



Welcome at ARGO-HYTOS

Company Presentation

01.11.2018

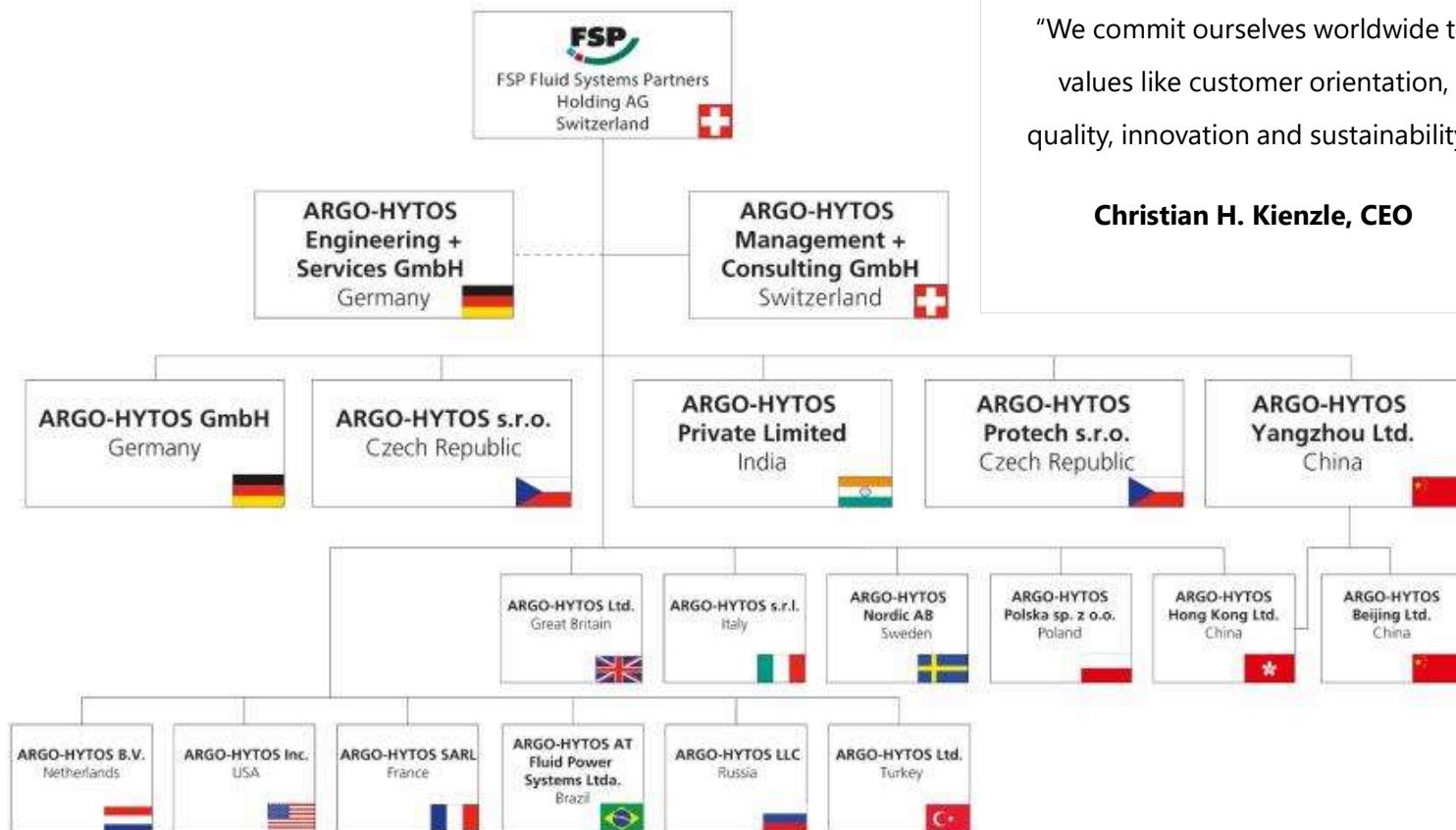
Martin Čadan

Head of Product Management

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ARGO-HYTOS Worldwide

Organization Chart



"We commit ourselves worldwide to values like customer orientation, quality, innovation and sustainability."

