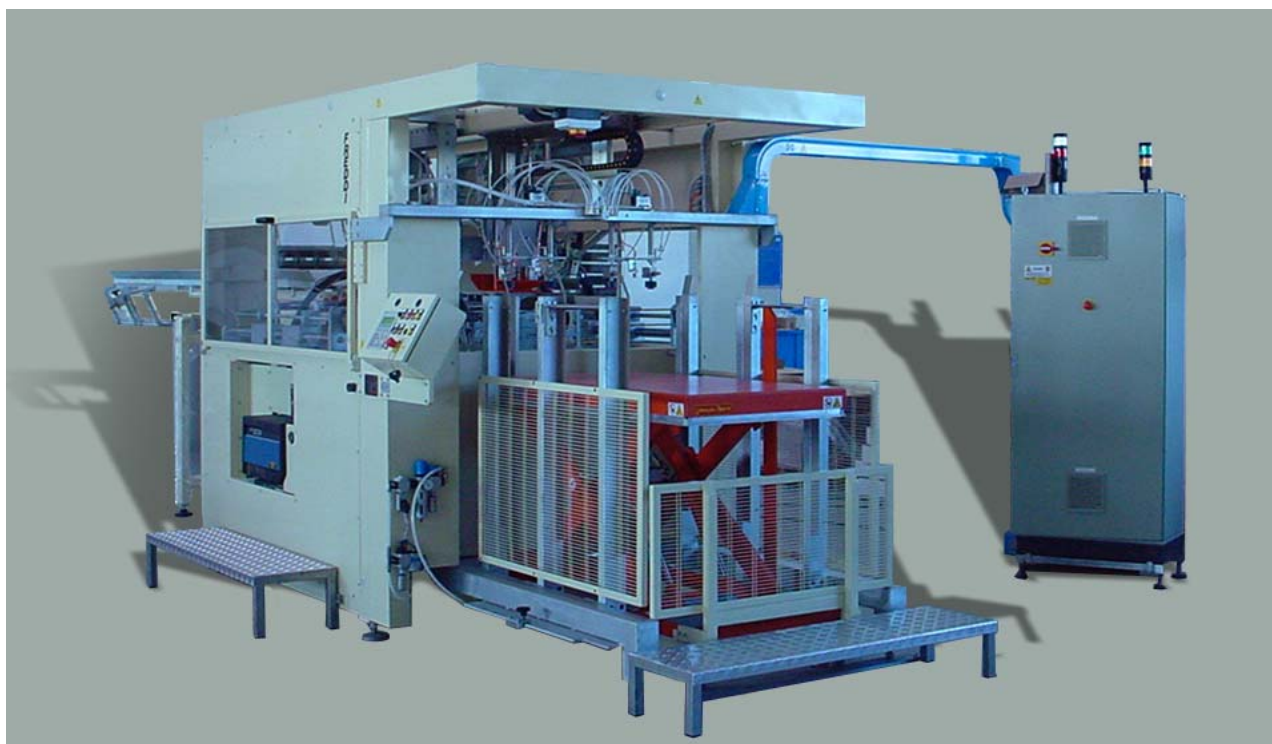




**Officina FREDDI**  
*Costruzioni Meccaniche*

**AUTOMATIC TRAY ERECTOR MOD. FO-A-H4/10**  
**(Patent nr. 1242901)**



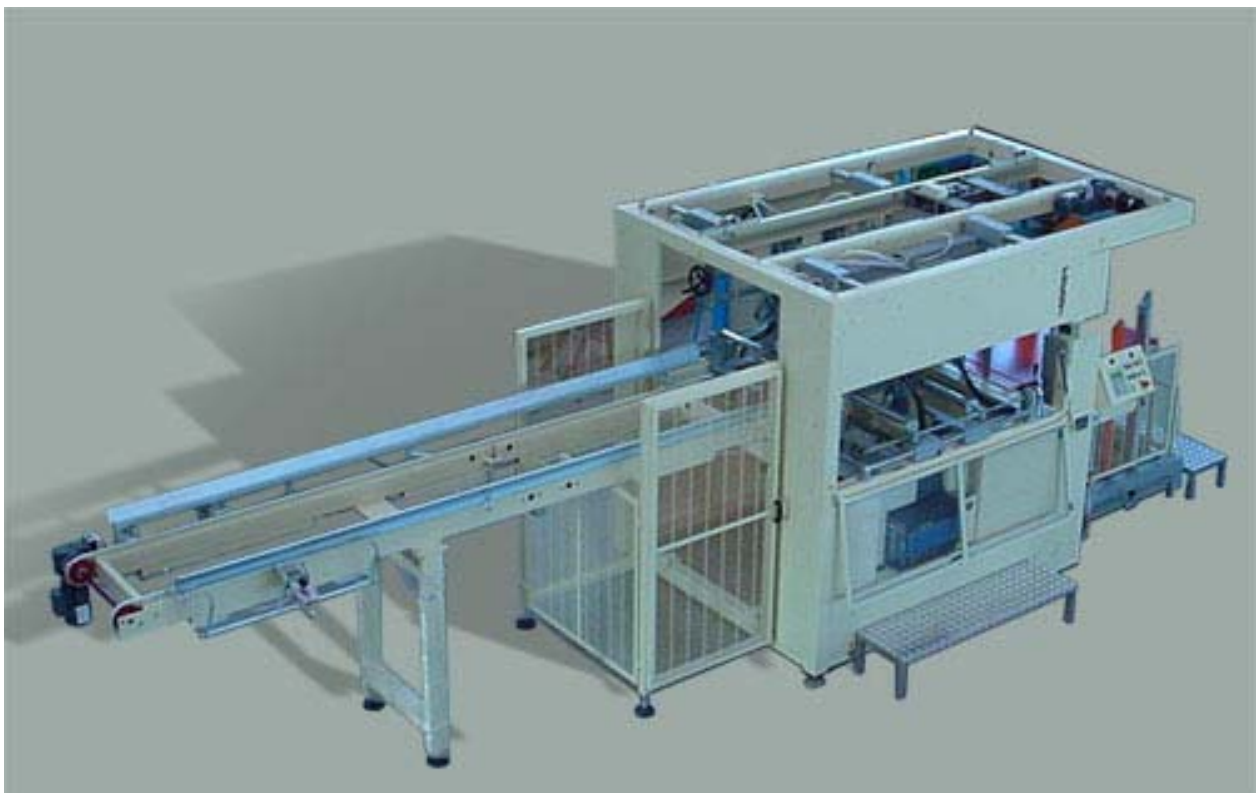
Head office  
Via Montepelato Nord 42  
43023 Monticelli Terme – Parma – Italia  
Tel. ++39/0521/641680 – Fax ++39/0521/641856

Productive plant  
Via Sabin 12  
43020 Pilastrello di Marano – Parma – Italia  
Web [www.officinafreddi.com](http://www.officinafreddi.com) - E-mail: [info@officinafreddi.it](mailto:info@officinafreddi.it)



