

CNC Machining Center  
VF-Mill 1100



Technical Datasheet



- Fanuc OiMF
- High-quality HIWIN linear guides in all axes (roller version)
- Heavy Mehanitee cast body for optimal vibration damping
- Ball screw drive of precision class 3
- Powerful main spindle, 10,000 rpm BT or CAT 40

### Standard Features:

- ✓ Fanuc OiMF CNC
- ✓ 20 Hp spindle motor
- ✓ Airgun
- ✓ Automatic lubrication system
- ✓ Control cabinet heat exchanger
- ✓ Coolant gun
- ✓ Coolant system
- ✓ Double arm tool changer
- ✓ Electronic handwheel (MPG)HIWIN
- ✓ Fully enclosed
- ✓ End of program light
- ✓ HIWIN linear guides in all 3 axis
- ✓ LED work-light
- ✓ Leveling bolts and blocks
- ✓ Locking security door
- ✓ Main spindle with belt drive, max. 10,000 rpm
- ✓ Rigid tapping
- ✓ USB, CFcard, Ethernet, and RS232 interfaces
- ✓ Toolbox
- ✓ Operation manual

### Optional accessories

- Spindle oil cooler
- Oil skimmer
- Coolant through spindle with 20/50 bar (IKZ)
- Mitsubishi M 730 V
- Siemens 828D
- Heidenhain TCN 620
- Oil mist extraction
- Tool and workpiece probes
- 4 axis
- Tilting table - 4/5 axis
- Direct drive 15000 rpm
- Screw or chain chip conveyor
- Stand-alone control panel



Technical specifications	VF-Mill 1100
<b>Table</b>	
Table size	1200 x 550 mm (47" x 20")
T-slot (width x # x distance)	18 x 5 x 100 mm (.70" x 5 x 4")
Max. Table loading	800 kg (1760 lbs.)
<b>Travel</b>	
X / Y / Z travel distance	1100 / 550 / 600 mm (43"/22"/24")
Distance - spindle to table	80 - 680 mm (3" - 27")
Distance - Table to spindle center	585 mm (23")
<b>Spindle</b>	
Taper	ISO 40 / BT 40 / 150 mm (6")
Spindle motor	11/15 kW (20 Hp.)
Spindle speed	10,000 min rpm
<b>Rapid</b>	
Rapid	X/Y/Z: 36 m/min (1400"/min)

Technical Specifications	VF-Mill 1100
Working feed	1-12,000 mm/min (0.003"-472"/min)
<b>Tool Changer</b>	
Number of tools	24
Max. tool length	300 mm (12")
Max. diameter	78 mm / 120 mm (3" / 4.75")
Max. tool weight	8 kg (18 lbs.)
<b>Accuracy</b>	
Positioning accuracy	± 0.005/300 (0.0002"/12")
Repeatability	± 0.005 (0.0002")
<b>Dimension</b>	
Dimensions	2700 x 2310 x 2900 mm (106"x91"x114")
Weight	6800 kg (15,000 lbs.)
No.	<b>6430008</b>

\* Specifications are subject to change without notice. No liability is accepted for errors and printing errors. Machines possibly pictured with optional accessories!

