FECKEN FK KiRFEL

Always a cut above – since 1870

Type | C 66
Type | C 67
Type | C 68
Type | C 69

Horizontal CNC contour cutting centers

Monika Marcinkowski
Purchase
René Matt
Purchase Manager

Fecken-Kirfel produces precise and efficient cutting machines to process a wide variety of different plastics, rubber and similar materials. Founded in 1870, this family-owned company today leads the way on technology and quality in its field worldwide. Using its large pool of engineering knowledge and expertise, Fecken-Kirfel works together with customers to keep on developing its range of machines further. We produce 100 % of our cutting machines at our main base in Aachen, Germany.

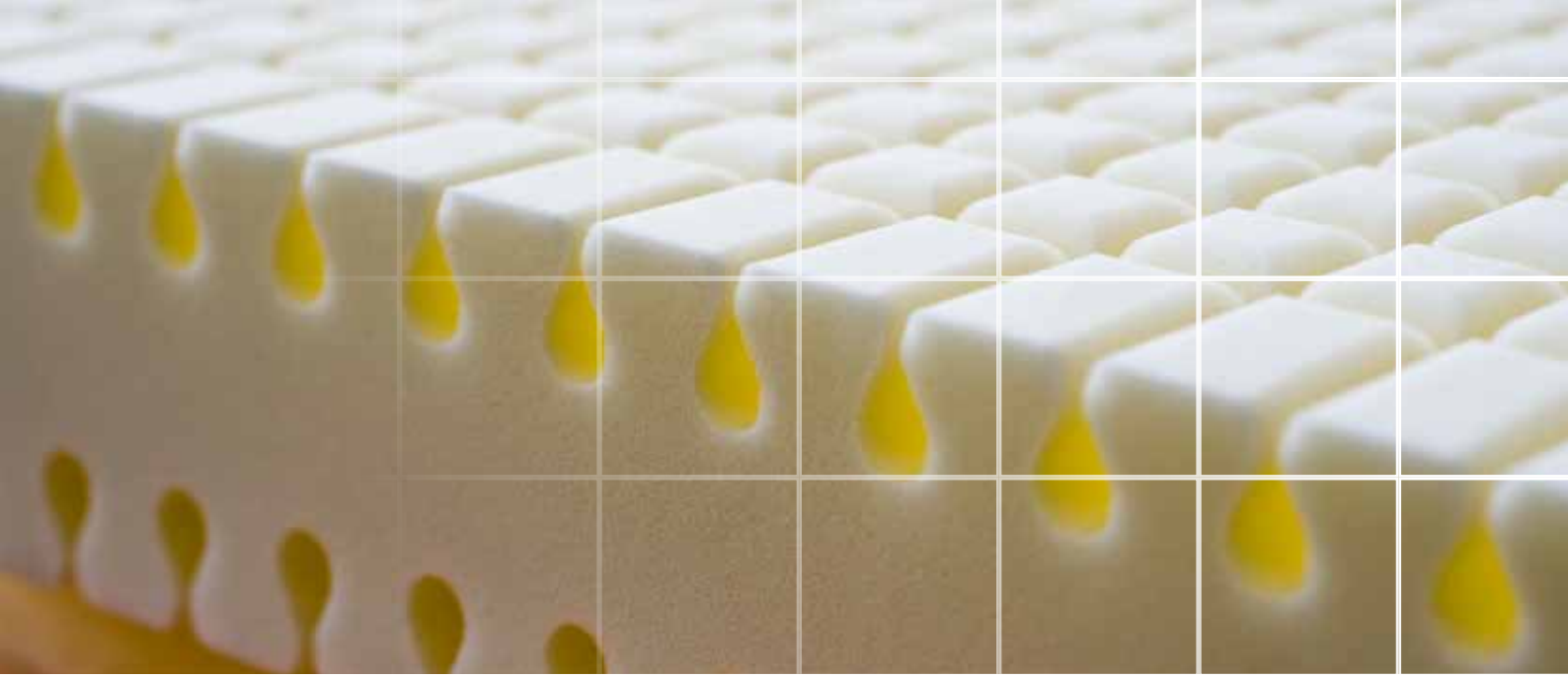
Founded in 1870

Independent family-owned business

Cutting machines "Made in Germany"

Machines process wide variety of materials

Leading the way on technology and quality worldwide



HELLO AND WELCOME!

