

TECHNICAL DATA

OPTIONS

Drives of frontal rotary equipments (S01 up to S06 axes) **max.**

Speed	rpm	6 000
Standard torque	Nm	9
Increased torque	Nm	20

Slide for machining from cut-off side with 1 tool holder (X6 axis) **max.**

Rapid traverse	m/min	15
Radial travel	mm	80
Power	N	2 900
Ball screw thread pitch	mm	5

Slide for machining from cut-off side with 3 tool holders (X6 and Y6 axes) **max.**

Rapid traverse	m/min	15
X-axis radial travel	mm	80
Radial power	N	2 900
Y-axis travel	mm	106
Number of tool holders		3
Number of driven tools		3
Ball screw thread pitch	mm	5

Drives of driven tools (ST1 up to ST6 axes) **max.**

Number at disposal		6
Speed	rpm	6 000
Standard torque	Nm	9

Attachments for profiled holes (U1 up to U5 axes) **max.**

In working positions		1 to 5
Rapid traverse	m/min	30
Power	N	2 200
Stroke	mm	250
Ball screw thread pitch	mm	10

Turning of outer polygons and milling of threads **max.**

Speed	rpm	4 500
Torque	Nm	11

System of quickly changeable tool holders

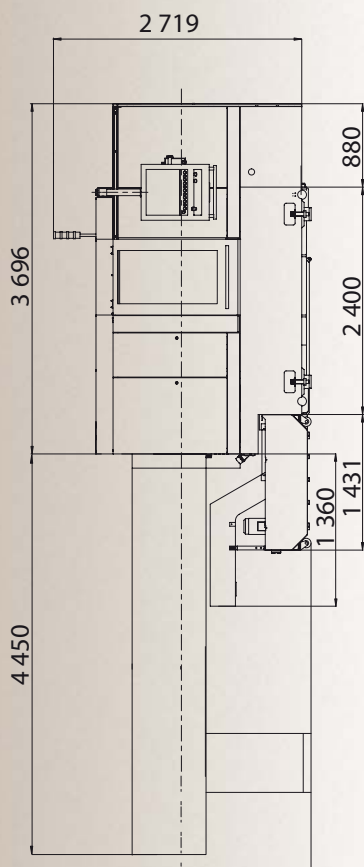
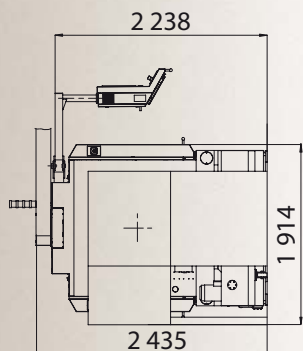
CAPTO	C3, C4
KENNAMETAL	K32, K40

Description, illustrations and numerical data may not always correspond with the machine latest version.

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TIGRIS, s. r. o., Zlín 4/09

Dimensions of bar stock		min.	max.
Bar diameter at collets of SK52 B21 type	mm	16	48
Bar diameter at collets of 9112 E type	mm	15	45
Bar diameter at collets of 9070 E type	mm	12	37
Bore of clamping tube of bars at collets of SK52 B21 type	mm		53
Inner diameter of rear parts of collets of 9112 E type	mm		50
Inner diameter of rear parts of collets of 9070 E type	mm		42
Length of bars	m		4
Spindles (SP1 up to SP6 axes)		nominal	max.
Number			6
Pitch diameter of spindles	mm		340
Speed	rpm		5 000
Power output of spindle motor	kW	7	10.5
Total power output of motors of spindles	kW	42	63
Nominal torque on spindle at 1 000 rpm	Nm	66.8	
Time of spindle drum indexing	sec	0.7 - 1	
Frontal slides (W1 up to W5 and Z6 axes)			
Number			6
Rapid traverse	m/min		30
Power	N		3 400
Travel	mm		250
Ball screw thread pitch	mm		10
Compound slides (X1 up to X5 and Z1 up to Z5 axes)			
Number			5
Rapid traverse (radial and axial)	m/min		15
Axial travel (Z1 up to Z5 axes)	mm		120
Axial power (Z1 up to Z5 axes)	N		3 700
Radial travel (X1 up to X5 axes)	mm		80
Radial power (X1 and X2 axes)	N		3 700
Radial power (X3 up to X5 axes)	N		2 900
Ball screw thread pitch	mm		5
Cutt-off slide (U6 axis)			
Rapid traverse	m/min		15
Power	N		2 900
Travel	mm		55
Ball screw thread pitch	mm		5
Machine dimensions			
Length (without bar loader and electrical cabinet)	mm		3 696
Width x Height	mm	1 914 x 2 719	
Weight without el. cabinet (el. cabinet 1 000 kg)	kg		10 750
Coolant tank volume	litres		1 250



SIX-SPINDLE AUTOMATIC LATHE

MORI-SAY 642
TMZ CNC



- ▶ High accuracy at mass and series production
- ▶ High thermal stability
- ▶ Rigidity comparable to cam-operated machines
- ▶ 6 independent AC drives of spindles
- ▶ Altogether 24 CNC controlled axes
- ▶ 20 additional CNC controlled axes for optional equipment control
- ▶ 2 SINUMERIK 840 D CNC control systems
- ▶ Own technological TMis software
- ▶ Large selection and flexibility of quick-change tool holders
- ▶ Hydraulically or pneumatically controlled auxiliary functions
- ▶ Machine conforms to the 89/392 EEC directives

