FORMING TECHNOLOGY + SOLID FORMING + LIGHTWEIGHT CONSTRUCTION

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1/ 2024

SPECIAL

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LESS STRESS
Shorter delivery times

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Flat rolling machines

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Champions League

At „wire/Tube 2024”, the exhibition space alone – excluding traffic zones and thoroughfares – covers the area of some 60 football pitches. Alongside the plethora of wire and tube areas that one would expect to find, there will also be a vast range of new machinery, production processes, types of metal, qualities of wire, engineering approaches, automated solutions and AI applications ‘on the pitch’, ready to be examined and to impress – expect a veritable firework-display of innovations and highlights!

> ***Düsseldorf will be as packed out as a top class Champions League match***

The „wire/Tube 2024” fair has a clear international orientation, with the organisers reporting almost 1,500 exhibitors from roughly 62 countries. For us in the “FORMING TECHNOLOGY, SOLID FORMING+LIGHTWEIGHT CONSTRUCTION” team*, too, this is grounds for taking a step towards greater internationalism. Enclosed you will find a 16-page supplement in English on the topic of Fasteners and Fixings (Hall 16) – a first for us and it will not be the last edition on specific industry events.
We are keen to know what you think of our first smart “FORMING TECHNOLOGY SOLID FORMING+LIGHTWEIGHT CONSTRUCTION” magazine and are, of course, open to ideas, criticism and suggestions. And one point is already clear: Düsseldorf will be as packed out as a top class Champions League match. There is much to look forward to at the event. After all, the exhibitors are all themselves Champions League players...

Tilo Michal, Editor-in-Chief

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FORMINGTECHNOLOGY is a brand of umformtechnik.net
* Our magazine will be on show at ‘wire’: hall 9, booth C 03.
Come and see us at the end of your day at the fair – we look forward to an exchange of views with exhibitors and trade visitors.

EVENTS

May 16
Bad Wörishofen
Open Source Summit 2024

November 19-22
Frankfurt/Main
Formnext

October 8-11
Brno (CZ)
MSV, International Engineering Fair

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All information without guarantee

Dr. Melanie Bockemühl joins Siempelkamp Advisory Board

Dr. Melanie Bockemühl, new Siempelkamp Advisory Board member. © Siempelkamp

Siempelkamp's digitalization strategy is now also reflected in the composition of its Advisory Board: With effect from January 1st, Dr. Melanie Bockemühl, an expert in digital technologies, was elected to the Advisory Board of G. Siempelkamp GmbH+Co. KG.
As a Partner and Managing Director at the Boston Consulting Group, she co-led the global Digital Economy initiative and drove the development of the digital business. Subsequently, as a Partner at Bain & Company, she set the tone in the EMEA Digital Practice Leadership team and oversaw digital transformation projects at numerous large companies. She then held the position of Vice President & Partner Global Business Services at IBM, where she was responsible for overseeing the area of digital agencies.
"Developing and establishing digital solutions across all areas is crucial for the success of a company. We are delighted to have Dr. Melanie Bockemühl join us as a new advisory board member, guiding Siempelkamp's digital strategy alignment with her comprehensive expertise," says Bertram Staudenmaier, Chairman of the Advisory Board of G. Siempelkamp GmbH & Co. KG

About Siempelkamp

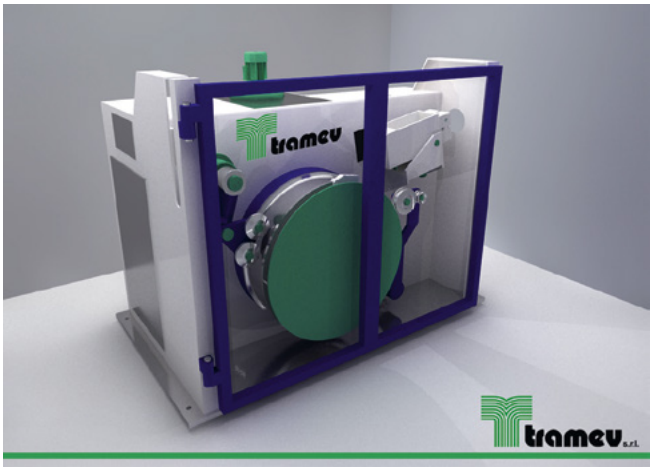
As a technology provider for machinery and equipment, casting and nuclear technology the Siempelkamp group has an international footprint. The company is a system supplier of press lines and complete plants for the wood-based panel industry, metal forming, as well as the composites and rubber industries. With one of the world's largest hand-molding foundries, they manufacture large cast parts at their Krefeld location with a total unit weight of up to 320 t. Siempelkamp also provide transport and storage containers for radioactive waste, and specialize in the dismantling of nuclear plants. The wood-based panel industry forms one of their central markets and their core competence: Covering the entire production process for wood-based panels – from round log and raw material handling up to storage and handling solutions for the finished wood-based panels as well as new approaches of machine learning. Customers are provided with comprehensive after sales & service throughout the entire life cycle of their plants.

G. Siempelkamp GmbH & Co. KG, Krefeld

www.siempelkamp.com

Wire skin-pass blocks for fasteners industry

When the market calls, Tramev answers. Responding to the urgent demands of its customers and drawing on the expertise and technologies acquired over the years, Italian company Tramev has decided to expand their product range by introducing the TRSP line, a series in line wire drawing machines.
This return to skin-pass machines brings in a broader range and a modern design, now in continuous production. The TRSP machine series is the answer for manufacturers looking to obtain wire with superior mechanical characteristics. Available in five different models, the new wire skin-pass blocks come in a very compact format and are suitable for processing wire with a diameter ranging from 12mm to 35mm.
The TRSP machines are also equipped with safety systems compliant with current regulations and are part of the broader Industry 4.0 initiative.