With an outstanding level of accuracy and a fast cutting speed, the horizontal CNC contour cutting centers offer maximum productivity combined with the highest quality standards. This is real a competitive advantage when it comes to the production of upholstered furniture and mattresses, and technical foams or foams with a high bulk density.

Fecken-Kirfel's C 6x series come with two different types of knife: The C 66/C 67 models use a rotating band knife, while the C 68/C 69 models cut with an oscillating knife. The C 67 and C 69 are suitable for integration into a cutting line.

The extremely stable design of all the variants in the C 6x series prevents vibration during the cutting process and therefore ensures an accurate cut face that is free of marks.

The range of materials that can be cut is diverse. The machine can cut almost all contours, and you also have the option of a rotating material table, which broadens the spectrum of contours that can be cut even further. The movable cutting unit guarantees the best acceleration values and minimal space requirements.

Efficient processes are supported by the FK nesting and routing software: The nesting function ensures contours are nested into one another to make the most of the material being cut. Meanwhile the routing function is what gives you your perfect cut line.

Outstanding accuracy

Fast cutting speed

Maximum performance

Band knife can be twisted +/- 360°

Minimal space requirements

Technical data	C 66	C 67	C 68	C 69
Working range (L x W)	2300 x 2300 mm 2500 x 2500 mm (optional) 2900 x 2900 mm (optional)	2300 x 2300 mm 2500 x 2500 mm (optional) 2900 x 2900 mm (optional)	2300 x 2300 mm 2500 x 2500 mm (optional)	2300 x 2300 mm 2500 x 2500 mm (optional)
Cutting speed	40 m/min 70 m/min (optional)	40 m/min 70 m/min (optional)	15 m/min	15 m/min
Band knife	rotating	rotating	oscillating	oscillating
Twist angle	+/- 360°	+/- 360°	∞	∞
Grinding device	yes	yes	no	no
Central knife guidance	yes	yes	yes	yes
Hold-down device	yes	yes	yes	yes
Autom. turning table	optional	yes	optional	yes

HORIZONTAL CONTOUR CUTTING CENTERS C 6X

Fecken-Kirfel's horizontal contour cutting centers are available with a smooth ground knife (C 66/C 67) or oscillating toothed knife (C 68/C 69). Stand-alone solutions are available (C 66/C 68), as are models with automatic loading or unloading (C 67/C 69), which are ideal for integration into a cutting line.

Area of application: Cutting contours and trimming to size through vertical cross sections. Cutting slabs horizontally and vertically. Finishing rectangular cuts.

Industries: Upholstered furniture, mattresses, automotive parts, packaging, medical aids, sound insulation panels, industrial items such as pipe insulation and window profiles, consumer items such as sponges.

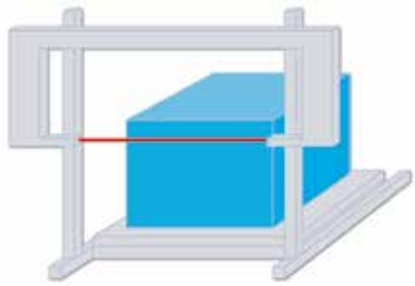
Materials: Flexible PU foam blocks (polyether and polyester), latex, bonded foam, Basotect (melamine), PE foam, and similar materials.

Cuts: Processes all contours in the best way possible thanks to routing and nesting.

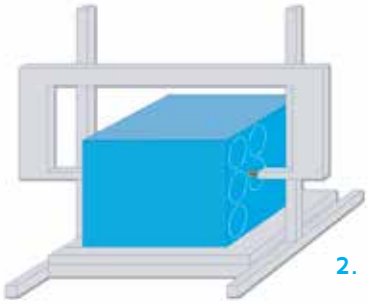
Commissioning: We start up all functions on the machines at our factory before delivery. If everything is working perfectly, installation and commissioning can then take place on your premises.

