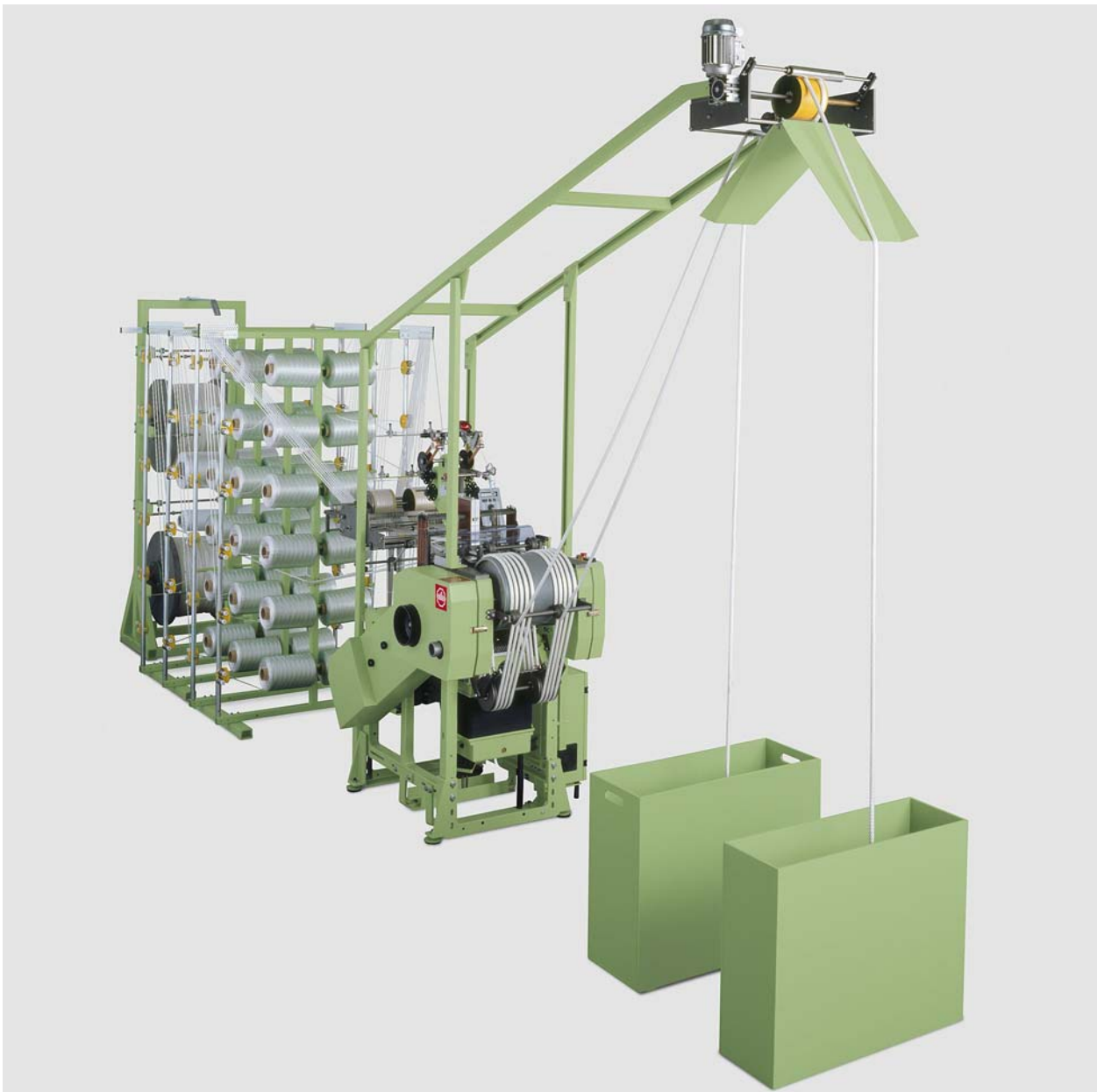


Narrow fabric looms

NH2M 53 / NC2M

for MultiSphere rope weaves



NH2M 53 / NC2M

Concept

Everyday life without ropes, cord and string has become unimaginable. The immense range of applications for these items extends from clothing, sport and leisure, to the construction industry, farming, horticulture and the use of rope-like home textiles, etc.

To date, ropes have been produced exclusively on braiding machines. However, using the NC2M and the new NH2M 53 narrow fabric needle looms, ropes and twine, etc. can be woven either with, or without, cores. "M" stands for "MultiSphere" technology from Jakob Müller AG.

