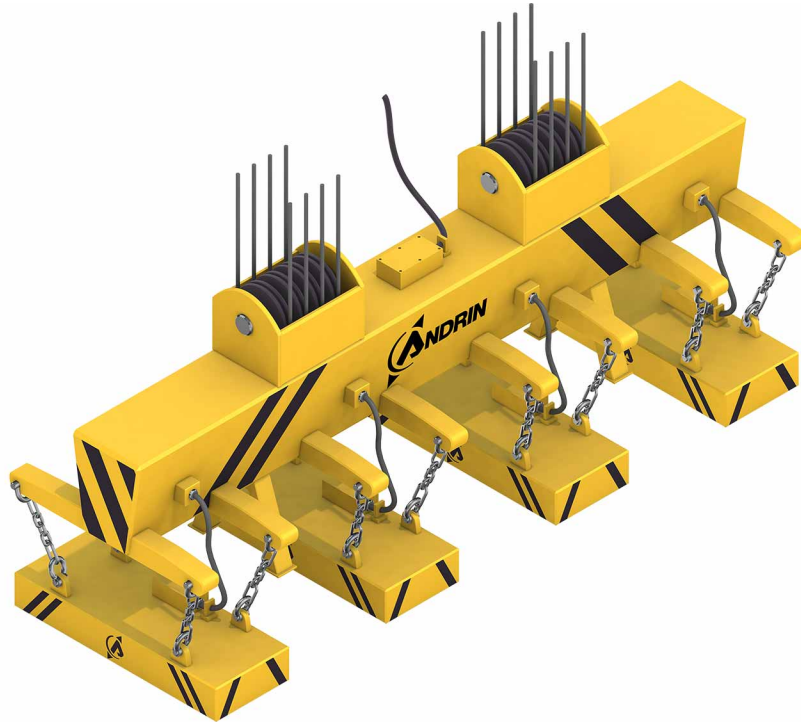


RECTANGULAR LIFTING ELECTROMAGNET

RTA**APPLICATION AREA**

RTAs are rectangular three-pole electro-magnets with an aluminium winding. They are recommended for handling products with a flat surface:

- slabs,
- ingots,
- metal sheets,
- beds of extruded section.

Their robustness means they are ideal for intensive use in areas such as :

- continuous casting,
- hot and cold rolling mills,
- flame cutting workshops,
- steel distribution networks,
- shipyards.

TECHNICAL DESCRIPTION

RTAs consist of a precision-welded steel frame protecting the winding. The main component parts are :

- a three-pole magnetic circuit made of high magnetic permeability steel. The mechanical fittings and contact surfaces are machined,

- Two double suspension lugs with bolts and washers for a joint-ring two-strand chain,
- a concentric aluminium winding with reinforced insulation,
- a wear plate made of non-magnetic manganese-silicon steel. This high-strength part is welded to the frame,
- filler resin protecting and holding and insulating the winding in the frame (class H or C depending on the application),
- a compartmented double electrical box enabling external connections while protecting the internal winding.

Standard **RTAs** can easily be modified to allow special applications :

- 4 suspension lugs,
- lateral handling hooks,
- orientation or tipping clevises,
- immersion chambers.

INSTALLATION PROCEDURE

RTAs can be installed on any lifting system (overhead crane, crane, gantry, stacker).

Used on their own, they are suspended using a joint-ring two-strand chain. For longer products, several **RTAs** can be assembled on fixed or telescopic sling bars.

The electrical connection is ensured by a 3-conductor large-cross section cable protected externally.

SPECIFICATIONS

The performance varies according to various parameters :

- characteristics of the ferromagnetic parts to be lifted,
 - temperature of the products (up to 650° C),
 - thickness of the load,
 - air gap between the magnet and the load.
- The influence of the air gap and of the load's thickness on the lifting capacity is detailed in the graphs in appendix.

Six types of RTA are proposed according to their width :

300, 400, 500, 600, 700, 800 mm.

THE PLUSES

- Welded steel frame extremely resistant to impacts and wear,
- Protection of the magnetic circuit against external particles and humidity,
- Light weight thanks to the use of aluminium,
- Double connection box.

