# automatic cnc drilling and sawing (opt) lines

# MOD. IM T400

# AUTOMATIC CNC DRILLING and SAWING (opt) LINE FOR PROCESSING IPE - HEA - HEB -UNP – SQUARE AND RECTANGULAR TUBES- STEEL ANGLES – STEEL FLATS

# Mod. IM T400

**The installation will be so composed:**

**A)** N. 1 infeed table length 4.000 mm. for supporting the shifting of the bars and N. 1 outfed table lenght 4.000mm.

**B)** N. 1 Basement with bridge for supporting the drilling spindle and complete of the locks and rollers of infeed material.

**C)** N. 1 Multi spindles drilling unit with 3 tools (1 vertical and 2 horizontal – left and right) in order to drill 1 different diameters holes for each sides of the profile in one pass.
Positioning of the drilling unit by means of guides and ball screws, brushless motors.

**D**) N. 1 band sawing for the straight cut, managed by the CNC, complete of locks, and rollers infeed system.

**E)** N. 1 Hydraulic power unit of command and. 1 Pneumatic system.

**F)** N. 1 Electrical apparatus complete with CNC of command and pulpit of command.

**G)** N. 2 light safety barriers

**Installation marked and certificated CE**

## DESCRIPTIVE AUTOMATIC CNC DRILLING LINE mod. IM T400

The automatic cnc drilling /sawing line mod. IM T400 with 3 drilling tools" is studied for the small and medium steel construction companies that need flexibility in their production of small profiles: beams, steel angles, Unp, Rectangular/square tubes, steel flats.

Its peculiarity is given by the material feed with **integrated feeder rolls** and by the **multi spindles drilling unit with 3 drilling tools** and not at least his interesting price.

The first feature allows a smaller overall dimension than a lines with a infeed Nc pusher/gripper system and gives a fast shifting and locking of the material.
Moreover with this drilling system, you **could process up to 12 mt length of profiles and if necessary also longer length** , because thanks to the integrated feeder rolls the machine has not constriction in length and it is enough add some free rollers table (also built by you) to support the material.

These free rollers tables could be removed in any case where it is important the space available.
**The multi spindles drilling unit with 3 tools (1 vertical and 2 horizontal) grants 1**

**different diameters holes for each side of the profiles without repositioning the bars.**

The lines will be so composed:

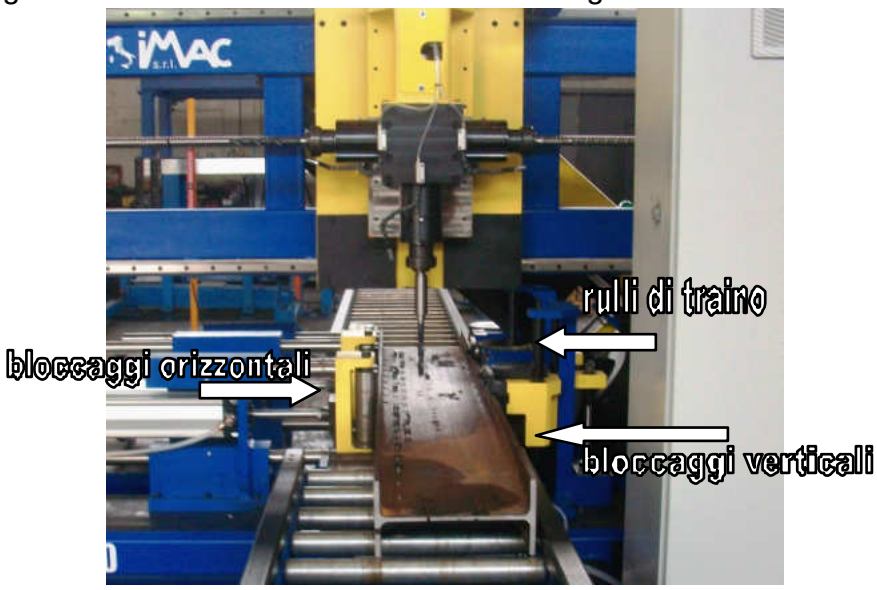
**A)** N. 1 infeed table and N.1 outfeed table with free rolls length 4 mt. each one. All the rollers of the infeed and outfeed table will be heat treated to ensure a long life.

