# MAGNETIC LIFTING

## LIFT • TRANSPORT • HOLD

Flaig Magnetsysteme GmbH from Hardt in the Black Forest has been manufacturing magnets for lifting, clamping and holding for more than 25 years. We manufacture a wide range of standard and special solutions of all kinds on modern machines. Our experience and our innovative spirit make us a competent partner for magnetic applications.

**Flaig Magnetsysteme - From experience and innovation**

# Lifting Magnets

Lifting magnets are the perfect load handling device for anyone who needs to work quickly and safely. A multitude of advantages speak for their use, wherever loads have to be held without a handle. In material storage, transportation, fixture construction and when loading and unloading machines.

We offer a wide range of different designs and technical concepts, from the broadly applicable

standard product to the individually tailored for your special application.

When selecting lifting magnets, please refer to the technical information starting on page 52 in the catalog.

All holding force data have been determined in accordance with the test method for lifting magnets in EN 13155, on a test plate of low carbon steel, suitable thickness and flatness less than 0.1/500 mm.

We will be pleased to advise you at any time on special handling problems.

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Permanent Lifting Magnets

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Horizontal-Vertical Systems

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Permanent Magnetic Trusses

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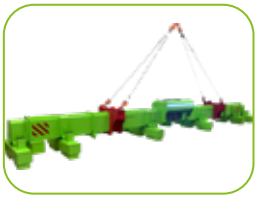
Electro-Permanent Lifting Magnets



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Electro-Permanent Magnetic Trusses

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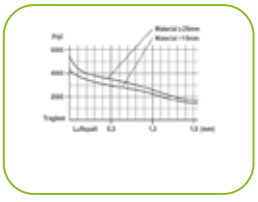
FXE-M Modular Electro-Permanent Lifting Magnets



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Technical Basics,
Selection Guide Lifting Magnets,
Load Tables FX

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MBX Magnetic Clamping Blocks

## FX-Lift is the product line developed according to the needs of the users

### Permanent Lifting Magnets

The FX base unit is suitable for flat and round material

FX-P - when it comes to sheets less than 12mm thick and tubes - the right device for the laser cutting machine

FX-C - especially suitable for rings and sleeves

FX-LT - Lightweight truss with 2-strand chain for sheets and workpieces with centric cutout

FX-R - suitable if you need to lift mostly round and/or hot material

FX-VV - especially suitable for profiles, beams and hot parts 150°C/100%.

FX-HV - specially designed for horizontal and vertical transport

FX-KT - especially for the transport of workpieces with central cut-out

### Electro-Permanent Lifting Magnets

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

FXE-100 - for heavy plates, forgings, cast ingots

FXE-HD - for heavy workpieces from 7.2t

FXE-M - modular system for the assembly of trusses or for pick & place systems

FXE 50 - for sheets from 4mm and workpieces with small air gap

FXE 80 - for lifting sheets from 8mm; for solid parts with medium air gap

FXE-R - for round and flat material also in layers

FXE-T - Electro permanent magnetic truss for sheet metal

# Digital & Immortal

**FX Refund & FX Green Dot**

The FX series is the world‘s best lifting magnet program when it comes to technology, quality and completeness. To keep it that way, we are consistently developing our products and are now making magnetic lifting sustainable and digital.

**Circular economy**

100% Recyclable
**Each device comes with a defined FX Refund value, which is refunded by us when it is sent in for recycling.**

**FX Green Dot**

FX lifting magnets are equipped with the Green Dot, an NFC chip that provides the user with all important information.

**Manufacturer guarantee**

5 year guarantee on
all FX lifting magnets

**CE & S-class compliant**

All FX lifting magnets are standard-compliant in accordance with the current EN 13155:2022

**Corrosion protection**

FX lifting magnets are protected against corrosion by nickel-plated surfaces

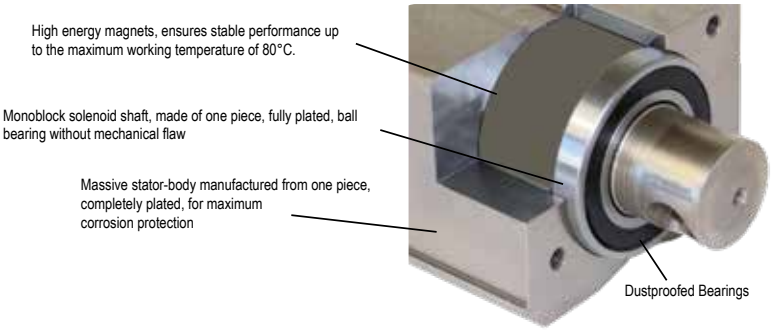
# Exclusive Benefits of the FX-Series

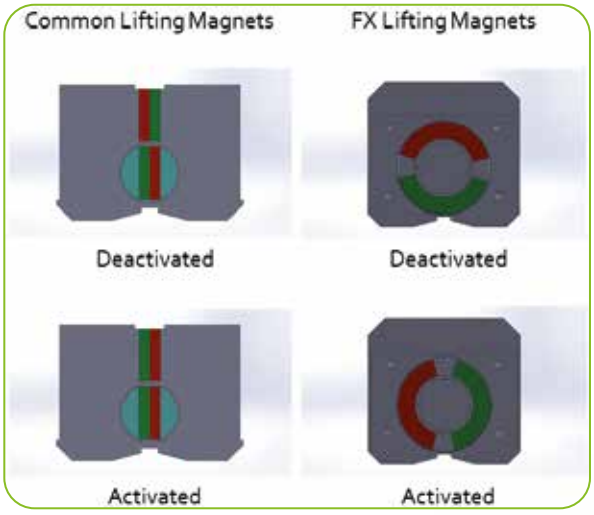
### FX - Economically the right decision

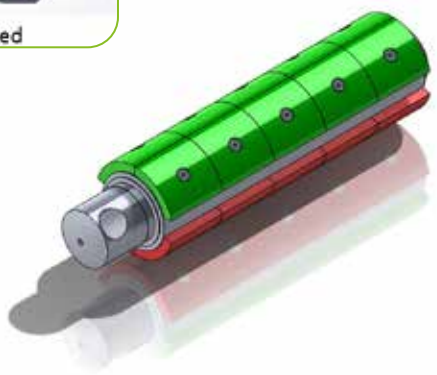
- Made in Germany
- Standard-compliant and tested
  CE/EN 13155:2022/MRL 2006/42 EWG
- Product liability insurance with a German insurance company
- Multilingual Documentation
- Environmentally friendly and future-proof by higher
  Power with lower SE Magnet consumption
- 5 years Warranty
- Safety factor 3,5
- supply of spare parts guaranteed for 10 years
- CAD Data available
- Facilitated document management for work safety

### FX - Technically the right decision

- 100% nickel
- High Energy half-shell Magnets
- actuator travel of only 90°
- large forged lifting eye (SF5)
- great performance in a compact design
- short loading- and unloading times
- no mechanical impairment of workpiece
- very massive shift shaft
- recoilless hand operation
- suitable for flat and round materials
- increased safety via simple operation
- **2006/42 EWG / S-Class 8** = >2.000.000 Load cycles
  acc. to EN 13001





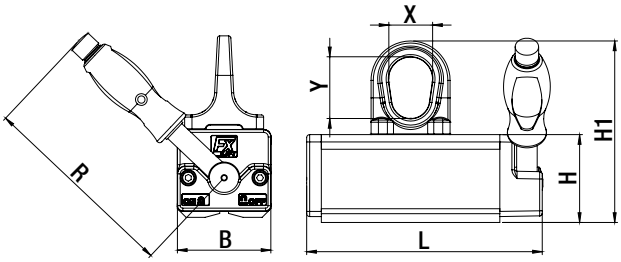
Common Lifting Magnets
Recessed or welded shifter shaft with
Built-in magnets, 180° theoretical switching travel,
Weakened or welded shaft, 3 air gaps

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

# FX Universal Permanent Lifting Magnets

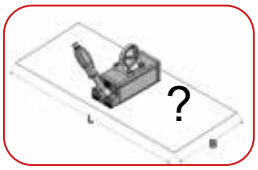
FX lifting magnets in standard design convince by their wide field of application. The FX achieves good results with large air gaps as well as with thin flat and round materials with a compact design and low weight. The device is characterized by great robustness and a very good price/performance ratio.

**Application video here**



| Model | Item-Nr. | WLL (kg) flat | WLL (kg) round | WLL from (mm) | Dimensions (mm) L | Dimensions (mm) W | Weight (kg) | FX Refund Value* | List Price |
|---|---|---|---|---|---|---|---|---|---|
| FX-150 | 1101 0150 | 150 kg | Ø50-200 mm 75 kg | 8 | 161 | 64 | 3,6 | 60,- | 398,- |
| FX-300 | 1101 0300 | 300 kg | Ø50-300 mm 150 kg | 15 | 205 | 87 | 8,4 | 120,- | 548,- |
| FX-400 | 1101 0400 | 400 kg | Ø50-300 mm 200 kg | 15 | 263 | 87 | 11 | 120,- | 688,- |
| FX-600 | 1101 0600 | 600 kg | Ø80-400 mm 300 kg | 20 | 288 | 112 | 19 | 200,- | 858,- |
| FX-800 | 1101 0800 | 800 kg | Ø80-400 mm 400 kg | 20 | 348 | 112 | 23 | 220,- | 998,- |
| FX-1000 | 1101 1000 | 1000 kg | Ø100-450 mm 500 kg | 25 | 361 | 152 | 42 | 280,- | 1.298,- |
| FX-1500 | 1101 1500 | 1500 kg | Ø100-450 mm 750 kg | 25 | 485 | 152 | 61 | 400,- | 1.948,- |
| FX-2000 | 1101 2000 | 2000 kg | Ø120-600 mm 1000 kg | 50 | 472 | 228 | 115 | 600,- | 2.698,- |
| FX-3000 | 1101 3000 | 3000 kg | Ø250-600 mm 1500 kg | 50 | 648 | 228 | 166 | 750,- | 3.998,- |

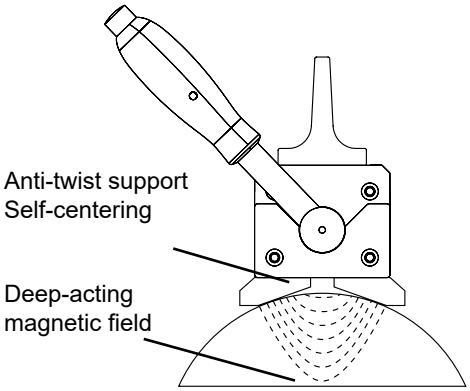
*Material value that we will refund if sent in for recycling • Safety factor 3,5/Test method EN 13155:2022
max. Operation temperature 80°C • Load charts and Safety from Page 52

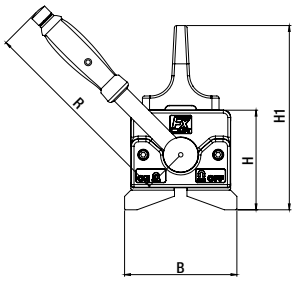


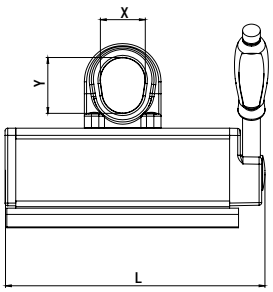

Load Charts and Safety from Page 52

# **FX-R** Permanent Lifting Magnets especially suitable for round material

FX-R is the lifting magnet series for round material handling. The deep shallow-angled prism ensures safe positioning on the load and directs the magnetic field deep into the material. The magnet system can be switched well in the entire diameter range and does not recoil, shearing of the load due to twisting is prevented by the overlapping prism.Flat material, even with low material thickness, is no problem for the FX-R. With hot workpieces, the deep prism protects the magnetic core from overheating.

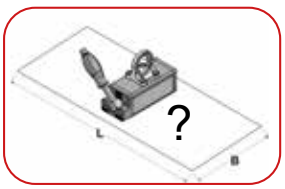





| Model | Item-Nr. | WLL (kg) | | WLL from (mm) | Dimensions (mm) | | Weight (kg) | FX Refund Value* | List Price |
|---|---|---|---|---|---|---|---|---|---|
| | | flat | round | | L | W | | | |
| FX-R100 | 1101 0101 | 100 | Ø 25-150 mm 100 kg | 8 | 161 | 70 | 4 | 60,- | 428,- |
| FX-R225 | 1101 0221 | 225 | Ø 50-205 mm 225 kg | 10 | 205 | 98 | 9,5 | 120,- | 638,- |
| FX-R450 | 1101 0451 | 450 | Ø 50-270 mm 450 kg | 20 | 288 | 126 | 22 | 200,- | 1.048,- |
| FX-R750 | 1101 0751 | 750 | Ø 70-370 mm 750 kg | 20 | 361 | 170 | 49 | 280,- | 1.698,- |
| FX-R1200 | 1101 1201 | 1200 | Ø 120-560 mm 1200 kg | 40 | 472 | 248 | 127 | 600,- | 3.498,- |
| FX-R1800 | 1101 1801 | 1800 | Ø 120-560 mm 1800 kg | 40 | 648 | 248 | 182 | 750,- | 4.598,- |

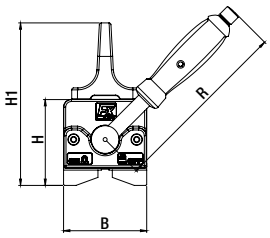
*Material value that we will refund if sent in for recycling • Safety factor 3,5/Test method EN 13155:2022
max. Operation temperature 80°C • Load charts and Safety from Page 52

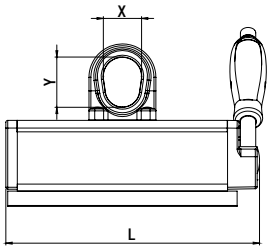



Load Charts and Safety from Page 52

# **FX-P** Permanent lifting magnets especially for thin sheets and tubes

FX-P is the lifting magnet series for professional lifting and moving of thinner sheets, tubes and bars. The special magnet configuration in combination with the prismatic pole of the FX-P ensures maximum flux density at low material thicknesses. The FX-P is easy to position and operate on round material.



