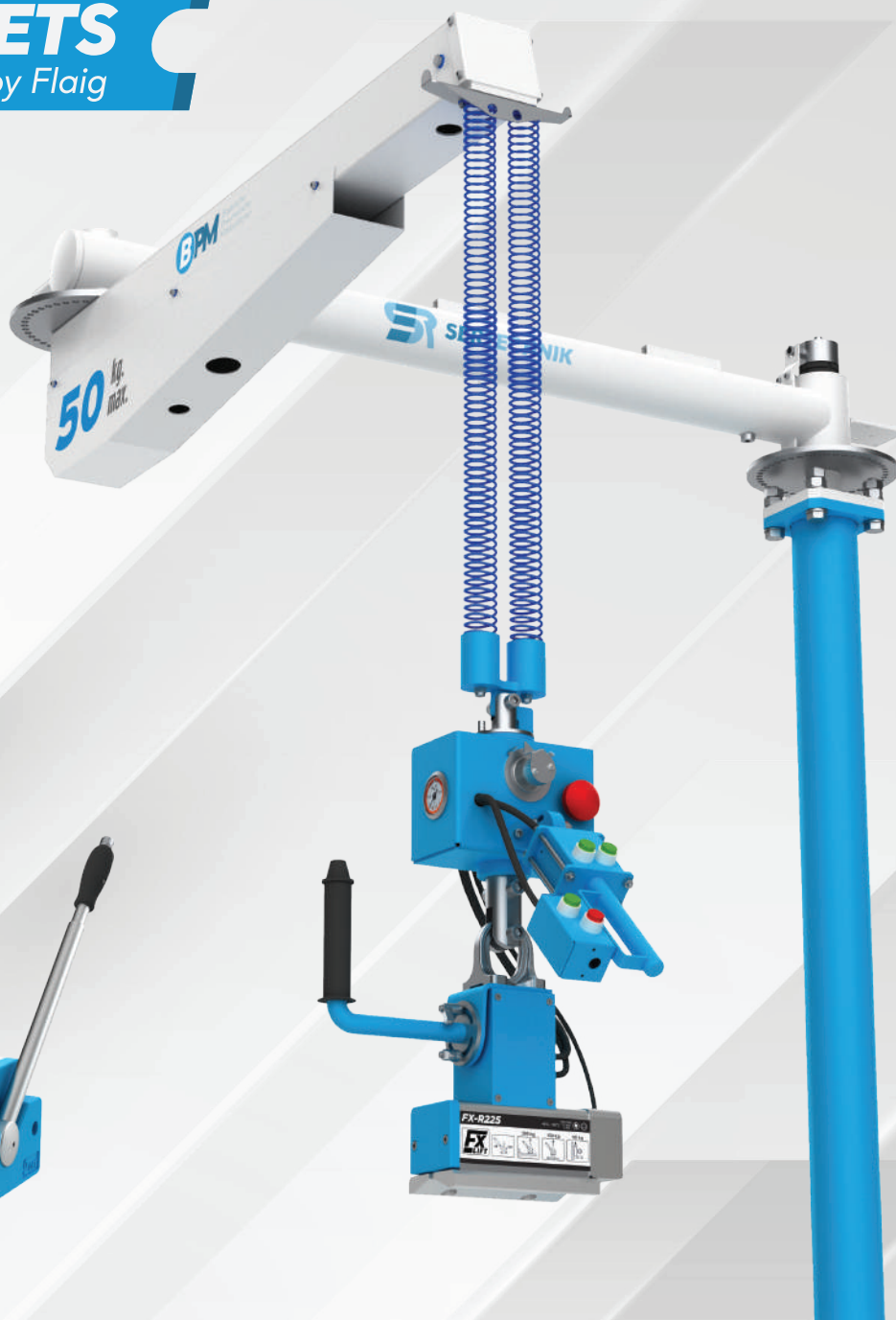




MAGNETS
by Flaig



MAGNETIC SOLUTIONS

LIFT CLAMP HOLD

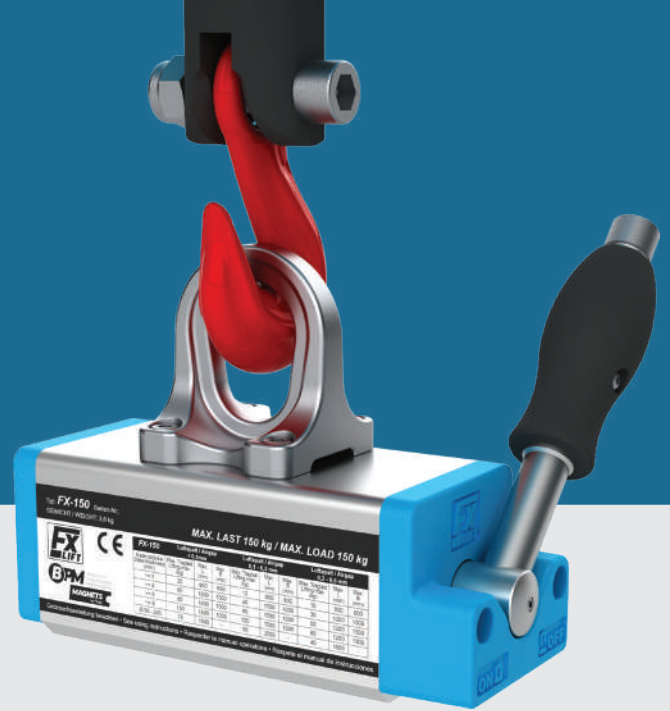


Lifting Magnets

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.

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 latness 0.1 / 500 mm determined.





