KOVOSVIT MAS
machine your future

MASTURN Line

Universal centre lathes with CNC system

550i / 820i

www.kovosvit.cz

Machine features

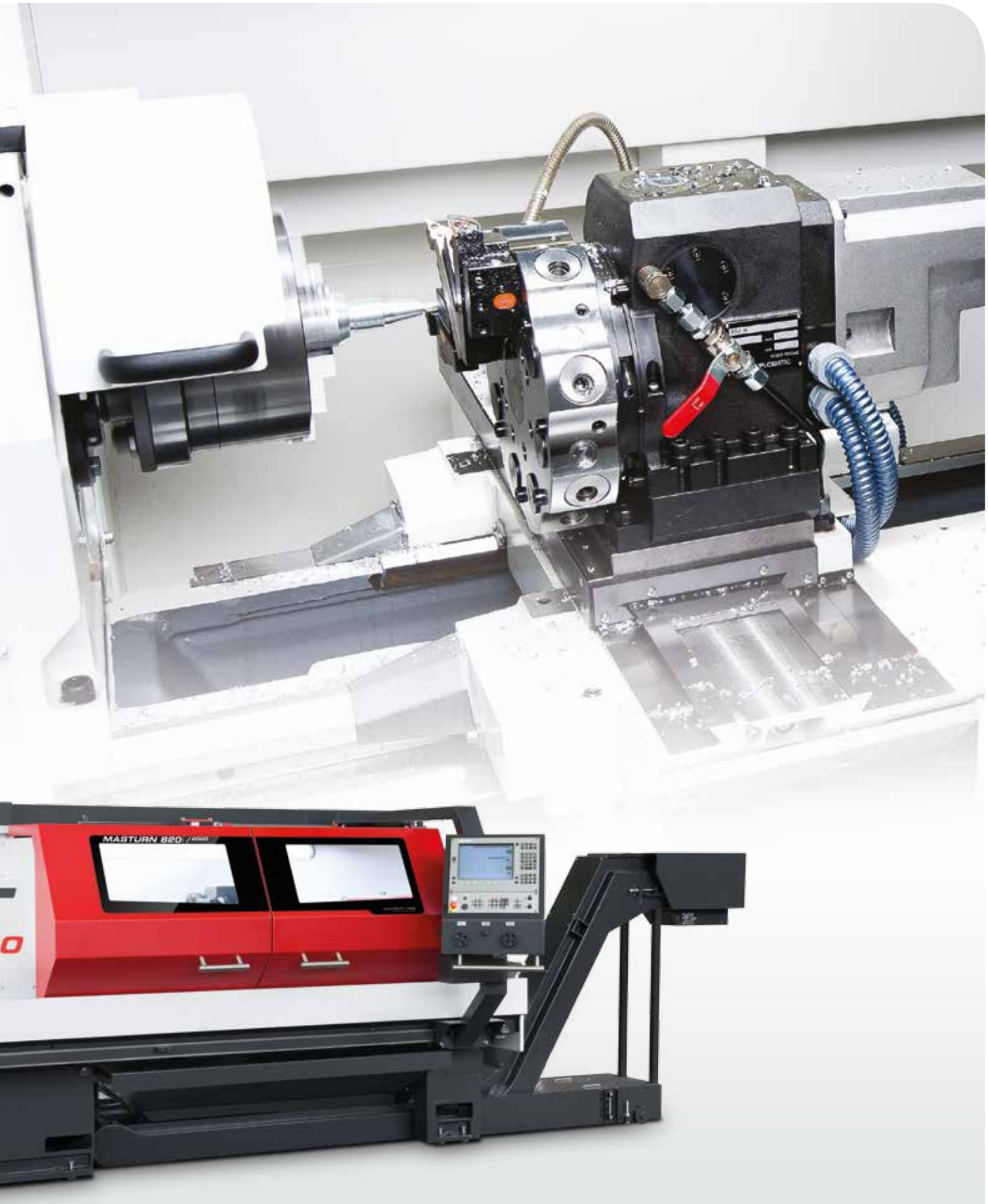
- Simple machines suitable for piece and small lot production parts
- High precision, performance, easy operation
- Constant cutting speed – part machining of high quality
- Graphic simulation of machining
- Possibility of machining by means of manual control as on conventional lathe or via automatic cycles with CNC system support running on the basis of xed cycles
- Program can be written as contour programming or DIN programming
- Cutting conditions and geometrical data of the part shape are entered via keyboard in control system which processes them automatically
- On demand, the software for creation of programs and their realization in your PC is available