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## Machine Structure



Main Spindle



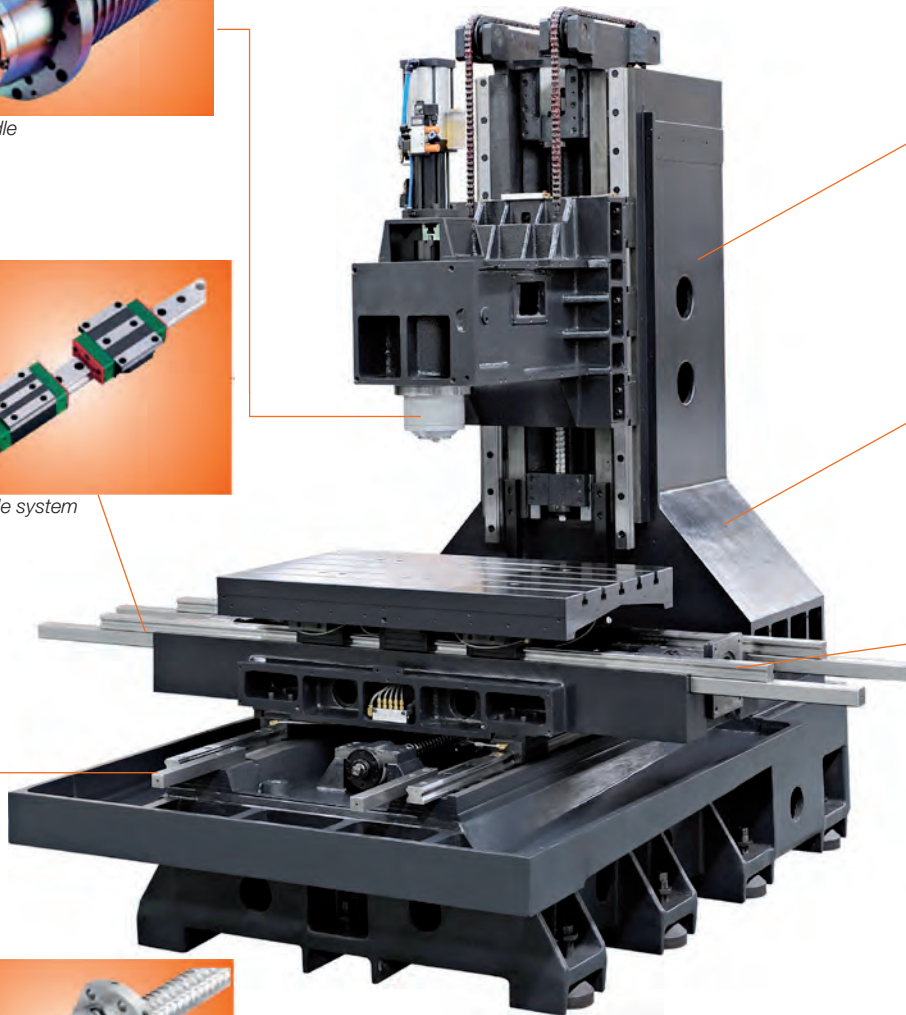
Headstock



Linear guide system



Z-Axis column width



X and Y construction axis



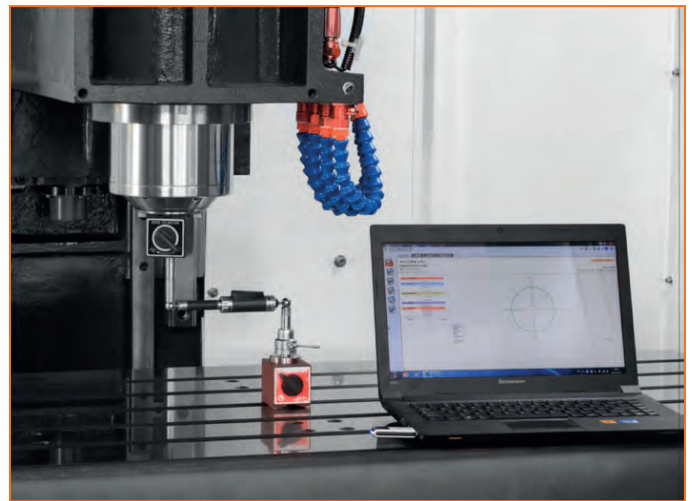
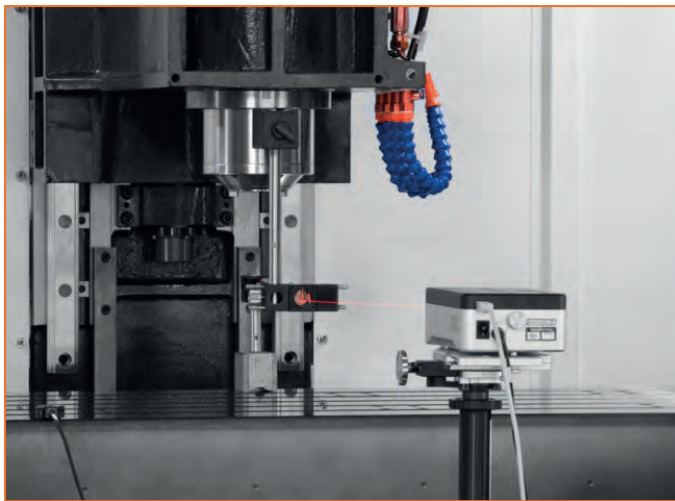
Ball screw with double preloaded nuts

