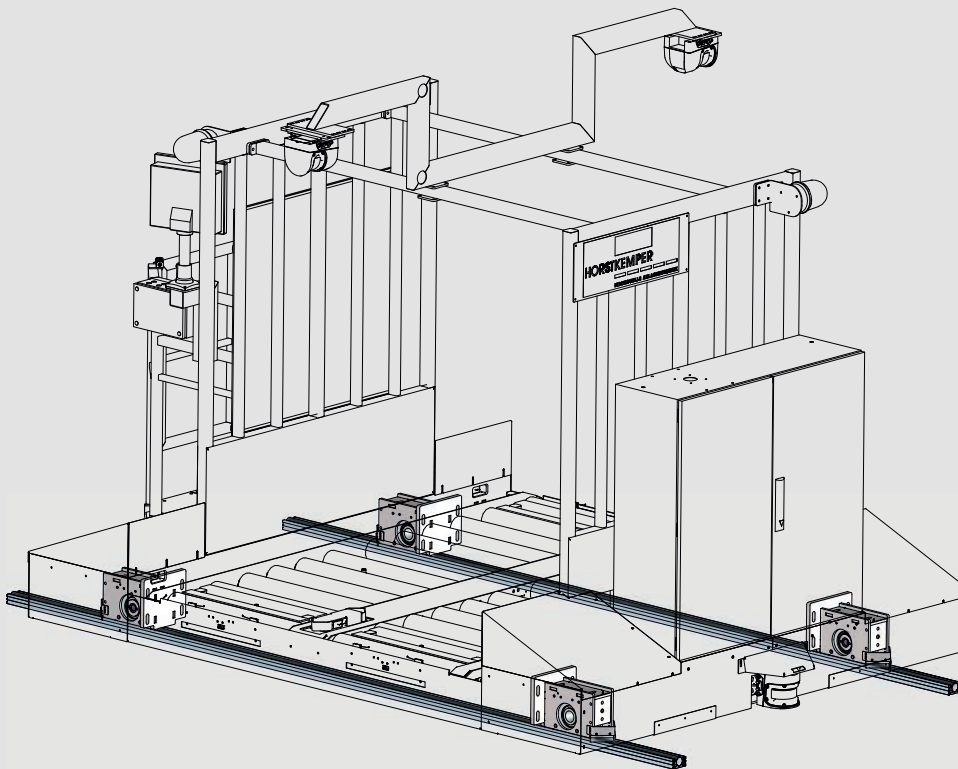




HORSTKEMPER

INDIVIDUELLE ANLAGENTECHNIK



The waverail[®] rail system gets your
processes flowing



waverail[®]
by HORSTKEMPER

The Company



Innovation is our business

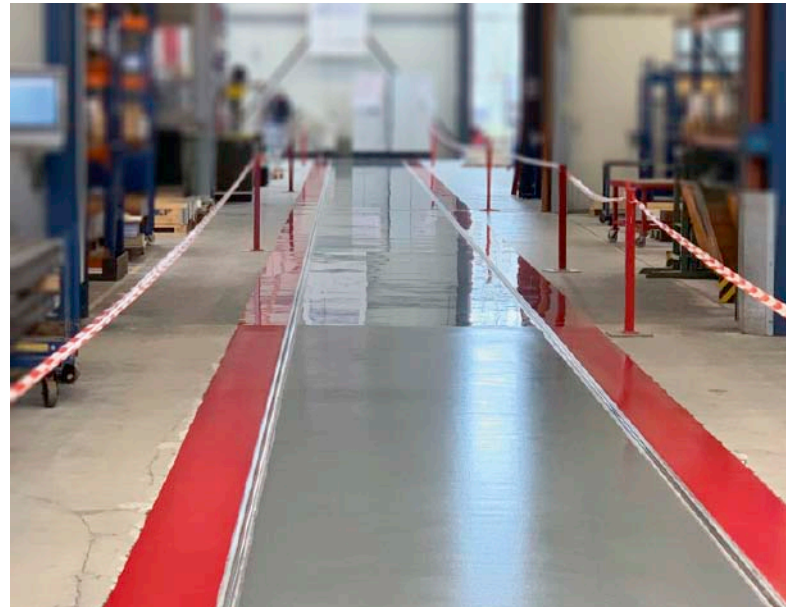
Our internationally active medium-sized family business with almost 70 years of experience serves as a strong basis for the success of our customers, who hail from a broad variety of industries. High quality and solid qualifications are valuable building blocks for our daily work. With us, you are in competent hands from the start.

Holistically oriented, we offer you all the services you need from a single source. From planning, design and project development to production and assembly all the way to comprehensive after-sales service. Flexible, fast and ready to provide customised solutions at any time. Always up-to-date, we face the growing challenges of the market. We constantly consider new technologies

and innovations for our work. The planning of any project requires conceptual thinking and action. With our great dedication and high level of expertise, we seek and find innovative solutions for you. Sustainability shapes our strategic approach in all our activities. Of course, we adhere to environmental standards and treat resources sparingly.

In close dialogue with our customers, we design and develop the systems using cutting-edge 3D CAD/CAM technology. The level of competence of our experienced employees ensures tried-and-tested, uncompromising product quality. Digital order data ensures that maximum information is provided in every production phase.

