

# Stock of machine tools

## Large-batch machining

Turning lathes				
Name	Type	Max diameter of machined parts (mm)	Max length of parts	Other
Horizontal two-spindle turning center	MAZAK100MSY	51		interception 2 heads +axis Y
Vertical single-spindle turning centers	EMAG VL 5i	270		grabbing-reversing unit
Self-loading vertical turning center	EMAG VL 3 Duo	150	110	grabbing-reversing unit
Twin-spindle automatic turning lathes	MAZAK Quick Turn Nexus 250 II MS	380		rotary tools
Vertical automatic turning lathes	MAZAK Megaturn Nexus 900 M	920	800	rotary tools
Vertical automatic turning lathes	HWACHEON VT - 450	460	450	
Vertical double automatic turning lathes	DOOSAN V 450 T	460	450	
Centre lathes	DOOSAN Puma 2600M	376	760	rotary tools
Centre lathes	DOOSAN PUMA GT2600 + robot Kawasaki RS020N	460	658	automated looping and unloading
Centre lathes	DOOSAN PUMA GT2600M	410	610	rotary tools
Centre lathes	HWACHEON CUTEX 160	300	170	rotary tools
Centre lathes	HWACHEON Hi – TECH 100 B	210	350	rotary tools
Centre lathes	MAZAK Quick Turn Nexus250 II	264	515	
Centre lathes	TUJ – 560 Tarnów	560 (above bed) 340 (above slide)	145	
Turning lathes	TZC 32N1	630	200	
Horizontal two-spindle turning center	TAKAMAZ XY120 PLUS	42		interception 2 heads +axis Y
Vertical automatic turning lathes	MAZAK Megaturn Smart 600 M	629	660	rotary tools
Centre lathes	DOOSAN PUMA 3100L/driven tools	420	760	rotary tools
Centre lathes	kłowa DOOSAN PUMA 3100LM/driven tools	420	1285	rotary tools
Swiss Lathe	MAIER MLK32 Basic + bar feeder FMB Turbo 3 – 36/32000 “C”	32		rotary tools, interception + axis Y

Milling machines			
Name	Type	Max dimensions of machined parts or table dimensions	Other
5-axis vertical milling centers	MAZAK Variaxis i – 600	Ø 700 x 450	full 5-axis
Vertical CNC machines	OKUMA Eurocenter V50	1020 x 510 x 525	4 <sup>th</sup> axis max Ø 280 x 600
Vertical CNC machines	OKUMA MB-46 VAE	560 x 460 x 460	
Vertical CNC machines	TOPPER TMV-850A	850 x 500 x 530	
Vertical CNC machines	TOPPER QVM -610A + APC	610 x 410 x 460	
Vertical CNC machines	FYJ	420 x 1280	
Vertical CNC machines	POS CE1000	1200x600	

Hobbing machines			
Name	Type	Max dimensions of machined parts or table dimensions	Other



CNC gear cutting machines	Gleason-Pfauter GP300	φ300 (nominal workpiece diameter) nominal module 6	7 axes
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Gear shaping machines			
Name	Type	Max dimensions of machined parts or table dimensions	Other
CNC slotting machines	Gleason-Pfauter P300ES	φ300 (nominal workpiece diameter) φ450 (max. diameter of the workpiece rotation) nominal module 6	8 axes

Other			
Name	Type	Parameters	Other
Broaching machines		max force - 40 tonnes	
Marking machines	TECHNIFOR CN101		
Control and measurement devices	ZEISS CONTURA G2 ZEISS DURAMAX BROWN&SHARPE-DERBY KONTUROGRAF MAHR		

### Small-batch and single-piece machining

Machining		
Name	Characteristics	Other
Bandsawing machines	max diameter 320 mm	
Slotting machines	stroke up to 350 mm	
Horizontal milling machines	table up to 390 x 1 500 mm	
Vertical milling machines	table up to 400 x 2 000 mm	
Milling-centering machines	up to Ø 160 x 900	$L_{min}$ ; Ø =120
Screwing machines	steel up to M16; cast iron up to M20	
Cylindrical grinder	up to max Ø 250 or L max 1200	max 250 kg
Internal grinders	Ø 40/ Ø 400 x 500 Ø 10/ Ø 160 x 200	
Surface grinders	L = 1000; Ø 750	
Spline grinders	Ø 25/ Ø 125 x 200/1350	
Center hole grinders	Ø 160 x 1000	
Face lathes	up to Ø 1130 x 500	
Centre lathes	up to Ø 500x 3000	
Jig drilling machine	table 800 x 400	
Drilling machines	up to Ø 50	
Boring machines	max boring Ø 700 mm max body size 800 x 800 x 800	
Hobbing machines	up to module 12; max diameter 1 250 mm	max number of teeth 400
Fellows type slotting machines	module 1;25 – 10 outer diameter Ø 30/ Ø 1000 inner diameter Ø 120/ Ø 1000	max rim width 150
MAAG type slotting machines	min/max diameter of machined wheel 100/1200 min/max m 2/15 min/max number of teeth 8/350	max width 320
Gleason type planning machine for straight bevel gears	max diameter Ø 500; m10 min/max number of teeth 10/200	max rim width 90
Gear grinders	max pitch diameter Ø 800; min diameter of roots Ø 30; min/max m 1/14	
Discharge Machine	travel X/Y/Z 350x250x250	



<b>Additional Services</b>		
Tool making and assembly work		
Welding	electric, gas and gas-shielded arc welding	
Heat treatment	annealing, quenching and tempering, hardening	
Carburizing		
Induction hardening	high frequency	37 kW
Shot peening and sandblasting		
Painting	wet painting	