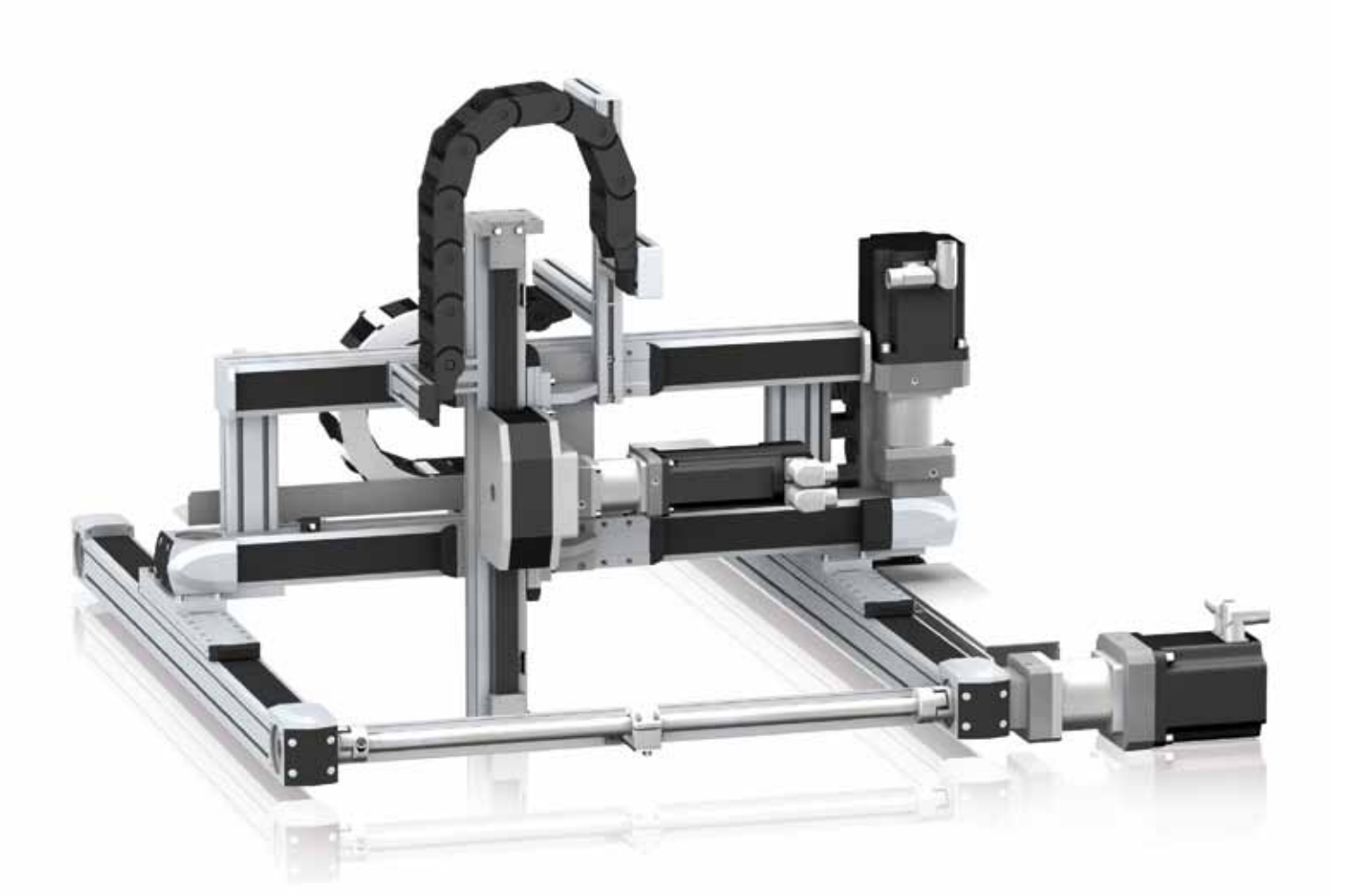
Take the Lead with Lexium Linear Motion

A Comprehensive Range of Modular Single- and Multi-Axis Systems for All Linear Movements