The Company



Innovation is our business. The ever-changing market needs of our customers spur us on to realise new solutions and concepts. We work in teams to develop ideas, steer them into targeted channels and combine tried-and-tested concepts with completely new ones. In the scope of feasibility studies, including cycle-time calculations and real-time simulations, our customers are won over by our high-performance mechanical engineering even before placing an order.

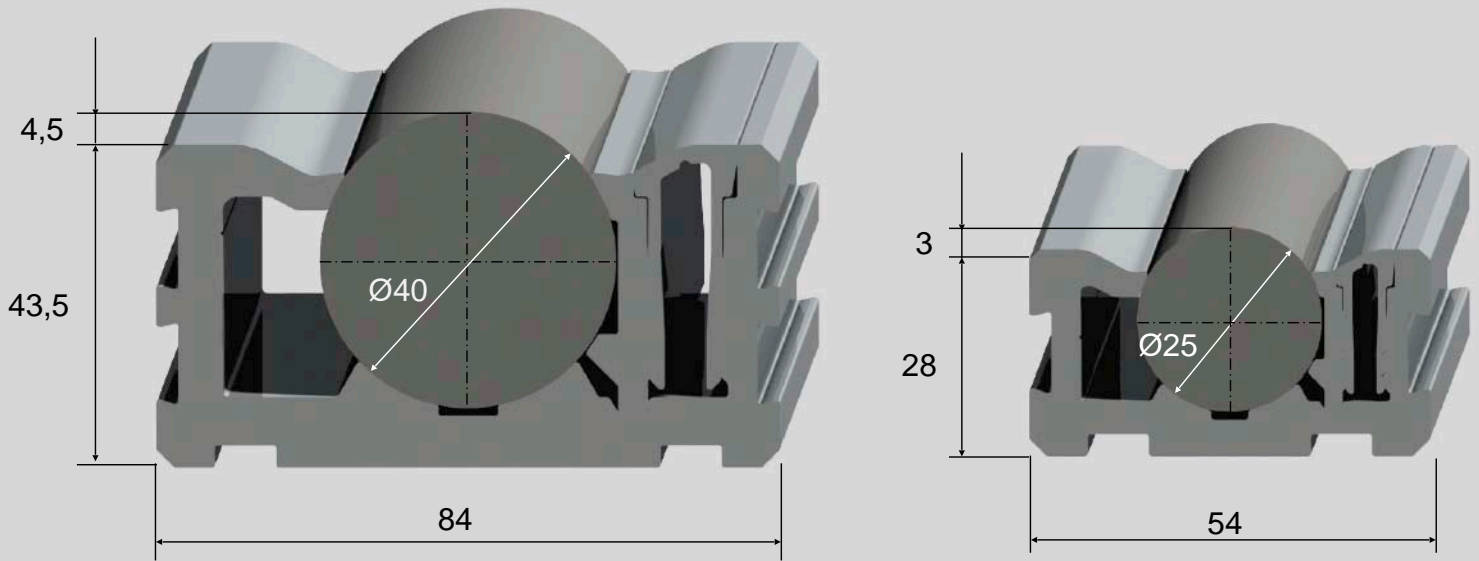
We apply experience. Maximum precision and cost-effectiveness are among the demands placed on modern machining centres. All work steps, from the precise cutting of the materials, to turning, milling, bending and drilling, down to creating the perfect finish, should be carried out directly in a single cycle.

An important element is feedback from manufacturing, because it flows directly into the design and forms the basis for a high-quality, yet economical machine. The high level of competence of our employees shape the production result all the way down to high-precision assembly.

Control is a must. Final assembly is followed by a comprehensive function check and system commissioning. The cooperation we share with our customers is marked by an ongoing intensive exchange of ideas that continues until final instruction at the machine. Only once our partners express their satisfaction does a project end, creating confidence in a future long-term cooperation.



waverail® rail system



Ideal for small and heavy loads

As an experienced specialist for storage and material flow systems, HORSTKEMPER Maschinenbau GmbH has designed and developed its own patent-pending rail system.

The waverail® offers all the advantages of a rail system that is embedded into and flush with the floor. The hardened and ground shafts, which are fixed precisely in the support profile, ensure minimum rolling resistance. Due to its novel profile geometry, the waverail® features a significantly improved clamping system for fixing the shaft in the extruded aluminium profile.

The rail system is used in numerous industrial applications and use cases. These range from simple set-up operations to fully automated intralogistic material flows.

Thanks to its ingeniously simple construction, the waverail® is not only quick to install, but also incomparably efficient. The waverail® is suitable for small to very large transport weights and can be used to convey even the highest loads with low drive forces in an energy-saving, safe and precise manner.

In addition to the waverail® rail system, the experienced HORSTKEMPER team offers the entire spectrum of planning services as well as in-house production for all required mechanical engineering. We precisely test the individual customer requirements of each application and develop customised solutions.

Ideas - processes - solutions: For us, these are the key ingredients that go into developing a perfectly coordinated intralogistic concept - for you too.



