VEGA TECHNIK

# PRODUCT CATALOGUE


# MAGNETIC LIFTERS

FX LIFT FXE LIFT

MAGNETIC ORIENTED

MADE IN GERMANY

## Lifting magnets

Lifting magnets are ideal load lifting devices for everyone who has to work in a quick and safe way.They offer a lot of practical advantages; anywhere the moving of ferrous loads are necessary, for example: in material storage, transport industry, device construction and for loading and unloading of machinery.

We offer a broad assortment of several constructions and technical concepts.
We offer standard products for broad usage and also special magnets, which are specially geared towards the requirements of the clients.
To select the load lifting magnet, please consider the technical data at the end of the catalogue.
All instructions relating to the holding force had been determined according to an inspection procedure for load lifting magnets with the norm EN 13155.I
Tested on a low carbon steel (test platform) of an appropriate thickness and a flatness of less than 0.1/500 mm.

In the case of particular handling requirements, don't hesitate to contact us - we are available for your queries at all times.

FX-Lift is the product line which has been developed in accordance to the user's need.

## Permanent Lifting magnets

The FX base unit is suitable for flat and round material
Pag 06

FX-P - for plates below 12 mm thickness and pipes - the right device for the laser cutting system
Pag 08

FX-VV HOT
Suitable for very hot parts 350°C/100%
Pag 10

FX-LT - light beam with 2-strand chain for sheet metal and workpieces with Centric Neck
Pag 12

FX-R - suitable if you mostly lift round and/ or hot material
Pag 07

FX-VV - Especially suitable for sections, beams and hot parts 150°C/100%
Pag 09

FX-HV - especially for the horizontal and vertical transport
Pag 11

## Electro-Permanent Lifting magnets

FXE-L 50+ - long design with reinforced manet system for tubes, beams and strips
Pag 20

FXE-100 - for heavy plates, forgings, ingots
Pag 24

FXE-Z - with special demagnetizing
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FXE-M - modular system for the construction of trusses or for Pick & Place Systems
Pag 30

FXE 50 - for plates from 4mm and workpieces with a small air gap
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FXE 80 - for lifting sheets from 8mm; for massive parts with medium air gap
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FXE-T - electro-permanent magnet trusses for sheet metal
Pag 26-27

FXE-R - for round and flat material also in more layers
Pag 28

# FX Permanent Lifting magnets

Fx- Load Lifting Magnets represent the most innovative products in magnetic lifting technology.
They operate with a single magnet system, using high energy magnets, that are fully activated in a rotation of 90 degrees of the lever.
The operation and deactivation are rebound-free and self-braking.
The massive switching shaft, mounted on ball-bearing and the magnets (in a form of segments) don't generate any magnetic loss because of the internal short-circuit. It can be produced in one piece without welding and is restored without any millings for block magnets. This makes it almost indestructible.

The unique design of magnet segments and the reduction of air gap inside of the magnetic system provide higher efficiency with the same amount of magnetic material – which reduces costs and protects the environment.


## Green Magnets for the modern Industry
## Made in Germany

The large large, forged crane eye is easily accessible and is higher ranked as the common hook sizes (SF5) in its category.

The safety ridges at the end of the button signal an entire block of the lever


Laser type label of loading capacity

The strong lever with the one-hand switch mechanism (with hand brake system and ergonomic handle) is equipped with a high quality PAH-free synthetic material. It has a good grip and is easy to switch.
Rebounded and self-locking

# Exclusive Benefits of the FX-Series

FX - Economically the right decision

- Made in Germany
- Standard conformity and inspected CE/EN 13155/MRL 2006/42 EWG
- Product guarantee with German insurance company
- Multilingual documentation
- Environmentally friendly and future-proof by more power and lower SE magnet consumption
- 3 years Warranty
- Safety factor 3,5
- Guaranteed a spare parts supply for 10 years
- CAD files available

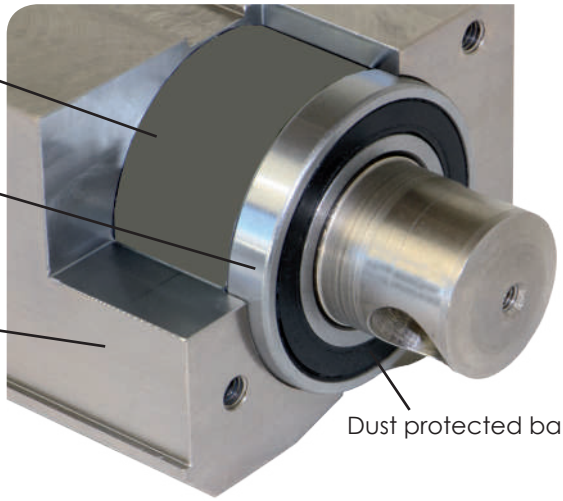
FX - Technically the right decision

- 100% nickel-plated
- High Energy segment magnets
- Lever rotation is only 90 °
- Large forged lifting eye (SF5)
- Great achievement with a compact design
- Short loading and unloading times
- No mechanical impairment of the workpiece
- Massive switching shaft
- Recoilles -free with one hand operation
- Adapted for flat and round materials
- Increased safety by simple operation

High energy magnets guarantee a stable performance until the maximum working temperature of 80°C at the center of the inner core. Even at these high temperatures, the FX reaches the standard safety factor.

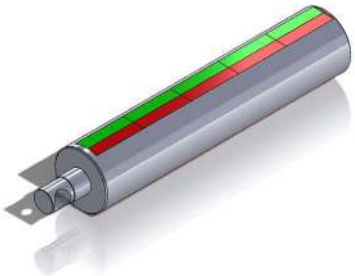
The monoblock-magnet-shaft, in one piece, is completely nickel plated and ball bearing mounted without mechanical weak spots.

The Massive stator housing is in one piece and is completely nickel plated for a maximum corrosion protection.




## Innovation of FX Serie

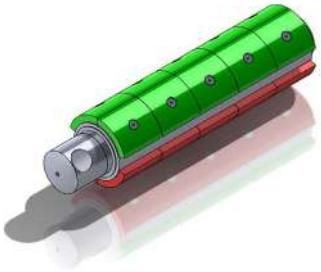
### Common Lifitng magnets





Recessed or welded shifter shaft with
Built-in magnets, 180° switching travel,
Weakened or welded shaft, 3 air gaps

### FX-Lifitng magnets

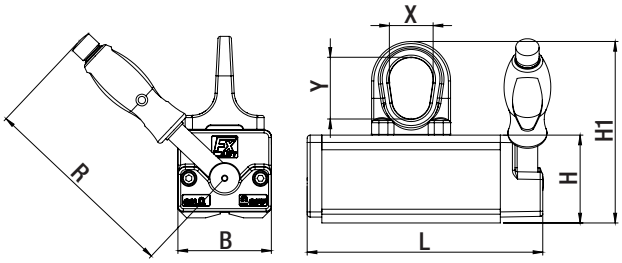


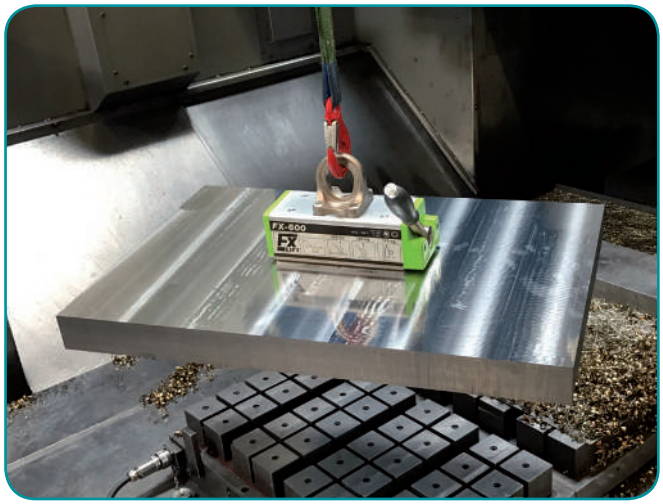


Massive switching shaft with mounted magnets,
90° switching travel, extremely robust,
Only one air gap

## FX Universal Permanent Lifting magnets

In the standard design, the FX lifting magnets have a broad spectrum of applications.
The FX has good results with a large air gap as well as with thin, flat and round materials.
A feature of this product is its highly sturdy nature and a good price performance.

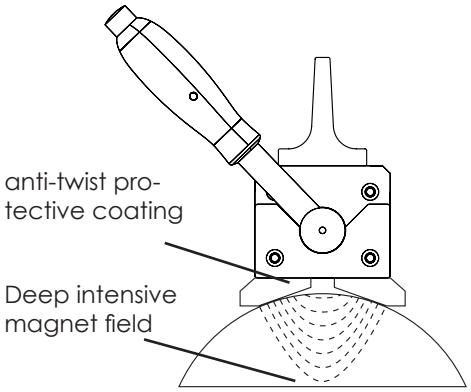



| Model | Article-Nr. | Max. Load capacity kg | | Max. Load capacity from (mm) | Dimensions (mm) | | | | | | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | flat | round | | L | B | H | H1 | R | X/Y | |
| FX-150 | 1101 0150 | 150 kg | Ø50-200 mm 75 kg | 8 | 161 | 64 | 60 | 124 | 136 | 30/42 | 3,6 |
| FX-300 | 1101 0300 | 300 kg | Ø50-300 mm 150 kg | 15 | 205 | 87 | 78 | 158 | 190 | 42/53 | 8,4 |
| FX-600 | 1101 0600 | 600 kg | Ø80-400 mm 300 kg | 20 | 288 | 112 | 94 | 189 | 228 | 51/62 | 19 |
| FX-800 | 1101 0800 | 800 kg | Ø80-400 mm 400 kg | 20 | 348 | 112 | 94 | 189 | 228 | 51/62 | 23 |
| FX-1000 | 1101 1000 | 1000 kg | Ø100-450 mm 500 kg | 25 | 361 | 152 | 120 | 240 | 261 | 60/76 | 42 |
| FX-1500 | 1101 1500 | 1500 kg | Ø100-450 mm 750 kg | 25 | 485 | 152 | 120 | 240 | 261 | 60/76 | 61 |
| FX-2000 | 1101 2000 | 2000 kg | Ø120-600 mm 1000 kg | 50 | 472 | 228 | 169 | 313 | 409 | 68/89 | 115 |
| FX-3000 | 1101 3000 | 3000 kg | Ø250-600 mm 1500 kg | 50 | 648 | 228 | 169 | 313 | 534 | 68/89 | 166 |

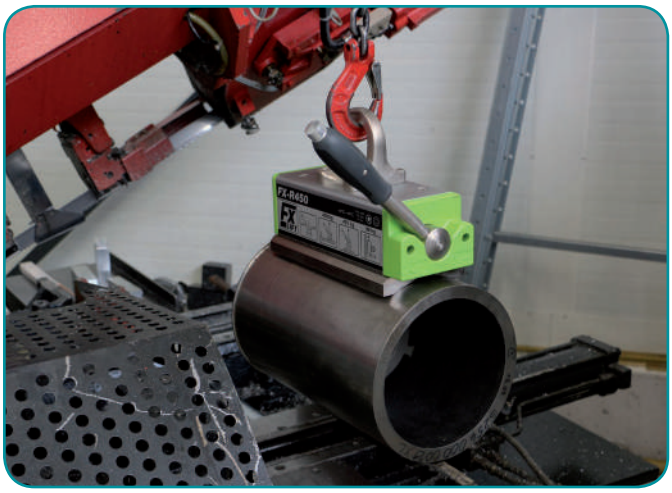
Safety factor 3,5/Test method EN 13155
max. Operation temperature 80°C • Load charts and Safety from Page 34

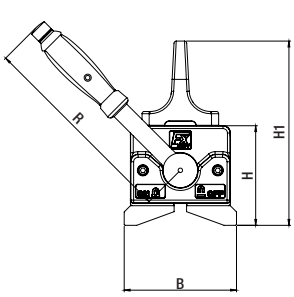
## FX-R Permanent Lifting magnet especially suitable for Round material

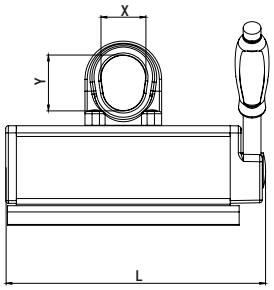
FX-R is the lifting magnet series for round material handling.
The deep, flat angle prism ensures a secure position on the load and conducts the magnet field into the interior of the material.
The magnet system can be activated over the entire diameter, without being rebounded.
Even thin, flat material is not a problem for the FX-R.
While handling hot pieces, the deep prism protects the magnetic core from overheating.









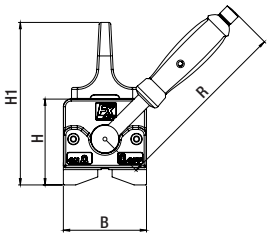

| Model | Article-Nr. | Max. Load capacity kg | | Max. Load capacity from (mm) | Dimensions (mm) | | | | | | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | flat | round | | L | B | H | H1 | R | X/Y | |
| FX-R100 | 1101 0101 | 100 | Ø 25-150 mm 100 kg | 8 | 161 | 70 | 68 | 132 | 136 | 30/42 | 4 |
| FX-R225 | 1101 0221 | 225 | Ø 50-205 mm 225 kg | 10 | 205 | 98 | 90 | 170 | 190 | 42/53 | 9,5 |
| FX-R450 | 1101 0451 | 450 | Ø 50-270 mm 450 kg | 20 | 288 | 126 | 112 | 207 | 228 | 51/62 | 22 |
| FX-R750 | 1101 0751 | 750 | Ø 70-370 mm 750 kg | 20 | 361 | 170 | 142 | 262 | 261 | 60/76 | 49 |
| FX-R1200 | 1101 1201 | 1200 | Ø 120-560 mm 1200 kg | 40 | 472 | 248 | 190 | 334 | 409 | 68/89 | 127 |
| FX-R1800 | 1101 1801 | 1800 | Ø 120-560 mm 1800 kg | 40 | 648 | 248 | 190 | 334 | 534 | 68/89 | 182 |

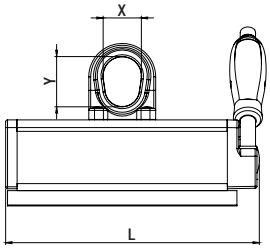
Safety factor 3,5/Test method EN 13155
max. Operation temperature 80°C • Load charts and Safety from Page 34

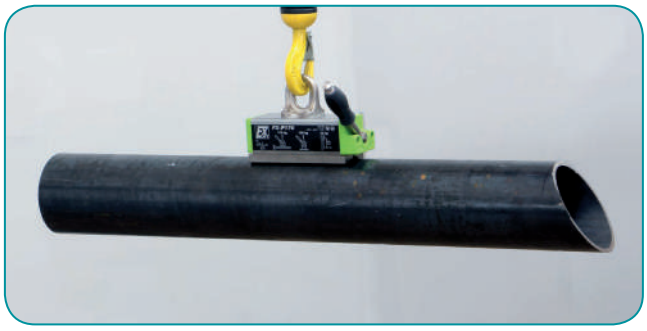
## FX-P Permanent Lifting magnets especially for thin sheets and pipes

FX-P is the lifting magnet series for professional lifting and moving thin plates, tubes and rods.
The special magnet-configuration, which is connected with the FX-P prismatic pole, ensures a maximum magnetic flux density with thin material as well.
The FX-P can be well positioned and easy activated on a round material.


