MAGNETIC SOLUTIONS

LIFT • CLAMP • HOLD


FXE
LIFT


FXE
LIFT

Lifting Magnets

Lifting magnets are the perfect load suspension device for anyone who needs to work quickly and safely. A multitude of advantages speak for their use wherever loads have to hold without a handle. Use the material storage, transportation, fixture and during loading and unloading of machines.

We carry a wide range of different types and technical concepts, from broadband applicable standard product to the individual specialty magnets for bulky parts.

Please note the technical information from page 40 in the catalog when selecting lifting magnets.

Any information relating to holding power in the chapter „Lifting magnets“ were, in accordance with the test procedures for Lifting magnets smaller in EN 13155 at a test plate of low carbon steel, suitable thickness and flatness 0.1 / 500 mm determined.

For specific handling problems we can advise you.

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

Permanent Lifting Magnets

The FX base unit is suitable for flat and round material

FX-P - when it comes to plates below 12mm thickness and pipes - the right device for the laser cutting system

FX-HV - especially for the horizontal and vertical transport

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

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

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

FX-LT - light beam with 2-strand chain for sheet metal and workpieces with Centric Cutout

Electro-Permanent Lifting Magnets

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

FXE 100 - for heavy plates, forgings, ingots

FXE-Z - with special demagnetizing

FXE-M - modular system for the construction of trusses or for Pick & Place Systems

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

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

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

FXE-T - electro-permanent magnet trusses for sheet metal

FX lifting magnets are the new innovative product in the field of magnetic lifting technology.
They work with a single- magnet system consisting of high-energy magnets half-shell, which can be fully activated in only 90° Switching travel, and works completely non-rebound and self-locking.
The massive, ball-bearing switch shaft with the half-shell structured magnet has no magnetic Losses due to internal short circuit and can be manufactured in one piece in the entire length without welds or tapered transitions, and without millings for Block magnets what makes them virtually indestructible.
The unique, patent-pending design with half-shell magnets and
Reduction of the inner air gap in the magnet system ensure a considerably higher performance by using the same amount of magnetic material - which reduces costs and protects the environment.

Green Magnets for the modern Industry - Made in Germany

Gefördert durch:
Bundesministerium für Wirtschaft und Energie
aufgrund eines Beschlusses des Deutschen Bundestages

MADE IN GERMANY

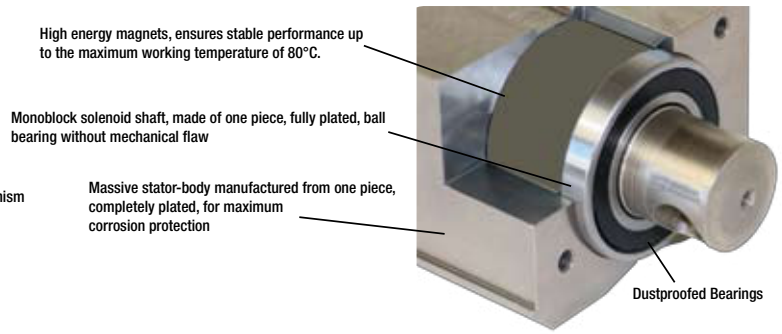
Exclusive Benefits of the FX-Series

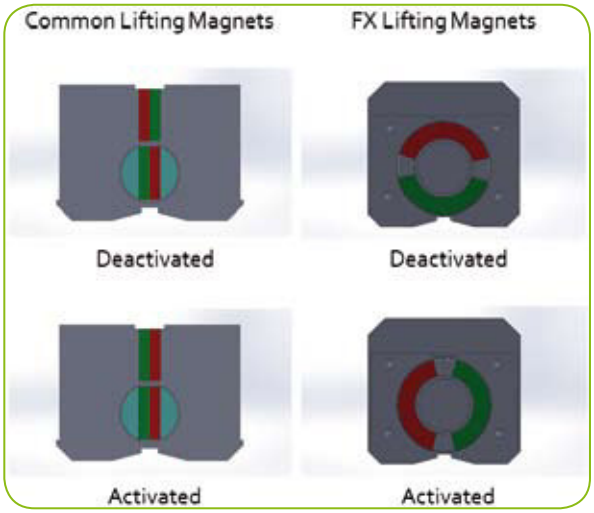
FX - Economically the right decision

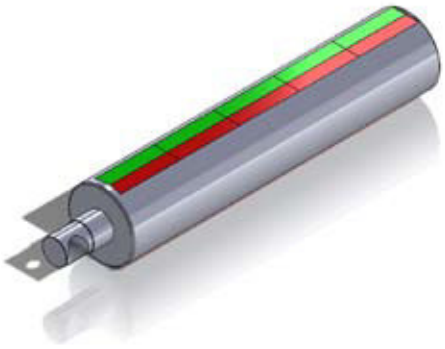
- Made in Germany
- Standard-compliant and tested CE/EN 13155/MRL 2006/42 EWG
- Product liability insurance with a German insurance company
- Multilingual Documentation
- Environmentally friendly and future-proof by higher Power with lower SE Magnet consumption
- **3** years Warranty
- Safety factor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

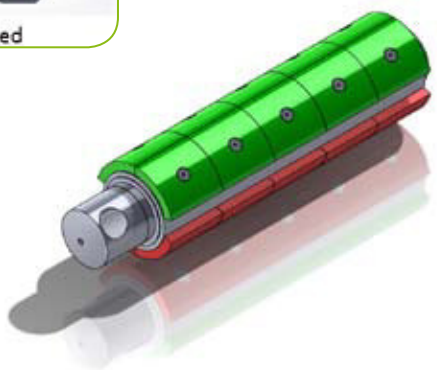
FX - Technically the right decision

- 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







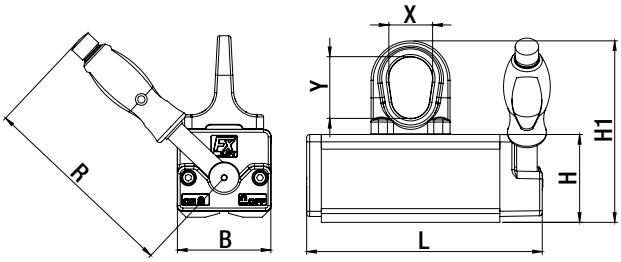


Common Lifting Magnets
Recessed or welded shifter shaft with
Built-in magnets, 180° theoretical switching travel,
Weakened or welded shaft, 3 air gaps

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

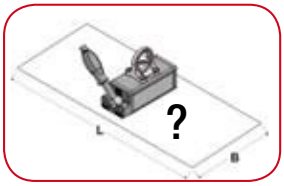
FX Universal Permanent Lifting Magnets

FX lifting magnets in standard version convince with their wide range of applications. The FX achieved good results at both, a large air gap as well as thin flat and round materials.It has a compact design and low weight. The device is characterized by great robustness and a very good price/performance ratio.



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

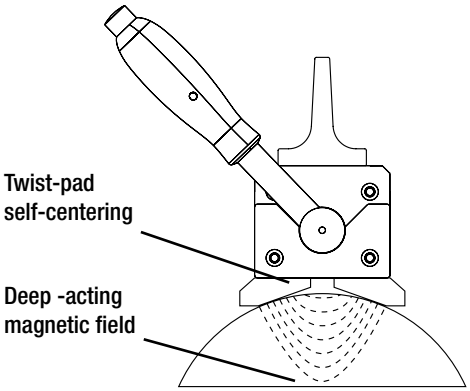
Safety factor 3,5/Test method EN 13155
max. Operation temperature 80°C • Load charts and Safety from Page 40

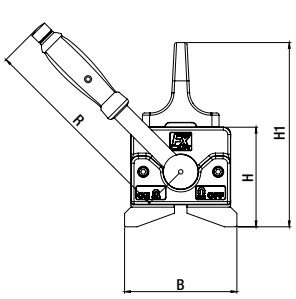


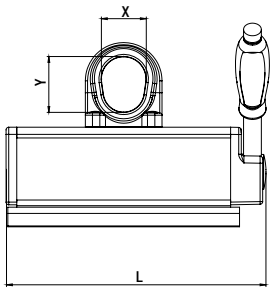
Load Charts and Safety from Page 40

FX-R Permanent Lifting Magnets especially suitable for Round Material

FX-R is the lifting magnet series for round material handling. The deep flat angle prism ensures safe positioning on the load and directs the magnetic field deep into the material. The magnet system can be switched good in the entire Diameter. It does not snap back, shearing off the load by turning is prevented by a cross prism.
Sheet, even with low material thickness, is no problem for the FX-R. On hot workpieces, the deep prism protects the magnetic core from overheating.

