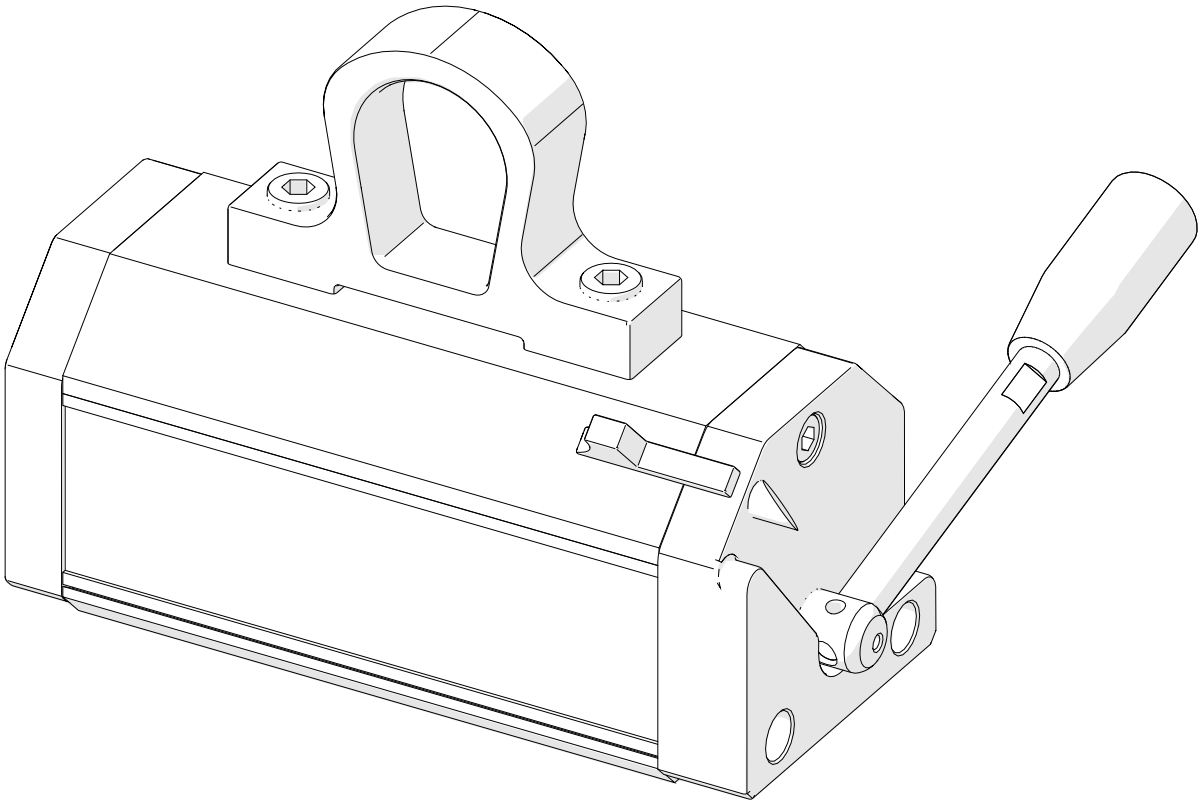
The tools of innovation.

OPERATOR'S MANUAL

Max Lifter

Magnetic Lifter

SM-ML-125, 250, 300E, 500, 600E, 1000, 1500, 2000, 150T, 300T



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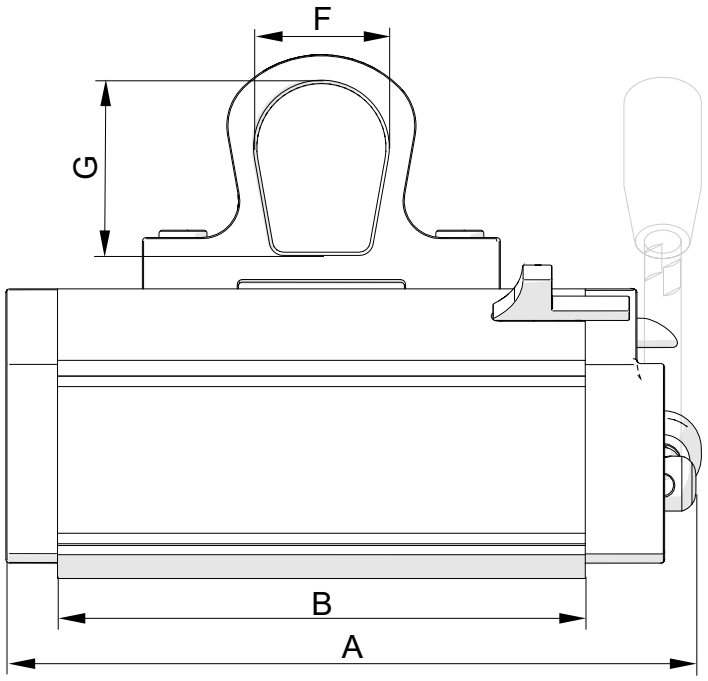
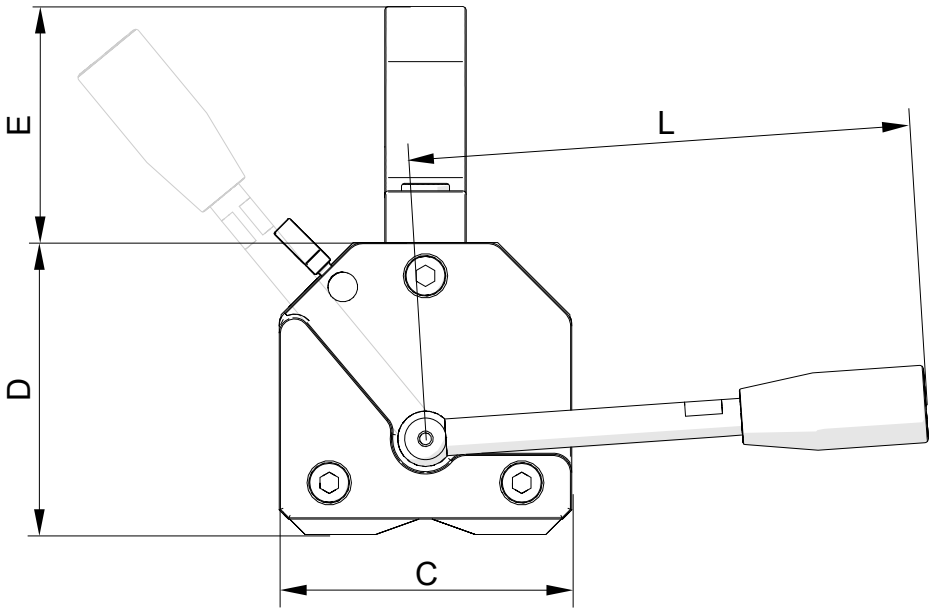
1. GENERAL INFORMATION

