluid: water, oil, hydrocarbons etc.
- compact units with partial or complete circulation of service liquid and a separator

Maximum parameters		
Capacity:	3,500	m^3/h
Vacuum:	5	mbar abs.

COMPACT VACUUM UNIT WITH COMPLETE CIRCULATION OF SERVICE LIQUID (METHANOL) WITH A SEPARATOR AND A HEAT EXCHANGER

VACUUM SYSTEM WITH A FLUID RING VACUUM PUMP AND A FRONT-END DRY-RUN VACUUM PUMP TO ACHIEVE HIGH VACUUM AND LOW ENERGY CONSUMPTION

VACUUM SYSTEM WITH COMPLETE RECIRCULATION OF SERVICE OIL

High-end Lightnin vertical agitators and mixers

High-quality agitators and mixers for heavy-duty industrial and food applications.

LB2, GP2	laboratory mixers with a control panel and display; up to 0.15 kW
NETTCO	modular food agitators 3A, EC 1935:2204; up to 2.2 kW
ECL	industrial mobile agitators ATEX, electric/pneum. motors; up to 4 kW
LINE 10	heavy-duty industrial agitators robust transmission, cone bearings with long life, wide range of seals; up to 18.5 kW
LINE 70/80	heavy-duty industrial agitators derived from line 10, for higher power output of up to 150 kW
LINE 700/800	heavy-duty industrial agitators for the most demanding applications; up to 500 kW

Lightnin

Materials:

- SS316, optional polishing to Ra 0.8 – for the pharm. industry
- Hastelloy – for heavy-duty chemical applications

LINE 10

ECL

NETTCO S

Parameters		
Power output:	0.75 - 500	kW
Speed:	9 - 2500	rpm

Mixing and blending

Lightnin Bran+Luebbe Waukesha Cherry-Burrell

Equipment mainly for the food industry, complying with EHEDG.

Mixing equipment DTL – Used for mixing powders and fluids (dried milk, syrup production etc.) or homogenization of two fluids.

Static mixers – For inline mixing in a pipeline route, homogenization, steam routing, premixing upstream of the reactor, heat and mass transfer etc.

Dynamic mixers – Ideal for mixing products that are difficult to mix, such as mayonnaise, gel, shampoo, egg whites etc. High level of product dispersion and emulsification.

Colloid mills – Used for mixing many ingredients including solid particles grinding with subsequent homogenization.

Shear pumps – For economical and exact dosing with regard to media sensitivity to friction.

DTL MIXING EQUIPMENT

PENTAX DYNAMIC MIXER

COLLOID MILL

Mixers and agitators

FluidMix

FluidMix mixers and agitators

Mixers and agitators for a wide range of applications:

- for low and high speed (3–1,450 rpm)
- used for small containers (from 100 l) as well as large tanks (over 15 m^3), low- and high-viscosity media our offer includes vertical mixers (top-entry) and horizontal mixers (side-entry – HPS3 line)

Materials of wet parts:

- SS316, SS304, carbon steel, different coating at request

Shaft lengths:

- up to 1.5 m as standard; VFT line up to 12 m

Different shapes and designs of vanes:

VHS3 LINE

VSTG LINE

HPS3 LINE

Valves

Complete valve portfolio

Equipment characteristics: shut-off, safety, back-pressure, regulation, separating, branching, single-seat, double-seat, diaphragm, flap and ball valves.

Wanner – industrial safety valves

- materials: SS316, brass, hastelloy
- diameter: 3/8” to 1 1/4” NPT/BSP
- pressure: max. 138 bar
- temperature: max. 93 °C

Wanner Engineering, Inc.

SPX – hygienic and food valves:

- materials: SS316L, SS316L electrically polished
- control: manual, electropneumatic
- diameter: DN 10 to DN 150
- pressure: max. 10 bar
- temperature: max. 135 °C
- customer modifications of ports

SPX
WHERE IDEAS MEET INDUSTRY

Waukesha Cherry-Burrell

Waukesha Cherry-Burrell

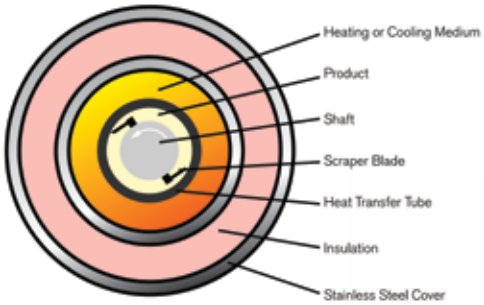
Scraped surface heat exchangers

For on-line cooling, heating, controlled crystallization, polymerization, plastification and septic sterilization of viscous and non-homogenous products not only in the food industry. Available separately or within a system.

Equipment characteristics: rotary scraped surface heat exchangers with a centric, eccentric or oval geometry with duplicated housing and scrapers for high load.

Other advantages:

- materials: SS316, sanitary design
- compact design for vertical or horizontal assembly
- high efficiency of heat exchange compared to plate exchangers
- single and double mechanical seals
- heat exchange area 0.28–1 m^2 per cylinder (degree)
- max. 204 °C, max. 1,000,000 mPas
- indicative capacity max. 9 m^3/h per cylinder (degree) according to temperature conditions
- 3A, ASME and PED certificates



VOTATOR II

VOTATOR LD – VERTICAL CONFIGURATION

Filters

SPX Airpel

Suction strainers and filters for piping

Equipment characteristics: robust filters with one or two baskets, optional self-cleaning.

Other advantages:

- materials – body: SS316, steel, cast iron, bronze
  – baskets: SS316
- size: 3/4“ to 6“
- flange connection: ANSI, DIN, BS10, BS4504
- threaded connection: BSP, NPT
- filtration up to 10 microns
- baskets with a large filtration area and low pressure loss
- process pressure up to 50 bar

Accessories: filter clogging sensor, heated housing, magnetic cartridges, automatic bleeding.

AIRPEL SELF-CLEANING FILTERS

AxFlow

fluidity.nonstop® s about keeping your processes running. And it's our promise and our commitment to a level of service and a quality of product, performanceand expertise that has never been bettered.

By its nature, fluidity.nonstop is never static, that promise is ever-evolving and improving. As needs and demands change, we work to meet those new challenges and try to surpass them. We are Europe's leading source of pumps and pump expertise for the process industry and we intend to maintain that position by working fluidly and ceaselessly to be the best.

AxFlow

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