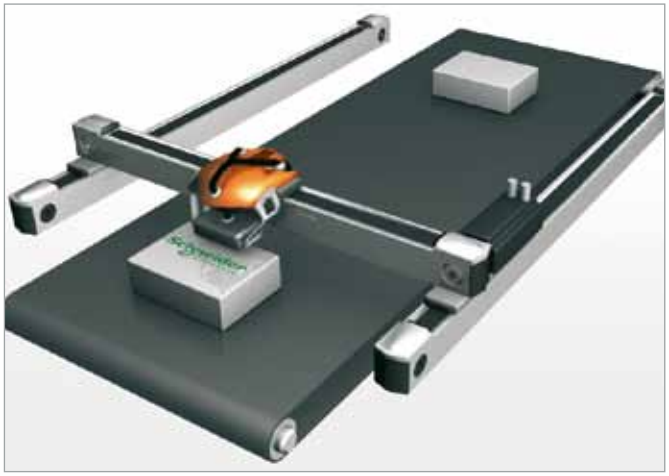
Schneider Electric

Discover Our Solutions for Your Specific Application

A comprehensive range of portal axes, linear tables, cantilever axes, telescopic axes and fully pre-assembled linear and portal robots – we are your one-stop shopping partner.
Linear motion plus motion controllers, drives and motors – Schneider Electric offers a complete range of motion products and solutions for your specific applications.

Handling

Flying Saw



Labelling on the Fly

Pick & Place

Maximum Productivity with Lexium Linear Motion

Solutions for all linear motion tasks

- For axis systems below, above and next to the working area, with any combination of arrangements
- Up to three dimensions with stroke lengths of up to 5,500 mm
- Consistently modular range for any combination of axis types

Customised and complete solutions

- Single-axis and multi-axis systems adapted to individual requirements in terms of length and stroke, precise to the millimetre
- Available with mounted motors and/or gearboxes
- Complete systems available including controllers, drives and motors
- A global team of experts versed in virtually all industries and applications assist you with their comprehensive solution competency

Modular kit system for consistent, easy engineering, mounting and maintenance

- Axes with identical adaptation and motor interfaces for maximum flexibility and cost-effectiveness
- Different drive types (toothed belt, ballscrew, toothed rack) and different guide types (roller, recirculating ball bearing) to match the application requirements in terms of load, speed, dynamics and cost
- Large selection of versions and options, e.g. motor mounting position, special ambient conditions (corrosion-resistant, metal cover strip, etc.)
- Common spare parts for your optimised parts logistics

Lexium PAS Portal Axes and Lexium TAS Linear Tables

Single-axis systems for loads of up to 150 kg

Lexium PAS B and Lexium PAS S portal axes

- Lexium PAS B with toothed belt are designed for precise, dynamic positioning of heavy loads over long distances
- Lexium PAS S with ballscrew are designed for high-precision positioning of heavy loads at low to medium speeds with high feed forces
- Large selection of sizes, adapted to customer requirements
- Flexible interface for simple and rapid mounting, modification and service
- With metal cover strip for application in rough environments

Lexium TAS linear tables

- Due to the integrated ballscrew drive, Lexium TAS are ideal for high-precision linear positioning of heavy loads at high feed forces with minimum mechanical backlash
- Superior system rigidity and compact dimensions
- Each guide rail with two recirculating ball bearing guides and integrated ball chain
- Aluminium profiles with extremely high torsion and bending resistance

Designed for high-speed positioning up to

8 m/s

Outstanding dynamics with a torque of

110 Nm

Lexium PAS B
with toothed belt

Lexium PAS S
with ballscrew

Lexium TAS
with integrated ballscrew drive

Typical Applications

Lexium PAS B
Material handling • Palletisers • Labelling
Lexium PAS S
Cutting • Machining / Optical • Measuring
Lexium TAS

- Feed without backlash: cutting, separating, labelling, etc.
- High feed forces: clamping, machining, etc.
- Moving of heavy loads: material handling, etc.
- Precise positioning: optical, lasers, etc.

Application example

In the wood processing industry, optimising cutting processes is the key to reducing costs and increasing the wood yield. Circular saws with multiple adjustable blades use laser beams as optical extensions of the blades for width measurement of boards. The lasers are positioned via Lexium PAS portal axes driven by Lexium ILS Integrated Drives.