For thin sheets



| Model | Max. Load capacity at sheets and 4-edge pipes | | | | | | Pipes and rods | | |
|---|---|---|---|---|---|---|---|---|---|
| | 3mm | 4mm | 6mm | 8mm | 10mm | 15mm | LxB max. | Ø kg | L Ømm |
| FX-P170 | 50 | 80 | 120 | 170 | 170 | 170 | 2000x1250 | 150 | 30-105 |
| FX-P330 | 70 | 100 | 160 | 300 | 330 | 330 | 2500x1250 | 300 | 40-160 |
| FX-P650 | 100 | 160 | 200 | 450 | 530 | 650 | 3000x1500 | 550 | 60-210 |

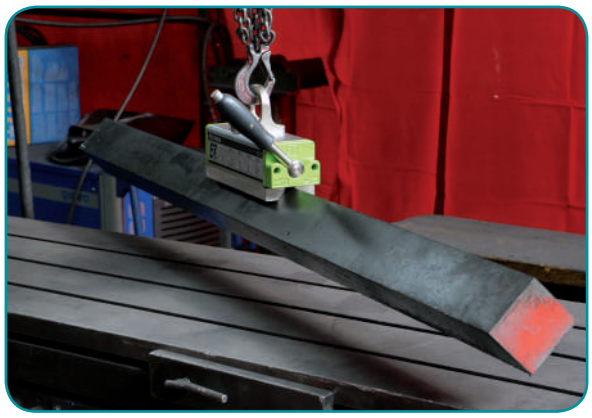
| Model | Article-Nr. | Max. Load capacity (kg) | | Max. Load capacity from (mm) | Dimensions (mm) | | | | | | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | flat | round | | L | B | H | H1 | R | X/Y | |
| FX-P170 | 1101 0172 | 170 kg | Ø 30-105 mm 150 kg | 8 | 195 | 64 | 70 | 134 | 136 | 30/42 | 5,1 |
| FX-P330 | 1101 0332 | 330 kg | Ø 40-160 mm 300 kg | 10 | 265 | 87 | 90 | 170 | 190 | 42/53 | 12,4 |
| FX-P650 | 1101 0652 | 650 kg | Ø 60-210 mm 550 kg | 20 | 352 | 112 | 108 | 203 | 228 | 51/62 | 26 |
| Safety factor 3,5/Test method EN 13155<br>max. Operation temperature 80°C • Load charts and Safety from Page 34 | | | | | | | | | | | |

# FX-VV Permanent Lifting magnets with 90° Prism for beams, profiles and hot parts

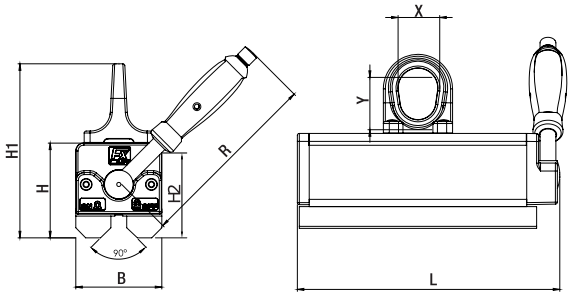
FX-VV Lifting Magnets are geared to particular areas of application in steel, ship and container building.
They have a long, slim design for lifting beams and profiles – also inside the beam – and compared with the relatively low material thickness, it reaches a maximum holding force so even thin plates can be lifted safely. Because of the 90° prism, the angle profiles can be lifted safely.
While lifting hot flame cuts, the deep prism protects the inserted magnets from the heat.
Like all the types of FX, the FX-VV has a completely nickel-plated magnetic coil and provides excellent inspection results, even with rough surfaces.
The FX-VV will be activated by a single stable, smooth running lever.



150°C/100%



| FX-V | H2 (mm) | IPE | HEB |
|---|---|---|---|
| FX-VV 200 | 65 | from IPE 80 | from HEB 100 |
| FX-VV 400 | 87 | from IPE 100 | from HEB 120 |
| FX-VV 800 | 106 | from IPE 140 | from HEB 160 |




| Model | Article-Nr. | Max. Load capacity(kg) | | | Max. Load capacity from (mm) | Dimensions (mm) | | | | | | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | flat | round | 90° | | L | B | H | H1 | R | X/Y | |
| FX-VV 200 | 1101 0203 | 200 kg | Ø 20-50 mm 100 kg | 100/120 kg | 10 | 195 | 64 | 77 | 141 | 134 | 30/42 | 5,5 |
| FX-VV 400 | 1101 0403 | 400 kg | Ø 25-60 mm 200 kg | 200/250 kg | 15 | 265 | 87 | 96 | 176 | 188 | 42/53 | 13 |
| FX-VV 800 | 1101 0803 | 800 kg | Ø 35-75 mm 300 kg | 300/400 kg | 20 | 352 | 112 | 115 | 210 | 228 | 51/62 | 28 |

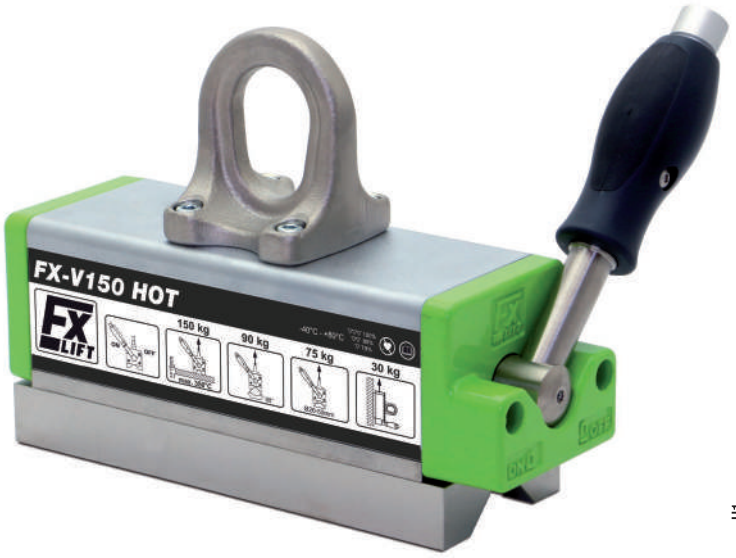
Safety factor 3,5/Test method EN 13155 • max. temperature in the magnetic core 80°C
max. temperature of the workpiece 150°C/100% • Load charts and Safety from Page 34

## FX-VV HOT Permanent Lifting magnets especially for hot parts

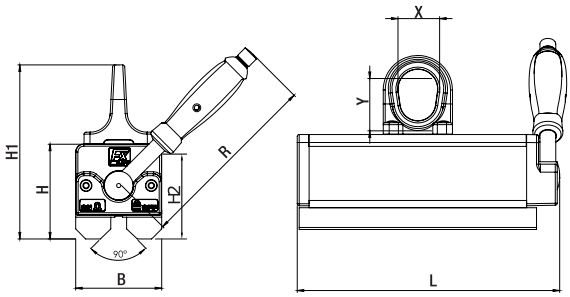
FX-VV HOT magnetic lifters are particulary suitable for use in foundery, hot stampings company and mechanical workshops.

Thanks to the 90° prism, corner profiles can be lifted. The deep prism protect the magnests when lifting pieces, after hot cutting or stamping. Use limit is brought from 80 to 350°!!

Like all models , FX VV HOT has a completely nickel plated lifter body and provides excellent results even on rough surfaces.




250°C/100%

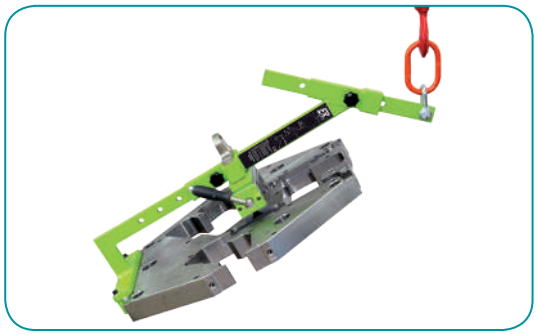


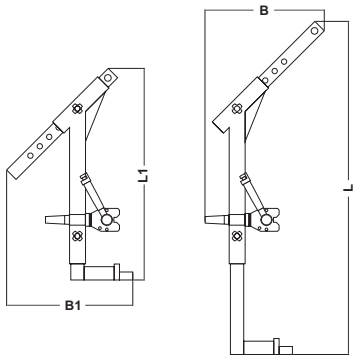

| FX-VV | Working temperature 250° | Working temperature 300° (contact time =cooling time; max 4 minutes) | Working temperature 350° (contact time =cooling time/2; max 4 minutes) |
|---|---|---|---|
| FX-VV 150 HOT | 100% contact time<br>100% Load capacity | max 50% contact time<br>85% Load capacity - 125 kg | max 33% contact time<br>75% Load capacity - 110 kg |
| FX-VV 300 HOT | | max 50% contact time<br>85% Load capacity - 225 kg | ax 33% contact time<br>75% Load capacity - 225 kg |
| FX-VV 600 HOT | | max 50% contact time<br>85% Load capacity - 510 kg | ax 33% contact time<br>75% Load capacity - 450 kg |

| Model | Article-Nr. | Max. Load capacity(kg) | | | Max. Load capacity from (mm) | Dimensions (mm) | | | | | | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | flat | round | 90° | | L | B | H | H1 | R | X/Y | |
| FX-VV 150 HOT | 1101 0203 | 150 kg | Ø 20-50 mm 75 kg | 75/90 kg | 10 | 195 | 64 | 77 | 141 | 134 | 30/42 | 5,5 |
| FX-VV 300 HOT | 1101 0403 | 300 kg | Ø 25-60 mm 150 kg | 150/200 kg | 15 | 265 | 87 | 96 | 176 | 188 | 42/53 | 13 |
| FX-VV 600 HOT | 1101 0803 | 600 kg | Ø 35-75 mm 300 kg | 300/400 kg | 20 | 352 | 112 | 115 | 210 | 228 | 51/62 | 28 |
| Safety factor 3,5/Test method EN 13155 • max. temperature in the magnetic core 250°C 100% • Load charts and Safety from Page 34 | | | | | | | | | | | | |

## FX-HV Horizontal-Vertical Systems

The FX-HV Horizontal – Vertical System with its various settings can satisfy all requirements.
Pins can adjust the total height and the barycenter.
The support pins are positioned in such a way that vertical, circular blanks can be lifted, which is mostly needed on the saw.
They can also lift washers and sheets.
For horizontal transport, the system has a crane eyelet on the back.
The steel construction is stable with a completely powder coated surface and the FX lifting magnet ensures maximum safety.
Special dimensions are available on request.



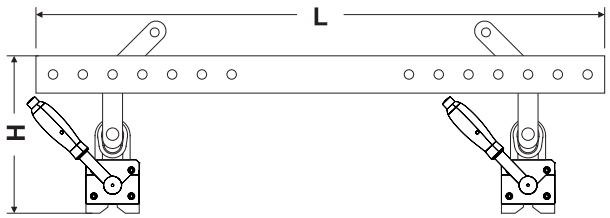



| Model | Articel-Nr. | Slices -Ø (mm) | Flat material Dimension (mm) | Max. Load capacity with stop (kg) | Max. Load capacity without stop (kg) | Dimensions (mm) | | | | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | L | B | L1 | B1 | |
| FX-HV 200 | 1103 0202 | 250 - 750 | 2000 x 750 | 200 | 40 | 1000 | 400 | 715 | 390 | 24 |
| FX-HV 400 | 1103 0402 | 400 - 1000 | 2000 x 1000 | 400 | 80 | 1250 | 450 | 795 | 475 | 31 |
| FX-HV 800 | 1103 0802 | 500 - 1200 | 2500 x 1250 | 800 | 160 | 1500 | 500 | 1040 | 520 | 64 |
| FX-HV 2000 | 1103 2002 | 500 - 1200 | 2500 x 1250 | 2000 | 400 | 1800 | 600 | 1200 | 650 | 250 |
| FX-HV 3000 | 1103 3002 | 500 - 1200 | 2500 x 1250 | 3000 | 600 | 1800 | 600 | 1200 | 650 | 320 |
| max. Operation temperature 80° • Weight incl. Magnet | | | | | | | | | | |

## FX-LT Permanent Lifting magnet Truss

FX-LT Magnet Traverses will be adapted to the needs of sheet metal fabricators, laser cutters and flame cutters.
Two FX-V lifting magnets within a certain distance, strengthened by a traverse with two-chain suspensions, allow loading and unloading of machines with sheets or the vertical lifting of workpieces with a center cutout. With a few simple hand movements, the magnets can be removed from the traverse for lifting blanks and small plates with only one magnet.

