FUJI IMPULSE®

Fuji Impulse

PRODUCT CATALOGUE

High Quality Impulse Sealers

What is an Impulse Sealer?

An impulse sealer heat-seals objects by sending high current on impulse to a heater ribbon, equipped on the surface of the heat-sealing blade, to generate heat that enables thermal-sealing through thermal conductivity. The section to be sealed is placed between the heat-sealing blades, pressed and thermal-fused when current and heat are delivered on impulse through the heater ribbon. After the current stops, the seal remains under pressure to cool and to give it a clean finish.

(Source: The Hoso Times, published by Nippo Co., Ltd.)

What is so good about the impulse sealer?

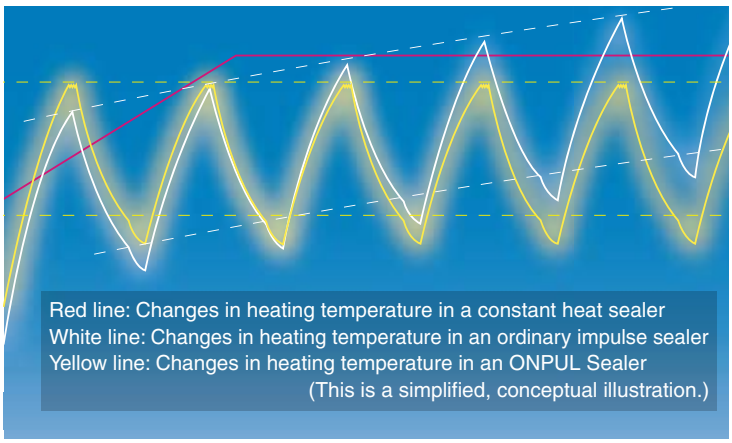
Impulse sealer is ready to use: There is no warm-up period after turning it on.	**Impulse sealer is economical: Electricity for the heater is only used during the sealing process.**	**Impulse sealer poses little risk of burn injury: No component is always hot.**	**Impulse sealer creates a seal with a clean finish: Cooling and fusion takes place under pressure.**
Constant heat sealer requires waiting time for the hot bar to heat up. This also means additional power is wasted.	Constant heat sealer must maintain the sealing bar hot at all times. Power is constantly drained as long as the switch is on.	Constant heat sealer maintains the sealing area hot at all times, exposing the user to a higher risk of accidentally touching the hot bar.	Constant heat sealer marely provides heat, leaving cooling and fusing process to take place while the package material is shrinking. This results in a rather uneven finish.

What is an ONPUL Sealer?

At Fuji Impulse, in order to realize high-precision sealing and add more value to the sealer, we are promoting equipping the sealers with a special added function and to make it a standard.
That function is “ONPUL.”

Sealing at an ideal temperature while maintaining the desired setting.

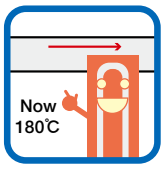
High-precision sealing: heat at temperature to melt film and cool at temperature to solidify film.



Red line: Changes in heating temperature in a constant heat sealer
White line: Changes in heating temperature in an ordinary impulse sealer
Yellow line: Changes in heating temperature in an ONPUL Sealer
(This is a simplified, conceptual illustration.)

How does an ONPUL Sealer work?

ONPUL Sealer controls heating temperature by directly measuring the heater temperature using a low-profile temperature sensor that comes in contact with the heater.



ONPUL Sealer is the answer to the following problems:

- Operating for an extended period caused a melted-film seal.
- You know the film-fusing temperature, but cannot set the heater temperature to it.
- The sealing finish differs from the initial finish after a prolonged use.

If you have any of the above problems, ONPUL can help !

ONPUL Sealer saves the day when:

You can’t afford to have sealing failures caused by changes in the heating temperature.

You need to make a prolonged, continuous use of the sealer for volume production.

You need to maintain consistent precision and strength of the seal.

What does the word “ONPUL” stand for? Is it English? Japanese?

It is a combination of both, derived from “Ondo (Japanese for temperature) control Impulse Sealer.” The “On” and “pul” were put together to make “ONPUL.”

How does it differ from other sealers?

It is economical:

Because it can be operated using bare-minimum heating, it is energy-efficient and labor-efficient. It also reduces wear on the parts.

You can set the heating temperature:

All of our other products are designed to set the heating time (timer); heating temperature can only be set with an ONPUL.

You can set the ideal sealing conditions:

The biggest feature of the ONPUL Sealer is the ability to set the ideal sealing condition. The heating temperature is set by controlling the temperature through the use of a high-sensitivity temperature sensor and by microcomputer-control. The heating process can thus be completed at the film-melting temperature without being affected by an increase in the air temperature or machine temperature.

TABLE-TOP IMPULSE SEALER

Typical Industries and Applications

- ☑ Food Packaging
- ☑ Confectionery Production, Breadmaking, Fish and Seafood
- ☑ Hospitals, Clinics, Individual Packaging for Medication, Bags for Sterilization
- ☑ Industrial Components, Parts & Tools
- ☑ Apparel, Individual Packaging for Clothing

P-200 / PC-200
P-300 / PC-300

Seal Only | Hand Oeprated | Frequency 1,000 bags/day

Simple Operation
Use the heating-time adjuster knob facing you to set the appropriate heating time for the bag.
Lower the clamping lever using one hand. The heating light will turn on. Sealing is completed when you hear a brief beeping sound. There are two variations in the length: 200mm (P-200, PC-200) or 300mm (P-300, PC-300). The sealer comes equipped with a 2mm heating element when it is shipped from the factory. The 2mm heating element may be replaced with a fusion-cut heating element as needed to create fusion-cut seals.

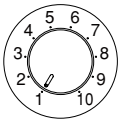
Cutter Mechanism: PC-200, PC-300
On a PC sealer, the user can slide the cutter knob after the sealing is completed to cut off any excess material from the end of the bag. This cutter feature can be used to create multiple bags from tube-shaped film.

Safety Measures
Anti-Overheating Mechanism
As a safety measure, the unit is equipped with a device to shut off the circuit in about 3 seconds in case of abnormal heating (continuous current) caused by timer malfunction.


P-200


P-300

Operation Setting
Heating Time : Dial 1 – 10
(About 0.1 – 1.6 sec.)



FS-215 / FS-315

Seal Only | Hand Oeprated | Frequency 1,000 bags/day

Good for the Small Retailer
It is ideal for individual packaging at stores as well as for small packaging of parts and food materials at plants.
The compact unit takes up minimal space and is very mobile. The resin body, featuring a rounded design, suits well at a showcase without disrupting the aesthetics of the shop.

Applications:
Pastries and confectioneries (bread and other baked goods, candies, etc.), pasta and noodles, medicine, office supplies, books, magazines, vegetables, sundry products, metal products, parts, food products, etc.

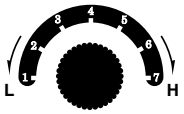
Simple Operation, Easy Maintenance!
Use the heating-time adjuster knob on top of the unit to set the appropriate heating time for the bag. Simply apply light pressure to the table with your hands as you hold the bag. This results in a powerful sealing pressure that ensures secure and clean sealing.
The heating element and other relatively frequently replaced parts are easily replaced by detaching the table and removing the Teflon-sheet. Remove the table by loosening the plastic nut with your fingers.

Safety Measures
Anti-Overheating Mechanism
As a safety measure, the unit is equipped with a device to shut off the circuit in about 3 seconds in case of abnormal heating (continuous current) caused by timer malfunction.


FS-215


FS-315

Operation Setting
Heating Time : Dial 1 – 7
(About 0.1 – 1.6 sec.)



FT-130 / FT-230

Seal Only | Hand Oeprated | Frequency 1,000 bags/day

Simple Operation, Strong Seal!

Use the heating-time adjuster knob on top of the unit to set the appropriate heating time for the bag. Simply press down the handle with your hand as you hold the bag. This results in a powerful sealing pressure that ensures secure and clean sealing.

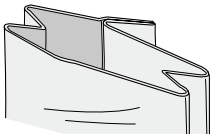
Securely Seal Thick Gusset Bags for Coffee etc.

Gusset bags, used mainly for loose-leaf tea and coffee bean bags, consist of evaporated aluminum film and are thick, especially with four sheets overlapping in the back as shown in the right illustration. Clamping the bag requires powerful pressure and heat capable of melting the bag, which ordinary sealers cannot produce.

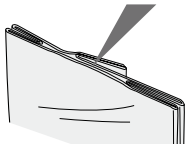
FT-130 and FT-230 are configured to heat the bag not only from the bottom but also from the top (double-side heating method), as well as to apply enhanced, powerful sealing pressure. The FT sealers are capable of sealing coffee/tea bags and other bags with a total film thickness of up to 0.5mm.*1

*1 Please note that for gusset bags such as the one illustrated below, the thickest part of the bag will consist of four overlapped pieces of film. This means that the FT sealer can seal film up to 0.125mm thick. Total thickness 0.5mm/4 sheets = 0.125mm per sheet of film

An illustrated example of a gusset bag, often used for coffee/tea



The total number of overlapped pieces of film at the back is four, requiring powerful seal pressure and heating.

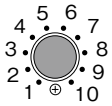


FT-130

FT-230

Operation Setting

Heating Time : Dial 1 – 10
(About 0.1 – 1.6 sec.)



Model Name	P-200	PC-200	P-300	PC-300	FS-215	FS-315	FT-130	FT-230
Power *2	110/220V	110/220V	110/220V	110/220V	110/220V	110/220V	110/220V	110/220V
Power Consumption	250W	250W	380W	380W	400W	500W	1200W	1300W
Heating Method *3	Single	Single	Single	Single	Single	Single	Double	Double
Seal Length	200mm	200mm	300mm	300mm	200mm	300mm	120mm	220mm
Seal Width	2mm	2mm	2mm	2mm	5 or 2mm	5 or 2mm	10mm	10mm
Heating Time	0.1 – 1.6sec.	0.1 – 1.6sec.	0.1 – 1.6sec.	0.1 – 1.6sec.	0.1 – 1.6sec.	0.1 – 1.6sec.	0.1 – 1.6sec.	0.1 – 1.6sec.
Film thickness *4	Less than0.2mm	Less than0.2mm	Less than0.2mm	Less than0.2mm	Less than0.2mm	Less than0.2mm	Less than0.5mm	Less than0.5mm
Machine Weigtht	2.2kg	2.2kg	4kg	4kg	5.2kg	5.8kg	6.7kg	9.7kg
Machine Dimension W x D x H mm	72 x 310 x 160	72 x310 x160	82 x 428 x 200	82 x 428 x 200	286 x 376 x 198	363 x 376 x 198	230 x 340 x 250	320 x 360 x 250
Table Dimension W x D mm	–	–	–	–	218 x 180	317 x 180	–	–
Cutter	–	○ : Cuts off the excess film at 7mm above the seal line	–	○ : Cuts off the excess film at 10mm above the seal line	–	–	–	–
Seal finish sound *5	○	○	○	○	–	–	–	–

*2 Other voltages available on request.
*3 Single: heating element mounted on the lower side. Double: Heating element mounted on both upper and lower sides.
*4 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.
*5 The beep sound will inform you when the seal is complete.

SEMI-AUTOMATIC TABLE-TOP IMPULSE SEALER

Industries and Applications

- ☑ Food Packaging
- ☑ Confectionery Production, Breadmaking, Fish and Seafood
- ☑ Hospitals, Clinics, Individual Packaging for Medication, Bags for Sterilization
- ☑ Industrial Components, Parts & Tools
- ☑ Apparel, Individual Packaging for Clothing

OPL Series

Seal Only | Semi Auto | ONPUL | Frequency 3,000 bags/day

Simple Operation

Simply place a pouch to the sealing area using your hands. The sealing cycle can be started just by pressing an air pedal.
Use the touch panel on the control unit to set conditions such as heating temperature, heating time, and cooling temperature. After setting the appropriate sealing condition for the packaging material, select either automatic continuous operation or manual air-pedal operation. The OPL-200 and OPL-300 series of sealers also offer a selection of different methods, with which to press the table-switch plate with your hands as you hold the bag. The cycle of the machine can be started by pressing the table-switch plate.
OPL-450-5 is standard equipped with a standard table. If a table is required for the OPL-450-10 and OPL-600 series of sealers, it is recommended to use the FA / OPL stand combined with a special table. Please refer to the page 37 for the detail of optional items.

