



# Industrial Automation

IMI Norgren

Lintra® Plus  
Pneumatic Rodless Cylinders



Breakthrough  
engineering for  
a better world

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## Breakthrough engineering for a better world

We create solutions for our customers which enable smarter, safer, more productive and sustainable factories, production lines and warehouse operations. Our pneumatic and electric motion systems help machine builders and end users around the world automate and optimise manufacturing and warehousing processes.

We have partnered with customers in industrial automation for over a century, applying our experience and innovation to create lasting value for their businesses. Our solutions support critical industries such as automotive, food and beverage, pharmaceuticals and even the space industry. We support the automation of precision manufacturing, product assembly, testing and packaging.

We use the latest digital technologies in our automation products and constantly innovate in close partnership with our customers. By applying our deep expertise, we can solve their toughest automation challenges, today and tomorrow. Through increased productivity, efficiency and safety, our customers can serve their own customers better, creating sustainable competitive advantage and delivering growth.

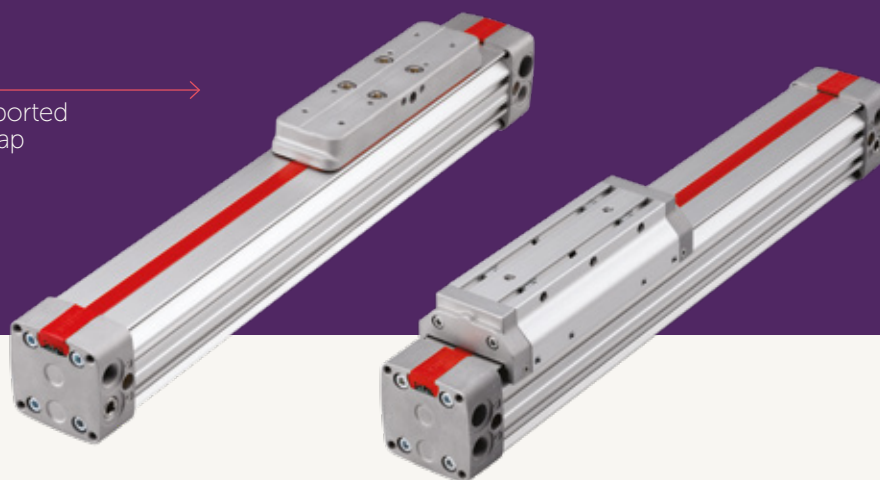
Our world-class product portfolio includes IMI Norgren, IMI Bimba, IMI Bahr and IMI Buschjost.

Breakthrough Engineering you can count on.

●● User friendly  
sealing strip ●●



→ Twin ported  
end cap

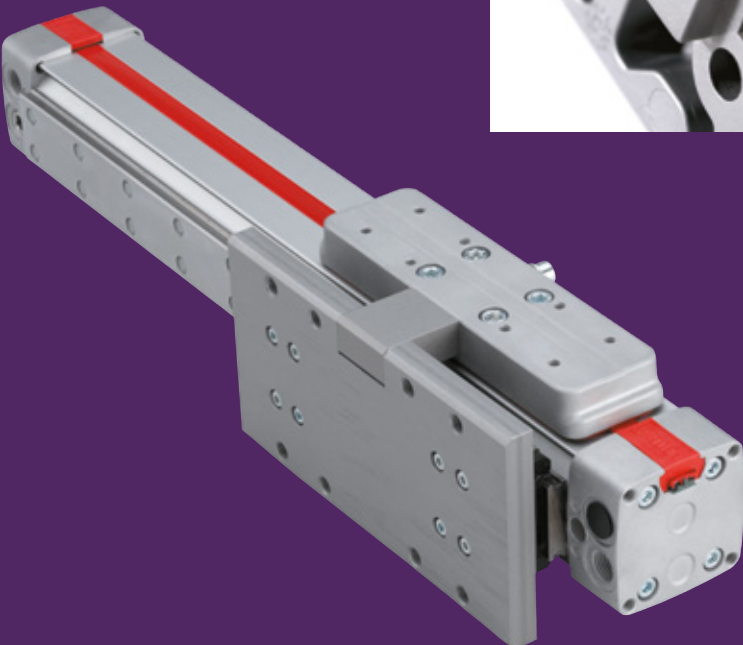
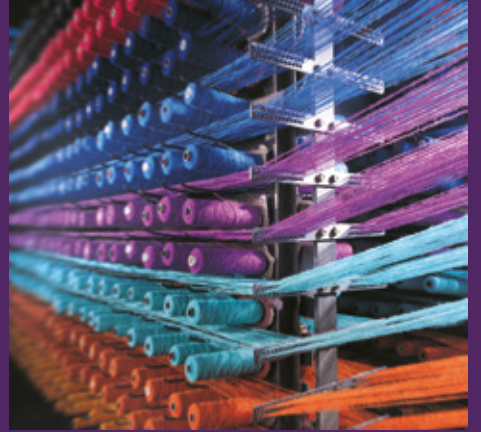
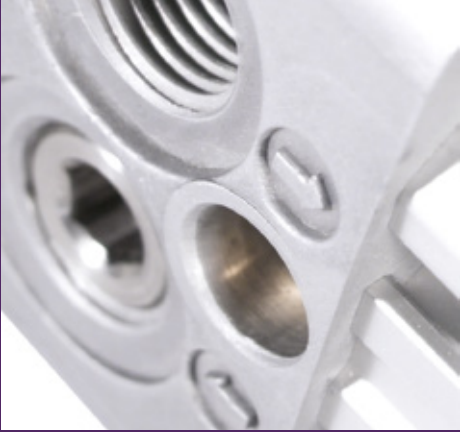