UTILISATION INSTRUCTIONS

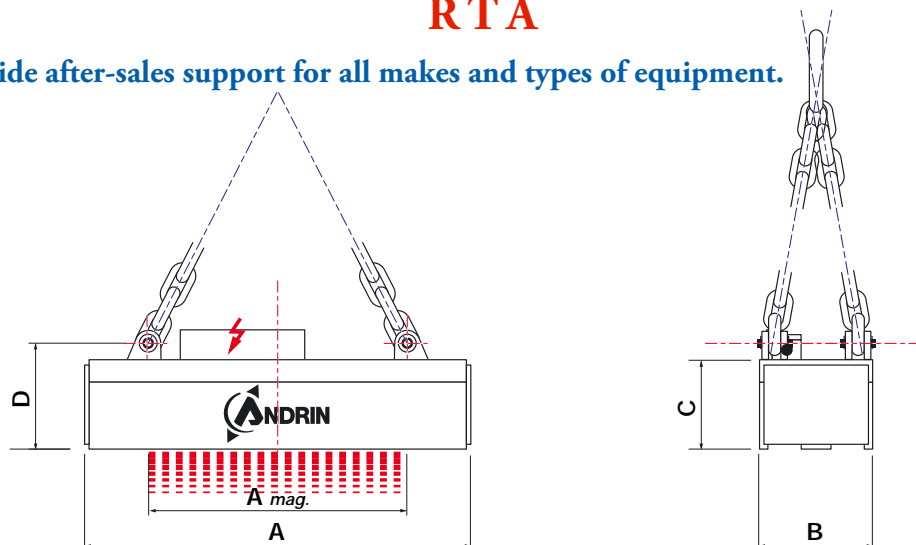
No specific maintenance or servicing required except a periodic check of the electrical connections, the suspension links and the frame



TECHNICAL FEATURES

RTA

We provide after-sales support for all makes and types of equipment.



TYPE	Weight kg	Magnet power at 15°C W	VDC voltage	Suspension kg	Dimensions (mm)					
					A	Non-mag	B	C	D	K factor
30/80	260	1435	110	8000	800	1050	300	150	220	8
30/100	290	1721	-	-	1000	1250	-	-	-	10
30/120	335	2077	-	-	1200	1450	-	-	-	12
30/140	395	2268	-	-	1400	1650	-	-	-	14
30/140	450	2677	-	-	1600	1850	-	-	-	16
40/80	435	2342	110	10000	800	1130	400	175	245	8
40/100	515	2804	-	-	1000	1330	-	-	-	10
40/120	610	3278	-	-	1200	1450	-	-	-	12
40/140	720	3655	-	-	1400	1650	-	-	-	14
40/160	850	4247	-	-	1600	1850	-	-	-	16
50/80	640	3376	110	16000	800	1180	500	195	265	8
50/100	750	3937	-	-	1000	1380	-	-	-	10
50/120	855	4656	220	-	1200	1580	-	-	-	12
50/140	970	5154	-	-	1400	1780	-	-	-	14
50/160	1080	5709	-	-	1600	1980	-	-	-	16
50/180	1210	6234	-	-	1800	2180	-	-	-	18
60/100	1190	4955	220	16000	1000	1440	600	235	320	10
60/120	1355	5797	-	-	1200	1640	-	-	-	12
60/140	1525	6435	-	-	1400	1840	-	-	-	14
60/160	1685	7398	-	-	1600	2040	-	-	-	16
60/180	1850	7664	-	-	1800	2240	-	-	-	18
70/100	1630	5768	220	25000	1000	1530	700	260	345	10
70/120	1840	6446	-	-	1200	1730	-	-	-	12
70/140	2060	7156	-	-	1400	1930	-	-	-	14
70/160	2265	8152	-	-	1600	2130	-	-	-	16
70/180	2480	8700	-	-	1800	2330	-	-	-	18
70/200	2695	9624	-	-	2000	2530	-	-	-	20
80/100	2230	6745	220	25000	1000	1590	800	290	375	10
80/120	2510	7921	-	-	1200	1790	-	-	-	12
80/140	2790	8899	-	-	1400	1990	-	-	-	14
80/160	3075	9485	-	-	1600	2190	-	-	-	16
80/180	3355	10369	-	-	1800	2390	-	-	-	18
80/200	3635	10948	-	-	2000	2590	-	-	-	20