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## Measurements in the production cycle



## Machine components



ROYAL SplineTrue



HIWIN



HIWIN Rexroth



NSK FAG



R-W



SIEMENS Schneider Electric

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## Control options



**SIEMENS**



**HEIDENHAIN**



**MITSUBISHI**

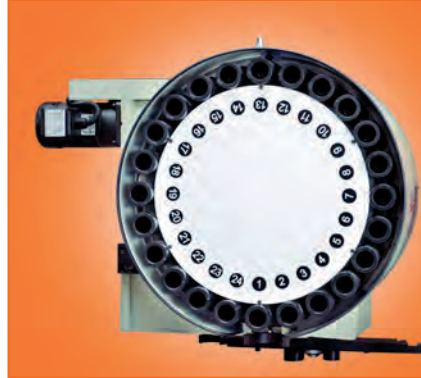


**FANUC**

## Accessories



*Umbrella ATC*



*Double arm changer*



*4th axis- various sizes*



*Chip conveyor*



*Spindle cooling*

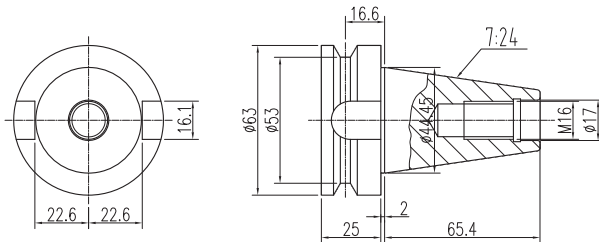
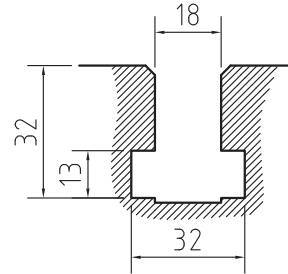
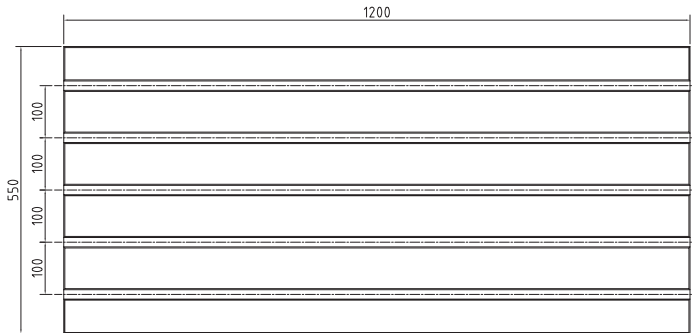


*4/5th axis, various sizes*

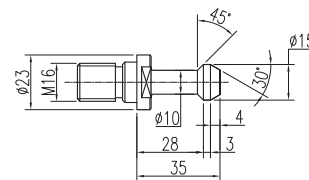
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## Worktable



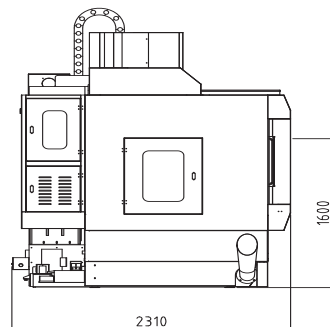
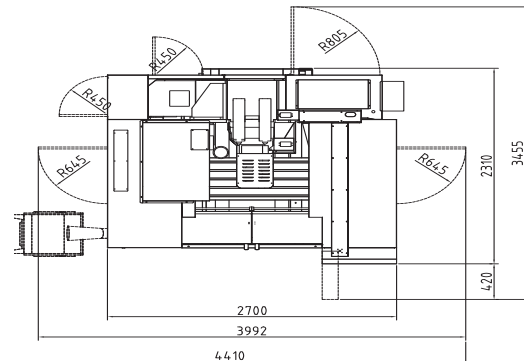
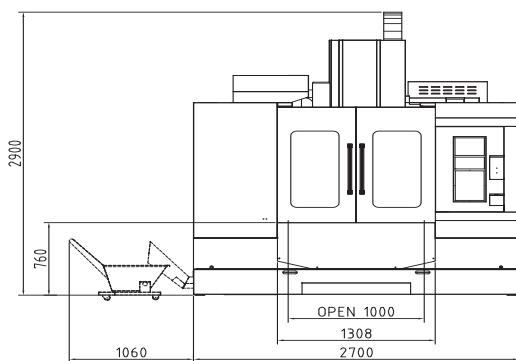
MAS403 BT40