**Officina FREDDI**  
*Costruzioni Meccaniche*

**AUTOMATIC TRAY ERECTOR MOD. FO-A-H4/10**  
**(Patent nr. 1242901)**



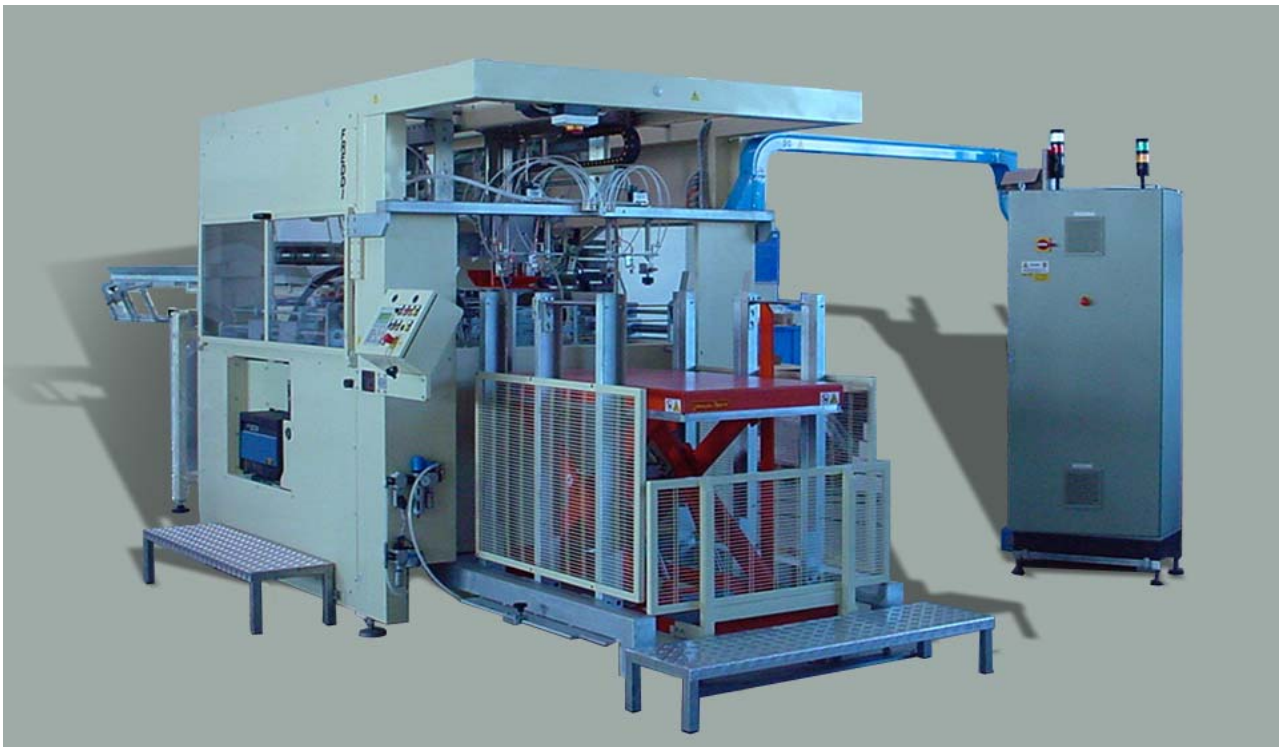
The machine is able to mold trays (by hot-melt closure) obtained by matched cardboards blanks. The following technical features enable the machine to answer to the various requirements concerning the packaging market:

1. Very fast and easy size change without wrenches and without replacement of parts.
2. Very fast possibility to change size from a big tray to a medium/little tray.
3. Possibility (on request) to mold trays having different angle closure kinds, for example:
  - 90° corners closure having external limb overlay (standard).
  - 90° corners closure having internal limb overlay.
  - Beveled external limb overlay (bevels having different angles).
  - Round angles (very useful for bottles locking and stability).
  - Possibility to manufacture mixed kinds of closures: for ex. nr. 2 round corners and nr. 2 beveled corners).



