

# FSM-35 Semi-Automatic Strapping Machine

## OPERATION MANUAL



Machine	Semi-Automatic Strapping Machine
Model	FSM-35
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## **1. GENERAL INFORMATION**

Congratulations on the purchase of your Fromm Strapping Machine. We trust you will have many years of packaging efficiency.

*Before proceeding with the operation or installation of your new machine please read this manual thoroughly and gain a full understanding of the requirements, features and operation of your new machine.*

### **1.1 NOTE OF INSTALLATION**

To ensure your machine operates in a safe manner please review the following requirements:

1. Machine standard power is 240V (+- 10%)
2. Machine standard power Hertz is 50Hz. (+- 2%)
3. Machine can operate in temperatures between 0°C - 45°C
4. The position where you place the machine must be flat and have no vibrating machines around the wrapping machine.
5. Please ensure you download and read our Install Guide before attempting it yourself.

### **1.2 NOTICE OF OPERATION**

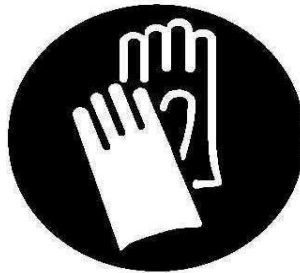
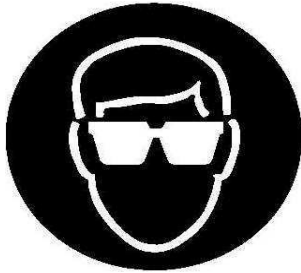
Before you start using the wrapping machine, please review the following conditions:

1. Before operating, please read the machine operational manual carefully.
2. Make sure there is no object put on the power cable.
3. Make sure there is no object put on the upper elevator unit.
4. Avoid any damp object or water around the electric parts.
5. Do not stand on or across from the machine during operation.
6. When a problem does occur, please check the troubleshooting section for more information and advice.

## 2. SAFETY INSTRUCTIONS

### 2.1 Before Operating

1. Read the instruction manual.
2. Wear eye protection and safety gloves before operating this machine.



3. Eye protection must be worn
4. Safety gloves must be worn
5. Ear-protector must be worn
6. Verify that the power line voltage is correct.
7. The machine must be properly grounded to avoid a shock hazard. All wiring must be in accordance with local wiring standards.
8. The strapping machine can only be operated with polypropylene (P.P.) strapping; do not use polyester (PET) strapping or polyethylene (PE) cord strap.

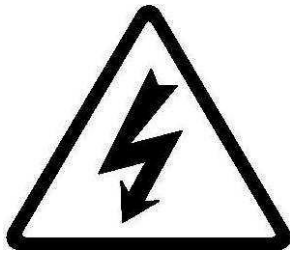
### 2.2 During Operation

1. The weight of the package cannot exceed 100 kg,
2. The size of the package should not be less than 130mm (width) × 20mm (height).
3. Check if the machine emits any smokes or unusual sound when it is running.
4. Keep away from the inside of the arch while the machine is operating; do not put your hands or body into the arch when the machine is running.

### 2.3 After Operation

1. Remove dust and dirt from the unit; pay particular attention to the interior of the arch.
2. Turn off the power when the machine is not in use.

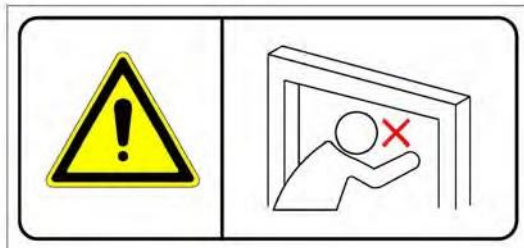
## 2.4 Signs



**Caution!**  
**Electric Shock**  
**Hazard**



**Caution!**  
**Hot!**  
**Do not touch!**



**Warning!**  
Do not put your hands or body  
into the arch working area when  
machine is operating.

## **2.5 Maintenance**

1. Turn off the power before removing either of the top covers.
2. The heater tongue is very hot; do not touch it.

## **2.6 Storage**

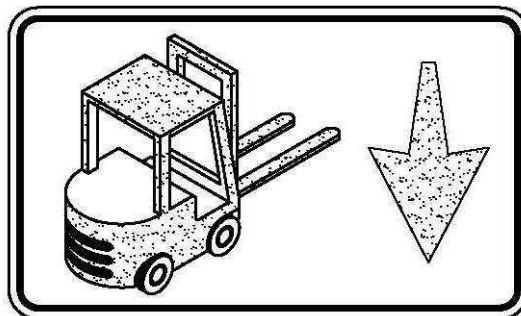
1. The store room must be dry.
2. Do not expose the machine to extreme cold or heat environment.
3. Place the machine on an even floor in order to avoid any distortion.