Temperature Control Using Temperature Sensor

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.
With the ONPUL System, a user can set the heating temperature to the temperature at which a film melts. This means that the user can increase the sealing strength. In addition, because only the required energy is used in the seal heating and cooling processes, it saves energy and increases work efficiency, as well as extend the product life of parts such as the heating element, Teflon sheet and glass tape.

OPL-300-5

Safety Measures

Anomaly Detection

Should an abnormal situation arise (temperature sensor being damaged etc.), it will be indicated on the LCD screen on the control unit and/or by an alarm sound.

Anti-Finger Jamming

The clamping lever will not go down completely if a foreign object such as a finger is caught in the sealing area *1. To stop machine movement during operation, press the ABORT CYCLE button.

Option

Hot stamp printer FEP-N2 series

OPL-300 with Optional FEP-N2 Printer

FA / OPL stand

Standard table *2 Special table *3

300 standard table

300/450 special table

Operation Setting

Heating Temp : 60 – 250°C
Heating Time : 0.0 – 5.0sec.
Cooling Temp : 40°C – Heat Temp
Auto-Cycle Interval : 0.1 – 5.0sec.

Model Name	Power V *4	Power Consumption W	Heating Method	Seal Length mm *5	Seal Width mm	Film thickness (total) mm*6	Machine Weight kg	Machine Dimension W x D x H mm	Standard Equipped		Optional Items			
									Standard Table	Table-switch plate	Printer		Special Table	Standard Table
											Inner	Outer		
OPL200-10	110/ 220	1150	Single	200	10	Less than 0.3	16	260 x 580 x 360	–	○	○	–	○	○
OPL-300-5	110/ 220	1250	Single	300	5	Less than 0.3	16	360 x 580 x 360	–	○	○	○	○	○
OPL-300-10	110/ 220	1700	Single	300	10	Less than 0.3	16.5	360 x 580 x 360	–	○	○	○	○	○
OPL-450-5	110/ 220	1200	Single	450	5	Less than 0.3	15	520 x 510 x 360	○	–	○	○	○	–
OPL-450-10	220	2300	Single	450	10	Less than 0.3	16	520 x 380 x 360	–	–	○	○	○	○
OPL-600-5	110/ 220	1700	Single	600	5	Less than 0.3	19	680 x 390 x 360	–	–	○	○	○	–
OPL-600-10	220	2800	Single	600	10	Less than 0.3	21.5	680 x 380 x 370	–	–	○	○	○	–

*1 Small fingers such as those of small children may not stop the clamping lever from coming down completely.
*2 A stainless, single-leaf table that attaches to the seal frame. Sizes 200, 300, 400 (for 450 size) are available.
*3 The special table attaches to the support pipe of the optional FA / OPL stand. It can support the weight of a heavy package. Sizes 600 or 300/450 are available.
*4 Other voltages available on request.
*5 Single: heating element mounted on the lower side. Dual: Heating element mounted on upper and lower sides.
*6 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

FA Series

Seal Only | Semi Auto | Frequency 3,000 bags/day

Simple Operation

Simply place a pouch to the sealing area using your hands. The sealing cycle can be started just by pressing an air pedal. The FA-200 and FA-300 series also offer a selection of different methods, with which to press the table-switch plate with your hands as you hold the bag. Set the air pedal under the table-switch plate to activate the table-switch plate. Use the touch panel on the control unit to set conditions such as heating time, cooling time, and auto-cycle interval time. After setting the appropriate sealing condition for the packaging material, select either automatic continuous operation or manual air-pedal operation.

Good for a Variety of Applications

The sealing pressure may be adjusted according to bag thickness and material. Adjust the pressure by turning the pressure adjuster nut located at the center of the pressure lever.

Good for seal lengths of 200, 300, 450 and 600mm. Models for seal widths of 2, 5 and 10 mm are available. In addition to a single-heating type capable of sealing materials up to 0.3mm thick (total thickness of overlapping sheets), there is a double- side heating type capable of sealing thick or laminated bags up to 0.4mm thick (total thickness of overlapping sheets). The double-side heating type is good also for gusset bags.

FA-300

Safety Measures

Anomaly Detection

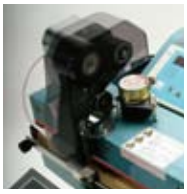
Should an abnormal situation arise, it will be indicated on the LCD screen on the control unit and/or by an alarm sound.

Anti-Finger Jamming

The clamping lever will not go down completely if a foreign object such as a finger is caught in the sealing area*1. To stop machine movement during operation, press the ABORT CYCLE button.

Option

Hot stamp printer FEP-N2 series



FA-300 with Optional FEP-N2 Printer

FA / OPL stand

Standard table *2
Special table *3

FA300 placed on the FA/OPL stand, table switch plate operation

Operation Setting

Heating Time	:	0.1 - 1.6sec.
Cooling Time	:	0.1 - 5.0sec.
Auto-Cycle Interval	:	0.5 - 5.0sec.

Model Name	Power V *4	Power Consumption W	Heating Method	Seal Length mm *5	Seal Width mm	Film thickness (total)mm*6	Machine Weight kg	Machine Dimension W x D x H mm	Standard Equipped		Optional Items			
									Standard Table	Table-switch plate	Printer		Special Table	Standard Table
											Inner	Outer		
FA200-10	110/ 220	1150	Single	200	10	Less than 0.3	16	260 x 580 x 360	–	○	○	–	○	○
FA200-10D	110/ 220	1450	Double	200	10	Less than 0.4	17	260 x 580 x 360	–	○	○	–	○	○
FA-300	110/ 220	1250	Single	300	5	Less than 0.3	16	360 x 580 x 360	–	○	○	○	○	○
FA-300-5D	110/ 220	1100	Double	300	5	Less than 0.4	17.5	360 x 580 x 360	–	○	○	–	○	○
FA-300-10	110/ 220	1700	Single	300	10	Less than 0.3	16.5	360 x 580 x 360	–	○	○	○	○	○
FA-300-10D	110/ 220	1700	Double	300	10	Less than 0.4	18	360 x 580 x 360	–	○	○	–	○	○
FA-450-5	110/ 220	1250	Single	450	5	Less than 0.3	15	520 x 510 x 360	○	–	○	○	○	○
FA-450-5D	110/ 220	1300	Double	450	5	Less than 0.4	16.5	520 x 510 x 360	○	–	○	–	○	○
FA-450-10	220	2300	Single	450	10	Less than 0.3	16	520 x 380 x 370	–	–	○	○	○	○
FA-450-10D	220	1300	Double	450	10	Less than 0.4	18	520 x 380 x 370	○	–	○	–	○	○
FA-600-2	110/ 220	1050	Single	600	2	Less than 0.3	19	680 x 370 x 360	–	–	○	○	○	–
FA-600-5	110/ 220	1700	Single	600	5	Less than 0.3	19	680 x 390 x 360	–	–	○	○	○	–
FA-600-5D	110/ 220	1500	Double	600	5	Less than 0.3	21.5	680 x 390 x 360	–	–	○	–	○	–
FA-600-10	220	2800	Single	600	10	Less than 0.3	23.5	680 x 380 x 370	–	–	○	○	○	–
FA-600-10D	220	2700	Double	600	10	Less than 0.4	24.5	680 x 380 x 370	–	–	○	–	○	–

*1 Small fingers such as those of small children may not stop the clamping lever from coming down completely.
*2 A stainless, single-leaf table that attaches to the seal frame. Sizes 200, 300, 400 (for 450 size) are available.
*3 The special table attaches to the support pipe of the optional FA / OPL stand. It can support the weight of a heavy package. Sizes 600 or 300/450 are available.
*4 Other voltages available on request.
*5 Single: heating element mounted on the lower side. Double: Heating element mounted on upper and lower sides.
*6 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

CA Series

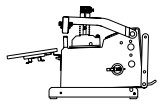
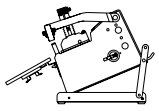
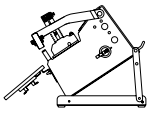
Seal Only | Semi Auto | Frequency 3,000 bags/day

Simple Operation

Simply place a pouch to the sealing area using your hands. The sealing cycle can be started just by pressing an air pedal. Users of the CA-300 series may also use the attached table-switch plate instead of the air pedal operation. Set the air pedal under the table-switch plate to activate the table switch plate.
Use the touch panel on the control unit to set conditions such as heating time, cooling time, and auto-cycle interval time. After setting the appropriate sealing condition for the packaging material, select either automatic continuous operation or manual air-pedal operation.

Good for a Variety of Applications

The CA Series' corrosion-resistant aluminum alloy body, drip-proofed with silicon rubber gasket, is made for handling the packaging of watery items. The user is secure in the knowledge that the air pedal used for directing the work process uses no electric parts. The single-heating model of CA series is a top heater, which means that the heating element is attached to the top clamping lever where it is less likely to be exposed to liquids. The sealer comes standard-equipped with a tilt table whose angle can be adjusted to 5°, 30° and 45° (5° at the time of factory shipment). This allows the sealing of bags without spilling the liquid content. automatic continuous operation or manual air-pedal operation.

Safety Measures

Anomaly Detection

Should an abnormal situation arise, it will be indicated on the LCD screen on the control unit and/or by an alarm sound.

Anti-Finger Jamming

The clamping lever will not go down completely if a foreign object such as a finger is caught in the sealing area*1. To stop machine movement during operation, press the ABORT CYCLE button.

Option

CA stand
Standard table*2


CA stand

CA stand type S
CA 450/600 special table *3


CA stand type S and special table for CA-450/600

Operation Setting

Heating Time	: 0.1 - 1.6sec.
Cooling Time	: 0.1 - 5.0sec.
Auto-Cycle Interval	: 0.5 - 5.0sec.

Model Name	Power V *4	Power Consumption W	Heating Method	Seal Length mm *5	Seal Width mm	Film thickness (total)mm *6	Machine Weight kg	Machine Dimension W x D x H mm	Standard Equipped		Optional Items			
									Standard Table *7	Table-switch plate	Printer		Special Table *8	Standard Table
											Inner	Outer		
CA-300	110/220	1750	Single	300	10 or 5	Less than 0.3	26	390 x 640 x 400	–	○	–	–	○	○
CA-300-10D	110/220	1750	Double	300	10	Less than 0.4	28	390 x 640 x 400	–	○	–	–	○	○
CA-450-5	110/220	1150	Single	450	5	Less than 0.3	25	540 x 478 x 400	○	–	–	–	○	–
CA-450-5D	110/220	1300	Double	450	5	Less than 0.4	29	540 x 478 x 400	○	–	–	–	○	–
CA-450-10	220	2200	Single	450	10	Less than 0.3	29	540 x 478 x 400	–	–	–	–	○	○
CA-450-10D	220	2200	Double	450	10	Less than 0.4	31	540 x 478 x 400	–	–	–	–	○	○
CA-600-5	110/220	1750	Single	600	5	Less than 0.3	28	690 x 478 x 400	–	–	–	–	○	–
CA-600-5D	110/220	1500	Double	600	5	Less than 0.3	30	690 x 478 x 400	–	–	–	–	○	–
CA-600-10	220	2700	Single	600	10	Less than 0.3	30	690 x 478 x 400	–	–	–	–	○	–
CA-600-10D	220	2700	Double	600	10	Less than 0.4	32	690 x 478 x 400	–	–	–	–	○	–

*1 Small fingers such as those of small children may not stop the clamping lever from coming down completely.
*2 A stainless, single-leaf table that attaches to the seal frame. Sizes 200, 300, 400 (for 450 size) are available.
*3 The special table attaches to the support pipe of the optional CA stand type S. It can support the weight of a heavy package. Size in 450/600 is available.
*4 Other voltages available on request.
*5 Single: for CA series single-heating type, heating element mounted on the upper side. Doublel: Heating element mounted on upper and lower sides.
*6 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.
*7 The standard table is made of stainless steel.
*8 The special table is made of stainless steel.

Taiyo-Impulse Band Sealer

Seal Only | Semi Auto | ONPUL | Frequency 3,000 bags/day

About Taiyo

The band sealer Taiyo is Fuji Impulse's first band sealer, and it also is the industry's first impulse band sealer. Taiyo is an innovative sealer featuring the best of both worlds: the speed of the constant heat sealer and the clean precision of the impulse sealer. Temperature controling ONPUL system is standard equipped.

