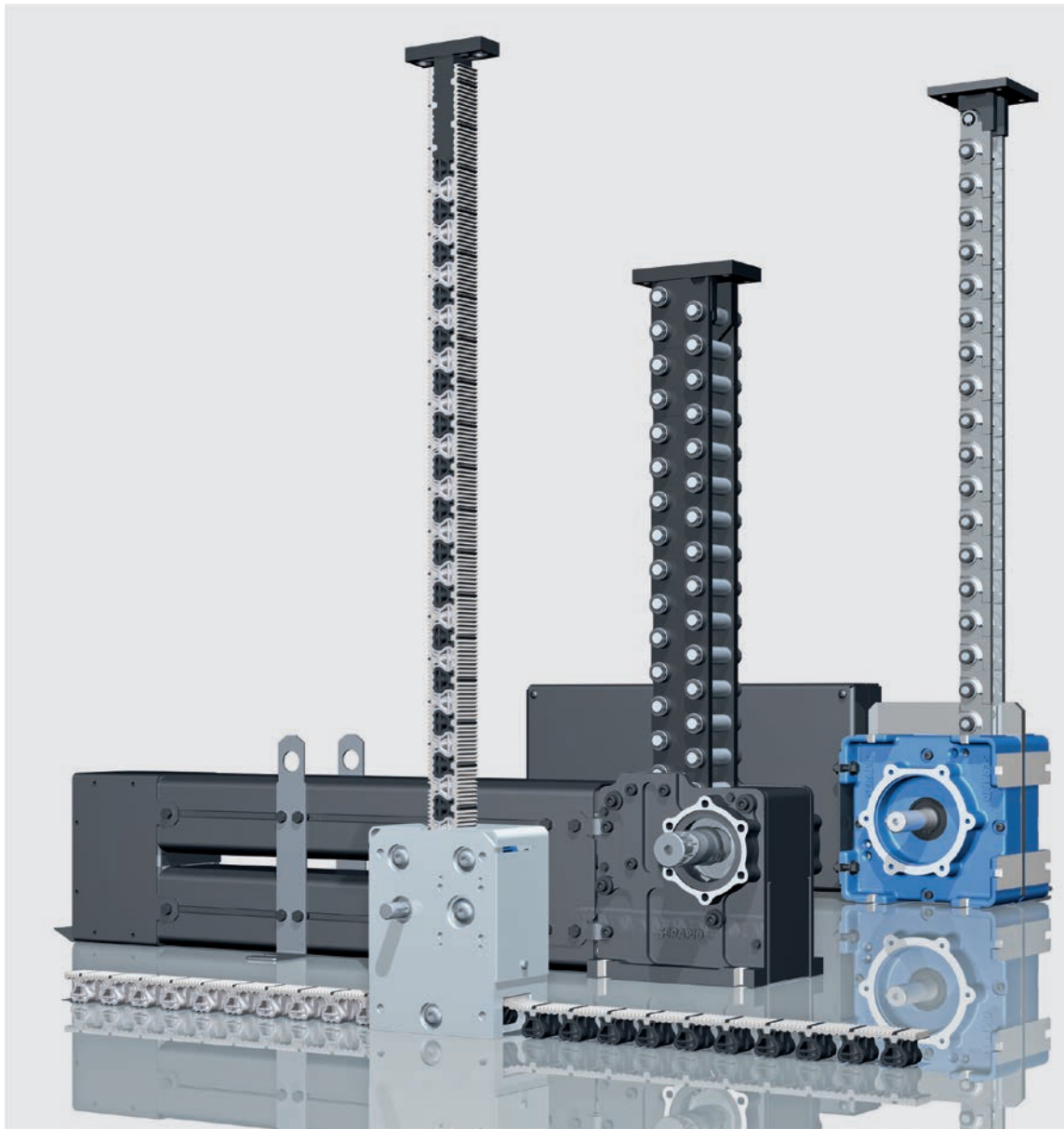


LINEAR TELESCOPIC MOTION SYSTEMS FOR MEDICAL ENGINEERING

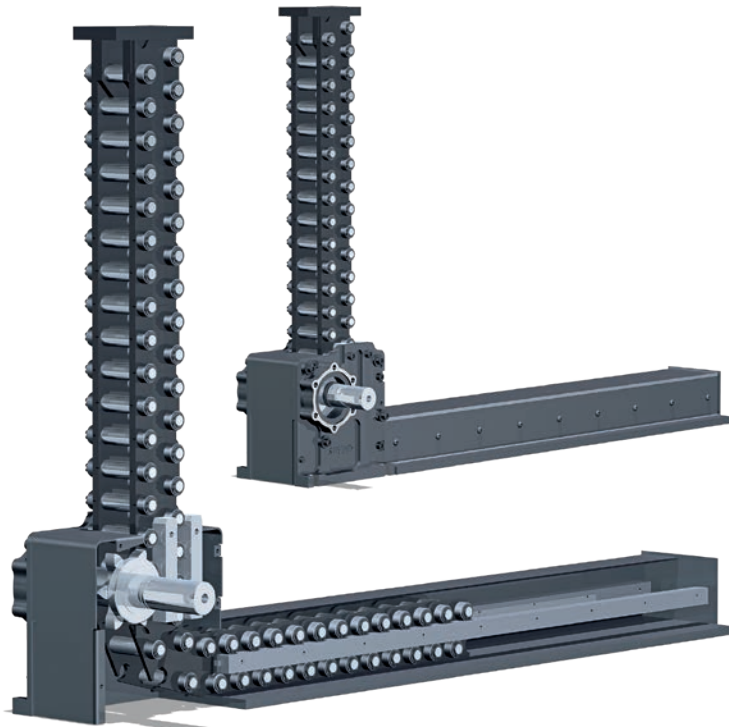
Moving examination and operating tables in MRI scanners



RIGID CHAINS FOR MEDICAL ENGINEERING

SERAPID motion systems have proven themselves in applications from the assembly line to cleanrooms. Our technology is centered around the Rigid Chain, a purely mechanical actuator we started developing over 40 years ago, that today is known for its smoothness, repeatability and eco-friendliness. Because the stored chain is flexible this allows many space saving storage configurations, providing designers with lots of options.

While in industrial applications the focus is on heavy loads, counting in tons, medical motion systems are more about the smoothness and accuracy of the movements themselves. Our horizontal and vertical motion systems are used in examination and operating tables, showing their potential in this field of application.



Our RigiBelt, an entirely non-magnetic actuator, is tailored to movements in the area of magnetic resonance imaging (MRI). As a real Rigid Chain it is superior to alternative solutions because of its compactness and reliability.

LinkLift – the lifting chain

We originally developed the LinkLift specifically for vertical movement, in order to fulfill the need for low-noise, steady and safe movement required in stage and event engineering. The chain links are square-shaped, stacking one above the other like building blocks when the actuator extends. The result is a lifting column with very high stability and rigidity even over long strokes. Further features are the compact size of the drive system and its low profile.

LinkLift 30MS

dynamic capacity	10 kN
static capacity	20 kN
maximum stroke	1 900 mm
speed	up to 200 mm/s
pinion segment radius	30 mm
minimum height	190 mm
weight of drive housing	8 kg
weight of chain	15 kg/m
lifetime	240 000 cycles
safety factor	≥ 8x up to 600 kg

