GAS-FLUSHING & VACUUM IMPULSE SEALER

Typical Industries and Applications

☑ Light Electrical Appliance
☑ Food Product
☑ Dairy Farming, Basic Ingredients, Raw Materials
☑ Apparel
☑ Hospitals
LOS-NT / NTW Series

The LOS-NT/NTW series sealers are long-length sealers capable of creating both vacuum and gas-flush seals. When you want to flush the air inside the bag and reduce the package volume, or when you want to utilize oxygen scavenger to extend product life, you can use the Vacuum Sealing function. When you want to fill the bag with nitrogen gas to prevent oxidation, or with carbon dioxide to create bacteriostatic or insect-repellent effects or to prevent spoilage and mold growth, you can use the Gas-flush Sealing function.

Switch Among 10 Sealing Methods!
The following sealing methods can be combined to create an optimum sealing method for your application. Select a sealing method to meet your needs, including selecting to best suit the characteristics of the packaged material and to obtain your desired packaging finish.

- Work Method Options
  1. Seal only
  2. Vacuum + seal
  3. Vacuum + gas flushing + seal
     (Single or multiple gas flush cycles)

- Vacuum Method Options
  1. Vacuum gauge (0 to −100Kpa)
  2. Vacuum timer (0 to 99.9 seconds)
  3. Manual operation

- Gas-Flush Method Options
  1. Multiple flush cycles (up to 99 times)
  2. Single gas flush

- 10 Operation Patterns
  1. Seal only
  2. Vacuum: manual vacuuming + seal
  3. Vacuum: timer vacuuming + seal
  4. Vacuum: vac gauge vacuuming + seal
  5. Single gas: manual vac + single gas + seal
  6. Single gas: timer vac + single gas + seal
  7. Single gas: vac gauge vac + single gas + seal
  8. Multiple gas: manual vac + multiple gas + seal
  9. Multiple gas: timer vac + multiple gas + seal
  10. Multiple gas: vac gauge vac + multiple gas + seal

Standard-Equipped Heating Temperature Control
ONPUL Featuring the ONPUL System, the heating temperature is controlled by directly detecting the heater temperature using a low-profile temperature sensor that comes in contact with the heating element. The initially set sealing condition will not be affected by the work environment or by extended use.

Easy-to-Operate Microcomputer Controller
The selection and setting of work method and vacuum method, as well as of gas-flush method and its frequency, are all controlled at the microcomputer controller. Simply press the touch panel buttons for the settings. Maximum 10 operation patterns can be stored in the microcomputer.

Adjustable Head Height
The height of the head of the sealer can be adjusted to suit the package content by operating the buttons on the side of the machine.

When the bag is set vertically to the head: 800 to 1370mm.
When the bag is set horizontally to the head:1020 to 1590mm.

Tilting the Head Angle
By turning the adjuster knob, the tilt angle of the head can be variably adjusted between 0 and 90 degrees to suit the package content. For example, when packaging powders, tilting down the sealer head will allow the sealing to complete without powder spilling from the bag opening.
Model Variation Features

LOS-NT series (Vacuum pump)

LOS-NT series (vacuum pump) conducts vacuuming through the use of a vacuum pump. These sealers are effective for increased vacuum when the package content is solid.

Choose the Vacuum Pump (for Vacuum)

You can choose the various exhaust-velocity vacuum pump, which serves as the vacuum generator, based on your specific needs, usage environment and package content.

<table>
<thead>
<tr>
<th>Model</th>
<th>Exhaust Velocity</th>
<th>Ultimate Vacuum</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NT1 Series</td>
<td>120L/min</td>
<td>88Kpa</td>
<td>Standard specification equipped with a diaphragm type dry vacuum pump to be used in the clean environment.</td>
</tr>
<tr>
<td>NT2 Series</td>
<td>80L/min x 2</td>
<td>95.9Kpa</td>
<td>Equipped with two relatively small rocking piston type dry vacuum pumps for the better performance than that of N1 series.</td>
</tr>
<tr>
<td>NT3 Series</td>
<td>120L/min</td>
<td>98Kpa</td>
<td>Equipped with a diaphragm type dry vacuum pump similar to N1 series, the highest vacuuming level can be achieved.</td>
</tr>
<tr>
<td>NT4 Series</td>
<td>230L/min</td>
<td>93.9Kpa</td>
<td>The highest exhaust velocity with a rotary vane vacuum pump to enhance the vacuuming speed.</td>
</tr>
</tbody>
</table>

Compressor Required Separately

Compatible compressor

=0.75KW 75L/min 490kPa or greater

Applications

Semiconductors, precision parts, containers, cushioning material, futon, blankets, clothes, food ingredients, dried vegetables, instant foods, beans, etc.