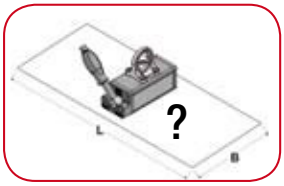






Model	Item-Nr.	Max. Load capacity (kg) flat	Max. Load capacity (kg) round	Max. Load capacity from (mm)	Dimensions (mm) L	B	H	H1	R	X/Y	Weight (kg)
FX-R100	1101 0101	100	Ø 25-150 mm 100 kg	8	161	70	68	132	136	30/42	4
FX-R225	1101 0221	225	Ø 50-205 mm 225 kg	10	205	98	90	170	190	42/53	9,5
FX-R450	1101 0451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

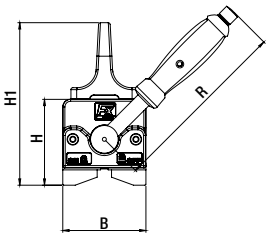
Safety factor 3,5/Test method EN 13155
max. Operation temperature 80°C • Load charts and Safety from Page 40

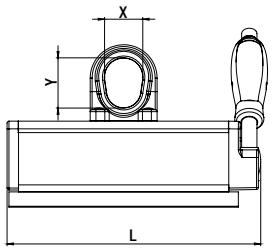


Load Charts and Safety from Page 40

FX-P Permanent Lifting Magnets especially for thin sheets and pipes

FX-P is the lifting magnet series for professional lifting and moving of thinner sheets, tubes and bars.
The special Magnet-Configuration in conjunction with the prismatic pole of the FX-P ensures maximum flux density even on thin material thickness.
The FX-P can be positioned well on round tube and gently pressed.



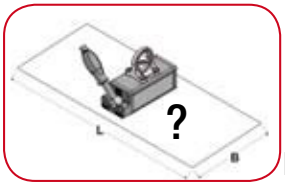


For thin sheet

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.	Max. Load capacity (kg) flat	Max. Load capacity (kg) round	Max. Load capacity from (mm)	Dimensions (mm) L	B	H	H1	R	X/Y	Weight (kg)
FX-P170	1101 0172	170 kg	Ø 30-105 mm 150 kg	8	195	64	70	134	136	30/42	5,1
FX-P330	1101 0332	330 kg	Ø 40-160 mm 300 kg	10	265	87	90	170	190	42/53	12,4
FX-P650	1101 0652	650 kg	Ø 60-210 mm 550 kg	20	352	112	108	203	228	51/62	26

Safety factor 3,5/Test method EN 13155
max. Operation temperature 80°C • Load charts and Safety from Page 40



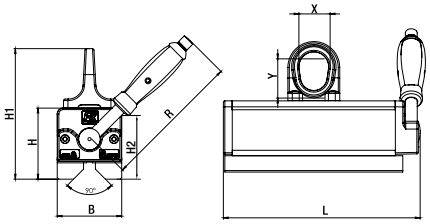
Load Charts and Safety from Page 40

FX-V Permanent Lifting Magnets with 90° Prism for beams, Profiles and hot parts

FX-V Lifting magnets are specifically tailored to the areas of application in the steel, shipbuilding and container construction. They have a long, narrow design for receiving carriers and Profiles - also on the inner web of the beam - and reach its maximum holding power so that even thin sheets can be lifted safely even at comparatively low material thickness. Thanks to the 90° prism, angle profiles can securely be received or components are turned.
When lifting hot internal cuts, the deep prism protects the built-in magnets from heat.

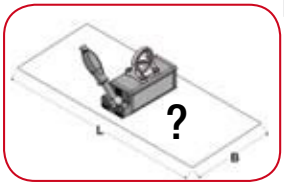
The FX-V, like all FX models, has a completely nickel-plated magnetic body and provides very good test results, even in rough surfaces. Also the FX-V has a stable smooth one-hand switch.

150°C/100%



Model	Item-Nr.	Max. Load capacity (kg) flat	round	90°	Max. Load capacity from (mm)	Dimensions (mm) L	B	H	H1	R	X/Y	Weight (kg)
FX-V200	1101 0203	200 kg	Ø 20-50 mm 100 kg	120 kg	10	195	64	77	141	134	30/42	5,5
FX-V400	1101 0403	400 kg	Ø 25-60 mm 200 kg	250 kg	15	265	87	96	176	188	42/53	13
FX-V800	1101 0803	800 kg	Ø 35-75 mm 300 kg	400 kg	20	352	112	115	210	228	51/62	28

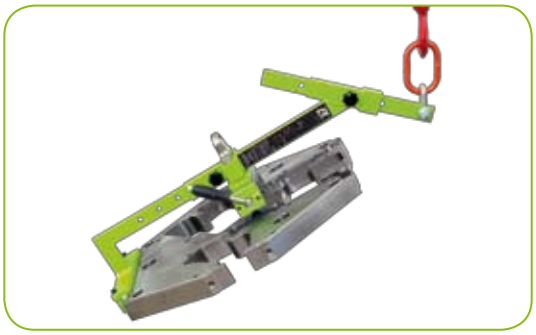
Safety factor 3,5/Test method EN 13155
max. Operation temperature 150°C • Load charts and Safety from Page 40

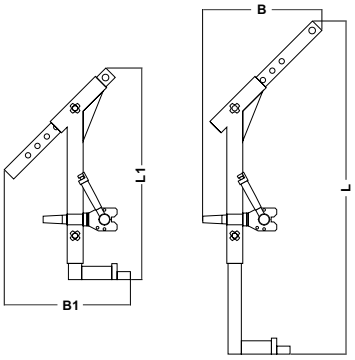


Load Charts and Safety from Page 40

FX-HV Horizontal-Vertical Systems

The FX-HV Horizontal-Vertical System will meet with its diverse setting almost any need. Overall height and focus can be adjusted by plug pins. Likewise, the device also can be used for up to 20% of its rated load without engaging under pads. The support pins are positioned in a way so that standing blanks can be struck, which, for example, is often required on the saw.
Likewise lying discs and sheets can be placed. For horizontal transport, the system has a lifting eye on the back. The steel structure is completely coated, and the stable FX Lifting magnet ensures maximum safety.
Special dimensions are available on request.





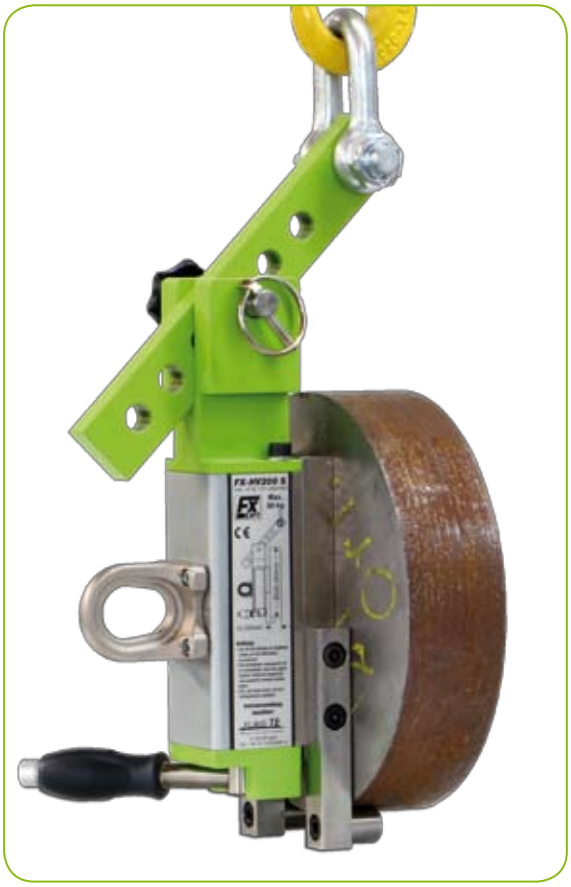
Model	Item-Nr.	Slices-Ø (mm)	Flat material Dimensions (mm)	Max. Load capacity with stop (kg)	Max. Load capacity without stop (kg)	Dimensions (mm) L	B	L1	B1	Weight (kg)
FX-HV 200	1103 0202	250 - 750	2000 x 750	200	40	1000	400	715	390	24
FX-HV 400	1103 0402	400 - 1000	2000 x 1000	400	80	1250	450	795	475	31
FX-HV 800	1103 0802	500 - 1200	2500 x 1250	800	160	1500	500	1040	520	64
FX-HV 2000	1103 2002	500 - 1200	2500 x 1250	2000	400	1800	600	1200	650	243
FX-HV 3000	1103 3002	500 - 1200	2500 x 1250	3000	600	1800	600	1200	650	294
max. Operation temperature 80°C • Weight incl. Magnet										

Towing Eye for FX Lifting Magnets

Special option “towing-eyelet” for FX lifting magnets. For vertical transport of lighter parts FX lifting magnets can come with an extra towing-eyelet.