**Officina FREDDI**  
*Costruzioni Meccaniche*

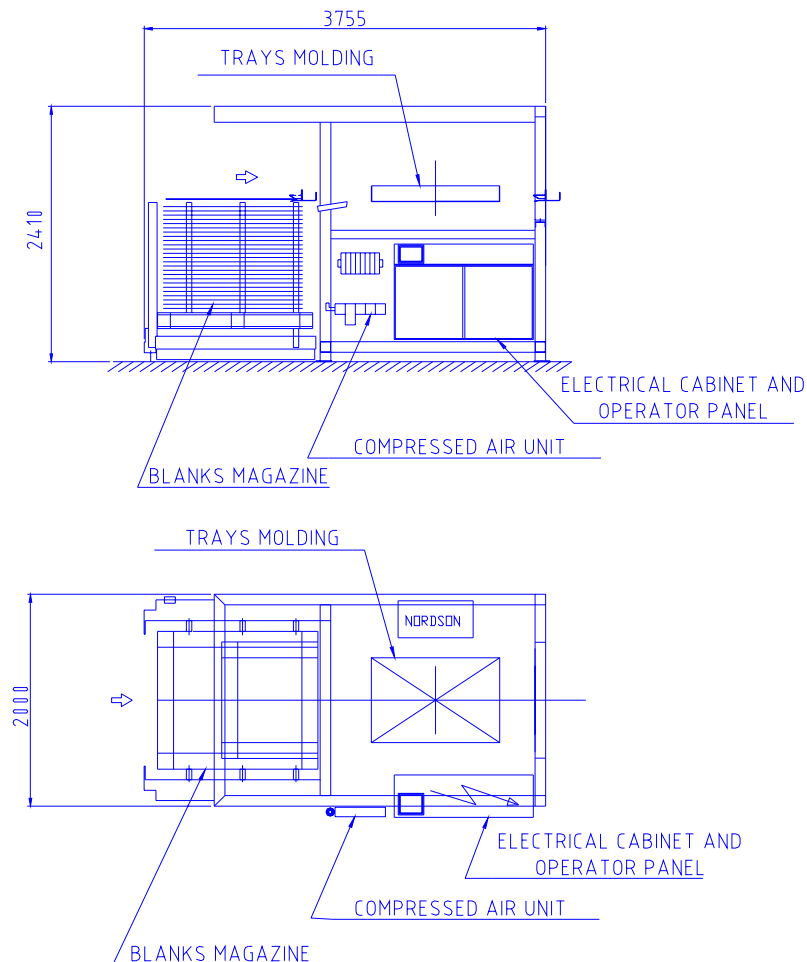
4. **High output.** On request, the machine can mold until to twelve trays per minute (this opportunity requires the installation of nr. 4 guns).
5. Possibility to feed manually the blanks to the dynamic blanks magazine during the machine running. This opportunity provides an output continuity.
6. On request, the machine is equipped with a trays outlet conveyor.
7. A 180° tray turner unit can be installed on the outlet conveyor. The unit is necessary when the palletizing line needs trays and turned trays.
8. On the outlet conveyor there is the possibility to erect a tray centering equipment to make easy the drive of a possible drive head.
9. The possible tray turned drive on the outlet conveyor by suction cups is easier thanks to the a movable flat able to feedback the suction cups force during the tray drive.





**Officina FREDDI**  
**Costruzioni Meccaniche**

Standard machine drawing:



The automatic tray erector essentially consists of:

- Single body main frame in very strong fabricated steel structure supporting all machine movable units.
- Blanks magazine equipped with lifting table controlled by proximity switches to ensure the top blank is always at drive position. The blanks loading inside the magazine is effected manually by an operator with the possibility to feed the machine while it is running.
- Blank drive by suction cups and blank transfer by a trolley equipped with a gripper that transfers the blank to the molding area.
- Pneumatically controlled tray molding unit, tray closure by limbs overlay and glueing by two hot-melt strips each corner. The glue output is effected by two guns having programmable start in order to fix position and lenght of the hot-melt strips.
- Adjustment unit of the molding dies and of the blanks magazine by handwheels and knobs that enable to reduce the size change time. Approximate time of size change: 4-5 minutes.
- Hot-melt group for closure with hot-melt.
- Electrical control cabinet with Siemens programmable logic controller (PLC) and panel operator. The electrical cabinet is installed aboard the machine.
- Protections in conformity with CE norms.



## **Officina FREDDI** **Costruzioni Meccaniche**

### Standard machine output:

- Output: nr. 5 trays/min. (increaseable to 12)
- Blanks magazine capacity: about nr. 200 blanks.