Lexium MAX
Dual Portal Axes

Dual-axis systems for large loads and high speeds

Lexium MAX H and Lexium MAX S dual portal axes

- Dual portal axes are designed for high-precision, dynamic movements of large, heavy loads over long distances in a single plane
- Lexium MAX H consists of a driven toothed belt axis and a non-driven support axis. The carriages of the support axis are moved by the load which is driven via the main axis.
- In the case of Lexium MAX S, the support axis is driven by a transmission shaft
- Up to three carriages for large loads
- Available with metal cover strip, anti-static toothed belt and as corrosion-resistant version for rough environments
- Distance between the two axes from 100 mm up to 2,800 mm

Designed for heavy loads of up to

300 kg

Excellent dynamics: acceleration of

20 m/s²

Lexium MAX H
driven toothed belt axis and non-driven support axis

Lexium MAX S
driven toothed belt axis and a support axis driven by a transmission shaft

Typical Applications

Lexium MAX H
- Pick & place of larger-surface loads
- Positioning in transfer or processing positions

Lexium MAX S
- As Lexium MAX H, but for even heavier and wider loads

Application example

In an edge working process, Lexium MAX S turns wooden boards by means of a lifting/turning unit and moves them to the processing machine. With a speed of 2,500 mm/s, a load of 300 kg and a stroke of 4,500 mm, Lexium MAX S provides superior dynamics and can easily handle the high forces and torques involved in the application.

Lexium CAS Cantilever and Lexium CAS Telescopic Axes

Single-axis systems with stationary motor and moving axis body

Lexium CAS 3 and Lexium CAS 4 cantilever axes

- Cantilever axes consist of a stationary motor unit and a mobile axis body which moves into the working area
- Lexium CAS 4 with extruded profile axis body and toothed belt drive is designed for high speeds (with roller guides) and great loads and strokes (with recirculating ball bearing guides)
- Lexium CAS 3 with round bar axis body, toothed belt or toothed rack drive and recirculating ball bearing guide is used for light and medium loads and strokes
- Available with metal cover strip (Lexium CAS 4 only), anti-static toothed belt and as corrosion-resistant version for rough environments
- Mechanical interface or end plate for suction, gripper and assembly tools

Lexium CAS 2 telescopic axis

- Lexium CAS 2 telescopic axes are extremely space-saving units consisting of a moving axis body, a moving carriage and a stationary motor. Their stroke is considerably greater than their length.
- The carriage can move in positive and negative directions with the same stroke
- Recirculating ball bearing guide for high forces and torques or roller guide as cost-effective alternative

Lexium CAS 3,
round bar,
with strokes up to
500 mm

Lexium CAS 4,
extruded profile,
with strokes up to
1,200 mm

Lexium CAS 2,
telescopic,
with strokes up to
2,400 mm

Lexium CAS 4
with extruded
profile axis body

Lexium CAS 3
with round bar
axis body

Lexium CAS 2
telescopic axes

Typical Applications

Lexium CAS 4
- Fast movements: pusher, pick & place, etc.
- High feed forces: cutting, machining, etc.
- Long-distance positioning: material handling, etc.

Lexium CAS 3
- High-speed positioning over short working distances: material handling, etc.
- High feed forces: clamping, assembly, etc.

Lexium CAS 2
- Long-distance positioning where space is limited: material handling, transport units, etc.

Application example

Autostackers increase the efficiency of handling processes. This pick & place application for the pharmaceutical industry uses a cantilever axis (Z axis) with five rotatable suction grippers to remove parts from a conveyor; it aligns them in lines of five, and lifts them. The X axis moves the parts before they are lowered into containers with specially formed recesses.

Lexium Max Portal Robots and Linear Positioners

Lexium dual-axis and triple-axis systems for multi-dimensional applications

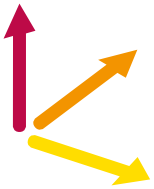
Lexium MAX P linear positioners

- Lexium MAX P are used for dynamic X/Z applications above or below the working area
- The linear positioner consists of a Lexium MAX H dual portal axis (X direction) and a Lexium CAS cantilever axis (Z direction)
- For loads up to 50 kg with long X and medium Z movements

Lexium MAX R•2 and Lexium MAX R•3 portal robots

- Portal robots are used for X/Y or XYZ applications above the working area
- Lexium MAX R•2 consists of a Lexium MAX S dual portal axis (X directions) and a Lexium MAX H or a Lexium PAS B portal axis (Y direction)
- Lexium MAX R•3 features an additional Lexium CAS 4 or Lexium CAS 3 cantilever axis (Z direction)
- An additional rotational axis can be mounted to the Z axis
- Loads of up to 130 kg (MAX R•2) / 50 kg (MAX R•3)

Comes as a completely pre-assembled mechanical system with cable drag chain. Also available as a complete system with gearbox, motor, controller, etc.



