

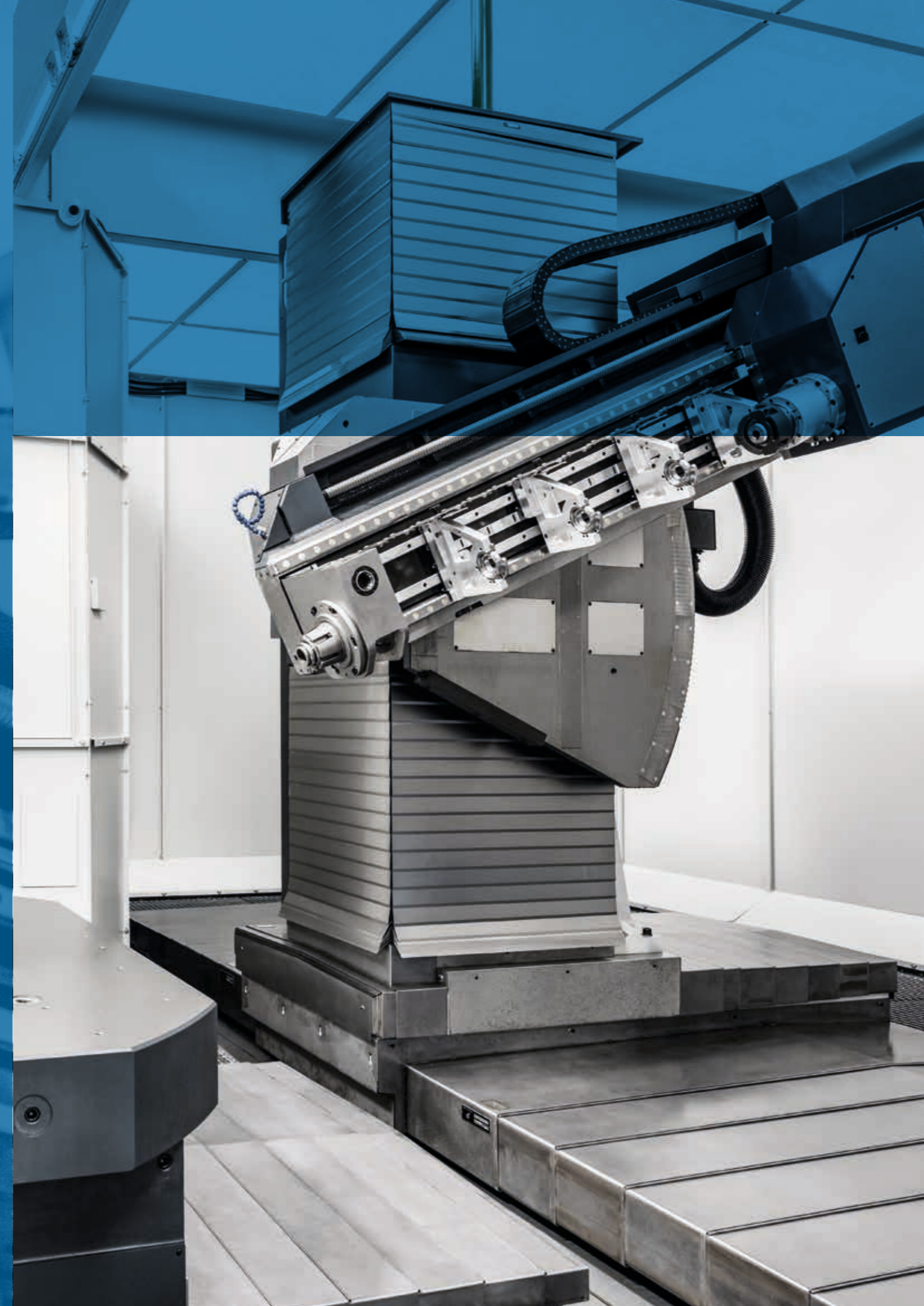


# CHETO<sup>®</sup>

CNC DEEP HOLE DRILLING WITH MILLING

[www.cheto.eu](http://www.cheto.eu)