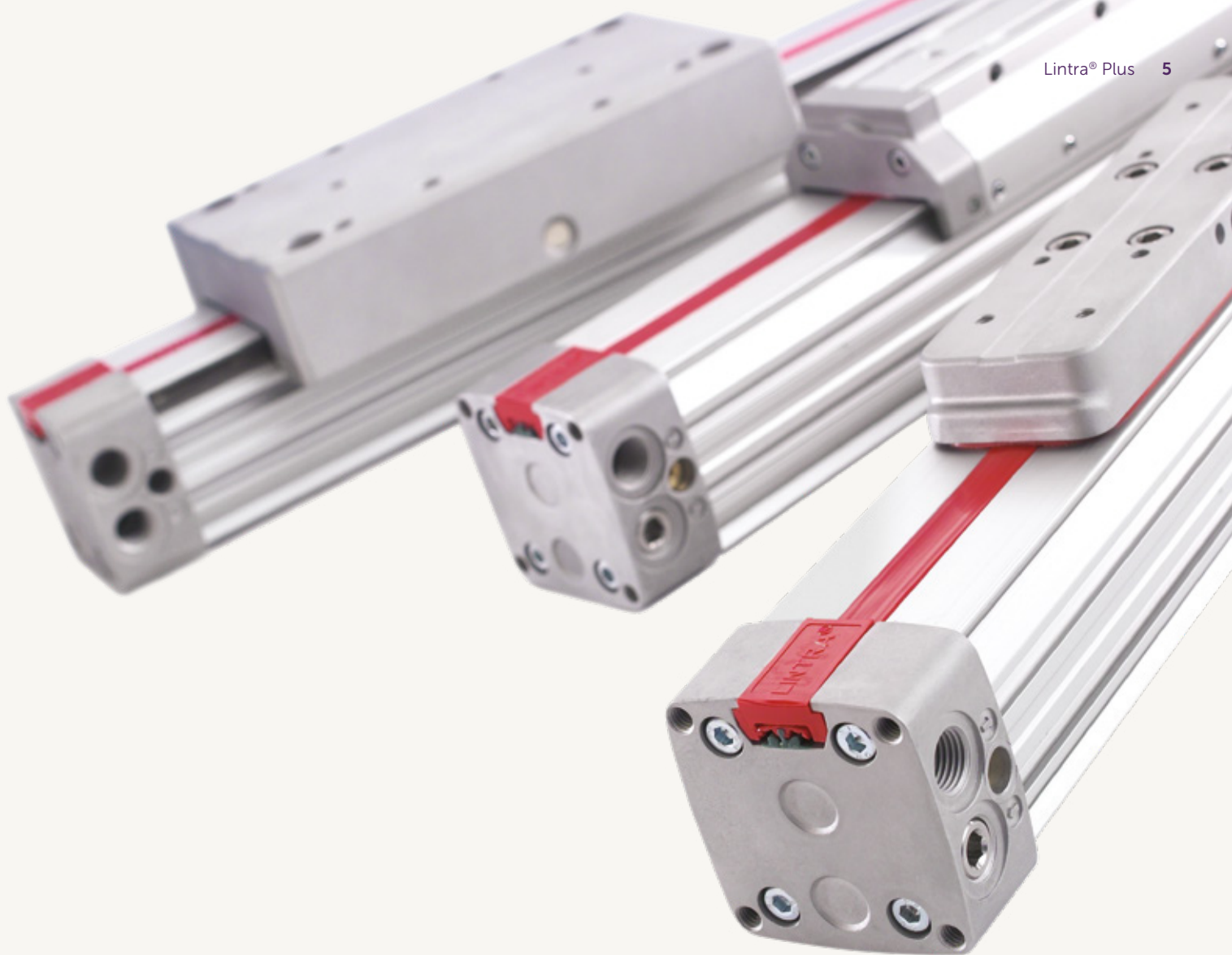
← High strength  
light weight

## Lintra® Plus Reliable, Durable & Proven

The Lintra® Plus range is one of the widest and most comprehensive rodless cylinder ranges available. It's design is unique, with integrated guides housed in the main extrusion, user-friendly sealing strips and slots to take the standard IMI Norgren M/50 series switch.

