

Cadenas de precisión

Las cadenas para transportadores de acumulación garantizan una tracción perfecta en un sistema transportador de circuito cerrado.

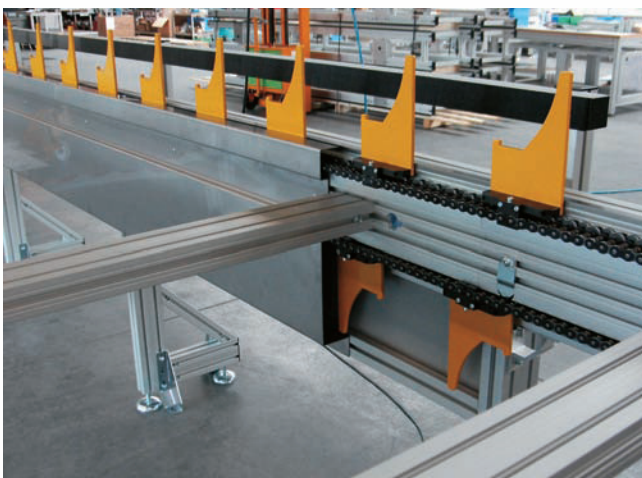
El fabricante de cadenas de rodillos de altas prestaciones iwis ha desarrollado cadenas transportadoras de acumulación especiales para un sistema de transporte fabricado por la empresa Altratec. El transportador de circuito cerrado está equipado con dos cadenas transportadoras de circulación continua y síncrona. El principio de la cadena de rodillos de acumulación posibilita un transporte independiente del compás de portapiezas que pueden ser parados, individualizados, "bufferados" o posicionados. Las cadenas de transporte permiten también un transporte acompañado con los portapiezas o los elementos de alojamiento de piezas atornillados directamente con la cadena de transporte.

Altratec, con sede principal en Schwieberdingen y otra sede en Neukirchen

en Sajonia (ambas en Alemania), produce sistemas de transferencia modulares para líneas de fabricación y de montaje basados en una propia estructura modular de perfiles de aluminio. Los transportadores de circuito cerrado son sistemas de transporte compactos y modulares para el transporte y posicionamiento de piezas. Permiten un transporte entre puestos de trabajo manuales como aparatos de manipulación o robots y máquinas-herramienta. Una versión particular de los transportadores de circuito cerrado es el transportador de circulación vertical, o también llamada "over-under-conveyor".

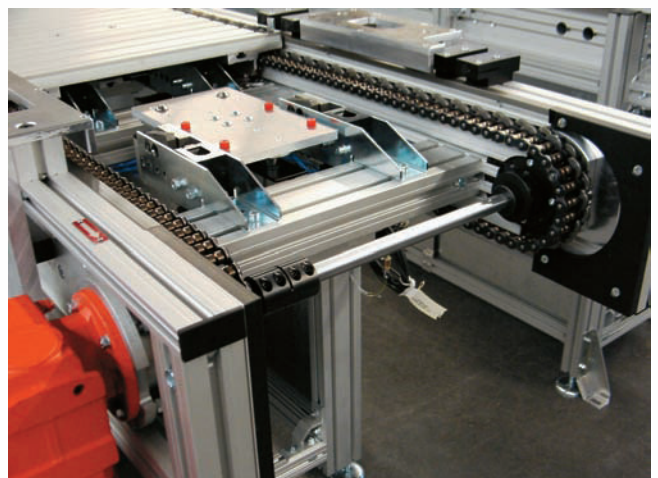
El transportador de circuito cerrado está equipado con dos cadenas de transporte que recirculan de manera continua y síncrona. En las cadenas de rodillos de acumulación se puede rea-

lizar en cualquier punto un paro, una individualización, selección y, si fuese necesario, también el posicionamiento de los portapiezas. Los segmentos de los portapiezas forman una superficie plana, tanto en el tramo de transporte como en el tramo de retorno. En el final del tramo se efectúa la comprobación del estado de carga de los portapiezas. Solo a los portapiezas vacíos se le da una autorización para la recirculación en el tramo de retorno, ya que aquí se transportan cabeza abajo. Los segmentos de los portapiezas conectados de manera flexible se abren en los puntos de desvío y se adaptan al radio de desviación según el principio de la persiana enrollable, con el ahorro de espacio que esto conlleva. El transporte se realiza aquí en forma de arrastre (unión positiva). Los portapiezas se detienen en los puestos de tra-



Transportador de recirculación vertical diseñado como transportador acompañado; los elementos de alojamiento de los portapiezas están fijados directamente en la cadena.