MAS403P40T-1(45°)

BT40 tool holder and tightening bolt (optional SK40)

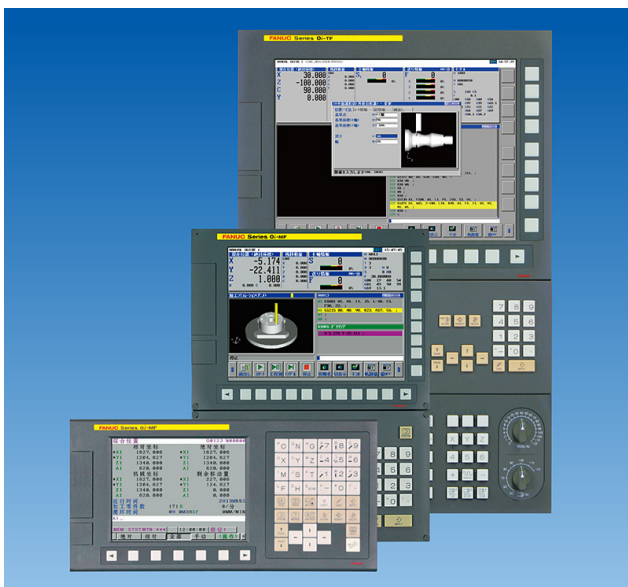
## Dimensions



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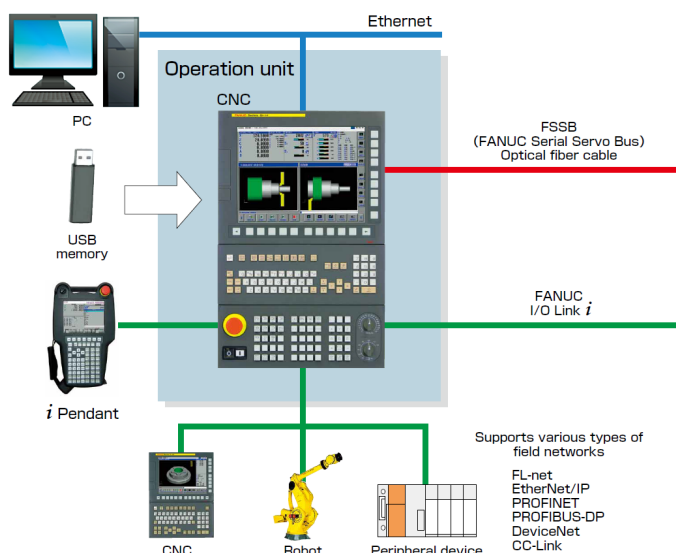
## FANUC 0iMF

The FANUC Series 0i-MODEL F is the newest generation in the highly popular Series 0i and integrates many features found on the Series 30i-MODEL B. The Series 0i-F brings faster, more accurate performance to a wide range of milling, turning, punching and grinding applications with more standard features, more advanced capabilities and faster communications than ever before. The Series 0i control is the industry's most reliable system with a Mean Time Between Failure rate of 52 years.



The Series 0i-MODEL F offers more axes, ladders and paths, as well as high-speed auxiliary machine functions and an expanded list of standard features.

