Program summary

ROEMHELD Group

- Workholding elements
  - Hydraulic cylinders

- Workholding systems
  - Machine vices

- Zero point clamping systems

- Clamping power units

- Hydraulic components

- Pneumatic elements

- Handling technology

- Press-in devices

- Drive technology

- Die clamping systems

- Magnetic clamping technology

- System solutions
Quality
as an obligation

To take a leadership role in the national as well as international quality competition the ROEMHELD Group feels obliged to a continuous process of improvements. Thereby the high quality of the processes and products is always guaranteed even with continuously changing demands on the market. Certification as per EN ISO 9001:2000 guarantees the compliance with standard guidelines. In addition, it is a stated objective to make the products and services of the ROEMHELD Group an established idea of quality. This will be a long-term guarantee that the ROEMHELD Group will offer efficient and economic products and will contribute to a considerable extent to the success of its customers.

Solutions
from the catalogue or as a customer-specific design

In addition to the most comprehensive range of catalogue elements and systems, available in clamping technology, the ROEMHELD Group permanently develops, designs, manufactures and supplies customer-specific solutions in cooperation with their customers. This program summary of the product range of the ROEMHELD Group shows essentially the catalogue program. Please contact for customer-specific designs the corresponding companies of the ROEMHELD Group.

International
aimed at global presence

Beside national customers, which are well looked after by 17 sales partners in Germany, export is more and more important. Already today the ROEMHELD Group shows an export share of approx. 50 %, which increases to more than 65 % because of indirect exports. Subsidiaries in Great Britain, France, USA, China, Japan, and South Korea as well as numerous sales partners guarantee worldwide an intensive consultation, an efficient sale and an extensive service for the customers of the ROEMHELD Group.

Environment
The protection of the environment is important to us

The companies of the ROEMHELD Group have their own environmental management systems. These ensure that the impact of the production on the outside world is kept to a minimum, only the necessary extent of emissions occur and resources such as energy, water, air and raw materials are used as carefully as possible. The environmental management system of ROEMHELD is certified according to EN ISO 14001.
ROEMHELD a strong Group

Römhled forms together with the specialists in clamping technology Hilma-Römhled, Stark Spannsysteme and Römhled Rivi a group of companies, which offers an extensive product range in the field of clamping technology for production engineering. The product range is supplemented by numerous hydraulic elements for general industrial use, as well as components and systems of the assembly and drive technology. The ROEMHELD Group comprises about 500 employees with an annual turnover of approx. 105 million Euro.

Römhled GmbH Friedrichshütte
Römhheldstraße 1 – 5
35321 Laubach
Germany
www.roemheld-group.com

Hilma-Römhled GmbH
Schützenstraße 74
57271 Hilchenbach
Germany
www.roemheld-group.com

Römhled Rivi GmbH
Schützenstraße 74
57271 Hilchenbach
Germany
www.roemheld-group.com

Stark Spannsysteme GmbH
Römergrund 14
6830 Rankweil
Austria
www.stark-inc.com
Hydraulic cylinders | Hydraulic workholding elements

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

<table>
<thead>
<tr>
<th>Hydraulic cylinders</th>
<th>Hydraulic cylinders, design with tube with/without end position monitoring piston diameter: 25…80 mm stroke: 60…1200 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal cylinders</td>
<td>Hydraulic cylinders with round housing for axial adjustability piston diameter: 10…63 mm stroke: 8…100 mm</td>
</tr>
<tr>
<td>Threaded-body cylinders</td>
<td>Compact hydraulic cylinders and built-in pistons for screwing in piston diameter: 8…50 mm stroke: 4…40 mm</td>
</tr>
<tr>
<td>Block cylinders</td>
<td>Hydraulic cylinders with block-type body made of steel, aluminium or bronze with/without end position monitoring piston diameter: 16…200 mm stroke: 8…200 mm</td>
</tr>
<tr>
<td>Hydraulic slides</td>
<td>Hydraulic cylinders with integrated guides with/without end position monitoring piston diameter: 25…100 mm stroke: 20…200 mm</td>
</tr>
</tbody>
</table>
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 centring function / with pull-down clamping
  - with/without seat check
  - bore hole diameter: 6.6…46 mm
  - max. low-clamping force 0.6…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…50 kN

