

## INO MAKINE XP 8000 - 4 AXIS CNC PROFILE MACHINING CENTRE



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### **Description:**

Servo motor 4 Axis CNC controlled Gantry type machining centre, Bridge system supports perfect alignment of the spindle moving on the profile and 0,1mm./1m. Accuracy. Double servo motor system on both sides of the bridge makes the machine work smoothly without any vibration. 7.5 kW high speed spindle works up to 24.000 rpm and is able to work on very thick profiles from the top and all intermediate angles between 0-180 degrees. Perfect CNC Controller provides the most accurate profile machining.

**The alloys that can be processed on the machine:** Aluminium up to 20 mm wall thickness – steel up to 2 mm wall thickness – light alloys such as PVC and etc.

The XP 8000 has 8 profile clamps that are manually positioned according to the positions assigned by the CAD-CAM software. AUTOMATIC POSITIONING is optional. All clamps has rigid connection pieces and move on linear guides with bearings.

Profile processing in 4 axis is 350 mm. X 350 mm. which is a giant size, compared to the competitors.

Thanks to 8 positions tool magazine placed on the side of the machine, it is possible to carry any tool b/w 1 mm – 20 mm tool diameter and 300 mm of disc cutter. The disc cutter is vital for alu windows&doors&sliding series processing. In case the disc cutter is placed in the tool magazine, the magazine capacity falls down to 6 tools.

Waste pieces are isolated by the machine cover and extracted by the CE norm waste piece extraction conveyor belt. In this way all the waste pieces are kept in one place and there are no waste pieces stuck around the machine.

**CAD-CAM** software is specially designed for the easiest way of processing profiles. The system starts working with the import of DXF drawings of the profile that will be processed. It is extremely easy to program the profile, make demo before it works, help to work out time study and keep the work done in the HDD of the machine easily.

The TWIN working mentality makes the operator to load and offload the profiles without losing time and it increases the capacity of the machine no less than 50%.

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**Axis information:**

**X axis net processing length: 6.500mm. – Double Station**

**Y axis net processing width: 350 mm..**

**Z axis net rprocessing depth: 350 mm.**

**The body:**

Vibration free steel chasis, processed with the highest accuracy before mounting the linear accessories.

**Spindle Heads:**

7.5 kw 1.000 -24.000 rpm spindle with one inverter adjusted for any rotation speed to work in 4 Axis.

**Axis technical information:**

Gantry Type X axis is working on rack and pignon with brushless servo motors and guided by linear guides from the both endings of the bridge with **80 mt./min speed**. Servo motors are in communication to give the best accuracy.

2 Pieces servo motors working GANTRY: 2.4 kW – 10 Nm – 5.000 rpm. – with 1/10 geared 120 mm body.

Y axis is working on rack and pignon with brushless servo motors and guided by linear guides with **60 mt./min speed**. 1.6 kW – 4 Nm – 4.000 rpm. – with 1/10 geared 120 mm body.

Z axis works with a screw mill and brushless brake type servo motor with a speed of **25 mt./min**.

1.6 kW – 4 Nm – 4.000 rpm. – with 20 mm diameter 20 pitch screw mill and 1/1 reduction.

A – Axis: 0,2 kW – 1,0 Nm – 5.000 rpm. – with Cycloid Harmonic Reducer 1/120 geared zero beklasch.

All servo motors are working with **ABSOLUTE ENCODERS** so there is no need for making homing.

**Technical Parameters:**

Total installed power: 27 kW / 50A / 480V / 60 Hz.

Air pressure and air consumption: 6-8 Bar. - 90 L/min.

Net dimensions: 9.100 X 2.400 X 3.000 mm.

Packing dimensions: 9.500 X 2.300 X 2.300 mm.

Machine weight: 4.500 Kgs.





**Pneumatic Profile Clamps:**

450 mm. X 350 mm. large clamping section.

Each clamp's reference points and the clamping pistons can be removed to adjust the width.

Any kind of mould or fixture equipment can be connected easily.

Manually positioned.

Automatic positioning is optional.





**Equipment:****Reference points:**

2 pieces. For using the Machine with 2 processign stations and also for machining profiles longer than the measure. Both endings of the Machine is opened as a standard accessory.