Standardised offer with strokes of up to 5,500 mm (X) 1,500 mm (Y) and 1,200 mm (Z)

Lexium MAX P
for dynamic X/Z applications above or below the working area

Lexium MAX R•3
for XYZ applications above the working area

Typical Applications

Lexium MAX P

- Handling of parts from/to conveyor belts
- Loading/unloading of containers
- Sorting and arranging of parts from/into containers

Lexium MAX R

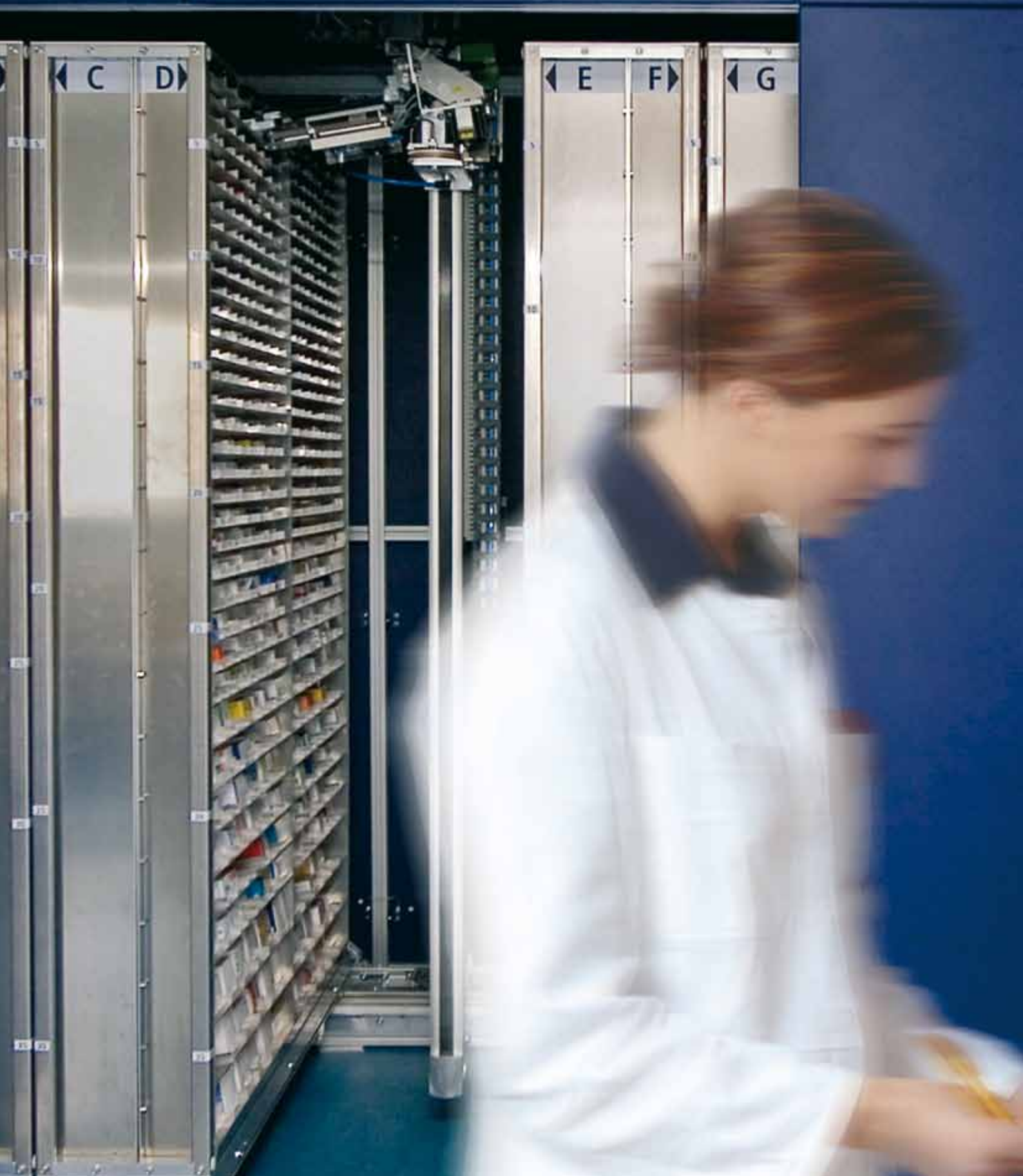
- Multi-dimensional movement of loads over great distances
- Aligning of parts in chaotic production processes
- Inspection/measuring of parts with large surfaces

