VAN
Precision Engineering

SMART SERIES

SMART12 V7 | SMART16 V7 | SMART20 V7
SMART12 V8 | SMART16 V8 | SMART20 V8

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www.vanmachinery.com


VAN
Precision Engineering

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Precision Engineering

Dear Industrialists;

We, VAN CNC Takım Tezgahları A.Ş. manufacture high precision CNC sliding head lathe machines. We started this production with four models in 2019, and we continue to 2023 with 10 machine models and more than a hundred happy customers.

With Fully equipped machines with high precision, innovative solutions and user-oriented innovations we offer to our users, VAN CNC has become one of the world's best machine manufacturers.

The most important thing that has led to success on this adventure, we are working together with a team of specialist is that we produce high precision machine tools that eliminate the problems experienced by users with the machine tools, bringing innovative solutions to their needs because of our 15 years experience at CNC sliding head lathes. I would say to proudly that we have a professional team that has adopted the principle of not only producing machines for you, but also providing precise engineering services that produce fast and permanent solutions to the production problems you encounter today and tomorrow.

Our main technology and most distinctive characteristic in our CNC sliding head lathes that we produce slant bed dovetail slide structure in all versions with hand-made scraping method. Also, we produce our own high precision spindles under the supervision of experienced quality control department in our factory. As you know, this precision process of production requires experience and knowledge at a very difficult and controlled method of production. Because of the efficiency of this process, we are able to manufacture our high precision and rigid machines, offering them all over the world with confidence and pride.

We will increase our production capacity in 2023 by completing the construction new production area with a total covered area of 10.000 m2 end of this year. Also, our target having a 60.000 m2 total production area with an annual production capacity of 1000 machines by the end of the 5th year.

As a principle, we allocate minimum 25% of our annual budget to our R&D department for innovative design and development processes. As it is, along this way we started with four model in 2019, now we have two machine series and totaly ten models. Additionally, in 2024, we will continue to offer you for your manufacture solutions of complicated and small parts which require multiple axes with two new series, Prime(12-Axis) and Micro 7...

We, VAN CNC, are proud to announce that we receive great interest from Europe and other countries as evidenced by increased number of customers worldwide and we will start exporting to many countries in the Americas in 2024.

As VAN CNC, we are now among the best brand in the sector with our high precision, fully automatic and fully equipped Cnc sliding head lathes, providing solutions to users with 100% customer satisfaction.

We are proud and happy to present you Van Sliding Head Lathes...

Yours sincerely,
Fatih VAN

Fatih Van

WHY **VAN SMART ?**

- The carrier skids have a **Dove Tail Slide**
- 6 foot touches ground and **Rigidity Main** body structure
- **THK, NSK** brand C3 class precision ground ball screws
- **THK, NSK** brand LM Guide and Block
- VAN's special interface with Industry 4.0 support.

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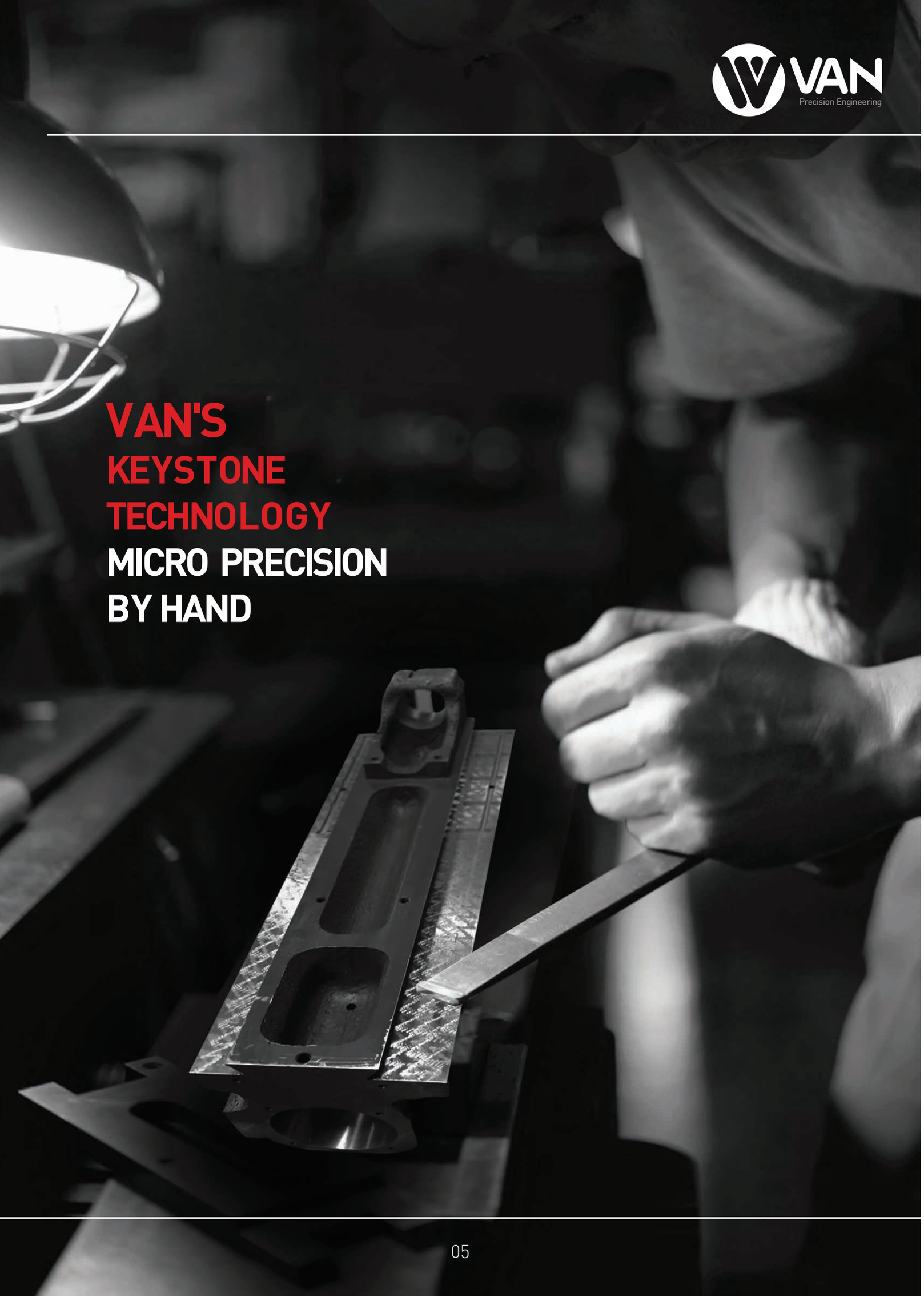
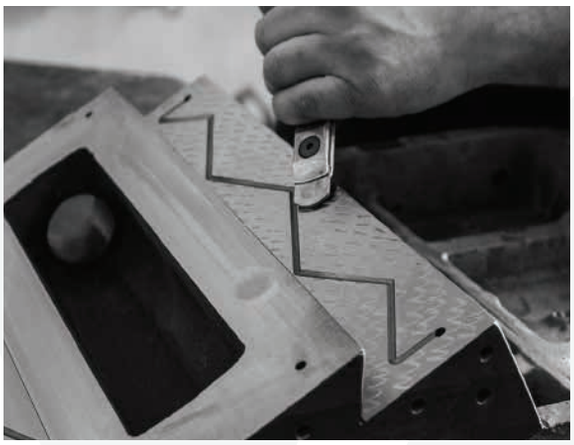


