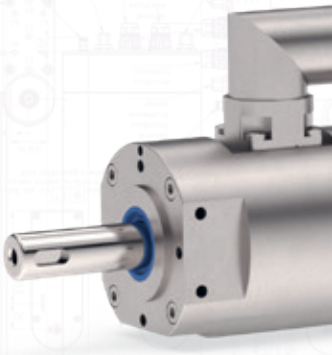
Linear Rotary Motors

LinMot linear rotary motors are highly flexible, dynamic and reliable. They combine two electromagnetic servomotors in a single slimline housing, enabling independent linear and rotary movements in the simplest way. Complex tasks such as locking, screwing, mounting and much more can be achieved with this single component.

The durable modules also offer a high level of reliability and can be equipped with many options. LinMot offers linear rotary motors in two different series.



Independent and synchrone motion control possible

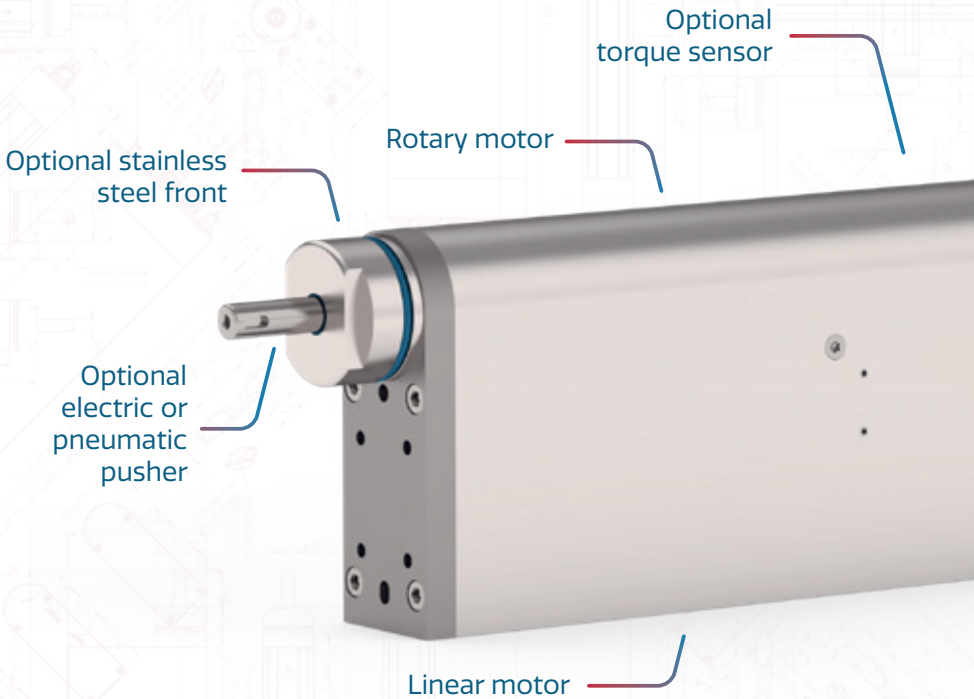
Programmable in operation

Plug & Play

Ready for Industry 4.0

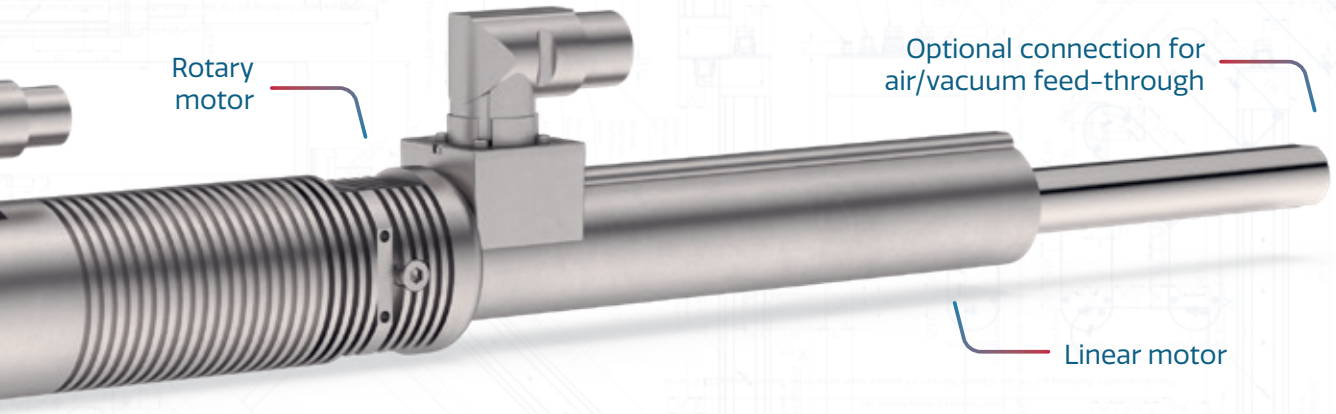
Series PR02

The PR02 motor series features a design that integrates the motors and ancillary components into a slim, easy-to-clean housing. The parallel design of the PR02 linear and rotary motors, together with the additional options, ensures a minimised installation length. This makes it much easier to integrate the drives into compact machine designs.