## **2.7 Other Reminders**

1. An operation manual must remain attached to the machine at all times.
2. Do not alter the equipment or circuitry unless authorized to do so by the manufacturer.

## **2.8 Attention**

When the machine arrives in your warehouse, you need to use a forklift to take it off from the pallet. If you could go down to the bottom side of the machine, you would see an indication sticker as follows: (FSM-35)



Follow this sticker and lead the teeth of a forklift to that indicated position. After making few distance adjusting, you then could drive the teeth in and take off the machine.

### 3. CONSTRUCTION AND FUNCTION OF UNITS

#### **Strapping Head Unit**

This unit is the most important part of the machine for cutting and sealing of PP.

#### **Bandway Unit**

This is the arch track through which PP strap forwards and reverses.

#### **Body Frame Unit**

#### **Reel Unit**

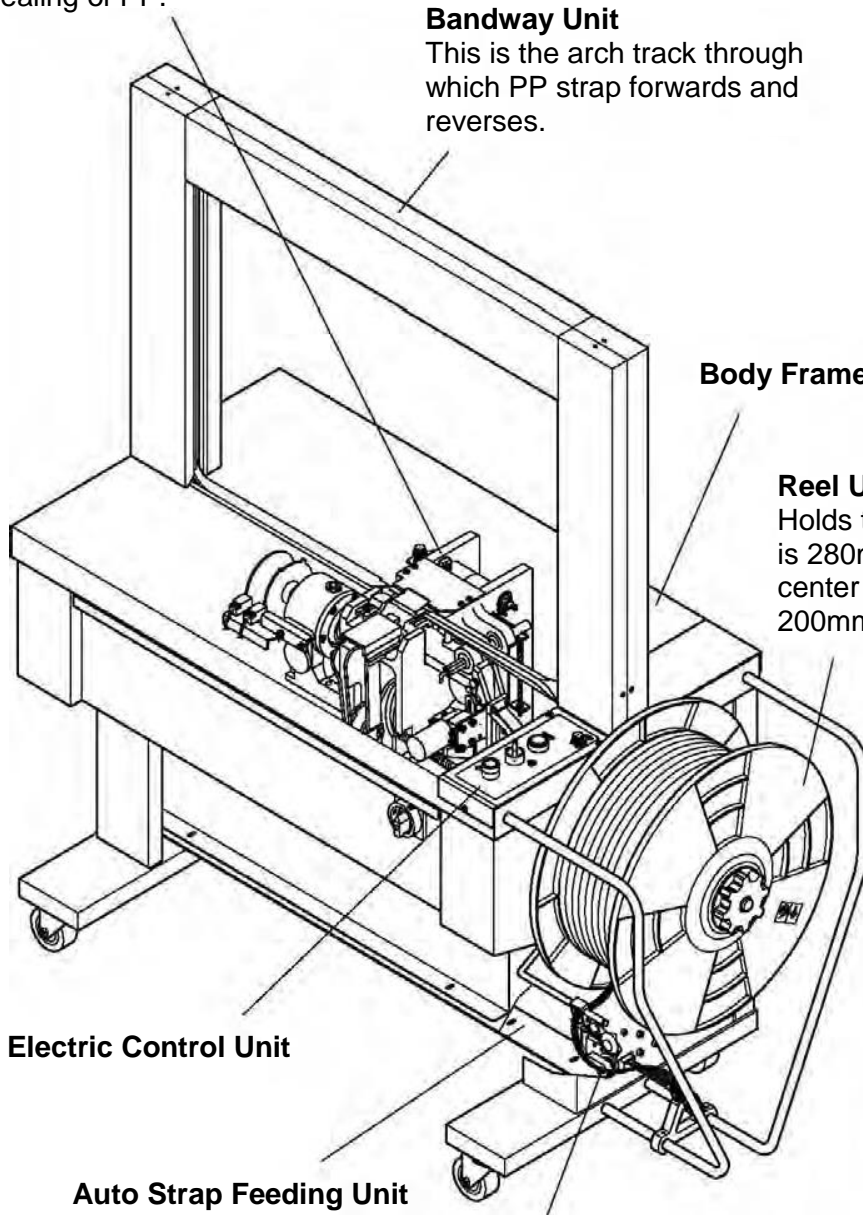
Holds the strap roll. (If strap core is 280mm, you can take off the center drum to have core size 200mm).

#### **Electric Control Unit**

#### **Auto Strap Feeding Unit**

#### **Accumulator Unit**

This unit accumulates the quantity of strap required for smooth feeding into the chute track.



## **4. GENERAL SAFETY REMARKS**

### **4.1 Basic Operation**

The machine is only to be operated when in good running condition and in accordance with the instructions provided in the operation manual. Operators must be trained in proper operation and safety of the equipment.

The machine may only be operated in accordance with its designated use.