Model	Item-Nr.	Max. towing capacity (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 3000 for up to 3.000kg



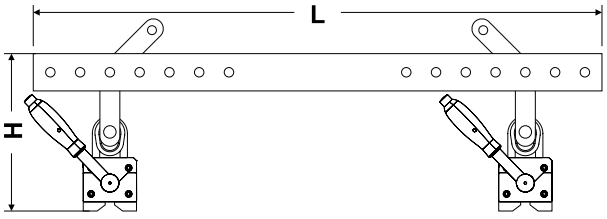
FX-HV 200-S Special Version

FX-LT Permanent Magnetic Truss

FX-LT magnet trusses adapted to the needs of metal fabricators, laser and flame cutters. Two FX-V Lifting magnets and a slight distance truss with 2-strain chain allows the loading and unloading of machines with sheets, or the horizontal Pick up of workpieces with center cutout. With a few simple steps the magnets can be removed from the crossbar to lift blanks and small plates with only one magnet.

Delivery includes:
- 2 Lifting magnets
- 2-strain chain with hooks and eyelets
- Distance truss with suspension elements

Quick detachable for single use



Model	Item-Nr.	incl. 2x FX	Max. Load (kg)	capacity from (mm)	Max. Workpiece 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-LT700	1104 0700	FX-V400	700	15	5000 x 1500	1600	270	44
FX-LT1000	1104 1000	FX-600	1000	20	5000 x 1500	1600	291	58
FX-LT1400	1104 1400	FX-V800	1400	20	5000 x 2000	1600	360	86
FX-LT3200	1104 3200	FX-2000	3200	50	5000 x 2500	2000	480	305
FX-LT4800	1104 4800	FX-3000	4800	50	5000 x 2500	2000	600	410

FX-LT Permanent Magnetic Truss

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

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

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

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

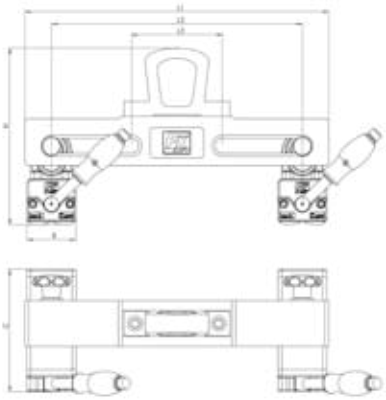
FX-LT3200			
Material thickness (mm)	Max. Dimensions (mm) L (max)	B (max)	Max. Load (kg)
>= 15	4000	2000	800
>= 20	5000	2000	1600
>= 25	5000	2000	1920
>= 40	5000	2500	2560
>= 50	5000	2500	3200

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

FX-KT Small Trusses

FX-KT Small Trusses are adapted to the needs of sheet metalworkers, laser and flame cutters. Two FX magnets and one adjustable small bar allow the transport of workpieces with a central cutout. In particular, rings and cylindrical workpieces with a central cut can be transported efficiently and effortlessly with the FX-KT.

In a few simple steps, the magnets can be removed from the crossbar to lift blanks and small plates with only one magnet.



Model	Item-Nr.	Max. Load (kg)	Capacity from (mm)	Dimensions (mm)						Magnetic adjustment inner edge-inner edge (mm)	Weight (kg)
				L1	L2	L3	B	C	H		
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	620	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

Permanent Lifting Magnets in Special Versions

Permanent lifting magnets are manufactured with the most different special-pole-pieces and as load spreader for almost all geometries. We manufacture magnets for spherical surfaces, with long pole pieces, for rings and sleeves and profiles. All special Lifting magnets are constructed, tested and documented in accordance with EN 13155 and MD 2006/42 EEC.


FX-R100 S
FX LIFT
CE
FLAIG TE
35 kg


FX-R100 S
FX LIFT
CE
FLAIG TE


FX-V400 S
CE
FLAIG TE
FX LIFT
150 kg
200 kg
30 kg

Electro-Permanent Lifting Magnets

Electro-permanent magnet technology is at lifting magnets for maximum security. The advantages of the reliability of permanent magnets and the user-friendliness of electro-magnets are united in a common approach. In the case of cable break or power failure, the lifted load cannot fall off. There are no batteries to maintain the activated / deactivated by pressing a button or radio, and the pole-reversal ensures safe release of the magnets from the workpiece. For different requirements, we offer the right solutions.

Page 19 - 27

FXE electro-permanent lifting magnets are equipped with onboard control technology for direct connection to mains voltage - the fast, user-friendly plug and play solution for loads up to 7,2t

Page 22 - 23

FXE-L in a long, narrow design for the installation of support profiles, tubes and bars reach their maximum holding force already from 15mm material thickness

Page 28 - 29

FXE-T Trusses for the handling of larger
Formats. The unit is controlled directly on the device or optionally via a remote control

Page 32 - 34

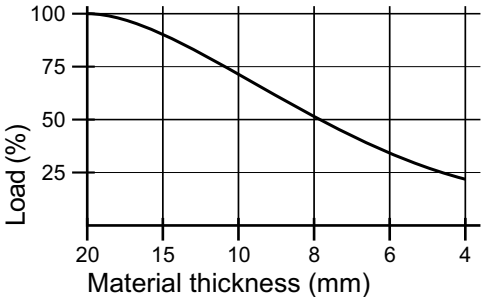
FXE-M electro-permanent lifting magnet modules are made in monoblock technology and extremely stable.

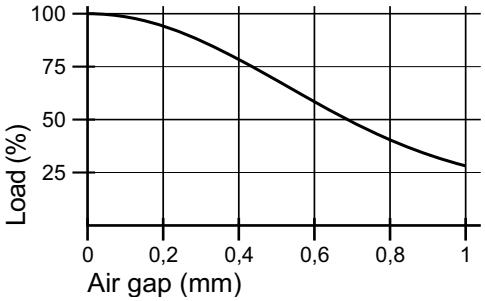
Page 35

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

Within the described application concepts, FXE has 4 different magnetic versions, defined by different Pole structure. It is important to choose the appropriate terminal type, depending on requirements.

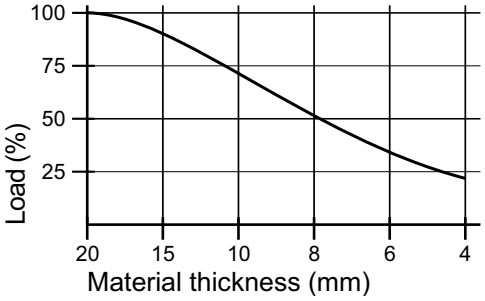
Pole Structure 50

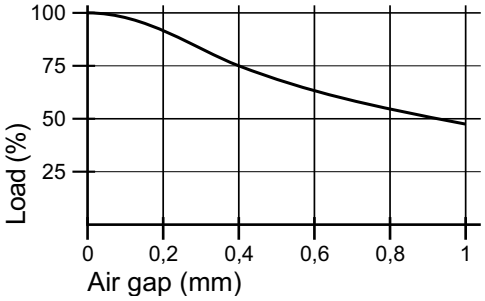




Pole structure 50 is designed for lifting sheets from 4 mm and Steel parts with a flat or processed surface. The nominal values of the FXE Lifting magnets with pole structure type 50 are achieved up to an Air gap of 0.3 mm.
With air gap 0, the pole structure 50 reaches a holding force of 3.8 kN.