Service: We respond quickly to maintenance issues and provide a straightforward solution. A teleservice makes remote diagnosis possible.

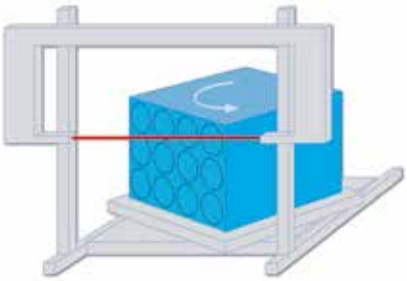
The cutting process: If the contour cutting centers are equipped with a rotating material table, the loaded cutting program can be completed in just a few steps.



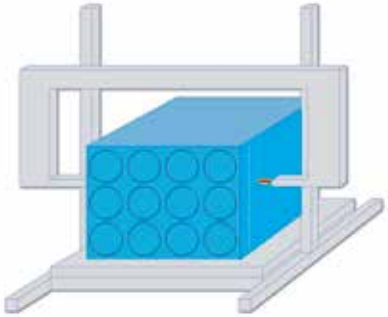
1. Start



2. Contour cut



3. Material table turns 90°



4. Contour trimmed to size through vertical cross sections

CUSTOMIZED CUTTING PROGRAMS – MORE SIMPLE, FLEXIBLE AND ECONOMICAL

Creating a program: Cutting programs created in other FK contour cutting centers can be copied over. You can create new programs in a separate CAD-PC, which is Window-based like the CNC computer in the machine.

Creating a cutting contour: You can create cutting contours in DXF format using the FK software or import these from external software.

Optimizing material usage: In the next step, you can "nest" the contours to ensure that as much of the material is utilized as possible. This process can be automated and alternatively, in addition, carried out interactively using FK software.

Optimizing the cut line: A perfect cut line is key to a high quality cut and also reduces the length of time the cutting process takes. Thanks to the design advantage of a band knife that can be twisted +/- 360°, the FK software identifies optimal routes for your horizontal contour cutting center, be it manually, automatically or interactively.

Johny Schulz
Herbert Kamphausen
Construction group leaders

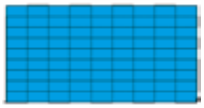
SHARP AT ALL TIMES – THE ROTATING BAND KNIFE

Minimum processing times for hard materials: Thanks to a movable cutting unit and the latest in drive technology, the machine offers exceptional performance, ensuring high cutting speeds can be reached. Coupled with a high-precision grinding device, this ensures quick processing times are guaranteed.

Material fixed in the best way possible: The machine is equipped with a hold-down device consisting of plates to ensure that the material is positioned perfectly and that processing is fast and accurate.

Sharp knife at all times: The fully automatic grinding device with low-wear CBN grinding wheels is parameterizable. Irrespective of how long the band knife is used for, it will give consistently high cutting performance.

Development process: Cutting times compared

Machine type	Max. cutting speed	**2 pillows** 	**Mattress** (before being turned) 	**Mattress** (after being turned) 	**Rectangle** 
C 52	12 m/min (40'/min)	99 s	177 s	175 s	203 s
C 57	25 m/min (82'/min)	69 s	60 s	92 s	122 s
C 67	40 m/min (131'/min)	55 s	48 s	71 s	100 s