**Profile clamps:**

8 pieces are standard. The number of the clamps can be increased up to 14 clamps optionally.

**CAD-CAM Software:**

Uni\_Link INO-OnBoard Software – 1 licance for the Machine + 1 licance for the office is included.

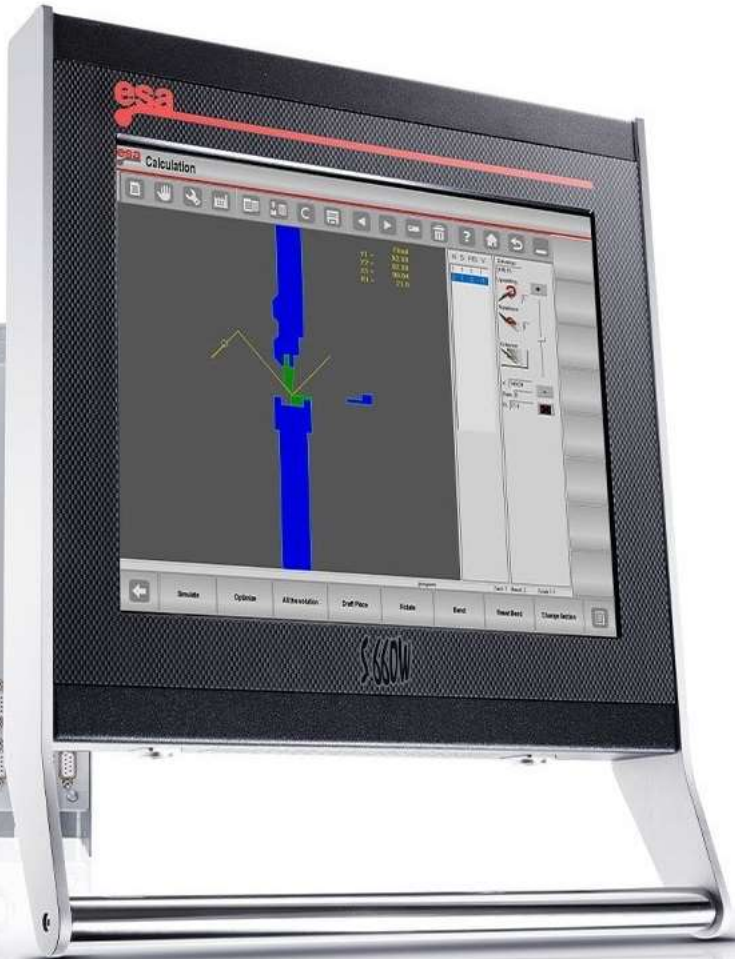
**Laser safety barriers functioning automatically according to the TWIN working cycle.**

**Spray mist cooling system with oil tank mounted on the Z axis.**

User manuals.

CE certification.





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| S 660 W                                    |
| 19" Color TFT LCD                          |
| SXGA - 1280x1024                           |
| Multitouch (PCAP)                          |
| Intel pentium Silver J5005<br>1,5 - 2,4GHz |
| 2,4GHz                                     |
| 4GBytes DDR3                               |
| Integrated Intel® UHD 605<br>18EUs         |
| 64GB Msata                                 |
| 2 x<br>10/100/1000Mbit<br>Ethernet         |
| 2 x Rs232                                  |
| 1 x DVI I<br>1 x Display Port V1.2         |
| Yes  |
| 4 x USB 2.0                                |
| Windows® 10 IOT<br>Enterprise 2016         |
| 24Vdd +/- 20%<br>- 70W                     |
| 466,4 x 391,0 x<br>71,1                    |
| +5/+40                                     |
| CE   |



## INDUSTRIAL CNC CONTROLLER – ESA AOTOMOTION – [www.esautomation.it](http://www.esautomation.it)

12 Axis RTCP (Rotation Tool Center Point) type of 4 Axis simultaneously interpolating real CNC controller. Italian technology with the software and all the hardware.

19" Touchpanel + the CNC controller + the power supply + servo motors + servo drivers with Can-Open.