1.1. Application

The Max Lifter series are manually controlled permanent magnet lifters designed to handle lifting, transporting, and positioning ferromagnetic materials of flat or round shapes. The devices use permanent magnets to create a magnetic field to attract workpiece and may be then moved using a crane.

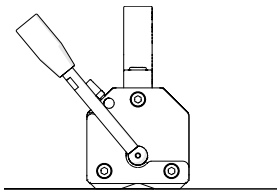
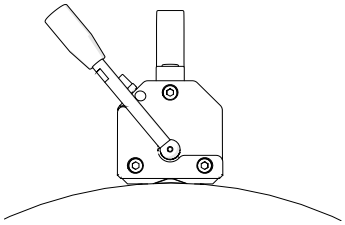
1.2. Technical data



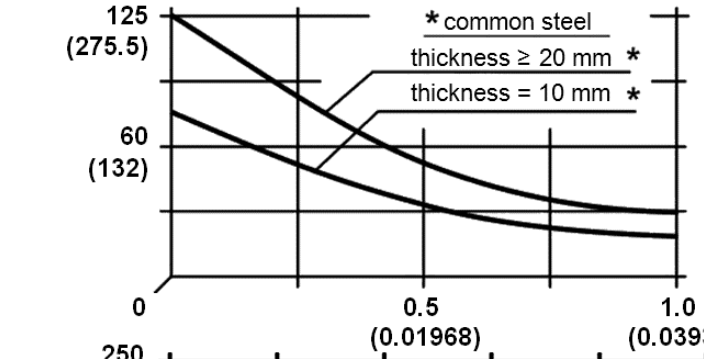


Model	Weight [kg]	Dimensions [mm]								Required ambient	
		A	B	C	D	E	F	G	L	Temperature	Humidity
SM-ML-125	3.7	121	76	79	79	66	30	44	137	–10°C to +80°C	maximum 80%
SM-ML-250	6.0	189	143	79	79	63	35	43	137		
SM-ML-300E	15.0	250	199	106	101	88	52	60	170		
SM-ML-500	36.0	342	284	133	131	88	52	60	240		
SM-ML-600E	66.0	383	316	166	171	122	64	87	377		
SM-ML-1000	80.0	457	390	166	171	122	64	87	377		
SM-ML-1500	6.0	189	143	79	79	63	35	43	137		
SM-ML-2000	15.0	250	199	106	101	88	52	60	170		
SM-ML-150T	6.0	189	170	79	87	63	35	43	137		
SM-ML-300T	16.0	250	230	106	101	88	52	60	170		