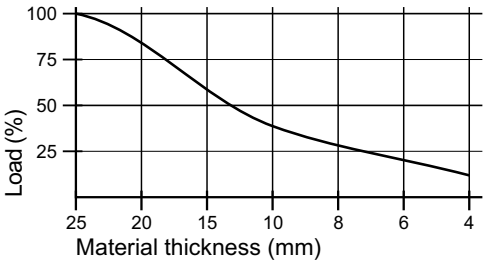
Pole Structure 50+

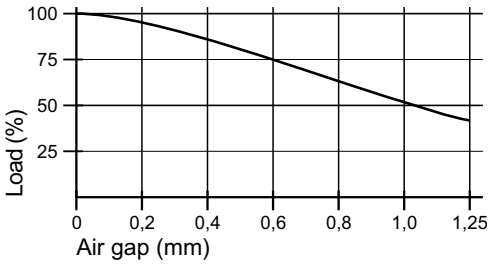




Pole structure 50+ has a reinforced Magnetic system with the same Pole size as the pole structure 50. This means, in poor Surfaces improved holding forces can be achieved, specifically even when pole extensions are needed the pole structure 50+ comes to use. With air gap 0, the pole structure 50+ reaches a holding force of 3.8 kN.

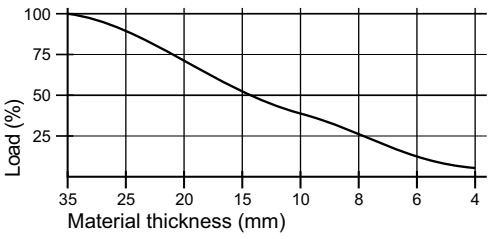
Pole Structure 80

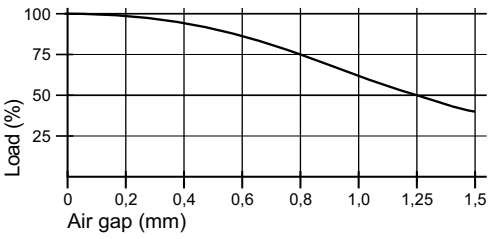




Pole structure 80 is designed for lifting sheets from 8mm and solid steel parts and internal sections with a medium air gap.
The nominal values of the FXE Lifting magnets with pole structure 80 are achieved up to an air gap of 0,4mm. With air gap 0, the pole structure 80 reaches a holding force of 9 kN.

Pole Structure 100

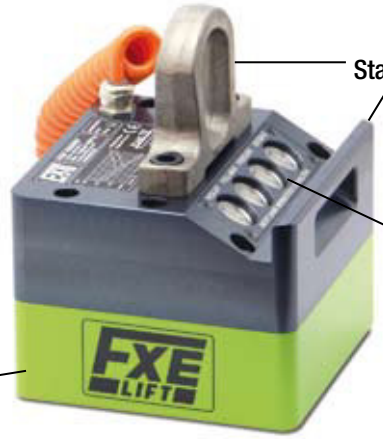




Pole structure 100 is designed for lifting of heavy plates from 12mm and massive steel, form and Forgings with larger Air gap. The nominal values of the FXE Lifting magnets with pole structure 100 are achieved up to an air gap of 0,6mm. With air gap 0, the pole structure 100 reaches a holding force of 14.5 kN.

FXE Electro-Permanent Lifting Magnets

FXE Lifting magnets are the professional solution for the frequent turning of workpieces.
They are very robustly built and designed for continuous use. The electrical control allows the operator to turn the unit without any physical effort, even on hard to reach areas. The permanent magnet system can be activated via Pushbutton in 0.8 seconds, and when you turn off the workpiece is released safely. The connection is made easy to mains voltage. Thus, the device is ready for use with very low installation effort. If the power fails, the load is held by the permanent magnet field. For this, no prone- and maintenance-intensive back-up batteries are necessary.
A quick change of crane installations with conventional mains-powered electromagnet is possible.
FXE Lifting magnets comply with the latest standards and offer maximum safety and ease of use. With our standard sizes up to 7200 kg, we have the right equipment for almost any application.



FXE-300/50 • FXE-500/50
Electro-Permanent Lifting Magnets

Equipped with pole structure 50 and a maximum load capacity of 300/500 kg which is achieved at thicknesses from 15mm, and for small magnetically active areas, we recommend this easily to be guided and to use devices for lifting of serial parts, blanks and small castings and forgings.

FXE-300/50

Max. Load capacity at sheets and 4-edge pipes

Material-/ Wall thickness	max. Load	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	max. Load	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.	Max. Load capacity (kg)	Dimension (mm) L	W	H	Number Poles °N	Pole structure	Breakaway (kN)	clamping surface (mm)	Weight (kg)
FXE-300/50	1060 0301	300	164	164	420	4	50	14	116x116	23
FXE-500/50	1060 0501	500	234	164	420	6	50	22	180x116	31

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

Equipped with pole structure 50 and a maximum load capacity of 750/1100/1600 kg which is achieved at thicknesses from 15mm, and for small magnetically active areas, we recommend this easily to be guided and to use devices for lifting plates, laser and Internal parts, tools and blanks.

FXE-750/50

Max. Load capacity at sheets and 4-edge pipes

Material-/ Wall thickness	max. Load	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	max. Load	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	max. Load	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.	Max. Load capacity (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

FXE-L Electro-Permanent Lifting Magnets

Equipped with pole structure 50+ in long narrow design and a maximum working load of 400/600/1000 kg, which is achieved at thicknesses from 15mm, and for small magnetically active areas, we recommend this easily to be guided and to use devices for lifting of strips, bars, pipes, beams and rods. Also, using of pole extensions which facilitate it, 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	max. Load	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 15 mm	400 kg	3000	1000

Model	Item-Nr.	Max. Load capacity (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	max. Load	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 15 mm	600 kg	4000	1000

Model	Item-Nr.	Max. Load capacity (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	max. Load	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 15 mm	1000 kg	5000	1500

Model	Item-Nr.	Max. Load capacity (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 structure 80 and a maximum load capacity of 1000 kg which is achieved at thicknesses from 25mm, and for small magnetically active areas, we recommend this easily to be guided and to use devices for lifting of 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	max. Load	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.	Max. Load capacity (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 structure 80 and a maximum load capacity of 2500 kg which is achieved at thicknesses from 25mm, and for small magnetically active areas, we recommend this easily to be guided and to use devices for lifting of 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	max. Load	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.	Max. Load capacity (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 structure 80 and a maximum load capacity of 4000 kg which is achieved at thicknesses from 25mm, and for small magnetically active areas, we recommend this easily to be guided and to use devices for lifting of heavy plates, plasma and flame-cut parts, Tools and blanks. The outwardly offset control and operating unit makes it easier to clear firing- and machine tables.

Optionally available with 2 control panels

FXE-4000/80

Max. Load capacity at sheets and 4-edge pipes

Material-/ Wall thickness	max. Load	Max. Dimensions L (max.)	W (max.)
from 8 mm	800 kg	3000	1500
from 10 mm	1200 kg	3000	1500
from 15 mm	2400 kg	3000	1500
from 25 mm	4000 kg	4000	1500

Model	Item-Nr.	Max. Load capacity (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-1600/100 Electro-Permanent Lifting Magnets

Equipped with pole structure 100 and a maximum load capacity of 1600/2400 kg which is achieved at thicknesses from 35mm, and for small magnetically active areas, we recommend this easily to be guided and to use devices for lifting forgings, heavy plates, Plasma and internal parts, tools, ingots...

FXE-1600/100

Max. Load capacity at sheets and 4-edge pipes

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

FXE-2400/100

Max. Load capacity at sheets and 4-edge pipes

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

Model	Item-Nr.	Max. Load capacity (kg)	Dimension (mm) L	W	H	Number Poles °N	Pole structure	Breakaway (kN)	clamping surface (mm)	Weight (kg)
FXE-1600/100	1060 1603	1600	296	296	125	4	100	58	222x222	82
FXE-2400/100	1060 2403	2400	415	296	335	6	100	87	342x222	118

FXE-3200/100 Electro-Permanent Lifting Magnets

Equipped with pole structure 100 and a maximum load capacity of 3200 kg which is achieved at thicknesses from 35mm, and for small magnetically active areas, we recommend this easily to be guided and to use devices for lifting forgings, heavy plates, Plasma and internal parts, tools, ingots...