### Ultra-Compact, Reduced Wiring, High Reliability



### Minimizing Downtime

## Focusing on Minimizing Downtime High Reliability and Easy Maintenance

- Highly reliable hardware allows stable operation in a harsh factory environment
- Preventive maintenance to avoid machine from unexpected stop by sudden trouble, such as leakage detection function which detects the insulation deterioration of motor
- Various types of enhanced diagnosis functions improve maintainability so that the cause of trouble can be identified quickly

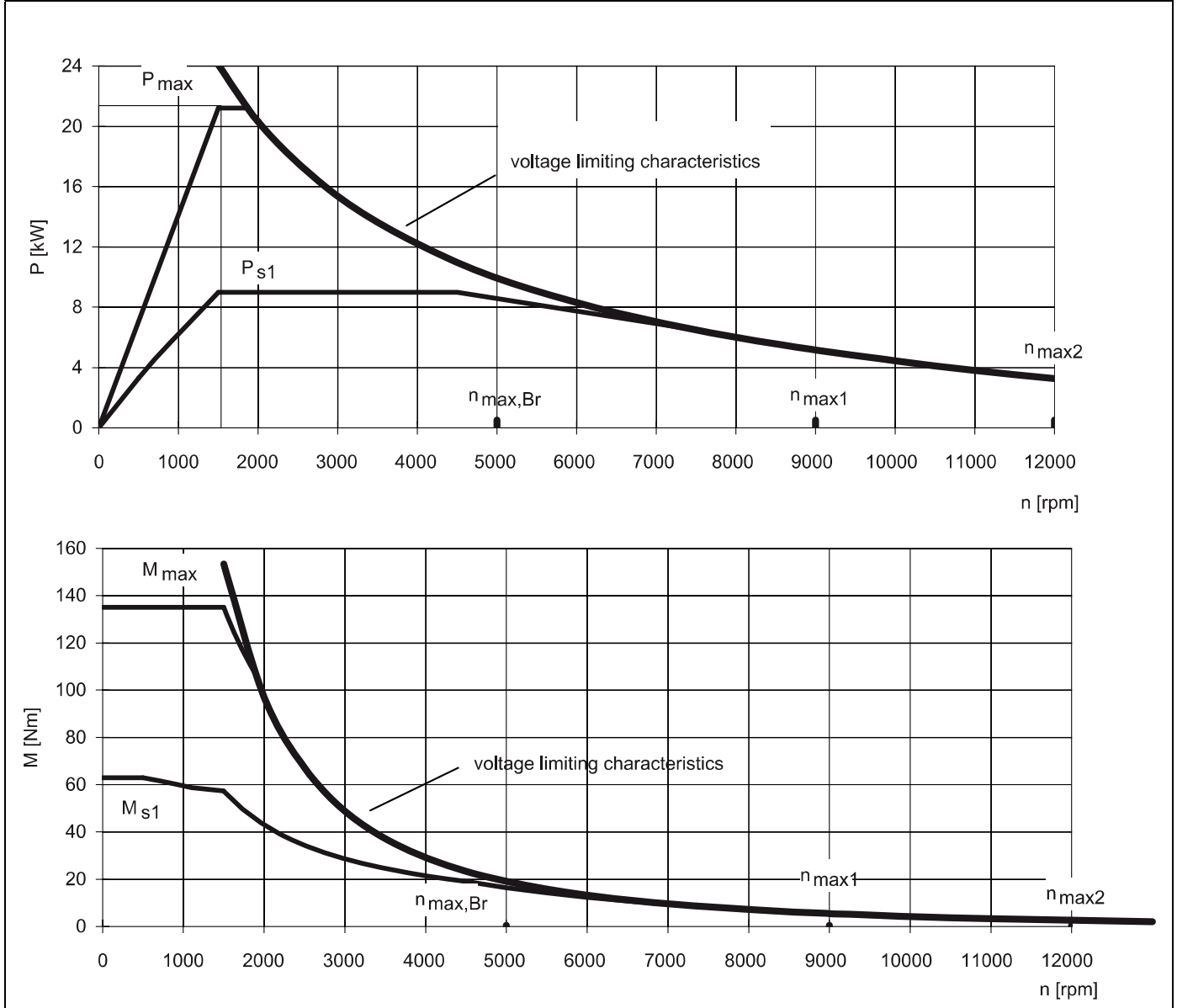
## New 0i series CNC Provides Added Value to Machine Tools

- New 15 inch large screen in 0i series
- Servo technology with the highest performance in the world
- Achieves both high accuracy and smoothness with easily adjusting steps
- Provides the convenience of PC on CNC
- Loader control commanded by G code meets the request of automation

