

PRODUCT SOLUTIONS

HYDRAULIC CYLINDERS
WORKHOLDING ELEMENTS





ASSEMBLY AND HANDLING SYSTEMS



DIE CLAMPING SYSTEMS



WORKHOLDING SYSTEMS MACHINE VISES



HYDRAULIC COMPONENTS



PRESS-IN DEVICES



MAGNETIC CLAMPING TECHNOLOGY



ZERO POINT CLAMPING SYSTEMS



PNEUMATIC ELEMENTS



DRIVE TECHNOLOGY



SYSTEM SOLUTIONS





CONTENT

	Page
Hydraulic cylinders Workholding elements	4-5
Workholding systems Machine vises	6-7
Zero Point clamping systems	8-9
Clamping power units Pressure generators	10
Hydraulic components	11
Electro-mechanical clamping elements FSS clamping fixtures	12
Drive technology Pneumatic elements	13
Assembly & Handling Systems.	14
Press-in devices	15
Die clamping systems Locking cylinders	16-17
Magnetic clamping technology	18
System solutions for production engineering	19

QUALITY

is an obligation

ROEMHELD is committed to researching and designing technological innovations that are driven by customer needs. Despite the continuously changing market demands, the high quality of our products and processes remains unchanged. Our world-class quality systems are backed by the ROEMHELD name, driving continuous improvement into all we do for you. We provide you with peace of mind through our certification EN ISO 9001:2015, to consistently provide products and services that meet customer and regulatory requirements.

SOLUTIONS

customer-specific design

Thanks to the diversity of our products and long-standing experience, ROEMHELD is able to develop and supply customer-specific solutions across North America. We develop, design, manufacture, and supply workholding and clamping solutions across a wide range of manufacturing and assembly applications and industries. Please contact us to see how we can help you with your customer-specific solution or product selection by emailing info@clrh.com.

INTERNATIONAL

aimed at global presence

The ROEMHELD Group has its global headquarters located in Laubach, Germany with manufacturing at its factories there and Rankweil, Austria. To provide premier and responsive customer support globally, ROEMHELD has subsidiaries worldwide.

ROEMHELD North America is responsible for sales and service in the USA, Canada, and Mexico. Based in Fenton, Missouri, near St. Louis, our dedicated team can provide you with technical support, applications solution assistance, replacement parts, and services.

ENVIRONMENT

the protection of the environment is important to us

The companies of the ROEMHELD Group have their own environmental management system (EMS), which is designed to provide a globally consistent set of procedures to manage the way our organizations interact with the natural environment. This facilitates the implementation of cleaner production techniques and ensures that the impact of our products on the outside world is kept to a minimum. This ensures that only the necessary extent of emissions occur. Resources such as energy, water, air, and raw materials are carefully used. Our products help you to conserve resources.

ROEMHELD North America

Your solution provider in clamping and handling technology

Our experienced consultants can help you find the optimal solution based on your requirements and goals. Our catalog contains **more than 25,000 products or we can design a solution** that meets your specific needs with our product managers and application engineers.

ROEMHELD North America is a joint venture formed in 1982 between ROEMHELD GmbH, a global leader in highly engineered power workholding systems, and Carr Lane Manufacturing, America's premier tooling component supplier. We provide highly engineered solutions for Power Workholding, Zero Point Mounting & CNC Vises for Precision Metal Cutting, Assembly & Handling Technology, and Hydraulic & Magnetic Die Clamping Systems for Quick Mold and Die Changes.

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Hydraulic cylinders for linear motions of every type | Operating pressure: up to 500 bar

Hydraulic cylinders

Hydraulic cylinders, design with tube with/without end position monitoring piston diameter: 25 to 80 mm stroke: 60 to 1200 mm



Hydraulic cylinders with round housing for axial adjustability piston diameter: 10 to 63 mm stroke: 8 to 100 mm

Threaded-body cylinders

Compact hydraulic cylinders and built-in pistons for screwing in piston diameter: 8 to 50 mm stroke: 4 to 40 mm

Block cylinders

Hydraulic cylinders with block-type body made of steel, aluminum or bronze with/without end position monitoring piston diameter: 16 to 200 mm stroke: 8 to 200 mm

