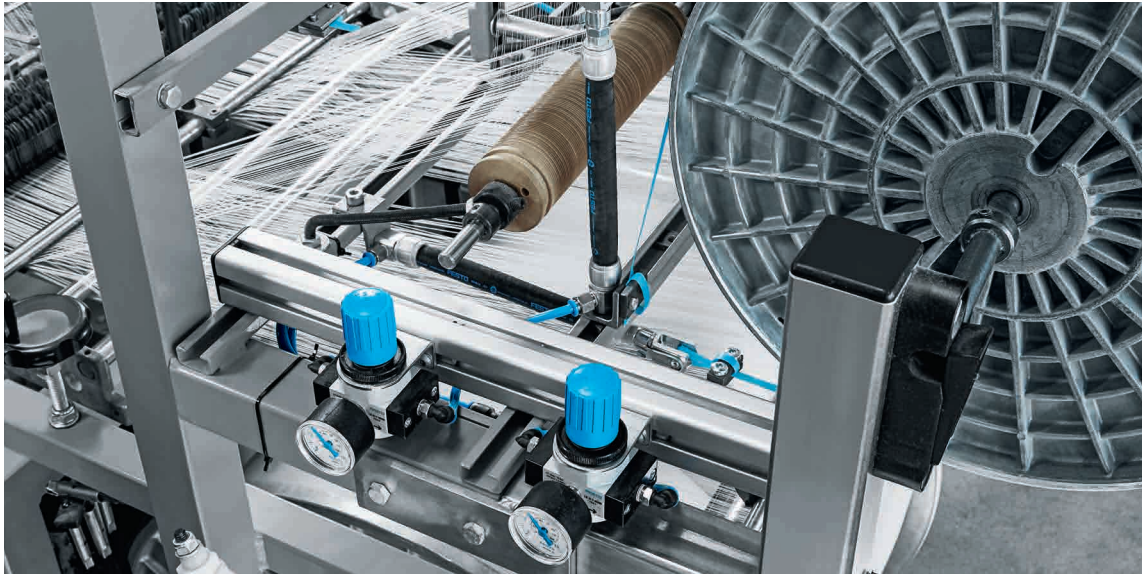


Textile industry:

Pneumatic spring for tensioning warp beams in looms



FESTO

Highlights

- Improved quality of the finished product thanks to constant, precise tensioning of the textile threads due to accurate regulation
- Enhanced work safety because there is no need to handle weights and there is no risk of accident due to dangling, heavy objects
- Clean solution: no soiling of fabrics caused by weights transferring dirt
- Innovative solution consisting of fluidic muscle and pressure regulator

Customer

Wernli AG is a Swiss manufacturer of high quality bandage materials:

- Cohesive and adhesive elastic bandages: fixation bandages, compression bandages and universal bandages
- Inventor of colour bandage materials
- Export quota of 85% to 30 countries
- Production in Rothrist with approximately 60 employees

Project:

Alternative solution for tensioning warp beams in looms without using mechanical weights or springs

Requirements

- Warp beam brake in looms
- Assurance of constant, controllable tensioning of the thread
- Simple, compact, easy-to-use solution
- Clean solution in order to prevent soiling the fabrics
- Previous solution: regulating thread tensioning in the loom by manually adding or removing weights

Solution

- Tensioning the warp beams using a pneumatic spring consisting of a fluidic muscle and a pressure regulator
- The fluidic muscle is constantly under pressure and can thus be operated in the same position for days without getting stuck
- Tensile force is adjusted by a pressure regulator
- Smooth motion of the fluidic muscle permits precision adjustment of force applied to the friction belt, and thus of thread tensioning as well

Textile industry: Solution components in detail



Fluidic muscle DMSP

- Size: 10, 20, 40 mm
- Nominal length: 40 ... 9000 mm
- Stroke force: 480 ... 6000 N
- High force combined with a small diameter
- Frequency: up to 150 Hz
- Smooth movement
- Insensitive to contamination because hermetically sealed

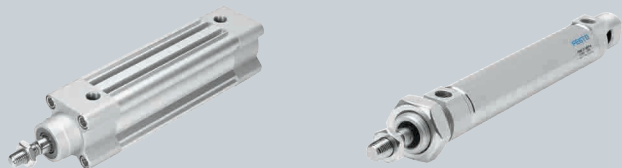


Pressure regulator LR-1/8-D-MINI

- Ideal for all standard applications
- Metal version
- All basic functions for compressed air preparation
- Sturdy connection technology
- 4 sizes: MICRO, MINI, MIDI, MAXI

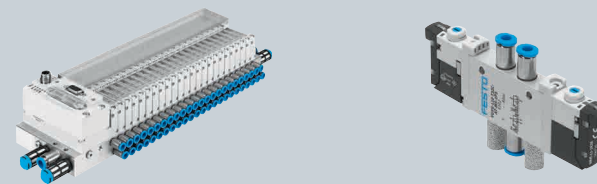
FESTO

Other Festo products suitable for textile applications:



Standard cylinder DSBC and round cylinder DSNU

- Robust and attractively priced
- Comprehensive range of accessories
- Available as a complete unit with fittings, tubing, foot mountings etc.



Valves VUVG and valve terminals VTUG

- Compact design
- Universal valve series at an attractive price
- Numerous variants and modularity for implementing the specific requirements of textile manufacturers