Elevator Line

Single-Acting Spreader Solenoids
Double-Acting Spreader Solenoids
Kendrion N.V. is one of the leading manufacturers of solenoids and electromagnetic components worldwide.

Divided into the Industrial and Automotive division Kendrion guarantees a solution-oriented partnership with our customers. The company excels in innovative capability and maximum productivity.

Over the years Kendrion has integrated the brands Binder, Magnet AG, Neue Hahn Magnet, Thoma Magnettechnik, Linnig Antriebstechnik, Tri Tech LLC, Magneta and FAS Controls and Kuhnke.

Our business unit Industrial Magnetic Systems belongs to the division Industrial and develops, manufactures and distributes linear-, holding-, locking-, spreading-, control-, rotary- and vibrating solenoids as well as solenoid valves for industrial applications worldwide.

The strengths of Kendrion lies in the area of standard applications and in the area of developing customer-specific solutions.

With our technological know-how we ensure that your application will run smoothly.

All products are tested and developed according to DIN VDE 0580/ 07.2000. Kendrion Magnettechnik GmbH is a company certified according to ISO 9001:2008.

The main locations are in Donaueschingen (D) and Engelswies (D). Further locations are in Hausen am Albis (CH), Linz (A), Bradford (UK), Suzhou (CN), Mishawaka (USA) and Turin (I).

With our global distribution network we are available for our customers at any time and will be pleased to advise you.

Our products are used in almost all industrial areas, for example in the following industries:

- Machine building
- Safety engineering
- Transportation industry
- Medical engineering
- Power engineering
- Environmental technology
- Elevator industry
- Automation

Your industry is not listed? We are sure to have an optimum solution.

Wherever innovations and new approaches are required our staff will be happy to assist you.

Contact us. We’re looking forward to assisting you!

Sales Hotline +49 (0) 771 8009 3770

Please find detailed performance data in our product catalogues, with the help of our experts or by our product finder on:

www.kendrion-ims.com
## Product Line

### Description

Single-acting and double-acting spreader solenoids of the Kendrion Elevator Line with short strokes and high magnetic forces are particularly suitable for use in elevators and escalators as well as in industrial brakes for the release of block resp. drum brakes.

With these solenoids the stroke movement takes place from the stroke starting position to the stroke end position by electromagnetic force, while the armature reset is accomplished by external forces.

The products can be installed in any position and are maintenance-free if the force transfer is in axial direction.

By means of a sealing ring and a sealing plate the interior of the solenoid is largely protected against the penetration of dust and humidity.

The magnetic forces indicated are reached at 90% of the nominal voltage and in warmed up condition. The values for the switching cycles are valid for nominal voltage, warmed-up condition and load of 70% of the magnetic force of the device.

The products are manufactured and tested acc. DIN VDE 0580 / 07.2000.

### Elevator Line

**Nominal voltage:** 205 V DC

**Note:** Due to the change from mains voltage 220 V AC to 230 V AC and from selenium to silicon Graetz bridge rectifiers solenoids with a coil voltage designed for 180 V DC are thermally overloaded.

**Switching frequency:** 180/h

**Duty cycle:** 40% and 100%

If operated with overexcitation a respective overexcitation rectifier has to be selected (overexcitation factor 2:1 or 3.4:1). The AC mains voltage as well as the overexcitation and holding voltages are to be indicated with placement of the order. The standard duty cycle in these cases is 80%.

**Protection class:** acc. EN 60529 / 09.2000: IP 54

**Thermal class:** B, F

Design subject to change
Double-Acting Spreader Solenoid

Devices of the series LED088000A00 to LED165000A00 consist of two direct-acting solenoid systems accommodated in one housing. The devices are suitable for operation with normal excitation or overexcitation. Depending on the usage they are attached directly to the housing or loosely in the forks on both sides. The devices of this series are prepared for emergency hand release. A large selection of overexcitation rectifiers customized to the respective solenoid and usage is available. The main fields of application of the series 41 334 are elevators, escalators and passenger conveyors.

