KBK Classic and KBK Ergo
Crane Construction Kit
Overhead transport, exact positioning, ergonomic handling
Suspension monorails
Ideal for linear handling

Suspension monorails from the KBK classic crane construction kit are the optimum solution for linear, overhead handling.

Outstanding versatility
A wide range of components makes it possible to adapt the route precisely to meet the structural requirements of your workshop. At the same time, the system ensures that all specific product and workplace requirements of your production facility are met.

Transfer between suspension monorails and single-girder suspension cranes is also possible using latching devices.

Ideal equipment carriers
The special profiles of the KBK crane construction kit are particularly suitable for applications such as tracks for load balancers fitted with testing devices and electric and pneumatic tools, etc. and power supply lines for cranes and other mobile equipment.

Cable trolleys can also be used for suspending hoses for transporting fluids or gases.

<table>
<thead>
<tr>
<th>Profile selection: max. distances between supports, headroom dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KBK Track Profile</strong></td>
</tr>
<tr>
<td>I 100</td>
</tr>
<tr>
<td>II-L</td>
</tr>
<tr>
<td>III</td>
</tr>
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<td></td>
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</tbody>
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Single-girder suspension cranes
Favourable dimensions, low deadweight

Single-girder suspension cranes from the KBK crane construction kit are used for fast and safe area-serving overhead handling and exact positioning of a wide variety of goods.

Flexible ball and socket connections between the crane girder and end carriages enable single-girder cranes to operate on tracks that are not parallel.

The benefits of KBK classic single-girder suspension cranes include latching devices that allow direct transfer of the hoist trolley between the crane and a suspension monorail.

Easy and cost-effective
KBK classic single-girder suspension cranes can be simply suspended from the building roof or superstructure. Additional supports for the crane runway are not necessary. Even partial areas of a workshop may be easily fitted with suspension cranes at low cost.

Smooth and reliable handling
Thanks to their low deadweight and free-running trolleys, the cranes allow heavy and awkward components to be moved quickly and easily by hand.

Profile selection:
Max. distances between supports, crane spans, girder lengths

<table>
<thead>
<tr>
<th>KBK section</th>
<th>Load capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>175 lb</td>
</tr>
<tr>
<td>100</td>
<td>9.4 ft.</td>
</tr>
<tr>
<td>I</td>
<td>15.3 ft.</td>
</tr>
<tr>
<td>II-L</td>
<td>19.7 ft.</td>
</tr>
<tr>
<td>II</td>
<td>23.0 ft.</td>
</tr>
<tr>
<td>II-L</td>
<td>26.2 ft.</td>
</tr>
<tr>
<td>III</td>
<td>24.4 ft.</td>
</tr>
<tr>
<td>III</td>
<td>26.2 ft.</td>
</tr>
<tr>
<td>III</td>
<td>27.6 ft.</td>
</tr>
<tr>
<td>III</td>
<td>29.5 ft.</td>
</tr>
</tbody>
</table>
Double-girder suspension cranes from the KBK classic crane construction kit feature a low deadweight and favourable structural dimensions. In addition, the pendulating suspension largely absorbs the horizontal forces caused by starting, braking and stopping. Double-girder suspension cranes can even be installed in buildings of light steel construction.

**Large lifting heights**
Arrangement of the hoist unit between the two crane girders provides KBK classic double-girder cranes with a greater useful lifting height.

**Large spans**
KBK classic double-girder cranes can also operate on several runways, thus providing large spans to cover extensive storage and production areas.

The cranes can be easily moved by hand. However, electric friction wheel travel drives from the KBK crane construction kit are recommended for spans greater than 6 m and load capacities exceeding 500 kg.

### Profile selection:
Max. distances between supports, crane spans, girder lengths

<table>
<thead>
<tr>
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<tr>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>175 lb</td>
</tr>
<tr>
<td>Crane span</td>
<td>14.4 ft.</td>
</tr>
<tr>
<td>Girder length</td>
<td>16.4 ft.</td>
</tr>
<tr>
<td></td>
<td>275 lb</td>
</tr>
<tr>
<td>Crane span</td>
<td>20.3 ft.</td>
</tr>
<tr>
<td>Girder length</td>
<td>29.5 ft.</td>
</tr>
<tr>
<td>I</td>
<td></td>
</tr>
<tr>
<td>Crane span</td>
<td>24.9 ft.</td>
</tr>
<tr>
<td>Girder length</td>
<td>32.8 ft.</td>
</tr>
<tr>
<td>II-L</td>
<td></td>
</tr>
<tr>
<td>Crane span</td>
<td>28.9 ft.</td>
</tr>
<tr>
<td>Girder length</td>
<td>36.1 ft.</td>
</tr>
<tr>
<td>II</td>
<td></td>
</tr>
<tr>
<td>Crane span</td>
<td>32.8 ft.</td>
</tr>
<tr>
<td>Girder length</td>
<td>45.9 ft.</td>
</tr>
<tr>
<td>III</td>
<td></td>
</tr>
<tr>
<td>Crane span</td>
<td>29.9 ft.</td>
</tr>
<tr>
<td>Girder length</td>
<td>45.9 ft.</td>
</tr>
</tbody>
</table>

Power supply cable trolleys travel in the KBK runway or crane girder sections. The control pendant can also travel independently of the hoist when fitted to a separate travel rail.