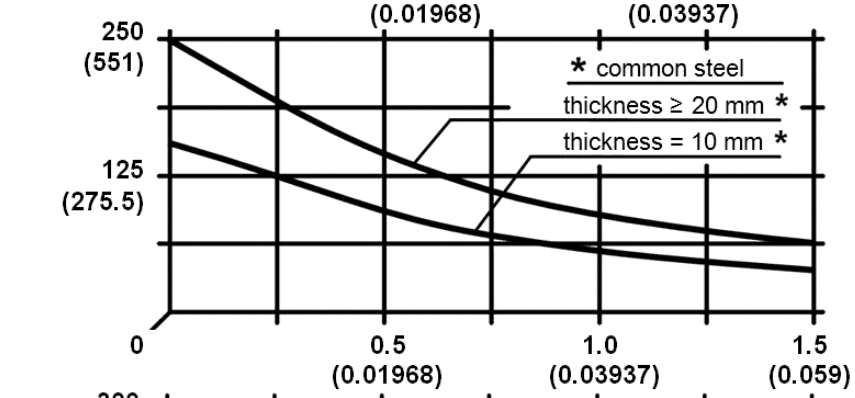
1.3. Load characteristics

Type of material	Model	Maximum load [kg]	Minimum thickness [mm]	Maximum length [mm]	Maximum diameter [mm]
 Flat	SM-ML-125	125	20	1000	–
	SM-ML-250	250	20	1500	–
	SM-ML-300E	300	20	1500	–
	SM-ML-500	500	25	2000	–
	SM-ML-600E	600	25	2000	–
	SM-ML-1000	1000	40	3000	–
	SM-ML-1500	1500	45	3000	–
	SM-ML-2000	2000	55	3000	–
	SM-ML-150T	150	8	1500	–
	SM-ML-300T	300	10	2000	–
 Round	SM-ML-125	50	10	1000	300
	SM-ML-250	100	10	1500	300
	SM-ML-300E	120	10	1500	300
	SM-ML-500	200	15	2000	400
	SM-ML-600E	240	15	2000	400
	SM-ML-1000	400	25	3000	450
	SM-ML-1500	600	30	3000	500
	SM-ML-2000	800	35	3000	600
	SM-ML-150T	60	8	1500	240
	SM-ML-300T	120	10	2000	290

1.4. Relation between load [kg] (lbs) and air gap [mm] (in)



ML-125



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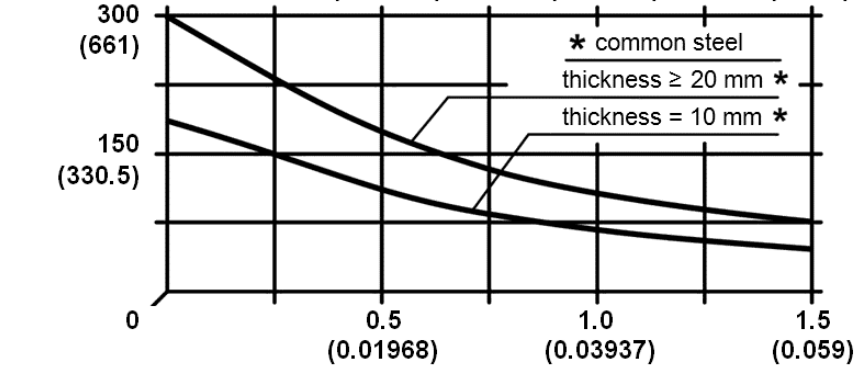
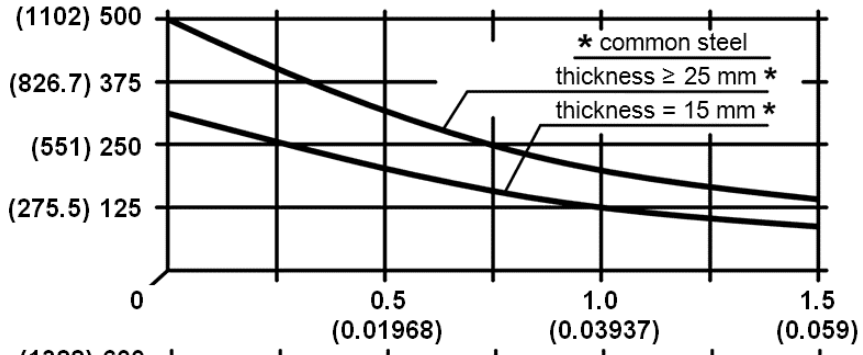
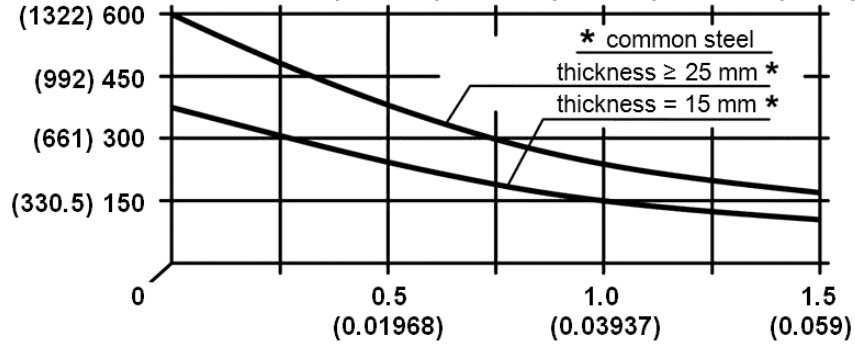