### Hinge clamps
- **Clamping elements with operation of a clamping lever**
  - with/without position monitoring
  - max. clamping force: 1.3…21.5 kN
  - clamping stroke/clamping range: 2.0…9.0 mm

### Swing clamps
- **Clamping elements with swing piston**
  - with/without position monitoring
  - max. clamping force: 0.6…41 kN
  - clamping stroke: 6…50 mm

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

### Concentric clamping elements
- **Clamping elements for concentric positioning and clamping**
  - for exterior and interior clamping
  - max. clamping force: 5…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…15 kN
  - jaw width: 40…65 mm

### Hollow-piston cylinders
- **Clamping cylinders with through hole in the piston**
  - piston diameter: 20…80 mm
  - max. push force: 10…153 kN
  - clamping stroke: 6…40 mm
Workholding systems | Machine vices

Mechanically, mechanically-hydraulically or hydraulically operated standard fixtures for workpieces

<table>
<thead>
<tr>
<th>Machine vices</th>
<th>Series EL</th>
<th>Series NC</th>
<th>Series KNC</th>
</tr>
</thead>
<tbody>
<tr>
<td>mechanically-hydraulically or hydraulically operated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>clamping against the fixed jaw</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• with hydraulic power transmission</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• completely encapsulated lead screw area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sizes: 100 ... 160 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>max. clamping force: 25 ... 50 kN</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5-axis workholding systems</th>
<th>Series MC-P</th>
<th>Series SCS</th>
<th>Series PC</th>
</tr>
</thead>
<tbody>
<tr>
<td>mechanically or hydraulically operated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>clamping against the fixed jaw or concentric clamping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• compact design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• collision-free tool paths</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sizes: 40 ... 125 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>max. clamping force: 8 ... 35 kN</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Double workholding systems</th>
<th>Series DS</th>
<th>Series DF</th>
<th>Series DUO</th>
</tr>
</thead>
<tbody>
<tr>
<td>mechanically, mechanically-hydraulically or hydraulically-operated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>clamping against the fixed jaw</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• safe loading and unloading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>by 3rd-hand function</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sizes: 50 ... 160 mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>max. clamping force: 25 ... 63 kN</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multiple workholding systems</th>
<th>Series MSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>mechanically operated</td>
<td></td>
</tr>
<tr>
<td>clamping against the fixed jaw</td>
<td></td>
</tr>
<tr>
<td>• compact design</td>
<td></td>
</tr>
<tr>
<td>• modular design</td>
<td></td>
</tr>
<tr>
<td>sizes: 24 ... 120 mm</td>
<td></td>
</tr>
<tr>
<td>max. clamping force: 15 ... 40 kN</td>
<td></td>
</tr>
</tbody>
</table>
**Variant workholding system VarioLine**

**Series VL**
mechanically-hydraulically
or hydraulically operated
clamping against the fixed jaw
• option: clamping force display
• system with variants for
customised machine vices
sizes: 100 … 160 mm
max. clamping force: 25 … 60 kN
length of base: up to 750 mm

---

**Concentric workholding systems**

**Series ZH**
hydraulically operated, double acting
concentric clamping
• high repetitive clamping repeatability ± 0.01 mm
• fixing and mounting possibilities
for customer-specific clamping jaws
sizes: 100 … 160 mm
max. clamping force: 16 … 64 kN

---

**Automation**

**Series ASH**
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 … 125 mm
hydraulic stroke: up to 250 mm
max. clamping force: 32 kN

---

**Tower workholding systems**

**Series TS**
arrangement of the clamping points:
TS: 4 x 90° | TS TriStar: 3 x 120°
mechanically operated
clamping against the fixed jaw
• version with 3rd-hand function
• version Vector
sizes: 80 … 125 mm
max. clamping force: 20 … 40 kN

**Series TS TriStar**

**Series TS Vector**

---

**Milling and turning machining**

**Series KK**
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 … 63 kN
Zero point clamping systems

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

**SPEEDY metec**
- easy, compact and sturdy
- clamping: mechanically
- unclamping: mechanically
- max. retention force: 12…50 kN