Series PR01

Thanks to the serial arrangement of linear and rotary motors, the PR01 linear rotary motors enable the realisation of very compact solutions on a very small footprint. Depending on the application, the drives can be designed with MagSpring® weight compensation or a gear ratio and also offer other interesting equipment options.



360°

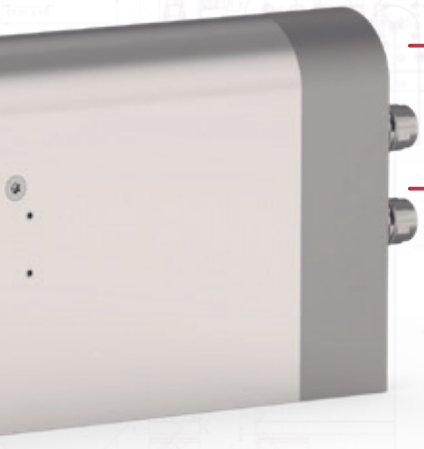
Continuous rotary movement

F

Linear force control

Torque control

Long service life



LinMot linear rotary motors are available with options and additional components, so that even unusual applications can be realised. For example, the user can choose from the following features:

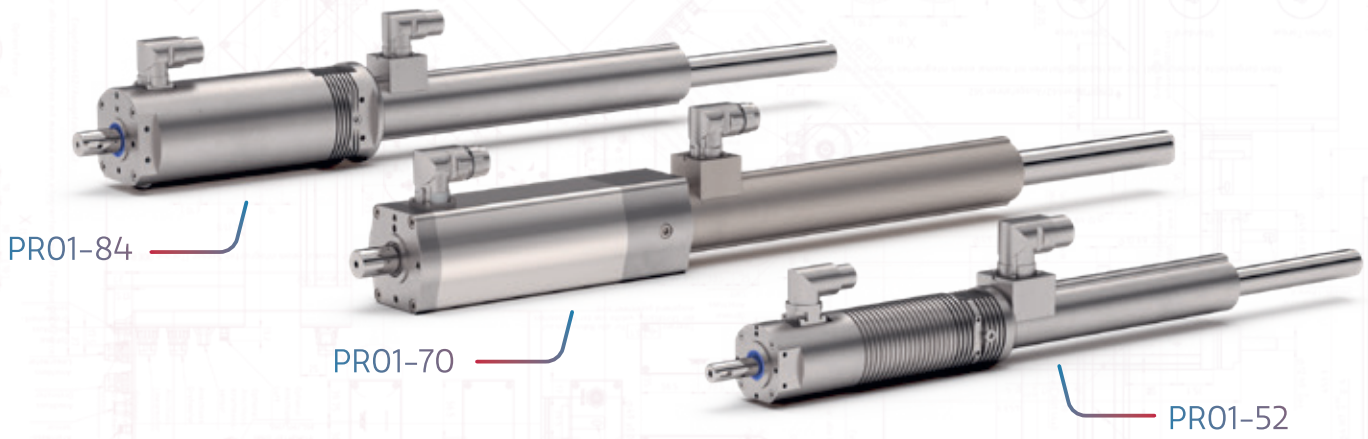
MagSpring® load compensation, pneumatic brake, wiper, stainless steel front, hollow shaft, pneumatic/electromagnetic plunger, torque and force sensor and force sensor. A detailed overview is provided on the following pages.