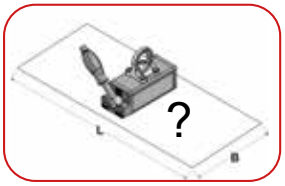



for thin sheet

| 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 | Item-Nr. | WLL (kg) flat | WLL (kg) round | WLL from (mm) | Dim. (mm) L | Dim. (mm) W | Weight (kg) | FX Refund Value* | List Price |
|---|---|---|---|---|---|---|---|---|---|
| FX-P170 | 1101 0172 | 170 kg | Ø 30-105 mm 150 kg | 8 | 195 | 64 | 5,1 | 80,- | 498,- |
| FX-P330 | 1101 0332 | 330 kg | Ø 40-160 mm 300 kg | 10 | 265 | 87 | 12,4 | 140,- | 748,- |
| FX-P650 | 1101 0652 | 650 kg | Ø 60-210 mm 550 kg | 20 | 352 | 112 | 26 | 220,- | 1.098,- |

*Material value that we will refund if sent in for recycling • Safety factor 3,5/Test method EN 13155:2022
max. Operation temperature 80°C • Load charts and Safety from Page 52



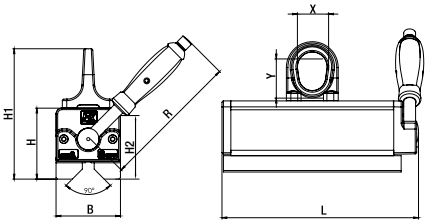

Load Charts and Safety from Page 52

# **FX-VV** Permanent lifting magnets with 90° double prism for beams and profiles

FX-VV are perfect for metal construction. They have a long, narrow design for picking up beams and profiles - even on the inner web of the beam - and achieve their maximum holding force even with comparatively low material thickness, so that even thin sheets can be lifted safely. Thanks to the 90° double prism, angle profiles can now be picked up inside and outside or components can also be turned.

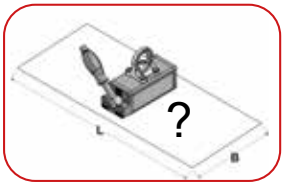
The FX-VV, like all FX models, has a completely nickel-plated magnet body and delivers very good test results, even with rough surfaces. The FX-VV also has a stable, smooth-running single-hand control.

150°C/100%




| Model | Item-Nr. | WLL (kg) flat | WLL (kg) round | WLL (kg) 90° inside | WLL (kg) 90° outside | WLL from (mm) | Dim. (mm) L | Dim. (mm) W | Weight (kg) | FX Refund Value* | List Price |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FX-VV200 | 1101 0204 | 200 kg | Ø 20-50 mm 100 kg | 100 kg | 120 kg | 10 | 195 | 64 | 5,5 | 80,- | 498,- |
| FX-VV400 | 1101 0404 | 400 kg | Ø 25-60 mm 200 kg | 200 kg | 250 kg | 15 | 265 | 87 | 13 | 140,- | 778,- |
| FX-VV800 | 1101 0804 | 800 kg | Ø 35-75 mm 300 kg | 300 kg | 400 kg | 20 | 352 | 112 | 28 | 220,- | 1.168,- |

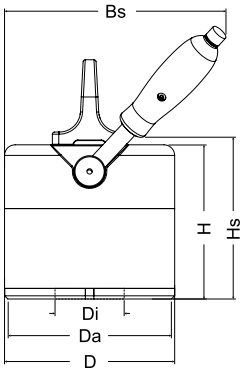
*Material value that we will refund if sent in for recycling • Safety factor 3,5/Test method EN 13155:2022
max. Operation temperature 150°C • Load charts and Safety from Page 52




Load Charts and Safety from Page 52

# **FX-C** Permanent lifting magnets especially for rings and sleeves

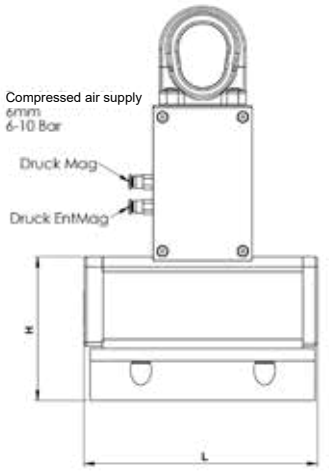
FX-C lifting magnets have a round, multi-pole clamping surface, designed for lifting rings, sleeves, bearing housings, flange plates and similar workpieces.
The load specification applies to full-surface contact with workpieces covering D inside to D outside (see table of dimensions); for workpieces with a smaller contact surface, a maximum workpiece weight of 3.5 kg per cm² of clamping surface can be roughly calculated. For series workpieces, a documented test should then confirm the safety factor of 3.




| Model | Item Nr. | Dimensions (mm) | | | | | WLL from (mm) | WLL (kg) | WLL per cm² contact surface (kg) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | D | Da-Di | H | Hs | Bs | | | | |
| FX-C 175 | 1101 0177 | 120 | 114-40 | 130 | 138 | 185 | 10 | 175 | 3,5 | 7,5 |
| FX-C 250 | 1101 0257 | 160 | 152-65 | 145 | 153 | 210 | 12 | 250 | 3,5 | 15 |
| FX-C 450 | 1101 0457 | 250 | 240-100 | 155 | 168 | 275 | 15 | 450 | 3,5 | 35 |

## **FX-Pneumatic** Permanent Lifting Magnets with Pneumatic Switching

FX Pneumatic, designed for use with air-operated hoists, is pneumatically activated and deactivated. Each model also has an emergency release, so you retain full control at all times.

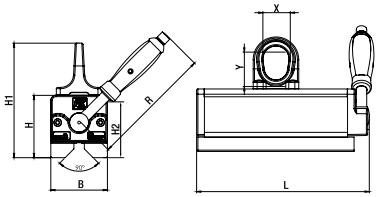


| Model | Item-Nr. | WLL (kg) flat | WLL (kg) round | WLL from (mm) | Dimensions (mm) L | B | H | H1 | R | X/Y | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FX-R100 Pneumatic | 1101 0109 | 80 kg | Ø 25-150 mm 80 kg | 8 | 195 | 64 | 241 | 311 | 134 | 30/42 | 5,5 |
| FX-R225 Pneumatic | 1101 0229 | 225 kg | Ø 50-205 mm 225 kg | 10 | 265 | 87 | 295 | 376 | 188 | 42/53 | 13 |
| FX-R450 Pneumatic | 1101 0459 | 450 kg | Ø 50-270 mm 450 kg | 20 | 352 | 112 | 324 | 410 | 228 | 51/62 | 28 |
| Safety factor 3,5/Test method EN 13155:2022 max. Operation temperature 80°C | | | | | | | | | | | |

## **FX-VV HOT** Permanent lifting magnets for hot workpieces up to max 300°C

FX-VV HOT for hot parts. A special permanent magnet system allows working temperatures of up to 300°C. Ideal for moving heated tools and dies, or heat-treated workpieces. The maximum continuous working temperature is 250°C - in peaks up to max. 5 minutes at 300°C.

250°C/100%



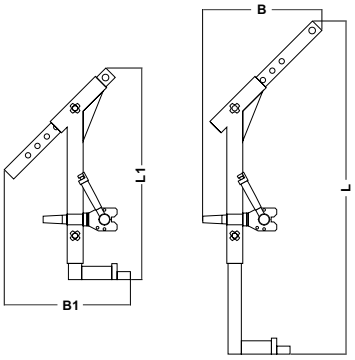
| Model | Item-Nr. | WLL (kg) flat | WLL (kg) round | WLL (kg) 90° | WLL from (mm) | Dimensions (mm) L | B | H | H1 | R | X/Y | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FX-VV150 HOT | 1101 0155 | 150 kg | Ø 20-50 mm 75 kg | 90 kg | 10 | 195 | 64 | 77 | 141 | 134 | 30/42 | 5,5 |
| FX-VV300 HOT | 1101 0305 | 300 kg | Ø 25-60 mm 150 kg | 180 kg | 15 | 265 | 87 | 96 | 176 | 188 | 42/53 | 13 |
| FX-VV600 HOT | 1101 0605 | 600 kg | Ø 35-75 mm 300 kg | 360 kg | 20 | 352 | 112 | 115 | 210 | 228 | 51/62 | 28 |
| Safety factor 3,5/Test method EN 13155:2022 max. Operation temperature 300°C | | | | | | | | | | | | |

## **FX-HV** Horizontal-Vertical systems

The FX-HV Horizontal Vertical System meets almost every need with its wide range of adjustment options. Overall height and center of gravity can be adjusted via plug-in bolts. Likewise, the unit can be used for up to 20% of its rated load without the undergripping supports. The support bolts are positioned in such a way that upright circular blanks can be attached, which is often required at the saw, for example.

Likewise, horizontal discs and sheets can be set up. For horizontal transport, the system has a crane eye on the back. The steel construction is completely powder-coated, and the stable FX load lifting magnet ensures maximum safety.
Special dimensions are available on request.

FX-HV150

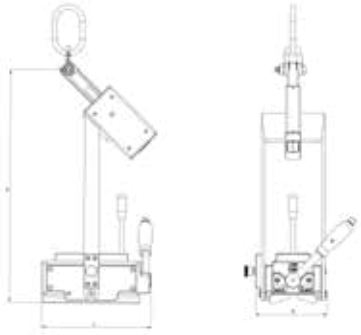



| Model | Item-Nr. | Slices-Ø (mm) | Flat material Dimensions (mm) | WLL with stop (kg) | WLL without stop (kg) | Dimensions (mm) L | B | L1 | B1 | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| FX-HV 150 | 1103 0152 | 150 - 420 | 1000 x 420 | 150 | 30 | 680 | 104 | 680 | 220 | 10 |
| FX-HV 200 | 1103 0202 | 250 - 750 | 2000 x 750 | 200 | 40 | 1000 | 400 | 715 | 390 | 18 |
| FX-HV 400 | 1103 0402 | 400 - 1000 | 2000 x 1000 | 400 | 80 | 1250 | 450 | 795 | 475 | 40 |
| 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 | 253 |
| FX-HV 3000 | 1103 3002 | 500 - 1200 | 2500 x 1250 | 3000 | 600 | 1800 | 600 | 1200 | 650 | 311 |
| max. Operation temperature 80°C • Weight incl. Magnet | | | | | | | | | | |

## **FX-HVS** Horizontal Vertical Systems with Swivel Function

FX-HVS makes it possible to swing suspended loads, while the spring-loaded suspension system compensates for shifts in the center of gravity so that the load can be moved in horizontal and vertical positions.

**Application video here**



| Model | Item Nr. | Dimensions (mm) L | W | H | WLL cylindrical loads horizontal/vertical (kg) | Weight (kg) |
|---|---|---|---|---|---|---|
| FX-HVS R225 | 1103 0221 | 207 | 160 | 557 | 135/45 | 30 |
| FX-HVS 300 | 1103 0300 | 657 | 207 | 389 | 120/120 | 35 |
| FX-HVS R450 | 1103 0451 | 292 | 212 | 624 | 270/90 | 43 |
| Further models on request | | | | | | |

**Application video here**

## **Towing Eye** for FX Lifting Magnets

Special option towing eye for FX lifting magnets. For vertical transport of lighter parts, FX lifting magnets can be supplied with additional towing eyes.

| Model | Item-Nr. | Max. towing load (kg) |
|---|---|---|
| FX-150 Towing Eye | 8 1101 0001 | 30 |
| FX-300 Towing Eye | 8 1101 0002 | 60 |
| FX-600 Towing Eye | 8 1101 0003 | 120 |
| FX-1000 Towing Eye | 8 1101 0004 | 200 |

FX-HV equipped with two magnets

FX-HV 200-S Special model

FX-HV V200-S Special model

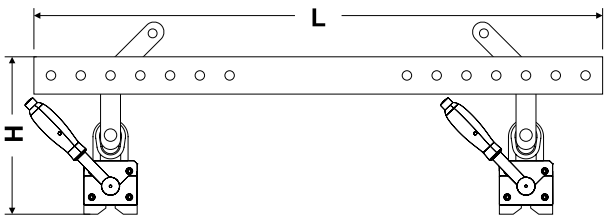
## FX-LT Permanent Magnetic truss

FX-LT magnetic trusses are adapted to the needs of sheet metal fabricators, laser and flame cutters. Two FX-VV lifting magnets and a lightweight truss enable loading and unloading of machines with sheet metal, or horizontal pick-up of workpieces with a central cutout. In a few simple steps, the magnets can be removed from the truss to lift blanks and small sheets with only one magnet.

Included:
- 2 Lifting magnets
- Truss with suspension elements

Quickly dismantled for single use

Optionally available with 360° rotating device




| Model | Item-Nr. | incl. 2x FX | WLL (kg) | WLL from (mm) | Max. Load dimensions (mm) | Dimensions (mm) L | Dimensions (mm) H | Weight (kg) |
|---|---|---|---|---|---|---|---|---|
| FX-LT600 | 1104 0600 | FX-P330 | 600 | 10 | 4000 x 1500 | 1600 | 270 | 44 |
| FX-LT750 | 1104 0750 | FX-VV400 | 750 | 15 | 5000 x 1500 | 1600 | 270 | 44 |
| FX-LT1000 | 1104 1000 | FX-600 | 1000 | 20 | 5000 x 1500 | 1600 | 291 | 58 |
| FX-LT1600 | 1104 1600 | FX-800 | 1600 | 20 | 5000 x 2000 | 1600 | 360 | 86 |
| FX-LT2600 | 1104 2600 | FX-1500 | 2600 | 25 | 5000 x 2500 | 2052 | 391 | 165 |
| 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 |

All models optionally available with rotating device, ask us

# **FX-LT** Permanent Magnetic truss

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

| FX-LT750 | | | |
|---|---|---|---|
| Material thickness (mm) | Max. Dimensions (mm) L (max) | W (max) | WLL (kg) |
| >= 4 | 3000 | 1500 | 180 |
| >= 6 | 3500 | 1500 | 260 |
| >= 8 | 4000 | 1500 | 450 |
| >= 10 | 4500 | 1500 | 600 |
| >= 15 | 5000 | 1500 | 750 |

| FX-LT1000 | | | |
|---|---|---|---|
| Material thickness (mm) | Max. Dimensions (mm) L (max) | W (max) | WLL (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-LT1600 | | | |
|---|---|---|---|
| Material thickness (mm) | Max. Dimensions (mm) L (max) | W (max) | WLL (kg) |
| >= 4 | 3000 | 2000 | 250 |
| >= 6 | 3000 | 2000 | 350 |
| >= 8 | 4000 | 2000 | 420 |
| >= 10 | 4500 | 2000 | 700 |
| >= 15 | 4500 | 2000 | 1150 |
| >= 20 | 5000 | 2000 | 1600 |

| FX-LT2600 | | | |
|---|---|---|---|
| Material thickness (mm) | Max. Dimensions (mm) L (max) | W (max) | WLL (kg) |
| >= 10 | 4500 | 2000 | 800 |
| >= 15 | 5000 | 2000 | 1130 |
| >= 20 | 5000 | 2000 | 1400 |
| >= 25 | 5000 | 2500 | 2600 |

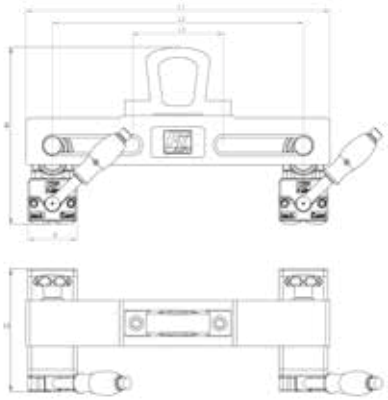
| FX-LT3200 | | | |
|---|---|---|---|
| Material thickness (mm) | Max. Dimensions (mm) L (max) | W (max) | WLL (kg) |
| >= 15 | 4000 | 2000 | 800 |
| >= 20 | 5000 | 2000 | 1600 |
| >= 25 | 5000 | 2000 | 1920 |
| >= 40 | 5000 | 2500 | 2560 |
| >= 50 | 5000 | 2500 | 3200 |

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

## **FX-KT** Small trusses

FX-KT small trusses are adapted to the needs of sheet metal processors, laser and flame cutters. Two FX magnets and an adjustable small truss enable the transport of workpieces with a central cutout. In particular, rings and cylindrical workpieces with a central cutout can be transported efficiently and effortlessly with the FX-KT.

