

FSM-CUBE Automatic Strapping Machine

OPERATION MANUAL



Machine	Automatic Strapping Machine
Model	FSM-CUBE
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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 5°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

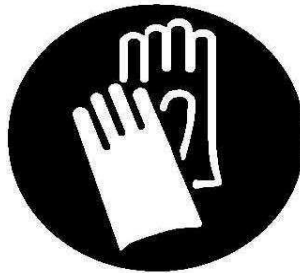
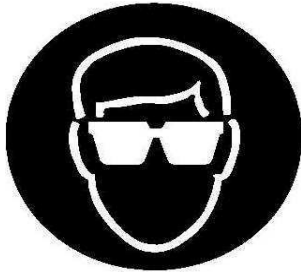
Before you start using the wrapping machine, please review the following conditions:

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 and polyester (PET) strapping; do not use polyethylene (PE) cord strap.

2.2 During Operation

1. The weight of the package cannot exceed 50 kg.
2. The size of the package should not be less than 100mm (width) × 5mm (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 Safety Hazards



Conveyor belts and other transport devices must not disable the safety devices of the machine.

Access to the Emergency Stop switch must be provided at all times.



The sealing of the strap is executed by heating up the welding plate. Touching it may cause burns.



Machine must be disconnected from power supply prior to opening the machine interior and prior to beginning any maintenance or repair work (pull out mains plug).



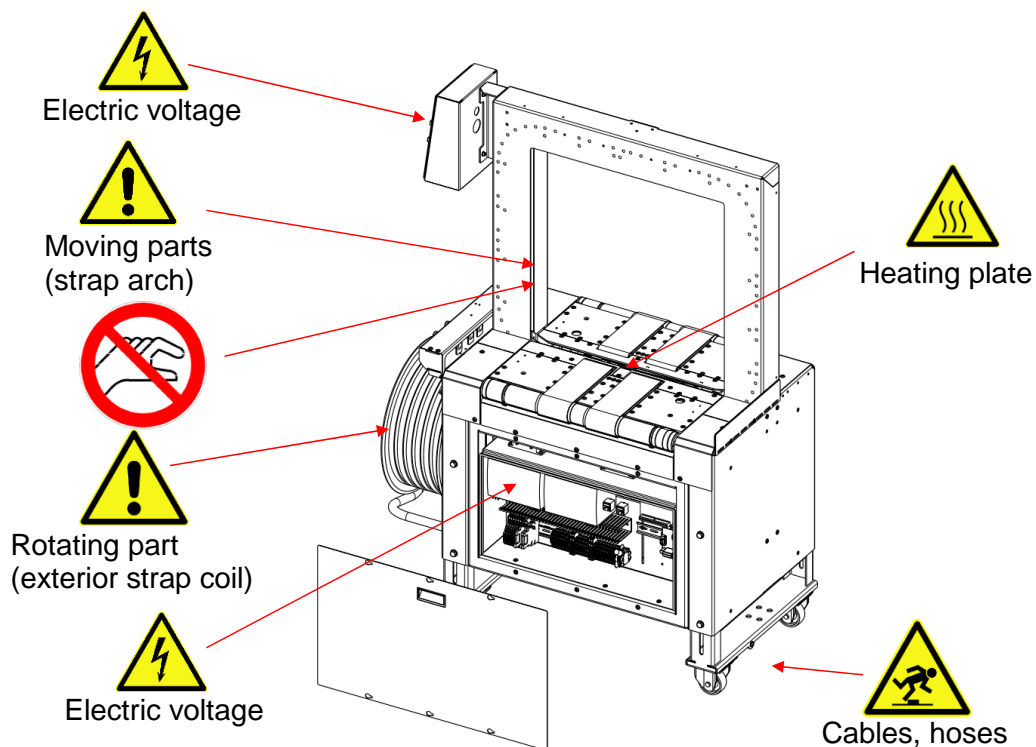
Never remove safety equipment or disable safety devices by making changes at the machine.



Run cables safely (e.g. in cable ducts) so that they cannot cause tripping over.



Caution: components are moving during operation! Keep out of reach of working range of press bar and strap arch!



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.

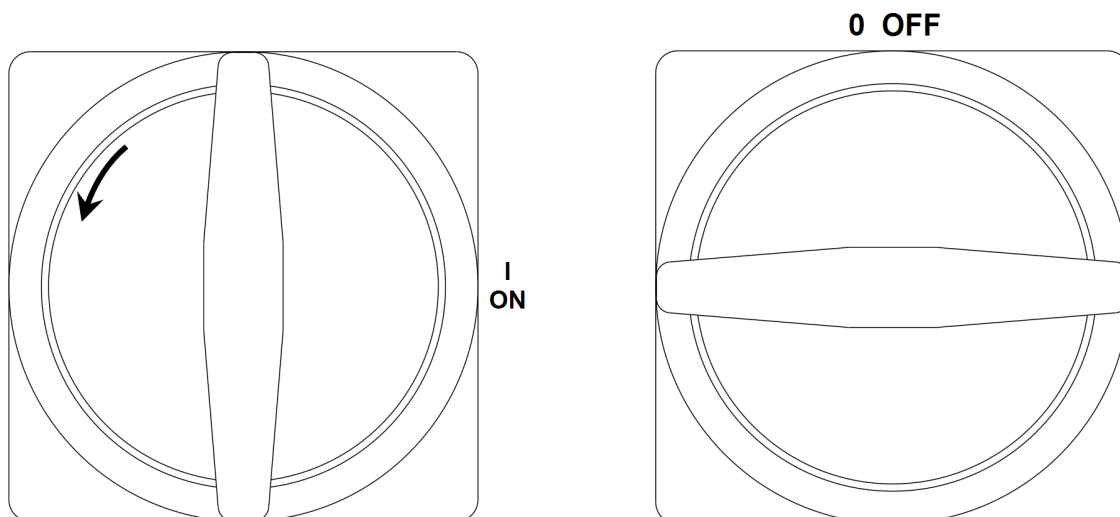
2.8 Attention

When the machine arrives in your warehouse, you need to use a forklift to take it off from the pallet.