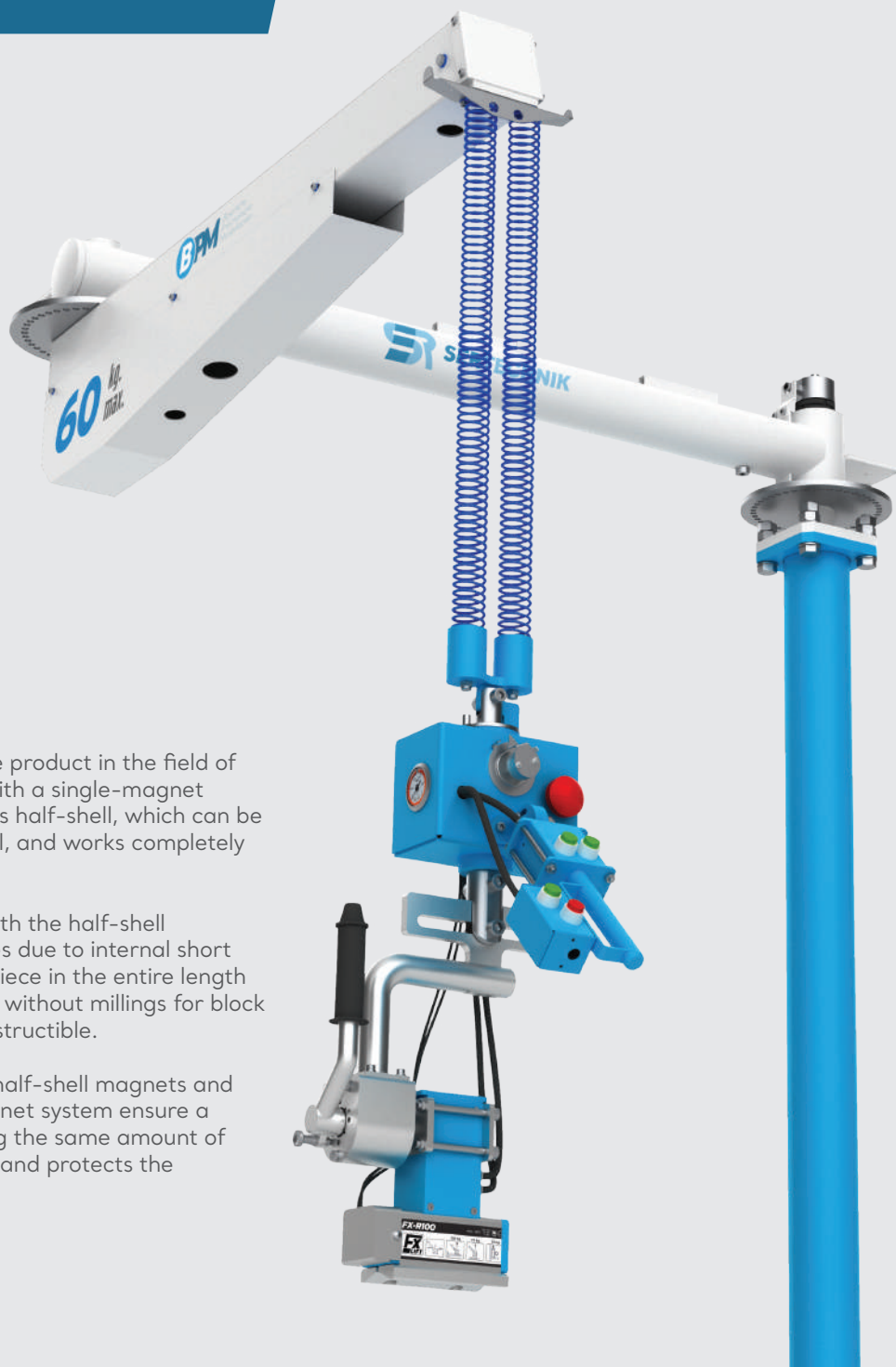
FX-Lift is the product line
has been developed
according to the
needs of users.

Magnetic Lifting

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.



Gefördert durch:



Bundesministerium
für Arbeit und Soziales

aufgrund eines Beschlusses
des Deutschen Bundestages



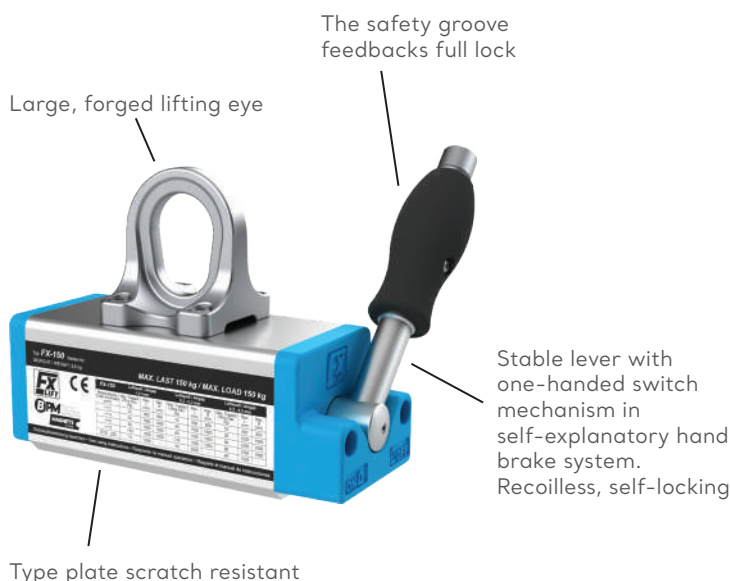
Exclusive Benefits of the FX-Series

FX - Economically the right decision

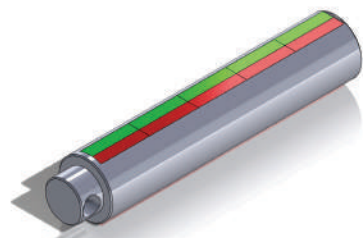
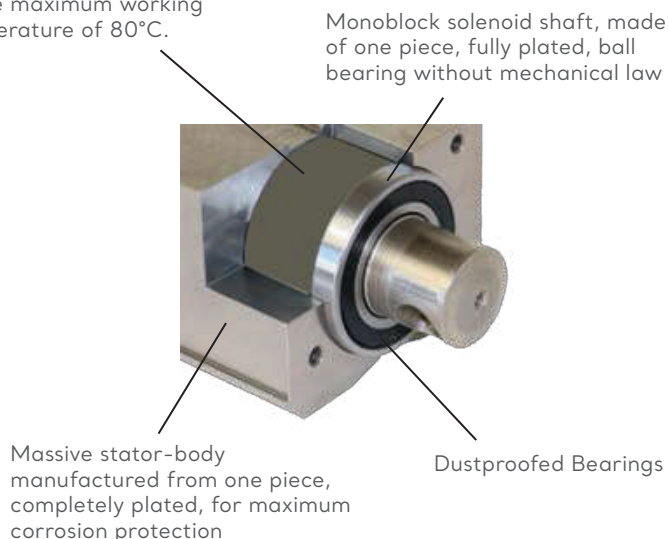
- Made in Germany
- Standard-compliant and tested CE/EN 13155/MRL 2006/42 EWG
- Product liability insurance with a German insurance company
- Multilingual Documentation
- Environmentally friendly and future-proof by higher Power with lower SE Magnet consumption
- 3 years Warranty
- Safety factor 3,5
- 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 lat and round materials
- Increased safety via simple operation

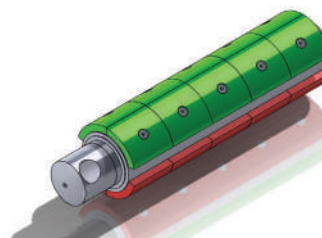


High energy magnets, ensures stable performance up to the maximum working temperature of 80°C.