LOS-NTW series (Ejector)

In this series of sealers, vacuuming is conducted through the use of an ejector, powered by the compressor air. These sealers are effective for vacuum-packaging liquid and powder contents, and for shortening the time required for vacuuming. (Although time required is shorter than for vacuum pumping, using the ejector for vacuuming results in a lower ultimate vacuum.)

Ejector capacity

Exhaust velocity: 1650L/min
Ultimate vacuum: 56.9kPa

Compressor Required Separately

Compatible compressor

=1.5KW 165L/min 540kPa or greater

Applications

Candy, paste products, juice, powder, seafood, pickles, sauce, boil-in-bag food, delicatessen, food ingredients, chemical agents, fertilizer, animal feed, etc.
### Specification Sheet for Vacuum/ Air Source

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Air Source</th>
<th>Vacuum Source</th>
<th>Exhaust Speed</th>
<th>Vacuum Source: Ultimate Vacuum</th>
<th>Vacuum Source: Weight</th>
<th>Compatible Compressor</th>
<th>Air Source: Optimum Air Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOS-N1T1 Series</td>
<td>Vacuum pump</td>
<td>120 L/min</td>
<td>-88 kPa</td>
<td>19 kg</td>
<td>0.75 KW (5 L/min) or greater</td>
<td>400 kPa (5Kgf/cm²)</td>
<td></td>
</tr>
<tr>
<td>LOS-N2T2 Series</td>
<td>Vacuum pump DOP-80S x 2 units</td>
<td>80 L/min x 2</td>
<td>-95.9 kPa</td>
<td>7 kg x 2</td>
<td>0.75 KW (5 L/min) or greater</td>
<td>400 kPa (5Kgf/cm²)</td>
<td></td>
</tr>
<tr>
<td>LOS-N3T3 Series</td>
<td>Vacuum pump</td>
<td>120 L/min</td>
<td>-98 kPa</td>
<td>26 kg</td>
<td>0.75 KW (5 L/min) or greater</td>
<td>400 kPa (5Kgf/cm²)</td>
<td></td>
</tr>
<tr>
<td>LOS-N4T4 Series</td>
<td>Vacuum pump KHF-14/02</td>
<td>230 L/min</td>
<td>-103 kPa</td>
<td>24 kg</td>
<td>0.75 KW (5 L/min) or greater</td>
<td>400 kPa (5Kgf/cm²)</td>
<td></td>
</tr>
<tr>
<td>LOS-NTW Series</td>
<td>Built-in ejector</td>
<td>1500 L/min</td>
<td>-56.9 kPa</td>
<td>—</td>
<td>1.5 KW (165 L/min) or greater</td>
<td>540 kPa (5Kgf/cm²)</td>
<td></td>
</tr>
</tbody>
</table>

*4 The exhaust speed and ultimate vacuum represent stand-alone values, before installation to the machines.

*5 The 0 torr of the ultimate vacuum is ~101.3kPa.

### Safety Measures

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anti-Overheating Mechanism</td>
<td>When overheating occurs (i.e., when power continues to be distributed to the heating element for longer than 4 seconds), the breaker turns off and the power is switched off.</td>
</tr>
<tr>
<td>Lever Drive</td>
<td>The lever uses spring action to clamp down on the bag so that no noticeable pressure is applied when finger or other foreign objects get caught.</td>
</tr>
<tr>
<td>Emergency Reset Mechanism</td>
<td>When the lever is being lowered, removing foot from the footswitch will raise the lever from its lowered position.</td>
</tr>
<tr>
<td>Automatic Reset upon Anomaly Detection</td>
<td>When the lever is being pressed down, if a foreign object (e.g., a finger) is caught in the sealing area and is preventing the sealing process from proceeding to the next step, the lever will return to its initial position after one second.</td>
</tr>
<tr>
<td>Emergency Stop Switch</td>
<td>In an emergency, press the Emergency Stop Switch to turn off the breaker and shut off the power. This will return the lever to its initial position.</td>
</tr>
</tbody>
</table>

### Error Detection and Display Function

<table>
<thead>
<tr>
<th>Error Detection</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heat Disconnect</td>
<td>When the heater is disconnected during the heating process, initial condition is restored and an error message will appear on the control panel screen.</td>
</tr>
<tr>
<td>Heat Control Error (1)</td>
<td>When there is no heat during the heating process, initial condition is restored and an error message will appear on the control panel screen.</td>
</tr>
<tr>
<td>Heat Control Error (2)</td>
<td>When the set temperature is not reached within 3.5 seconds, the lever will return to its initial position and the circuit breaker will switch the power off.</td>
</tr>
<tr>
<td>Cooling Control Abnormality</td>
<td>When heating is detected during the cooling process, the lever returns to its initial position and the circuit breaker will switch the power off.</td>
</tr>
<tr>
<td>Abnormally during Operation</td>
<td>When any of the sensors fail to confirm input during operation, the lever will return to its initial position and an error message will appear.</td>
</tr>
</tbody>
</table>

### Option

**Tension Arm**

Tension arms can be set at both sides of the bag. The tension arms spread open going into the sealing process to hold the bag straight and pulled tightly. Because the sealing is conducted with the bag pulled straight, the sealed finish is clean with fewer chances of failure.
VG-602 /VG-602 Series

The VG-602/VG-402 Series is a nozzle-equipped, electric/air-cylinder-operated vacuum and gas-flushing sealer, designed for slightly smaller bag sizes (400-600mm). Customers can choose the air compressor and vacuuming pump to best suit their specific needs, usage environments and package contents.

