



- Six-spindle automatic lathe of the highest quality
- High accuracy at mass and series production
- High rigidity at machining
- SIMATIC S 7 programmable logic controller
- Controlled feed and spindle motors
- High thermal and dynamic stability
- Version for machining of bars of 57 mm and 67 mm max. dia
- Machine version with general stop of spindles (bar dia 57 mm)
- Machine conforms to the 89/392 EEC directive

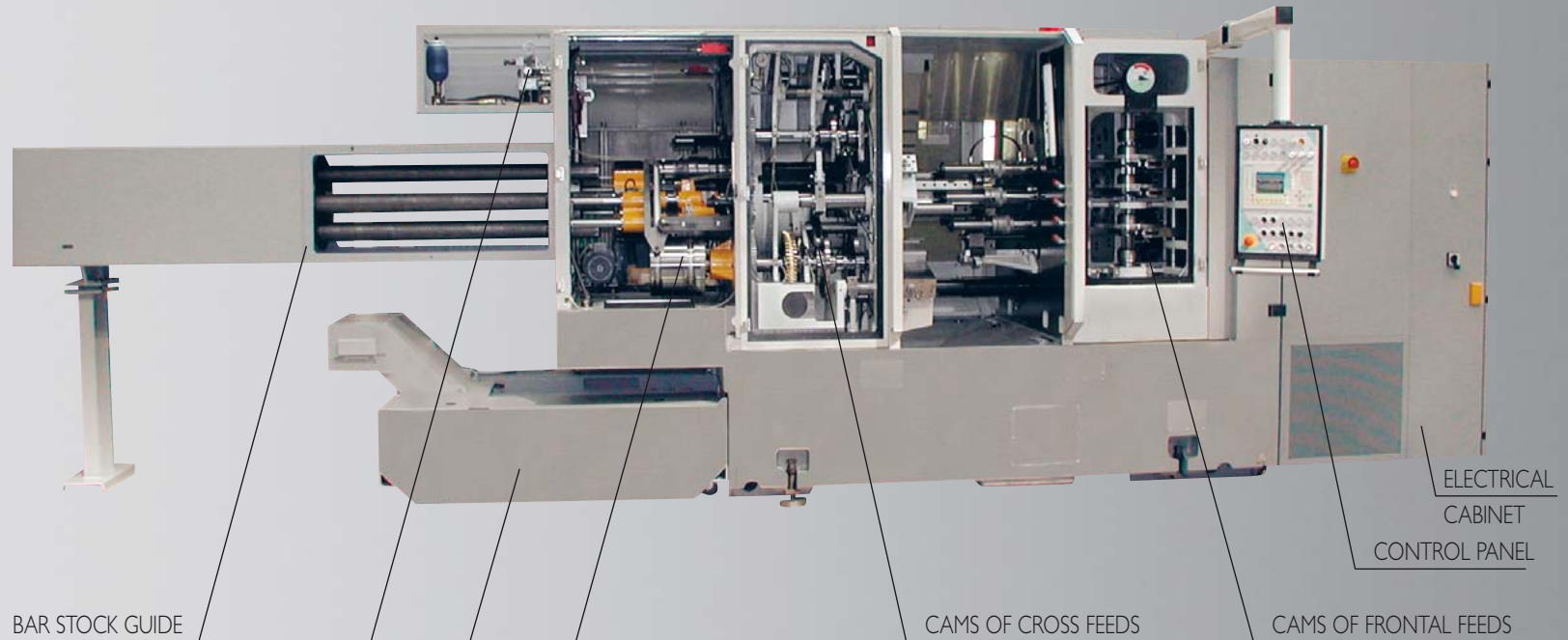
SIX-SPINDLE AUTOMATIC LATHE

MORI-SAY 657AC

The new machine conceptually congruent with the series of the TAJMAC-ZPS multi-spindle automatic lathes. It is intended for the mass and series production of the precise components from the bar stock.

CONSTRUCTION

The conception characteristics of the high accuracy and rigidity at machining
Machine can produce, after additional mounting of the optional equipment, two different simple components, so it can operate as two three-spindle machines
Machine is fully mechanical one with variable speed motors for feeds and spindles controlled by the programmable logic controller
Six spindles – usage of the collets of max. clamping dia of 57 mm and 67 mm
57 mm machine versions can be amplified with the STOP function of spindles
All sliding surfaces are hardened and automatically lubricated
Machine functions are controlled with the programmable logic controller
Hydraulically actuated disengagement of the bar stock feeding and clamping as well as of the spindle drum indexing