Common Lifting Magnets

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



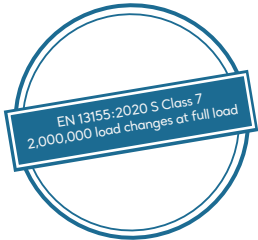
FX Lifting Magnets

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

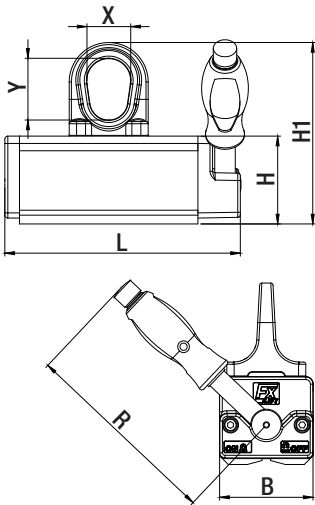
FX Universal

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 lat 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.



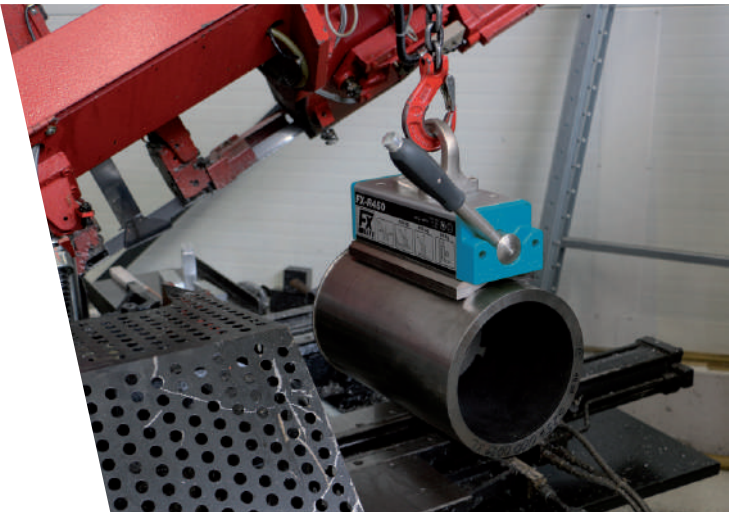
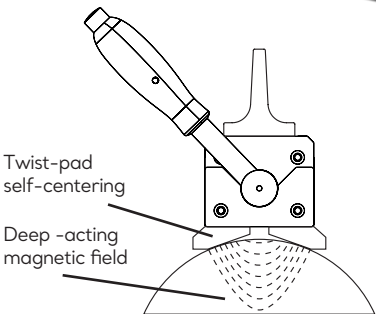
Model	Item-Nr.	Max. Load capacity (kg)		Max. Load capacity from (mm)	L	B	Dimensions (mm)					Weight (kg)
		flat	round				H	H1	R	X/Y		
FX-150	1101 0150	150 kg	Ø50-200 mm 75 kg	8	161	64	60	124	136	30/42	3,6	
FX-300	1101 0300	300 kg	Ø50-300 mm 150 kg	15	205	87	78	158	190	42/53	8,4	
FX-600	1101 0600	600 kg	Ø80-400 mm 300 kg	20	288	112	94	189	228	51/62	19	
FX-800	1101 0800	800 kg	Ø80-400 mm 400 kg	20	348	112	94	189	228	51/62	23	
FX-1000	1101 1000	1000 kg	Ø100-450 mm 500 kg	25	361	152	120	240	261	60/76	42	
FX-1500	1101 1500	1500 kg	Ø100-450 mm 750 kg	25	485	152	120	240	261	60/76	61	
FX-2000	1101 2000	2000 kg	Ø120-600 mm 1000 kg	50	472	228	169	313	409	68/89	115	
FX-3000	1101 3000	3000 kg	Ø250-600 mm 1500 kg	50	648	228	169	313	534	68/89	166	
Safety factor 3,5/Test method EN 13155 max. Operation temperature 80°C												



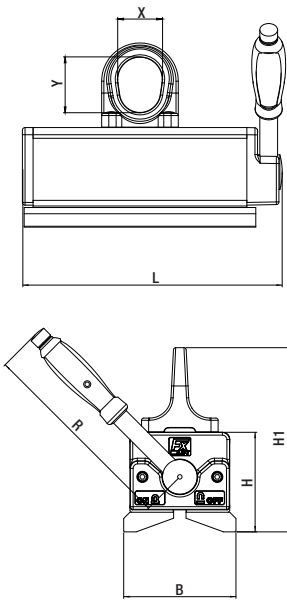
FX-R

Permanent Lifting Magnets especially suitable for Round Material

FX-R is the lifting magnet series for round material handling. The deep lat angle prism ensures safe positioning on the load and directs the magnetic ield 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.



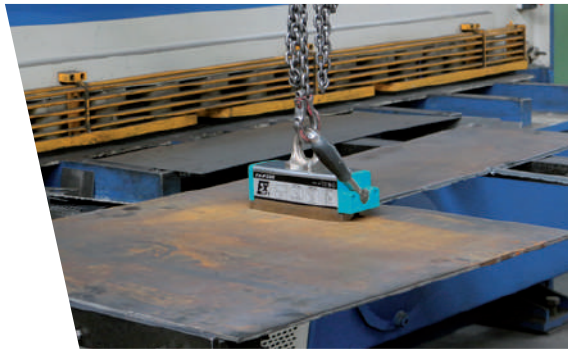
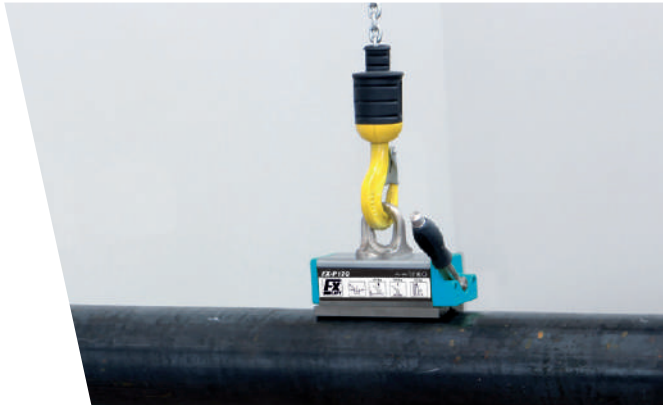
Model	Item-Nr.	Max. Load capacity (kg)		Max. Load capacity from (mm)	L	Dimensions (mm)					Weight (kg)
		flat	round			B	H	H1	R	X/Y	
FX-R100	1101 0101	100 kg	Ø25-150 mm 100 kg	8	161	70	68	132	136	30/42	4
FX-R225	1101 0221	225 kg	Ø50-205 mm 225 kg	10	205	98	90	170	190	42/53	9,5
FX-R450	1101 0451	450 kg	Ø50-270 mm 450 kg	20	288	126	112	207	228	51/62	22
FX-R750	1101 0751	750 kg	Ø70-370 mm 750 kg	20	361	170	142	262	261	60/76	49
FX-R1200	1101 1201	1200 kg	Ø120-560 mm 1200 kg	40	472	248	190	334	409	68/89	127
FX-R1800	1101 1801	1800 kg	Ø120-560 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											



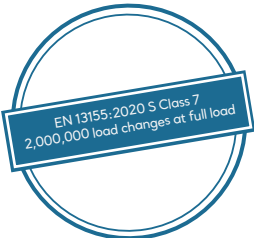
FX-P

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 lux density even on thin material thickness. The FX-P can be positioned well on round tube and gently pressed.