**SPEEDY 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

**SPEEDY airtec**
- quick and precise
- clamping: mechanically
- unclamping: pneumatically
- max. clamping force: 5 kN
- max. retention force: 10 kN

**SPEEDY easy click**
- clamping by pressing
- clamping: mechanically
- unclamping: pneumatically
- max. clamping force: 5 kN
- max. retention force: 10 kN

**SPEEDY hydratec**
- quick and flexible
- clamping: hydraulically
- unclamping: hydraulically
- max. clamping force: 20 kN
- max. retention force: 38 kN

**SPEEDY sweeper**
- for the automation
- clamping: hydraulically
- unclamping: hydraulically or pneumatically
- max. insertion force: 20 kN
- max. retention force: 38 kN

**System 3000**
- strong and unique
- clamping: hydraulically
- unclamping: hydraulically
- max. clamping force: 50 kN

**Couplings**
- universal and compact
- for hydraulics, pneumatics, vacuum and electrics
- nominal diameters: 3…8 mm
From standard elements to systems for flexible use - with minimum set-up time

Quick-locking plates
for milling machining
from standard components, adapted to the machine and machining task
• fully assembled with 3D dimensional and functional test

Quick-locking plates
for turning machining
from standard components, adapted to the machine and the machining task
• standard clamping monitoring
• applicator for pre-centring

Quick-locking cubes
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
Clamping power units | Pressure generators

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 ... 0.8 l/min
  - max. operating pressure: 200 bar
  - reservoir volume: approx. 3.5 l
  - voltage: 400 V AC or 24 V DC

**Power units D 8.013**
- with two-hand operator console
  - flow rate: 0.9 ... 4.5 l/min
  - max. operating pressure: 50 ... 500 bar
  - reservoir volume: approx. 11 l
  - voltage: 400 V AC

**Power units D 8.0115**
- ready for connection
  - energy-saving intermittent cycling
  - flow rate: 0.8 ... 3.5 l/min
  - max. operating pressure: 160 ... 500 bar
  - reservoir volume: approx. 5 l
  - voltage: 400 V AC

**Power units D 8.015**
- with proportional pressure adjustment
  - flow rate: 0.9 l/min
  - max. operating pressure: 500 bar
  - reservoir volume: approx. 11 l
  - voltage: 400 V AC

**Power units D 8.021 | D 8.031**
- basic versions
  - flow rate: 0.9 ... 24 l/min
  - max. operating pressure: 50 ... 500 bar
  - reservoir volume: 11, 27, 40 and 63 l
  - voltage: 400 V AC

**Power units D 8.026**
- modular design
  - flow rate: 0.9 ... 24 l/min
  - max. operating pressure: 120 ... 500 bar
  - reservoir volume: 11, 27, 40 and 63 l
  - voltage: 400 V AC

**Hydro-pneumatic pump units**

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

**Manually-operated pumps**

**Hydraulic pumps**
- for single-acting cylinders
- operation by hand or foot lever
  - displacement per stroke: 2 ... 12 cm³

**Screw pumps**
- displacement: 21 cm³
Hydraulic components

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

### Coupling elements
- for hydraulic oil, compressed air and vacuum
  - nominal diameter: ND 3 … 8
  - max. operating pressure: 300 … 500 bar

### Hydraulic accumulator
- Diaphragm accumulator for hydraulic oil with nitrogen gas filling
  - nominal volume: 13 … 750 cm³
  - ports: G³⁄₈ … G½
  - max. operating pressure: 250 … 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 G¼
- pressure sensors with radio transmission
  - receiver units with data interfaces

### Multi-couplings
- 2 to 12 passages
  - nominal diameter: ND 5 … 8
  - 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
**Electro-mechanical clamping elements**

**Electric swing clamps**
- max. clamping force: 7 kN
- clamping stroke: 23 mm
- swing angle: max. 180°
- voltage: 24 V DC