### **4.2 Basic Safety Precautions**

In addition to the instructions for operation, the user is to be instructed in all generally applicable legal or mandatory regulations relevant to safety or the environment. Long hair, loose-fitting garments, or jewelry can be a safety hazard. These items must be secured prior to equipment operation.

Use protective equipment whenever appropriate or when required by law.

Carefully observe all safety instructions and warnings attached to the machine.

Keep safety labels clean and legible. People that are being trained to operate or service the equipment must be supervised by experienced personnel.

Any electrical work performed on the equipment must be conducted by a skilled electrician or under the supervision of a skilled electrician. All work must observe good electrical engineering practice and follow safety rules and local wiring standards.

### **4.3 Safety Instructions Governing Specific Operational Phases**

Avoid unsafe operation of the equipment.

The machine is only to be operated when it is in good running order. Only operate the equipment in a safe manner; all protective and safety devices must be in place and fully functional. This includes removable safety devices, emergency shut-off equipment, noise-protection devices and exhaust fans.

The machine is to be checked for damage and defects at least once each work shift. Any changes, including the working behavior of the machine, are to be reported immediately. If necessary, the machine is to be stopped and locked-out immediately.

In case of a malfunction, the strapping machine is to be immediately stopped and locked-out until the fault has been eliminated.

Before starting the strapping machine, make sure that the area is clear and safe.

Operating personnel need to be briefed before executing special operations and maintenance work; this work needs to be done with the proper supervision.

Always check and tighten connections after maintenance or repair.

After completing maintenance or repair, all safety devices must be replaced and checked for functionality before operating the equipment.

To minimise the environmental impact, all consumables and replaced parts must be disposed of safely.

Before starting the machine, check that the accessories have been stowed away safely. Avoid operating the machine in a fashion that could upset its stability.



## **4.4 Warning of Electrical Dangers**

### **Electrical Energy**

Immediately remove power to the machine in case of trouble in the electrical system. Replace a fuse with one with the same style and ratings; pay particular attention to matching the specified current.

Any electrical work performed on the equipment must be conducted by a skilled electrician or under the supervision of a skilled electrician. All work must observe good electrical engineering practice and follow safety rules and local wiring standards.

Inspect the electrical equipment of the machine at regular intervals. Tighten any loose connections. Check wiring for scorch marks; replace scorched wiring and determine and correct the reason for the overheating.

When working on live equipment, ensure that a second person is available to cut power in case of an emergency. When appropriate, secure the working area with safety tape and a warning sign. Use insulated tools for electrical work.

Before working on high-voltage assemblies, turn off the power supply. Carefully discharge the supply cable and short-circuit any energy-storage components such as capacitors.

If the equipment was moved, carefully refit and refasten all parts removed for transport before reapplying power.

Before moving the machine, remember to disconnect the power cable.

## **4.5 Grounding Instructions Shall Include the Following**

This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock. This product is equipped with a cord that has a grounding wire and an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in accordance with all local codes and ordinances.

If repair or replacement of the cord or plug is necessary, connect the ground wire to the ground terminal of the plug. The wire with green insulation (with or without yellow stripes) is the grounding wire.

Check with a qualified electrician or service person if the grounding instructions are not clear or if in doubt about the proper grounding of the machine. Do not modify the plug provided; if it will not fit the power outlet, have the proper outlet installed by a qualified electrician.

## **5. MACHINE INFORMATION**

### **5.1 Areas of Application and Machine Description**

This plastic strapping machine can be used for all types of strapping applications with package sizes of 130 mm (width) x 20 mm (height) and up.

This machine is particularly suitable for heavy packaged goods as well as printed products, boxes, etc.

