

Horizontal CNC lathes

SP 12/15 CNC



SP 30 CNC



	SP 12/15 CNC	SP 30 CNC	SP 28 B CNC	SP 34 CNC	SP 40 CNC
Operating range					
swing diameter above the base	460	640	780	800	850
swing diameter above the support	280	480	420	720	710
distance between the tips – design N/L/XL	460	670/1150/1650	600/800/1000	670/1150/1600	800/1500/2000
Spindle					
spindle end – ČSN 201006 (DIN 55026)	A2 – 6	A2 – 8	A2 – 8	A2 – 8/11	A2 – 8/11/15
spindle drilling	62/75	87/102	75/90	102/130/160	102/165/180
rpm range	0-4000	0 – 3200/4000	0 – 3200	0 – 2500	0 – 2500/1650
maximum output 100% / 60% / 40% / 25% ED	9/11/13/16	17/20,5/25/29	17/20,5/25/29	17/20,5/25/29	22/27/33/40
Stroke in axis X and Z					
stroke in axis X	150	255	200+15	360	380
stroke in axis Z	400/640	610/1090/1500	500/700/900	610/1100/2200	880 – 5900
stroke on B-axis (lunette advance)			450/650/850		
fast feed in axis Z / X / B	30/30	30/30	30/30/20	30/30	20/30
maximum shutting force in axis Z/X	5	7	7	7	8/7
Tool head – servomotor drive					
number of positions	8	12	12	12	12
diameter of the clamping pin according to DIN 69880	30	40	40	40/50	50
dimension	25 x 25	25 x 25	25 x 25	25 x 25	32 x 25
Tool head – rotation tools					
rpm range		0 – 3000	0 – 3000	0 – 3000	0 – 3000
maximum torque		22/65	22/65	22/65	22/65
Tailstock					
tailstock stroke – design N/L	240/480	500/980/1500	400 – 1100	500/980/1500	750 – 6000
quill diameter	70	110/160	100/160	160	110
quill cone	MT4	MT4/MT5	MT4/MT5	MT5	MT5
quill stroke	80	100	100	100	100
clamping force		1,5 – 8	1,5 – 8	1,5 – 8	1,5-8
Machine dimensions					
machine dimensions (without shavings transporter) N/L	3110x2000x2050	4000/4550x2090x2250	3973 x 3129 x 2456	5100/5800/6500x2300x2300	6200/7000/6800x2130x2235
weight of the machine – design N/L	4000	6000/7000/9000	6500	9000/10000/11000	12000/16000
Standardní řídicí systém	SIEMENS Sinumerik 840 D-SL				

Horizontal CNC lathes

SP 45 CNC	SP 50 CNC	
970	1100	mm
850	1000	mm
1100/1700/2200	2200/3200/4200	mm
A2 - 11/15/20	A2 - 11/15/20	
160/228/305	160/228/305	mm
0 - 1500	0 - 1200	min ⁻¹
39/48/58	39/48/58	kW
450	535	mm
1250/1700/2250	2200/3200/4200	mm
		mm
20/30	20/30	m/min
12/14	12/14	kN
12	12	
50	50	mm
32 x 25	32 x 25	mm
0 - 3000	0 - 3000	min ⁻¹
22/65	24/65	Nm
750/1500/2300	2000/3000/4000	mm
200	200	mm
M6	M6	
200	200	mm
1,5-8	1,5-8	kN
6100/6600/ 7200x2230x2250	7200/8200/ 9200x2680x2900	mm
15000/16000/17000	16000/18000/19000	kg

SP 34 CNC



SP 35 CNC



SP 40 CNC



SP 50 CNC



- Cast-iron frame of the base
- Hardened and ground carrier surfaces
- Mating faces lined with sliding material TURCITE B
- High and permanent accuracy of movement and positioning
- Maximum utilization of working space whilst achieving minimal development dimensions
- Tray with automatic tool changer CAPTO 8
- Standard number of tools 24
- Max. tool overhang 200 mm, max. length 400 mm



Horizontal CNC lathes with automatic workpiece replacement

SP 15 MAN, SP 28 B and SP 30 MAN

These are horizontal lathes with integrated automatic handling outside the machine's workspace. The handling device is adapted to the workpiece and the required capacity. Replacement is fully automated by the machine when it is called up at the end of the NC program and the NC program is automatically started after successful workpiece replacement. Workpiece replacement ranges from 7 to 14 seconds depending on the size of the parts and is carried out using pneumatic cylinders and electric motors. This concept of handling is very widespread for its serviceability and reliability. The handling device is manually movable for easy removal away from the work area. This ensures easy access to the workspace of the tool changer and possible service interventions. Machines combine simplicity of design and high performance.