SE-SBTA-132-10D

Simple Operation

Use the control unit to set sealing conditions and belt speed. The setting will depend on material type and thickness of the bag or film, so adjust the parameters accordingly when different bag or film is being used. Place the edge of the bag into the insertion slot along the sealing gauge located on the right side of the machine. This will turn on the film sensor switch and start the belt. Next, slide the bag to the point where the belt takes hold. The conveyor will carry the bag leftward and complete the sealing process.

Seal Speed (Max 7M/min)

Conventional band sealers were constant heat sealers. Although constant sealers required time before heating temperature was reached, its speedy sealing once the heater reached its required temperature had its advantages.
Fuji Impulse's band sealers have now added the advantages of an impulse sealer to make speedy -- adjustable 2 to 7 meters, or 6.6 to 23 feet, per minute -- and clean sealing possible. There is also no need for preheating.

Option

Special Stand for Taiyo

A special stand is available for situations where you cannot secure adequate working space otherwise. The mounting can be adjusted to hold the sealer from a horizontal position up to a tilt of 20 degrees. The below picture shows the mounting tilted 20 degrees.

SE-SBTA132-10D PP-BA
with special stand

Printer-Installed Model

Also in the lineup, we offer a model that features the PP-BA362 printer, capable of one or two-line printing. Adjustable printing position allows you to adjust the printing position accordingly to the package material. Printing is done without ink, using heated type to brand print tape. The text can be changed by replacing the type.

Vacuum Sealing Model

Vacuum sealing model scheduled to join the lineup.Vacuum sealing band sealer Taiyo is equipped with a nozzle-type vacuum unit for vacuum sealing with deairing flow of up to 860L/min. You can use the footswitch to pause deairing when setting the b ag to prevent the bag from getting stuck to the nozzle when you start the sealing procedure.

SE-VBTA-132-10D PP-BA

Operation Setting

Heating Temp : 60 - 170°C
Belt Speed : 2.0 - 7.0 M/min

Model Name	Power *1	Power Consumption W	Heating Method *2	Belt Speed	Seal Width mm	Film thickness (total) mm *3	Machine Weigh kgt	Machine Dimension W x D x H mm *4
SE-SBTA132-10D	110/ 220	750	Double	2-7m/min in 0.1m increments	10 (or 5)	Less than 0.5	25	640 x 442 / 490 x 245
SE-SBTA132-10D PPBA	110	930	Double	2-7m/min in 0.1m increments	10 (or 5)	Less than 0.5	35	770 x 470 / 540 x 371

*1 Other voltages available on request.
*2 Double: Heating element mounted on both upper and lower sides.
*3 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.
*4 The depth of the machine indicated is when the conveyer is in maximum depth position and minimum depth position.

FOOT-OPERATED IMPULSE SEALER

Industries and Applications

- ☑ Pouch Manufacturing
- ☑ Dairy Farming, Heavy-Duty Sacks, Bags
- ☑ Confectionery Production, Breadmaking, Fish and Seafood
- ☑ Industrial Components, Parts & Tools
- ☑ Apparel, Individual Packaging for Clothing

Fi Series

Seal Only | Foot Oeprated | Frequency 1,000-3,000 bags/day

Simple Operation

Effortless foot-operation creates beautiful, strong seals. Use the timer to set the heating time. Situate the bag on the sealing area. (The heating time to be set using the timer varies by the type and thickness of the packaging material.) Simply step on the pedal to create a seal. Release the pedal 2-3 seconds after the heat indicator lamp turns off.

Good for a Variety of Applications

The sealing pressure may be adjusted according to bag thickness and material. Adjust the pressure by turning the pressure adjuster nut located at the center of hook bar. Good for seal lengths of 200, 300 and 600mm. Models for seal widths of 2, 5 and 10 mm are available. In addition to a single-heating type capable of sealing materials up to 0.3mm thick (total thickness of overlapping sheets), there is a double-heating type capable of sealing thick or laminated bags up to 0.4mm thick (total thickness of overlapping sheets).
The double heater type is good also for thick gusset bags.

Safety Measures

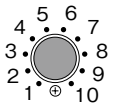
Anti-Overheating Mechanism

Should the heating element ever overheat (should the heater continue to heat beyond the first 3 seconds of heating), the power switch automatically shuts off to stop the heater from heating further.

Fi-300

Operation Setting

Heating Time : Dial 1 – 10
(About 0.1 – 1.6 sec.)



Option

Hot stamp printer FEP-N2 series
Standard table*1
Special table*2
PK-101

Fi300 with optional FEP-N2 printer

Fi300 with optional PK-101

PK-101 - the Clamping Retaining Device

An optional clampling retaining device PK-101 may be installed to the Fi series of sealers to precisely even out the sealing finish and to effectively resolve the problem of user fatigue from operating the pedal by foot.
The user can set the cooling time (i.e., clamping retention time). On the PK-101, a solenoid works to automatically retain pressure when the user steps on the pedal, and the clamping lever returns to the initial position after the sealing is complete. The applied pressure and the retention (cooling) time can be adjusted according to packaging material.

Model Name	Power V *3	Power Consumption W	Heating Method *4	Seal Length mm	Seal Width mm	Film thickness (total) mm *5	Machine Weight kg	Machine Dimension W x D x H mm	Standard Equipped	Optional Items			
									Standard Table	Printer		Special Table	PK-101
										Inner	Outer		
Fi-200-10	110/ 220	1200	Single	200	10	Less than 0.3	20	390 x 520 x 920	○	○	–	○	○
Fi-200-10D	110/ 220	1400	Double	200	10	Less than 0.4	21	390 x 520 x 920	○	○	–	○	○
Fi-300	110/ 220	1050	Single	300	5 or 2	Less than 0.3	20	390 x 520 x 920	○	○	○	○	○
Fi-300-Fusing type	110/ 220	1050	Single	300	–	–	20	390 x 520 x 920	○	○	○	○	○
Fi-300-5D	110/ 220	1100	Double	300	5	Less than 0.4	21	390 x 520 x 920	○	○	–	○	○
Fi-300-10	110/ 220	1700	Single	300	10	Less than 0.3	23	390 x 520 x 920	○	○	○	○	○
Fi-300-10D	110/ 220	1700	Double	300	10	Less than 0.4	23	390 x 520 x 920	○	○	–	○	○
Fi-600-2	110/ 220	1010	Single	600	2	Less than 0.3	25	680 x 530 x 1030	○	○	○	○	○
Fi-600-5	110/ 220	1600	Single	600	5	Less than 0.3	29	680 x 530 x 1030	○	○	○	○	○
Fi-600-Fusing type	110/ 220	1500	Single	600	–	–	27	680 x 530 x 1030	○	○	○	○	○
Fi-600-5D	110/ 220	1500	Double	600	5	Less than 0.4	34	680 x 530 x 1030	○	○	–	○	○
Fi-600-10	220	2650	Single	600	10	Less than 0.3	28	680 x 530 x 1030	○	○	○	○	○
Fi-600-10D	220	2900	Double	600	10	Less than 0.4	34	680 x 530 x 1030	○	○	–	○	○

*1 A stainless, single-leaf table that attaches to the seal frame. Sizes 200 or 300 are available.
*2 The special table attaches to the support pipe of the Fi stand. It can support the weight of a heavy package. Sizes 600 or 300/450 are available.
*3 Other voltages available on request.
*4 Single: heating element mounted on the lower side. Double: Heating element mounted on both upper and lower sides.
*5 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

FR-450 Series

Seal Only | Foot Oeprated | Frequency 1,000-3,000 bags/day

Simple Operation

Effortless foot-operation creates beautiful, strong seals. Use the timer to set the heating time. Situate the bag on the sealing area. (The heating time to be set using the timer varies by the type and thickness of the packaging material.) Simply step on the pedal to create a seal. Keep the pedal depressed for 2 to 3 seconds after the heating lamp turns off to allow for cooling. Normally a cooling time of 1.5 to twice the heating time is recommended.

Angle-Bar-Fixed Table (Standard Equipment)

The table height can be adjusted according to your work environment. Hook the table to the angle-bar steel on both sides of the sealer to anchor the table.

Good for bags filled with rice and other items weighing between 2 and 15kg.

Table size: W 410mm x L 190mm.

The Fi Series standard and special tables may be installed on FR-450 series of sealers. Note that angle bars must be removed before installing a special table.

FR-450-5

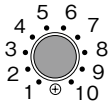
Safety Measures

Anti-Overheating Mechanism

Should the heating element ever overheat (should the heater continue to heat beyond the first 3 seconds of heating), the power switch automatically shuts off to stop the heater from heating further.

Operation Setting

Heating Time : Dial 1 – 10
(About 0.1 – 1.6 sec.)



Option

Hot stamp printer FEP-N2 series

An electronic printer (two-line printing device) may be installed on the FR series of sealers. For the detailed information of the FEP-N2 series, please refer to page 34.The following table shows models to which printers can be installed:

The photo shows the optional FEP-N2 printer being installed on Fi-300.

The photo shows the PK-101 being installed on Fi-300.

PK-101 - the Clamping Retaining Device

An optional clampling retaining device PK-101 may be installed to the FR series of sealers to precisely even out the sealing finish and to effectively resolve the problem of user fatigue from operating the pedal by foot.

The user can set the cooling time (i.e., clamping retention time) and the pressure on film that have a major effect on the impulse sealer's sealing finish. These cannot be set using the timer on the sealer. On the PK-101, a solenoid works to automatically retain pressure when the user steps on the pedal, and the clamping lever returns to the initial position after the sealing is complete. The applied pressure and the retention (cooling) time can be adjusted according to packaging material.

Model Name	Power V *3	Power Consumption W	Heating Method *4	Seal Length mm	Seal Width mm	Film thickness (total) mm *5	Machine Weight kg	Machine Dimension W x D x H mm	Standard Equipped	Optional Items		
									Standard Table	Printer		PK-101
										Inner	Outer	
FR-450-2	110/ 220	700	Single	450	2	Less than 0.3	21	530 x 560 x 1030	○	○	○	○
FR-450-5	110/ 220	1200	Single	450	5	Less than 0.3	22	530 x 560 x 1030	○	○	○	○
FR-450-10	110/ 220	2150	Single	450	10	Less than 0.3	27	530 x 560 x 1030	○	○	○	○
FR-450-5D	110/ 220	1300	Double	450	5	Less than 0.4	25	530 x 560 x 1030	○	○	–	○
FR-450-10D	110/ 220	1500	Double	450	10	Less than 0.4	29	530 x 560 x 1030	○	○	–	○

*1 Other voltages available on request.
*2 Single: heating element mounted on the lower side. Double: Heating element mounted on both upper and lower sides.
*3 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

Fi-400Y / Fi-600Y Series

Seal Only | Foot Oeprated | Frequency 1,000-3,000 bags/day

Simple Operation

The 400Y/600Y series allow film to pass through the sealing area, making it possible to seal other than the end of a bag. It can be used also for processing block-bottom bags. Effortless foot-operation creates beautiful, strong seals. Use the timer to set the heating time and cooling time. Situate the bag on the sealing area. (The heating time to be set using the timer varies by the type and thickness of the packaging material.) Simply step on the pedal to create a seal.

Clamping Retaining Device PK-102 : Standard Equipped for Easy Foot Operation

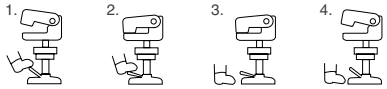
The 400Y/600Y series comes standard equipped with the clamping retaining device, PK-102. The clamping retaining device stabilizes the seal precision and reduces the load of foot operation. Set the heating time using the timer on the sealer and set the clamping retention (i.e., cooling) time using the timer on the clamping retaining device PK. Situate the bag on the sealing area. Simply step on the pedal to create a seal.

What is PK-102?

With PK-102, the user can adjust the sealing pressure and clamping retention (i.e., cooling) time according to bag material, which was not possible with the timer on the foot-operated sealer alone. This reduces the strain on the user caused by foot-operation, and resolves the problem of disparity in the sealing finish among different operators.

Clamping Retention Time Setting Range:

User-defined heating time + 0.1 to 5.0 seconds



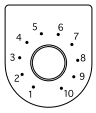
1. Step on the pedal
2. Begin applying pressure (clamping retention)
3. Sealing process (heating and cooling)
4. Seal is complete. The clamping lever is lifted.