- Four basic versions
- Quality, long-life sealing system
- Improved version with lower weight, greater load capacity, improved end caps and carriage design
- Complies with ATEX requirements





## Reputation Plus

Lintra® Plus combines all the features you have come to expect with our existing Lintra® series:

- Plus** - Higher load capacity from improved piston design
- Plus** - Lower static and dynamic friction levels
- Plus** - Universal mounting grooves on profile
- Plus** - Single ended and alternative porting options
- Plus** - Improved dust protection across the whole range

Rodless Lintra® cylinders are suitable for use in a wide variety of industry sectors. The cost-effective Lintra® Plus provides the machine design engineer with a high degree of versatility and flexibility due to its alternative guiding systems.

Utilised in numerous mechanical engineering applications, such as:

- Lifting/Lowering
- Feeding/Guiding
- Pick & Place
- Sorting
- Filling
- Spraying
- Cutting

Lintra® Plus is ideal for inclusion in these sectors:

- Automotive
- Material Handling
- Machine Tool
- Paper & Packaging
- Wood Processing
- Textiles
- Food Processing & Packaging

Find out more  
[www.imiplc.com/industrial-automation](http://www.imiplc.com/industrial-automation)

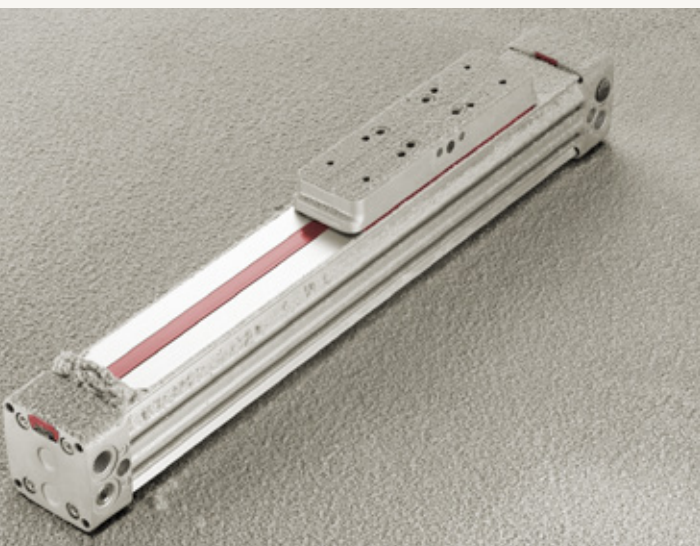
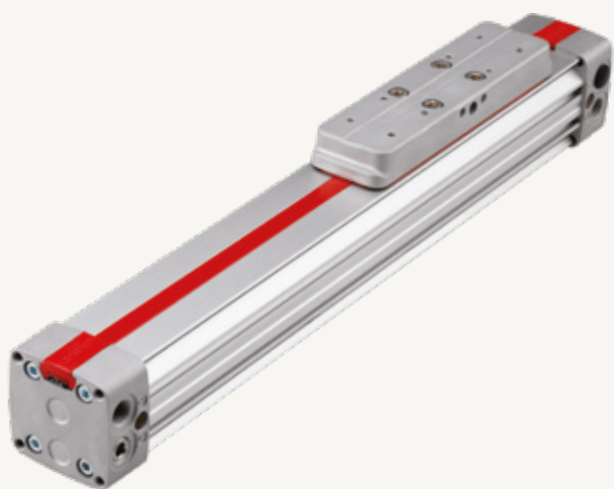
# Versatility Plus

The Lintra® Plus offers a standardised series, capable of carrying medium to heavy loads or simply transmitting motion to a machine function for maximum design versatility.

The series has four variants.

All versions feature integral pneumatic cushioning, large enough to deal with most applications.

Add external shock absorbers for extreme conditions.



## Integration Plus

Weight-saving aluminium profile can be directly integrated into your machine. Universal mounting grooves enables direct mounting of the Lintra® Plus onto proprietary machine building systems and simple attachment of many other components or accessories.

## Durability Plus

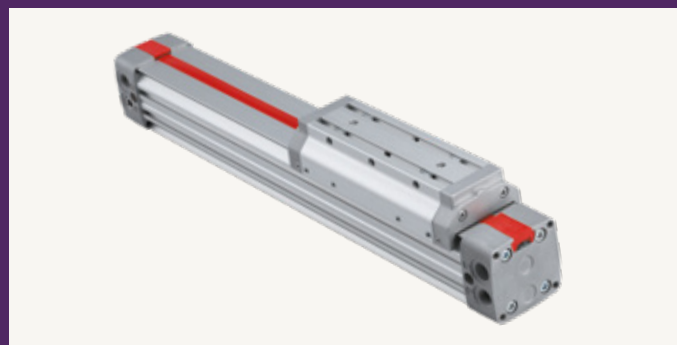
Polyurethane piston seals and precision extruded aluminium profile mean that the new Lintra® Plus offers long life. New wiper seal and cover strip design on all guide system options prevent dirt ingress.

