

SERVI
GROUP™



POWER AND MOTION CONTROL

WWW.SERVI.NO



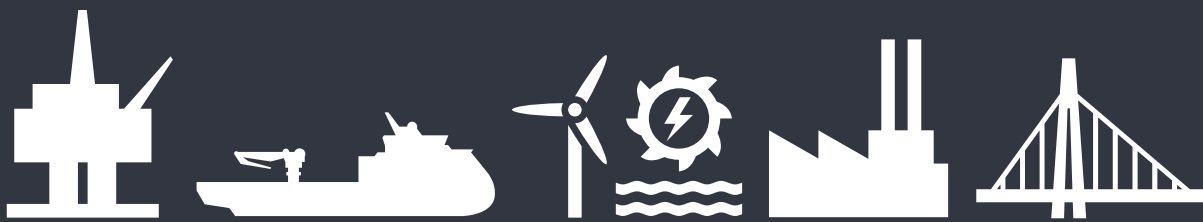
POWER AND MOTION CONTROL

COMPONENTS
SYSTEMS
ENGINEERING
SERVICE AND MAINTENANCE

available 24/7
+47 64 97 97 00

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**100 YEARS OF
EXPERIENCE IN
POWER AND
MOTION CONTROL**

This brochure will give you an overview of Servi's delivery program.



- HYDRAULICS
- PNEUMATICS
- ELECTROMECHANICS
- SLIDING BEARINGS
- TEST EQUIPMENT
- MARINE WIPER SYSTEMS

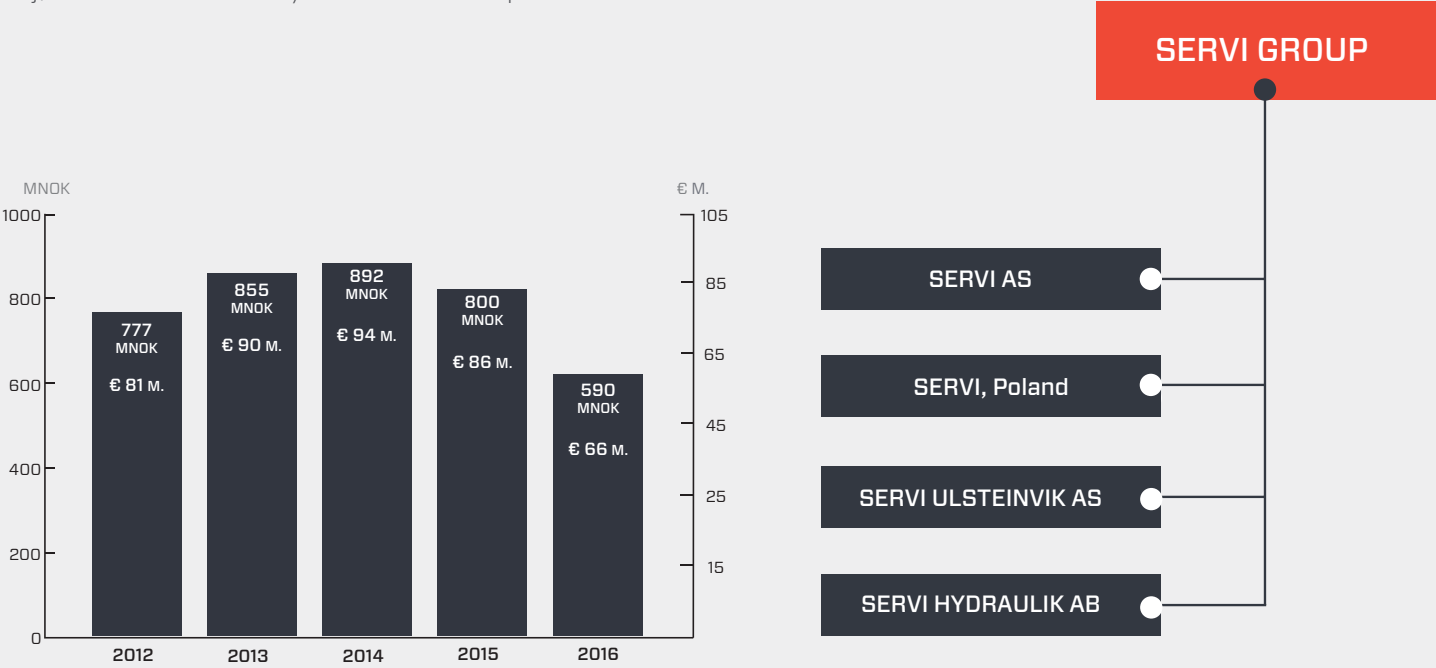
ABOUT SERVI

Servi has comprehensive knowledge and expertise within Power and Motion Control, focused on in-house design and production of valves, valve blocks, cylinders, accumulators and HPUs.

In combination with a range of products from the world's leading suppliers of pumps, motors and valves, Servi offers quality components, complete turnkey solutions, service and maintenance.



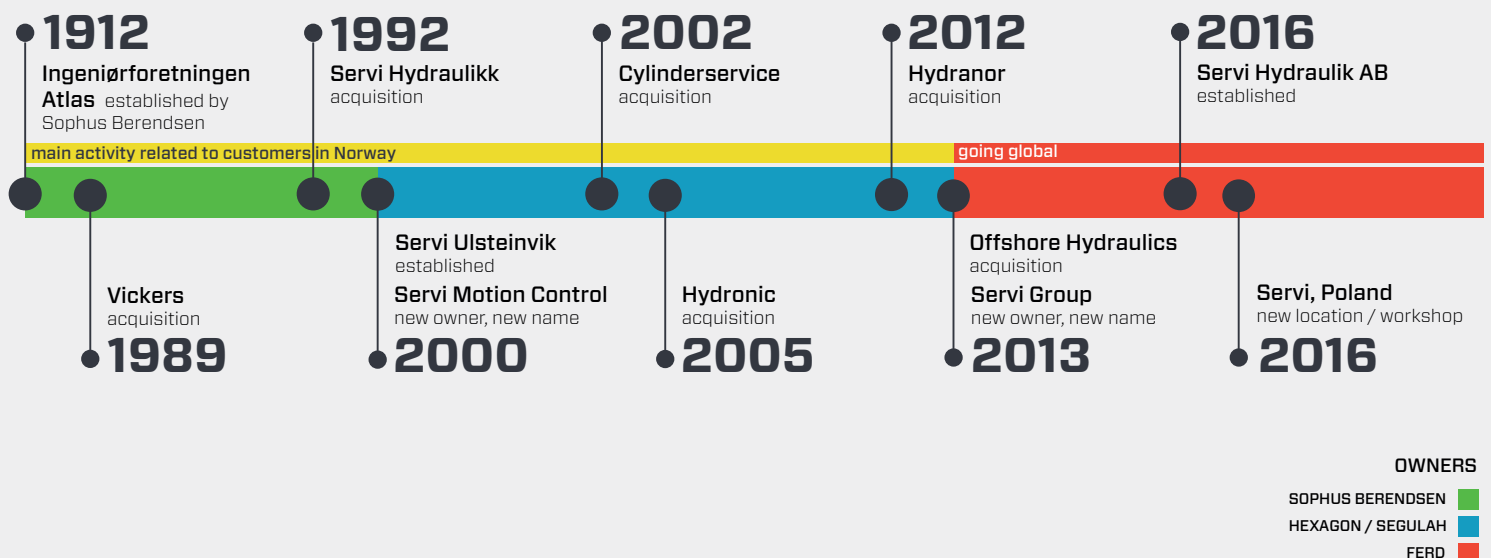
Bjørn Arne Gundersen / CEO Servi Group



With headquarters in Norway, a subsidiary in Gothenburg/Sweden, workshop in Poland and service partners in England, US, Brazil, Singapore, and South-Africa, Servi has a truly global footprint within Power and Motion Control.

Servi is Norway's largest supplier and manufacturer of hydraulic equipment. In addition, we supply pneumatic systems, electromechanics, bearings, wiper systems and test equipment.

OUR HISTORY



SERVI AS

(Ski, Tønsberg, Kongsberg, Kristiansand, Bergen, Trondheim, Rissa, Gdansk/Poland)

SERVI ULSTEINVIK AS

(Ulsteinvik, Ålesund)

SERVI HYDRAULIK AB

(Gothenburg/Sweden)

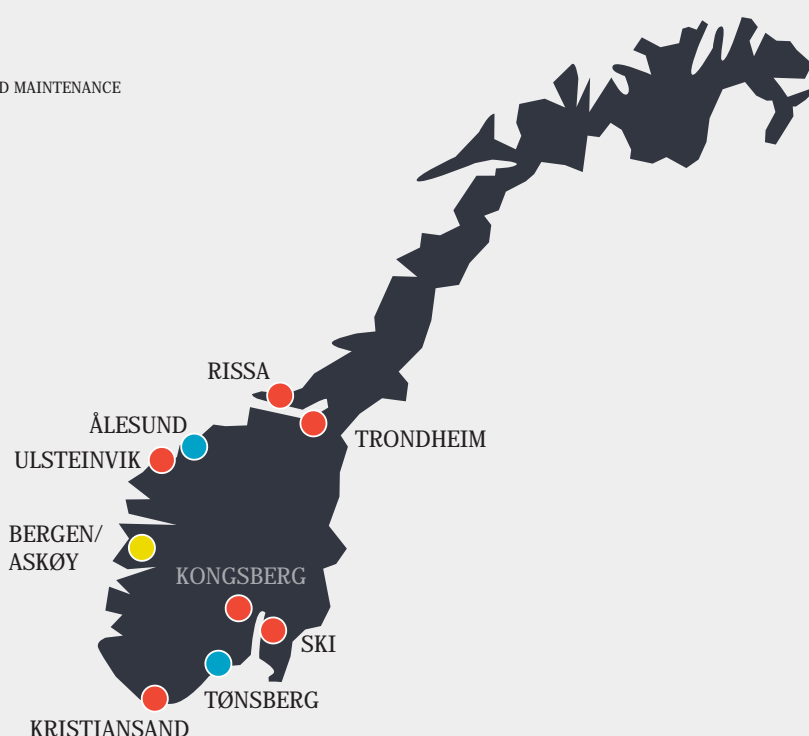
For more details about our branches - www.servi.no

YOUR GLOBAL PARTNER

You can reach all our offices by calling +47 64 97 97 97, or by emailing post@servi.no.