The innovative drives also provide all the necessary data packages for networked production in line with 'Industry 4.0'. Real-time monitoring and optional sensors provide detailed production data such as linear position, angle of rotation, current force or torque.

PR01

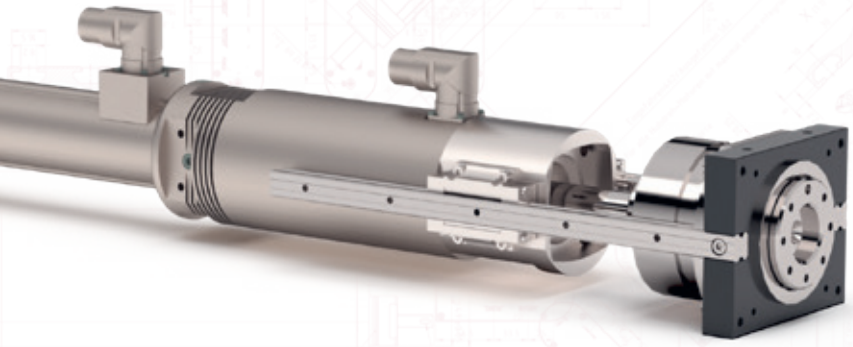
- Serial construction principle with the smallest possible footprint
- Linear direct drive
- Rotary direct drive
- Synchronised & independent linear and rotary motions
- Integrated position sensors
- Absolute temperature feedback
- Programmable position/motions profiles
- Programmable pressing force
- Programmable torque
- Endless turning
- „Single turn“ absolute encoder

Stroke up to	mm	300
Peak power	N	255-1024
Nominal force	N	51-203
Max. speed	m/s	3.9
Max. torque	Nm	1.5-8.9
Nominal torque	Nm	0.32-1.9
Max. num. of rev.	rpm	1000-1500
Repeatability	mm	0.05/0.01
Length	mm	503-1222



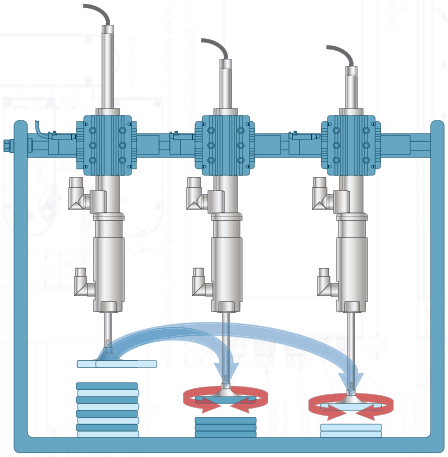
PR01 with Gearbox

- For applications with high inertia loads
- For applications with high torque
- 3 selectable gear ratios
- With guide rails to bear transverse forces



Stroke up to	mm	150
Peak power	N	1024
Nominal force	N	203
Max. speed	m/s	3
Transmission ratio	i	1:5/1:7/1:10
Max. torque	Nm	40/56/75
Nominal torque	Nm	8.2/12/17