The tables are placed exclusively in order to support the bars while the integrated rolls will give the feed of the bars.
Additional free rollers table could be added if you have long length bar (considering that on a 4.000mm table you arrive to process 8.000mm).
In this way the roller table could be placed only when there are material of certain length.

We could provide to you the technical specification of the infeed/outfeed roller table in order that you could built yourself and it will not be charged in the cost of transport.
Otherwise, if necessary, we could give you the price of the required roller table.

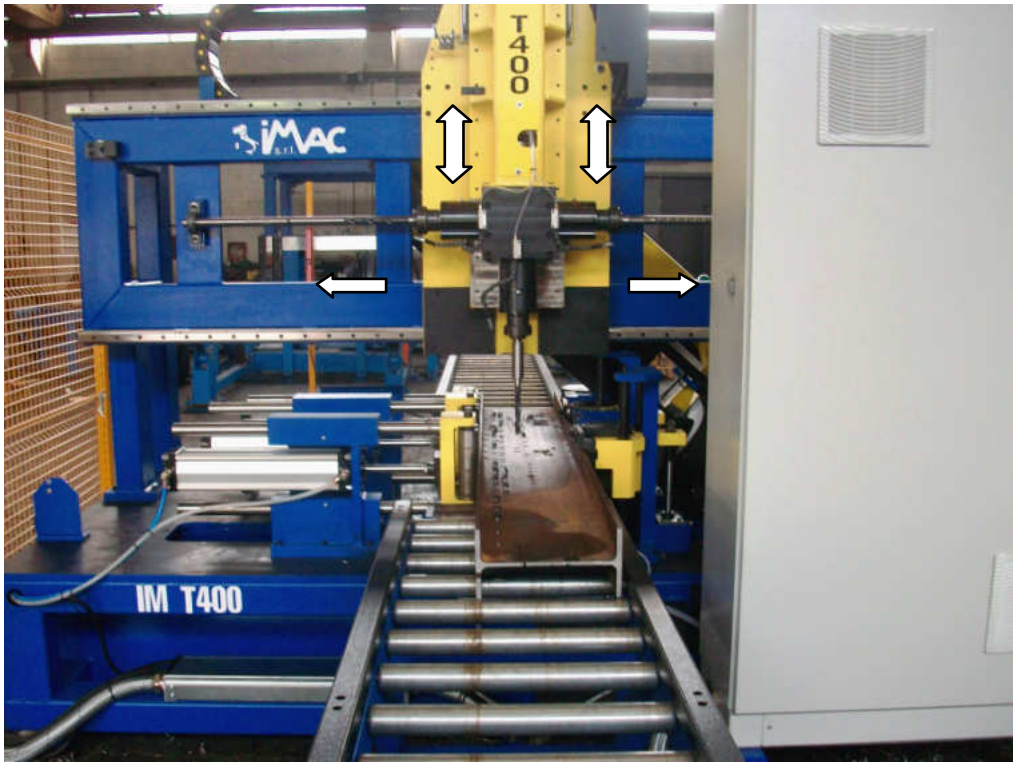
**B)** The basement built in electrowelded high duty structure will include feeding rollers, locks, measuring system and drilling bridge.

The NC will manage automatically the sequence of locks and rotation of the rolls giving the right positioning of the bars in the x axis under the drilling station.



Horizontal and vertical locks will make irremovable the bar during drill operation.

The measurement system will have a zero initial data from a laser. While the continuous measurement of the bar will be through a contact system.