In addition, the **SP 28 B** horizontal lathe is complemented by a controlled B axis located at the bottom of the cast iron bed for the use of hydraulic double lunette for turning long workpieces. This solution allows you to independently program the lunette position and advance speed in the Z-axis during machining and fast advance to move to the starting position when the workpiece is changed. This solution significantly increases machine utilization and shortens downtime.



Horizontal CNC lathes

SP 300/400/600 CNC

Lathe with CNC control, slant bed, Y axis, and counter spindle (tailstock).

The lathes are intended for universal and economical machining of flanges, shafts, and parts from rods.



The lathe module design, and wide portfolio of special accessories allow for performing full range of machining operations. Usage of rotation tools in the tool head allows for performing drilling, milling and threading operations using the lathe. Excellent combination of the lathe power and high accuracy is guaranteed based on experience obtained from the lathes operation, as well as on unique design solutions of particular lathe nodes. Outstanding strength of the lathe structure, and stability of resulting dimensions during machining allow for using the lathe both in a small-lot, and specialized mass production.

The lathes have massive structure with minimum thermal deformation. Rolling guides are used for the lathe carriage movement in individual axes, and for shifting tailstock, or counter spindle, as applicable, with increased dynamic characteristics. The lathe upper carriage moves in two X and Y axes at an angle of 90°.

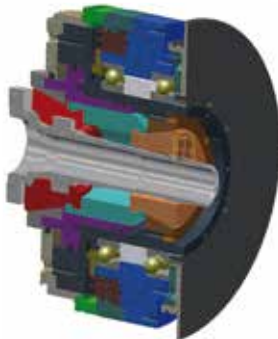


	SP 300/400 CNC	SP 600	
Operating range			
swing diameter above the base	750	850	mm
swing diameter above the support	300/400	600	mm
distance between the tips	600/800	800 – 5000	mm
Spindle			
spindle end – ČSN 201006 (DIN 55026)	A2-8	A2-8/11/15	
spindle drilling	90	102/165/180	mm
spindle taper	75	89/115/160	mm
rpm range	0-3200	0 – 2500/1650	min ⁻¹
maximum output 100% / 60% / 40% / 25% ED	17/20,5/25/29	22/27/33/40	kW
Stroke in axis X and Z			
stroke in axis X	150/200	380	mm
stroke in axis Z	600/800	880 – 5900	mm
stroke in axis Y	± 55	± 100	mm
fast feed in axis Z / X / Y	30/30/15	20/30/15	m/min
maximum shutting force in axis Z / X / Y	7/7/7	12/8/7	kN
Counterspindle			
spindle end – ČSN 201006 (DIN 55026)	A2-6	A2-6/8	
diameter of rod	51	–	mm
rpm range	0-4200	2000-3000	min ⁻¹
engine power	9/13	13/17	kW
feed in axis B	470/800	300-3000	mm
Tool head – rotation tools			
number of positions	12	12	
diameter of the clamping pin according to DIN 69880	VDI 40	VDI 50	mm
rpm range	0-3000	0-3000	min ⁻¹
maximum torque	8/22	22/65	Nm
Tailstock			
tailstock stroke	400/800	750/4000	mm
quill diameter	70	110	mm
quill cone	MT4	MT5	
quill stroke	80	100	mm
clamping force	1,5-4	1,5-8	kN
Machine dimensions			
machine dimensions (without shavings transporter)	4760x2110x2740	5300 / 6000 / 6800x2130x2235	mm
weight of the machine	6500/8500	13000 – 22000	kg
Standard control system: SIEMENS Sinumerik 840 D-SL			



CNC spot-facing, milling and drilling machines

ZAH 900 / 900 L / 2500 CNC – facing centres with a rotating workpiece



Machining centre with centrally located mandrel for aligning, drilling and turning both ends of the workpiece onto one clamping. The overall concept of the centre is focused on minimum installation dimensions with maximum utilization of workspace. Cast iron structure of the lathe bed, slides, tool heads and headstocks is essential for the overall rigidity of the machine and permanent stability in continuous operation. The machine is equipped with four slides with axis X1, Z1 and X2, Z2 which are designed using sliding guides. For the ZAH 650 CNC machine the linear guide is used on the longitudinal and transverse supports. The most important design feature is the design of the central mandrel for which it has been managed to achieve very

compact dimensions with hydraulic clamping, with internal additional lubrication using oil mist, and the precise positioning. This arrangement allows very precise shaft machining with one clamping at both sides.