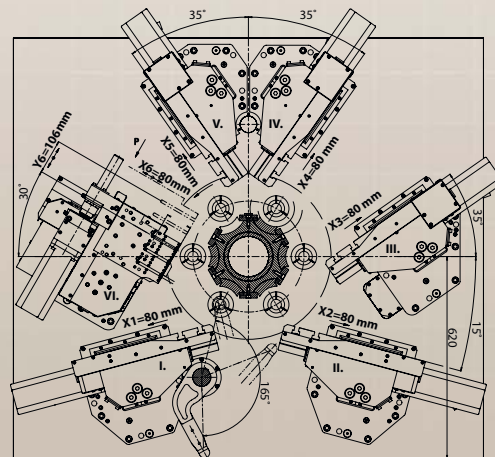
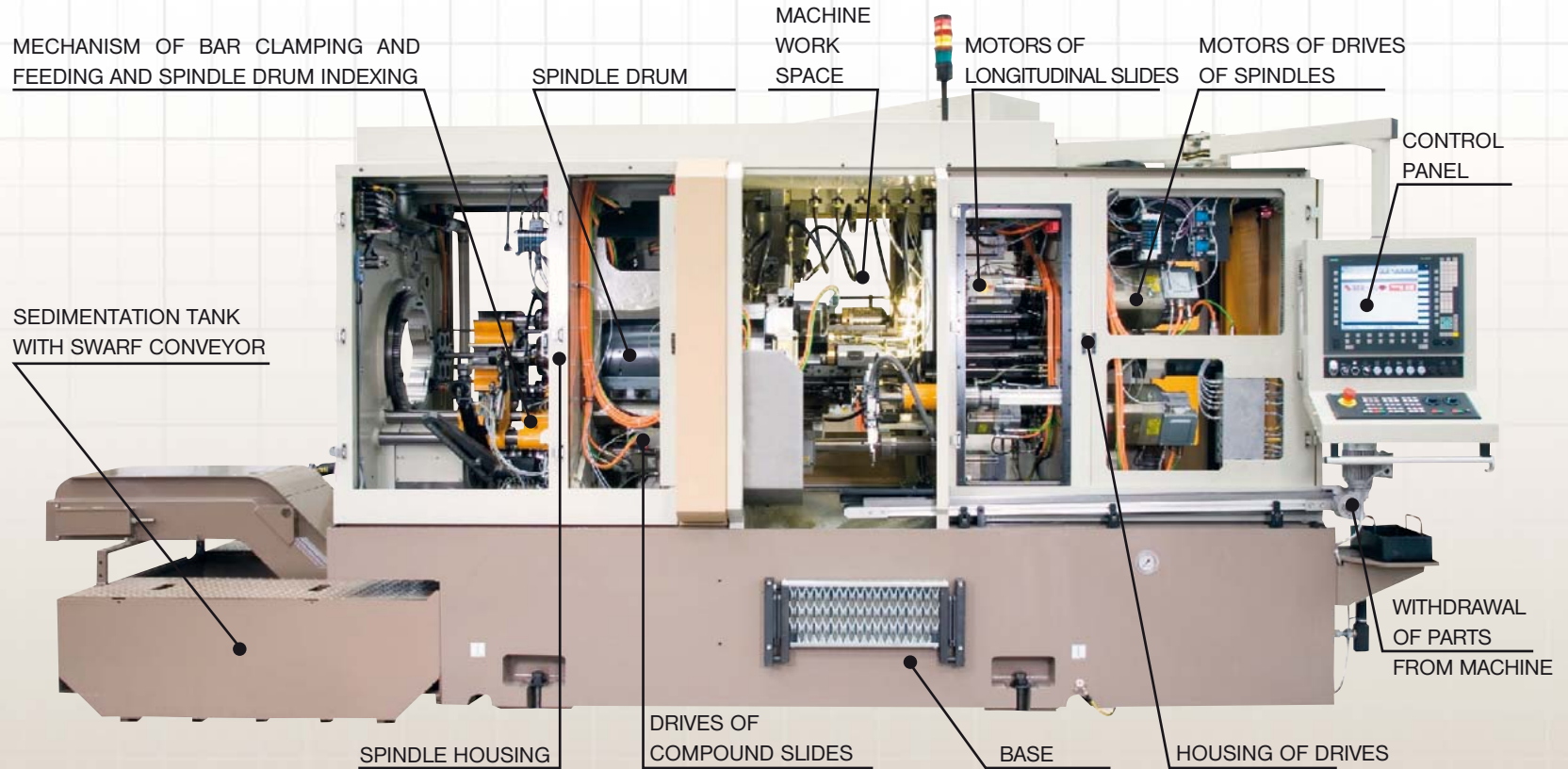
Up to 44 CNC controlled axes

Each spindle is driven with an external AC drive, so it is not necessary:

- spindle drum reverse indexing after making 6 pieces
- connecting and disconnecting of the AC drives at each indexing of the spindle drum
- cooling of spindle drum on account of the after-heat generated by the electrospindles
- power supply to the electrospindles through the rotary bus

The progressive technical solution developed by our designers and protected by the patent allows the independent control of speed of each spindle and precise dividing of the power to each spindle AC drive on the basis of conditions of machining required by individual customers. Simultaneously, the absolute independence of each spindle gives the possibility to employ any method of machining including the operations which require the stoppage and orientation of spindles. This makes the TMZ 642 as the real multifunction machining centre.

