“Meet reliable INTRISE, and you could see your future”

INTRISE responds rapidly to consumers’ changing needs with precise and systematic design, using drawing systems of 3D computer graphics.

Greeting

INTRISE CO., LTD is the leading exporter and manufacturer of nozzle type vacuum and gas flushing packaging machine, AIRZERO VACUUM PACKAGING MACHINE.

AIRZERO VACUUM PACKAGING MACHINE is a new concept of packaging machine with many merits, compared to chamber type packaging machine, AIRZERO VACUUM PACKAGING MACHINE suck air directly from the inside of packing envelope by using a nozzle stroke, So, the work is completed very quickly.

In addition to that, with the digital control box and vacuum sensor, AIRZERO VACUUM PACKAGING MACHINE has more special merits such as Packing process control both by vacuum degree and time, Separate control of 1st and 2nd vacuum degree, LCD / LED Indicator showing the operation and condition of machine, etc. So, AIRZERO VACUUM PACKAGING MACHINE’s excellent features overwhelm other company’s packaging machinery.

Complying with the increasing importance of packaging for commercial value, AIRZERO VACUUM PACKAGING MACHINE is successfully expanding the market in packaging industry field through a unique combination of skilled personnel, technical quality control, quick delivery, competitive price, and a variety of ready and tailor made vacuum and gas flushing packaging machinery available to meet your production line’s need, backed up by aggressive and continuous R & D.

Please go over AIRZERO VACUUM PACKAGING MACHINE’s various vacuum and gas flushing packaging solutions at the website,

www.airzero.co.kr / www.intrise.co.kr

and feel free to contact us if there is any way that AIRZERO VACUUM PACKAGING MACHINE can be of assistance concerning packaging of your products.
Nozzle Type Vacuum & Gas Flushing Packaging Machine

What’s the Nozzle Type Vacuum and Gas Flushing Packaging Machine?

It is a new concept of vacuum packing machine using a nozzle to suck air directly out of the bag so that it overcomes many shortcomings of the chamber type vacuum packing machine. (Refer to Chamber type vs Nozzle type.)

- A method to suck air out of the bag.
  - Fast work speed
  - Little restricted from the size of products
  - Possible to vacuum and gas flushing packing up to 2000ml with AZ-Serie
- Vacuum packing for contents with high temperature
- In vacuum packing, no product damage caused by an instant discrepancy in pressure
- Multi-functions
  - Sealing, vacuum packing, vacuum and gas flushing.

Free adjustment for vacuum degree and gas
- Vacuum packing at low vacuum possible (Stop at lowered)
- Gas flushing and substitution for the purpose of packing
- (Impossible with chamber type vacuum packing)

Heat and tidy packing shape
- In vacuum packing, products can be arranged finely

Various options
- Various vacuum pumps can be applied according to products
  - (pneumatic pump, diesel pump and oil pump)

Functions of and ways to use AZ-Series control-box

- VAC/TIME This button is to select whether you control vacuum procedure by time or by vacuum degree.
  - (T) If you want to control vacuum procedure by time
  - (D) If you want to control vacuum procedure by vacuum degree

- MODE This button decides the type of work. VACUUM, GAS, and SEALING are changed only by one
  - In each state of MODE button 1 to 5, 01 to 05, and 06 mean respectively VACUUM, GAS and SEALING
  - Which appear at the lower eight-side of LCD

- TIME This button decides the work, of which time or vacuum degree is adjusted. After pressing of TIME button, the time is decreased by one from VACUUM, GAS, and SEALING to COOLING. Then, for each of them, you can adjust time or vacuum degree by UP and DOWN button.

- UP/DOWN Increase / Decrease time / vacuum degree for each selected process.

- STOP This is the Stop button. If you press the button, the machine comes back to the original state.
  - So, the nozzle moves backward and the sealing bar moves up.

