LONGi Magnet Co., Ltd.
Your Most Competitive Supplier of Industrial Magnetic Equipment

Automatic Magnetic Flotation Separator

www.ljmagnet.com
Reliability
This is the first of our three base core values. At each step in the process, both before and after the sale, LONGi remains a loyal and committed partner to help you to achieve success. Our hope is that you will not just be a onetime buyer, but a loyal member of the growing family of LONGi product users that count on us to produce superior products that you will be proud to own.

Value-added
Secondly our pledge to you is to find the best solution to your needs and to provide the maximum value to you at a fair price both in terms of your time and budget.

Convenience
We take the stress off of you and put it onto us. Be it testing, selecting the correct magnetics needed or even just looking at your designs to make recommendations LONGi is committed to be your one stop shop for all your magnetic needs. With over 300 engineers here to serve you and discuss your needs, we want to earn your business by always finding the right solution to your needs in a quick and timely fashion.

Our Mission Statement:
To be the most competitive supplier of industrial magnetic equipment on the planet.
Brief Introduction

- LONGi Magnet Co. Ltd. was founded in 1993 and quickly became the leading manufacturer of industrial magnetic equipment throughout Asia. Having a large product range including, lifting magnets, WHIMS, LIMS, eddy current separators, metal detectors, drum separators, pulleys, vibratory feeders and much, LONGi is well suited to provide for any of your industrial magnetic needs.

- Always an innovator, LONGi holds over 200 national patents for its products and designs as well as having a provincial-level research center and laboratory it operates in conjunction with The Institute of Electrical Engineering at China’s Academy of Science. With over 1100 employees, LONGi is well equipped to handle whatever your project is, big or small. In fact, each year, LONGi exports thousands of solutions worldwide and consistently, LONGi’s annual sales have ranked #1 in the industrial magnetics industry in China. LONGi was also the first in our industry to earn the designation as a “China Well Known Trademark”.

- With our motto being “Reliability, Value-added, Convenience” we pride ourselves on always providing the most effective and beneficial solutions to whatever our customer needs in the world of magnet technology.
Automatic Magnetic Flotation Separator

Introduction

The development of the LJC automatic magnetic flotation separator was caused by a breakthrough based on research of dewatering tanks, magnetic flocculations, magnetic columns, wash mills and the like. This innovation allows for a large capacity unit capable of greatly increasing the concentrate grade automatically in a reliable environment while also saving on water and power.

- It set the national standard for the 5th generation of magnetic gravity separation equipment.
- Won The 2013 National Important New Product Award and The Provincial Science and Technology Progress Award.
- Was awarded 6 national patents, including:
  - Full-automatic Flotation Separator ZL2011 2041 4368.4
  - Full-automatic Control System ZL20112029 6729.X
  - Forward and Reverse Magnetic Field ZL2011 2015 1578.3
  - Appearance and Design of Full-automatic Flotation Separator ZL2012 3001 6764.1
  - Adjustment Device of Overflow Level ZL2011 2019 0904.7
  - Cable Connection Device of Full-automatic Flotation Separator ZL2012 2015 3682.6

Applications

The magnetic flotation separator is generally utilized in the finishing separation stage. It was designed for use with ferromagnetic minerals having a susceptibility higher than 3000 x 10-6 cm/g and has been found to normally increase the concentrate grade by 2-9% which can greatly increase the system's overall efficiency.

The magnetic flotation separator has been proven to be an excellent choice for a wide variety of ferrous minerals.
> Automatic Magnetic Flotation Separator

Technical Parameters

<table>
<thead>
<tr>
<th>Item</th>
<th>LJC-2000</th>
<th>LJC-3000</th>
<th>LJC-4000</th>
<th>LJC-5000</th>
<th>LJC-6000</th>
<th>LJC-8000</th>
<th>LJC-10000</th>
</tr>
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<tbody>
<tr>
<td>Feed Density %</td>
<td>≥20</td>
<td>≥20</td>
<td>≥20</td>
<td>≥20</td>
<td>≥20</td>
<td>≥20</td>
<td>≥20</td>
</tr>
<tr>
<td>Capacity (t/h)</td>
<td>10-15</td>
<td>15-25</td>
<td>25-30</td>
<td>30-40</td>
<td>35-45</td>
<td>45-55</td>
<td>60-80</td>
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<tr>
<td>Feed Size (-200 mesh %)</td>
<td>≥60</td>
<td>≥60</td>
<td>≥60</td>
<td>≥60</td>
<td>≥60</td>
<td>≥60</td>
<td>≥60</td>
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<tr>
<td>Water Pressure (MPa)</td>
<td>≥0.17</td>
<td>≥0.20</td>
<td>≥0.20</td>
<td>≥0.20</td>
<td>≥0.25</td>
<td>≥0.25</td>
<td>≥0.25</td>
</tr>
<tr>
<td>Power (kw)</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Overall Dimensions (mm)</td>
<td>L 1600</td>
<td>1850</td>
<td>2310</td>
<td>2500</td>
<td>2700</td>
<td>3014</td>
<td>3500</td>
</tr>
<tr>
<td></td>
<td>W 1600</td>
<td>1850</td>
<td>2310</td>
<td>2500</td>
<td>2700</td>
<td>3014</td>
<td>5000</td>
</tr>
<tr>
<td></td>
<td>H 4400</td>
<td>4800</td>
<td>5300</td>
<td>6100</td>
<td>7000</td>
<td>7887</td>
<td>8210</td>
</tr>
<tr>
<td>Total Weight (kg)</td>
<td>2900</td>
<td>4000</td>
<td>5900</td>
<td>9000</td>
<td>11000</td>
<td>14000</td>
<td>23400</td>
</tr>
<tr>
<td>Max. Lift Weight (kg)</td>
<td>2200</td>
<td>3000</td>
<td>4850</td>
<td>7650</td>
<td>8600</td>
<td>11800</td>
<td>19600</td>
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<tr>
<td>Max. Lift Height (mm)</td>
<td>2630</td>
<td>2750</td>
<td>3450</td>
<td>4300</td>
<td>4700</td>
<td>5400</td>
<td>8000</td>
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</table>

Note: 1. Feed water pressure at site must not be less than required above.
2. To define the suitable separation settings testing of samples must be done.

