Columbus McKinnon has provided quality material handling products and services to users in a variety of industries around the globe for more than 140 years. We are dedicated to continually expanding our portfolio with innovative products, giving our customers the hoist and rigging solutions they need for their unique applications.

Columbus McKinnon’s Stahlhammer Bommern GmbH (STB) manufacturing facility provides a unique combination of forging technology, production processes and craftsmanship to develop hoisting equipment and machine parts that can withstand heavy static and dynamic loads and meet the evolving needs of today’s crane builders and crane service centers.
OUR PRODUCTS

Columbus McKinnon’s Stahlhammer Bommern GmbH (STB) business is the number one manufacturer of heavy-load single and ramshorn hooks in Europe. Now available in North America, our offering includes a comprehensive line of shank hooks in both single- and double-hook configurations. This offering includes standard forged hooks, crossheads, nuts and complete hook suspensions. Designed to stringent, globally recognized DIN standards, our high-quality un-machined and machined products range in capacity from 1 to 1250 metric tons.* We also offer a variety of specialty hooks and parts for unique lifting and industrial applications.

SINGLE HOOKS

Made of high-quality steel, our single hooks are used in a variety of lifting applications. Single hooks are available as un-machined and machined with multiple suspension types. We also offer extended shafts and custom hooks machined to your exact specifications.

DOUBLE (RAMSHORN) HOOKS

Frequently used with heavy-duty cranes in marine and industrial applications, ramshorn, or sister hooks, are ideal for applications that require equal load distribution when using multiple slings. The double hook design prevents damage to the sling and choking at the lifting point. Our double hooks are available up to size no. 400 with capacities up to 1250 metric tons.

- Standard Ramshorn Hooks
- Form B Ramshorn Hooks
  Features a shackle connection point for increased rigging flexibility.

EYE HOOKS, CARGO HOOKS & CROSS HOOKS

In addition to our single- and double-hook offering, we also manufacture drop forged and open-die forged eye hooks up to size no. 44 with capacities up to 500 tons. Meeting DIN 7540 standards, our eye hooks are ideal for use in applications that require a high degree of motion in the hook connection.

We also carry drop-forged cargo hooks and cross hooks.

SPECIALTY PARTS

In addition to hooks, we have the capability to machine a variety of specialty parts for unique applications. Some of these products include:

- Crank shafts for heavy machinery
- Pull rods for vehicle manufacture and trains
- Un-machined parts for drives and heavy machinery
- Chain linking elements
- Coupling elements
- Running wheels for cranes and the mining industry
- Special flanges and bearing housings
- Lifting brackets for wind turbines

WHAT IS DIN?

DIN stands for “Deutsches Institut für Normung”, meaning “German Institute for Standardization”. Founded in 1917, DIN is the organization responsible for standardization in Germany and is the German ISO member body. Today, there are approximately 30,000 DIN standards covering nearly every field of technology, including shank hooks.

* Capacities listed are per DIN 15400 drive group 2m (approximated to CMAA Specification No. 70, Service Class C). For capacities in different drive groups, please refer to DIN 15400.
OUR MATERIALS

To create a great product, you have to start with the best materials. To accomplish this, we’ve partnered with one of the leading steel suppliers in Europe to develop what we feel is the highest quality steel available. Our involvement in the earliest stages of our raw material development allows us to determine our material specifications, reducing variations in chemical makeup and helping to ensure consistency in the quality of the products we produce.

OUR PRODUCTS ARE AVAILABLE IN TWO STRENGTH CLASSES:

1. STRENGTH CLASS P (CARBON) DESIGN FACTOR 5:1*
   Depending on size, we offer two grades of fine-grain carbon steel:
   - Ste355N
     (similar to ASTM A572 Grade 50)
   - Ste420N
     (similar to ASTM A255 Grade D)

2. STRENGTH CLASS V (SUPER ALLOY) DESIGN FACTOR 4.5:1*
   Heat-treatable steel 34CrNiMo6
   (similar to SAE/AISI 4340)

Need a stronger material? Available upon request is our extreme alloy material with a minimum Charpy V-notch impact value of 42 joule at -40°C and a maximum value of 52 joule at -50°C.

All of our products are quenched and tempered. Our products are also pre-formed. This promotes grain flow, which provides strength and durability for products under high dynamic stress – like our heavy-duty shank hooks and specially machined parts.

OUR ADVANTAGES

All CM shank hooks and specialty parts are made in house at our 82,000 square foot facility in Hamm, Germany.