2.9 Emergency Procedure

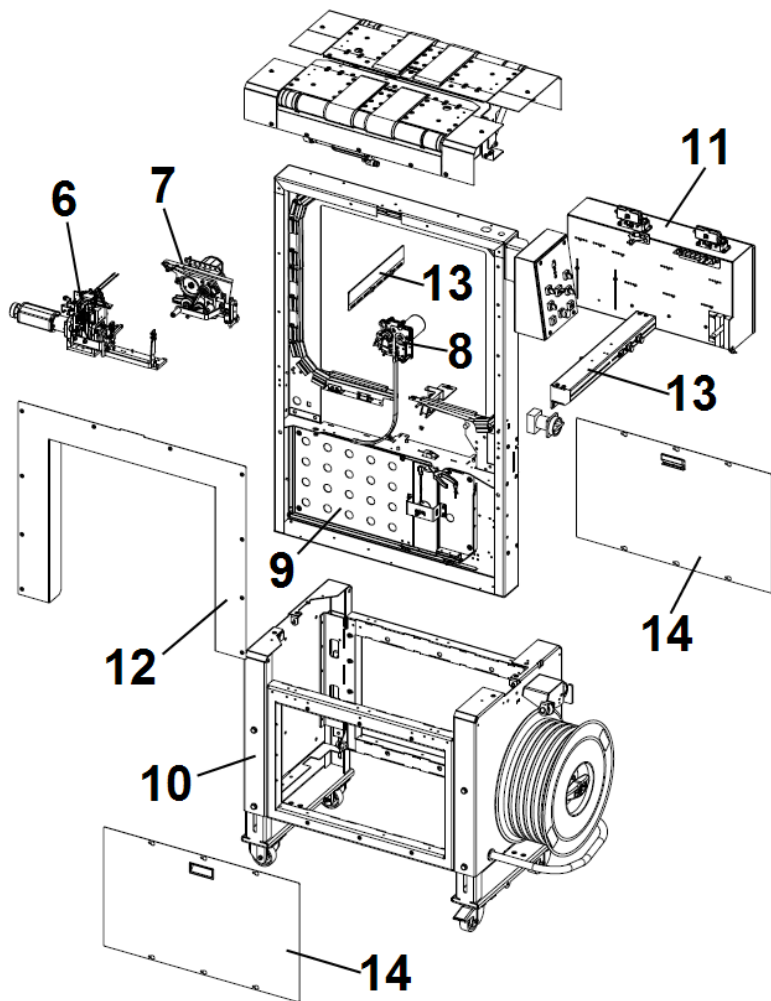
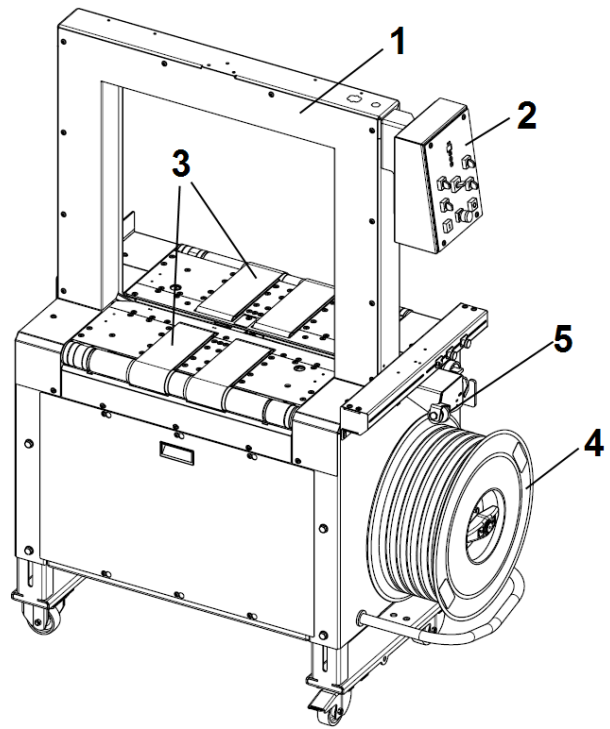
In case of an emergency, shut the machine down immediately by turning the main switch from position "I ON" to "0 OFF".

Optionally, there is an Emergency Stop switch available which is positioned at the operating terminal



3. MACHINE STRUCTURE

- 1 Strap arch
- 2 Operating terminal
- 3 Table conveyors
- 4 Strap coil
- 5 Threading unit
- 6 Sealing head
- 7 Strap drive
- 8 Reservoir drive
- 9 Strap reservoir
- 10 Frame and mobile carrier
- 11 Electrical cabinet
- 12 Strap arch cover
- 13 Light barriers and reflector
- 14 Frame covers



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

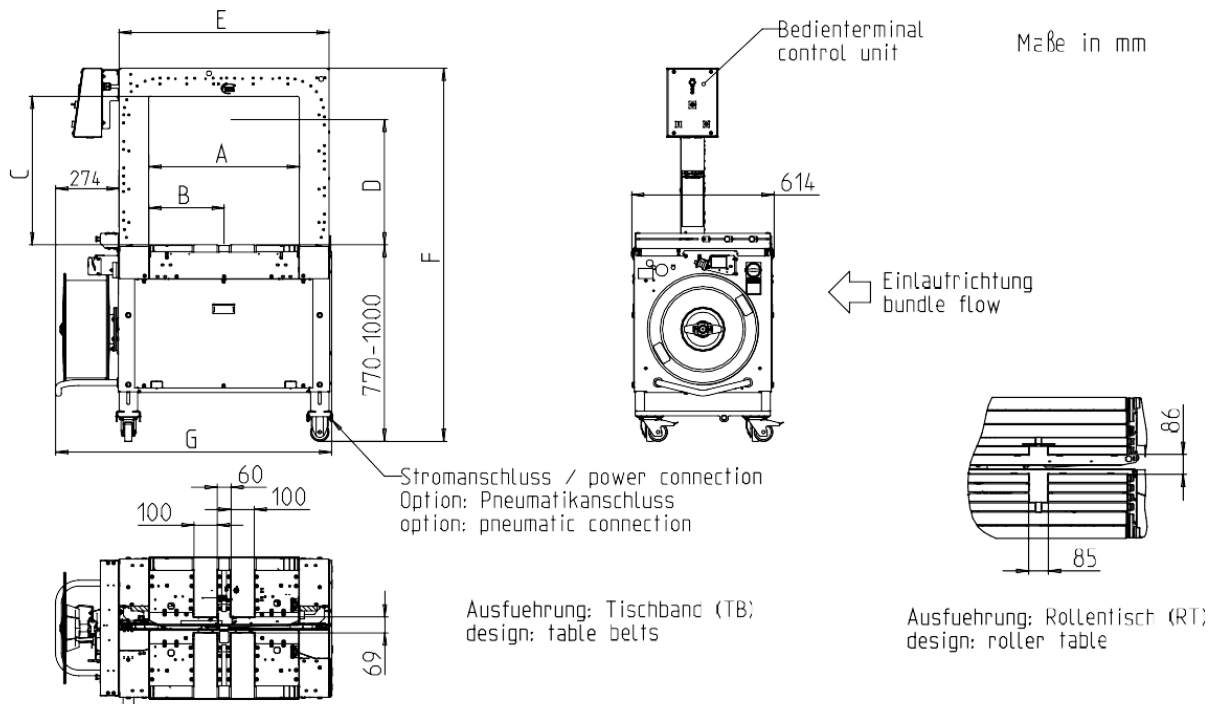
This product must be grounded. In the event of an electrical short circuit, grounding reduces the risk of electric shock. This product is equipped with a cord that has a grounding wire and an appropriate grounding plug. The plug must be plugged into an outlet that is properly installed and grounded in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