Features and advantages of waverail® rail system wr25 and wr40

- Simple floor-level installation in existing and new hall structures
- The waverail® rail system has no tripping edges, can be easily walked over and driven over by all common industrial trucks, such as forklifts, lift trucks and sweepers
- Easy-to-clean rail system without depressions and dirt channels
- The waverail® rail system can be expanded as required, e.g. with intersections, turntables, switches, lifting tables etc.
- High running smoothness, directional stability and positioning accuracy
- Low energy consumption

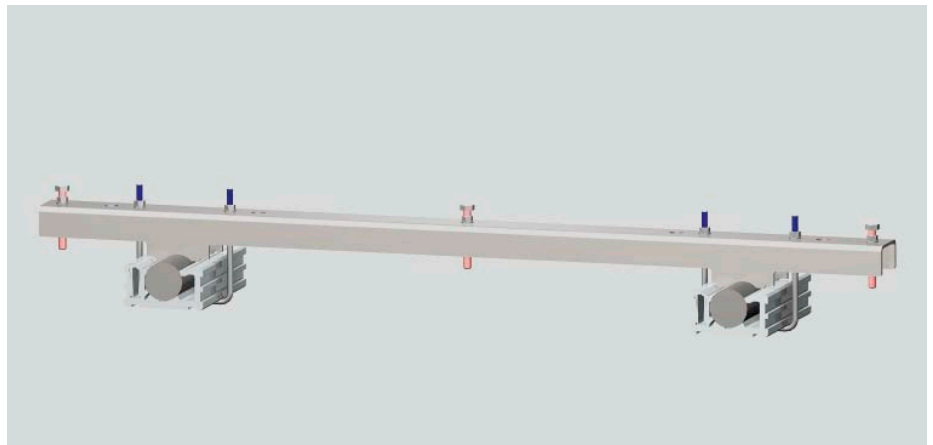
- Due to the low rolling resistance, heavy loads can be easily moved by hand or at low drive power, ensuring excellent ergonomics
- Short payback periods
- Low wear and maintenance due to the compact surface and the system geometry (low life-cycle costs)
- Colour marking and floor coating allow a clear delimitation of the rail track
- The waverail® immediately reveals the “value stream” → transparent structure within production
- Optimisation of material flow in assembly

In addition to the product range of the waverail® rail system, we pursue a holistic system approach, so we naturally offer additional components such as wheel blocks or trolleys. Other products include:

- Mounting devices for the waverail® rail system
- Drive wheel blocks
- Base indexing with base sleeves
- Brake systems and stoppers
- Crossing elements and cross-chassis for changing directions
- Turning stations for changing directions

- Trolleys
- Transport trolleys with multi-axes
- Drive systems for transport trolleys
- Central cycle drives
- Pneumatic drive aids for trolleys
- Power supply via energy chains, cable drums, batteries or induction loops

Installation of the rail system



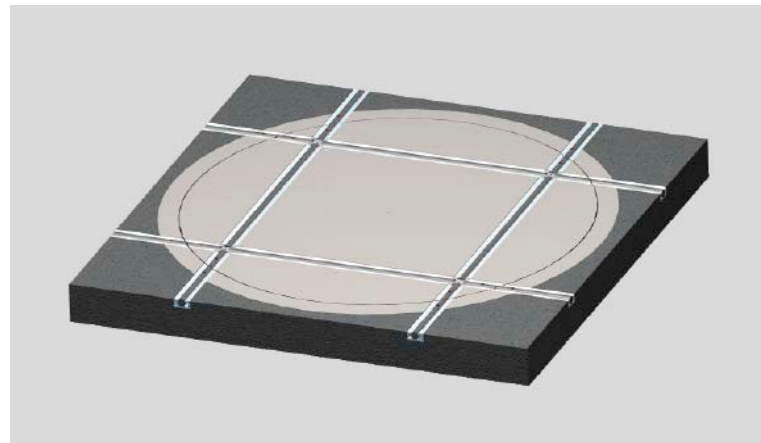
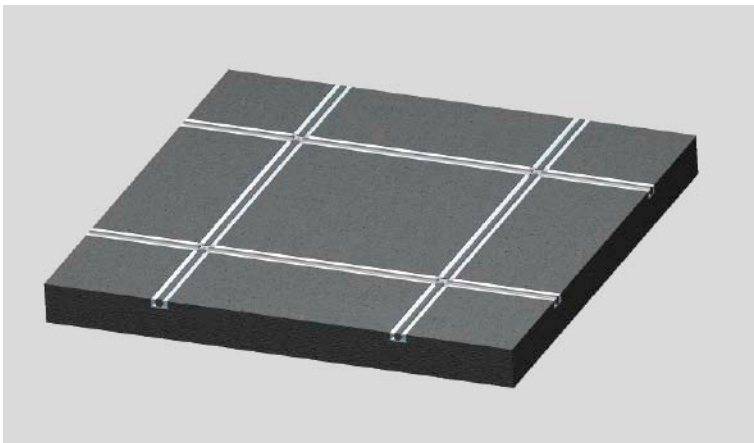
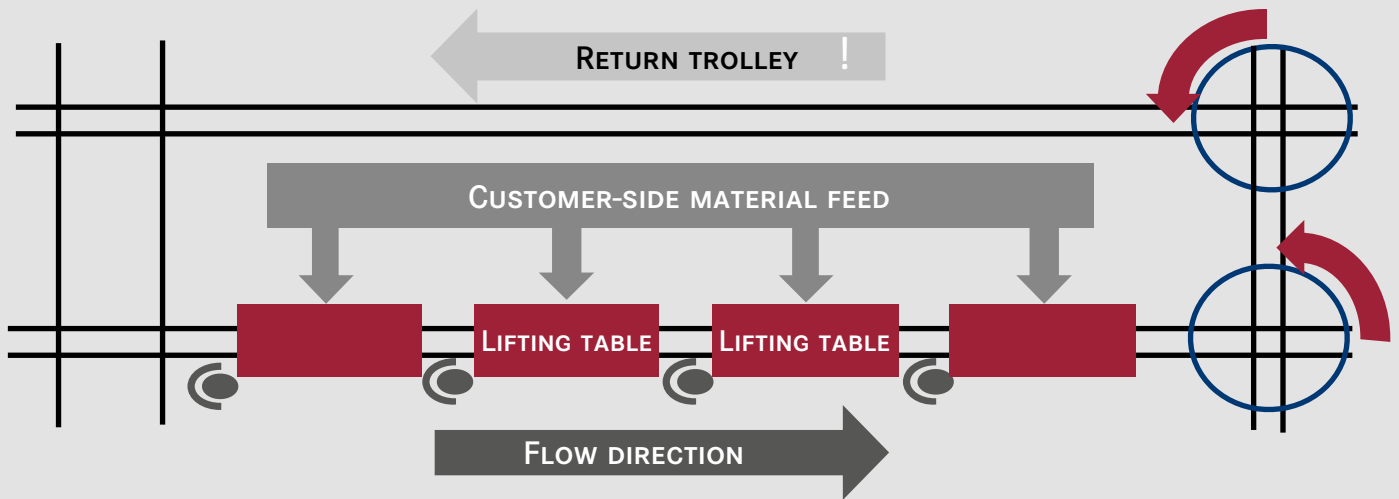
Professional installation by experts