Fi-600Y-5 PK

Operation Setting

Heating Time : Dial 1 - 10
(About 0.1 – 1.6 sec.)
PK-102 Timer : Dial 1 - 10
(About 0.1 – 5.0 sec.)

Heating Timer

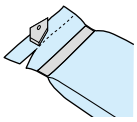


PK-102 Timer

Comprehensive Production Lineup

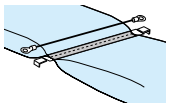
Type C Featuring a Cutting Mechanism (YC Type)

The C type is equipped with a cutting mechanism to cut excess bag (film) ends. Slide the cutter knob sideways in either direction to cut the tube-shaped film after sealing it.



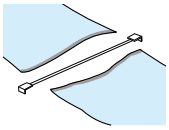
Type 10C for In-Between Cuts (10C/5C Type)

The 10C type uses a cutting heater to cut through the centerline of the sealed area. It can be used to seal and cut apart the tube-shaped film at the same time to make bags.



Fusing-Cut Type

The melt-cut type can be used for processing bags in which a round-wire melt-cutting heater is used to cut the bag (film). Although the melt-cutting heater slightly fuses the film together, there is hardly any sealing strength.



Model Name	Power V *1	Power Consumption W	Heating Method *2	Seal Length mm *3	Seal Width mm	Film thickness (total) mm *4	Machine Weight kg	Machine Dimension W x D x H mm	Standard Equipped	Optional Items			
									PK-102	Printer		Special Table	Standard Table
										Inner	Outer		
Fi-400Y-2 PK	110/ 220	750	Single	400	2	Less than 0.3	29	530 x 410 x 930	○	–	–	○	○
Fi-400Y-5 PK	110/ 220	1400	Single	400	5	Less than 0.3	30	530 x 420 x 930	○	–	–	○	○
Fi-400Y-10 PK	220	2300	Single	400	10	Less than 0.3	34	530 x 430 x 930	○	–	–	○	○
Fi-400Y-5D PK	110/ 220	1400	Double	400	5	Less than 0.4	33	530 x 420 x 930	○	–	–	○	○
Fi-400Y-10D PK	220	2300	Double	400	10	Less than 0.4	34	530 x 430 x 930	○	–	–	○	○
Fi-400Y-Fusing Type PK	110/ 220	1250	Single	400	–	–	30	530 x 420 x 930	○	–	–	○	○
Fi-400YC-2 PK	110/ 220	750	Single	400	2	Less than 0.3	29	530 x 410 x 930	○	–	–	○	○
Fi-400YC-5 PK	110/ 220	1400	Single	400	5	Less than 0.3	30	530 x 420 x 930	○	–	–	○	○
Fi-400YC-10 PK	220	2300	Single	400	10	Less than 0.3	34	530 x 430 x 930	○	–	–	○	○
Fi-400Y-5C PK	110/ 220	1400	Single	400	5	Less than 0.3	30	530 x 420 x 930	○	–	–	○	○
Fi-400Y-10C PK	220	2300	Single	400	10	Less than 0.3	34	530 x 430 x 930	○	–	–	○	○

*1 Other voltages available on request.
*2 Single: heating element mounted on the lower side. Double: Heating element mounted on both upper and lower sides.
*3 600mm also available.
*4 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

IMPULSE VACUUM SEALER

Typical Industries and Applications

- ☑ Light Electrical Appliance
- ☑ Food Product
- ☑ Dairy Farming, Basic Ingredients, Raw Materials

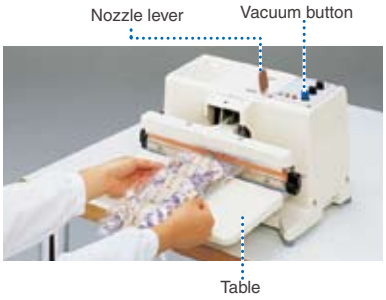
V-300 Series

Seal Only & Vac | Hand Oeprated | Frequency 1,000 bags/day

For Sales Counters

With self-contained vacuum pump, this economical industrial grade tabletop vacuum sealer delivers exceptional performance, yet only requires a small footprint on the production counter top. Only a simple electrical outlet is required and you're ready to package. The light-weight V-300 series of sealers features a clean, off-white, compact body ideal for placing on the counter.
Promote the freshness of your products as you quickly vacuum-pack and hand the product to your customers as they watch. Only the V-300 series offers this advantage.

Simple Operation



Pull the nozzle lever toward you to extend the nozzle. Insert the nozzle into the bag, push down on the table, and while the bag and the nozzle remain clamped under the clamping lever, press the vacuum button to begin the vacuum process. When the vacuum process is complete, quickly return the nozzle lever to the initial position to prevent the air from flowing back in. Push down on the table again to seal.
The vacuum time may be set using a timer. You may also vacuum using visual estimation. Simply return the nozzle lever to the initial position to complete the vacuuming process. The sealer may also be used for seal-only operations by not setting the nozzle in the vacuum position.


V-300


V-300-10D

Good for Variety of Applications

V-300 is effective for maintaining perishable and other food products fresh, and for preventing the oxidation of items such as parts, apparel, chemicals and precision machinery. It is ideal in cases where complete-vacuum packaging is not necessary but de-airing is desirable to maximize the shelf-life, and for preventing the shifting of the contents. To produce an oxygen-free packaging to double the preservation effect, use a high-gas-barrier packaging material along with an oxygen scavenger.

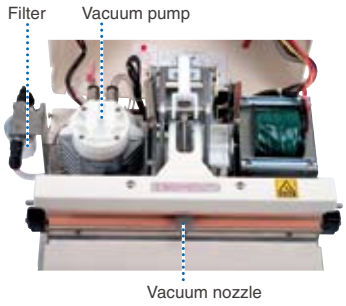
Safety Measures

Anti-Overheating Mechanism

Should the heating element ever overheat (should the heater continue to heat beyond the first 3 seconds of heating), the power switch automatically shuts off to stop the heater from heating further.

Standard-Equipped Filter

A filter for collecting foreign objects that were taken in from the nozzle comes standard-equipped. The easily detachable filter case makes the required regular cleaning of the filter easy.



Operation Setting

Heating Time : Dial 1 – 10
(About 0.1 – 2.3 sec.)
Vacuum Time : Dial 1 – 10
(About 1 – 20 sec.)

Model Name	Power V *1	Vacuum Source	Vacuum Method	Ultimate Vacuum kPa *2	Exhaust Velocity L/min *3	Power Consumption W	Heating Method *4	Seal Length mm	Seal Width mm	Film thickness (total) mm *5	Machine Weight kg	Machine Dimension W x D x H mm
V-300	110/ 220	Vacuum pump	Nozzle	–58.6	10	1050	Single	300	10 or 5	Less than 0.3	12.3	400 x 420 x 228
V-300-10D	110/ 220	Vacuum pump	Nozzle	–58.6	10	1050	Double	300	10	Less than 0.4	13	400 x 420 x 228

*1 Other voltages available on request.
*2 The 0 torr of the ultimate vacuum is -101.3Kpa.
*3 The exhaust speed and ultimate vacuum represent stand-alone values, before installation to the machines.
*4 Single: heating element mounted on the lower side. Double: Heating element mounted on both upper and lower sides.
*5 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

V-402 Series

Seal Only & Vac | Air Cylinder Driven | ONPUL | Frequency 1,000 bags/day

Simple Operation

V-402 is a heavy-duty electric-powered vacuum sealer effective for maintaining perishable and other food products fresh, and for preventing the oxidation of items such as parts, apparel, chemicals and precision machinery.
V-402 is equipped with the built-in compressor to generate vacuum as well as run the sealer's pneumatic functions. No separate compressor is not required and it is ready for use as soon as the power is turned on.
The setting of work method and vacuum method are all controlled at the microcomputer controller.
A simple touch-screen operation is all that is required to set the conditions, with details confirmed on the LCD screen at every step.
Up to 10 work patterns customized by the user can be registered. By calling up a registered pattern on the microcomputer controller, the user can always perform a programmed work under the same condition.

Temperature Control Using Temperature Sensor

Standard-equipped with the V-402 series of sealers is ONPUL, the heating temperature control feature that allows the user to set and maintain the ideal heating temperature. This ability to set and maintain the proper heating temperature for fusing the film eliminates wasted energy consumption, improves sealing precision and minimizes wear and tear on the heating element and other parts.

Safety Measures

Anti-Overheating Mechanism

a. 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.

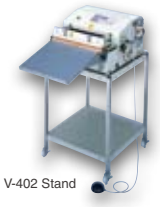
b. When the set temperature is not reached within 3 seconds, the power distribution to the heating element is stopped and message appears on the LCD screen on the controller.

Anti-Finger Jamming Feature

Should a finger or other foreign objects get caught in the sealing area, the failure to proceed to the heating process within one second releases the pressure and returns the clamping lever to the initial position.

Option

V-402 Stand , Tilt Table, FEP-V-N2: Printer


V-402 Stand


FEP-V-N2


V-402

Operation Setting

Heating Temp : 60 – 250°C
Heating Time : 0.0 – 2.0sec.
Cooling Temp : 40°C – Heat Temp
Vac Method : Manual
Timer(0.1 - 99.9s)
Vac Gauge(-1 to -100kpa)

V-402-CH / 602-CH Series

Clean-Room Specification, Electric-Powered Tabletop Vacuum Sealer

The basic structure is the same as the V-402, but this comes with the exhaust fan and duct flange mounted on the side of the machine. The duct allows the particles generated inside the machine to be removed safely outside the clean room.
A separately sold air compressor is required to operate the machine.


V-602-CH

Model Name	Power V *1	Vacuum Source	Vacuum Method	Ultimate Vacuum kPa *2	Exhaust Velocity L/min *3	Air Source	Power Consumption W	Heating Method *4	Seal Length mm	Seal Width mm	Film thickness (total) mm *5	Machine Weight kg	Machine Dimension W x D x H mm
V-402	110/ 220	Vacuum pump	Nozzle	−88.3	40	Built-in compressor	1800	Single	400	10 or 5	Less than 0.3	47	560 x 888x 300
V-402-10D	220	Vacuum pump	Nozzle	−88.3	40	Built-in compressor	2700	Double	400	10	Less than 0.4	52	560 x 888x 300
V-402-CH	110/ 220	Vacuum pump	Nozzle	−88.3	40	External air	1800	Single	400	10 or 5	Less than 0.3	48	595 x 888 x 300
V-402-CH-10D	220	Vacuum pump	Nozzle	−88.3	40	External air	2600	Double	400	10	Less than 0.4	53	595 x 888 x 300
V-602-CH	220	Vacuum pump	Nozzle	−88.3	40	External air	2800	Single	600	10 or 5	Less than 0.3	55	675 x 888 x 300
V-602-CH-10D	220	Vacuum pump	Nozzle	−88.3	40	External air	2900	Double	600	10	Less than 0.4	55	675 x 888 x 300

*1 Other voltages available on request.
*2 The 0 torr of the ultimate vacuum is -101.3Kpa.
*3 The exhaust speed and ultimate vacuum represent stand-alone values, before installation to the machines.
*4 Single: heating element mounted on the lower side. Double: Heating element mounted on both upper and lower sides.
*5 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

V-401NTW Series

Seal Only & Vac | Air Cylinder Driven | Frequency 1,000 bags/day

Ejector-Type Vacuum Sealer Good for Watery Items

The V-401NTW series of sealers has a drip-proof, all-stainless body and an air pedal that lacks electric parts to allow packaging of watery items. The single-heater model is a top heater, which means that the heating element is attached to the top clamping lever where it is less likely to be exposed to liquids.

Ejector-Vacuum Method

The V-401NTW series of sealers employs the ejector-vacuum method, which makes use of the flow of compressed air to directly eject the gas inside the bag to the outside of the machine. Unlike the vacuum pump, it does not collect within the body of the machine foreign objects such as liquid and powder that were taken in from the bag. Although the ejector-vacuum method does not achieve as high a vacuum rate as using the vacuum pump, its advantage is the very high speed of de-gassing.

Simple Operation

A microcomputer sequence controller controls the machine's movement. The sealer also comes standard-equipped with a microcomputer-controlled heating time controller and a counter with a reset feature. Work is conducted using an air pedal. The operation method (seal only, manual vacuum or timer vacuum) can be selected by using the selection switch. A vacuum-timer is standard-equipped. Another standard equipment is a highly work-efficient table.