Christian H. Kienzle, CEO

ARGO-HYTOS Facts

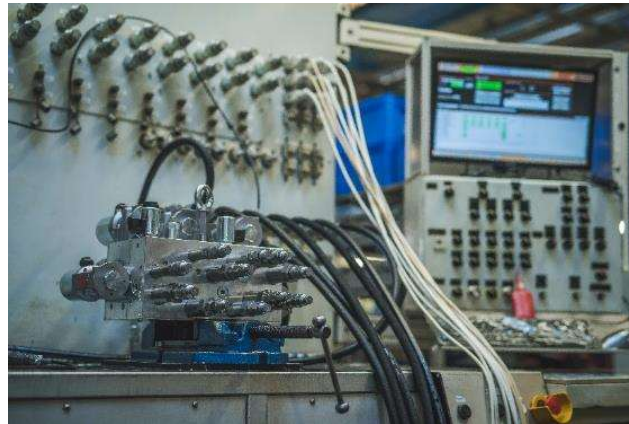
Turnover:
approx. 175 m. EUR

Employees:
approx. 1,600 worldwide

Sales:
own sales organization
& worldwide
representatives

Welcome to ARGO-HYTOS Czech Republic

ARGO-HYTOS s.r.o. - Vrchlabí, Czech Republic



Assembly and Testing



Parts Production

781 Employees

Manufacturing of valves,
power packs, system solutions

Welcome to ARGO-HYTOS Czech Republic

ARGO-HYTOS s.r.o. - Vrchlabí, Czech Republic



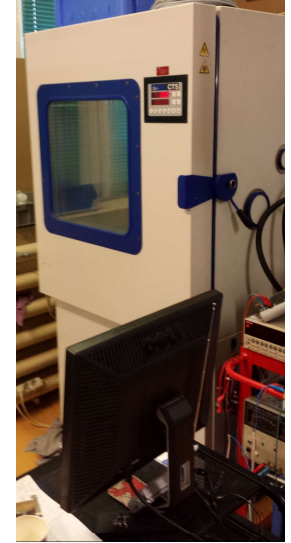
Development

45 Engineers

Manufacturing of valves,
power packs, system solutions

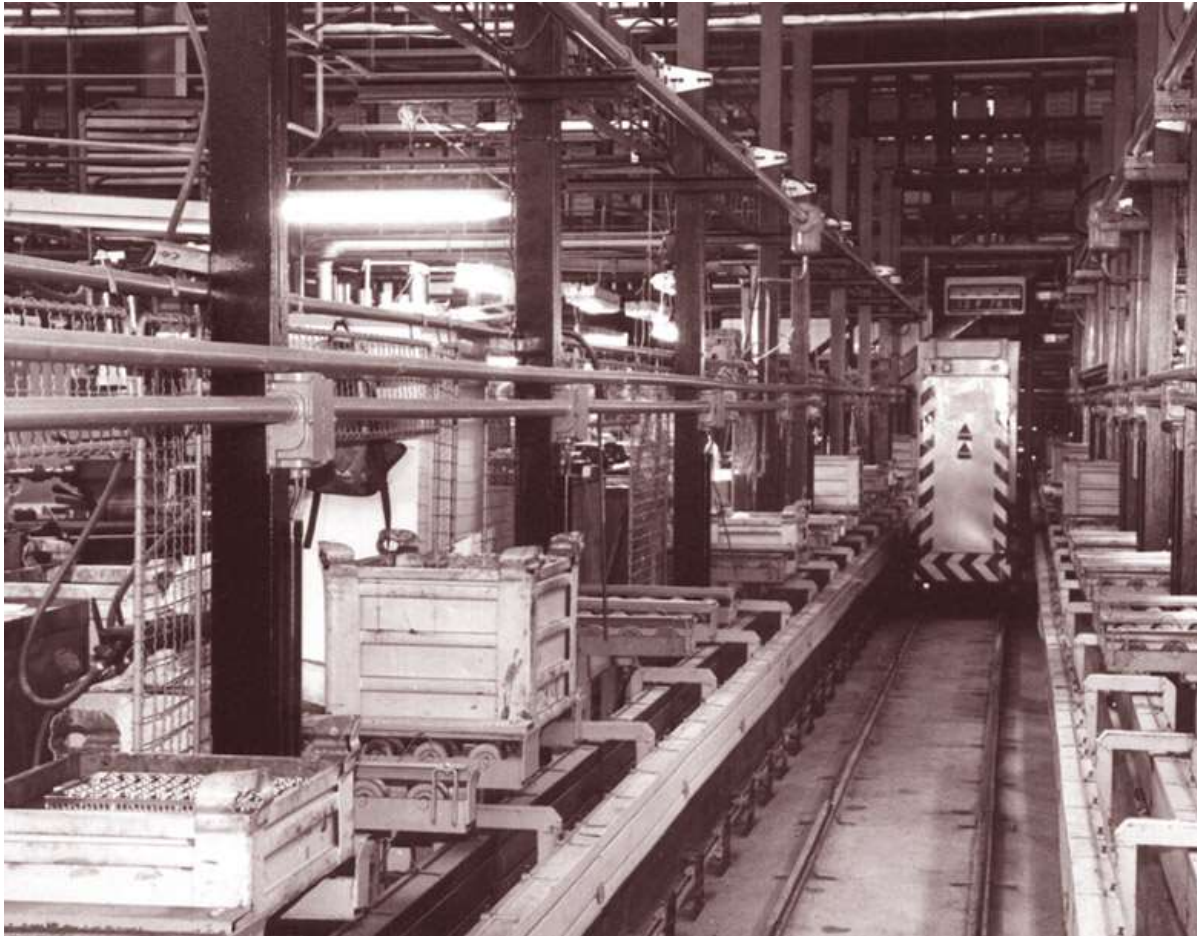


Laboratories



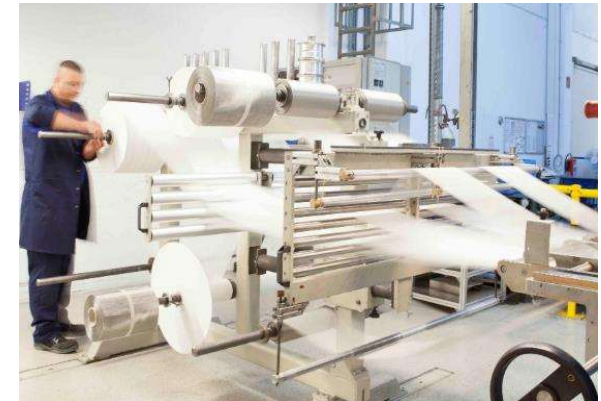
Welcome to ARGO-HYTOS Czech Republic

ARGO-HYTOS s.r.o. - Vrchlabí, Czech Republic – **63 YEARS OF HYDRAULICS PRODUCTION**