Properties of AZ-Series products

- Rehydration gas flushing and gas substitution are installed as the basic function
- Fuser for circuit protector is installed as a safety function
- Pneumatically, utility air regulation with filtering function is attached to minimize work allowing

- Control box
  - Detachable handle:
    - To allow for easy handling
  - The bottom part is attached for easy cleaning and fitting
  - In case of using a THICK film to pack, upper and lower cover can be easily detached
Nozzle Type Vacuum & Gas Flushing Packaging Machine

Gas Flushing Function

- Nitrogen Flushing Packaging
  Oxygen substitution, moisture removal, damage prevention on contents from outside impacts, packaging of vacuum packaging looking with adjusting gas amount (usage: snacks, grains, coffee, etc.)
- Nitrogen and Carbon Dioxide Flushing Packaging
  Carbon dioxide playing a role of preventing microbes from growing (usage: fisheries, meat, salted fish)
- Nitrogen, Carbon Dioxide and Oxygen Flushing Packaging
  Preserving freshness and nutrients by holding breath and preventing moisture in check as much as possible (usage: vegetables and fruits)

Examples of AZ-Series use

As the importance of packaging as a factor for product quality becomes bigger, the range of applying vacuum and gas flushing packaging widens to a variety of fields.

- Semiconductor and industrial products
  Prevention of oxidation, moisture and static electricity, particle elimination and reduction in logistics cost

<table>
<thead>
<tr>
<th>Applied Items</th>
<th>Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semiconductor and wafer</td>
<td>Micronix, Smartronic Ltd, Seoul Semiconductor, Hylte Semiconductor, Samsung, Venture team in Suwon University, etc.</td>
</tr>
<tr>
<td>Various ICs and electronic components</td>
<td>Transsem, Samsung Electro-Mechanics, Samsung Electronics Co. in Suwon, LG Electronics, Samsung Techwin, etc.</td>
</tr>
<tr>
<td>Optical tools</td>
<td>Seko, Nano Optics, Teiyumt Optics, Biuro Optica, Nuewark Optics, LT ULTRAS, etc.</td>
</tr>
<tr>
<td>Machinery</td>
<td>DF Tech, Chos Engineering, etc.</td>
</tr>
<tr>
<td>Mobile phone</td>
<td>Kyme Alco, S2 Telepack, Doosan MGI, Sine Tech, Samsung Electronics</td>
</tr>
<tr>
<td>Research equipment</td>
<td>Korea Institute for Advancement Engineering, Korea Electronics Technology Institute, Korea Atomic Energy Research Institute, Samsung Agri-Technology Research Institute, etc.</td>
</tr>
<tr>
<td>Medical field</td>
<td>SKIDRH, AAM, Dongsung, Preventa Koji, Dongsung, Songa Medical, Tumors, C.Techmun, Department of Pathology of SNU/National University, etc.</td>
</tr>
<tr>
<td>Silicon</td>
<td>Kyme silicon, Silicon Tech, Pio Energy, Silicon, etc.</td>
</tr>
<tr>
<td>Clothes and others</td>
<td>Ministry of National Defense, The Zingbao Research Center of the Cultural Heritage, Mitsubishi, LG INNOTEK Indonesia, etc.</td>
</tr>
</tbody>
</table>

- Foods
  Shelf life extension, and freshness and flavor maintenance

<table>
<thead>
<tr>
<th>Applied Items</th>
<th>Customers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dried fish and meat</td>
<td>Donghwa Seafood, Daeuk Yangju, etc.</td>
</tr>
<tr>
<td>Vegetables</td>
<td>Haegeun, Bukhangang, Hwanggyeol, Yangdong Canning, Bongdo Norilag, Bongpokol, etc.</td>
</tr>
<tr>
<td>Grains</td>
<td>Huminhara, Byangjeonlim, Chwaersong Jungheering, Naju Agricultural Technology Center, etc.</td>
</tr>
<tr>
<td>Fish and meat</td>
<td>Songdo Eumaku, Gilsan, Goseon Motor, Meiko Sunyu, Leacedom, etc.</td>
</tr>
<tr>
<td>Nuts</td>
<td>Haruhando, Taein, Nakado, Fruits, etc.</td>
</tr>
<tr>
<td>Hot goods</td>
<td>Gongsung, Nongyon, Midang Nammyo, Chu Sanmyo, etc.</td>
</tr>
<tr>
<td>Others</td>
<td>Shanriang Foods, Miaryun, Dangmyo Bangko, Nara, Rekeat, Kyungbae University, Yeon Chul Seong Brand, Shanriang Nara, A.T.Cong, Korea food, etc.</td>
</tr>
</tbody>
</table>