## Interchangeability Plus

Lintra® Plus is fully interchangeable with the long established IMI Norgren Lintra® enabling you to replace existing Lintra® cylinders with Lintra® Plus without the need for any machine modifications.



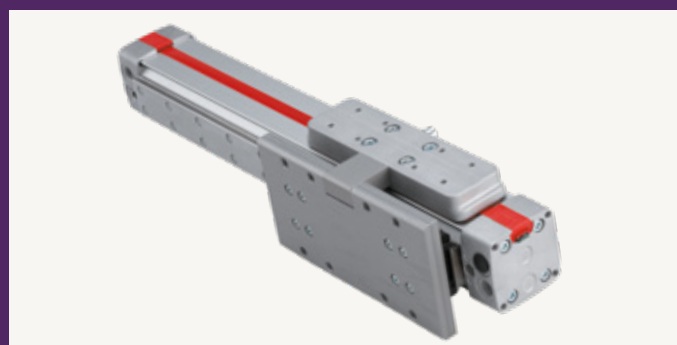
**M/146000**  
Internal guiding



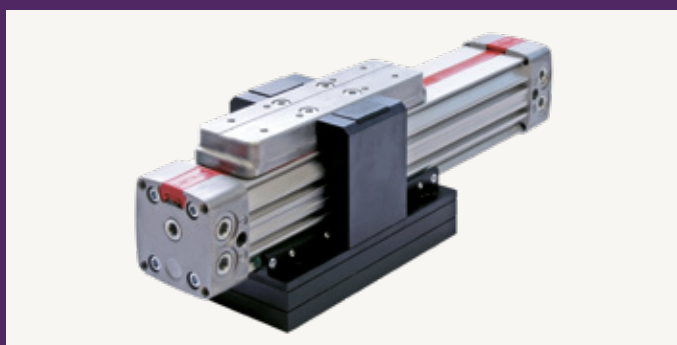
**M/146100**  
External guiding



**M/146200**  
Precision roller guiding



**M/146200/P**  
Precision caged ball linear motion guiding



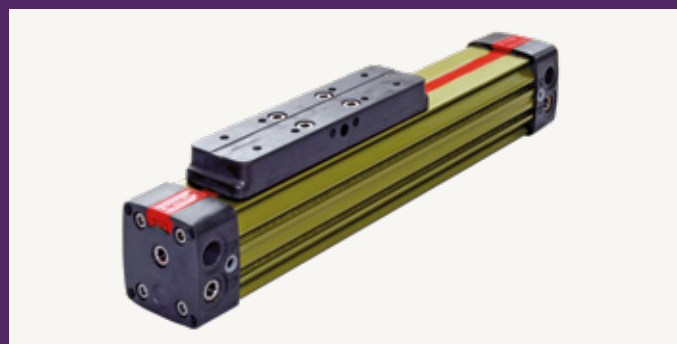
**M/146100/L1 & L3**  
With activer holding brake



**M/146100/L2 & L4**  
With passive holding brake

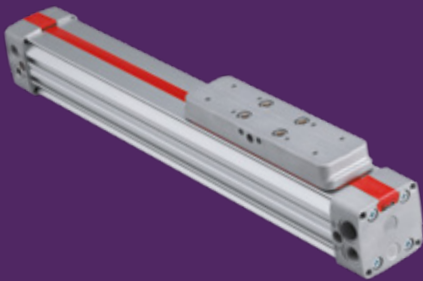


**M/146000/F1**  
With linear position sensor



**VM/146000**  
Corrosion-resistant

# The Lintra® Plus Range

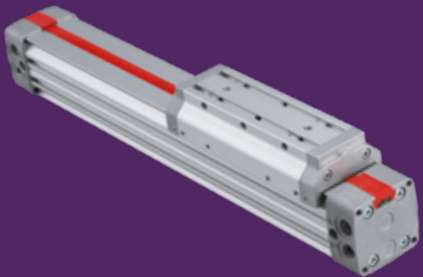


## M/146000

### Internal guiding

Basic cylinder with internal guiding for light to medium loads

- Closer mechanism reduces friction for smoother movement
- Wiper seal and cover strip design provides dust protection as standard
- Piston design provides 10% higher load capacity than the existing Lintra®

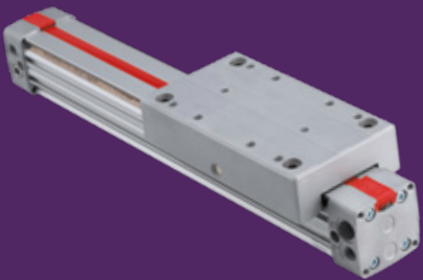


## M/146100

### External adjustable guiding

Based on the internal guide Lintra® Plus, this variant offers...

- Polyethylene bearings to offer increased load capacity
- Pre-set and ready to use external guiding
- Universal mounting grooves and location holes on the guiding bridge

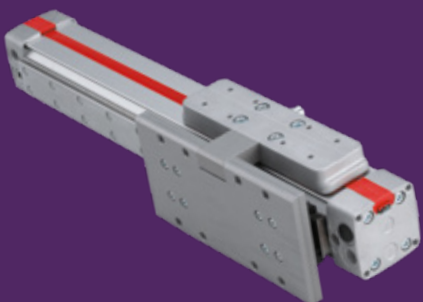


## M/146200

### Precision roller guiding

Based on the internal guide Lintra® Plus, this variant offers...

