

Customised automation with pneumatics not only guarantees reduced costs, it is also reliable, sturdy, explosion and overload-proof – all from a single source with Festo.

Sales incentive: savings according to the VDMA!

Your potential savings throughout the complete life cycle as opposed to electro-mechanical solutions: up to 33 % on front-end and follow-up costs.*

Save more – with Festo!

Use the competent advice of an automation expert and increase your potential savings by up to 50 %! With concepts, systems and perfectly harmonised solutions that reduce complexity and increase reliability.

Pneumatics? Impressive technology!

Just have a quick look at the technology and you'll see that automation concepts using pneumatics also bring impressive technological benefits. For example ...

- ...Maximum safety
- ...High performance density in a compact space
- ...Sturdy design and reliable functioning
- ...Overload protection
- ...Explosion-proof
- ...Trouble-free use outdoors
- ...Energy efficiency

* According to a VDMA study, more than 30% based on the plant described inside. These figures can vary depending on the design.

More information?

A quick way of obtaining the information you need – with our brochures or on the internet: www.festo.com/water

- Your overview of automation concepts with pneumatics in "**Partners for water technology**".
- Find advice on constructing and designing pneumatic solutions in water treatment plants in our "**Planning manual for water treatment plants**". To get the most from the manual, we recommend that you go through it with our experts.

Request the manual by simply replying by fax.

Festo AG & Co. KG

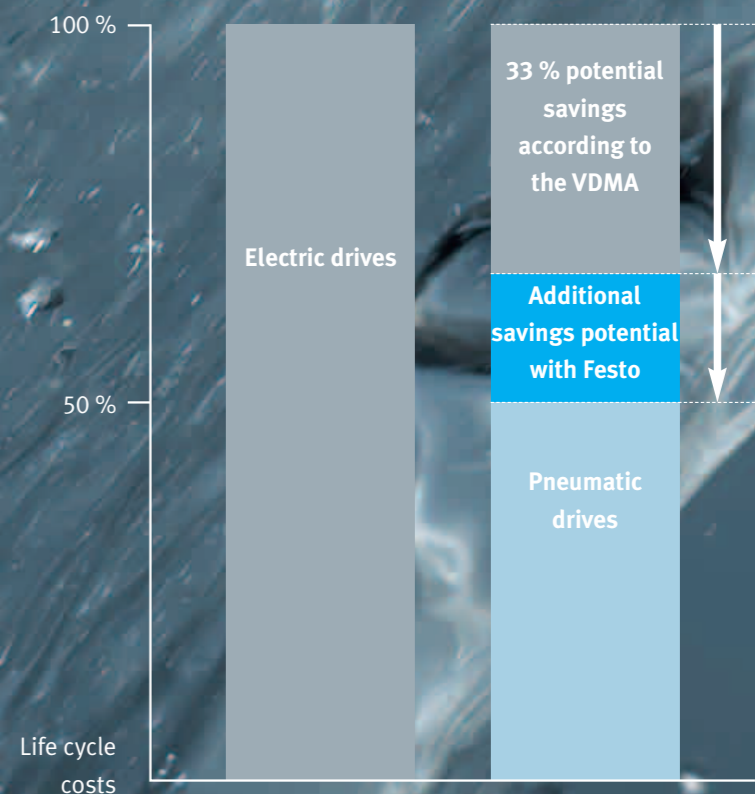
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Savings? Pneumatics!

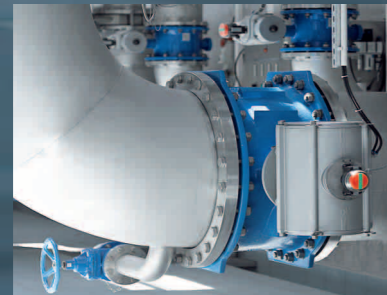
Be economical! Rely on the most economical, reliable automation technology for water and sewage treatment in the future: pneumatics.