- SALES, DESIGN, ASSEMBLY, PRODUCTION, SERVICE AND MAINTENANCE
- SALES
- SALES, SERVICE AND MAINTENANCE
- REPRESENTATIVE, SERVICE CENTER



OWNED BY

FERD

FERD is a family-owned Norwegian industrial and financial group that is an active and long-term owner of strong companies with international potential and carries out financial activities through investments in a broad range of asset classes. In addition to the group's purely commercial activities, Ferd has an extensive involvement in social entrepreneurship. Read more at www.ferd.no



Johan H. Andresen
Owner and Chairman of the board

Some of the companies in the Ferd Capital portfolio:



POWER AND MOTION CONTROL

Servi is a supplier of components, solutions and services for the following applications:



OFFSHORE/SUBSEA

Cranes
AHC cranes
Roughnecks
Torque wrenches
Barrier pumps
Compensation systems
Anchor handling winches
Telescopic gangways
Top drive
Swivel systems
Oil recovery systems
Moon pool systems
Drill pipe handling systems
Fairlead
Finger boards
Mud handling



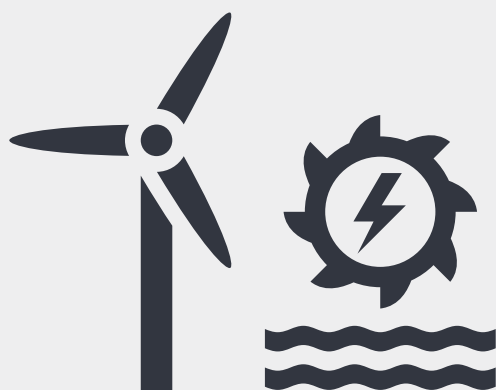
SUBSEA

ROV
WOCS
Connection systems
Compensation systems
Subsea trees
Umbilical winches
Subsea tooling systems



MARINE/FISHERIES

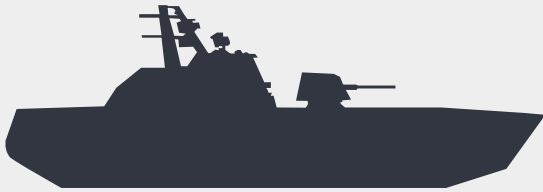
Thruster solutions
Cranes
AHC cranes
Hatch covers
Anchor handling systems
Cargo handling
Ramp systems
Dredging systems
Davit systems
Oil recovery
Trawl and net winches
Mooring and anchor winches
Multi handling winches
On and off loading systems
Towing winch systems
Seismic winches
A-frame systems



ENERGY

Hydropower - Hatches
Hydropower - Servo/valve systems
Hydropower - Gate controls
Hydropower - Turbine controls
Hydropower - Lube oil systems
Wind power - Pitch systems
Wind power - Brake systems
Wind power - Lubrication systems
Wave power - Energy transferring

FOR ALL APPLICATIONS



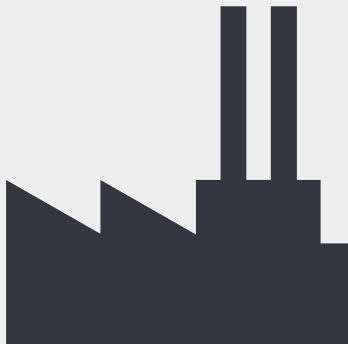
DEFENCE

NAMSAMS - air defence systems
Radar stations
MTB-Missile Torpedo Boats
Mine sweepers
Hangar doors
Winches for retraction of planes
Battle testing equipment



MOBILE

Mobile crane systems
Lifting systems
Basket systems
Tunnel rigs
Railing rigs
Waste compactors



INDUSTRY

Heavy industry
Paper and timber industry
Processing and food industry
Metal industry
Machine building industry



CONSTRUCTION INDUSTRY

Cranes
Bridges
Building Industry
Railway equipment
Working platforms
Tunnel drilling
Concrete industry
Airport equipment
Waste Industry

MODELING AND SIMULATION OF HYDRAULIC SYSTEMS



Automotive

Audi, BMW, Daimler, Ford
Honda, Porsche, VW

Marine & Shipbuilding

BV, Caterpillar, DNV, GL,
Stromag, STX, Vulkan



Heavy Machinery

CNH, Hitachi, Komatsu MHI,
Liebherr, Putzmeister

simulation X

Powered by ITI

Visualize the solution - Remove the risk

Oil & Gas

Aker, Baker Hughes, FMC,
Cameron, NOV, TTS



Industrial Machinery

Anca Motion, Ferromatik, Husky,
Schuler, ThyssenKrupp

Railways

Alstom, Bombardier,
Siemens Transportation



Aerospace & Defense

CASIC, CAST, EADS, IMA,
WTD

Energy

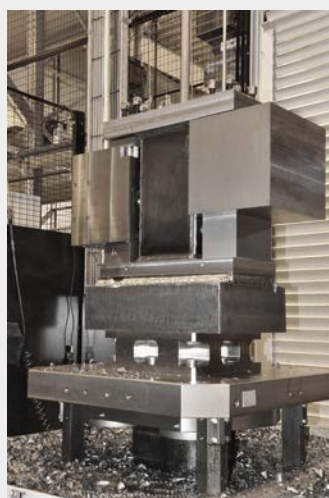
ABB, Air Liquide, Aquama-
rine, Power, Siemens, Total



SIMULATION X is an interdisciplinary, multi-domain simulation tool for the functional design, modeling and analysis of complex technical systems on a single platform

IN-HOUSE PRODUCTION

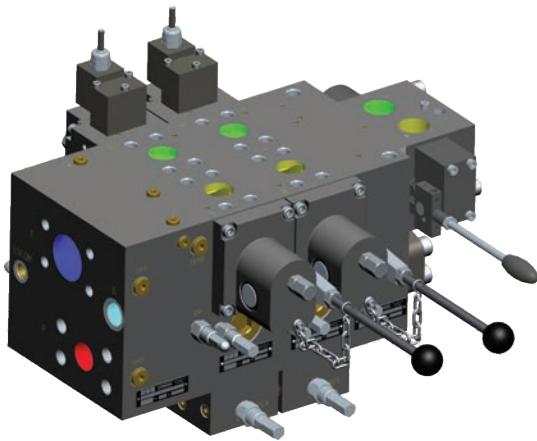
MANUFACTURING CAPABILITIES



COMPREHENSIVE ASSEMBLY OF MACHINERY INCLUDING FACILITIES FOR SANDBLASTING AND PAINTING

We are very proud to present our brand new and modern workshop and assembly of machinery. This enables us to achieve the highest product quality according to most standards and customer requirements - in new design and production, as well as overhauls and modifications. Try us on your next project - you won't regret it!

PROPORTIONAL VALVES, SECTION OR PLATE MOUNTED



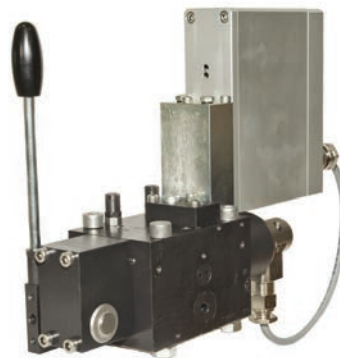
PROPORTIONAL SECTION VALVE

HSV600, section mounted, pressure compensated valve, with electromechanic and/or manual controls. HSV600 has a maximum oil flow of 600 lpm per section.

Individual pressure control for A and B ports.
Supplied for use in ATEX zone 1.

The valve is particularly well suited for marine and offshore purposes and can also be supplied with LVDT for slide positioning and closed loop applications.

The valve can be combined with HAWE PSL valves, sizes 3 (100 lpm) and 5 (230 lpm).



PROPORTIONAL VALVES, SECTION OR PLATE MOUNTED, WITH INTEGRATED ELECTRONICS - OPAT

For control of HAWE proportional valves types PSV(F) 3, 5 or 7, as well as Servi proportional section valve type HSV 600.

A digital control card for analog (4-20 mA or 0-10 V) or Profibus control signal is integrated in the system.

Features:

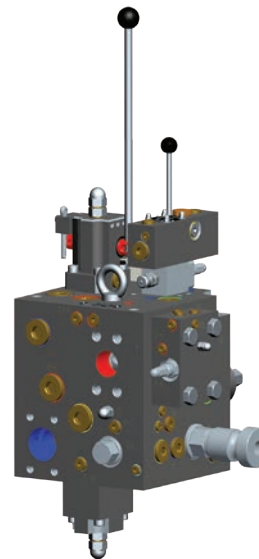
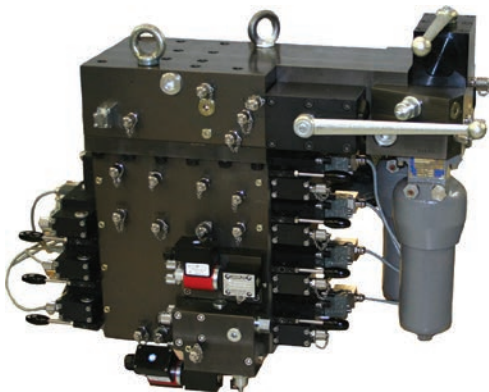
- ATEX for use in zone 1
- Feedback on slide positioning (LVDT)
- Deadband compensation
- Temperatures from -40°C to 55°C
- Protection degree IP 67
- Separate entry point for external closed circuit

Can also be supplied with LVDT but without the integrated control card.

MANUFACTURER

Servi (Hydranor)

VALVE BLOCKS



HIGH-FLOW VALVE BLOCKS

Servi is the largest manufacturer of valves and valve blocks in Norway. We represent long traditions and have modern production facilities in Kongsberg, Norway.

PRODUCT RANGE

- Flow up to 10.000 lpm
- Maximum working pressure 760 bar
- On/off functionality
- Manual
- Proportional pressure and flow control
- Multifunctional winch blocks for hydraulic motors

Materials:

- Cast iron GJS-400-15
- Seawater resistant aluminum AW-6082-T
- Carbon steel
- Acid proof steel 304, 316

PAINTING AND TESTING

Valve blocks can be painted according to customer requirements.

All blocks are 100 % statically and dynamically tested according to customer specifications.

MANUFACTURER

Servi (Hydranor)

STANDARD CYLINDERS



SERVI'S CYLINDER FACTORY IN RISSA STARTED MANUFACTURING CYLINDERS IN 1956

Right from the start, our products have been used in some of the world's roughest climates and in highly demanding conditions. In order to meet the quality requirements our customers expect, we are continually working to develop our products further. Our customers are found within the offshore, marine/shipping, hydropower, smelting and general industry sectors.

We have a state-of-the art surface treatment facility and offer all kinds of surface treatment (painting). We deliver all necessary documentation, ranging from single certificates to complex documentation packages. Servi's cylinder factory was ISO-9001 certified in 1993.

