Industrial Linear Motors

LinMot®

Industrial Linear Motors

Purely electrical drive system

Freely positionable along the entire stroke

For precise and dynamic positioning tasks

Direct drive technology provides longer life

Clean room certification & protection class up to IP69K

The linear motor technology for industrial applications

www.motiontech.com.au
Industrial Linear Motors

LinMot linear motors are direct electromagnetic drives. The linear motion is generated without wear, with no intermediary mechanical gearboxes, spindles, or belts.

The motor is made up of just two parts: the slider and the stator. The slider is made of neodymium magnets, which are mounted in a high-precision stainless steel tube. The stator contains the motor windings, slider bearings, position sensors, temperature monitoring, and microprocessor circuitry with an integrated electronic nameplate.

LinMot linear motors are available in many different sizes and cover the whole power range from very small low voltage motors up to powerful three phase motors for 3x200...480VAC supply. LinMot motors are characterized by the high power density and uncomplicated system integration.

- Flexible
- Reliable
- Dynamic and Precise
- Integrated position feedback
- Programmable motion profiles
- Programmable press forces
Stacking
Loading
Palletizing
Alignment
Diverting
Stamping & Labeling
Cutting
Sorting
LinMot Linear Rotary Motors

The motors series PR01 are designed freely combinable linear-rotary motions. The integration of a linear motor together with a rotary direct drive in a compact housing results in a new design element for innovative machine builders. As each motor is controlled by his own servo controller, high dynamic linear-rotary motion sequences, either in synchronized to each other or completely independent motions can be realized in a simple way.

As innovative design element the PR01 motors can be used for complex motion tasks such as screwing, taping, closing, stacking, aligning, and much more. Linear rotary motors permit the linear force (pressure) as well as the torque (tightening torque) to be regulated independently.

The motors PR01 with up to 1'024N linear force and up to 7.5Nm of rotary torque are available in different sizes with or without hollow shaft.

- Linear and rotary direct drive
- Independent linear and rotary motions
- Synchronized linear and rotary motions
- Programmable press force up to 1'024N
- Programmable torque up to 7.5Nm
LinMot fields of applications

LinMot linear motors and servo controllers are built for use in harsh, demanding industrial environments. Their exceptional technical properties, low-maintenance operation, and extremely long life set them apart.

LinMot tubular linear motors are designed to meet the requirements of simple positioning applications, such as the replacement of pneumatic cylinders. Specially if the application requires more flexibility, higher dynamics, longer duration or maintenance or energy costs for pneumatics are getting to expensive.

Simple positioning tasks
High dynamic movements
Synchronized motion sequences
Replacement for pneumatic cylinders
Replacement for belts & spindles
Replacement for mechanical cams

Feeding
Insertion
Escapement
Folding
Sealing
Loading
Stacking
Palletizing
Unloading
Diverting
Assembly
Pressing
Press joining
Punching
Vibrating
Mixing
Separation
Lime application
Flying carpet
Synchronous insertion
Fill level metering
Pallet filling
Blister filling
Bottle and tube filling
Sealer control
Print mark aligning
Pad printing
Label positioning
Camera positioning
Light positioning
Handling Modules

Assembly Modules

Labeling Units

Parallel Kinematics

Packaging Machines

High Speed Palletizing Systems

Handling Modules

Logistic Systems
Motor series P01-23x80
Maximum stroke: 770mm
Maximum force: 44N

Motor series P01-23x160
Maximum stroke: 770mm
Maximum force: 86N

Motor series P01-37x120
Maximum stroke: 1'460mm
Maximum force: 163N

Motor series P01-37x240
Maximum stroke: 1'460mm
Maximum force: 308N

Motor series P01-48x240
Maximum stroke: 1'830mm
Maximum force: 585N

Motor series P01-48x360
Maximum stroke: 1'710mm
Maximum force: 1'024N

Motor series P10-70
Maximum stroke: 1'770mm
Maximum force: 2'500N
Motor series P02-23Sx80
Maximum stroke: 780mm
Maximum force: 67N

Motor series P01-37Sx60
Maximum stroke: 770mm
Maximum force: 86N

Motor series P01-37Sx120
Maximum stroke: 1'460mm
Maximum force: 163N

Linear Motors INOX IP69K
Maximum stroke: 1'830mm
Maximum force: 585N

Linear Motors ATEX
Maximum stroke: 1'710mm
Maximum force: 1'024N

Linear-Rotary-Motors PR01
Maximum stroke: 1'770mm
Maximum force: 2'500N
LinMot Short Motors

The short motors are specifically designed for applications with limited space. The small motors permits to design compact multi-axes applications where multiple stators are running completely independent on the same slider.