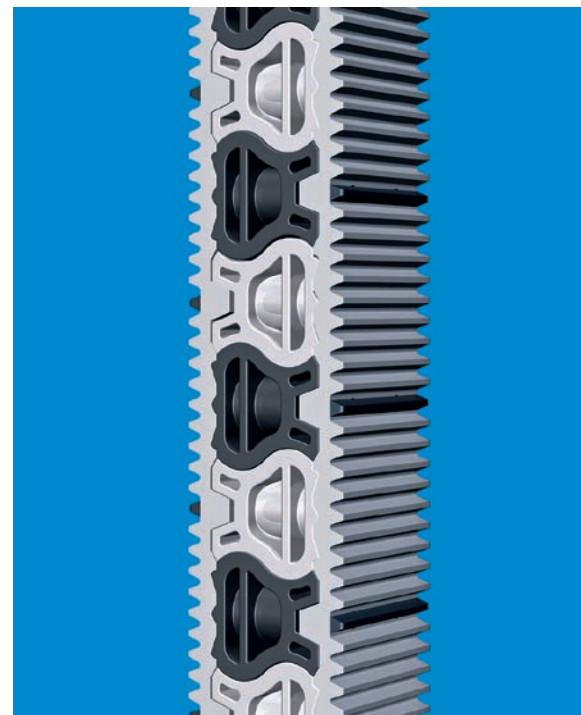


RigiBelt – the non-magnetic drive

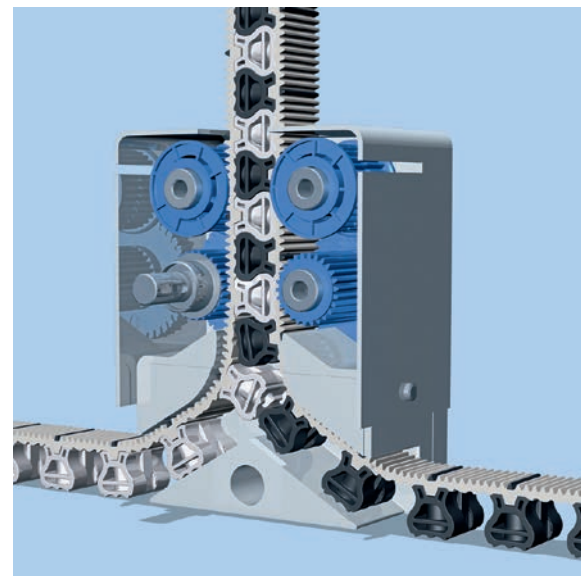
The RigiBelt brings two rows or belts of interlocking elements together, much like a zipper, which form a solid bar when extending. The passive portions of each belt can be coiled and stored in an efficient, space-saving way. All materials are non-magnetic: the teeth and belts are made of flexible and rigid plastic respectively. The drive mechanics are partly made of stainless steel or anodised aluminum.

RigiBelt	
capacity	up to 1 000 N (standard)
speed	up to 300 mm/s
max. stroke (dep. on load) *	up to 1 000 mm (std.), unguided
closing height *	150 mm, minimum
weight of drive housing *	2 kg, minimum
weight of belts	700 g/m
lifetime	240 000 cycles
safety factor	≥ 3x up to 80 kg

* dependant on design



standard drive

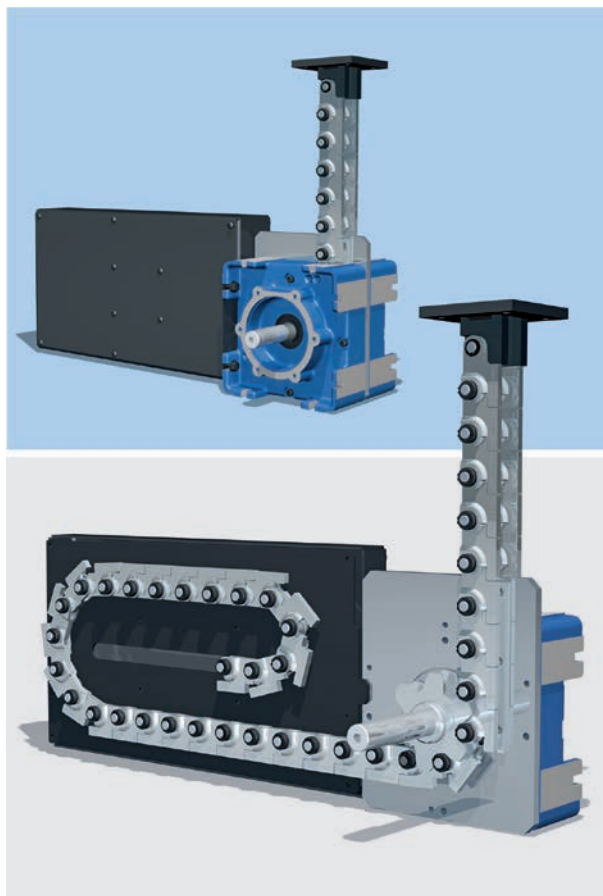


ChainLift – proven Rigid Chain Technology

The ChainLift is based on our classic horizontal chain, redesigned for vertical lifting. Reinforced links and modified drive guides ensuring stability and safety. The storage magazine is available in different sizes and can be adapted to existing space conditions. The ChainLift has been used in medical engineering for more than ten years and has passed all relevant certifications.

ChainLift 40MS

capacity	7.5 kN
max. stroke (dep. on load)	1 000 mm
speed (dep. on load)	up to 200 mm/s
pinion segment radius	40 mm
minimum height	255 mm
weight of drive housing	15 kg
weight of chain	7.8 kg/m
lifetime	130 000 cycles
safety factor	≥ 8x up to 600 kg



Benefits of SERAPID's Rigid Chain Technology

Our rigid-chain technology combines the strengths of other transfer methods, such as hydraulics, belts or spindle screws, and at the same time it eliminates their weaknesses.

- positioning accuracy in the millimeter range
- high speed
- high load capacity

- maintains position with no drift
- long strokes with minimal space requirements
- smooth movement, uniform speed
- space-saving storage of chain return
- highly flexible system, easy to integrate
- energy efficiency 80%
- low maintenance, long lifetime

Longer strokes, greater capacities, higher speeds, special storage configurations or materials available by request.