BAR STOCK GUIDE

HYDRAULICS

INDEPENDENT SEDIMENTATION TANK

MECHANISM OF BAR CLAMPING AND FEEDING

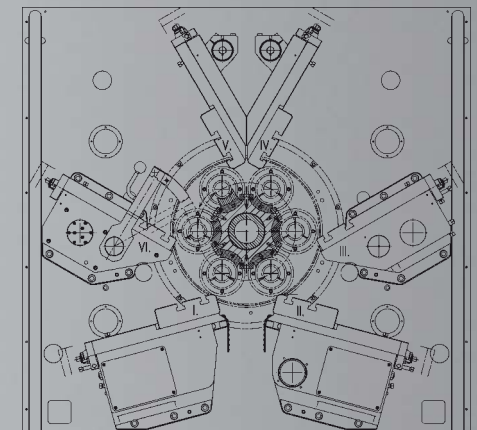
CAMS OF CROSS FEEDS

CAMS OF FRONTAL FEEDS

ELECTRICAL CABINET CONTROL PANEL



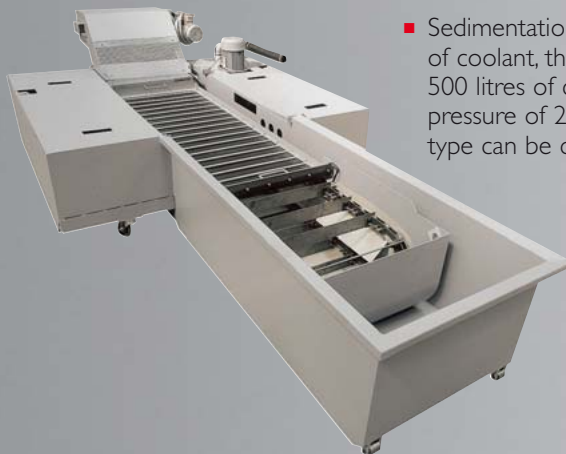
Sturdy mechanisms enable efficient machining of the tough materials. Cam stepping mechanism is used in order to improve the dynamics of the spindle drum indexing.



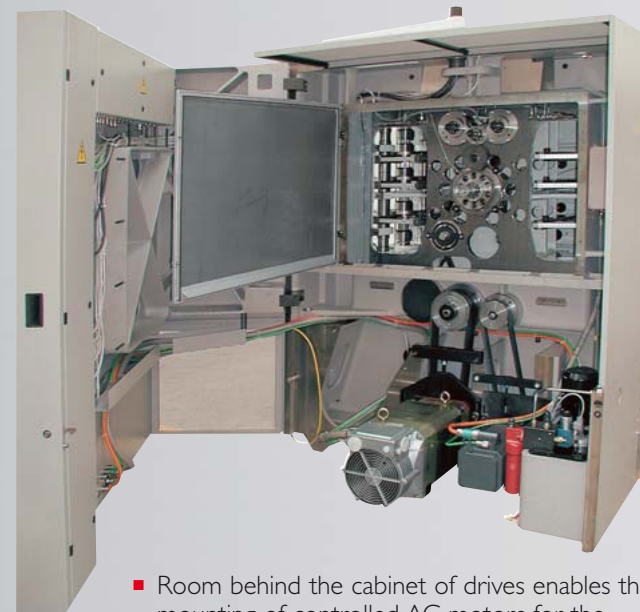
■ Arrangement of 6 independent cross slides



- Machine can be equipped with the standard bar stock magazine, complemented with various types of automatic bar stock loaders, contingently with various types of automatic bar stock magazines. Congruent quick-change working cams are used for the drives of longitudinal and cross slides.



- Sedimentation tank takes 1 400 litres of coolant, the coolant pump delivers 500 litres of coolant per minute at the pressure of 2.6 bars. Swarf conveyor type can be chosen from the offer:
 - slat band type
 - drag link type
 - worm type
 - magnetic type



- Room behind the cabinet of drives enables the mounting of controlled AC motors for the drives of attachments into 10 positions. Solution of the drives of spindles allows the standard version, spindle Stop version, contingently Dual speed of spindles.

MACHINE STRONG POINTS

Each frontal, cross and compound slide is controlled by an independent disk cam which provides the possibility of the stroke adjustment on the rocker arm of the corresponding drive. Sturdy mechanisms enable efficient machining of the tough materials.

Cam stepping mechanism eliminating the vibration caused by the effect of the Geneva mechanism dynamic properties has been used in order to improve the dynamics of the spindle drum indexing.

Machine is equipped with the standard bar stock guide and can be complemented with various types of automatic bar stock loaders and magazines.

Congruent quick-change disk cams for drives of frontal and cross slides.

Sedimentation tank takes 1 400 litres of coolant and makes it possible to keep the temperature of coolant at acceptable temperature levels which influences favourably the machine thermal stability and subsequently the stability of workpiece dimensions.

PLC SIEMENS, display for programming and diagnostics of machine functions.

Compound slides in the 1st, 2nd, 4th and 5th stations.

Possibility to choose the various types of swarf conveyors.

Overload release clutches in all branches of machine feed drives.