Cranes operating on several runways provide larger spans to cover extensive storage and production areas.
With the KBK ergo modular system, double-girder suspension cranes can also be designed as manipulator cranes. They can be designed to meet the exact needs of the relevant loads, processes and production conditions. They make it possible to
- Move workpieces and subassemblies into the most favourable positions for the relevant process,
- Serve workplaces, machinery and installations from any direction,
- Perform operations outside the suspension area, thus increasing the operating range.

Innovative and ready to meet tomorrow’s needs
Based on KBK-I, KBK-II-L or KBK-II rails, manipulator cranes are built using selected KBK ergo components to meet the operating requirements. They feature the ability to accommodate kick-up forces. In addition, they offer outstanding positioning accuracy, together with a high working speed. In this way, handling operations can be optimised in line with ergonomic requirements for maximum efficiency.

Fast upgrade
If you already have double-girder suspension cranes from the KBK classic crane construction kit, they can be easily and quickly extended with KBK ergo components to become manipulator cranes.
Overhung and extending cranes

Large overhang – constant or variable

If you also want to move loads beyond the limits of the crane suspension – we can make this possible with KBK.

Overhung cranes
KBK-ergo overhung cranes are fitted with crane girders that extend up to 2.5 m beyond the width of the crane runway. This enables you to reach bays added at a later date, for example. Or you can handle loads below ducts, radiant heaters, pipes or similar obstacles between the wall and roof which result in the crane runway having to be positioned at a distance to the wall.

Extending cranes
KBK classic and KBK ergo extending cranes feature additional girders that are arranged between or beneath the crane girders. Depending on the design, they can be extended to one or both sides beyond the crane runway width. These cranes can also be used for lifting and positioning loads in almost inaccessible areas, e.g. between pillars and columns.

Depending on the required extension length, extending cranes may be completed with KBK classic or also with KBK ergo elements.

Max. permissible overhang dimensions
according to profile and crane type; also dependent on the load.

Max. permissible overhang dimensions
depending on profile and extension type, also dependent on the load.
Stacker cranes, portal cranes
Specialised handling equipment for warehouse and factory

Stacker cranes
Stacker cranes from the KBK classic crane construction kit consist mainly of a KBK classic double-girder suspension crane and a special stacker trolley. They are used wherever unit loads, containers or pallets weighing up to 500 kg have to be transported, sorted and stored. They make it possible to complete all tasks in one work cycle without the need for ladders, order picking trolleys or similar equipment.

The lifting carriage can be fitted with forks, prongs, gripper tongs or other load handling attachments in accordance with the specific load handling requirements. The mast with its trolley is easily moved by hand and can rotate through 360°.

Portal cranes
Portal cranes from the KBK classic crane construction kit with a load capacity up to 1,000 kg can be used wherever a suspension crane is not cost-effective or cannot be installed. They run on solid even surfaces and can be manoeuvred easily in all directions, making them ideal for repair and assembly work.

A particular advantage in many applications is that KBK classic portal cranes can be easily dismantled, transported and quickly re-erected elsewhere. The crane girder span can also be adjusted.
KBK classic crane construction kit components

**Profile sections**
The basic elements are special cold-rolled track sections available in six sizes:

- KBK 100: Load capacity up to 125 kg
- KBK I: Load capacity up to 500 kg
- KBK II-L: Load capacity up to 1,000 kg
- KBK II: Load capacity up to 2,000 kg
- KBK II-R: Load capacity up to 2,000 kg, with 5-pole power supply arranged inside
- KBK II-T: Strengthened section for single and double-girder cranes
- KBK III: Load capacity up to 3,200 kg

For each size, all standardised components and assemblies, such as straight and curved track sections, track switches, turntables, drop sections, etc., have the same uniform joint dimensions. Self-centering plug-in, bolted connections allow them to be easily assembled in any combination. Different profile section sizes can be used for single and double-girder suspension crane runways and girders.

All components are either galvanised or finished with a coat of synthetic resin-based paint or powder-coated.

**Suspensions**
To prevent bending stresses and to minimise horizontal forces in the superstructure, KBK track sections are suspended so as to allow pendulation. Plastic shells in the upper and lower ball joints reduce maintenance, surge loading and noise to a minimum. The track height can be easily and precisely adjusted by means of the threaded suspension rods that connect the ball joint heads.

**Track switches**
Of compact, enclosed design, track switches are branching or converging components in the material flow. Options allow manual, electric or pneumatic switching for semi- or fully automatic control.

**Drop sections**
Drop sections are mainly used in closed-circuit tracks for picking up and depositing loads at predetermined positions. This eliminates the need for hoist units.

When lowered in the drop section, the trolley is mechanically locked in place. Mechanical locks in the track stop other trolleys on either side of the drop section.