APPROVALS AND CERTIFICATES

- Type approval certificate for hydraulic cylinders up to Ø700 mm
- Manufacturing Survey Arrangement: MSA NO R-3457
- EC Type certificate: DNV-2007 OSL-ATEX-3520X, rev 2.

MANUFACTURER

Servi (Cylinderservice)

STANDARD CYLINDERS

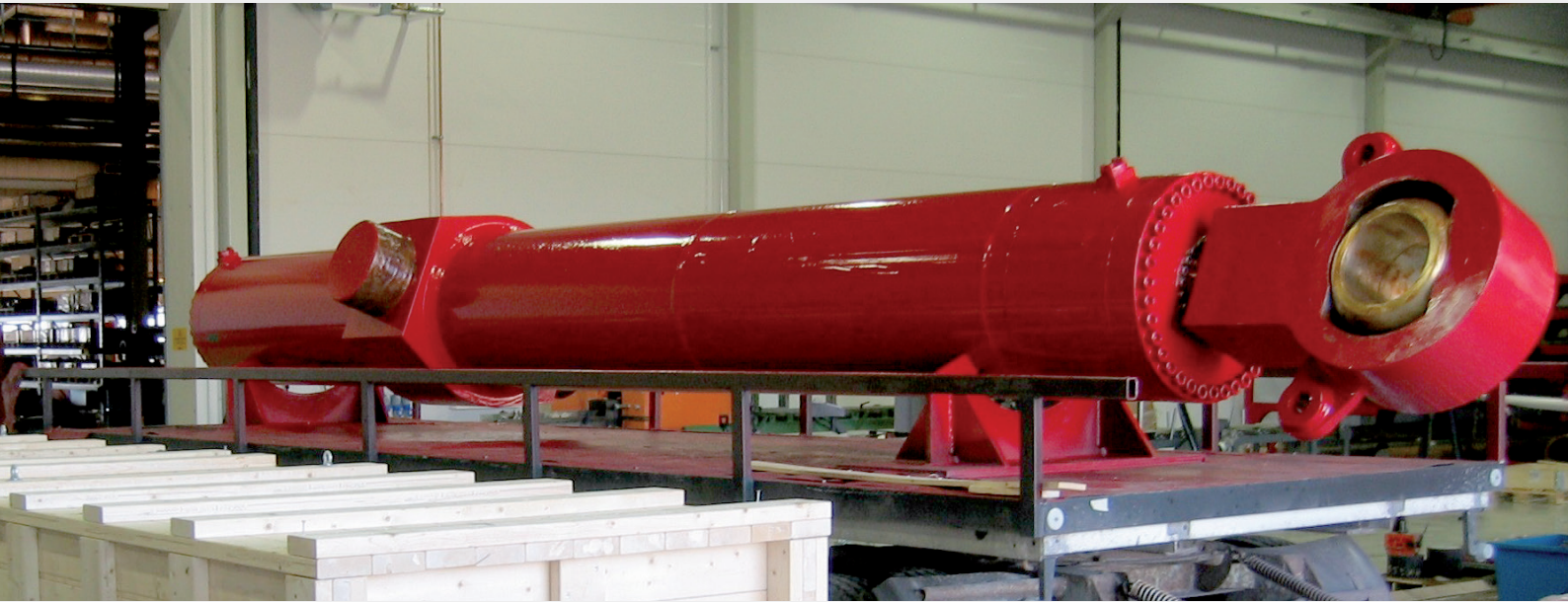
Servi offers a wide range of standard hydraulic cylinders with piston diameters ranging from Ø32 mm to Ø400 mm and stroke length up to 20 m depending on dimension and design. These are all available with various interfaces as standard.

Our CD25 cylinder is certified by DnV for pressures up to 250 bar depending on stroke length. It is designed for harsh offshore and marine environments, but is also suitable for industrial applications. An extra rod seal groove in the stuffing box also makes it suitable for subsea use.

You can design your own CD25 using our online drawing tool - www.servicatalogue.com

We deliver cylinders with ABS, DNV-GL, Lloyds, BV and other approvals on request.

CUSTOM MADE CYLINDERS



SPECIAL CYLINDERS

We manufacture cylinders for a variety of purposes within offshore, hydropower, marine/shipping, subsea and land based industry applications. Our range covers cylinders of various designs, dimensions, pressure categories, materials, integrated valves and sensors, and also includes servo motors for water turbines, as well as tension cylinders for risers on floating platforms.

We supply special cylinders with piston diameters Ø 20–1500mm, stroke lengths up to 20 m depending on dimension and pressures up to 1000 bar. We also supply customised solutions with valve blocks or manifolds integrated or mounted on cylinders - both black and stainless steel finishes. Max total weight of 32 T lifting capacity.

Servi strives to work as closely with the customer as possible to be able to meet their exact needs and requirements.

TELESCOPIC CYLINDERS

We design and manufacture telescopic cylinders for any purpose.

SINGLE OPERATED/PLUNGER CYLINDERS

We have long experience in supplying plunger cylinders for lifting of bow ports, ramps, ferry berths etc.

We deliver cylinders with ABS, DNV-GL, Lloyds, BV and other approvals on request.

MANUFACTURER

Servi (Cylinderservice)

HYBRID CYLINDERS



EHA - ELECTRO HYDROSTATIC ACTUATOR

A combination of electric and hydraulic actuation. Uses a hydraulic pump and an electrical motor mounted on a hydraulic cylinder. Lifting capacity 300 kN.

- High force density
- Energy efficiency
- Environmental cleanliness
- Same interface as a standard hydraulic or electric linear actuator

Unlike an electric actuator, Servi Electro Hydrostatic technology (hybrid) requires no screws or gearing. It differs from hydraulic actuators in that it requires no external hydraulic piping, thereby reducing cost and improving reliability. The system is fully self-contained as all hydraulic and electric components are highly integrated in the actuator assembly.

Servi Electro Hydrostatic Actuators receive power from an electric source by wire and transform a typically electronic input command signal into motion. EHA uses fluidic transmission between the electric motor and actuator. Motors rotate only when movement is demanded, saving energy and wear. The speed or force can be controlled stepless in both directions with use of frequency regulated el. motor or a DC motor.

WHERE TO USE HYBRID CYLINDERS



CRANES



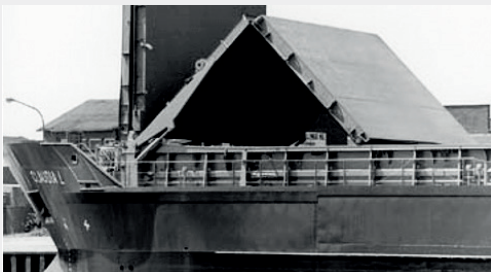
VARIOUS
PRESSES



FERRIES



FERRY
DOCKS



HATCHES



MISC.
INDUSTRY



HYDRO
POWER
PLANTS



PITCH
CONTROLS

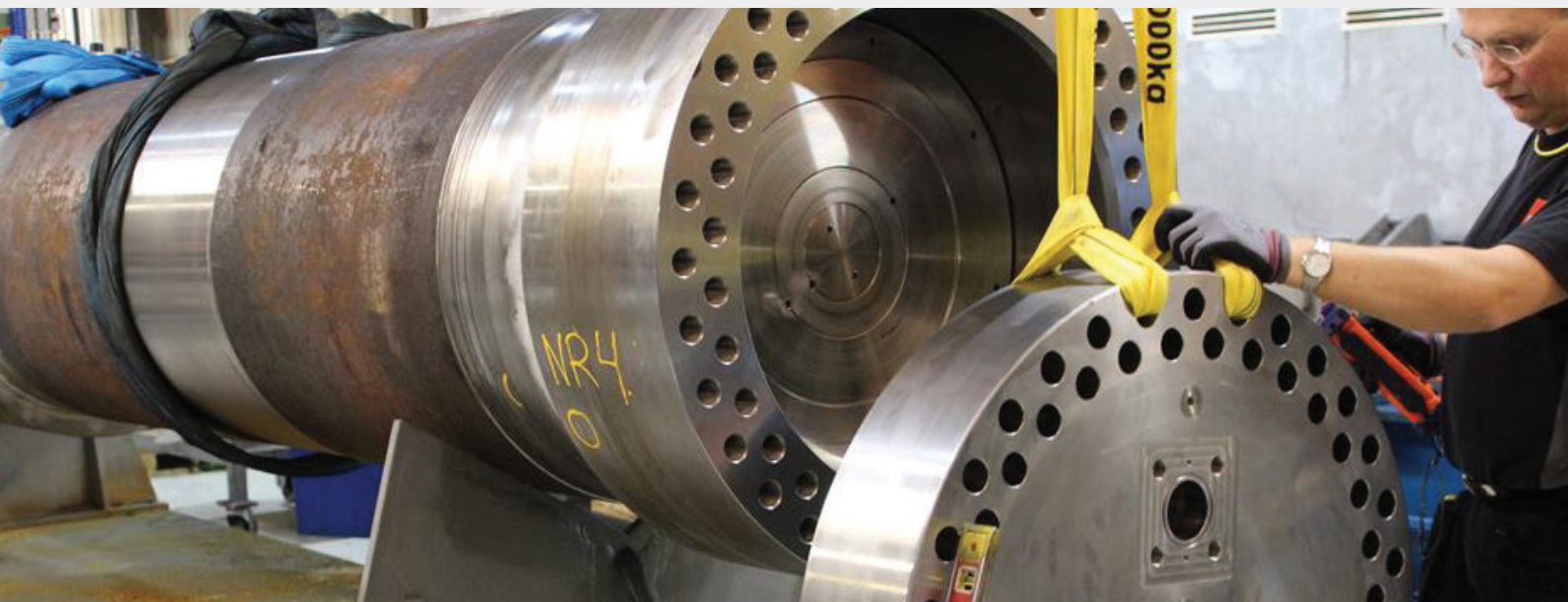


A-FRAMES



MINING

PISTON ACCUMULATORS



PISTON ACCUMULATORS - CUSTOM DESIGN

We design and manufacture piston accumulators according to specific customer requirements, in most materials, such as AISI 316, Super Duplex and Inconel, in addition to standard and high tensile carbon steels. We also offer special subsea piston accumulators, as well as subsea compensators.

The accumulators are manufactured in dimensions ranging from Ø 40 to Ø 1500 mm internal diameter with maximum working pressures up to 3000 bar.

APPROVALS

Accumulators with volumes over 1 liter are CE certified in accordance with PED.

In addition, we can deliver accumulators with ABS, DNV-GL, Lloyds, BV and other approvals on request.

PISTON ACCUMULATORS - STANDARD RANGE

We have a wide range of standard piston accumulators available in carbon or stainless steel, with up to 350 bar working pressure and 400 liter volume.

