

Buffer



27013 CHIGNOLO PO (PV) LOCALITA' CASOTTINA 36/B
COD. FISC. E P.IVA 01811760188 - REA N. 223311 - R.I. (PV-1999-16207)
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Instruction manual

CMP FORNI S.R.L.

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IDENTIFICATION PAGE

Customer:

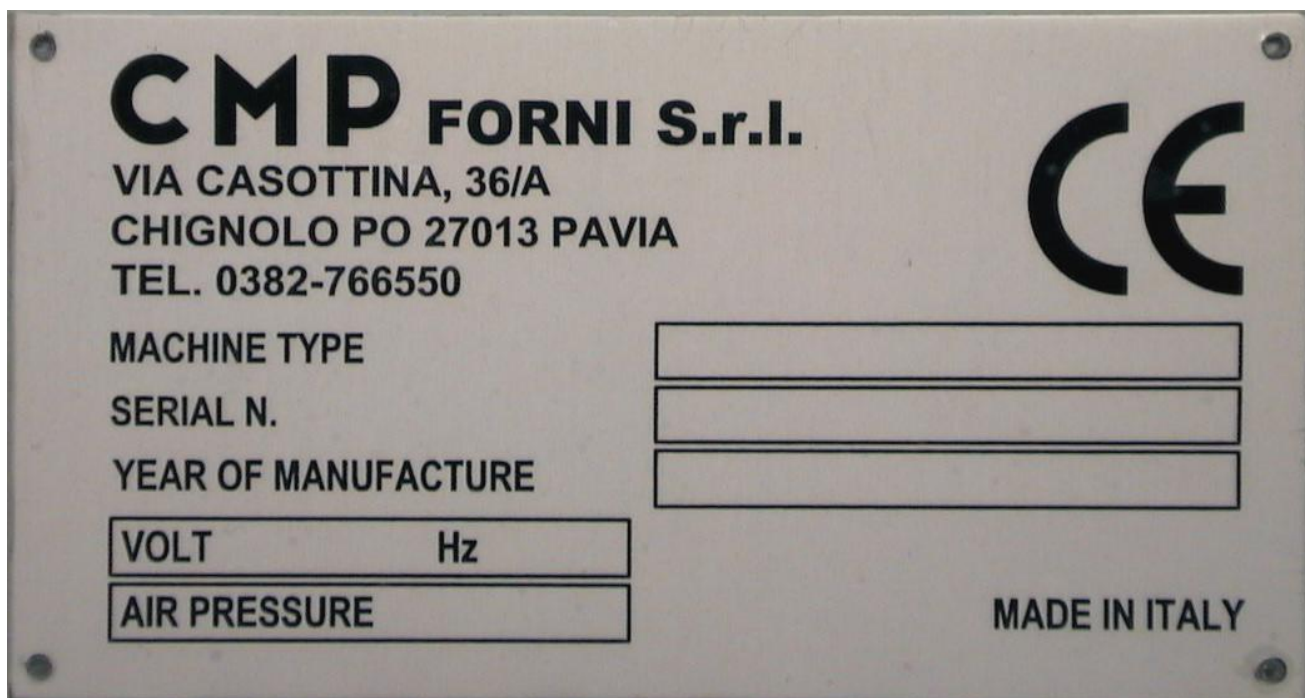
Machine model:

Serial number of machine:

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PLATE PART NUMBER IDENTIFICATION



SAFETY INFORMATION

Skilled staff are said all the people that, according to their training, experience, preparation and knowledge of laws and dispositions on the matter, of anti-accident laws, have been authorised by person in charge of the plant safety to play the necessary activities; besides they have to be able to recognise and to avoid possible dangers (for the definition of the qualified labour, see DIN VDE 0105 O IEC 364).

The knowledge of first aid measures and of local life equipment is moreover required.

For work on high tension plant the prohibition of employment of unskilled people is disciplined for example in DIN VDE 0105 O IEC 364.

CAUTION! All the essential planning work of the plant and all the operations like transport, assemblage, installation, starting, maintenance and repairs have to be performed by a qualified staff and checked by the experts in charge.

The following elements have to be observed with a particular care:

- technical data and information about correct use contained also in the catalogue, in the documentation, in the directions for use and in all the documents concerning the product;
- general instruction for installation and safety;
- disposition and local exigencies concerning the plant;
- the correct use of implements, lifting and transport device;
- the correct use of individual protection equipment;
- the plant assemblage conditions soeties given in conformity IPOO (without covering).

During the use the necessary protections against discharges are required or entry has to be prevent.

In order to maintain a certain clearness, instructions cannot contain all the details reffered to all the possible construction variants, all the installation maintenance and operating variants they only inform the qualified staff about the correct use of the machines and equipment in the industrial field.

If more elevated requirements are deanded for the machine use in no-industrial fields, these ones have to be guaranteed foreseeing further protective measures.

ATTENTION! In order to avoid disadvantages it is necessary that a qualified staff make the maintenance work, the prescribed inspections and checks.

Any possible alteration in the operating, as increasing of the noises, presence of unusual smells or answer of control devices, indicates that the operating is compromised.

In this case inform immediately the overseeing staff in order to avoid disadvantages that can cause serious damages to things or people.