FXE-3200/100

Max. Load capacity at sheets and 4-edge pipes

Material-/ Wall thickness	max. Load	Max. Dimensions L (max.)	W (max.)
from 10 mm	800 kg	3000	1500
from 20 mm	2200 kg	3000	1500
from 35 mm	3200 kg	4000	1500

Model	Item-Nr.	Max. Load capacity (kg)	Dimension (mm) L	W	H	Number Poles °N	Pole structure	Breakaway (kN)	clamping surface (mm)	Weight (kg)
FXE-3200/100	1060 3203	3200	536	296	335	8	100	112	462x222	154

FXE-4800/100 • FXE-7200/100 Electro-Permanent Lifting Magnets

Equipped with pole structure 100 and a maximum load capacity of 4800/7200 kg which is achieved at thicknesses from 35mm, and for small magnetically active areas, we recommend this easily to be guided and to use devices for lifting forgings, heavy plates, Plasma and internal parts, tools, ingots...

FXE-4800/100

Max. Load capacity at sheets and 4-edge pipes

Material-/ Wall thickness	max. Load	Max. Dimensions L (max.)	W (max.)
from 10 mm	1200 kg	3000	1500
from 20 mm	3000 kg	4000	2000
from 35 mm	4800 kg	4000	2000

FXE-7200/100

Max. Load capacity at sheets and 4-edge pipes

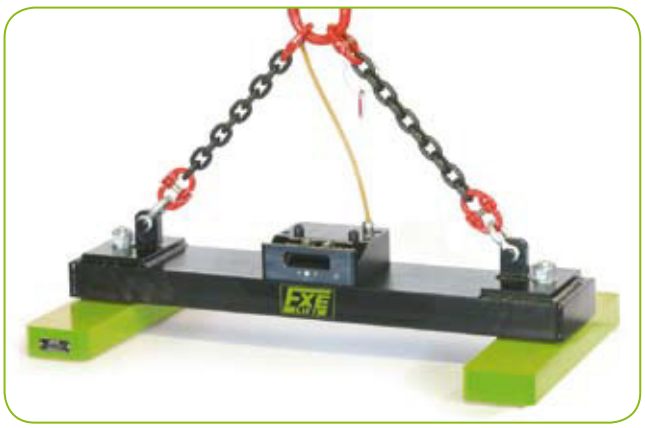
Material-/ Wall thickness	max. Load	Max. Dimensions L (max.)	W (max.)
from 10 mm	1800 kg	3000	1500
from 20 mm	3300 kg	4000	2000
from 35 mm	7200 kg	4000	2500

Model	Item-Nr.	Max. Load capacity (kg)	Dimension (mm) L	W	H	Number Poles °N	Pole structure	Breakaway (kN)	clamping surface (mm)	Weight (kg)
FXE-4800/100	1060 4803	4800	778	296	400	12	100	168	702x222	202
FXE-7200/100	1060 7203	7200	778	415	400	18	100	252	702x342	298

FXE-T2500/50 • FXE-T4000/80
Magnetic Truss

FXE T 2500/50 and 4000/80 Electro-permanent Lifting magnet trusses in a compact design with on-board control technology are designed for the frequent transfer of larger formats. They can, like the FXE Lifting magnets, be operated directly on mains voltage and are thus installed quickly and ready for use. The unit is controlled directly on the device or optionally via a remote control.

Radio/IR-Remote Control
optionally!



FXE-T 4000/80

FXE-T2500/50

Max. Load capacity at sheets

Material-/ Wall thickness	max. Load	Max. Dimensions L (max.)	W (max.)
from 4 mm	500 kg	4000	1500
from 6 mm	750 kg	4000	1500
from 8 mm	1250 kg	4000	2000
from 10 mm	1750 kg	4000	2000
from 15 mm	2550 kg	4000	2500

FXE-T4000/80

Max. Load capacity at sheets

Material-/ Wall thickness	max. Load	Max. Dimensions L (max.)	W (max.)
from 4 mm	350 kg	4000	1500
from 6 mm	700 kg	4000	1500
from 8 mm	1000 kg	4000	2000
from 10 mm	1250 kg	4000	2000
from 15 mm	2500 kg	5000	2500
from 25 mm	4000 kg	5000	2500

Model	Item-Nr.	Max. Load capacity (kg)	Dimension (mm) L	W	H	Number Poles °N	Pole structure	Breakaway (kN)	Weight (kg)
FXE-T2500/50	1068 2501	2500	1000	630	380	2x18	50	96	138
FXE-T4000/80	1068 4002	4000	1200	500	380	2x10	80	170	175

FXE-T6400/80 Magnetic Truss

The FXE T 6400/80 Electro-permanent Lifting magnet truss is a full-featured standard equipment with all options.
The truss with 6400 kg Max. Carrying capacity is held with sliding magnetic modules and can thus move sheet formats of min. 1200 mm length max. 6000 mm length safely.

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
- 360° LED signal tower
- Stainless steel guide handles
- Primary connection cable ready for 400V/25A fuse/CEE 32A plug

FXE-T6400/80

Max. Load capacity at sheets

Material-/ Wall thickness	max. Load	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	6400 kg	6000	3000

Model	Item-Nr.	Max. Load capacity (kg)	Dimension (mm) L	W	H	Number Poles °N	Pole structure	Breakaway (kN)	Weight (kg)
FXE-T6400/80	1068 6402	6400	3150	780	1900	2x16	80	272	520

FXE-R Electro-Permanent Lifting Magnets

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

Model	Item-Nr.	Max. Load Cap. (kg) flat	round	Dimension (mm) L	W	H	Number Poles °N	Pole structure	Breakaway (kN)	Weight (kg)
FXE-R 2400/100	1062 2403	2400	Ø120-420 mm 1200 kg	536	296	370	8	100	80	158
Consistent sample model, many other Versions available										

FXE-Z Electro-Permanent Lifting Magnets

FXE-Z lifting magnets with additional demagnetizing we produce from our FXE- basic models with adjusted Magnet System. With FXE-Z, workpieces that keep disturbing residual magnetism after transportation, such as alloyed mold plates or hardened driving parts and bearing parts, can be moved and demagnetized after transport.

Please note that the design compared to the magnetic power is clearly higher than in standard FXE models. The Quality of demagnetization depends on the workpiece, not every request can be reached.

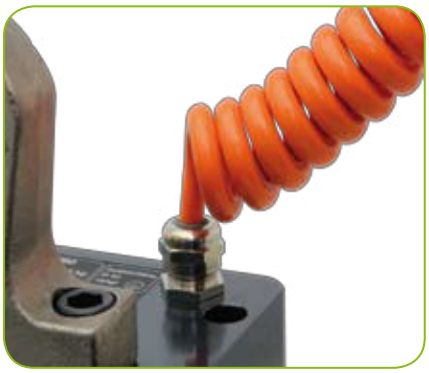
Model	Item-Nr.	Max. Load capacity (kg)	Dimension (mm) L	W	H	Number Poles °N	Pole structure	Breakaway (kN)	Weight (kg)
FXE-Z 500/80	1064 0512	500	430	230	295	8	80	18	60
Consistent sample model, many other Versions available									

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

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

Eyelet-Sensor
The Eyelet-Sensor checks whether the lifting eye on the magnet is on load, and only allows demagnetization in no-load. This provides more security, but prevents the option, for example slugs on a discard container.

Pick Up function
The „Pick Up„ option is for taking a thin sheet of a stack. Similarly, the „Pick Up„ option makes visible the safety factor. A floating in reduced load mode Pick Up load can be magnetized - then it can be considered by a standardized safety factor.