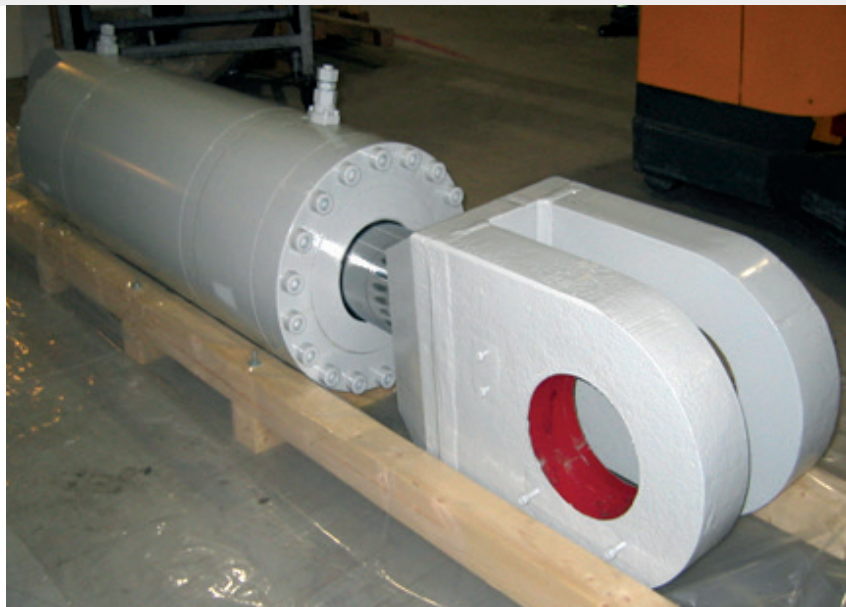
ACCESSORIES & OPTIONS

Both the custom and the standard ranges are available with piston position indication systems, bursting discs, safety blocks, special paint systems, stainless steel clamps and other accessories.

MANUFACTURER

Servi (Cylinderservice)

OVERHAUL AND REPAIR OF CYLINDERS AND ACCUMULATORS



SERVI's department in Rissa has extensive experience in repairing and servicing all types of cylinders, accumulators and hydraulic dampers.

We machine and hone cylinder tubes, overhaul piston rods, and perform desired upgrades and improvements to existing products. We can also perform design changes with new technical calculations and updated drawings and documentation.

BEFORE AND AFTER OVERHAUL (see picture above)

After an overhaul at the factory in Rissa, we provide a new guarantee on the product.

We also take on small service assignments, such as inspections and seal changes, at our other six service centres - as well as on-site at the customer's location, if possible.

A large stock of spare parts, including seals, ensures a short turnaround time for repaired cylinders and accumulators.

TOP MODERN MACHINERY

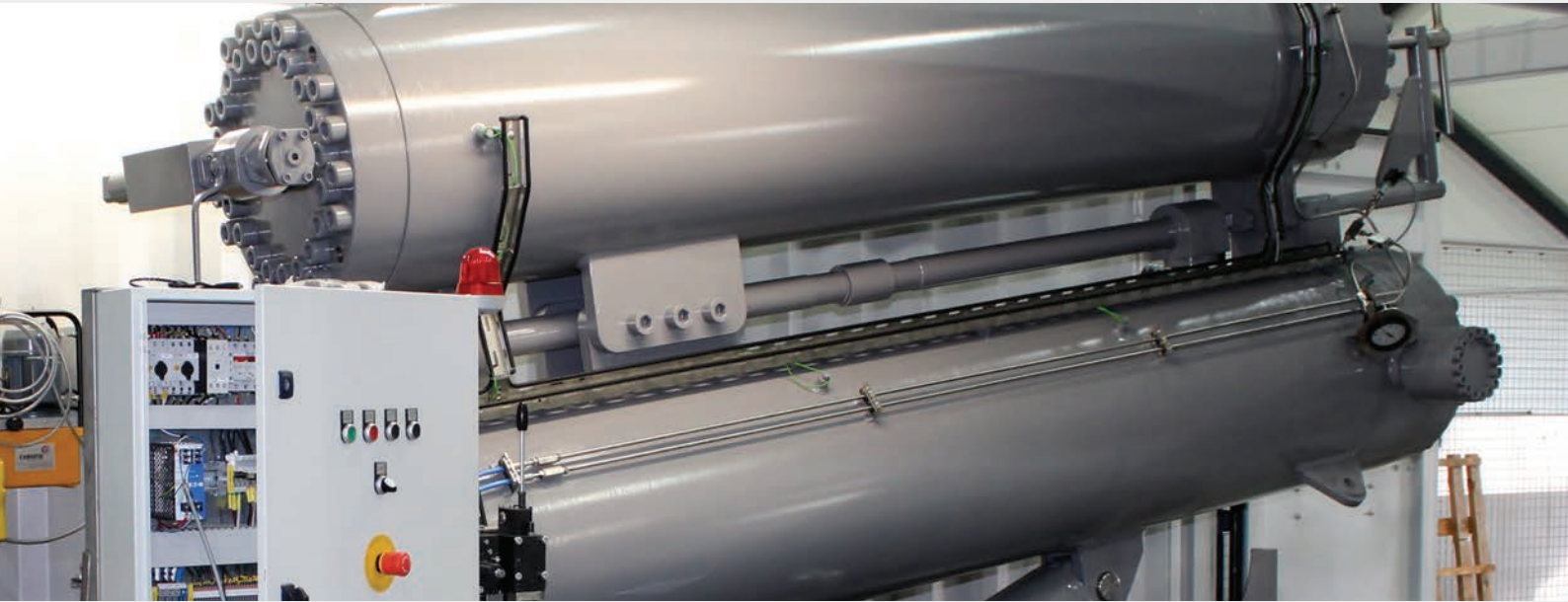
The cylinder factory in Rissa is Norway's largest, and has state of the art facilities for manufacturing, honing and other services on cylinders and accumulators.

We do cylinders ranging from Ø20 mm to Ø1500 mm, with lengths up to 20,000 mm. When overhauling larger cylinders, honing is standard procedure!

MANUFACTURER

Servi (Cylinderservice)

SHOCK ABSORBERS



ABSORBERS

We supply a wide range of absorbers for a variety of purposes.

Examples

Crane shock absorbers, both with and without energy intake, also for subsea use. It should be mentioned that we deliver the “Crane master” to the company Ernst B. Johansen AS, which is also the licensee for this specialised crane. (www.cranemaster.no)

Subsea soft landing dampers used for placing modules and equipment onto the seabed.

Vibration absorbers for floors in sports centres etc.

End shock absorbers for crane/trolley motions

Shock Absorbers for Parawan Winch systems on oil finding vessels (seismical); both tension and plunger type one- or two-step absorbers. These absorbers are the result of our close cooperation with the company Vestadvit AS. (www.vestadvit.no)

HEAVE COMPENSATED CYLINDERS

Active and passive top compensators in derricks for drilling rigs, and combined active/passive heave compensation cylinders for crane/winch systems offshore and marine.

We deliver cylinders with ABS, DNV-GL, Lloyds, BV and other approvals on request.

MANUFACTURER

Servi (Cylinderservice)

PULSATION DAMPERS



PULSATION DAMPERS

Pulsation dampers reduce the pump pulsations in the system, causing substantial reduction of noise levels, especially on all kind of vessels (ships and rigs). In addition, they work well when installed in central hydraulic systems in factories.

Servi offers three models with different operating parameters. The most common is the Noisekiller, which is a standardised, maintenance-free solution suitable for pumps with frequencies > 100Hz. Must be installed very close to the pump.

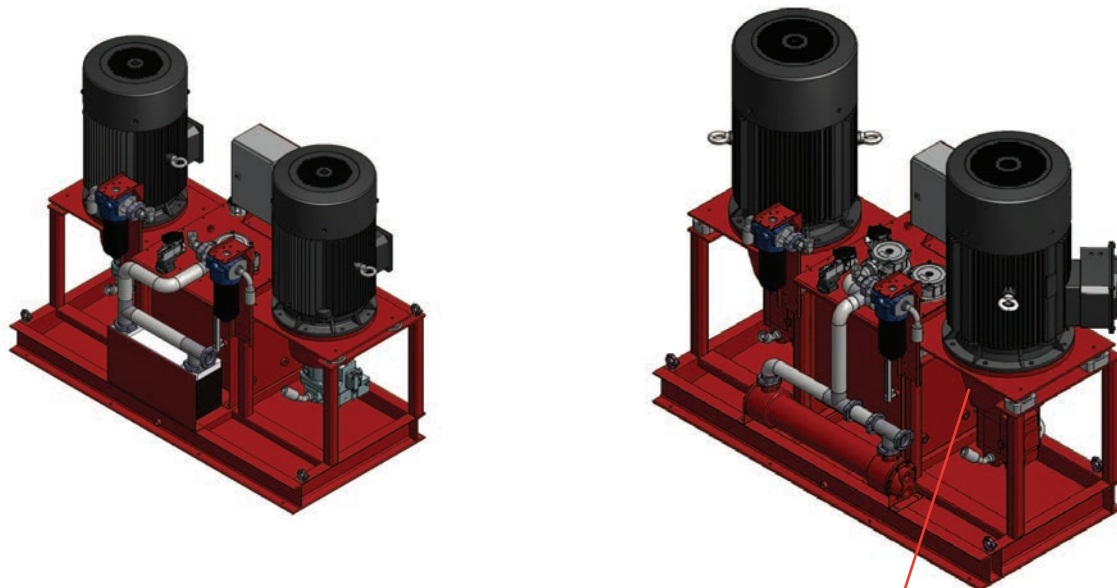
ACCESSORIES

Standard or stainless steel clamps.

MANUFACTURER

Servi (Cylinderservice)

CPU - COMPACT POWER UNIT WITH «CYCLONE» TANK



SAVE SPACE, MONEY AND THE ENVIRONMENT

Servi's «cyclone element» reduces the required oil tank volume by approx. 90 %. As a result, space requirements and weight are greatly reduced.

Using conventional equipment, a hydraulic power pack with a 500 L/min pump capacity would be supplied with an oil tank of 1800/1500 litres. In comparison, the cyclone power pack oil tank will be reduced to approx. gross/net 150 litres with same pump capacity.

Such a reduction in volume and weight enables whole new way of thinking regarding the location of the hydraulic plant. Traditionally, the oil tank has been the deciding factor when placing the power pack.