IN CASE OF DOUBT DISCONNECT IMMEDIATELY THE EQUIPMENT.

N.B. The content of the instruction for use and all the documentation about the product is not part of an accord, a promise or a legal relation and has not as aim their modification

SAFETY INFORMATION FOR ELECTRIC EQUIPMENT USED IN HIGH VOLTAGE INSTALLATION

This informative leaf completes the instruction for use of the product and has to be observed with a particular care.



The machines and the electric equipment that have this sign are crafts used in high voltage industrial installation.

These crafts present alive necked dangerous parts and sometimes moving or rotating parts that can case serious damage to things or people, for example in case of a no-authorized removal of necessary covering, inadequate use, incorrect manoeuvre or insufficient maintenance.

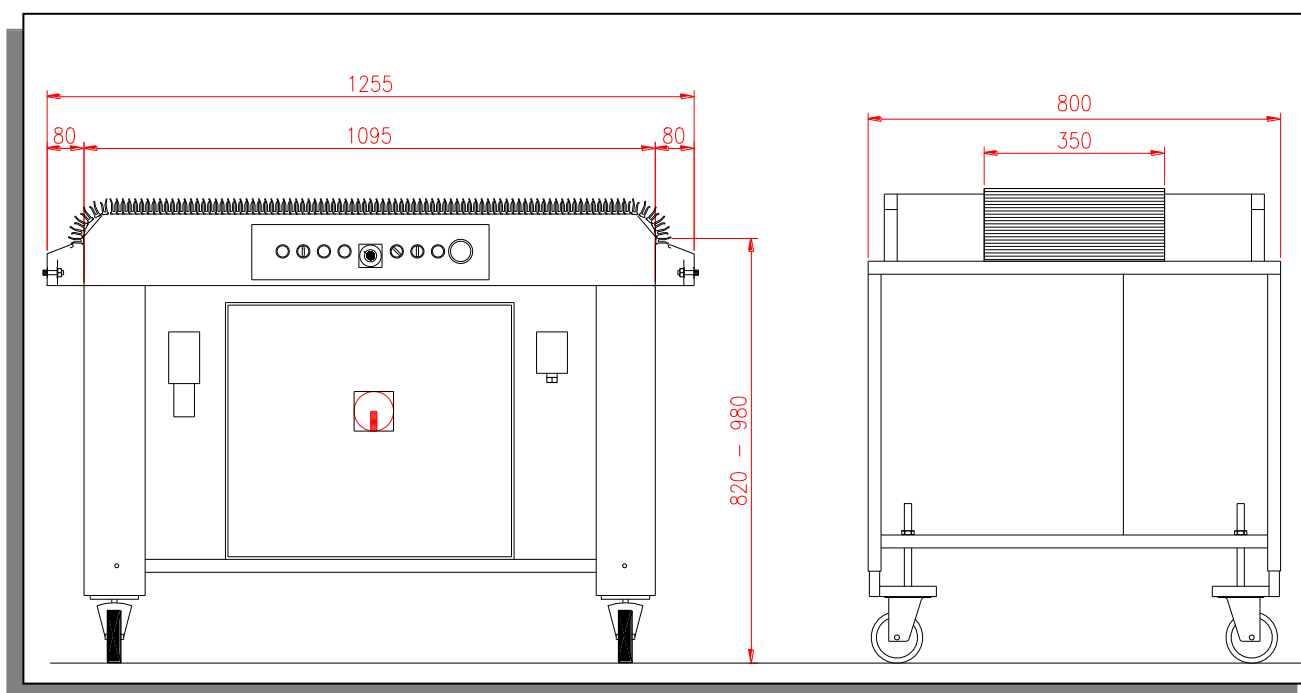
The people in charge of the safety installation have to guarantee that:

- all the manoeuvre on the machine or equipment are executed by qualified people;
- these people observe the instruction for use and the further documentation about the product;
- no qualified people do not perform manoeuvres on the machine or equipment.

BUFFER 40-80: TECHNICAL DATA

| | |
|----------------------------|--------------------------|
| PCB min. dimensions (LxH): | 250x250 mm |
| PCB max. dimensions (LxH): | 710x650 mm |
| PCB thickness: | from 0,8 (rigid) to 3 mm |
| PCB weight | 1,2 kg |
| N° single step position: | 80 |
| N° double step position: | 40 |
| Installed power: | 0,25 kW |
| Wiring (standard): | 400 V 50/60 Hz 3ph+T+N |
| Weight: | 80 Kg |