**C)** N.1 multi spindles drilling unit with 3 drilling tools, will be able to drill automatically 1 different diameter for each side of the profiles (without any reposition of the profiles or toll changing).
The bars will be drilled on all the sides in one pass.

The cross movement of the multi drilling spindle will be extremely sharp and fast, granted by recycle balls screw, guides, a motor brushless – constant rpm also during the drill operation.

The maximum speed positioning drilling unit is 20 mt/ min; spindle power 40/50 N/mt. about. Cooling of the drilling tools will be external type with nebulizer.

Maximum diameter of drilling tool 28 mm.

The drilling line mod. IM T 400 has a great flexibility being able to process all types of bars beams, Unp, angles, rectangular/square tubes, plates with minimum dimensions of 50mm base profile. and 50mm. in height and maximum width 400mm base of the profile and height 300mm.

**D)** N. 1 band sawing for the straight cut (optional on request) could be placed on the same line.
The band sawing will be fully managed in automatic by the only one the pulpit of command described in the next point F)

**E)** N. 1 Hydraulic power unit and N.1 Pneumatic system will assist some movements of the lines.

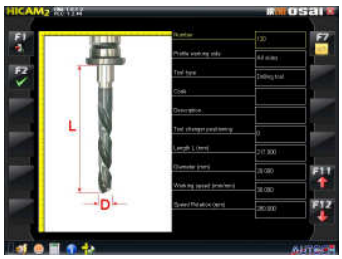
**F)** N. 1 Electric panel will be paced sideways to the machine placed on the monoblock of the installation.

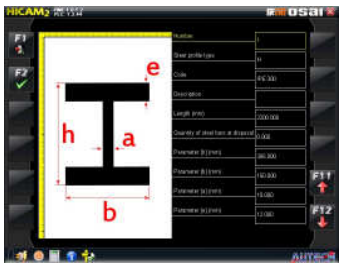
Electric power will be 400V- 50 Hz (other voltage are possible on request)

A pulpit of command complete of electrical apparatus will support the PC; it will be placed on the monoblock and frontally to the basement in useful position for the operator.
Numerical control will be studied and prepared carefully by our engineer IMAC; easy programming and suitable for storage of the programs yet carried out.

The program system will be very friendly based on Windows.
The operator will have a simple graphical interface by the monitor touch screen.

The operator could import file .Cam directly from the drowning with memory stick by the USB located on the pulpit of command.