IXN Series 6 and 7 Axes



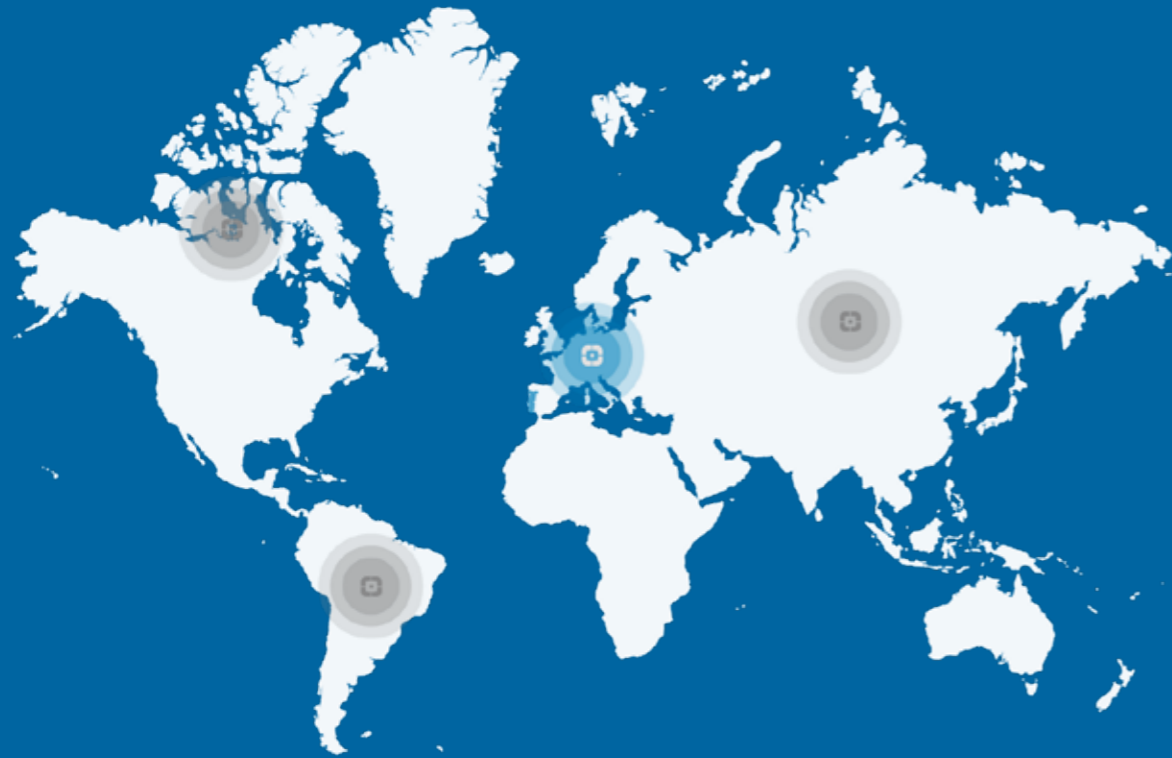
# Location

CHETO TECHNOLOGICAL CENTER:

Área de Acolhimento Empresarial  
UI-Loureiro, Lotes 13-21  
3720-070 Loureiro, Oliveira de Azeméis  
Portugal  
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WORLDWIDE PRESENCE

DEEP SOLUTIONS  
INNOVATIVE CONCEPT  
TO OPTIMIZE  
DEEP HOLE DRILLING,  
STANDARD DRILLING  
AND MILLING



inovadora'21



# CHETO<sup>®</sup>

## CNC DEEP HOLE DRILLING WITH MILLING

### INNOVATIVE machine tools

CHETO was officially established in 2009, when the founders started a project to fully develop a deep hole drilling and milling machine-tool up to 7-axis, specialized for the mold making and energy industry.

Since then, a continuous improvement and investigation allowed CHETO to offer the market a versatile product with high levels of accuracy and reliability.

This concept quickly positioned CHETO as a world-renowned brand. With machines sold in four continents, it is our goal to keep improving and innovating, to offer a highly competitive and value-creating product.