Welcome to ARGO-HYTOS Germany

ARGO-HYTOS GMBH – Kraichtal-Menzingen, Germany



Robotic Automation

Filter Element Production



519 Employees

Manufacturing of filter elements,
filtration systems, tank solutions

Welcome to ARGO-HYTOS China

ARGO-HYTOS China and India and other worlds



61 Employees

Manufacturing of valves, manifolds, filter assemblies, power packs, pumps



98 Employees

Manufacturing of filter elements, filtration systems



USA

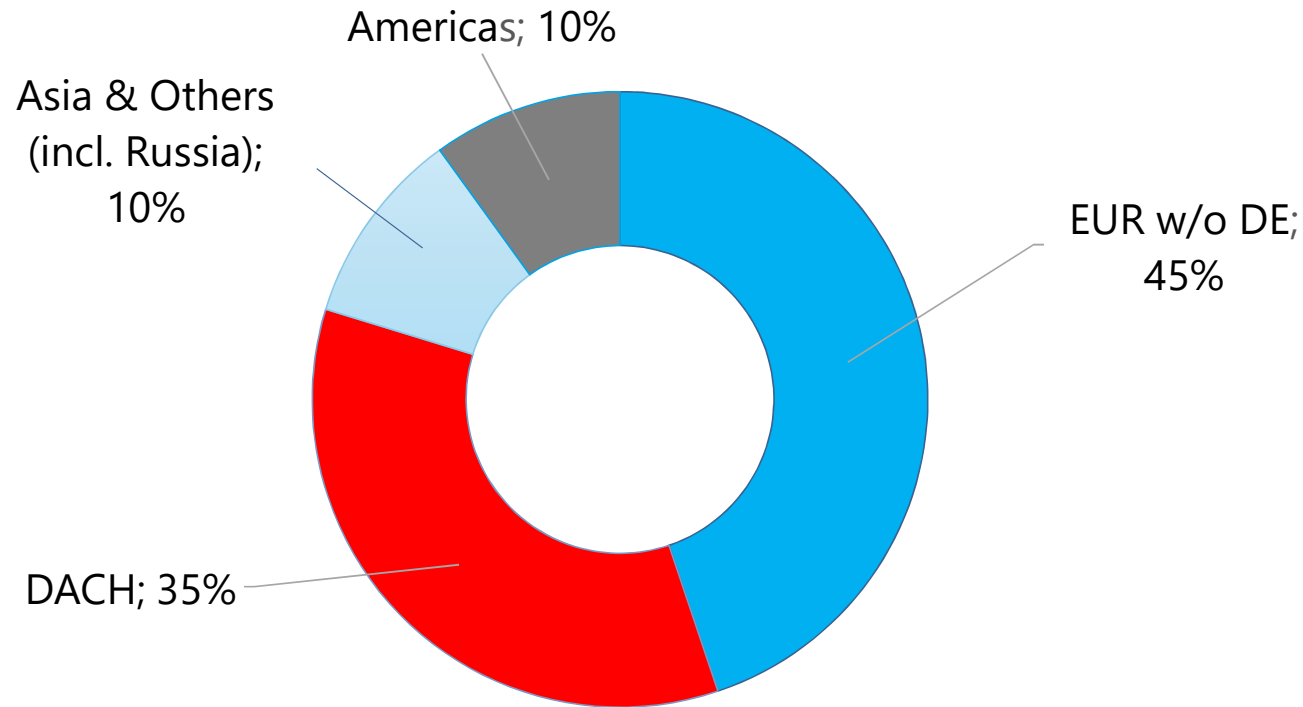


France

Marketing

Target 2020

ARGO-HYTOS is selling its products in the following markets:



Target 2020

Americas	20 %
Asia & Others	20 %

Marketing

Sales

ARGO-HYTOS is focused on business based on:

OEM market – 70 % of our products

- systems and subsystems
- high volume
- customized components

Distribution companies – 30 % of our products

- standard modular components for end users and distributors
- systems and subsystems
- systems and subsystems

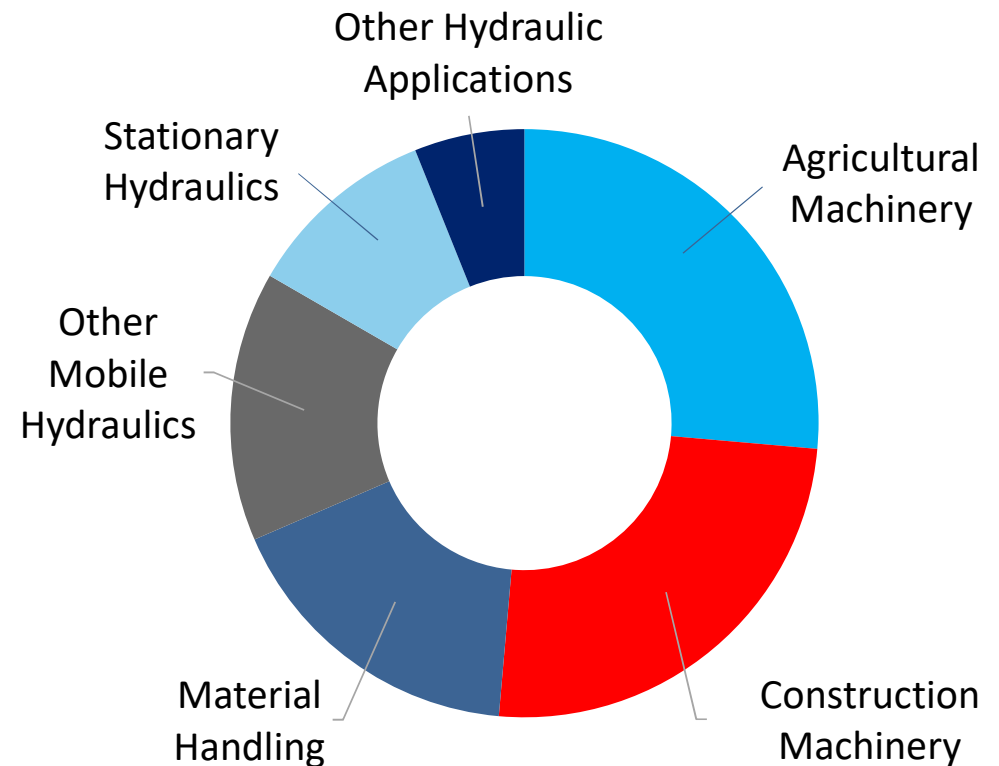


Markets

Industries

We supply our product portfolio into the following markets

- Agricultural Machinery 26 %
- Construction Machinery 25 %
- Material Handling 17 %
- Other Mobile Hydraulics 15 %
- Stationary Hydraulics 11 %
- Other Hydraulic Applications 6 %



Continuous Development

Steady Improvement of Products and Technologies

The company

- promotes ten development projects – special filters for wind power applications, for instance
- is a foundation member of the Chair of Mobile Machinery at the University of Karlsruhe
- supports the research fund for fluid power.

CEO Christian H. Kienzle is Chairman of the association of German fluid power at the VDMA and of the internal Board of the VDMA.

ARGO-HYTOS is a member of the VDMA sustainability initiative Blue Competence, which stands for sustainable solutions in harmony with the economy, ecology and society.