With our own forging, machining and tool-making capabilities, we are able to turn pre-formed steel billets into finished, geometrically complex products quickly and efficiently while ensuring the highest levels of quality. For closed-die forgings, we rely on a hammer forge with pre-forming presses that give us flexibility in the forging process and allow for a shorter set-up time and running-in period. For larger hooks, we use state-of-the-art, open-die forging technology. We also use modular dies that reduce tool costs for smaller quantities of individually designed hooks.

For easy identification, we forge a traceability code along with STB and CM logos into every product.

OUR CAPABILITIES

We manufacture many of our products through a combination of open-die forging and drop forging processes.

DROP FORGING
We primarily focus on drop-forging technologies for standard and geometrically complex parts due to the cost savings it provides for larger production runs.

We use drop forging to produce shank hooks up to size no. 63 and 200 metric ton capacities, as well as ramshorn hooks up to size no. 125 and 400 metric ton capacities.

OPEN-DIE FORGING
Our open-die forging capabilities enable us to produce large, heavy-duty hooks that not only meet our customers’ unique requirements but DIN specifications as well. Our open-die forging capabilities allow us to manufacture hooks with any shaft length and is typically used for a single specialized product or products with small production runs.

We utilize modular dies that allow us to forge different hook shapes using the same die by simply changing the insert.

We use open-die forging to produce shank hooks ranging in size from no. 80 to no. 400, and no. 160 to no. 400 for ramshorn hooks.

COMBINING CAPABILITIES
For forgings with longer shaft lengths, we frequently combine our drop forging and open-die forging capabilities to produce a single product. This allows us to produce geometrically complex engineered products with longer shaft lengths.

MACHINING CAPABILITIES
We can machine any type of hook suspension required, including cross heads and nuts.

IN-HOUSE TOOL SHOP
Our in-house tool shop gives us the ability to design and produce our own dies, allowing for quick turnaround of specialty forgings and custom products. We are also able to repair and replace parts on our existing dies without relying on an external supplier.

* Capacities listed are per DIN 15400 drive group 2m (approximated to CMAA Specification No. 70, Service Class C). For capacities in different drive groups, please refer to DIN 15400.
OUR COMMITMENT TO QUALITY

Quality is at the core of how we do business. Our manufacturing and production processes are designed with rigorous quality, testing and safety requirements to ensure we produce the highest-quality products for our customers.

Columbus McKinnon’s STB manufacturing facility is ISO 9001:2008 certified by DNV. This means our customers can buy with confidence, knowing our products are consistently manufactured to the highest quality levels and our processes are regularly reviewed for improvement opportunities. All of our suppliers are ISO 9000 certified as well.

We are approved as a supplier of Steel Forgings by:
- Det Norske Veritas (DNV)
- American Bureau of Shipping (ABS)
- Germanischer Lloyd (GL)
- Lloyd’s Register (LR)
- Bureau Veritas (BV)
- Richtlinie 97/23/E (TÜV Nord)
- Deutsche Bahn

Our other approvals include:
- Supplier of materials according to AD 2000 – Merkblatt W0 (TÜV Nord)
- Re-stamping (TÜV Nord)
- Supplier of pull rods and forging parts (German Railway)

QUALITY CERTIFICATES

The majority of our products come standard with a company Certificate 3.1 according to EN 10204, which includes:
- Description of the part
- Order confirmation number
- Material melt number
- Unique inspection number (if required)
- Result of mechanical properties test
- Parameter of heat treatment process
- Confirmation of magnetic particle test

For an additional cost, a Certificate 3.2 according to EN 10204 with external certification organizations (ABS, LR, DNV, BV) can be provided.

THE MARKETS WE SERVE

Whether you’re lifting massive steel beams for large construction projects or loading shipping containers onto ocean barges, CM Shank Hooks are there. We serve global customers in a variety of markets, including:
- Crane Technology
- Mining
- Construction Equipment & Machinery
- Drive Systems
- Chemical, Power Plant & Utility Engineering
- Offshore Technology
- Plant Manufacturing
- Nuclear Technology
- Railway
- Engine Construction
**PRODUCT OVERVIEW**

**SINGLE HOOKS**

- **Single Hook Un-Machined**
  - Size no. 1 to no. 63 as drop forged parts
  - Size no. 80 to no. 250 as open-die forged parts
  - Strength class P and V
  - Standard Product

- **Single Hook Machined with Nut**
  - Size no. 1 to no. 63 as drop forged parts
  - Size no. 80 to no. 250 as open-die forged parts
  - Strength class P and V
  - Standard Product