# Technical Data

|                                 | 1000             |                | 2000             |                | 3000             |                |
|---------------------------------|------------------|----------------|------------------|----------------|------------------|----------------|
| <b>CNC Axis</b>                 |                  |                |                  |                |                  |                |
| W drilling one stroke           | 1700 mm          | 67 in          | 1700 mm          | 67 in          | 1700 mm          | 67 in          |
| X longitudinal travel           | 1000 mm          | 39.4 in        | 2000 mm          | 78.7 in        | 3000 mm          | 118.1 in       |
| Y vertical travel               | 1000 mm          | 39.4 in        | 1200 mm          | 47.2 in        | 1200 mm          | 47.2 in        |
| Z cross travel                  | 800 mm           | 31.5 in        | 800 mm           | 31.5 in        | 800 mm           | 31.5 in        |
| B table rotation                | 360°             |                | 360°             |                | 360°             |                |
| A tilting rotation              | +35°/-25°        |                | +35°/-25°        |                | +35°/-25°        |                |
| <b>Drilling capacity</b>        |                  |                |                  |                |                  |                |
| Max. drilling stroke W+Z        | 1700+800 mm      | 67+31.5 in     | 1700+800 mm      | 67+31.5 in     | 1700+800 mm      | 67+31.5 in     |
| Drilling capacity               | ø5-40 mm         | ø0.2-1.58 in   | ø5-40 mm         | ø0.2-1.58 in   | ø5-40 mm         | ø0.2-1.58 in   |
| <b>Milling capacity</b>         |                  |                |                  |                |                  |                |
| Milling                         | 300 cm³/min      | 18.3 in³/min   | 400 cm³/min      | 24.4 in³/min   | 500 cm³/min      | 30.5 in³/min   |
| Rigid tapping                   | M30              |                | M32              |                | M34              |                |
| Helical threading               | Standard         |                | Standard         |                | Standard         |                |
| <b>Spindle</b>                  |                  |                |                  |                |                  |                |
| Spindle taper                   | ISO 50 DIN 69871 |                | ISO 50 DIN 69871 |                | ISO 50 DIN 69871 |                |
| Speed                           | 0-6000 rpm       |                | 0-6000 rpm       |                | 0-6000 rpm       |                |
| Power                           | 15/25 kW         | 20/33 hp       | 20/30 kW         | 26/40 hp       | 24/38 kW         | 32/51 hp       |
| Torque                          | 134/223 Nm       | 99/165 ft-lbs  | 178/267 Nm       | 131/197 ft-lbs | 214/338 Nm       | 158/249 ft-lbs |
| <b>Automatic rotary table</b>   |                  |                |                  |                |                  |                |
| Table size                      | 1300x1300 mm     | 51.2x51.2 in   | 1600x1300 mm     | 63.0x51.2 in   | 1800x1800 mm     | 70.9x70.9 in   |
| Resolution                      | 0.001°           |                | 0.001°           |                | 0.001°           |                |
| Max. load in rotation           | 10 Ton           | 22,047 lbs     | 20 Ton           | 44,093 lbs     | 30 Ton           | 66,139 lbs     |
| <b>Layout dimensions</b>        |                  |                |                  |                |                  |                |
| Total weight                    | 29 Ton           | 63,934 lbs     | 34 Ton           | 74,957 lbs     | 39 Ton           | 85,980 lbs     |
| Total weight <sup>1</sup> GDATC |                  |                | 40 Ton           | 89,600 lbs     | 45 Ton           | 100,800 lbs    |
| <sup>2</sup> Foot print (WxL)   | 7140x5760 mm     | 281.1x226.8 in | 8690x6160 mm     | 342.1x242.5 in | 9520x7410 mm     | 374.8x291.7 in |