Options PR01

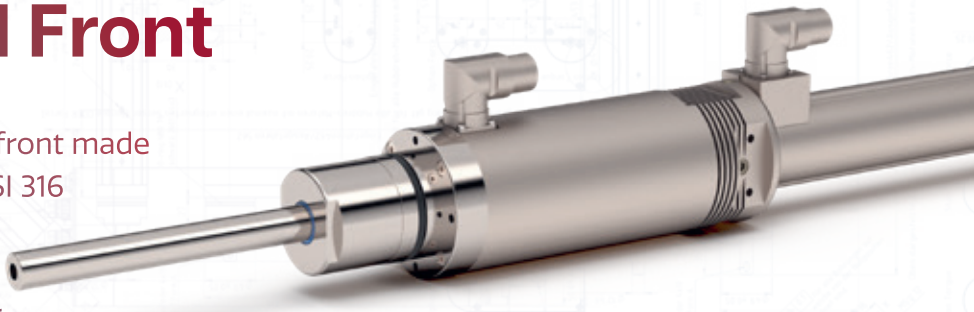


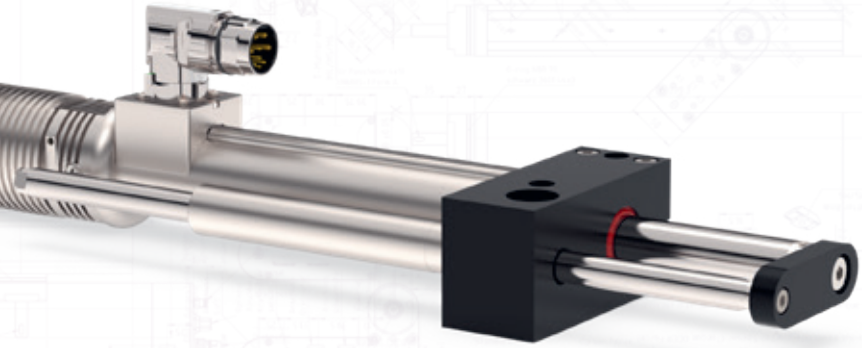
Hollow Shaft

- Version with hollow shaft
- Inner diameter 2.5 / 4.0 mm
- Simple compressed air supply
- Can be upgraded to a vacuum gripper
- Can be combined with a pneumatic gripper

Stainless Steel Front

- Linear rotary shaft and module front made of stainless steel EN 1.4404 / AISI 316
- Hygienic design
- Resistant to cleaning agents
- Optimum use in the food sector
- Optimum use in the chemical sector





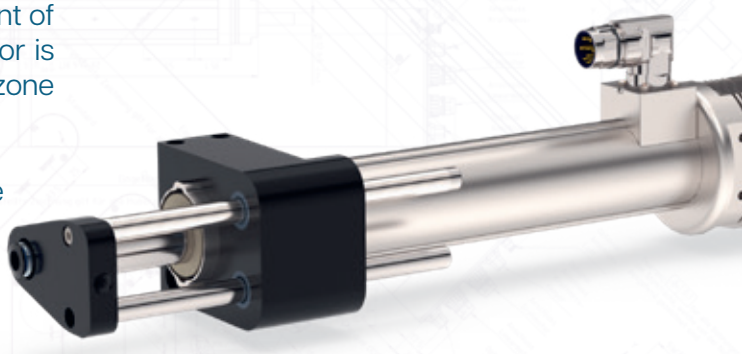
MagSpring

If the weight of the linear rotary axis is to be compensated passively, a magnetic spring “MagSpring” can be installed. LinMot offers the appropriate flange and adapter for easy installation.