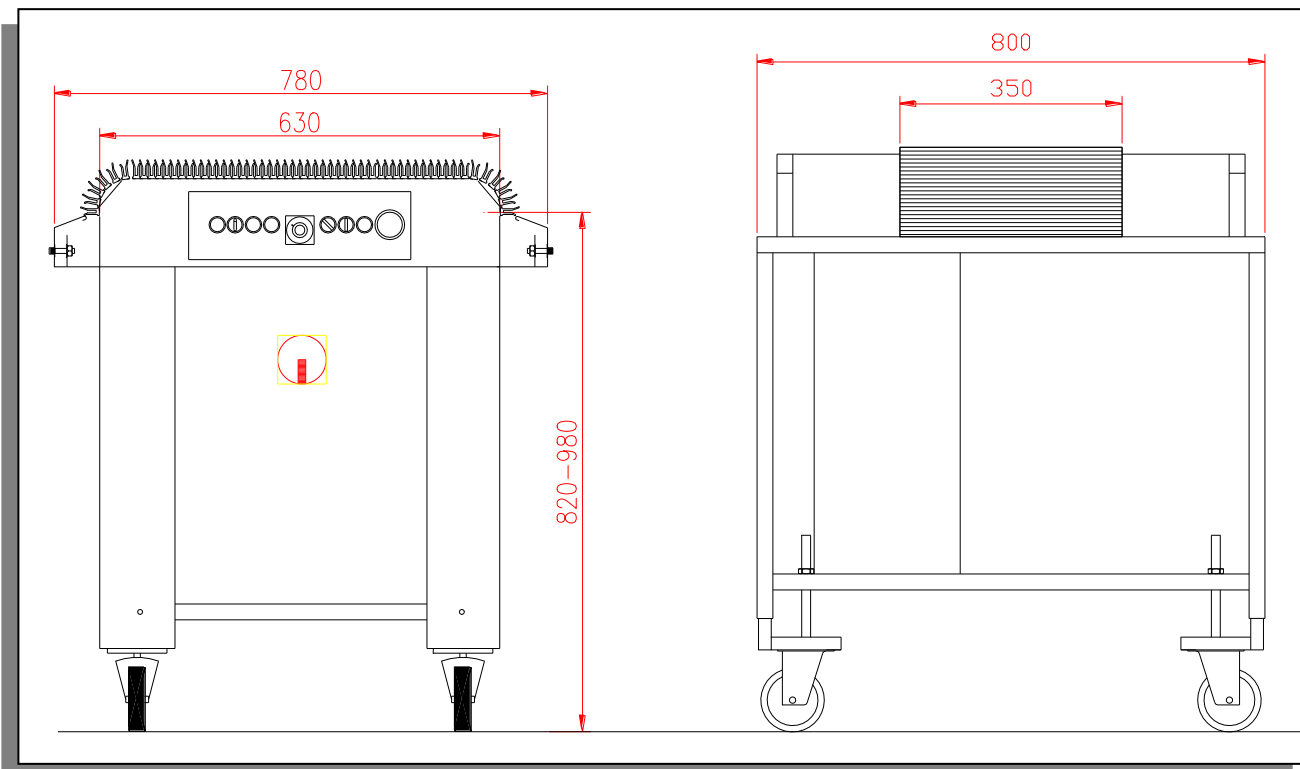
BUFFER 40-80: DIMENSIONS



BUFFER 40-20: TECHNICAL DATA

| | |
|----------------------------|--------------------------|
| PCB min. dimensions (LxH): | 250x250 mm |
| PCB max. dimensions (LxH): | 710x650 mm |
| PCB thickness: | from 0,8 (rigid) to 3 mm |
| PCB weight | 1,2 kg |
| N° single step position: | 40 |
| N° double step position: | 20 |
| Installed power: | 0,25 kW |
| Wiring (standard): | 400 V 50/60 Hz 3ph+T+N |
| Weight: | 60 Kg |

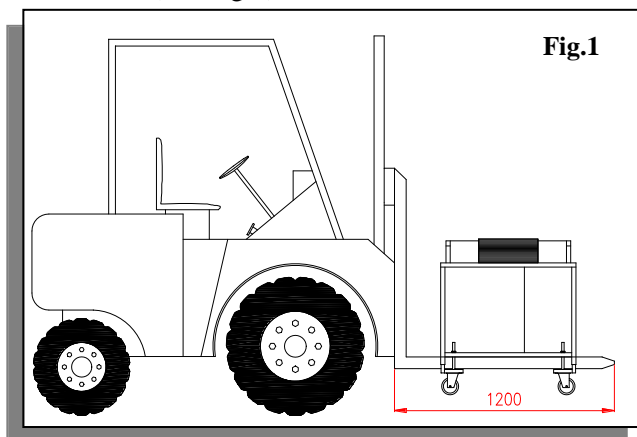
BUFFER 40-20: DIMENSIONS



LOADING UNLOADING

The equipment may be delivered packed (wrapped up in plastic material), or in a wood cage (if requested by the customer).

The packed machine has to be loaded and unloaded by a truck lift with a sufficient lifting and shifting capacities (see tab. TECHNICAL DATA for weight). The minimum length of the shovels of the truck lift is 1,2 metres (see Fig.1).