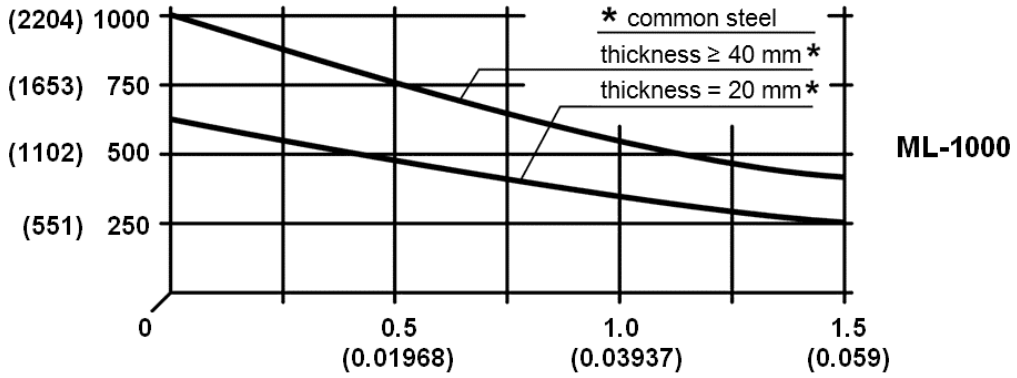
ML-300E



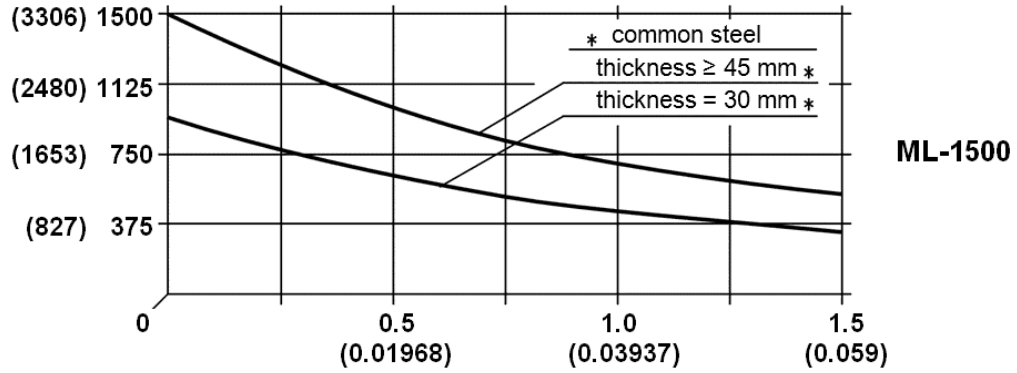
ML-500



ML-600E



ML-1000



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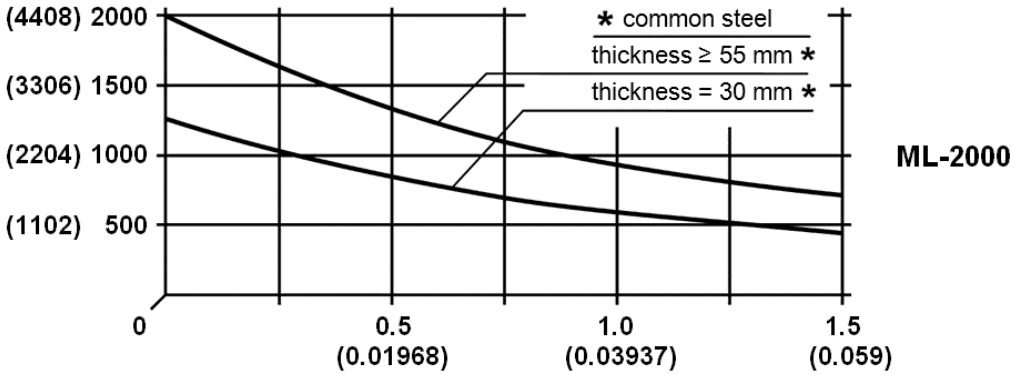
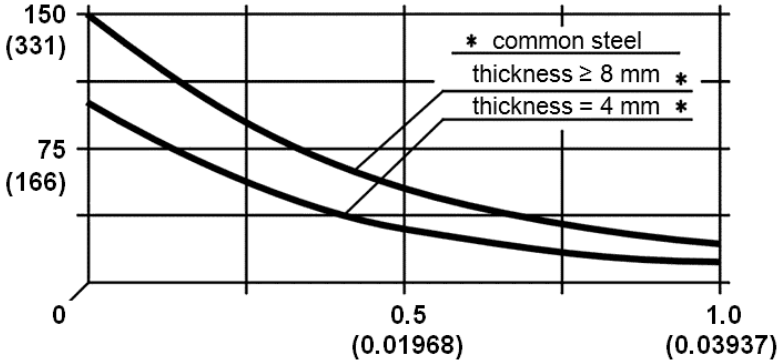
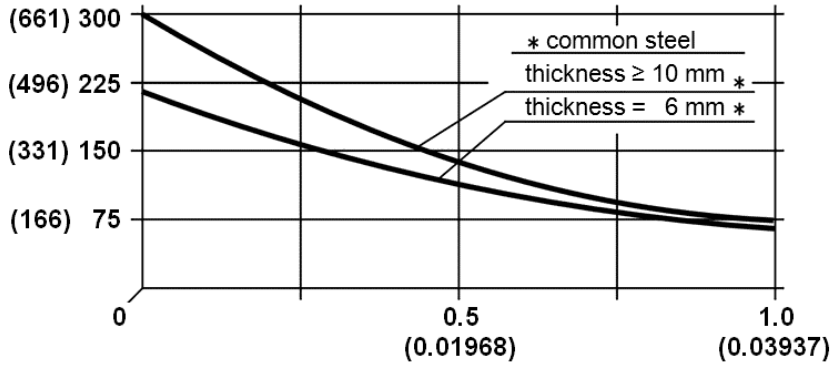


ML-2000



ML-150T



ML-300T

1.5. Design

The Max Lifter magnetic lifter incorporates a rotor and stator both made of steel of high magnetic permeability. The device is made of steel, aluminum, and plastic.