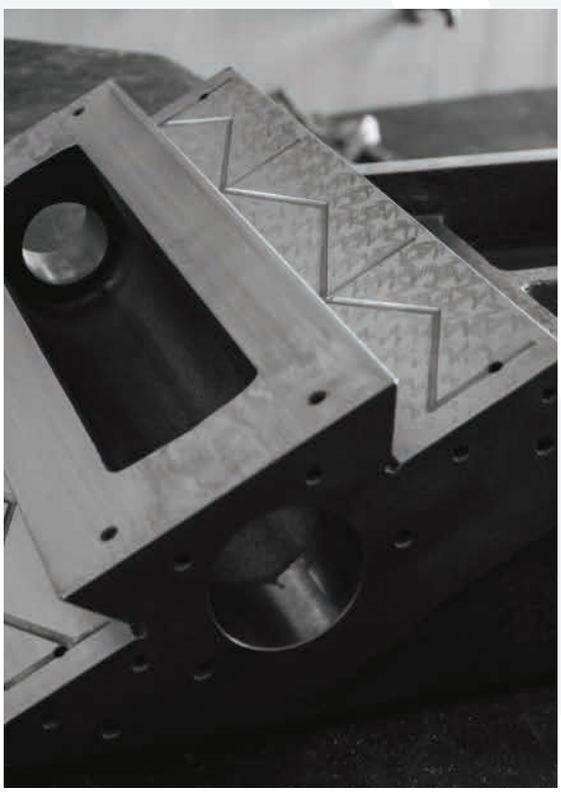
VAN'S KEYSTONE TECHNOLOGY

MICRO PRECISION BY HAND

Precision that forms the basis of scraped slide scraping operation and extra added to the Machine Abilities:



The Scraped slide are an important part of which VAN is proud. technology field. The extraordinary vibration of these slide its absorbition properties, only hard turning By providing the robustness required for the cutting operations, In this feature, the tools give us the vibration to minimal values.
a robust body and high It has enabled us to obtain precision part surfaces. In the scraping process, the slides controls the contact areas by applying red or blue paint the scraping press press on their surface takes up to 2 micron shavings per minute. Complete a single slide depending on the moving distance of the machine, it can take up to 7 to 8 hours. dovetail slides, single in order to create an axis, two contact surfaces are scraping on each side, which makes a total of four it means that the location must be scraped. Here are all the professional technicians in the field they assume responsibility for Scraping surfaces and eliminate any individual differences in order to lift, the required thrust and pull forces are measured by torc meters when scraping heat is performed. it is ensured to be among the desired standard tolerances. So although scraping processes are human although it is made by hand, all products come out within the established standards.



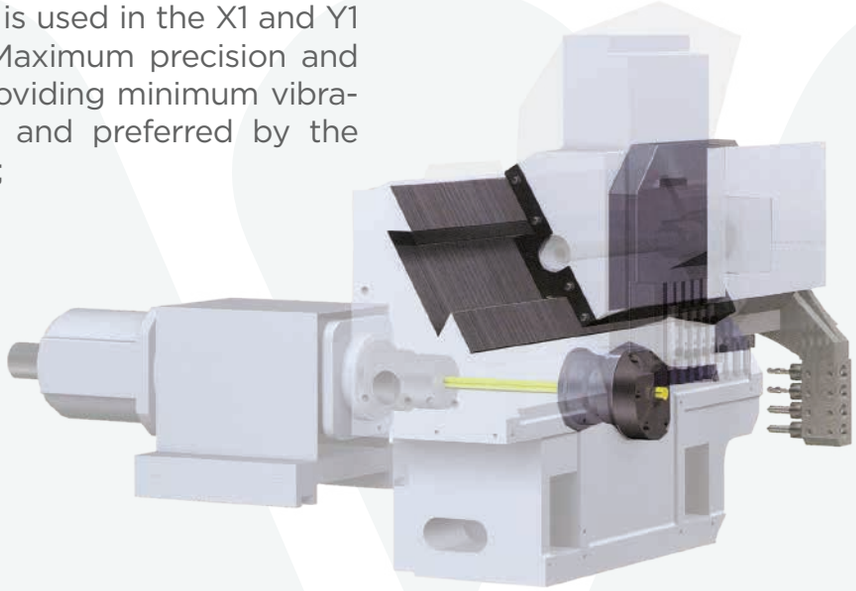
Exceptional Ease of Maintenance

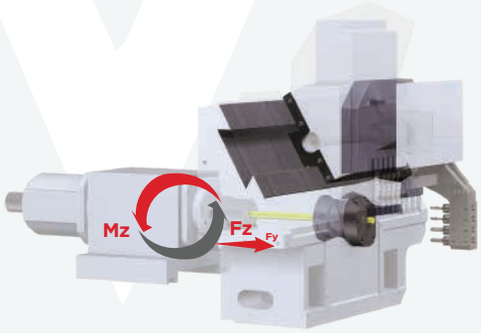
Ease of maintenance, scraped dovetail slide its basic feature is. worked time and work in linear slides depending on their distance, they hang up and slide and linear block the set must be changed. It is also expensive and repaired it's a long operation. Of course, this change the detection stage of the process until the last degradation of surface qualities in time and part cause inconsistency in geometric values on it will be. On the other hand, the scraped dovetail slide type even the guards on the slide make simple adjustments, 10 over years of high precision machining and you can maintain the rigidity levels....

SLANT BED DOVETAIL STRUCTURE

Slant Bed DOVETAIL slide structure is used in the X1 and Y1 Axes of the Carrier that provides Maximum precision and balanced power are achieved by providing minimum vibration , loading with zero clearance and preferred by the world's best machine manufacturers;

10 YEAR DOVE TAIL WARRANTY





The charge comparison of rotation force caused by cutting force

The moment load applied to the Fy by cutting force is the combined M1 and M2 load is My. The My of the slant type is the smallest when compared to that of the vertical type and horizontal type.

Slant type My;1
Vertical type My;1,3
Horizontal type My;1 ,9

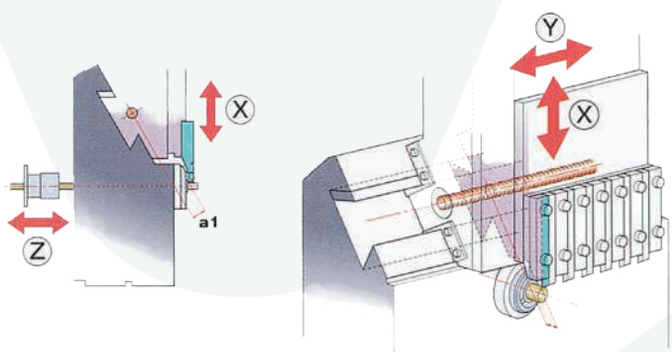
Mz: M1+M2

Smart series tool posts use slant-type friction slide structure. In this way, it provides high rigidity to the machine radially at the cutting points of the x and y axes. By positioning the ball screw axes closest to the cutting point, it reduces the moment load on the tool posts in the Y and Z axes and increases the rigidity of the tool posts. Thanks to Smart's original tool structure, tool life and stable accuracy are continuously ensured during the machine working process.