In just a few steps, the magnets can be removed from the truss to lift blanks and small sheets with only one magnet.



| Model | Item-Nr. | WLL (kg) | from (mm) | Dimensions (mm) L1 | L2 | L3 | B | C | H | Magnetic adjustment inner edge-inner edge (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FX-KT 240-260 | 1105 0240-260 | 240 | 8 | 400 | 330 | 120 | 64 | 161 | 233 | 58-260 | 15 |
| FX-KT 240-420 | 1105 0240-420 | 240 | 8 | 560 | 484 | 120 | 64 | 161 | 233 | 58-420 | 15 |
| FX-KT 240-470 | 1105 0240-470 | 240 | 8 | 607 | 537 | 120 | 64 | 161 | 233 | 58-470 | 20 |
| FX-KT 240-540 | 1105 0240-540 | 240 | 8 | 680 | 603 | 120 | 64 | 161 | 233 | 58-540 | 22 |
| FX-KT 480-440 | 1105 0480-440 | 480 | 15 | 650 | 504 | 150 | 87 | 205 | 269 | 65-440 | 26 |
| FX-KT 480-600 | 1105 0480-600 | 480 | 15 | 800 | 690 | 150 | 87 | 205 | 269 | 65-600 | 30 |
| FX-KT 480-800 | 1105 0480-800 | 480 | 15 | 1000 | 887 | 150 | 87 | 205 | 286 | 65-800 | 32 |

## **HX** Permanent Magnetic Transporter

HX magnetic transporters are the ideal tool for moving sharp, hot, and difficult-to-grip parts safely and quickly. The powerful ND magnet system can be activated and deactivated with just a 45° switch travel. Ball-bearing magnet shafts and corrosion-protected surfaces ensure a long service life.

Depending on the application, you can choose between different handle variants and lengths. A safety factor of 2.5 ensures sufficient reserves when using the HX magnetic transporter manually.

We recommend the HX for clearing cutting tables, pulling parts from saws, positioning parts in welding fixtures, guiding workpieces on cranes, lifting parts from boxes, and many other applications.

**Application video here**

Standard T-Grip

Fist grip for quick handling at body height

Extended handle for ergonomic picking up from boxes or the floor

| Model | Art. Nr. | Dim. (mm) | | WLL (kg) | Weight (kg) | List Price |
|---|---|---|---|---|---|---|
| | | H | Ø | | | |
| HX-30 Magnetic Transporter | 1108 030 | 175 | 62 | 30 | 1,5 | 108,- |
| HX-60 Magnetic Transporter | 1108 060 | 175 | 78 | 60 | 2 | 168,- |
| HX-120 Magnetic Transporter | 1108 120 | 188 | 98 | 120 | 3,5 | 208,- |
| Fist Grip for HX | 1108 G02 | 120 | - | - | - | 28,- |
| Extended handle 400mm | 1108 G03 | 400 | - | - | - | 38,- |
| Extended handle 600mm | 1108 G04 | 600 | - | - | - | 44,- |

## Permanent Lifting Magnets in Special Solution

We manufacture permanent lifting magnets with a wide variety of special pole shoes and as load trusses for almost all geometries. We manufacture magnets for spherical surfaces, with long pole shoes, for rings, sleeves, and profiles. All special lifting magnets are designed, tested, and documented in accordance with EN 13155:2022 and MRL 2006/42 EEC.

FX-R225
ON
OFF
FX LIFT

## Electro-Permanent Lifting Magnets

Electro-Permanent magnet technology stands for maximum safety when it comes to lifting magnets. The advantages of the reliability of permanent magnets and the user-friendliness of electromagnets are combined in a single concept. In the event of a cable break or power failure, the lifted load cannot drop. There are no batteries to maintain, activation/deactivation takes place at the touch of a button or by radio, and the pole reversal control ensures safe release of the magnets from the workpiece. We offer suitable solutions for different requirements.

Page 23 - 37

FXE electro-permanent lifting magnets are equipped with onBoard control technology for direct connection to mains voltage - the fast, user-friendly plug & play solution for loads up to 7.2t

Page 26 - 27

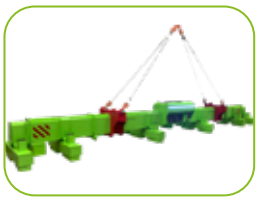
FXE-L in long, narrow design for holding support profiles, strips, tubes and rods achieve their maximum holding force already from 15mm material thickness

Page 34 - 35

FXE-HD electro-permanent lifting magnets for heavy-duty use. Designed for Workpieces up to 16t

Page 36

FXE-MH electro-permanent lifting magnets for extremely heavy-duty use on workpieces up to workpieces up to 40t



Page 38 - 45

FXE trusses in various concepts for almost any individual application

Page 46 - 48

FXE-M Modular electro-permanent lifting magnet program

Page 49

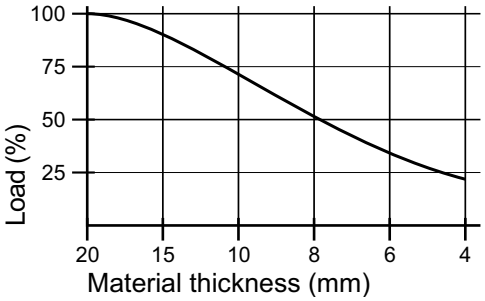
The MCF control units are available as individual boards and as a complete control cabinet solution. MCF are operated in conjunction with FXE-M modules

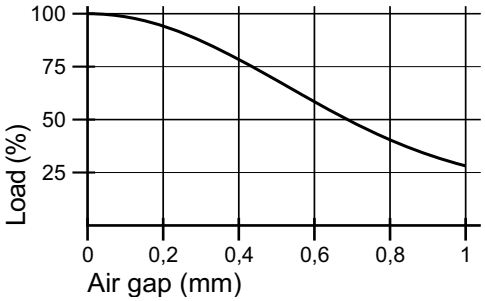
Page 50 - 51

Excavation magnets and suitable controls

Within the application concepts described, FXE has 4 different magnetic field designs, defined by different pole configurations. The appropriate pole design must be selected depending on the requirements profile.

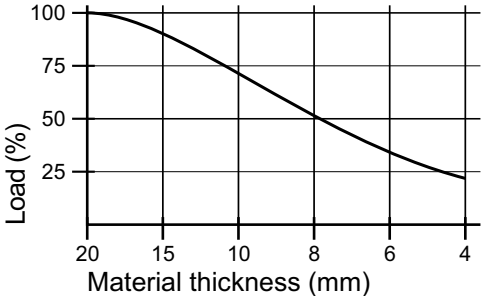
## Pole type 50

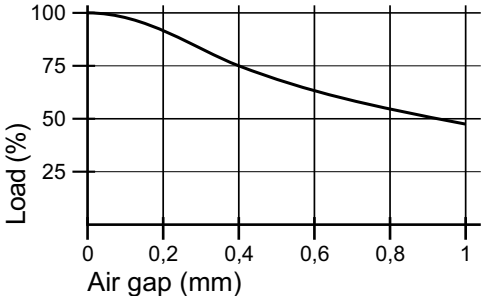



Pole type 50 is designed for lifting sheet metal from 4mm and steel parts with flat or machined surface. The rated values of the FXE lifting magnets with pole type 50 are achieved up to an air gap of 0.3mm. With air gap 0, the pole 50 achieves 3.8 kN holding force.

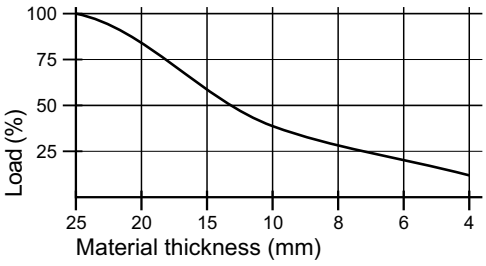
## Pole type 50+

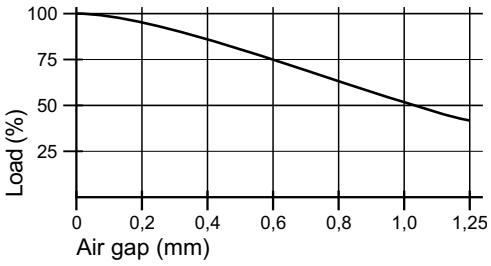



Pole type 50+ has a reinforced magnet system with the same pole size as pole type 50. This results in better holding forces with poorer surfaces, especially when pole extensions are required. 3.8 kN holding force.

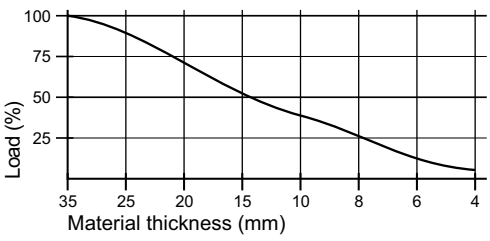
## Pole type 80

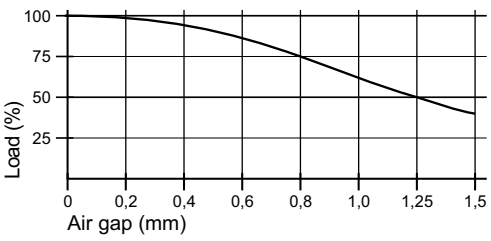



Pole type 80 is designed for lifting sheets from 8mm and solid steel parts and flame cuts with medium air gap. The ratings of FXE lifting magnets with pole type 80 are achieved up to an air gap of 0.4mm. At air gap 0, each pole 80 achieves 9 kN holding force.

## Pole type 100




Pole type 100 is designed for lifting heavy plates from 10mm and solid steel, formed and forged parts with larger air gap. The ratings of FXE lifting magnets with pole type 100 are achieved up to an air gap of 0.6mm. At air gap 0, each pole 100 achieves 14.5 kN holding force.

## **FXE** Electro-Permanent Lifting Magnets

FXE lifting magnets are the professional solution for frequent handling of workpieces.

They are very robustly built and designed for continuous use. The electrical control allows the operator to switch the device without physical effort, even in places that are difficult to access. The permanent magnet system is activated in just 0.8 seconds at the touch of a button, and the workpiece is safely released when it is switched off. The unit is simply connected to mains voltage. This means that the unit is ready for use with very little installation effort. In the event of a power failure, the load is held by the permanent magnetic field. This eliminates the need for vulnerable and high-maintenance back-up batteries. A quick conversion of crane systems with conventional mains-powered electromagnets is possible without any problems. FXE lifting magnets comply with the latest standards and offer the maximum in safety and ease of operation. With our standard sizes up to 7200 kg, we have the right device for almost every application.

## **FXE-150/50+ • FXE-300/50 • FXE-500/50**
## Electro-Permanent Lifting Magnets

Equipped with pole type 50/50+ and a maximum load capacity of 150/300/500 kg, which is achieved with material thickness from 15 mm, and with small magnetically active surfaces, these easy-to-guide and easy-to-operate devices are recommended for lifting series parts as well as small cast and forged parts. These easy-to-guide and operate devices are recommended for lifting series parts, blanks and small cast and forged parts.

**FXE-150/50+**

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| from 4 mm | 30 kg | 1000 | 500 |
| from 6 mm | 60 kg | 1200 | 600 |
| from 8 mm | 80 kg | 1200 | 600 |
| from 10 mm | 100 kg | 1200 | 600 |
| from 15 mm | 150 kg | 1200 | 600 |

**FXE-300/50**

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (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 | WLL | Max. Dimensions L (max.) | W (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 | Item-Nr. | WLL (kg) | Dimension (mm) L | W | H | Number Poles °N | Pole structure | Breakaway (kN) | clamping surface (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| FXE-150/50+ | 1060 0152 | 150 | 164 | 95 | 476 | 2 | 50+ | 7,6 | 116x52 | 17 |
| 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 |

Depending on the application, we may recommend you these models equipped with Poltyp 50+

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

Equipped with pole type 50 and a maximum load capacity of 750/1100/1600 kg, which is achieved with material thickness from 15mm, these easy-to-guide and operate devices are recommended for lifting sheet metal, laser and flame-cut parts, tools and blanks.

**FXE-750/50**

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (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 | WLL | Max. Dimensions L (max.) | W (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 | WLL | Max. Dimensions L (max.) | W (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 | Item-Nr. | WLL (kg) | Dimension (mm) L | W | H | Number Poles °N | Pole structure | Breakaway (kN) | clamping surface (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

Depending on the application, we may recommend you these models equipped with Poltyp 50+

## **FXE-L** Electro-Permanent Lifting Magnets

Equipped with pole type 50+ in long narrow design and a maximum load capacity of 400/600/1000 kg, which is achieved with material thickness from 15mm, these easy-to-guide and operate devices are recommended for lifting battens, rails, pipes, beams and bars. Also using pole extensions, which make it easier to position the magnets on long narrow loads.