ARGO-HYTOS Standard Product Portfolio

Standard Products – System Filters & Tank Solutions



Suction Filters



**Return Filters &
Return-Suction Filters**



Filter Cooling Systems



**Pressure Filters &
High Pressure Filters**



**Stainless Steel
High Pressure Filters**



**Filling &
Ventilating Filters**



Accessories



**Oil Level Gauges &
Dipsticks**



Filter Elements



Tank Solutions

System Filters & Tank Solutions

Product Portfolio

Customized Filter Solutions

Customized filter and system solutions developed for special applications, and designed in cooperation with our customers.



HIT[®] Hybrid Integrated Tank

Tank capacity:

V_{\max} up to 150 l (40 gal)

Temperature:

T_{\max} : -30°C...+100°C (-22...+212 °F)

Short-term up to +120 °C (+248 °F)

Filter function:

Return filter 10...30 µm

Return-suction filter 10...30 µm

Suction strainer 140...280 µm

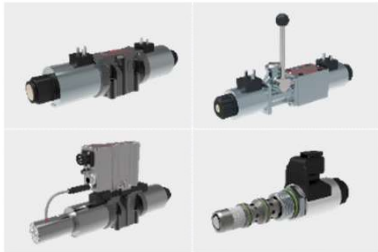
Ventilating filter 2 µm

Filling filter 140...450 µm



ARGO-HYTOS Standard Product Portfolio

Standard Products – Valves and Power Packs



**Directional Control &
Proportional Valves**



**Valves in Sandwich
Plate Design**



**Modular Valves:
CETOP**



**Pressure, Flow, Check,
Motion Control Valves**



**Explosion Proof
Valves**



**Hydraulic
Integrated Circuits**



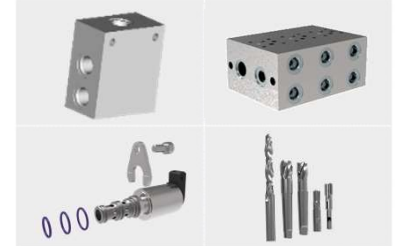
**Hydraulic
Power Units**



**Application Solutions
with Controls**



Hydraulic Drives



**Connecting Plates,
Manifolds, Accessories**

Valves & Power Packs

Product Portfolio

Proportional Valves

Nominal flow rate:	up to 140 l/min (37 gpm)
Operating pressure:	up to 350 (5100 psi)
Function:	pressure relief/reducing/flow control
Type:	CETOP, screw-in and slip-in cartridge
Voltage:	12, 14, 24, 27, 48, 205 V DC 24, 120, 230 V AC (50/60Hz)
Connector plug:	DIN/EN, Junior Timer, Deutsch
IP rating (EN 60529):	65, 67, 69K
Surface protection (ISO 9227):	up to 520 h

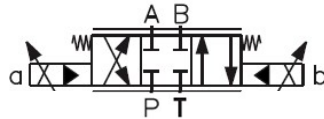
Explosion Proof Valves

Nominal flow rate:	up to 600 l/min (158 gpm)
Operating pressure:	up to 350 bar (5100 psi)
Type:	CETOP and screw-in cartridge
Function:	directional, proportional, flow and pressure control valve
Voltage:	12, 24, 48, 110 V DC 110, 230 V AC (50/60Hz)



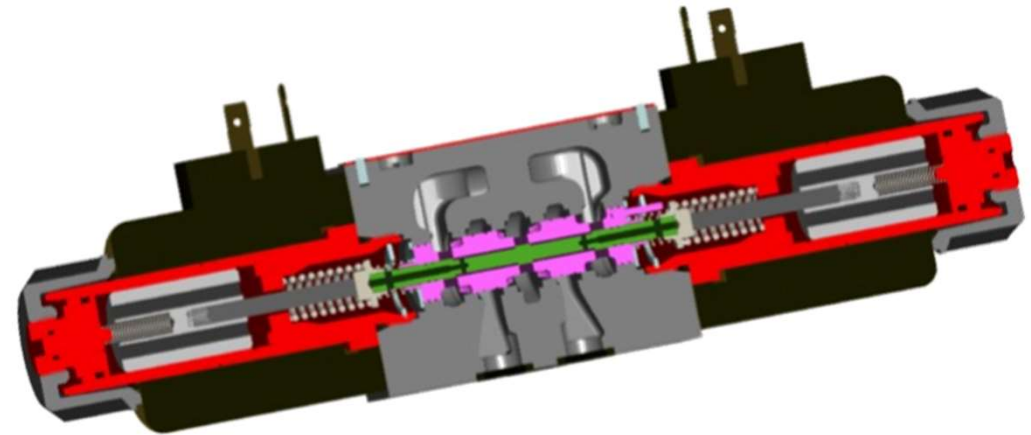
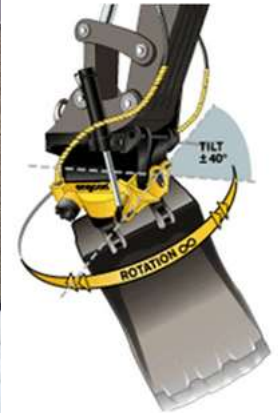
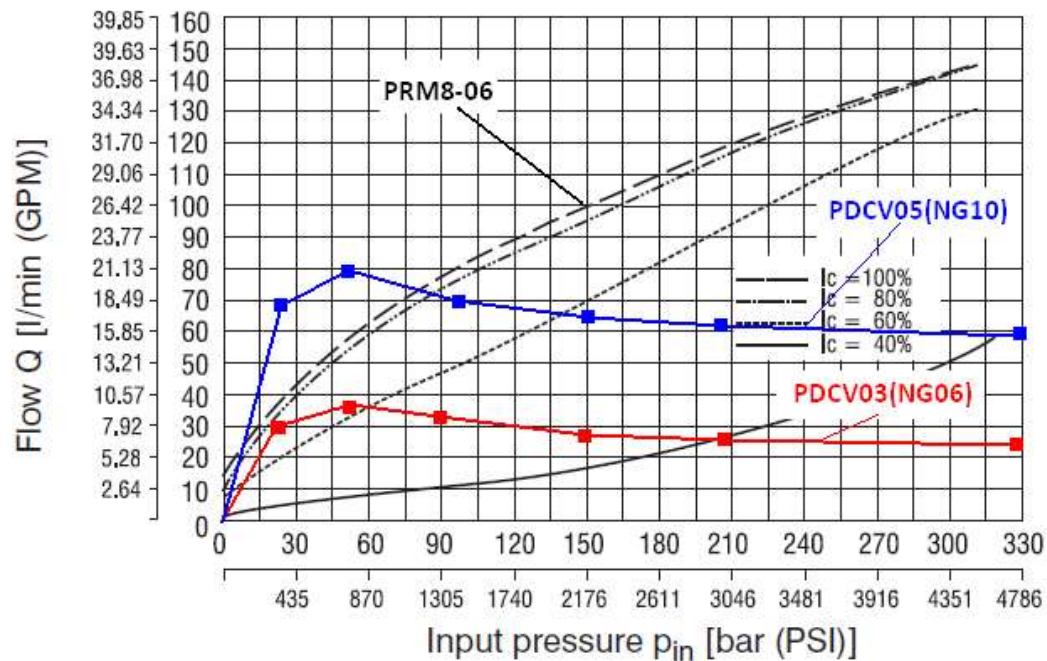
Valves & Power Packs