Each axis has "Absolute Encoder" for avoiding the problems caused by homing and home sensors. The Machine does not need to go to home position each time the operator turns on the Machine.

All power & encoder cables, driver mounted motor communication cables and all motor sockets are designed by ESA to be complete problem free and for perfect communication of the axis.

Movable CNC controller terminal mounted on the Machine body with the PC + keyboard + Mouse + operator buttons embedded on.

Licensed Windows 10

Electric system and the cabinet with the cooling system. A/C is optional.

Easy to get support over teamviewer connection.

AC Inverter for adjusting the speed of the spindle 0-24.000 rpm.

Automatic tool measurement probe

Handwheel

Dry run

Changing the home position

**Tool Changer Magazine:**

The capacity is in total 8 places.

8 standard ISO30 or HSK-F63 tool holders + 1 disc cutter with maximum diameter of 300 mm.

Placed inside the Machine cover, in front of the spindle not to loose time during the tool change.

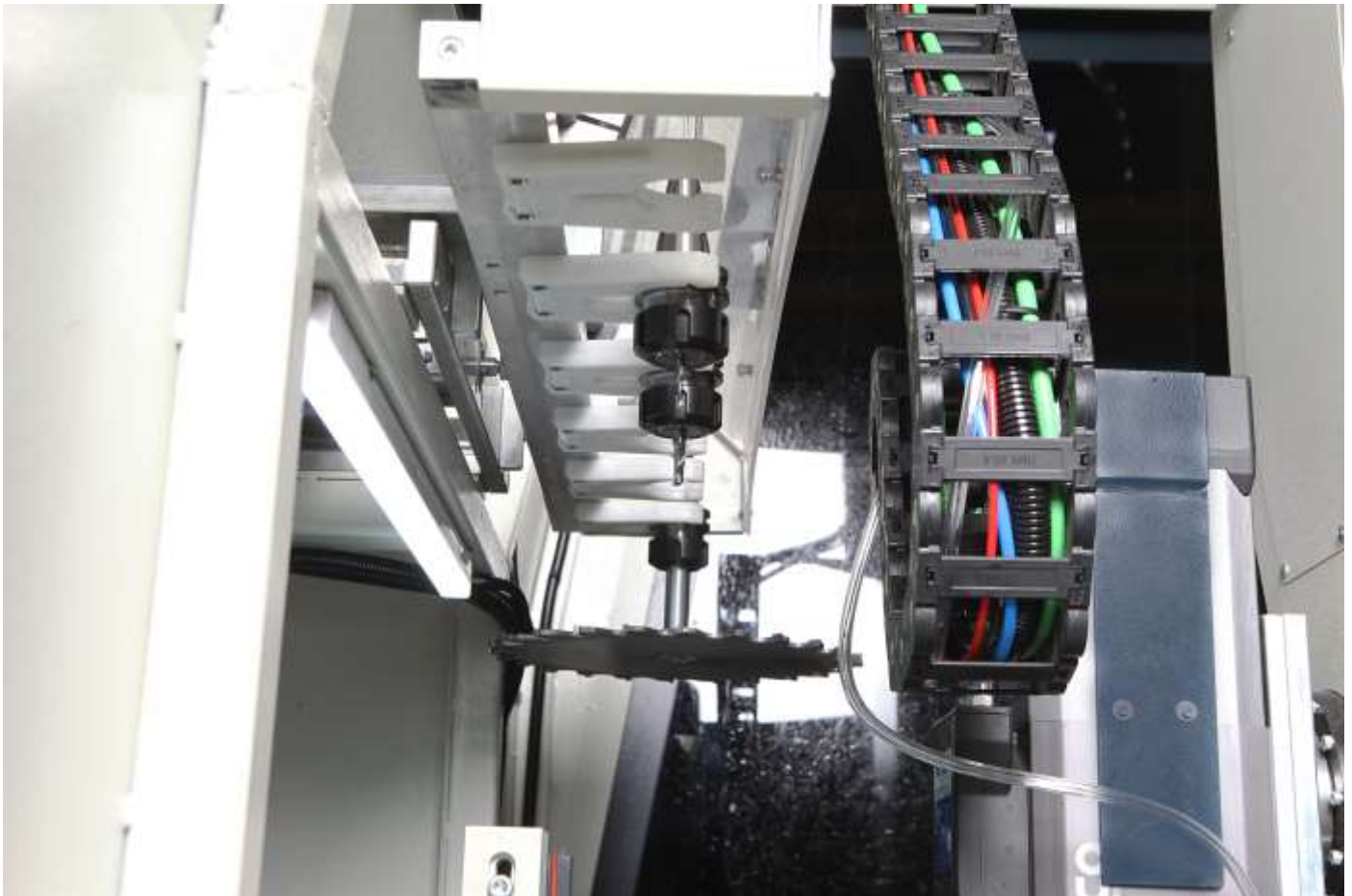
Maximum disc cutter diameter 350 mm.