Machines with this principle of a central mandrel achieve the highest possible accuracy in work centre alignment and (run-out) of the turned surfaces from both sides and it cannot be achieved any other way. Therefore, the above centres are in great demand, especially in the automotive industry for the manufacture of gearbox components and related parts.

Next level of centre is integration of automatic workpiece replacement, eventually merging into multiple production lines using portal loaders or robots.

	ZAH 900	ZAH 900 L	ZAH 2500	
Operating range				
clamping diameter	ø 5-125			mm
length of workpiece	(140) 180-900	450-1300	350-2500	mm
stroke in axis X1, X2	250	250	320	mm
stroke in axis Z1, Z2	900	1300	2500	mm
fast feed in axis X1, X2, Z1, Z2	30			m/min
maximum shutting force in axis X1, X2, Z1, Z2	5			kN
Spindle				
	1x	1x	2x	
spindle end	collets (1) 2x 125/100/80/65/52			Hainbuch
maximum rpm	0-4000			1/min
maximum output	16			kW
Tool head – servomotor drive				
number of positions	2x 12			
diameter of the clamping pin according to DIN 69880	VDI40			mm
dimension	25x25			mm
Tool head – rotation tools				
rpm range	0-3000 (6000)			1/min
maximum torque	30			Nm
Automatic loading				
stock of workpieces - input / output	30/30			ks
exchange time	10			s
Standard control system	SIEMENS SINUMERIK 840 D-SL			



CNC spot-facing, milling and drilling machines

ZAH 2000/3000/4000/5000/7000 – facing centres with a fixed workpiece

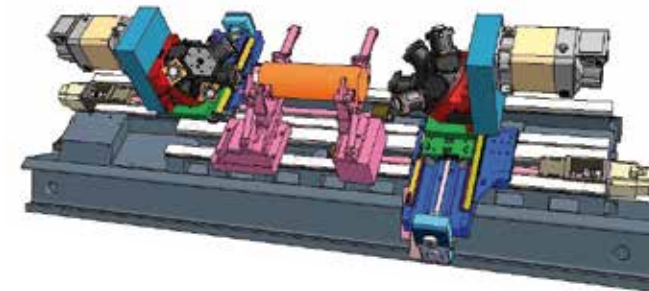
This range of facing, drilling and threading centres is intended for workpieces of a maximum length of 5,000 mm and a weight of up to 3 000 kg.

The machines are equipped with various tooling systems.

The basic design includes standard tool heads of a lathe type to electric-type mandrels tool with tool magazines containing various types of holders from CAPTO 5, HSK 63 to HSK 100. The pictured version is equipped with a Sauter 320/8 tool head with driven tools for facing, drilling, threading and deburring of both workpiece ends. A workpiece is clamped hydraulically in clamping tables that are equipped with travel due to a wide range of workpiece lengths.

The machines are equipped with a system of automatic measuring of a workpiece with subsequent size distribution and the number of milling cycles.

	ZH2 / ZH4	ZAH 2000	ZAH 3000	ZAH 4000	ZAH 5000	ZAH 7000	
Operating range							
clamping diameter	ø 30-160	ø 50-200	ø 50-320				mm
length of workpiece	300-1800	300-2000	300-3000	300-4000	300-5000	300-7000	mm
stroke in axis X1, X2				150			mm
stroke in axis Z1, Z2				450			mm
fast feed in axis X1, X2, Z1, Z2				20			m/min
Spindle / Tool head							
spindle end	HSK63/HSK100						
maximum rpm	500-1300	0-4000 (8000)					1/min
maximum output	2x7	18/30					kW
number of positions	2/4	2x 8 (12)					
maximum torque	300						Nm
Machine dimensions							
machine dimensions (without shavings transporter)	6500/2000/2100	10400/4200/3200	10400/4200/3200	11400/4200/3200	12400/4200/3200	14400/4200/3200	mm
weight of the machine	10 000	15 000	20 000	23 000	26 000	32 000	kg
Standard control system	SIMATIK S7		SIEMENS SINUMERIK 840 D-SL				