**Electric work supports**
- max. load force: 20 kN
- plunger stroke: 20 mm
- voltage: 24 V DC

**Electric block cylinders**
- max. clamping force: 10 … 20 kN
- stroke: 100 mm
- voltage: 24 / 48 V DC

**Electric wedge clamps**
- max. retention force: 130 … 320 kN
- clamping stroke: 20 mm
- voltage: 24 V DC

---

**FSS clamping systems**

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 … 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.
Drive technology

Electrically and manually operated linear actuators for adjusting procedures under demanding conditions in industry, automotive engineering and medicine technology

**Electrically-operated linear actuators**
version with limit switches or stroke measuring system
max. lifting force: 0.3…6.0 kN
stroke: 100…600 mm
voltage: 12 or 24 VDC

**Manually-operated linear actuators**
manual-hydraulic version
max. lifting force: 4.5…12.5 kN
stroke: 140…600 mm

Pneumatic elements

Pneumatically operated swing clamps and rotary couplings for pneumatics

**Pneumatic swing clamps**
with adjustable magnetic sensors
double acting
max. clamping force: 140…1400 N
max. operating pressure: 7 bar

**Pneumatic rotary valve couplings**
number of stations: 5…8
nominal diameter: 3
max. operating pressure: 10 bar
Handling technology

**modulog** module programme – modules for rotating, lifting, tilting and moving of heavy workpieces

Individual modules can be easily combined to build multi-functional units

<table>
<thead>
<tr>
<th>Module Type</th>
<th>Description</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rotating modules</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Horizontal axis</td>
<td>for rotation of the workpiece around the horizontal axis</td>
<td>manually or electrically operated</td>
</tr>
<tr>
<td></td>
<td>option: indexing</td>
<td>(option: flow power)</td>
</tr>
<tr>
<td></td>
<td>workpiece weight: up to 200 kg</td>
<td></td>
</tr>
<tr>
<td>- Vertical axis</td>
<td>for rotation of the workpiece around the vertical axis</td>
<td>manually or electrically operated</td>
</tr>
<tr>
<td></td>
<td>option: indexing</td>
<td>(option: flow power)</td>
</tr>
<tr>
<td></td>
<td>workpiece weight: up to 1000 kg</td>
<td></td>
</tr>
<tr>
<td><strong>Lifting modules</strong></td>
<td>for guided lifting and lowering of the workpiece</td>
<td>operated by a hydraulic or electrical actuator</td>
</tr>
<tr>
<td></td>
<td>workpiece weight: up to 600 kg max. strokes: 200 ... 1000 mm</td>
<td></td>
</tr>
<tr>
<td><strong>Cart modules</strong></td>
<td>to displace manually individual modules or module combinations</td>
<td>with parking brake max. load: 2000 and 6000 N</td>
</tr>
</tbody>
</table>
| **Clamping jaws**      | to clamp workpieces on **modulog** modules                                 | • hydraulic and mechanical clamping elements with universal clamping plate
|                        |                                                                             | • quick-change mounting plate with STARK zero point clamping system |
| **Floor modules**      | base frame for 1 or 2 modules                                               | to compensate unevenness of the floor space and good stability max. load: 6000 and 8000 N |
| **Tilting modules**    | for tilting or swivelling 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                                            |                                                     |
| **Accessories**        |                                                                             | Base plates, Adaptor plates, Flange plate, Table plates, Supply units, Hand panel, Foot switch, Operating panels Power supply for mobile systems, Command modules |
Press-in devices

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

Press-in devices P 1.100
portal design
hydraulic drive
creep/rapid speed control with optional force/stroke monitoring
max. press-in force: 40 … 100 kN

Press-in devices P 1.101
portal design
electrical drive
creep/rapid speed control with optional force/stroke monitoring
max. press-in force: 7 and 25 kN

Press-in devices P 1.102
portal design
hydraulic drive
creep/rapid speed control with programming of the operating time
max. press-in force: 40 … 100 kN

Press-in devices P 1.200
C-frame design
hydraulic drive
creep/rapid speed control with optional force/stroke monitoring
max. press-in force: 40 … 100 kN