MASTURN Line:

MASTURN 550i 800 / 1500

MASTURN 820i 2000 / 3000 / 4500

MASTURN 550i / 820i

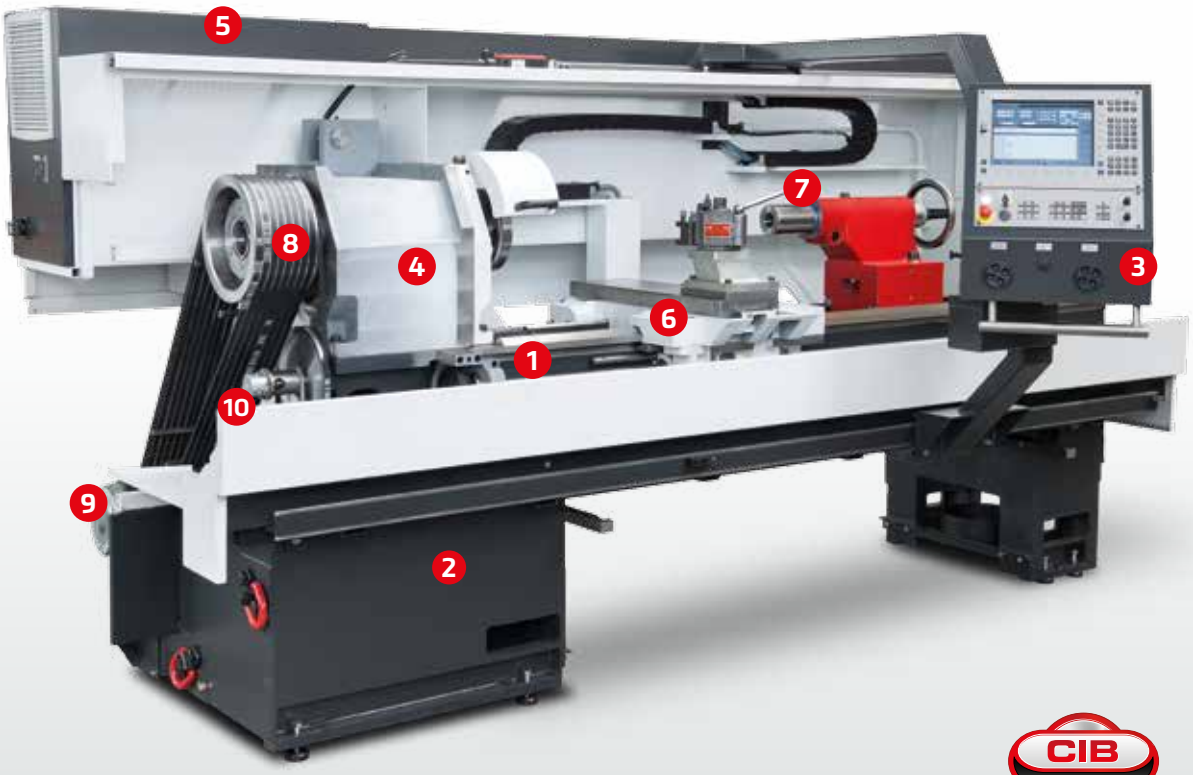


MASTURN 820i 2000

Machine basic concept

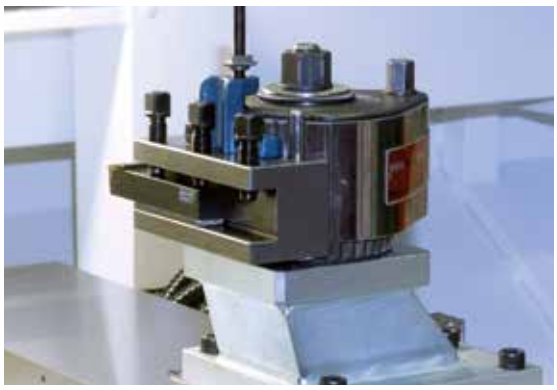
— Are designed for precise turning operation namely in small and medium lot production. The main machining operation is the turning of super cial, face and inside surfaces, both cylindrical and conical or spherical. The enhanced machine accuracy complies with Standard ISO 13041-1.

