SIX-SPINDLE AUTOMATIC LATHE

MORI-SAY 632AC

- 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 32 mm and 42 mm max dia
- Machine version with general stop of spindles
- Machine conforms to the 89/392 EEC directive

TAJMAC – ZPS

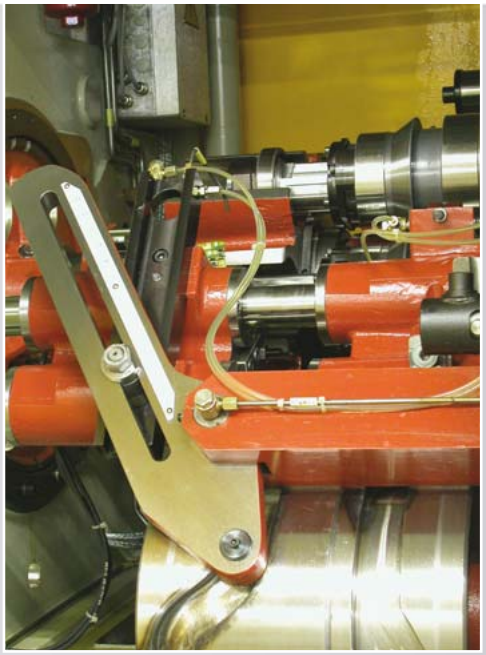
SIX-SPINDLE AUTOMATIC LATHE

MORI-SAY 632AC

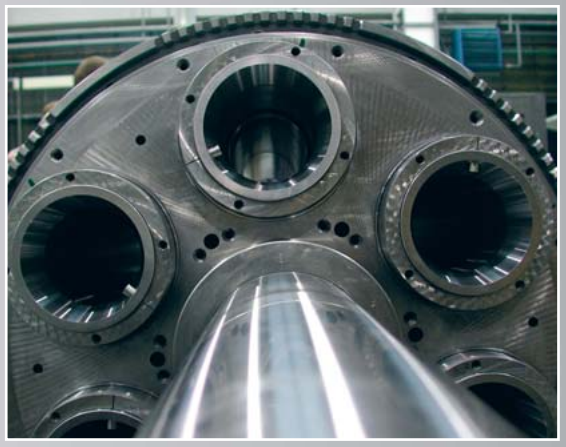
This innovated machine is comparable with other cam machines of the same size for the bar stock machining offered on the market. The important improvements of the constructional character with the emphasis on amplification of the machine technological possibilities have been done without an interference with the conception of the MORI-SAY machines.

CONSTRUCTION

The conception characteristics is the high accuracy and rigidity at machining
Spindle drum indexing mechanism with safety clutch
Working space – couple of slides in the 6th station
Sedimentation tank capacity of 1 200 litres makes it possible to keep the temperature of coolant at acceptable temperature levels which influences favourably the machine thermal stability and subse-quently the stability of workpiece dimensions
Replacement of the Geneva mechanism by a stepping mechanism with a double cam and carrousel enabled
– reduction of the unproductive angle of the cam shaft rotation by 20°
– elimination of the vibration caused by the effect of the Geneva mechanism dynamic characteristics
– spindle drum indexing with a precision which reduces the stress of the locking mechanism
Independent overload released clutch is installed on each of four cam shafts
Usage of the controlled AC motor enables the stepless setting of the spindle speed from the machine control panel this replaces the step-by-step change of the spindle speed by means of the gear wheels exchange