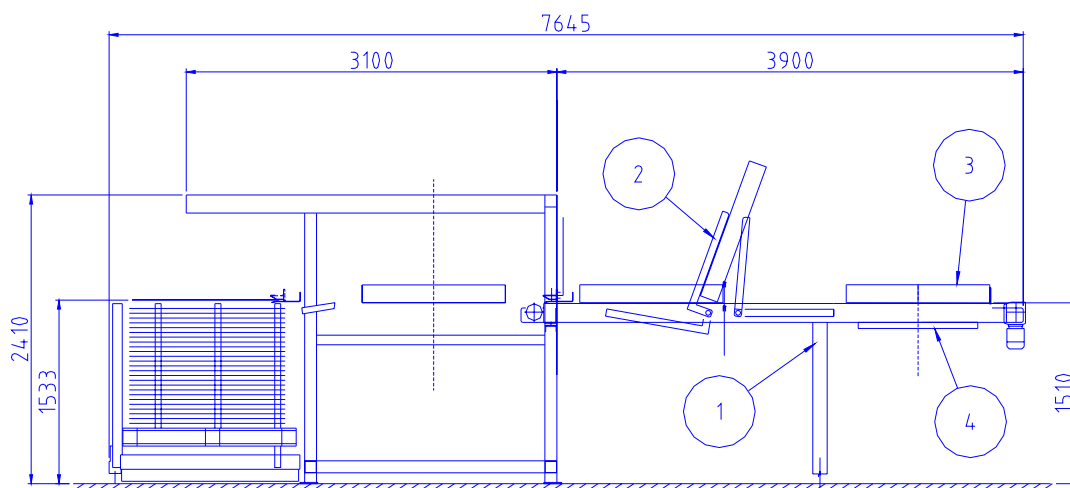
### Components:

- Bearings: Skf
- Geared motors: Sew Eurodrive
- Inverter: Danfoss
- Pneumatic: Bosch
- PLC: Siemens
- Panel operator: Siemens
- Melter: Nordson
- Photoelectric cells: Omron
- Sensors: Siemens
- Proximity swithces: Siemens
- Contactors: Siemens
- Terminals: Weidmuller
- Absolute encoder: TR-Electronic Gmbh (Germania).

### Technical data:

- Installed power: 8 KW
- Tension: 380 V – 50 Hz (three phases + neutral).
- Auxiliary tension: 24 V DC
- Air compressed consumption: 150 Nl/min. (6 bar).
- Motors protections: IP 55