### **5.2 Machine Description**

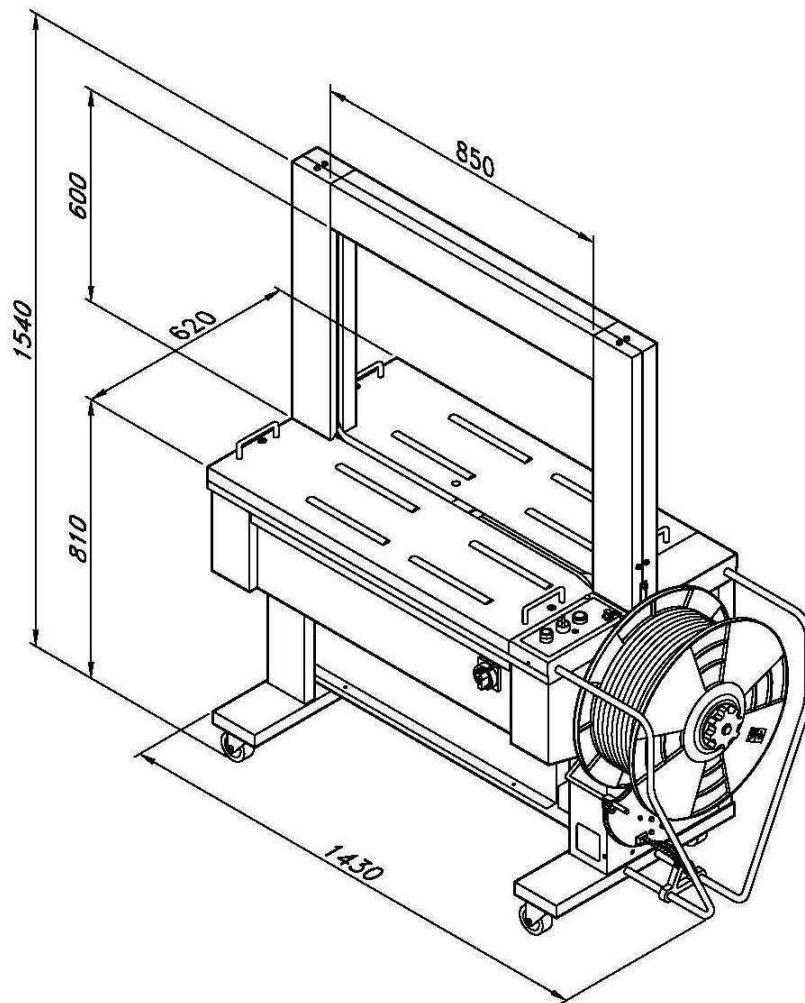
- Automatic plastic strapping machine for use with polypropylene strapping extra tough construction;
- Simple, safe and user-friendly operation automatic feeding-system;
- Automatic strap-end detection loop ejection;
- Mobile, with large table area and high capacity strap reel table surface made of stainless steel;
- Strap tension adjustable from soft to extremely high.

### **5.3 Environment Information**

**The strapping machine shall be installed in the following conditions:**

- Supply voltage: 0.9 - 1.1 nominal supply voltage
- Source frequency: 0.99 - 1.01 nominal frequency
- Ambient temperature: 5°C - 40°C.
- Relative humidity: not exceed 50% at 40°C.
- Please provide a suitable illumination around the machine for safety operation.

## 5.4 Technical Data



Model	FSM 35
Sealing Method	Heat
Strap Width	8-12mm
Strap Thickness	0.55-0.75mm
Strap Roll Diameter	200mm
Width	1430mm
Depth	620mm
Table Height	810mm
Electrical Connection	AC 240V, 50/60Hz, 1 Phase
Weight	220kg
Noise Emission	83dB
Ambient Temp	5-40°C

## 5.5 Control Panel

### 1. Start Switch

This is the switch to start a strapping operation. A strapping cycle is completed only after actuation of this switch. (Indicator for strap goes to ready position)

### 2. Reset Switch

This is the switch to activate auto strap feeding. In addition, it is used for troubleshooting. If the strap is mis-fed, you can push this button to solve the problem.

### 3. Selector Switch @/👉

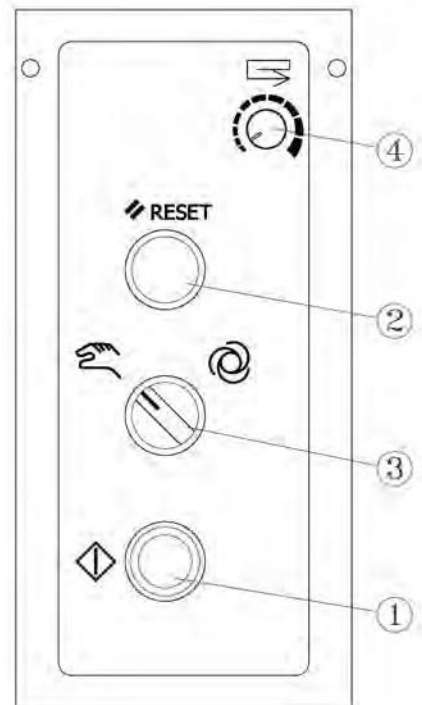
While selector switch is placed to the position @ , the machine will automatically strap the package when it is placed on the table and passes the chute arch, if the package remains under the arch, the strapping cycle will continue.

While the selector switch is placed to the position 👉 , after positioning the package under the arch, push the "START" switch, then one strap will be applied.