When you want to vacuum the air inside the bag and reduce the package volume, or when you want to utilize oxygen scavenger to extend product life, you can use the Vacuum Sealing function.

When you want to fill the bag with nitrogen gas to prevent oxidation, or with carbon dioxide to create bacteriostatic or insect-repellent effects or to prevent spoilage and mold growth, you can use the Gas-flush Sealing function. The world is full of different things that beg to be packaged. Go ahead and package to suit your needs with the VG-602 and VG-402 Series!

Easy-to-Operate Microcomputer Controller

The selection and setting of work method and vacuum method, as well as of gas-flush method and its frequency, are all controlled at the microcomputer controller. Simply press the touch panel buttons for the settings. Maximum 10 operation patterns can be stored in the microcomputer controller.

Standard-Equipped Heating Temperature Control

Featuring the ONPUL System, the heating temperature is controlled by directly detecting the heater temperature using a low-profile temperature sensor that comes in contact with the heating element. The initially set sealing condition will not be affected by the work environment or by extended use.

ONPUL

Work Method Options
1. Seal only
2. Vacuum + seal
3. Vacuum + gas-flushing + seal
   (Single, multiple, or circulating gas flush cycles)

Vacuum Method Options
1. Vacuum gauge
2. Vacuum timer
3. Manual operation

Gas-Flush Method Options
1. Multiple flush cycles (up to 99 times)
2. Single gas flush
3. Circulating gas-flush (Please refer to page 26 for the detail.)

13 Operation Patterns
1. Seal only
2. Vacuum : manual vacuuming + seal
3. Vacuum : timer vacuuming + seal
4. Vacuum : vac gauge vacuuming + seal
5. Single gas : manual vac + single gas + seal
6. Single gas : timer vac + single gas + seal
7. Single gas : vac gauge vac + single gas + seal
8. Multiple gas : manual vac + multiple gas + seal
9. Multiple gas : timer vac + multiple gas + seal
10. Multiple gas : vac gauge vac + multiple gas + seal
11. Circulating gas : manual vac + circulating gas + seal
12. Circulating gas : timer vac + circulating gas + seal
13. Circulating gas : vac gauge vac + circulating gas + seal
Switch to Circulating Gas Flush Method
By modifying the piping, it is possible to switch to the circulating gas-flush method. With one nozzle set for gas flushing and the other for vacuuming, the circulating gas-flush method increases gas-replacement rate by de-airing the bag even as it is being filled with gas. Especially effective with soft contents.

Adjustable Sealer Head Angle
The head of the sealer can be adjusted at between 0 and 30 degree angles to suit the package content. For example, when packaging powders, tilting down the sealer head will allow the sealing to complete without powder spilling from the bag opening.

Standard Equipped Dry Filter
The compressed air generated by the built-in compressor sometimes may contain drops of water from condensation, which can enter the machine through the piping and cause damage. To counter this problem, the VG-602/402 series comes standard-equipped with dry filter, which removes drops of water from the compressed air to prevent them from entering into the cylinder and piping inside the machine.

Standard-Equipped with Air Filter and Automatic Water-Drain Device
A nozzle-equipped vacuum sealer sometimes may inadvertently take in the bag’s contents via the nozzle during the vacuum process. To counter this problem, the VG-602/402 series comes standard-equipped with air filter to collect foreign objects (liquid, powder, etc.) that were inadvertently taken in during the vacuum process, and prevents the objects from entering into and damaging the vacuum pump.

In addition, by turning on the automatic water-drain device, the foreign objects collected in the air filter can be automatically discharged from the machine after each sealing process.

Safety Measures

- **Anti-Overheating Mechanism**
  When overheating occurs (i.e., when power continues to be distributed to the heating element for longer than 4 seconds), the breaker turns off and the power is shut off.

- **Emergency Stop Switch**
  In an emergency, press the Emergency Stop Switch to turn off the breaker and shut off the power. This will return the lever to its initial position.

- **Automatic Reset upon Anomaly Detection**
  When the lever is being pressed down, if a foreign object (e.g., a finger) is caught in the sealing area and is preventing the sealing process from proceeding to the next step, the lever will return to its initial position after one second.