The new wire skin-pass blocks are suitable for processing wire with a diameter ranging from 12mm to 35mm. © Tramev

wire 2024, hall 11 booth J 06

Tramev S.r.l., Cesana Brianza, Italy

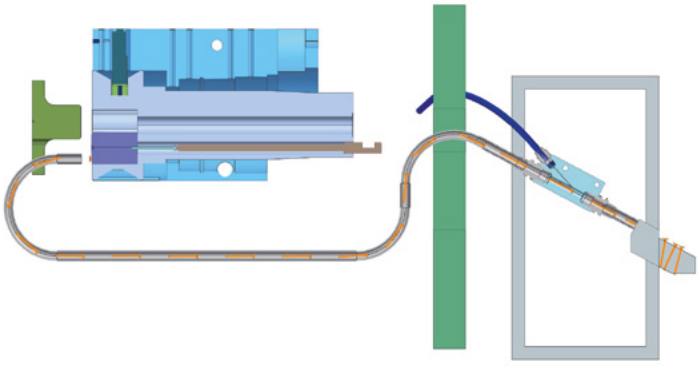
www.tramev.com

Curtain up for Wafios new HC 6-80 rotor press

Forming machines with an integrated thread rolling unit - also known as combination machines - have recently made a comeback. However, the advantage of this type of machine, which allows production from the wire to the finished screw with a small footprint, unfortunately also has considerable disadvantages: First and foremost, low flexibility, especially when changing over to a different range of parts at short notice.

This gave the experts at Wafios Umformtechnik the idea of linking the newly developed HC 6-80A to an AF 61 thread rolling machine using the patented PTS, a space-saving yet flexible solution. The high-performance AF 61 thread and profile rolling machine from EWMenn will also be presented on the joint exhibition stand - the machine manufacturer is also part of the Wafios Group.
The patented PTS ("Pneumatic Transport System"), presented for the first time at "wire 2022" is the central connection between the two machines and so makes the linking compact and flexible.
The blanks pressed on the rotor press are removed directly from the die and transported via a pipe system out of the press to the desired location and in this case, directly into the feed rail of the roller.
Manufacturers of cold-formed parts who have converted to the new PTS, report among other things the following advantages:

- Mixing of parts after changeover to another part type is prevented.
- Avoidance of oil carry-over: The parts come out of the machine almost oil-free which often eliminates the need for an additional "parts washing" operation. This is what makes direct connection to the rolling machine possible in the first place.
- In addition, energy is saved for the conveyor belts, demagnetisers and centrifuges that are no longer required. One user was also able to reduce the amount of oil to be disposed of by up to 85%, thereby extending maintenance intervals.



The idea was to link the newly developed HC 6-80A to an AF 61 thread rolling machine using the patented PTS. © Wafios Umformtechnik

- Compared to a normal ejection chute with a blast air nozzle, the same user was able to reduce compressed air consumption by over 30%.
- Less space required and a clean machine environment.

A significant progress for fastener manufacturers

The PTS also helps fastener manufacturers to make significant progress in the increasingly important area of sustainability.
But the new HC 6-80A itself - a further development of the proven Wafios Umformtechnik rotor technology - also has a number of innovations under its bonnet:

- The maximum length for screw blanks and other cold-formed parts has been increased for the first time to a previously not possible 80 mm.
- A completely redesigned drive with clutch / brake combination. In concrete terms, this means that the user has much more direct power during jogging operation because the clutch only engages when the engine is revving up and the machine has reached sufficient flywheel mass.
- For the first time, the machine is equipped with the "iQ Energy Monitoring" function: This enables precise media consumption measurement and thus makes a further contribution to saving energy.
- The major advantage of the Wafios Umformtechnik rotor technology, which has been tried and tested for decades, is its high speed which is unique in the double blow world. The newly developed HC 6-80A is no exception: It produces 80 mm long parts at speeds of up to 380 pieces per minute.

With this innovative direct connection between cold former, PTS and thread rolling machine, the Wafios Group is making its contribution to greater sustainability and competitiveness in the fastener industry.

wire 2024, hall 10 booth F 40

WAFIOS Umformtechnik GmbH, Wuppertal

www.wafios-umformtechnik.de

Digital “iQ”-machine assistants

More than ever, a simple overview of process key figures is an important data basis for the production. That is why EWMenn has developed digital iQ-machine assistants.

The technology leader has been shaping the industry for over 111 years now and continues to develop new solutions for the production of threaded and profiled parts. With the digital iQ-machine assistants, thread rolling machine specialist EWMenn supports its customers in the optimal production of threaded or profiled parts. The digital iQ-machine assistants are characterized by simple operation, fast and repeatable setup as well as by an overview of effectiveness and resources used.

Longevity

"Effective setup and high quantities with consistently excellent quality and minimal use of resources are the drivers of the developments," says Hendrik Scharf, Technical Director at EWMenn. In the current series, all machines have the Prevent & Support feature as standard for a long service life and high value preservation through regular maintenance. Upcoming maintenance work is conveniently displayed and visually explained to the operator. Completed maintenance work can be easily confirmed. A transparent overview is always ensured for maintenance thanks to the archiving and display of maintenance work carried out.