Over-under conveyor system as indexing conveyor; workpiece carriers are attached directly to the chain.



Transportador de recirculación vertical; dispositivo de individualización y de posicionamiento para la entrega de la pieza a través de un robot.

Over-under conveyor; separator and positioner for workpiece acceptance by robot.

bajo manuales o puestos automatizados, se preindividualizan, si fuese necesario, y se posicionan. El transportador de circulación cerrada tiene muchas posibilidades de aplicación. Las piezas pueden ser transportadas, por ejemplo, también de manera colgante en el lado inferior del transportador. Los portapiezas vacíos son transportados en este caso hacia el lado superior del transportador.

Para realizar esta tarea exigente de transporte se necesitan cadenas transportadoras de acumulación especiales. Altratec logró encontrar una solución correspondiente en estrecha colaboración con iwis, un socio de Altratec conocido ya desde años antes. Los especialistas de cadenas de Munich desarrollaron con Altratec una cadena transportadora de acumulación con pernos prolongados para fijar en ellos rodillos de rodadura adicionales. "En estos pernos prolongados se puede devolver el portapiezas en el tramo de retorno de la cadena, lo que evita tener

que disponer de un tramo de transporte adicional para el retorno del portapiezas", explica Peter Grabmann, director Técnico de iwis antriebssysteme. "Solo la estrecha colaboración entre los departamentos técnicos de ambas empresas ha llevado a sintonizar el sistema de forma que ahora nos encontramos ante una solución que funciona perfectamente."

Los transportadores de recirculación vertical ofrecen para el usuario unas ventajas muy importantes: los tramos de alimentación y de retorno del transporte del portapiezas pueden ser realizados de manera muy compacta, es decir, en muy poco espacio. La necesidad mínima de elementos de mando ahorra costes, tanto en el software como en el hardware: se requieren menos componentes neumáticos y de sensor; no se necesitan motores adicionales para movimientos transversales, transportadores de ángulo y estaciones de elevación. La longitud y la anchura del portapiezas es variable



Peter Grabmann.



Rüdiger Jentsch.

iwis

El grupo iwis, con sede en Munich, es a escala mundial un destacado fabricante de sistemas de cadenas de precisión para aplicaciones de transmisión y de transporte. Abarca tres campos comerciales:

- iwis Motorsysteme GmbH & Co KG produce para la industria automovilística cadenas de distribución para motores.
- iwis Antriebssysteme GmbH & Co KG fabrica cadenas de rodillos de precisión y de transporte para aplicaciones industriales en la construcción de maquinaria y de plantas industriales, la industria de embalaje, de impresión y alimentaria y la tecnología de transporte.
- iwis Antriebssysteme GmbH, ex Flexon GmbH, suministra cadenas de rodillos, cadenas para aplicaciones agrícolas, cadenas especiales y de placas juntas (flyer), cadenas de charnelas y de mallas, ruedas dentadas y accesorios.

La empresa familiar, fundada en 1916, está dirigida por la cuarta generación y da empleo a más de 1.000 personas. Aparte de las sedes de producción ubicadas en Munich, Landsberg am Lech, Wilnsdorf y Sontra (todas en Alemania) así como en Chequia, China y en EE.UU., el grupo iwis cuenta también con filiales en diferentes países dentro y fuera de Europa, entre ellos Brasil, Inglaterra, Francia, Hong Kong, India, Italia, Canadá, Corea, Países Bajos, Suiza y Sudáfrica. El grupo iwis está representado en un total de 45 países en todo el mundo. Su distribuidor en España es Permarin, S.A.