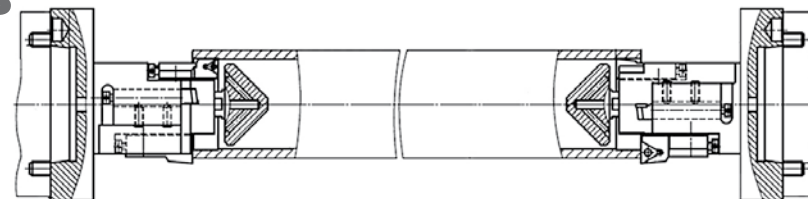


ZH2 / ZH4 spot-facing and drilling machines

The ZH2 and ZH4 spot-facing machines are designed for the machining of tube ends, cylinders and shafts over a range of 300 to 1800 mm in length and 30 to 160 mm in diameter.

The machine is controlled by hydraulic elements and a Siemens control unit. It is equipped with a pair of self-centering hydraulic vices with quick and simple adjustment to the specified range.

With respect to the required technology, the machine is supplied with 2 or 4 spindles.



Vertical CNC turning centres with automatic tool exchange

SPV 20/40/60 CNC



working space
SPV 20 / 40 / 60 CNC

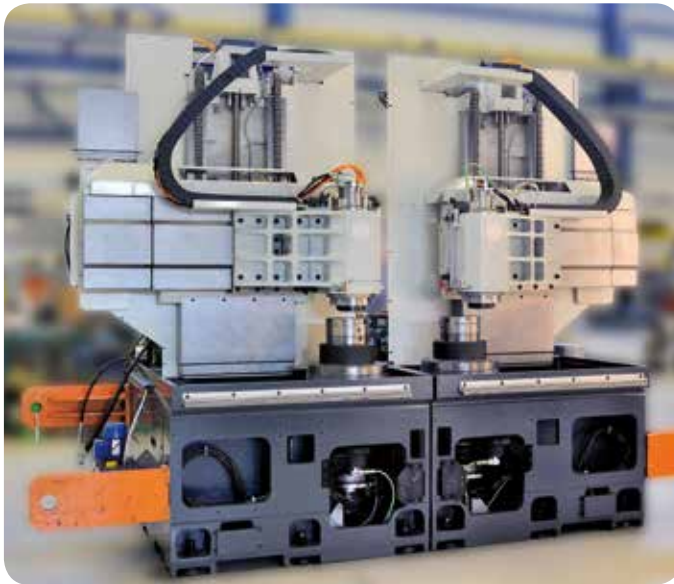
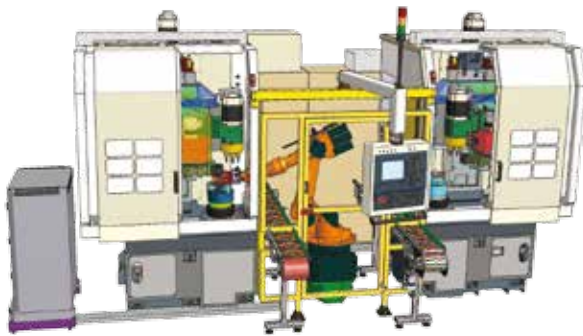


	SPV 20	SPV 40	SPV 60	
Operating range				
board diameter	∅ 305	∅ 533	∅ 800/1000	mm
max. swing diameter	∅ 650	∅ 1000	∅ 1100	mm
max. turned diameter	∅ 500	∅ 850	∅ 1000	mm
max. height of workpiece	350	800	900	mm
stroke in axis X	300	550	610	mm
stroke in axis Z	550	850	1000	mm
fast feed in axis X and Z	30	30	20	m/min
maximum feed force in axis X and Z	7	9	12	kN
maximum weight of workpiece	600	800	1000	kg
Workpiece spindle				
spindle end	A2-8	A2-11	A2-15	
rpm	0-1650	0-1250	0-850	1/min
rated power	22	28	38	kW
maximum torque	620	830	1220	Nm
Elektric workpiece spindle				
spindle end	A2-8	A2-15		
maximum rpm	0-3500	0-1000		1/min
rated power	32	60		kW
maximum torque	700	800/950		Nm
Tool spindle				
drive		elektric		
maximum speed		12000		1/min
output		19/28.8		kW
maximum torque (S6/40%)		130		Nm
spindle end		CAPTO C5/C6 - HSK 63/100		
Toolholder magazine				
drive		servo-motor		
number of positions		10 - 36		
tool shank		CAPTO C5/C6/C8 - HSK 63/100		
Dimensions, weight and cooling				
height of machine	2900	3765	4032	mm
ground plan	2525x3125	2935x3472	2780/3900	mm
weight of machine	7000	12000	22000	kg
cooling tank		800		dm ³
Standard control system	SIEMENS SINUMERIK 840 D-SL			