1 | Machine bed
2 | Cast base
3 | Control panel
4 | Headstock
5 | Switchboard
6 | Cross-slide
7 | Tailstock
8 | Belt pulley
9 | Two-speed gearbox
10 | Z axis drive



CIB
CAST IRON BODY

MASTURN 550i / 820i

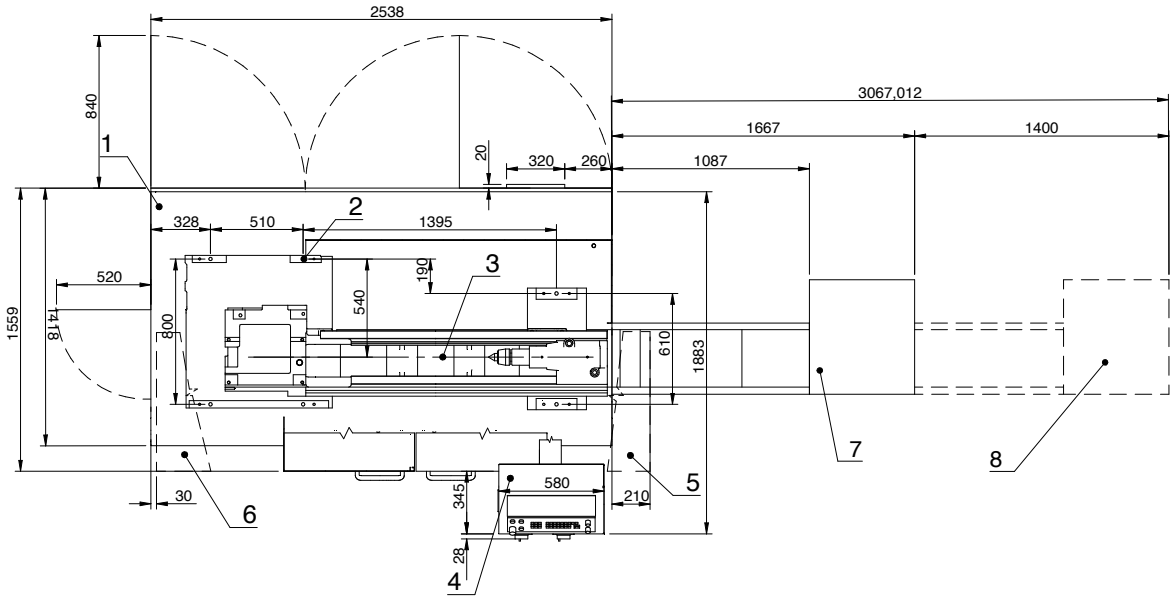


MASTURN 820i 4500

Max. turning length: 4 500 mm
Maximum tooling diameter above the bed / support: 820 / 530 mm