HANDLING

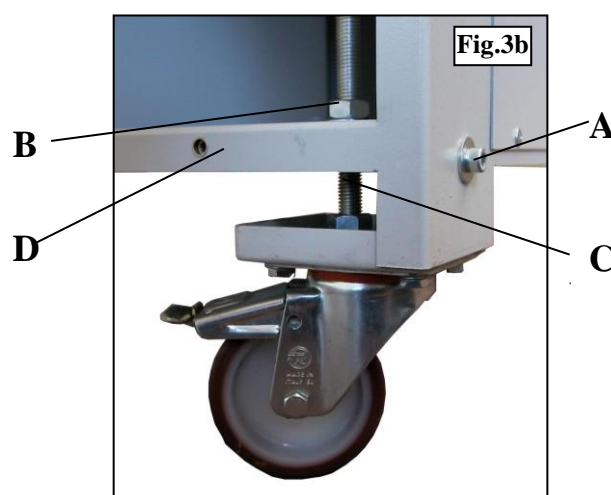
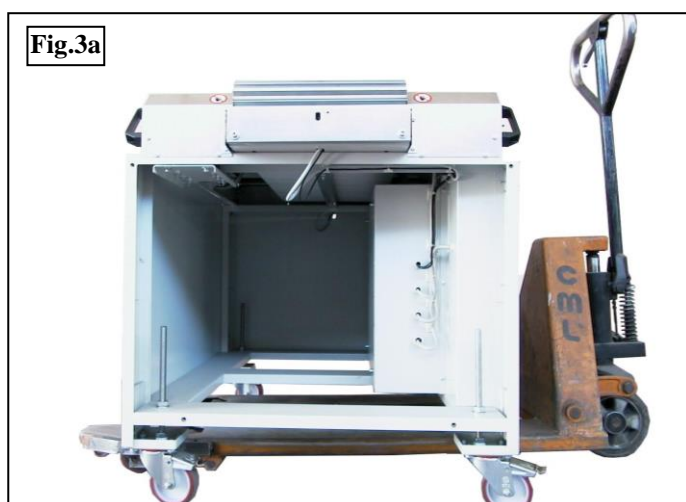
The buffer is furnished with pirouetting wheels, so push the machine in the requested position (see Fig.2).

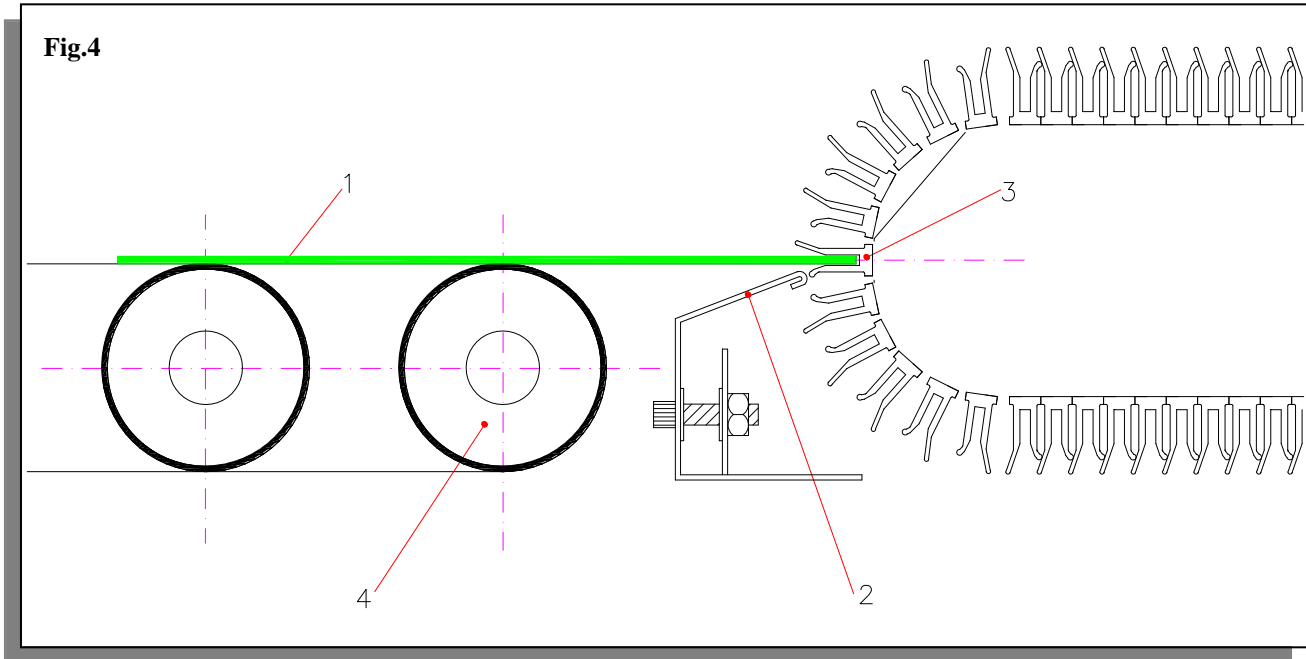
UNPACKING

- Remove the wood cage that contains the machine (if requested), Take away the catches that block the machine.
- Remove all the protective material around the equipment. To get over this material refer to the rules of your country.

HIGHNESS ADJUSTMENT AND ALIGNMENT

- Take off the frontal panels (see Fig.3a).
- Position the machine at the required highness by using a transpallet.
- Loosen the screws A (one for each foot) and the nuts B and C; let the support slide till the wheels lay on the pavement.
- Tighten the nuts C till they lay on the crosswise D.
- Take transpallet away; check the correct alignment of the buffer with the other equipment (see Fig.4).
- By using a level positioned on the conveyor check that the machine is levelled; adjust the nuts C if necessary. (See Fig.3b).
- Tighten the nuts B – C and the screws A.