Example of robotized workplaces

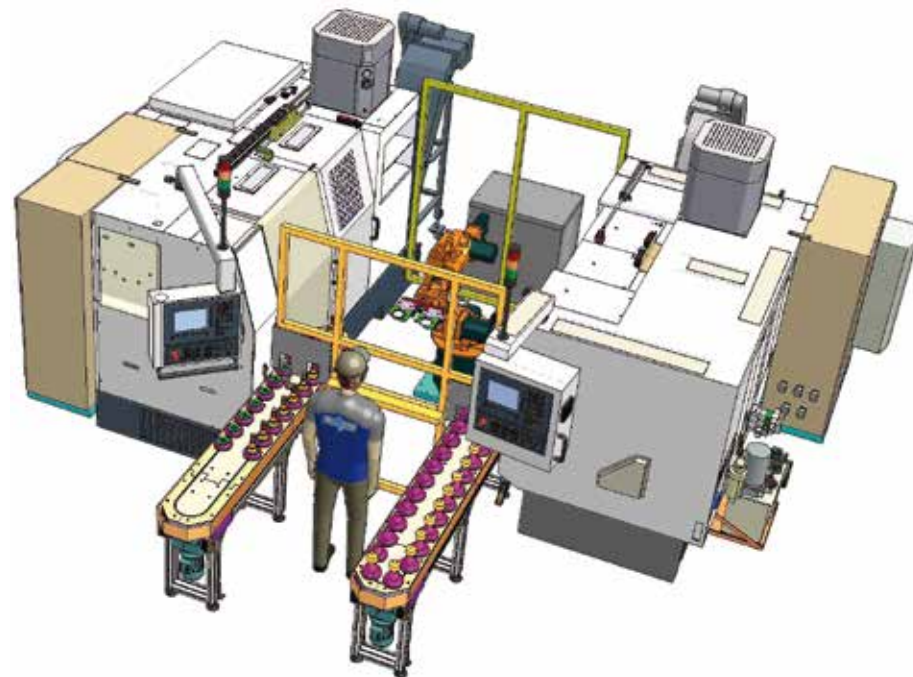
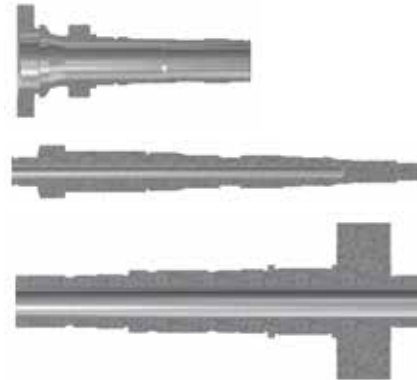
SPV 20/40 DUO

Turning workplace involving the assembly of two vertical lathes for turning plate wheel with the pitch circle of holes - process divided into two operations for the complete machining of a workpiece - handling via robot lines for blanks / workpieces.



ALR 200

Turning workstation incorporating a lathe **SP 30** for turning the surface, the alignment of the drill and lathe **ZAH 900** for aligning, turning ends of the workpiece, drilling and turning internal diameters. The process is divided into two operations for the complete machining of a workpiece. Handling is performed by a robot and lines for blanks / workpieces.