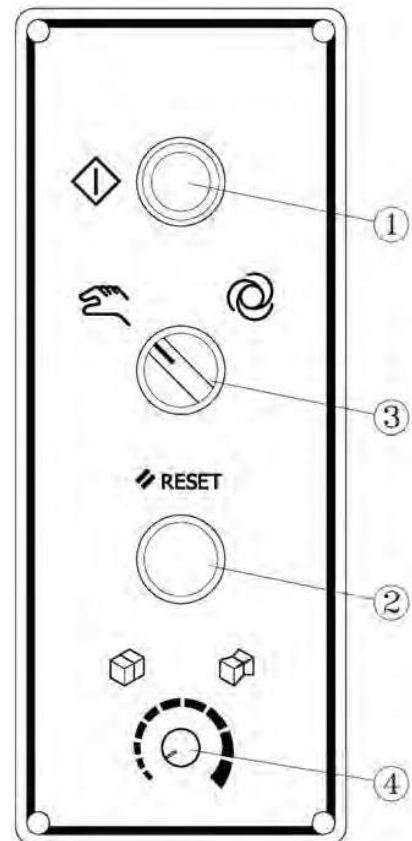
### 4. Tension Adjustment Knob

External adjustment of strap tension by step-by-step rotation of this knob.

FSM-35



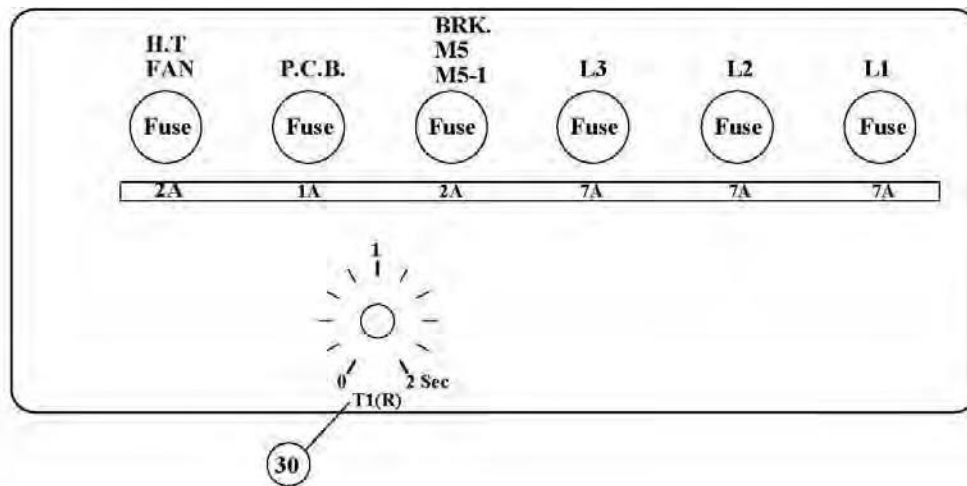
FSM-35



## 5.6 Electric Control Unit

Timer, T1 30

T1 timer determines the time necessary for strap take-up. While setting, please test with the minimum sized package. Normally, Timer T1 is set at about 0.5 second, but may have to be adjusted depending on arch size & actual package size.

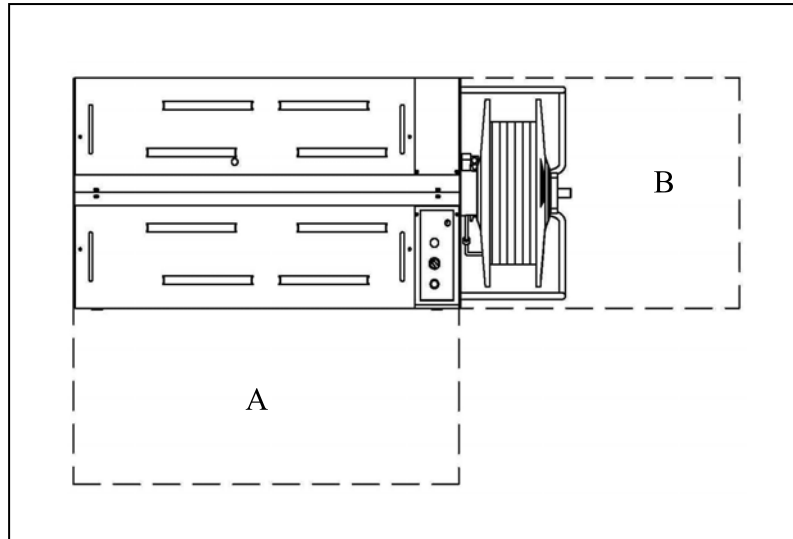


## 6. OPERATING THE MACHINE

### 6.1 Operation Space

Keep the area (A) and (B) free for the operator.

The area (A) is necessary for operation strapping machine and the area (B) is necessary for changing the strap or adjusting strap amount in the accumulator.