With Headquarters in Munich (Germany), the iwis Group is a leading supplier of precision chain systems for power transmission and product conveying applications. The iwis Group comprises three divisions:

- *iwis Motorsysteme GmbH & Co KG, providing engine timing drives for the automotive industry.*
- *iwis antriebssysteme GmbH & Co KG, supplying a wide range of precision roller and conveyor chains for industrial applications, including machine and plant engineering, material handling systems, and the packaging, printing and food industries.*
- *iwis antriebssysteme GmbH, formerly known as Flexon GmbH, specialising in rollers, conveyors, special-purpose and flat top chains, modular belts, chains for agricultural machinery, sprockets and accessories.*

Established in 1916, iwis is a family-run business which today employs more than 1,000 people. In addition to production sites in Germany (Munich, Landsberg, Wilnsdorf and Sontra) and in the Czech Republic, in China and in the USA, iwis has subsidiaries in various countries in Europe and overseas, including Brazil, Canada, England, France, Hong Kong, India, Italy, Korea, the Netherlands, South Africa and Switzerland. Altogether, the iwis Group has 45 business locations throughout the world. Its distributor in Spain is Permarin, S.A.

gracias a la estructura modular; es decir, la composición tipo persiana enrollable mediante segmentos perfilados de aluminio de 25x100 mm. Ello permite la adaptación perfecta a los tamaños de las piezas. El transportador de circuito cerrado está homologado para pesos elevados de las piezas, es resistente a aceites y lubricantes de refrigeración y posee una larga vida útil.

Altratec no utiliza las cadenas de iwis solo en transportadores de recirculación verticales, sino también en sistemas de recirculación de portapiezas convencionales, en transportadores con cadenas de rodillo de acumulación con tramos curvados mediante el uso de la cadena de arco lateral, en el caso de sistemas de recirculación a cadenas de placas, en transportadores Megalife y en transportadores con cadenas de mallas portadoras. "La colaboración con iwis no se limita a lo puramente comercial, es decir, a la venta de cadenas según lo ofrecido en el catálogo", explica Rüdiger Jentsch, director de Ventas en Altratec. "iwis es para Altratec más bien un socio tecnológico competente muy importante en la búsqueda de soluciones de cadena según nuestros conceptos y en la realización de desarrollos nuevos y mejoras con respecto a nuestra tecnología de transporte."

Además de cadenas transportadoras de acumulación, iwis ofrece una gama de productos completa para todas las aplicaciones en la tecnología de accionamiento y de transporte. El programa completo del grupo iwis para las aplicaciones industriales abarca cadenas de rodillos de alta precisión, cadenas de rodillos de altas prestaciones, cadenas transportadoras, cadenas libres de mantenimiento y resistentes a

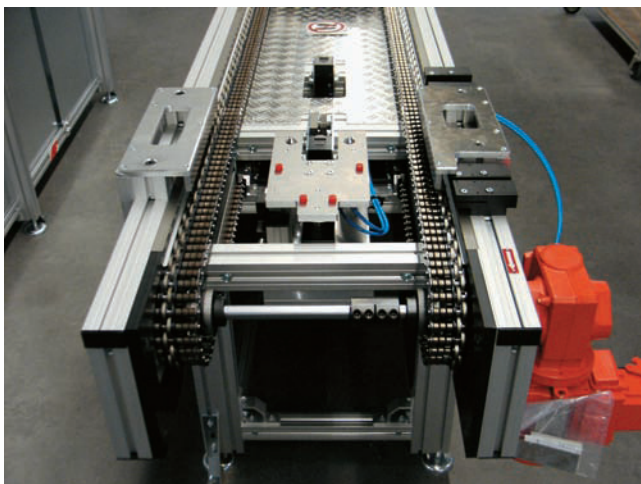
la corrosión, cadenas transportadoras de acumulación, cadenas transportadoras especiales, cadenas para máquinas agrícolas, cadenas de placas juntas (flyer), cadenas de charnelas y mallas de plástico, así como sistemas de distribución para motores en la industria automovilística. ♦

English text in page 137.

Altratec

Altratec Montagesysteme GmbH fabrica sistemas de traslación modulares para líneas de fabricación y de montaje a base de un propio sistema modular de perfiles de aluminio. La empresa, especialista de sistemas de transporte con sedes en Schwieberdingen (Suabia) y Neukirchen en Sajonia (ambas en Alemania), fue fundada en 1987 y emplea a 50 personas. El programa completo de Altratec abarca transportadores de cinta, transportadores de cadena, transportadores de rodillos, transportadores de circuito cerrado y módulos de transporte especiales como transportadores de ángulo, sistema de elevación, sistemas de traslación a platos de arrastre y muchos más.