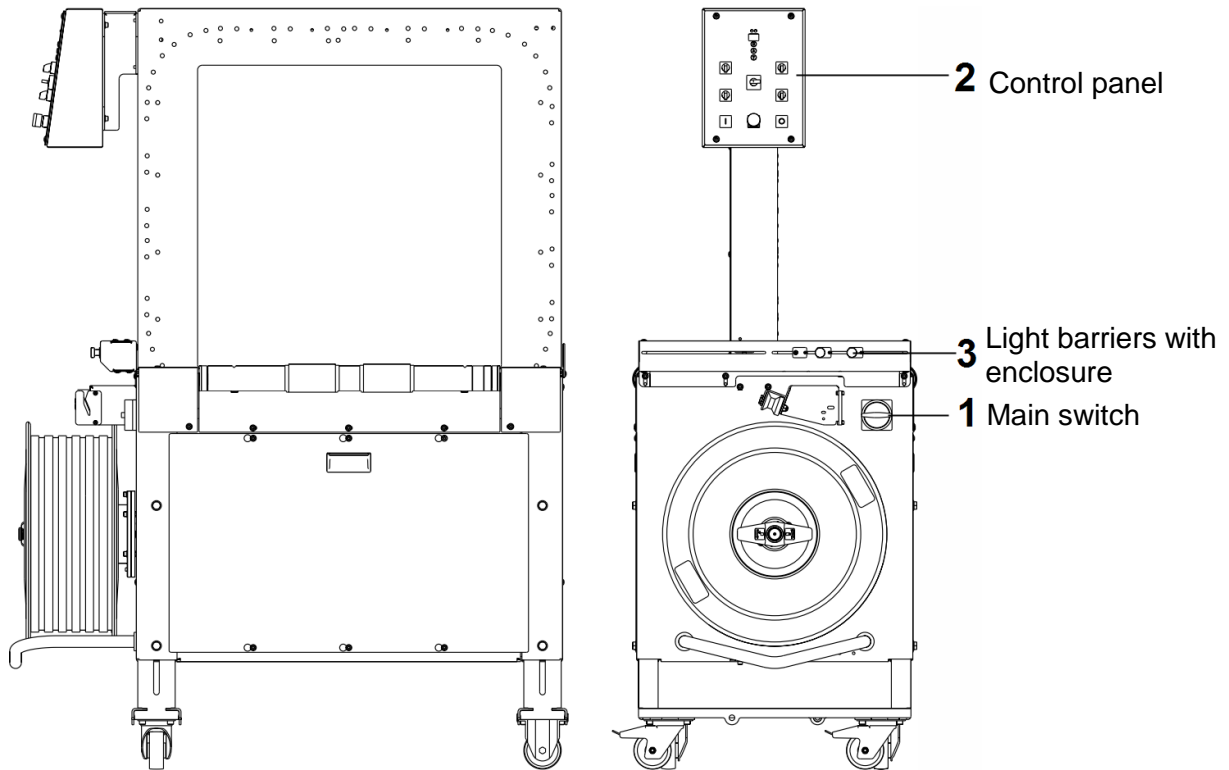


Arch Size (WxH)		600x400	600x600
Sealing Head Centered		Yes	Yes
Total Length + Coil	G	1200	1200
Total Height	F	1340-1570	1540-1770
Position Sealing Head	B	325	325
Inner Width (arch)	A	650	650
Arch Width	E	910	910
Inner Height (with press)	D	305	505
Inner Height (arch)	C	440	640
Weight in kg		270	290

Sealing Method	Heat
Strap Width	5-12mm
Strap Thickness	0.4-0.65mm
Strap Roll Diameter	200mm
Joint Strength	Approx. 80%
Throughput	35 cycles / min
Speed	0.8m/s
Tension	Max. 325N
Electrical Connection	AC 240V, 50/60Hz, 1 Phase
Ambient Temp	5-40°C

5.2 Operating Elements

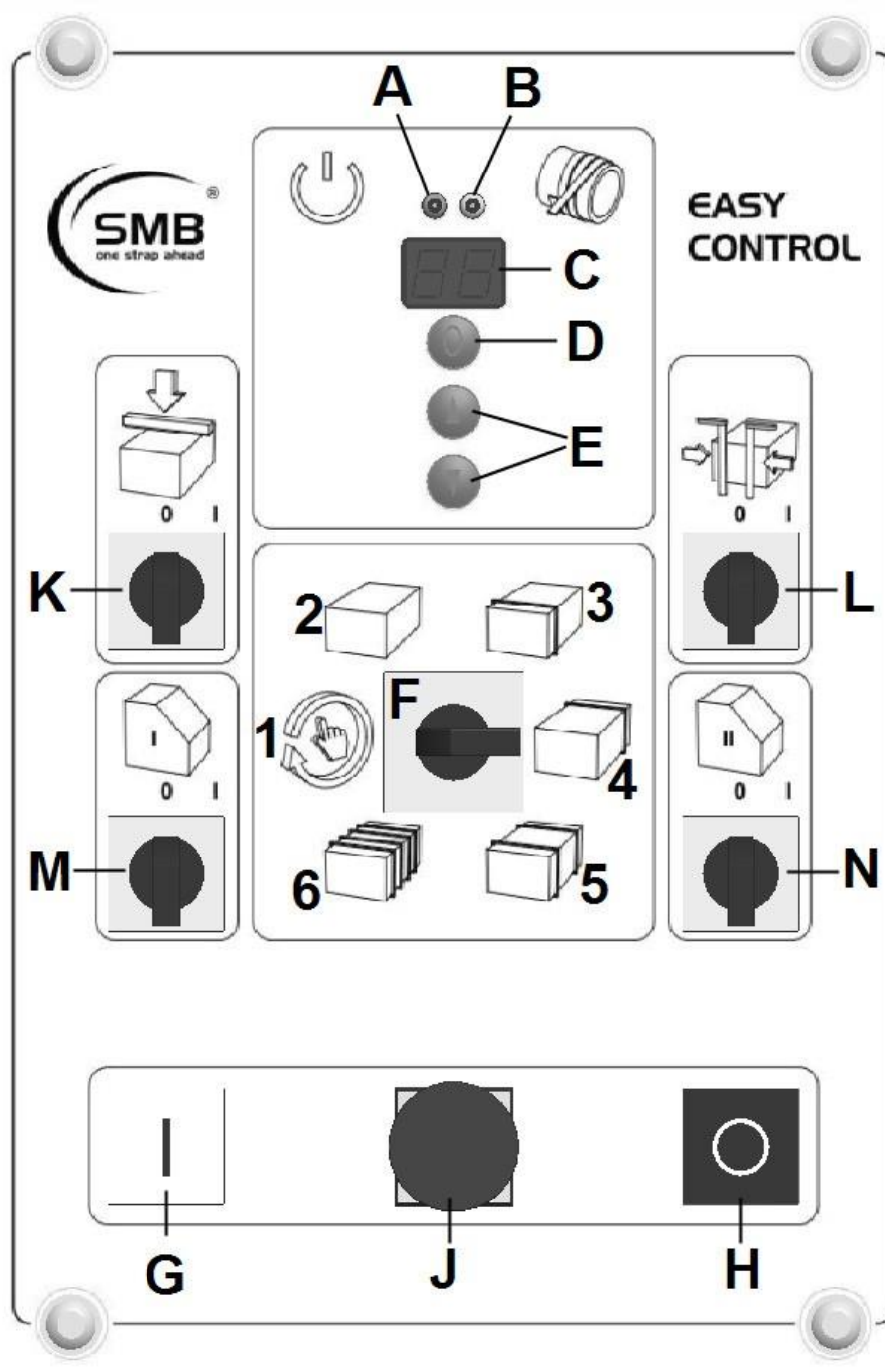
Main switch, operating terminal and light barriers are located at the machine.