- **Emergency Reset Operation**
  When the lever is being pressed down, removing your foot from the footswitch will raise the clamping lever to help prevent fingers and other objects from being caught.

Specifications Sheet for VG-602 / VG-402 Series

<table>
<thead>
<tr>
<th>Model Name</th>
<th>VG-402-xx</th>
<th>VG-402-xx-10D</th>
<th>VG-602-xx</th>
<th>VG-602-xx-10D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power V</strong></td>
<td>110 / 220</td>
<td>220</td>
<td>220</td>
<td>220</td>
</tr>
<tr>
<td><strong>Power Consumption W</strong></td>
<td>1700</td>
<td>2700</td>
<td>3000</td>
<td>3100</td>
</tr>
<tr>
<td><strong>Heating Method</strong></td>
<td>Single</td>
<td>Double</td>
<td>Single</td>
<td>Double</td>
</tr>
<tr>
<td><strong>Seal Length mm</strong></td>
<td>400</td>
<td>400</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td><strong>Seal Width mm</strong></td>
<td>10 or 5</td>
<td>10</td>
<td>10 or 5</td>
<td>10</td>
</tr>
<tr>
<td><strong>Vacuum Method</strong></td>
<td>Nipple</td>
<td>Nipple</td>
<td>Nipple</td>
<td>Nipple</td>
</tr>
<tr>
<td><strong>Vacuum Degree</strong></td>
<td>From -1 to -100 kPa</td>
<td>Structurally, the nozzle vacuum system will cause attainable vacuum level to be erratic when operating the machine in low vacuum of between -1 to -10 Kpa. The button on the control unit allows you to set the vacuum level from -1 to -100 kPa, but the actual vacuum level will depend on the ability of the pump mounted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vacuum Timer sec.</strong></td>
<td>0.1 - 99.9</td>
<td>0.1 - 99.9</td>
<td>0.1 - 99.9</td>
<td>0.1 - 99.9</td>
</tr>
<tr>
<td><strong>Machine Drive</strong></td>
<td>Air Cylinder</td>
<td>Air Cylinder</td>
<td>Air Cylinder</td>
<td>Air Cylinder</td>
</tr>
<tr>
<td><strong>Seal Height mm</strong></td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td><strong>Heating Temperature ℃</strong></td>
<td>60 – 250</td>
<td>60 – 250</td>
<td>60 – 250</td>
<td>60 – 250</td>
</tr>
<tr>
<td><strong>Heating Time sec.</strong></td>
<td>0 – 2.0 seconds</td>
<td>0 – 2.0 seconds</td>
<td>0 – 2.0 seconds</td>
<td>0 – 2.0 seconds</td>
</tr>
<tr>
<td><strong>Cooling Temperature ℃</strong></td>
<td>40 – Set heating temperature</td>
<td>40 – Set heating temperature</td>
<td>40 – Set heating temperature</td>
<td>40 – Set heating temperature</td>
</tr>
<tr>
<td><strong>Foil Thickness (total) mm</strong></td>
<td>Less than 0.3</td>
<td>Less than 0.4</td>
<td>Less than 0.3</td>
<td>Less than 0.4</td>
</tr>
<tr>
<td><strong>Machine Weight kg</strong></td>
<td>93</td>
<td>98</td>
<td>100</td>
<td>105</td>
</tr>
<tr>
<td><strong>Machine Dimension W x D x H (mm)</strong></td>
<td>595 x 555 x 1052</td>
<td>595 x 555 x 1052</td>
<td>675 x 555 x 1052</td>
<td>675 x 555 x 1052</td>
</tr>
<tr>
<td><strong>Table Dimension W x D (mm)</strong></td>
<td>400 x 350</td>
<td>400 x 350</td>
<td>600 x 450</td>
<td>600 x 450</td>
</tr>
</tbody>
</table>

*1 Other voltages available on request.
*3 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.
Choose the Vacuum Pump (for Vacuum) and Air Compressor (for Drive)
You can choose the compressor, which serves as the drive, and the various exhaust-velocity vacuum pump, which serves as the vacuum generator, based on your specific needs, usage environment and package content.

VG-series sealer is named by the combination of vacuum pump and air compressor.
ex.
Compressor: MP-40 (called A)
Vacuum pump: DOP-80 (called H)
602 series dual heating type
VG-602-AH-10D

Option
Seal Area Cover
The sealing area may be covered using transparent resin (polycarbonate) to help prevent fingers and other objects from getting caught.

2-Line Printing Device: FEP-V-N2
Exterior 2-line printing device FEP-V-N2 can be installed as a manufacturer option. This allows the printing of texts and dates such as “Best before MMDDYY” and “Sell by MMDDYY.” FEP-V-N2 is a hot-print-type printer that utilizes heated types to print carbon.