Delivery contents:
- 2 Lifting magnets
- Two-chain suspensions with hooks and eyelets
- Traverse with lifting elements




Can be easily dismounted for single use

| Model | Article-Nr. | incl. 2x FX | Max. Load (kg) | Capacity from (mm) | Max. Workpiece Dimensions (mm) | Dimensions (mm) | | Weight (kg) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | L | B | |
| FX-LT600 | 1104 0600 | FX-P330 | 600 | 10 | 4000x1500 | 1600 | 270 | 44 |
| FX-LT700 | 1104 0700 | FX-VV400 | 700 | 15 | 4000 x 1500 | 1600 | 270 | 44 |
| FX-LT1000 | 1104 1000 | FX-600 | 1000 | 20 | 4000 x 2000 | 1600 | 291 | 58 |
| FX-LT1400 | 1104 1400 | FX-V800 | 1400 | 20 | 5000 x 2000 | 1600 | 360 | 86 |
| FX-LT3200 | 1104 3200 | FX-2000 | 3200 | 50 | 5000 x 2500 | 2000 | 480 | 305 |
| FX-LT4800 | 1104 4800 | FX-3000 | 4800 | 50 | 5000 x 2500 | 2000 | 600 | 410 |

| FX-LT600 | | | |
|---|---|---|---|
| Material thickness (mm) | Max. Dimensions (mm) L (max) | B (max) | Max. Load (kg) |
| >= 3 | 2000 | 1000 | 120 |
| >= 4 | 3000 | 1500 | 160 |
| >= 6 | 3500 | 1500 | 250 |
| >= 8 | 4000 | 1500 | 480 |
| >= 10 | 0000 | 1500 | 600 |

| FX-LT700 | | | |
|---|---|---|---|
| Material thickness (mm) | Max. Dimensions (mm) L (max) | B (max) | Max. Load (kg) |
| >= 4 | 3000 | 1500 | 180 |
| >= 6 | 3500 | 1500 | 260 |
| >= 8 | 4000 | 1500 | 490 |
| >= 10 | 4500 | 1500 | 610 |
| >= 15 | 5000 | 2000 | 700 |

| FX-LT1000 | | | |
|---|---|---|---|
| Material thickness (mm) | Max. Dimensions (mm) L (max) | B (max) | Max. Load (kg) |
| >= 4 | 3000 | 1500 | 180 |
| >= 6 | 3000 | 1500 | 250 |
| >= 8 | 4000 | 1500 | 300 |
| >= 10 | 4500 | 1500 | 500 |
| >= 15 | 4500 | 1500 | 820 |
| >= 20 | 5000 | 1500 | 1000 |

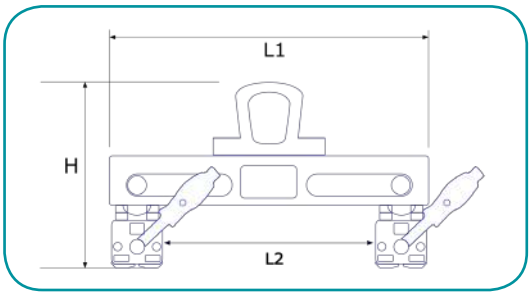
| FX-LT1400 | | | |
|---|---|---|---|
| Material thickness (mm) | Max. Dimensions (mm) L (max) | B (max) | Max. Load (kg) |
| >= 4 | 3000 | 1500 | 180 |
| >= 6 | 3000 | 2000 | 350 |
| >= 8 | 4000 | 2000 | 700 |
| >= 10 | 4500 | 2000 | 800 |
| >= 15 | 5000 | 2000 | 1130 |
| >= 20 | 5000 | 2000 | 1400 |

| FX-LT3200 | | | |
|---|---|---|---|
| Material thickness (mm) | Max. Dimensions (mm) L (max) | B (max) | Max. Load (kg) |
| >= 15 | 4000 | 2000 | 800 |
| >= 20 | 5000 | 2000 | 1600 |
| >= 25 | 5000 | 2000 | 1920 |
| >= 40 | 5000 | 2500 | 2560 |
| >= 50 | 5000 | 2500 | 3200 |

| FX-LT4800 | | | |
|---|---|---|---|
| Material thickness (mm) | Max. Dimensions (mm) L (max) | B (max) | Max. Load (kg) |
| >= 15 | 5000 | 2000 | 1200 |
| >= 20 | 5000 | 2000 | 2400 |
| >= 25 | 5000 | 2500 | 2880 |
| >= 40 | 5000 | 2500 | 3840 |
| >= 50 | 5000 | 2500 | 4800 |

## FX-KT Small Size Beam

The horizontal beam FX-KT is ideal for working on metal sheets and laser cutting. Two FX Lifter are fixed with adjustable distance on the horizontal beam allowing the handling of different loads. In particular rings and cylindrical elements.




| Model | Max. Load (kg) | Capacity from thickness (mm) | Dimensions (mm) | | | FX Lifters | Weight (kg) |
|---|---|---|---|---|---|---|---|
| | | | L1 | L2 | H | | |
| **FX-KT 240-260** | 240 | 8 | 400 | 58-260 | 233 | 2 FX 150 | 15 |
| **FX-KT 240-420** | 240 | 8 | 560 | 58-420 | 233 | 2 FX 150 | 15 |
| **FX-KT 240-470** | 240 | 8 | 607 | 58-470 | 233 | 2 FX 150 | 20 |
| **FX-KT 240-540** | 240 | 8 | 680 | 58-540 | 233 | 2 FX 150 | 22 |
| **FX-KT 480-440** | 480 | 15 | 620 | 65-440 | 269 | 2 FX 300 | 26 |
| **FX-KT 480-600** | 480 | 15 | 800 | 65-600 | 269 | 2 FX 300 | 30 |
| **FX-KT 480-800** | 480 | 15 | 1000 | 65-800 | 269 | 2 FX 300 | 32 |

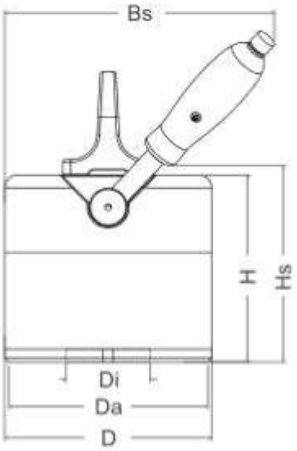
## FX Lifting magnets in Special version

Special option FX with double "lifting eyelets" for FX lifting magnets.
The lifting magnets can be equipped with an extra eyelet for the vertical transportation of lighter elements.

| Model | Article-Nr. | Max. towing capacity (kg) |
|---|---|---|
| FX-150 towing eyelet | 8 1101 0001 | 25 |
| FX-300 towing eyelet | 8 1101 0002 | 60 |
| FX-600 towing eyelet | 8 1101 0003 | 120 |
| FX-1000 towing eyelet | 8 1101 0004 | 200 |
| FX-2000 towing eyelet | 8 1101 0005 | 400 |
| FX-3000 towing eyelet | 8 1101 0006 | 600 |

## FX-C lifting magnets for special round loads

FX-C lifting magnets have round, multi pole clamping surface, designed fo lifting rings, sleeves, bearing housings, flange plates and similar workpieces, especially those with an opening in th center.
The load specification is valid for full-surface contact on workpieces with the clamping break D inside to D outside, smaller surfaces can be use with a correspondingly lower maximum load.

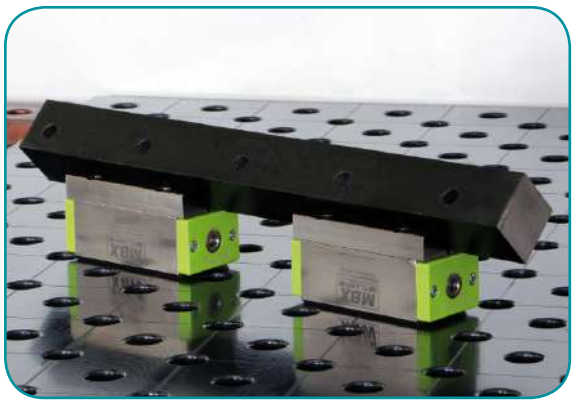



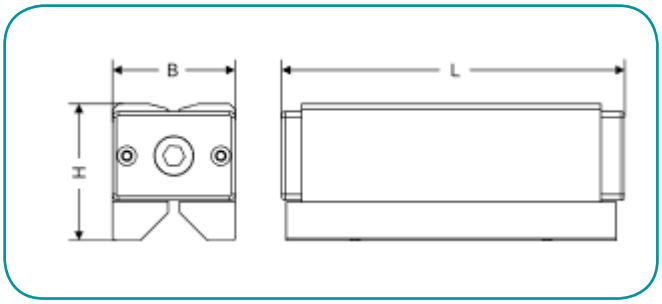

| Model | MAX capacity from thickness (mm) | Capacity (kg) | Capacity/ cm2 (kg) | Dimensions (mm) | | | | | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | D | Da-Di | H | Hs | Bs | |
| **FX-C 175** | 10 | 175 | 3,5 | 120 | 114-40 | 130 | 138 | 185 | 7,5 |
| **FX-C 250** | 12 | 250 | 3,5 | 160 | 152-65 | 145 | 153 | 210 | 15 |
| **FX-C 450** | 15 | 450 | 3,5 | 250 | 240-100 | 155 | 168 | 275 | 35 |
| Safety Factor 3 / Test Method EN 13155 • max. Operation temperature 80 | | | | | | | | | |

# MBX Magnetic clamping blocks

MBX magnetic clamping blocks have opposite clamping sides that are activated when actuated.
They are designed to clamp workpieces on steel surfaces such as machine or assembly tables.

Several MBX can also be connected together via the internal hexagon of the indexing shaft to clamp longer or larger workpieces.



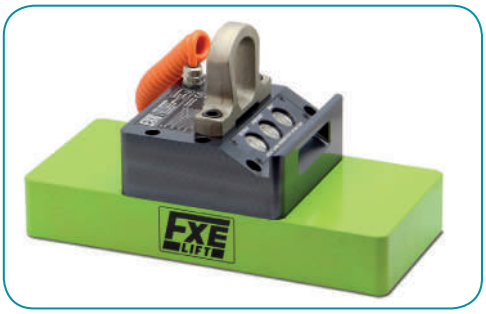

| Model | Capacity (kg) | Active surface | | Dimensions | | | Weight (kg) |
|---|---|---|---|---|---|---|---|
| | | Flat and Round | Flat + 90° | L | B | H | |
| **MBX 5** | 5 | 120x57 | 136x64 | 143 | 64 | 71 | 3,9 |
| **MBX 7** | 7 | 156x57 | 172x64 | 178 | 64 | 71 | 4,9 |
| **MBX 10** | 10 | 162x76 | 178x87 | 184 | 87 | 88 | 8,8 |
| max. working temperature 80° | | | | | | | |

## FXE Electro-Permanent Lifting magnets

The electro-permanent magnet technology guarantees maximum safety.
The advantages and reliability of permanent magnets and the user-friendly electromagnets are united into a single concept.
In the case of a cable cut or power failure, the lifted load cannot drop down. There is no need for battery maintenance; the activation and deactivation are done either by pushing a button on the magnet via a remote control or signal output, controlled by the costumer himself.
Depending on the application, the FXE product line offers different concepts.

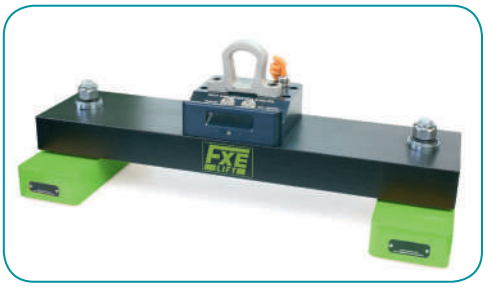
## FXE Electro-Permanent Lifting magnets

FXE Electro-Permanent Lifting Magnets are equipped with on-board control technology directly connected to mains voltage – the fast and user friendly Plug and Play solution for loads weighing up to 7,2 tons.
In the FXE-Z versions, with a special demagnetization cycle and FXE-R for round materials, function for both single bars and layers



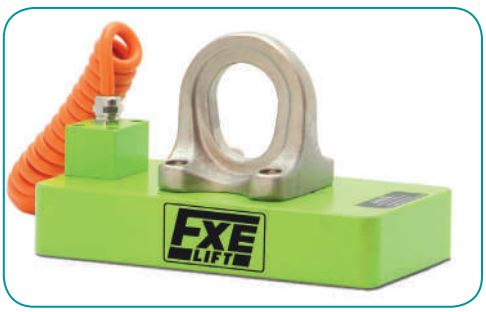
## FXE-T Electro-Permanent Lifting magnet Trusses

Electro-permanent magnetic trusses with on-board control technology are directly connected to the main voltage.
Standards for sheets to 6000x3000mm and 6,4t or trusses tailored to the customer's requirements are directly connected to the main and are easy to install.



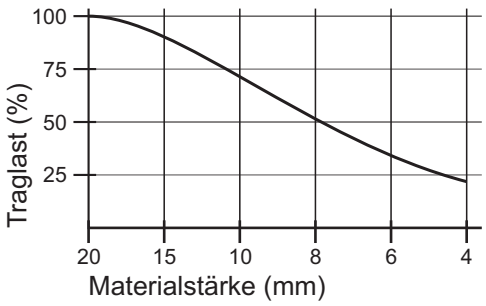
## FXE-M Electro-Permanent Lifting magnet modules

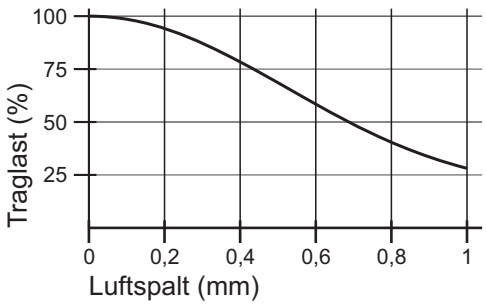
The electro-permanent lifting magnet system in a modular construction consists of many possible composition interdependent controls.
The electro-permanent lifting magnet systems in modular structures, come in a variety of designs and magnetic matching control units that can be matched together for crane operation or automated pick and place requirements.



Within the described application concepts the FXE, it has four different types of magnetic fields, defined by different pole structures.
Depending on the requirements profile, it's important to choose the appropriate terminal type.

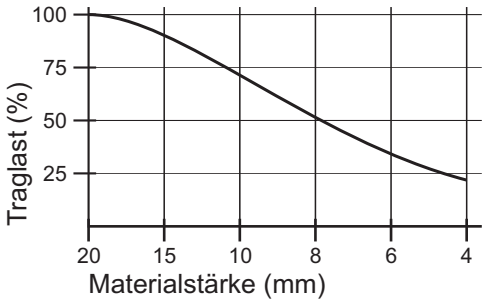
## Pole Type 50

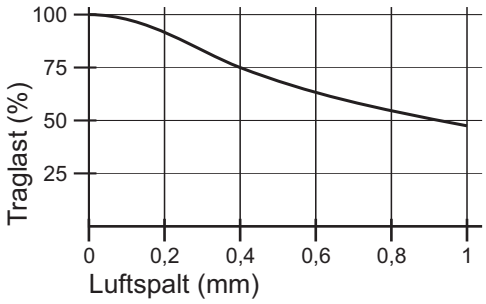



Pole Type 50 is designed for lifting sheets starting from 4 mm thikness and steel components with a plane or machined surface.
The nominal values of the FXE lifting magnets, with pole type 50, can be achieved until an air gape of 0,3 mm.
With air gap 0, the pole type 50 reaches a holding force of 3.8 kN.

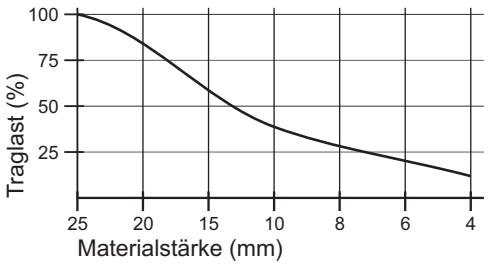
## Pole Type 50+

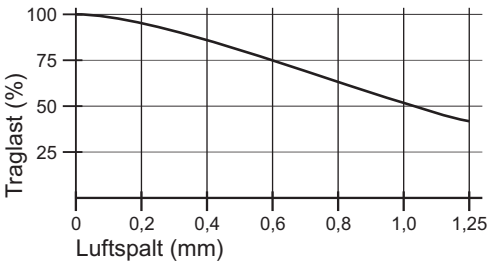



Pole Type 50+ has a strengthening magnetic system with the same pole size as the pole type 50.
This means on poor surfaces, the holding force can be improved, especially if pole extensions are required.
With air gap 0, the pole type reaches 50+.