- Precision roller guides for medium to high loads
- Hardened steel V-rails embedded in the Lintra® Plus profile for smooth and precise motion
- Location holes on the guiding bridge



## M/146200/P

### Precision caged ball linear motion guiding

Based on the internal guide Lintra® Plus, this variant offers...

- A bolt-on guiding system for greater accuracy and higher loads
- Flexible mounting kit allows integration of customers preferred guiding system
- Rail system specially dust protected and lubricated

## Technical Data

**Medium:** Compressed air, filtered, lubricated or non-lubricated

**Operating Pressure:** 1 to 8 bar

**Operating Temperature:** -30°C to +80°C max.

(Consult our Technical Service for use below +2°C)

**Cylinder Diameter:** 16, 20, 25, 32, 40, 50, 63, 80 mm

**Speed:** Up to 2m/s; Special variants for low or high speed on request

**Strokes:** Made to order

**Maximum Strokes Standard:** Ø16 to 40 mm = 8500 mm  
 Ø50 and 63 mm = 8000 mm  
 Ø80 mm = 5500 mm

## Alternative cylinder

ATEX version (II 2G T4, II 3D T4)  
 on request

### M/146100/MD

External adjustable guide with double carriages

Based on external adjustable guiding M/146100 this variant offers...

- Double carriages to support extreme higher loads in all directions
- You can choose the distance between the carriages
- Universal mounting grooves and location holes for an optimal operator's workplace

### M/146200/MD

Precision roller guide with double carriages

Based on precision roller guiding M/146200 this variant offers...

- Double roller carriages to support extreme higher loads in all directions
- You can choose the distance between the roller carriages
- Universal mounting grooves and location holes for an optimal operator's workplace

### M/146100/L1 & L3

External adjustable guide with active holding brake

Based on external adjustable guiding M/146100 this variant offers...

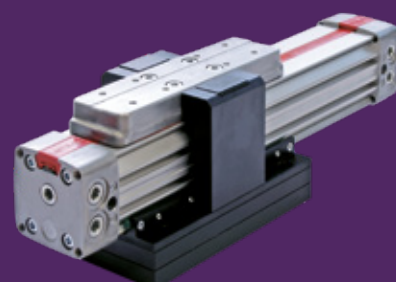
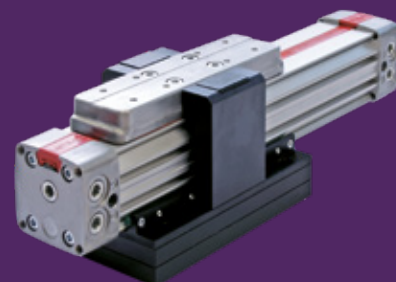
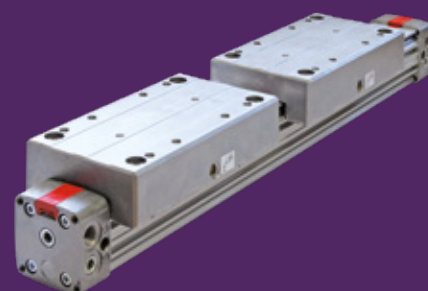
- An active holding brake
- Brake with high holding force
- With asbestos-free brake pat