Maximum tool size 200 mm.

Magazine cover pneumatically opening and closing to keep the tools clean from swarf.

**Optional:**

Bigger tool changing magazine for 11 tool places.



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**Air Cooling electrospindle:**

High speed spindle with ceramic bearings.

Standard ISO 30; optionally HSK F-63

Air cooling system.

Spindle Power: 7.5 kW in S6 and 6.6 kW in S1

Spindle Torque: 5.9 Nm in S6 and 5.3 kW in S1

Spindle rotation: 24.00 rpm (adjustable between 0-24.000)

Tool Holder Set - Optional

Collet Set - Optional

Cutter set - Optional

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**Liquid Cooling electrospindle:**

High speed spindle with ceramic bearings.

Standard HSK F-63

Liquid cooling system thanks to chiller placed beside the Machine.

Spindle Power: 10.0 kW in S6 and 8.5 kW in S1

Spindle Torque: 8.0 Nm in S6 and 6.8 kW in S1

Spindle rotation: 24.00 rpm (adjustable between 0-24.000)

Tool Holder Set - Optional

Collet Set - Optional

Cutter set - Optional

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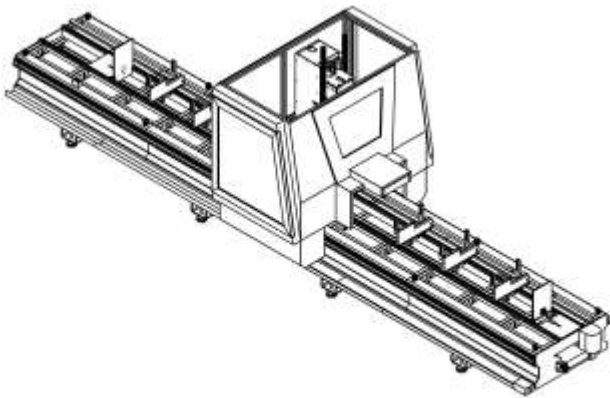
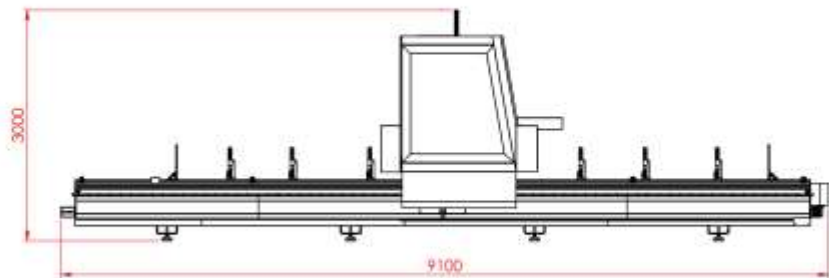
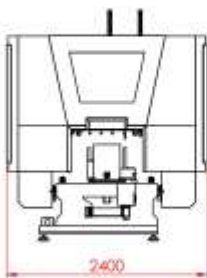




**PROFILE PROCESSING DIMENSIONS ACCORDING TO THE CLAMP TYPES AND SPINDLE TYPES:**

**STANDARD INO CLAMPS**

| Machine Model | tool height | Profile machining width from the top + the back | Profile machining width from the top + the back + the front | Profile Machining Height |
|---------------|-------------|---|---|--------------------------|
| XP 8000       | 45 mm.      | 350 mm.   | 350 mm.   | 350 mm.                  |
| XP 8000 - LQ  | 45 mm.      | 500 mm.   | 500 mm.   | 350 mm.                  |