<table>
<thead>
<tr>
<th>Type</th>
<th>Diameter x Length [mm]</th>
<th>Stroke [mm]</th>
<th>Duty cycle [%]</th>
<th>Magnetic force [N]</th>
<th>Input power [W]</th>
<th>Response time depending on installation</th>
<th>Release time depending on installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>LED088000A00</td>
<td>88 x 120</td>
<td>2</td>
<td>100</td>
<td>240 bis 500</td>
<td>28</td>
<td>depending on installation</td>
<td>depending on installation</td>
</tr>
<tr>
<td>LED088000A00</td>
<td>88 x 120</td>
<td>2</td>
<td>40</td>
<td>450 bis 650</td>
<td>68</td>
<td>depending on installation</td>
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</tr>
<tr>
<td>LED098000A00</td>
<td>98 x 136</td>
<td>2.5</td>
<td>100</td>
<td>250 bis 620</td>
<td>32</td>
<td>depending on installation</td>
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<tr>
<td>LED098000A00</td>
<td>98 x 136</td>
<td>2.5</td>
<td>40</td>
<td>650 bis 1080</td>
<td>90</td>
<td>depending on installation</td>
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</tr>
<tr>
<td>LED115000A00</td>
<td>115 x 140</td>
<td>3</td>
<td>100</td>
<td>450 bis 750</td>
<td>42</td>
<td>650 bis 980</td>
<td>98</td>
</tr>
<tr>
<td>LED115000A00</td>
<td>115 x 140</td>
<td>3</td>
<td>40</td>
<td>600 bis 1500</td>
<td>55</td>
<td>600 bis 1500</td>
<td>55</td>
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<tr>
<td>LED135000A00</td>
<td>135 x 165</td>
<td>3</td>
<td>100</td>
<td>1300 bis 2100</td>
<td>135</td>
<td>800 bis 1600</td>
<td>70</td>
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<tr>
<td>LED135000A00</td>
<td>135 x 165</td>
<td>3</td>
<td>40</td>
<td>1600 bis 2200</td>
<td>175</td>
<td>1200 bis 2100</td>
<td>85</td>
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<tr>
<td>LED140000A00</td>
<td>135 x 225</td>
<td>4</td>
<td>100</td>
<td>2100 bis 2600</td>
<td>225</td>
<td>2100 bis 2600</td>
<td>225</td>
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<tr>
<td>LED165000A00</td>
<td>165 x 250</td>
<td>4</td>
<td>40</td>
<td>2000 bis 3000</td>
<td>300</td>
<td>2000 bis 3000</td>
<td>300</td>
</tr>
</tbody>
</table>

• maximum holding force possible
• maximum holding force possible

• maximum holding force possible

• maximum holding force possible

• maximum holding force possible
Devices of the series LES088000A00 to LES165000A00 are single-acting spreader solenoids for direct current with short strokes and high magnetic forces. The devices are suitable for operation with normal excitation or overexcitation. Depending on the usage they are attached directly to the housing or loosely in the forks on both sides. The main fields of application of these devices are elevators, the release of block brakes but also escalators.

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<thead>
<tr>
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<th>Diameter x Length [mm]</th>
<th>Stroke [mm]</th>
<th>Duty cycle [%]</th>
<th>Magnetic force [N]</th>
<th>Input power [W]</th>
<th>Response time [ms]</th>
<th>Release time [ms]</th>
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<td>LES088000A00</td>
<td>88 x 89</td>
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<td>100</td>
<td>220 bis 720</td>
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<td>40</td>
<td>330 bis 760</td>
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<td>230</td>
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<td>LES115000A00</td>
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<td>6</td>
<td>40</td>
<td>500 bis 1440</td>
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<td>270</td>
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<td>LES115000A00</td>
<td>115 x 106</td>
<td>6</td>
<td>100</td>
<td>350 bis 1440</td>
<td>53</td>
<td>500</td>
<td>40</td>
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<td>640 bis 1840</td>
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<td>100</td>
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<td>135 x 160</td>
<td>8</td>
<td>100</td>
<td>1070 bis 2810</td>
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<td>460</td>
<td>45</td>
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<td>LES140000A00</td>
<td>135 x 160</td>
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<td>40</td>
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<td>810</td>
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<td>165 x 176</td>
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<td>100</td>
<td>1120 bis 2770</td>
<td>165</td>
<td>550</td>
<td>50</td>
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<tr>
<td>LES165000A00</td>
<td>165 x 176</td>
<td>8</td>
<td>40</td>
<td>1340 bis 3730</td>
<td>110</td>
<td>990</td>
<td>75</td>
</tr>
</tbody>
</table>

**Single-Acting Spreader Solenoid**

- maximum holding force possible

**LES088000A00**

**LES098000A00**
- maximum holding force possible

- maximum holding force possible

- maximum holding force possible

- maximum holding force possible
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