

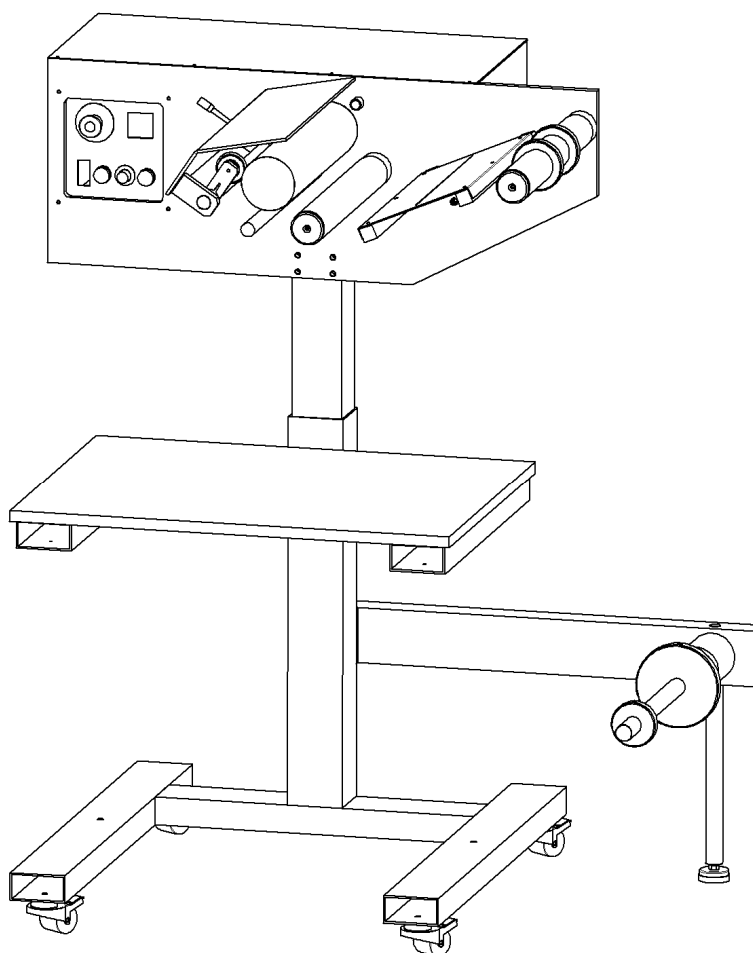


OPERATING INSTRUCTIONS

FOR

TF400

Folding Machine



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Description

The TF400 is a folding table for pre printed labels, tickets and similar.

The machine is designed as a single operator, stand-alone unit.

The maximum speed is 120m/min and is controlled using a foot pedal and a speed limit knob.

The machine has a dual counter with length and batch preset. Meters, inch, cylinder teeth and other units can be chosen.

Web and roll position can be adjusted using a single hex key.

Power supply for the unit must be 230VAC, 10A. Can be adapted to non-EU standards.

Hazard and risk assessment

The following is a list of significant hazards encountered while operating this machine.

The risk level is ranked by the following system.

Severity of injury:

High – Irreversible e.g. loss of limb or fatality

Medium – Reversible (no permanent damage)

Low – Inconsequential e.g. scrapes and bruises

Frequency of exposure:

High – Frequent

Medium – Infrequent

Low – Rare

Possibility of avoidance:

High – Obvious

Low – Not obvious

Activity	Hazard	Consequence	Risk level	Prevention
Working near web while the machine is running	Contact with edge of moving web	Cuts to hands and fingers	MMH	Training of operator in correct procedures
Removal of nip safety shield during machine operation	Trapping and crushing by nip	Trapping and crushing of body parts	MMH	Training of operator in correct procedures
Loading of roll	Trapping and crushing between roll and machine parts	Trapping and crushing of body parts	MMH	Training of the operator in correct procedures

Installation

Unpacking the machine

The TF400 will be shipped in a wooden crate. Bolts secure the machine. Before moving the machine, the bolts must be removed.

Lift the machine off the bottom of the crate with a forklift or similar equipment. Take care not to bend the support leg at the unwind arm.

NEVER ATTEMPT TO LIFT THE MACHINE IN THE ROLLERS!!!!

The four wheels on the main frame make it easy to move the machine to the desired position. When in position, lock the four wheels and lower the support leg by turning the metal/rubber shoe. Lock the shoe with the nut above the shoe.

Connecting the machine

When the machine is in position the power can be connected. The voltage must match the requirements of the machine. Protective earth must be connected for safe operation.

Adjusting the height of the table operator panel.

At the back of the steel tube that carries the table and operator panel, two handles can be found: One for the table and one for the operator panel. Loosening these handles can change the position of the table and panel. Due to heavy parts any adjustments must always be made by at least two persons. When the desired position is found, tighten the handles well.

Operating the machine

Turning on the machine



Figure 1 Operator Panel

The main power of the machine is switched on and off using the red and green buttons the operator panel.

The emergency stop will cut the power to all electronics and must be reset before the machine can be turned on again. To reset the emergency stop, turn the red button clockwise.

The counter will not keep the exact web position when the machine is powered off. To avoid counting problems, always finish the current stack before turning off the machine.