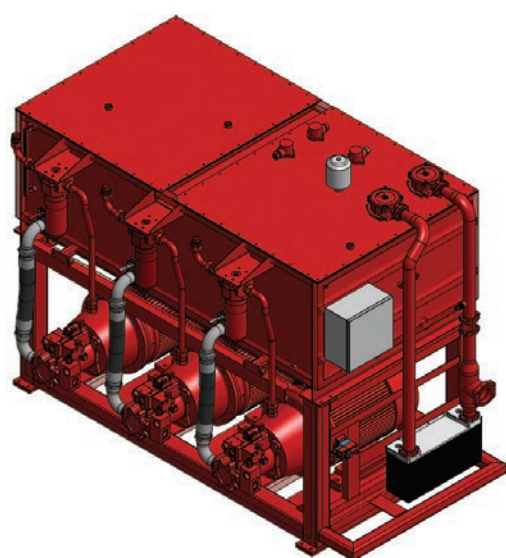
2-,3-,4-station layout will be available with a wide range of flow out-puts.



MANUFACTURER

Servi

STANDARD HYDRAULIC POWER PACK



HYDRAULIC POWER PACK WITH CONVENTIONAL OIL TANK

The Servi standard hydraulic power pack has a basic design which gives great flexibility in the choice of system pressure and oil flow. It can be equipped with several optional pump-motor designs, and be customised according to the needs of the customer when it comes to additional equipment such as valve design, control cabinet, coolers or other desired products.

Servi standard Power Packs are available in the following sizes				
Pump flow (l/min)		Pump Displacement	Number of pumps	Tank volume
w/1450 RPM	w/1750 RPM	cm³/rev.		(litre)
183	221	130	1	600
201	340	200	1	1200
366	441	130	2	1200
549	662	130	3	1800
780	917	270	2	2800
844	1019	200	3	2800
1139	1375	270	3	3600

MANUFACTURER

Servi

CUSTOM MADE HYDRAULIC SYSTEMS



HIGH PRODUCT AND APPLICATION KNOWLEDGE

This, combined with top quality products enables us to design and manufacture optimal solutions based on customer specifications, taking both technical and commercial considerations into account.

Using our product program, we are able to solve most tasks using standard components. When needed, we design customised solutions.

Servi is Norway's largest producer of hydraulic systems, including control systems, with production facilities in Trondheim, Ski, Kongsberg, Ulsteinvik, Kristiansand and Rissa.

Our system of Quality Assurance enables us to deliver highly reliable solutions, including drawings and final documentation.

MANUFACTURER

Servi

DIESEL HYDRAULIC POWER PACKS



DIESEL HYDRAULIC POWER PACKS

Custom made Diesel hydraulic Power Packs, also available for EX-zones.
Container based solution.

Pump flow and maximum pressure according to customer specifications.

MANUFACTURER

Servi

SERVI LIFE CYCLE SERVICES (SLS)



SERVICE, OPERATION AND MAINTENANCE

We provide both emergency service and component service assignments on products manufactured by us and others. Additionally, we offer:

- Top competence and modern equipment for tests and repairs
- Close cooperation with the factory ensuring optimum quality on the work undertaken
- Repairs with full testing giving customer guarantee on the work undertaken
- Testing according to factory specifications ensuring optimum machine performance
- Laboratory services, and remote monitoring of hydraulic installations
- Complete systems and parts in stock enabling short response times

Servi has service locations in Ski, Kristiansand, Bergen, Ulsteinvik, Trondheim and Rissa. We are available 24/7, by calling +47 64 97 97 00.

SUPPLIER

Servi

SERVI TEST CENTER (STC)



SERVI'S REPAIR AND TEST CENTER

Servi is certified by leading hydraulics manufacturers, including Kawasaki, Eaton Vickers, Hawe and Moog, and performs repairs on their behalf. Furthermore, we perform repairs on components from most known suppliers.

Our customers expect more than 'just' a repair. In Servi Test Center, we are able to verify and document the function and performance of repaired pumps, valves and motors by performing pressure and function testing.

The test center enables us to ensure that the quality of repaired components meet our customers' expectations.

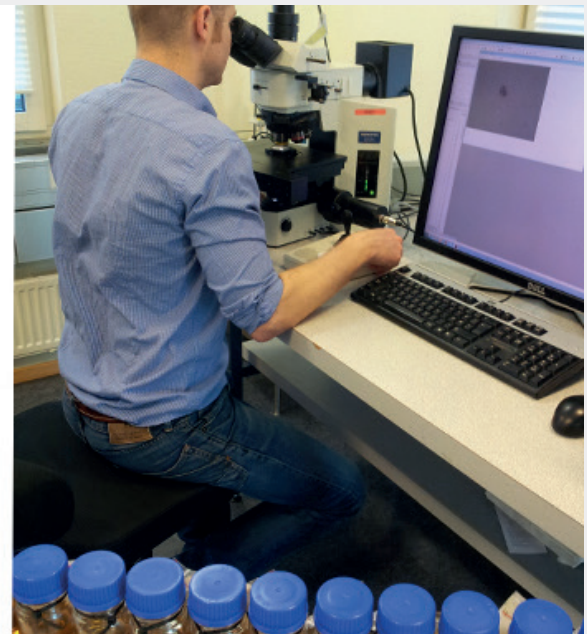
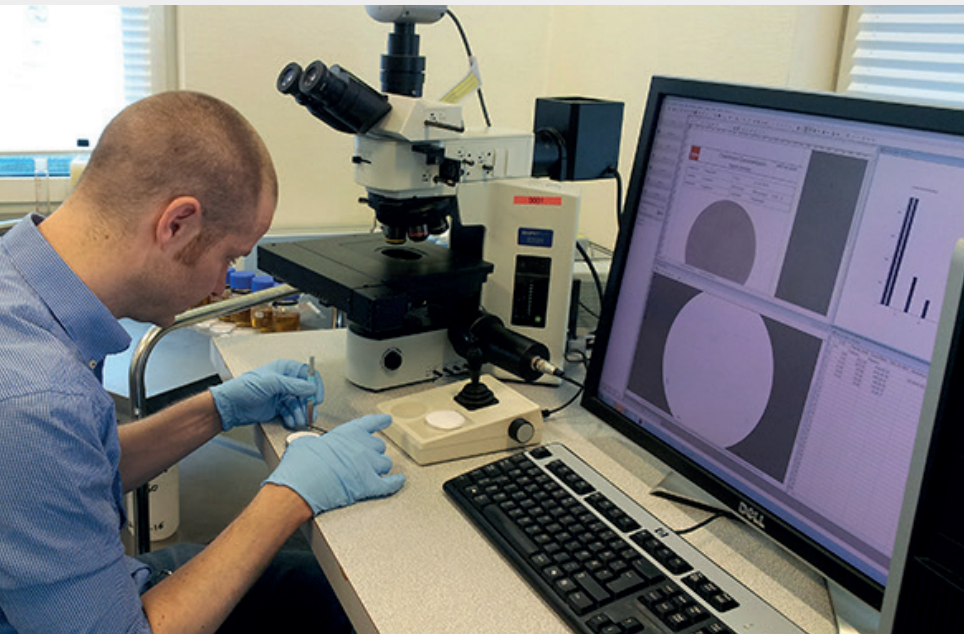
Maximum oil flow 2000 lpm
Maximum pressure 350 bar.

Maximum oil flow 30 lpm.
Maximum pressure 700 bar.

SUPPLIER

Servi

LABORATORY SERVICES



OIL ANALYSIS AND CONSULTING

Servi offers condition monitoring and lubrication technical advice.

- Both standard and customized analyses with application specific thresholds
- We consider oil as an information carrier for machine diagnostics
- advisory services on oil maintenance, environmentally acceptable lubricants and establishing contamination thresholds
- Interdisciplinary expertise in the interpretation of the lab findings, and how critical specific deviations may be
- Microbial analyses of fuel, metal working fluids and other petroleum products
- Reports from Servi summarises all primary data in a easy to grasp format
- Upon request, Servi can participate in more comprehensive projects, such as the evaluation of environmentally friendly lubricants for specific applications
- If there is a need for urgent assistance, we are more than happy to help, also outside normal working hours

SUPPLIER

Servi

REMOTE MONITORING OF HYDRAULIC INSTALLATIONS



TAKE CONTROL OF OIL QUALITY OF MACHINE

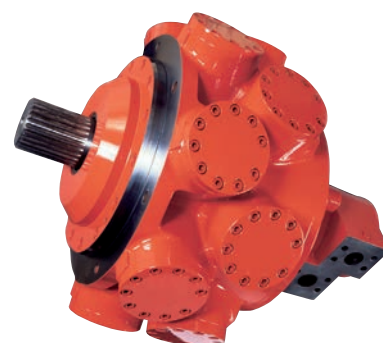
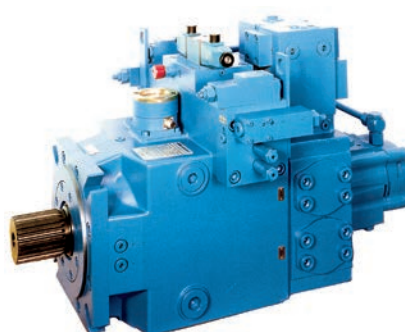
Reduce “downtime” and cost of installing equipment for condition monitoring of hydraulic and lubricating oil. It enables you to:

- Detecting errors in an early stage
- Plan maintenance (service on demand)
- Detecting misfuelling
- Prevent tracking errors at fault in the system
- Performing oil change when needed, not on interval

MANUFACTURER

Argo-Hytos

PUMPS AND MOTORS



PUMPS

Vane, piston (axial and radial), gear, and internal gear pumps. Both fixed and variable displacement pumps.

Displacement 1 to 1000 cm³/rev
Maximum working pressure 1000 bar.

We also supply hand pumps with and without tanks.

CLOSED CIRCUIT AXIAL PISTON PUMPS

Piston pumps with a large range of control options. Pressures up to 420 bar. Supplied as single and double pumps. Displacement 20 to 1000 cm³/rev.

MOTORS AND ROTARY ACTUATORS

Axial piston, radial piston, gear, gerotor/geroler motors and rotary actuators. Supplied with fixed or variable displacement from 1 to 45000 cm³/rev. Maximum working pressure 400 bar. Standard rotary actuators up to 350.000 Nm.