### Options drawing:



04	MOVABLE FLAT
03	CENTERING UNIT
02	TRAY TURNER
01	OUTLET CONVEYOR
Pos.	Description



**Officina FREDDI**  
**Costruzioni Meccaniche**

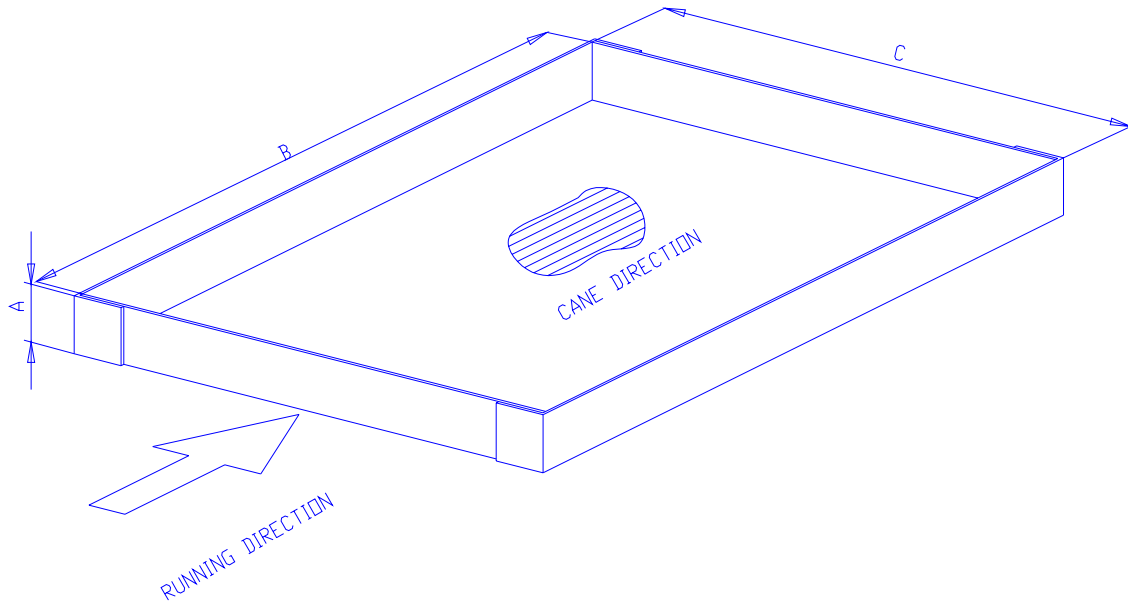
**Kinds of trays**

TRAY INTERNAL DIMENSIONS

A	B	C
MAX 150	MAX 1250	MAX 1020
MIN 50	MIN 560	MIN 750

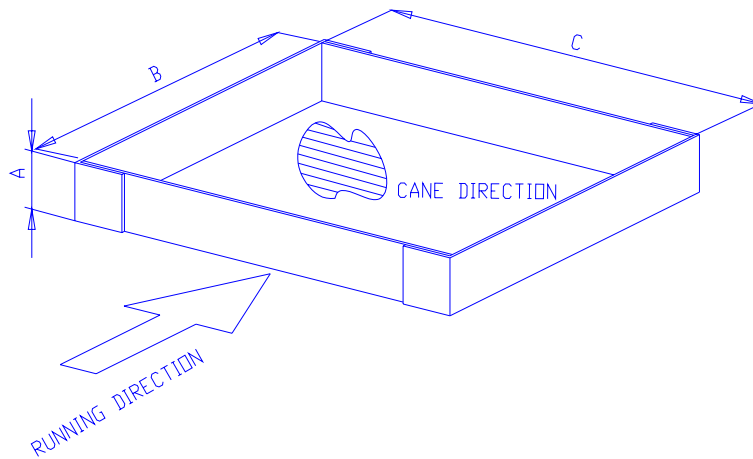
TRAY FOR WHOLE PALLET

CARDBOARD THICKNESS: MAX 6 MM. - MIN. 3 MM.  
OUTPUT: NR. 8 TRAYS/MIN.



TRAY FOR HALF PALLET

CARDBOARD THICKNESS: MAX 6 MM. - MIN. 3 MM.  
OUTPUT: NR. 12 TRAYS/MIN.

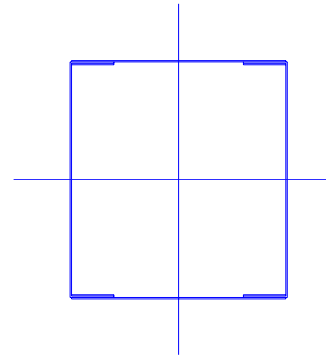
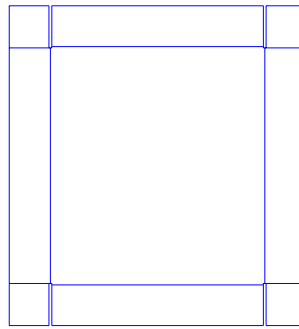
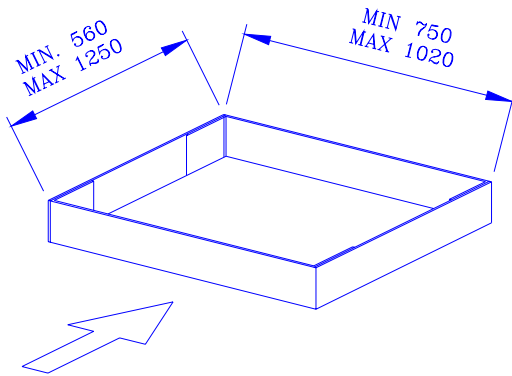




