HERZOG®
SINCE 1861

Original German braiding quality to fall in love with.

Individual solutions for highly complex demands. Superior machine quality and 100% reliability. There are many reasons to fall in love with HERZOG.
Which one is yours?

Braided products – new innovations and technologies

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About Herzog

Short introduction about who we are and what we do

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Medical Braiding Technology

Overview on innovative developments and technologies

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Rope Braiding Technology

Overview on the new Herzog heat setting unit

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Mussel Line Braiding Technology

Overview on the new Herzog mussel line unit

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Composite Braiding Technology

Overview on the possibilities in composite braiding

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For more information please contact us

Find out more about Herzog and our products

Herzog GmbH

- Founded in 1861
- Family-run and family-owned since 5 generations
- Situated in Oldenburg, Germany
- Worldwide leader in braiding, winding and rewinding technology
- More than 12.000 m² state of the art manufacturing facilities
- Made in Oldenburg – Made in Germany

Herzog Sales Manager: Daniel Schönbohm / d.schoenbohm@herzog-online.com / Cell Phone: +49 172 8664 117

Herzog GmbH

- Around 150 highly skilled and motivated employees
- Full in house production incl. test and training center
- More than 500 machine types for various applications and materials
- Long standing business relations with numerous customers in more than 60 countries
- Representatives all over the world, here:

  → **Spain representative:**

  Rubén García / E.P.A., S.L. Barcelona

  → **Portugal representative:**

  Duarte Pinto da Silva / L2C, LDA Braga

Braided products

– new innovations and technologies

- Braiding is the process of interlacing three or more yarns together (number of ends: 3 to ∞)
- Maypole braiding principle
- The material is wound on a bobbin
- The bobbins are loaded on a carrier
- The carriers are driven by the horn gears and guided through the tracks
- The braid is pulled of by a take-off system
- Machine set-ups: Conventional, horizontal or radial
- Possible materials: Natural fibers, synthetic fibers and metal wires
- Bobbin volumes from 0,5 to 1.133.758 ccm
- Horn gear sizes from 56 to 2.000 mm

Braided products

– new innovations and technologies

- “Safety first!” – Safety and climbing ropes (static & dynamic)
- “High power!” – Sailing at the limit
- “Fishing for big fish!” – High loads / fancy fibers
- “New fields!” – Synthetic fibers instead of wire
- “Under pressure!” – Reinforced (high pressure) hoses
- “Alles Ordnung!” – Monofilament sleeves
- “Some like it hot!” – Thermal insulation
- “Cleaned for life!” – Water purification with hollow braids
- “Sealed with a braid!” – Gland packing and sealing
- And many more …

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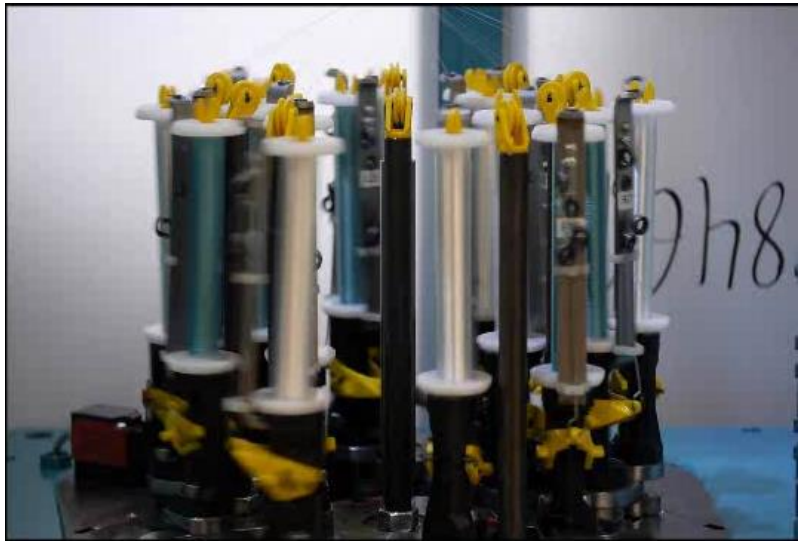
Round suture