5.2.1 Main Switch

Switch on the machine by putting the main switch to position "1 ON". In case of an emergency, the main switch must be put to position "0 OFF".

5.2.2 Control Panel



A. & B. LEDs

Two-coloured LED (A) indicating operating status:

Red	Failure
Flashing Red	Heating up
Green	Ready for operation
Flashing Green	Strapping in progress

If one-coloured LED (B) lights up yellow, the strap coil is running low (optionally available: with strap coil detection)

C. Display

The display indicates current machine conditions:

- IO Machine is ready for operation
- C0-Ci Messages (see also 8.4 Troubleshooting)
- Other messages (5.2.2.1 and 5.2.2.3)

D. Enter Button

Press this button to display or confirm the values of parameters. Use this button also to change to other menu levels. (See also Fig. 1)

E. Arrow Buttons

Use the two arrow buttons to scroll within one menu level. Use them also to move from strapping operation to quick-change adjustment (see also 6.4).

F. Operating Mode Switch

Use this switch to switch to different operating modes. Available operating modes are:

- 1: manual mode
- 2: bypass, no strapping
- 3: front strapping
- 4: rear strapping
- 5: parallel strapping
- 6: multiple strapping

(See also chapter 6.3.)

G. Start Switch

Press this button to make machine ready for operation. In manual strapping mode, pressing this switch triggers a strap cycle.

H. Stop Switch

Press this switch to interrupt the electric supply. A strap cycle in progress is finished before switching off.

J. Emergency Stop Switch

Pressing this switch immediately interrupts the power supply to the machine.

K. Bundle Press Activator

The bundle press is an optional feature. In position "0" it is disabled, in position "I" it is activated. The press bar can be activated only in automatic strap mode.

L. Bundle Stop Activator

The bundle stop bars are an optional feature. Put to position "0" to deactivate the function, put to position "I" to activate the function. The bundle stop bars can be activated only in automatic strap mode.

M. Switch for Special Option I and N. Switch for Special Option II

Both switches are available only in special equipment and can be assigned individually. For both switches, position "0" means deactivated, position "I" means activated.

5.2.2.1 Supervisor Menu E

When you press buttons “UP” and “DOWN” simultaneously, the display indicates for 2 sec. “E”. Press the Enter button for 3sec. within this time to enter the Supervisor Menu. In this case the display will indicate “E”.

Press the Enter button again for access to settings E1 to EF. In this mode, you can read the current machine settings.

When the display indicates “E2” and you press the Enter button, the currently set value of the heater plate is indicated. To indicate the actual value, it may be necessary to multiply the parameters by a certain factor. For example, if “35” is indicated for parameter “E2”, the heater plate temperature setting is 350°C. (See also Table 1.)

Table 1: Settings E1 to EF

Menu “E“	Description	Range	Factor	Factory Default Setting
E1	Conveying speed	10-99	10mm/s	70
E2	Temperature of heater plate	20-70	10°C	30
E3	Lead time bundle press	0-99	10ms	15
E6	Delay bundle stops	1-99	10ms	0
E7	Delay bundle entry	1-99	10ms	30
E9	Delay restart after congestion	1-99	10ms	20
EA	Stand-by time	1-99	1s	30
EC	Setting tensioning – minimal bundle circumference	1-30	100mm	10
Ed	Setting tensioning – minimum tensioning	0-10		2
EE	Setting tensioning – maximum bundle circumference	1-30	100mm	80
EF	Setting tensioning – maximum tensioning	0-10		5

Reduce or increase the present setting by using buttons “UP” or “DOWN” (continued pressing of the button accelerates change of the value). Press the Soft button (or trigger a strap cycle) to take over the displayed value to the control unit. Select menu point "En" to change to the next lower menu level. (See also Fig. 1)

5.2.2.2 Display Menu A

Total strap counter A8

Use arrow buttons to move from menu "E" to strap counter menu "A". Press Enter to move to menu point "A8", where you can read the total strap count. Press Enter, then the actual number on the strap counter is displayed for 30 sec. After this time, or by pressing the Soft button, the menu returns to "A8". (See also Table 2.)

The display of the 8-digit value is executed in sequences.

For example, the strap counter value 12.345.678 will be displayed as follows;

“- -, -> start of display

“12.“ -> 1st and 2nd digit and point for million and thousand

“34“ -> 3rd and 4th digit

“5.6“ -> 5th digit + point for thousand + 6th digit

“78“ -> 7th and 8th digit

After this, the display process repeats and starts again at "- -".

The strap counter "A8" cannot be reset.

Customer strap counter A0

In analogy to "A8" the customer specific strap counter A0 can be read. Select “A6“ and confirm to reset this counter.

Program version

Press Enter and use arrow buttons to move to menu point "Ap". Press Enter, then the current program version is indicated for 30 sec.

The display of the 8-digit program number is indicated in sequences. As an example, program version P01-01 of SMB CUBE is indicated as follows:

"- -" -> start of display

“P0“ -> first and second digit

“1-“ -> third digit and slash

“01“ -> fourth and fifth digit

“CU“ -> for SMB CUBE

After this, the display will start again with "- -". See also Fig. 1.

Table 2: Display A1, A8 and AP

Menu “A“	Description
A0	Customer strap counter (resettable)
A6	Reset customer strap counter
A8	Total strap counter
AP	Program number

5.2.2.3 Menu i for Time Settings

Use arrow buttons to change from menu “E” to menu "i". In this menu, the time settings can be adjusted.

Press Enter to change to menu point "i1". Press Enter, then use arrow buttons to adjust values for this point and for i2 and i3. See also Table 3.

Table 3: Time Setting i1 to i3

Menu “i“	Description	Range	Factor	Factory Default Setting
i1	Delay release front strapping	1-99	10ms	5
i2	Delay release rear strapping	1-99	10ms	0
i3	Delay release multiple strapping	1-99	10ms	20

To return to strapping operation, select "An", "En", "in" or "nn".

Quick adjustment of values in menu “i” is also possible – see section 6.4.