Application example

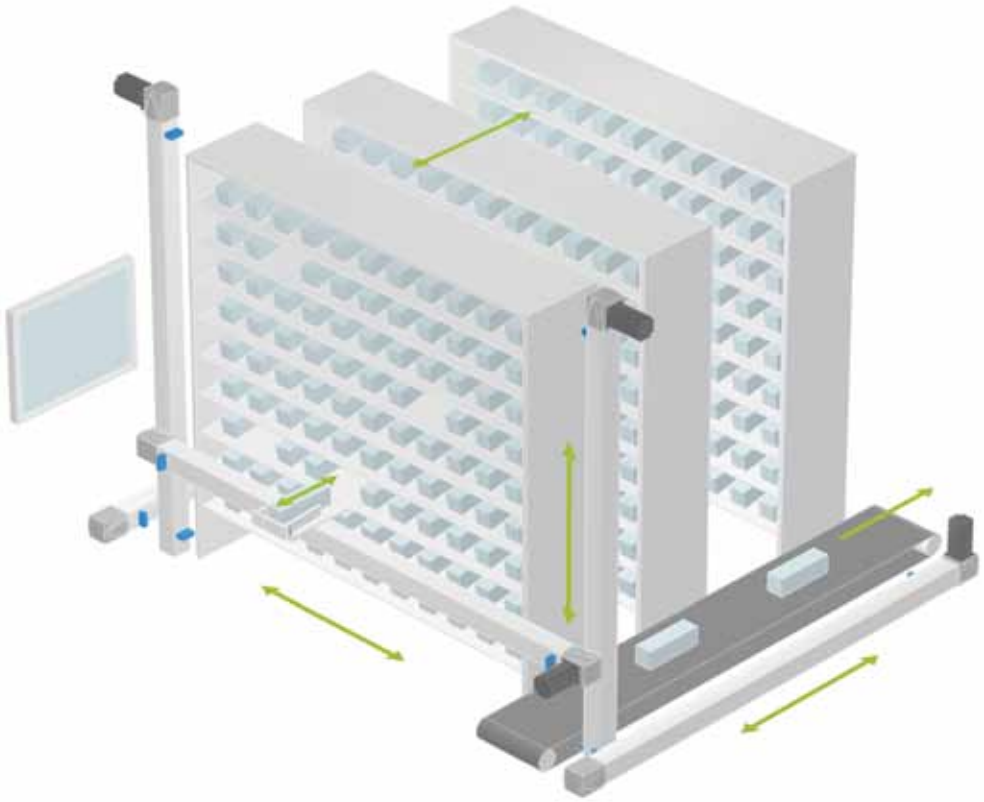
Selective soldering is a high-precision process where parts are soldered to PCBs. The process requires movements in five directions: linear X, Y and Z movements as well as rotation and tilting. The heart of the machine is a Lexium MAX R•3 with servo drives for maximum precision and a repeatability of ± 0.1 mm.

Automatic Store and Pick System

Fully automatic dispensary system for pharmacies, based on Schneider Electric products



One-Stop Shopping for All Automation & Control Products



Schneider Electric products and services for cost-effective, flexible and future-proof solutions:

Worldwide 24/7 support

Co-engineering for application planning and implementation

Delivery of pre-assembled application

Lexium Linear Motion
- The portal robot for handling the products consists of Lexium PAS portal axes with Lexium BMH servo motors
- A further axis driven a Lexium ILA Integrated Drive enables the gripper to access the cupboards from both sides

Lexium 32 servo drives
- for the Lexium BMH servo motors
- in book-size format are optimised for direct side-by-side cabinet mounting to reduce the machine footprint

Lexium Motion Controller
- Controls all motion processes
- Powerful and cost-effective solution for synchronisation of multiple axes