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

Remote control in radio or infrared technology
For remote control you can use both Radio and IR technolgy. IR has price advantages, but requires a direct line of sight to the receiver and has a short range of only about 5m. Radio has a range of at least 30m, therefore but also recommended the use of a radio RC addition
the option „Eyelet-Sensor„

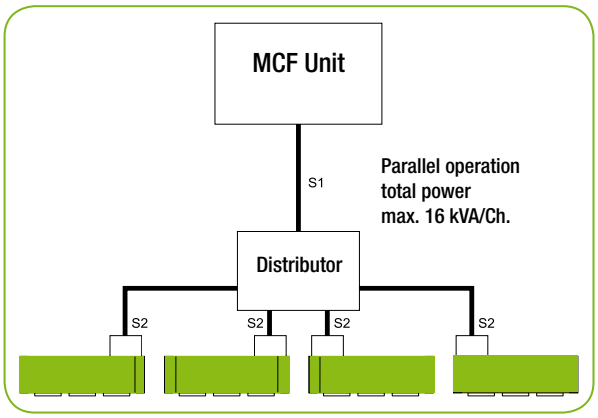
Handle
Especially when removing small workpieces from the flame cutting table the magnet can be positioned not only to the crane, but must be done manually. Here the „guiding hand“ option is recommended. With integrated circuit that allows the operator to easily clear the internal table from the side.

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	-
IR remote control	1013 6001	-
Handle FXE	8 1060 0005	15

FXE-M Electro-Permanent Lifting Magnet Systems

FXE-M electro-permanent lifting magnet modules can be put together in conjunction with MCF magnetic control units to modular lifting systems.
Thus, a single FXE-M module with a MCF-1 channel control, for example, be used on the crane of a gas cutting machine, or 4 FXE-M modules, which are jointly or individually driven by an MCF-4 channel controller, can operate in a fully automatic profile steel plant, In use in cranes, manipulators, conveyors and robots to FXE-M modules have proven thousands of times for years.
FXE-M modules are made in monoblock technology and extremely stable. You can choose between 4 different terminal types to use the matching magnet module depending on the load, dimensions and surface, As with other products in the series FXE.



Connecting several FXE-M modules

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

Model	Item-Nr.	Max. Load capacity (kg)	from (mm)	Dimensions (mm) L	W	H	Number Poles °N	Pole structure	Breakaway (kN)	Weight (kg)
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 19 • 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	150	116x52
FXE-M 300/50	380-480	1,2	24	300	116x116
FXE-M 400/50	380-480	1,2	24	400	244x52
FXE-M 500/50	380-480	1,8	15	500	180x116
FXE-M 600/50	380-480	1,8	15	600	372x52
FXE-M 750/50	380-480	2,4	12	750	244x116
FXE-M 1000/50	380-480	3	9	1000	628x52
FXE-M 1100/50	380-480	3,6	8	1100	372x116
FXE-M 1600/50	380-480	5,4	5	1600	564x116
FXE-M 400/50+	380-480	2,4	12	400	244x52
FXE-M 600/50+	380-480	3,6	8	600	372x52
FXE-M 1000/50+	380-480	6	5	1000	628x52
FXE-M 1000/80	380-480	4,8	6,4	1000	172x172
FXE-M 2500/80	380-480	10	2,5	2500	448x172
FXE-M 4000/80	380-480	16	1,6	4000	724x172
FXE-M 1600/100	380-480	12	2,4	1600	222x222
FXE-M 2400/100	380-480	16	1,7	2400	342x222
FXE-M 3200/100	380-480	2x12	2x2,4	3200	462x222
FXE-M 4800/100	380-480	2x16	2x1,7	4800	702x222
FXE-M 7200/100	380-480	3x16	3x1,7	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-MP Electro-Permanent Lifting Magnet Systems

FXE MP electro-permanent lifting magnet modules operate in contrast to the FXE-M Modules not with Square pole but in sandwich construction, which allows particularly narrow and smaller magnet shapes. FXE-MP modules are suited for gripping small components of devices. The magnet modules can be controlled via the control unit MCF.
In use in cranes, manipulators, robots and conveyors to FXE MP modules have proven thousands of times.

Model	Item-Nr.	Max. Load capacity		Dimensions (mm)			Number	Breakaway	Weight
		(kg)	from (mm)	L	W	H	Poles °N	(kN)	(kg)
FXE-MP 75	1065 0075	75	12	80	80	80	2	2,5	3
FXE-MP 100	1065 0100	100	12	130	45	80	2	3,5	3
FXE-MP 100+	1065 0101	100	15	100	50	90	2	3,5	3
FXE-MP 300	1065 0300	300	20	210	70	110	2	10	9
FXE-MP 500	1065 0500	500	25	270	70	110	2	17	12

Workpiece temperature up to 100°C • Optionally withpole shoes for Round material, Profiles, hot Workpieces available • at switching frequency >3/min please query

The positioning of the socket is variable

MCF Control Unit

The MCF control units are designed to operate electro-permanent magnet modules.
It stands as a single board for installation in the customer‘s existing control cabinets, as well as IP 54 cabinet solution.

Other e-perm magnetic components except the FXE Lifting magnets modules can be driven with the MCF such as clamping plates or clamping blocks, both construction and simple system (Alnico) as well as in construction as a double system (Alnico/ND).

Power and communication parameters of the MCF can be factory set customer-specifically, it can be driven individual magnets and groups, with partial and full magnetization.
Floating outputs and signal outputs provide feedback on the control position and ensure a very high safety standard. An on-board power control system checks in each cycle if sufficient power is taken from the magnetic module.

The control of the MCF can be done via a machine control, wireless remote control, hand switch or potential-free contacts.

MCF single- and multichannel controllers in IP54 industrial version are made as standard equipment or in custom 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

FXE HV device for horizontal/vertical lifting

FXE with custom handle

FXE with pole shoe for railway wheels

FXE-1600/50 HV-S

FXE long guide column for the removal of wire baskets

FXE 600/50+ S

FXE-R 5t

FXE-T 250-400

FXE 350-S with One-Hand Control

FXE with Special Control

FXE-T Electro-Permanent Deep-Field Truss

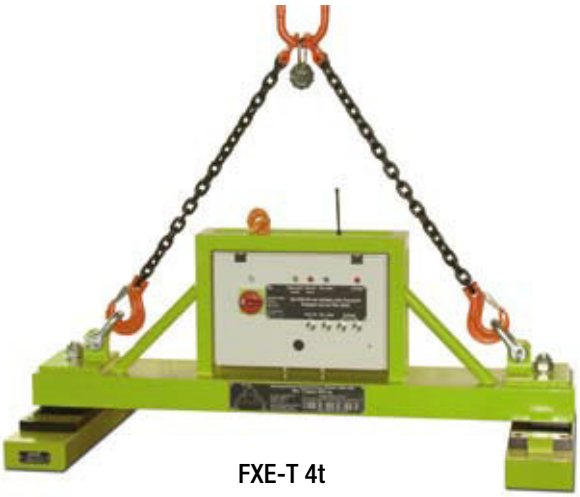
FXE-T with handle for metal strips and beams

FXE-T for Coils

FXE-T for hot slabs

FXE-T 3800-4200

Extendable to X meters



FXE-T 4t

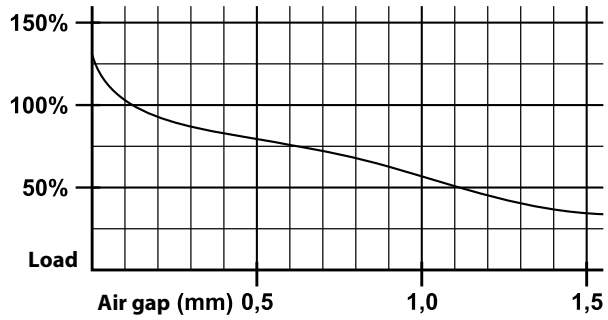
FXE-T 12t

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:

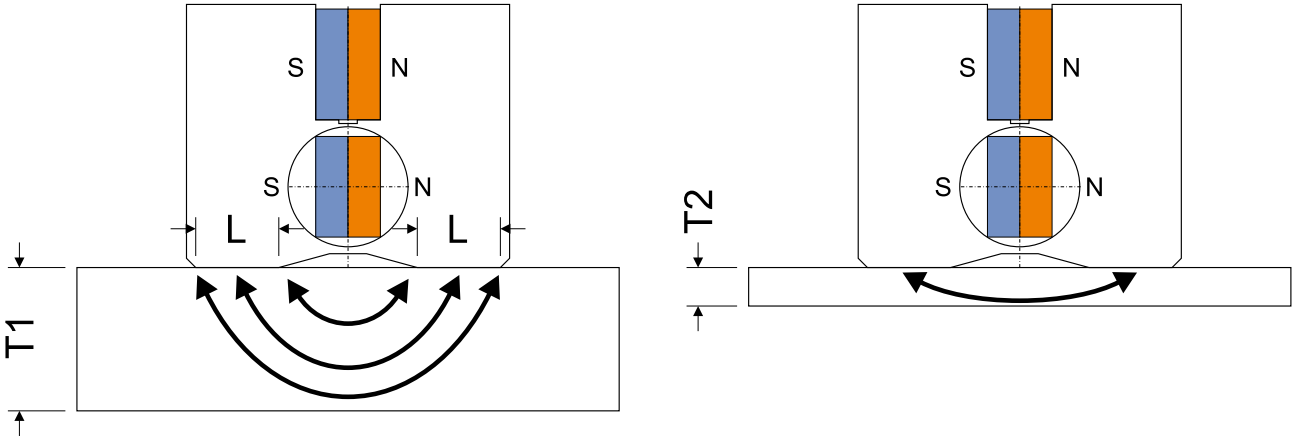
1. The contact surface

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.



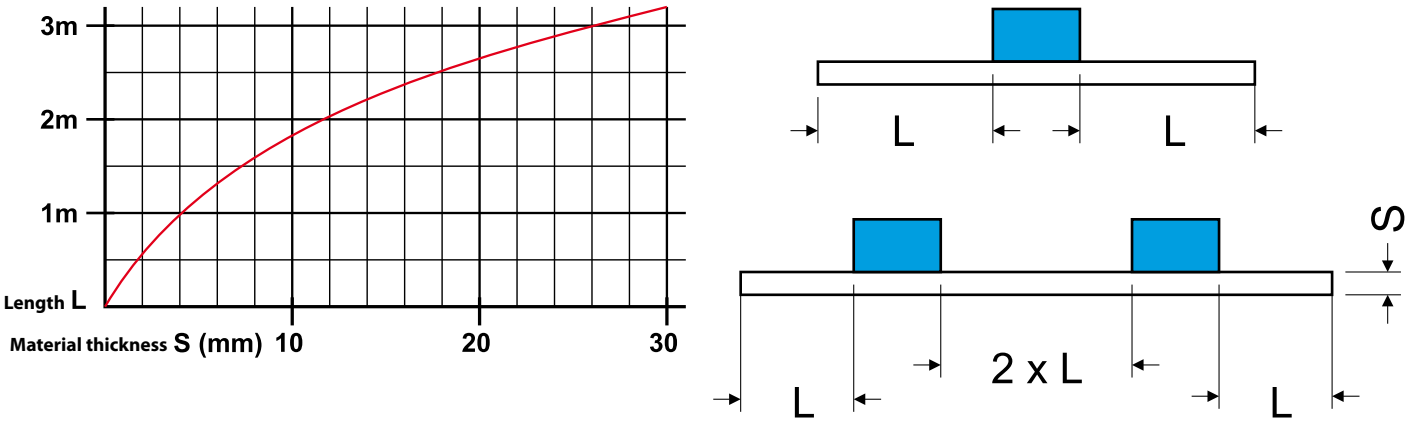
2. Material thickness

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

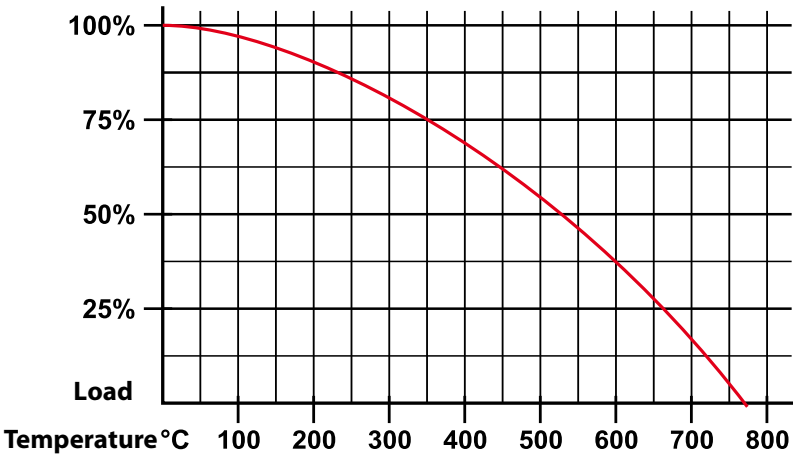
Steel with low carbon content is a good magnetic conductor eg F1110 or St37. Steel alloy with a high carbon content or with other materials such as steel loses its magnetic properties so that the power of the lifting magnets is low. Heat treatments which affect the steel structure also reduce the lifting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

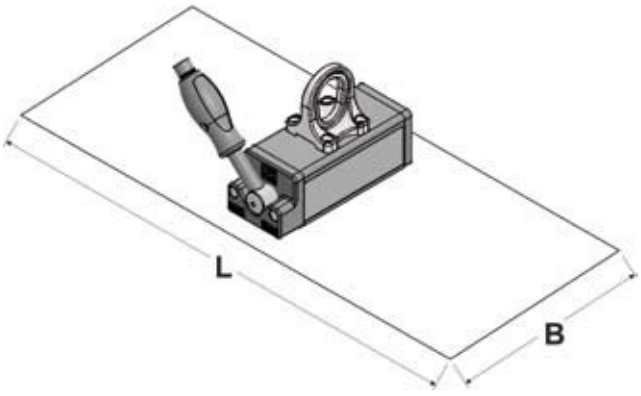
FX 300	Air gap < 0,2mm			Air gap 0,2 - 0,3 mm			Air gap 0,3 - 0,6 mm		
Material thickness (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)
>= 4	60	1600	1000	50	1500	1000	40	1250	1000
>= 8	200	2000	1250	160	2000	1250	120	1500	1000
>= 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 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 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 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	-

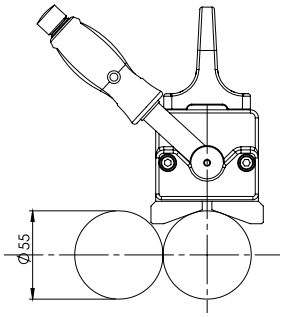
FX-R225	Air gap < 0,2mm			Air gap 0,2 - 0,3 mm			Air gap 0,3 - 0,6 mm		
Material thickness (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)
>= 4	80	1600	1000	60	1500	1000	40	1250	1000
>= 8	180	2000	1250	150	2000	1250	120	1500	1250
>= 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	-

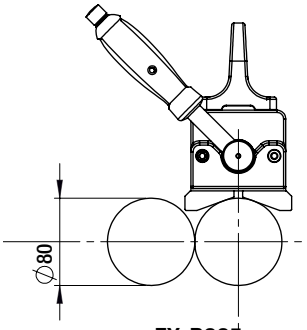
FX-R750	Air gap < 0,3mm			Air gap 0,3 - 0,5 mm			Air gap 0,5 - 0,6 mm		
Material thickness (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)
>= 8	300	2250	1500	280	2250	1500	250	2250	1250
>= 10	400	2500	1500	380	2500	1500	300	2500	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	-

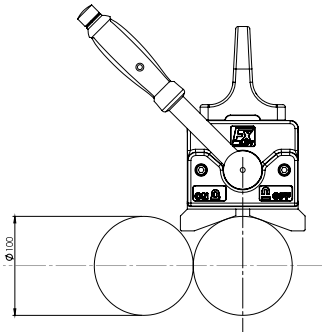
FX-R1800	Air gap < 0,3mm			Air gap 0,3 - 0,6 mm			Air gap 0,6 - 0,8 mm		
Material thickness (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)
>= 15	900	2500	2000	750	3000	2000	660	2500	1500
>= 20	1200	3000	2000	1000	3000	2000	825	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	-