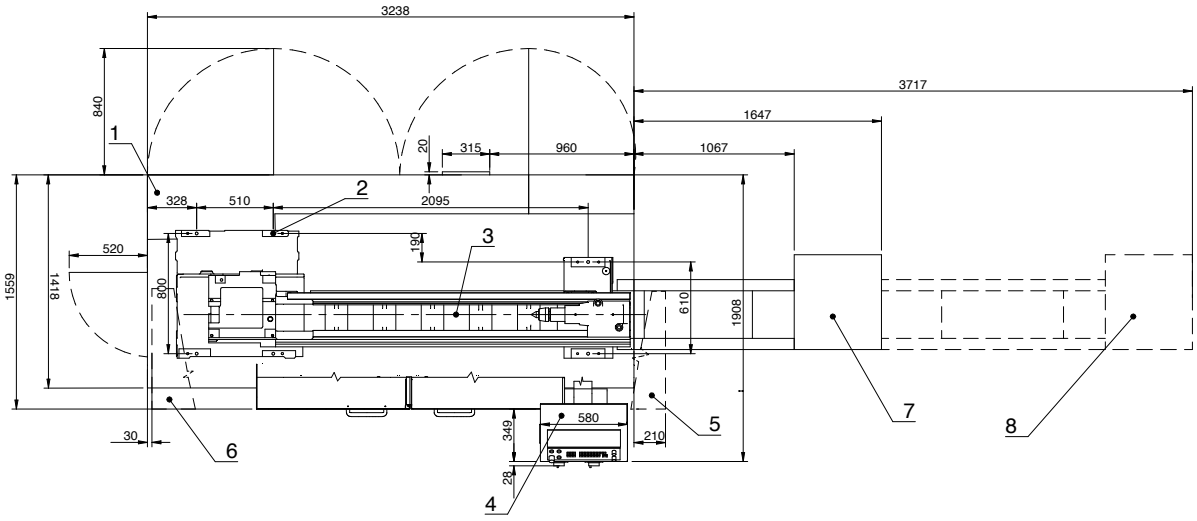
Foundation Plan

MASTURN 550i 800



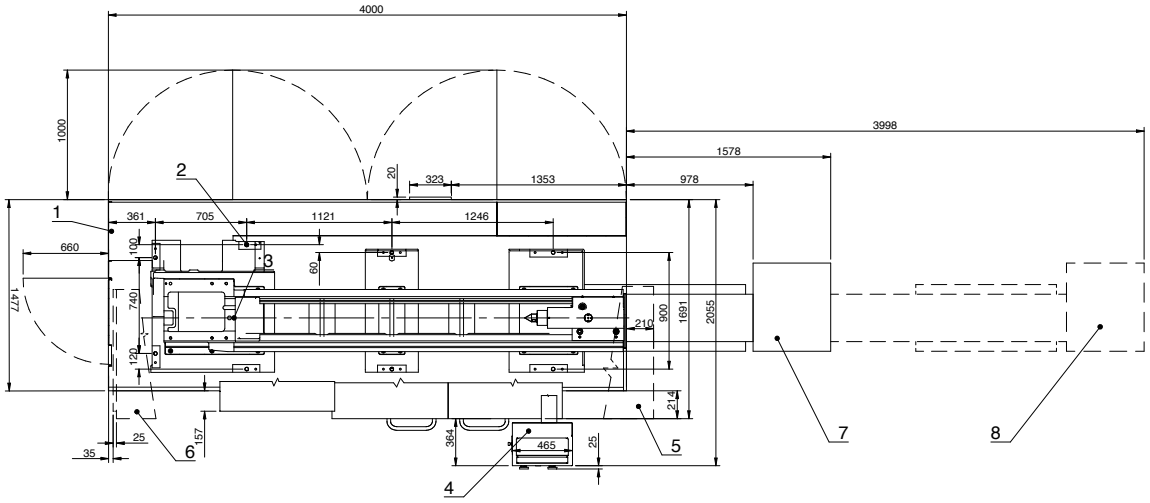
1 | Electric power supply **2** | Foundation bolts **3** | Spindle axis **4** | Control panel **5** | Open right sliding guard **6** | Open left sliding guard
7 | Chip conveyer **8** | Pulled out chip conveyer

MASTURN 550i 1500



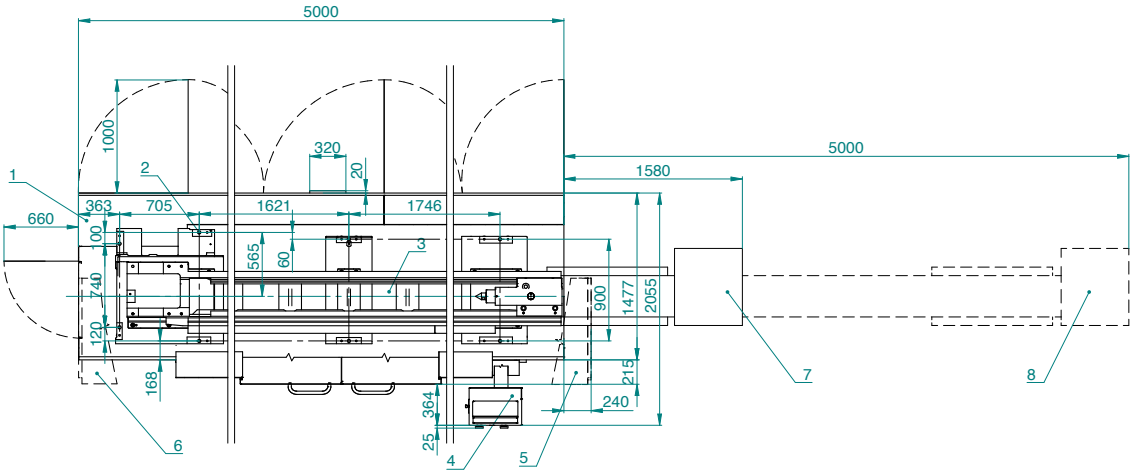
1 | Electric power supply **2** | Foundation bolts **3** | Spindle axis **4** | Control panel **5** | Open right sliding guard **6** | Open left sliding guard
7 | Chip conveyer **8** | Pulled out chip conveyer