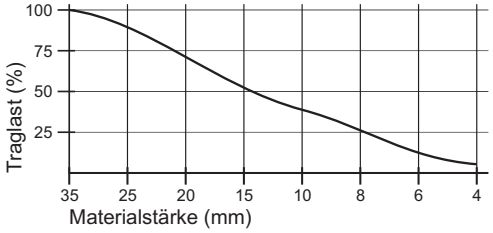
## Pole Type 80

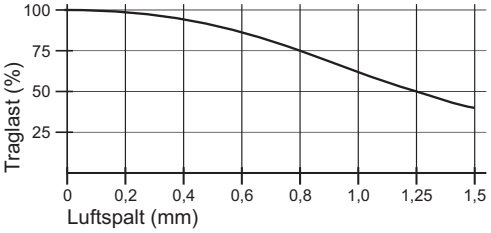



Pole Type 80 is designed for lifting sheets starting at 8 mm and solid steel components and flame cuts with a medium air gap,
The nominal value of the FXE lifting magnets with pole type 80 are achieved to an air gap of 0,4 mm.
With air gap 0, the pole type 80 achieves a holding force of 9 kN.

## Pole Type 100




Pole Type 100 is designed for lifting heavy plates starting at a length of 12 mm and solid steel elements, moulded and forging parts with larger air gap.
The nominal values of the FXE lifting magnets with pole type 100 are achieved up to an air gap of 0,6mm.
With air gap 0, the pole type reaches a holding force of of 14.5 kN.

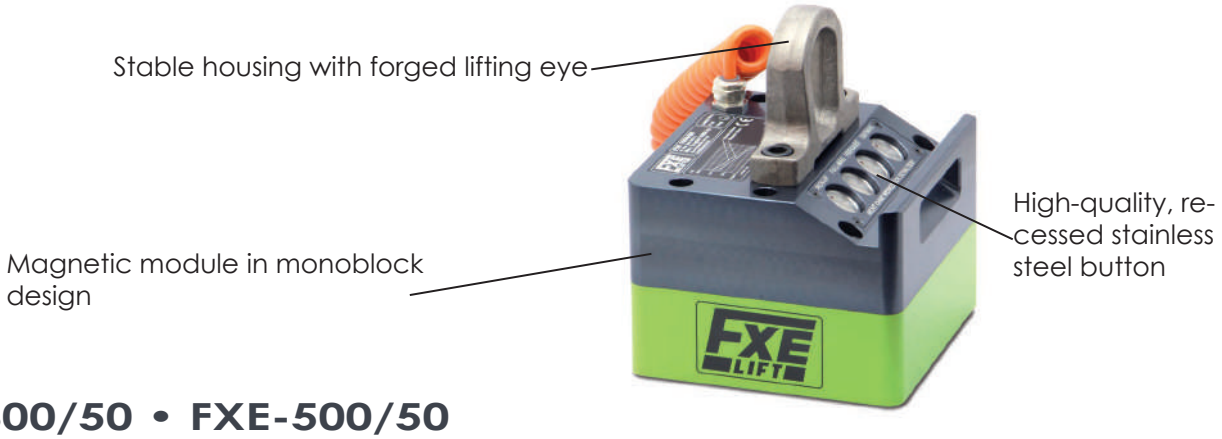
## FXE Electro-Permanent Lifting magnets

The FXE lifting magnets are the professional solution for common handling workpieces.

They are robustly built and designed for continuous use. The electrical control allows the operator to turn the unit without any physical effort, even in hard to reach areas. The permanent magnet system can be activated by the push button in 0.8 seconds, and when you turn it off, the workpiece is released safely. The connection is made easy through the mains voltage. Thus, the device is ready for use with very low installation effort. If the power fails, the load is held by the permanent magnet field. For this, no prone- and maintenance-intensive back-up batteries are necessary.

A quick change of crane installations with conventional mains-powered is possible.

FXE Lifting Magnets comply with the latest standards and offer maximum safety and ease of use. With our standard sizes up to 7200 kg, we have the right equipment for almost any application.




## FXE-300/50 • FXE-500/50 Electro-Permanent Lifting magnets

Equipped with pole structure 50 and a maximum load capacity of 300/500 kg, which is achieved at thicknesses from 15mm. For small magnetically active areas, this device is easily controlled and used for lifting serial parts, blanks and small castings and forgings.

| FXE-300/50 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 4 mm | 70 kg | 1800 | 1500 |
| from 6 mm | 140 kg | 2000 | 1500 |
| from 8 mm | 200 kg | 2000 | 1500 |
| from 10 mm | 280 kg | 2000 | 1500 |
| from 15 mm | 300 kg | 2000 | 1500 |

| FXE-500/50 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 4 mm | 100 kg | 1800 | 1500 |
| from 6 mm | 200 kg | 2000 | 1500 |
| from 8 mm | 300 kg | 2000 | 1500 |
| from 10 mm | 400 kg | 2000 | 1500 |
| from 15 mm | 500 kg | 2000 | 1500 |


| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pole Typ | Breakaway (kN) | Clamping surface (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | | |
| FXE-300/50 | 1060 0301 | 300 | 164 | 164 | 420 | 4 | 50 | 14 | 116x116 | 23 |
| FXE-500/50 | 1060 0501 | 500 | 234 | 164 | 420 | 6 | 50 | 22 | 180x116 | 31 |

# FXE-750/50 • FXE-1100/50 • FXE-1600/50
# Electro-Permanent Lifting magnets

Equipped with pole structure 50 and a maximum load capacity of 750/1100/1600 kg which is achieved at thicknesses from 15mm. For small magnetically active areas, this device is easily controlled and used for lifting plates, laser and internal parts, tools and blanks.


| FXE-750/50 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 4 mm | 150 kg | 1800 | 1500 |
| from 6 mm | 250 kg | 2000 | 1500 |
| from 8 mm | 400 kg | 2000 | 1500 |
| from 10 mm | 600 kg | 2000 | 1500 |
| from 15 mm | 750 kg | 3000 | 1500 |

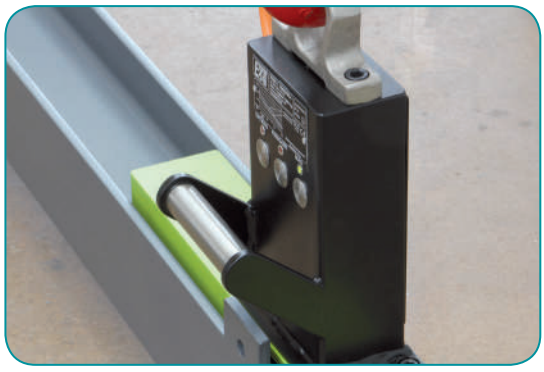
| FXE-1100/50 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 4 mm | 200 kg | 2000 | 1500 |
| from 6 mm | 370 kg | 3000 | 1500 |
| from 8 mm | 600 kg | 3000 | 1500 |
| from 10 mm | 900 kg | 3000 | 1500 |
| from 15 mm | 1100 kg | 3000 | 1500 |

| FXE-1600/50 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 4 mm | 300 kg | 3000 | 1500 |
| from 6 mm | 500 kg | 3000 | 1500 |
| from 8 mm | 800 kg | 3000 | 1500 |
| from 10 mm | 1400 kg | 3000 | 1500 |
| from 15 mm | 1600 kg | 3000 | 2000 |

| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pole Typ | Breakaway (kN) | Clamping surface(mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | | |
| FXE-750/50 | 1060 0701 | 750 | 298 | 164 | 250 | 8 | 50 | 30 | 244x116 | 27 |
| FXE-1100/50 | 1060 1101 | 1100 | 420 | 164 | 270 | 12 | 50 | 40 | 372x116 | 39 |
| FXE-1600/50 | 1060 1601 | 1600 | 620 | 164 | 270 | 18 | 50 | 60 | 564x116 | 56 |

## FXE-L Electro-Permanent Lifting magnets

Equipped with pole structure 50+ in a long narrow design and a maximum working load of 400/600/1000 kg, which is achieved at thicknesses from 15mm. For small magnetically active areas, this device is easily controlled and used for lifting strips, bars, pipes, beams and rods. Also, using pole extensions allow it to position the magnets on long narrow loads.



## FXE-L400/50+ Electro-Permanent Lifting magnets

| FXE-400/50+ | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 4 mm | 70 kg | 1800 | 1000 |
| from 6 mm | 140 kg | 2000 | 1000 |
| from 8 mm | 200 kg | 2000 | 1000 |
| from 10 mm | 250 kg | 2500 | 1000 |
| from 15 mm | 400 kg | 3000 | 1000 |

| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pole Typ | Breakaway (kN) | Clamping surface(mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | | |
| FXE-L 400/50+ | 1060 0411 | 400 | 294 | 95 | 450 | 4 | 50+ | 14 | 244x52 | 23 |

## FXE-L600/50+ Electro-Permanent Lifting magnets

| FXE-L600/50+ | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 4 mm | 100 kg | 2000 | 1000 |
| from 6 mm | 200 kg | 2500 | 1000 |
| from 8 mm | 300 kg | 2500 | 1000 |
| from 10 mm | 350 kg | 3000 | 1000 |
| from 15 mm | 600 kg | 4000 | 1000 |


| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pole Typ | Breakaway (kN) | Clamping surface (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | | |
| FXE-L 600/50+ | 1060 0611 | 600 | 420 | 95 | 450 | 6 | 50+ | 22 | 372x52 | 31 |

## FXE-L1000/50+ Electro-Permanent Lifting magnets

| FXE-L1000/50+ | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 4 mm | 150 kg | 2500 | 1500 |
| from 6 mm | 300 kg | 3000 | 1500 |
| from 8 mm | 400 kg | 3000 | 1500 |
| from 10 mm | 500 kg | 4000 | 1500 |
| from 15 mm | 1000 kg | 5000 | 1500 |


| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pole Typ | Breakaway (kN) | Clamping surface(mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | | |
| FXE-L 1000/50+ | 1060 1011 | 1000 | 680 | 95 | 450 | 10 | 50+ | 38 | 628x52 | 44 |

## FXE-1000/80 Electro-Permanent Lifting magnets

Equipped with pole structure 80 and a maximum load capacity of 1000 kg which is achieved at thicknesses from 25mm. For small magnetically active areas, this device is easily controlled and used for lifting heavy plates, plasma and lame-cut parts, tools and blanks.


| FXE-1000/80 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 8 mm | 200 kg | 2000 | 1500 |
| from 10 mm | 300 kg | 2000 | 1500 |
| from 15 mm | 600 kg | 2000 | 1500 |
| from 25 mm | 1000 kg | 2000 | 1500 |

| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pole Typ | Breakaway (kN) | Clamping surface(mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | | |
| FXE-1000/80 | 1060 1002 | 1000 | 228 | 228 | 295 | 4 | 80 | 36 | 172x172 | 39 |

## FXE-2500/80 Electro-Permanent Lifting magnets

Equipped with pole structure 80 and a maximum load capacity of 2500 kg, which is achieved at thicknesses from 25mm. For small magnetically active areas, this device is easily controlled and used for lifting heavy plates, plasma and lame-cut parts, tools and blanks.


| FXE-2500/80 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 8 mm | 500 kg | 2000 | 1500 |
| from 10 mm | 750 kg | 3000 | 1500 |
| from 15 mm | 1500 kg | 3000 | 1500 |
| from 25 mm | 2500 kg | 3000 | 2000 |

| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pole Typ | Breakaway (kN) | Clamping surface(mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | | |
| FXE-2500/80 | 1060 2502 | 2500 | 506 | 228 | 295 | 10 | 80 | 90 | 448x172 | 77 |

## FXE-4000/80 Electro-Permanent Lifting magnets

Equipped with pole structure 80 and a maximum load capacity of 4000 kg which is achieved at thicknesses from 25mm. For small magnetically active areas, this device is easily controlled and used for lifting heavy plates, plasma and lame-cut parts, tools and blanks. The outside, offset control and operating unit make it easier to clear firing and machine tables.


| FXE-4000/80 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 8 mm | 800 kg | 3000 | 1500 |
| from 10 mm | 1200 kg | 3000 | 1500 |
| from 15 mm | 2400 kg | 3000 | 1500 |
| from 25 mm | 4000 kg | 4000 | 1500 |

| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pole Typ | Breakaway (kN) | Clamping surface(mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | | |
| FXE-4000/80 | 1060 4002 | 4000 | 783 | 228 | 295 | 16 | 80 | 144 | 724x172 | 132 |

## FXE-1600/100 Electro-Permanent Lifting magnets

Equipped with pole structure 100 and a maximum load capacity of 1600/2400 kg which is achieved at thicknesses from 35mm. For small magnetically active areas, this device is easily controlled and used for lifting forgings, heavy plates, plasma and internal parts, tools, ingots…



| FXE-1600/100 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 10 mm | 400 kg | 2000 | 1500 |
| from 20 mm | 1000 kg | 2000 | 1500 |
| from 35 mm | 1600 kg | 3000 | 1500 |

| FXE-2400/100 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 10 mm | 600 kg | 2000 | 1500 |
| from 20 mm | 1500 kg | 3000 | 1500 |
| from 35 mm | 2400 kg | 3000 | 1500 |

| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pole Typ | Breakaway (kN) | Clamping surface(mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | | |
| FXE-1600/100 | 1060 1603 | 1600 | 296 | 296 | 125 | 4 | 100 | 58 | 222x222 | 82 |
| FXE-2400/100 | 1060 2403 | 2400 | 415 | 296 | 335 | 6 | 100 | 87 | 342x222 | 118 |

## FXE-3200/100 Electro-Permanent Lifting magnets

Equipped with pole structure 100 and a maximum load capacity of 3200 kg which is achieved at thicknesses from 35mm. For small magnetically active areas, this device is easily controlled and used for lifting forgings, heavy plates, plasma and internal parts, tools, ingots…


| FXE-3200/100 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 10 mm | 800 kg | 3000 | 1500 |
| from 20 mm | 2200 kg | 3000 | 1500 |
| from 35 mm | 3200 kg | 4000 | 1500 |

| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pole Typ | Breakaway (kN) | Clamping surface(mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | | |
| FXE-3200/100 | 1060 3203 | 3200 | 536 | 296 | 335 | 8 | 100 | 112 | 462x222 | 154 |

## FXE-4800/100 • FXE-7200/100 Electro-Permanent Lifting magnets

Equipped with pole structure 100 and a maximum load capacity of 4800/7200 kg which is achieved at thicknesses from 35mm. For small magnetically active areas, this device is easily controlled and used for lifting forgings, heavy plates, plasma and internal parts, tools, ingots…


| FXE-4800/100 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 10 mm | 1200 kg | 3000 | 1500 |
| from 20 mm | 3000 kg | 4000 | 2000 |
| from 35 mm | 4800 kg | 4000 | 2000 |

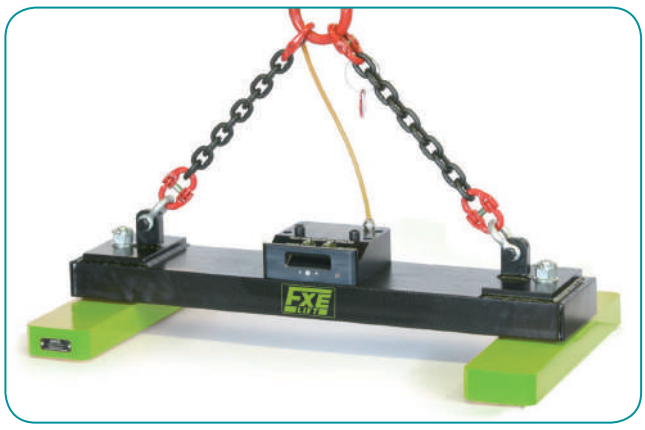
| FXE-7200/100 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 10 mm | 1800 kg | 3000 | 1500 |
| from 20 mm | 3300 kg | 4000 | 2000 |
| from 35 mm | 7200 kg | 4000 | 2500 |

| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pole Typ | Breakaway (kN) | Clamping surface(mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | | |
| FXE-4800/100 | 1060 4803 | 4800 | 778 | 296 | 400 | 12 | 100 | 168 | 702x222 | 202 |
| FXE-7200/100 | 1060 7203 | 7200 | 778 | 415 | 400 | 18 | 100 | 252 | 702x342 | 298 |

## FXE-T2500/50 • FXE-T4000/80 Lifting magnet Truss

FXE-T 2500/50 and 4000/80 Electro-permanent Lifting Magnet Trusses have a compact design with on-board control technology designed for the frequent transfer of larger formats. They can, like the FXE Lifting Magnets, be operated directly on the main voltage and are installed quickly and ready for use. The unit is controlled directly on the device or with a remote control.