- **Single Hook Suspension**
  - Size no. 1 to no. 63 as drop forged parts
  - Size no. 80 to no. 250 as open-die forged parts
  - Strength class P and V
  - Standard Product

- **Extended Shaft Single Hook**
  - e.g. Motor-Driven Rotatable Hook Suspensions
  - Size no. 1 to no. 63 as drop forged parts
  - Size no. 80 to no. 250 as open-die forged parts
  - Strength class P and V
  - Custom Design

- **Single Hook Suspension with Rotation Locking**
  - Size no. 1 to no. 63 as drop forged parts
  - Size no. 80 to no. 250 as open-die forged parts
  - Strength class P and V
  - Custom Design

- **Fork Head Single Hook Suspension**
  - Size no. 1 to no. 250 as open-die forged parts
  - Strength class P and V
  - Custom Design

- **Special Design Single Hooks**
  - Based on custom design
  - Realization as drop or open-die forged parts
  - Die real
  - Custom Product
**RAMSHORN HOOKS**

**Ramshorn Hook Un-Machined**
Size no. 2.5 to no. 80 as drop forged parts
Size no. 100 to no. 420 as open-die forged parts
Strength class P and V
Standard Product

**Ramshorn Hook Machined with Nut**
Size no. 2.5 to no. 80 as drop forged parts
Size no. 100 to no. 420 as open-die forged parts
Strength class P and V
Standard Product

**Ramshorn Hook Suspension**
Size no. 2.5 to no. 80 as drop forged parts
Size no. 100 to no. 420 as open-die forged parts
Strength class P and V
Standard Product

**Open-Die Forged Ramshorn Hook Form B**
Size no. 100 to no. 420 as open-die forged parts
Strength class P and V
Standard Product Style B

**Extended Shaft Ramshorn Hook**
e.g. Motor-Driven Rotatable Hook Suspensions
Size no. 2.5 to no. 80 as drop forged parts
Size no. 100 to no. 420 as open-die forged parts
Strength class P and V
Custom Design

**Ramshorn Hook with Eye Suspension**
Size no. 2.5 to no. 420 as open-die forged parts
Strength class P and V
Custom Design

**Fork Head Ramshorn Hook Suspension**
Size no. 2.5 to no. 420 as open-die forged parts
Strength class P and V
Custom Design

**SPECIALTY HOOKS**

**Eye Hooks (Drop Forged)**
Size 27 to 39
Grade 5 and Grade 8

**Eye Hooks (Open-Die Forged)**
Size 40 to 44
Grade 5 and Grade 8

**Cargo Hooks (Drop Forged)**
Size 3 to 40
Strength class P and V

**Cross Hooks (Drop Forged)**
Size 2,500 to 10,000
STRENGTH CLASS P (CARBON) DESIGN FACTOR 5:1
Products up to size 63: fine-grain carbon steel StE355N (similar to ASTM A572 Grade 50)
Products size 80 and up: fine-grain carbon steel StE420N (similar to ASTM A255 Grade D)

STRENGTH CLASS V (SUPER ALLOY) DESIGN FACTOR 4.5:1
Heat-treatable steel 34CrNiMo6 (similar to SAE/AISI 4340)

EXTREME ALLOY material with a minimum Charpy V-notch impact value of 42 joule at -40°C and a maximum value of 52 joule at -50°C is available upon request.

UN-MACHINED SHANK HOOK DIMENSIONS

Also available as finished shanks with threaded shank.
For lifting hook suspensions for bottom blocks, refer to DIN 15141. Suspensions consist of cross pieces according to DIN 15140, lifting hook nuts according to DIN 15143 and securing plates according to DIN 15141.
Forging tolerances according to DIN 15142.

* Capacities listed are per DIN 15400 drive group 2m (approximated to CMMA Specification No. 70, Service Class C). For capacities in different drive groups, refer to DIN 15400.
** Extended length shanks up to 1200 mm are available upon request.
of 42 joule at -40°C and a maximum value of 52 joule at -50°C is available upon request.

** Extended length shanks up to 1200 mm are available upon request.

Forging tolerances according to DIN EN 10243-1-F.

For lifting hook suspensions for bottom blocks, refer to DIN 15411. Suspensions consist of cross pieces according to DIN 15412, lifting hook nuts according to DIN 15413 and securing plates according to DIN 15414.