Press-in devices P 1.201
C-frame design
electrical drive
creep/rapid speed control with optional force/stroke monitoring
max. press-in force: 7 and 25 kN

Press-in devices P 1.202
C-frame design
hydraulic drive
creep/rapid speed control with programming of the operating time
max. press-in force: 40 … 100 kN

Accessories
Protection cabins, Light grids,
Sliding tables, Sensor technology,
Quick-disconnect couplings
Die clamping systems

Die clamping and changing systems for press automation
Quick changing systems for machines, presses and equipments

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

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

**Double-T clamping bars**
to use the complete bed or ram surface
max. clamping force: 16 ... 320 kN

**Sliding clamps**
for insertion in T-slots
max. clamping force: 19 ... 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 ... 160 kN

**Swing / swing sink clamps**
without interfering edges when inserting the die
max. clamping force: 60 ... 164 kN

**Rapid clamping systems**
automatic travelling units with clamping element

**Pull clamps**
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**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Clamping Force</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tenon-type clamps</strong></td>
<td>clamping by grip and pull movement</td>
<td>70 … 160 kN</td>
</tr>
<tr>
<td><strong>Swivel and pull clamps</strong></td>
<td>clamping by swivel and lifting movement</td>
<td>50 kN</td>
</tr>
<tr>
<td><strong>Swing clamps</strong></td>
<td>clamping by swing and lifting movement</td>
<td>60 … 150 kN</td>
</tr>
<tr>
<td><strong>Wedge clamps</strong></td>
<td>compact electro-mechanical power package</td>
<td>160 kN, retention 300 kN</td>
</tr>
<tr>
<td><strong>Angular clamps</strong></td>
<td>clamping in any position of the travelling path</td>
<td>50 kN, retention 320 kN</td>
</tr>
</tbody>
</table>

**Mechanical clamping elements**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Clamping Force</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sliding clamps</strong></td>
<td>max. clamping force: 40 … 80 kN</td>
<td>40 … 80 kN</td>
</tr>
<tr>
<td><strong>High-pressure spindles</strong></td>
<td>max. clamping force: 40 … 140 kN</td>
<td>40 … 140 kN</td>
</tr>
<tr>
<td><strong>Clamping nuts, mechanical</strong></td>
<td>max. clamping force: 60 … 200 kN</td>
<td>60 … 200 kN</td>
</tr>
<tr>
<td><strong>Clamping nuts, hydro-mechanical</strong></td>
<td>max. clamping force: 60 … 150 kN</td>
<td>60 … 150 kN</td>
</tr>
</tbody>
</table>

**Die changing technology**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Clamping Force</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roller and ball bars</strong></td>
<td>hydraulic or spring-loaded</td>
<td>max. 40 … 80 kN</td>
</tr>
<tr>
<td><strong>Roller conveyors</strong></td>
<td>without lifting</td>
<td>max. 40 … 140 kN</td>
</tr>
<tr>
<td><strong>Roller and ball inserts</strong></td>
<td>spring-loaded</td>
<td>max. 40 … 140 kN</td>
</tr>
<tr>
<td><strong>Carrying consoles, hanging</strong></td>
<td>max. load per pair: 5 … 30 kN</td>
<td>5 … 30 kN</td>
</tr>
<tr>
<td><strong>Carrying consoles, supported</strong></td>
<td>max. load per pair: 20 … 250 kN</td>
<td>20 … 250 kN</td>
</tr>
<tr>
<td><strong>Carrying consoles, swivelling</strong></td>
<td>max. load per pair: 10 … 60 kN</td>
<td>10 … 60 kN</td>
</tr>
<tr>
<td><strong>Changing carts</strong></td>
<td>for handling of dies up to 500 kg</td>
<td>max. 700 kN</td>
</tr>
<tr>
<td><strong>Die changing consoles</strong></td>
<td>with ball table, hydraulic height adjustment and safety docking station</td>
<td>max. 250 kN</td>
</tr>
</tbody>
</table>