Radio/IR-remote control optionally!




FXE-T 4000/80

| FXE-T2500/50 | | | |
|---|---|---|---|
| Max. Load capacity on sheets | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 4 mm | 500 kg | 4000 | 1500 |
| from 6 mm | 750 kg | 4000 | 1500 |
| from 8 mm | 1250 kg | 4000 | 2000 |
| from 10 mm | 1750 kg | 4000 | 2000 |
| from 15 mm | 2550 kg | 4000 | 2500 |

| FXE-T4000/80 | | | |
|---|---|---|---|
| Max. Load capacity on sheets | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 4 mm | 350 kg | 4000 | 1500 |
| from 6 mm | 700 kg | 4000 | 1500 |
| from 8 mm | 1000 kg | 4000 | 2000 |
| from 10 mm | 1250 kg | 4000 | 2000 |
| from 15 mm | 2500 kg | 5000 | 2500 |
| from 25 mm | 4000 kg | 5000 | 2500 |

| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | PoleTyp | Breakaway (kN) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | |
| FXE-T-2500/50 | 1013 2503 | 2500 | 1000 | 630 | 380 | 2x18 | 50 | 96 | 138 |
| FXE-T-4000/80 | 1013 4003 | 4000 | 1200 | 500 | 380 | 2x10 | 80 | 170 | 175 |

## FXE-T6400/80 Lifting magnet Truss

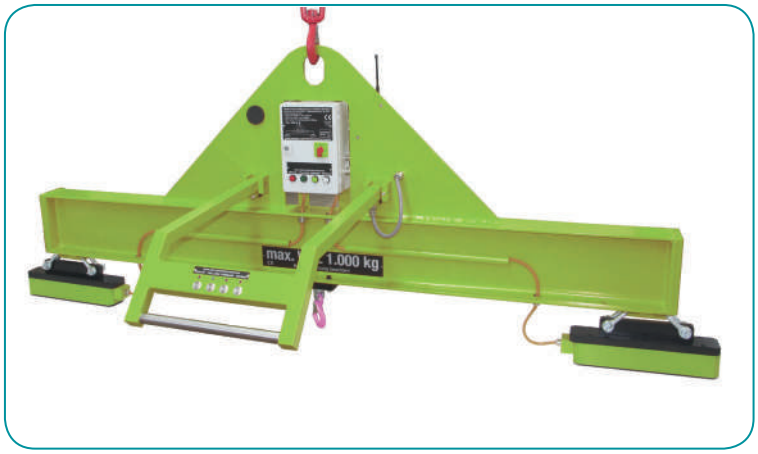
The FXE T 6400/80 Electro-Permanent Lifting Magnet Truss comes standard, fully-featured with all the options.
The truss, with 6400 kg max. carrying capacity, is held with sliding magnetic modules and can safely move sheet formats of min. 1200 mm and max. 6000 mm length.

Delivery includes:

- Radio remote control with Pick Up function to lift individual plates from 6mm
- Weld-on hooks on the sides each 4t max.
- 2-strain chains
- Lifting-eyelet sensor, demagnetizing only when load is free
- 360° LED signal tower
- Stainless steel guide handles
- Primary connection cable ready for 400V/25A fuse/CEE 32A plug

| FXE-T6400/80 | | | |
|---|---|---|---|
| Max. Load capacity on sheets | | | |
| Material-/ Wall thickness | | Max. Dimensions | |
| | max. Load | L (max.) | B (max.) |
| from 4 mm | 500 kg | 4000 | 2000 |
| from 6 mm | 1000 kg | 6000 | 2500 |
| from 8 mm | 1400 kg | 6000 | 2500 |
| from 10 mm | 2000 kg | 6000 | 3000 |
| from 15 mm | 4000 kg | 6000 | 3000 |
| from 25 mm | 6400 kg | 6000 | 2000 |

| Model | Article-Nr. | Max. Load capacity (kg) | Dimens. (mm) | | | Pole °N | Pol Typ | Breakaway (kN) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| | | | L | B | H | | | | |
| FXE-T-6400/80 | 1013 6403 | 6400 | 3150 | 780 | 1900 | 2x16 | 80 | 272 | 520 |



## FXE-R Electro-Permanent Lifting magnets

FXE-R Lifting Magnets can pick up round, rotary and flat material. We manufacture from our FXE-based models with pole shoes, which can customize and raise the diameter bandwidths individually or in layers.


| Model | Article-Nr. | Max. Load cap.(kg) flat | Max. Load cap.(kg) round | Dimens. (mm) L | Dimens. (mm) B | Dimens. (mm) H | Pole °N | Pole Typ | Breakaway (kN) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| FXE-R 2400/100 | 1062 2403 | 2400 | Ø120-420 mm 1200 kg | 536 | 296 | 370 | 8 | 100 | 80 | 158 |
| Consistent sample model, many other Versions available | | | | | | | | | | |

## FXE-Z Electro-Permanent Lifting magnets

FXE-Z Lifting Magnets with additional demagnetizing are produced from our FXE- basic models with an adjusted magnet system.
With FXE-Z, workpieces that keep disturbing residual magnetism after transportation, such as alloyed mold plates or hardened driving and bearing parts, can be moved and demagnetized. It should be noted that this design and magnetic power is clearly higher than the standard FXE models. The quality of demagnetization depends on the workpiece, therefore not every request can be met.

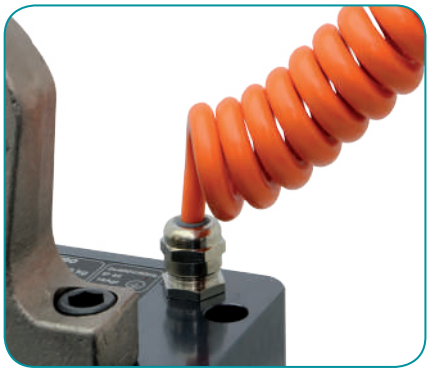

| Model | Article-Nr. | Max. Load cap. (kg) | Dimens. (mm) L | Dimens. (mm) B | Dimens. (mm) H | Pole °N | Pole structure | Breakaway (kN) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| FXE-Z 500/80 | 1064 0512 | 500 | 430 | 230 | 295 | 8 | 80 | 18 | 60 |
| Consistent sample model, many other Versions available | | | | | | | | | |

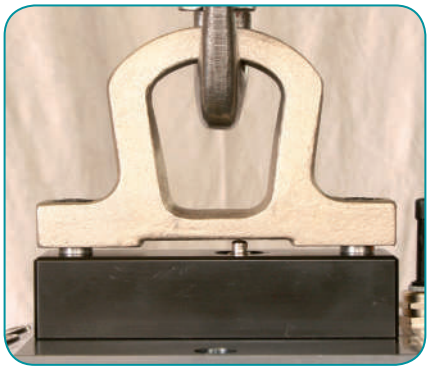
# The FXE electro permanent lifting magnet series can be customized by adding intelligent accessories to further increase productivity and safety.

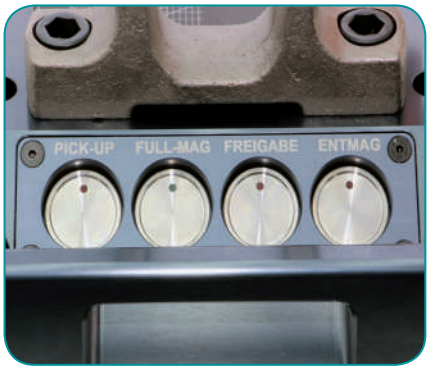
Spiral cable
Included in the standard package are a 2m heavy rubber hose line and a CEE three-phase connector (16/32A).
High-quality spiral cables are best with small fast hoists up to 4m in hook height.

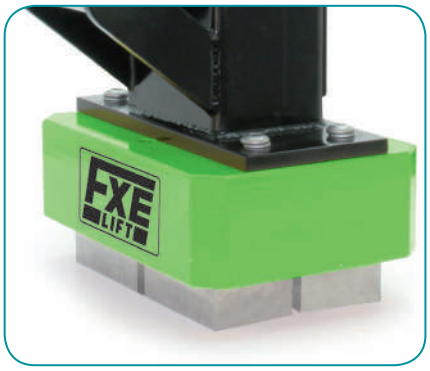
Eyelet-Sensor
The eyelet-sensor checks whether the lifting eye on the magnet is on the load, and only allows demagnetization if it is not.
This provides more security, and prevents the possibility, for example, of slugs on a discard container.

Pick Up function
The "pick-up" option is for taking one thin sheet of a stack. Similarly, the "pick-up" adds another safety feature. A floating load in reduced mode can be magnetized, and then it can be considered by a standardized safety factor..








Special pole shoes
For receiving hot parts, we recommend using heat-protection pole shoes, or form pole shoes for round materials, profiles or bulky castings. We produce custom made pole shoes so that the receiving surface matches the load.

Remote control in radio or infrared technology.
The remote control can be used in both radio and infrared technology. IR has price advantages, but requires a direct line of sight to the receiver and has a short range of only about 5m. Radio has a range of at least 30m, but we recommend the use of a radio FB addition to the Eyelet-Sensor option.

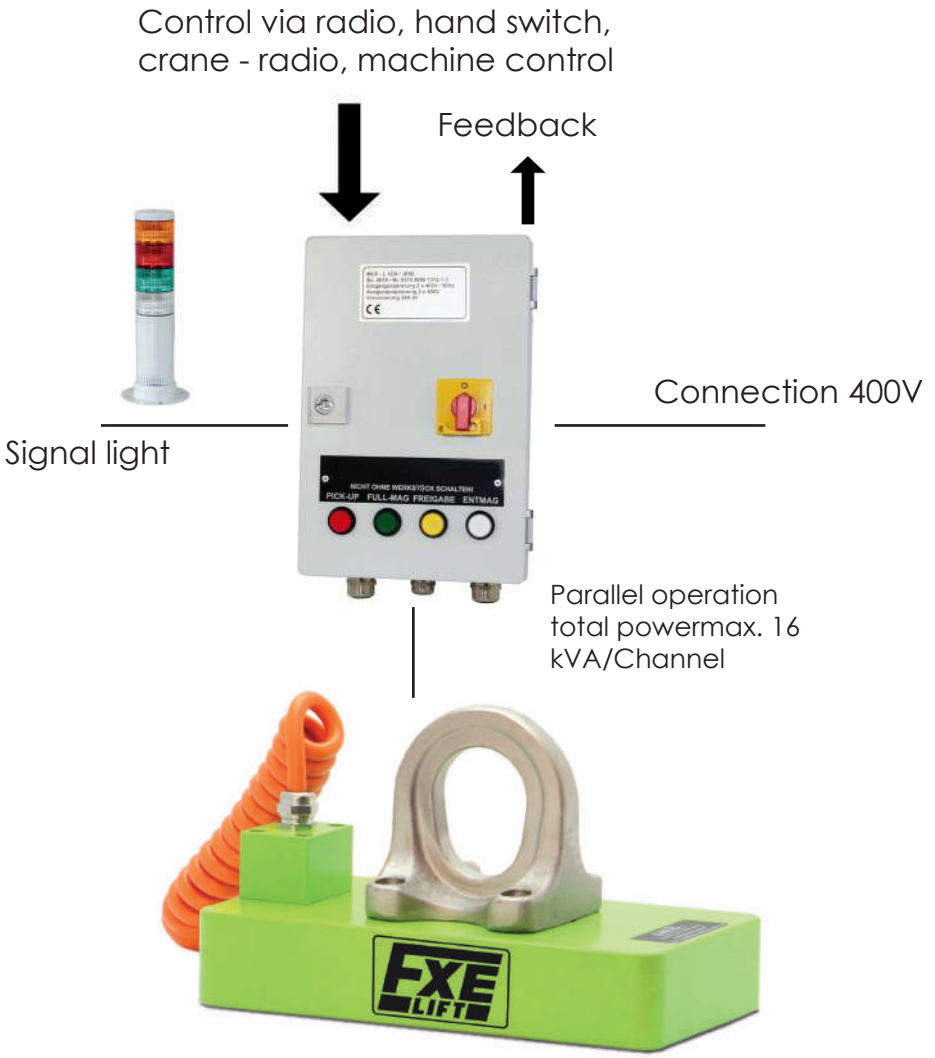
Guide handle
Especially when removing small workpieces from the flame cutting table, the magnet can be positioned to the crane, and it must be done manually. For this, we recommend the guide handle.
With an integrated circuit, it allows the operator to easily clear the internal table from the side.