OPTIONS

- Temperature probe
- Electrical connectors
- Electrical control, monitoring and safety equipment (contactor or static variant)
- Specific voltage
- Protection hooping
- Pole extension
- Hard facing of the contact faces
- Independent chains for stabilisation
- Bushed lugs
- Four-lug suspension
- Watertight version
- Cast frame version
- **Special HV series for handling hot products up to 650°C**
- Other made-to-measure dimensions
- Fixed and telescopic sling bars

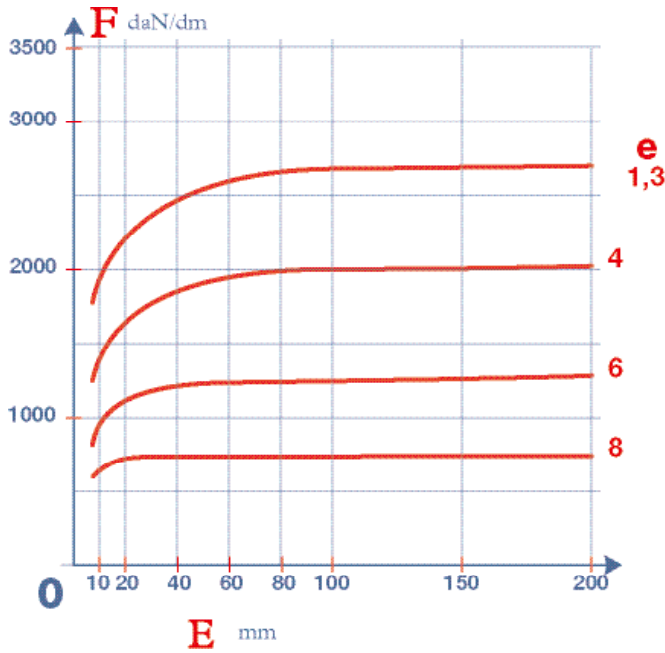


PERFORMANCE GRAPHS (LIFTING FORCES) FOR E24 GRADE STEEL

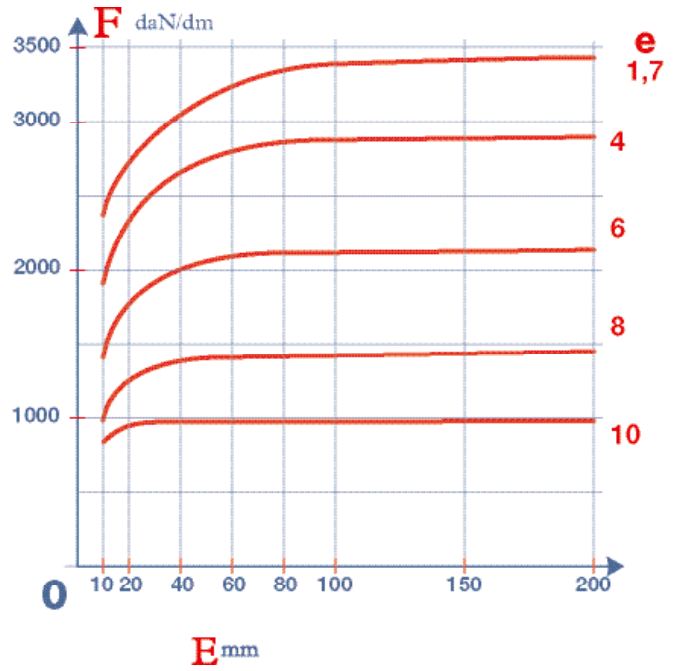
Per NFC 79-300 (44-4-1) standards

RTA

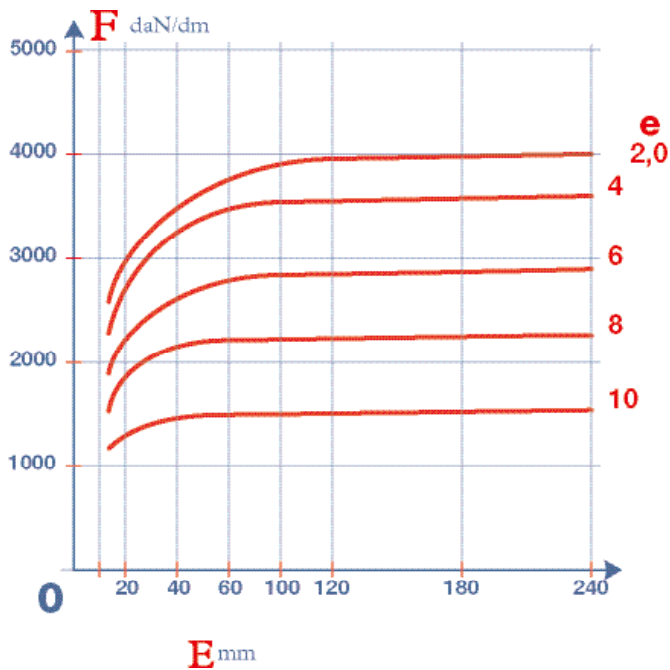
RTA 50



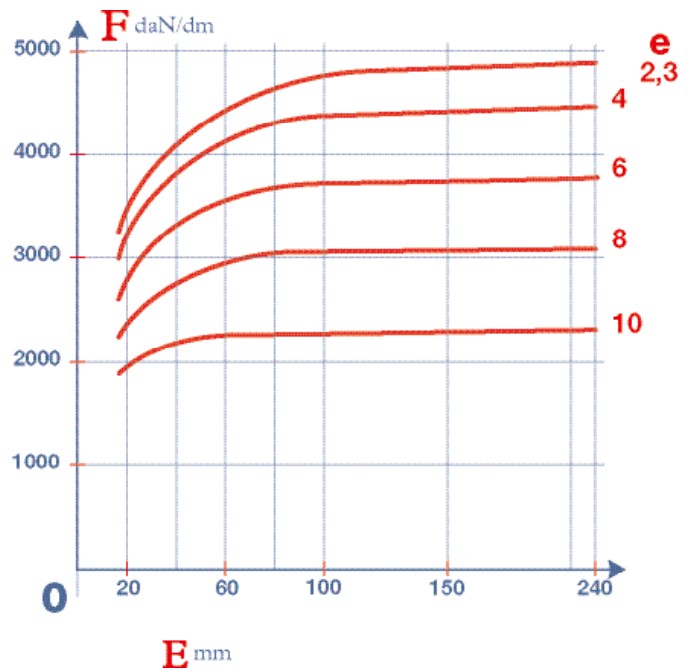
RTA 60



RTA 70