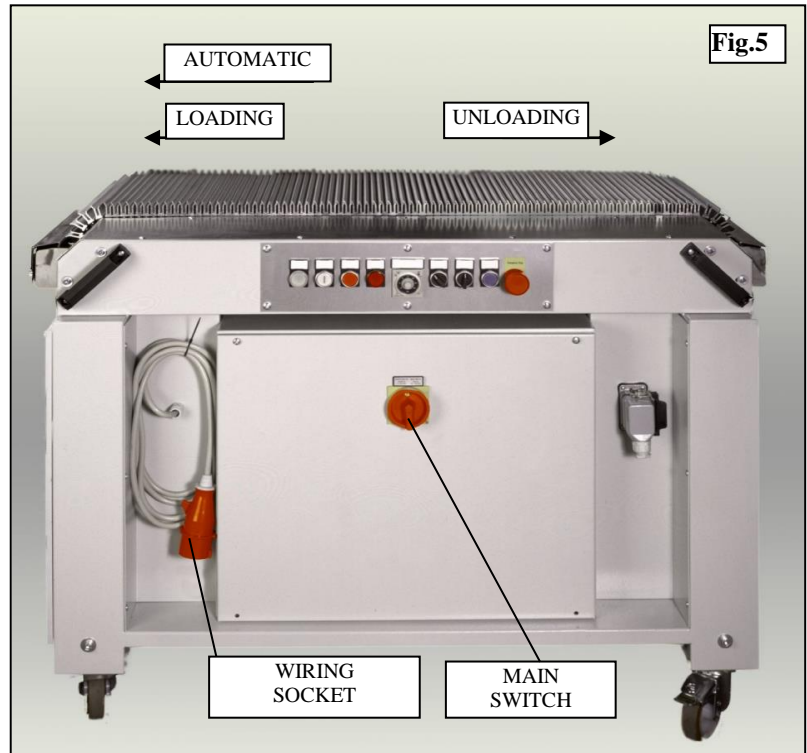




1. PCB.
2. Safety barrier.
3. Frame on loading or unloading position.
4. Roller or any other equipment.

INSTALLATION

- Plug in a protected socket.
- Turn the main switch on 1.
- Press on **START** button.
- Select automatic function by using cycle selector. Check if the conveyor turns in the direction indicated by the arrow **AUTOMATIC**, Fig.5. Otherwise switch off tension and turn the wiring phases.
- Normally the buffer is tested referring to the work direction indicated in Fig.5 **AUTOMATIC** and **LOADING** towards left.



OPERATING

Buffer can load PCBs in automatic function which come out from other operations and unload them on other equipment positioned in different places; Buffer may also be used as a lung on automatic working lines.

Ignition:

- Turn the main switch on 1.
- Press on **START** button.
- Set up step time in the unloading phase on timer.
- By step selector choose step mode: **SINGLE** or **DOUBLE**.
- By cycle selector choose operating cycle: **AUTOMATIC, LOADING, UNLOADING**.
- Press on **RESET** button.

LOADING:

select **LOADING** cycle by **CYCLE** selector

Select **SINGLE** or **DOUBLE** by using **STEP** selector

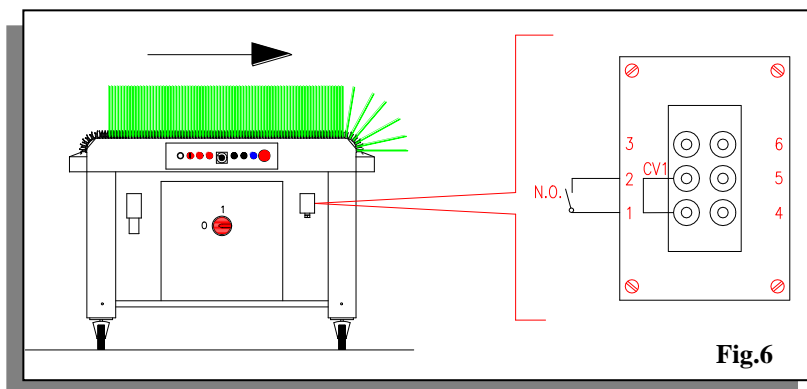
The conveyor takes one or two steps according to the selected mode each time that the entry sensor intercepts a PCB.

In the **LOADING** mode the timer delays the starting of the step when the PCB arrived onto the sensor.

By using the connector it is possible to connect a mechanical block signal to equipment situated before the buffer. In this case the equipment stay in block till the contact with the terminals 1 and 2 of the connector is closed by the buffer (signal ready to load).

AUTOMATIC:

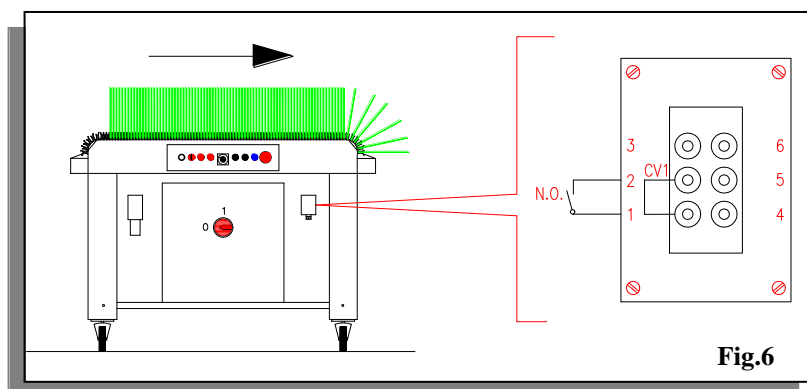
With the selector on **AUTOMATIC** the conveyor takes a step each time a timer counting cycle ends, “pause time”(see Fig.6).