Prior to placing the order, our foundation builders check the specific ground conditions. As the case may be, this may include not only the examination of the static suitability of the base plate but also the creation of a height profile. Based on this, we work with the customer to determine the track course of the waverail® rail system.

Assembly is carried out on the basis of the drawings for the mounting devices in the following order:

- The track is drawn and cut in the screed according to the HORSTKEMPER drawing (width and depth). The rail system is initially assembled overlapped next to the slots.
- The mounting devices are mounted on the rails and the track aligned [The minimum height tolerance is +/- 1.0 mm over a length of 5000 mm].
- The rails are bonded with a waterproof adhesive tape for protection against dirt.
- A cast is prepared with a non-shrinking, rapidly drying mortar.
- Once the mortar has dried, the mounting devices are dismantled.
- After removing the adhesive tape, the waverail® is ready for use [Please note the curing time of the mortar before loading].

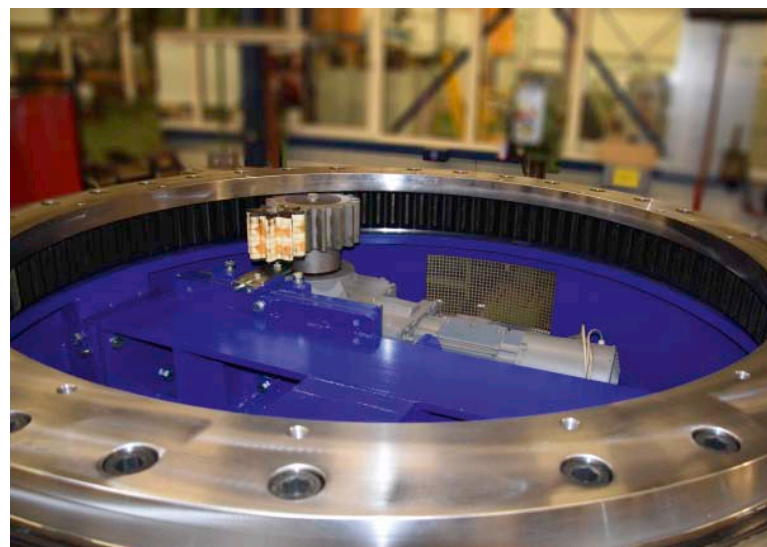
Manual cycle track with change of direction via intersection or turning station