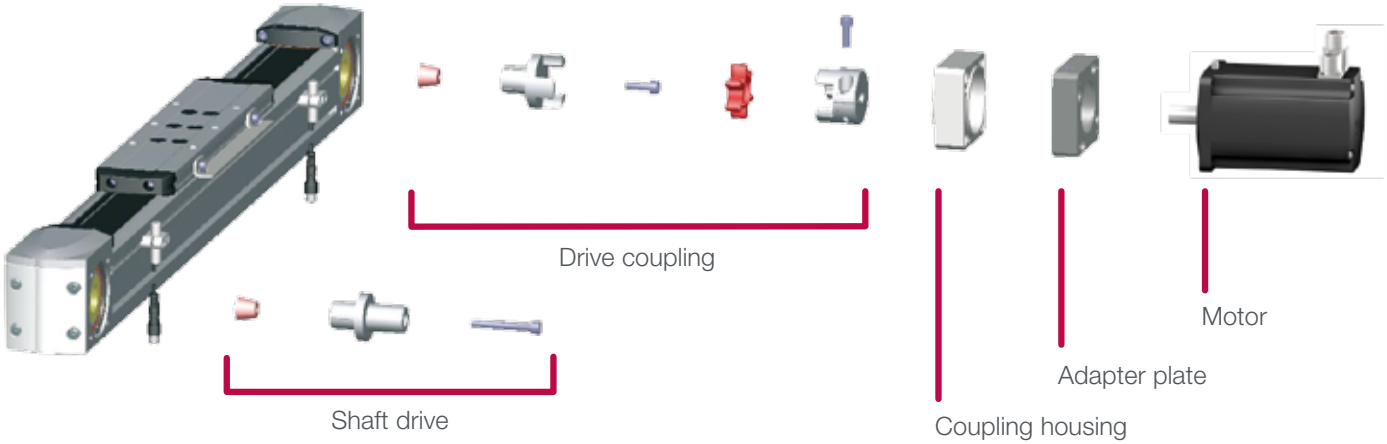
Lexium Integrated Drives
- Lexium ILS with stepper motors for product dispensing and cupboard movements
- Lexium ILA with servo motor for the grippers

Magelis Compact iPC operator terminal
- HMI for selecting, storing, picking, dispensing products
- Sends commands to the motion controller
- DSL connection to wholesaler for ordering

Advantys STB distributed I/O
- To simplify maintenance and diagnostic tasks

OsiSense light sensors, Preventa safety relays, Harmony pushbuttons
- Additional components for performance and safety control

Move Ahead With Maximum Flexibility



Solutions for all motion tasks

Whatever your requirements, Lexium Linear Motion has the suitable axis system. Depending on the application, the axes are installed below, next to or above the working area and allow for all types of movements in up to three dimensions.

Tailored to your application requirements

All single- und multi-axis systems can be adapted to the requirements of your specific application in terms of length and stroke. The modular product range allows for any combination of axis types.

Easy to mount

Identical axis design dramatically reduces engineering, mounting and service efforts – an inestimable time and cost benefit, in particular in the case of multiple-axis systems.

Rapid to service

For efficient production, the axes are fast and easy to service. Identical adaptation and drive interfaces irrespective of the drive and guide type facilitate maintenance. This allows you to replace the motor in less than 5 minutes.

Quick Reference Guide

Single Axes

	Portal axis Lexium PAS B	Portal axis Lexium PAS S	Linear Table Lexium TAS	Cantilever axis Lexium CAS, profile	Cantilever axis Lexium CAS, round bar	Telescope axis Lexium CAS
						
Load	up to 100 kg	up to 100 kg	up to 150 kg	up to 50 kg	up to 18 kg	up to 35 kg
Stroke	up to 5500 mm	up to 3000 mm	up to 1500 mm	up to 1200 mm	up to 500 mm	up to 2400 mm
Speed	up to 8 m/s	up to 1.25 m/s	up to 1 m/s	up to 3 m/s	up to 3 m/s	up to 3 m/s
Guide	Roller / Ball	Ball	Ball	Roller / Ball	Ball	Roller / Ball
Profile/Bars	up to 110 x 110 mm	up to 110 x 110 mm	up to 200 x 59 mm	up to 110 x 110 mm	up to 25 mm	119 x 80 mm
Drive element	Toothed belt	Ballscrew	Ballscrew	Toothed belt	Toothed belt or rack	Toothed belt

Dual Axes

	Dual portal axis Lexium MAX H	Dual portal axis Lexium MAX S
		
Axes	1 driven axis	2 driven axes
Load	up to 250 kg	up to 300 kg
Stroke	up to 5500 mm	up to 5500 mm

Multi Axes

	Linear positioner Lexium MAX P	Portal robot Lexium MAX R•2	Portal robot Lexium MAX R•3
			
Axes	2 axes	2 axes	3 axes
Load	up to 50 kg	up to 130 kg	up to 50 kg
Stroke in x	up to 5500 mm	5500 mm	up to 5500 mm
Stroke in y		1500 mm	up to 1500 mm
Stroke in z	up to 1200 mm		up to 1200 mm

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