Type | C 66 and C 67

C 67 with 2900 mm working width

With rotating band knife

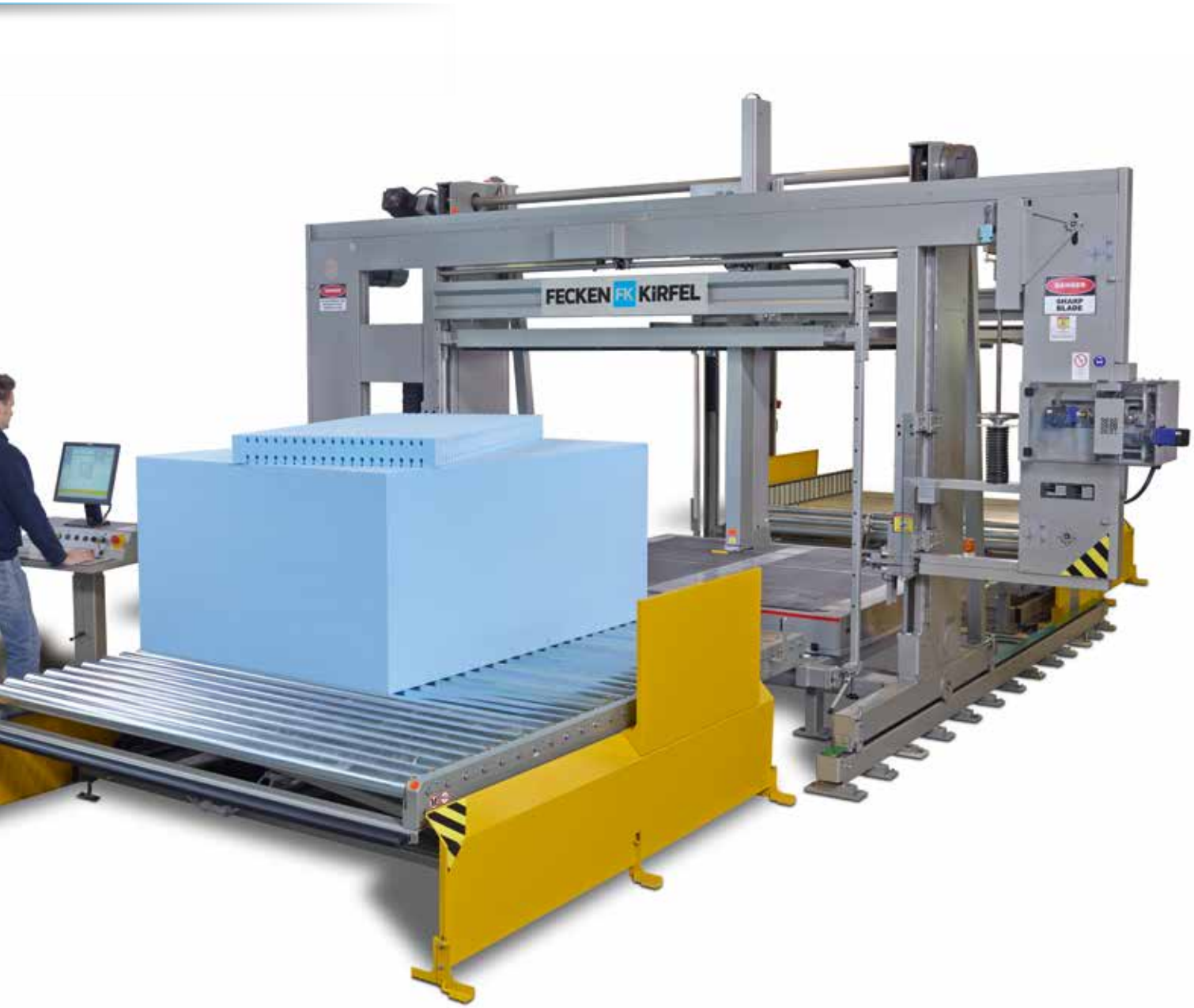
Adjustable central knife guidance

Excellent option for hard materials

Maximum cutting speed

Minimal space requirements

C 67 ready for integration into a cutting line



Dirk Welters
Bandknife production

OPTIMAL PRECISION AT ALL TIMES – THE OSCILLATING KNIFE

Outstanding cutting accuracy: The oscillation technology is ideal for cutting technical materials, as well as contours with sharp edges or small radii with low tolerances.

Very easy to maintain: Fecken-Kirfel uses the latest in servo drives for this new oscillation principle. Two synchronized motors generate the oscillating motion of the knife. This means that no gear unit and connecting components, such as steel ropes and deflection pulleys, are required.

Short installation times: The knife is clamped horizontally, which takes little time and effort. The knife tension is kept at a constant pneumatic pressure during the cutting process.