RTA 80



The lifting capacities above are given for good gripping conditions. They are the average of five lifting operations for a running temperature that has been reached with a duty cycle of 60%.

PERFORMANCE GRAPHS (LIFTING FORCES) FOR E24 GRADE STEEL

Per NFC 79-300 (44-4-1) standards

RTA

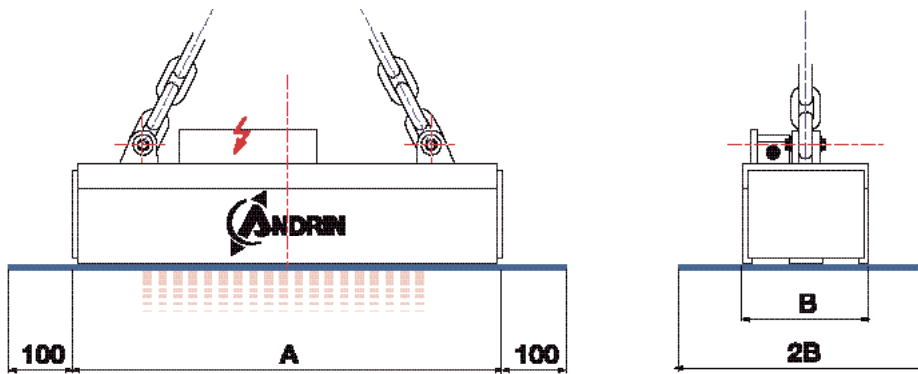
The RTA-series electromagnets are grouped according to their widths: 30, 40, 50, 60, 70 and 80. There is a graph for each width making it possible to determine, for each electromagnet, the separation force (see NF C 79-300, 44.4.1.1. Operating check of lifting electromagnets) according to the following data: thickness of the flat load made of E24 steel (**E**), air gap (**e**) and part of the pole surface covered by the load.