Flat suture



Herzog Medical Braiding Technology

Used for sutures, stents and arthroscopy

- Medical sutures as a mass product or a specialty
- Typical sutures are:
  - Round braids with 4, 8, 12 or 16 carriers
  - Soutache braid with 3 carriers
  - Flat braids with 9, 13 or 17 carriers

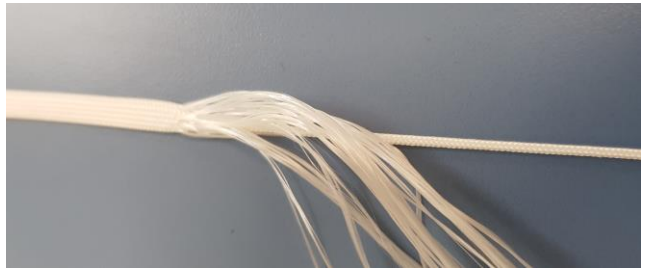
- *Special execution*: **Flat – to – Round transition**

On the tissue a flat braid reduces the surface pressure, but a round braid is more suitable to fix the needle.

The solution: A flat – to –round braiding machine

The flat – to – round braiding machine can change the drive pattern of the carriers to transform the braid structure.

Switch out for colour change



Diameter change from 48 to 16 carriers

Herzog Medical Braiding Technology

Used for sutures, stents and arthroscopy

- *Special execution*: **Switch Out**

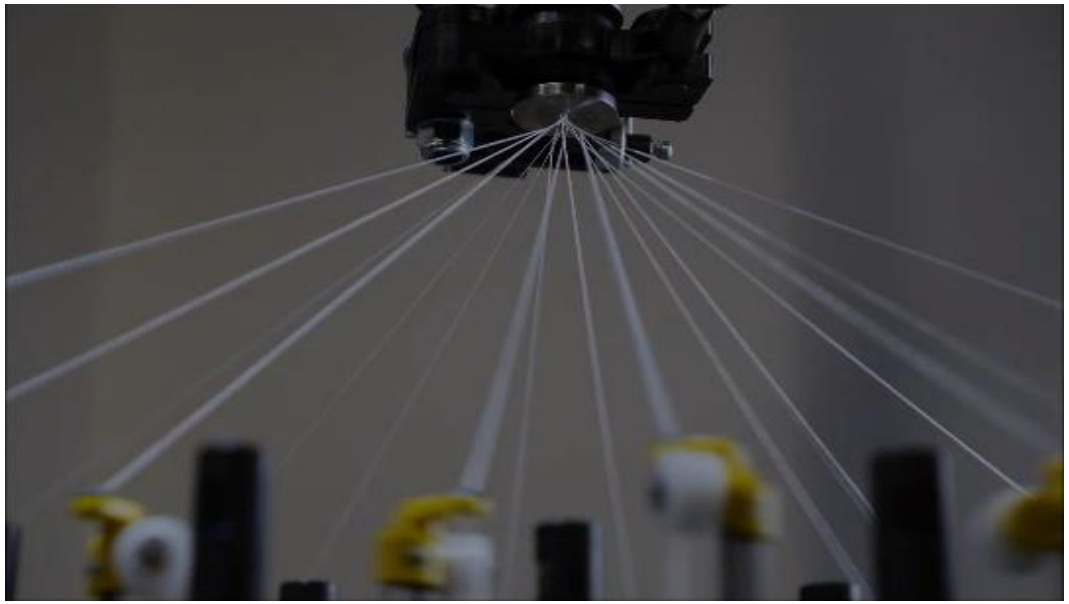
Exchanging a yarn / carrier from the braid cover into the core against another yarn / carrier