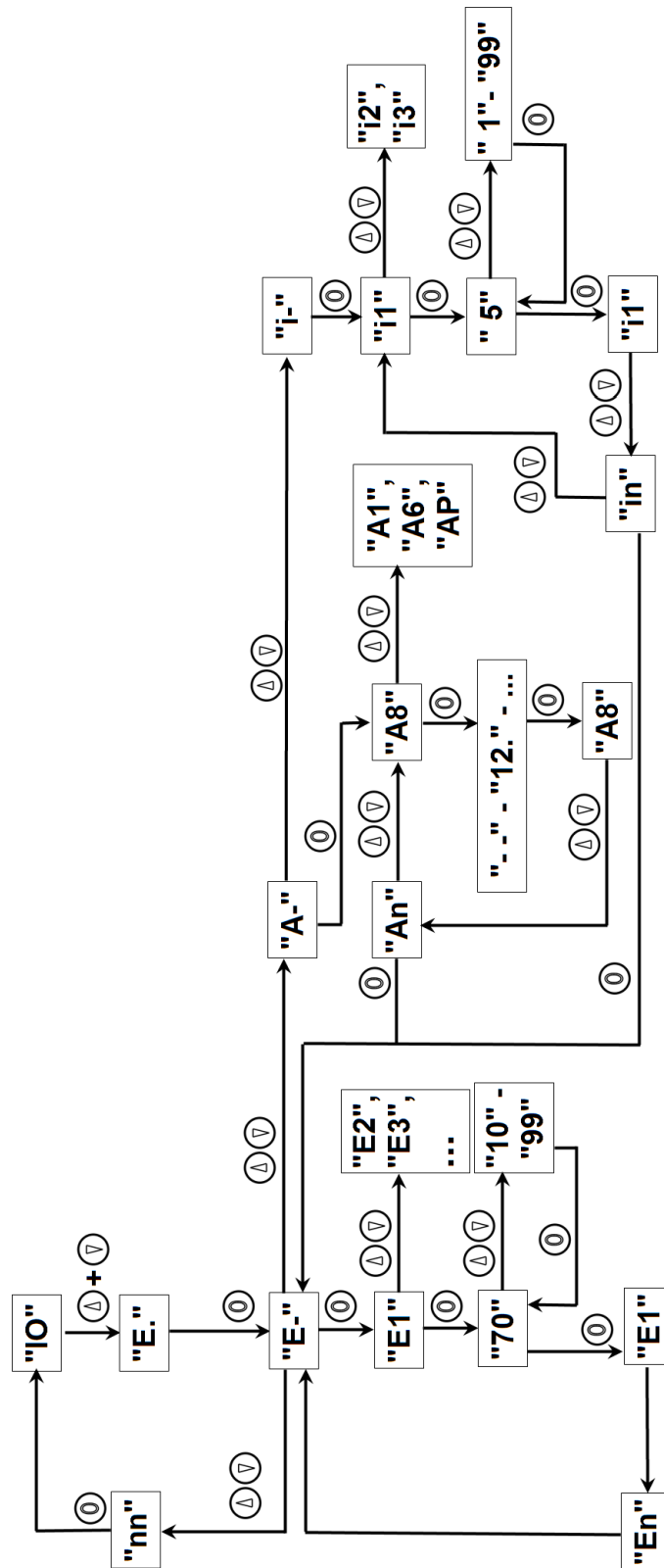


Fig. 1: Menu of operating terminal, shown in strapping mode "IO". To change from one menu point to another, press the buttons as shown in this drawing.

5.2.3 Light Barriers

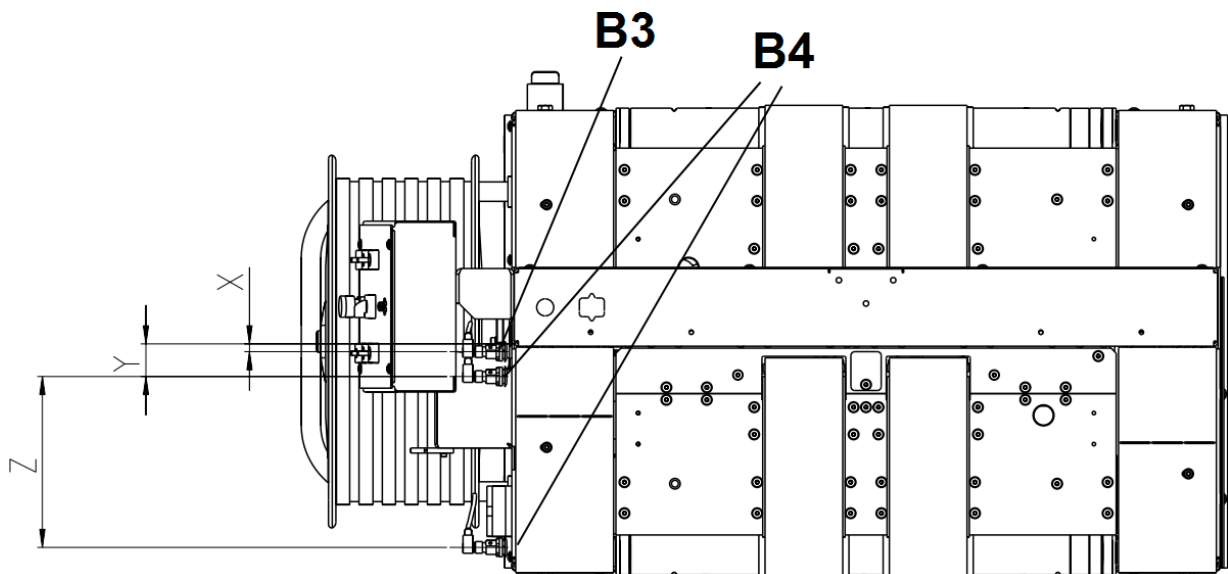
This section describes the function of light barriers B3 and B3 for the respective strap modes.

Release Light Barrier B3:

- Strap modes "Manual strapping" and "Bypass, no strapping" Light barrier B3 has no function.
- Strap modes "Front strapping", "Parallel strapping" and "Multiple strapping" Light barrier B3 functions to start the strap cycle.
- Strap mode "Rear strapping" Light barrier B3 must be covered.

Light Barrier B4 in Rear Strapping:

- Strap modes "Manual strapping" and "Bypass, no strapping" Light barrier B4 has no function.
- Strap modes "Rear strapping" and "Parallel strapping" Light barrier B4 functions to start the strap cycle.
- Strap mode "Multiple strapping". Light barrier B4 functions to start the last strapping.



Positions of light barriers B3 and B4.