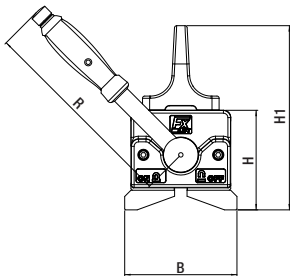
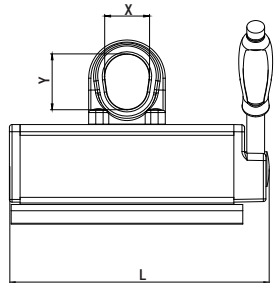


For thin sheet



Model	Max. Load capacity at sheets and 4-edge pipes						LxB max.	Pipes and rods	
	3mm	4mm	6mm	8mm	10mm	15mm		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

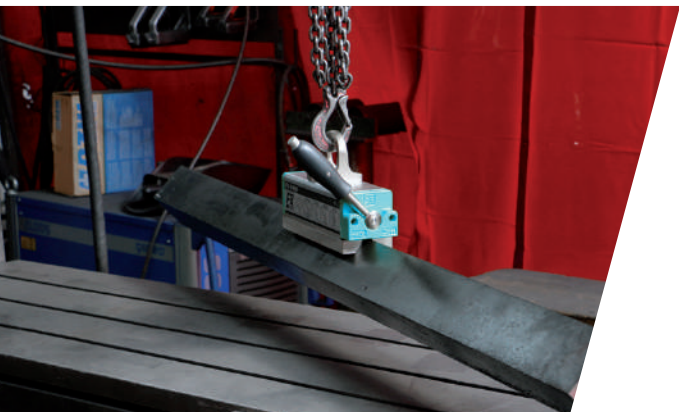
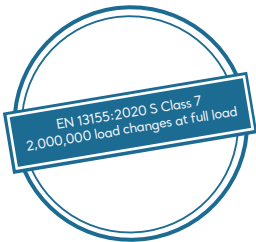
Model	Item-Nr.	Max. Load capacity (kg)		Max. Load capacity from (mm)	L	Dimensions (mm)					Weight (kg)
		flat	round			B	H	H1	R	X/Y	
FX-P170	1101 0172	170 kg	Ø30-105 mm 150 kg	8	195	64	70	134	136	30/42	5,1
FX-P330	1101 0332	330 kg	Ø40-160 mm 300 kg	10	265	87	90	170	190	42/53	12,4
FX-P650	1101 0652	650 kg	Ø60-210 mm 600 kg	20	352	112	108	203	228	51/62	26
Safety factor 3,5/Test method EN 13155 max. Operation temperature 80°C											



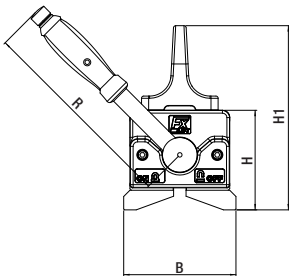
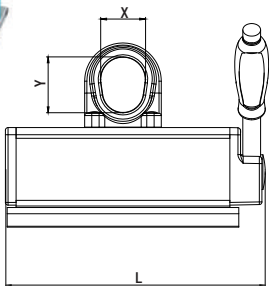
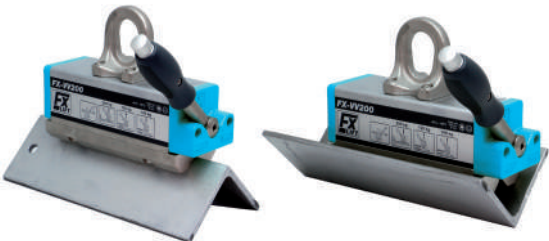
FX-VV

Permanent Lifting Magnets with 90° double prism for beams, profiles and hot parts

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



150°C/100%

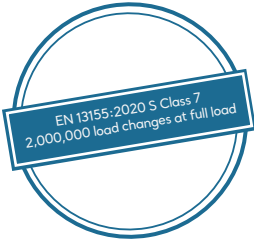


Model	Item-Nr.	Max. Load capacity (kg)				Max. Load capacity from (mm)	Dimensions (mm)						Weight (kg)
		flat	round	90° inside	90° outside		L	B	H	H1	R	X/Y	
FX-VV200	1101 0204	200 kg	Ø20-50 mm 100 kg	100 kg	120 kg	10	195	64	77	141	134	30/42	5,5
FX-VV400	1101 0404	400 kg	Ø25-60 mm 200 kg	200 kg	250 kg	15	265	87	96	176	188	42/53	13
FX-VV800	1101 0804	800 kg	Ø35-75mm 300 kg	300 kg	400 kg	20	352	112	115	210	228	51/62	28
Safety factor 3,5/Test method EN 13155 max. Operation temperature 80°C													

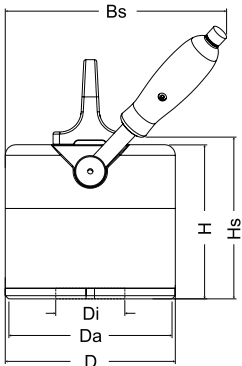
FX-C

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 placement on workpieces D inside to D outside (see dimensions table). Cover, for workpieces with a smaller contact surface you can estimate with a maximum workpiece weight of 3.5 kg calculate per cm² clamping surface. In the case of series workpieces, a documented test should then determine the safety factor 3 confirm.



