State of the Art technology and Best of Textile solutions for Warp Knitting, Warp Preparation and Technical Textiles
KARL MAYER at ITMA, 20. – 26. 06. 2019, Stand 8.0/B107 in Barcelona

KARL MAYER can be found on Stand 8.0/B107 at the ITMA 2019 trade fair. This innovative textile machinery manufacturer will present here technical pioneering solutions for an efficient, flexible production in the fields of Warp Knitting, Warp Preparation and Technical Textiles, as well as new digital products of the sector‘s software trendsetter, KM.ON. Moreover, under the motto „Future of Textiles“ the company will present clever textile solutions for new, exciting applications and markets as well as contributions to the topic of sustainability. Progressive warp preparation technology for processing high-quality yarns and an experience world with fabrics full of creative ideas will round off KARL MAYER’s presence at ITMA.

1. Warp-knitting machines with improved price-performance ratio and new textile products

In the field of **raschel machines** a new RSJ 4/1 EL will be premiered at ITMA. Offering 50 % more working width at the same speed compared to its predecessor, this machine is highly productive and uniquely flexible. Thanks to the EL technology, it is possible to ensure a rapid pattern change and to produce patterns with long repeats. For the development of new articles, the innovative model takes full advantage of the integration into the KM.ON eco system. This machine is the first representative which in the product category k.innovation, provides optimum support for the virtual textile development commonly used today.

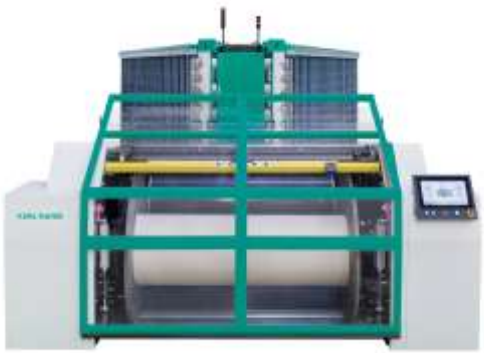
Under the LACE.EXPRESS trademark, KARL MAYER launched the **OJ series** in 2016, perfectly tailored to the special needs of the apparel market. At ITMA 2019, this manufacturer will now present a self-contained, complete 134" machine platform for the intimate sector., The company will offer a B- (Back) version and a F-Jacquard (Front) version for each of the representatives. The special highlight of the system: the related models are compatible to one another. Every machine can be upgraded to the technical level of high-bar platform neighbours. Low-bar articles can be produced on high-bar machines without any adjustments. In this way, the customer benefits from highest flexibility. In Barcelona an OJ 91/1 B will be on show.

Besides, in its „Future of Textiles“ Application Show, KARL MAYER will be presenting extraordinary product developments, that require little effort during making-up but offer a lot of chic and function: well thought-out solutions for highly comfortable bras with few seams, a sporty body made from novel power lace with shaping and supporting effects as well as a swimsuit in lace look.

As far as the **double raschel technology** is concerned, KARL MAYER will show how a new RDPJ 6/2 EL machine can be used to open up a previously unknown product world. The outstanding warp-knits are marketed under 4D-KNIT.SOLUTIONS. They attract attention by pronounced, three-dimensional and manifold patternings on the outer sides, but they can also show open-work patterns, that are a clear advantage over competitive products of circular knitting. Eye-catching 4D-KNIT.SOLUTIONS articles can be seen in the „Future of Textiles“ area. A live machine demonstration will be organized to present the RDPJ 6/2 EL, 138", in a gauge of E 24.

As innovation in the field of **tricot machines**, KARL MAYER will be displaying the first three-bar HKS model with electronic guide bar control. The new HKS 3-M-ON offers the same performance in terms of speed and design variety as the previous version, but thanks to an innovative gear solution it is faster and simpler during pattern change. Instead of pattern disks, it is only necessary to exchange data. The required information can simply be downloaded to the machine from a secured cloud. In Barcelona, a HKS 3-M-ON, 180", in E 28, will demonstrate its flexibility during a performance show while working an eye-catching demonstration pattern, showing the interlinking of different lappings.

2. Innovations for the entire warp preparation sector



KARL MAYER will showcase its new MULTI-MATIC® 32 for producing sample and short production warps. This new machine impresses with its excellent price-performance ratio. and offers all the advantages of the KAMCOS® 2 platform. Thanks to the integrated OPC UA interface in particular, the machine can be digitally networked and the operating data can be collected in real time.

Regarding the direct beamers, KARL MAYER has consistently pursued its twin product line strategy. The new ISODIRECT was successfully launched at ITMA ASIA 2018 as a standard model, and the PRODIRECT will be presented to the public as a version for the premium market at the next ITMA in Barcelona. The latest electronic systems, the KAMCOS® 2

platform, and sophisticated technical solutions make this new machine the high-end model that achieves optimum levels in terms of quality and productivity.

Moreover, KARL MAYER will be showing the new stop motion MULTIGUARD as prototype. Positioned at the exit to the creel, this newcomer continuously determines the yarn tension values of all the yarns, thus, also controlling any yarn breakages and tension peaks.

Guests will be able to experience the latest generation of sectional warping machines via a live link at KARL MAYER's German site in Hausen. The PROWARP® will be demonstrating its new features and capabilities. The latest innovations include a modern module for the camera-assisted recording of production data, which is important for the high reproducibility of beam build-up. The PROACTIVE Warping is also new. This new brand is a self-learning quality control system, which records the quality-relevant beam parameters by means of sensors and compares them with the target values. If any deviations occur, the production data are optimised accordingly when processing repeat orders. A high beam quality can be achieved, irrespective of the operatives.