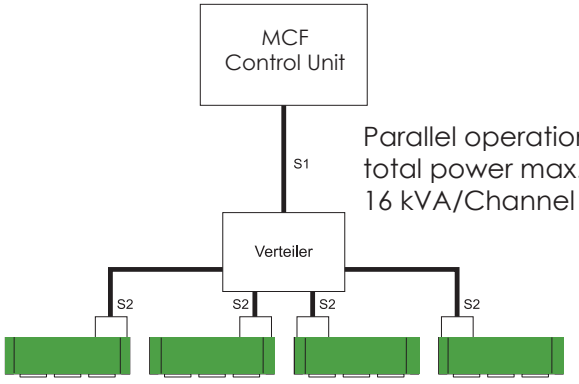
| Article | Article-Nr. | Weight (kg) |
|---|---|---|
| Spiral cable 3x2.5 1-5m | 1013 5325 | 2 |
| Spiral cable 3x2.5 0,5-2m | 1013 5326 | 1 |
| Spiral cable 4x4mm² 1-5m (ab FXE 300 verw.) | 1013 626 | 3 |
| 4x6 mm² Spring cable reel 10m | 1016 0001 | 34 |
| 5x2,5mm² Spring cable reel 10m | 1016 0002 | 20 |

| Article | Article-Nr. | Weight (kg) |
|---|---|---|
| Eyelet-Sensor FXE | 8 1060 0001 | 1 |
| Eyelet-Sensor Trusses | 8 1060 0002 | 2 |
| Pick Up Option | 8 1060 0003 | - |
| Special pole shoes | on request | - |
| Radio remote control | 1013 6001 | 0,3 |
| IR remote control (for 3 Button command) | 1013 6002 | - |
| Guide handle FXE | 8 1060 0005 | 15 |

## FXE-M Electro-Permanent Lifting magnets

FXE-M Electro-Permanent Lifting Magnet modules can be put together in conjunction with MCF magnetic control units creating modular lifting systems.
A single FXE-M module can be commanded by a single MCF-1 channel controller, while 4 FXE-M modules may be jointly or individually driven by an MCF-4 channel controller, operating, for instance, in a fully automatic profile steel plant. FXE-M modules have been proven thousands of times over many years in cranes, manipulators, conveyors.
FXE-M modules are made with monoblock technology and are extremely solid. Depending on the specific application there is a choice between 4 different terminal types and their matching magnet modul




Connecting several FXE-M modules

| | Length cable max. S1 + S2 max. (m) | |
|---|---|---|
| | 3 x 2,5² | 3 x 4² |
| up to 8 kVA | 20 | 30 |
| up to 16 kVA | 6 | 15 |

| Model | Article-Nr. | Max. Load capacity | | Dimension (mm) | | | Pole °N | Pole structure | Breakaway (kN) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | (kg) | ab (mm) | L | B | H | | | | |
| FXE-M 150/50 | 1061 0101 | 150 | 15 | 164 | 95 | 64 | 2 | 50 | 7 | 6 |
| FXE-M 300/50 | 1061 0301 | 300 | 15 | 164 | 164 | 64 | 4 | 50 | 14 | 12 |
| FXE-M 400/50 | 1061 0401 | 400 | 15 | 294 | 95 | 64 | 4 | 50 | 14 | 12 |
| FXE-M 500/50 | 1061 0501 | 500 | 15 | 234 | 164 | 64 | 6 | 50 | 21 | 16 |
| FXE-M 600/50 | 1061 0601 | 600 | 15 | 420 | 95 | 64 | 6 | 50 | 21 | 16 |
| FXE-M 750/50 | 1061 0701 | 750 | 15 | 298 | 164 | 64 | 8 | 50 | 20 | 20 |
| FXE-M 1000/50 | 1061 1001 | 1000 | 15 | 680 | 95 | 64 | 10 | 50 | 36 | 28 |
| FXE-M 1100/50 | 1061 1101 | 1100 | 15 | 420 | 164 | 64 | 12 | 50 | 40 | 32 |
| FXE-M 1600/50 | 1061 1601 | 1600 | 15 | 620 | 164 | 64 | 18 | 50 | 60 | 46 |
| FXE-M 400/50+ | 1061 0411 | 400 | 15 | 294 | 95 | 83 | 4 | 50+ | 14 | 16 |
| FXE-M 600/50+ | 1061 0611 | 600 | 15 | 420 | 95 | 83 | 6 | 50+ | 21 | 20 |
| FXE-M 1000/50+ | 1061 1011 | 1000 | 15 | 680 | 95 | 83 | 10 | 50+ | 36 | 38 |
| FXE-M 1000/80 | 1061 1002 | 1000 | 25 | 228 | 228 | 89 | 4 | 80 | 36 | 30 |
| FXE-M 2500/80 | 1061 2502 | 2500 | 25 | 506 | 228 | 89 | 10 | 80 | 86 | 70 |
| FXE-M 4000/80 | 1061 4002 | 4000 | 25 | 783 | 228 | 89 | 16 | 80 | 140 | 107 |
| FXE-M 1600/100 | 1061 1603 | 1600 | 35 | 295 | 296 | 125 | 4 | 100 | 58 | 72 |
| FXE-M 2400/100 | 1061 2403 | 2400 | 35 | 415 | 296 | 125 | 6 | 100 | 87 | 104 |
| FXE-M 3200/100 | 1061 3203 | 3200 | 35 | 536 | 296 | 125 | 8 | 100 | 112 | 138 |
| FXE-M 4800/100 | 1061 4803 | 4800 | 35 | 778 | 296 | 125 | 12 | 100 | 168 | 196 |
| FXE-M 7200/100 | 1061 7203 | 7200 | 35 | 778 | 415 | 125 | 18 | 100 | 252 | 286 |

Please note declaration for pole structure characteristics page 17 • Workpiece temperature up to 100°C
Optionally with pole shoes for Round material, Profiles, hot Workpieces available
at switching frequency >3/min please query

| Model | Voltage (V) | Power (kVA) Impulse | Ohm resistor | Lifting power EN13155 (kg) | clamping surface mm |
|---|---|---|---|---|---|
| FXE-M 150/50 | 400-480 | 0,6 | 49 | 150 | 116x52 |
| FXE-M 300/50 | 400-480 | 1,2 | 25 | 300 | 116x116 |
| FXE-M 400/50 | 400-480 | 1,2 | 25 | 400 | 244x52 |
| FXE-M 500/50 | 400-480 | 1,8 | 16 | 500 | 180x116 |
| FXE-M 600/50 | 400-480 | 1,8 | 16 | 600 | 372x52 |
| FXE-M 750/50 | 400-480 | 2,4 | 12 | 750 | 244x116 |
| FXE-M 1000/50 | 400-480 | 3 | 10 | 1000 | 628x52 |
| FXE-M 1100/50 | 400-480 | 3,6 | 8 | 1100 | 372x116 |
| FXE-M 1600/50 | 400-480 | 5,4 | 5 | 1600 | 564x116 |
| FXE-M 400/50+ | 400-480 | 2,4 | 12 | 400 | 244x52 |
| FXE-M 600/50+ | 400-480 | 3,6 | 8 | 600 | 372x52 |
| FXE-M 1000/50+ | 400-480 | 6 | 5 | 1000 | 628x52 |
| FXE-M 1000/80 | 400-480 | 4,8 | 6,4 | 1000 | 172x172 |
| FXE-M 2500/80 | 400-480 | 10 | 2,8 | 2500 | 448x172 |
| FXE-M 4000/80 | 400-480 | 16 | 1,6 | 4000 | 724x172 |
| FXE-M 1600/100 | 400-480 | 12 | 2,4 | 1600 | 222x222 |
| FXE-M 2400/100 | 400-480 | 16 | 1,6 | 2400 | 342x222 |
| FXE-M 3200/100 | 400-480 | 2x12 | 2x2,4 | 3200 | 462x222 |
| FXE-M 4800/100 | 400-480 | 2x16 | 2x1,6 | 4800 | 702x222 |
| FXE-M 7200/100 | 400-480 | 3x16 | 3x1,6 | 7200 | 702x342 |

* Optionally available in 200-230 V
protective earthing, IP 55

FXE-M modules are supplied with rear connections ready for use.
Optionally, we offer the following accessories:

| Article | Article-Nr. |
|---|---|
| Eyelet 250kg | 9 1061 0001 |
| Eyelet 600 kg | 9 1061 0002 |
| Eyelet 1600 kg | 9 1061 0003 |
| Eyelet 3200 kg | 9 1061 0004 |
| hanging plate 7,2t | 9 1061 0005 |
| Spiral cable 3x2.5 1-5m | 1013 5325 |
| Spiral cable 3x2.5 0,5-2m | 1013 5326 |
| Spiral cable 4x4mm² 1-5m | 1013 626 |

## FXE-MP Electropermanent magnetic system

The electro-permanent magnetic system FXE-MP works through a sandwich construction, giving the magnet a very compact structure. The FXE-MP Modules are particulary suitable for small loads. They can be connected through a MCF control unit. They are suitable for cranes, manipulators and robotic facilities.


| Model | Arti-Nr. | Max. Load (kg) | Capacity from thickness (mm) | Dimens. (mm) | | | Pole structure | Breakaway (kN) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | L | B | H | | | |
| **FXE-MP-75** | 1065 0075 | 75 | 12 | 80 | 80 | 80 | 2 | 2,5 | 3 |
| **FXE-MP-100** | 1065 0100 | 100 | 12 | 130 | 45 | 80 | 2 | 3,5 | 3 |
| **FXE-MP-100+** | 1065 0101 | 100 | 15 | 100 | 50 | 90 | 2 | 3,5 | 3 |
| **FXE-MP-300** | 1065 0300 | 300 | 20 | 210 | 70 | 110 | 2 | 10 | 9 |
| **FXE-MP-500** | 1065 0500 | 500 | 25 | 270 | 70 | 110 | 2 | 17 | 12 |
| Workpiece temperature up to 100°C<br>Optionally with poleshoes for Round material, Profiles, high temperature loads.<br>Possibility of switching frequency >3/min, please request. | | | | | | | | | |


We provide the option to change the position of the power supply cable.

## MCF Control Unit

The MCF Control Unit is designed to operate electro-permanent magnet modules.
The MCF unit can be installed as a single card in the existing electrical cabinets, or with a dedicated IP54 electrical panel solution.
Other e-perm magnetic components, except the FXE Lifting Magnets Modules, can be driven with the MCF. This includes clamping plates or clamping blocks, construction in simple systems, (Alnico) as well as in construction with a double system (Alnico/ND).
Power and communication parameters of the MCF can be custom set, the modules can be controlled individually or in a group, with partial and full magnetization.
Signal outputs provide feedback on the module's status ensuring high safety standards. Each cycle an on-board control system checks that the current absorption of the magnetic module is correct.

The MCF control can be activated by machine, hand switch or wireless remote control.

| Model | Article-Nr. | LxBxH (mm) | Weight (kg) |
|---|---|---|---|
| MCF PCB without power unit to Pole reversal device | 9050 1310 | 200x120x60 | 0,4 |
| MCF Power unit | 9050 1311 | 120x50x50 | 0,2 |
| MCF 1-Channel Pole reversal device | 9050 1312-1 | 300x200x120 | 6,5 |
| MCF 2-Channel Pole reversal device | 9050 1312-2 | 400x200x120 | 8,5 |
| MCF 3-Channel Pole reversal device | 9050 1312-3 | 400x300x120 | 6,5 |
| MCF 4-Channel Pole reversal device | 9050 1312-4 | 400x300x120 | 12,5 |
| Radio remote control | 1013 6001 | 40x80x14 | 0,3 |
| LED 360° Signal tower | 1013 0026-1 | Ø 50x280 | 1 |

## FX Force / Load / Air Gap

| FX 150 | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 2 | 20 | 800 | 800 | 12 | 800 | 800 | 10 | 800 | 800 |
| >= 4 | 60 | 1500 | 1500 | 40 | 1500 | 1250 | 30 | 1200 | 800 |
| >= 6 | 80 | 1500 | 1500 | 60 | 1500 | 1250 | 50 | 1200 | 800 |
| >= 8 | 150 | 1500 | 1500 | 120 | 1500 | 1250 | 80 | 1200 | 800 |
| Ø50-200 | 75 | 1500 | 2000 | 50 | 2000 | - | 40 | 1500 | - |

| FX 300 | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 4 | 60 | 1600 | 1000 | 50 | 1500 | 1000 | 40 | 1250 | 1000 |
| >= 8 | 200 | 2000 | 1250 | 160 | 2000 | 1250 | 120 | 1500 | 1000 |
| >= 10 | 230 | 2250 | 1250 | 190 | 2000 | 1250 | 150 | 1500 | 1000 |
| >= 15 | 300 | 2500 | 1250 | 250 | 2000 | 1250 | 200 | 1500 | 1000 |
| Ø50-300 | 150 | 3000 | - | 125 | 2500 | - | 100 | 2000 | - |

| FX 600 | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 6 | 150 | 1800 | 1500 | 120 | 1800 | 1250 | 100 | 1500 | 1250 |
| >= 10 | 300 | 2250 | 1500 | 250 | 2250 | 1250 | 210 | 2000 | 1250 |
| >= 15 | 500 | 2500 | 1500 | 440 | 2500 | 1250 | 350 | 2000 | 1250 |
| >= 20 | 600 | 3000 | 1500 | 520 | 3000 | 1250 | 440 | 2500 | 1250 |
| Ø80-400 | 300 | 4000 | - | 250 | 3500 | - | 200 | 3000 | - |

| FX 800 | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 6 | 200 | 1800 | 1500 | 160 | 1800 | 1500 | 140 | 1500 | 1500 |
| >= 10 | 400 | 2250 | 2000 | 320 | 2250 | 2000 | 280 | 2000 | 1500 |
| >= 15 | 650 | 2500 | 2000 | 520 | 2500 | 2000 | 450 | 2000 | 1500 |
| >= 20 | 800 | 3000 | 2000 | 720 | 3000 | 2000 | 550 | 2500 | 1500 |
| Ø80-400 | 400 | 5000 | - | 320 | 4500 | - | 250 | 3000 | - |

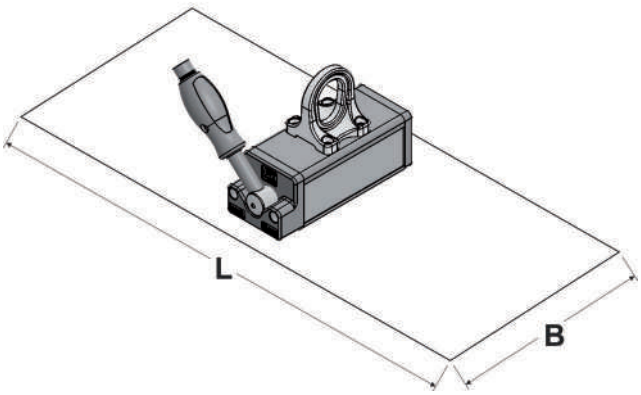
| FX 1000 | Air Gap < 0,3mm | | | Air Gap 0,3 - 0,5 mm | | | Air Gap 0,5 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 10 | 350 | 2250 | 1500 | 300 | 2250 | 1500 | 260 | 2250 | 1250 |
| >= 15 | 600 | 2500 | 1500 | 500 | 2500 | 1500 | 450 | 2500 | 1250 |
| >= 20 | 900 | 3000 | 1500 | 750 | 3000 | 1500 | 675 | 3000 | 1250 |
| >= 25 | 1000 | 3500 | 1500 | 850 | 3000 | 1500 | 750 | 3000 | 1250 |
| Ø100-450 | 500 | 4500 | - | 400 | 4000 | - | 330 | 3000 | - |