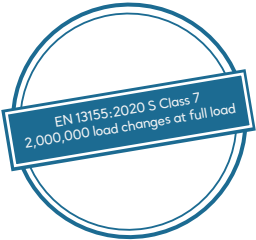
Model	Item-Nr.	Dimensions (mm)					Max. load capacity from material thickness (mm)	Max. Load capacity (kg)	Max. load capacity per cm2 (kg)	Weight (kg)
		D	Da-Di	H	Hs	Bs				
FX-C 175	1101 0177	195	114-40	130	138	185	10	175	3,5	7,5
FX-C 250	1101 0257	265	152-65	145	153	210	12	250	3,5	15
FX-C 450	1101 0457	352	240-100	155	168	275	15	450	3,5	35
Safety factor 3,5/Test method EN 13155 max. Operation temperature 80°C										



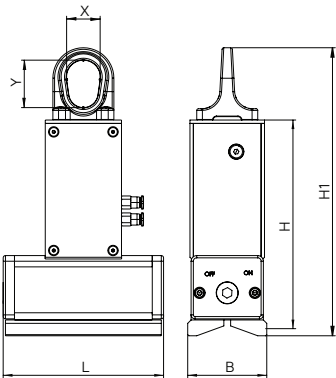
FX-Pneumatic

Permanent lifting magnets with pneumatic switching

FX Pneumatic, designed for use with air operated hoists, is pneumatically activated and disabled. Each model also has an emergency release, so you always have full control.



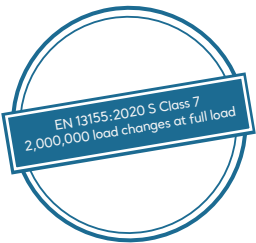
Model	Item-Nr.	Max. Load capacity (kg)		Max. Load capacity from (mm)	Dimensions (mm)						Weight (kg)
		flat	round		L	B	H	H1	R	X/Y	
FX-R100 Pneumatic	1101 0109	80 kg	Ø25-150 mm 80 kg	8	195	64	241	311	134	30/42	5,5
FX-R225 Pneumatic	1101 0229	225 kg	Ø50-205 mm 225 kg	10	265	87	295	376	188	42/53	13
FX-R450 Pneumatic	1101 0459	450 kg	Ø50-270mm 450 kg	20	352	112	324	410	228	51/62	28
Safety factor 3,5/Test method EN 13155 max. Operation temperature 80°C											



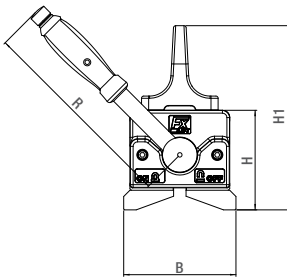
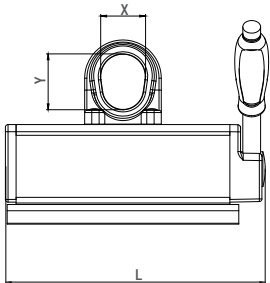
FX-VV HOT

Permanent lifting magnets for hot workpieces up to max. 300°C

FX-VV HOT for hot parts. A special permanent magnet system enables 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 - peaks up to max. 5 minutes at 300°C.



250°C/100%



Model	Item-Nr.	Max. Load capacity (kg)			Max. Load capacity from (mm)	Dimensions (mm)						Weight (kg)
		flat	round	90°		L	B	H	H1	R	X/Y	
FX-VV150 HOT	1101 0155	150 kg	Ø20-50 mm 75 kg	90 kg	10	195	64	77	141	134	30/42	5,5
FX-VV300 HOT	1101 0305	300 kg	Ø25-60 mm 150 kg	180 kg	15	265	87	96	176	188	42/53	13
FX-VV600 HOT	1101 0605	600 kg	Ø35-75mm 300 kg	360 kg	20	352	112	115	210	228	51/62	28
Safety factor 3,5/Test method EN 13155 max. Operation temperature 80°C												

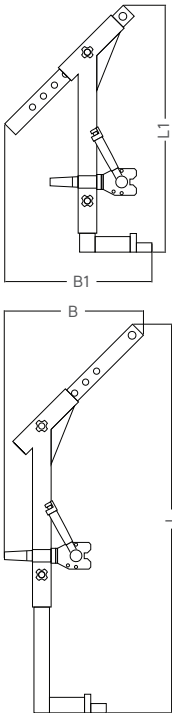
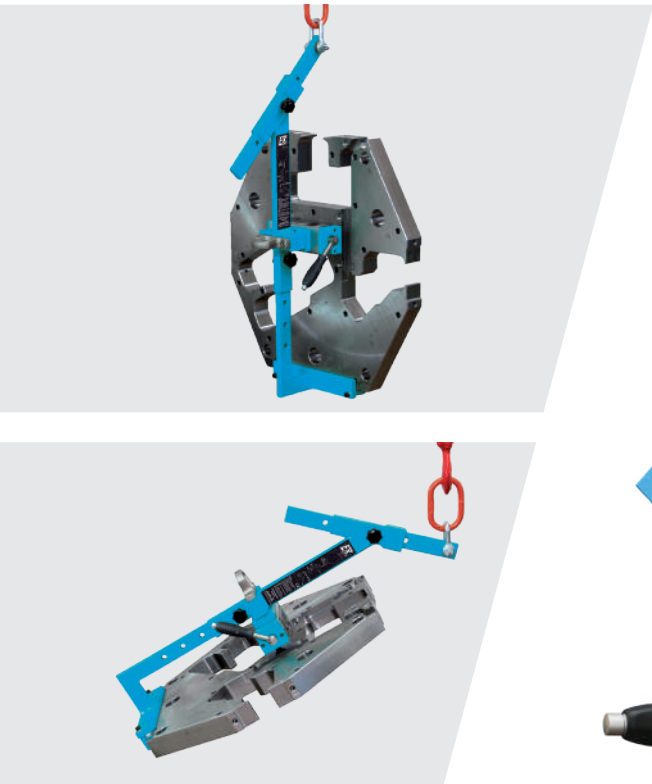
FX-HV

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 w/out stop (kg)	Dimensions (mm)				Weight (kg)
						L	B	L1	B1	
FX-HV 150	1103 0152	150-420	1000x420	150	30	680	104	680	220	18
FX-HV 200	1103 0202	250-750	2000x750	200	40	1000	400	715	390	24
FX-HV 400	1103 0402	400-1000	2000x1000	400	80	1250	450	795	475	31
FX-HV 800	1103 0802	500-1200	2500x1250	800	160	1500	500	1040	520	70
FX-HV 2000	1103 2002	500-1200	2500x1250	2000	400	1800	600	1200	650	243
FX-HV 3000	1103 3002	500-1200	2500x1250	3000	600	1800	600	1200	650	294
max. Operation temperature 80°C • Weight incl. Magnet										

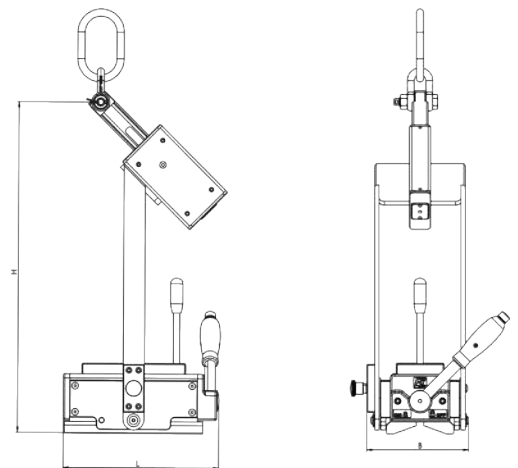
FX-HVS

Horizontal-vertical systems with swivel function

FX-HVS makes it possible to swing suspended loads, while balancing the spring-loaded suspension system. Center of gravity shifts so that the load can be moved horizontally and vertically.