The rotational force comparison caused by push force

As for the feed force Fz, the moment load Mz of the slant type is the smallest when compared to that of the vertical type and horizontal type.

Slant type My;1
Vertical type My;1,3
Horizontal type My;1 5



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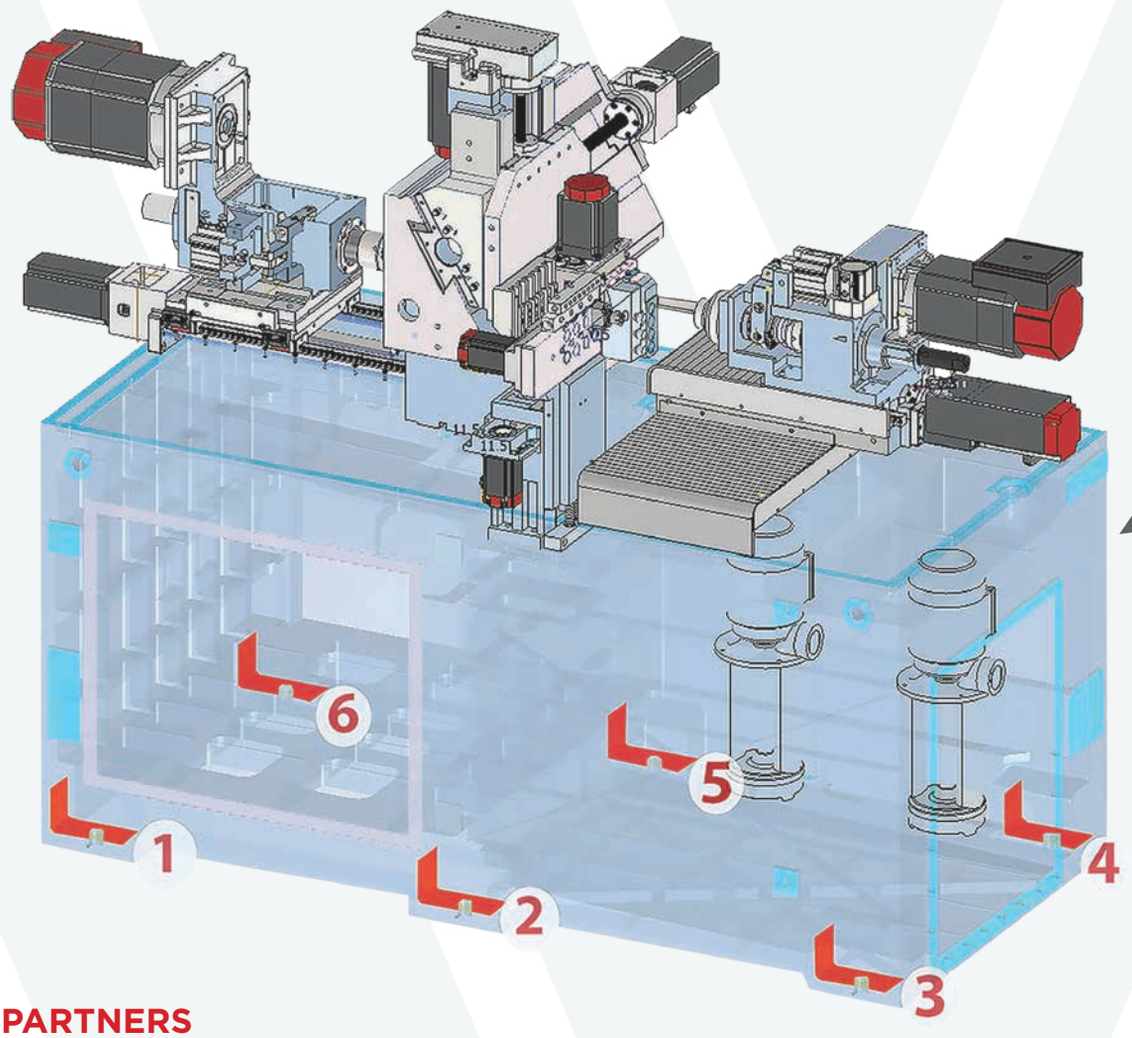
It has the feature of being a rigidity, special design with facilitates oil flow in main body that touches the ground from 6 feets and **2930 kg** weight.
The main body structure is designed with best-in-class components for providing maximum rigidity and continuous high precision.

HIGH RIGIDITY MACHINE STRUCTURE



BASIC PARTNERS

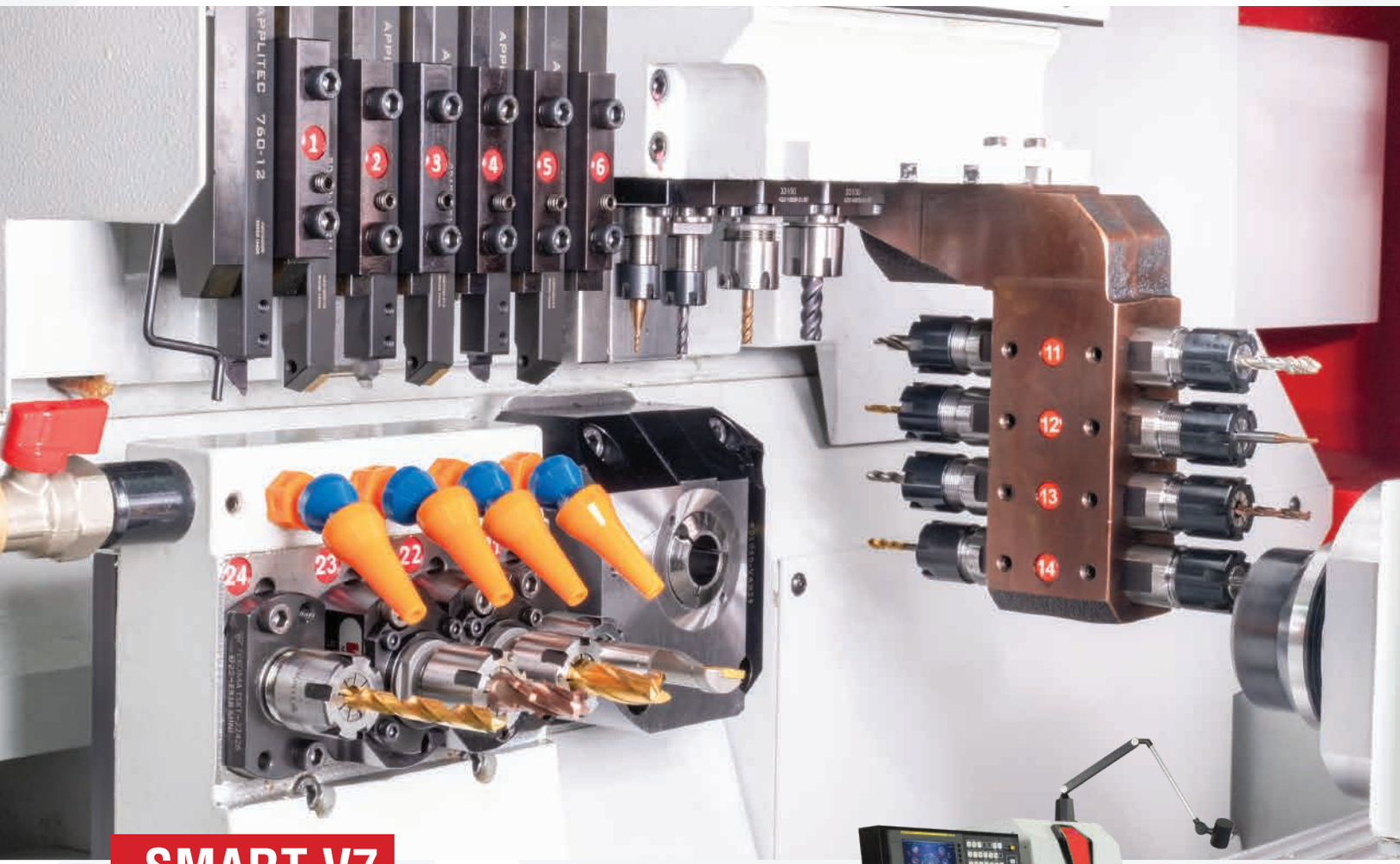
1 FANUC (Japan)
0i-TF Plus series is used