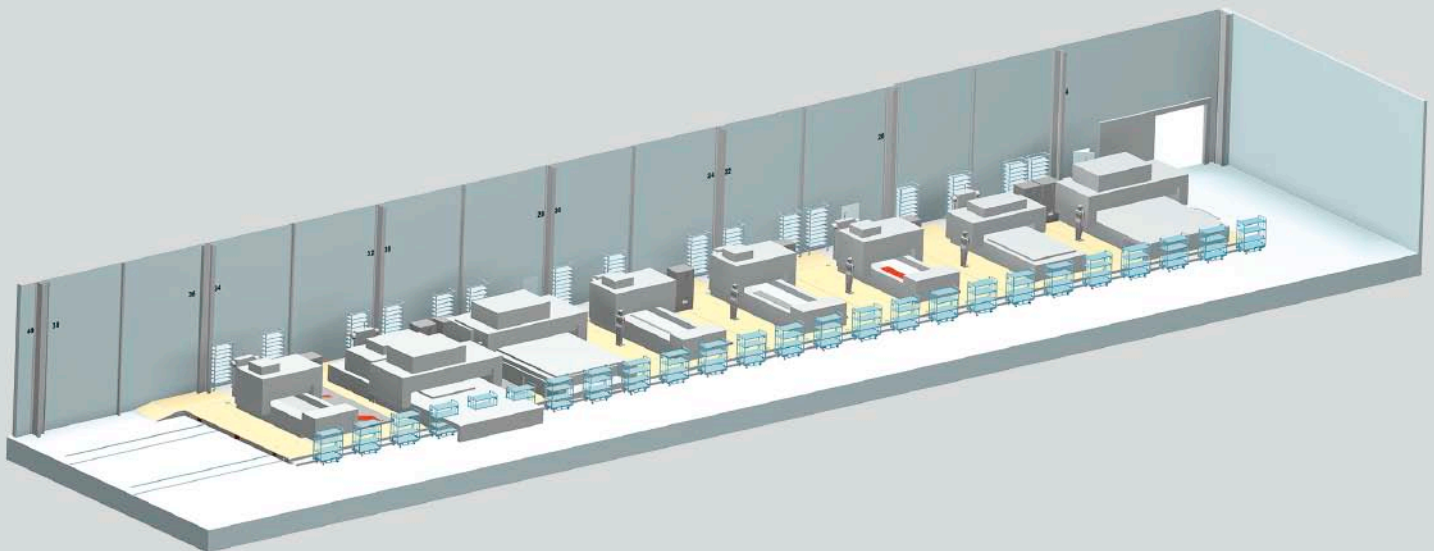
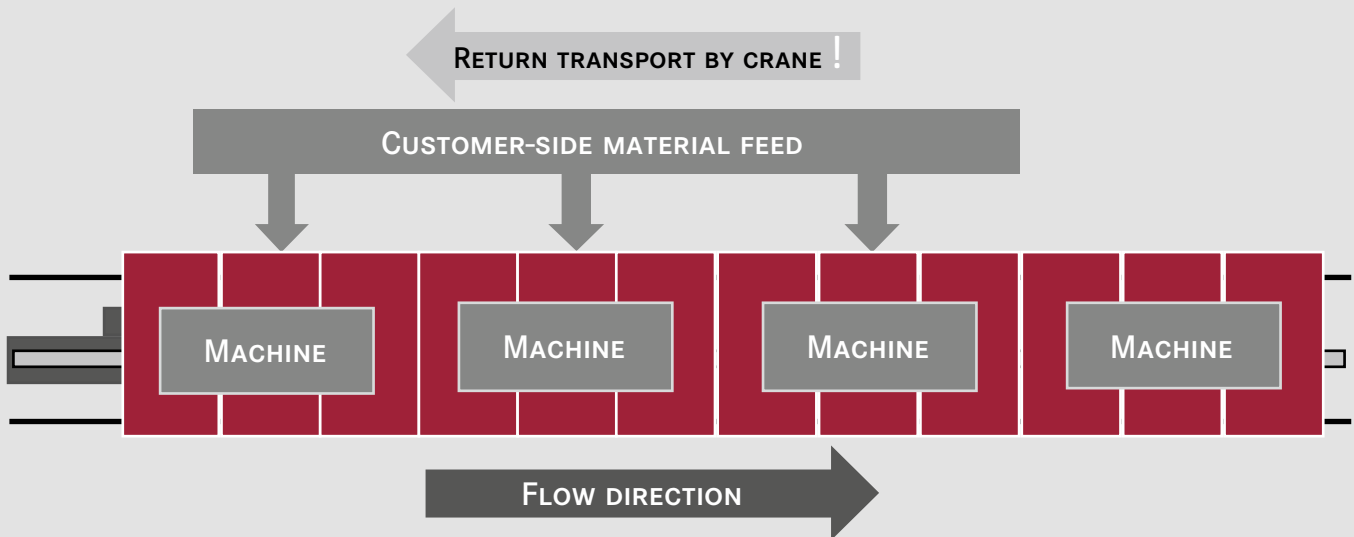
Rail intersections and turning stations

Of course, the waverail® rail system can also be used to change directions in the form of intersections or turning stations. This depends on whether the workpieces located on the platforms must remain positionally oriented or can be rotated by 90 degrees to ensure the correct material flow.

The waverail® thereby enables the mapping of extensive track layouts. Particularly in the case of variable workpiece feed routes employing a bypass or a transition of the rail track into adjacent halls, rail intersections or turning stations are ideal modules for the easy mapping of complex material logistics.



Assembly line



Automated cyclic assembly line for machine tool flow production

Many companies have been relying for some time on the production method of flow or cycle assembly to operate an efficient value creation in production. As a basis for this production method, the circular rail

system waverail® allows the ideal introduction to a rail-bound transport system with a clear structure in the assembly sequence.