## **FXE-L400/50+** Electro-Permanent Lifting Magnets

| FXE-L400/50+ | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (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 20 mm | 400 kg | 3000 | 1000 |

| Model | Item-Nr. | WLL (kg) | Dimension (mm) L | W | H | Number Poles °N | Pole structure | Breakaway (kN) | clamping surface (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| FXE-L400/50+ | 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 | WLL | Max. Dimensions L (max.) | W (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 20 mm | 600 kg | 4000 | 1000 |

| Model | Item-Nr. | WLL (kg) | Dimension (mm) L | W | H | Number Poles °N | Pole structure | Breakaway (kN) | clamping surface (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| FXE-L600/50+ | 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 | WLL | Max. Dimensions L (max.) | W (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 20 mm | 1000 kg | 5000 | 1500 |

| Model | Item-Nr. | WLL (kg) | Dimension (mm) L | W | H | Number Poles °N | Pole structure | Breakaway (kN) | clamping surface (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| FXE-L1000/50+ | 1060 1011 | 1000 | 680 | 95 | 450 | 10 | 50+ | 38 | 628x52 | 44 |

## **FXE-1000/80** Electro-Permanent Lifting Magnets

Equipped with pole type 80 and a maximum load capacity of 1000 kg, which is achieved with material thickness from 25 mm, these easy-to-guide and operate devices are recommended for lifting heavy plates, plasma and flame-cut parts, tools and blanks.

FXE-1000/80

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (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 | Item-Nr. | WLL (kg) | Dimension (mm) L | W | H | Number Poles °N | Pole structure | Breakaway (kN) | clamping surface (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| FXE-1000/80 | 1060 1002 | 1000 | 228 | 228 | 295 | 4 | 80 | 36 | 172x172 | 39 |

## **FXE-2500/80** Electro-Permanent Lifting Magnets

Equipped with pole type 80 and a maximum load capacity of 2500 kg, which is achieved with material thickness from 25 mm, these easy-to-guide and operate devices are recommended for lifting heavy plates, plasma and flame-cut parts, tools and blanks.

FXE-2500/80

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (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 | Item-Nr. | WLL (kg) | Dimension (mm) L | W | H | Number Poles °N | Pole structure | Breakaway (kN) | clamping surface (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| FXE-2500/80 | 1060 2502 | 2500 | 506 | 228 | 295 | 10 | 80 | 90 | 448x172 | 77 |

## **FXE-4000/80** Electro-Permanent Lifting Magnets

Equipped with pole type 80 and a maximum load capacity of 4000 kg, which is achieved with material thickness from 25 mm, these easy-to-guide and operate devices are recommended for lifting heavy plates, plasma and flame-cut parts, tools and blanks. The control and operating unit, which is offset to the outside, makes it easier to clear the machine table.

also available with 2 control panels

| FXE-4000/80 | | | |
|---|---|---|---|
| Max. Load capacity at sheets and 4-edge pipes | | | |
| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
| from 8 mm | 800 kg | 3000 | 2000 |
| from 10 mm | 1200 kg | 3000 | 2000 |
| from 15 mm | 2400 kg | 3500 | 2000 |
| from 25 mm | 4000 kg | 4000 | 2500 |

| Model | Item-Nr. | WLL (kg) | Dimension (mm) L | W | H | Number Poles °N | Pole structure | Breakaway (kN) | clamping surface (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| FXE-4000/80 | 1060 4002 | 4000 | 783 | 228 | 295 | 16 | 80 | 144 | 724x172 | 132 |

# FXE-800-4800/100 Electro-Permanent Lifting Magnets

Equipped with pole type 100 and a maximum load capacity of 800/1600/2400/3200/4800 kg, reached with material thickness starting from 35 mm, these easy-to-guide and operate devices are recommended for lifting forgings, heavy plates, plasma and flame-cut parts, tools, cast blocks etc.

**FXE-800/100**

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| ab 35 mm | 800 kg | 2000 | 1000 |

**FXE-1600/100**

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| ab 10 mm | 400 kg | 2000 | 1500 |
| ab 20 mm | 1000 kg | 2000 | 1500 |
| ab 35 mm | 1600 kg | 3000 | 2000 |

**FXE-2400/100**

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| ab 10 mm | 600 kg | 2000 | 1500 |
| ab 20 mm | 1500 kg | 3000 | 2000 |
| ab 35 mm | 2400 kg | 3000 | 2000 |

**FXE-3200/100**

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| ab 10 mm | 800 kg | 3000 | 2000 |
| ab 20 mm | 2200 kg | 3000 | 2000 |
| ab 35 mm | 3200 kg | 4000 | 2000 |

**FXE-4800/100**

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| ab 10 mm | 1200 kg | 3000 | 2000 |
| ab 20 mm | 3000 kg | 4000 | 2500 |
| ab 35 mm | 4800 kg | 4000 | 3000 |

| Model | Item-Nr. | WLL (kg) | Dim. (mm) L | W | H | Number Poles °N | Pole type | Breakaway (kN) | Clamping surface (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| FXE-800/100 | 1060 0803 | 800 | 298 | 175 | 210 | 2 | 100 | 29 | 222x102 | 52 |
| FXE-1600/100 | 1060 1603 | 1600 | 296 | 296 | 345 | 4 | 100 | 58 | 222x222 | 82 |
| FXE-2400/100 | 1060 2403 | 2400 | 415 | 296 | 335 | 6 | 100 | 87 | 342x222 | 118 |
| FXE-3200/100 | 1060 3203 | 3200 | 536 | 296 | 335 | 8 | 100 | 112 | 462x222 | 154 |
| FXE-4800/100 | 1060 4803 | 4800 | 778 | 296 | 400 | 12 | 100 | 174 | 702x222 | 202 |

## **FXE-R** Electro-Permanent Lifting Magnets

FXE-R lifting magnets that can lift round material or, both round and flat material, we manufacture from our basic FXE models with pole shoes that can lift the customer‘s specific diameter bandwidths, individually or in layers.

FXE HV device for horizontal/vertical lifting

FXE-400/50+ S

FXE with special handle and weld-on hook

FXE with custom handle

FXE-1600/50 HV-S

FXE with custom handles

FXE with long guide column for removal from wire baskets

FXE 600/50+ S

FXE-R

FXE-T 250-400

FXE with long, gas spring-loaded handle

FXE for dished heads

## **FXE-HD** Electro-Permanent Lifting Magnets

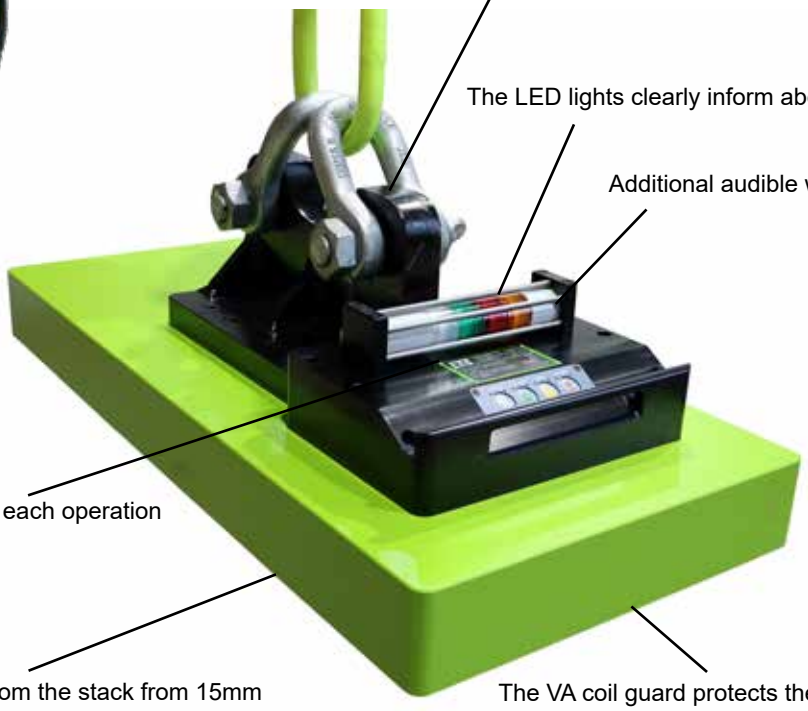
**FXE-HD electro-permanent lifting magnets for massive use when lifting large loads. FXE-HD are equipped with a strong pole type 100 magnet system and other features ensure maximum user-friendliness and safety.**

The radio remote control keeps the user at a distance from the suspended load

The lifting eye sensor prevents loosening when the load is suspended

The LED lights clearly inform about the switching status

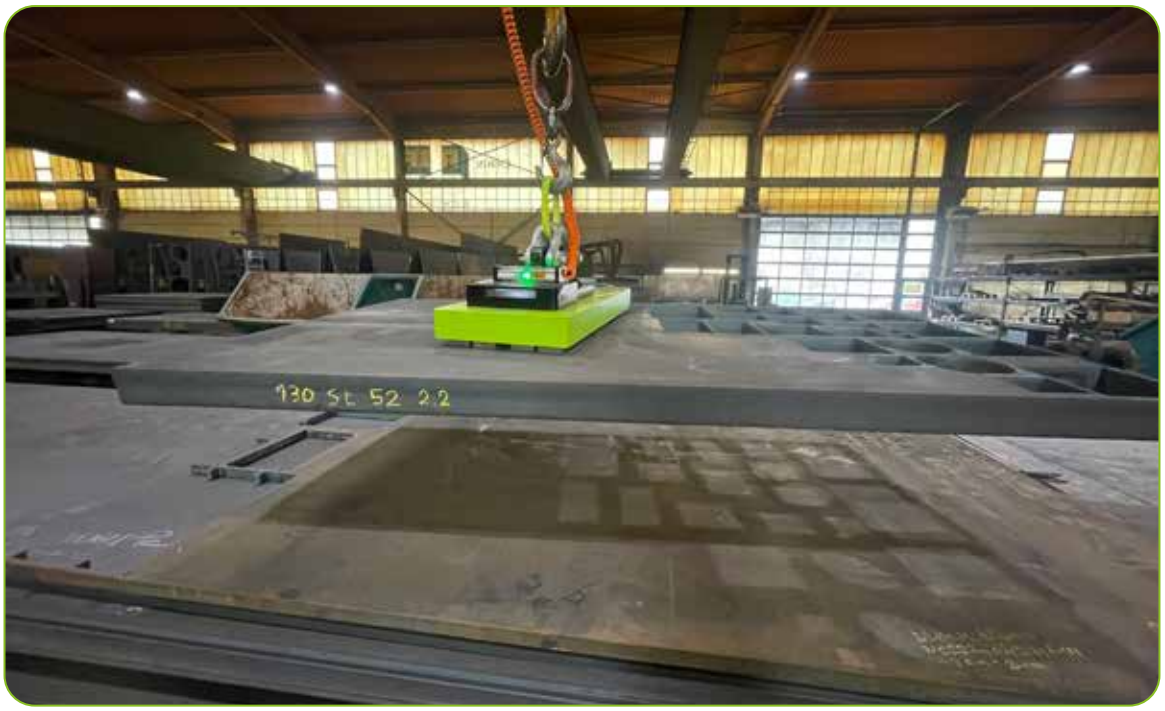
Additional audible warning in pick-up mode



The double magnetization cycle at each operation checks the safety factor

Removal of individual sheets from the stack from 15mm

The VA coil guard protects the clamping surface from chips and heat radiation



**FXE-HD7200/100**

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| ab 10 mm | 2400 kg | 3000 | 1500 |
| ab 20 mm | 4800 kg | 3600 | 2000 |
| ab 35 mm | 7200 kg | 4250 | 2500 |

**FXE-HD9600/100**

Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| ab 10 mm | 3200 kg | 3000 | 1500 |
| ab 20 mm | 6400 kg | 3600 | 2000 |
| ab 35 mm | 9600 kg | 4250 | 2500 |

**FXE-HD12800/100**

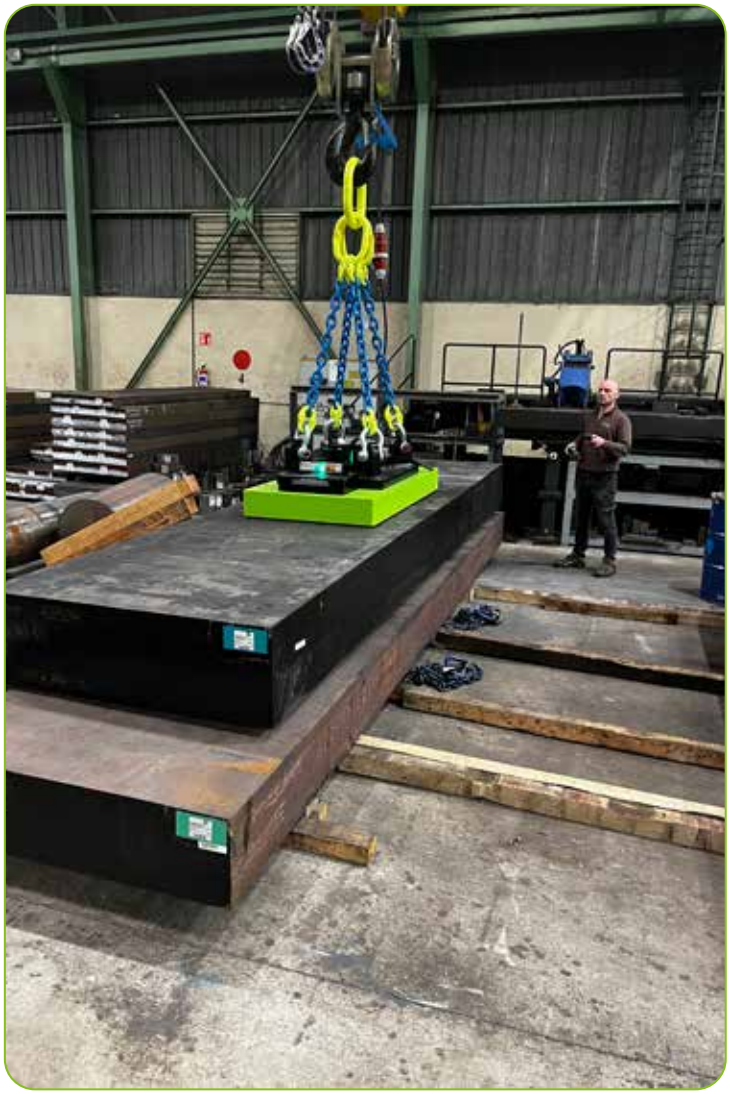
Max. Load capacity at sheets and 4-edge pipes