By using the connector it is possible to connect an mechanical block signal with an equipment positioned after the buffer, in this case the timer begins to count when the contact will close between the terminals 3 and 4.

UNLOADING:

With the selector on **UNLOADING** position the conveyor takes a each time a timer counting cycle ends, “pause time”(see Fig.6).



By using the connector it is possible to connect a mechanical block signal with an equipment positioned after the buffer, in this case the timer begins to count when the contact will close between the terminals 3 and 4.

EMERGENCIES

LOADING BLOCK:

Reason:

- During the loading phase a PCB does not enter the frame, at the following step the machine stops.

Effect:

- The conveyor stops.
- RESET button blinks.

Reset:

- Take the PCB away and press on RESET button.

UNLOADING BLOCK:

Reason:

- During the unloading phase a PCB stops on the sensor; at the following step the machine stops.

Effect:

- The conveyor stops.
- RESET button blinks.

Reset:

- Take the PCB away and press on RESET button.

OVERLOAD CUT-OUT INTERVENTION:

Reason:

- The protection cut-out trips when the conveyor motor is overloaded or there is an interruption of a phase

Effect:

- The conveyor system stops and the auxiliary circuits disconnect.
- OVERLOAD CUT-OUT pilot lights up.

Reset:

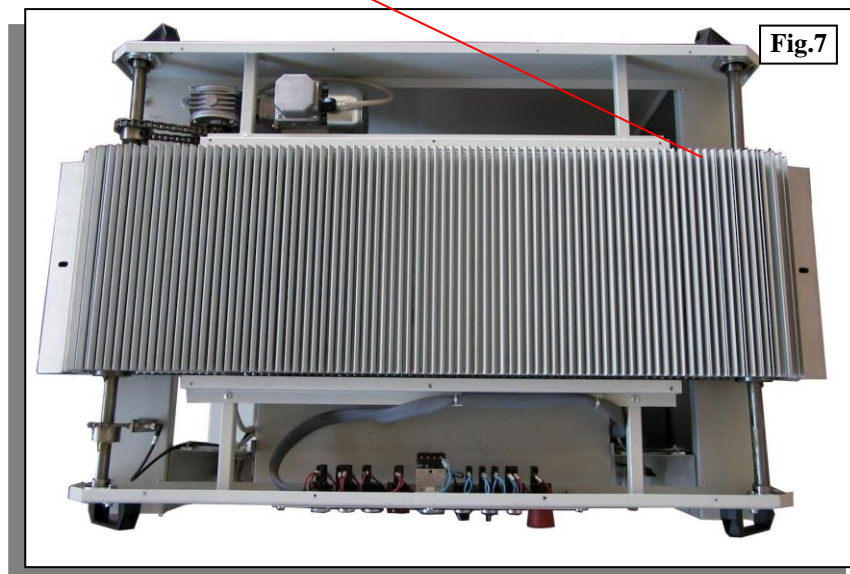
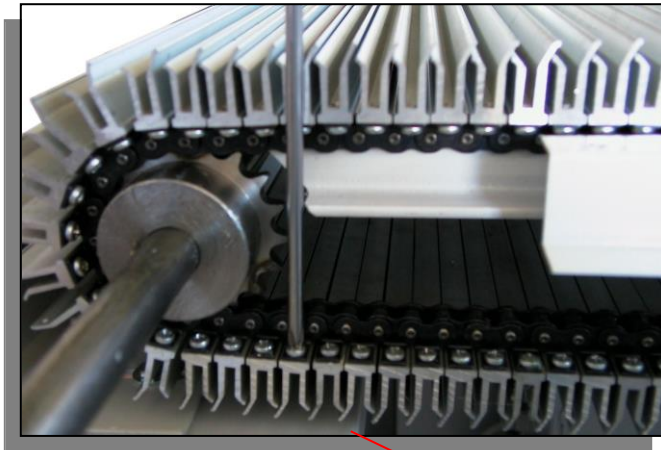
- Switch off the power supply, open the panel of the electric box, reset the cut-out and restart the ignition procedure.



FRAME REPLACEMENT

ATTENTION! This operation demands the function of the equipment **WITHOUT PROTECTIVE CARTER**, so it is necessary that a qualified staff only perform it.