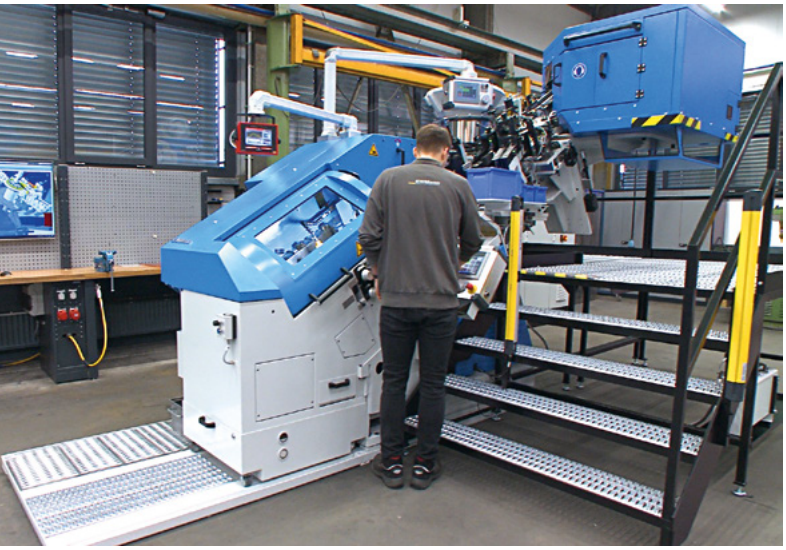
”Effective setup and high quantities with consistently excellent quality and minimal use of resources are the drivers of the developments.“

Hendrik Scharf,
Technical Director

Gentle working

If the machine is equipped with linear motorized positioning of the feedfinger, in short: an LMP-Feedfinger, the LMP Assist function is also included as standard. The machine operator is effectively guided on the machine touch panel to a setting that ensures precise, fast and gentle insertion of the blanks.

iQ-Setup Assist - The assistant for a simple and repeatable setup. This function enables an even more precise and faster preparation of the machine. Almost without tools, the system allows product-specific settings to be adopted by push-button. Articles and their specific settings can be saved in the database and are continuously compared. The machine operator is effectively supported during the setup process by displaying the target and actual values. Transparent work processes are ensured. Digital displays, e.g., on the die basket, provide directional information and visualize the set values user-friendly with signal colors. Process optimizations can be implemented very easily with this system and deviations from article-specific setup parameters that have already been made are always indicated.



All machines are equipped with the “Prevent+Support” function as standard. Upcoming maintenance work is conveniently displayed and explained to the operator. © EWMenn

Key figures

Today more than ever, a simple overview of process key figures is an important data basis for the production. Some of the EWMenn iQ-machine assistants have been developed specifically for this purpose.

The iQ-OEE Monitor creates a bundled performance overview of the overall equipment effectiveness. The degree of utilization, quality factor and performance factor are displayed. This function is therefore ideal for evaluating equipment effectiveness and for technological process evaluation. Data from the latest machine generation can be easily transmitted to a company network in conjunction with a compatible data collection system via an OPC UA interface that can be configured on request.

The iQ-Energy Monitor provides a further central overview of the current and total electrical and pneumatic energy consumption during the machine operation. This machine assistant evaluates the energy consumption per article, batch or operating time as needed to make costs more calculable or to make the product-specific footprint recordable.

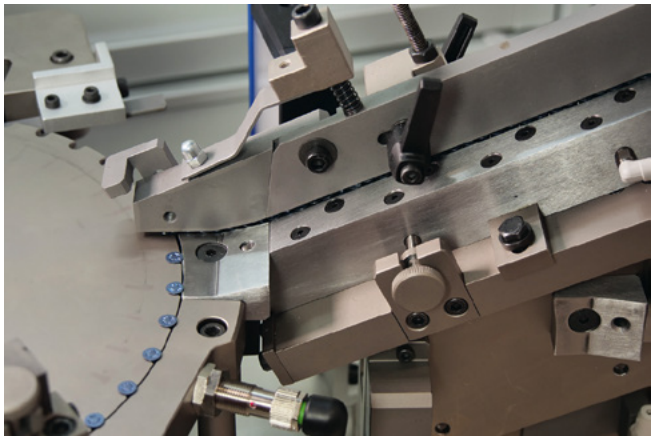
The displayed and bundled performance overview is therefore ideally suited for a technological and process-based evaluation, so that process optimizations can be identified and energy saving potentials can be deduced in terms of sustainability support.

wire 2024, hall 10 booth F 40

EWMenn GmbH & Co. KG, Hilchenbach

www.ewmenn.de

La Mille: 100% inspection & sorting



Detail of the concept machine MCV4 La Mille. © Dimac

Dimac achieves a remarkable milestone with the limited-edition version of MCV4 La Mille, a concept machine developed in cooperation with ITW Rivex France for the sorting department of their brand-new plant in Ornans.

The premiere of this groundbreaking machine will be presented at WIRE2024-exhibition in Duesseldorf. Beyond its ergonomic layout and user-friendly software, this high-speed piece of equipment integrates innovative inspection solutions, driven by high-resolution digital cameras and state-of-the-art Artificial Intelligence algorithms.

MCV4 La Mille stands as a testament to the successful partnership between Dimac and ITW Rivex, showcasing the commitment to excellence in the sorting department and setting new standards in the industry.

