Jakob Müller AG – Systems and solutions for narrow fabrics

Founded in Switzerland in 1887, Jakob Müller AG is the world leader in technology for the manufacture of woven and knitted tapes and webbing, woven ropes, woven labels, technical textiles, printed narrow fabrics, dyeing, make-up and winding machinery. The Müller supply programme covers all the needs of the ribbons and narrow fabrics industry from individual yarn processing up to the finished, made-up product. The 11th edition of the Jakob Müller Narrow Fabrics Conference esd held on 21st September 2011 at Barcelona. The conference offered opportunity for a mutual exchange of information between science and industry. This annual conference was dedicated to topics of interest to the ribbon and narrow fabrics industry. Jakob Müller had a number of innovations on display at their booth at ITMA.

Label weaving machine – MÜGRIP MBJ6

The new generation **MÜGRIP** machine series was released at ITMA. MÜGRIP rapier looms are exclusively developed and manufactured for label weaving and as opposed to previous MBJ models, the **MBJ6** is equipped with an additional, sixth harness, which increases the machine's rated weaving width to 1,380 mm. A spatial crank gearing provides the rapier drive of the MBJ6 and its speed is transferred gently to the weft yarn to be inserted. As a consequence, the speed of the five-harness machine is retained, but output is 20% higher.

Shedding takes place via an SPE jacquard machine with 1,536 functions and as a standard feature, MBJ6 is equipped for eight weft colours with an option of twelve. The universal rapier newly developed for this machine permits the successful use of an even greater range of yarn qualities. All the label designs manufactured on MBJ models can be exchanged reciprocally and are 100% reproducible.

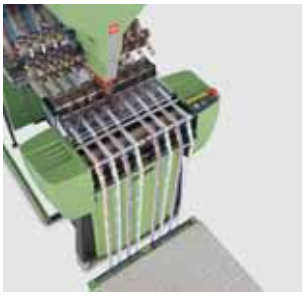
The new machine also employs an innovative, energy-optimised drive concept, which cuts power losses to a minimum and provides a double-digit percentage improvement in the label weaving energy balance.

Last, but not least, in spite of the extra harness, the room height required for MBJ6, as well as its foot-print and total weight, correspond with those of the predecessor model.

MÜBRIP MBJ6 label weaving machine

Electronically controlled narrow fabric loom – NH2 53

The NH2 53 is an electronically controlled loom for the weaving of medium-weight, elastic and non-elastic narrow fabrics. Electronically controlled shedding takes place via linear motors mounted directly on the shafts. These replace pattern chains and drums and both permit unlimited repeat lengths and pattern changes in minimum time. The weft and auxiliary thread transport, as well as the narrow fabric take-off and main drive are also all electronically controlled and smoothly adjustable.



Electronically controlled NH2 53 narrow fabric loom.

As compared to conventional needle looms, the NH2 53 offers a cut in energy consumption of around 35 per cent, i.e. max. 1 kW. A maximum of sixteen weft bars are available for patterning and the NHJ2 53 with 192 functions is an ideal supplement for narrow fabrics with jacquard patterns.

The machine control system consists of two components:

1. A unit that is fix-mounted onto the machine and the operation of which is limited to the functions required for weaving operations.
2. A portable operating unit with wireless programming data transmission to the machines (one device for several machines). All the relevant data and parameters are stored and can be called up at any time for statistical purposes.

Other strengths of the machine include in high levels of user-friendliness and a good price/performance ratio.

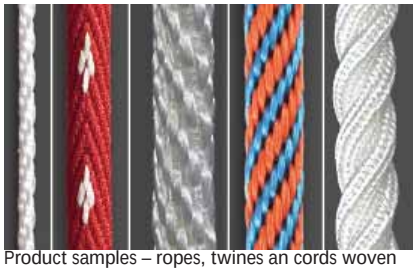
NH2 53 spaces with two-needle Z-system, weft insertion needles and auxiliary thread guide.

Electronically controlled rope weaving machine – NH2M 53

To date, ropes has been manufactured exclusively on braiding machines. However, using **MultiSphere technology,** ropes, with or without cores, twine and cord, etc. can be woven now on the new electronic controlled narrow fabric needle loom **NH2M** in addition to the so far employed NC2M. These machines are designed for a variety of rope diameters and differ from their conventional counterparts with regard to reed, fabric guide and take-off design.

Sheath and core thread insertion takes place via a compensation device, which also supports the formation of a three-dimensional structure. The new process stands out due higher productivity and longer, knot-free items due to the extended yarn lengths available on the bobbins/warp beams as compared to braiding bobbins.

NH2M – narrow fabric needle loom for MultiSphere rope weaves.



Product samples – ropes, twines an cords woven on NH2M and NC2M.