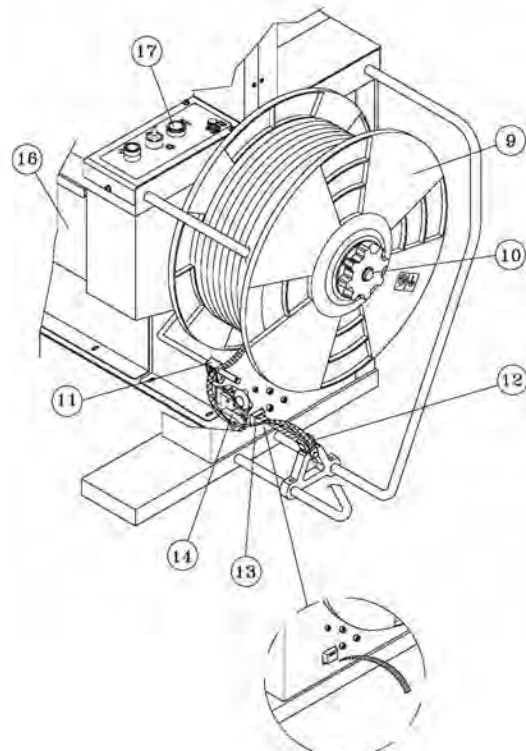
## 6.2 How to Load PP Strap

**Ensure that the power switch is turned off before loading P.P. strap.**

### Step 1

Place a strap coil on the reel drum and following the arrow direction as indicated on the Reel out Circular **9**.

After placing it, put the Reel out Circular on the strap coil and tighten it by the Reel Nut Handle **10**.



### Step 2

Thread the tip of PP strap into the Band Guide Roller **11**. After that, push it through the Free Angle **12**.

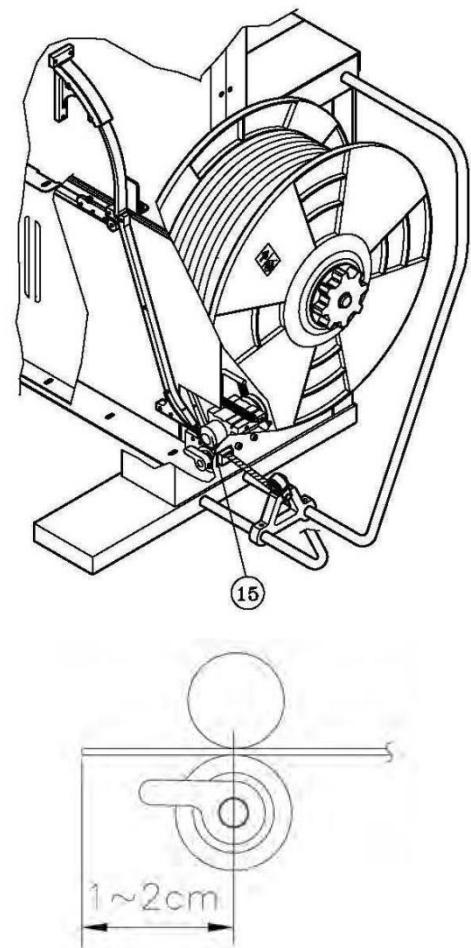
At this moment, twist the strap so that the inside part of the PP strap turns out downward and outside surface touches on the roller. See the drawing.

### Step 3

Insert PP strap in to the Pool Feed Shooter **13** pushing the lever **14** down and feed PP strap about 1-2cm beyond Pool roller **15**.

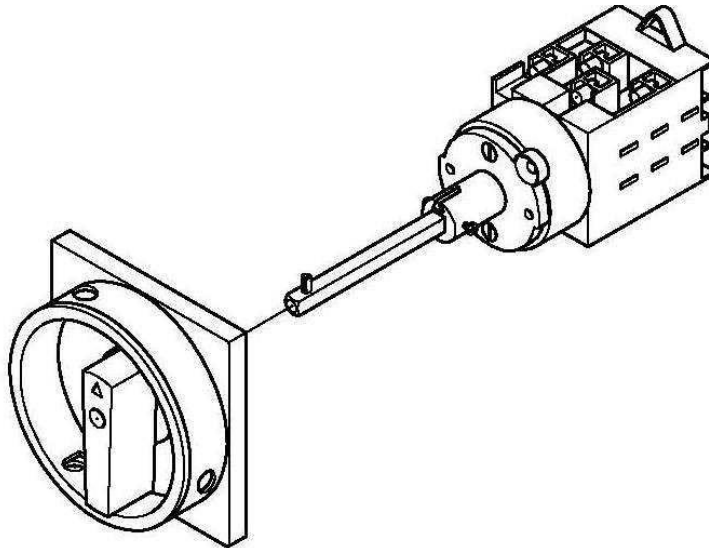
### Step 4

Turn on the power supply switch, and then push Reset Switch **17**. After about 4 seconds the strap will automatically go in to the pool box arch.



### 6.3 How to Operate

- Turn on the Main power switch (make a 90-degree clockwise turn). The front door will be locked at the same time. If you want to open the front door, turn off the main power switch first (make a 90-degree counterclockwise turn). In this way, the operator can open the front door without risk. (See drawing below)
- Wait for about 3 minutes until the heater element reaches its required operating temperature.
- Place a package in the middle of the chute.
- Set tension with the Tension Adjustment Knob
- Push start switch or actuate foot pedal switch to start strapping. The strapping operation is repeated if the start switch is pushed again.