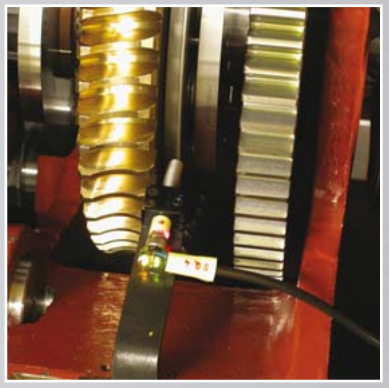


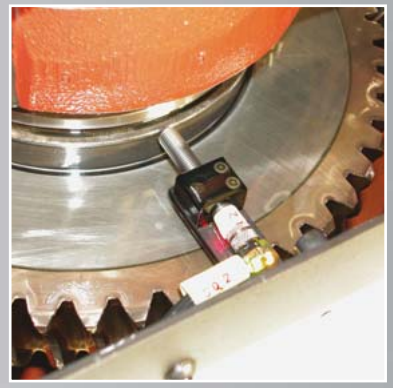
■ Bar stock feeding and clamping



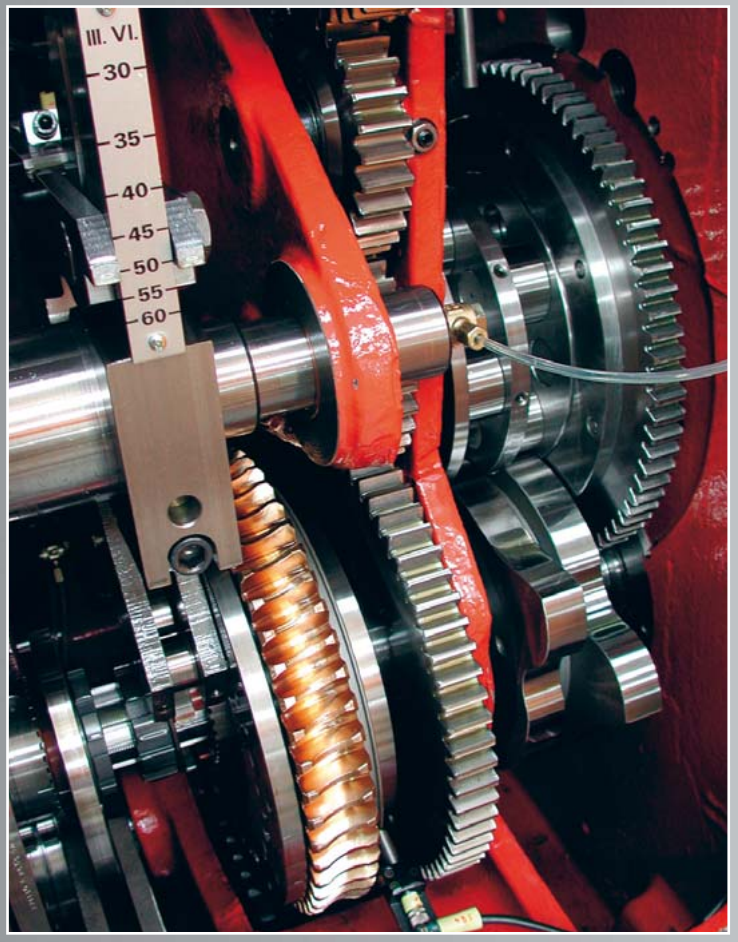
■ Spindle drum with locking rim

■ Spindle drum with triad of locking rims

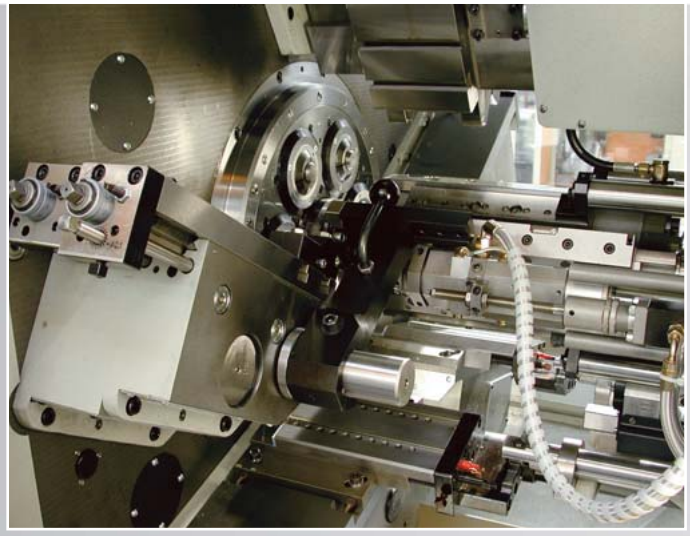




■ Detail of 4 independent overload release clutches



■ Spindle drum indexing mechanism with safety clutch



■ Working area – couple of slides in the 6th station

STRONG POINTS OF TECHNICAL IMPROVEMENT

Tool slide for the machining of the cut-off side in the 6th station is controlled by an independent cam which enables the fast and complete machining of a part

Bar stock feeding can be fixed, as the option, in the 1st station. This enables the extension of the operational angle for the cut-off side machining in the 6th station up to 100°

Slide in the 3rd station can be divided into two slides controlled by independent cams to enable both the operation with double feeding and the machining of the cut-off side as well as the double machining during the machine normal cycle

Centre block can additionally be equipped with an independent movement controlled by the cam, and with the supporting stays for machining of the long or extremely precision components

Spindle drum indexing hydraulic disengagement, feeding and clamping of the bar stock are controlled from the machine control panel

Speed of spindles, feed rates and preselected stop according to the number of workpieces is chosen on the machine control panel keyboard

High congruence of parts used with the MORI-SAY 832 machine

Sufficiently dimensioned electrical cabinet for additional installation of the NC options

Simple installation of the NC drives of frontal saddles including the pick-up

New arrangement of the work space improves the swarf removal from the machine and ensures more efficient oil mist exhausting