### M/146100/L2 & L4

External adjustable guide with passive holding brake

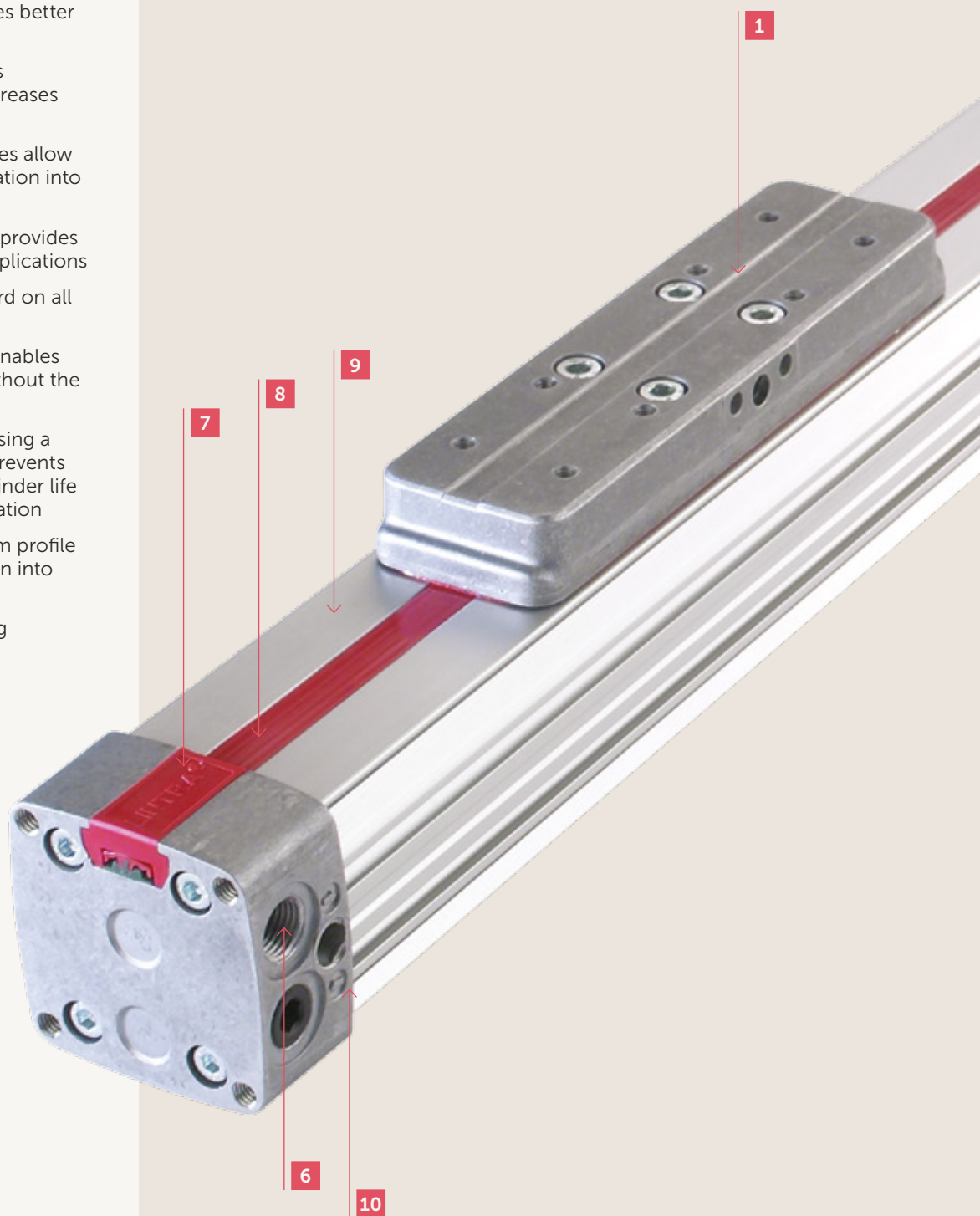
Based on external adjustable guiding M/146100 this variant offers...