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## Torque Charts – Siemens

$n_N$ [rpm]	$P_N$ [kW]	$M_N$ [Nm]	$I_N$ [A]	$n_{max1}$ [rpm]	$n_{max2}$ [rpm]	$n_{max3}$ [rpm]	$n_{max, Br}$ [rpm]	$n_2$ [rpm]	$M_{max}$ [Nm]	$I_{max}$ [A]	$M_0$ [Nm]	$I_0$ [A]
1500	9.0	57	23.5	9000	12000	-	5000	4500	135	54	63	25



Siemens

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## CNC-Steuerung - Sinumerik 828D

Turning and milling in standardized machines as well as functions for the simple automation of grinding machines - here the SINUMERIK 828 controls SINUMERIK 828D BASIC, SINUMERIK 828D and SINUMERIK 828D ADVANCED set standards with regard to productivity with their unique CNC performance.

With the SINUMERIK 828 controllers, Siemens Machine Tool Systems offers compact CNCs for standardized turning, milling and grinding machines. With its technology-specific system software, its scope of application extends from vertical and simple horizontal machining centers - and of course also for mold construction applications - via flat and circular grinding machines to two-centered with counter-spindle, driven tools and Y-axis. Robust hardware architecture and intelligent control algorithms as well as drive and motor technology of the extra class ensure the highest dynamics and precision in machining.

The intuitive interface SINUMERIK Operate enables efficient machine operation. SINUMERIK 828 controllers master the challenges of standardized turning, milling and grinding machines with convincing performance.



### Communication

- Front interfaces (IP65)
  - RJ45 Ethernet
  - USB 2.0
  - Compact Flash (CF) Card

### Everything in view

- Depending on model
  - 8,4"-TFT-Color display
  - 10,4"-TFT-Color display

### 16 Softkeys

- Through the 8 horizontal and 8 vertical Softkeys with a few touchbacks in all condition masks

### User friendly

- Full QWERTY keyboard
  - Mechanical buttons with protective film
  - Protection class IP65

### Clever

- 3/8" thread for additional component



Durable and robust



Based control panel CNC with panel front

### Maintenance-free

- No battery (persistent data buffering thanks to NV-RAM technology)
  - No Chandelier
  - No hard disk



- Back interfaces
  - USB 2.0
  - RJ45 Ethernet
  - Drive\_CliQ
  - PLCI / O interface
  - RS232 C
  - NC inputs / outputs

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## CNC-control - Sinumerik 828D

Thanks to an intelligent JOG mode and one intuitive tool management, all typical setup functions in SINUMERIK Operate are supported graphically interactively. This reduces the unproductive time to an absolute minimum.

### Intelligent JOG-Mode

Thanks to the intelligent JOG mode, all typical setup functions of turning and milling machines are supported graphically interactively in SINUMERIK Operate. Thus, a push button can be easily inserted with three clicks. The milling of a blank blank or the turning of soft clamping jaws into lathes also takes place directly in the intelligent JOG mode - without the creation of a part program. The extended Retract function allows retraction of the tool after a power failure and a fault-free resetting at the interruption point.

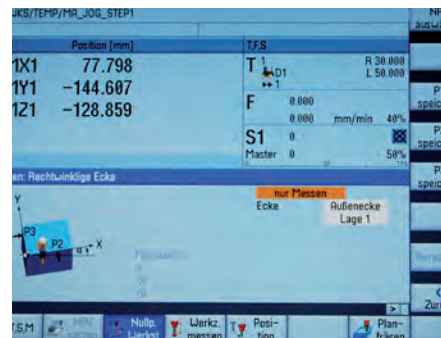
### Measure tool and workpiece

Intelligent JOG mode is used to measure tools and workpieces: the edge, corner or drill holes is sufficient to determine the clamping position, including the basic rotation of the workpiece - even in swiveled workpiece planes. Tool measurement is also easy for SINUMERIK.

Whether the tool geometry is "scratched" or determined with a tool measuring system - a push of a button is sufficient and the geometry is transferred to the CNC's tool offset memory.

### Comprehensive tool management

SINUMERIK offers a perfect command center for managing the tools. Tool data and magazine location information are clearly shown in a picture. The selection of a suitable magazine location is completely automatic: select the tool, press the button - and the SINUMERIK already offers a suitable magazine location. Of course, the tool life is also monitored and, if necessary, the appropriate replacement tool is inserted.



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