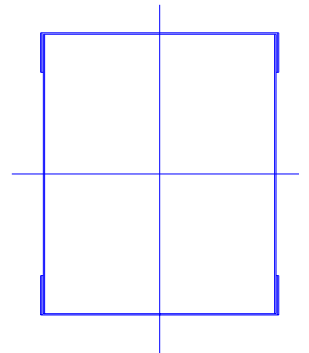
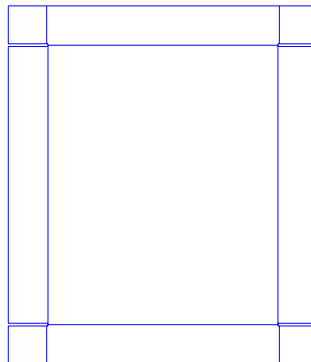
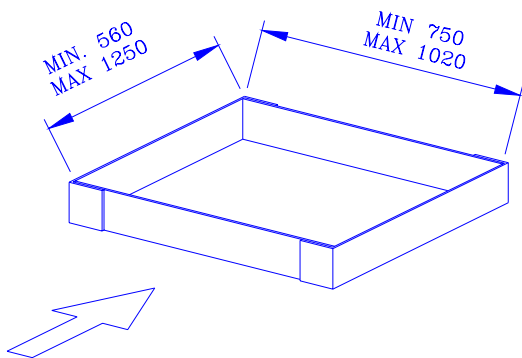
**Officina FREDDI**  
**Costruzioni Meccaniche**

**Example of erected trays:**

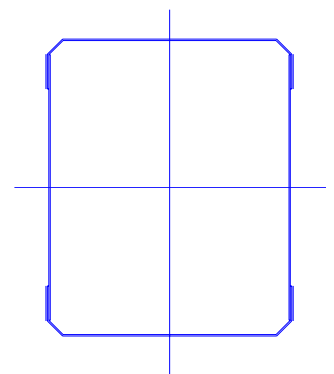
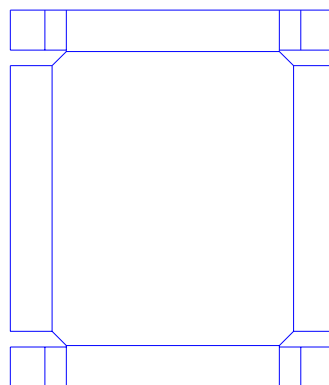
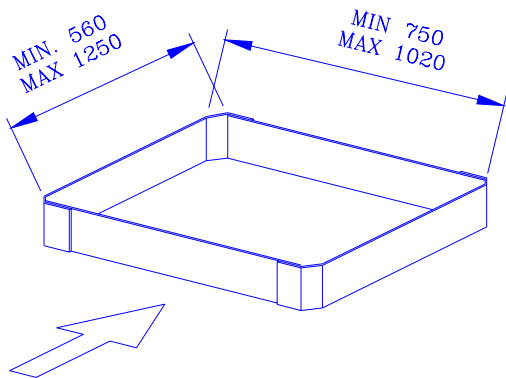
A) TRAY FOR HALF PALLET: **INTERNAL LIMB CLOSURE** (90° CORNERS)



B) TRAY FOR HALF PALLET: **EXTERNAL LIMB CLOSURE** (90° CORNERS)