- As an optical marker
- Yarn(s) with different function, surface etc.
- Change of color patterns
- Taper → Reduce of braid diameters or width

Switch out unit

Braid split in 2 ends

Braid split in 3 ends



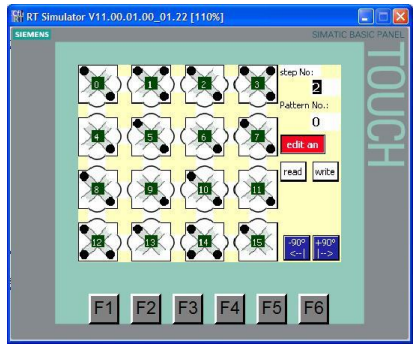
Herzog Medical Braiding Technology

Used for sutures, stents and arthroscopy

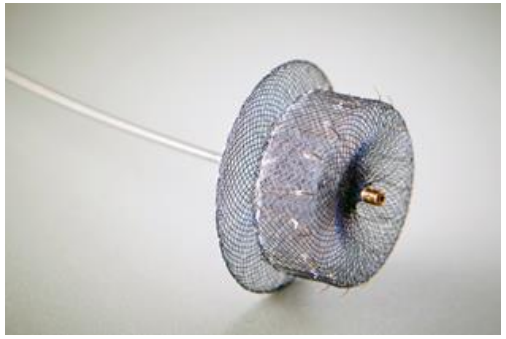
- *Special execution*: **Variation Braiding**

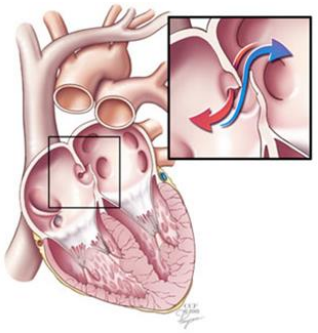
The variation braiding series VF offers the highest flexibility

- Different braid structures and carrier numbers
- Switching patterns
- Bifurcated braids

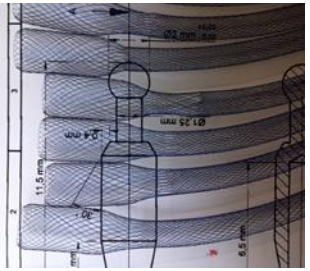


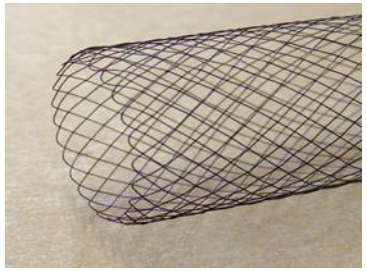
Variation Braiding Machine

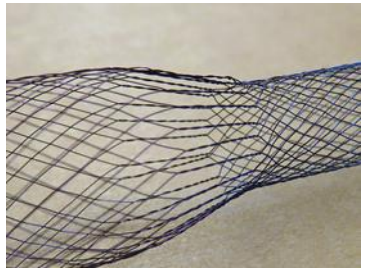




Example: Occluder and its use





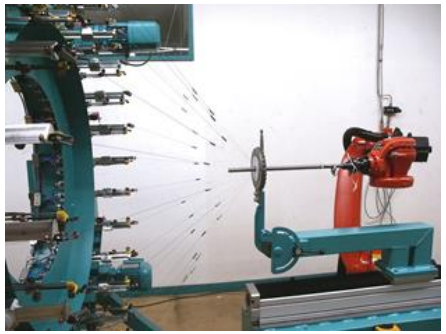


Examples: “Anti snore stents” with close ends and twisted sections

Herzog Medical Braiding Technology

Used for sutures, stents and arthroscopy

- *Special executions*: **Stents and stent similar products**
- Processing of wires
- Individual set-ups and solutions
- Braiding and twisting process combined
- Various take-off systems with PLC data base