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| ab 10 mm | 4200 kg | 3000 | 1500 |
| ab 20 mm | 6400 kg | 4500 | 2000 |
| ab 35 mm | 12800 kg | 6000 | 2500 |

**FXE-HD16000/100**

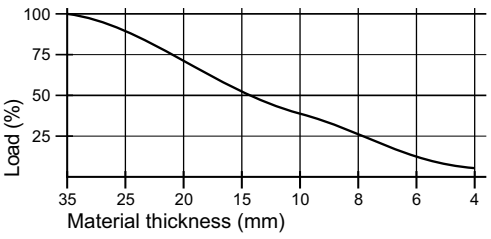
Max. Load capacity at sheets and 4-edge pipes

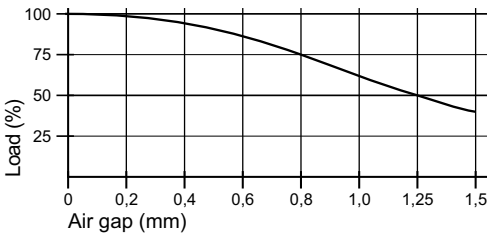
| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| ab 10 mm | 4200 kg | 3000 | 1500 |
| ab 20 mm | 6400 kg | 4500 | 2000 |
| ab 35 mm | 16000 kg | 6000 | 2500 |



**Application video here**

## Pole type 100




Pole type 100 is designed for lifting heavy plates from 10mm and solid steel, formed and forged parts with larger air gap. The ratings of FXE lifting magnets with pole type 100 are achieved up to an air gap of 0.6mm. At air gap 0, each pole 100 achieves 14.5 kN holding force.

| Model | Item-Nr. | WLL (kg) | Dimensions (mm) L | W | H | Number Poles °N | Pole type | Breakaway (kN) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| FXE-HD7200/100 | 1060 7203-1 | 7200 | 810 | 450 | 532 | 18 | 100 | 261 | 400 |
| FXE-HD9600/100 | 1060 9603-1 | 9600 | 1030 | 425 | 665 | 24 | 100 | 348 | 450 |
| FXE-HD12800/100 | 1060 12803-1 | 12800 | 1030 | 600 | 734 | 32 | 100 | 464 | 500 |
| FXE-HD16000/100 | 1060 16003-1 | 16000 | 1270 | 600 | 734 | 40 | 100 | 580 | 680 |

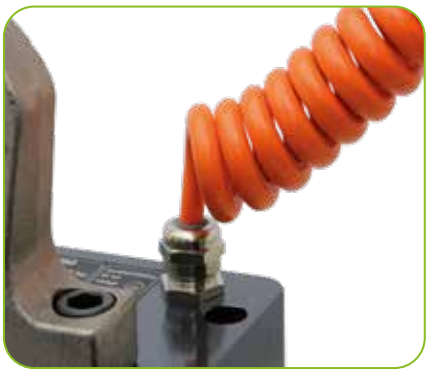
## **FXE-MH** Elektro-Permanent Lifting Magnets

FXE-MH electro-permanent lifting magnets are especially suitable for transporting slabs and blocks.MH type electro-permanent modules are designed to safely lift large loads with a large air gap.

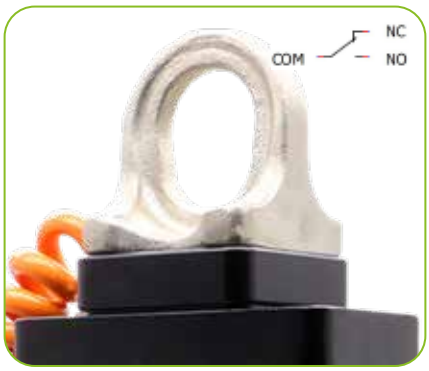
# FXE Electro-Permanent Lifting Magnets

**The FXE electr-opermanent lifting magnet series can be customized with smart accessories to further increase productivity and safety.**

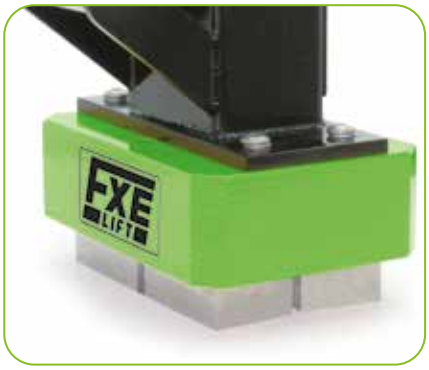
**Spiral cable**
The standard delivery includes 2m of heavy rubber spiral cable and a CEE three-phase plug (16/32A). High-quality spiral cables make sense especially for small fast hoists, up to 4m hook height a spring cable drum can be dispensed with
altogether.



**Lifting eye sensor**
The lifting eye sensor checks whether the lifting eye on the magnet is under tension and allows demagnetization only when the lifting eye is load-free. This provides more safety, but
prevents the option of dropping pieces of waste over a container, for example.




**Guide handle**
Especially when removing small workpieces from the flame cutting table, the magnet cannot only be positioned with the crane, but must be guided manually. The „guide handle“ option is recommended here. With integrated switching, this allows the operator to conveniently clear the table from the side.




**Special pole shoe**
For holding hot parts, we recommend the use of heat protection pole shoes. For round material, profiles or non-shaped castings, we manufacture
customer-specific pole shoes so that the pick-up surface fits the load.

**Radio Remote Control**
Radio has a range of at least 30m, but therefore it is also recommended to use the option „lifting eye sensor“ when using a radio remote control.

**Spring cable reels**
Spring cable reels can be installed directly on the crane trolley to supply the bottom block with
power for FXE electro-permanent lifting magnets. Spring cable reels are available for any lifting height to match the system.

| Article | Item-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 (use from FXE3200) | 1013 626 | 3 |
| 4x6 mm² Spring cable reel 10m | 1016 0001 | 34 |
| 5x2,5mm² Spring cable reel 10m | 1016 0002 | 20 |

| Article | Item-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 6002 | - |
| Handle FXE | 8 1060 0005 | 15 |

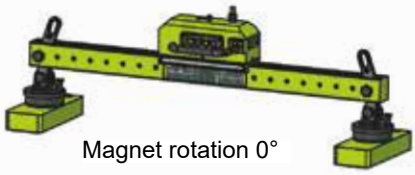
# **FXE-LT** Elektro-Permanent Magnetic Truss

FXE-LT electro permanent lifting magnet trusses in a compact design with onboard control technology are designed for the frequent handling of larger formats such as sheets with poor surfaces. Like the FXE lifting magnets, they can be operated directly from the mains voltage and are therefore very quick to install and ready for use. They are controlled directly on the device or optionally via a remote control.

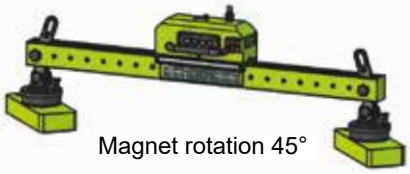
The magnetic modules are adjustable to safely transport various sheet metal lengths from a minimum of 600mm to a maximum of 5000mm. The two holding modules can be rotated by 45° or 90° to also accommodate sheet metal cutouts or strips.

Delivery includes:

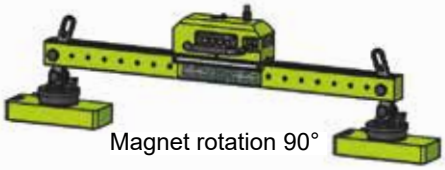
- Remote control with mit Pick Up-Function for destecking sheet from 3mm
- 2-strain chains
- Lifting-eyelet sensor, demagnetizing only possible when load-free
- LED stripe indication light
- Handle
- Plug & Play connection
- Rotation device



Magnet rotation 0°



Magnet rotation 45°



Magnet rotation 90°

**FXE-LT2000/50+**

Max. Load capacity at sheets

| Material-/ wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| from 3 mm | 50 | 2000 | 1000 |
| from 6 mm | 400 | 4000 | 2000 |
| from 8 mm | 650 | 4000 | 2000 |
| from 10 mm | 750 | 4000 | 2000 |
| from 15 mm | 1500 | 4000 | 2000 |
| from 20 mm | 2000 | 4000 | 2000 |

**FXE-LT3800/70+**

Max. Load capacity at sheets

| Material-/ wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| from 4 mm | 300 | 3500 | 1500 |
| from 6 mm | 500 | 4000 | 2000 |
| from 8 mm | 1000 | 4000 | 2000 |
| from 10 mm | 1500 | 4000 | 2000 |
| from 15 mm | 2500 | 4300 | 2000 |
| from 25 mm | 3800 | 5000 | 2500 |

| Model | Art.-Nr. | WLL (kg) | from (mm) | L min. (mm) | L max. (mm) | W min. (mm) | W max. (mm) | Dim. LxBxH (mm) | Modules | Pole type | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FXE-LT 2000/50+ | 1068 2001 | 2000 | 20 | 600 | 4000 | 100 | 2000 | 1600x420x1429 | 2x FXE-1100/50+ | 50+ | 130 |
| FXE-LT 3800/70+ | 1068 3804 | 3800 | 20 | 600 | 5000 | 100 | 2000 | 2000x528x1747 | 2x FXE-2000/70+ | 70+ | 200 |

Drawings can be found at www.flaig-te.de

# FXE-T7200/9600 Magnetic Truss

The FXE-T Electro Permanent Magnetic Truss is a fully equipped standard unit with all options.
The truss with 7200 kg max. load is equipped with sliding magnetic modules and can thus safely move sheet formats from min. 1200mm length to max. 6000mm length.

Delivery includes:

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

**Application video here**

**FXE-T7200/80**

Max. Load capacity at sheets

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (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 | 7200 kg | 6000 | 3000 |

**FXE-T9600/100**

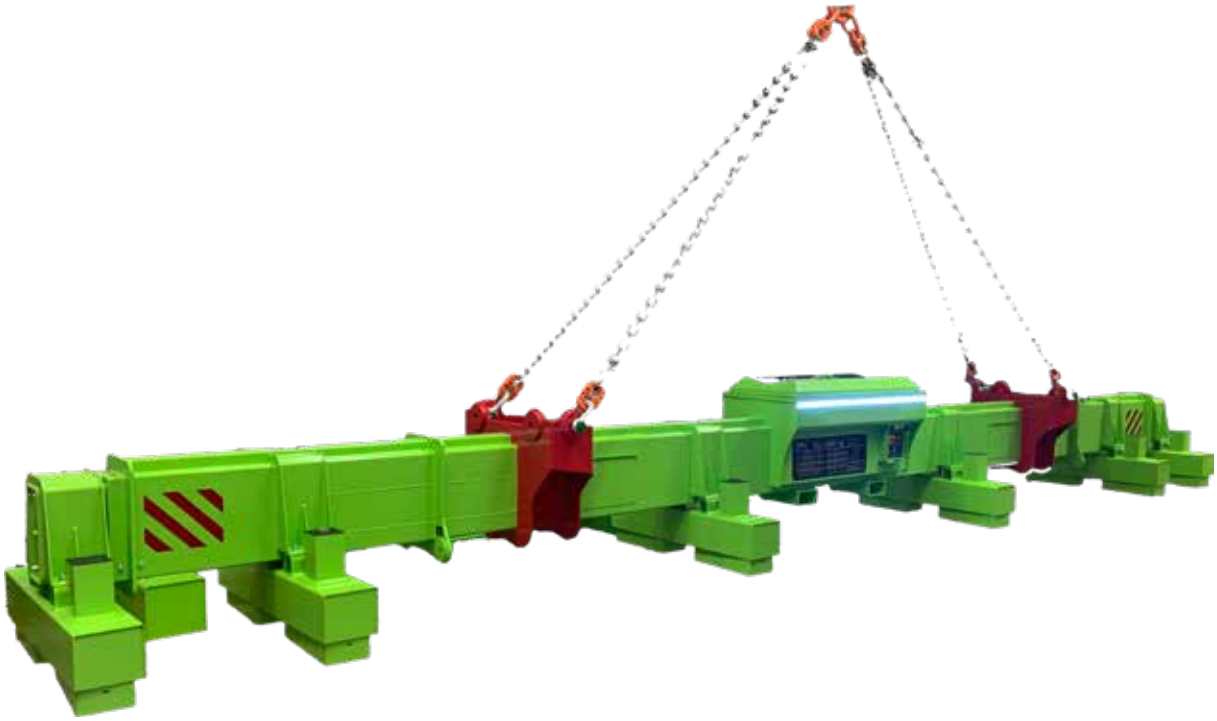
Max. Load capacity at sheets

| Material-/ Wall thickness | WLL | Max. Dimensions L (max.) | W (max.) |
|---|---|---|---|
| from 4 mm | 400 kg | 4000 | 2000 |
| from 6 mm | 600 kg | 6000 | 2000 |
| from 8 mm | 1400 kg | 6000 | 3000 |
| from 10 mm | 2000 kg | 6000 | 3000 |
| from 15 mm | 4000 kg | 6000 | 3000 |
| from 25 mm | 6400 kg | 6000 | 3000 |
| from 35 mm | 9600 kg | 6000 | 3000 |

| Model | Item Nr. | WLL (kg) | Dimensions (mm) L | W | H | Number Poles °N | Pole structure | Breakaway (kN) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| FXE-T7200/80 | 1068 7212 | 7200 | 3150 | 780 | 1900 | 2x16 | 80 | 282 | 520 |
| FXE-T9600/100 | 1068 9603 | 9600 | 2960 | 778 | 1440 | 2x12 | 100 | 329 | 700 |

## **FXE-TT** Telescopic Magnetic Truss

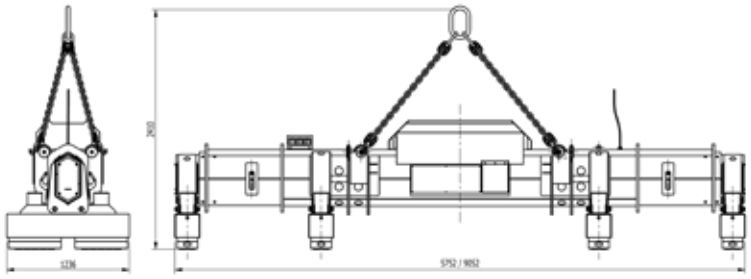
FXE-TT telescopic trusses are equipped with electro-hydraulic telescopic arms and are suitable for handling sheets of 3-16m length.
The system consists of fixed and movable crossbars, each equipped with two magnetic modules.
The truss length can be adjusted individually via radio remote control. The magnetic system can be switched on the truss itself or on the radio remote control included in the scope of delivery.