MANUFACTURERS

Eaton (Vickers, Hydrokraft)
Kawasaki
Linde
Moog
Bucher
Marzocchi
Atos
Hawe

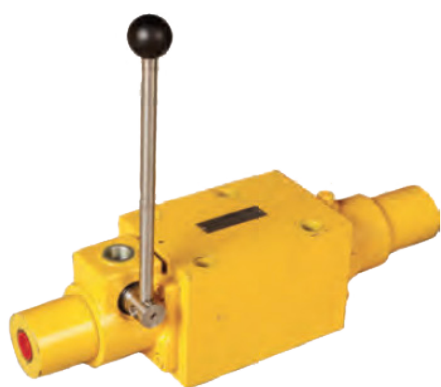
MANUFACTURER

Eaton (Vickers, Hydrokraft)
Linde

MANUFACTURERS

Eaton (Vickers, Hydrokraft)
Kawasaki (Staffa)
Linde
Bucher
Marzocchi
Sunfab
HKS

VALVES



ELECTRICALLY AND/OR MANUALLY OPERATED DIRECTIONAL VALVES

Available in NG 6, 10, 16, 25 and 32. Maximum oil flow 1500 liters/min. Maximum working pressure 400 bar. Certified for ATEX zone 1. Can be supplied in all stainless steel or combinations of materials.

ELECTRICALLY AND/OR MANUALLY OPERATED SERVO AND PROPORTIONAL VALVES

Certified for ATEX zone 1 with or without integrated electronics.

SCREW-IN AND SLIP-IN CARTRIDGE VALVES

For use in block systems. Certified for ATEX zone 1, either as on/off or for proportional control. For regulating flow, pressure or direction. Cartridge valves are supplied in sizes from NG16 to NG180. Maximum working pressure 400 bar.

MANUFACTURERS

Servi Hydranor
Eaton Vickers
Hawe
Atos
Aroflex

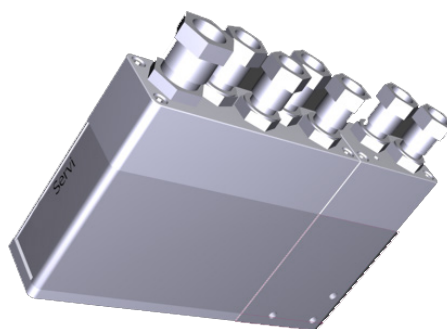
MANUFACTURERS

Servi Hydranor
HAWE
Eaton Vickers
Moog Hydrolux
Atos
Bucher

MANUFACTURERS

Sun
Moog Hydrolux
Eaton
Atos
HAWE

ELECTRONICS FOR PUMPS AND VALVES



ELECTRONICS FOR PUMPS AND VALVES

For digital monitoring and control of pumps and valves.

Electrical amplifiers convert low-current control signals into signals for driving solenoids or proportional pressure controllers.

Regulators and monitors, including speed, temperature and pressure sensors, help close the control loop to provide precise solutions.

DIGITAL CONTROLLER

Amplifiers can be delivered mounted «on-board» the valve or as a standalone unit.

A digital control card for analog (4-20 mA or 0-10 V) or Profibus control signal is integrated in the system.

Can be delivered with or without ATEX approval for EX-Zone I.

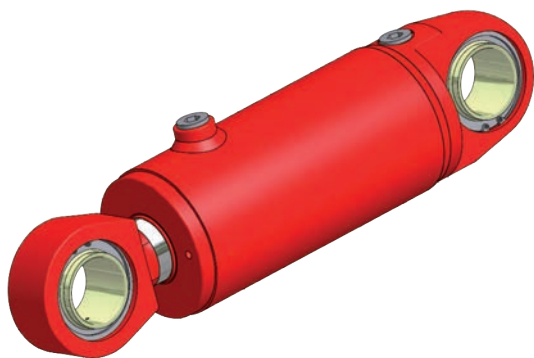
MANUFACTURERS

HCS
Moog
Atos
Eaton

MANUFACTURERS

Servi
HCS

STANDARD CYLINDERS AND ACCUMULATORS



CYLINDERS

Standard cylinders in diameters up to Ø 400mm .
Special cylinders manufactured according to customer specifications, in diameters up to Ø 1500 mm and 20 m stroke in all finishes – position indicator optional.

You can design your own CD25 using our online drawing tool - www.servicatalogue.com



ACCUMULATORS

Bladder, piston and membrane accumulators, supplied in a range of different materials. Standard and custom made options.

Additionally, we supply various types of custom made shock absorbers and compensators.

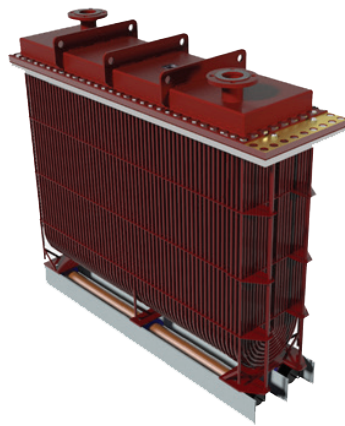
MANUFACTURERS

Servi (Cylinderservice)
Hystat

MANUFACTURERS

Hystat
Hydroll
EPE
PMC Cylinders

HEAT EXCHANGERS



AIR/OIL COOLERS

Air/oil coolers with AC, DC and Hydraulic drive fan cooling systems. Heavy Duty versions for offshore & marine use in addition to ATEX approved coolers. Pressures up to 50 bar.

BOX COOLERS

Efficient water cooling system for all ships. Used to cool main propulsion and auxiliary engines as well as hydraulics, HVAC and other applications.

COMPACT TUBE COOLERS

Standard design shell and tube heat exchangers. The Compact series, saves up to 40% in size. For fresh and seawater based cooling of water or oils.

PLATE COOLERS

Plate & frame (gasketed) or brazed plate heat exchangers as well as welded plates. Suitable for Oil cooling, HVAC, heaters and cooling of main or auxiliary engines.

MANUFACTURERS

ASA Hydraulik
Universal Hydraulik

MANUFACTURERS

KELVION
(GEA Bloksma)

MANUFACTURERS

KELVION
(GEA Bloksma)

MANUFACTURERS

KELVION (GEA)

HIGH PRESSURE COMPONENTS



HIGH PRESSURE PUMPS

Designed for offshore and subsea applications.
Available in stainless steel.
Maximum working pressure 1380 bar, pump capacity up to 227 l/min and maximum speed 1800 rpm.
Suitable for low viscosity fluids and certified for ATEX zone 1.



HIGH PRESSURE VALVES

NG6 and NG10 directional valves.
Available as pressure relief and flow control valves.
Maximum working pressure 1040 bar.
For ATEX zone 1.

MANUFACTURER

Dynex
Oilgear

OIL ANALYSIS AND CONDITION MONITORING



SERVI DYNASAMP

The most accurate high pressure fluid sampler on the market!

- Draws representative samples
- Enables sampling under pressure and full machine operation
- Operator independent, versatile and easy to-use
- Ensures repeatable samples
- Secure water and air content monitoring
- Injector for biocides or other fluids
- Can be operated with automatic sampling, controlled by the machine load
- Adaptable for multiplex sampling
- Available in aluminium, stainless steel, duplex, super duplex or titanium
- A large variety of port sizes available
- Type approved by Lloyd's Register

MANUFACTURER

Servi

COMPONENTS FOR REMOTE CONTROLLING HYDRAULIC SYSTEMS

Sensors

- Particle Content
- Water content
- Temperature
- Viscosity
- Oil life / calculates time for oil change

Historical and real time data

These can be displayed and "trended" on a local control panel of the machine, or remotely monitored via the Internet. Alarm limits can be adjusted, and alarms can be signaled locally, via e-mail or SMS.

MANUFACTURERS

Argo-Hytos
MP Filtri

MEASURING EQUIPMENT AND OIL CLEANING



MEASURING EQUIPMENT

Advanced measuring equipment for measuring pressure, flow, temperature and speed. The data can be stored locally or be transferred to computer.



OIL CLEANING

Electrostatic cleaning for oil and system.

Removes contaminants as oxidation-products. Removes water from 500 ppm (0.05%) and less.

The difference between clean oil and almost clean oil can be measured by money saved.



FILTERS

Standard filters up to 560 bar available in stainless steel. Pressures up to 1000 bar. Maximum capacity 7000 l/min.

MANUFACTURER

Hydrotechnik

MANUFACTURER

Kleentek

MANUFACTURERS

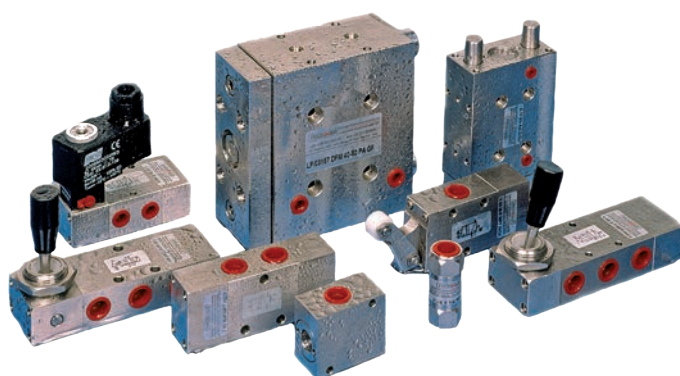
MP Filtri
Eaton Internormen
Servi
Argo-Hytos

VALVE PROGRAM



PNEUMATIC VALVES

The valves are supplied in dimensions ranging from M5 to 2 1/2". We supply valve blocks according to customer requirements. The blocks can be supplied with various w. links or BUS systems.



PNEUMATIC VALVES AISI 316

We supply mechanic, manual, air controlled and electric valves in AISI 316. The valves are supplied with Ex coils in all categories. Sizes up to 1" BSP or NPT. All valves can be delivered with certification.

MANUFACTURERS

Metal Work
Flo Control
Servi

AIR TREATMENT FRL AND GRIPPERS



AIR TREATMENT FRL

In addition to regulators, lubrication equipment and regular filters, we also have a wide range of micro and coalescing filters.

Dimensions:

Filters from 1/8 to 6" (flange mounted)

Regulators from 1/8 to 2"

Lubricators from 1/8 to 2".

We also supply distribution blocks, shutoff valves, soft starters, combined soft start / emergency safety stop, electronic regulators, air dryers and air treatment equipment in AISI 316, in addition to complete breathing air systems.



GRIPPERS AND MODULES

PHD supplies high quality components including rotary cylinders, "pick-and-place" units, grippers, sliding guides, etc.

The units can be supplied metrical or imperial, with optional pneumatic and hydraulic power up to 200 bar.