Compressor Required Separately

The V-401NTW series of sealers requires a separate air compressor to operate the machine.

V-401NTW

The compressor for the sealer must have the following capacity:
Compatible compressor
1.5KW 165 Liter/min 540kPa or more

Operation Setting

Heating Time : 0.1 – 2.5 s
Cooling Time : 0.1 – 5.0 s
Vac Timer : Dial setting

FCB-200

Seal Only & Vac | Semi Auto | ONPUL | Frequency 1,000 bags/day

Chamber Vacuum Sealer with Heating-Temperature Control

The ultimate vacuum is high, at about -100Kpa (10torr).
With the built-in vacuum gauge, a simple button-operation allows the user to adjust the vacuum rate in the range of -50 to -100Kpa (385 to 10torr) depending on the package content. Also equipped with ONPUL, this chamber vacuum sealer allows users to set the perfect heating and cooling temperatures for the material and thickness of the bag.

Simple Operation

Set conditions such as the sealing condition and vacuum rate. To vacuum seal, set the bag in the chamber and close the lid. Press the start button to automatically start the sealing process. At the end of the process, a beeping sound will indicate that sealing has completed. Open the lid to reveal the finished product. When the power is turned OFF, the sealer will automatically run one more time wihout actually processing any bag to clean out the collection of dirt and other foreign objects. This reduces the user's daily maintenance work.

Operation Setting

Heating Temp : 60 - 200°C
Heating Time : 0.0 - 3.0sec.
Cooling Temp : 60°C – set heating temp
Vac Gauge Vacuuming : -50 – -100kPa

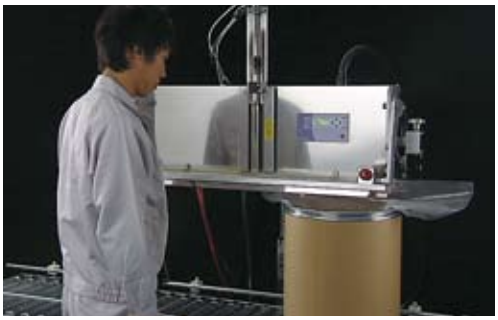
Model Name	Power V *1	Vacuum Source	Vacuum Method	Ultimate Vacuum kPa *2	Exhaust Velocity L/min *3	Air Source	Power Consumption W	Heating Method *4	Seal Length mm	Seal Width mm	Film thickness (total) mm *5	Machine Weight kg	Machine Dimension W x D x H mm
V-401NTW	110/ 220	Ejector	Nozzle	–34.1	1015	External Air	1700	Single :Upper Side	400	10 or 5	Less than 0.3	36	576 x 540 x 342
V-401NTW-10D	220	Ejector	Nozzle	–34.1	1015	External Air	2400	Double	400	10	Less than 0.4	41	576 x 540 x 342
FCB-200	100	Vacuum pump	Chamber type	–100	179	–	1360	Double	200	10	Less than 0.4	39	286 x 493 x 315

*1 Other voltages available on request.
*2 The 0 torr of the ultimate vacuum is -101.3Kpa.
*3 The exhaust speed and ultimate vacuum represent stand-alone values, before installation to the machines.
*4 Single: for V-401 single-heating type, heating element mounted on the upper side. Dual: Heating element mounted on both upper and lower sides.
*5 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

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

Vac & Gas | Air Cylinder Driven | ONPUL | Frequency 1,000 bags/day

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.

LOS-1000 NT1

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.

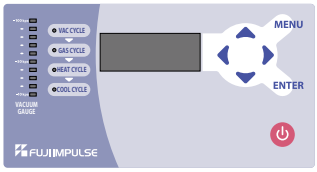
- Work Method Options
  1. Seal only
  2. Vacuum + seal
  3. Vacuum + gas flushing + seal
     (Single or multiple gas flush cycles)
- Vacuum Method Options
  1. Vacuum gauge (0 to −100Kpa)
  2. Vacuum timer (0 to 99.9 seconds)
  3. Manual operation
- Gas-Flush Method Options
  1. Multiple flush cycles (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. Maltiple gas: manual vac + multiple gas + seal
  9. Maltiple gas: timer vac + multiple gas + seal
  10. Maltiple 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.

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

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-1000 NT1

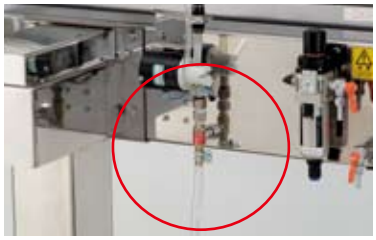
Type NT: Rear view
Filter installed.

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.

LOS-1000 NTW



Type NTW: Rear view
Ejector installed.

Specification Sheet for NT/NTW Series

Model Name	LOS-600NT1 LOS-600NT2 LOS-600NT3 LOS-600NT4	LOS-600NT1-10D LOS-600NT2-10D LOS-600NT3-10D LOS-600NT4-10D	LOS-800NT1 LOS-800NT2 LOS-800NT3 LOS-800NT4	LOS-800NT1-10D LOS-800NT2-10D LOS-800NT3-10D LOS-800NT4-10D	LOS-1000NT1 LOS-1000NT2 LOS-1000NT3 LOS-1000NT4	LOS-1000NT1-10D LOS-1000NT2-10D LOS-1000NT3-10D LOS-1000NT4-10D	LOS-1200NT1 LOS-1200NT2 LOS-1200NT3 LOS-1200NT4	LOS-1200NT1-10D LOS-1200NT2-10D LOS-1200NT3-10D LOS-1200NT4-10D
	LOS-600NTW	LOS-600NTW-10D	LOS-800NTW	LOS-800NTW-10D	LOS-1000NTW	LOS-1000NTW-10D	LOS-1200NTW	LOS-1200NTW-10D
Power V *1	220	220	220	220	220	220	220	220
Power Consumption W	2500	2500	3000	3000	4000	4000	4500	4500
Heating Method *2	Single	Double	Single	Double	Single	Double	Single	Double
Seal Length mm	600	600	800	800	1000	1000	1200	1200
Seal Width mm	10 or 5	10	10 or 5	10	10 or 5	10	10 or 5	10
Machine Dimension W x D x H mm *3	935 x 835 x 2100 /1370		950 x 835 x 2100 /1370		1160 x 835 x 2100 /1370		1360 x 865 x 2100 /1370	
Machine Weight kg	153	153	160	160	165	165	170	170
Lever Drive	2-Step Special Air Cylinder (2 pcs on right and left)							
Control	Microcomputer Controlled							
Heating Time	0.0 – 2.0 seconds (Set the heating time at minimum required to make a sufficient sealing.)							
Heating Temperature	60 – 250 °C							
Cooling Temperature	40 °C – Heating Temp (Set the cooling temperature lower than the heating temperature.)							
Vac Timer	0.1 – 99.9 seconds							
Gas Timer	0.1 – 99.9 seconds							
Vac Degree	From –1 to –100 kpa 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.							

*1 Other voltages available on request.
*2 Single: heating element mounted on the lower side. Double: Heating element mounted on both upper and lower sides.
*3 The height indicated is the height when the sealer head is set vertically, with figures for both the sealer head in maximum height position and in minimum height position.

Specification Sheet for Vacuum/ Air Source

Model	Air Source	Vacuum Souce: Exhaust Speed *4	Vacuum Source: Ultimate Vacuum *5	Vacuum Source: Weight	Compatible Compressor	Air Source: Optimum Air Pressure
LOS-NT1 Series	Vacuum pump DA-120S	120 L/min	–88 kPa	19 kg	0.75 KW (75 L/min) or greater	490 kPa (5Kgf/cm²)
LOS-NT2 Series	Vacuum pump DOP-80S x 2 units	80 L/min x 2	–95.9 kPa	7 kg x 2	0.75 KW (75 L/min) or greater	490 kPa (5Kgf/cm²)
LOS-NT3 Series	Vacuum pump DA-121D	120 L/min	–98 kPa	26 kg	0.75 KW (75 L/min) or greater	490 kPa (5Kgf/cm²)
LOS-NT4 Series	Vacuum pump KHF-14-V02	230 L/min	–93.9 kPa	24 kg	0.75 KW (75 L/min) or greater	490 kPa (5Kgf/cm²)
LOS-NTW Series	Built-in ejector	1650 L/min	–56.9 kPa	—	1.5 KW (165 L/min) or greater	540 kPa (5.5Kgf/cm²)

*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

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 shutoff.
Lever Drive	The lever uses spring action to clamp down on the bag so that no forcible pressure is applied when finger or other foreign objects get caught. Pressure of 63-diameter cylinder output force is applied when sealing.
Emergency Reset Mechanism	When the lever is being lowered, removing foot from the footswitch will raise the lever from its lowered 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 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.

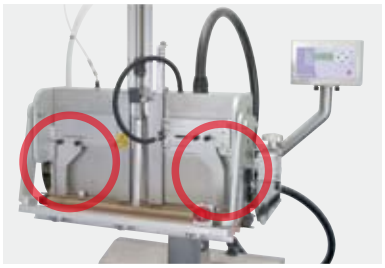
Error Detection and Display Function

Heater Disconnection	When the heater is disconnected during the heating process, initial condition is restored and an error message will appear on the control panel screen.
Heat Control Error (1)	When there is no heat during the heating process, initial condition is restored and an error message will appear on the control panel screen.
Heat Control Error (2)	When the set temperature is not reached within 3.5 seconds, the lever will return to its initial position and an error message will appear.
Cooling Control Abnormality	When heating is detected during the cooling process, the lever returns to its initial position and the circuit breaker will switch the power off.
Abnormality during Operation	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.

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

Vac & Gas | Air Cylinder Driven | ONPUL | Frequency 1,000 bags/day

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!


VG-602

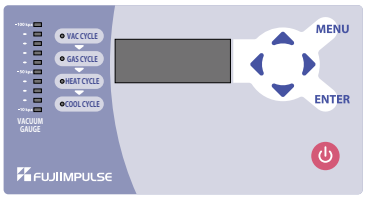
Standard-Equipped Heating Temperature Control

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 controller.



■ 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

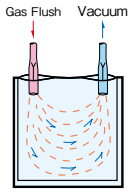
■ Gas-Flush Method Options
1. Multiple flush cycles (up to 99 times)
2. Single gas flush
3. Circulating gas-flush (Please refer to page 26 for the detail.)

■ 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. Maltiple gas : manual vac + multiple gas + seal
9. Maltiple gas : timer vac + multiple gas + seal
10. Maltiple 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

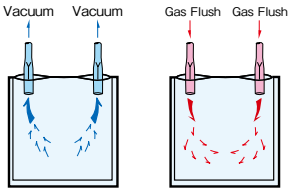
By modifying the piping, it is possible to switch to the circulating gas-flush method. With one nozzle set for gas flushing and the other for vacuuming, the circulating gas-flush method increases gas-replacement rate by de-airing the bag even as it is being filled with gas. Especially effective with soft contents.

Circulating gas flush



Vacuuming and gas flushing are conducted simultaneously.

Ordinary vacuum gas-flush

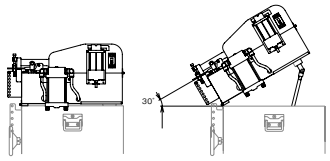


Vacuuming and gas flushing are two separate processes.

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.

Adjustments can be made using the hand wheel located on the front panel of the machine.



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 shutoff.
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.