Desktop nozzle type vacuum packaging machine (AZ-450E)

- Suitable for a limited space

Stand-attached nozzle type vacuum packaging machine (AZ-450ES)

- Suitable for the case of requiring working stand below

<table>
<thead>
<tr>
<th>Model name</th>
<th>Sealing length</th>
<th>Sealing width</th>
<th>Packing capacity</th>
<th>Vacuum Pump</th>
<th>Required Power</th>
<th>Max Instantaneous power</th>
<th>Required Pneumatic pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ-Series</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AZ-450</td>
<td>450mm</td>
<td>10mm</td>
<td>1 - 10g/min</td>
<td>10L/min</td>
<td>1.9 kW</td>
<td>2.5 kW</td>
<td>5 - 7 kg/cm²</td>
</tr>
<tr>
<td>AZ-450EO</td>
<td>450mm</td>
<td>10mm</td>
<td>1 - 10g/min</td>
<td>10L/min</td>
<td>1.9 kW</td>
<td>2.5 kW</td>
<td>5 - 7 kg/cm²</td>
</tr>
<tr>
<td>AZ-450ES</td>
<td>450mm</td>
<td>10mm</td>
<td>1 - 10g/min</td>
<td>10L/min</td>
<td>1.9 kW</td>
<td>2.5 kW</td>
<td>5 - 7 kg/cm²</td>
</tr>
</tbody>
</table>

* If you want other specification, please refer to our sales dept.
Nozzle Type Vacuum & Gas Flushing Packaging Machine

- Free angle-adjustment of a upper head by handling is possible within maximum of 45°
  - Midoonghamwool Coffee, Chongseong MetalCheoljang

- Free height-adjustment of rack by handling is possible in maximum of 150mm
  - Suitable for the case when wafer, tray and height adjustment is required frequently
    - LG Electronics, Samsung Electronics, Sekomex

- Upper and lower double heat wires nozzle type vacuum packaging machine (AZ-400E-D)

- Sealing bar extended nozzle type vacuum packaging machine (AZ-800-ES)
  - Used in thick packaging film
  - Sealing bar is extended to 800mm

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Vertical nozzle type vacuum packaging machine (AZV-600)

Suitable for packaging bulky or heavy products, Inclination and height adjustable
(Equipped with an UP/DOWN electric power drive motor)

- Examples
  - Shinetru Silicon : Silicon undistilled solution
  - Heoage Nonghyup : For preserving green tea
  - Milko Syrup : Pickled fish and huge fish such as a shark
  - Mitsubishi : Cement

- Options
  - Work table, above and below heating method (vacuum pump, conveyor and the whole machine are made with stainless steel)
  - Possible to order and manufacture over 1200mm of sealing bar

---

<table>
<thead>
<tr>
<th>Model</th>
<th>Sealing length</th>
<th>Sealing width</th>
<th>Packing capacity</th>
<th>Vacuum Pump Type</th>
<th>Required Power</th>
<th>Max. Instantly consumed power</th>
<th>Required Pneumatic pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZV-600</td>
<td>600mm</td>
<td>9mm</td>
<td>1 - 4 (min)</td>
<td>Electric type</td>
<td>2.2 kW</td>
<td>3.5 kW</td>
<td>5 - 7 kg/cm²</td>
</tr>
<tr>
<td>AZV-800</td>
<td>800mm</td>
<td>9mm</td>
<td>10mm</td>
<td>Electric type</td>
<td>2.5 kW</td>
<td>3.5 kW</td>
<td></td>
</tr>
<tr>
<td>AZV-1100</td>
<td>1100mm</td>
<td>9mm</td>
<td>15mm</td>
<td>Electric type</td>
<td>3 kW</td>
<td>3.5 kW</td>
<td></td>
</tr>
</tbody>
</table>

* If you want other specifications, please refer to our sales dept.
Nozzle Type Vacuum & Gas Flushing Packaging Machine

Method to understand AZ-Series Model name

According to the below procedure, Buyer can select the most suitable one for their production site.