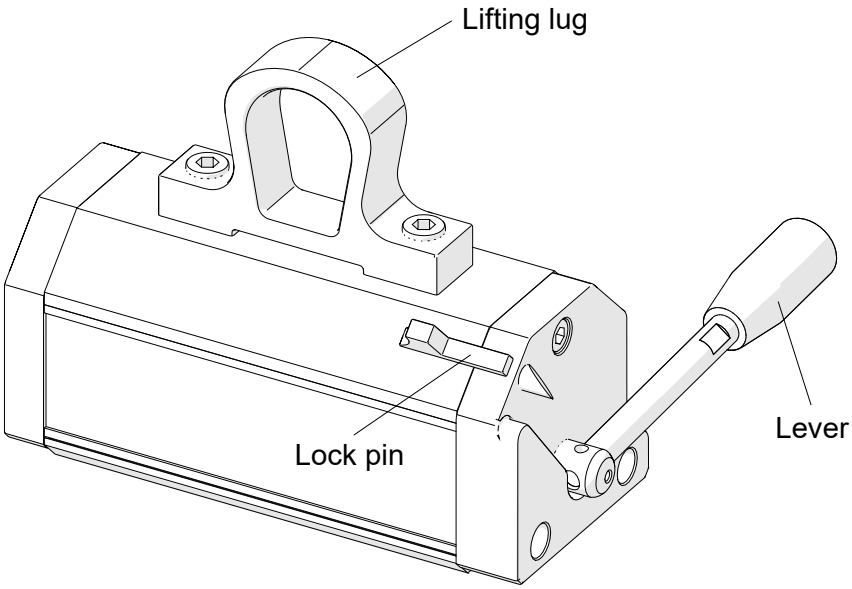
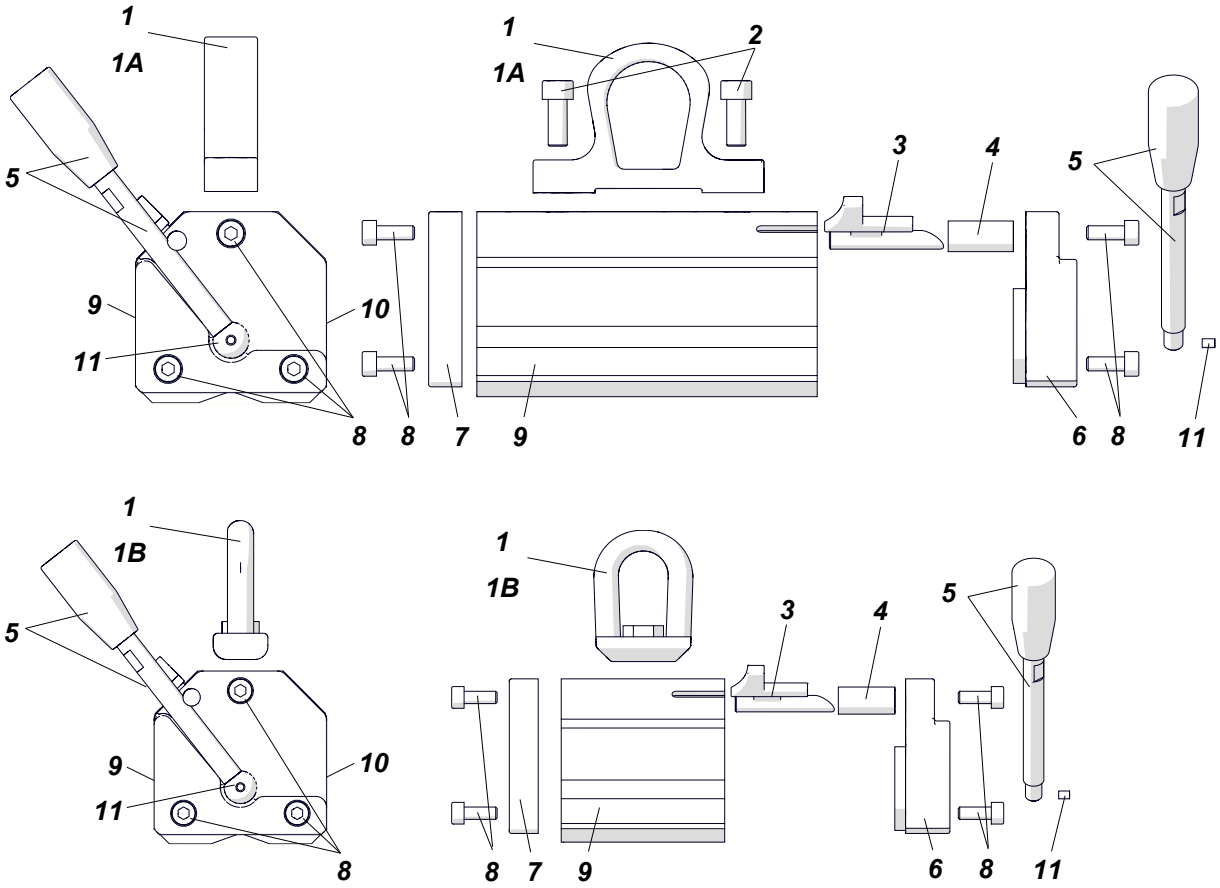