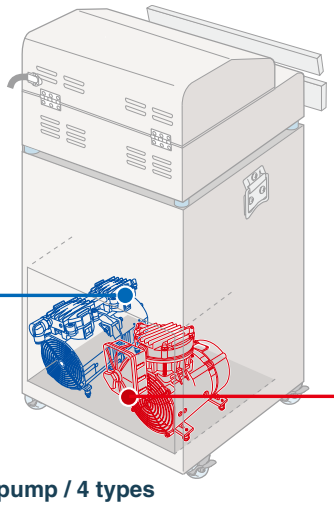
Specification Sheet for VG-602 / VG-402 Series

Model Name	VG-402-xx	VG-402-xx-10D	VG-602-xx	VG-602-xx-10D
Power V *1	110 / 220	220	220	220
Power Consumption W	1800	2700	3000	3100
Heating Method *2	Single	Double	Single	Double
Seal Length mm	400	400	600	600
Seal Width mm	10 or 5	10	10 or 5	10
Vacuum Method	Nozzle Type (vac gauge/ manual/ timer)			
Vacuum Degree	From -1 to -100 kPa	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.		
Vacuum Timer sec.	0.1 – 99.9			
Machine Drive	Air Cylinder			
Seal Height mm	932 from the floor			
Head Angle °	0 – 30			
Heating Temperature °C	60 – 250			
Heating Time sec.	0 – 2.0 seconds			
Cooling Temperature °C	40 – Set heating temperature			
Film Thickness (total) mm *3	Less than 0.3	Less than 0.4	Less than 0.3	Less than 0.4
Machine Weight kg	93	98	100	105
Machine Dimension W x D x H mm	595 x 555x 1052	595 x 555x 1052	675 x 555x 1052	675 x 555x 1052
Table Dimension W x D mm	400 x 350	400 x 350	600 x 450	600 x 450

*1 Other voltages available on request.
*2 Single: heating element mounted on the lower side. Double: Heating element mounted on both upper and lower sides.
*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.

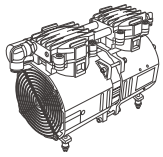
Compressor: MP-40(called A)
Vacuum pump:DOP-80(called H)
602 series dual heating type

VG-602-AH-10D

Vacuum pump / 4 types

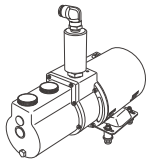
H.

DOP-80S : piston type
For standard
Pumping speed : 80L/min
Ultimate pressure : −96kPa
Pump weight : 7kg



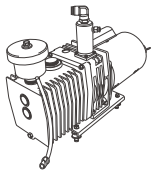
D.

G-50SA : Oil rotation type
For high vacuum degree (small size pouch)
Pumping speed : 50L/min
Ultimate pressure : −101.3kPa
Pump weight : 11kg



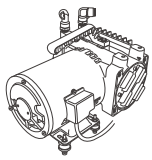
E.

G-100S : Oil rotation type
For high vacuum degree (large size pouch)
Pumping speed : 100L/min
Ultimate pressure : −101.3kPa
Pump weight : 22kg



G.

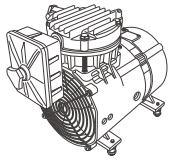
DA-60S : Diaphragm type
For Clean room (clean degree :about 10,000)
Pumping speed : 60L/min
Ultimate pressure : −80kPa
Pump weight : 12kg



Air Compressor / 3 types

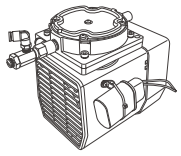
A.

MP-40 : piston type
For standard
Pumping speed : 28L/min
Usual pressere : 310 – 330kPa
Relief valve set-up pressure
Weight : 8kg



B.

DOP-P108-DB : Diaphram type
For Clean room (clean degree :about 10,000)
Pumping speed : 31L/min
Usual pressere : 310 – 330kPa
Relief valve set-up pressure
Weight : 7kg



C.

Air is provided by the out side compressor
Suittable compressor specification : 0.75kw(80L/min) above 480kPa

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.

LONG SIZE IMPULSE SEALER

Typical Industries and Applications

- ☑ Confectionery Production, Breadmaking, Fish and Seafood
- ☑ Bag/ Pouch Manufacturing
- ☑ Dairy Farming, Basic Ingredients, Raw Materials

FiF Series

Seal Only | Foot Oeprated | Frequency 1,000 bags/day

Simple Operation

Use the timer to adjust the heating time for the material and thickness of the packaging material or bag to be sealed, and lightly step on the pedal to create a clean, strong seal.
Because film and bag can pass through the heating area for sealing, a seal can be created on locations other than the end of a bag. This allows the sealer to also make simple bags.
The FiF series of sealers comes standard-equipped with a table convenient for sealing operation.

Safety Measures

Casters with a Locking Mechanism

The FiF series of sealers comes standard-equipped with casters with a locking mechanism that make moving from one work area to another easy, while providing a steady work setting once the machine is situated.

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 shutoff.

FiF-1000

Operation Setting

Heating Time : Dial 1 - 10
(About 0.1 - 2.5 sec.)

FiF-A Series

Seal Only | Air Cylinder Driven | Frequency 1,000 bags/day

Footswitch Operated Sealer for Sealing Large Bags

The FiF-A series is an electric-powered large-size sealer, capable of making seals of 1 to 1.5 meters. It is air-cylinder driven and operated using a footswitch. Use the control unit to adjust heating and cooling times accordingly depending on the material, type, and thickness of the bag being sealed. Set the bag in the sealing area and lightly step on the footswitch to operate the air cylinder to lower the crimping lever. After the set heating and cooling are completed, the crimping lever returns to the initial position to reveal a clean, strong seal. The FiF-A series comes standard equipped with a convenient work table for the sealing process.

Compressor Required Separately

The FiF-A series of sealers requires a separate air compressor to operate the machine. The compressor for the sealer must have the following capacity:
Compatible compressor=0.75KW 75 L/min 490kPa or more

Safety Measures

Equipped with 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.

FiF-1000-A

Operation Setting

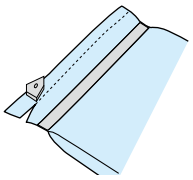
Heating Time : 0.1 - 2.5sec.
Cooling Time : 0.1 - 5.0sec.

A Comprehensive Product Lineup

We offer a comprehensive lineup of models to accommodate a variety of bag sizes (widths), thickness and materials. Different models are available for seal lengths of 1000, 1200 and 1500mm, as well as for seal widths of 5 and 10 mm. In addition to a single heater type capable of sealing materials up to 0.3mm thick (total thickness of overlapping sheets), there is a double heater type capable of sealing thick or laminated bags up to 0.4mm thick (total thickness of overlapping sheets).

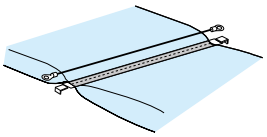
Type C Featuring a Cutting Mechanism

The C type is equipped with a cutting mechanism to cut excess bag (film) ends. Slide the cutter knob sideways in either direction to cut the tube-shaped film after sealing it.



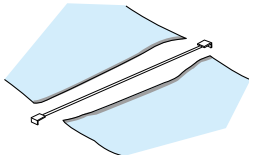
Type 10C for In-Between Cuts

The 10C type uses a cutting heater to cut through the centerline of the sealed area. It can be used to seal and cut apart the tube-shaped film at the same time to make bags.



Fusing-Cut Type

The melt-cut type can be used for processing bags in which a round-wire melt-cutting heater is used to cut the bag (film). Although the melt-cutting heater slightly fuses the film together, there is hardly any sealing strength.



Model Name	Power V *1	Power Consumption W	Seal Width mm	Seal Length mm	Heating Method *2	Heating Time sec.	Film thickness (total) mm *3	Machine Weight kg	Machine Dimension W x D x H mm
FiF-1000	220	4000	10 or 5	1000	Single	0.1 - 2.5	Less than 0.3	90	1140 x 610 x 1080
FiF-1000C	220	4000	10	1000	Single	0.1 - 2.5	Less than 0.3	90	1140 x 610 x 1080
FiF-1000-5D	220	3000	5	1000	Double	0.1 - 2.5	Less than 0.4	90	1140 x 610 x 1080
FiF-1000-10D	220	4000	10	1000	Double	0.1 - 2.5	Less than 0.4	90	1140 x 610 x 1080
FiF-1000-10C	220	4200	10	1000	Single	0.1 - 2.5	Less than 0.4	90	1140 x 610 x 1080

*1 Other voltages available on request.
*2 Single: heating element mounted on the lower side. Double: Heating element mounted on both upper and lower sides.
*3 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

LOS Series

Seal Only | Air Cylinder Driven | ONPUL | Frequency 1,000 bags/day

Easy to Operate

The LOS series is the electric/ air cylinder operated extra-length impulse sealer. The LOS series can be operated by a foot switch. The optimum heating can cooling temperature are all controlled at the microcomputer controller. Simply press the touch panel buttons for the settings.

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.

Standard-Equipped Heating Temperature Control

Setting the ideal sealing condition

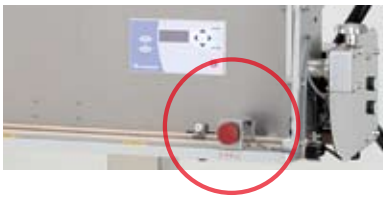
ONPUL

The most prominent feature of the ONPUL System is the ability to set and maintain the ideal sealing condition. The heating temperature setting is made possible through the use of a high-sensitivity temperature sensor for temperature control, and a microcomputer controller.

Safety Measures

Equipped with 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.



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 shutoff.

LOS-1000

Compressor Required Separately

The LOS series of sealers requires a separate air compressor to operate the machine. The compressor for the sealer must have the following capacity:
Compatible compressor
0.75KW 75 Liter/min 490kPa or more

Operation Setting

Heating Temp : 60 – 250°C
Heating Time : 0.0 – 2.0sec.
Cooling Temp : 40°C – Heat Temp

Option

Tension Arm
Hot Stamp Printing Device

Model Name	Power V *1	Machine Drive	Power Consumption W	Seal Width mm	Seal Length mm	Heating Method *2	Film thickness (total) mm *3	Machine Weight kg	Machine Dimension W x D x H mm
LOS-600	220	Air cylinder	2500	10 or 5	600	Single	Less than 0.3	148	935 x 835 x 1900
LOS-600-10D	220	Air cylinder	2500	10	600	Double	Less than 0.4	148	935 x 835 x 1900
LOS-800	220	Air cylinder	3000	10 or 5	800	Single	Less than 0.3	155	950 x 835 x 1740
LOS-800-10	220	Air cylinder	3000	10	800	Double	Less than 0.4	155	950 x 835 x 1740
LOS-1000	220	Air cylinder	4000	10 or 5	1000	Single	Less than 0.3	160	1160 x 835 x 1740
LOS-1000-10D	220	Air cylinder	4000	10	1000	Double	Less than 0.4	160	1160 x 835 x 1740
LOS-1200	220	Air cylinder	4500	10 or 5	1200	Single	Less than 0.3	165	1360 x 865 x 1740
LOS-1200-10D	220	Air cylinder	4500	10	1200	Double	Less than 0.4	165	1360 x 865 x 1740

*1 Other voltages available on request.
*2 Single: heating element mounted on the lower side. Double: Heating element mounted on both upper and lower sides.
*3 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

AT Series

Seal Only | Air Cylinder Driven | Frequency 1,000 bags/day

The AT series sealer is capable of making seals of longer than 1.5 meters, which was not possible with our standard, air-cylinder-operated, large electric sealers. On our conventional models, the long metal sealing bars used to clamp and press-seal the bag inevitably gave to prevent even sealing pressure application.
To overcome this problem, Fuji Impulse developed a method to utilize the expansion pressure of air tubes for applying sealing pressure. The AT series is indeed a Super Large-size Sealer that excels in excessively long sealing.

Simple Operation

The AT series is an electric-powered large-size sealer. It is air-cylinder driven and operated using a footswitch. Use the timer to adjust heating and cooling times accordingly depending on the material, type, and thickness of the bag being sealed. Set the bag in the sealing area and lightly step on the footswitch to operate the air cylinder to lower the crimping lever. After the set heating and cooling are completed, the crimping lever returns to the initial position to reveal a clean, strong seal.

Safety Measures

Anti-Overheating Mechanism

When overheating occurs (i.e., when power continues to be distributed to the heating element for longer than 5 seconds), the breaker turns off and the power is shutoff.

Equipped with 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.

Compressor Required Separately

The AT series of sealers requires a separate air compressor to operate the machine. The compressor for the sealer must have the following capacity:
Compatible compressor
1.5KW 165 Liter/min 588kPa or more

Operation Setting

Heating Time : 0.5 – 5.0sec.
Cooling Time : 1.0 – 10.0sec.

ATC Series with Cutter Mechanism

A variation of the AT series is the ATC series that is equipped with an air-pressure-powered cutter mechanism. The cutter device is activated automatically after the sealing process and cuts the bag or film. This is very useful for continuous sealing or film-processing.
The cutter device can be used independently for cutting, without the sealing process.

Option

Optical-sensor-activated anti-finger jamming device may be installed as an option.