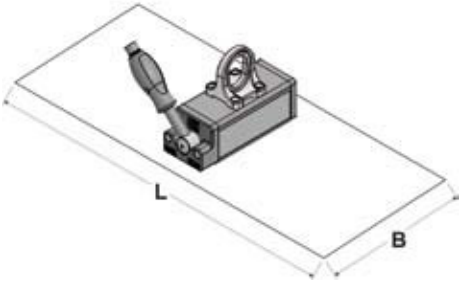
FX-R100



FX-R225



FX-R450

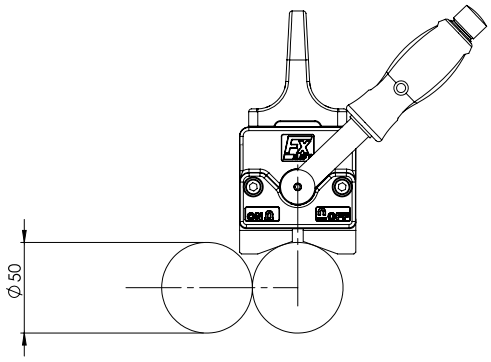


FX-P Force / Load / Air Gap

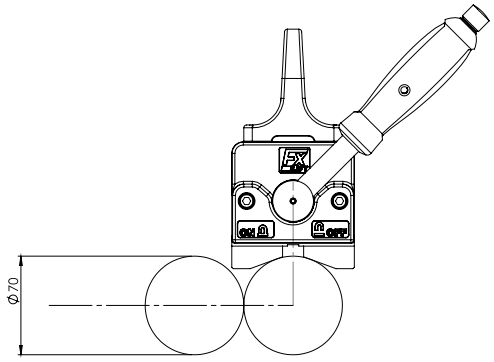
FX-P170	Air gap < 0,1mm			Air gap 0,1 - 0,3 mm			Air gap 0,3 - 0,5 mm		
Material thickness (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)
>= 2	30	800	800	20	800	800	15	800	800
>= 4	80	1500	1250	60	1500	1250	50	1200	1250
>= 6	120	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	-

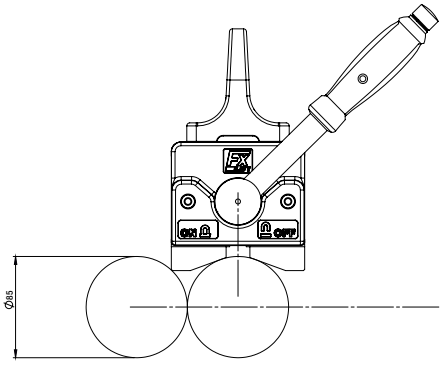
FX-P650	Air gap < 0,2mm			Air gap 0,2 - 0,3 mm			Air gap 0,3 - 0,6 mm		
Material thickness (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)	Max. Load (kg)	Max. L (mm)	Max. W (mm)
>= 4	160	2250	1500	130	2000	1500	110	2000	1500
>= 6	200	2500	1500	175	2250	1500	140	2250	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	-



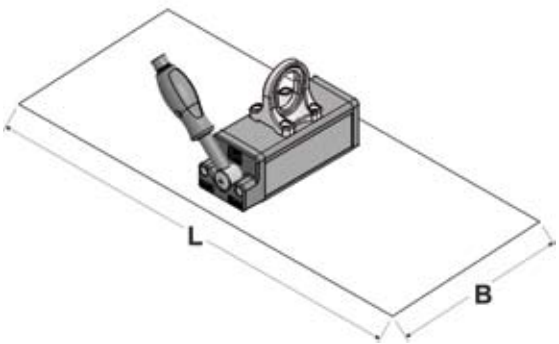
FX-P170



FX-P330



FX-P650

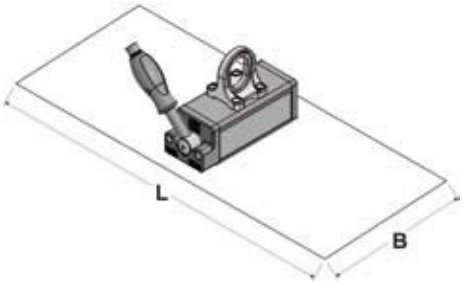


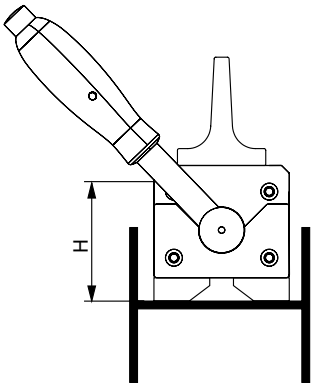
FX-V Force / Load / Air Gap

FX-V200	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
Ø20-50	100	2000	-	70	2000	-	60	1500	-
90°	120	2000	-	90	2000	-	60	1500	-

FX-V400	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
Ø70-370	200	3500	-	160	2250	-	120	2500	-
90°	250	3500	-	190	3000	-	130	2500	-

FX-V800	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
Ø35-75	300	4000	-	240	3500	-	200	3000	-
90°	400	4000	-	320	3500	-	300	3000	-





150°C/100%

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

MBX Magnetic Clamping Blocks

MBX magnetic clamping blocks have opposite clamping sides which are activated when actuated. They are designed to clamp workpieces on steel surfaces such as machine or assembly tables.
A number of MBXs can also be connected to each other via the hexagonal shank of the switching shaft in order to clamp longer or larger workpieces.
The activation is effected via the detachable switch wrench 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.

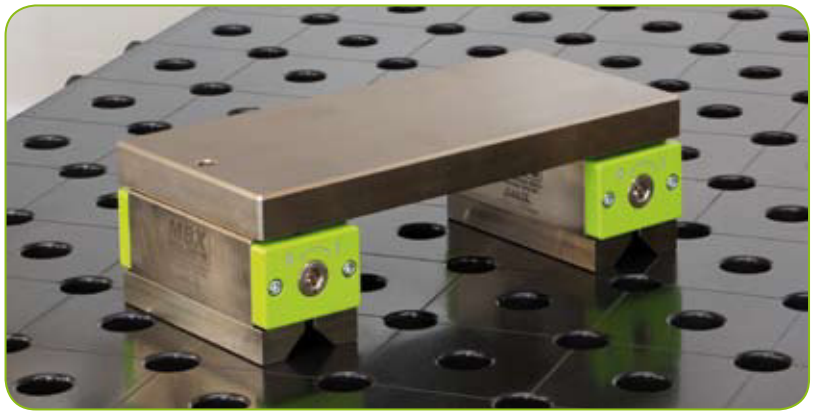
The MBX magnetic clamping block stretches itself on the table and tension the workpiece

MBX are the optimal clamping tool for welding, deburring or welding Tapping quickly, flexibly and without stress.

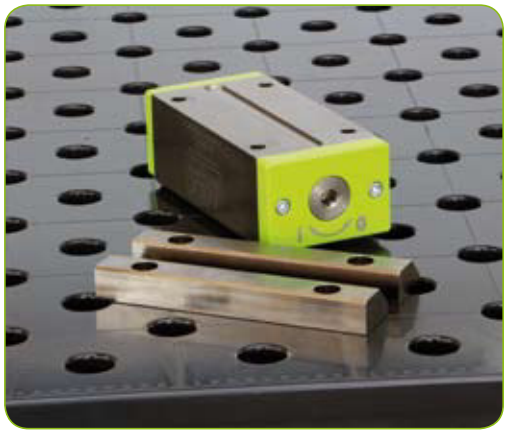
Suitable for drilling, grinding, welding ...
even vertical!

Suitable for angle material

Suitable for Round material

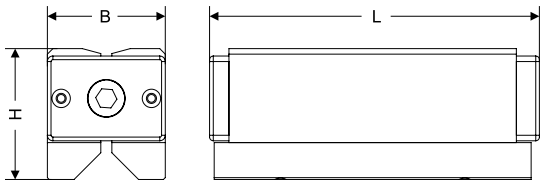


Suitable for Flat material



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

Tip: Multiple MBX can be switched at the same time



Model	Item-Nr.	Dimension (mm)			Surface 1 (mm) (Flat + Round)	Surface 2 (mm) (Flat + 90°)	System holding Power (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 SOLUTIONS

FAST • SAFE • PRODUCTIVE

Valid from May 2017