For a quick and easy installation, the motor cable connector is located under the removable cover. In order to give the designer the greatest possible freedom in cable management, the motors are delivered with three covers with cable outlet to the left, right or front.

- **Compact design**
- **High power density**
- **Integrated mounting flange**
- **Motor cable connector under removable cover**
- **Motor covers with side or front side cable outlet**
- **Ideal for compact multi-axes applications**
Linear Motors INOX IP69K and ATEX

These compact linear motors are made completely in stainless steel 1.4404/316 and are characterized by their high protection class IP69K. In a special version the motors are available with ATEX approval for use in explosion-proof environments.

All mechanical connections of the motors are welded and inside of the motors is completely sealed to prevent the formation of condensation that could be caused by temperature changes.

These properties together with the easy to clean stainless steel surfaces allow the use of linear motors in machines and systems for the food processing and pharmaceutical industries.

INOX Motors

ATEX Motors

Stainless steel 1.4404 / 316
Welded connections, no sealings
Completely sealed inside, no air pockets
Explosion-proof version for gas / dust
Hygienic design for wash-down applications IP69K
**LinMot Linear Guides**

LinMot Linear Guides are compact guide units with integrated ball bearings or plain bushings, for operating LinMot linear motors with standard or heavy duty sliders.

The Linear Guides are used as load bearings, to resist external forces and rotational and bending moments, and as an anti-rotation device. They provide high-precision guidance and allow dynamic and precise positioning of the load.

The modular design allows simple addition of accessories, such as a mechanical brake or magnetic spring, for load balancing in vertical applications.

- **Compact design and simple mounting**
- **Available with ball bearings or plain bushings**
- **Allows high accelerations and velocities**
- **Dynamic and precise positioning of the load**
- **Mounting option for pneumatic brake**
- **Mounting option for magnetic spring MagSpring**
Magnetic Springs MagSpring

MagSpring products can best be described as “magnetic springs.” The term “spring”, however, is to be understood to mean that MagSpring components generate a constant force over their entire working range, while the characteristic curve for a typical mechanical spring shows an increase in force with increasing displacement.

The generation of force that is independent of the stroke makes MagSpring preferable for balancing weight forces in vertical drive applications.

Using a MagSpring installed in parallel with a linear motor, this weight load can be passively balanced. The linear motor is then only used for the positioning operation and dynamic forces, and can therefore be correspondingly smaller in design.

- Constant force over the entire working stroke
- Completely passive, no air or electricity required
- Ideal for compensating the force of gravity
- Different stroke ranges and forces available
- Compact and robust design
Servo Drives

LinMot linear motors, together with the associated Servo Drives, create an optimal drive system for linear positioning tasks. The wide range of drive products allows rapid implementation of simple applications with two end positions, up to complex, high-precision multi-axis applications with synchronization to a main electronic shaft.

LinMot Drives for the high dynamic and precise control of linear and rotary motors cover the entire power range from small low voltage 24-72VDC motors up to the strongest three phase linear and servo motors with 3x200...480VAC supply.

- Single and multi-axis controllers with integrated power stage
- Precise control of position, speed, acceleration, and force
- Execution of internally stored motion profiles or sequences
- Electronic cam functionality for synchronization with a main drive
- Digital trigger inputs and analog target value inputs
- Serial communications, field buses, and industrial ETHER-
System Integration

Connection to an overlaid control system can be made via analog, digital, or serial interfaces, field busses, or ETHERNET. The wide range of field bus interfaces and protocols allows simple integration of LinMot Servo Drives in any controls concept. Regardless of the manufacturer and type of controls, LinMot Servo Drives provide the right interface to connect to an overlaid PLC, industrial PC, or proprietary control system.

Besides LinMot’s linear and linear-rotary motors any third-part linear or rotary motor may be controlled by LinMot drives. Very often manufacturers of control do not offer integration for small actuators and the LinMot drive is the only alternative.

System integration control

Siemens  Allen-Bradley  Beckhoff  B&R  Schneider ELAU  Bosch, Omron...

System integration actuators

Simple system integration to overlaid control
Tested PLC function blocks available from LinMot
Standard protocols for NC and CNC integration
Precise control of LinMot and third part linear motors
Precise and dynamic control of third part rotary motors
Interfaces for motor peripherals; brake, encoder, ...

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