MASTURN 820i 2000



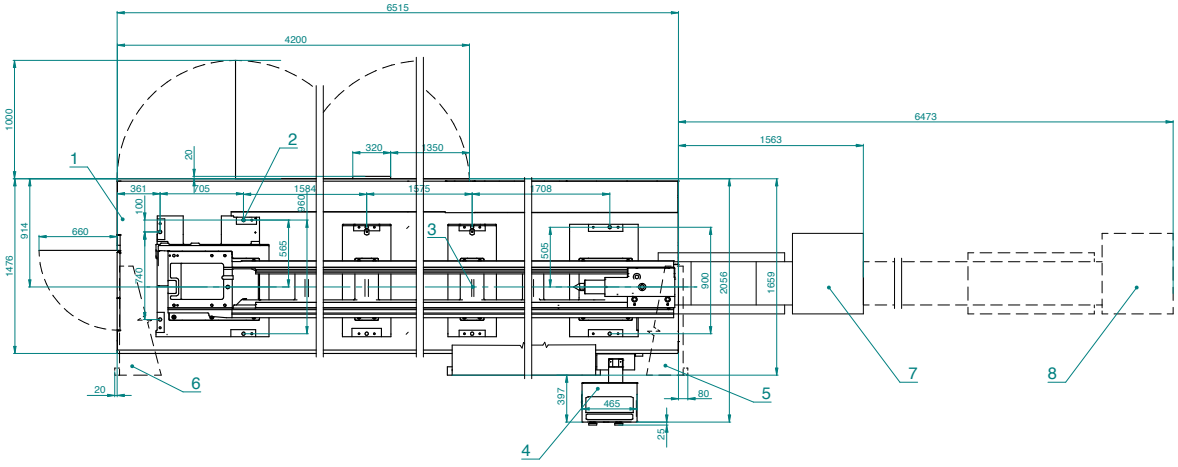
1 | Electric power supply **2** | Foundation bolts **3** | Spindle axis **4** | Control panel **5** | Open right sliding guard **6** | Open left sliding guard
7 | Chip conveyer **8** | Pulled out chip conveyer

MASTURN 820i 3000



1 | Electric power supply **2** | Foundation bolts **3** | Spindle axis **4** | Control panel **5** | Open right sliding guard **6** | Open left sliding guard
7 | Chip conveyer **8** | Pulled out chip conveyer

MASTURN 820i 4500



1 | Electric power supply **2** | Foundation bolts **3** | Spindle axis **4** | Control panel **5** | Open right sliding guard **6** | Open left sliding guard
7 | Chip conveyer **8** | Pulled out chip conveyer

Technical data

			MASTURN 550i 800 / 1500	MASTURN 550i 800 / 1500 LiveTool	MASTURN 820i 2 000 / 3 000 / 4 500	MASTURN 820i 2 000 / 3 000 LiveTool
Working range	Geometric and working accuracy	-	ISO 13041-1	ISO 13041-1	ISO 13041-1	ISO 13041-1
	Swing over bed	mm	550	550	820	820
	Swing over cross slide	mm	350	350	530	530
	Distance between centres	mm	900 (1 600)	1 500	2 000 / 3 000 / 4 500	2 000 / 3 000
	Max. turning diameter	mm	500	332	720	340
	Workpiece weight - overhung	kg	400	400	1 000	1 000
	Workpiece weight - tailstock + 1 steady rest	kg	1 000	1 000	3 000	3 000
Working spindle	Spindle nose (DIN 55027)	-	8	8	11	11
	Spindle bore	mm	82	82	128	128
	Spindle taper	-	90	90	132	132
Main drive	Motor output	kW	17	17	22	22
	Automatic two-stages gearbox		2 stages	2 stages	2 stages	2 stages
	Spindle speed range	min^{-1}	0 - 3 000	0 - 3 000	0 - 1 800	0 - 1 800
	1st gear	min^{-1}	0 - 750	0 - 750	0 - 400	0 - 400
	2nd gear	min^{-1}	20 - 3 000	20 - 3 000	20 - 1 800	20 - 1 800
	Max. spindle torque:					
	1st gear	Nm	1 300	1 300	2 150	2 150
	2nd gear	Nm	295	295	430	430
Axis X	Ball screw - dia / pitch	mm	25 / 5	25 / 5	32 / 5	32 / 5
	Travel	mm	285	267	370	300
	Rapid traverse	m. min^{-1}	10	10	10	10
Axis Z	Ball screw - dia / pitch	mm	40 / 5	40 / 5	50 / 10	50 / 10
	Travel	mm	890 / 1 590	1 517	2 000 / 3 000 / 4 500	1 928 / 2 928
	Rapid traverse	m. min^{-1}	10	10	10 / 10 / 10	10 / 10
Tool head			* MULTIFIX C 8-position turret	* 8-position turret - Live Tool	* MULTIFIX D1 8-position turret	* 8-position turret - Live Tool
	Max. tool section	mm	20 × 20 / 32 × 32	20 × 20	25 × 25 / 40 × 40	25 × 25
Tailstock	Sleeve dia	mm	90	90	115	115
	Sleeve stroke	mm	160	160	225	225
	Sleeve taper - MORSE	-	5	5	6	6
Energy connections and consumption	Max. total machine input	kVA	30	30	45	45
Machine dimensions	Machine dimensions (length × width × height)	mm	2 538 / 3 238 × 1 920 × 1 755	3 238 × 1 920 × 1 755	4 000 / 5 000 / 6 000 × 2 055 × 1 863	4 000 / 5 000 × 2 055 × 1 863
	Machine weight	kg	3 200 / 3 400	3 500	4 900 / 5 300 / 6 500	4 900 / 5 300
Control system			HEIDENHAIN MANUAL plus 620 SIEMENS SINUMERIK 828D	HEIDENHAIN MANUAL plus 620 SIEMENS SINUMERIK 828D	HEIDENHAIN MANUAL plus 620 SIEMENS SINUMERIK 828D	HEIDENHAIN MANUAL plus 620 SIEMENS SINUMERIK 828D