Hydraulic slides

Hydraulic cylinders with integrated guides with/without end position monitoring piston diameter: 25 to 100 mm stroke: 20 to 200 mm

























Hydraulic elements for positioning and clamping of workpieces | Operating pressure: up to 500 bar

Bore clamps

Clamping elements for clamping in bore holes with/without centering function / with pull-down clamping with/without seat check bore hole diameter: 6.6 to 46 mm max. low-clamping force 0.6 to 24.5 kN

Position flexible clamping elements

Clamping elements for "floating" clamping for exterior and interior clamping with/without position monitoring max. clamping force: 7.5 kN

Clamps / clamping cylinders

Clamping elements for clamping in small recesses with/without position monitoring with/without self-locking max. clamping force: 2.5 to 50 kN

Hinge clamps

Clamping elements with operation of a clamping lever with/without position monitoring max. clamping force: 1.3 to 21.5 kN clamping stroke/clamping range: 2.0 to 9.0 mm

Swing clamps

Clamping elements with swing piston with/without position monitoring max. clamping force: 0.6 to 41 kN clamping stroke: 6 to 50 mm

Work supports

Elements to support workpieces single or double acting max. load force: 4 to 102 kN plunger diameter: 16 to 50 mm plunger stroke: 6 to 20 mm

Concentric clamping elements

Clamping elements for concentric positioning and clamping for exterior and interior clamping max. clamping force: 5 to 44 kN repetitive clamping accuracy: ± 0.005 mm

Fixture clamps

Compact standard clamping systems for use on fixtures with fixed jaw, concentric or position flexible max. clamping force: 6.5 to 15 kN jaw width: 40 to 65 mm

Hollow-piston cylinders

Clamping cylinders with through hole in the piston piston diameter: 20 to 80 mm max. push force: 10 to 153 kN clamping stroke: 6 to 40 mm















































Mechanically, mechanical-hydraulic or hydraulically operated vises for workpieces

Machine vises

mechanically-hydraulically or hydraulically operated clamping against the fixed jaw

- with hydraulic power transmission
- completely encapsulated lead screw area
- sizes: 100 to 160 mm
- max. clamping force: 25 to 50 kN

5-axis workholding systems

mechanically or hydraulically operated clamping against the fixed jaw or concentric clamping

- compact design
- collision-free tool paths
- sizes: 40 to 125 mm
- max. clamping force: 8 to 35 kN

Double workholding systems

mechanically, mechanically-hydraulically or hydraulically-operated clamping against the fixed jaw

- safe loading and unloading by 3rd-hand function
- sizes: 80 to 160 mm
- max. clamping force: 25 to 63 kN

Multiple workholding systems

mechanically operated clamping against the fixed jaw

- compact design
- modular design
- sizes: 24 to 120 mm
- max. clamping force: 15 to 40 kN

Series NC





Series KNC

Series MC-P



Series SCS



Series PC

Series **DUO**

Series DS

Series DF





Series MSH

Variant workholding system VarioLine

mechanically-hydraulically or hydraulically operated clamping against the fixed jaw

- optional: clamping force gauge
- system with variants for customized machine vices
- sizes: 100 to 160 mm
- max. clamping force: 25 to 60 kN
- length of base: up to 750 mm

Concentric workholding systems

hydraulically operated, double acting concentric clamping

- high repetitive clamping repeatability ± 0.01 mm
- fixing and mounting possibilities for customer-specific clamping jaws
- sizes: 100 to 160 mm
- max. clamping force: 16 to 64 kN

Series ZH

Series VL



Automation

hydraulically operated, double acting clamping against the fixed jaw

- also available with position measuring system (electrically or via flow rate)
- setups can be automated
- sizes: 100 and 125 mm
- hydraulic stroke: up to 250 mm
- max. clamping force: 32 kN

Tower workholding systems

mechanically operated

version TS Vector

• sizes: 80 to 125 mm

TS: 4x 90° | TS TriStar: 3 x 120°

clamping against the fixed jaw

version with 3rd-hand function

• max. clamping force: 20 to 40 kN

arrangement of the clamping points:

Series ASH











Clamping jaws

top jaws with grip

precise step bars

precision step reversible jaws

spacer jaws

formed jaws

central jaws

Vee jaws QIS base jaws

pendulum jaws

precision step jaws

with permanent magnets QIS interchangeable jaws, smooth

QIS interchangeable jaws, serrated

QIS interchangeable jaws, crowned

QIS interchangeable jaws, stepped

QIS interchangeable jaws, prismatic

interchangeable inserts, round, with grip

interchangeable inserts with grip /

with hard-metal coating / smooth

QIS interchangeable jaws, soft

floating central jaws

clamping jaws, soft

special grip jaws reversible step jaws

reversible jaws

smooth

clamping jaws, extra high

clamping jaws, extra large clamping jaws with grip bar

interchangeable inserts

SlimFex jaws



Milling and turning machining Box jaws mechanically operated

- lead screw and nut completely encapsulated
- easy pre-adjustment using a scale
- track: 150 and 180 mm
- max. clamping force: 30 to 63 kN

Series KK



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Clamping systems for exact zero point positioning and clamping of workpieces and fixtures

STARK.metec

easy, compact and sturdy clamping: mechanically unclamping: mechanically max. retention force: 12 to 50 kN



STARK.airtec

quick and precise clamping: mechanically unclamping: pneumatically max. clamping force: 20 kN max. retention force: 55 kN



STARK.hydratec

quick and flexible clamping: hydraulically unclamping: hydraulically max. clamping force: 20 kN max. retention force: 38 kN



STARK speedy connect

fast closing clamps made of high-quality tool steel.

double-action pneumatic w/ clamping force boost.



STARK.classic

clamping force monitoring, seat check, blast cleaning, flow power clamping: mechanically unclamping: hydraulically or pneumatically max. insertion force: 30 kN max. retention force: 55 kN



STARK.easyclick

clamping by pressing clamping: mechanically unclamping: pneumatically max. clamping force: 5 kN max. retention force: 10 kN



STARK.sweeper

for the automation clamping: mechanically unclamping: hydraulically or pneumatically max. insertion force: 20 kN max. retention force: 38 kN



Couplings

universal and compact for hydraulics, pneumatics, vacuum and electrics nominal diameters: 3 to 8 mm



Drop Zero

for modular tooling plates or machinable fixture plates clamped and unclamped mechanically max. retention force: 12 kN.



From standard elements to systems for flexible use with minimum set-up time

• mechanical • hydraulic • pneumatic • electrical • single acting • double acting

Quick-locking pallets

for milling machining from standard components, adapted to the machine and machining task

• fully assembled with 3D dimensional and functional test



Quick-locking pallets

for turning machining from standard components, adapted to the machine and the machining task

- standard clamping monitoring
- applicator for pre-centering



Quick-locking tombstone

for milling machining from standard components, adapted to the machine and the machining task

• 3rd hand-function (DHF) prevents the dropping of the parts



Quick-locking plates

for the automation from standard components, adapted to the machine and machining task

 flow power as interface for pneumatic or hydraulic clamping fixtures and signal queries





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Clamping power units, hydraulic power units, hydro-pneumatic pump units and manually-operated pumps to generate and control hydraulic pressure

Power units D 8.010

compact and lightweight energy-saving intermittent cycling flow rate: 0.5 to 0.8 l/min max. operating pressure: 200 bar reservoir volume: approx. 3.5 l voltage: 400 VAC or 24 VDC



Power units D 8.0115

ready for connection energy-saving intermittent cycling flow rate: 0.8 to 3.5 l/min max. operating pressure: 160 to 500 bar reservoir volume: approx. 5 l voltage: 400 VAC



Power units D 8.013

with two-hand operator console flow rate: 0.9 to 4.5 l/min max. operating pressure: 50 to 500 bar reservoir volume: approx. 11 l voltage: 400 VAC



Power units D8.015

with proportional pressure adjustment flow rate: 0.9 I/min max. operating pressure: 500 bar reservoir volume: approx. 11 l voltage: 400 VAC