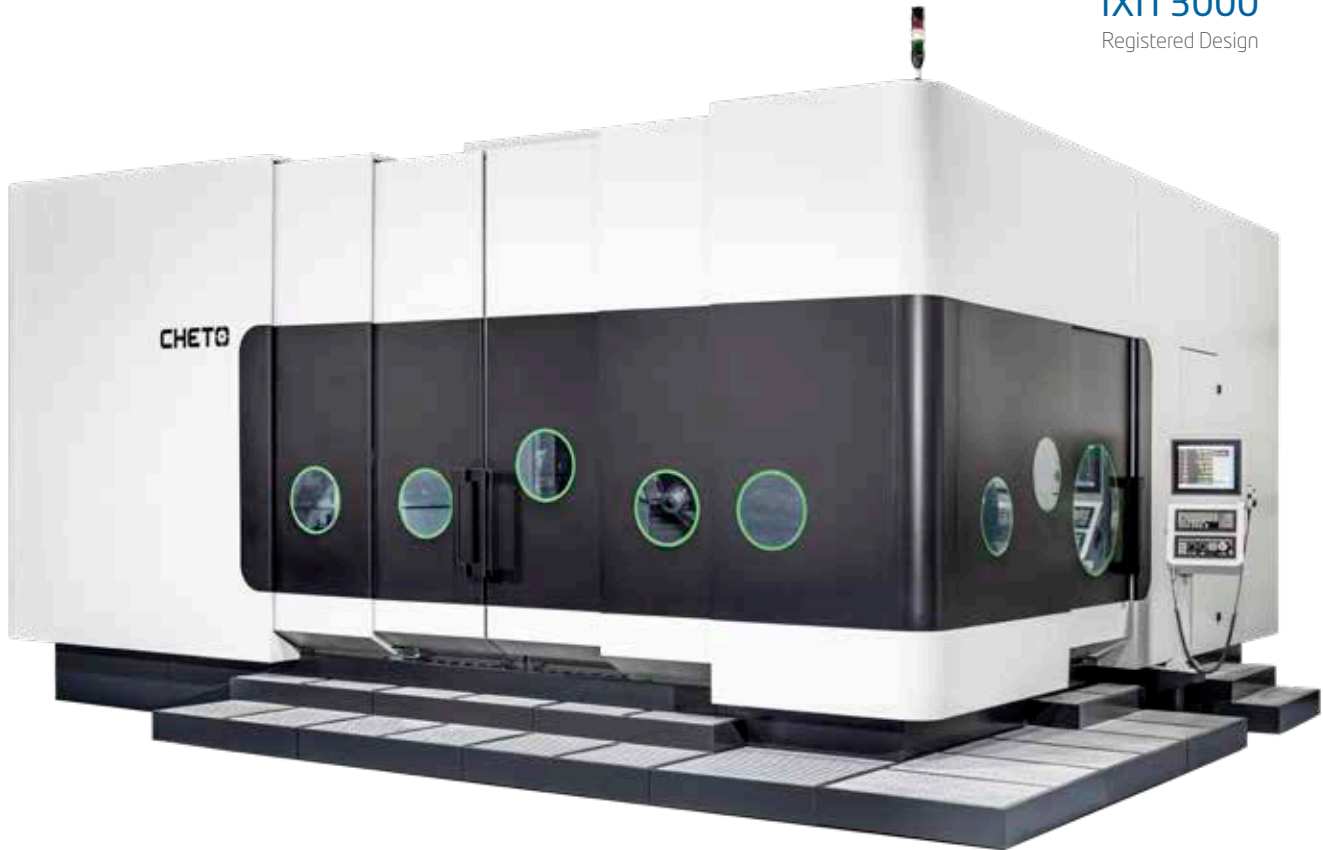
<sup>1</sup>GunDrill Automatic Tool Changer