Product Portfolio



PRM8-06

- › Pilot operated proportional valve NG06 (Cetop 03)
- › Floating spool principle
- › With small electric power high transmitted hydraulic power
- › Transferred hydraulic power = **Cetop 05 Directional Valve!!**



Valves & Power Packs

Product Portfolio

Hydraulic Integrated Circuits

Nominal flow rate: up to 600 l/min (158 gpm)
Operating pressure: up to 420 bar (6100 psi)

Customized systems and subsystems

Best solution and efficiency oriented design

Surface protection (ISO 9227): up to 520 h



Hydraulic Power Units

Nominal flow rate: up to 50 l/min (13 gpm)
Operating pressure: up to 250 bar (3600 psi)
Tank capacity: up to 250 liters (66 gallons)
Electric Motor Types:
1~110 V (50/60 Hz)
1~230 V (50/60 Hz)
3~400/460 V (50/60 Hz)
12/24 V DC



Valves & Power Packs

Product Portfolio

Application Solutions with Controls

Modular Hydro-Pneumatic Suspension System (MHPS)

- Improving suspension performance
- Easy and fast adaptation to application
- Electronic control unit, touch display and accumulators

Modular Load Sensing System

- Designed for complex & variable demands of mobile hydr. needs
- Standard modules easily adaptable to specific applications
- Load sensing control of each working section



ARGO-HYTOS Standard Product Portfolio

Standard Products – Predictive Maintenance



**Portable
Particle Counters**



**Stationary
Particle Monitors**



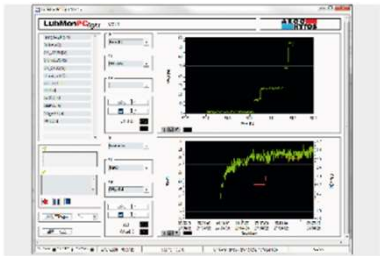
**Lubrication
Condition Sensors**



**Signal Generator for
Valve Control**



Data Handling



Software



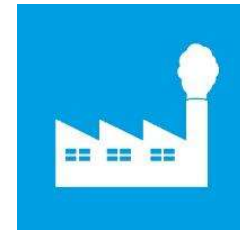
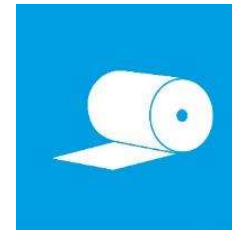
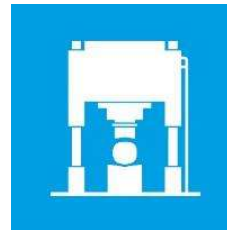
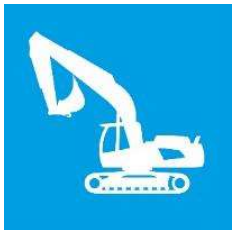
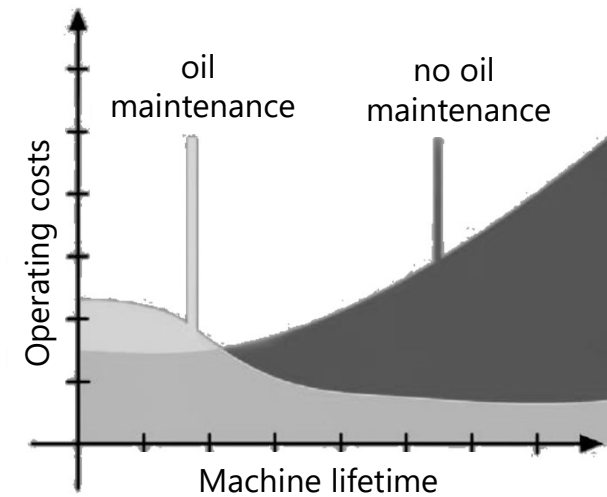
Service

Condition Monitoring

Motivation

Reduce operating costs with the help of condition monitoring:

- Avoid unplanned downtime
- Increase availability
- Improve planning of service measures
- Optimize spare part sourcing and stocking
- Extend machine service life
- Increase safety for machine and operator



Introduction of Sections

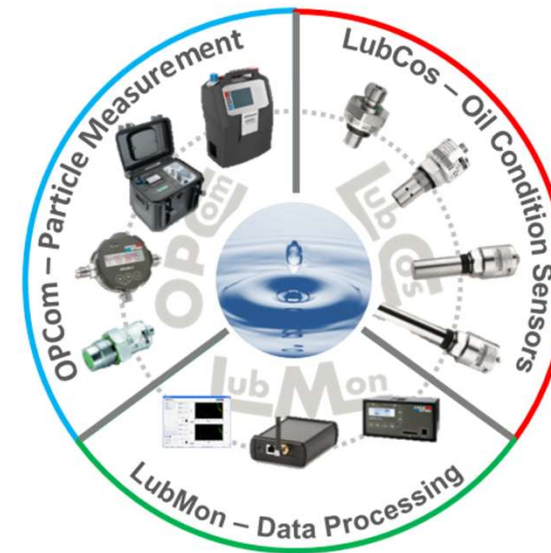
Condition Monitoring & Electronics

Condition monitoring of machines and applications

- Sensors and systems to monitor fluid power applications
- Particle measurement technology, oil condition monitoring and display devices

Benefits

- Maximized availability and increased productivity
- Continuous condition monitoring and automated warning of critical states
- Planning of service measures and predictive maintenance
- Damages and downtime are avoided



Condition Monitoring

Product Portfolio

Portable Particle Counters

- The OPCom Portable Oil Lab is a mobile oil laboratory with which the oil cleanliness and the oil condition in hydraulic and lubrication systems can be measured quickly and easily.
- The OPCount is a particle counter, designed for stationary or mobile operation. With its touch display and keypad it can be easily operated anywhere.