*according to tool equipment of the turret, the working space alteration can occur

The machine conforms to CE

In view of continuous machine development and innovation, specifications in this advertising material are subject to change without notice.

Accessories

STANDARD ACCESSORIES	MASTURN 550i 800 / 1500	MASTURN 550i 800 / 1500 LiveTool	MASTURN 820i 2 000 / 3 000	MASTURN 820i 2 000 / 3 000 LiveTool	MASTURN 820i 4 500
Working space lighting	✓	✓	✓	✓	✓
Adapter to spindle	✓	✓	✓	✓	✓
Working space enclosure	✓	✓	✓	✓	✓
Tool cooling 2 bar	✓	×	✓	×	✓
Operation tool set	✓	✓	✓	✓	✓
Operating manual	✓	✓	✓	✓	✓
Machine is equipped as standard with system: HEIDENHAIN MANUAL plus 620; SIEMENS 828 Manual Turn	✓	✓	✓	✓	✓
8-position turret – driven tools	×	✓	×	✓	×
Tool cooling 8 bar	×	✓	×	✓	×
Tailstock cover	×	✓	×	✓	×
Adjustable brake of main spindle	×	✓	×	✓	×

SPECIAL ACCESSORIES					
Three-jaw chuck	✓	✓	✓	✓	✓
Four-jaw chuck	✓	✓	✓	✓	✓
Pneumativ chuck	✓	✓	✓	✓	✓
Adjustable brake of main spindle	✓	×	✓	×	✓
Fixed centre	✓	✓	✓	✓	✓
Ariving disc	✓	✓	✓	✓	✓
Face-plate	✓	✓	✓	✓	✓
Steady rest	✓	✓	✓	✓	✓
Following steady rest	✓	×	✓	×	✓
Following steady rest for turret	✓	×	✓	×	✓
Guide of the bars	✓	✓	×	×	×
Tube guideways	✓	✓	✓	✓	✓
Stock stop in spindle	✓	✓	×	×	×
Pneumatický koník	✓	✓	×	×	×
Movable centre Röhm	✓	✓	✓	✓	✓
Chip container	✓	✓	✓	✓	✓
Chip conveyor	✓	✓	✓	✓	✓
Lifting equipment	✓	✓	✓	✓	✓
Quick holder MULTIFIX	✓	×	✓	×	✓
Quick holder CAPTO	✓	×	✓	×	✓
8-position turret	✓	×	✓	×	✓
Manual rinsing of the work area	✓	✓	✓	✓	×
Tailstock cover	✓	×	✓	×	×
Tool cooling 8 bar	✓	×	✓	×	×
Technological SW Data Pilot 4110	✓	✓	✓	✓	✓
Technological SW for import of contours in DXF format (only for Heidenhain)	✓	✓	✓	✓	✓
Cooling of the switch board – air conditioning	✓	✓	✓	✓	✓
Spare parts catalogue	✓	✓	✓	✓	✓

