User Manual
English version
02/2023

DMAG

Permanent Lifting Magnet

(DMAG-0150, DMAG-0300, DMAG-0600 and DMAG-1000)

Serial No.:	
Date of Purchase:	

Congratulations on purchasing this premium permanent lifting magnet.

Before operating your new permanent lifting magnet, please first read all instructions. You find the instructions in this manual and on the warning label on your lifting magnet. With proper use, care and maintenance your lifting magnet will provide you with years of premium performance.

TO REDUCE THE RISK OF INJURIES THE USER MUST READ AND UNDERSTAND ALL INSTRUCTIONS BEFORE TAKING INTO OPERATION

Enjoy your new lifting magnet!

1. Safety

1.1 General safety instructions

Do not use this lifting magnet before you have thoroughly read and completely understood this manual, specifically the "General safety instructions" including the figures, specifications, safety regulations and the signs indicating DANGER, WARNING and CAUTION. Please also observe the relevant national industrial safety regulations. Non-observance of the safety instructions can lead to severe injuries.

This manual should be kept for later use and enclosed with the lifting magnet, should it be passed on or sold.

Work area

1. Keep your work area clean and well lit. Cluttered and dark work areas increase the chance of accidents.
2. Keep bystanders, children and visitors away while using a lifting magnet. Distractions can cause you to lose control.
3. Never stand or walk underneath the lifting magnet.
4. Guide the load by holding the corners, make sure to keep the load away from your body.
5. Never transport your workpiece with the lifting magnet over or past people.
6. Never use the lifting magnet for transporting or lifting people.
7. Always warn people who are around your working area when you start your lifting job.
8. Never leave a hoisted lifting magnet unattended.

Personal safety

1. Stay alert, watch what you are doing and use common sense when using a lifting magnet. Do not use the lifting magnet while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating a lifting magnet may result in serious personal injury.
2. Dress properly. Do not wear magnetizable clothing or jewelry.
3. Use safety equipment. Always wear non-skid safety shoes and a hard hat for optimal safety.
4. Users of the lifting magnet who have a pacemaker or other medical equipment should never use the lifting magnet without first consulting a medical specialist.

2. Delivery

The complete delivery of your Diesella lifting magnet consists of:

- Diesella lifting magnet
- User manual
- Test certificate

Note: Always check your lifting magnet on delivery. If the lifting magnet is damaged or incomplete immediately contact your supplier or Diesella.

3. Warranty and service

Warranty

Diesella warrants this lifting magnet to be free of material defects and workmanship errors under normal use for a period of 12 months after date of purchase.

This warranty expires when:

- The operating and maintenance instructions as stated in this manual have not been followed
- The use of the lifting magnet is considered as being other than normal
- Natural wear and tear cause by use in accordance with operating instructions
- Repairs or replacements are not in accordance to and done by specifications by Diesella or any authorized Diesella dealer.

Service

To maximize the lifetime of your Diesella lifting magnet always use service and parts from an official Diesella distribution channel. Whenever in need of such, always contact original point of sales or if no longer existent the distributor of Diesella products in your country.

2. Construction and specifications

2.1 Construction

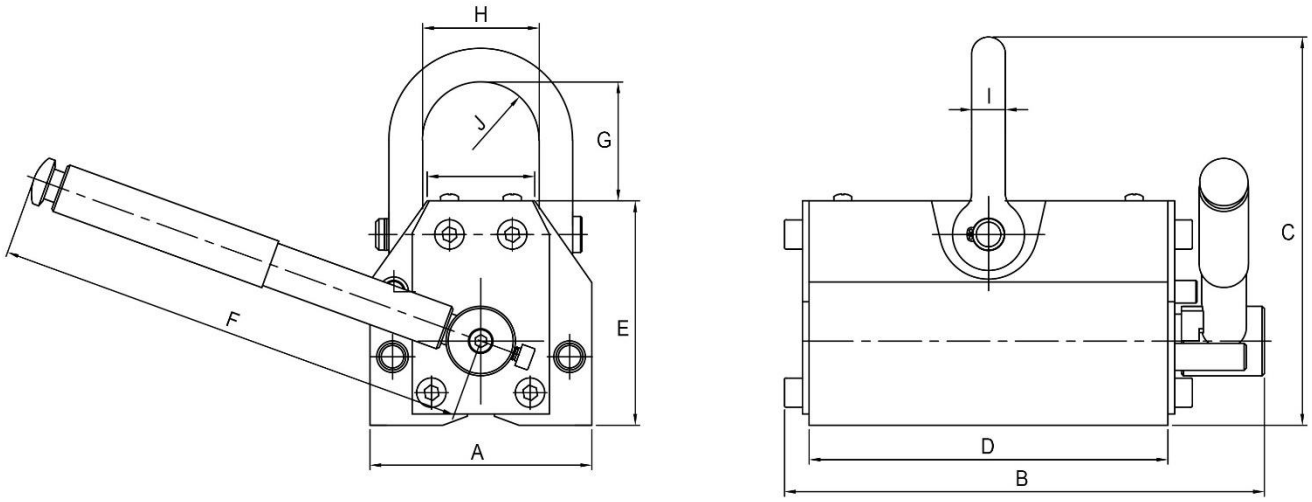
All Diesella lifting magnets (DMAG) have been produced with NdFeB magnetic materials. To switch the magnet on and off, you turn the handle which can be found on the side of the lifting magnet. On top of the lifting magnets you find shackles for lifting and the bottom of the lifting magnets are equipped with a V slot for lifting cylindrical workpieces.