Scan the code
for application video.

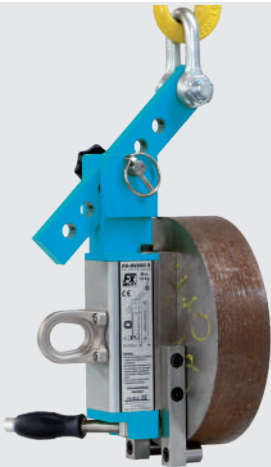


Model	Item-Nr.	Max. carrying capacity on cylindrical loads horizontal Vertical (kg)	Dimensions (mm)			Weight (kg)
			L	B	H	
FX-HVS R225	1103 0221	225/40	207	160	557	30
FX-HVS R450	1103 0451	90/90	292	212	624	43
Other models available on request						

Towing Eyes

for FX lifting magnets

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



FX-HV 200-S custom-made



FX-HV V200-S custom-made



FX-HV R450 S for round material

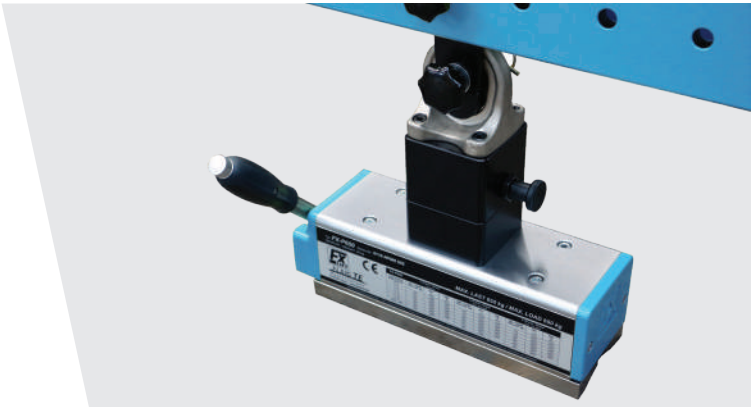
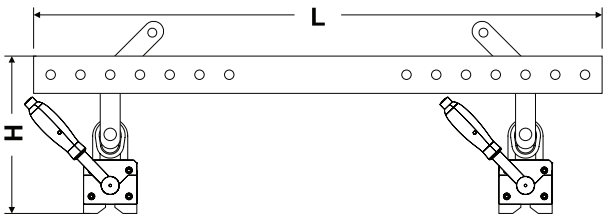
Model	Item-Nr.	Max tow load (kg)
FX-150 Towing Eye	8 1101 0001	30
FX-300 Towing Eye	8 1101 0002	60
FX-600 Towing Eye	8 1101 0003	120
FX-1000 Towing Eye	8 1101 0004	200

FX-LT

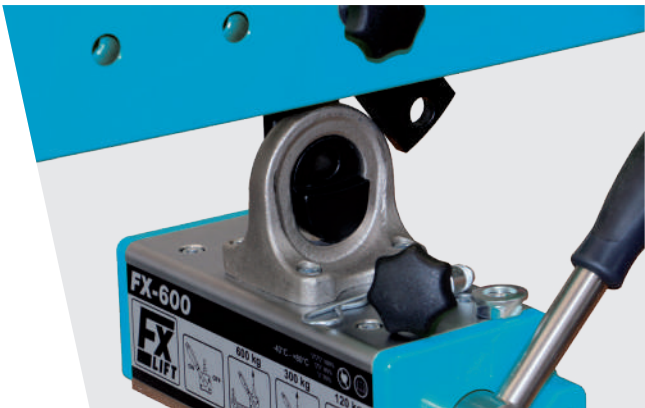
Permanent magnetic truss

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



Can be quickly dismantled for single use



Optionally available with 360° rotating device

Model	Item-Nr.	incl. 2x FX	Max. Load (kg)	Capacity from (mm)	Max. Workpiece Dimensions (mm)	Dimensions (mm)		Weight (kg)
						L	H	
FX-LT600	1104 0600	FX-P330	600	10	4000 x 1500	1600	270	44
FX-LT700	1104 0700	FX-VV400	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-VV800	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 rotating device for FX-LT600, FX-LT700	81104 0700							
FX-LT rotating device of FX-LT1000	81104 1000							

FX-LT

Permanent magnetic truss



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

FX-LT1000			
Material Thickness (mm)	Max. Dimensions (mm)		Max. Load (kg)
	L (max)	H (max)	
>= 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-LT3200			
Material Thickness (mm)	Max. Dimensions (mm)		Max. Load (kg)
	L (max)	H (max)	
>= 15	4000	2000	800
>= 20	5000	2000	1600
>= 25	5000	2000	1920
>= 40	5000	2500	2560
>= 50	5000	2500	3200

