

# MAP-120R & MAP-180

## Pneumatic magnets

03/2016



**Ixtur MAP magnets are pneumatically controlled neodymium permanent magnets, which have excellent size to gripping capacity ratio and low residual gripping force.**

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

The compact size combined with high gripping force provides high versatility. MAP series magnets are maintenance-free and have short cycle time, allowing high production speed and efficient automation.

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

### TECHNICAL SPECIFICATIONS

Model	Lifting capacity WLL [kg]	Gripping capacity [kg] [kN]		Residual capacity, max. [kg]	Weight [kg]	Dimensions Ø x H [mm]	Pneumatic hose outer dia. [mm]	Operating temperature [°C]	Air pressure: functional range [bar]	Minimum cycle time [s]
<b>MAP-120R</b>	Flat: 120*	360*	3.53*	6	5.8	120 x 82	6.0	0 ... 50	5 ... 8	< 1
	Round: 70**	210**	2.06**							
<b>MAP-180</b>	Flat: 180*	540*	5.30*							

\* plate thickness  $\geq$  25 mm

\*\* cylinder diameter  $\geq$  240 mm

Lifting capacity is determined with a safety factor of 3.

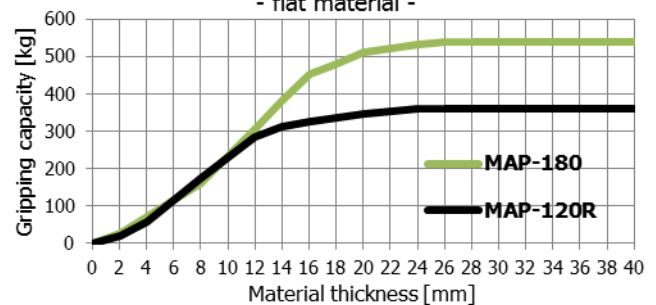
The nominal gripping capacities can be obtained with the material thicknesses stated above. The magnets can be used with thinner materials, please see the graphs on the right for gripping capacities for different material thicknesses. The given gripping capacities are valid for mild steel (S355).

MAP-120R's gripping surface is optimized for parts that do not fully cover the whole gripping surface of the magnet, e.g. cylinders, pipes and irregularly shaped objects.

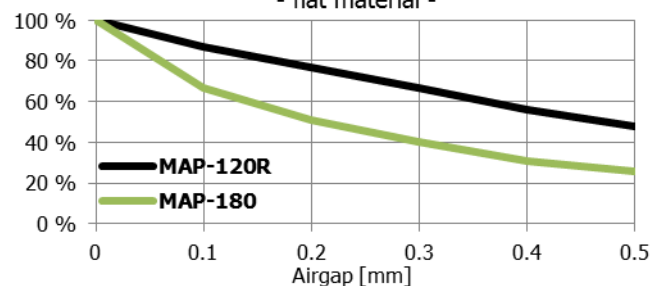
Requirements for compressed air: Water separation, particle filter  $\leq$  5  $\mu$ m, air lubrication.

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

Gripping capacity vs. material thickness - flat material -



Gripping capacity vs. airgap - flat material -



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

**IXTUR®**

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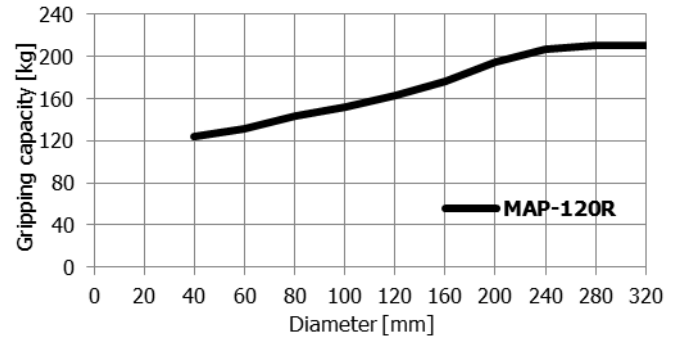
## Pneumatic magnets

MAP-120R and MAP-180 differ from each other by the pattern of their gripping surfaces.

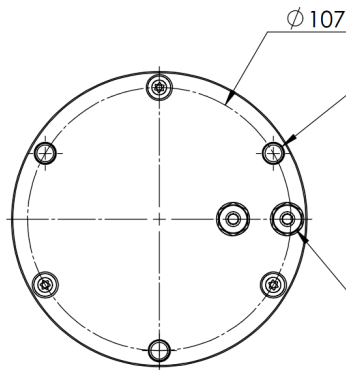
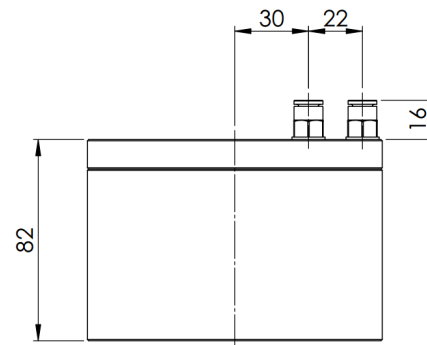
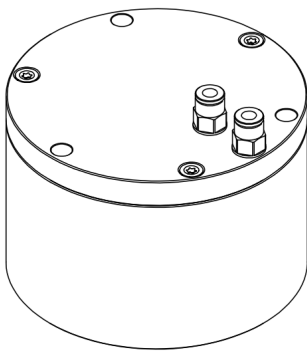
MAP-180 is especially designed for flat parts that fully cover the magnet's gripping surface.

MAP-120R is optimized for round parts and other shapes which do not fully cover the gripping surface. However, for proper gripping, it is necessary to at least partly cover both of the magnet's magnetic poles.

Gripping capacity vs. material diameter - round material -



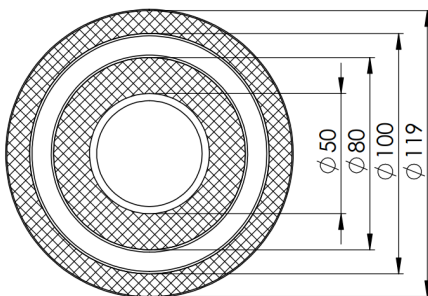
### MAP-120R and MAP-180 technical drawings (all dimensions are in millimetres)



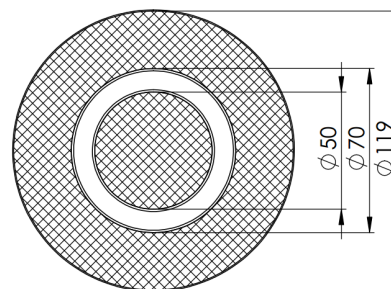
Mounting threads M8, depth 23 mm, 3 pcs.

Pneumatic connections, 2 pcs.  
• Rapid fittings for plastic hose  
• Hose external dia 6 mm  
• Threads 1/8", depth 6 mm

Gripping surface of MAP-180 - magnetic poles



Gripping surface of MAP-120R - magnetic poles



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