<sup>2</sup>Approximated values, it depends on the final machine configuration

# IXN 1000 | 2000 | 3000 | 4000\*

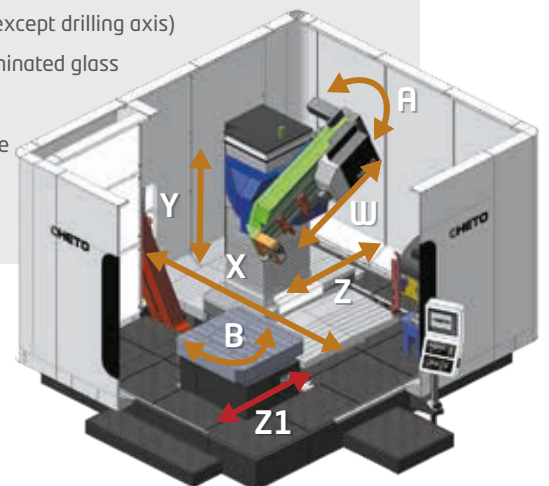
— 6 AXES — 7 AXES

IXN 3000  
Registered Design



## STANDARD EQUIPMENT

- CNC HEIDENHAIN TNC 640
- CNC FAGOR 8065 as optional equipment
- CNC SIEMENS SINUMERIK ONE as optional equipment
- Electronic handwheel
- Digital drives
- Nitrogen double counterweight
- Absolute linear encoders in axes X, Y and Z
- Absolute angular encoders in axis A and B
- Automatic chip conveyor
- Kinematics / RTCP
- Rigid tapping
- Quick change between drilling/milling
- Coolant tank with automatic filtering
- Submerged pumps for oil recirculation
- High-pressure pump up to 80 bar, 100 l/min | 1,160 psi, 26.5 gal/min
- Telescopic covers in all axes (except drilling axis)
- Complete cover with doors, laminated glass windows and acrylic ceiling
- Automatic Gundrill Tool Change as optional



\*Data to be provided on request

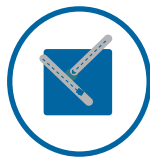


### ADAPT MACHINING PARAMETERS ONLINE

- Spindle torque
- Feed
- Coolant pressure
- Coolant flow
- Vibration



TWO CONTROL OPTIONS



### INTERSECTION

The system automatically detects intersections in the process and sets the parameters accordingly to keep the quality of the operation and to protect the tool lifetime.

### PROCESS

The system detects variations of the efforts of the process and automatically adjust the drilling parameters online to keep a continuous process.



INTERFACE REQUIREMENTS

HEIDENHAIN  
TNC 640

SIEMENS  
SINUMERIK ONE

FAGOR  
CNC 8065



END OF EXTRAORDINARY COSTS



### END OF EXTRAORDINARY COSTS OF NONCONFORMANCE

The diversity of operations, the lack of raw materials homogeneity, the deficient parameter settings, and intersection holes often lead to the reduction of the tool lifetime. As hole intersections are a constant matter on mold making, and considering the difficulty of these operations, it's common to have problems on final results as unexpected hole drifts, premature tool wear or tool break.