With models and presentations, KARL MAYER will be showing innovative technical solutions for guaranteeing improved efficiency and sustainability in the denim production in its „Future of Textiles" sector. One main focus in this context is the topic of SUSTAINABLE DENIM. KARL MAYER presents a newly developed technology for an indigo dyeing process in nitrogen atmosphere, which ensures an optimum setting of the dye in terms of solidity and brilliant tone, at the same time requiring less dye bath volume, chemicals and water. The dyeing process ensures highest efficiency.
Also on show will be the new LINK-MATIC® system for the automatic knotting of the batches on the PRODYE-S indigo machine and the PROSIZE sizing machine. By means of this innovation it is possible to reduce retooling times to just a few minutes. The almost continuous production increases machine efficiency, at the same time reducing waste yarn and personnel expenditure. The perfect arrangement of the warp after retooling reduces the share of second-grade fabric.

3. Premiere of a composite machine and innovative technical applications

KARL MAYER Technische Textilien GmbH is continuing to develop into a systems supplier for non-crimped fabrics (NCFs) and is launching a new line for producing thermoplastic unidirectional tapes (UD tapes). The company is already known for its multiaxial warp knitting machines and its fibre spreading unit. This newcomer combines a completely revised spreading module with well-thought-out impregnation technology in a continuous, efficient processing sequence. The seamless interface guarantees a consistently high spreading quality.

With their high quality and precise alignment of the continuous fibres, the tapes are ideal for use in highly stressed, fibre-reinforced, lightweight structures. The thermoplastic matrix also allows for effective processing, enabling mass production to be carried out. The new line, with its high production speed and ability to produce tapes in a broad range of widths, is also suitable for mass production. Not only the new machine will be presented at ITMA, but also one of the products produced on it, together with the sequences for producing a structural component for the automobile sector.

In the „Future of Textiles“ area, the visitors will have the opportunity to see very promising applications for the textiles manufactured on the machines made by KARL MAYER Technische Textilien. The focus here is on the issue of concrete components reinforced with carbon or glass fibre NCFs rather than steel. By using textile concrete, it is possible to save up to 70% of the concrete and, as a result, CO_2 emissions, energy and component weight can all be reduced. Other promising applications of technical warp-knitted textiles in the construction sector include cost-effective, flexible, stable roofing materials and bitumen roofing felts, special plaster grids that increase the cracking resistance in the plaster, and self-adhesive tapes for repairing any cracks and holes that do occur.
Besides, an innovative solution for personal protection equipment will also be showcased: a new bulletproof vest made from an aramid NCF, that is both effective and comfortable to wear. The functional textile was produced on a multiaxial warp-knitting machine, type COP MAX 5 with online spreading process.

4. Expanding the portfolio of solutions of the digital brand KM.ON

At ITMA ASIA 2018, KARL MAYER launched its own digital brand, KM.ON, the associated digital product portfolio with eight categories, and the first solutions. Other offers will follow just in time for the next ITMA in Barcelona.

k.production is also launching its first product. This new digital tool combines a PDA system with a ticket system to enable any disruptions in production to be managed efficiently. Main advantages: Any problems can be dealt with quickly, and the root cause can be tackled rapidly by displaying the relevant sequence.

k.management enables the current production process to be viewed remotely and now includes a greater range of parameters. The key performance indicator, warp beam running time, is a new feature. It provides information quickly and clearly on imminent beam changes, and thus contributes to reducing downtimes and maintenance times.

The new features in the **k.maintenance** system focus on the topic of planned maintenance. With specified maintenance plans and active reminders of pending jobs, this tool should help to minimise the risk of machine breakdowns.

The **k.innovation** covers the first software developments, which will enable customers to shorten their time-to-market considerably by adapting their workflows and processes. For example, the software is not installed in situ but is used via a browser. This enables several users to cooperate.

The key for accessing all the KM.ON solutions, **k.ey**, has also been upgraded. It also enables KARL MAYER’s older machines, equipped with KAMCOS® 1, to be integrated as well as machines belonging to the Warp Preparation Business Unit.

5. Ecological solutions from the machine to the textile

KARL MAYER keeps the focus on the topic of sustainability. In the course of the generation change of the high-performance warp-knitting machines, almost all models have been equipped with LEO®. The Low Energy Option enables an average energy saving of 10% compared to conventional counterparts, thus, helping to reduce the consumption of resources.

Moreover, it is possible to process resource-saving yarns on KARL MAYER machines. In Barcelona, a HKS 3-M EN will work a textile completely from a recycled filament yarn on the basis of bottleflakes, produced by Trevira. The article carries the new SINFINECO label, which is granted by the fibre manufacturer for textiles made from his sustainable products.

A selection of sustainable warp-knits and application concepts is offered by KARL MAYER's „Future of Textiles" section under CLEANER.PRODUCTIONS. These include warp-knitted articles as ecologically beneficial alternative to woven fabrics for modern streetwear and TERRY.ECO terry textiles. TERRY.ECO represents an efficient technological solution for more sustainability, for energy- and resource-saving systems during terry fabric production.

The topic of SUSTAINABLE DENIM is especially addressed to the manufacturers belonging to the denim sector.