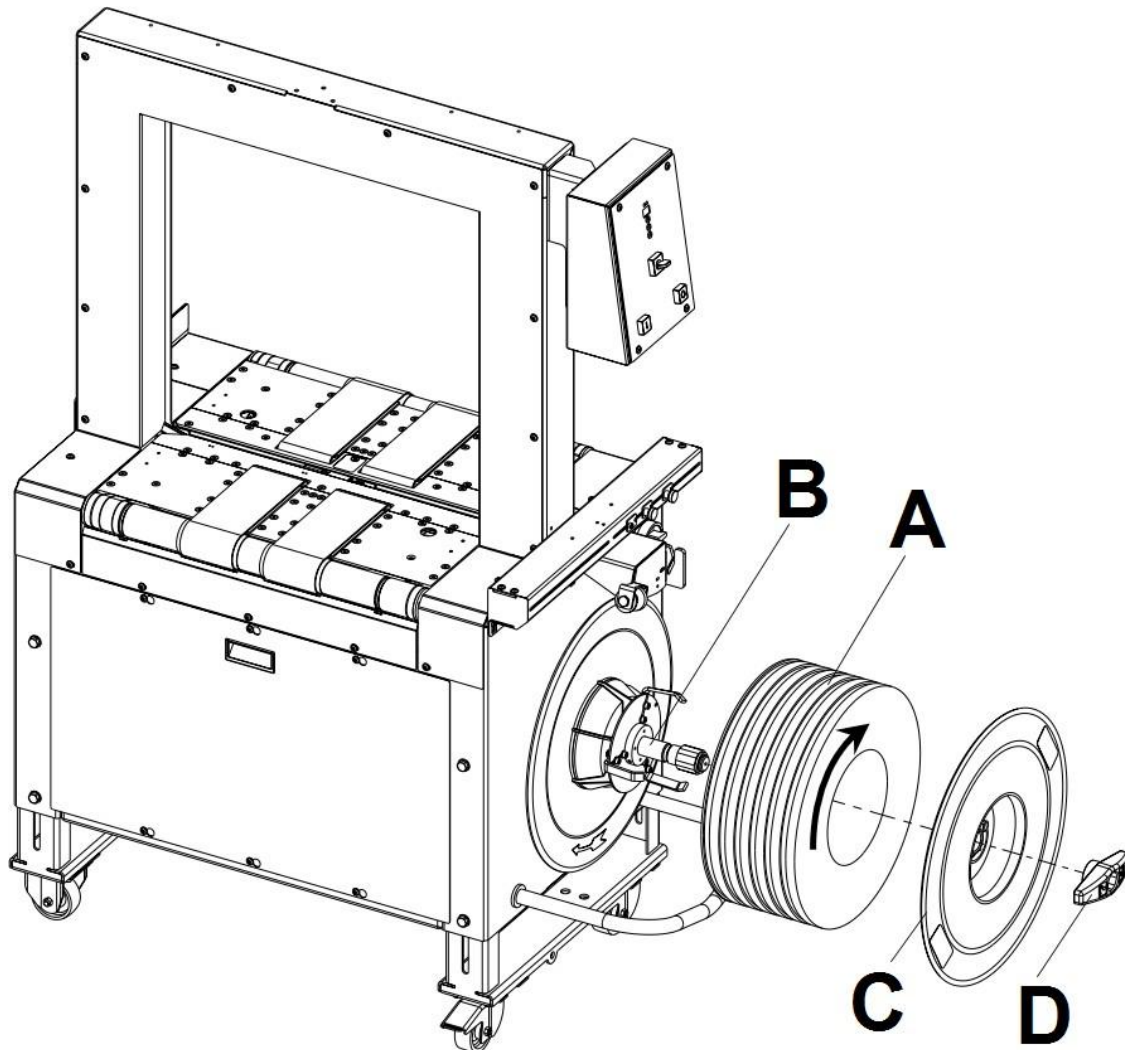
X: Distance between strap level and B3;

Y: Distance between strap level and B4 (innermost position of B4);

Z: Distance between strapping level and B4 (outmost position of B4).

5.3 Loading the Strap

- Unscrew clamping nut (D) and remove coil disk (C).
- Push strap coil (A) onto carrier (B).
- Ensure that the strap coil rotates clockwise when the strap is pulled off.
- Place coil disk (C) on coil bearing and tighten using the clamping nut (D).
- Remove safety strap and label.



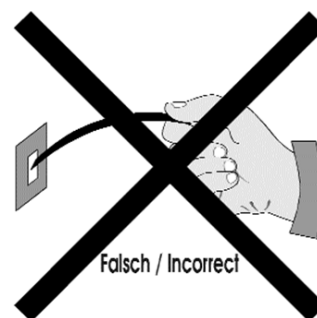
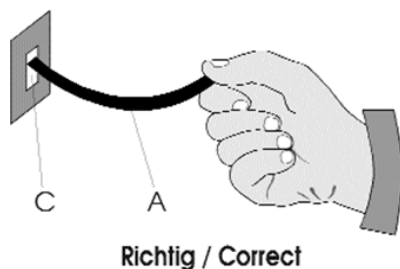
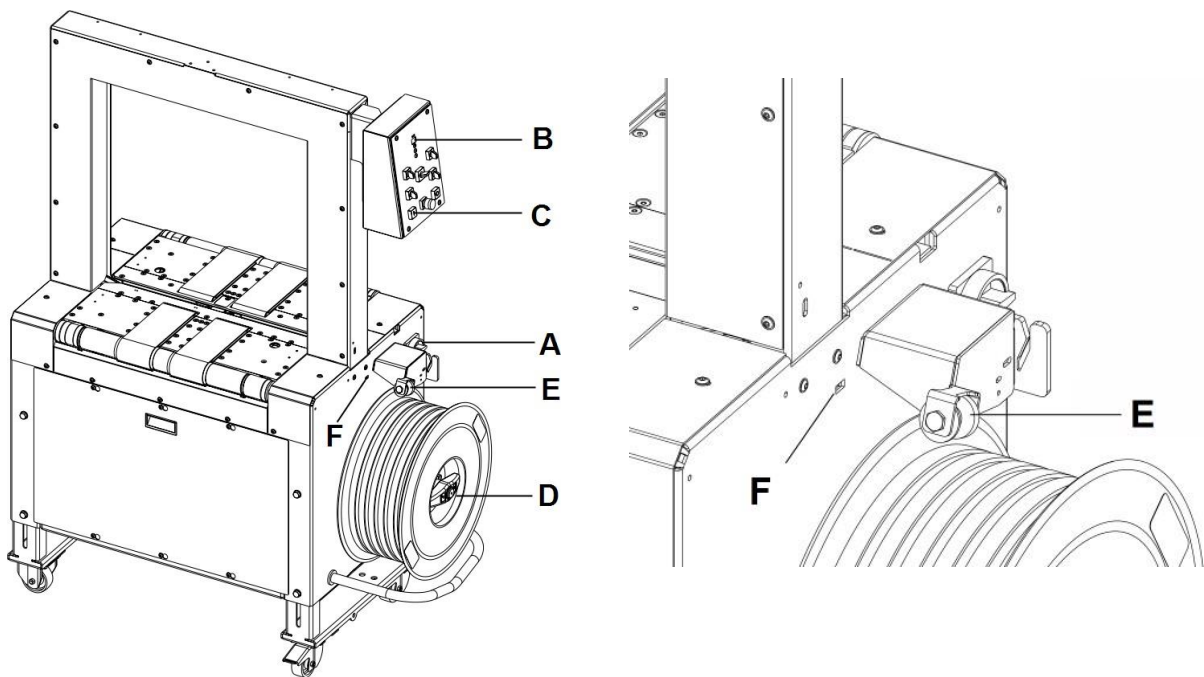
6. OPERATING THE MACHINE

6.1 Switching the Machine On

- Turn main switch to position "I ON".
- After switching on the heater plate starts heating up (approx. 30 sec.)
- Wait until LED at the operating terminal indicates green light and the display shows "IO".