2 NSK, THK (Japan)
Lineer Skids and **LM Gruides** are used

3 NSK, THK (Japan)
All **ball screws** used are precision-engineered and selected as Class C3

4 SMC (Japan), FESTO (Germany)
Class of **Phnomatic systems** used İt was chosen as the best

5 SKF (Germany)
The **skid lubrication systems** are optimal for every skid.İt is special micro-organisms that provide lubrication precision equipment

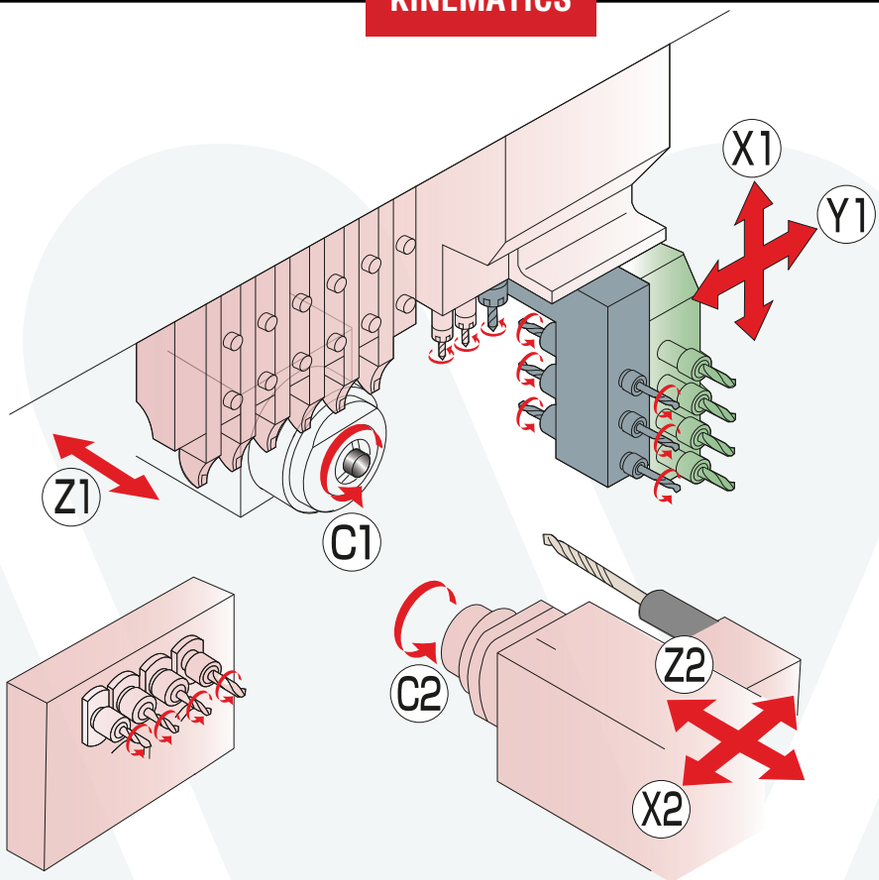


SMART V7

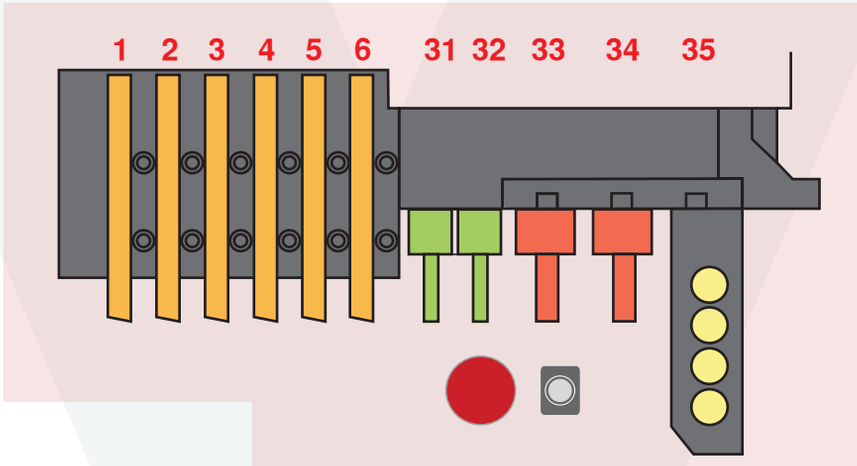
It is a popular model that combines the speed, power, continuous precision and reshaping features of VAN Sliding Head Lathe according to the requirements of each sector.

With the variant options of the Smart V7 model, you can expand your production range and have flexible manufacturing conditions.