- Single
- Upper and lower double style
- Tabletop style
- Stand style
- Ejector pump
- Oilless pump
- Oil pump

- Standard length
- Vertical style

Vacuum pump

Its capacity to take air away is measured when it is not attached to the body.

### EJECTOR PUMP

<table>
<thead>
<tr>
<th>Model name</th>
<th>Maximum vacuum capacity (Pa)</th>
<th>Deployment speed (l/min)</th>
<th>Air consumption (m³/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTX-20</td>
<td>95</td>
<td>524</td>
<td>1.6</td>
</tr>
<tr>
<td>VTX-30</td>
<td>92</td>
<td>647</td>
<td>1.6</td>
</tr>
</tbody>
</table>

*Compressor is impossible to be built-in.*

### OILLESS PUMP

<table>
<thead>
<tr>
<th>Model name</th>
<th>Maximum vacuum capacity (Pa)</th>
<th>Deployment speed (l/min)</th>
<th>consumed power (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>213V</td>
<td>80</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>2120V</td>
<td>80</td>
<td>120</td>
<td>200</td>
</tr>
</tbody>
</table>

*Compressor is possible to be built in, in the case of sub-stand attached model.*

### OIL PUMP

<table>
<thead>
<tr>
<th>Model name</th>
<th>Maximum vacuum capacity (Pa)</th>
<th>Deployment speed (l/min)</th>
<th>consumed power (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MD-160</td>
<td>101</td>
<td>180</td>
<td>420</td>
</tr>
<tr>
<td>MD-210</td>
<td>101</td>
<td>230</td>
<td>420</td>
</tr>
<tr>
<td>MD-300</td>
<td>101</td>
<td>300</td>
<td>520</td>
</tr>
</tbody>
</table>

*Compressor is possible to be built in, in the case of sub-stand attached model.*

Tailor-made AIRZERO vacuum sealer

- SAMSUNG
- SHINELTRI SILICON
- LG CHEMICAL
- ARMY OF KOREA

Chamber type vs Nozzle type

- **Chamber type**
  - This type is suitable to pack several units of goods by just one process when the size of goods is very small compared to the size of chamber.

- **Nozzle type**
  1. Nozzle type adopts the method to vacuum-pack directly the inside of envelope by using a nozzle stroke. So, the work is very speedy compared to chamber type, except when the size of packed goods is very small so that you pack several units of goods by just one process by using a chamber type.
  2. Nozzle type is much less restricted to the size of packed goods compared to chamber type, thanks to the method to vacuum-pack directly the inside of envelope by using a nozzle stroke.
  3. Nozzle type has a vacuum sensor in control box. So, nozzle type is very suitable for when user want to vacuum-pack the packed goods at same vacuum degree regardless the size of packed goods. Chamber type is impossible to do this.
  4. Nozzle type can control the volume of gas inserted in the envelope. That is, a user can flush usually an envelope to swell up or flush just lightly. But, in the case of chamber type, gas cannot be inserted just lightly into an envelope.
  5. In the case of clean room vacuum packaging, only Nozzle type is possible because nozzle type uses ejector-vacuum pump which pushes out very little dust compare to chamber type which uses oil-vacuum pump generating much dust.
  6. In the case of packing for any goods which includes liquid, chamber type is not suitable because chamber type uses oil-vacuum pump which becomes out of order when liquid sinks into it. But, that is possible for Nozzle type using ejector-vacuum pump which is no problem with liquid. (But, even in the case of nozzle type, any inflow of much liquid to the inside of machine’s body may bring about a trouble.)
  7. Nozzle type is suitable when the packed goods is sensitive against any external shock. Chamber type is not suitable because it makes vacuum using momentary atmospheric pressure so that it gives external shock to packed goods.
  8. Especially, AZA-420-CS (Angle controllable type) is suitable for grains or liquid, for it can incline down the angle of machine’s body to 45°.