4000 kg



## UNI LINK 3D CAD-CAM:

- Design, R&D and application are carried through the vast experience of ino machinery team and Uni\_Link engineers.
- The perfect optimization of economic profile working in 3,4 and 5 Axis.
- Importing of DXF files and converting them to 3D images.
- Generating G-codes over the DXF files.
- Understanding of the operations on the DXf files and auto-tooling
- Also available in Office version with a perfect simulation interface, so that the one working at the Office will also prepare the profile machining programs just like he is beside the machine.
- Incredibly user friendly for the operator and also for the Office responsible who will prepare the machining files in the Office.
- CNC clamp management and collision control.
- Auto positioning of the profiles on the clamps according to the operations on the profiles.
- Macro creation for each operation and placing them on the profile automatically.
- Independent from the size of the profile it is possible to place any operation on the same profile in different length parametricly.
- All the profiles that will be machined, will be listed on the machine HMI and operator will only have to press the start button.
- Ability to work with all Windows and Doors production softwares like Schücal or Orgadata or similar.
- Ability to prepare cut-list optimization for the double mitre saw and import in .csv format. Optionally barcode generation from the cutting machine and reading by the machining center is available.
- This software is the most user friendly software in the market and also the richest one in terms of capabilities.

The screenshot displays the Uni\_Link 3D CAD-CAM software interface. At the top, there is a menu bar with options like 'Openen...', 'Opslaan als...', 'Profielen', 'Gereedschap', 'Tool Store', 'F3', 'Edit Parameters', 'Multi-piece', and 'Place-mode'. Below the menu is a table with the following columns: #, Serie, Profile, Color, Length, Id, Left Angle (H), Right Angle (H), Left Angle (W), Left Angle (W), Todo, Done, Tool Status, and Cla... The table contains 7 rows of data for different profiles. Below the table is a 3D simulation of a profile being machined, showing four zones (Zone 1 to Zone 4) with corresponding tooling and clamping mechanisms. The simulation shows the profile being cut into segments, with a coordinate X=108281 visible.

| # | Serie  | Profile | Color                                  | Length | Id | Left Angle (H) | Right Angle (H) | Left Angle (W) | Left Angle (W) | Todo | Done | Tool Status | Clas... |
|---|--------|---------|--|--------|----|----------------|-----------------|----------------|----------------|------|------|-------------|---------|
| 1 | SOHUCO | 372220  | rienwit structuur/zijdegrijs structuur | 2385   | 1  | 90             | 90              | 90             | 45             | 1    | 0    | 011/012 OK  | 1       |
| 2 | SOHUCO | 372220  | rienwit structuur/zijdegrijs structuur | 2385   | 2  | 90             | 90              | 45             | 90             | 1    | 0    | 013/014 OK  | 2       |
| 3 | SOHUCO | 372220  | rienwit structuur/zijdegrijs structuur | 1030   | 3  | 90             | 90              | 45             | 45             | 1    | 0    | 004/004 OK  | 1       |
| 4 | SOHUCO | 395530  | rienwit structuur/zijdegrijs structuur | 2318   | 4  | 90             | 90              | 45             | 45             | 1    | 0    | 009/010 OK  | 1       |
| 5 | SOHUCO | 395530  | rienwit structuur/zijdegrijs structuur | 2318   | 5  | 90             | 90              | 45             | 45             | 1    | 0    | 025/026 OK  | 2       |
| 6 | SOHUCO | 395530  | rienwit structuur/zijdegrijs structuur | 932    | 6  | 90             | 90              | 45             | 45             | 1    | 0    | 004/004 OK  | 1       |
| 7 | SOHUCO | 395530  | rienwit structuur/zijdegrijs structuur | 932    | 7  | 90             | 90              | 45             | 45             | 1    | 0    | 004/004 OK  | 1       |

C:\Urn\_Link\Macros\VB\Macro1.mcr

Macro List Utils ?