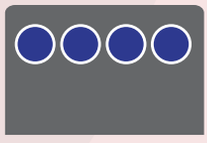
KINEMATICS

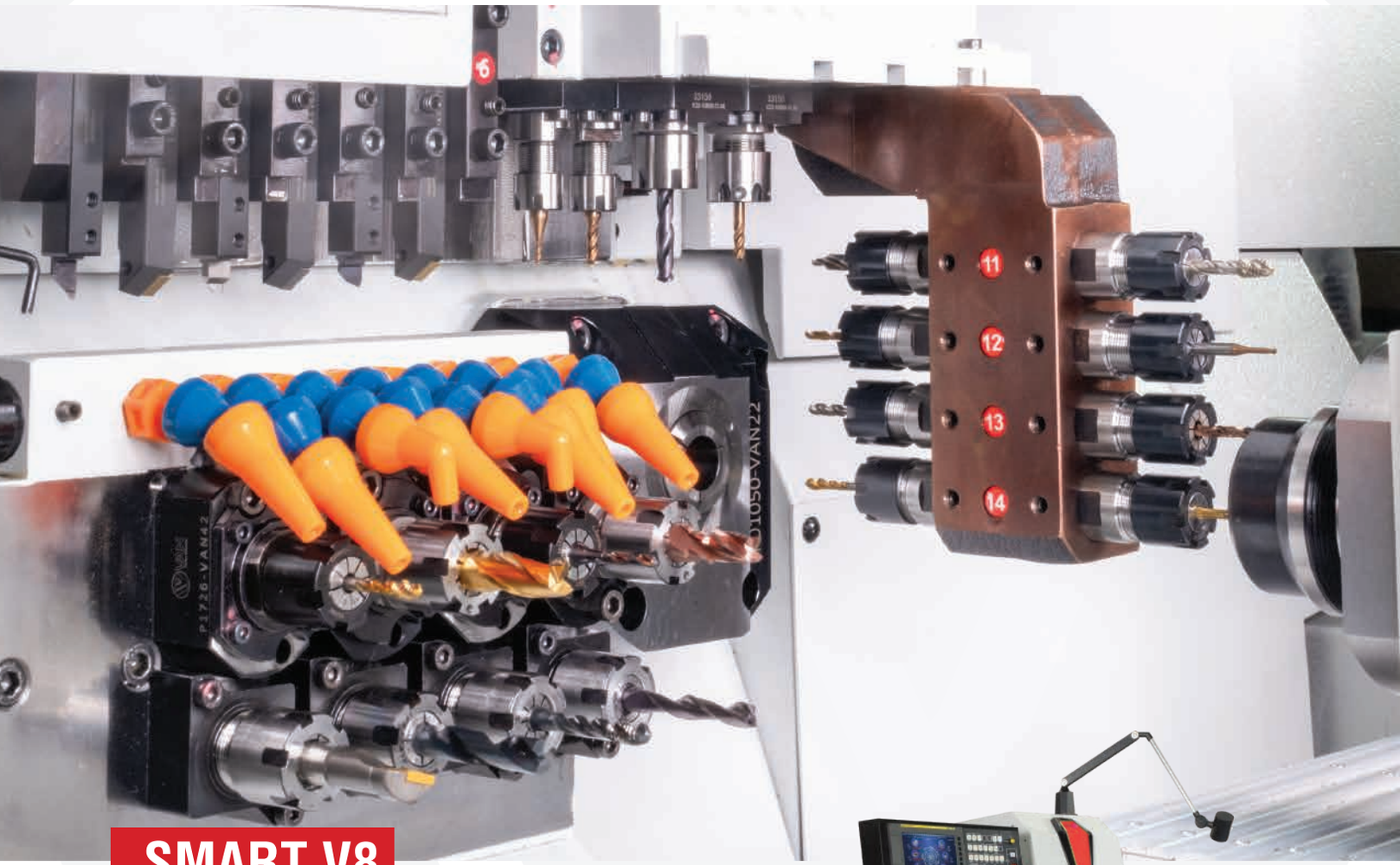


The tool kinematics of the Smart Series on the main spindle provides flexibility in machine tooling for this its compatibility with special tools used in different sectors.



Sub Spindle Power Driven Tool Block

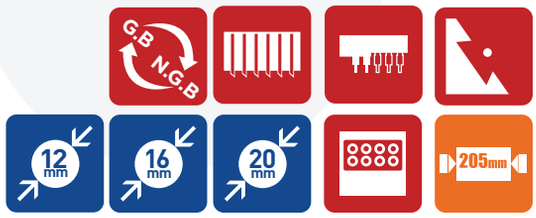




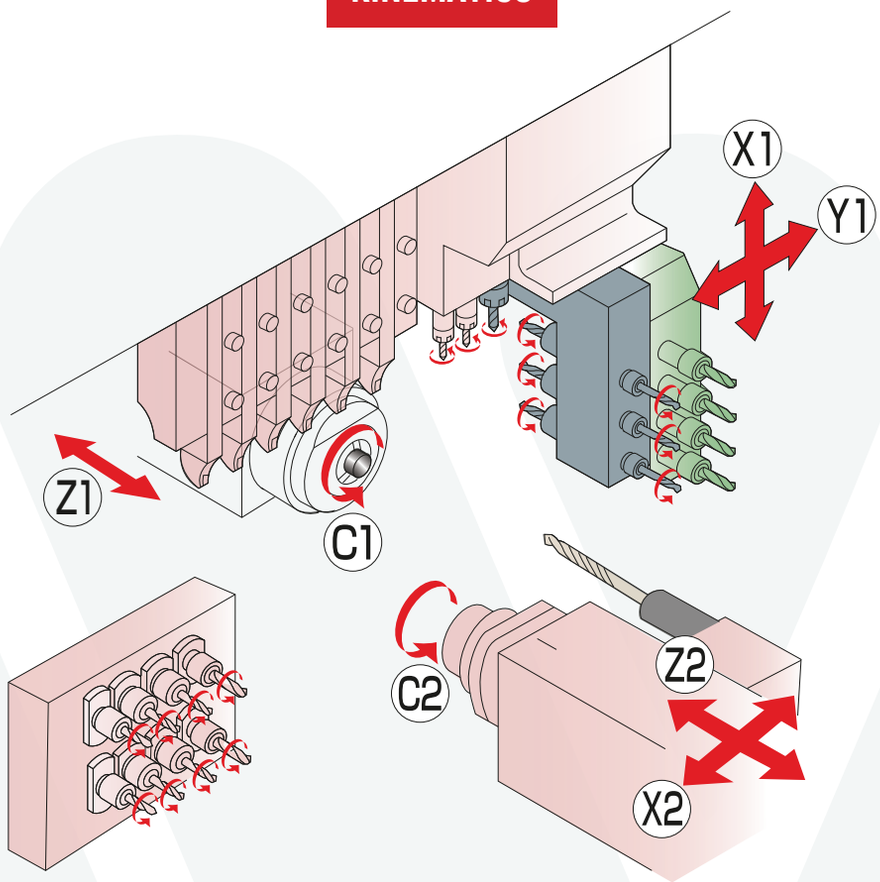
SMART V8

You can reach maximum power and precision through the Dovetail Slide structure system on the Y2 Axis and the sub-spindle with 2.2kW power.

In addition, you can provide maximum machining capability and minimum machining time by using 8 power driven tools.