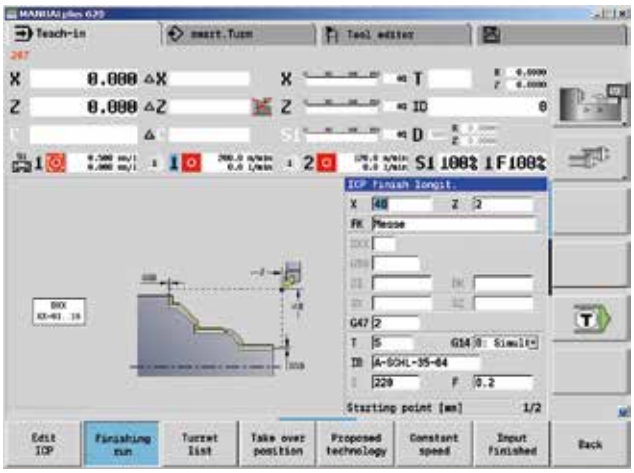
Control system

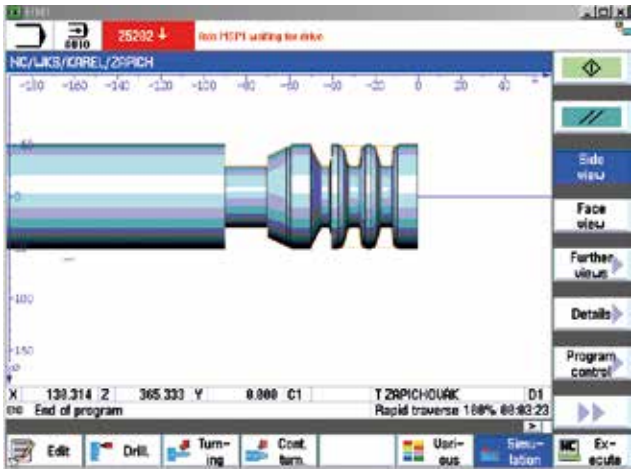
Heidenhain Manualplus 620
Siemens Sinumerik 828D

Systems define oneself with simple operating and attendance. Data on screen are easy readable, the graphic of programming displays all possibilities of machining. Hand wheel is instrumental towards testing of tools and determination of zero point of section ("towards scratchy of section"). By means of interactive programming it is possible to turn the difficult formative surface like for example cones, ranges, necks or threads. Your products will be ready more precisely and fundamentally faster.

Technologic preferences of machines:

- Suitable for piece or small lot production of parts
- Fast setting of new component also repeated production
- Fast school in and employee orientation of staff
- Operating goes out from customs of the turner
- High load factor of the machine minimalize price per piece
- By virtue of cycle programming accompanies the simply operating with CNC productivity
- Allows manual production of simple sections also automatic production of complicated components
- Support of programming with rich file of lathe cycles incl. contour programming
- Complete machined of complicated sections for third times than on conventional machine





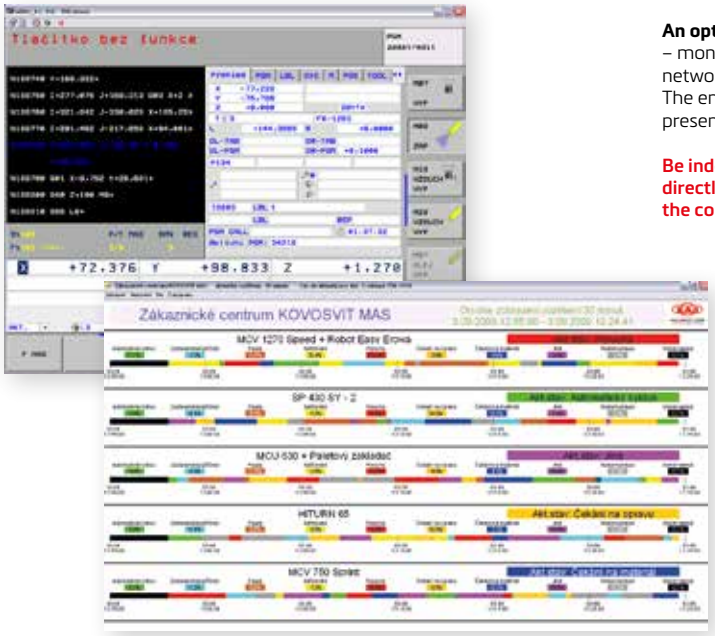
Remote diagnostics

additional service that saves money

- Fastest technical and technological service for the customer
- Immediate "on-Line" contact with the customer's machine
- Inexpensive and reliable technical solution
- Experienced team of diagnosticians and application engineers - technologists

Remote diagnostics are the analysis of the machine's condition via communication software by a diagnostician. Using the communication software, the screen and the dialogue menu of the control system are remotely accessible via Internet. The actual communication software does not include any diagnostic tools. The service technician only remotely uses the internal diagnostic capabilities of the control system. The screen and the dialogue menu of the CNC are accessible from the service technician's computer at any distance. The technician not only monitors the current condition of the machine via his screen, but using the keyboard of his computer controls the CNC menu, transfers basically all data in both directions, and using the CHAT function communicates with the operator. During machine failure analysis, the technician utilises all diagnostic functions integrated in the CNC.