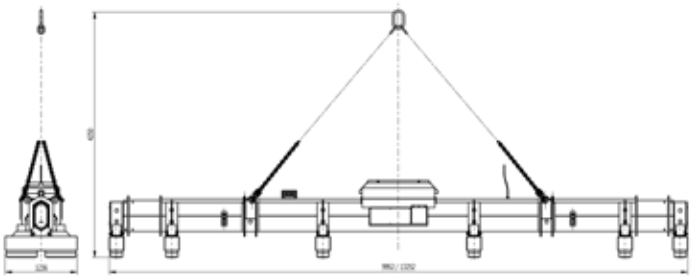
## Clever Details

- Main beam formed as super-stiff sectional tube; tested for 600,000 load cycles
- Suspension from one or two crane hooks possible
- 4 additional anchor points for load handling attachments of 4.5 t each or optionally also weld-on hooks
- Service flap at the head ends
- Internal energy chain for cable routing
- Easily accessible OnBoard control and service flaps at all connection points
- Spiral cables supply the floating suspended magnetic modules
- Spring dampers in the magnetic suspension provide compensation for deflection and even load distribution
- A massive switching mechanism checks the chain tension and allows loosening only when the chain is load-free
- Maintenance-free LED signal lamp
- Ergonomic and handy radio remote control
- Supplied with power plug - Plug and Play

Application video here



FXE-TT
4-XXX



FXE-TT
6-XXX

| Model | Item-Nr. | Load dimensions | | | | | | Weight (kg) |
|---|---|---|---|---|---|---|---|---|
| | | thickness | Length | | Width | | Load | |
| | | min. (mm) | min. (mm) | max. (mm) | min. (mm) | max. (mm) | (kg) | |
| FXE-TT 4-11000 | 1068 0410 | 5 | 3000 | 12000 | 500 | 3500 | 11.000 | 2500 |
| FXE-TT 4-14000 | 1068 0414 | 5 | 3000 | 12000 | 500 | 3500 | 14.000 | 2500 |
| FXE-TT 4-16500 | 1068 0416 | 5 | 3000 | 12000 | 500 | 3500 | 16.500 | 2600 |
| FXE-TT 4-20000 | 1068 0420 | 8 | 3000 | 12000 | 500 | 3500 | 20.000 | 2600 |
| FXE-TT 6-16000 | 1068 0616 | 5 | 3000 | 16000 | 500 | 3500 | 16.000 | 4200 |
| FXE-TT 6-20000 | 1068 0620 | 5 | 3000 | 16000 | 500 | 3500 | 20.000 | 4200 |
| FXE-TT 6-24000 | 1068 0624 | 5 | 3000 | 16000 | 500 | 3500 | 24.000 | 4300 |
| FXE-TT 6-30000 | 1068 0630 | 8 | 3000 | 16000 | 500 | 3500 | 30.000 | 4500 |

## **FXE-TP** Electro-Permanent Magnetic Truss

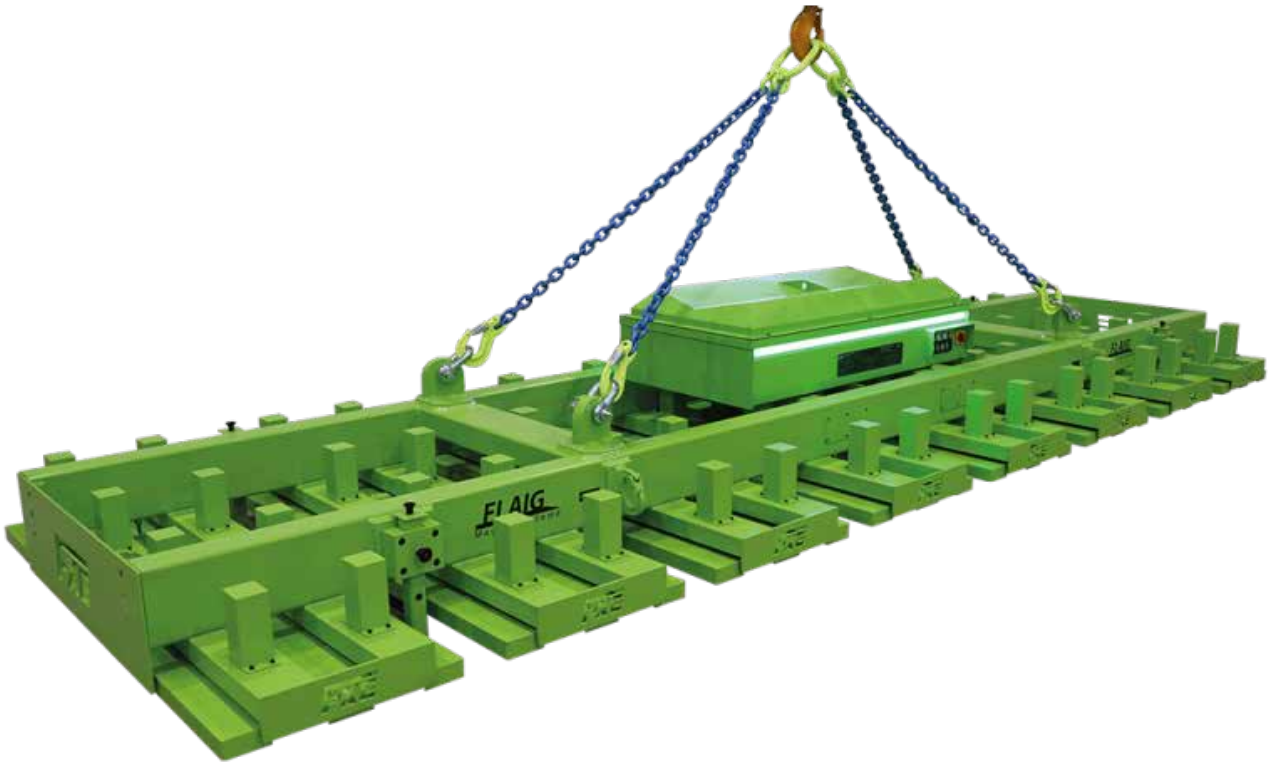
FXE-TP electro-permanent lifting magnets are ideally suited for beams and profiles due to their special design. The 3-sided active pole surface allows to pick up beams at the web or to rotate them as well. FXE-TP lifting magnets are also available as a truss solution, specially tailored to your application.

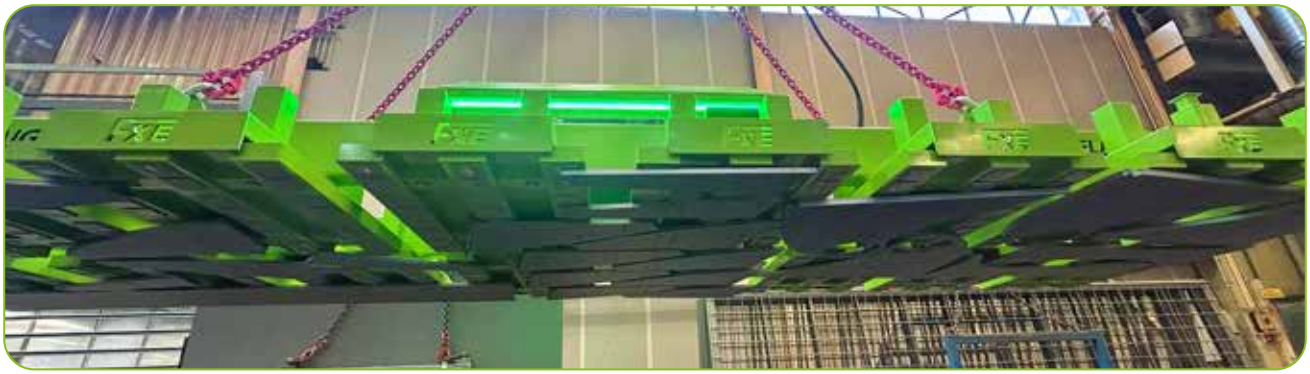
**Application video here**

## **FXE-TX** Electro-Permanent Magnetic Trusses

FXE TX lifting magnet trusses are used to clear large areas of laser or flame cutting tables. Parts from 100x100mm are removed from the table in layers.

Depending on the material thickness, sheets can also be placed with the FXE-TX. The design of the system depends on the sheet format to be moved (uncut, LxWxH) and the dimensions of the smallest cut.





FXE-TP 2000/80 S

FXE-T with small chain

FXE-T for coils

FXE-T for hot slabs

FXE-T 3800-4200

Telescopic up to x meters

FXE-T Coil truss

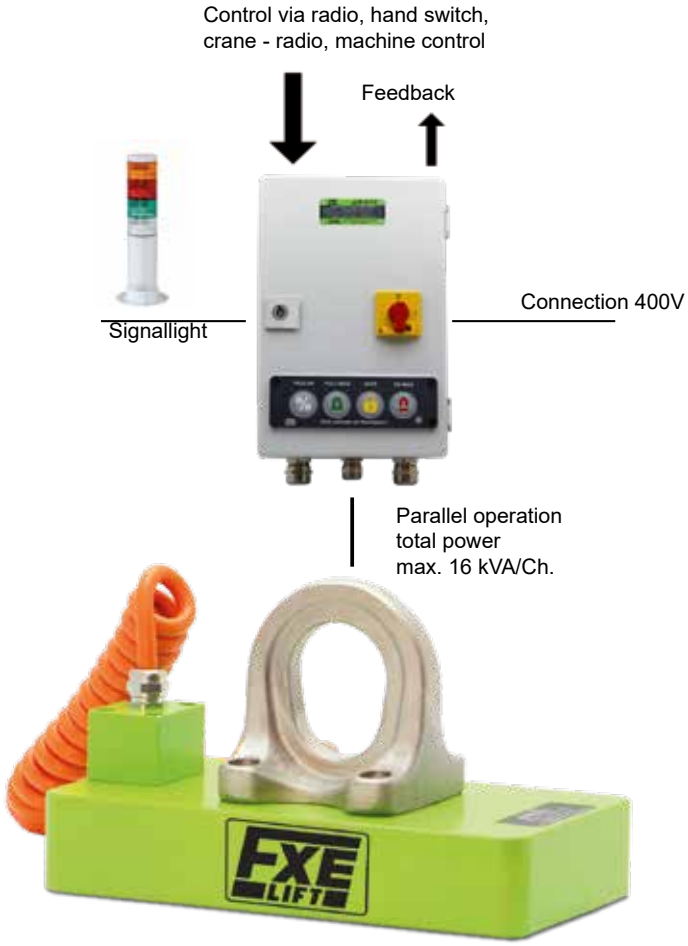
FXE-T 750/50 S ring truss

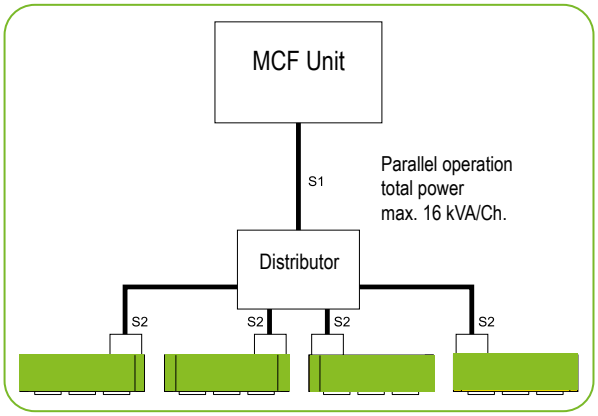
## **FXE-M** Modular Electro-Permanent Lifting Magnets

FXE-M electro-permanent load lifting magnet modules can be combined with MCF magnet control units to form modular load lifting systems.Thus, a single FXE-M module with an MCF 1-channel control unit can be used, for example, on the crane of a flame cutting plant, or 4 FXE-M modules, controlled together or individually by an MCF 4-channel control unit, can work in a fully automatic sectional steel plant.

In use on cranes, manipulators, conveyor systems and robots, FXE-M modules have proven themselves thousands of times. FXE-M modules are manufactured in monoblock technology and are extremely stable.

As with the other products in the FXE series, there is a choice of 4 different pole types to select the right magnet module for the load, dimensions and surface.




| | 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 | Item-Nr. | WLL | | Dimensions (mm) | | | Number Poles °N | Pole structure | Breakaway (kN) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | (kg) | from (mm) | L | W | 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 | 30 | 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 23 •
Workpiece temperature up to 100°C • Optionally withpole shoes for Round material, Profiles, hot Workpieces available • at switching frequency >3/min please query

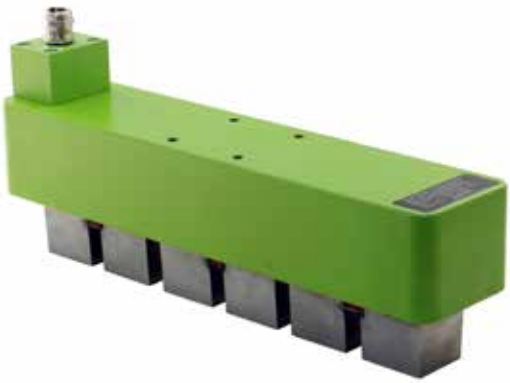
| Model | Voltage (V) | Power (kVA) Impulse | Ohm resistor | Lifting power EN13155 (kg) | clamping surface mm |
|---|---|---|---|---|---|
| FXE-M 150/50 | 380-480 | 0,6 | 12,5 | 150 | 116x52 |
| FXE-M 300/50 | 380-480 | 1,2 | 25 | 300 | 116x116 |
| FXE-M 400/50 | 380-480 | 1,2 | 25 | 400 | 244x52 |
| FXE-M 500/50 | 380-480 | 1,8 | 16 | 500 | 180x116 |
| FXE-M 600/50 | 380-480 | 1,8 | 16 | 600 | 372x52 |
| FXE-M 750/50 | 380-480 | 2,4 | 12,5 | 750 | 244x116 |
| FXE-M 1000/50 | 380-480 | 3 | 10,2 | 1000 | 628x52 |
| FXE-M 1100/50 | 380-480 | 3,6 | 7,8 | 1100 | 372x116 |
| FXE-M 1600/50 | 380-480 | 5,4 | 5,3 | 1600 | 564x116 |
| FXE-M 400/50+ | 380-480 | 2,4 | 12,5 | 400 | 244x52 |
| FXE-M 600/50+ | 380-480 | 3,6 | 7,8 | 600 | 372x52 |
| FXE-M 1000/50+ | 380-480 | 6 | 5,2 | 1000 | 628x52 |
| FXE-M 1000/80 | 380-480 | 4,8 | 6,6 | 1000 | 172x172 |
| FXE-M 2500/80 | 380-480 | 10 | 2,6 | 2500 | 448x172 |
| FXE-M 4000/80 | 380-480 | 16 | 1,9 | 4000 | 724x172 |
| FXE-M 1600/100 | 380-480 | 12 | 2,6 | 1600 | 222x222 |
| FXE-M 2400/100 | 380-480 | 16 | 1,9 | 2400 | 342x222 |
| FXE-M 3200/100 | 380-480 | 2x12 | 2x2,6 | 3200 | 462x222 |
| FXE-M 4800/100 | 380-480 | 2x16 | 2x1,9 | 4800 | 702x222 |
| FXE-M 7200/100 | 380-480 | 3x16 | 3x1,9 | 7200 | 702x342 |

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

FXE-M modules are supplied with rear threads for mechanical recording and ready for connection. Connection box with cable, optionally, we offer the following accessories .

| Article | Item-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-M** More models and special solutions



## **MCF** Control unit

The MCF control units are designed to operate electro-permanent magnet modules and are available both as a single board for installation in the customer‘s existing control cabinets and as an IP 54 control cabinet solution.