Key Features

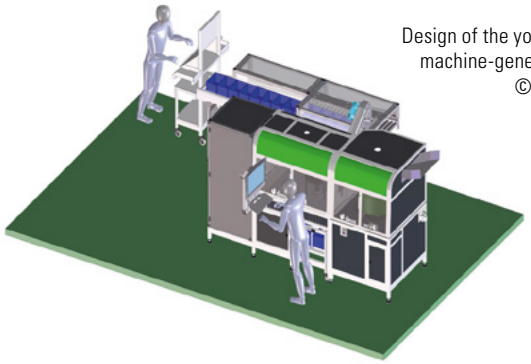
- Mechanical Precision: MCV4 La Mille ensures consistent high output rates with rapid changeover procedures. Robust feeding rails, featuring integrated pneumatic propulsion circuits, guarantee a jamming-free flow of parts towards the steel rotary table. The table is driven by a brushless hollow motor of the last generation, with an integrated encoder ensuring the accurate triggering of the control stations.
- Interchangeable Rotary Table Dials: The rotary table boasts interchangeable dials with slots, where headed parts are seamlessly fed in. This feature enhances flexibility and adaptability to varying production needs.
- Impressive Speeds: Achieving output rates of up to 700 parts per minute, this machine excels in sorting headed parts ranging from M6 to M8 by 35mm. Non-controlled pieces can be seamlessly re-processed without disrupting the continuous flow of incoming parts.
- Intelligent Defect Recognition: The AI-driven side surface cameras station, positioned at 120° intervals, covers the entire 360° surface of the shank, identifying even the minutest defects in threaded or cylindrical areas.

Performance Optimization

- Cutting-Edge Technology: Powered by a modern PLC on Ethercat field-bus connected to the vision machine controller, MCV4 La Mille incorporates high-resolution graphic card. The entire system is housed in an IP54 cabinet, with an active coolant system ensuring stability even in challenging environments.
- Compliance with Standards: MCV4 La Mille has been conceived considering the requirements of the IATF16949 standards for the quality control of fasteners, ensuring adherence to the highest industry standards. Equipped with a side profile measuring camera, MCV4 La Mille guarantees accuracy validated by MSA tests.
- Proprietary Software Platform: Operating under the Windows10 system, MCV4 La Mille is driven by the Dimac proprietary software platform that include the Vision System MCVx, the MCV-PLC system for machine automation and the MCV-AI software for AI recognition. This platform provides an intuitive user interface accessible to operators of all skill levels, including temporary workers and featuring essential pop-ups and simple filters for quick programming and recipe creation.
- Thanks to the Connectivity Pack, a suite of apps for the machine connection online and remote programming, it is possible to retrieve sorting cycle data, statistics, and measurements in SQL format ready to be exchanged with ERP.

Ergonomic Design

- User-Friendly Access: MCV4 La Mille's ergonomic layout ensures the operator's comfort. A mobile console with a 24-inch color touch LCD, sliding wing-doors for easy access, retractable trolley for NOK box handling, lockers for tools, and stainless-steel dirt removal trays enhance the overall user experience.
- Efficient Output Handling: A driven conveyor belt at the rear side of the machine smoothly carries conforming OK parts out into bins, however ancillary packing machines can be seamlessly integrated for automatic box filling.



Design of the youngest machine-generation. © Dimac

wire 2024, hall 16 booth D14

Dimac srl, Tortona, Italy

www.dimacsrl.com

Basis for production with a lower impact on the climate

AP&T's press-hardening concept lives up to car makers' growing interest in large body components. Improved material utilization, lower weight, less climate impact and simpler production, these are all reasons for the car industry's interest in press-hardened body components made of large blanks consisting of many smaller welded parts. Take, for example, ArcelorMittal's Multi Part IntegrationTM (MPI). The process is well-suited to AP&T's press-hardening concept, and since the fall of 2023, AP&T has a production line for manufacturing double door rings in commercial operation out at a customer site.

Fully integrated

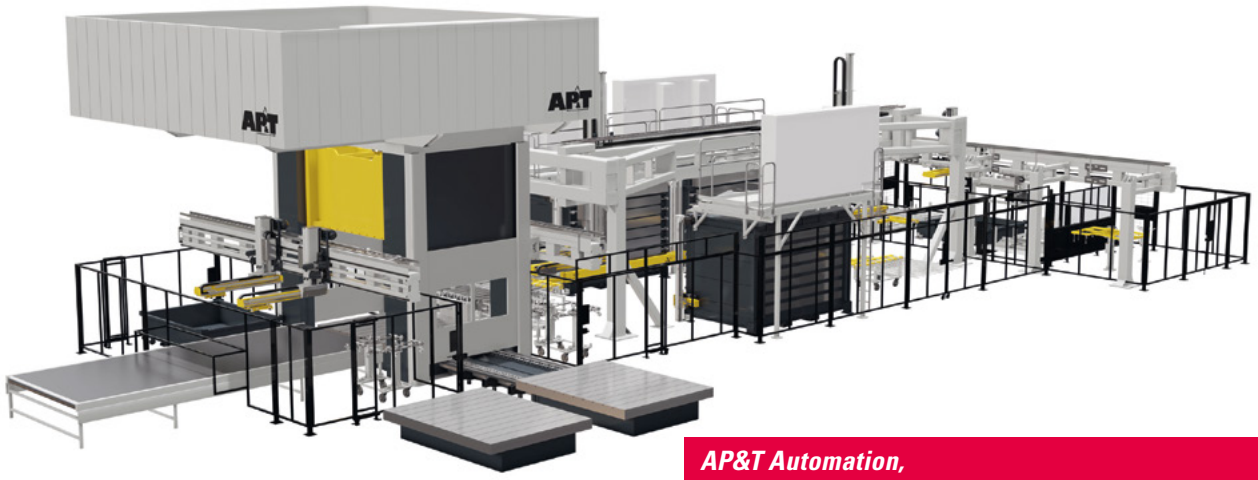
"With MPI, parts with different material characteristics can be integrated in one and the same blank. The constituent parts are custom-welded without overlapping, consuming less material. The weight of the blank is reduced without impacting its strength and impact safety," says Jan Larsson, business developer at AP&T. The savings in material not only leads to lower costs, but also less of a climate impact. "Most of the climate impact caused by a press-hardened part during its lifecycle can be traced back to the manufacturing of the steel. As such, it is highly meaningful from the perspective of the climate to efficiently use materials. The reduction in weight also has positive effects on the finished car's energy consumption and climate performance. For car manufacturers, MPI also simplifies production. By manufacturing components from a large blank rather than from many small ones, there are fewer work steps and tools and less space needed on the floor. "A double door ring can be made up of five or six different parts that normally need to be stored, moved, formed and assembled in the factory. With MPI, you save space and achieve a less complex flow," says Larsson.