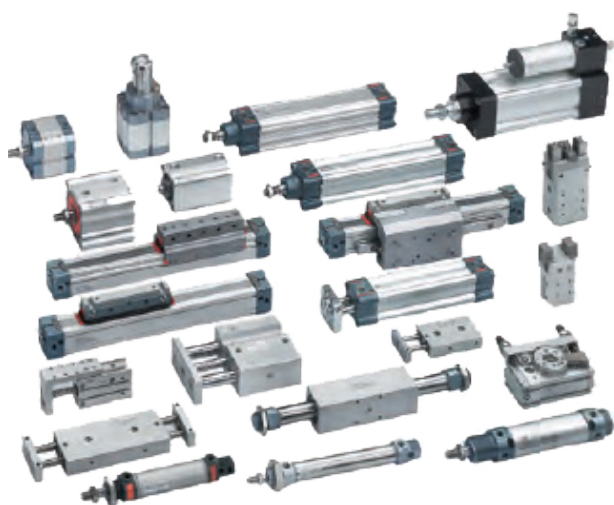
MANUFACTURERS

Metal Work
Wilkerson

MANUFACTURER

PHD

CYLINDER PROGRAM



PNEUMATIC CYLINDERS

Our range of cylinders include VDMA, ISO, compact, lathe, rotating, no piston rod, proportional and positioning cylinders. We can also supply special cylinders according to customer specifications.



PNEUMATIC CYLINDERS IN AISI 316

We supply a variety of cylinders in AISI 316 for a wide range of applications including offshore and food industries. We can supply anything from compact units to ISO (Cetop and VDMA) standards. Special versions for high temperatures. All cylinders can be supplied with certification.

MANUFACTURERS

Metal Work
Bimba
Tol-O-Matic
Pimatic

MOTORS AND SHOCK ABSORBERS



AIR MOTORS

Vane or radial piston motors.

Flange or foot mounted.

The units can be fitted with gears and brakes.

Vane motor effect from 0.2 kW to 8 kW.

Radial piston motor effect from 0.8 kW to 23 kW.



SHOCK ABSORBERS AND VIBRATION ISOLATION

Hydraulic shock absorbers for industry, shock and vibration isolation.

The program includes bellows cylinders and special products for use within the following areas: industry, offshore, marine, electronics, aviation and military purposes.

MANUFACTURERS

Fenner/SPX
Globe

MANUFACTURER

ITT/Enidine

SUCTION CUPS AND PUMPS



SUCTION CUPS

Sizes from 1 to 600 mm.
Bellows, flat, oval and rectangular.
Many different materials and fittings.
Separate program for the printing industry.



VACUUM PUMPS

Multistage air-driven ejector pump.
No moving parts, heat or vibration.
Low weight and noise.
Many sizes, materials and vacuum levels.

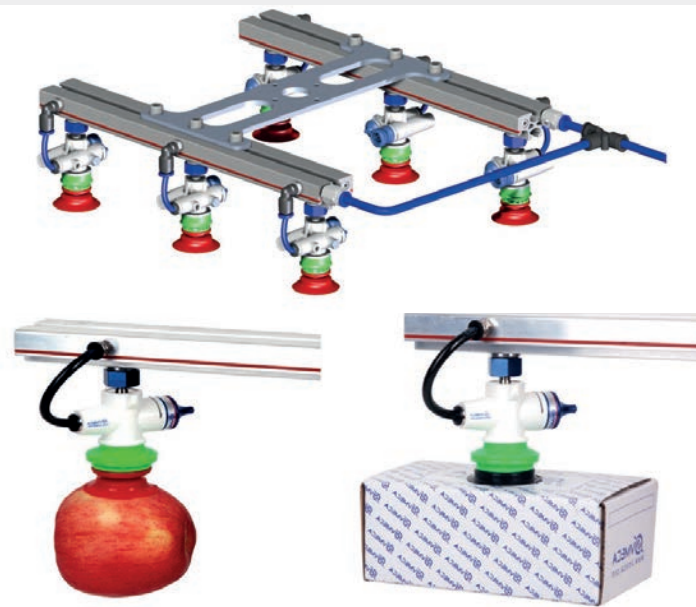
MANUFACTURERS

Vmecca

MANUFACTURER

Vmecca

GRIPPER SYSTEMS



V-GRIP SYSTEM

The unit has excellent gripping capabilities on both even and uneven surfaces (cardboard, pipes, profiles, castings etc.) The lifting plate has a flexible foam layer or suction cups which aids gripping. The unit has numerous openings with check valves. The V-Grip can also be supplied without ejectors, in which case it can be connected to an external vacuum source.

- The V-Grip can be supplied in the following measurements
width 80, 130, 200 and 300 mm;
length from 150 to 1200 mm.
- The unit is supplied with 2 to 8 pcs of vacuum cartridges.
- Minimal air consumption, 64-832 NI/min.
- Maximum vacuum is -75 kPa.
- The noise level is as low as 55-65 dBA.
- The V-Grip can be supplied with on/off valve, release valve and vacuum switch.
- No moving parts and low unit weight
- Special models available on request

MAGIC GRIPPER SYSTEM

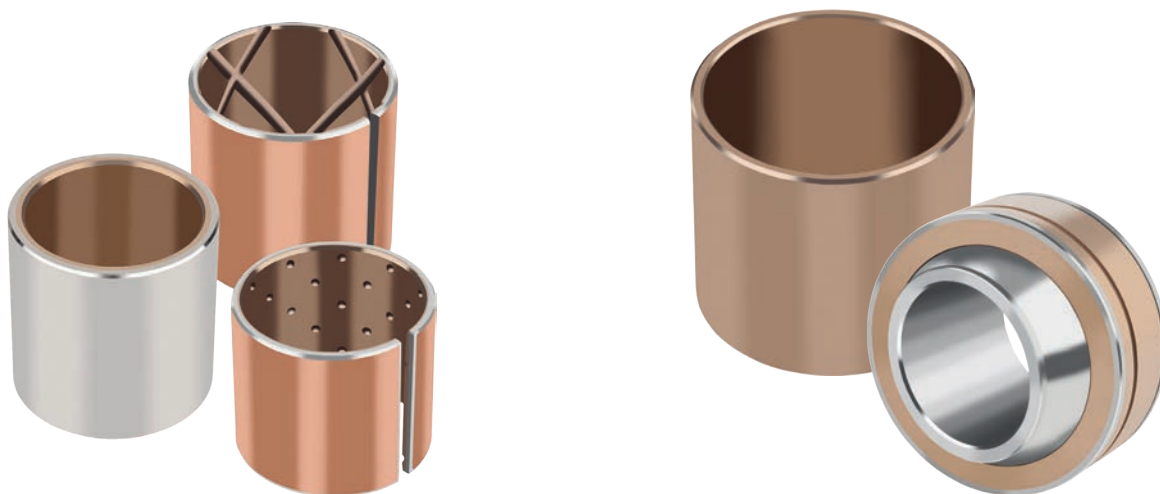
- Easy make a vacuum system
- Quick release without release control valve
- Apply for various application with Magic Cup technology
- Fast response & High performance
- VMECA Multi stage vacuum cartridge integrated
- Individual vacuum system
- Various model option for selection according to flow rate
- Low energy consumption
- Large vacuum flow
- Saving cost and time for building vacuum system
- Easy mounting

MANUFACTURER

Vmeca

GGB

We stock bearings from the well-known supplier GGB (formerly Glacier Garlock Bearings). Slide bearings are available as straight bushings, flanged bushings, thrust washers, plates, and in special design. The sliding layer consists of PTFE or other polymers or graphite, either using a metal backing or the sliding material throughout the item. The product's lifetime can be estimated taking into account load, speed, number of wear kilometers, roughness, temperature and environment.



GGB Type: GGB-CBM™

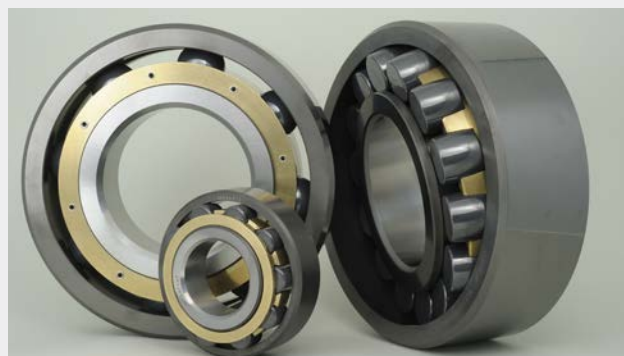
SELF-LUBRICATED AND MAINTENANCE-FREE

stainless steel bearings with solid lubricant graphite sliding layer. Self-lubricating, high load capacity, broad temperature range and corrosion resistance.

GGB Type: GGB-CSM™

SELF-LUBRICATED AND MAINTENANCE-FREE

bearings of solid lubricant (graphite, MoS₂) through a metal matrix. Self-lubricating, high load capacity, broad temperature range and corrosion resistance.



«CEROBEAR» CERAMIC ROLLER BEARINGS

When conventional steel roller bearings do not function satisfactorily, due to:

- Extreme loads, speeds and/or acceleration
- Poor or no lubrication
- Highly corrosive environments
- Abrasive pollution
- Ultra-low friction requirements
- Long lifetime requirements

The solution is Ceramic or Hybrid bearings!

Cerobear is a German manufacturer of high-precision bearings in ceramic materials, often combined with raceways in high quality steel, so-called hybrid bearings.

GGB

Tell us about the environment in which the bearings should work, surface pressure they must endure, life expectancy and whether they should be lubricated or not. SERVI's application engineers will help you choose the right GGB bearing. Take advantage of our knowledge based on 60 years of experience.



**GGB Type: DU® og DUB™
SELF-LUBRICATING AND
MAINTENANCE-FREE**

The industry's first choice for 50 years. Low friction without lubrication.



**GGB Type: DP4™
SELF-LUBRICATING OR
OIL LUBRICATED**

Lead-free alternative to DU. Low friction with or without oil.



**GGB Type: GAR-MAX™
SELF-LUBRICATING
FILAMENT WOUND**

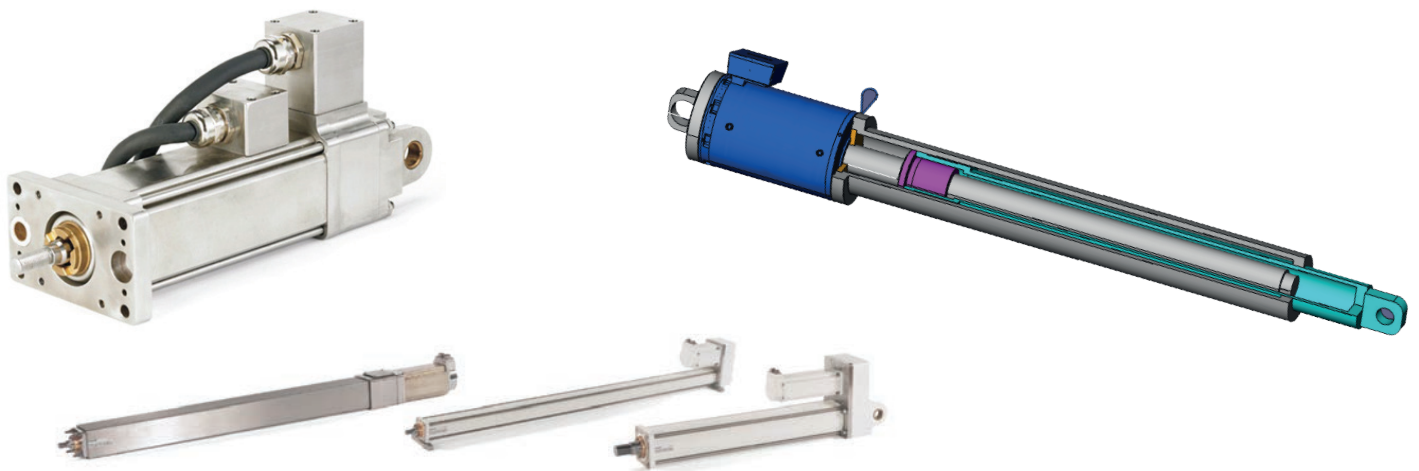
Fiberglass-impregnated, epoxy backing with a variety of low-friction wear-resistant bearing linings.