Fig. 1. View of the Max Lifter



1 1A	Lifting lug SM-ML-250/300/150TG Lifting lug SM-ML-300TG/500/600E/1000 Lifting lug SM-ML-1500/2000
1 1B	Lifting lug SM-ML-125
2	Lug screw
3	Lock
4	Lock spring
5	Lever
6	Front cover
7	Back cover
8	Cover screw
9 10	Rating plate (2 pcs.)
11	Locking screw

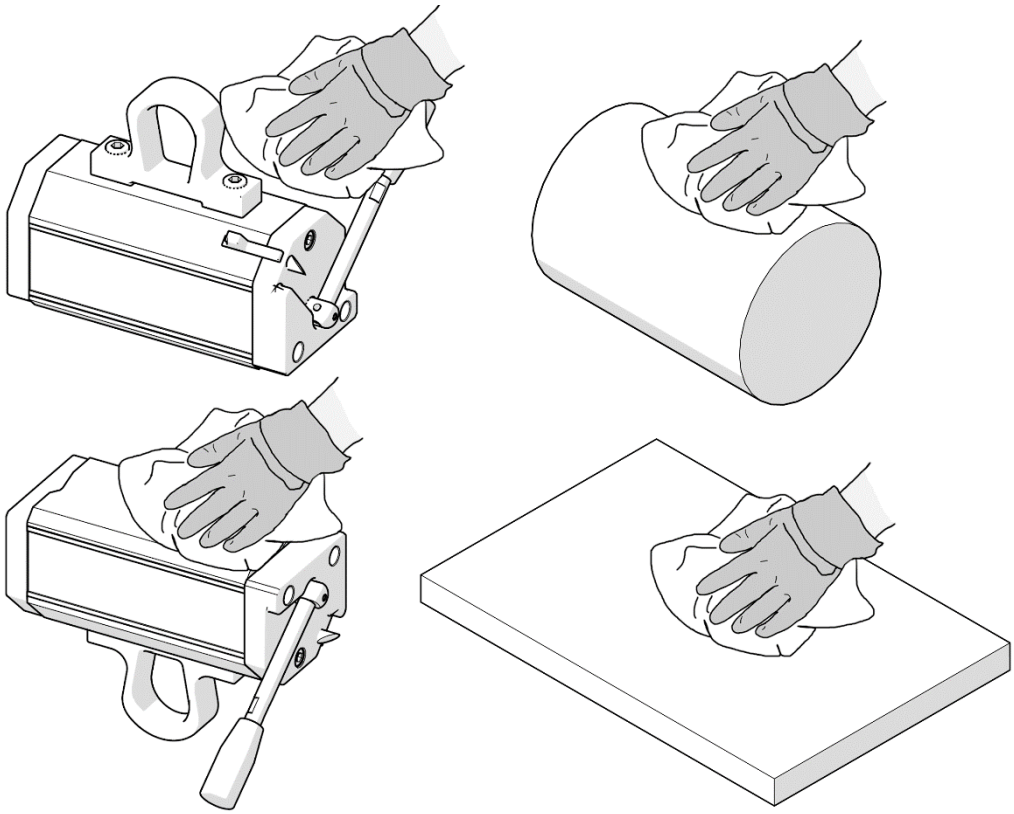
1.6. Equipment included

The Max Lifter is supplied in a cardboard box. The included equipment consists of:

	SM-ML-125, 250, 300E, 500, 600E, 150T, 300T	**SM-ML-1000, 1500, 2000**
Lifting magnet	1 unit	1 unit
Cardboard box	1 unit	1 unit
Lever	1 unit	1 unit
Key	–	1 unit

2. SAFETY PRECAUTIONS

1. Before beginning, read this Operator's Manual and complete proper occupational safety and health training.
2. The device must be used only in applications specified in this Operator's Manual.
3. No person must be present in the workspace during lifting loads.
4. The workspace must be well lit, clean, and free of obstacles.
5. Always use protective clothing or individual protection devices during operation.
6. Transport and position the device on the load using the lifting lug, with the lever set to position DEMAG.
7. Remove objects attracted to the bottom of the device and clean the object to be fixed from impurities and loose rust flakes before positioning the lifter. They may create an air gap and decrease the lifting force.



8. Set the lever in position MAG only after positioning the device on the load.
9. Lift the load only after locking the lever in position MAG using the lock pin.
10. Lifting loads which weight or dimensions exceed those specified in Operator's Manual is prohibited.

11. Do not handle the load if, after initial lifting, it seems unbalanced. Do not swing the load during transport.
12. Do not handle the load if the adhesion force achieved is insufficient. Test the adhesion by lifting the load to 10 cm (4’’).
13. Do not operate the lifter if the nameplate or data plate is illegible.
14. Do not stay under the suspended load.
15. Make sure the load does not sway during transportation.
16. Do not finish the transport operation before the overhead crane or lift stop.
17. Set the lever in position DEMAG only if the load is firmly and steady set down on the floor, and if lifting cables or chains are loose.
18. Repair only in a service center appointed by the seller.
19. Never leave the suspended load unattended.
20. Remove the device from the worksite and store in a safe and dry location when not in use.
21. Every six months check the condition of magnetic poles and immediately send the device to the service center for inspection if they are damaged or significantly worn with roughness over 2.5.

3. STARTUP AND OPERATION

Adhere to all safety precautions.

3.1. Preparation

If your device has been delivered without the lever installed, place the device on a steel plate and proceed as follows. Insert the supplied key into the unthreaded hole (*1*, Fig. 2) and rotate left as far as possible to place it behind the lock pin, which will expose the threaded hole. Screw the lever *2* and use the supplied key to secure the lever with the set screw *3*.