Having so far delivered over 150 press-hardening lines to customers all over the world, AP&T now sees great opportunities in the increased interest in MPI. "With our module-based program of presses, linear robots and furnaces, we can always develop an optimized line, regardless of the type of parts to be produced. When it comes to manufacturing large components, our concept of electrical, energy-efficient and compact multi-layer furnaces is extremely well-suited. Our Multi-Layer Furnace (MLF) only takes up a fraction of the floor space needed by a conventional roller hearth furnace," says the company's Business Manager of Line Solutions, Lennart Johansson. Over the years, AP&T has sold a total of 70 MLFs. They are now on their third generation, with seven chambers up to 3,000 x 2,000 mm in size. Each line can be equipped with up to four furnaces, providing major flexibility. In addition, furnaces have few moving parts and require a bare minimum of maintenance, which paves the way for high availability.

Climate impact

"The line concept in itself lays the foundation for production with a low climate impact. In part thanks to our energy-efficient, reliable machines, and in part due to our '360° Lifetime Performance Offer' which means that we optimize, upgrade and maintain the line over time to keep it performing excellently with a low climate impact throughout its lifecycle," says Johansson.

AP&T is now focusing on developing its offer of press-hardening large blanks. "We have the technology and the process know-how. But, most importantly for good results, the component must be designed from the start with this manufacturing method in mind. We therefore encourage close collaboration with the car manufacturer's designers early on," adds Larsson.



AP&T's press-hardening concept is a good match for producing body parts from large, integrated blanks. Since the fall of 2023, AP&T has a production line for manufacturing double door rings in commercial operation out at a customer site. © AP&T

AP&T Automation, Pressen & Werkzeuge Vertriebs-GmbH, Burbach

www aptgroup.com

Now with even shorter delivery times

Kammerer Gewindetechnik GmbH manufactures rolled trapezoidal screw drives. The spindles, which are produced in a thread rolling process, are characterised by their excellent running properties, high wear resistance, and long service life.

The Black-Forest-based threaded technology specialist now offers the components with a delivery time of just four to six working weeks. Trapezoidal screw drives combine a trapezoidal threaded spindle with a trapezoidal threaded nut. They are used in a vast number of industrial sectors. The majority of the trapezoidal screw drives produced by Kammerer are used in hoisting applications, linear applications, medical technology and in packaging machines from market leaders.

Rolled trapezoidal threaded spindles. © Kammerer

Rolled trapezoidal threaded spindles are manufactured in a chipless cold forming process, called thread rolling. This production process has a positive impact on the physical and technical properties of the trapezoidal threads. It gives them a higher wear resistance, tensile and flexural strength, and it gives the smooth thread flanks a better surface quality. The threads have a high profile accuracy – the precise base material tolerances cause a higher degree of precision of the flank diameter. Another advantage is the high level of wear resistance: the rolling process condenses the material in the thread area, which gives it a higher density and hardness. This in turn makes the thread highly resistant to wear, and gives it a long service life.

Features

Kammerer produces the trapezoidal screw drives according to DIN 103 in tolerance class 7e. The trapezoidal threads have a pitch accuracy of 0.1/300 mm and a straightness of 0.8/1000 mm without flaking. Unalloyed steel or stainless steel are the materials used. As standard, Kammerer produces trapezoidal threaded spindles made from unalloyed steel C15 with nominal diameters and pitches of 8 mm x 1.5 mm to 60 mm x 9 mm. Corrosion-resistant trapezoidal threaded spindles are offered in a range from 8 mm x 1.5 mm to 30 mm x 6 mm. The trapezoidal threaded nuts are designed as flange, round or hexagonal nuts, or can be custom made to suit the application's requirements. They are generally made of bronze or red brass, but can also be manufactured in steel, plastic or cast iron.

Kammerer offers all manufacturing processes for the production of threads. The full product range includes ball screws, trapezoidal ball screws, custom assemblies and complete systems. The products are used throughout the world in machine tools, general mechanical engineering, precision engineering, handling automation, robotics, medical equipment, the automotive and aerospace industry.

About Kammerer

Germany's black forest is not only known for its famous cuckoo clocks, it is the place where Kammerer Gewindetechnik manufactures their quality ball screws in the town of Hornberg since 1938. Kammerer is a family-run business with today 180 employees. The product range includes ball screws, trapezoidal ball screws, custom assemblies and complete systems. Kammerer offers all manufacturing processes for the production of threads. Their products are used throughout the world in machine tools, general mechanical engineering, precision engineering, handling automation, robotics, medical equipment, the automotive and aerospace industry.