Special machines

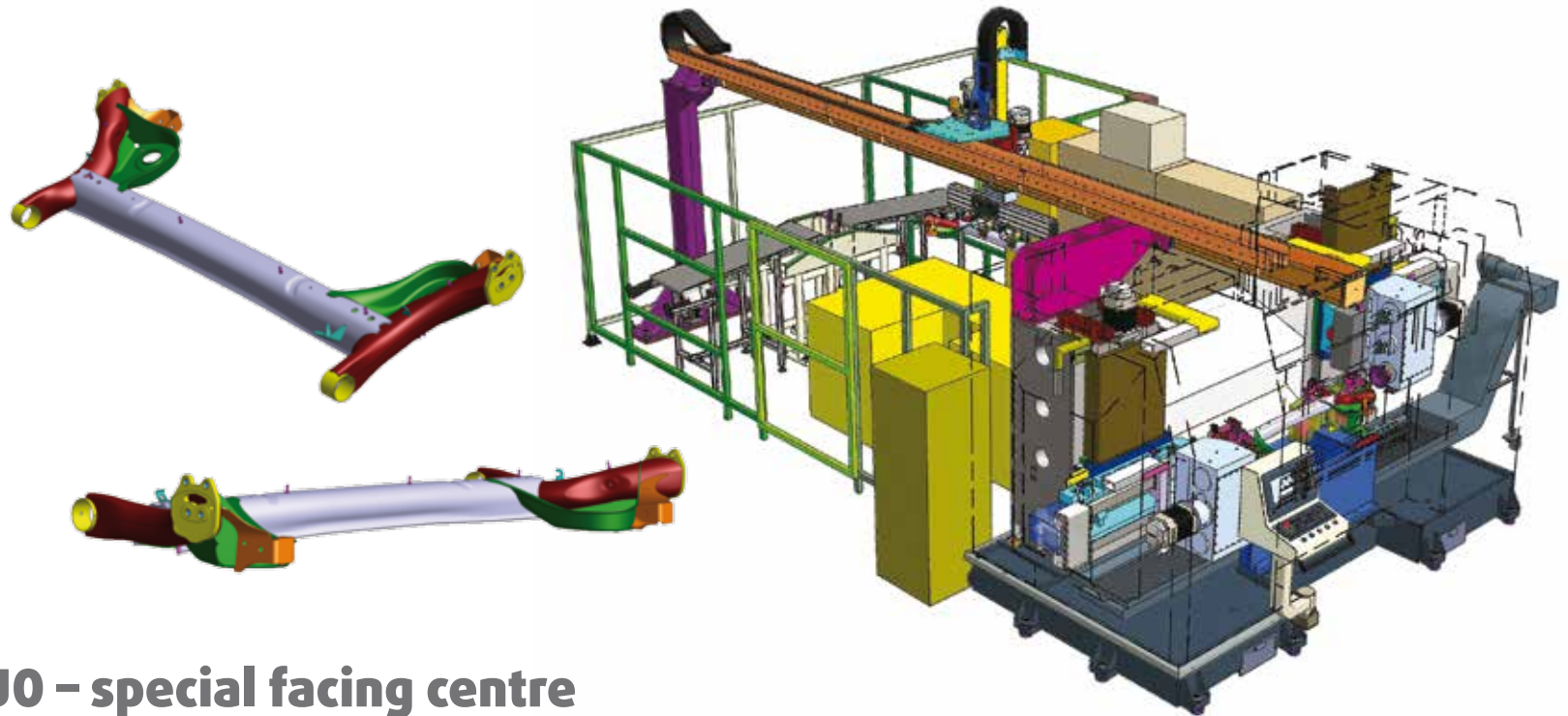
SPV 60 DUO

Levelling centre for special use.

SPV 40 DUO: Digit controlled nine axis milling machine with two headstock units for machining axles in car manufacturing industry.

The machine can provide concurrent drilling, threading, and milling of both ends.

Workpiece length: 1,600 mm (6.56 ft).



SPV 60 DUO /40 DUO – special facing centre

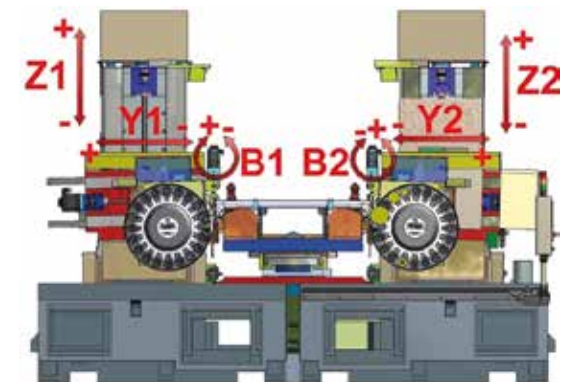


It is a very special machine with 11 controlled axes with a variable geometry of 4 axes.