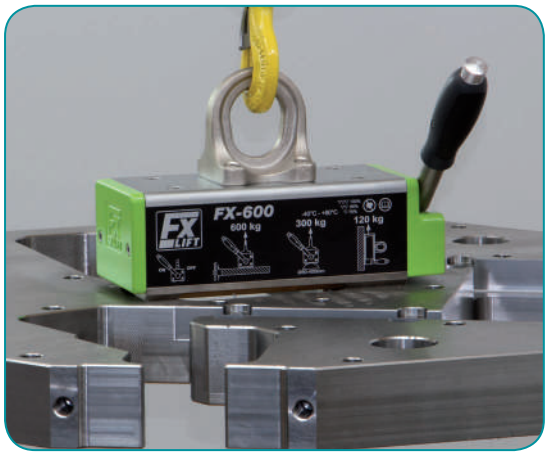
| FX 1500 | Air Gap < 0,3mm | | | Air Gap 0,3 - 0,5 mm | | | Air Gap 0,5 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 10 | 525 | 2250 | 2000 | 450 | 2250 | 2000 | 400 | 2250 | 1500 |
| >= 15 | 900 | 2500 | 2000 | 750 | 2500 | 2000 | 700 | 2500 | 1500 |
| >= 20 | 1300 | 3000 | 2500 | 1100 | 3000 | 2500 | 1000 | 3000 | 1500 |
| >= 25 | 1500 | 3500 | 2500 | 1250 | 3000 | 2500 | 1100 | 3000 | 1500 |
| Ø100-450 | 750 | 5000 | - | 600 | 4500 | - | 430 | 3500 | - |

| FX 2000 | Air Gap < 0,3mm | | | Air Gap 0,3 - 0,6 mm | | | Air Gap 0,6 - 0,8 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 15 | 500 | 2500 | 2000 | 400 | 3000 | 2000 | 330 | 2500 | 1500 |
| >= 25 | 1200 | 3000 | 2000 | 950 | 3000 | 2000 | 800 | 3000 | 1500 |
| >= 40 | 1600 | 2500 | 2000 | 1300 | 3000 | 2000 | 1100 | 3000 | 1500 |
| >= 50 | 2000 | 4000 | 2000 | 1600 | 3000 | 2000 | 1300 | 3000 | 1500 |
| Ø120-600 | 1000 | 4500 | - | 800 | 4000 | - | 650 | 3500 | - |

| FX 3000 | Air Gap < 0,3mm | | | Air Gap 0,3 - 0,6 mm | | | Air Gap 0,6 - 0,8 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 15 | 750 | 2500 | 2500 | 600 | 3000 | 2500 | 500 | 2500 | 2000 |
| >= 25 | 1800 | 3000 | 2500 | 1400 | 3000 | 2500 | 1200 | 3000 | 2000 |
| >= 40 | 2400 | 3500 | 2500 | 2000 | 3000 | 2500 | 1600 | 3000 | 2000 |
| >= 50 | 3000 | 4000 | 2500 | 2400 | 3000 | 2500 | 2000 | 3000 | 2000 |
| Ø120-600 | 1500 | 5000 | - | 1200 | 5000 | - | 1000 | 4000 | - |





## FX-R Force/ Load / Air Gap

| FX-R100 | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 2 | 25 | 800 | 800 | 12 | 800 | 800 | 10 | 800 | 800 |
| >= 4 | 50 | 1500 | 1500 | 40 | 1500 | 1250 | 30 | 1200 | 800 |
| >= 6 | 70 | 1500 | 1500 | 60 | 1500 | 1250 | 45 | 1200 | 800 |
| >= 8 | 100 | 1500 | 1500 | 75 | 1500 | 1250 | 60 | 1200 | 800 |
| Ø25-150 | 100 | 2000 | - | 75 | 2000 | - | 60 | 1500 | - |

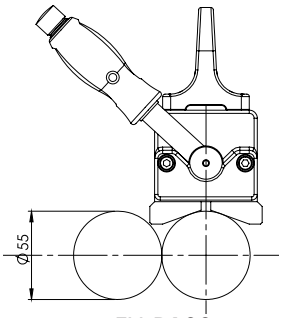
| FX-R225 | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 4 | 80 | 1600 | 1000 | 60 | 1500 | 1000 | 40 | 1250 | 1000 |
| >= 8 | 180 | 2000 | 1250 | 150 | 2000 | 1250 | 120 | 1500 | 1250 |
| >= 10 | 225 | 2250 | 1250 | 200 | 2000 | 1250 | 150 | 1500 | 1250 |
| Ø50-205 | 225 | 3000 | - | 200 | 2500 | - | 150 | 2000 | - |

| FX-R450 | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 6 | 150 | 1800 | 1500 | 120 | 1800 | 1000 | 100 | 1500 | 1250 |
| >= 10 | 300 | 2250 | 1500 | 250 | 2250 | 1250 | 210 | 2000 | 1250 |
| >= 15 | 400 | 2500 | 1500 | 350 | 2500 | 1250 | 300 | 2000 | 1250 |
| >= 20 | 450 | 3000 | 1500 | 400 | 3000 | 1250 | 350 | 2500 | 1250 |
| Ø50-270 | 450 | 4000 | - | 375 | 3500 | - | 280 | 3000 | - |

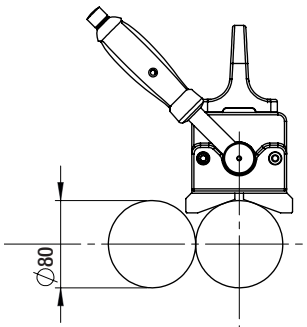
| FX-R750 | Air Gap < 0,3mm | | | Air Gap 0,3 - 0,5 mm | | | Air Gap 0,5 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 8 | 300 | 2250 | 1500 | 280 | 2250 | 1500 | 250 | 2250 | 1250 |
| >= 10 | 400 | 2500 | 1500 | 380 | 2500 | 1500 | 300 | 2500 | 1250 |
| >= 15 | 700 | 3000 | 1500 | 680 | 3000 | 1500 | 550 | 3000 | 1250 |
| >= 20 | 750 | 3500 | 1500 | 720 | 3000 | 1500 | 600 | 3000 | 1250 |
| Ø70-370 | 750 | 4500 | - | 600 | 4000 | - | 450 | 3000 | - |

| FX-R1200 | Air Gap < 0,3mm | | | Air Gap 0,3 - 0,6 mm | | | Air Gap 0,6 - 0,8 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 15 | 600 | 2500 | 2000 | 500 | 3000 | 2000 | 440 | 2500 | 1500 |
| >= 20 | 800 | 3000 | 2000 | 650 | 3000 | 2000 | 550 | 3000 | 1500 |
| >= 25 | 1000 | 3500 | 2000 | 800 | 3000 | 2000 | 700 | 3000 | 1500 |
| >=40 | 1200 | 4000 | 2000 | 1000 | 3000 | 2000 | 900 | 3000 | 1500 |
| Ø120-560 | 1200 | 4500 | - | 900 | 4000 | - | 700 | 3500 | - |

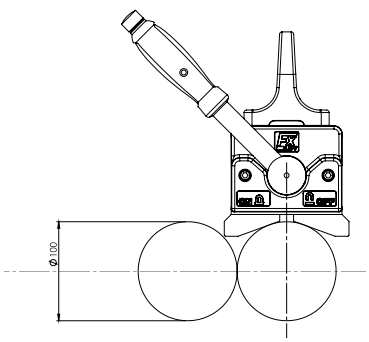
| FX-R1800 | Air Gap < 0,3mm | | | Air Gap 0,3 - 0,6 mm | | | Air Gap 0,6 - 0,8 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 15 | 900 | 2500 | 2000 | 750 | 3000 | 2000 | 660 | 2500 | 1500 |
| >= 20 | 1200 | 3000 | 2000 | 1000 | 3000 | 2000 | 825 | 3000 | 1500 |
| >= 25 | 1500 | 3500 | 2000 | 1200 | 3000 | 2000 | 1050 | 3000 | 1500 |
| >= 40 | 1800 | 4000 | 2000 | 1500 | 3000 | 2000 | 1200 | 3000 | 1500 |
| Ø120-560 | 1800 | 5000 | - | 1500 | 4000 | - | 1125 | 3500 | - |



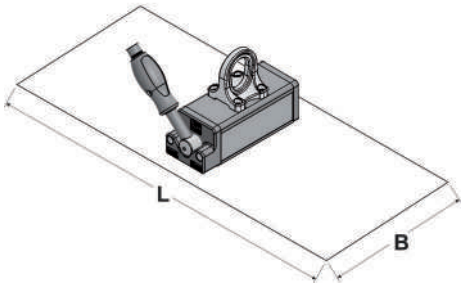

FX-R100




FX-R225




FX-R450

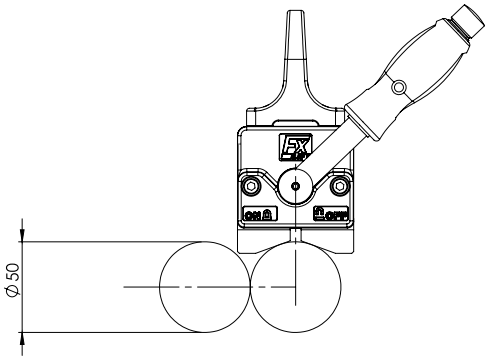



## FX-P Force / Load / Air Gap

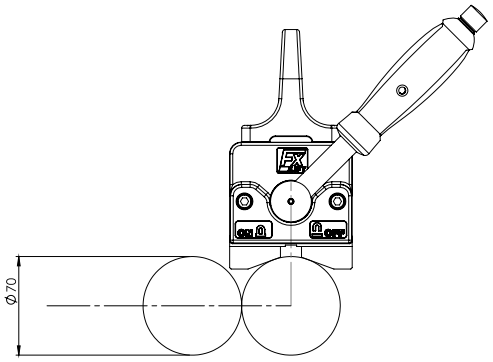
| FX-P170 | Air Gap < 0,3mm | | | Air Gap 0,3 - 0,6 mm | | | Air Gap 0,6 - 0,8 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 2 | 30 | 800 | 800 | 20 | 800 | 800 | 15 | 800 | 800 |
| >= 4 | 80 | 1500 | 1500 | 60 | 1500 | 1250 | 50 | 1200 | 800 |
| >= 6 | 120 | 1500 | 1500 | 90 | 1500 | 1250 | 75 | 1200 | 800 |
| >= 8 | 170 | 1500 | 1500 | 130 | 1500 | 1250 | 100 | 1200 | 800 |
| Ø30-105 | 150 | 2000 | - | 115 | 2000 | - | 60 | 1500 | - |

| FX-P330 | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 4 | 100 | 2000 | 1000 | 80 | 1500 | 1000 | 60 | 1250 | 1000 |
| >= 6 | 160 | 2500 | 1250 | 130 | 2000 | 1250 | 100 | 1500 | 1000 |
| >= 8 | 300 | 2500 | 1250 | 240 | 2000 | 1250 | 180 | 1500 | 1000 |
| >= 10 | 330 | 2500 | 1250 | 370 | 2000 | 1250 | 200 | 1500 | 1000 |
| Ø40-160 | 300 | 3500 | - | 250 | 3000 | - | 180 | 2500 | - |

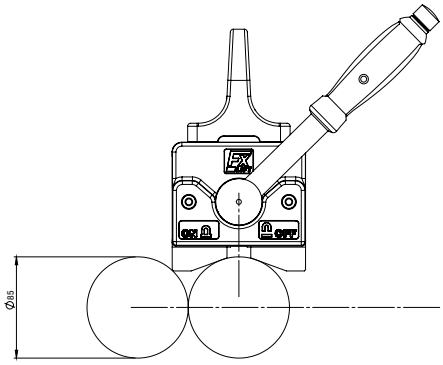
| FX-P650 | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 4 | 160 | 2250 | 1500 | 130 | 2000 | 1500 | 110 | 2000 | 1500 |
| >= 6 | 200 | 2500 | 1500 | 175 | 2250 | 1500 | 140 | 2250 | 1500 |
| >= 8 | 450 | 3000 | 1500 | 400 | 3000 | 1500 | 320 | 2500 | 1500 |
| >= 10 | 550 | 2500 | 1500 | 500 | 3000 | 1500 | 400 | 2500 | 1500 |
| >= 20 | 650 | 3000 | 1500 | 570 | 3000 | 1500 | 450 | 2500 | 1500 |
| Ø60-210 | 550 | 4000 | - | 480 | 3500 | - | 400 | 3000 | - |



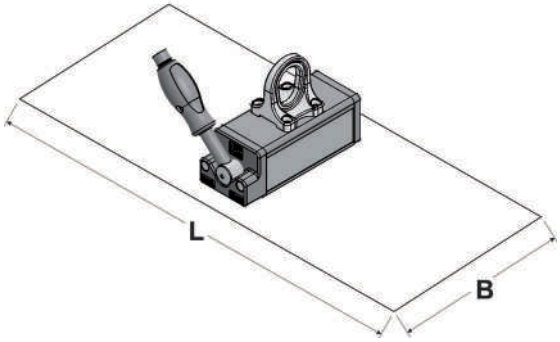

FX-P170


FX-P330




FX-P650

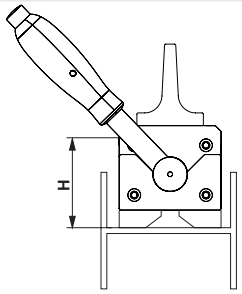


## FX-VV Force / Load / Air Gap

| FX-VV200 | Air Gap < 0,1mm | | | Air Gap 0,1 - 0,3 mm | | | Air Gap 0,3 - 0,5 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 4 | 70 | 1500 | 1000 | 50 | 1500 | 1000 | 35 | 1000 | 1000 |
| >= 6 | 110 | 2000 | 1500 | 75 | 1500 | 1250 | 60 | 1250 | 1250 |
| >= 8 | 175 | 2500 | 1500 | 120 | 2000 | 1250 | 90 | 2000 | 1250 |
| >= 10 | 200 | 2500 | 1500 | 140 | 2000 | 1250 | 110 | 2000 | 1250 |
| Ø20-50 | 100 | 2000 | - | 70 | 2000 | - | 60 | 1500 | - |
| 90° V | 100 | 3000 | - | 80 | 2500 | - | 60 | 2000 | - |
| 90° Λ | 120 | 3000 | - | 100 | 2500 | - | 60 | 2000 | - |

| FX-VV400 | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 6 | 150 | 2000 | 1000 | 110 | 1500 | 1000 | 75 | 1250 | 1000 |
| >= 8 | 280 | 2500 | 1250 | 210 | 2250 | 1250 | 150 | 2000 | 1250 |
| >= 10 | 350 | 2500 | 1250 | 260 | 2250 | 1250 | 180 | 2000 | 1250 |
| >= 15 | 400 | 2500 | 1250 | 290 | 2250 | 1250 | 220 | 2000 | 1250 |
| Ø25-60 | 200 | 3500 | - | 160 | 2250 | - | 120 | 2500 | - |
| 90° V | 200 | 4000 | - | 160 | 3500 | - | 120 | 3200 | - |
| 90° Λ | 250 | 4000 | - | 190 | 3500 | - | 130 | 3200 | - |

| FX-VV800 | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 6 | 200 | 2500 | 1500 | 160 | 2250 | 1500 | 130 | 2250 | 1500 |
| >= 8 | 400 | 3000 | 1500 | 320 | 3000 | 1500 | 270 | 2500 | 1500 |
| >= 15 | 650 | 3000 | 1500 | 520 | 3000 | 1500 | 420 | 2500 | 1500 |
| >= 20 | 800 | 3000 | 1500 | 650 | 3000 | 1500 | 550 | 2500 | 1500 |
| Ø35-75 | 300 | 4000 | - | 240 | 3500 | - | 200 | 3000 | - |
| 90° V | 300 | 5000 | - | 240 | 4500 | - | 200 | 4000 | - |
| 90° Λ | 400 | 5000 | - | 320 | 4500 | - | 300 | 4000 | - |




| FX-VV | H2 (mm) | IPE | HEB |
|---|---|---|---|
| FX-VV 200 | 65 | da IPE 80 | da HEB 100 |
| FX-VV 400 | 87 | da IPE 100 | da HEB 120 |
| FX-VV 800 | 106 | da IPE 140 | da HEB 160 |