**Straight and curved sections**
Straight and curved sections are made of special cold-rolled profiles which feature high rigidity and stability for a low deadweight. The profile sections for loads up to 2,000 kg are hollow track sections with protected inside-running surfaces. The KBK III profile of outside-running section design is available for loads up to 3,200 kg. KBK II and KBK III profile sections can also be supplied with integrated conductor lines.
Push travel trolleys
Fitted with bearing-mounted plastic wheels, push travel trolleys are easy to move. The maintenance-free, low-wearing wheels absorb vibration and are silent-running.

Latching devices
Latching devices make it possible to connect single-girder suspension cranes and suspension monorails so that the hoist trolley can transfer between them. When disengaged, the crane travels past the end of the monorail without mechanical contact.

Turntables
Turntables make it possible to change direction in a minimum of space. Integrated mechanical locking devices prevent trolleys from leaving or entering the turntable section during the slewing operation. Turntables can be manually or electrically operated.

Power supply
Power supply is preferably by means of flat festoon cables which are simple and inexpensive. With more than two cranes on a runway or more than two travelling hoists on a suspension monorail and in the case of track systems with switches, turntables, latching devices or drop sections, power supply is via conductor lines: for KBK II-R track sections with 5 inter-nal conductors, for KBK III track sections with up to 8 individual conductor lines.

KBK II-R power supplies are designed to UL specifications and protected against accidental contact in accordance with relevant regulations.

Friction wheel travel drives
Large friction wheels fitted with high frictional rubber tires ensure that the drive forces are transmitted efficiently. Dished washers provide constant pressure between the driving wheel and running surface of the KBK track sections. Friction wheel travel drives are quiet-running.
Demag Cranes & Components has extended the crane construction kit to include additional applications with KBK ergo components. They can be used to build cranes that have to accommodate kick-up forces. This may be the case for overhung, extending and manipulator cranes.

**Suspensions**
Fitted with integrated damping elements, KBK ergo suspensions absorb energy from various directions, thus preventing unnecessary loads being transmitted to the roof or supporting structure.

**End carriages**
End carriages provide improved rigidity and increased positioning accuracy. Firmly connected to the crane trolleys, they precisely transfer all forces reliably to the crane or trolley runways.

**Crab frame**
The specially developed crab frame is a rugged, high load bearing system for mounting specially equipped hoists and manipulators.

**End caps**
Special shock absorbers are required on KBK ergo cranes if the limit positions are frequently approached in normal operation. Shock absorbers integrated in the end caps dissipate the energy transmitted by the loads to all components and assemblies as well as the support superstructure.

**Trolleys**
The KBK ergo crane construction kit includes trolleys in two sizes. KBK-I ergo trolleys are made of steel and feature axles mounted in articulated bearings. A horizontal wheel provides lateral guidance in the runway. KBK-II ergo trolleys of aluminium alloy feature articulated axles, adjustable counter-pressure rollers and a pair of guide rollers. They reliably accommodate the additional kick-up and lateral forces exerted by offset loads. The floating axle arrangement ensures uniform distribution of forces to all four travel wheels.
DK/DKVS chain hoists are available in many load capacity ranges, speeds, lifting heights and equipment combinations. DK chain hoists feature two speed stages. DKVS units are provided with an integrated inverter and a specially developed analog control pendant with which the lifting and lowering speed can be infinitely varied by varying the pressure on the switches. DKVS chain hoists also enable careful approach and positioning thanks to particularly sensitive control at low speeds.

DKM/DKMVS Manulift units operate on the same principle as DK/DKVS chain hoists. Connected via a helical cable, they feature a control unit with an integrated quick-change connector for load handling modules. The control unit with its "spade handle" can also be used to guide the load. The Manulift DKMVS features an integrated inverter for infinitely variable control of the lifting and lowering speed.

DKHC High Cycle Chain Hoists
The Demag DKHC features a 100% duty 2-speed Demag Conical Rotor Brake Motor, engineered for high cycling and excessive starts/stops. This design is crucial in areas of production where zero downtime and constant workflow is a must. In addition, the Demag DKHC boasts a specially designed fan cooled motor and insulation thickness that allows the operator to have practically limitless lifting and lowering capability without overheating.

Demag DBS Air Balancers allow loads up to 250 lb to be safely and ergonomically handled. Productivity is increased and the risk of muscle and back injuries are greatly reduced. The design is excellent, allowing for high cycling capability, low operating costs and unparalleled safety. Demag DBS Air Balancers are available in two sizes, DBS 55 (110 lb) and DBS 110 (250lb). Each size is available with the following control options to match your specific material handling requirement.

- Up/Down (Pendant)
- Single Load, Zero G Control
- Dual Load, Zero G Control
- Handforce Control
Other Demag component product literature

Demag KBK Alu Enclosed Track
900 239 49

Demag DKHC Chain Hoists
930 242 49

Demag Air Balancer D-BP
Handle your loads safe and easy, with precision

Demag KBK Alu Enclosed Track
Construction Kit
The aluminum overhead crane system – low dead weight – ergonomic design

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