**Locking cylinders**

To fix rotors of on- and offshore wind power plants for maintenance works

**Rotorlock**

hydraulic, mechanical or electro-mechanical

sizes: up to 7500 kN side load

with position monitoring corrosion protection as per DIN ISO 12944

max. temperature range: −40 … +70 °C
### Magnetic clamping technology

M-TECS magnetic clamping plates and systems for injection moulding machines, forming presses, rubber presses, mould carriers, milling machines and machining centres

<table>
<thead>
<tr>
<th>M-TECS 120</th>
<th>M-TECS 240</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>for the plastics industry</strong></td>
<td><strong>for the rubber and Duroplast industry</strong></td>
</tr>
<tr>
<td>max. temperature range: 120 °C</td>
<td>max. temperature range: 240 °C</td>
</tr>
<tr>
<td>plate thickness: 47 mm</td>
<td>plate thickness: 55 … 75 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M-TECS 80-B</th>
<th>M-TECS 240-D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>for sheet metal forming</strong></td>
<td><strong>for die-casting machines</strong></td>
</tr>
<tr>
<td>max. temperature range: 80 °C</td>
<td>max. temperature range: 240 °C</td>
</tr>
<tr>
<td>plate thickness: 55 … 67 mm</td>
<td>plate thickness: 55 mm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>M-TECS 80-F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>for mould carrier systems</strong></td>
</tr>
<tr>
<td>max. temperature range: 80 °C</td>
</tr>
<tr>
<td>plate thickness: 47 mm</td>
</tr>
</tbody>
</table>
System solutions for production engineering

Consulting, design, planning, engineering, construction design, production, delivery, commissioning and maintenance of clamping and positioning systems.

All from a single source

From the idea to the engineering up to start up and maintenance
If it is the matter of planning of clamping systems for a new machine tool or of optimising and transition to flexible of already existing clamping processes, we give you our advice and support.
Based on your demands, we develop for you ideas and support you in engineering, start up and maintenance.

Expert know-how on call

Individual consultation and services
From the first consultation free of cost up to order-related services, our activities for all tasks are adapted to your requests and objectives.
If it is a matter of preparation of concepts or constructional sketches for partial or complete solutions or calculations of amortisations or detailed designs:
You decide yourself which services you would like to use.

Approved and reliable solutions

Clamping and fixture systems made of standard modules
With the experience in realising versatile individual projects in the individual companies of the ROEMHELD Group, we are now in the position to offer an unique, modular product range of clamping and fixture systems.
The use of approved and reliable standard modules is the key for optimised production and engineering costs and guarantees the realisation of individual system solutions without risks.

System solutions – directly from the manufacturer of power workholding

Customer-specific clamping and positioning systems
Our engineering know-how and the huge number of fully-developed clamping and positioning technologies in the ROEMHELD Group allows us to produce and to deliver customer-specific systems.
Due to design and production of the relevant components within the ROEMHELD Group we have access to extended know-how and well-proven production engineering, which together with our engineering know-how guarantees a fully-developed and reliable function of the complete system.
Are you interested in an individual consultation or do you have any questions about our products? We are pleased to support you.

Elements and systems for production engineering

Römheld GmbH
Friedrichshütte
Römheldstraße 1–5
35321 Laubach
Germany
Tel.: +49 6405/89-0
Fax: +49 6405/89-211
E-mail: info@roemheld.de
www.roemheld-group.com

Workholding systems and standard fixtures for metal cutting and non-cutting manufacturing

Hilma-Römheld GmbH
Schützenstraße 74
57271 Hilchenbach
Germany
Tel.: +49 2733/281-0
Fax: +49 2733/281-169
E-Mail: info@hilma.de
www.roemheld-group.com

Magnetic clamping systems

Römheld Rivi GmbH
Schützenstraße 74
57271 Hilchenbach
Germany
Tel.: +49 2733/281-100
Fax: +49 2733/281-102
E-mail: info@roemheld-rivi.de
www.roemheld-group.com

Intelligent zero point clamping systems

Stark Spannsysteme GmbH
Römergrund 14
6830 Rankweil
Austria
Tel.: +43 5522/374 00-0
Fax: +43 5522/374 00-700
E-mail: info@stark-inc.com
www.stark-inc.com

Program ROEMHELD Group · EN 0818 · Subject to modifications.