150°C/100%

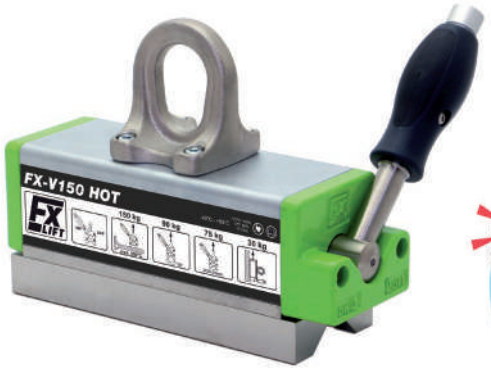
## FX-VV HOT Force / Load / Air Gap

| FX-VV150 HOT | Air Gap < 0,1mm | | | Air Gap 0,1 - 0,3 mm | | | Air Gap 0,3 - 0,5 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 4 | 65 | 1500 | 1250 | 35 | 1500 | 1250 | 25 | 1000 | 1250 |
| >= 6 | 80 | 2000 | 1250 | 55 | 1500 | 1250 | 45 | 1250 | 1250 |
| >= 8 | 130 | 2500 | 1250 | 90 | 2000 | 1250 | 65 | 2000 | 1250 |
| >= 10 | 150 | 2500 | 1250 | 105 | 2000 | 1250 | 80 | 2000 | 1250 |
| Ø20-50 | 75 | 2000 | - | 50 | 2000 | - | 45 | 1500 | - |
| 90° V | 75 | 3000 | - | 50 | 2500 | - | 20 | 2000 | - |
| 90° Λ | 90 | 3000 | - | 75 | 2500 | - | 45 | 2000 | - |

| FX-VV300 HOT | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 6 | 110 | 2000 | 1000 | 80 | 1500 | 1000 | 55 | 1250 | 1000 |
| >= 8 | 210 | 2500 | 1250 | 155 | 2250 | 1250 | 110 | 2000 | 1250 |
| >= 10 | 260 | 2500 | 1250 | 195 | 2250 | 1250 | 135 | 2000 | 1250 |
| >= 15 | 300 | 2500 | 1250 | 215 | 2250 | 1250 | 165 | 2000 | 1250 |
| Ø25-60 | 150 | 3500 | - | 120 | 2250 | - | 90 | 2500 | - |
| 90° V | 150 | 4000 | - | 110 | 3500 | - | 80 | 3200 | - |
| 90° Λ | 200 | 4000 | - | 140 | 3500 | - | 90 | 3200 | - |

| FX-VV600 HOT | Air Gap < 0,2mm | | | Air Gap 0,2 - 0,3 mm | | | Air Gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) | Max. Load (kg) | Max. L (mm) | Max. B (mm) |
| >= 6 | 150 | 2500 | 1500 | 120 | 2250 | 1500 | 95 | 2250 | 1500 |
| >= 8 | 300 | 3000 | 1500 | 240 | 3000 | 1500 | 200 | 2500 | 1500 |
| >= 15 | 485 | 3000 | 1500 | 390 | 3000 | 1500 | 315 | 2500 | 1500 |
| >= 20 | 600 | 3000 | 1500 | 485 | 3000 | 1500 | 410 | 2500 | 1500 |
| Ø35-75 | 225 | 4000 | - | 180 | 3500 | - | 150 | 3000 | - |
| 90° V | 300 | 5000 | - | 220 | 4500 | - | 160 | 4000 | - |
| 90° Λ | 400 | 5000 | - | 280 | 4500 | - | 180 | 4000 | - |

| Temperaturae on load | FX VV 150 HOT | FX VV 300 HOT | FX VV 600 HOT |
|---|---|---|---|
| | Max Capacity | | |
| 250°C | 150 kg | 300 kg | 600 kg |
| 300°C | 125 kg | 255 kg | 510 kg |
| 350°C | 110 kg | 225 kg | 450 kg |



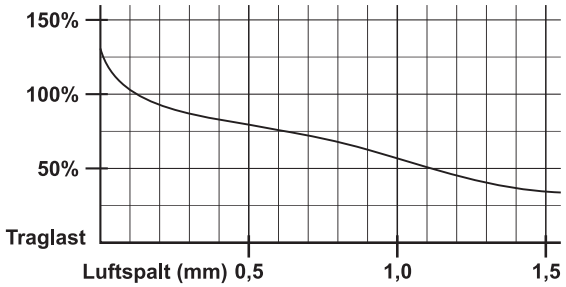

250°C/100%

| Cooling times | | |
|---|---|---|
| 250°C | 100 % | |
| 300°C | 50 % | Contact time = cooling time - max 4 minutes |
| 350°C | 33 % | Contact time = cooling time/2 - max 4 minutes |

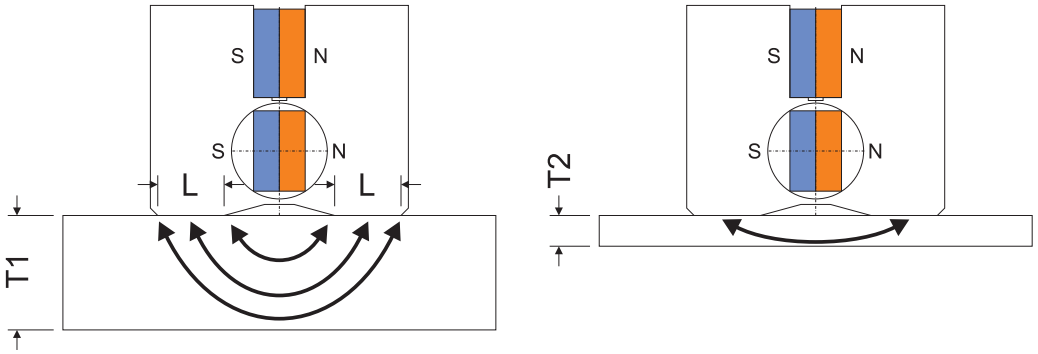
## Factors affecting the Holding power of Lifting magnets

When choosing the right lifting magnet model, there are five other factors to consider that affect the lifting force, related to the weight of the load:.

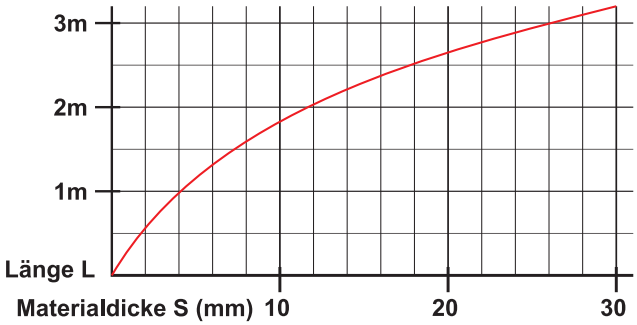
1. The contact surface
If space (air gap) exists between the lifting magnet and the load to be lifted, the magnetic flux is more difficult and thus reduces the lifting capacity. Rust, paint, dirt, paper or rough machined surface can create such an air gap and result in a reduction of the lifting force.

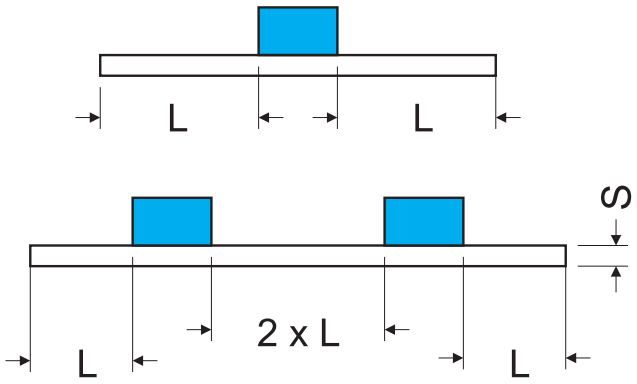



2. Material thickness
The magnetic flux of the lifting magnets requires a minimum material thickness. If the workpiece does not reach this minimum thickness, the lifting force is smaller. For larger lifting, greater material thicknesses are required.




3. Workpiece dimensions / intrinsic stability
If the length or width of the load is larger, the workpiece sags and is formed between the lifting magnet and the load - especially with thin material or with an air gap. This reduces the lifting force of the magnets.



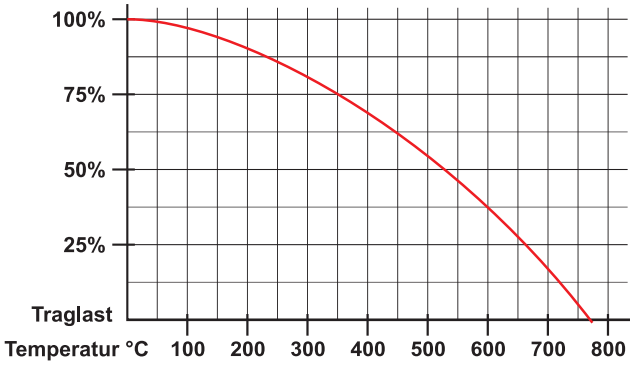




4. Composition of the Load to be lifted
Steel with low carbon content is a good magnetic conductor (i.e. F1110 or St37). Steel alloy with a high carbon content or with other materials, loses its magnetic properties, lowering the power of the lifting magnets. Heat treatments, which affect the steel structure, also reduce the lifting power. The harder a steel, the less its response to magnets, and it tends to retain a residual magnetism. The nominal power of our lifting magnets is valid for a steel with low carbon content, such as C 40 / St37.

| Material | Lifting Power (%) |
|---|---|
| Carbon Steel 0,1 - 0,3 % C ST37/52 | 100 |
| Carbon Steel 0,4 - 0,5 % C | 90 |
| Alloy Steel 2312/2379... | 80 - 90 |
| Cast Iron GGG | 70 - 80 |
| Cast Iron GG | 45 - 60 |
| Alloy Steel hardened at 55-60 HRc | 40 - 50 |
| Stainless Steel | 0 |
| Brass, Aluminum, Copper | 0 |

## Factors affecting the Holding power of Lifting magnets

5. Temperature of the Load to be lifted
The higher the temperature, the faster the molecules vibrate the steel. Quickly vibrating molecules provide the magnetic flux and higher resistance. Our data apply to max. 80 °C.
In almost the same way, the factors making 1, 2, 4, 5 are also noticeable in magnetic clamping.



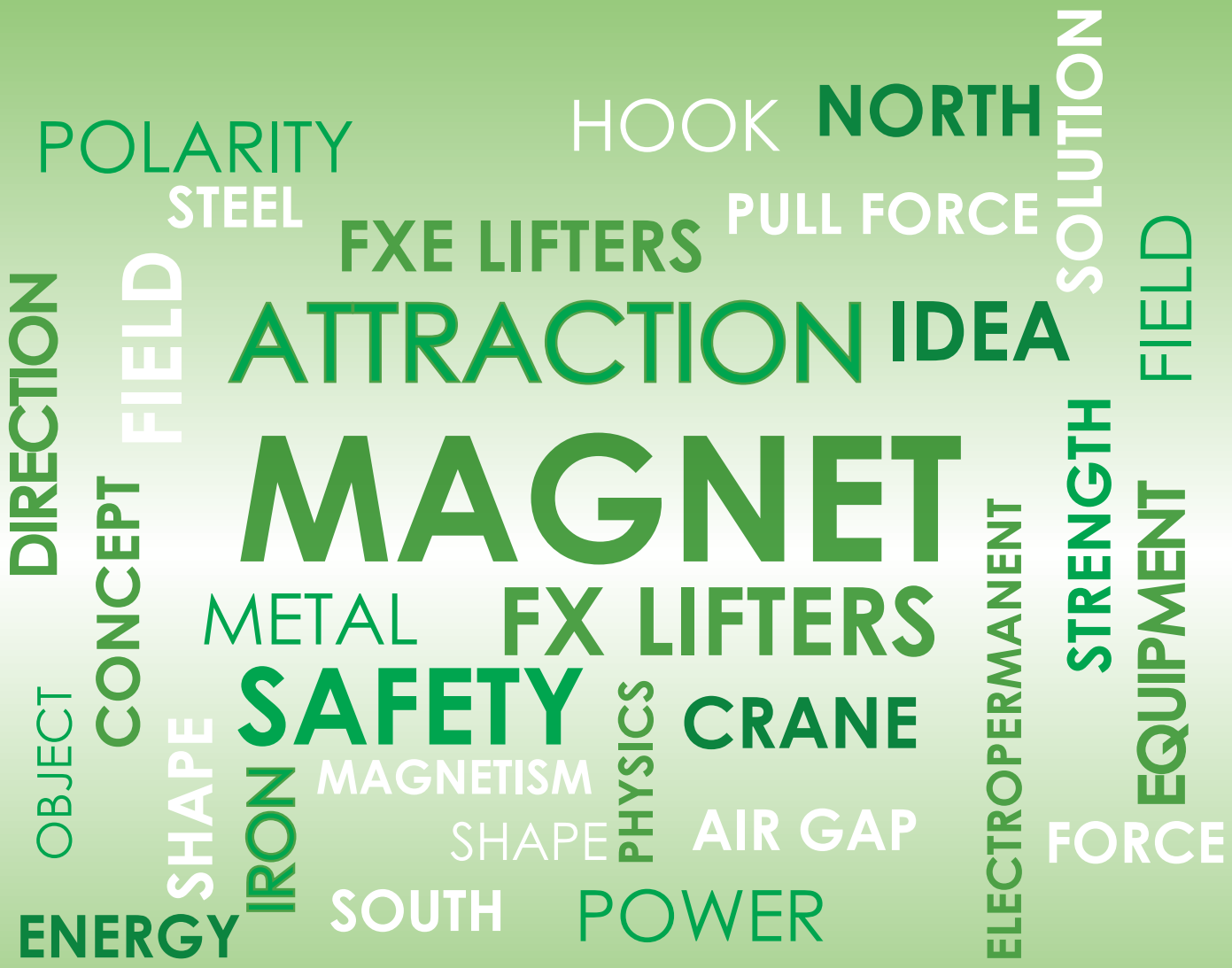

## Examination of Lifting magnets

New Lifting Magnets are delivered by us with a manufacturer's declaration of conformity, which confirms compliance with the standards MD 2006/42 EC and EN 13155.

An exceptional inspection will be carried out for repair or extraordinary incidents (crash, collision) DGUV/BGR 500/Chapter 2.8.

A regular inspection will be conducted at least annually according to DGUV/BGR 500/Section 2.8.

Depending on the conditions of the received load, inspections at shorter intervals may be necessary.
We will gladly check your lifting magnets at our factory or at your site.

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