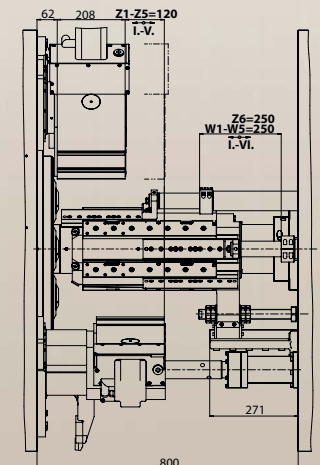
In order to make the programming easier, the own technological software has been created.



Arrangement of 6 independent compound slides



Work space



Arrangement of longitudinal slides



Mobile sedimentation tank inserted into the machine base - traditional solution by the TAJMAC-ZPS



Motorization of drives of spindles and axial tools

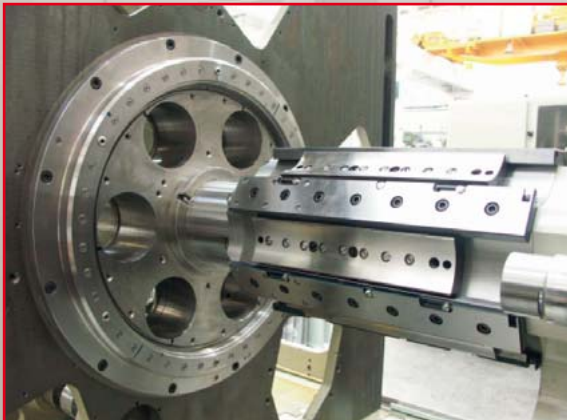


STANDARD VERSION

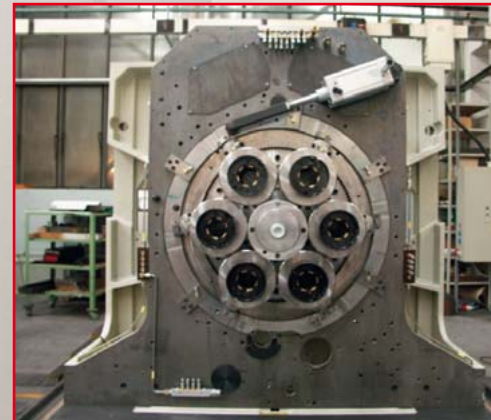
- Spindle drum locking by 3 rims with spur gearing
- Two SINUMERIK 840 D CNC control systems
- 6 motors for spindles
- 6 longitudinal slides
- 5 compound slides
- 1 cutt-off slide
- 1 axis for spindle drum indexing with bar stock feeding in the 1st working position
- Altogether 24 CNC controlled axes
- 20 additional CNC controlled axes for optional equipment control
- SIMODRIVE motors and drives with stepless speed control from the SIEMENS firm
- All auxiliary functions are controlled pneumatically

OPTIONAL EQUIPMENT

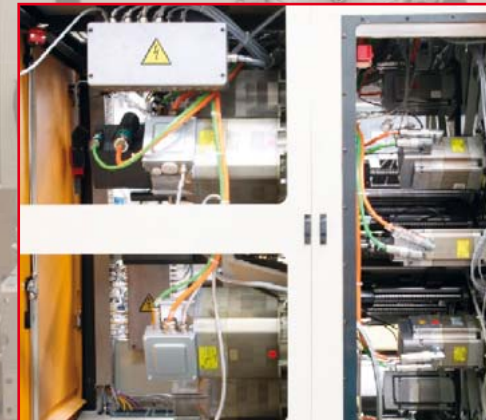
- Pick-up spindle with CNC controlled speed and pneumatically controlled collet clamping
- Further attachments for longitudinal machining
- Attachments for profiled holes
- Slide for machining from cut-off side (1 tool holder)
- Slide for machining from cut-off side in 2 axes (3 tool holders)
- Attachment for radial and axial drilling and milling operations from cut-off side
- Driven tools with CNC controlled speed
- Manipulator for withdrawing of parts from pick-up spindle
- Parts conveyor
- Bar stock feeding in the 4th station
- Large selection of swarf conveyor systems
- Large selection of high-pressure cooling systems of tools for pushing-through and for thread milling and external polygon machining
- Complete setting-up for a part machining and acceptance of machine in the TAJMAC-ZPS plant



Machine heart: spindle drum body of longitudinal slides



Spindle housing with spindle drum and clamping devices



Tandem arrangement of housing of drives:

- section of drives of axial tools
- section of drives of longitudinal slides
- section of drives of spindles