In addition to the FXE lifting magnet modules, other E-perm magnet components such as clamping plates or clamping blocks can also be controlled with the MCF, both as a single system (ALNICO) and as a double system (ALNICO/ND). The power and communication parameters of the MCF can be set to customer specifications at the factory, and individual magnets and groups can be controlled, with partial and full magnetization.

Floating outputs and signal outputs provide feedback on the switching status and ensure a very high safety standard. An on-board current control system checks at each cycle whether sufficient power has been absorbed by the magnet module.

The MCF can be controlled via a machine controller, radio remote control, manual pushbutton or other potential-free contacts.

MCF single and multi-channel controllers in IP 54 industrial design are manufactured as standard devices or in customer-specific configuration.

| Model | Item-Nr. | LxWxH (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 |

## **ERM-X** Excavation Magnets

For lifting ground parts, bulk material and for occasionally sorting out magnetizable parts. ERM-X are equipped with a mounted switch and integrated rectifier for direct connection to 230V mains voltage. The field depth is approx. 80-120mm. Not permitted for transporting solid workpieces in unsecured areas.

| Model | Item-Nr. | Dimension Ø (mm) | Dimension H (mm) | Connection voltage (V) | Power (W) | Duty cycle (%) | Weight (kg) |
|---|---|---|---|---|---|---|---|
| ERM-X 20 | 1010 200 | 200 | 320 | 230 | 130 | 100 | 30 |
| ERM-X 25 | 1010 250 | 250 | 340 | 230 | 220 | 100 | 42 |
| ERM-X 30 | 1010 300 | 300 | 360 | 230 | 370 | 100 | 58 |
| ERM-X 40 | 1010 400 | 400 | 360 | 230 | 600 | 100 | 114 |

## **NER-X** Electro Excavation Magnets

Electric round magnet for installation in handling systems, in conjunction with an external power supply or pole reversal control unit.

EHG Electro rectangular magnets, sizes, voltage and duty cycle are customized.

| Model | Item-Nr. | Dimensions (mm) Ø | B | Breakaway force acc. to VDE 0580 | Coil voltage | Power (W) | Weight (kg) |
|---|---|---|---|---|---|---|---|
| NER-X 20 | 1010 201 | 200 | 80 | 12 kN | 110 V | 130 | 20 |
| NER-X 25 | 1010 251 | 250 | 100 | 22 kN | 110 V | 220 | 33 |
| NER-X 30 | 1010 301 | 300 | 120 | 36 kN | 110 V | 370 | 49 |
| NER-X 40 | 1010 401 | 400 | 120 | 50 kN | 110 V | 600 | 104 |
| 100% duty cycle at 20°C - Other dimensions on request | | | | | | | |

## **POLE REVERSAL DEVICES** for Excavation Magnets

The use of pole reversal control units to control excavation magnets makes it possible to adjust the magnetic field very precisely. This means that the holding force of the USG can be infinitely adjusted and, when switched off, performs a demagnetization cycle to ensure that all parts are released and unwanted residual magnetism in the workpiece is minimized.

USG pole reversal control units can be controlled via potential-free contacts with machine controls or buttons in the crane operation and provide feedback on their switching status. As an option, we can also supply manual control units and signal light sets to match the pole reversal control units.

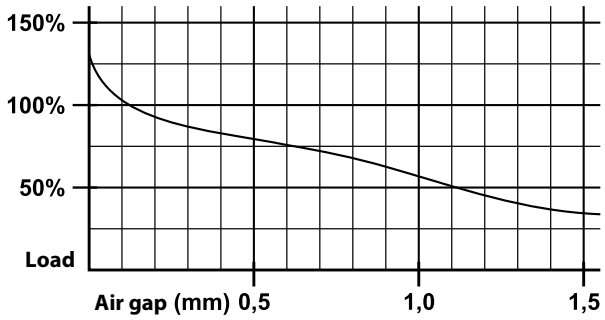
Optionally available: signal light set and hand control unit

| Model | Item-Nr. | Dimensions (mm) L | B | T | Output voltage* | max. output power | Connection | Weight (kg) |
|---|---|---|---|---|---|---|---|---|
| Pole reversal unit USG-TG IP 54 | 1013 5004 | 300 | 300 | 200 | 0-110V DV | 440 W | 230V / 50Hz | 14 |
| Pole reversal unit USG-TG IP 54 | 1013 5015 | 460 | 300 | 160 | 0-110V DC | 1650 W | 230V / 50Hz | 9 |
| *also available in other voltages | | | | | | | | |

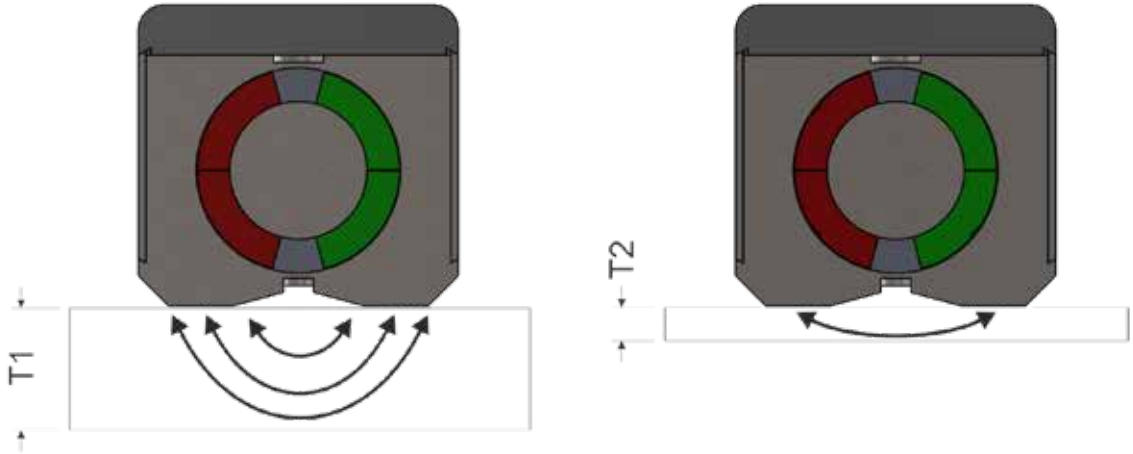
## Factors affecting the Holding powers of Lifting magnets

For choosing the right lifting magnet model five other factors to consider that affect the lifting force other than the weight of the load:

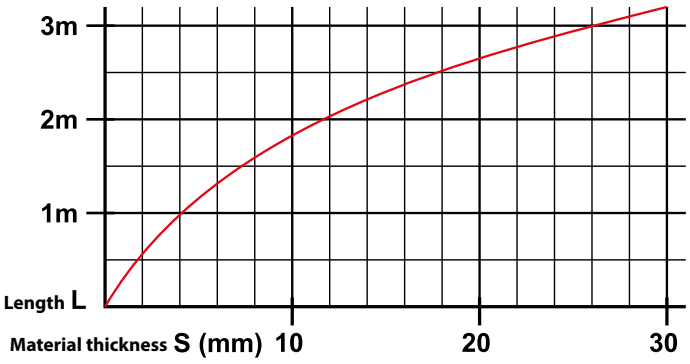
**1. The contact surface**
If a distance (air gap) exists between the lifting magnet and the load to be lifted, the magnetic flux is made more difficult and thus reduces the lifting capacity. Rust, paint, dirt, paper or rough machined surface can have such an air gap result and in turn mean a reduction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

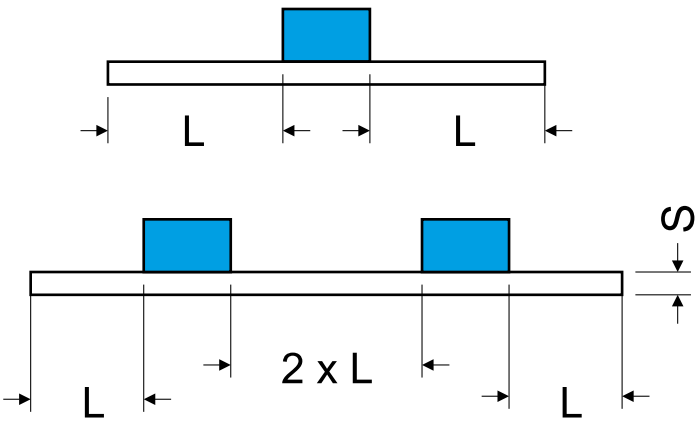



**2. Material thickness**
The magnetic flux of the lifting magnets requires a minimum material thickness. If the workpiece does not reach this minimum thickness, the lifting force is smaller. For larger lifting benefits greater material thicknesses are required.




**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 at low material thicknesses - an air gap. This reduces the lifting force of the lifting magnets.



## Factors affecting the Holding powers of Lifting magnets

**4. Composition of the Load to be lifted**

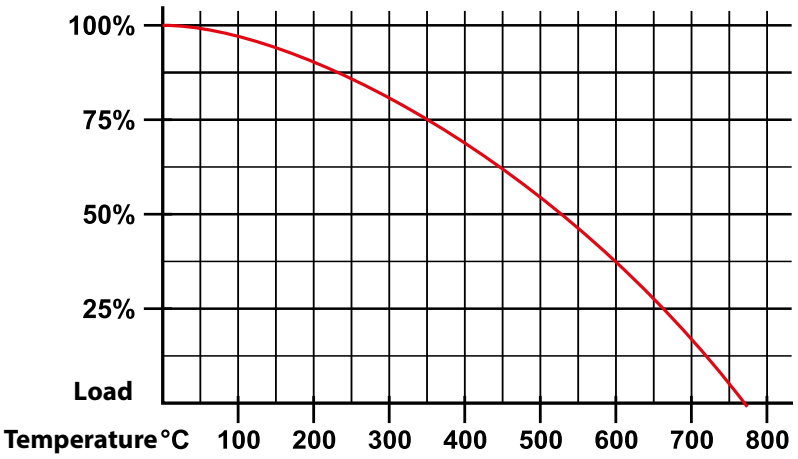
Steel with low carbon content is a good magnetic conductor eg F1110 or St37. Steel alloy with a high carbon content or with other materials such as steel loses its magnetic properties so that the power of the lifting magnets is low. Heat treatments which affect the steel structure also reduce the lifting power. The harder a steel the worse 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 |

**5. Temperature of the Load to be lifted**

The higher the temperature the faster the molecules vibrate the steel. Quick vibrating molecules provide the magnetic flux higher resistance. Our data apply to max. 80°C.

In almost the same way, the factors making 1,2,4,5 also noticeable in the magnetic clamping.



# FX Force / Load / Air gap

| FX 150 | 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 2 | 20 | 800 | 800 | 12 | 800 | 800 | 10 | 800 | 800 |
| >= 4 | 60 | 1500 | 1000 | 40 | 1500 | 1000 | 30 | 1200 | 1000 |
| >= 6 | 80 | 1500 | 1000 | 60 | 1500 | 1000 | 50 | 1200 | 1000 |
| >= 8 | 150 | 1500 | 1000 | 120 | 1500 | 1000 | 80 | 1200 | 1000 |
| Ø50-200 | 75 | 1500 | 1000 | 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (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 400 | 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 4 | 80 | 1600 | 1200 | 65 | 1500 | 1200 | 50 | 1250 | 1200 |
| >= 8 | 250 | 2000 | 1500 | 210 | 2000 | 1500 | 160 | 1500 | 1500 |
| >= 10 | 300 | 2250 | 1500 | 250 | 2000 | 1500 | 200 | 1500 | 1500 |
| >= 15 | 400 | 2500 | 1500 | 350 | 2000 | 1500 | 250 | 1500 | 1500 |
| Ø50-300 | 200 | 3000 | - | 170 | 3000 | - | 150 | 2500 | - |

| 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (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 | - |

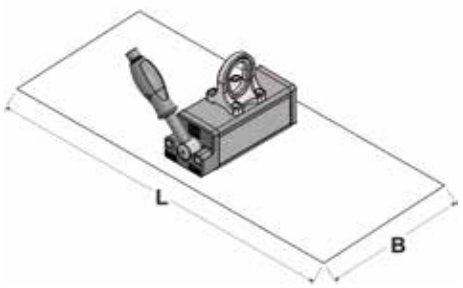
| FX 800 | Air gap < 0,2mm | | | Air gap 0,2 - 0,3 mm | | | Air gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 6 | 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 | 3500 | - |

| 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (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 | 2000 |
| >= 25 | 1500 | 3500 | 2500 | 1250 | 3500 | 2500 | 1100 | 3000 | 2000 |
| Ø100-450 | 750 | 5000 | - | 600 | 4500 | - | 450 | 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (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 < 0,1mm | | | Air gap 0,1 - 0,3 mm | | | Air gap 0,3 - 0,5 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 2 | 25 | 800 | 800 | 12 | 800 | 800 | 10 | 800 | 800 |
| >= 4 | 50 | 1500 | 1000 | 40 | 1500 | 1000 | 30 | 1200 | 1000 |
| >= 6 | 70 | 1500 | 1000 | 60 | 1500 | 1000 | 45 | 1200 | 1000 |
| >= 8 | 100 | 1500 | 1000 | 75 | 1500 | 1000 | 60 | 1200 | 1000 |
| Ø25-150 | 100 | 2000 | - | 75 | 2000 | - | 60 | 1500 | - |