** Extended length shanks up to 1200 mm are available upon request.

### UN-MACHINED SHANK HOOK DIMENSIONS

** Extreme Alloy **

Heat-treatable steel 34CrNiMo6 (similar to SAE/AISI 4340)

- ** DINP **
  - Products up to size 40: fine-grain carbon steel Ste355N (similar to ASTM A572 Grade 50)
  - Products size 50 and up: fine-grain carbon steel Ste420N (similar to ASTM A255 Grade D)

** Strength Class V (Super Alloy) **

Design Factor 4.5:1

Heat-treatable steel 34CrNiMo6 (similar to SAE/AISI 4340)
## UN-MACHINED SHANK HOOK DIMENSIONS

### Lifting Hooks DIN 15402 B

<table>
<thead>
<tr>
<th>Capacitors* in Design Class</th>
<th>Metric Ton</th>
<th>Dimensions (mm)</th>
<th>Weight (lbs, kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P Carbon</td>
<td></td>
<td>D F F4 L K J G</td>
<td></td>
</tr>
<tr>
<td>Super Alloy</td>
<td></td>
<td>12.5</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20</td>
<td>32</td>
</tr>
</tbody>
</table>

### RAMSHORN HOOKS FORM B WITH SHACKLE CONNECTION

**STRENGTH CLASS P (CARBON)**
**DESIGN FACTOR 5:1**

Products up to size 40: fine-grain carbon steel Ste355N (similar to ASTM A572 Grade 50)

Products size 50 and up: fine-grain carbon steel Ste420N (similar to ASTM A255 Grade D)

**STRENGTH CLASS V (SUPER ALLOY)**
**DESIGN FACTOR 4.5:1**

Heat-treatable steel 34CrNiMo6 (similar to SAE/ASI 4340)

**EXTREME ALLOY** material with a minimum Charpy V-notch impact value of 42 joule at -40°C and a maximum value of 52 joule at -50°C is available upon request.

### EXTREME ALLOY Material with a Minimum Charpy V-notch Impact Value of 42 Joule at -40°C and a Maximum Value of 52 Joule at -50°C is Available Upon Request.

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*Capacities listed are per DIN 1450 drive group 2 (approximated to CMMA Specification No. 70, Service Class C). For capacities in different drive groups, please refer to DIN 1450.*

**For lifting hook suspensions for bottom blocks refer to DIN 15411. Suspensions consist of cross pieces according to DIN 15412, lifting hook nuts according to DIN 15413 and securing plates according to DIN 15414. Forging tolerances according to DIN EN 10243-1-1.*
## EYE HOOKS AS PER DIN 7540

### STRENGTH CLASS P (CARBON)
#### DESIGN FACTOR 5:1
Products up to size 40: fine-grain carbon steel StE355N (similar to ASTM A572 Grade 50)
Products size 41 and up: fine-grain carbon steel StE420N (similar to ASTM A255 Grade D)

### STRENGTH CLASS V (SUPER ALLOY)
#### DESIGN FACTOR 4.5:1
Heat-treatable steel 34CrNiMo6 (similar to SAE/AISI 4340)

### EXTREME ALLOY
Material with a minimum Charpy V-notch impact value of 42 joule at -40°C and a maximum value of 52 joule at -50°C is available upon request.

