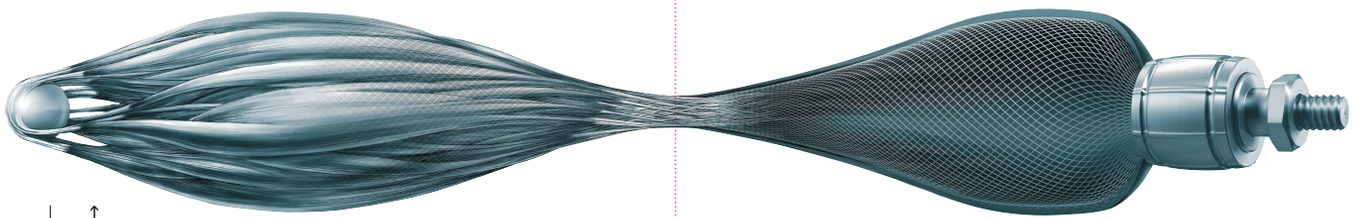
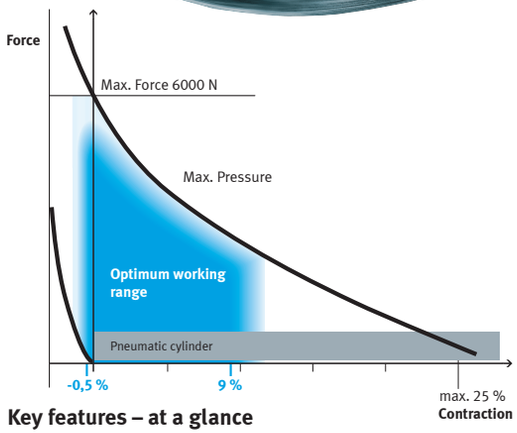
Fluidic Muscle

The innovative principle

A completely new type of pneumatic drive which could also revolutionise your industry. Fluidic Muscle is a membrane contraction system or, to put it more simply, a tube which contracts under pressure. An innovation which is based on a tensile material consisting of a flexible hose sheathed in fibres in the form of a rhomboidal mesh. The usable tensile force is at its maximum at the start of the contraction and then decreases in a virtually linear manner as a function of stroke.





Key features – at a glance

- High force combined with a small diameter
- Frequency up to 150 Hz
- Frictionless movement
- Simple positioning
- Unaffected by dirt
- Hermetically sealed

product design award
Design Innovations Essen Germany
Red Dot High Design Quality
bundespreis produktdesign
reddot
techtextil Innovationspreis 1999 Innovation Prize 1999

Do you have questions, suggestions or requests?
Or do you need technical support?
We will be happy to help you with your dimensioning work!

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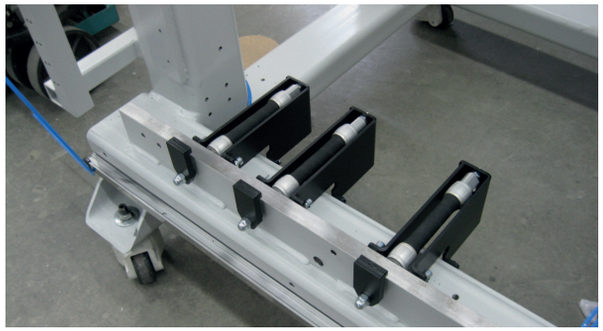
FESTO

Fluidic Muscle

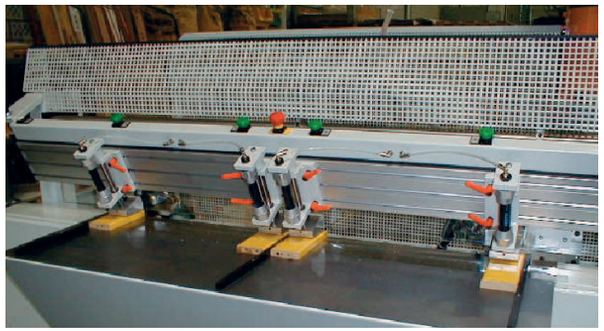
Established areas of application

Clamping

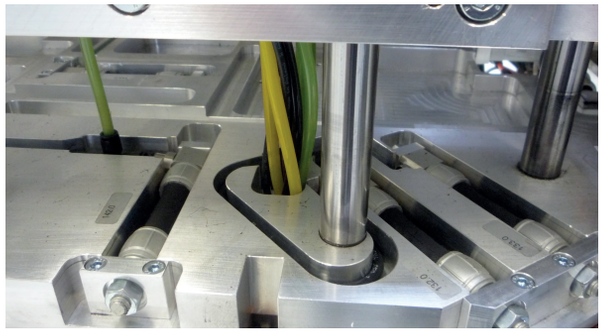
Benefit:
- High force combined with a small diameter (up to 10 times higher)
- Unaffected by dirt
- Frictionless movement
- Hermetically sealed



Clamping unit in machining centre for control cabinets



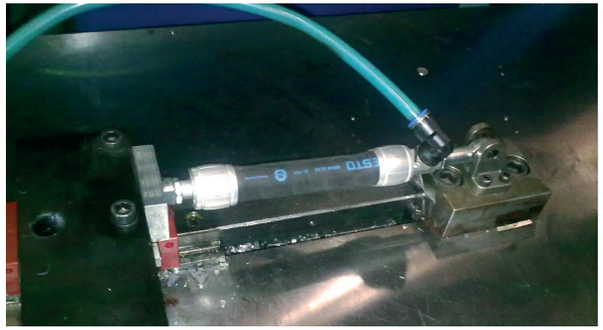
Clamping device for wood panels



Clamping unit for welding machines

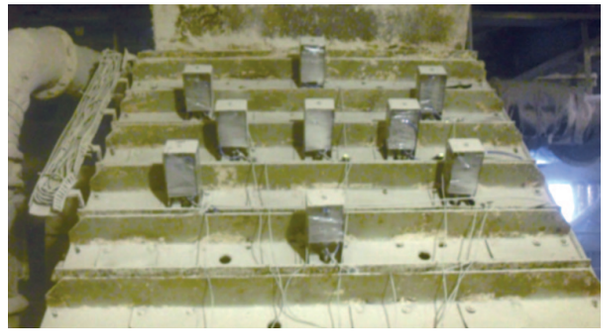
Vibrating and shaking

Benefit:
- Frequency up to 150 Hz
- Amplitude/frequency can be adjusted independently of each other
- Unaffected by dirt



Vibrating chute for discharge of stamping waste

A coating is distributed by vibration on a production line

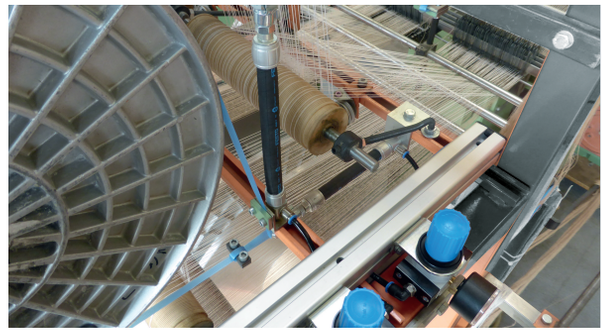


In a mine, various materials are separated using several Fluidic Muscles to operate a screen

Pneumatic spring

Benefit:
- Adjustable spring force
- Frictionless movement
- Hermetically sealed
- Easy to handle

Tensioning a toothed belt in a concrete works



Warp beam brake in looms for an optimum yarn tension

Adjusting the height of a stacking device for corrugated cardboard