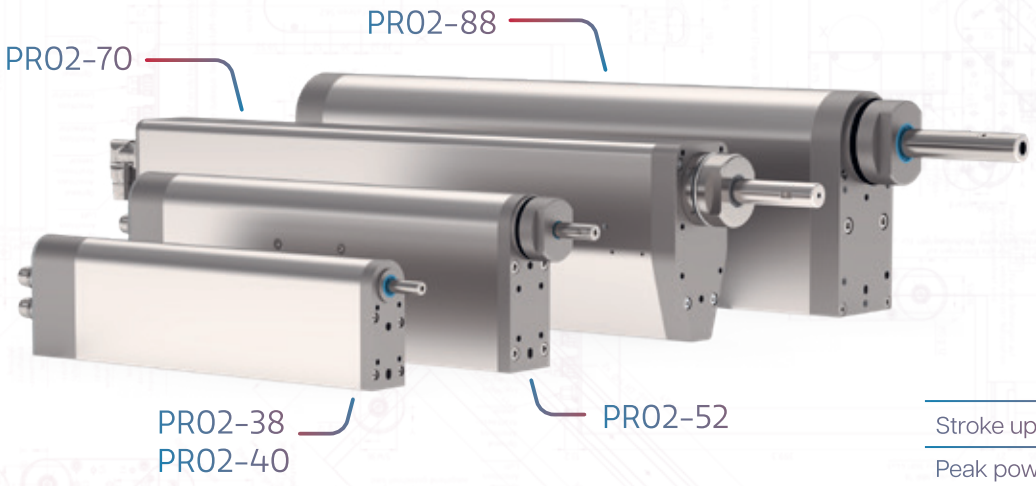
Cam Kit/Brake Kit

The multi-part cam kit offers the user an easy way to couple the linear rotary motor to an emergency baffle. In the event of a power failure, the moving part of the linear rotary motor is forcibly moved upwards out of the collision-endangered zone by the baffle control.

LinMot also offers a brake kit. The pneumatic brake included in the kit provides the braking effect. This is activated when de-energised and acts directly on the splitter shaft, which is installed parallel to the motor axis.



PR02

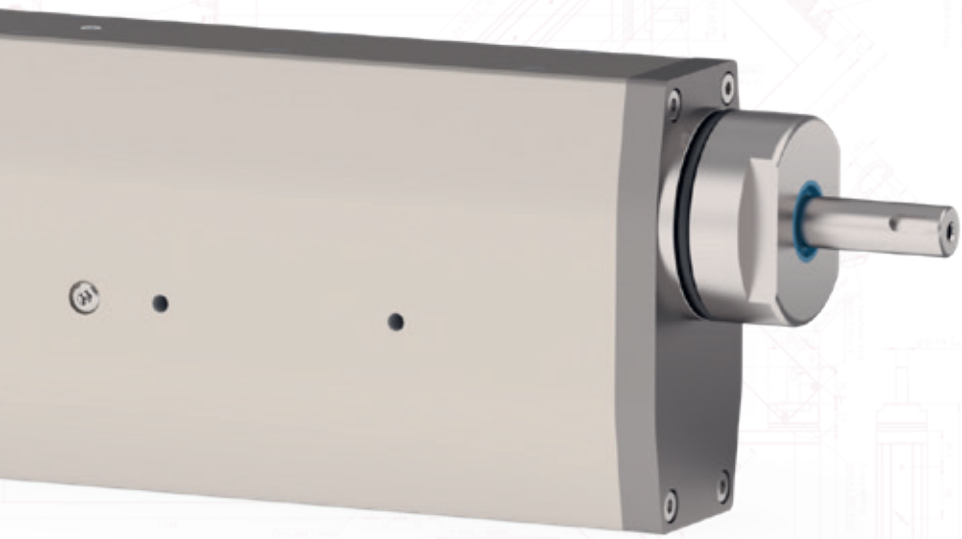


Stroke up to	mm	300
Peak power	N	67-572
Nominal force	N	25-230
Max. speed	m/s	2.9 - 7.3
Max. torque	Nm	1.2-10
Nominal torque	Nm	0.32-2.64
Max. num. of rev.	rpm	1000-1500
Repeatability	mm	0.05/0.01
Length	mm	350 - 1018

- Parallel design principle with short installation length
- PR02-70 Linear rotary motor with special design, ideal for compact rotary transfer machines
- Option of integrated MagSpring® for load compensation
- Torque measuring shaft and / or force sensor option
- Optional front flange and linear rotary shaft made of stainless steel
- Hollow shaft option for air feed-through (compressed air / vacuum)
- Option linear rotary motor completely in stainless steel
- Pusher option for gripping on position / force or for ejecting parts
- Independent linear and rotary motions
- Extensive range of strokes

PR04-52

- Special version of the PR02 series
- Very large stroke range of 200 mm
- Smallest footprint and overall dimensions
- Perfect for use in robotic systems
- Ideal for pick-rotate-place applications

