

# MRP-31F & MRP-31FK

Pneumatic  
magnet

03/2019

**Ixtur MRP-31F and MRP-31FK are pneumatically controlled neodymium permanent magnets optimized for thin plates.**

## TECHNICAL SPECIFICATIONS

	Lifting capacity WLL [kg]	Gripping capacity [kg] [N]		Residual capacity, max. [kg]	Dimensions L x W x H [mm]	Weight [kg]	Operating temperature [°C]	Air pressure: functional range [bar]	Pneumatic hose outer diameter [mm]	Minimum cycle time [s]
MRP-31F	Flat: 31*	93*	910*	3.0 **	80 x 55 x 76	1.74	0 ... 50	5 ... 8	2 x 4.0	< 1
MRP-31FK				0.15 **						

\* plate thickness  $\geq 4$  mm

\*\* see 'Residual gripping capacity' on the next page

The lifting capacities (WLL) are determined with a safety factor of 3.

Requirements for compressed air: Water separation, particle filter  $\leq 5$   $\mu$ m

The compact size combined with the strong gripping force provides high versatility. Ixtur MRP magnets are maintenance-free and have a short cycle time, allowing high production speed and efficient automation.

MRP-31F and MRP-31FK magnets are designed for flat parts, and for steel and cast iron. For the thinnest plates ( $t < 2$  mm), the gripping capacity can be increased with pole extensions. Ixtur magnets can handle solid and perforated material and they can be used in any orientation needed, so it's possible to handle objects with various shapes and angles.



The magnets do not change their magnetic state in case of loss of compressed air.

Magnets can be used in various applications: lifters, robot grippers, fixtures, production automation, etc.

More information: [www.ixtur.com](http://www.ixtur.com)

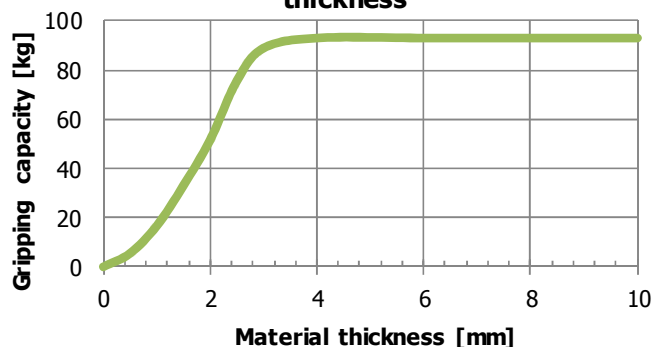
**Company** • Ixtur Ltd. is a Finnish magnet technology company established in 2010. Ixtur develops and manufactures permanent magnet based lifters, grippers and customer applications for machinery, welding, automation, robotics and material handling. Ixtur is focused on energy-efficient magnet components and applications.

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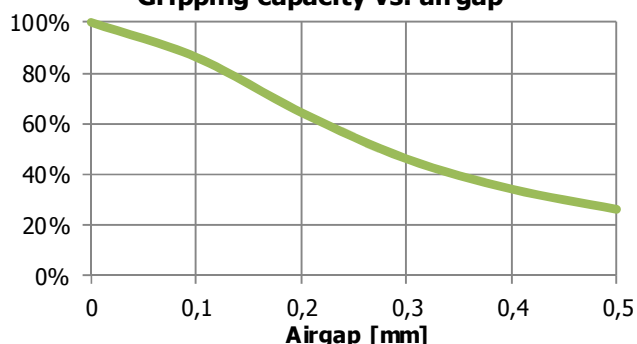
# MRP-31F & MRP-31FK

## Pneumatic magnet

**Gripping capacity vs. material thickness**



**Gripping capacity vs. airgap**



### Gripping capacity vs. material thickness and airgap

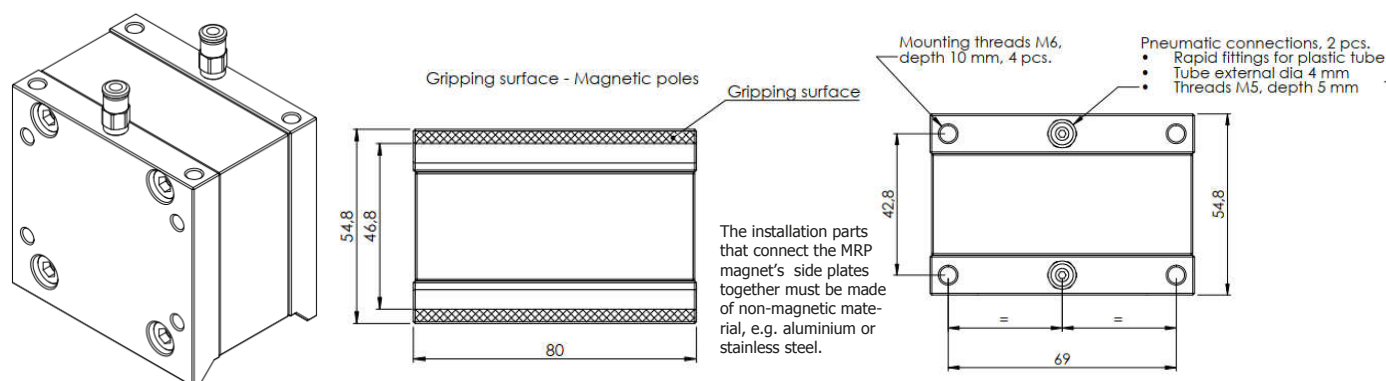
The nominal gripping capacities can be obtained with the material thicknesses stated in the technical specifications table. The magnets can be used also with thinner materials, but the gripping capacity will be lower, as shown in the graphs on this page. The given gripping capacities are valid for mild steel (S355).

### Residual gripping capacity

The residual gripping capacity, i.e. the gripping capacity when the magnet is OFF, varies based on the material and shape of the gripped part. In extreme cases, parts up to 3 kg may stay attached with MRP-31F and 0.15 kg with MRP-31FK. The residual gripping capacity is greatest as long as the part continuously stays in contact with the magnet after the magnet has been turned from ON to OFF. If the amount of residual capacity is critical to the application, pretesting with the actual part is recommended.

### MRP-31F & MRP-31FK technical drawings

(all dimensions are in millimeters)



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