Various Stent Braiding Machine Concepts

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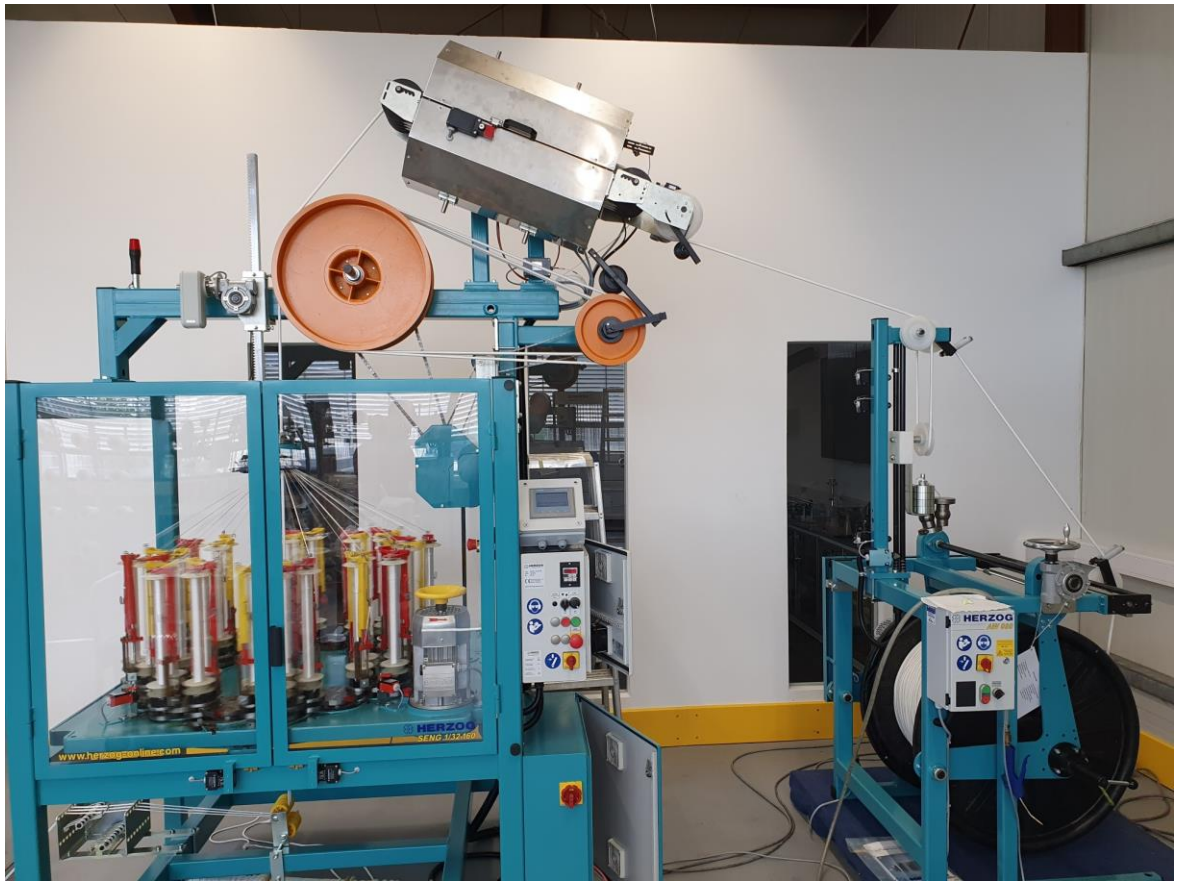