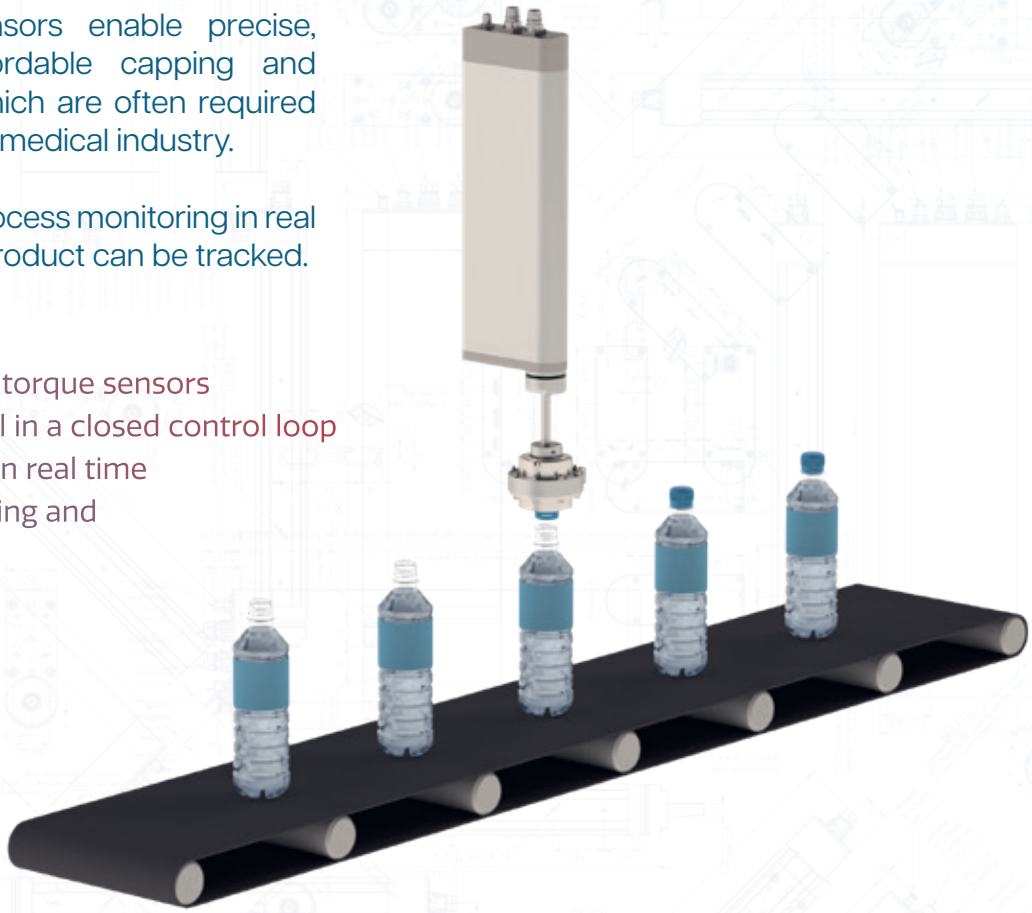


Stroke up to	mm	200
Peak power	N	255
Nominal force	N	75
Max. speed	m/s	3.9
Max. torque	Nm	2.2
Nominal torque	Nm	0.55
Max. num. of rev.	rpm	1000
Repeatability	mm	0.05
Length	mm	632

Option
Force & Torque Sensor

Torque and force sensors enable precise, reproducible and recordable capping and assembly processes, which are often required in the pharmaceutical or medical industry.