Features

- **A Large Increase in The Concentrate Grade.** A positive and negative pulsation of the magnetic field allows for the particle to be loosely suspended in a slurry for a thorough discharge of the gangue and intergrowth. This enables the separator to both effectively improve the grade of the magnetic concentrate and control the magnetic material from draining into the tailings.

- **A High Degree of Automation.** The water and slurry volume, overflow density, discharge density and magnetic intensity is all automatically adjusted based on the specific properties of the minerals. This virtually guarantees the best separation possible throughout the process, even when the material's properties change through normal fluctuations of ore grade.

- **Simplified Process Flow.** The magnetic flotation separator replaces the traditional finishing equipment. By doing so it not only lessons the amount of equipment needed to complete the process, but, also reduces both water and power consumption.

- **Stable Separation.** By means of having a larger separation area the amount of fluctuations in the end product are greatly reduced. When the change of material is within 60% of the normal feed product the end user can expect a stable and consistent product.

- **Power and Water Savings.** Positive and negative pulsations of the magnetic field, automatic feed control over the water and slurry levels as well as the magnetic intensity all allow for the maximization of resource use.

- **Remotely Controlled.** Using a PLC module the unit can easily be monitored and adjusted, if ever desired, from the end users computer system in the central control room.

- **Adaptable Capacity.** Based on the customer's needs, there are models ranging from the LJC-2000 to LJC-9000. This allows the end user to select a device capable of processing for their needs, up to 80 tons per hour per unit.
> Automatic Magnetic Flotation Separator

Structure

![Diagram of Automatic Magnetic Flotation Separator]

Installation Requirement
Incline angle of feed pipe must be larger than 12°
Horizontal change of the overflow surface must be within ±2mm
Feed water pressure must not be less than the value listed in the Technical Parameters.

<table>
<thead>
<tr>
<th>Model</th>
<th>H1 (mm)</th>
<th>H2 (mm)</th>
<th>H3 (mm)</th>
<th>E1 (mm)</th>
<th>Min. Occupied Area mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>LJC-2000</td>
<td>600</td>
<td>1270</td>
<td>4710</td>
<td>1370</td>
<td>2870×2870</td>
</tr>
<tr>
<td>LJC-3000</td>
<td>600</td>
<td>1490</td>
<td>5250</td>
<td>1710</td>
<td>3210×3210</td>
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<tr>
<td>LJC-4000</td>
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<td>1650</td>
<td>5840</td>
<td>2302</td>
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</tr>
<tr>
<td>LJC-5000</td>
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<td>1870</td>
<td>6880</td>
<td>2502</td>
<td>4000×4000</td>
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<tr>
<td>LJC-6000</td>
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<td>2430</td>
<td>7820</td>
<td>2696</td>
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</tr>
<tr>
<td>LJC-8000</td>
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<tr>
<td>LJC-10000</td>
<td>1000</td>
<td>2830</td>
<td>9640</td>
<td>3450</td>
<td>4950×4950</td>
</tr>
</tbody>
</table>

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> Work Sites
Recommended Process Flow

Typical Solution 1

Features: Overflow of the magnetic flotation separator goes directly to the tailings.

Ore Bin

Grinding

1st Magnetic Separation

High Frequency Screen

Dewatering Magnetic Separation

Grinding

2nd Magnetic Separation

3rd Magnetic Separation

4th Magnetic Separation

Magnetic Flotation Separation

Overflow goes to Tailings

Tailings

Filter

Water

Concentrate

Website: www.ljmagnet.com  Email: longi@ljmagnet.com  Phone: +86-24-56700058 56700068
Recommended Process Flow

Typical Solution 2

Features: The overflow of the magnetic flotation separator goes to a dewatering separator or 1st grinding to allow for an effective control over the tailings grade. This allows for a high recovery rate and maximizes water savings.
LONGi's Service Guarantee

One on One Service

LONGi's in house laboratory is well known for providing professional and accurate sample testing for a wide variety of clients in both the mineral and recycling industries. Based on the lab test results and often a necessary site survey our experienced engineers are proud to be able to offer the best solution available every time we can. Not only do we look for the solution to best process the end users material, but, we are mindful to provide the best value and performance in the most economical way.
Valuable Site Service
LONGi is proud to be able to provide experienced mechanical, electrical and magnetic engineers able to assist with most any installation, commissioning or training issues that may arise. Our main goal is to eliminate any situations before they arise at the work site both before and after the project. LONGi also has strategically located offices within easy access to current and future operating sites to provide spare parts and service and allow for minimal down time.

Ongoing Feedback Service
LONGi is as concerned with not only the equipment we are selling tomorrow, but, with those out in the field already. With a customer first attitude LONGi makes it a point that past sales are just as important as the future. Because of this LONGi will periodically check in with current users to gather feedback and offer any practical feedback or necessary adjustments that will help obtain the upmost benefit to all our customers.