

ELECTROMAGNETIC GRIPPER

VM



SCOPE

The **VM** magnetic grippers are high-performance electromagnets equipped with a **concentric winding**.

The VM electromagnets, which are designed to handle thin sheet metals, must be geometrically placed to limit bendings in all directions. Depending on sheet-metal sizes, the VM grippers will be installed therefore on fixed or telescopic lifting beams.

They are recommended for the handling of sheet metals and metal parts in :

- oxyacetylene cutting workshops,
- shipbuilding yards,
- sheet-metal warehouses.

TECHNICAL DESCRIPTION

The **VM** grippers are made up of a mechanically fitted-welded steel frame protecting the **aluminum or copper winding**. The main components are :

- a frame made of high magnetic permeability steel. The mechanical fittings and support surfaces are machined for a better reconditioning of the magnets,
- a suspension ring,
- a concentric winding with reinforced insulation,
- a wear plate made of non-magnetic manganese steel. This high-strength part is flanged and welded to the frame,
- a fill-in resin blocking and insulating the coil in the frame (H or C class depending on usage),
- an electric box allowing external connection while protecting the internal winding.

INSTALLATION MODALITIES

The **VMs** can be installed on any lifting device (overhead crane, truck crane, gantry crane, etc.). They are designed for individual usage and are suspended by the suspension ring.

The electrical connection is made using a cable with 3 large-section conductors externally protected to provide a 110 VDC power supply.

For complete sheet metals, the VMs are secured by elastic connections (chains, springs, etc.) to a fixed or telescopic lifting beam. An overall study is then necessary to define the handling tool

SPECIFICATIONS

Performances vary according to various parameters :

- characteristics of the ferromagnetic elements to be lifted,
- temperature of the products,
- load thickness,
- clearance between the support side and the load.

The effect of the load's thickness and clearance on lifting capacity is detailed in the curves on the reverse side. **Two VM gripper types** are offered according to their diameter : **255 et 340 mm**.

ADDED FEATURES

- Frame extremely resistant to shocks and wear,
- Magnetic circuit protection against external particles and moisture,
- Duty cycle : 50 % to 75 % depending

on usage,

- Lifting capacity : light weight and compact.

ELECTRIC EQUIPMENT

The **VM** receive three types of electric equipment depending on usage :

- power connector installed on the frame,
- sealed terminal box,
- rectifier unit + switch for a 220 VAC single-phase power supply.

USAGE MODE

No special servicing or maintenance is required except for a periodic check of the electrical connections, suspension links and frame

VM ON LIFTING BEAM

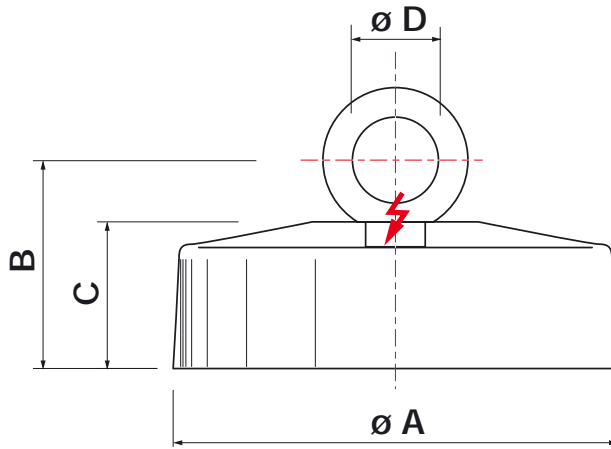


Lifting beams equipped with VM 255 or VM 340 grippers have the following qualities : because of the large number of suspension points, booms are minimum.

The grippers are adapted to different sized sheet-metals by selection switches. Each gripper is equipped with a balancing spring suspension system.

TECHNICAL DATA

VM



TYPE	Weight kg	Magnet power at 20°C	DC voltage VDC	Max. separation forces vs. 0.8 mm clearance daN	Dimensions			
					A	B	C	D
VM 255	26	150	110	2500	255	145	85	60
VM 340	55	200	110	3800	340	170	98	70

We provide after-sales service all marks and types of devices.

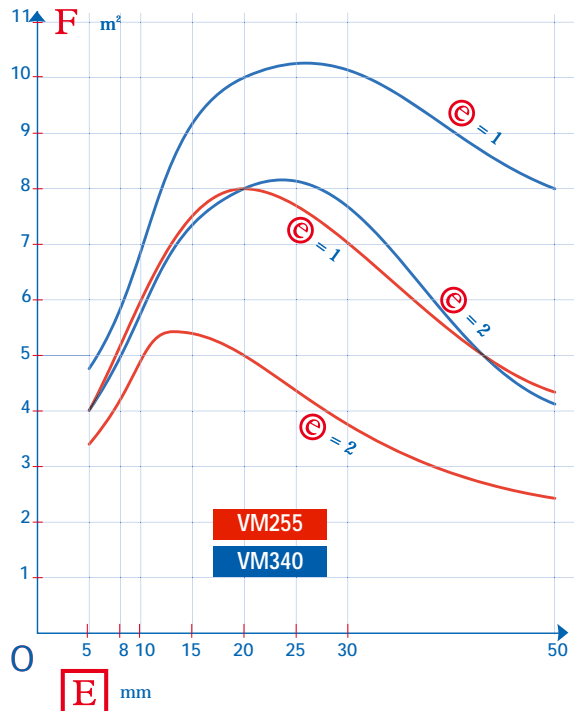
LIFTING CAPACITIES

According to the standards NFC 79-300 (44-4-1)

VERSUS THE CLEARANCE "e" AND THE LOAD THICKNESS "E"



IN M² OF THE SHEET-METALS VERSUS THE CLEARANCE "e" AND THE SHEET-METAL THICKNESS "E"



The lifting capacity diagrams above indicate the separation forces versus the clearance "e" in mm. The load thickness "E" in mm is indicated as a parameter. For thicknesses < 40 mm, the separation forces increase slightly. The max. lines indicate the F values for a clearance equal to A/300.

OPTIONS

- Electric connectors
- Electric cabinet
- Special voltage
- Incorporated rectifier
- Other tailored dimensions
- Sealed version
- Elastic suspension
- Special series for handling hot products
- Fixed or telescopic lifting beams