Model Name	Power V *1	Machine Drive	Power Consumption W	Seal Width mm	Seal Length mm	Heating Method *2	Film thickness (total) mm *3	Machine Weight kg	Machine Dimension W x D x H mm
AT-1500-10	220	Air cylinder	5000	10	1500	Single: Upper Side	Less than 0.3	180	1830 x 572 x 1270
AT-1500-5	220	Air cylinder	5000	5	1500	Single: Upper Side	Less than 0.3	180	1830 x 572 x 1270
AT-2000-10	220	Air cylinder	5000	10	2000	Single: Upper Side	Less than 0.3	210	2330 x 572 x 1270
AT-2000-5	220	Air cylinder	5000	5	2000	Single: Upper Side	Less than 0.3	210	2330 x 572 x 1270
AT-2500-10	220	Air cylinder	5000	10	2500	Single: Upper Side	Less than 0.3	260	2830 x 572 x 1270
AT-2500-5	220	Air cylinder	5000	5	2500	Single: Upper Side	Less than 0.3	260	2830 x 572 x 1270

*1 Other voltages available on request.
*2 Single: heating element mounted on the upper side.
*3 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

MEDICAL IMPULSE SEALER & RELATED EQUIPMENT

Typical Industries and Applications

- ☑ Hospitals
- ☑ Clinics
- ☑ Bags for Sterilization

OPL-350-MD NP

Seal Only | Semi Auto | ONPUL | Frequency 3,000 bags/day

For Medical Use Including Sterilized Bags

The impulse sealer OPL-350-MD NP has been developed specifically for medical and pharmaceutical industries. Unlike ordinary products, sterilized bags that feature film on one side only are securely sealed by heat applied from the top side. With the heating element mounted on the top lever, OPL-350-MD NP can seal the sterilizable bag with the transparent surface facing upward.

Simple Operation

Set the parameters for heating temperature, heating time, and cooling temperature displayed on the LCD by pushing the buttons on the touch panel. Simply touch the touch switch after you have set the bag on the sealer to complete sealing. You can also set the desired interval time for continuous operation.

OPL-350-MD NP

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. Combined with the high-precision sealing made possible with the ONPUL heating temperature control system, this sealer effectively meets the strict requirements of a medical environment.

Safety Measures

Anti-Finger Jamming Feature

Should an anomaly occur, the LCD screen on the control unit and/or an alarm sound will alert you. In addition, the sealer is equipped with a mechanism to suspend the crimping lever's crimping process and return to its initial position in the event a finger or another foreign object is accidentally caught in the sealing area. *1 To stop the machine during operation, push the "ABORT CYCLE" button.

Anti-Overheating Mechanism

Should the heater ever overheat (should the heater continue to heat beyond the first 3 seconds of heating), the power switch automatically shuts off to stop the heater from heating further. To secure cooling temperature, the control unit is designed so that the user cannot set a cooling temperature that is higher than the heating temperature.

Operation Setting

Heating Temp : 60 – 200°C
Heating Time : 0.0 – 5.0sec.
Cooling Temp : 40°C – Heat Temp

Model Name	Power V *2	Power Consumption W	Machine Drive	Heating Method	Seal Length mm	Seal Width mm	Film thickness (total) mm *3	Machine Weight kg	Machine Dimension W x D x H mm	Standard Equipped
										OPL-MD Table
OPL-350-MD NP	110 / 220	1500	Solenoid	Single: Upper Side	350	10	Less than 0.4	24	525x 465x 200	○

*1 Small fingers such as those of small children may not stop the clamping lever from coming down completely.
*2 Other voltages available on request.
*3 Total thickness of overlapping films. The value may vary depending on the voltage or type of films.

PTT-100

Peel Tensile Testing Unit with Data Management Software

- Harmonized with an ASTM F88-00 "Standard Test Method for Seal Strength of Flexible Barrier Materials"
- Data management software PTT-Master standard equipped.
- Designed specifically for testing plastic film seal strength.
- Only necessary functions were picked from usually expensive testers, making it available at a reasonable price.
- Light-weighted, easy-to-carry with the compact body.

Until now, the most common way to test seal strength was to:

- Check by hand, pulling on the sealed section.
- Do liquid penetrant tests to check for leaks.

Times have changed, however, particularly in Japan where security and reliability of seals are in higher demand due to some recent food mislabeling scandals that broke. To respond to these demands, Fuji Impulse will introduce a product in the new category of peel tensile testers specializing in plastic films.

General Use and Application

1. Packaging Food
   Conduct random testing before hot water or retort sterilization.
2. Medical Packaging
   Test seal strength of sterile bags before autoclave sterilization.
3. In Packaging Factories
   Test packaging for appropriate seal strength and manage data for each lot.

Data Management Software

The peel tensile tester PTT-100 not only tests the seal strength but also produces the measurement data from the test that can be collected and managed when used in conjunction with a PC. The data is transferred from the PTT-100 via a USB cable, and the PTT-Master data management application software included in the product allows you to maintain and manage the data on a PC. The PTT-Master data management application software can display the data in a graphical or tabular form on the PC, allowing you to maintain and manage the data visually. Furthermore, the PTT-Master is equipped with a function that displays the mean and minimum values as well as standard deviation, all of which are invaluable in inspecting the same sample multiple times.

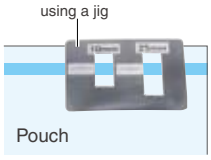
Equipped with Useful Functions

For the easier use of PTT-100, the machine is equipped with the following useful functions:

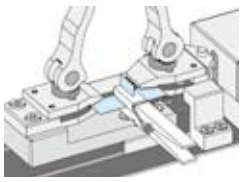
1. Register up to five multiple test patterns. Easy to change the setting conditions when testing test pieces with different test conditions and reading criteria.
2. Equipped with the Daily Check Function that allows you to quickly check the measurement functions before starting operations.
3. Automatically determines when the measurement is completed. Can measure complex seal surfaces in addition to one- and two-line seals. Manual measurements are also possible.
4. Displays test counter. Very useful for identification when testing a large number of samples.
5. Choose unit of measurement from the following list.
   Pressure Unit: N, kgf, or lbf
   Displacement Unit: mm or inch

Simple Operation

1 Use the film-cutting template.



2 Set the specimen to the thin film grips.



3 Press START button to start measurement.

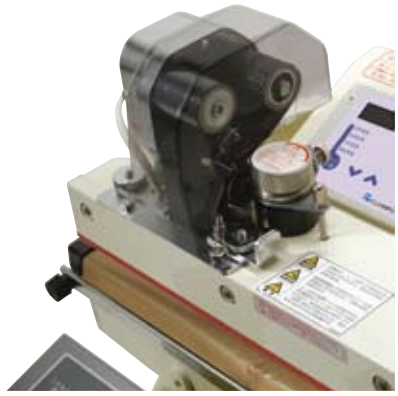
Specifications

Power	AC100-240V 50/60Hz
Power Consumption	9W
Machine Weight	8kg
Machine Dimension W x D x H	360 x 260 x 195mm
Max Peel Strength	100N (Newton)
Units	N, kgf, lbf
Sampling Rate	100 point /sec.
Peel Speed	200mm or 300mm / min
Data Output	USB cable
Precision	±0.4% of full scale

HOP STAMP PRINTER

FEP-N2 Series


FEP-N2


FEP-OS-N2

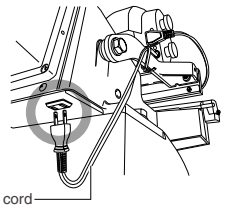

FEP-V-N2

Easy to Mount, Print While You Seal!!

FEP series is used by installing to the Fuji Impulse sealers. Strong against boil processing and scratches, the beautiful print can be created while you seal. The printer is a two-line printing device that may also be used as a one-line printing device by modifying the setting. The electronic heating element reduces the warm-up period and cuts energy consumption, making this an economical printer.

Note1 : The type may not print well on some films (e.g., OP and CP).

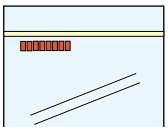
Note2 : The plug of FEP-N2, FEP-OS-N2 must be put only into the outlet on the upper rear side of FA , OPL, FI and FR series.
The plug of FEP-V-N2 must be put into the outlet on the frame cover of V-402 / VG-602, 402 series.



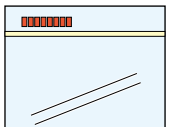
Inside Printing and Outside Printing

This is a printer that is installed to a sealer for printing. FEP-N2 is a printer that prints inside the seal. FEP-OS-N2 and FEP-V-N2 are printers that print outside the seal.

FEP is an inside printing device. Printing is done inside the seal.



FEP-OS is an outside printing device. Printing is done outside the seal.



Specification

Model Name	FEP-N2	FEP-OS-N2	FEP-V-N2
Power	AC100V 15W		
Printable Area	1 Line = H 4 mm x W 36 mm 2 Lines= H 9 mm x W 36 mm		
Temperature	120 °C		
Weight	1.2 kg		
Print Tape	W 40 mm x 60m Roll		

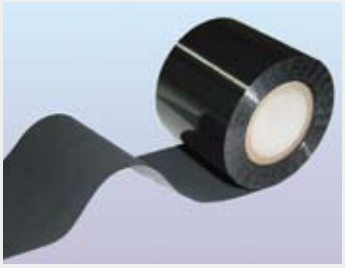
Sealer Models FEP Can Be Installed

Compatible model	Inside printer	Outside printer
OPL,FA,Fi,FiK-200 Single heating	FEP-N2	–
FA,Fi,FiK-200 Double heating	FEP-N2	–
OPL,FA,Fi,FiK-300 Single heating	FEP-N2	FEP-OS-N2
FA,Fi,FiK-300 Double heating	FEP-N2	–
OPL,FA,FiK,FR-450 Single heating	FEP-N2	FEP-OS-N2
FA,FiK,FR-450 Double heating	FEP-N2	–
OPL,FA,Fi,FiK-600 Single heating	FEP-N2	FEP-OS-N2
FA,Fi,FiK-600 Double heating	FEP-N2	–
V-402 series	–	FEP-V-N2
VG-602 / VG-402 series	–	FEP-V-N2

Common Features for FEP & HP Series

No Ink is Used

Printing is done without ink, by using heated type to print the carbon from the print tape.
Standard number of letters printed using a single roll of print tape:
Two-line print = about 6,000 letters
One-line print = about 12,000 letters.



HP-362-N2

Main Features

- Applications and Features: Hand-held hot printer, two-line printing device (also one-line printing capable)
- Operating method: Hand-operated
- Printable packaging materials: KOP, NY/PE, PE, paper, etc.

Simple to Use, Beautiful Print

Light weight and compact, the printer is easily mobile. Once you turn on the power, there are no complicated operations and settings for this handy printer.
Simply press down on the hand-lever to create print that is beautiful yet strong against boil processing and scratches.
The printer is a two-line printing device that may also be used as a one-line printing device by modifying the setting.
The electronic heating element reduces the warm-up period and cuts energy consumption, making this an economical printer.

Note1 : The type may not print well on some films (e.g., OP and CP).

1 Place a pouch.

2 Simply press down on the hand-lever to print.

Specification

Model Name	HP-362-N2
Power Note 2	110 V / 220 V 15 W
Printable Area	1 Line = H 4 mm x W 36 mm 2 Lines = H 9 mm x W 36 mm
Temperature	140 °C
Weight	3.5 kg
Print Tape	W40mm x 60m Roll

Note2 : Other voltages available on request.

Prints are Made Using Types

The text can be changed by replacing type. Printed information such as the "best before" date, serial number, weight, price and product name can be changed by replacing type. The type are print primers that were modified for use with our printers.
They are made of brass. As an option, you can use type of different point sizes.

2 lines print sample

Detail of the Types included in the Accessories

TYPES IN THE CASE

SIZE	DESCRIPTION
2.4mm	0 (4 pcs.) 1 (1 pc.) 2 (6 pcs.) 3 (3 pcs.) 4 5 6 7 8 9 (2 each) (5 pcs.) - (1 pc.) · (1 pc.) 9 (2 pcs.) . (1 pc.)
4.8mm	JAN. FEB. MAR. APR. MAY. JUN. JUL. AUG. SEP. OCT. NOV. DEC. (1 each) NET (1 pc.) PRO. (1 pc.) DATE (1 pc.) (3 pcs.)