Kammerer Gewindetechnik GmbH, Hornberg-Niederwasser

www.kammerer-gewinde.de/en

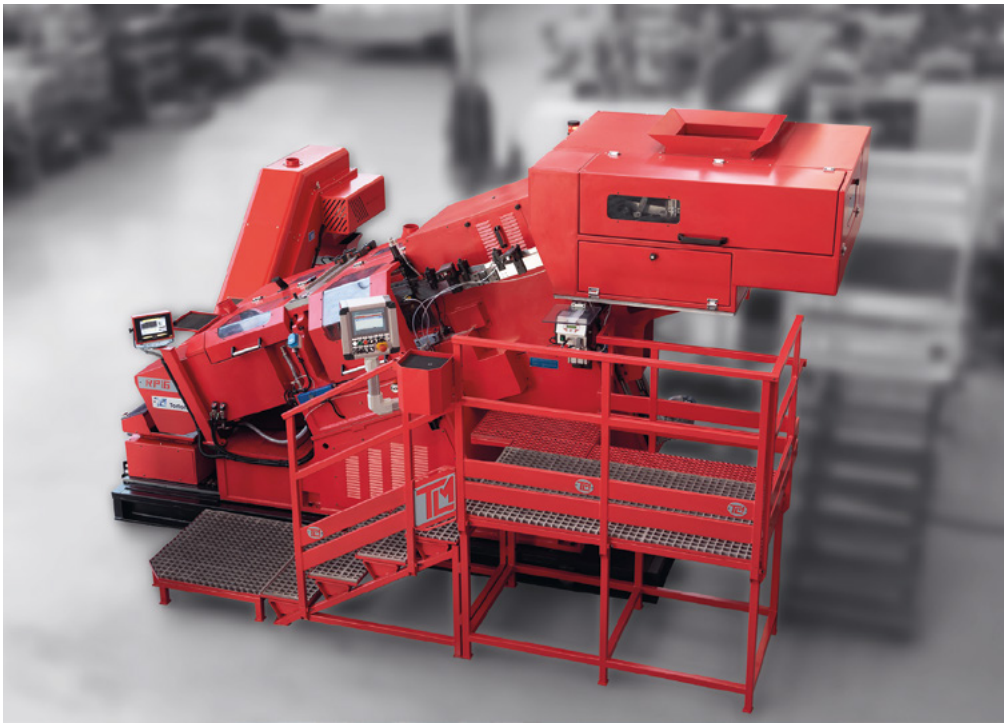
Built to last (nearly) forever

The versatility the of the TLM machines enables the processing of complex parts, shorter throughput times and reduced production costs.

In such a delicate moment as the one the fastener world is going through, it is important to choose qualified partners who can offer expertise, technical support, timely responses and flexibility.

Founded in 1979 TLM has always been an independent manufacturer of thread rolling machines for the Italian and European market.

The company's highly qualified and productive team includes 12 technicians and employees and 6 external collaborators. With their constant commitment to research and technological innovation they keep inspired to introduce new developments and prototypes onto the market.



RP 16 © TLM

TLM's thread rolling machines are known for their robustness and reliability, as they are built to last and built to customer specifications. The decision not to overdo the electronics of the controls protects them from rapid obsolescence and allows any exceptional work to be carried out independently. Routine maintenance to ensure efficiency is also simple. After years of operation, they are as good as new with a simple overhaul.

TLM offers a complete range of flat-jaw tapping machines for machining parts from M1 to M30, with the possibility of combining them with pointing / bevelling machines or combination machines for loading washers and screws. These modular machines have become the flagship of TLM production. Their versatility enables the machining of complex parts, shortens throughput times and reduces production costs.

An updated list of the TLM portfolio:

- Flat die thread-rolling machines from micro Ø 1 mm up to 30 mm, with mechanic introduction system and a grinded monoblock head structure, for best precision and stability.
- Rotary thread-rolling machines (Roll and Segment) from Ø 4 mm up to 20 mm
- Chamfering machines: 5 models from 3 mm up to 22 mm
- Washer assembly station (single or double) with carousels in 3 sizes: Ø150 mm -200 mm - 300 mm, from micro-washers up to 60 mm.
- Bushes assembly station.
- Combined machines: - Threader + Pointer; - Threader + Pointer + Washer assembly station; - Flat die machine + Rotary machine, for threading of 2 different diameters in a single line sequence.
- Loading systems for screws, bolts and washers
- Overhaul of Flat die machines and rotary machines
- Special designed applications of automations

T.L.M. srl, Tortona, Italy

www.tlmweb.it

Five decades of wire drawing

Italian company Tecno Impianti proudly celebrates 45 years as a supplier of wire drawers for the Fasteners Industry.

So far they have manufactured and sold 2.500 in-line wire drawers, with wire diameters ranging from 1,0 mm to 37,0 mm. Tecno Impianti was founded in 1979 and they are a leader in the supply of wire drawing machines and uncoilers/pre-feeders to the Fasteners Industry.
The product portfolio for the Fasteners sector includes:

- Vertical Uncoilers. They can be supplied with or without motor, for uncoiling small diameter wire on spools or wire carriers.
- Power-Driven Horizontal Uncoilers. They are utilized for uncoil medium-big diameter wires and feed them directly into a cold header or wire drawer, in a pre-straightened form.
- Pre-feeders. They are needed for bringing the wire from a vertical uncoiler to the cold header or wire drawer.
- In-Line Wire Drawers. These machines are installed before cold headers, machines for chain, straightening & cutting machines. They resize the wire to a needed final diameter.
- Coil-to-Coil Wire Drawing Bullblocks. They are utilized for big productions of drawn wire and are supplied in different sizes and configurations: horizontal bullblocks and vertical bullblocks. Drawn wire can be taken-up on wire carriers or under form of bound coils.
- Wire Pointing Machines. They are needed for making the point to the wire head before the drawing operation. We supply them with two or four rolling cylinders, installed on fixed base or on carriage.
- Hydraulic Push-Pointers. In presence of big wire diameters, it is not easy to execute the wire pointing operation with a rolling-type unit. These machines provide a safe and quick alternative and can be installed ahead of in-line wire drawers or wire drawing bullblocks.
- Coil Tilting Units. Putting a coil in stock on an empty wire carrier (and bring back the carrier to a vertical position) causes some difficulties and until now many customers have executed this operation in a dangerous way. These coil tilting units are a perfect and safe solution to this.
- Coil Compactors. They permit to compact and bind the coils of wire drawn on a horizontal bullblock.