6.2 Threading the Strap

- Turn main switch (A) to position "1". The display (B) indicates "C1" (coil empty, ready to thread)
- Press Start button (C). Coil brake (D) starts to cycle, strap reservoir starts to run
- Insert end of strap over deflection roller (E) into strap track (F). Pay attention to strap curvature (see label on machine)!
- Strap is detected and strap reservoir drive stops.
- Press start button (C), then machine starts strap threading automatically.



Correct threading considering strap curvature

6.3 Operating Modes

6.3.1 Manual Mode

In manual strapping mode, strapping is triggered by pushing the Start button. Light barriers, press bar and bundle stops have no function.

6.3.2 Bypass Mode, No Strapping

The bundles pass through the machine without being strapped. When display indicates "IO", the machine is in normal operating mode. If the downstream machine has a failure, "IO" disappears and "C8" is indicated. Now the machine functions as accumulation area. After receiving a release signal from the downstream machine, the strapping machine resumes operation automatically. In this operating mode the light barriers and the bundle press have no function.

The present operating mode is not indicated at the display.

6.3.3 Front Strapping

The entering bundle interrupts light barrier B4, then release light barrier B3, starting timer i1. When time i1 is over, the conveyor belts stop and strapping is released. Depending on bundle weight, the stopping distance of the bundles will vary (due to inertia). The next bundle can only be detected when light barrier B3 has been cleared after strapping for a short time.

6.3.4 Rear Strapping

The incoming bundle covers light barrier B4. When B4 is cleared, time i2 is started. When it is over, rear strapping is triggered, with light barrier B3 covered at the same time. The longer the distance between rear strapping and rear edge of the bundle is supposed to be, the further light barrier B4 must be away from the strapping level. When B3 is cleared before timer "i2" has expired, the bundle cannot be strapped, as it has already passed the strapping level.

Depending on bundle weight, the stopping distance of the bundles will vary (due to inertia). The next bundle can only be detected when light barrier B3 has been cleared after strapping for a short time.

6.3.5 Parallel Strapping

The entering bundle interrupts triggering light barrier B3, starting timer i1. When it has expired, the conveyor belts stop and the first strapping is applied. Depending on bundle weight, the stopping distance of the bundles will vary (due to inertia). The rear strapping is applied after light barrier B4 has been cleared. The next bundle can only be detected when light barrier B3 has been cleared after strapping for a short time.

6.3.6 Multiple Strapping

The entering bundle interrupts triggering light barrier B3. When timer i1 has expired, the first strapping is applied. The following strappings are placed in distances which can be set using timer i3 (multiple strap mode).

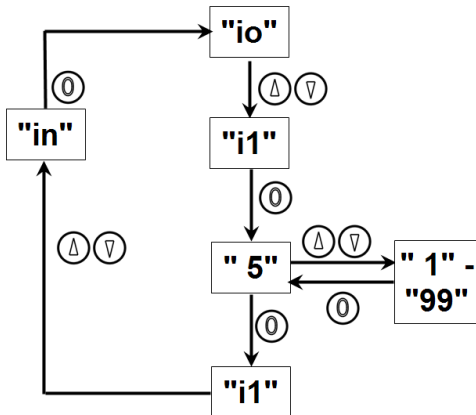
The machine continues to apply strappings at the set distances until light barrier B4 (rear strapping) is cleared, which starts timer i2 for rear strapping. When this time is over, the last strapping is applied. The number of straps applied depends on bundle length, conveying speed and times set for i1, i2 and i3.

6.4 Quick Adjustment of Release Timers i1 to i3

Timers i1 to i3 can be adjusted not only from the operating menu (see 5.5), but also by using a quick-change function.

Press arrow buttons in normal operating mode (display indicates "IO") to display the last parameter used for i1 to i3. Press the Enter button, then confirm by pressing the arrow buttons and change this value. Then press Enter again to confirm the new value. Select "in" to exit the quick-change menu.

In case of a failure, press the Enter button for 2 sec., until display indicates "IO". Then continue as described above.



Quick-change menu i. Example here refers to value i1 being the last one previously called up. Therefore, this is the one that will appear first.

6.5 Tensioning

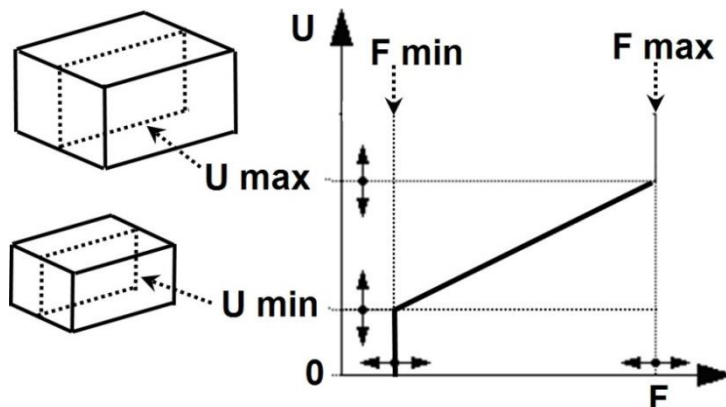
The tensioning force depends on the circumference of the bundle. A bundle with small circumference is strapped using low tensioning; a bundle of large circumference is strapped using high tensioning force. Minimum and maximum circumference or minimum / maximum tensioning respectively can be adjusted from the operator menu level.

The lowest tensioning force F_{min} (equivalent to parameter Ed) is active for bundle circumference between 0 and minimum set circumference U_{min} (EC).

The highest tensioning force F_{max} (EF) is applied starting with the largest set bundle circumference U_{max} (EE).

Between the minimum and the maximum bundle circumference, the tensioning force is automatically adjusted according to the actual size.

If the tensioning force is to remain fixed, that is, independent from bundle size, F_{min} and F_{max} must be set to identical tensioning values.



7. 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.

7.1 Cleaning

Weekly:

- Clean machine interior using pressure air or vacuum cleaner, especially:
- Heater plate unit
- Strap guide and strap track
- Strap threading unit
- Strap reservoir
- Pressure plate switch
- All light sensors, light barriers and reflectors (strap coil detection) using a cloth. Check proper function.