## 7. ADJUSTMENTS

### Heater temperature mechanism

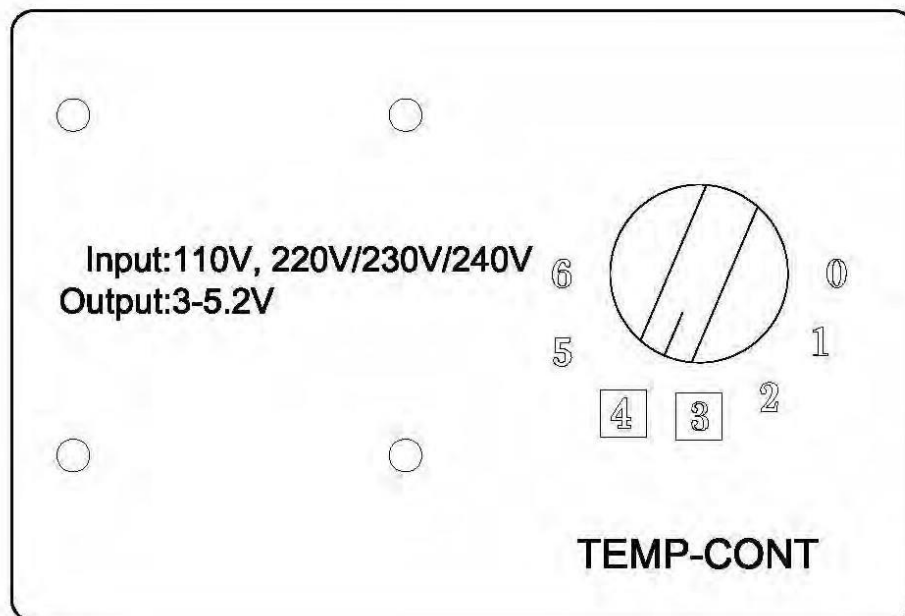
Set the knob to position 3 or 4

Adjust the heater temperature by selecting a value between 1 and 6.

Choose the suitable temperature, keep in mind the environmental conditions of the machine.

If the heater temperature is too high or too low, a proper seal will not be obtained.

Gradually increase or decrease the heater-knob value until obtaining an optimum seal.



## 8. MAINTENANCE

### **Warning:**

**Before starting any maintenance or repairs to the machine, set the Main Power Switch to "O" (OFF). Wait about 5 minutes for cooling down the heater element to avoid burns.**

### **8.1 Cleaning and Lubrication**

The high reliability and long service life of the strapping machine will depend on regular cleaning and maintenance.

### **ATTENTION!**

**All the important strap transport components, such as the feeding rollers and the strap guides, must be kept free from oil and grease (lubricant).**