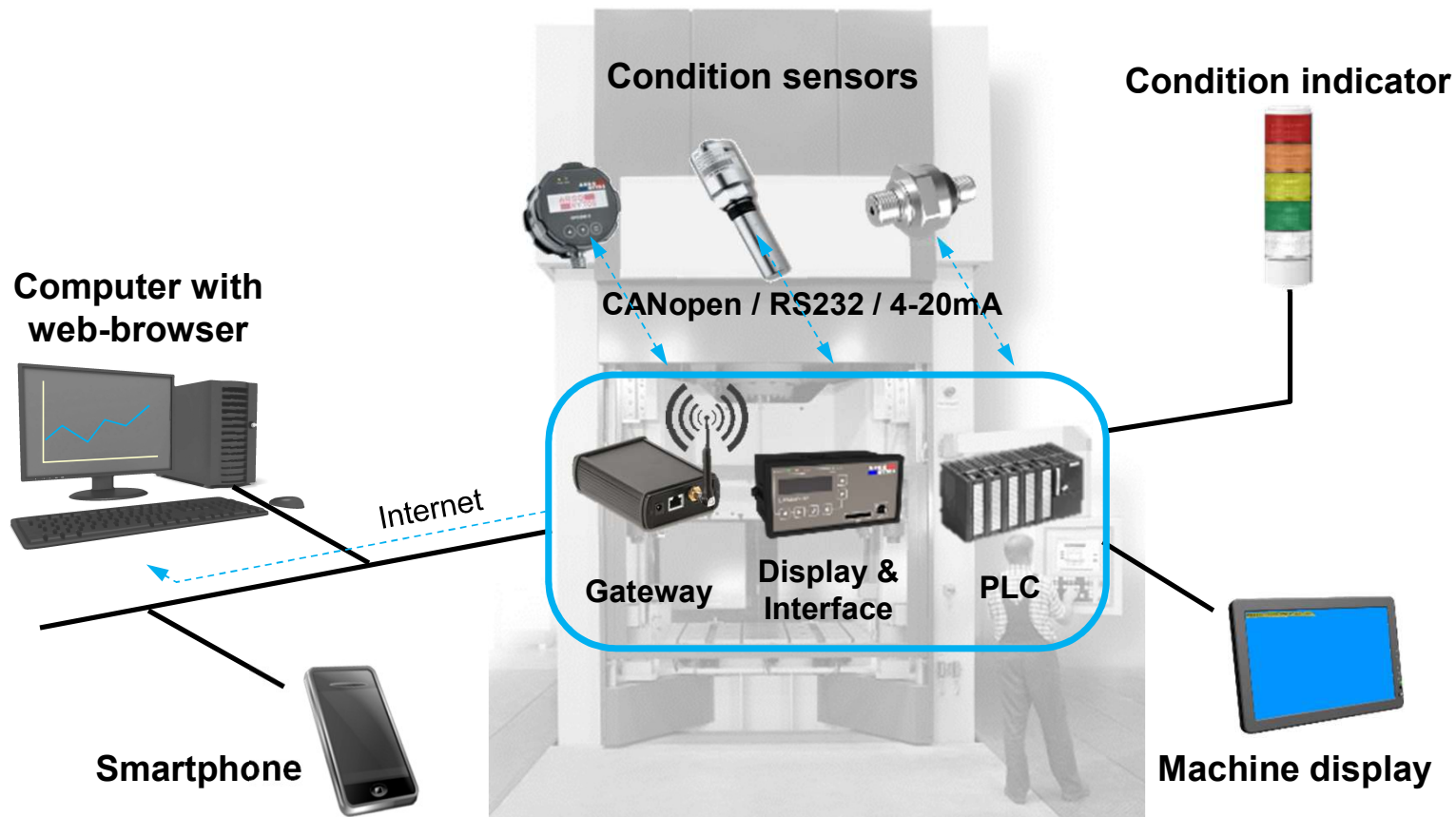
Stationary Particle Monitors

- OPCom Particle Monitor is a compact particle monitor for continuous monitoring of the contamination in hydraulic fluids and lubricants.
- Special variants are available - for monitoring aggressive fluids, such as phosphate ester, or a version without display for harsh conditions, among others.
- The OPCom FerroS is an intelligent screw-in sensor to monitor ferromagnetic wear in hydraulic and lubrication systems.



Condition Monitoring

Communication and Data Transfer



ARGO-HYTOS Standard Product Portfolio

Standard Products – Fluid Management



Off-line Filters



Off-line Filter Units



Filter Cooling Systems



Oil Service Units



Dewatering Units



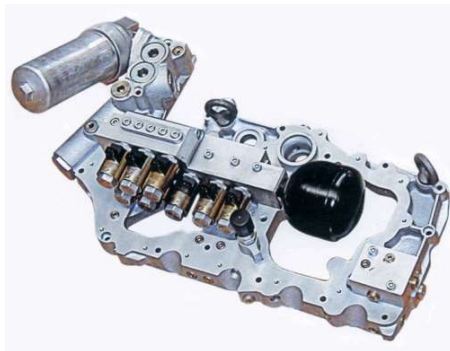
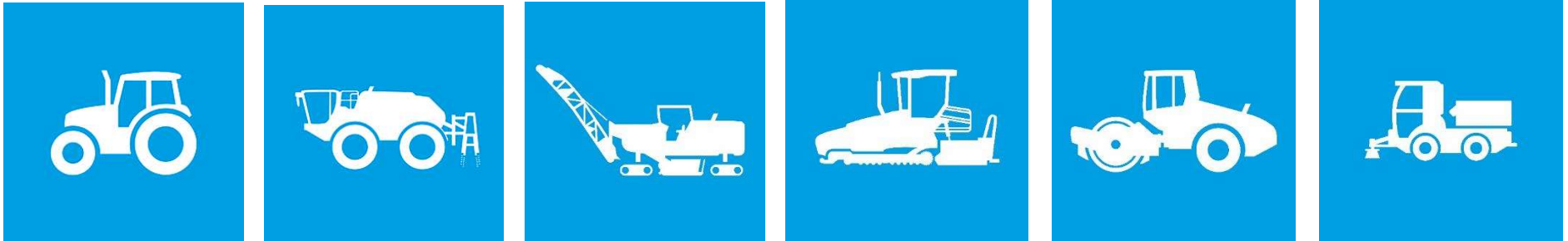
Compact Filter Pack
CFP 03