Flow and cycle assembly results

- Machine to human – no loss of time due to changing workstations
- Half the installation time compared to fixed station assembly
- Much simpler logistics, since employees only need each assembly or part at a single station
- Mounting and testing devices are only kept available at one station
- When changes are required, any new features must be introduced only at one station

- Improved planning through fixed cycles
- The fixed cycle brings problems to light immediately so that any required solutions are made
- Significant increase in quality in the entire value chain, also due to repeatable work processes.
- Employee specialisation increases work quality
- On-schedule delivery thanks to exact cycle
- Continuous improvement of the assembly sequence

Assembly line



Assembly line with central cycle drive for the synchronous feed of all assembly stations



References - trolleys

Cross conveyor trolley for stacking



Cross conveyor trolley with lifting mechanism for stacking



20 tons - die transport trolley



References - trolleys



Stacking trolley in a press shop



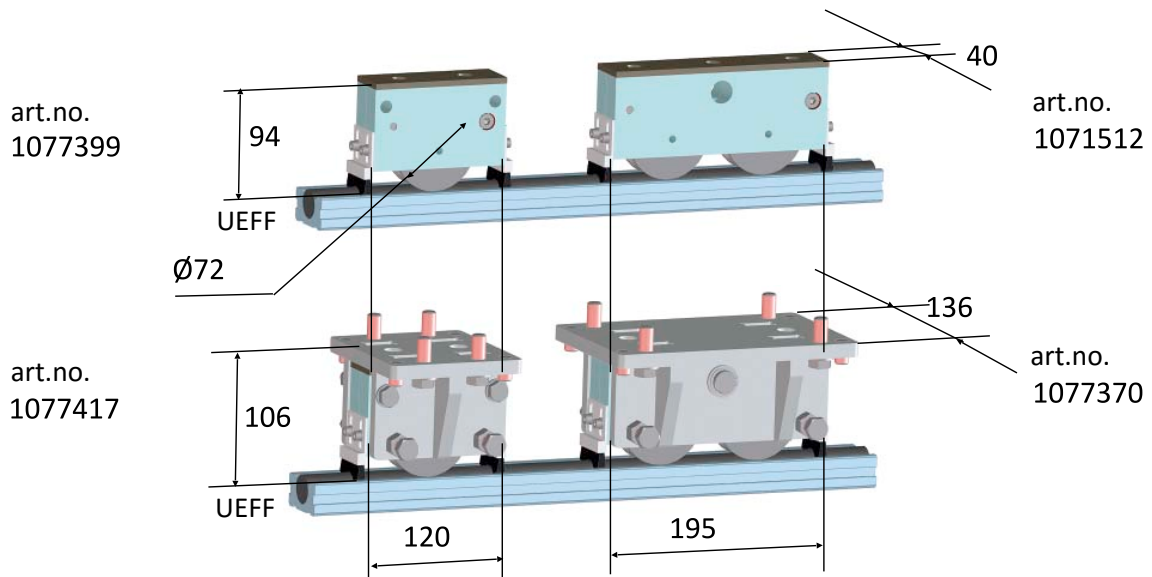
55 tons - die transport trolley



Trolley for manual goods transport

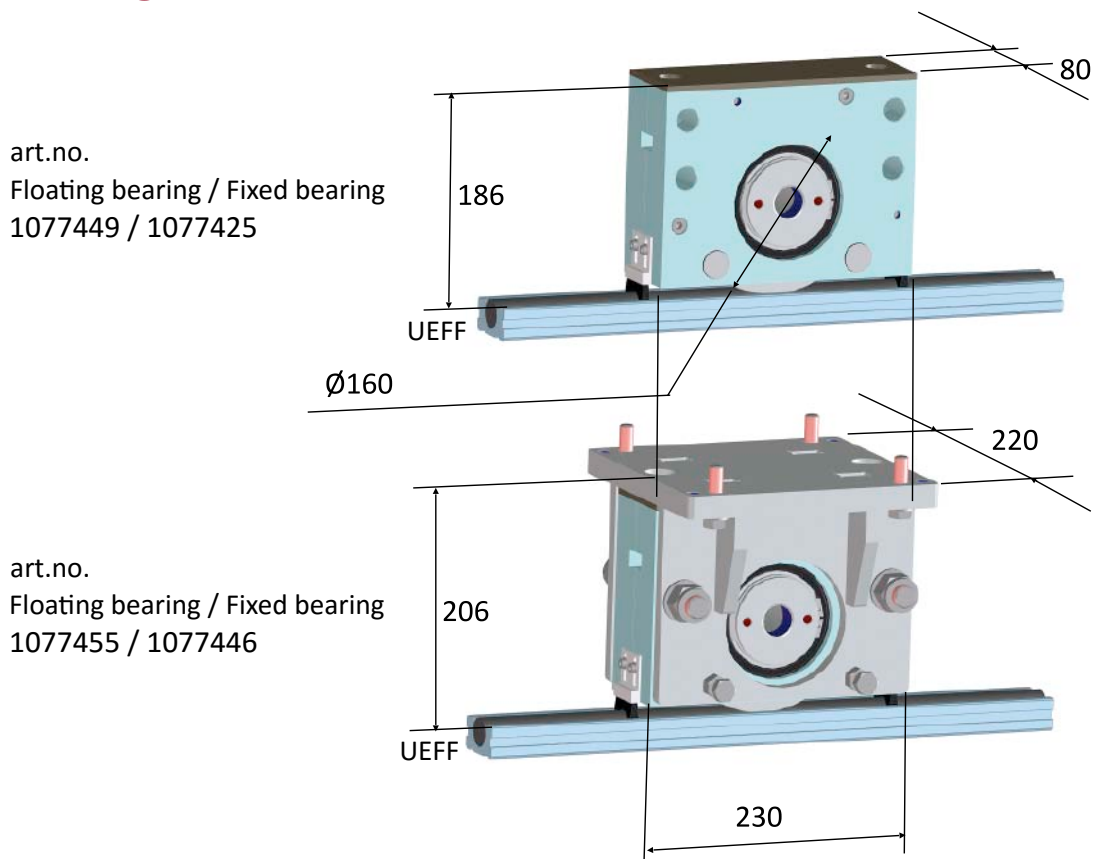
waverail® 25

wr25 - Single and double wheel blocks



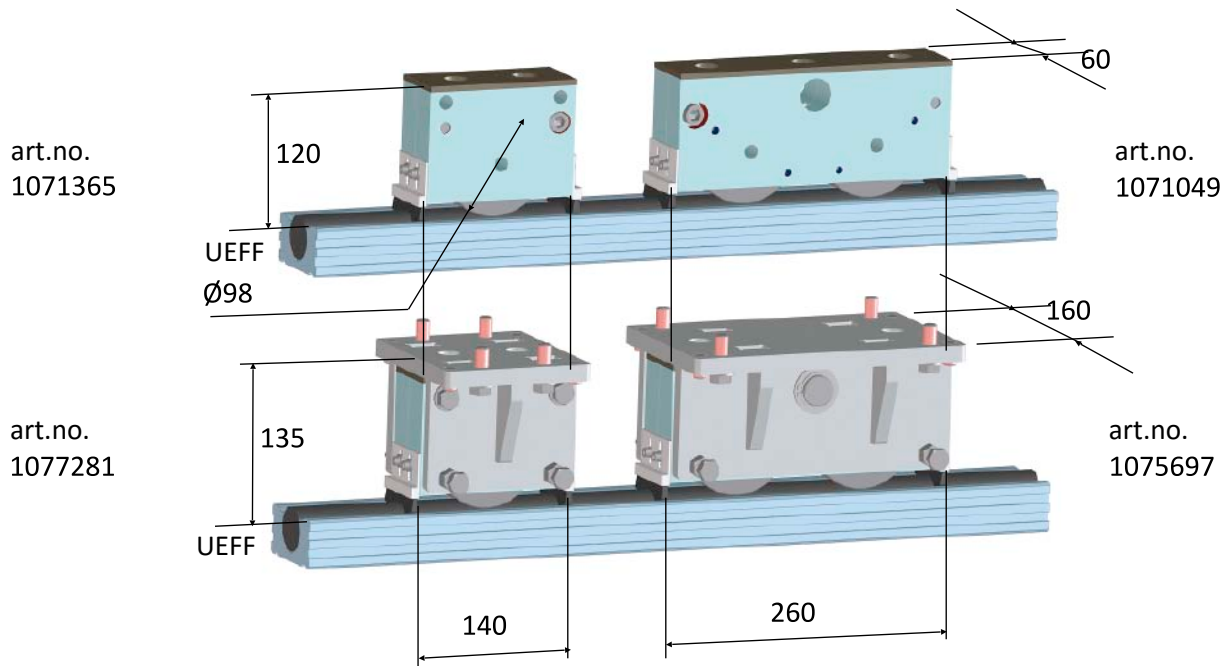
Max. loads:	16,4 kN*	32,8kN
* Reduced wheel flange loads:	ca. 40%	

wr25 - Single drive blocks



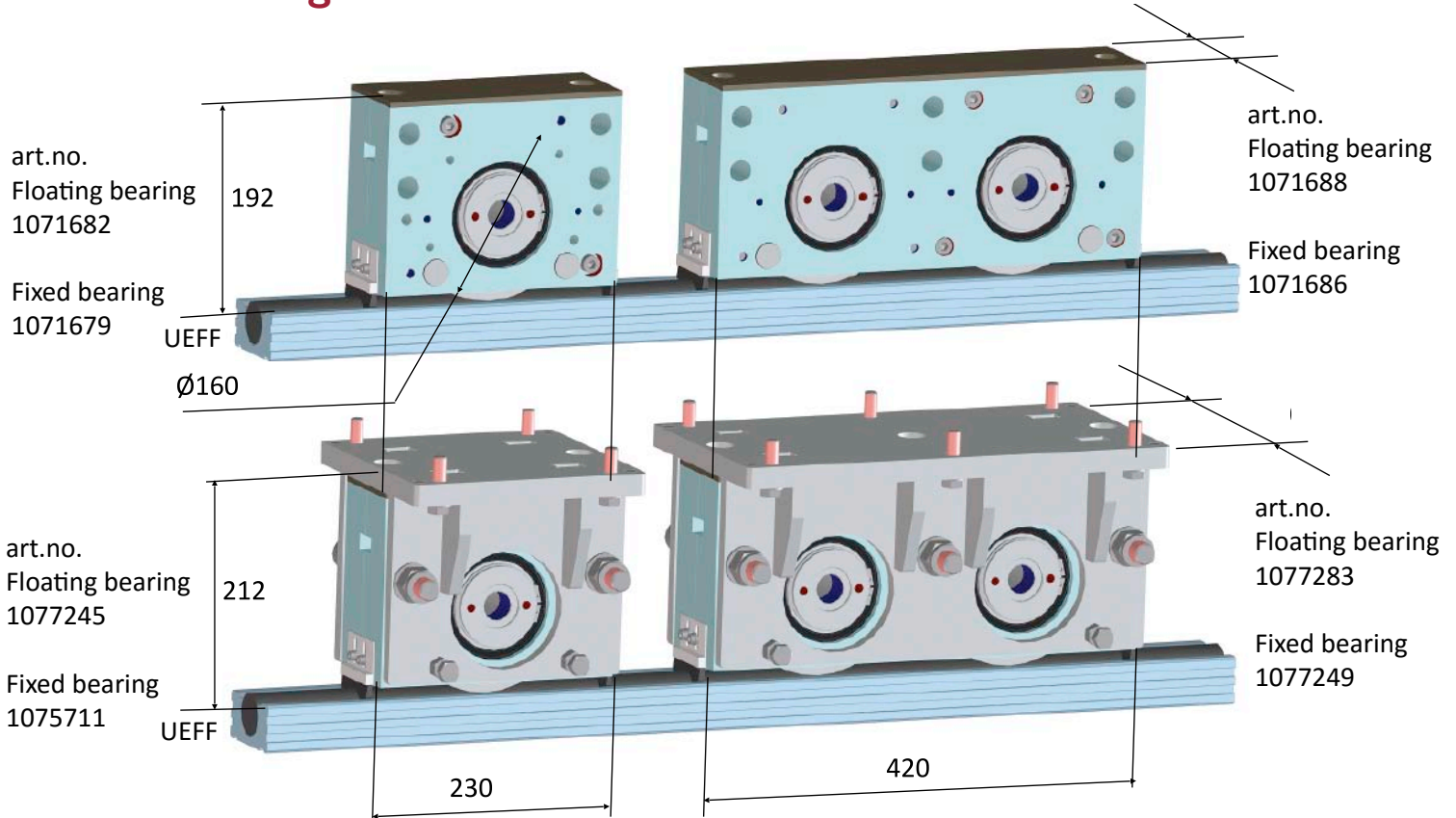
Max. loads:	25 kN*
-------------	--------