**The lubricant has to be non-resinous.  
The lubricant is SAE 30**

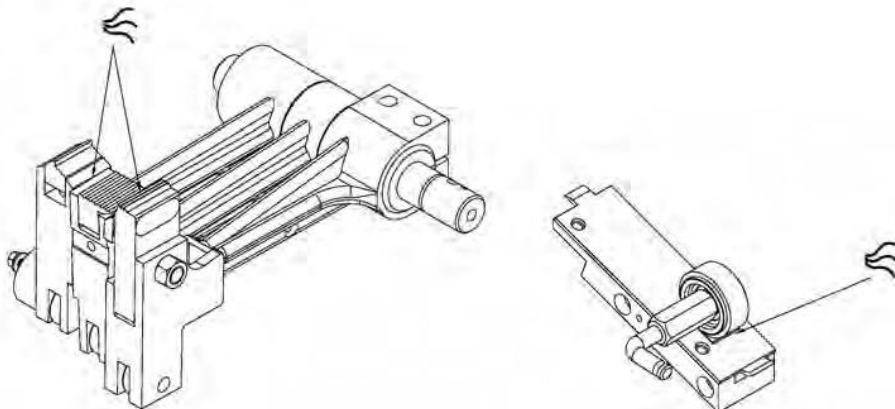
### **8.2 Maintenance**

**Only use original spare parts supplied by manufacturer.**



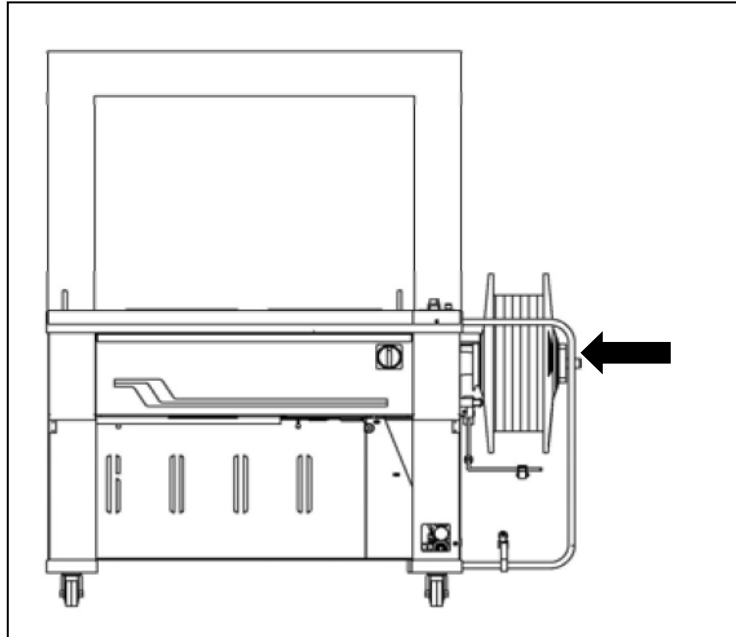
### **Daily:**

Use an air gun to clean the areas shown in the below pictures (nearby the cutters, strap guide and feeding/retracting rollers). To be completed daily.  
Remove any plastic residue within the machine.



## 9. HOW TO SAFELY MOVE THE MACHINE

- Before moving the machine, be sure to unplug the power cord and put it in safe place to avoid any damage.
- Moving the machine by holding the Reel Guard to pull or push the machine.
- **Note: Don't move the machine by pulling or pushing the arch unit.**



## **10. TROUBLESHOOTING**

### **10.1 SUGGESTED MAINTENANCE**

Fromm Packaging Australia recommends servicing every six months as a minimum, but many machines have different service intervals depending on condition and throughput. It's best to discuss your servicing requirements with Fromm Packaging.

### **10.2 WARRANTY PERIODS**

To provide you with peace of mind all Fromm stretch wrapping, strapping and carton taping equipment includes a two year warranty from the date of delivery to your site. The warranty includes all deficiencies clearly resulting from poor manufacturing or faulty materials. Damage claims as a result of production shutdowns and claims for damage to persons and to property resulting from warranty deficiencies covering structural components and non-wearing parts effective from the date of delivery to your site.

The warranty excludes:

- Wearing parts (rollers, motors and belts),
- Deficiencies resulting from improper installing, incorrect handling and maintain the equipment,
- Disregard of directions in the operation manual,
- Unauthorised repair work to the equipment,
- Use of consumable products not recommended by the supplier of the equipment.

We reserve the right to modify the product any time in order to improve the quality.

### **10.3 FROMM PACKAGING AUSTRALIA SERVICE TECHNICIANS**

Fromm service technicians are trained to service all stretch wrapping, strapping and carton taping machines which we sell and are your on-site expert support to optimise the performance and reliability of your packaging equipment.

With technical offices in Sydney, Brisbane and Melbourne metro areas we are on hand to ensure your equipment is running smoothly. Customers located outside metropolitan areas we offer phone support and can organise onsite technical support when required.

## 10.4 Possible troubleshooting Causes and Remedies

Probable Causes	Remedy
a. Incorrect strap threading direction on reel holder	a. Reload strap correctly (see page 13)
b. Incorrect loading of strap	b. Check if strap is twisted in loading section (see page 13)
c. Strap gets in between strap coil and Reel Flange	c. Reload strap
d. Insufficient or excessive strap	d. Adjust amount of strap accumulated
e. Dust and strap residues in Feed Unit	e. Check and clean unit
f. Strap end is split	f. Adjust Cutter Tension Spring or change cutter
g. Loose strap at Reel Unit	g. Adjust or change Brake Tension Arm Spring
h. Strap jumps out of arch track	h. Adjust F/R mechanism
i. Poor quality of strap	i. Cut off the damaged part of strap or change the roll
j. Improper positioning of package on Table Top	j. Replace the package in the center of the Sealing Head

### Strap Unsealed

Probable Causes	Remedy
a. Wire inside or outside of Heater is broken, loose or out of connect	a. Check wire or change Heater
b. Improper setting of temperature	b. Adjust Heater Temperature (see page 15)
c. Value set at Tension knob is too high	c. Adjust Tension Knob (see page 10) or increase weld cooling time

### Improper Strap Tensioning

Probable Causes	Remedy
Value set for Timer T1 is too short	Adjust Timer T1 (see page 11)

## **11. CONTACT FROMM PACKAGING AUSTRALIA**

For any questions please contact Fromm Packaging Australia

**Phone: 1800 023 890**

**Email: [info@fromm-pack.com.au](mailto:info@fromm-pack.com.au)**

**Postal Address: PO Box 4016, Mt Ommaney QLD 4074**