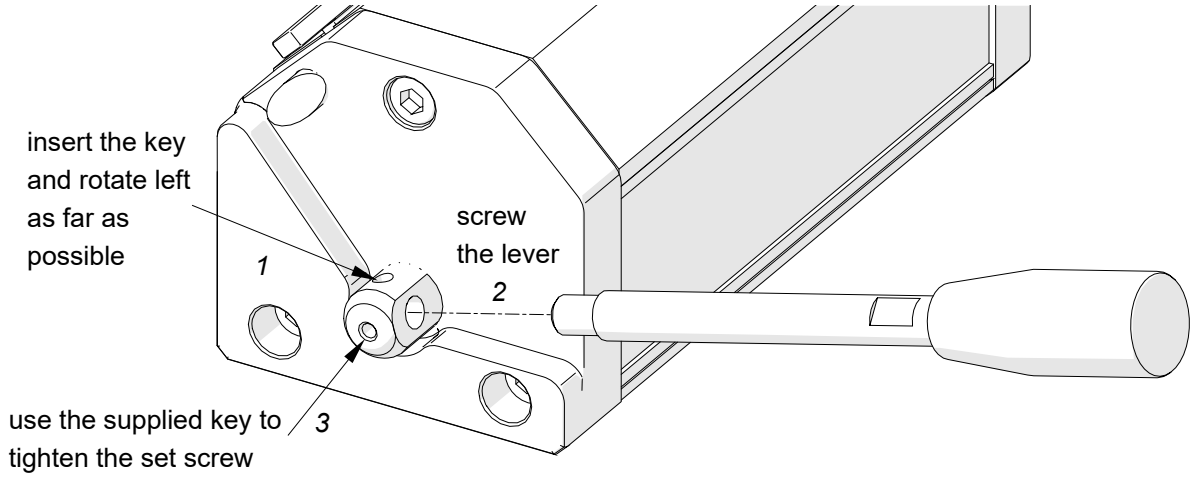


Fig. 2. Mounting the lever

The maximum lifting force is achieved when the device bottom is in full contact with the load. Avoid setting down the device on deformed or very dirty load. However, if this is not possible, to determine the actual lifting force, use the relation between load and air gap, shown in this manual and on the device. The air gap formed between the device bottom and the load to be lifted can result from the presence of paint, rust or other contaminants, foreign bodies, or when the contact surface of the load is uneven, rough, concave, convex, or in any way distorted.

The lifting force is also influenced by the thickness of the load. If the thickness is less than the width of the device foot, the lifting force is reduced proportionally to the value expressed by the ratio between the load thickness and foot width (K=T/S). Thus, to determine the actual lifting force, multiply the nominal force by the resultant ratio K.

Lifting materials other than soft steel requires using the following reduction factors to calculate the attainable lifting force: alloy steel = 0.8, steel with a high amount of

carbon = 0.7, cast iron = 0.45. To determine the actual lifting force, multiply the nominal force by the proper reduction factor.

3.2. Usage

The weight of the load to be lifted must comply with the device capacity and not exceed the lifting force calculated using previously noted remarks concerning air gap and material type and thickness.

Before every use, clean the bottom of the device and the top of the load. Make sure the magnetic surface of the device is flat and not damaged. Use a crane to place the device on the load to be lifted. Ensure the device feet are in contact with the load. If the load is round, make sure it is well centered between the device feet.

Turn on the lifter by retracting the lock pin (*1*, Fig. 3), rotating the lever to position MAG (*2*), and locking the lever in this position with the lock pin (*3*). Beware of staying inside the workspace.