Supplying different sectors

Tecno Impianti also supplies machines to customers working in other sectors of the wire industry, like wire drawing machines for the production of CO_2 wire and re-drawing of galvanized wire, cold rolling lines for the production of smooth or ribbed wire for electro-welded mesh, coilers, or vertical and horizontal spoolers.
Products exhibited at „wire“ in Düsseldorf 2024:
Power-Driven Uncoiler Mod. AP40 for maximum diameter 40,0 mm, In-Line Wire Drawer Mod. SKP16 for maximum diameter 16,0 mm complete with Industry 4.0 features, Wire Pointing Machine Mod. AT16-B for maximum diameter 16,0 mm.

State to the art wire drawing machine. © Tecno Impianti

wire 2024, hall 16 booth G43

Tecno Impianti srl, Valgreghentino, Italy

www.tecnoimpianti-italy.com

Cold-Headed Weld-Studs

Starting from Coil, Videx's Weld-Stud line performs the following operations:

1. The machine pulls the wire from coil, straightens it and cuts to length.
2. The straight bars are chamfered, stamped and drilled in 3 separate stations.
3. An Aluminum flux ball is inserted and the result is inspected.
4. The Weld-Studs are transferred to the Cold Header
5. The Cold Header grips the weld studs on the back side and heads them (2-blow).

The entire line works fully automatically from coil (hot-rolled, ribbed or cold-drawn), requiring only loading of new coils.

The diameter range is up to Ø 25 mm and the length range is 250 mm - 2,000 mm.

Line for headed weld studs from coil. © Videx

Weld-studs
© Videx

wire 2024, hall 16 booth J61

Videx Machine Engineering Ltd., Yahud (Israel)

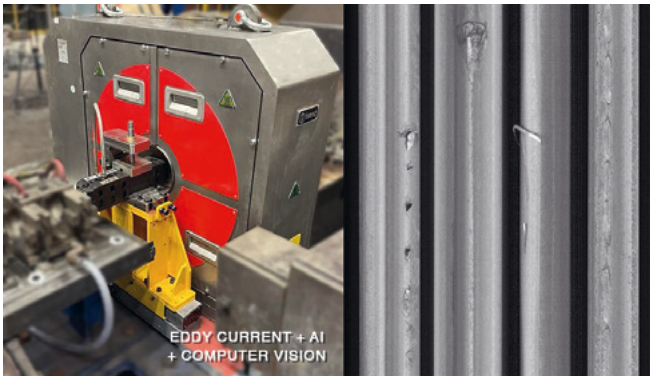
www.videx-machine.com

Pioneering solutions by Isend

Here is a product- and service-overview of pioneering solutions from Isend for the rolling mill non-destructive testing with eddy current, machine vision and artificial intelligence and also mass flow control.

EDDYeyes

NDT solution for hot-rolled and cold-processed long products. Defect detection by eddy current, real time image capture and automatic identification and classification of defects using machine learning and AI with high accuracy. Facilitates 100% production quality assurance and decision making. Predicts the appearance of systematic defects and optimizes surface quality analysis. Very accurate location of defect positions and their images.



Testing Tool.© Isend

HOTdiscover

NDT solution for hot-rolled long products using a high-performance eddy current system.

MASSdiscover

... continuous measurement of mass flow in hot-rolled products and real time calculation of equivalent cross section with the highest accuracy in the market. Allows the control of the laminating rolls at a low cost compared with other technologies.

About Isend

Isend designs and installs NDT solutions for surface inspection and process control of 100% of the production of metallic goods. The solutions include proprietary eddy current technology, computer vision and AI. This positions Isend´s solutions in a prominent place to take advantage of Industry 4.0, "big data" and "IoT", which allows the improvement of products and processes with the power of "Deep Learning". It also develops solutions for to measure physical properties and special applications for the inspection of metal parts through powerful, compact, and versatile electronics.