Power units D8.021 | D8.031

basic versions flow rate: 0.9 to 24 l/min max. operating pressure: 50 to 500 bar reservoir volume: 11, 27, 40 and 63 l voltage: 400 VAC



Power units D 8.026

modular design flow rate: 0.9 to 24 l/min max. operating pressure: 120 to 500 bar reservoir volume: 11, 27, 40 and 63 l voltage: 400 VAC



Hydro-pneumatic pump units D8.600

for single and double acting cylinders flow rate: 0.85 to 1.5 l/min air pressure: 0.85 to 5.0 bar max. operating pressure: 500 bar



Manually-operated pumps D8.800 | D8.919

hydraulic pumps for single-acting cylinders operation by hand or foot lever displacement per stroke: 2 to 12 cm³ Screw pumps displacement: 21 cm³





Elements for oil supply and control to hydraulic elements

Hydraulic valves

Directional control and shut-off valves Throttle and pressure control valves Pressure relief valves Check valves Sequence valves Valve combinations



Hydraulic accumulator

Diaphragm accumulator for hydraulic oil with nitrogen gas filling nominal volume: 13 to 750 cm³ ports: G1/4 and G1/2 max. operating pressure: 250 and 500 bar



Rotary couplings

Rotary couplings and rotary valve couplings for oil supply to rotating and swivelling installations max. operating pressure: 500 bar



Intensifiers

hydraulic-hydraulic or pneumatic-hydraulic single and double acting max. output pressure: 500 bar



Pressure transducer

piston pressure switch with continuously adjustable switching point manifold mounting or G1/4

pressure sensors with radio transmission receiver units with data interfaces



Coupling elements

for hydraulic oil. compressed air and vacuum nominal diameter: ND 3 to 8 max. flow rate: 8 to 35 l/min max. operating pressure: 300 and 500 bar



depressurised coupling or coupling against pressure max. operating pressure: 300 bar



High-pressure filters

In-line filters, plug-in filters and rectifier filter filter fineness: 10 and 100 µm material: stainless steel and steel max. operating pressure: 350 and 500 bar



Coupling units and systems

manually or automatically operated for single or double acting elements max. operating pressure: 400 and 500 bar



Piping elements

Fittings Hydraulic hoses / Hydraulic oil Precision steel pipes Plug-in connectors Pressure gauges / pipe clamps







Electric swing clamps

max. clamping force: 7 kN clamping stroke: 23 mm swing angle: max. 180° voltage: 24 VDC

Parallel drive electric swing clamp

max. load force: 6.9 kN clamping stroke: 20 mm swing angle: max. 180° voltage: 24 VDC

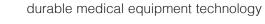


Electric wedge clamps

max. retention force: 130 to 320 kN clamping stroke: 20 mm voltage: 24 VDC







Electrically-operated linear actuators version with limit switches or stroke measuring system

max. lifting force: 0.3 to 6.0 kN stroke: 100 to 600 mm voltage: 12 or 24 VDC

Drive technology

Manually-operated linear actuators

manual-hydraulic version max. lifting force: 4.5 to 12.5 kN stroke: 140 to 600 mm





Flexible clamping and support elements for clamping of thin-walled workpieces with free-form surfaces

Clamping and supporting elements

elements with their own linear actuator and vacuum clamping technology piston rod Ø: up to 70 mm strokes: 100 to 1000 mm max. axial support force: 1.2 to 12.0 kN



The core elements of a FSS clamping system are the clamping and support elements that can be used in unlimited quantity and that together form the contact surface of the workpiece. Since each element can be positioned individually on the relevant workpiece geometry, FSS clamping systems allow for a flexible configuration of individual surfaces to clamp and support workpieces. Depending on the workpiece surface and geometry, clamping forces of 300 N per element and more can be obtained.