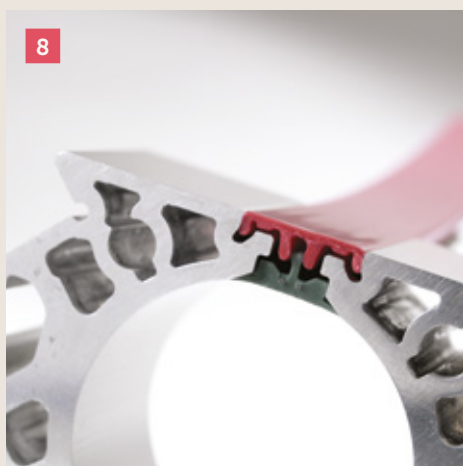
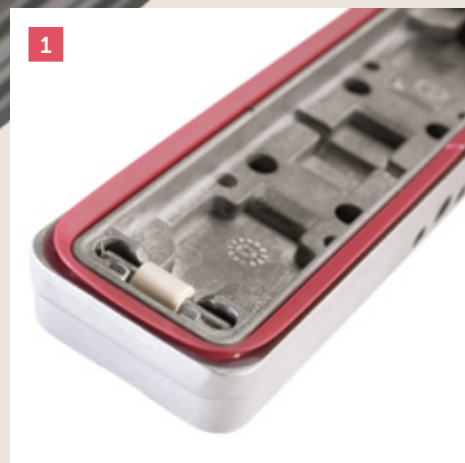
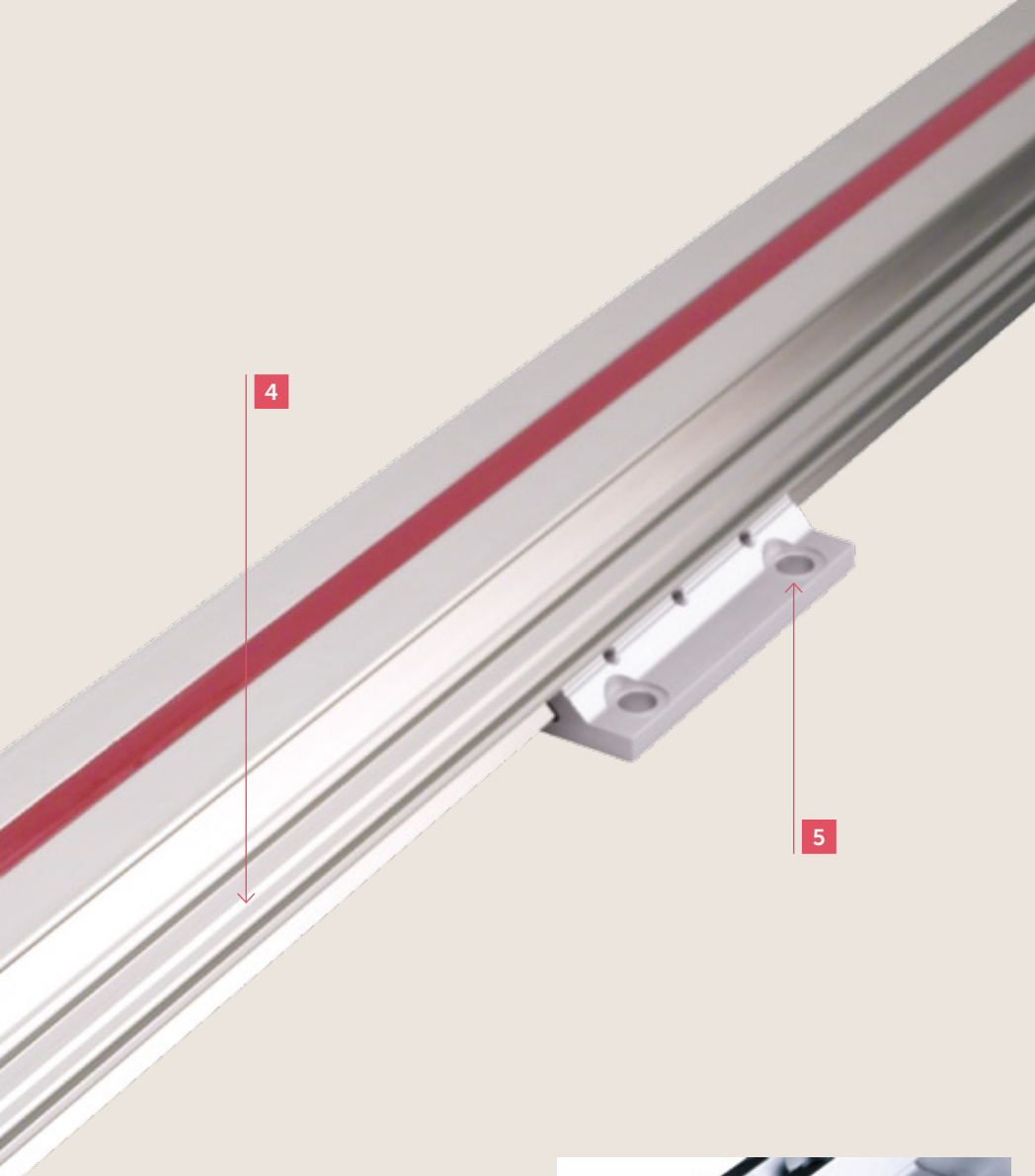
- An passive holding brake
- High holding force by releasing the brake (pressure breakdown)
- With asbestos-free brake pat



# Lintra® Plus

- 1** Wiper seal design provides dust ingress protection across the complete range offering smoother operation and increased cylinder life
- 2** Closer mechanism reduces friction in the carriage assembly resulting in smoother movement
- 3a** Advanced strip divider gives better running performance
- 3b** Integral wear ring provides additional support and increases load carrying capacity
- 4** Universal mounting grooves allow simple and positive integration into machine design
- 5** Centre support mounting provides support for long stroke applications
- 6** Multiple porting as standard on all Lintra® Plus models
- 7** Sophisticated strip fixing enables the seal to be replaced without the need for tools
- 8** Patented sealing system using a geometric labyrinth seal prevents dust ingress, increases cylinder life and offers smoother operation
- 9** Reduced weight aluminium profile allows for direct integration into the machine design
- 10** Port identification showing carriage direction





# Other Lintra® Rodless Cylinders

## Pneumatic Cylinders

### M/44000/M Lintra®

- Ø25 ... 40 mm
- Compact, space-saving design
- Proven sealing system
- Adjustable cushioning
- Magentic piston as standard

### A/44000 Lintra-Lite®

- Compact, space-saving design
- Proven sealing system
- Integral switch mounting
- Buffer or adjustable cushioning
- Standard foot mountings

### M/46800/M, M/46800/HM Lintra® Heavy duty cylinders

- Ø20 ... 40 mm
- External guides for heavy loads over long distances
- Rigid, reinforced aluminium profile provides greater load support
- T-slots in the outer profile enable individual mounting options
- Precision guidance with ball bearings on hardened trackways
- Low rolling resistance

### M/46800/PM Lintra® Heavy duty pneumatic cylinders

- M/46800/PM Lintra® Heavy duty pneumatic cylinders
- Ø16, 25, 40 & 63 mm
- Precise linear guiding
- T-slots in the outer profile enable individual mounting options
- Alternative driving cylinders offer
- Versatile application possibilities
- Torsional and bending resistant profiles