Maximum benefits – minimum costs



10 good reasons to use pneumatics from Festo

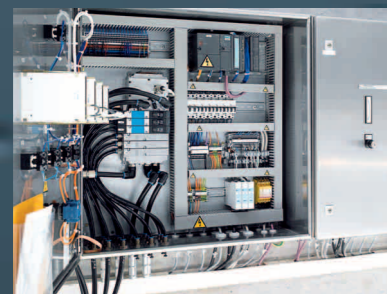
A package of benefits: an overview of the benefits that automation concepts using pneumatics provide



- 1 Reduce costs through:**
- Fast design and commissioning
 - Simple pilot air supply
 - Easy installation
 - Fewer interfaces
 - Longer service intervals
 - Economies of scale through knowledge transfer



- 2 Competent, professional advice**
- Concept design to detail design of automated system
 - Complete turnkey solution
 - Supply of 3D models and PID schemes



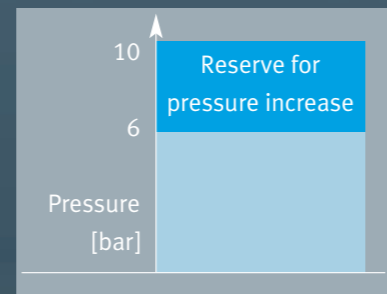
- 3 Everything from a single source**
- Integrated equipment from one supplier
 - Proven connection and reliability
 - Reduced interface problems
 - International support in all time zones



- 4 Energy-efficient, environmentally-friendly solutions**
- Low energy costs
 - Zero energy waste from leaks
 - Few moving parts
 - Precisely dimensioned systems



- 5 Maximum safety**
- Low voltage control systems
 - Emergency operation from air reservoir
 - Emergency Shut Down guaranteed
 - Low operating pressure
 - Diagnostic and condition monitoring



- 6 High performance**
- High density automation systems
 - Space, weight and time reduction
 - Adjustable speed control
 - 100 % duty cycle
 - 5mm - 2000 mm valves
 - Reserve power by simply increasing the pressure

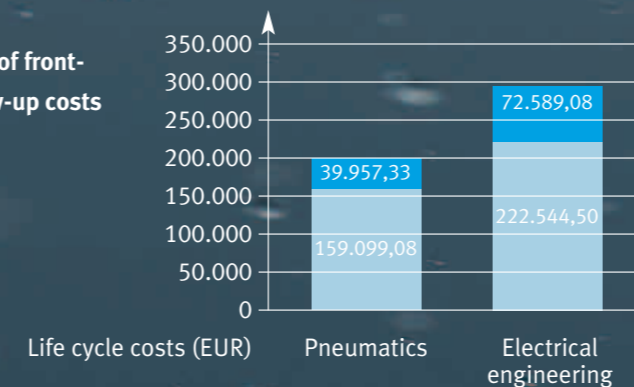


- 7 Robust and reliable**
- High switching cycle rate
 - Maintenance free actuator
 - No Lubrication required
 - High plant induced vibration tolerance
 - No batteries for power or position memory



- 8 Perfectly suitable for outside use**
- Standard temperature range -20° to +80° C
 - Ultra Violet resistance
 - Extreme temperature options -40° to +120° C
 - Optional corrosion-resistant, 100 % stainless steel design

Comparison of front-end to follow-up costs



Total cost of ownership concept on, for example, water treatment

The comparison of electrical and pneumatic drive systems in a VDMA* study reveals that pneumatics can help you save on large cost pools. The study took investment and operating expenses, idle period costs and depreciation over a 25-year life cycle into account.

The daily output is 67,000 m³ – there is a significant increase in the savings effect for larger plants.

Facts and figures

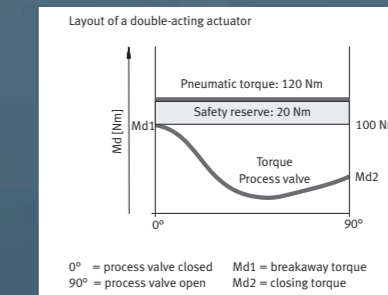
The actual filter plant of a waterworks in Germany with

- 8 filter tanks with 8 inlets/discharges each and
- 7 on/off process valves each and 1 in positioning operation

Life cycle costs

Electrical engineering	295.000,- €
Pneumatics	199.000,- €
Savings	96.000,- €

* VDMA (German Engineering Federation) and TU Braunschweig: LIMA "Life Cycle Costing in Mechanical and Plant Engineering"



- 9 Overload-proof**
- Damage-free load bearing until system standstill
 - Reserve force to overcome increased breakaway torques, for example for deposits
 - 100 % duty cycle
 - Perfectly suitable for variable-speed drive



- 10 Explosion-proof**
- ATEX-approved to zone 1 as standard
 - No additional costs
 - No high voltages and electrical isolation required for pneumatic actuators