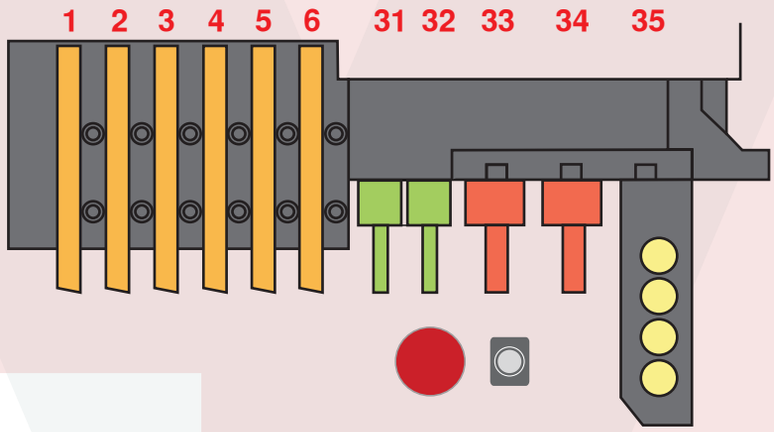


KINEMATICS

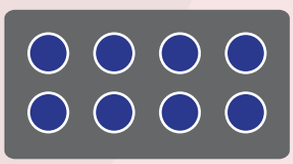


Another difference from competitors , VAN uses **Dovetail Structure** on the Y2 axis.

Sub-spindle tool post of V8 series have the dovetail slide in Y2 axis for rigity. This feature prevents vibrations and deflections caused by machining load. You get high precision and speed in the sub-spindle.



Sub Spindle Power Driven Tool Block

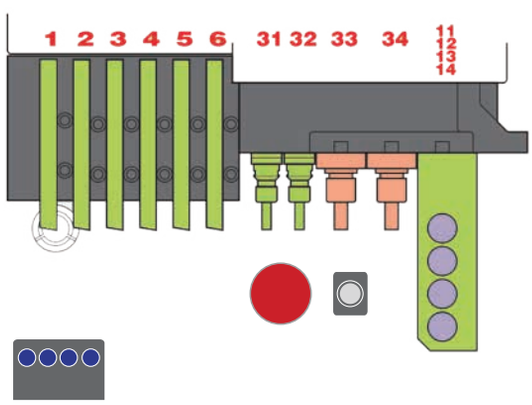


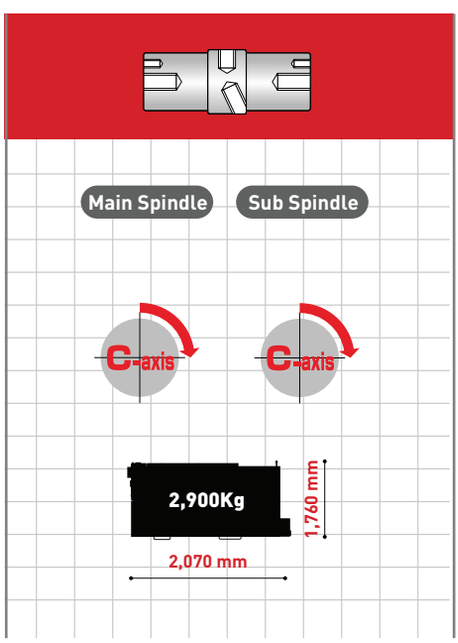
SMART SERIES V7 / V8

SMART V7

12 mm | 16 mm | 20 mm

205mm

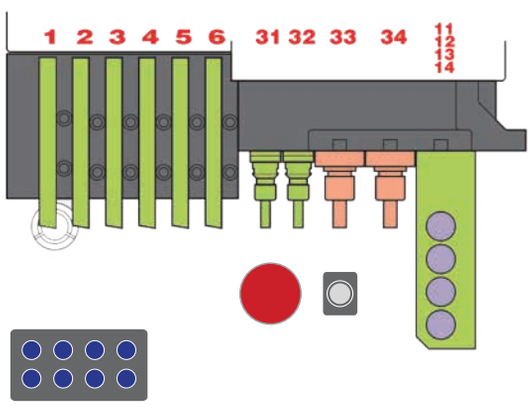


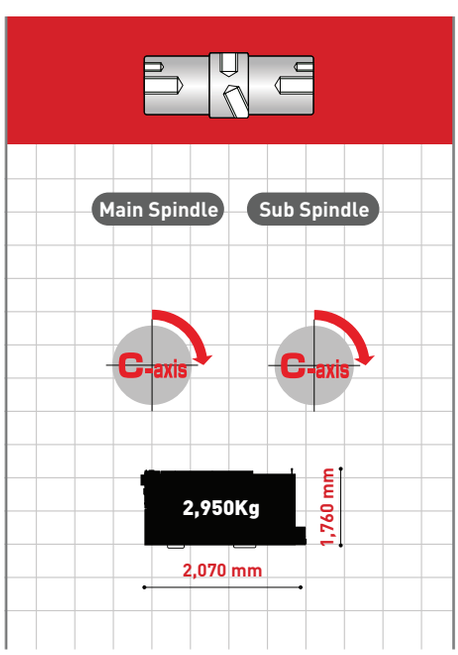


SMART V8

12 mm | 16 mm | 20 mm

205mm





TECHNICAL SPECIFICATION

Main Spindle Specifications		**SMART12 V7 / V8**	**SMART16 V7 / V8**	**SMART20 V7 / V8**
Maximum Turning Diameter		Ø12mm	Ø16mm	Ø20mm
Maximum Turning Lenght	Standard	205mm		
	N.G.B.	Turning Lenght x 2,5		
Main Spindle Rpm		15.000	10.000	
Main Spindle Motor		3.7 kW (30 min. %60 ED) / 2.2 kW(contiunous)		
Rapid Feed Rate		35.000 mm/min.		
Sleeve Holder Tool				
Turning Tool Capacity		6 pcs.		
Maximum Drilling Capacity		Ø10 mm		
Maximum Tapping Capacity		M8XP1.25		
Power Driven Tool Capacity		5 pcs.(2 pcs.Er11 + 3 pcs. Er16)		
5-Power Driven Block	ER11	2 pcs. (Standard)		
	ER16	3 pcs.		
Maximum Drilling Capacity	ER11	Ø6 mm		
	ER16	Ø7 mm		
Maximum Tapping Capacity	ER11	M5XP0.8		
	ER16	M6XP1.0		
Power Driven Tool	ER11	8.000 Rpm		
	ER16	6.000 Rpm		
Power Driven Tool Motor		AC Servo 1 kW / 2 Nm		
Sub Spindle Specifications				
Spindle Rpm		15.000	8.000	
Spindle Motor		2.2 kW (30 min. %60 ED) / 1.5 kW(Continuous)		
Sleeve Holder				
Maximum Drilling Capacity		Ø10 mm		
Maximum Tapping Capacity		M8XP1.25		
Power Driven Tool				
Maximum Drilling Capacity		Ø6 mm		
Maximum Tapping Capacity		M5XP0.8		
Power Driven Tool Rpm		8.000 Rpm		
Technical Specifications				
Cooler Tank Capacity		160 L		
Cooler Tank Motor		0,6 kW		
Power Comsuption		16 kVA		
Machine Dimensions		2.070mm x 1.070mm x 1.760mm		
Machine Weight		2850-2930	2930-2950	2930-2950