As compared to the braiding process, this technology facilitates the more economic manufacture of ropes and twine with similar and enhanced mechanical characteristics.

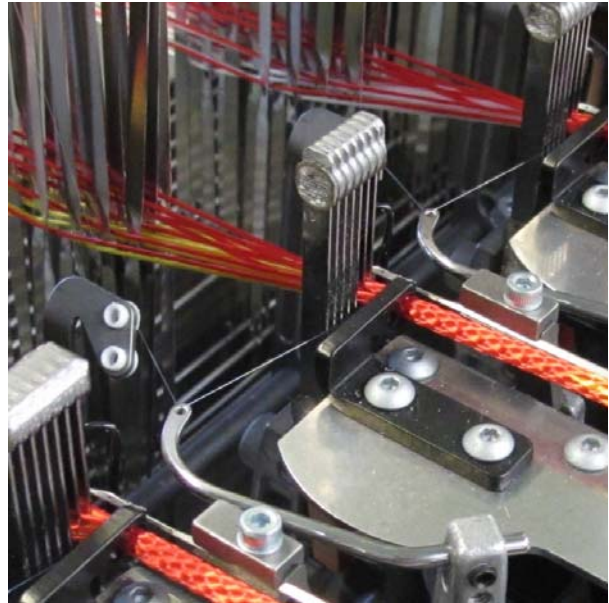
General features

- Based on proven narrow fabric needle loom technology
- Machine robustness and reliability
- High production speeds
- Rope diameters of 1 – 20 mm
- Straightforward machine operation
- Pattern control via pattern chain with cam disc plates for simple structures
- Warp thread take-off from bobbin creels or warp beams
- Special solutions for product laying and winding



Weaving head NC2M

Holding device for precise fabric guidance (patented)



Weaving head NH2M

Special features

Narrow fabric needle looms for the weaving of ropes differ from conventional machines with regard to the reed, the fabric guide and weave take-off

- A holding device is used for precise fabric guidance (patented)
- Constant take-off pressure provided by large take-off rollers and multiple winding (patented)
- Slippage-free take-off
- No rope compression
- Thread feeding with sheath and core fibre compensation
- In tandem with the fabric holder, large shed openings and coarse reeds support the formation of the three-dimensional rope structure.
- No slippage of the individual layers in multi-layer weaves during severe bending, e.g. over an edge

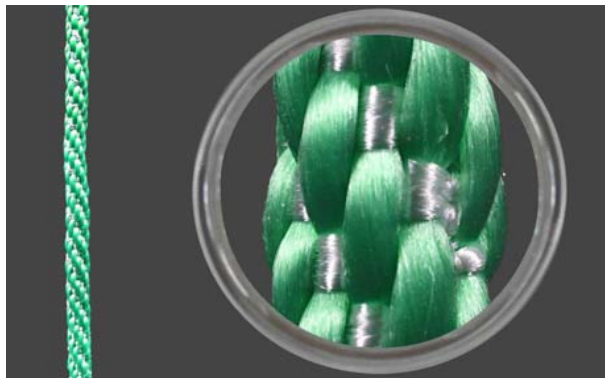
Various weave patterns can be employed. These allow the fulfilment of requirements relating to rope-like structures with specific stress-strain and surface characteristics.



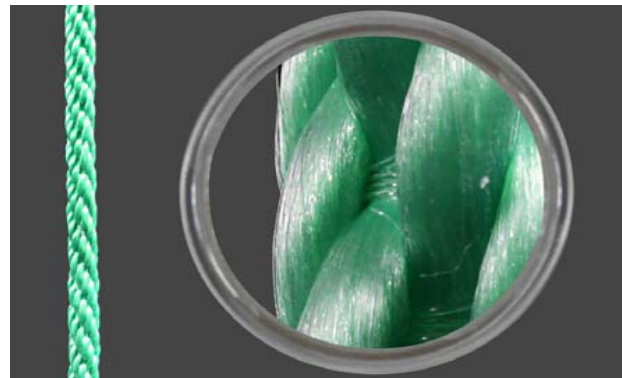
Core-sheath rope with a diameter of 11 mm, external structure (left), core-sheath close-up (centre), internal structure (right)