Service

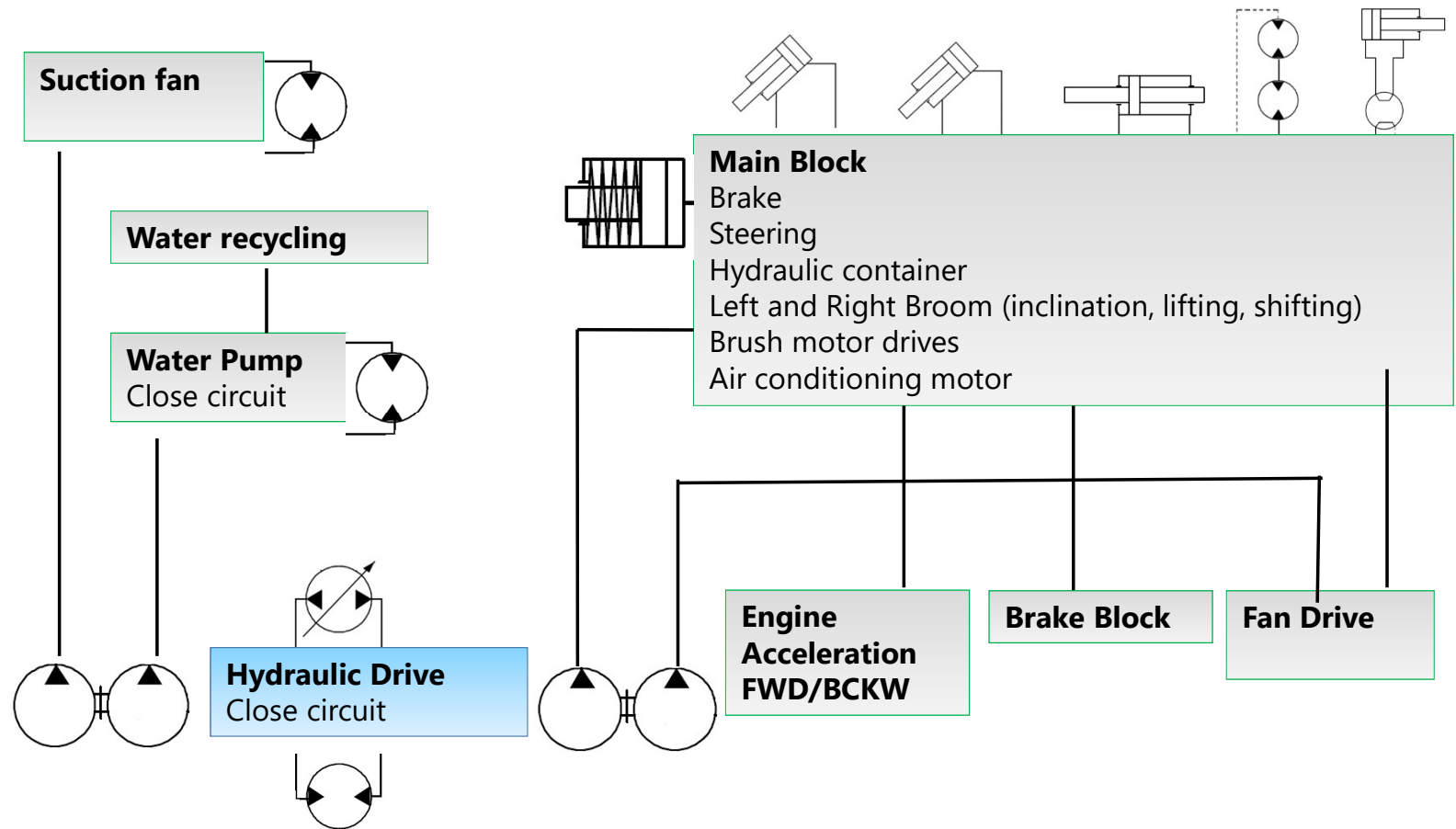
Applications – Mobile Machinery

Overview



Applications – Mobile Machinery

Example of Sweeper hydraulics



Applications – Mobile Machinery

Example of Tractor hydraulics



Transmission hydraulic

- Speed (drive) couplings
 - Power shift control
- Rear and Front Axle functions
 - PTO / PTO Speed / DL / 4WD
- Breaks cooling functions
- Lubrication functions
- Safety pressure functions (cold start)



High pressure hydraulic

- Pick up Hitch
- Proportional Hitch Control
- Cabin suspension
- Axle suspension system with ECU



Applications – Mobile Machinery

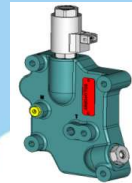
Example of Tractor hydraulics



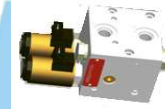
Pick up Hitch



Pre-Heating of working hydraulic



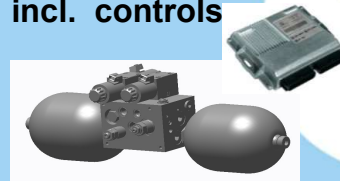
Cabin Suspension



EHR proportional valve



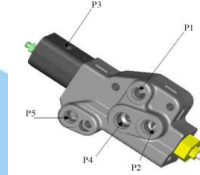
Front axle Hydraulic Suspension system incl. controls