**GGB Type: HPMB™
SELF-LUBRICATING FIBER
REINFORCED COMPOSITE**

For dry and water lubricated applications. Machinable composite material, high loads, tight clearance and slow rotating or oscillatory movements.

ELECTROMECHANIC LINEAR ACTUATORS



LINEAR ACTUATORS

Lifting capacity 300 kN

Speed up to 1600 mm/sec

Stroke length up to 2500 mm

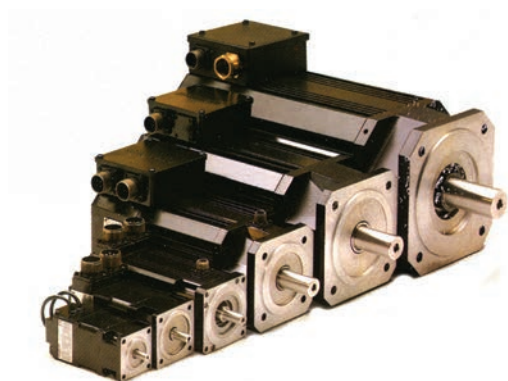
- Actuators with integrated servo motor
- Actuators with integrated servo motor and drive
- Actuators for Ex zone
- Actuators in stainless steel

We can also deliver solutions based on customer specifications.

MANUFACTURERS

Servi, Moog, Exlar

MOTORS AND DRIVES



SERVO MOTORS

Continuous moment above 1000 Nm

Speed over 10 000 r/min

-Gears optional

-Servo motors for Ex zone

-Can be liquid cooled to increase the effect

-Servo motors in stainless steel



DRIVES

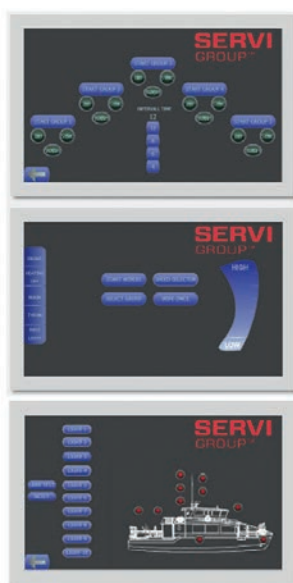
An AC drive controls the application by continuously adjusting the motor speed. This results in reduced energy usage and prevents unnecessary wear of the equipment. SERVI offers a wide product range.

Direct torque control and built-in shaft power monitoring are examples of premium features of AC drives. Direct torque control is considered an excellent method to control motor speed and torque and enables optimal usage of the motor.

MANUFACTURERS

Moog, Exlar, CG

MARINE WIPERS AND EQUIPMENT



WIPER SYSTEMS

From the world's leading manufacturer of "clear vision" equipment for ships and industrial use - Hepworth Marine. Includes "Straight Line", pantograph and pendulum wipers, as well as rotating windows. Ensures high quality results and unbeatable reliability in all conditions. Spare parts are available worldwide. This makes Servi a reliable name within shipping.

SERVI VISION CONTROL

Servi Vision Control is the most reliable and advanced control system made for wipers you can find in the market today and still for an affordable price.

- SVC can communicate and cooperate with most of other type of control system.
- Maximum amount of wipers 250.
- You can have your own logo or your own design on the touch screens.
- You can choose between various type of ways to control your wipers, navigation lights, horns, deck lights, heaters, pumps interior light with dimmers etc.
- Examples:
 - Touchscreens
 - Buttons
 - Foot pedals
 - External screens (HMI/ Windows) or combinations of these

OBSERVATOR SUNSCREENS

Film specifications

- Sheet thickness 100 μ m
- Layers 3
- Visible light transm. 8.3%
- Visible light refl. 8%
- Glare reduction 91%
- UV transmission <1%
- Solar energy refl. 22.4%
- Solar energy abs. 57.0%
- Total energy rej. 63.4%

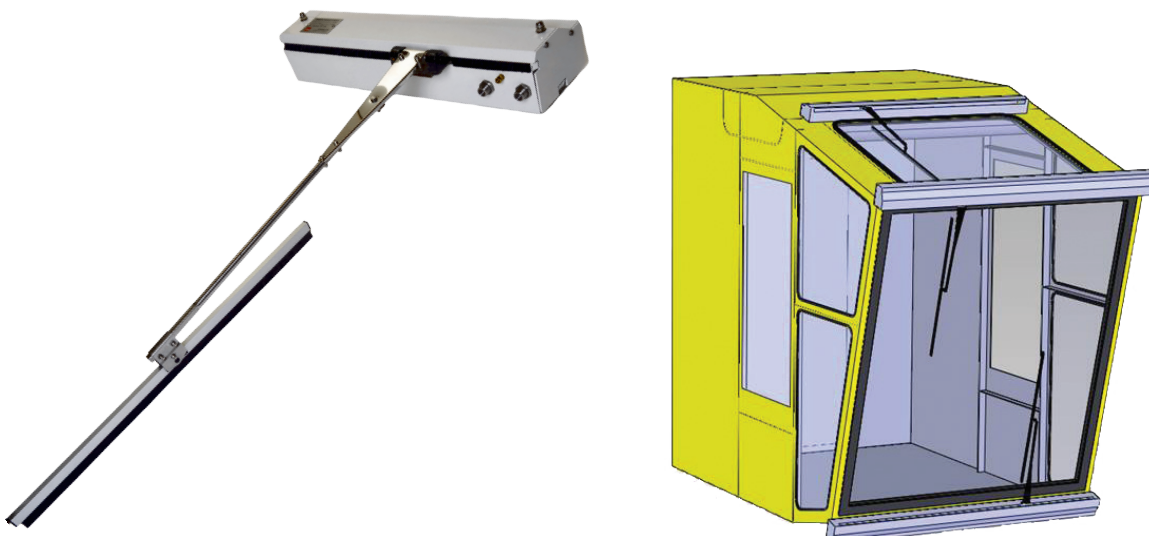
KAHLENBERG HORN

Kahlenberg Commercial Marine Horns and Accessories
For all size vessels
Both electrical and pneumatic driven

MANUFACTURER

Hepworth Marine
Servi Ulsteinvik

OFFSHORE WIPER SYSTEMS



ATEX APPROVED PNEUMATIC WIPERS AND FLUSHING SYSTEMS MANUFACTURED BY SERVI

Cost-effectiveness, long product lifetime, simple installation and low use of air. Systems supplied to the international oil industry for more than 20 years.

Pneumatic “Straight Line” wipers

Pneumatic “Straight Line” wipers are certified for use in Gas Zone 1. Servi designs and manufactures custom made pneumatic wiper and flushing systems for use in driller’s cabins, cranes, helicopters etc.

Components are made of sea water resistant, extruded aluminum profiles. An integrated brush keeps mud from polluting the power unit.

The wipers have an automatic self parking system, and can be installed above, underneath or next to the window. Easy maintenance and installation.

Pantograph wipers

An extra strong power unit ensures stability and long service life. Adjustable pitch angle. The wipers are supplied with an automatic self parking system, and can be installed above, underneath or next to the window. Supplied with stainless arms and “heavy duty” wiper blades.

MANUFACTURER

Servi

TEST EQUIPMENT FOR THE CONSTRUCTION INDUSTRY



For more than 30 years, Servi has supplied test equipment to the construction industry.

We offer a wide range of products within testing of cement, concrete, asphalt and aggregates.

Our experience and supplier network enable us to meet the needs of each individual customer.

ELECTRONIC SCALES AND WEIGHTS FOR CALIBRATION

We supply laboratory scales, precision scales and platform scales for use in industry and laboratories.

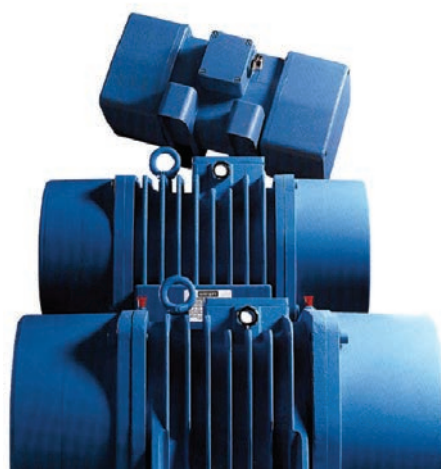
MANUFACTURERS

Form+Test Prüfsysteme
Proceq
Endecotts
Matest
Shinko Denshi

MANUFACTURER

Shinko Denshi

INDUSTRIAL VIBRATORS



PNEUMATIC VIBRATORS

Small units with excellent power-to-weight ratio. Easy and cost-effective speed adjustment. Solid construction with few moving parts ensures low maintenance and a long service life for the products. No risk of explosion.

ELECTRIC VIBRATORS

Our delivery program contains a wide assortment of electrically operated vibration motors. We offer centrifugal power in sizes from 40 N to 60 kN, and models with 3000, 1500 or 750 rev/min. Some vibrators can be supplied in explosion proof design (ATEX).

MANUFACTURER

Findeva

MANUFACTURER

Würges

www.servi.no

www.servicatalogue.com

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E-mail: khg@servi.no

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Fty Building
5 Cheung Shun St.,
Cheung Sha Wan
Kowloon, Hong Kong
T (852)2612-0482

PMC FLUIDTRONIC

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Mata da Praia - CEP 29065-070
Vitoria **ES - Brazil**
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Singapore **628584**
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Newton Aycliffe,
Co. Durham
DL5 6BF
England, UK
T +44 1325 321345

BASIC HYDRAULICS (PTY) LTD

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Lower Heerengracht Street
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SERVI
GROUP™

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1402 Ski

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