Herzog Rope Braiding Technology

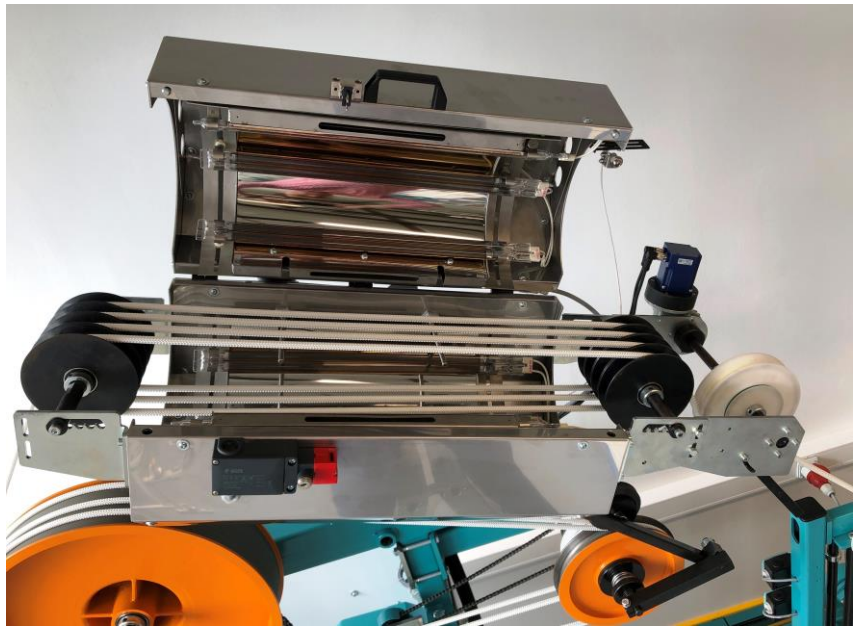
Used for climbing and safety ropes

- **Herzog heat setting unit**
- Improving the characteristics of a rope
- Enhancing the physical properties of a rope
- Heat setting integrated into the braiding line
- Installed on a braiding machine or stand alone execution
- 6x HERAEUS carbon infrared emitters, medium wave
- 6x 2.400 W power of the radiators
- Temperature monitoring and rope temperature measurement adjusted and controlled by PLC

Herzog Rope Braiding Technology

Used for climbing and safety ropes

- Herzog heat setting unit



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Herzog Mussel Line Braiding Technology

Used in aquaculture industry

- Herzog rope braiding machine SE 1/24-266 ½
- Half occupied braiding machine with 12 horn gears
- 12 carriers AFZ 266
- Horn gear size: 266 mm
- Bobbin size: ø 135 x 380 mm = 5.074 ccm
- Horn gear speed: 20 - 60 RPM
- 6 loops, pulled out simultaneously
- Loop length 20 – 70 mm