## EYE HOOK DIMENSIONS

<table>
<thead>
<tr>
<th>Lifting Hooks DIN 7540</th>
<th>P Carbon</th>
<th>V Super Alloy</th>
<th>D</th>
<th>F</th>
<th>F2</th>
<th>G</th>
<th>H</th>
<th>J1</th>
<th>J2</th>
<th>K</th>
<th>L</th>
<th>R</th>
<th>B</th>
<th>C</th>
<th>Weight lbs. (kg)</th>
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<tbody>
<tr>
<td>25</td>
<td>3.53 (5.2)</td>
<td>5.51 (7.5)</td>
<td>4.61 (117)</td>
<td>1.97 (50)</td>
<td>1.69 (43)</td>
<td>1.44 (36.5)</td>
<td>1.67 (42.5)</td>
<td>1.65 (42)</td>
<td>1.22 (31)</td>
<td>1.1 (28)</td>
<td>7.52 (191)</td>
<td>5.43 (138)</td>
<td>1.02 (26)</td>
<td>0.63 (16)</td>
<td>3.1 (1.4)</td>
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<tr>
<td>27</td>
<td>5.51 (8)</td>
<td>8.82 (22)</td>
<td>5.83 (148)</td>
<td>2.44 (62)</td>
<td>2.36 (60)</td>
<td>1.91 (46)</td>
<td>2.11 (53.5)</td>
<td>2.01 (51)</td>
<td>1.57 (40)</td>
<td>1.38 (35)</td>
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<td>6.65 (174)</td>
<td>1.26 (32)</td>
<td>0.79 (20)</td>
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<td>2.48 (60)</td>
<td>2.05 (52)</td>
<td>2.36 (60)</td>
<td>2.29 (58)</td>
<td>1.69 (43)</td>
<td>1.57 (40)</td>
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<td>0.89 (22.5)</td>
<td>8.6 (3.9)</td>
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<td>17.64 (45)</td>
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<td>3.37 (87)</td>
<td>3.35 (85)</td>
<td>2.66 (67.5)</td>
<td>2.6 (66)</td>
<td>2.01 (51)</td>
<td>1.75 (44.5)</td>
<td>1.19 (30.5)</td>
<td>8.62 (219)</td>
<td>5.43 (138)</td>
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<td>0.98 (25)</td>
<td>12.4 (5.7)</td>
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<td>30.96 (82)</td>
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<td>4.35 (116)</td>
<td>3.58 (91)</td>
<td>2.87 (73)</td>
<td>2.33 (64.5)</td>
<td>2.48 (63)</td>
<td>2.2 (56)</td>
<td>15.04 (382)</td>
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<td>25.4 (11.5)</td>
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<td>22.05 (20)</td>
<td>44.09 (114)</td>
<td>19.73 (510)</td>
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<td>5.58 (151)</td>
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<td>4.06 (103)</td>
<td>3.7 (94)</td>
<td>3.07 (78)</td>
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<td>69.4 (31.5)</td>
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<td>39</td>
<td>27.56 (20)</td>
<td>69.45 (180)</td>
<td>23.32 (603)</td>
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<td>6.92 (186)</td>
<td>5.94 (161)</td>
<td>5.17 (135)</td>
<td>4.25 (110)</td>
<td>3.5 (89)</td>
<td>24.02 (610)</td>
<td>17.4 (442)</td>
<td>3.31 (84)</td>
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<td>110.23 (265)</td>
<td>26.82 (696)</td>
<td>9.48 (251)</td>
<td>8.45 (230)</td>
<td>7.16 (192)</td>
<td>6.06 (153)</td>
<td>4.92 (125)</td>
<td>4.42 (110)</td>
<td>35.31 (917)</td>
<td>25.59 (660)</td>
<td>4.57 (116)</td>
<td>2.91 (74)</td>
<td>139 (63)</td>
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<tr>
<td>43</td>
<td>44.09 (40)</td>
<td>165.35 (415)</td>
<td>30.17 (819)</td>
<td>11.84 (308)</td>
<td>10.42 (284)</td>
<td>9.45 (251)</td>
<td>8.33 (220)</td>
<td>7.09 (185)</td>
<td>6.48 (160)</td>
<td>33.46 (880)</td>
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<td>5.43 (138)</td>
<td>3.39 (86)</td>
<td>551 (250)</td>
<td></td>
</tr>
</tbody>
</table>

* Capacities listed are per DIN 7540 for temperatures from -40°C up to 200°C (-40°F up to 400°F).

For applications at other temperatures, please refer to DIN 7540.

Forging tolerances according to DIN EN 10243-1.
YOUR ONE SOURCE FOR FLOOR-TO-CEILING SYSTEMS

Since 1875, Columbus McKinnon has helped to make material handling easier and safer, and, today, is your single source for complete floor-to-ceiling lifting systems.

From below-the-hook attachments, chain, rigging products, manual and powered chain hoists to electric wire rope hoists, cranes, enclosed track systems and specially engineered products, Columbus McKinnon has the engineering expertise to meet the most demanding applications.

KNOW HOW. KNOW WHY.

Columbus McKinnon is committed to providing expert safety training on the proper use and inspection of rigging and overhead lifting equipment. Our company offers comprehensive programs at our national training centers as well as on-site at your facility. Courses include:

- Hoist Maintenance
- Safe Hoisting
- Rigging Gear Inspection
- Crane & Hoist Inspection
- Load Securement
- Crane Operator Training
- Rigging

Win in the marketplace with CMCO University. This three-day program is designed to give Channel Partners intimate product and application knowledge that they can use to advise their end-user customers during the product selection and sales processes.

Columbus McKinnon's corporate headquarters in Getzville, New York, is home to our state-of-the-art Niagara Training Center. The 3,000-square-foot facility is dedicated to training Channel Partners and end users on the safe and proper use of hoist and rigging products. The Center offers a one-of-a-kind training experience on chain and rigging equipment with more than 75 manual and powered hoists, enclosed track systems and our 50-foot-wide crane system with 3-ton Yale Global King wire rope hoist.