Smart Series Standard Machine Accessories

- Fanuc 0I-TF PLUS CNC Control Unit
- 10.4 Color LCD Display
- 12 - 16 - 20mm Processing Capacity
- Main spindle C-axis
- Main and Counter Spindle Collet Clamping Unit
- Main and Counter Spindle Collet Bearing F25
- Air Blow through the Counter Spindle
- 5 Rotating Tool Stations (2 pcs. ER11 standard)
- 6 Pieces of Standard Turning Tool Blocks 12x12mm
- 4 Pieces ER16 Drill Holder
- Deep Hole Drilling Station (1 Piece)
- II. Spindle Part Holding and Part Ejection Control System
- II. Live Tool Block Working on Spindle
- II. 4 Pieces ER16 Tool Holder Working on Spindle
- Solenoid Valve Adjusting Air Pressure
- Piece Cutting Detector
- Cooling Oil Tank with Level Indicator and Flow Control
- Automatic Lubrication System
- Tool Bag
- Bar Feeder Preparation
- Leveling Bolts and Shoes
- Standard Transformer System 380 Volt, 50 Hz
- Standard Machine Electrical System 200-220V, 50-60 Hz
- USB Memory Card Input
- CE Norm

Oil Chiller Unit

Parts Conveyor

Wired Handwheel

High Pressure Pump

HFO Chip Breaking System

Oil Heat and Parts Display

Smart Series Options Machine Accessories

- HFO (Chip Breaking Feature)
- Long Piece Adapter
- Parts Conveyor
- Chip Conveyor
- Oil Chiller Unit
- High Pressure Pump 40/70/140 Bar
- Electrostatic air cleaner
- Wired Handwheel
- Bar Feeder
- Additional Driven Tool for spindle
- Thread Whirling Unit
- Polygon Unit
- Sloting Unit
- Angel Adjustable Cross Drilling Unit

Chip Conveyor

Bar Feeder

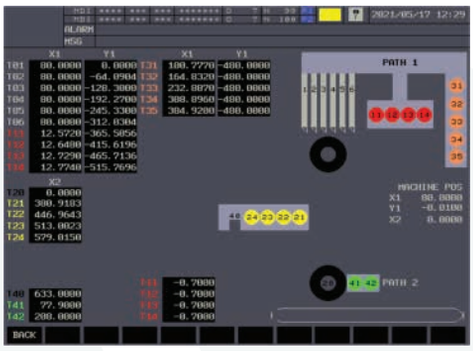
USER FRIENDLY
CONTROL PANEL

USER FRIENDLY INTERFACE

FEATURES FOUND IN THE CONTROLLER

1- High Precision Program Command is offered as standard (In the program, 4 digits can be given after the comma, such as 0.0001).
2- Ability to transfer programs via USB, Ethernet and CF Card
3- It has automatic cutting control.
4- Dual channel program control is available.
5- Auto Power Off (When the machine manufactures the specified number of parts or when an alarm occurs, it cuts off the electricity (turning the power switch to the trip position) and saves energy.)

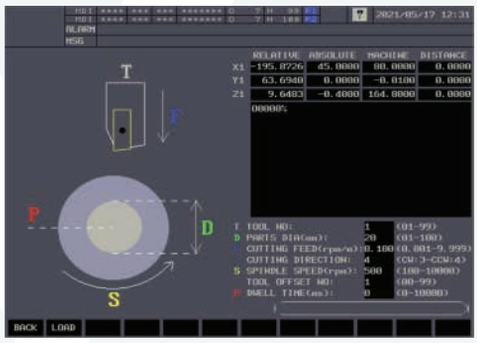
INTERFACE SCREEN



1- Our kinematics page is the easiest way to machine zeros it allows you to reach it.
2 - No changes can be made with encryption other than authorized personnel"
3- This screen for easy access to machine pos values references

1-Lifespan determined by the teams the user uses This is the screen we are in.
2-Our machine when a tool reaches a defined number of cycles sends it alarm.
3 - The machine can be stopped by entering the number of parts to be processed.

1- In the graphics you have seen, the 1 week operation of the machine is our page that reports the times
2- Following the daily and weekly productivity rates of the machine you can.
3- You can save your weekly data to your computer with the help of USB memory. you can transfer.
4- The machine can be stopped by entering the number of parts to be processed.



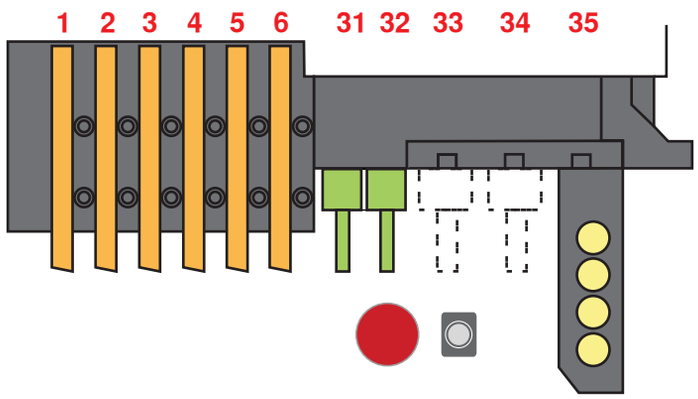
1- In this tab, you can quickly and easily use the automatic cutting program you can run.
2- The diameter of the piece shown below is the size of the rotation direction and rotation Automatic cutting is done with one key by entering the cycle.

1- In this tab, the main purpose of the machine is tool wear and made to detect breakage.
2- Activate the teach me tab on the screen you see. When we bring it, our machine is powered by the servo motor during operation saves the download data it receives in its memory.
3- In each part cycle with M codes after receiving the data The wear and breakage of the tools are controlled.

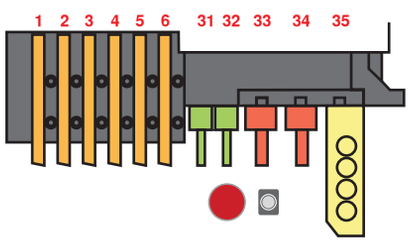
1-Timing times that our users need most collected on one page.
2-Except for the authorized personnel with the encryption system we have made, absolutely do not change

VARIATIONS

6 pcs. Turning tool 12X12mm + 2 pcs.ER11 + 4-Sleeve Holder Block
(Standard)

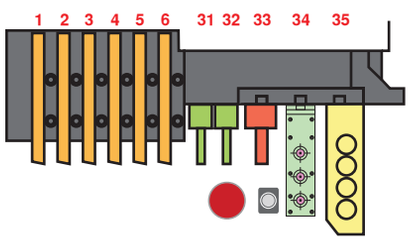


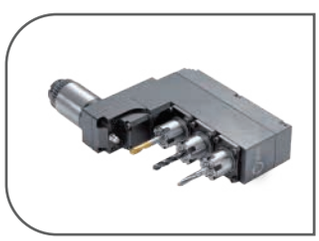
- Turning Tool
- Power Driven Tool (Std.)
- 2- Slot Power Driven Tool (Opt.)
- Power Driven Tool (Opt.)
- 3-Slot Axial Power Driven Tools (Opt.)
- Special Driven Tool (Opt.)
- Sleeve Holder
- Power Driven Tool 18.000 rpm (Opt.)