Advantages

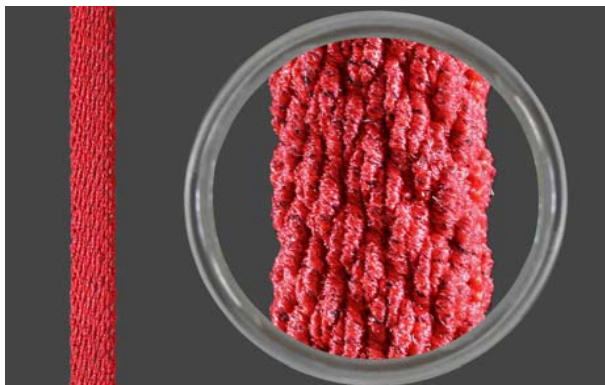
- High productivity and low production costs
- Considerably longer, knot-free, woven items due to the extended yarn lengths available on bobbins/warp beams as compared to those from braiding bobbins
- Warp beams with over 5,000 m of yarn and in addition, the possibility of using a creel with reserve bobbins
- Longer running times without bobbin changes as compared to braiding; so-called "ghost shifts" are possible
- Excellent mechanical characteristics as compared to braided structures:
 - Strength at 1 and 2 mm diameters meets the requirements of the DIN standard
 - Comparable strength at diameters of between 3 and 4 mm
 - Far higher strength at a thickness of 5 mm and above
 - Stress-strain curve comparable with that of braided ropes
- Differing patterns provide diverse surface structures and rope characteristics



Non-elastic rope sample, bi-colour Ø 6.0 mm



Non-elastic rope sample, uni Ø 6.0 mm



Elastic rope sample, uni Ø 4.0 mm (elastic ropes with covered rubber for max. elasticity of 100% (no naked rubber))



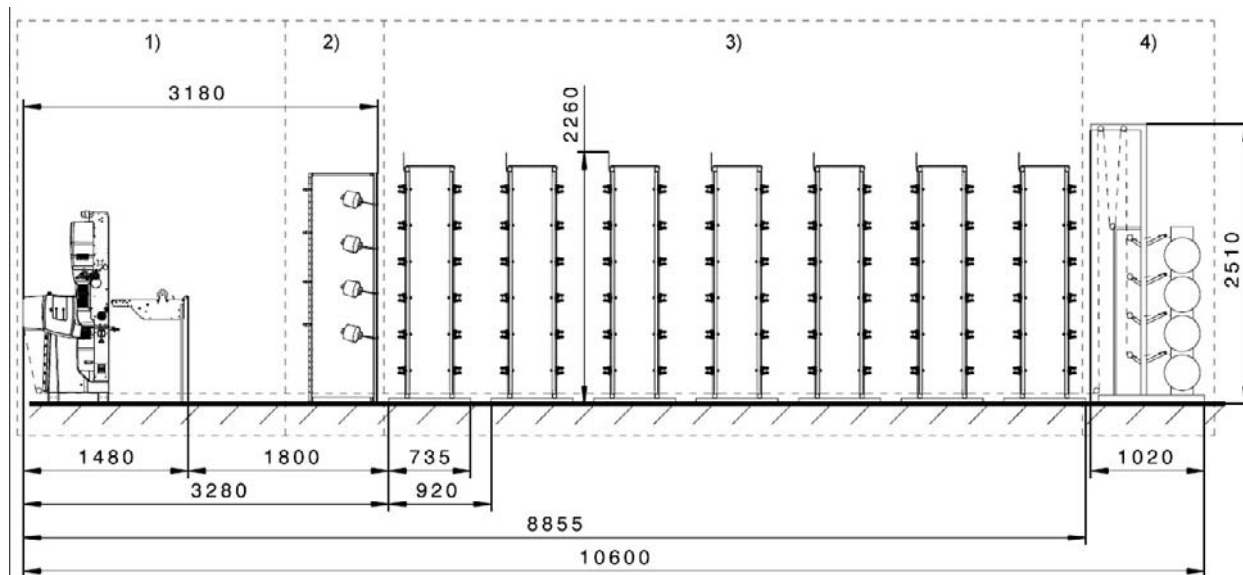
Non-elastic rope sample, uni Ø 3.5 mm

NH2M 53 / NC2M

Technical Data

Maschine type	NH2M 53 4/D8	NH2M 53 8/D4	NC2M 2/D...
Number of spaces	4	8	2
Rope diameter	4 – 8 mm	1 – 4 mm	up to 20 mm
Weaving systems	I, II	I, II	I + III (various edge designs, depending on application)
Shed drive	Electronical shaft motion	Electronical shaft motion	Pattern chain or cam disc
Number of sheds	16	16	4 / 8 / 12 / 16
Number of weft threads per cm	5 – 60	5 – 60	3 – 45
Max. energy recuperation	1 kW	1 kW	2.2 kW

Space requirement (example NH2M 53)



1) Needle loom for rope production
2) Cone holder

3) Bobbin creel
4) Fabric winder

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