Electronically controlled warp knitting machine with weft insertion – MDC 3/830E

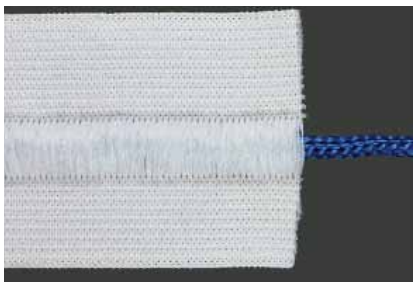
For a number of years, direct drives using linear and servomotors have played an important role in the design of Jakob Müller AG narrow fabric looms and knitting machines. Consequently, the new **MDC (Müller Direct Crochet)** is now available in three versions:

- The electronically controlled **MDC 8/630** with a working width of 630 mm and a maximum of 8 weft bars.
- The electronically controlled **MDC 3/830 E** with a working width of 830 mm, 2 longitudinal bars with a maximum stroke of 450mm, a rubber rod and a part weft bar with a maximum stroke of 25mm.
- The mechanically controlled **MDC 3/830 M** with a working width of 830 mm and three weft bars for simple products

The electronically controlled weft bars offer great pattern variety, quick article changes and endless repeat lengths. The machine speed can be adjusted to the stroke required by the pattern, i.e. the product characteristics. Moreover, the reduction in the number of mechanical parts is also worthy of note as it considerably cuts wear costs.

Article patterns can be fed in directly via the **MDC C200** control module, or as an alternative, **MÜCARD2** pattern design software is available.

MDC 3/830E warp knitting machine (mechanically or electronically controlled) with weft insertion for elastic and non-elastic products.

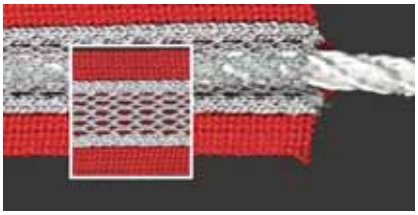


Elastic narrow fabric with an integrated cord produced on an MDC 3/830E.

The product range of the MDC 3/830E extends from technical applications to simple lace and underwear items in both elastic and non-elastic variations. In addition, the use of differing types of needle facilitates the utilization of a diversity of yarn qualities that include natural and synthetic fibres with 20 to 3,000 dtex.

Electronically controlled raschel machine – MDK80D

The **MDK80** is a raschel machine in versions for single and double jersey (MDK80s: right-left and **MDK80D**: right-right) with eight weft laying bars, each powered individually by a linear motor. The machine offers an extensive range of applications, from fashion and sports items to technical articles, such as spacer fabrics with heights of up to 20 mm, multi-layer knits, tubular knits for the medical technology segment and the underwear sector (tubular knits for holding bra wires), nets, fashion scarves, edge binding, etc.



A tube-like net for sports clothing from the MDK 80 product range.

Very precise operation of the warp bars and a compact design facilitate the rapid and straightforward switching of machine counts between E10 and E28. Thus the resultant short resetting times and the high utility effect also make the MDK80 extremely attractive for patterning and small batch orders. In addition, the electronic control of the entire machine facilitates the management of all article data and the call-up of the corresponding production parameters. Patterning takes place using **MÜCARD2** CAD design software, which among other features also prepares the appropriate article card.

Inkjet direct printing system – MDP2 E MÜPRINT2 E

The **MDP2 E** is ideal for the contactless ink jet printing of elastic and non-elastic narrow fabrics and belts. The narrow fabric widths processed may amount to as much as 400 mm and in the case of narrower items, i.e. with a minimum width of 15 mm, can be printed during parallel running. A minimum gap of 10 mm between the fabrics is necessary. The contactless process permits the printing of relatively heavy products with coarse surface structures.

MDP2 MÜPRINT2 – the inkjet, direct printing system.

Typical products printed using the MDP2 MÜPRINT2.

Universal warping machine – SMA400

The new **SMA-400** warping machine permits the processing of warp beams with maximum disc diameters and width dimensions of up to 400 mm. The machine is fitted with a simple control system and by employing a combination of a creel for unrolling elastic threads and a pre-stretcher, users can warp highly elastic yarns such as latex, synthetic elastomers, single- or double-wound rubber thread and non-elastic yarns with a maximum of 3,000 dtex.

Continuous fixation and finishing machine – MFR 3A

The **MFR 3A** continuous dyeing and finishing machine provides the simultaneous dyeing or finishing of several narrow fabrics across a working width of 30 cm. The machine is fitted with an efficient hot air dryer, which ensures uniform temperature distribution throughout the entire fixing chamber. Light- to medium-weight, elastic and non-elastic polyamide, cotton, viscose, acetate and polyester narrow fabrics can be processed at a maximum working speed of 30 m/min. The machine is designed for small series and medium-sized batches.

The MFR 3A operates with pigment dyes, a system that offers advantages of no wastewater and lower energy consumption. Other benefits include a reduction in cleaning, less waste during machine set-up, the user-friendliness with easy access to various machine components, and precise tension control.

The energy consumption levels of the MFR 3A are roughly 30% lower than those of conventional dyeing machines.◆