ATC GUNDRILL  
UP TO 5 TOOLS



W AXIS = 1700 mm | 67 in  
UP TO = 2100 mm | 82.7 in

TILTING = +35°/-25°

Y AXIS = 1200 mm | 47.2 in  
OPTION = 1500 mm | 59.0 in

SPINDLE GEARBOX



X AXIS  
UP TO 4000

ATC 40/60 TOOLS  
L = 300/600 mm  
11.8/23.6 in



TABLE SIZE  
ACCORDING TO CLIENT SPECIFICATIONS  
UP TO 40 Ton | 88,185 lbs

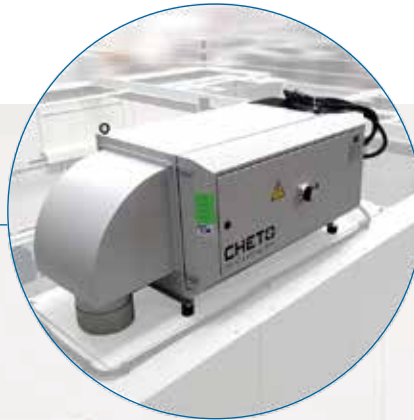
Z AXIS = 800 mm | 31.5 in

OPTION Z1 AXIS = 700 mm | 27.6 in  
UP TO 1900 mm

ATC UP TO 120 TOOLS  
L = 600 mm | 23.6 in



\*AIR CLEANING UNIT



PAPER FILTRATION SYSTEM



\*IMMERSION CHILLER FOR OIL/EMULSION



**FILTER UNIT**  
2000 / 3000 L  
528 / 793 gal





**HIGH-PRESSURE PUMP**  
80 bar 100 l/min | 1,160 psi, 26.5 gal/min  
others upon request



**\*COOLING UNIT**  
AC TO COOL THE ELECTRICAL CABINET



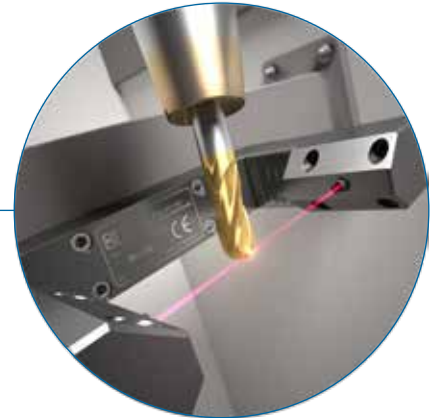
Registered Design

**EASY ACCESS TO THE  
ELECTRICAL CABINET**



**CHIP CONVEYOR**

\*LASER MEASURING SYSTEM  
BLUM MCA7



\*ELECTRIC PROBE  
BLUM TC60



\*TOOL CABINET



\*CHETO RE100  
GUNDRILL GRINDER Ø5-32 mm | Ø0.2-1.26 in



# OUR PRODUCTS & DESIGN



**CCN MODEL**

1000

5 Axes

**PWN MODEL**

1000 / 2000 / 3000



**IXN MODEL**

1000 / 2000 / 3000 / 4000

6 & 7 Axes



**SIC MODEL**

650 / 1000

6 Axes with Gun Drill Arm

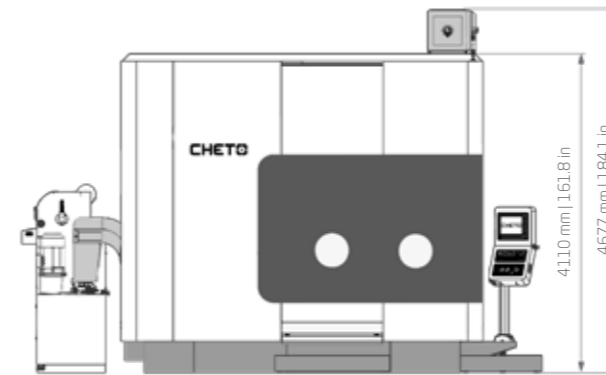
- Efficient **Deep Hole Drilling** with **Milling** for **Small Size Parts**
- Working **5 Faces** on a **Single Setup**
- **3+2 milling / 5 axes**
- **No Angle Limitation**



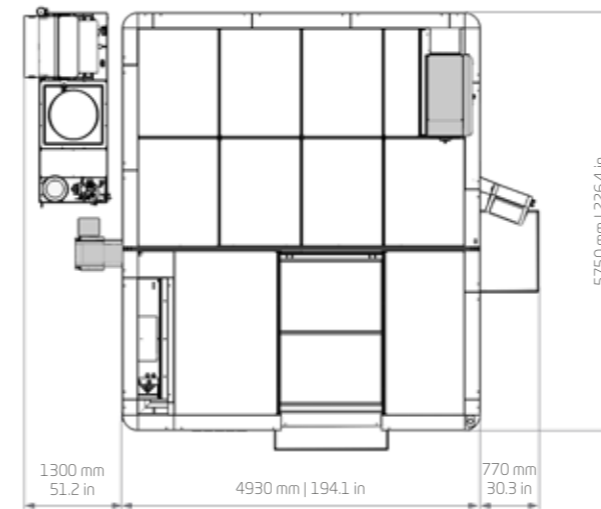
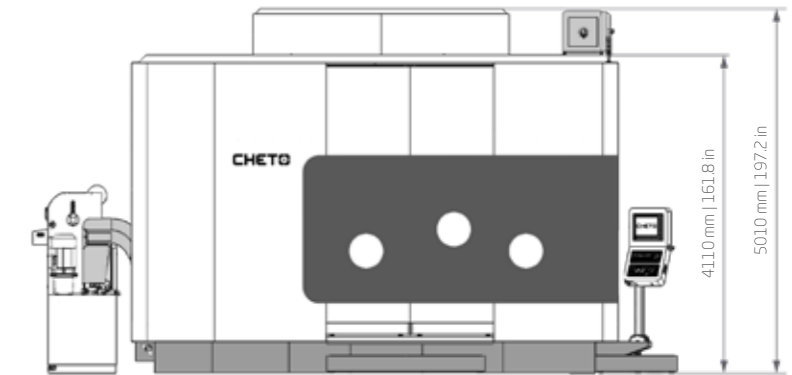
Registered Design