Mounting a roll on the machine

1. Put the Roll on the unwind shaft and position it with the metal rings. Tighten the screws in the rings gently with a hex key.
2. Pull the web around the first roller, across the splice table and round the second roller.
3. Open the nip cover using the hand lever and position the web around the nip. Move the wheels if necessary. At least one wheel must be on the web.
4. Position the two metal rings on the first roller and tighten the screws gently with a hex key.
5. Turn the nip with your hand until the web is straight and smooth.



Figure 3 Web path.



Figure 2 Web path, Nip section.

Setting the length and batch counter

The preset of the two counters can be modified using the grey rubber buttons on the counter module. Pressing the “MODE” button, switches between the SET (length) and the BATCH (stack) counter.



Figure 4 Length Preset.



Figure 5 Batch (stack) Preset.

The green numbers show the Preset value and the red numbers show the actual counter value. The Preset value can be modified by pressing the buttons associated to the different digits.

The counter value can be reset by pressing the RST button.

The Length preset (SET) may also be reset by pressing the grey floor pedal and the Batch Preset by pressing the “CLEAR BATCH” button on the front panel. The direct reset button/pedal is more convenient during daily operation.



Figure 6 Operator panel.

The counting can be disabled by turning the “ENABLE COUNTER” switch to “0”. This will keep the actual value of the counters and prevent that the operator loses track when waste is removed or the roll is changed in the middle of a stack.

Running

When the roll is mounted, web is in place and the counter is set, it is time to run the machine.

The maximum speed of the machine is set on the "SPEED" dial on the operator panel. Start with a low speed, until the operator gets used to the machine.

On the floor there are two pedals for the operator. When the red pedal is pressed the nip will start to turn. The acceleration rate is low, to make it easy for the operator to find the "rhythm". When the red pedal is released, the nip will slowly decelerate. By tapping the pedal the speed can be controlled smoothly.

When the length preset value on the counter is reached, the nip will make a fast stop to prevent the stack from getting bigger than expected. A small orange square with a "1" inside will show in the lower left corner of the counter when the length preset is reached.

Remove the finished stack and press the grey reset pedal. The machine will not move until the reset pedal is pressed. Now the red pedal can be pressed and the machine will move again. Running the machine this way will make the operator able to keep his hands on the table at all times and control the machine with his feet.

When the batch counter reaches its preset, the machine will stop and not start again, even though the length preset is reset. A small orange square with a "2" inside will show in the lower left corner of the counter when the stack preset is reached. To reset the batch counter, press the "CLEAR BATCH" button on the operator panel. The machine will now be ready to run the next batch.

Advanced settings

Changing the units of the length counter

Depending on the country and company using the machine, it may be convenient to change the units used for the length measurement. The standard configuration when the machine is shipped is cm.

Normal units are Meters, Centimetres, Millimetres, Feet, Inches or Z(inch/8). Settings for other units can be calculated if needed.

Changing the units is done by changing the amount of pulses the counter expects from the encoder for a given length. This is called the “scaling”.

The encoder system in the TF400 put out $66 \frac{2}{3}$ pulses for every rotation of the nip roller. The nip roller is 1 feet/12 inch in circumference. All other scaling values are calculated from this native value. To get the scaling value, take the reciprocal value of the number of pulses for the given length. Some values may be rounded because the counter has only three decimals on the scaling value. This measurement error must be considered, when the unit is chosen.

The scaling values and rounding error the most common units can be seen here:

Unit	Pulses	Scaling value, rounded. (PSCL)	Error %	Scaling value, calculated.
Feet	66,66667	0,015	0,00%	0,015
Inch	5,555556	0,18	0,00%	0,18
Z (Inch/8)	0,694444	1,44	0,00%	1,44
mm	0,218723	4,572	0,00%	4,572
cm	2,187227	0,457	-0,04%	0,4572
meters	218,7227	0,005	9,36%	0,004572

If the machine is always used for a specific sheet length, it can be a good idea to calculate the scaling for that specific sheet length. The length counter will then show the number of sheets in the display. This is much more easy for the operator to relate to. A 4 inch sheet would then be 22,22222 counts giving a scaling of exactly 0,045.

To change the scaling value in the counter, follow this guide.

1. Hold the “MODE” button for 3 sec. The display will now change.
2. Press mode several times, until the red numbers show “PSCL”.
3. Enter the desired value.
4. Press “MODE” one time.
5. Select the number of decimals needed.
6. Hold “MODE” for 3 sec to confirm.



Figure 7 Scaling value

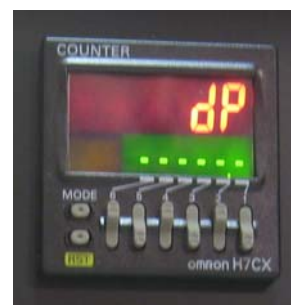


Figure 8 Decimal point

Technical specifications

Speed Range:	0-120 m/min
Web width:	Maximum 330 mm.
Maximum roll size:	600 mm.
Power requirements:	230volts / 10 amps. 50/60 hz. Protective earth connection required. Residual current breaker of 100mA or more.
L x W x H:	1020 x 1320 x 1500 mm.
Weight:	300 kg.
Shipping weight:	400 kg.