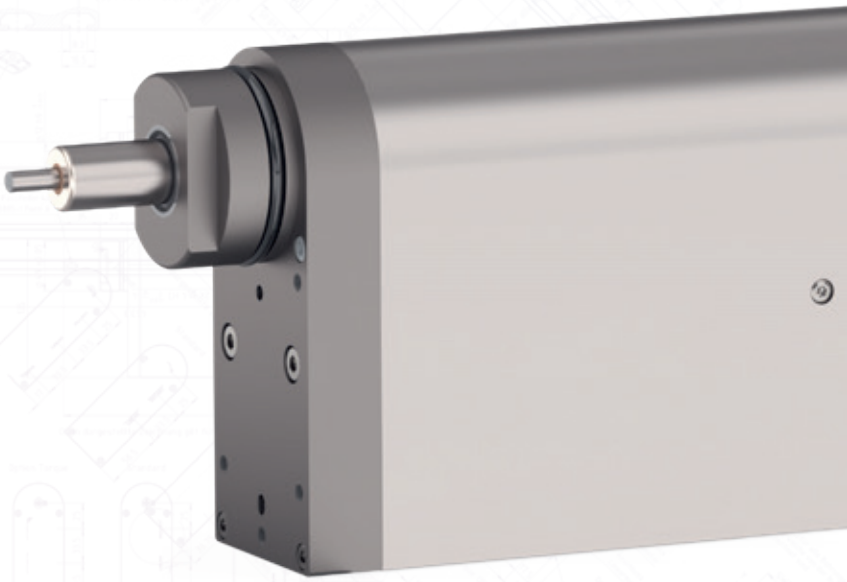
Thanks to continuous process monitoring in real time, every assembled product can be tracked.



- Calibrated force and torque sensors
- Force/torque control in a closed control loop
- Process monitoring in real time
- High-precision capping and assembly processes
- Data acquisition and process monitoring
- Industry 4.0

Option
Pusher

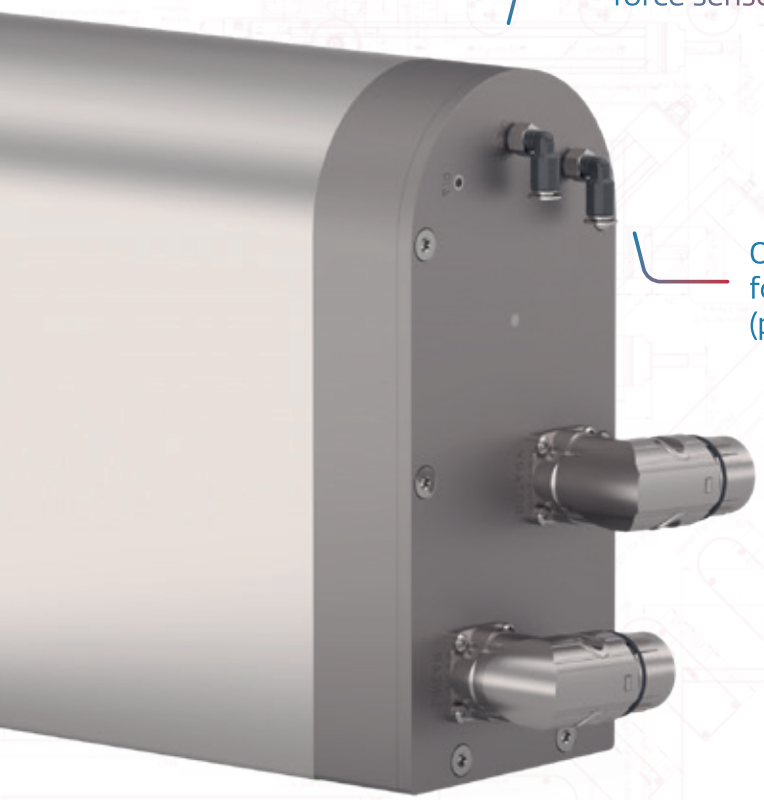
The pusher option allows the user a second axial, telescopic movement. This option can be used to eject gripped elements or operate mechanical grippers. The pusher can be driven electrically or pneumatically.