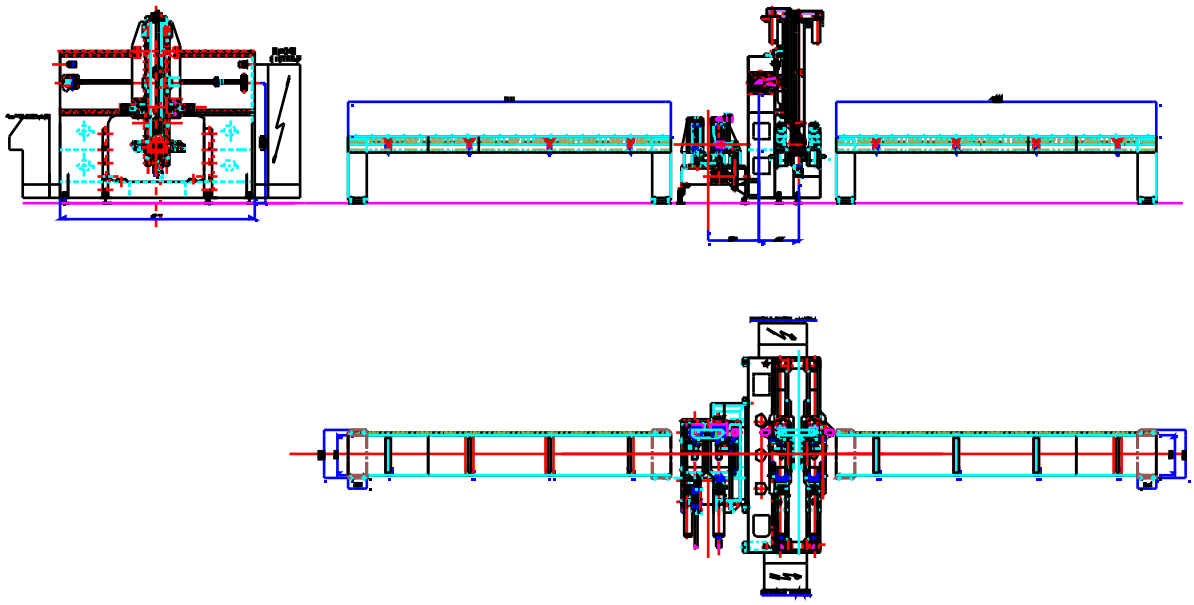




**G)** N. 2 light barriers and safety barriers to protect the operator on all the 4 sides.

Automatic CNC DRILLING LINE IM T400 will be supplied with painting type RAL 5015 blue; RAL 2005 orange, RAL 1018 yellow or will be chosen to your necessity.

**INSTALLATION MARKED AND CERTIFICATED CE.**

Lay out line IM T400 (with straight band sawing machine)



**AUTOMATIC CNC DRILLING AND SAWING (opt) line**
**Mod. IM T00 with 3 drilling tools for profiles up to 400mm.**



## TECHNICAL DETAILS

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|---|---|
| MAX LENGHT OF THE IPE –HEA-HEB – UNP- ANGLES- FLATS RECTANGULAR –SQUARE TUBES | 12.000 mm. It's possible process profile with more length |
| SIZE WIDHT IPE-HEA-HEB: | MIN. 50 mm MAX. 400 mm. |
| SIZE STEEL ANGLES : | MIN. 50x50x5 mm. MAX.250x250x25 mm. |
| SIZE UNP: | MIN. 80 MAX. 400 mm. |
| SIZE RECTANGULAR TUBES: | MIN. 50X50mm MAX. 300X300mm |
| SIZE STEEL FLATS: | MIN. 50 mm. MAX. 400mm |
| MAX MATERIAL WEIGHT: | 125 kg/mt |
| TICKNESS OF THE STEEL BARS: | MIN. 6/8 mm. MAX 28 mm. |
| MAX MATERIAL RESISTANCE : | 60kg./mm² |
| MAX. DIAMETER OF DRILLING TOOLS: | 28 mm |
| MIN. DIAMETER OF DRILLING TOOLS: | 8 mm |
| SPEED OF SHIFTING IN CROSS MOVEMENT OF THE DRILLING UNIT: | MAX.20 mt/min. circa |
| SPEED OF THE INFEED BARS: | MAX 30 mt/min. circa |
| N. OF MULTISPINDLE (3 DRILLING TOOLS) : | 1 |
| TOT. NUMBER OF DRILLING TOOLS: | 3 |
| N. OF DIAMETER FOR EACH FLANGE: | 1 |
| N. BAND SAWING STREIGHT CUT | 1 opt. |
| DRILLING UNIT CAPACITY: | 40 N/mt about |
| PRECISION OF DRILLING : | ±0,5mm.(up to 6 mt length bar) |
| INSTALLED POWER | 20 KW about |

- MANAGEMENT OF PROGRAMMES WILL BE EXECUTED BY CNC NUMERICAL CONTROL WILL BE STUDIED AND PREPARED CAREFULLY BY OUR ENGEENER IMAC EASY PROGRAMMING AND SUITABLE FOR STORAGE OF THE PROGRAMMES YET CARRIED OUT. CAM CONVERSION STANDARD. THE INTERFACE WITH OPERATOR WILL BE GRAPHIC WITH PC COMPLETED OF VIDEO TOUCH SCREEN, INDUSTRIAL KEYBOARD WITH POLOICARBONATE MEMBRABE.