TYPES INSTALLED IN THE PRINTER (CASSETTE CASE)

SIZE	DESCRIPTION
2.4mm	0 (3 pcs.) 1 (2 pcs.) 2 (1 pc.) (1 pcs.)
4.8mm	DATE (1 pc.) JAN. (1 pc.) EXP. (1 pc.) (1 pc.)
36mm	(1 pc.)

OTHERS

Hot Air Welding Unit for Thermoplastics

NS-300

The New Super 300 is used for the welding of thermoplastics and similar materials providing increased efficiency.

- Features a non-lubricating rotary blower
- Compact and easy-to-carry
- Includes the light-weight and easy-to-hold FL welding gun
- High temperature parts utilizes stainless steel webbing

Features

- Good for continuous work over extended time.
- The use of a condenser motor and no starting switch means fewer failures and longer product life.
- Because no lubricant is required, maintenance is easy and no oil is contained in hot air.
- Stainless steel is used in high-temperature areas of the light-weight welding gun to withstand long-term use. (FL gun comes standard-equipped)
- The motor, rotary blower, transformer and switchboard all fit in the compact main unit, making transportation easy.
- The gun grip that isolates the FL gun's body pipe from the air cock prevents the user from receiving electric shock from the air cock at hand.
- Used in the following industries and more:
  Plastic processing, water-service works, pipe works, water-supply and wastewater pipe processing, sheet metal works, building works, vehicle manufacturing, shipbuilding, electric works, vehicle interior processing, ship interior processing, store interior processing
- Usage examples include:
  Welding, processing and repairing various PVC materials, fabricating various containers such as box-shaped tanks, plumbing, and fabricating duct-lining, modified joints, plastic displays and signboards

Standard FL Gun

The NS hot air welding unit comes standard equipped with the FL gun. Air produced by an electric rotary blower inside the NS-300 is heated to a temperature sufficient for welding by a heating element in the interior of the FL gun.
Welding is done by then directing the super-heated air at a ratio of 30 - 40% welding rod to 60 - 70% work piece. Once the welding rod begins to melt, push it back slowly and continue to weld.

Optional RL Gun

As in the FL gun, air produced by an electric rotary blower inside the NS-300 is heated to a temperature sufficient for welding by a heating element in the interior of RL gun. Its applications are the interior welding work associated with making boxes, doing corners, duct lining, or any work that requires you work in narrow places without much room to move your hands.
With the RL gun it is also possible to attach the special high-speed nozzles (optional). Please note these cannot be attached to the FL gun. These high-speed nozzles allow work to progress faster and with a cleaner finish than the standard nozzle attached to the FL gun. The temporary welding nozzle may also be attached to the RL gun.

High Speed Nozzle (Optional)

High-speed 3mm: single nozzle

High-speed 3mm: double nozzle

Temporary welding nozzle

Specification

Model	Voltage (V)	Power (W)	Dimension W x L x H(mm)	Weight (kg)
NS-300	110/220/230	260	275 x 138 x 196	9.8
FL gun	100	600	182 x 200 x 38	0.6
RL gun	100	600	320 x 60 x 60	0.6

Rotary Blower

Electric motor	Single-phase condenser motor, bipolar 3,000 - 3,600 rpm
Air pressure	0.029 MPa 50L/min
Max air temperature	300°C (10mm from the nozzle tip)
Temperature adjustment	Output voltage adjustable in 7 steps (40 - 100V)
Blower features	Oil-less type, utilizes 4 special heat-resistant lubricated vanes

Optional Items

Standard Table

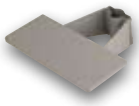
200 Standard Table
Dimension : 200 x 150mm
Can be mounted to:
Fi-200, FiK-200, FA-200, OPL-200

300 Standard Table
Dimension : 300 x 150mm
Can be mounted to:
Fi-300, FiK-300, FA-300, OPL-300

400 Standard Table
Dimension : 400 x 150mm
Can be mounted to:
FiK-450, FA-450, OPL-450

200/300 Table Switch Plate
Can be mounted to:
FA-200/300, OPL-200/300,
CA-300 (stainless steel)

Sepcial Table



300/450 Special Table
Dimension : 450 x 190mm
Can be mounted to:
Fi, FiK: to the stand
FA, OPL: to FA/OPL stand

600 Special Table
Dimension : 600 x 190mm
Can be mounted to:
Fi, FiK: to the stand
FA, OPL: to FA/OPL stand

CA 450/600 Special Table
Dimension : 600 x 190mm
This special table attaches to the support pipe of the optional CA stand type S.

Stand for FA/ OPL with 600 Special Table

Fi-600-2 installed with a 600 special table

CA stand type S and special table for CA-450/600

Stand

FA/ OPL Stand

V-402 Stand

Band Sealer Stand

Conversion Chart

Seal Width

Millimeters	Inches
200	8 *Except for FS-215
300	12 *Except for FS-315
350	14
400	16
450	18
600	24
800	31
1000	39
1200	47
1500	59

Seal Width

Millimeters	Inches
2	1/5 (0.078)
5	2/5 (0.195)
10	4/5 (0.39)

2mm

5mm

10mm

Heating Temperature

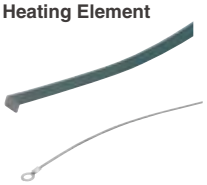
Centigrade (°C)	Fahrenheit (°F)
40	104
60	140
250	482

Maintenance Parts Kit

Consumable Parts

*These parts are also sold individually.

Heating Element

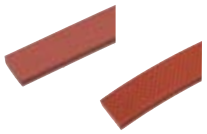


Provides heat for sealing. Replace when it breaks, unevenness is generated, or the seal becomes messy, etc.

Teflon

Helps to release the sealed bags from the heater. Replace when it breaks, burns, or the seal becomes messy, etc

Silicone Rubber



Secures the sealing position. Replace when unevenness is generated or the seal becomes messy, etc.

Glass Tape

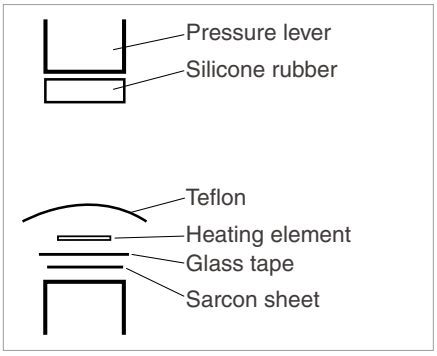
Insulates the sealer body from the heating element. Replace when the heating element breaks often, the seal becomes messy, etc.

Sarcon Sheet

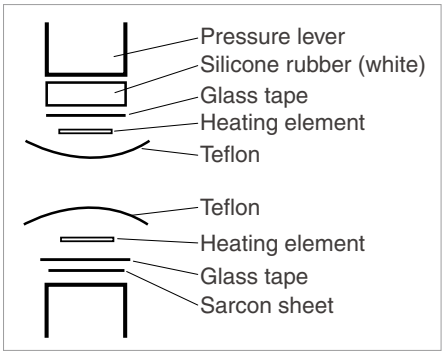
Provides enhanced insulation. Replace when the heating element breaks often, the seal becomes messy, etc.

Seal Area Configurations

Single-Side Heating



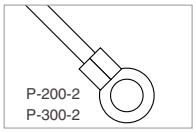
Double-Side Heating



The configurations of the sealing areas for both single and double-side heating types are shown in the left illustrations.
(Some sealer models may not apply.)

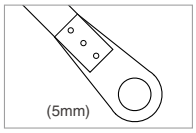
Heating Element Types

A



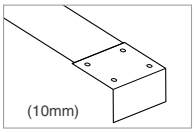
P Series Heating Element
(Ring-Tongue Terminal)

B



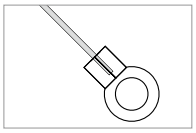
2 / 5mm Heating Element
(Ring-Tongue Terminal)

C



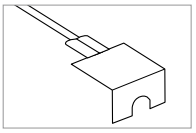
2 / 5 / 10mm Heating Element
(L-Shaped Terminal)

D



Fusing Heating Element
(Ring-Tongue Terminal)

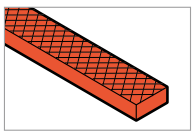
E



Fusing Heating Element
(L-Shaped Terminal)

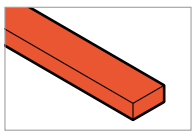
Silicone Rubber Types

F



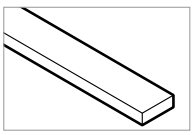
Textured

G



Flat

H



White

Parts included in the maintenance parts kit

Name	Heating Element	Teflon	Glass Tape	Sarcon Sheet	Silicone Rubber	Others
P-200-2	**A** : 2mm 3 pcs	10 pcs.	15 x 215mm : 2 pcs.	1 pc.	**H** : 1 pc.	–
P-300-2	**A** : 2mm 3 pcs	10 pcs.	15 x 315mm : 2 pcs.	1 pc.	**H** : 1 pc.	–
FS-215-2	**B** : 2mm 3 pcs	2 sheets	15 x 215mm : 2 pcs.	1 pc.	**H** : 1 pc.	–
FS-215-5	**B** : 5mm 3 pcs	2 sheets	15 x 215mm : 2 pcs.	1 pc.	**H** : 1 pc.	–
FS-315-2	**B** : 2mm 3 pcs	2 sheets	15 x 315mm : 2 pcs.	1 pc.	**H** : 1 pc.	–
FS-315-5	**B** : 5mm 3 pcs	2 sheets	15 x 315mm : 2 pcs.	1 pc.	**H** : 1 pc.	–
FT-130	**C** : 10mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc.	–
FT-230	**C** : 10mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc.	–
Fi/FA/OPL-200-10L	**C** : 10mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**F** : 1 pc.	–
Fi/FA-200-10D	**C** : 10mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc.	–
Fi/FA-300-2L	**C** : 2mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**G** : 1 pc.	–
Fi/FA/OPL-300-5L	**C** : 5mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**G** : 1 pc.	–
Fi/FA-300-5D	**C** : 5mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc.	–
Fi/FA/OPL-300-10L	**C** : 10mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**F** : 1 pc.	–
Fi/FA-300-10D	**C** : 10mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc.	–
FR/FA-450-2L	**C** : 2mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**G** : 1 pc.	–
FR/FA/OPL-450-5L	**C** : 5mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**G** : 1 pc.	–
FR/FA-450-5D	**C** : 5mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc.	–
FR/FA/OPL-450-10L	**C** : 10mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**F** : 1 pc.	–
FR/FA-450-10D	**C** : 10mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc.	–
Fi/FA-600-2L	**C** : 2mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**G** : 1 pc.	–
Fi/FA/OPL-600-5L	**C** : 5mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**G** : 1 pc.	–
Fi/FA-600-5D	**C** : 5mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc.	–
Fi/FA/OPL-600-10L	**C** : 10mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**F** : 1 pc.	–
Fi/FA-600-10D	**C** : 10mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc.	–
Fi-400Y-2L	**C** : 2mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**G** : 1 pc. (16mm-width)	–
Fi-400Y-5L	**C** : 5mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**G** : 1 pc. (16mm-width)	–
Fi-400Y-5D	**C** : 5mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc. (16mm-width)	–
Fi-400Y-10L	**C** : 10mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**F** : 1 pc. (16mm-width)	–
Fi-400Y-10D	**C** : 10mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc. (16mm-width)	–
Fi-600Y-2L	**C** : 2mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**G** : 1 pc. (16mm-width)	–
Fi-600Y-5L	**C** : 5mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**G** : 1 pc. (16mm-width)	–
Fi-600Y-5D	**C** : 5mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc. (16mm-width)	–
Fi-600Y-10L	**C** : 10mm 3 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**F** : 1 pc. (16mm-width)	–
Fi-600Y-10D	**C** : 10mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc. (16mm-width)	–
V-300-5L	**C** : 5mm 3 pcs	2 sheets	19mm x 5m : 1 roll	1 pc.	**H** : 1 pc.	Filter Element: 2 pcs
V-300-10L	**C** : 10mm 3 pcs	2 sheets	19mm x 5m : 1 roll	1 pc.	**H** : 1 pc.	Filter Element: 2 pcs
CA-300-5L	**C** : 5mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc. (16mm-width)	–
CA-300-10L	**C** : 10mm 5 pcs	2 sheets	25mm x 5m : 1 roll	1 pc.	**H** : 1 pc. (16mm-width)	–

* The maintenance kits for older models also available.