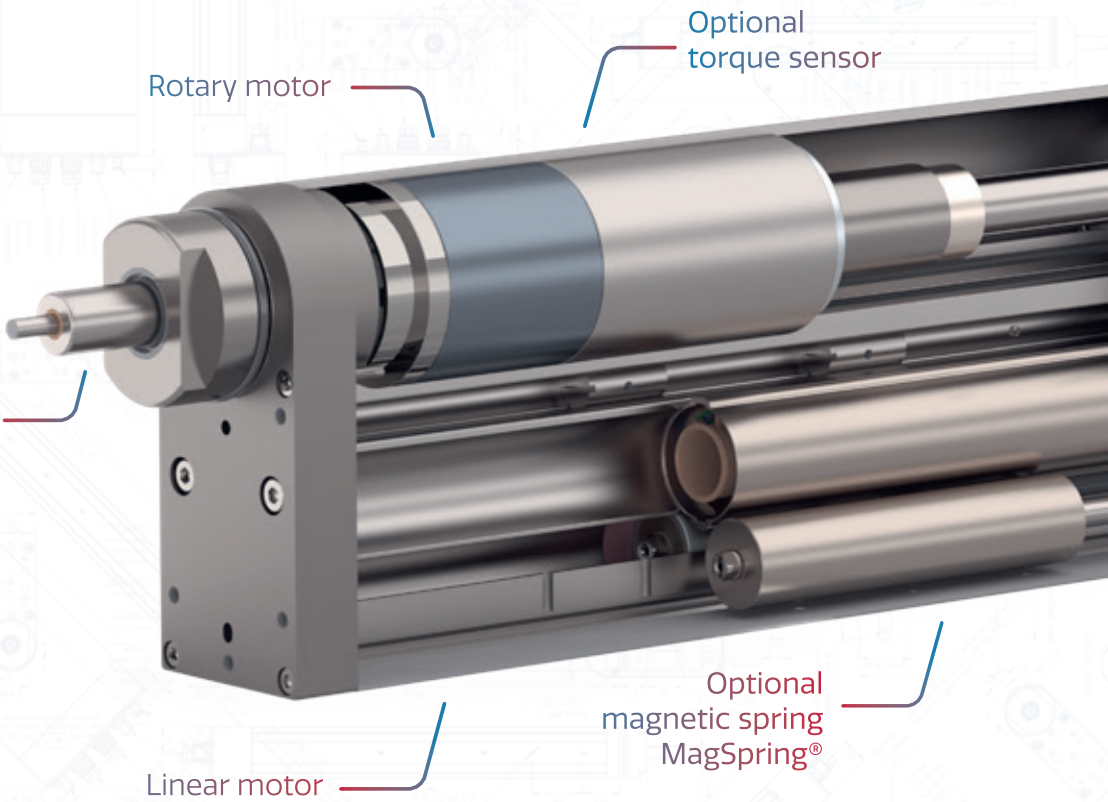
Stroke up to	mm	25
Peak force (Electr. pusher)	N	300
Peak force (Pneum. Pusher)	N	400
Pusher diameter	mm	6-8

Specifications at a Glance

Motor Family PR01	Stroke Force	U/min. Torque	MagSpring	Hollow shaft	Brake	Emergency backdrop
PR01-52	≤ 150 mm ≤ 255 N	≤ 1500 U/min. ≤ 2.2 Nm	✓	✓	✓	
PR01-70	≤ 150 mm ≤ 572 N	≤ 1000 U/min. ≤ 9 Nm	✓	✓	✓	✓
PR01-84	≤ 300 mm ≤ 572 N	≤ 1000 U/min. ≤ 10 Nm	✓	✓	✓	✓
PR01-52 with gearbox	≤ 100 mm ≤ 255 N	≤ 150 U/min. ≤ 20 Nm	✓		✓	
PR01-84 with gearbox	≤ 150 mm ≤ 1024 N	≤ 100 U/min. ≤ 75 Nm	✓		✓	✓



Motor Family PR02	Stroke Force
PR02-38 PR02-40	≤ 70 mm ≤ 67 N
PR02-52	≤ 100 mm ≤ 255N
PR02-70	≤ 240 mm ≤ 572 N
PR02-88	≤ 300 mm ≤ 572 N



U/min. Torque	MagSpring	Hollow shaft	Torque sensor	Force sensor	Pusher	Stainless steel front
≤ 1500 U/min. ≤ 1.2 Nm	✓	✓	✓	✓		
≤ 1500 U/min. ≤ 2.2 Nm	✓	✓	✓	✓		✓
≤ 1000 U/min. ≤ 9 Nm	✓	✓	✓	✓	✓	✓
≤ 1000 U/min. ≤ 10 Nm	✓	✓	✓	✓	✓	✓