Easy access to the transfer pump

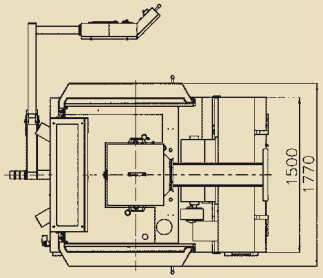
Adapted supporting of the spindle drum

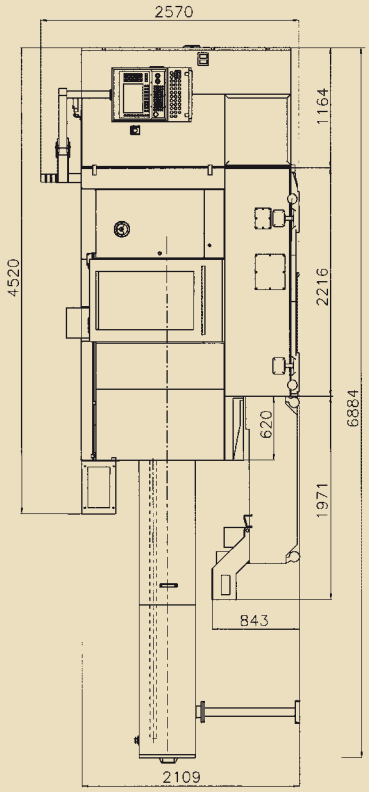
COMPATIBILITY

Majority of the standard and optional equipment is congruent with the equipment of the 6 or 8 spindle automatics of the 25, 32 and 42 mm size series which are in the MORI-SAY type series manufactured since the year 1993

TECHNICAL DATA

MORI-SAY 632AC





STANDARD EQUIPMENT

- 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 with the possibility of the general stop of spindles (632SAC and 642AC models)

OPTIONAL EQUIPMENT

- Independent drive of the central block
- Bar stock feeding attachment in the 1st station
- Device for the general stop of spindles – 632SAC and 642AC versions
- Hydraulic oriented stop of spindles – 632SAC and 642AC versions
- NC oriented stop of spindles – 632SAC and 642AC versions
- Bar stock feeding attachment in the 3rd station
- Pick-up spindle with hydraulically controlled collet clamping
- Brake of pick-up spindle
- NC drive of the pick-up spindle
- Mechanically controlled tool slide for the cut-off side machining in the 6th and 3rd stations
- NC tool slide for the cut-off side machining in the 6th station
- 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 heads on frontal slides – Two-spindle head, Three-spindle head, Four-spindle head
- Extra-axial drilling, fixed
- Extra-axial drilling, synchronous
- Cross drilling
- Drilling, milling and threading units
- Radial thread rolling
- Workpiece marking
- Thread milling and polygon machining at rotation
- Thread chasing
- 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 the 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

		632AC	632SAC	642AC	642SAC
Number of spindles			6		
Inner dia of clamping tube	Ø mm	43	43	53	53
Bar stock dimension					
Round cross section	Ø mm	32	32	42	42
Hexagonal cross section	mm	27	27	36	36
Square cross section	mm	22	22	29	29
Pitch diameter of spindles	mm		276		
Max. length of bar feeding	mm		125		
Frontal slides – number			6		
Max. total strokes	mm		120		
Range of working strokes	mm		0 – 110		
Cross slides – number			6-8		
Max. total strokes	mm		60		
Range of working strokes	mm		0 – 55		
Compound slides – number			4		
Max. total longitudinal strokes	mm		70		
Range of working longitudinal strokes	mm		0 – 64		
Working cycle					
Range of working times	sec		1.4 - 90		
Idle time	sec	1	1	1	1-1,3
Spindle stopping		no	yes	no	yes
Main motor					
Nominal power output	kW		22		
Speed range of spindles	rpm	250-4 250	250-4 250	250-4 250	250-4 250
Speed range STOP spindle	rpm		250-3 350		250-3 350
Feed motor					
Nominal power output	kW		9		
Nominal torque	Nm		38		
PLC			SIEMENS, SIMATIC S 7-300		
Drives			SIEMENS		
Machine dimensions					
Total length with bar stock guide	mm		6 884		
Total length w/o bar stock guide	mm		4 520		
Machine width	mm		1 920		
Machine height	mm		2 570		
Machine weight without bar stock guide	kg	11 620	11 880	11 625	11 885
Capacity of tanks					
Cooling oil / coolant	litre		1200		
Hydraulic oil	litre		170		
Lubricating oil	litre		90		
Machine electrical consumption					
Operational input of electrical equipment	kW/kVA		35/41		
Connecting cable cross section	mm^2		4/35		
Maximum current	A		160		
Voltage	V/Hz		400/50 or 220/60		

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

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