TUBE, booth 6A02

ISEND S.A.
Boecillo, Spain

www.isend.es

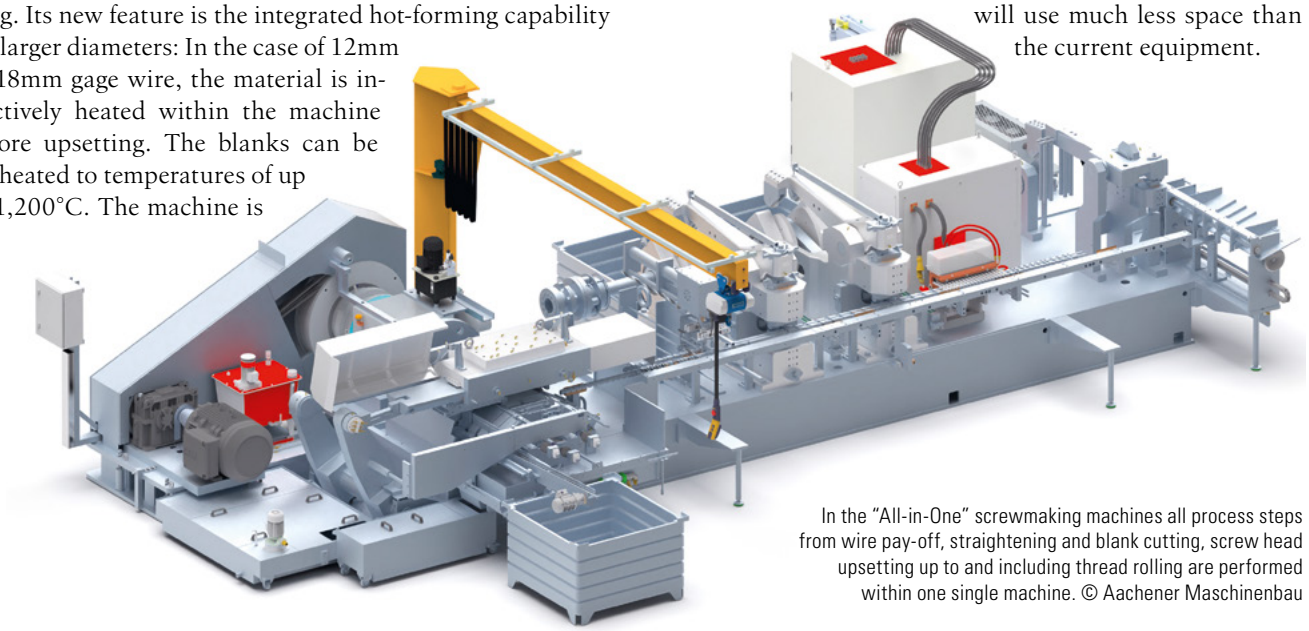
Larger diameters, two metals

The new "BM 12" is the first screwmaking machine able to produce up to 70 screws per minute from 18-mm-Ø wire. © Aachener Maschinenbau

Aachener Maschinenbau GmbH (Amba) will be showing two new "All-in-One" machines at "wire 2024". The "BM 12" machine is the first screwmaking machine able to produce up to 70 screws per minute from Ø18mm - wire. "BM-BiMetal", the second machine shown, is a further new addition to Amba's "All-in-One" range. This machine can produce up to 100 bimetal screws per minute in an automatic mode.

With the new "BM 12" screwmaking machine, Amba has increased the product range covered by its "All-in-One" machines to wire gages of up to Ø 18mm. The new machine forms wire gages of up to 12mm conventionally by cold-working. Its new feature is the integrated hot-forming capability for larger diameters: In the case of 12mm to 18mm gage wire, the material is inductively heated within the machine before upsetting. The blanks can be preheated to temperatures of up to 1,200°C. The machine is designed for production rates of between 50 and 70 items per minute.

The first machine of the new series will be used to produce up to 600-mm-long screws with thread diameters of 19mm or more directly from the coil. It will be installed at a US customer where it will replace two existing production lines consisting of several individual machines that require manual feeding. Here, the "All-in-One" principle will provide a marked boost in productivity as it performs all process steps from wire pay-off, straightening and blank cutting, screw head upsetting up to and including thread rolling within one single machine. Additionally, the new Amba machine will use much less space than the current equipment.



In the "All-in-One" screwmaking machines all process steps from wire pay-off, straightening and blank cutting, screw head upsetting up to and including thread rolling are performed within one single machine. © Aachener Maschinenbau

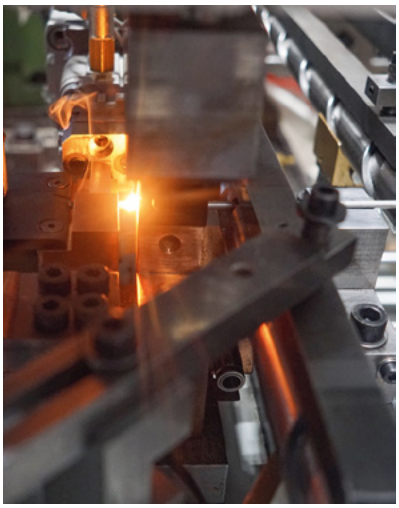
Machines for bimetal screw production

The new "BM-BiMetal" – which is also an "All-in-One" machine – can produce up to 100 self-drilling bimetal screws per minute fully automatically. These special screws are used in the construction industry for fastening profiled sheet metal roofing and façade cladding and in the energy industry for mounting solar panels, for example. The drill point of the screw is made from hardened carbon steel, the shank from stainless steel. These screws do not need a pilot hole. Therefore, they can be applied without extra pre-drilling.

So far, bimetal screws used to be produced on several separate machines, allowing only partial automation. Now, thanks to the Amba All-in-One approach, all process steps – from material feeding, forming of the screw head, weld joining of the carbon steel drill point to the stainless steel blank and thread rolling, up to the punching and heat-treatment of the drill bit – can be performed within one single machine.

About Amba

Aachener Maschinenbau GmbH – generally referred to as "Amba" – was founded in 1908, at a time when Aachen was worldwide famous for its high-quality needle production. Since then, the company has evolved into an internationally renowned manufacturer of machinery used to make cold-formed metal components. Today, Amba specialises in equipment for the production of long and slender components with varying cross-sections, such as screws between 60mm and 2,500mm long, and tubes and spokes. The Amba All-in-One design has made the company the world's only supplier of machinery that can perform all steps needed to manufacture long and complex components continuously on just one machine. All process steps from feeding the input stock – wire rod or tube blanks – up to the finished, packaged product are handled by just one machine. This is unique in the industry. At its headquarters in Alsdorf near Aachen, Amba employs 80 people in its development and design departments, in the workshops and in after-sales.



Weld joining of the carbon steel drill point to the stainless steel blank in the new "BM-BiMetal" machine.
© Aachener Maschinenbau

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Aachener Maschinenbau GmbH, Alsdorf

www.amba.de

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