Type | **C 68 and C 69**

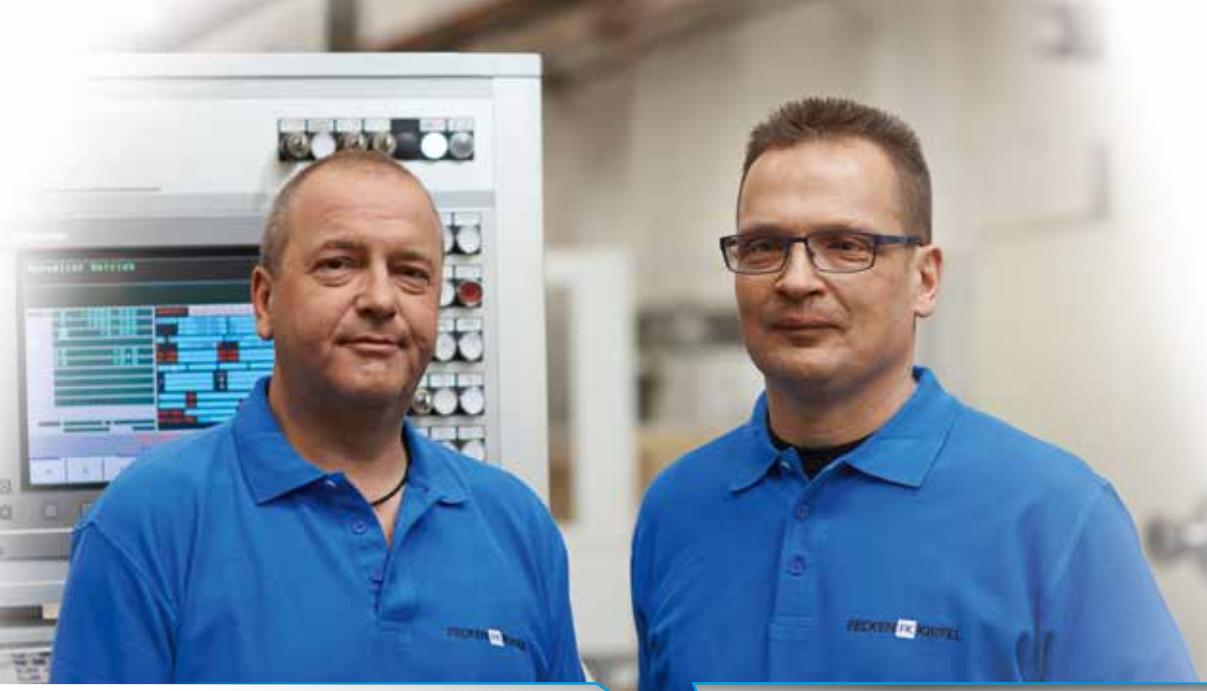
With oscillating knife

Outstanding cutting accuracy

Easy maintenance

Minimal space requirements

C 69 ready for integration into a cutting line



Michael Frings
Parts production
Michael Bürger
Foreman, Parts production

> Your blocks can be processed from the long block instead of from the short block – a sensible and efficient way of working. The long block is cut to its final dimensions directly. The advantage: it saves you the trimming work.

THE FULLY AUTOMATIC CUTTING LINE

When you integrate the C 67 and C 69 into a cutting line, you combine maximum speed with outstanding accuracy, and thus increase productivity while maintaining the highest quality standards.

Set up perfectly for integration: Both contour centers feature powered roller conveyors for loading and unloading, plus a material table with built-in conveyor belts. An end stop is installed permanently sideways on the roller conveyors for loading. A further end stop is installed in the direction of transport, which can be tilted pneumatically to align the block.

Optimal work flow: The CNC cutting center also comes with a job queue function. While the machine is processing a block program, additional block programs requiring cutting can be entered and saved in the order you want. This avoids downtime for the machine while you are entering new block programs. Once it has completed the programs you have entered, the machine will switch off automatically. This makes unmanned (night) shifts a possibility.

FK-Optimat: Using this software, the contours/mattresses are compressed in height by a percentage so that more contours/mattresses can be nested in the block.