The graphs show the separation forces in **daN** for each decimetre of length of the lifting electromagnet when the width of the steel plate is equal to twice the width I of the electromagnet (NF C 79-300 44.1.1.). The separation forces are obtained for an excitation current conform to the standard's article 42.2 (nominal voltage).

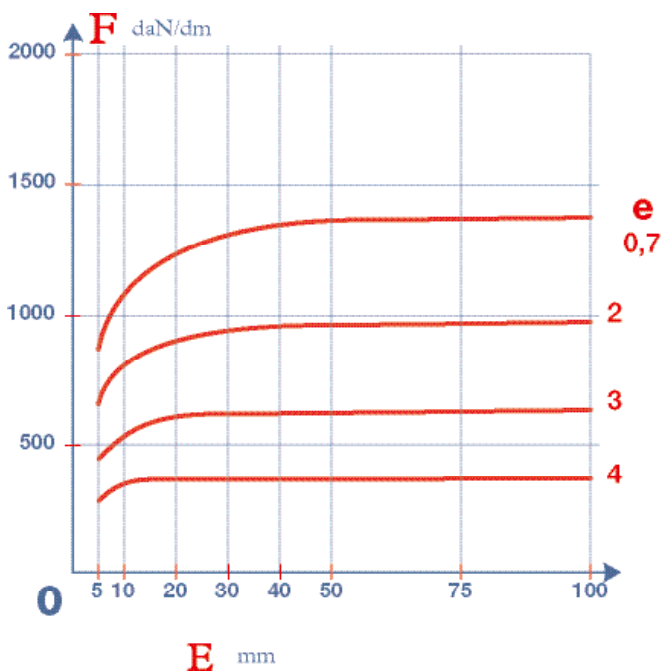
When the steel plate extends by 100 mm lengthwise beyond the electromagnet, the separation force reaches its maximum value and is equal to the value found on the corresponding graph multiplied by the K factor indicated in the table. This separation force is the electromagnet's maximum force in the stipulated case. When the load's weight exceeds this value, it separates. It is necessary to count on a sufficient safety margin when choosing an apparatus capable of coping with a handling problem.

When using the graphs you must be aware that the usual air gap is (**e**) = **B/300** as stipulated by the NF C 79-300, 44.4.1.1. standard.

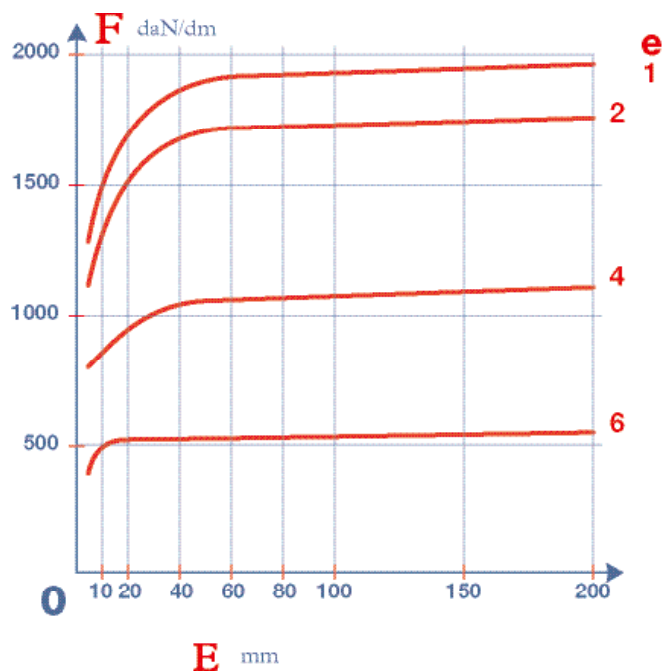
This standard provides for a maximum air gap of B/100 but our graphs give separation forces for values of (**e**) up to B/50.



RTA 30



RTA 40



The above lifting capacities are given for the correct gripping conditions. They are the average of 5 lifts for a running temperature that has been reached with a duty cycle of 60%.