On the top of the lifting magnet you also find a small slider, which pulls in and pushes out the safety bolt. This safety bolt ensures that the handle stays in to ‘’on’’ position while you are working on your lifting job.

2.2 Specifications

Model	Load Plate Max	Load round Max	Plate Min Thickness	Round Min-Max Ø Diameter	Work max. length	Operation temperature
Kg	Kg	Kg	mm	Mm	mm	℃
DMAG-150	150	75	8	Ø35 – Ø80	1500	<80
DMAG-300	300	150	10	Ø45 – Ø90	2000	<80
DMAG-600	600	300	15	Ø60 – Ø110	2500	<80
DMAG-1000	1000	500	20	Ø110 – Ø240	3000	<80

2.3 Measurements



Model	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	I mm	J mm
DMAG-150	64	169,5	130,5	122	73,5	147,5	49	31	8	R 15,5
DMAG-300	99	214	173	160	100	212	53	52	15	R 26
DMAG-600	118	280	245	222	126	257	103	78	16	R 39
DMAG-1000	150	320	280	260	159	298	100	77	20	R 38,5

3. Operation

3.1 Prior to use

Check the lifting magnet for possible damage; Before using the lifting magnet, you must carefully check the protective components or slightly damaged components to ensure they are operating perfectly and as intended.
Damaged protective components must be repaired or replaced according to specifications by Diesella or any authorized Diesella dealer.

DO NOT let children get in contact with the lifting magnet. Supervision is required when inexperienced operators use this lifting magnet.

1. During operation always make sure the surface on which you are going to attach the lifting magnet is clear of any rust, burr and debris. This ensures that the lifting magnet has a better grip on the surface.
2. Pull the slider on top of the magnet to the middle of the magnet, so that the safety bolt is pulled in.
3. Then switch the handle in the ‘’on’’ position.
4. Release the slider; this will push out the safety bold and it will lock the handle.
5. Start your lifting job.

Warning: Overloading is forbidden. Never let anybody walk underneath the workpiece you are lifting.
Warning: Never place the magnet over a large hole or bore.
Warning: Never release the handle before the slider has locked it in position

Always make sure that the temperature of the components as well the ambient temperature is between 80℃ to -40℃. Minimalize vibrations and avoid impact and collisions.

Note: When you are lifting cylindrical workpieces always make sure the cylindrical workpiece contacts both V slots of the lifting magnet. The actual lifting capacity will generally be 30% of the rated lifting capacity (see chapter 4.2).

1. When you have finished your lifting job and want to turn off the magnet simply pull the slider on top of the magnet to the middle of the magnet, so that the safety bolt is pulled in and switch the handle to the off position.
2. Release the slider.
3. The lifting magnet is now in neutral condition and can be taken from the workpiece
4. Only switch the magnet to the ''On'' position when you have placed it correctly on the workpiece.
5. Only switch the magnet to the ''Off'' position when you have placed the workpiece on a stable surface.
6. **Never** lift more than one workpiece at a time.
7. The magnet must remain fully horizontal during transport of the workpiece.

Note: After having finished your lifting job, light workpieces and other small magnetizable material might stick to the magnet after is has been switched off.

3.2 Main factors which influence the lifting capacity

- Thickness of the workpiece
- Quality of the workpiece

Before you start your lifting job always check the safety by looking at the percentage of steel thickness opposed to the lifting capacity of your lifting magnet. You can do so by plotting the thickness of your workpiece against the capacity curve.

First you calculate the surface roughness (Ra). If this is less than 6.3 um there will be no lifting surface gap and you will have 100% lifting capacity. But when the surface roughness is above 6.3. um you need to calculate the percentage that the lifting magnet can reach looking at the air gap lifting capacity curve shown in the chart above.

- The composition of the steel component.

After measurement, if the low-carbon steel component is regarded as a reference and the coefficient of the lifting capacity is fixed: the coefficient for medium-carbon steel is 0.95; the coefficient for non-carbon steel is 0.90; the coefficient for low-alloy steel is 0.75, and the coefficient for cast iron is 0.50.

4. Maintenance and safety

While carrying and using the lifting magnet beware of bumping into objects in your work area and the roughness of the surfaces you are working on, as not to damage your lifting magnet and your surroundings. After having used the lifting magnet and before storing it, you can use oil to protect the lifting magnet.

Warning : Please read this user manual carefully and thoroughly before using the lifting magnet.

1. Always use a hook equipped with a safety latch to attach to your lifting magnet.
2. Check the slider on top of your magnet and the safety bolt regularly. Make sure that slider can move flexibly and that the safety bolt locks firmly.
3. When your lifting magnet is not in contact with ferromagnetic material then don't try to turn the handle (you will notice that this is also almost impossible to do).
4. Maintenance of your lifting magnet but be done by strictly following the instructions and only by professionals.
5. It is prohibited to modify the lifting magnet in any way as this may affect the safety.
6. The lifting magnet must undergo a capability test every year to check the safety of all the component to ensure safe use.
7. Whenever the main body and/or turning parts are damaged beyond repair, the lifting magnet must be discarded.
8. Never remove warning or instruction plates from the lifting magnet

5. Environmental

Separate collection. This product must not be disposed of with normal household waste.
Separate collection of used products and packaging allows materials to be recycled and used again. Re-use of recycled materials helps prevent environmental pollution and reduces the demand for raw materials. Local regulations may provide for separate collection of electrical products from the household, at municipal waste sites or by the retailer when you purchase a new product.