Type | **C 66-69**

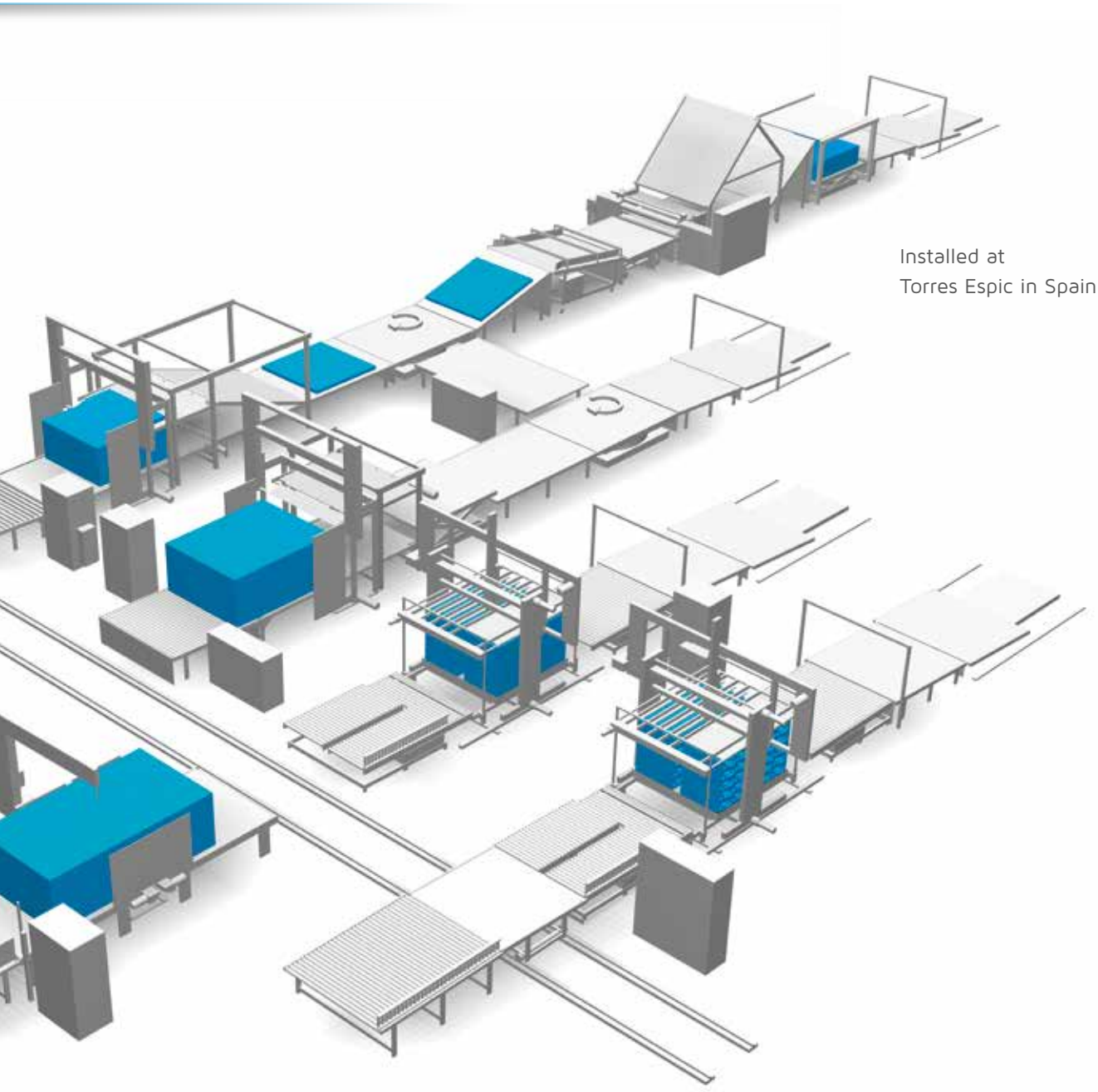
Maximum productivity

Automatic loading and unloading

Driven roller conveyors

Different cutting orders

Unmanned shifts



Installed at
Torres Espic in Spain

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