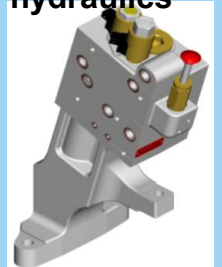
Return-Suction Filter for flange mounting



Trailer brake valve

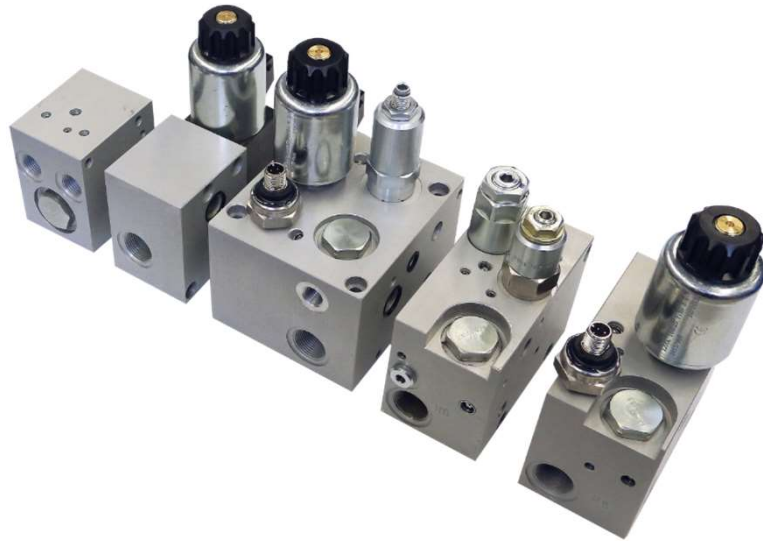
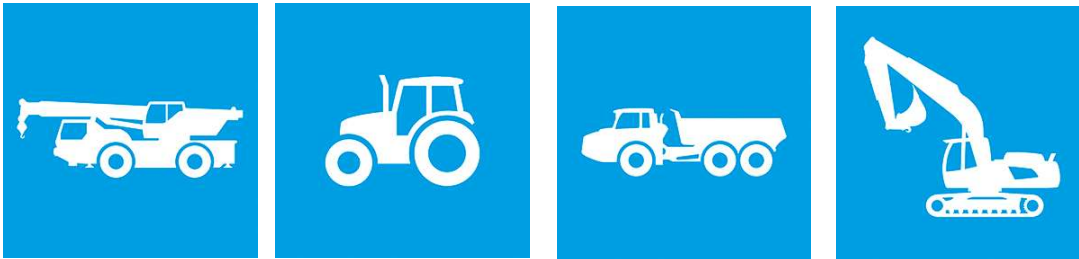


Foot Valve for working hydraulics

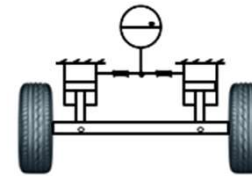


Applications – Mobile Machinery

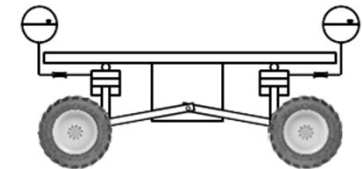
Modular Hydro-Pneumatic Suspension - MHPS



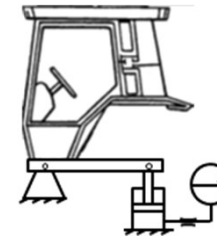
Axle suspension



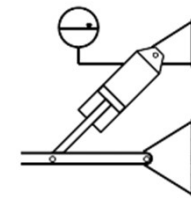
All wheel suspension



Cab suspension



**Drawbar suspensions
+ payload**



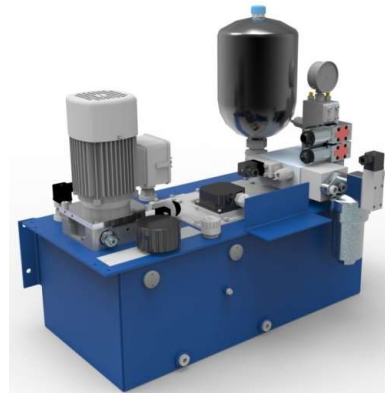
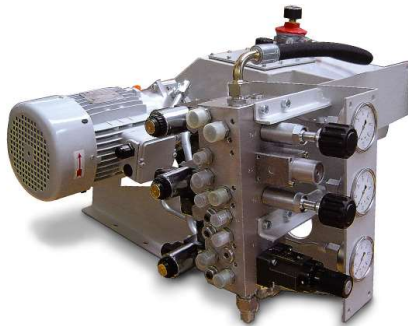
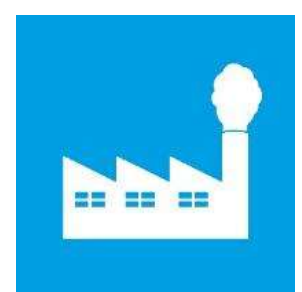
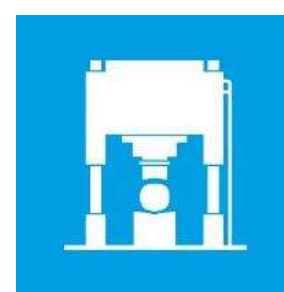
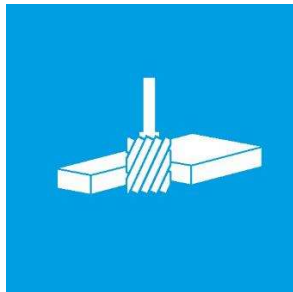
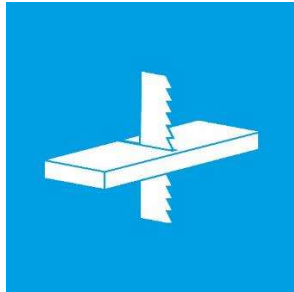
Applications – Mobile Machinery

Overview



Applications – Stationary Machinery

Overview



Applications – Stationary Machinery

Overview

Thank you for your attention!

FERMAT



VARNSDORF
TOOLS



Micron®



Doosan Power Systems



gearSpect®
GEARSPECT GROUP s.r.o.



CZ.TECH
čelákovice



ARGO
HYTOS