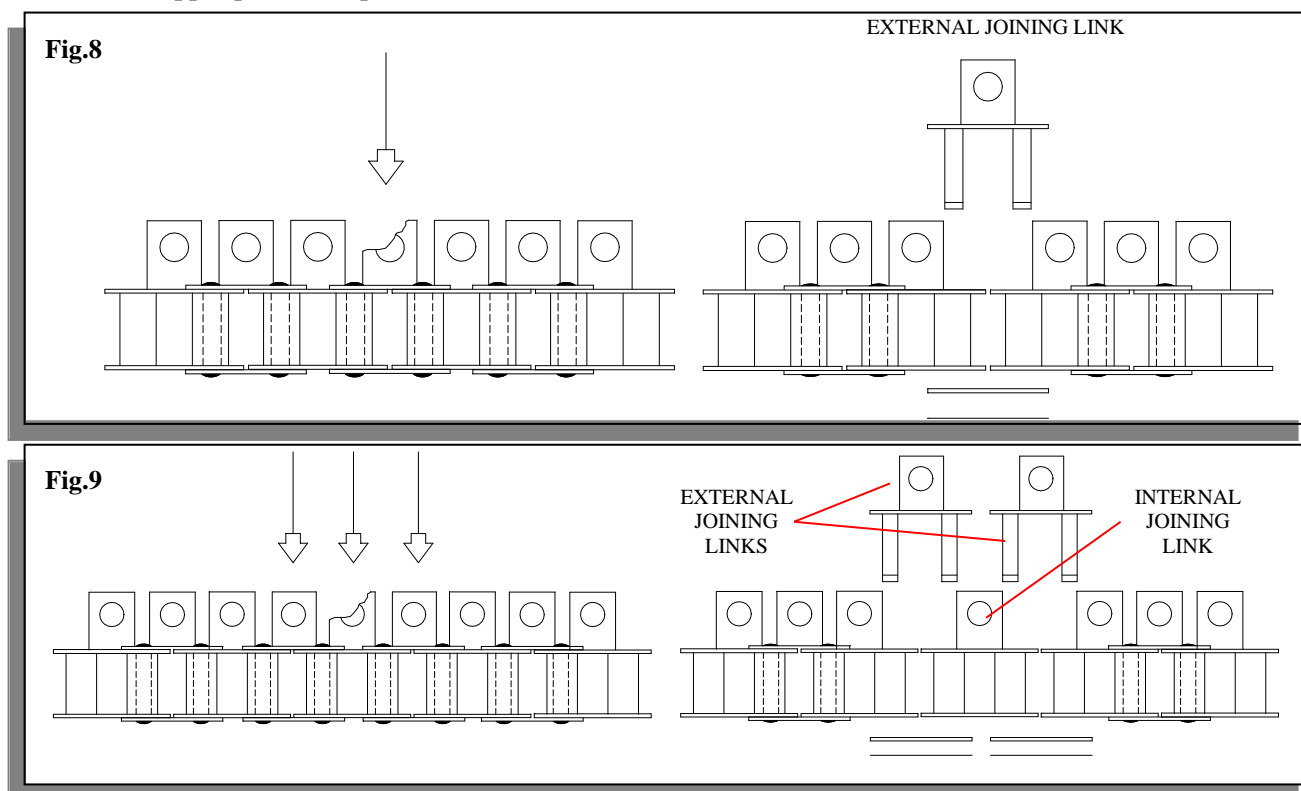
- Take off the upper protection panels.
- Bring the damaged frame in the lower position shown by Fig.7.
- Switch off the power supply of the control board.
- Use a star-shaped screwdriver to take off the fixing screws.
- Extract the damaged frame.
- Insert a new frame and tighten the screws securely.
- Put the upper protection panels back.