Altratec Montagesysteme GmbH manufactures modular transfer systems for production and assembly lines based on an in-house-developed modular aluminium profile system. The headquarters are in the Swabian town of Schwieberdingen with a further production site in Neukirchen (Saxony). Altratec was established in 1987 and today has 50 employees and a product range comprising belts, chains, rollers and continuous conveyors as well as special conveying modules such as angular transfer units, lifting systems, drag plate deflectors and more.



Ejemplo de un transportador de recirculación vertical con una cadena especial de iwis, incluido pretope y tope principal con estación de índice de elevación y contra-apoyo de palets para la entrega de las piezas con manipulado automático.
Example of an over-under conveyor with iwis special-purpose chain including preliminary and main stopper with indexed lifting station and pallet counterholder for workpiece acceptance with automatic handling.



Transportador de recirculación vertical con portapiezas con un ancho de 2.000 mm: las piezas del chasis son transportadas hacia una célula de soldadura.
Over-under conveyor with 2,000 mm wide workpiece carriers: delivers car body parts to a welding cell.

despite that the competition and the economic recession has increased, forcing to provide new answer to customers.

Expansion

That vocation of service was extended to South America in 2009, with the opening of a new plant in Peru, working with its own machinery and expanding its portfolio of clients outside of the national borders. In addition, the new installations will have a staff of over 15 workers during 2011, when is planned the extension of the South American factory. Moreover, Talleres Cortés is finalizing the plans for the opening of a new center in another continent, to ensure the internationalization of the company.

The factory in Alcora, knows the revolution which is affecting the tile industry since their first steps and has decided to bet for the modernization of the factory.

The most innovative technology is already at the service of Talleres Cortés, in a new effort to satisfy the needs of their clients no matter the format or the model of press they may request and always with the precision as an exigency. Also, the enterprise complex manufactures for all the fabrication systems of the market: double firing, stoneware, monoporous single firing and porcelanic stoneware.

To guarantee the evolution of process, it works at plenty effort in the department of R+D, since 10 years ago. The professional that make part of it, have become the guarantee of the future for a company with development projection. This way, the factory keeps actual collaboration agreements with universities and official organizations, looking forward for the research and the search of new solutions to the challenge that the ceramic industry is presenting and particularly, the precision moulds.

A familiar enterprise for a unique client

Heading the installations there is a technical team that watches for the personalization of the requested product and for adequating its training to a machinery park that is constantly renewed. Nowadays, the plant has rectifying machines for flat surfaces, milling machines by C.N.C., mechanizing centers, radial drills and thread welding arms with automatic loading. Also Talleres Cortés counts with wire electroerosion and penetration machines, as well as parallel lathes.

Conscious that the specialization of the staff is the best formula to find the perfect product in function of the needs of the clients, the responsible of the firm has gone beyond the barrier of the familiar company towards a multidisciplinary factory. This is understood in the design and ceramic relieves department, that has added in recent dates a laser system for the copy of tridimensional originals. In the same way, the special pieces matrixes department can manufacture with an own system any type of piece, with relieves several centimeters high. All this counts with the guarantee of the internationalization. Talleres Cortés provides maintenance, spare parts and technical service to their products in any country of delivery.

The exclusive dedication to their customers with very concrete demands, has made Talleres Cortés also becoming a reference in presses for the vulcanization of punches in any type of surface. Cortés' rigor and the precision of its machinery park have allowed the constant growth of a familiar company that nowadays celebrates the consolidation in their 60th anniversary. ♦

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Page 114

Energy-efficient drying of bricks with the Paraflow dryer from Keller HCW

In times of exploding energy costs and increased quality requirements combined with the pursuit of higher cost-effectiveness and environment-protecting processes, Keller HCW has looked for potential for improvement for all dryer types and has created a new type of dryer: the Paraflow dryer.

The name is derived from the words parallel and flow. It refers to the parallel air flow from recirculated air and the longitudinal air flow within the brick setting. The Keller HCW Paraflow dryer does not only fulfil the requirements for energy-efficient brick drying and the request for environment-friendly drying processes but is an economic dryer with many structural advantages that meet the high quality standards of the customers.

The characteristics of the Paraflow dryer are:

Its suitable for a large variety of products, such as common bricks, facing bricks, pavers, split tiles and klinker strips.

Its suitable for drying sensitive products.

Its suitable for variable drying times (depending on the product, 4 hours to 32 hours).

Its suitable for high dryer outputs (100 to 1600 tons of fired material per day).

Its suitable for setting widths between 5 and 10 m.