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

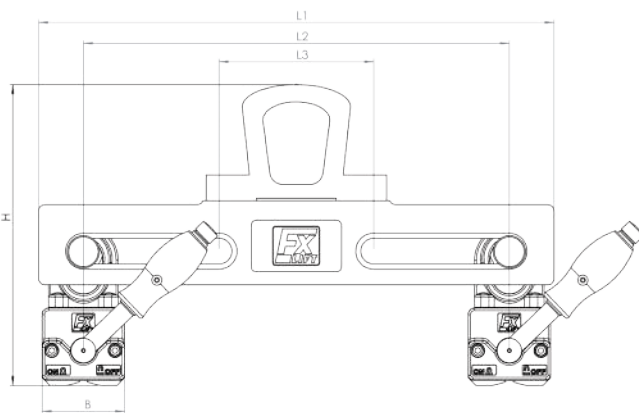
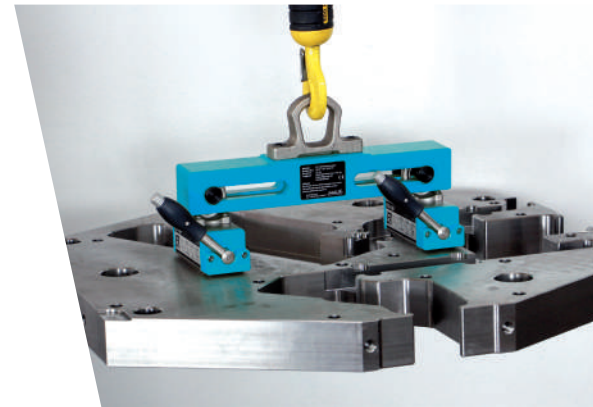
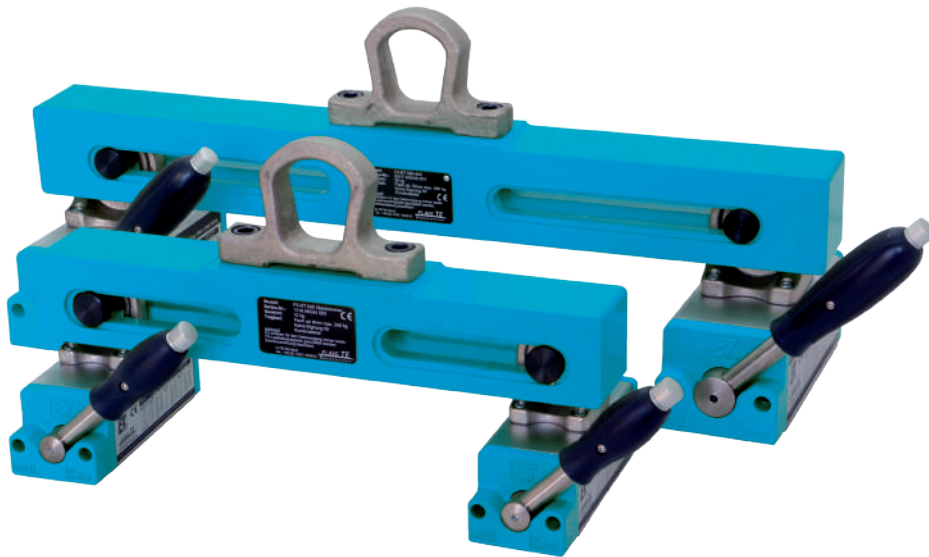
FX-LT1400			
Material Thickness (mm)	Max. Dimensions (mm)		Max. Load (kg)
	L (max)	H (max)	
>= 4	3000	1500	180
>= 6	3000	2000	350
>= 8	4000	2000	700
>= 10	4500	2000	800
>= 15	5000	2000	1130
>= 20	5000	2000	1400

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

FX-KT

Small Trusses

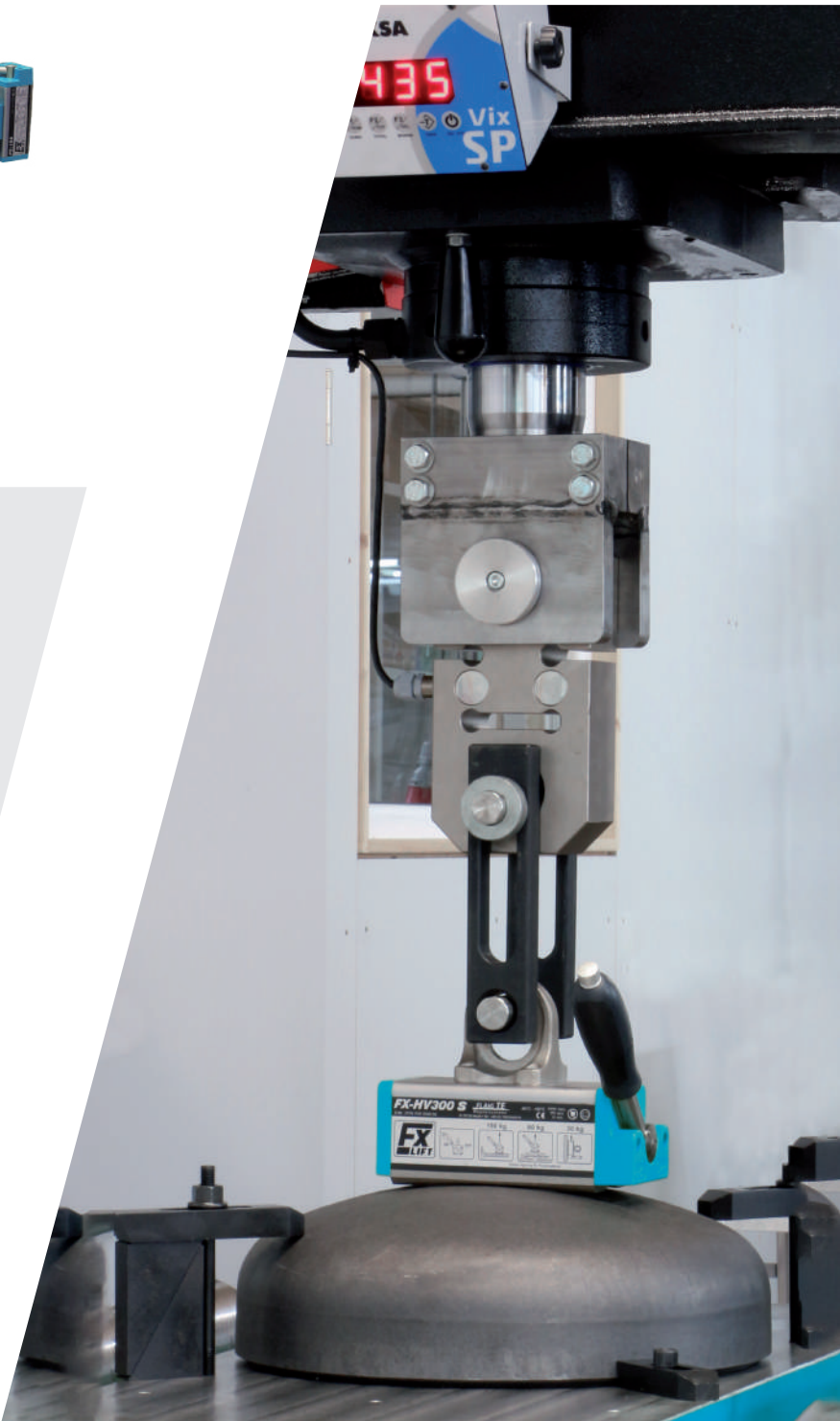
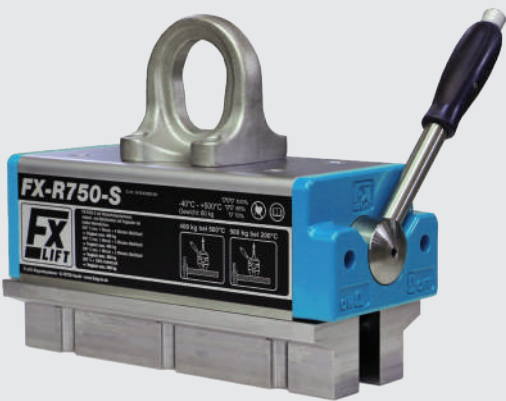
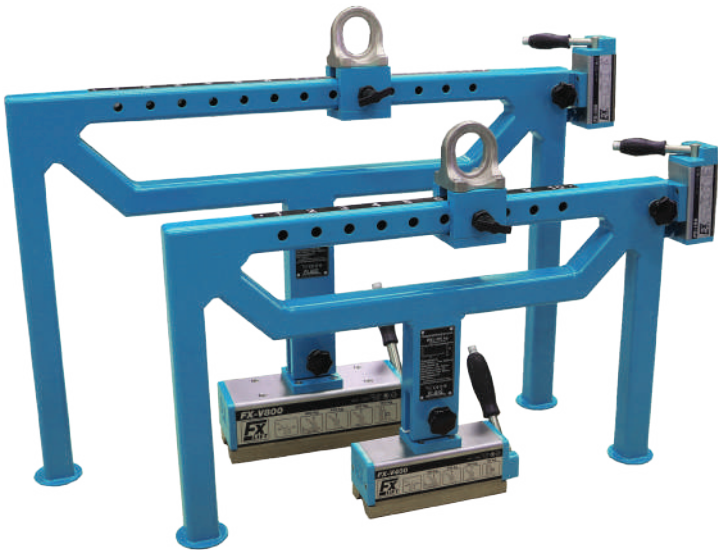
FX-KT Small Trusses are adapted to the needs of sheet metalworkers, laser and flame cutters. Two FX magnets and one adjustable small bar allow the transport of workpieces with a central cutout. In particular, rings and cylindrical workpieces with a central cut can be transported efficiently and effortlessly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