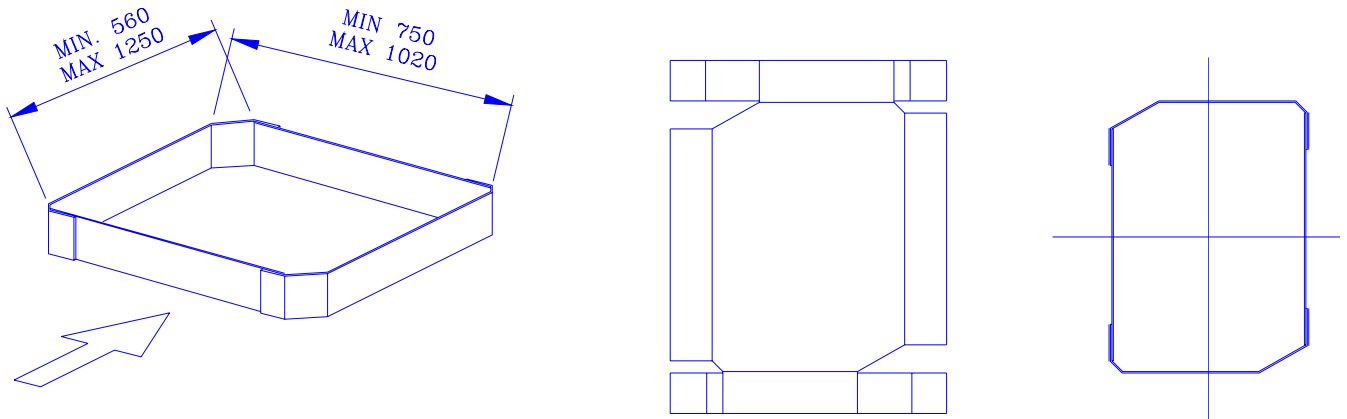
C) TRAY FOR HALF PALLET: **EXTERNAL LIMB CLOSURE** (45° CORNERS)



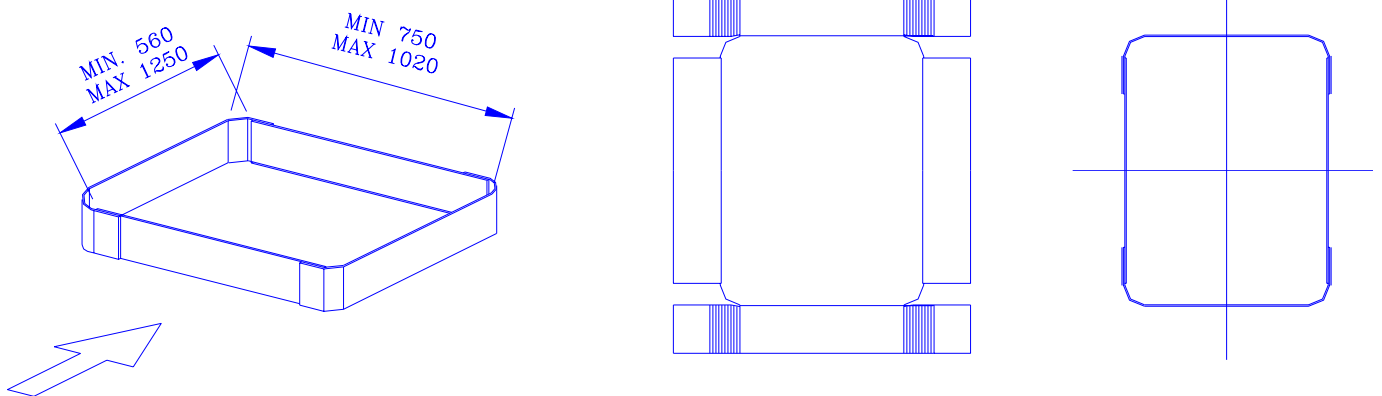


**Officina FREDDI**  
**Costruzioni Meccaniche**

D) TRAY FOR HALF PALLET: **EXTERNAL LIMB CLOSURE** (45° AND 30° ALTERNATE CORNERS)



E) TRAY FOR HALF PALLET: **EXTERNAL LIMB CLOSURE** (ROUND CORNERS: MIN. RADIUS 25 MM. - MAX RADIUS 60 MM.)



F) TRAY FOR WHOLE PALLET: **EXTERNAL LIMB CLOSURE** (ROUND FORWARD CORNERS AND 30° BEHIND CORNERS)