To achieve proper machining of axles with convergence and with deflection, both the stands and slides are equipped with rotation by means of a servomotor with absolute direct measuring of the desired angle. The machine is equipped with high-performance electric mandrels made by Kessler with automatic tool exchanging HSK 100 and a magazine for 2x2 24 tools made by Miksch.

Workpieces are clamped hydraulically with monitoring of clamping on the clamping table that is mounted on the X axis.

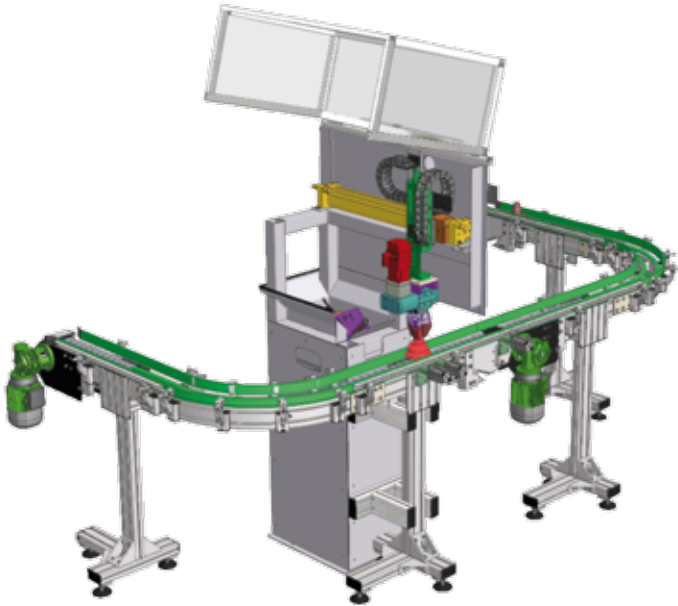
- Joining of multiple operations into one
- Machining in one clamping
- Complete processing technology
- Individual machine construction
- Possibility of automatic workpiece exchange



Special machines

AGO 20 deburring machine

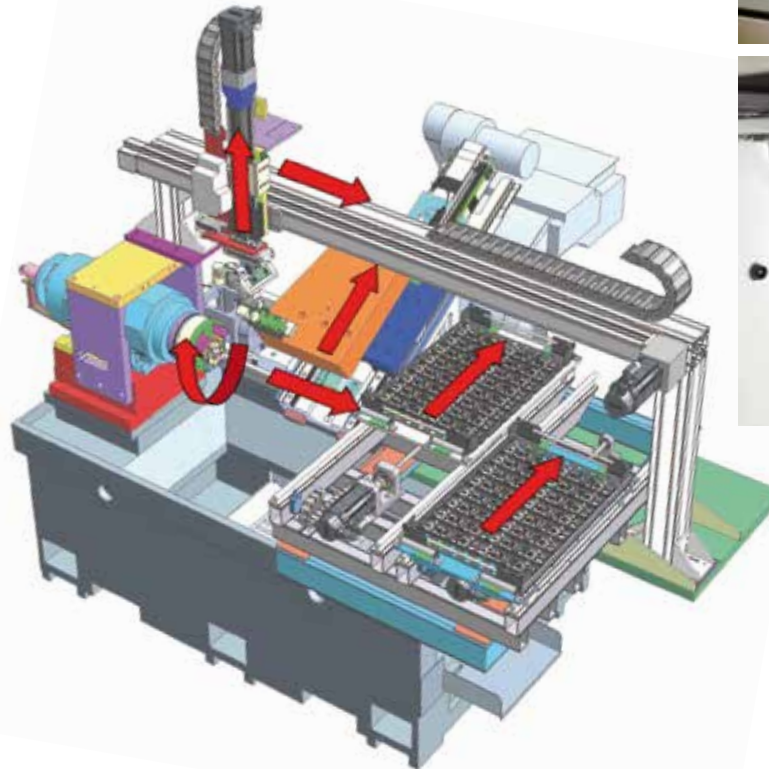
Single-purpose deburring machine with automatic handling designed for series production. It serves for deburring and chamfering of the back edge after off-axis drilling and threading of through holes on the lathe.



SP 15 with palletizing system and portal stacker



Horizontal lathe **SP 15 CNC** with integrated portal for quick workpiece change and two 28-piece magazines.





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