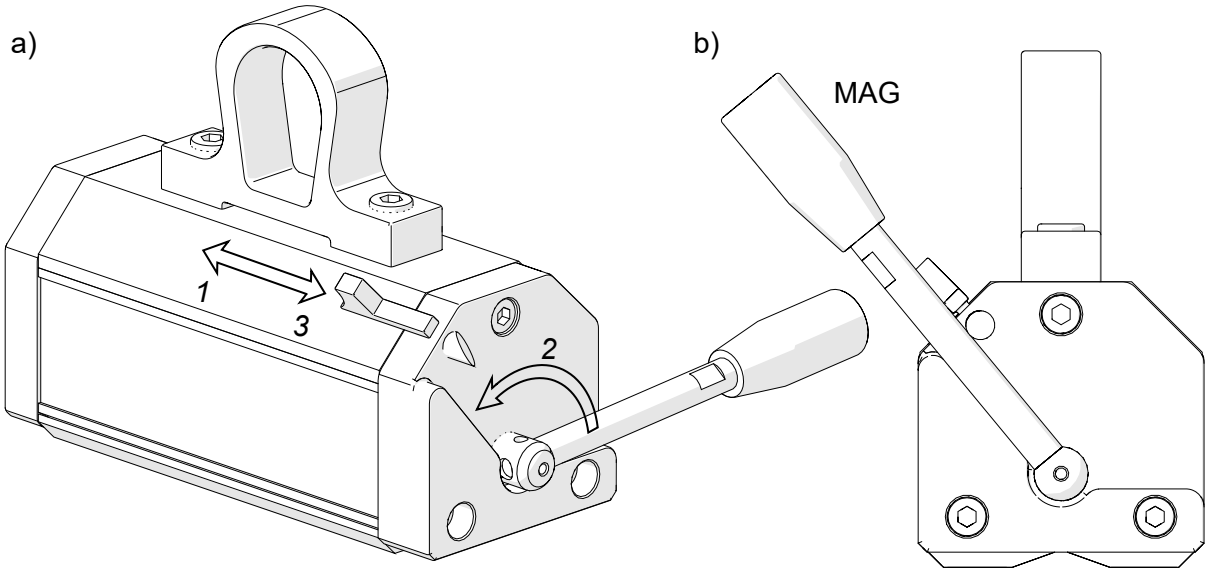


Fig. 3. Magnetizing the lifter (a), lifter magnetized (b)

Next, lift and move the load observing all safety precautions and set the load on the floor or on an adequate support. To release the load, turn off the lifter by retracting the lock pin (*1*, Fig. 4), rotating the lever right by constantly holding it until positioned in position DEMAG (*2*), and releasing the lock pin (*3*).

Releasing thin or round loads results in the lever acting as a spring. In such a case it is extremely important to hold the lever tightly when rotating it right or else the lever may hit the lifter with significant force that will permanently damage the device.

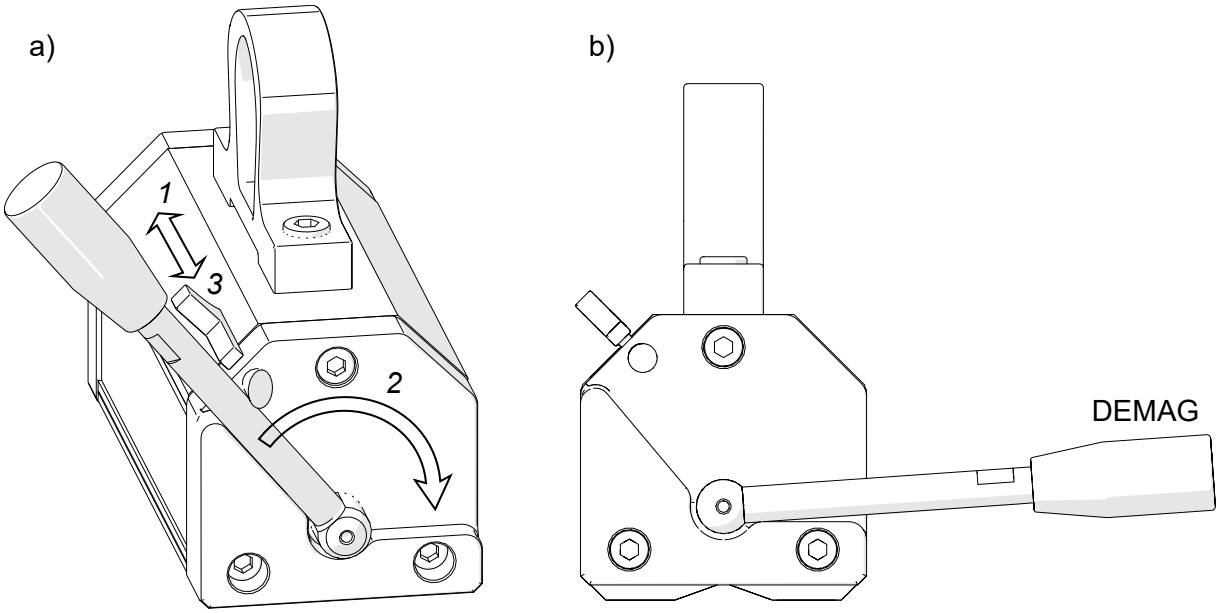


Fig. 4. Demagnetizing the lifter (a), lifter demagnetized (b)

After the work is finished, store the device in an isolated and dry location.

4. DECLARATION OF CONFORMITY

EC Declaration of Conformity

CE

We

PROMOTECH sp. z o.o.
ul. Elewatorska 23/1
15-620 Bialystok
Poland

declare with full responsibility that product:

Max Lifter Magnetic Lifter

SM-ML-125, 250, 300E, 500, 600E, 1000, 1500, 2000, 150T, 300T

which the declaration applies to is in accordance with the following standards:

- EN ISO 12100-1
- EN ISO 12100-2
- EN 13155

and satisfies safety regulations of the guideline: 2006/42/EC.

Bialystok, 14 September 2012

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Marek Siergiej
Chairman

5. WARRANTY CARD

WARRANTY CARD No.....

..... in the name of Manufacturer warrants the Max Lifter Magnetic Lifter to be free of defects in material and workmanship under normal use for a period of 60 months from the date of sale.

This warranty does not cover damage or wear that arise from incorrect assembly, misuse, accident, tempering, or any other causes not related to defects in workmanship or material. The warranty is void if serial number is removed or damaged.

Repair must be performed in the service center appointed by the seller. Faulty device must be sent to the seller at the customer's cost. Once the device have been repaired it will be sent back to the customer at the seller's cost if it is determined to be a warranty defect.

Serial number .....

Date of sale .....

Signature of seller..... Signature of quality control.....

1.08 / 12 May 2023

WE RESERVE THE RIGHT TO MAKE CHANGES IN THIS MANUAL WITHOUT NOTICE