### VM/146000, VM/146100 Lintra® Plus

- Ø20 ... 80 mm
- Corrosion-resistant
- Lightweight design extrusion with universal mounting grooves
- Proved and patented sealing system
- Dust protection as standard
- Up to 10% higher loading values against internal guiding series M/46000
- Interchangeability with series VM/46000



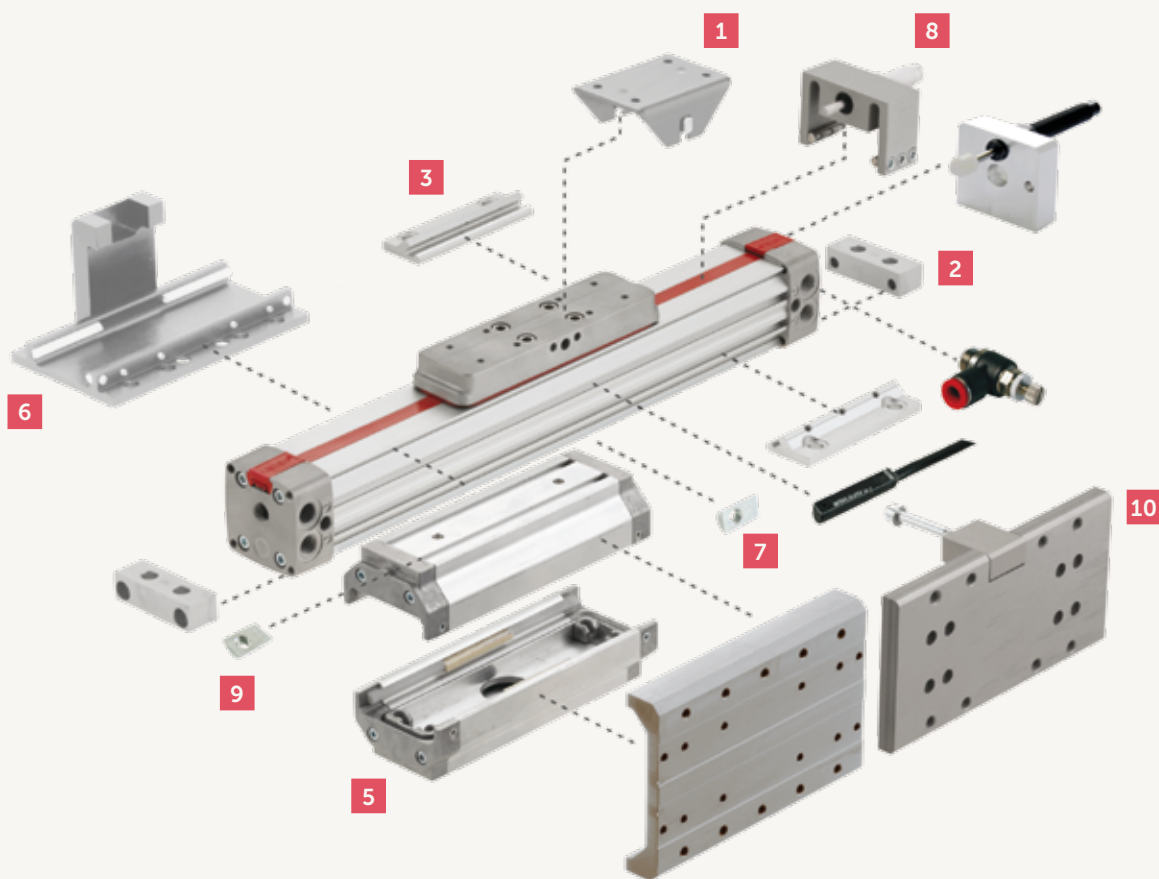


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# Cylinder Mountings and Accessories

## Mountings

A mounting option for every application



High flexibility complemented by a wide range of mountings and assembly kits:

- |                                   |   |   |
|-----------------------------------|---|---|
| <b>1</b> Swinging bridge mounting | <b>5</b> Secondary carriage (Free carriage) | <b>9</b> Groove key for guiding bridge                    |
| <b>2</b> Foot mounting            | <b>6</b> Carriage mounting plate            | <b>10</b> Assembly kit for caged ball linear motion guide |
| <b>3</b> Centre support mounting  | <b>7</b> Groove key                         |   |
| <b>4</b> Side mounting plate      | <b>8</b> Adjustable stop (Ø32 and 40 mm)    |   |

## Accessories

Our Lintra® Plus range is complemented by one of the largest ranges of accessories, including switches, fittings and functional fittings



Banjo flow control



Elbow fitting



Straight fitting



Reed switch with integral 5 m cable



Our Industrial Automation sector operates four global centres of technical excellence and a sales and service network in 50 countries, as well as manufacturing capability in Europe, Americas and Asia Pacific.

Supported by distributors worldwide.

For further information, scan this QR code or visit

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# Industrial Automation

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**IMI Bimba**  
**IMI Bahr**  
**IMI Buschjost**

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