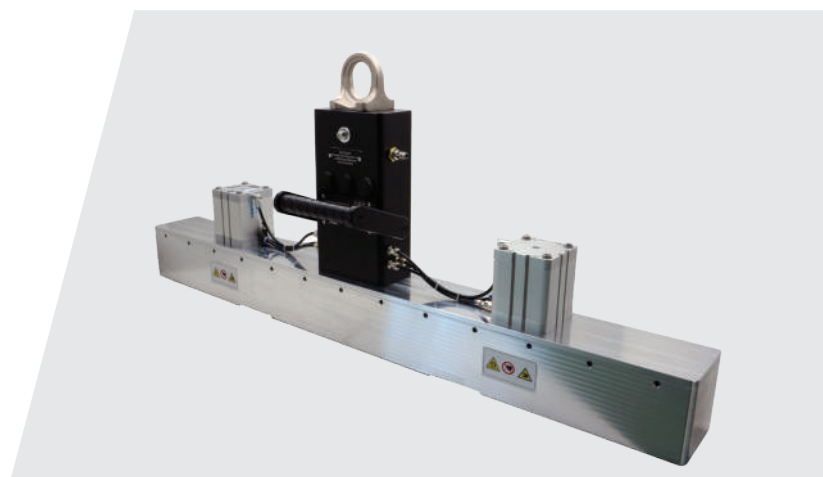
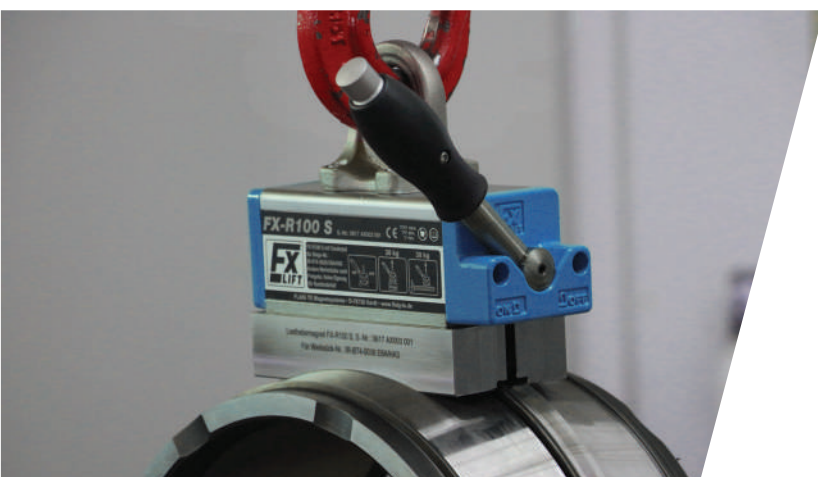
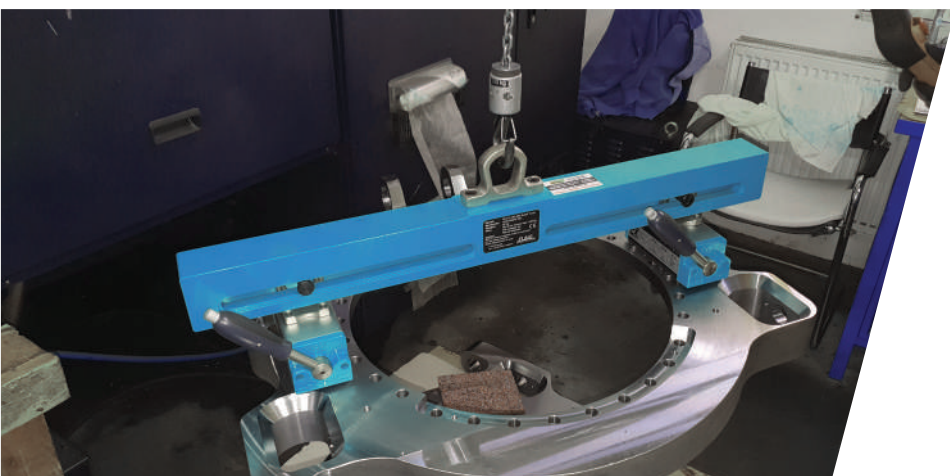


Model	Item-Nr.	Max. Load (kg)	Capacity from (mm)	L1	Dimensions (mm)			B	C	H	Magnetic adjustment inner edge-inner edge (mm)	Weight (kg)
FX-KT 240-260	1105 0240-260	240	8	400	L2	L3		64	161	233	58-260	15
FX-KT 240-420	1105 0240-420	240	8	560	484	120		64	161	233	58-420	15
FX-KT 240-470	1105 0240-470	240	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	269	65-800	32
max. Operation temperature 80°C • Weight incl. Magnet												

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 proiles. All special Lifting magnets are constructed, tested and documented in accordance with EN 13155 and MD 2006/42 EEC.







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MAGNETIC SOLUTIONS