# FOOT PRINT IXN MODELS

\*IXN1000



\*IXN2000

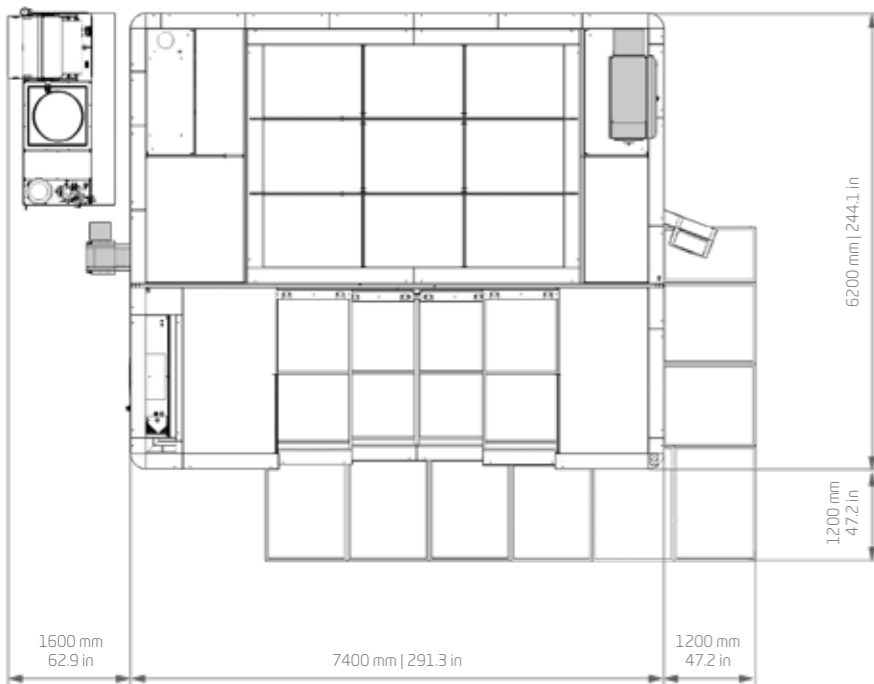
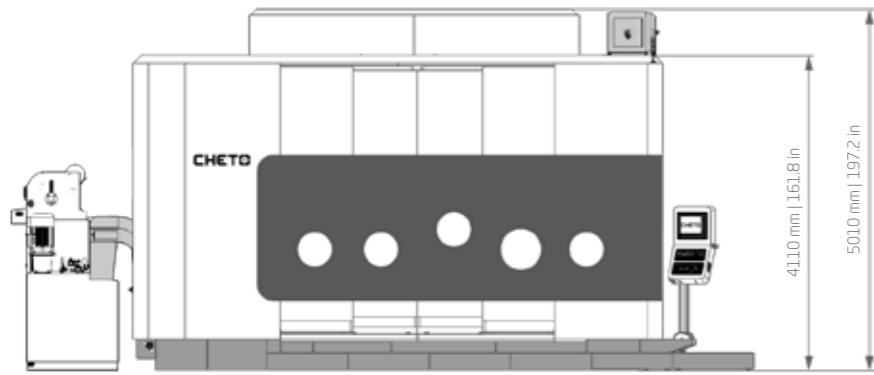


\* Dimensions are subjected to modifications depending on the selected optional equipments



Registered Design

\*IXn3000 —



\* Dimensions are subjected to modifications depending on the selected optional equipments

Registered Design



**CHETOCORPORATION, S.A.**

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