Electrically and manually operated linear motions in demanding conditions in industry, automotive engineering and

Pneumatically operated swing clamps and rotary couplings for pneumatics

Pneumatic swing clamps

with adjustable magnetic sensors double acting max. clamping force: 140 to 1400 N max. operating pressure: 7 bar



Pneumatic rotary valve couplings

number of stations: 5 to 8 nominal diameter 3 mm max. operating pressure: 10 bar





Modules for rotating, lifting, tilting and moving of heavy workpieces Individual modules can be easily combined to built multi-functional work stations

Rotating modules – horizontal or vertical axis

for rotation of the workpiece around the horizontal or vertical axis manually or electrically operated option: indexing option: flow power workpiece weight: up to 200 kg



for tilting or swiveling of the workpiece around an axis between the final positions 0° and 90° manually or electrically operated option: indexing workpiece weight: up to 100 kg

base frame for 1 or 2 modules

floor space and good stability

max. load: 6000 and 8000 N

to compensate unevenness of the



Lifting modules

for guided lifting and lowering of the workpiece operated by a hydraulic or electrical actuator workpiece weight: up to 600 kg max. strokes: 200 to 1000 mm



Accessories

Floor modules

Tilting modules

base plates, adapter plates, flange plate, table plates, supply units, hand panel, foot switch, operating panels, power supply for mobile systems, and command modules



Cart modules

Clamping jaws

to displace manually individual modules or module combinations with parking brake max. load: 2000 and 6000 N



to clamp workpieces on modules

- · hydraulic and mechanical clamping elements with universal clamping plate
- quick-change mounting plate with STARK zero point clamping system



Electrical lifting assembly table

table plate with two electrical lifting columns in synchronism. maximum load per set: 600 kg



Modupress – hydraulically or electrically-operated press in devices for power-operated processes such as jointing, pressing-in, jolting, deforming and riveting

Press-in devices P1.100

portal design hydraulic drive creep/rapid speed control with optional force/stroke monitoring max. press-in force: 40 to 100 kN



Press-in devices P1.200

c-frame design hydraulic drive creep/rapid speed control with optional force/stroke monitoring max. press-in force: 40 to 100 kN



Press-in devices P1.101

portal design electrical drive creep/rapid speed control with optional force/stroke monitoring max. press-in force: 7 to 25 kN



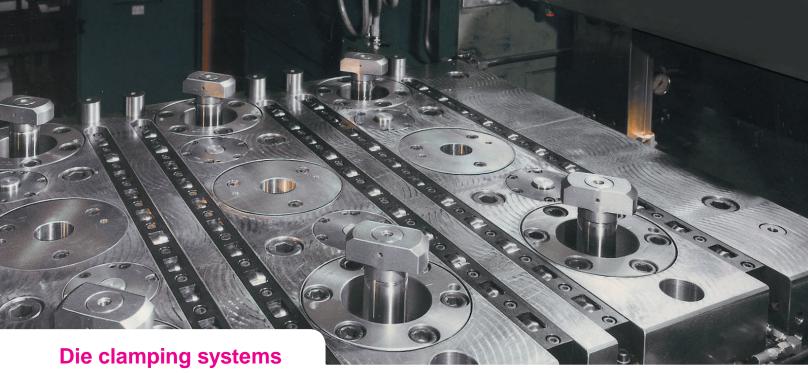
Press-in devices P1.201

c-frame design electrical drive creep/rapid speed control with optional force/stroke monitoring max. press-in force: 7 to 25 kN



Accessories

protection cabins, light grids, sliding tables, sensor technology. quick-disconnect couplings



Die clamping and changing systems for press automation

Quick changing systems for mechanical, hydraulic and forging presses; and injection molding/die cast machines

Hydraulic clamping elements

Hollow-piston cylinders

for retrofitting on press bed and ram

Spring clamping cylinders

for spring-loaded long-term clamping

Angular clamps

for clamping on small clamping edges

flat clamping element for bed and ram max. clamping force: 30 to 116 kN, piston stroke: up to 8 mm

Double-T clamping bars to use the complete bed or ram surface

max. clamping force: 16 to 320 kN

Sliding clamps

for insertion in T-slots

max. clamping force: 19 to 78 kN, piston stroke: up to 12 mm

Swivel and pull clamps

clamping cylinders with tie rods

Wedge clamps

sturdy clamping elements for straight or inclined/clamping edge max. clamping force: 1250 kN