Select machining

Hole    ← Vector  
 Slot        | XVec  
 Rectangle    + = Copy To...  
 Cylinder    + = LxR  
 Blade

FLM Figure

|          |              |                     |               |                   |                   |                 |                   |               |               |            |               |            |               |     |             |  |  |  |  |
|----------|--------------|---------------------|---------------|-------------------|-------------------|-----------------|-------------------|---------------|---------------|------------|---------------|------------|---------------|-----|-------------|--|--|--|--|
| Profile: | PSerial = 18 | PProfile = 02002465 | PLength = 600 | PWidth = 63.01    | PHeight = 97.54   | PAngle = 90     | PRAngle = 90      | PURAngle = 90 | PRWAngle = 90 |            |               |            |               |     |             |  |  |  |  |
| EL       | X1 = 0.000   |                     |               |                   |                   |                 |                   |               |               |            |               |            |               |     |             |  |  |  |  |
| V1       | V1Width = W  | V1Height = H-47     | V1Angle = 0   | V1DepthFrom = 2   | V1DepthTo = -20   | V1DepthStep = 2 |                   |               |               |            |               |            |               |     |             |  |  |  |  |
| V2       | V2Width = B  | V2Height = H-16     | V2Angle = 90  | V2DepthFrom = 2   | V2DepthTo = -12   | V2DepthStep = 1 |                   |               |               |            |               |            |               |     |             |  |  |  |  |
| V3       | V3Width = 0  | V3Height = H-47     | V3Angle = 180 | V3DepthFrom = 2   | V3DepthTo = -34   | V3DepthStep = 2 |                   |               |               |            |               |            |               |     |             |  |  |  |  |
| MH1      | MTool = FX   | X1Cent = 0          | V1            | MHoleDiam = 34    |                   |                 |                   |               |               | MH1        | MEmpty = 0    | MGroup = 0 | MPriority = 0 | MH1 | V1CarrW = 0 |  |  |  |  |
| MC1      | MTool = FX   | X1Cent = -92        | V1            | MCVMaxDiam = 17.5 | MCVMinDiam = 10.5 | MCVLength = 34  | MCVRotation = 180 | MC1           | MEmpty = 0    | MGroup = 0 | MPriority = 0 | MC1        | V1CarrW = 0   |     |             |  |  |  |  |

C:\Urn\_Link\Lists\140226.lst

Macro List Utils ?

Preview

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SEHUCO | 173270 | r1newst structuur/afgedr1js structuur | 130113 | 02-A.0.2 | | |
  > + 1500 | 1 | 90 | 50 | 90 | 45 | 1 | 130113 | 02-A.0.2 | KD 2 | |
  > + 2300 | 1 | 90 | 50 | 90 | 45 | 2 | 130113 | 02-A.0.2 | KD 4 | |
  > + 2300 | 1 | 90 | 50 | 90 | 45 | 2 | 130113 | 02-A.0.2 | KD 4 | |
  > + 1500 | 1 | 90 | 50 | 90 | 45 | 2 | 130113 | 02-A.0.2 | KD 2 | |
  > + 1030 | 1 | 90 | 50 | 45 | 45 | 2 | 130113 | 02-A.0.2 | KD 3 | |
SEHUCO | 190510 | r1newst structuur/afgedr1js structuur | 130113 | 02-A.0.3 | | |
  > + 1500 | 1 | 90 | 50 | 90 | 45 | 4 | 130113 | 02-A.0.2 | KD 1-4 | |
  > + 2318 | 1 | 90 | 90 | 45 | 45 | 5 | 130113 | 02-A.0.2 | KD 1-2 | |
  > + 2318 | 1 | 90 | 90 | 45 | 45 | 5 | 130113 | 02-A.0.2 | KD 1-2 | |
  > + 1500 | 1 | 90 | 50 | 90 | 45 | 7 | 130113 | 02-A.0.2 | KD 1-3 | |
  > + 931 | 1 | 90 | 90 | 45 | 45 | 6 | 130113 | 02-A.0.2 | KD 1-1 | |
  > + 932 | 1 | 90 | 90 | 45 | 45 | 7 | 130113 | 02-A.0.2 | KD 1-3 | |
  
```

X=103373