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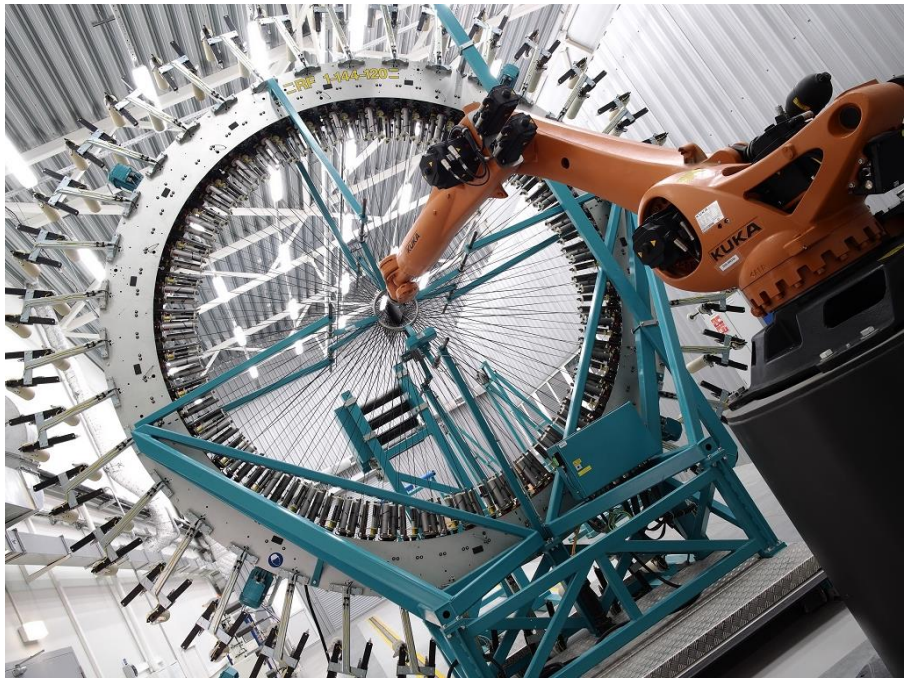
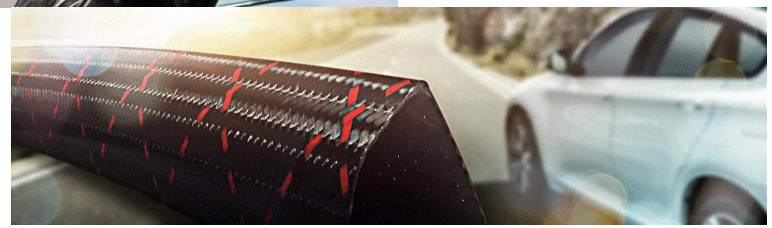
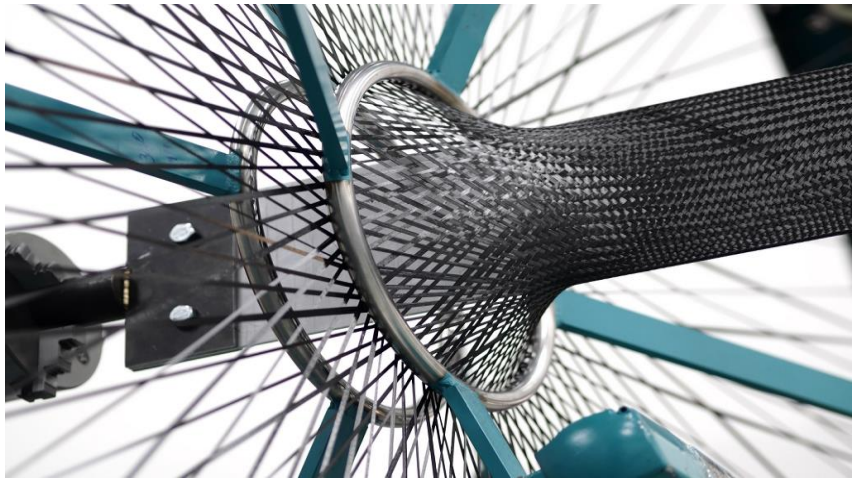


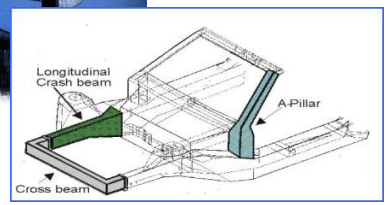




Herzog Composite Braiding Technology

Used for preforms, sleeves or tapes

- Braiding is the process of interlacing three or more (composite fiber) yarns together
- Over braiding on a mandrel
- Linear parts, straight or curved in space
- Diameter changes are possible
- Variable fiber angles to influence the distribution of forces
- Bi- or tri-axial braids are possible
- Used in fiber reinforced composite parts mainly focused on load carrying or structural parts and components



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Herzog Composite Braiding Technology

Examples and applications

- Mercedes and BMW – Braided Structural Parts

- Porsche – Braided rims (main barrel)

Herzog Composite Braiding Technology

Examples and applications

- Sailing sports – rigging parts

- Sport bicycles and other sports equipment

For more information please contact us

Herzog GmbH
Am Alexanderhaus 160
D 26127 Oldenburg

+49 441 3008-0

info@herzog-online.com

www.herzog-online.com

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Original German braiding quality to rely on.

Individual solutions for highly complex requirements. Outstanding machine quality and 100% reliability. There are numerous reasons why to trust in HERZOG. Count on us.