VARIATION 01
2 pcs. ER16 Power Driven Tool

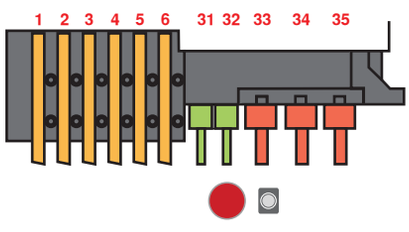
ER16 Power Driven Tool

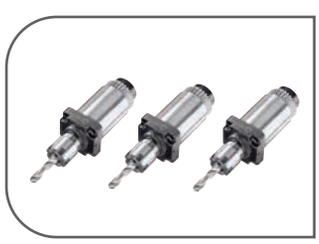




VARIATION 02
3-Slot Power Driven Tool

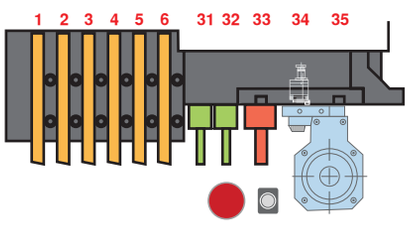
3-Slot Power driven Tool

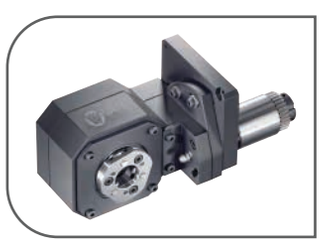




VARIATION 03
3 pcs. ER16 Power Driven Tool

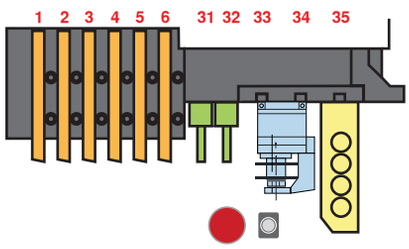
ER16 Power Driven Tool

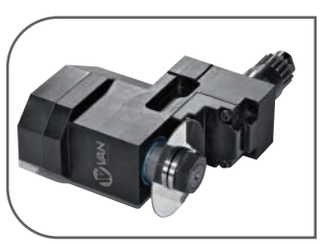




VARIATION 04
Whirling Unit

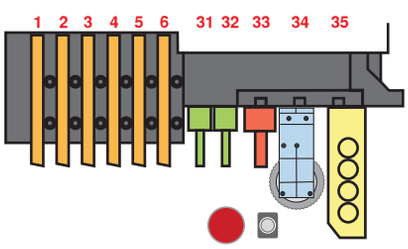
Whirling Unit

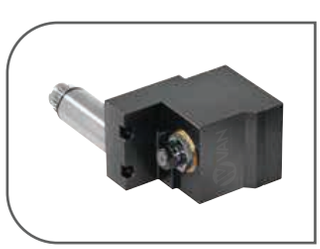




VARIATION 05
Slot Unit

Sloting Unit



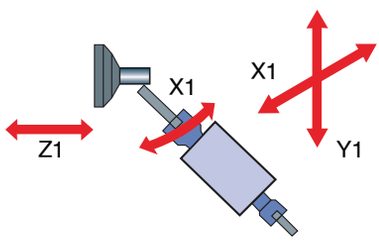


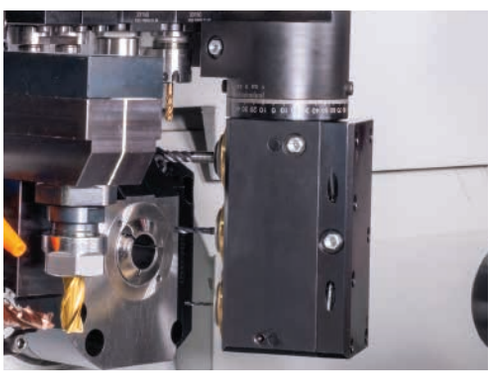
VARIATION 06
Polygon Unit

Polygon Unit

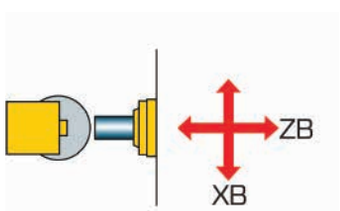
VARIATIONS

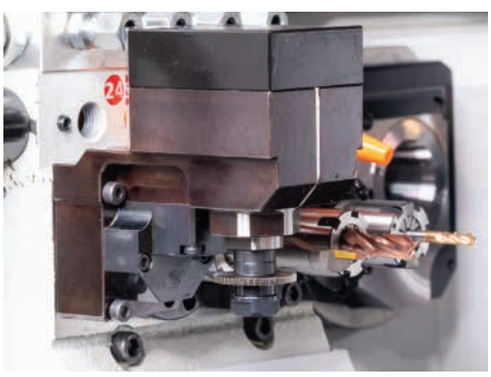
3- SPINDLE ANGEL ADJUSTABLE
CROSS DRILLING UNIT



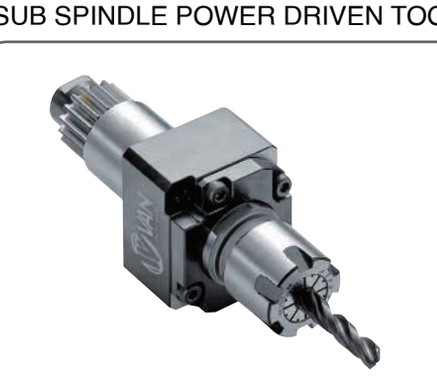


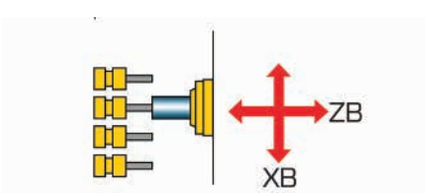
SUB SPINDLE SLOTING UNIT



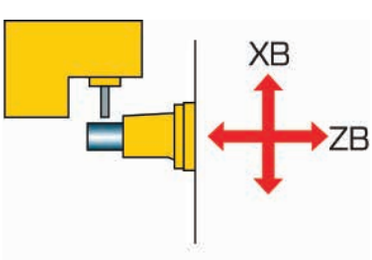


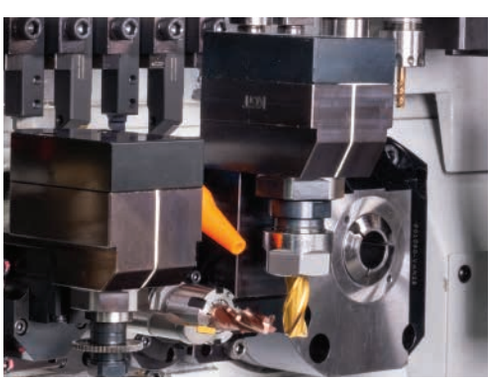
SUB SPINDLE POWER DRIVEN TOOL





SUB SPINDLE RADIAL MILLING TOOL





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A: İnönü Mah. Gebze Plastikçiler OSB Cumhuriyet Cad.
No: 67/1 Gebze / KOCAELİ
T: +90 (262) 503 34 85 - 86 **F:** +90 (262) 503 34 83
E: info@vanmakina.com **W:** www.vanmakina.com

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