Block clamps

with self-locking mechanical lock max. clamping force: 200 kN

Pivot and pull clamps

max. clamping force: 104 to 160 kN

Swing / swing sink clamps

without interfering edges when inserting the die max. clamping force: 60 to 164 kN

Rapid clamping systems

automatic travelling units with clamping element

pull-type cylinder with tie rod for inaccessible points

Wedge swing clamps

with mechanical lock

Grip rail couplings

Rapid clamping systems for grip rails





















Electro-mechanical clamping elements

Tenon-type clamps

clamping by grip and pull movement

Swivel and pull clamps

clamping by swivel and lifting movement

Swing clamps

clamping by swing and lifting movement

max. clamping force: 70 to 160 kN

Wedge clamps

compact electro-mechanical power package max. clamping force: 160 kN, retention force: 300 kN

Angular clamps

clamping in any position of the travelling path max. clamping force: 50 kN, retention force: 320 kN

Mechanical clamping elements

Sliding clamps

max. clamping force: 40 to 80 kN

High-pressure spindles

max. clamping force: 40 to 140 kN

Clamping nuts, mechanical max. clamping force: 60 to 200 kN

Clamping nuts, hydro-mechanical

max. clamping force: 60 to 150 kN

Die changing technology

Roller and ball bars

hydraulic or spring-loaded

Roller conveyors without lifting

Roller and ball inserts

spring-loaded

Carrying consoles, hanging

max. load per pair: 5 to 30 kN

Carrying consoles, supported

max. load per pair: 20 to 250 kN

Carrying consoles, swivelling

max. load per pair: 10 to 60 kN

Changing carts

for handling of dies up to 1600 kg with ball table, hydraulic height adjustment

and safety docking station

Die changing consoles with drive system for die weights up to 250 kN

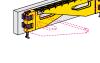
















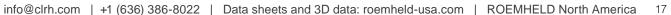
Locking cylinders

To fix rotors of on/and offshore wind power plants for maintenance work

Rotorlock

hydraulic, mechanical or electro-mechanical sizes: up to 7500 kN side load with position monitoring corrosion protection as per DIN ISO max. temperature range: -40 to +70 °C







M-TECS magnetic clamping plates and systems for injection molding machines, forming presses, rubber presses and mold carts.

M-TECS M

for sheet metal forming max. temperature: 80°C plate thickness: 55 mm

M-TECS P

for the plastics industry max. temperature: 120°C plate thickness: 47 mm

M-TECS R

for the rubber and duroplast industry max. temperature: 240°C plate thickness: 55 to 85 mm









ROEMHELD provides solutions for many different industries with our quality systems and products including hydraulic clamps and cylinders, work supports, coupling systems, die clamping, machine vises and many other items.

PLASTICS INDUSTRY

ROEMHELD offers a broad portfolio of system solutions that can be optimized for each step in the injection molding process. This includes the mold maintenance & design, mold functionality, and the mold changing process.

In order to maximize your profitability, each step needs to be considered. Through our highly engineered expertise, ROEMHELD engineers can provide solutions for your injection molding machines. These solutions will effectively streamline your operation and implement Lean Manufacturing, a primary driver of profitability.



AEROSPACE INDUSTRY

ROEMHELD leads the industry with solutions for the aerospace industry. We provide a full selection of state-of-the-art, air and hydraulically powered components and accessories.

More than 80 different types of power workholding devices are available, allowing you to speed up and streamline many manual workholding operations. We lead the industry by utilizing our exceptional knowledge and expertise in manufacturing complex aerospace tooling parts for military aircraft, commercial aircraft and other aviation needs.



OTHER INDUSTRIES

- Automation & Test Fixtures
- Mid-Size Machining
- Forging
- Agriculture
- Welding
- Fixture Builders

- High Speed Stamping
- Automotive Stamping (Hi Volume Transfer Lines)
- Durable Medical Equipment
- Industrial Distributors
- Machine Builders
- Automotive Machining (High Volume Machining)





Your solution provider in clamping and handling technology

Our experienced consultants will find the optimal solution based on your requirements and goals. Whether it's one of our more than 25,000 products or a customer-specific solution designed with our product managers and development engineers.