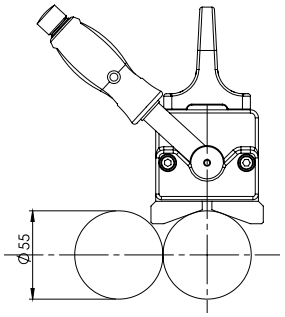
| FX-R225 | Air gap < 0,2mm | | | Air gap 0,2 - 0,3 mm | | | Air gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 4 | 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (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 | - |

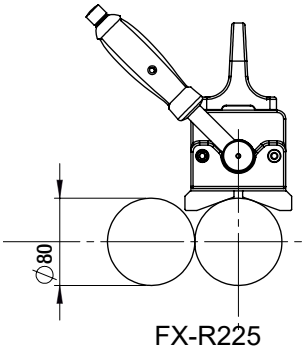
| FX-R750 | Air gap < 0,3mm | | | Air gap 0,3 - 0,5 mm | | | Air gap 0,5 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 8 | 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (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 | - |

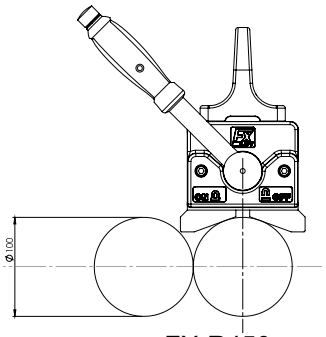
| FX-R1800 | Air gap < 0,3mm | | | Air gap 0,3 - 0,6 mm | | | Air gap 0,6 - 0,8 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 15 | 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 | - |



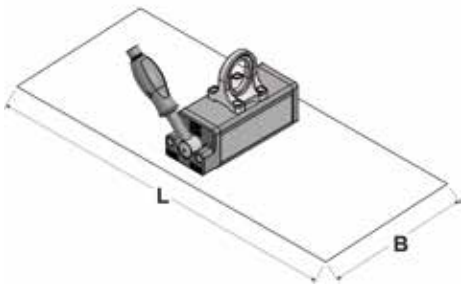

FX-R100




FX-R225




FX-R450

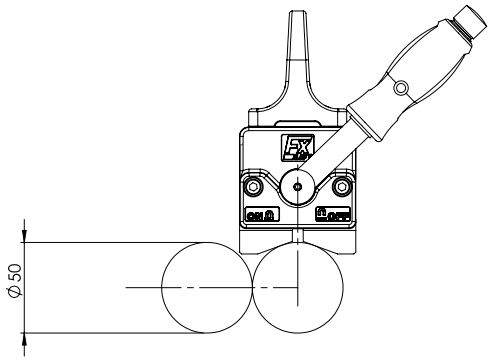


## **FX-P** Force / Load / Air gap

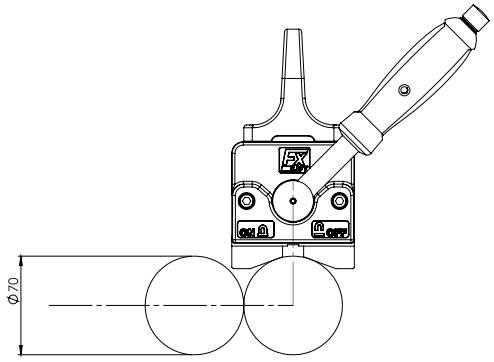
| FX-P170 | Air gap < 0,1mm | | | Air gap 0,1 - 0,3 mm | | | Air gap 0,3 - 0,5 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 2 | 30 | 800 | 800 | 20 | 800 | 800 | 15 | 800 | 800 |
| >= 4 | 80 | 1500 | 1250 | 60 | 1500 | 1250 | 50 | 1200 | 1250 |
| >= 6 | 120 | 1500 | 1250 | 90 | 1500 | 1250 | 75 | 1200 | 1250 |
| >= 8 | 170 | 1500 | 1250 | 130 | 1500 | 1250 | 100 | 1200 | 1250 |
| 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 4 | 100 | 2000 | 1250 | 80 | 1500 | 1250 | 60 | 1250 | 1250 |
| >= 6 | 160 | 2500 | 1500 | 130 | 2000 | 1500 | 100 | 1500 | 1500 |
| >= 8 | 300 | 2500 | 1500 | 240 | 2000 | 1500 | 180 | 1500 | 1500 |
| >= 10 | 330 | 2500 | 1500 | 270 | 2000 | 1500 | 200 | 1500 | 1500 |
| Ø40-160 | 300 | 3500 | - | 250 | 3000 | - | 180 | 2500 | - |

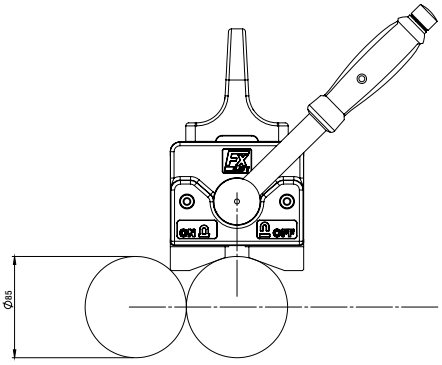
| FX-P650 | Air gap < 0,2mm | | | Air gap 0,2 - 0,3 mm | | | Air gap 0,3 - 0,6 mm | | |
|---|---|---|---|---|---|---|---|---|---|
| Material thickness (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 4 | 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 | - |



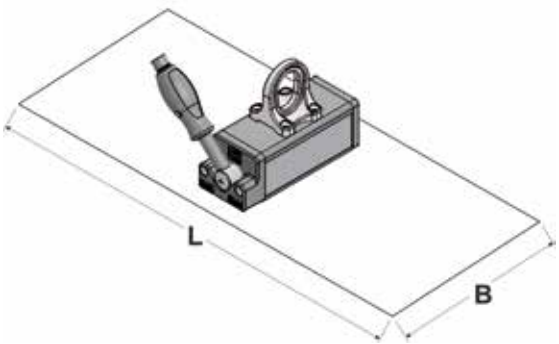

FX-P170




FX-P330




FX-P650

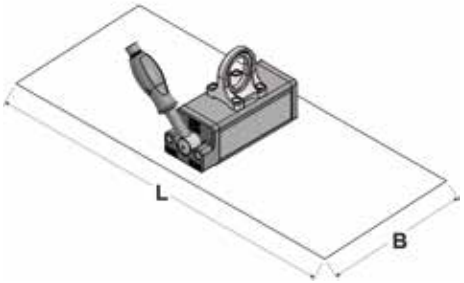


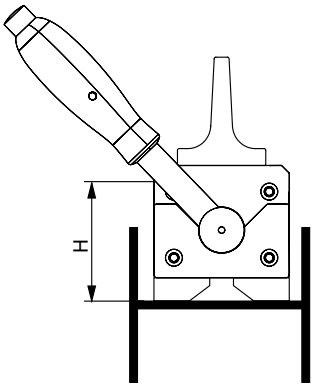
# FX-VV Force / Load / Air gap

| 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 4 | 70 | 1500 | 1250 | 50 | 1500 | 1250 | 35 | 1000 | 1250 |
| >= 6 | 110 | 2000 | 1250 | 75 | 1500 | 1250 | 60 | 1250 | 1250 |
| >= 8 | 175 | 2500 | 1250 | 120 | 2000 | 1250 | 90 | 2000 | 1250 |
| >= 10 | 200 | 2500 | 1250 | 140 | 2000 | 1250 | 110 | 2000 | 1250 |
| 90° ⌄ | 100 | 3000 | - | 80 | 2500 | - | 60 | 2000 | - |
| 90° ⌃ | 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (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 |
| 90° ⌄ | 200 | 4000 | - | 160 | 3500 | - | 120 | 3200 | - |
| 90° ⌃ | 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. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) | Max. Load (kg) | Max. L (mm) | Max. W (mm) |
| >= 4 | 130 | 2000 | 1500 | 100 | 2000 | 1500 | 90 | 2000 | 1500 |
| >= 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 |
| 90° ⌄ | 300 | 5000 | - | 240 | 4500 | - | 200 | 4000 | - |
| 90° ⌃ | 400 | 5000 | - | 320 | 4500 | - | 300 | 4000 | - |





150°C/100%

| FX-VV | 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 |

## **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 to each other via the internal hexagon of the switching shaft in order to clamp longer or larger workpieces.The activation takes place via the removable switching key with only 90° switching travel, the surfaces of the MBX are completely nickel-plated.

With the two differently shaped clamping sides of the MBX, almost any workpiece geometry can be held, regardless of whether round material, sheets or even profiles are to be clamped.

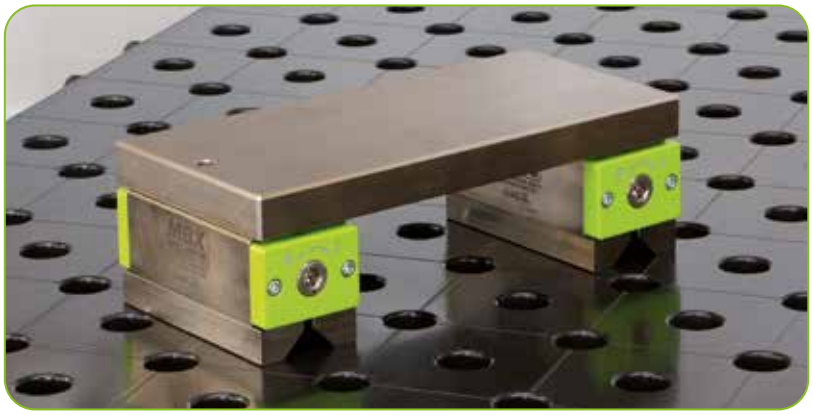
**The MBX magnetic clamping block clamps to the table and clamps the workpiece**

MBX are the ideal clamping device for clamping workpieces for drilling, deburring, welding or thread cutting on welding or deburring tables quickly, flexibly and without interfering contours.

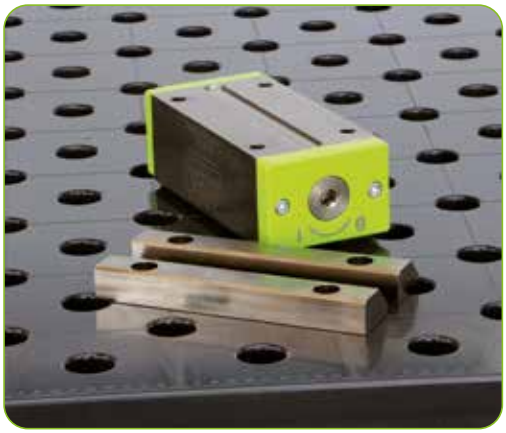
Suitable for drilling, grinding, welding...
also vertical

Suitable for angle material

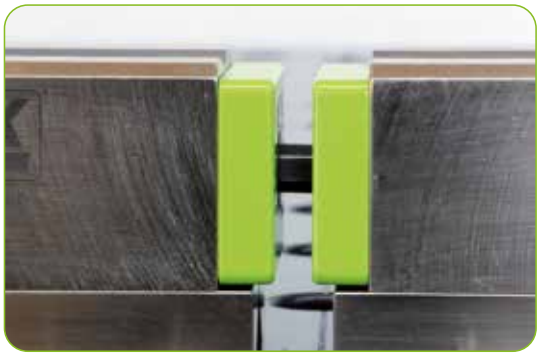
Suitable for round material



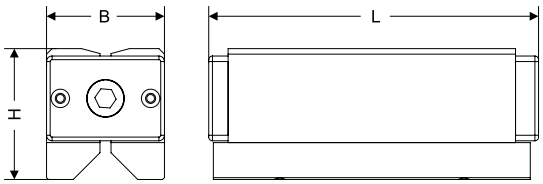
Suitable for flat material



Tip: The 90° pick ledges of the MBX can be replaced with workpiece-specific pick ledges

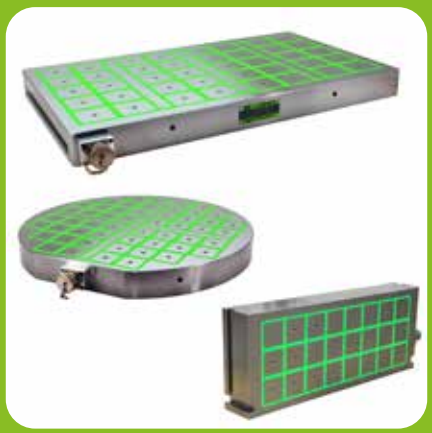


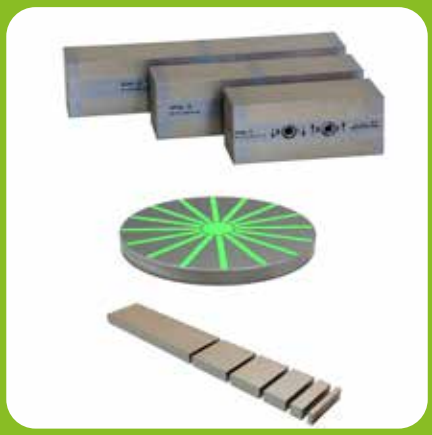
Tip: Several MBXs can be switched simultaneously




| Model | Item-Nr. | Dimensions (mm) | | | clamping surface 1 (mm) (Flat + Round) | clamping surface 2 (mm) (Flat + 90°) | Holding force (kN) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|
| | | L | B | H | | | | |
| MBX 5 | 3002 005 | 143 | 64 | 71 | 120 x 57 | 136 x 64 | 5 | 3,9 |
| MBX 5 Pair | 3002 005-1 | 143 | 64 | 71 | 120 x 57 | 136 x 64 | 5 | 2x3,9 |
| MBX 7 | 3002 007 | 178 | 64 | 71 | 156 x 57 | 172 x 64 | 7 | 4,9 |
| MBX 7 Pair | 3002 007-1 | 178 | 64 | 71 | 156 x 57 | 172 x 64 | 7 | 2x4,9 |
| MBX 10 | 3002 010 | 184 | 87 | 88 | 162 x 76 | 178 x 87 | 10 | 8,8 |
| MBX 10 Pair | 3002 010-1 | 184 | 87 | 88 | 162 x 76 | 178 x 87 | 10 | 2x8,8 |

FXE LIFT





# MAGNETIC LIFTING

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Valid from February 2026