ATTENTION: Do not expose the sealing shim of the ball bearing to direct air jet when blow-cleaning the strap drive and strap reservoir drive. Do not expose the lifting magnet in the reservoir to direct air jet.

- Check the function of the fan. The air must be sucked in, not blown out.
ATTENTION: Do not blow into the fan.
- Check that reservoir lever is moving smoothly.
- Check that deflection roller of threading unit is moving smoothly.
- Check ease of motion of tensioning rollers, injection roller, pressure roller and rollers in reservoir drive.
- Execute test-strapping at several bundles, paying attention to any audible and visible defects. Check proper function.

8. TROUBLESHOOTING

8.1 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.

8.2 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.

8.3 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.

8.4 Possible troubleshooting Causes and Remedies

Failure/Message	Cause	Remedy
IO (message at display)	Machine is ready for operation	
C1 (message at display)	No strap -> remove strap rest	Rethread strap as described in 6.2.
C2 (message at display)	Operation Stop button is activated	Press Start button.
C3 (message at display)	Fault at sealing head motor M1	Press Start button If fault returns, switch machine off and on again. If fault persists, contact service staff.
C4 (message at display)	Fault at strap feed motor M2	Press Start button. If fault returns, switch machine off and on again. If faults persists, contact service staff.
C5 (message at display)	Fault at tensioning motor M3	Press Start button. If fault returns, switch machine off and on again. If faults persists, contact service staff.
C6 (message at display)	Fault at conveyor motor M5	Press Start button. If fault returns, switch machine off and on again. If faults persists, contact service staff.
C8 (message at display)	Bundle exit is blocked	Check downstream machine and remove failure there. Press Start button.
C9 (message at display)	Standby active	Machine is restarted by signal of preceding machine or by light barrier B9.
CA (message at display)	Failure at bundle detection: one of the light barriers was covered for longer than 3 sec.	Check light barriers, remove obstructing bundle.

CC (message at display)	Warning: heater is on (heating up / heat-cleaning) Heater plate is heating up	
Cd (message at display)	Emergency Stop switch is pressed (Option)	Remove source of danger and release E- Stop switch. Press Start button.
CF (message at display)	Threading fault	Rethread strap as described in 6.2.
CH (message at display)	Strap fault / feeding fault	Press Start button.
The strap is not welded properly or welded joint splits open.	Heater plate is dirty.	Carefully clean both sides of heater plate using fine abrasive paper.
	Wrong temperature of heater plate.	Loose screws at electric terminal -> tighten screws.
		Increase temperature of heater plate (see 5.2.2). Check temperature before restart.
Strap is not fully injected.	Strap threading incorrect.	Pull out strap, cut off with straight edge, rethread as described in 6.2.
	Strap track is blocked.	Open the strap track using lever (see Fig. 3), clean strap track. Check and clean upper strap guide using a piece of strap.
Strap leaves the strap arch during injection.	Strap flaps do not overlap properly.	Check strap flaps, restore correct overlapping.
Strap does not move any more. Strap folds between tensioning rollers and feed rollers (see Fig. 2).	Strap rests in strap track.	1. Open table tops 2. Lift DAT lever (see Fig. 3) 3. Cut off strap between tensioning rollers and feed rollers. Pay attention that strap is not cut off too short or clamped! 4. Close DAT lever 5. Check that strap can be moved and that it is

		not clamped. If strap cannot be moved, repeat steps 2 – 4. 6. Close table tops 7. Press Start button. 8. If automatic repair attempt is successful, restart machine. 9. If unsuccessful, repeat procedure starting with step 1, paying special attention to strap end.
Machine cannot be started.	Insufficient power supply	Check power supply; insert mains plug, if necessary.

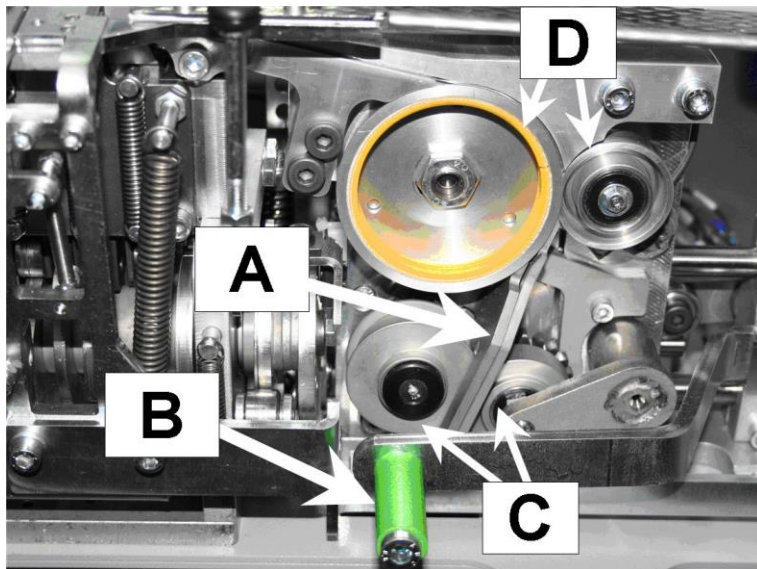


Fig. 2 Strap drive with strap track closed (A), lever (B), tensioning rollers (C), feed roller and pressure roller (D).

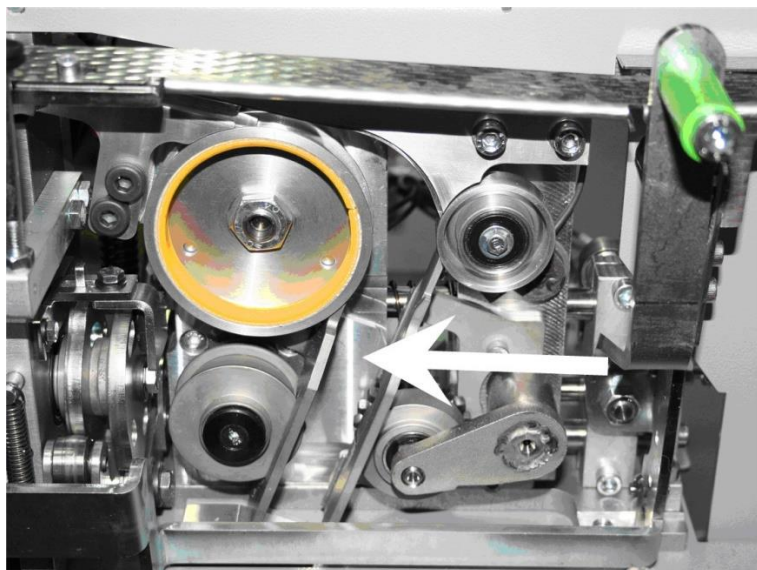


Fig 3. Strap drive with opened lever and strap track accessible. In this position, strap jams can be removed. Cut off the strap at marked area (arrow) for this purpose.

9. CONTACT FROMM PACKAGING AUSTRALIA

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