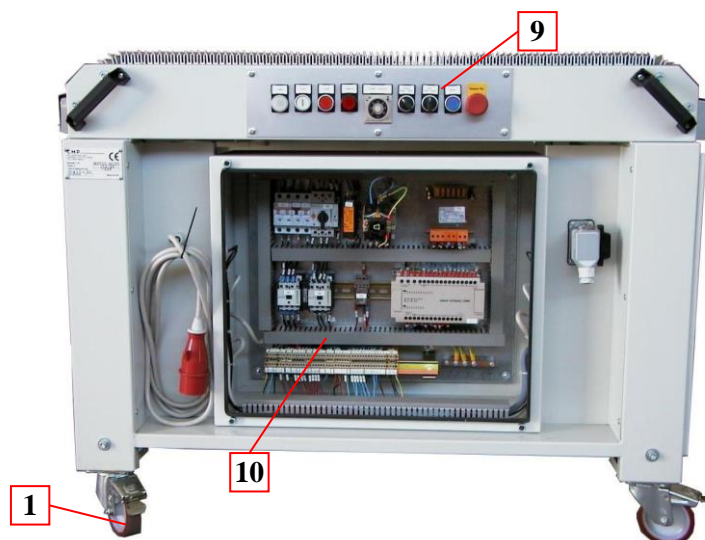
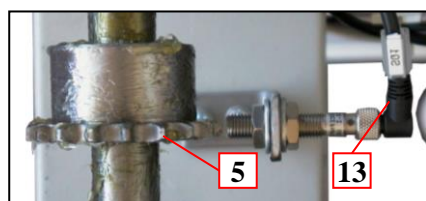
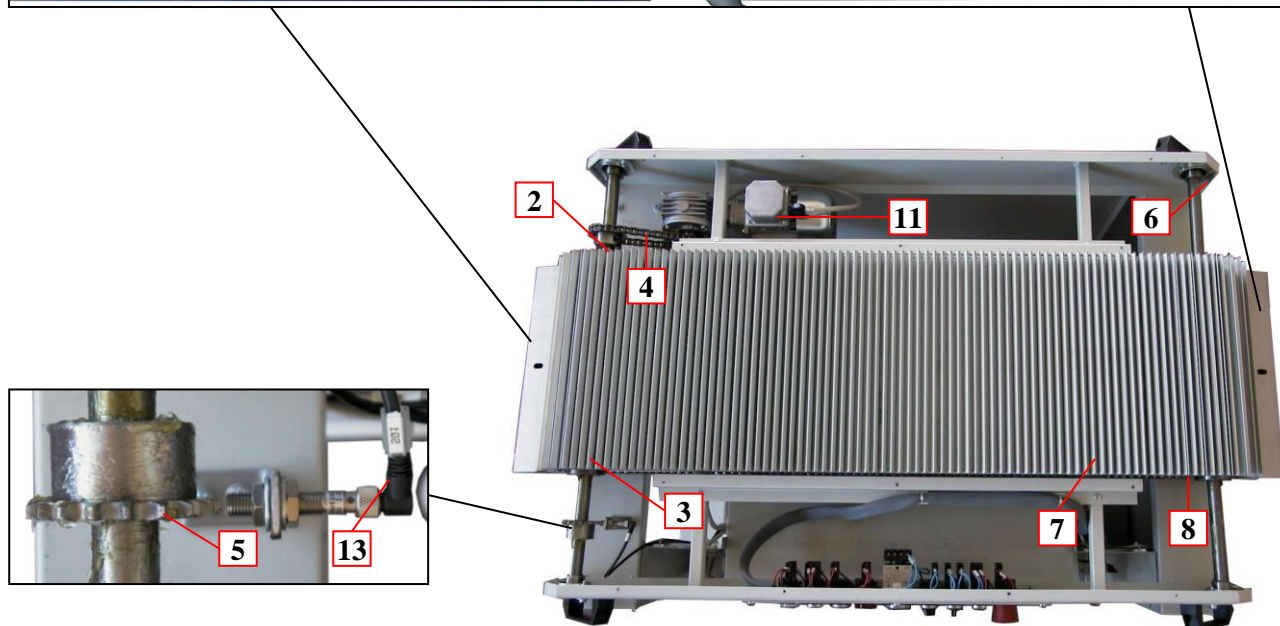
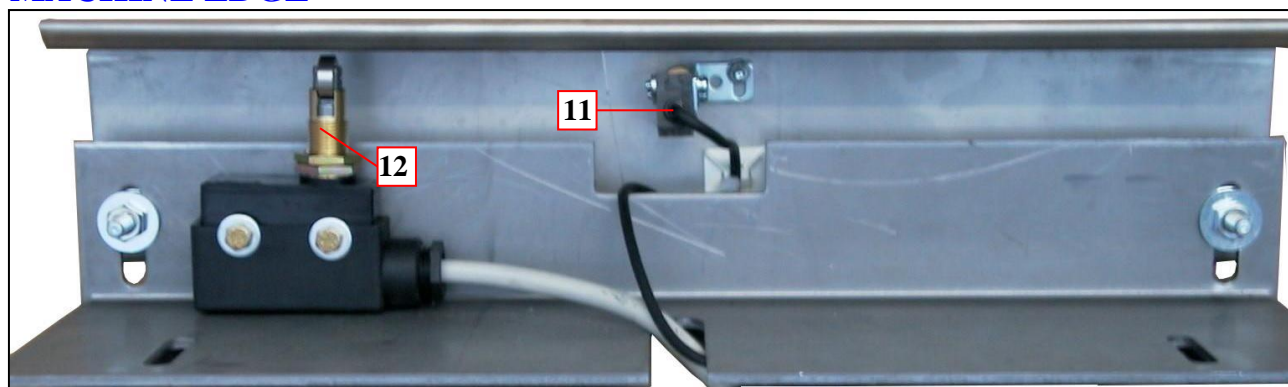
LINK REPLACEMENT

ATTENTION! This operation demands the function of the equipment **WITHOUT PROTECTIVE CARTER**, so it is necessary that a qualified staff only perform it.

- Take off the upper protection panels.
- Bring the damaged on the position shown in Fig.7 (replacement position).
- Switch off the power supply.
- Take off the frame on the damaged link and at least 3 frames before and after it.
- Switch on the power supply and position the replacing link in the centre of the conveyor in the upper part.
- Switch off the power supply again.
- Take a chain-cut. To replace an external link it is sufficient to take off the damaged link and insert a new joining link ½” with fin in A1 (see Fig.8). To replace an internal link (see Fig.9) it is necessary to take off the links indicated by the arrows and insert 2 external joining link and 1 internal joining link. To insert the links draw the two ends of the chain near by round-pointed pincers.
- Switch on the power supply.
- Bring the part of the conveyor chain without frame in the frame replacement position and reassemble them referring to paragraph “FRAME REPLACEMENT”.
- Put the upper protection panels back.



MACHINE EDGE



- | | |
|---|--------------------------------------|
| 1. Pirouetting wheels with brake. | 8. Conveyor. |
| 2. Pinion of the conveyor traction shaft. | 9. Control board. |
| 3. Conveyor pinion. | 10. Electric board. |
| 4. Conveyor movement chain. | 11. Photocells entry exit. |
| 5. Step pinion. | 12. Micro safety barrier entry exit. |
| 6. U.C.P. chain shaft. | 13. Step sensor. |
| 7. Frame | |