wr40 - Single and double wheel blocks



Max. loads:	29 kN*	58 kN
* Reduced wheel flange loads:	ca. 40%	

wr40 - Single and double drive blocks



Max. loads:	50 kN	100 kN
-------------	-------	--------



waverail® accessories

Expansion joint transition piece

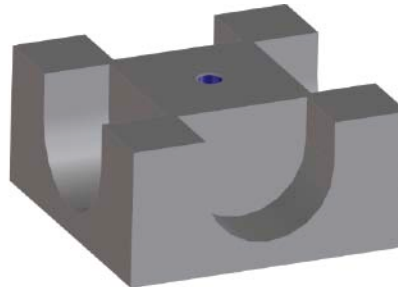
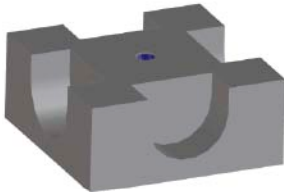


wr25
art.no.
1118699

wr40
art.no.
1092936

Rail intersection elements

wr25
art.no.
1113913



wr40
art.no.
1113782

Rail end pieces

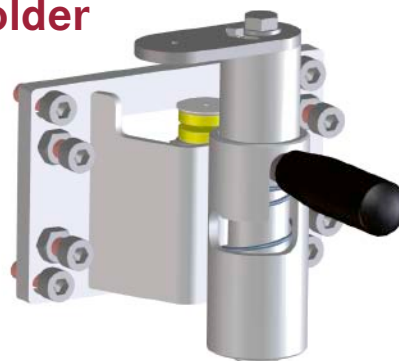
wr25
art.no.
1113963



wr40
art.no.
1113878

Base stake-out, manual or with holder for status query

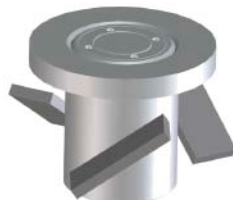
art.no.
1064147



art.no.
1070279

Base sleeves for concrete or reinforced concrete

art.no.
1074356



art.no.
1027291



waverail® trolley with locking device and forklift pockets



Artikel-Nr.	Designation
1118700	Trolley wr25, load 1 t, Track gauge 750 mm
1118701	Trolley wr25, load 1 t, Track gauge 1000 mm
1118702	Trolley wr25, load 1 t, Track gauge 1250 mm
1118703	Trolley wr25, load 1 t, Track gauge 1500 mm
1118704	Trolley wr25, load 5 t, Track gauge 750 mm
1118705	Trolley wr25, load 5 t, Track gauge 1000 mm
1118706	Trolley wr25, load 5 t, Track gauge 1250 mm
1118707	Trolley wr25, load 5 t, Track gauge 1500 mm
1118708	Trolley wr25, load 5 t, Track gauge 1750 mm
1118709	Trolley wr25, load 5 t, Track gauge 2000 mm
1118710	Trolley wr40, load 10 t, Track gauge 750 mm
1118711	Trolley wr40, load 10 t, Track gauge 1000 mm
1118712	Trolley wr40, load 10 t, Track gauge 1250 mm
1118713	Trolley wr40, load 10 t, Track gauge 1500 mm
1118714	Trolley wr40, load 10 t, Track gauge 1750 mm
1118715	Trolley wr40, load 10 t, Track gauge 2000 mm



HORSTKEMPER

INDIVIDUELLE ANLAGENTECHNIK



HORSTKEMPER
MASCHINENBAU GMBH
LÖFKENFELD 65
DE 33397 RIETBERG

FON: +49 2944 97020
FAX: +49 2944 970233

INFO@HORSTKEMPER.DE
WWW.HORSTKEMPER.DE