Its suitable for high operating temperatures.

It has a low specific electric energy consumption (8.5 kWh/tfired).

It has a low thermal energy consumption (820 Kcal/Kg H2O).

It has a maintenance-friendly structure (no moving parts in the dryer).

It has a very homogeneous flow distribution in the setting and simultaneously uses the longitudinal air flow in the best possible way.

Offers a very good accessibility to the setting room (sample taking).

Achieves a very high product quality through a homogeneous drying process. ♦

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Pages 115 to 117

Precision chains

Accumulator chains ensure low-friction transport in continuous conveyor applications.

High-performance roller chain manufacturer iwis has developed special accumulation chains for continuous conveyor systems manufactured by Altratec Montagesysteme. These systems feature two continuously running synchronised conveyor chains. Accumulation chains allow workpiece carriers to be accumulated, separated, buffered and positioned at any point throughout the workflow, and therefore conveyed independently of the process cycle. The workpiece carriers or jigs can also be bolted to the conveyor chain for synchronised transport without accumulation.

Altratec Montagesysteme is based in the Swabian town of Schwieberdingen, with additional manufacturing in Neukirchen, Saxony. Altratec manufactures modular transfer systems for production and assembly lines based on a modular system of aluminium profiles. Accumulation conveyors represent a compact, modular transport system for conveying and buffering workpieces between manual and automated workstations with handling equipment, robotics, and machine tools. Also manufactured are special accumulation conveyors referred to as over-under conveyors with multiple tiers.

Accumulation conveyors feature two continuous, synchronously running conveyor chains. Workpiece carriers can be accumulated, separated, buffered and –if necessary– positioned at any point along the accumulator roller chain. In the carry and return sections, workpiece carriers form a level surface and at the end of the section are scanned for the presence of workpieces. Only then are empty carriers released for the return journey, and run upside down along the return section. The flexibly joined carrier segments open when deflected in order to pass around a radius and at this point engage positively with the chain. When they reach a workstation they are stopped, separated if necessary, and positioned. The continuous conveyor has a wide range of applications. Workpieces can, for example, be conveyed suspended underneath the chain as empty workpiece carriers return on the conveyor's top section.

This demanding conveying task requires special accumulation chains. Altratec found a solution in close co-operation with long-term partners iwis. Together with Altratec, Munich-based chain specialist iwis developed a special-purpose accumulator chain with chain bolts that are extended on one side and fitted with additional running rollers. "These 'bolt extensions' allow the workpiece carriers to be returned along the chain's return section, "removing the need for additional conveying sections for returning the carriers", explains Peter Grabmann, Technical manager at iwis antriebsysteme in Munich. "To achieve a usable system required close co-operation between the technical departments of the two companies."

The over-under conveyors have particular advantages for the user as they save space by returning the workpiece on the same conveyor. This also reduced the size and complexity of the control system software and hardware: fewer sensors and pneumatic components, no additional motors for lateral movement, and no angular transfer units and lifting stations are needed thus reducing costs. By design, the length and width of the workpiece carriers are joined like a shutter system and can be varied as required for the transported workpieces with aluminium profile segments of 25x100 mm. The continuous conveyor is suitable for heavy workpieces, has a long service life, and is unaffected by contamination with oils and cooling lubricants.

In addition to over-under conveyors, Altratec uses iwis' chains in conventional continuous workpiece carrier conveyor systems, in curved accumulator chain systems using side bow chains, in modular belt and flat top chain systems, and in side plate chain conveyors. "Our co-operation with iwis is not limited to purely commercial aspects, to buying chains off-the-shelf", explains Rüdiger Jentsch, Sales manager at Altratec. "For Altratec, iwis is a vital source of expertise in the search for the realisation of our chain concepts and in further developing both new and existing materials handling technology."

In addition to accumulation chains, iwis provides a full product range for all drives and conveying applications. The iwis Group's programme for industrial applications comprises timing drive systems, precision and high-performance roller chains, conveyor chains, maintenance-free and corrosion-resistant chains, accumulation chains, special-purpose conveyor chains, chains for agricultural machinery, flyer chains, flat-top chains and modular belts as well as timing drives for the automotive industry. ♦

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Pages 120 to 123

Clay, Structural ceramics, Waste valorisation

*Use possibilities of raw materials from Bailén (Jaén).
Modification of their properties through the use of industrial wastes*