The goal of Remote diagnostics is to shorten the downtime of the machine by precisely targeting the subsequent servicing activity. This brings especially a reduction of customer's losses arising from the machine downtime.



MAS MACHINE MONITOR

tool to increase the productivity of your plant!

MAS MACHINE MONITOR is a software product that allows the customer to monitor the time utilisation of machine during the shift online or allows to view the operating status history and to subsequently take measures in production and logistics. All this is possible in the visualisation program that is installed in the customer's PC.

MAS MACHINE MONITOR an arguable leap increase of your operation's productivity = YOUR PATH TO COMPETITIVENESS ENHANCEMENT THANKS TO THE MAS!

Basic functions of the MAS MACHINE MONITOR:

- Monitoring of utilisation of any number of machines, possibility of machine classifying into groups (workplaces)
- Online display of machine status or browsing through utilisation history
- Number of made pieces, display of power circuit start interval – electricity saving measures
- Summary statistics for individual machines
- Important information for company management and production control

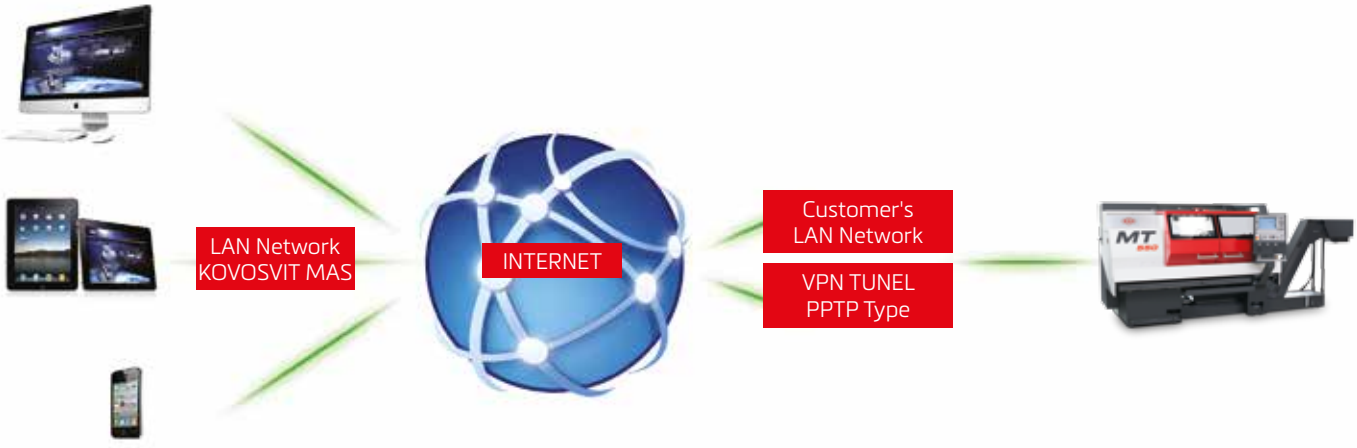
An option of the MAS MACHINE MONITOR is the MAS GSM MONITOR – monitoring of selected machine conditions via mobile phone operator network at selected phone numbers in the form of an SMS message. The employee can thus immediately react to an event even if he is not present near the machine at the moment.

Be independently and factually informed about the course of your jobs directly from the machine even during your physical absence from the company!

GSM MONITORING - function of the GSM MODULE:

Via the touch panel, it is possible to define up to 5 phone numbers that can be used for monitoring and controlling of the machine.

SMS messages about machine condition changes are then sent to the entered phone numbers. The current condition of the machine can also be queried by sending an SMS reading "STATUS". The SMS can optionally be sent also upon meeting a certain condition (e.g. making a certain number of pieces etc.)



KOVOSVIT MAS, a.s.
náměstí Tomáše Bati 419, 391 02 Sezimovo Ústí
Czech Republic

T: +420 381 632 501
F: +420 381 633 570
E: sale_cz@kovosvit.cz

servisní centrum MAS: +420 381 74 74 74

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www.kovosvit.cz