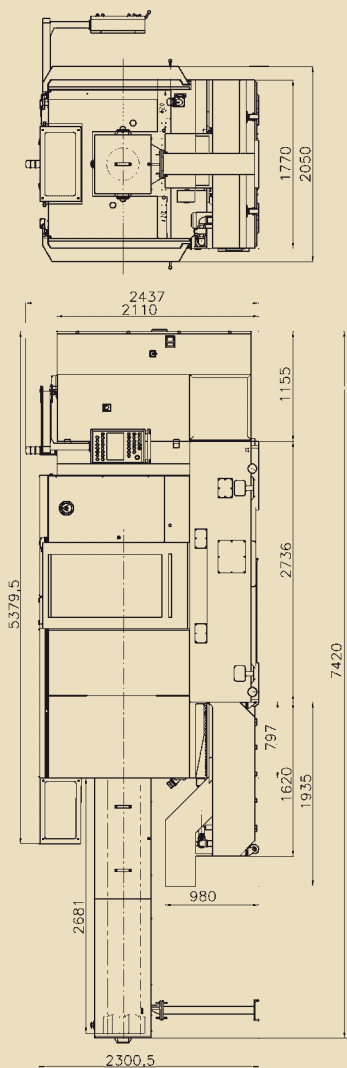
Possibility of the mounting of the bar stop in the 3rd station.

Possibility of the additional mounting of the general stop of spindles (657 version).

Mechanically controlled tool slide for the pick-up.

Stop of the spindle of the pick-up.

Possibility of the additional mounting of a number of NC options.



STANDARD VERSION

- Spindle drum locking by a triad of rims with spur gearing
- SIMODRIVE SIEMENS variable speed motors
- PLC – SIEMENS SIMATIC programmable logic controller; S 7.300 model
- 6 cross slides and 6 frontal slides
- 4 independent compound slides in the 1st, 2nd, 4th and 5th stations
- Feeding, clamping and bar stop in the 6th station
- 4 safety clutches preventing from the slides overloading
- Standard bar stock guide

MACHINE VERSIONS

- S version (STOP version) with the possibility of the general stop of spindles

OPTIONAL EQUIPMENT

- Device for the general stop of spindles – 657SAC version
- Hydraulic oriented stopping of spindles – 657SAC version
- NC oriented stopping of spindles – 657SAC version
- Bar stock feeding attachment in the 3rd station
- Pick-up spindle with hydraulically controlled collet clamping
- Brake of the pick-up spindle
- Mechanically controlled tool slide for the cut-off side machining in the 6th and 3rd stations
- Tapping and thread chasing attachments
- High-speed drilling attachment
- Reaming attachment
- Attachment for a face milling at rotation and at spindle in standstill
- Push-broaching attachment
- NC drives of rotary tools
- Necking-down attachment
- Drilling, milling and threading units
- Radial thread rolling
- Workpiece marking
- NC compound slides for the 1st, 2nd, 4th and 5th stations
- Preparation for the automatic bar magazine
- Preparation for the oil mist exhaustion
- Selection of the equipment for swarfs carrying out and coolant in an independent sedimentation tank
- High-pressure coolant and tool wash-out
- Setting-up for a part machining and the machine acceptance in the TAJMAC-ZPS plant

	657AC	657SAC	667AC
Number of spindles	6	6	6
Inner dia of clamping tube	∅ mm 66	66	78
Bar stock dimension			
Round cross section	∅ mm 57	57	67
Hexagonal cross section	mm 50	50	58
Square cross section	mm 40	40	47
Pitch diameter of spindles	mm 340	340	340
Max. length of bar feeding	mm 160	160	160
Speed range of spindles	rpm 200-3200	200-2750	200-3200
General stopping of spindles	NO	YES	NO
2nd speed range of spindles	NO	NO	NO
Range of working times	sec 1.4-90	1.4-90	1.4-90
Idle time	sec 1.25	1.25	1.55
Frontal slides – number	6	6	6
– Range of working strokes	mm 0-142	0-142	0-142
– stroke	mm 45-150	45-150	45-150
– adjustability of slides	mm 240	240	240
– adjustability of central block	mm 220	220	220
Cross slides – number	6-8	6-8	6-8
– adjustability	mm 25	25	25
– range of strokes I., II.	mm 30-70	30-70	30-70
– range of strokes III. to VI.	mm 30-60	30-60	30-60
Compound slides – number	4	4	4
– range of longitudinal strokes (I., II.)	mm 35-100	35-100	35-100
– range of longitudinal strokes (IV., V.)	mm 35-105	35-105	35-105
Drives		SIEMENS	
Main spindle motor	kW 30	30	330
2 nd speed range motor	kW –	–	–
Feed motor	Nm 38	38	38
Machine operational input	kVA 43	43	43
Electrical equipment		400 V, 50 Hz	
PLC – Programmable Logic Controller		SIEMENS, SIMATIC S7-300	
Machine dimensions			
– Length with bar stock guide	mm 7 420	7 420	7 420
– Length without bar stock guide	mm 5 380	5 380	5 380
– Machine width	mm 2 200	2 200	2 200
– Machine height	mm 2 440	2 440	2 440
– Height of spindle drum axis	mm 1 420	1 420	1 420
Machine weight	kg 15 650	15 950	15 700

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

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