

Product Catalogue

Vertical lathes

Horizontal lathes



TDZ Turn s.r.o.

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TURN
succeed with every turn

About the company

TDZ Turn s.r.o.

TDZ Trun s.r.o. is a Czech machining company based in Brno specializing in the manufacture of its own series of both **vertical** and **horizontal** lathes.

Since its beginnings in 2006, the company has focused exclusively on the production of robust CNC vertical lathes – **VLC** with clamping space from 800 mm to 4,000 mm.

In 2014, the company's product portfolio was extended with manual horizontal lathes – **HLM** with swing diameters up to 2,000 mm – and with CNC horizontal lathes – **HLC** with swing diameters up to 2,500 mm.

In 2016, the first vertical lathes **VSC** were made, with swing diameter of up to 1,200 mm.

TDZ Turn is primarily active on the Czech, Slovak and German markets where it ranks among the most stable and trusted suppliers of universal machine tools.



↕ VLC Vertical VSC Lathes

- Affordable, yet very robust, reliable and highly efficient
- Suitable for large or medium batches, as well as for piece production
- Lathe turning design or with controlled axis “C” and 2nd spindle drive
- Hydraulic chuck as standard equipment

Technical Specifications		VSC 850S	VSC 850SC	VSC 950M	VSC 950MC	VSC 1200L	VSC 1200LC
Number of controlled axes		2	3	2	3	2	3
Machine design							
Control system		Sinumerik control system with SHOPTURN function					
Workpiece clamping		3 jaw hydraulic chuck, including a clamping jaw set					
Multi-tool turret		Automated tool change, off the work area					
Operating range							
Max. swing diameter	mm	850		950		1,200	
Clamping surface diameter	mm	380 (460, 600)		600 (800)		600 (800, 1,000)	
Max. workpiece weight	kg	1,300		2,000		4,000	
Max. workpiece height	mm	700		800		900	
Travels							
X-axis travel	mm	-55, +425		-50, +475		-50, +600	
Z-axis travel	mm	620		800		850	
Main spindle (SP1)							
RPM range - 1st gear	RPM	20-500		20-340		10-120	
RPM range - 2nd gear	RPM	500-2,000		340-1,500		120-600	
Rotary tool spindle (SP2)							
RPM range - 1st gear	RPM	xxx	1-1,200	xxx	1-1,200	xxx	1-1,200
RPM range - 2nd gear	RPM	xxx	1,200-2,500	xxx	1,200-2,500	xxx	1,200-2,500
Multi-tool turret							
Type of clamping taper		SK50	BT50/DIN	SK50	BT50/DIN	SK50	BT50/DIN
Number of magazine positions		12		12		12	
Max. tool holder weight	kg	30		30		30	
Maximum tool size	mm	32 × 32		32 × 32		32 × 32	
Other specifications							
Machine power supply		3 × 400 V, 50 Hz		3 × 400 V, 50 Hz		3 × 400 V, 50 Hz	
Total power consumption	KVA	50	55	50	60	50	60
Approximate dimensions	mm	3,200 × 2,330 width		3,650 × 2,650		3,850 × 2,540	
Machine net weight	kg	13,000	14,000	18,000	19,000	18,000	19,000

- Multi-tool turret located outside the work area
- Optional slide guide to maximize the machine stiffness
- Central cooling of rotary tools
- Fully enclosed design, high pressure option



↕ VLC Vertical lathes VLC 1000 – 1600



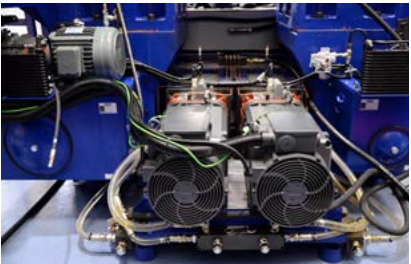
- Single-column robust design
- Hardened sliding guide surfaces
- Available in ECO and HARD versions
- Variable design tailored to customer requirements
- Suitable for both cooperative and specialised production
- Suitable for both piece and small to medium batch production

Technical Specifications		VLC 1000	VLC 1000C	VLC 1250 ECO	VLC 1250C ECO	VLC 1250 HARD	VLC 1250C HARD	VLC 1600 ECO	VLC 1600C ECO	VLC 1600 HARD	VLC 1600C HARD
Number of controlled axes		2	3	2	3	2	3	2	3	2	3
Machine design											
Control system		Sinumerik control system with SHOPTURN function									
Multi-tool turret		Automated tool change, off the work area									
Ram unit diameter	mm	180 × 180 (220 × 220)		220 × 220 (250 × 250)		220 × 220 (250 × 250)		220 × 220 (250 × 250)		220 × 220 (250 × 250)	
Operating range											
Max. swing diameter	mm	1,400		1,600		1,600		2,000		2,100	
Clamping surface diameter	mm	1,000 (1,200)		1,250 (1,400)		1,250 (1,400)		1,600 (1,800)		1,600 (1,800)	
Max. workpiece weight	kg	5,000		8,000		8,000		8,000		10,000	
Max. workpiece height	mm	1,200		1,500		1,500 (1,900, 2,100)		1,500		1,500 (1,900, 2,100)	
Travels											
X-axis travel	mm	-400, +720		-100, +835		-600, +875		-100, +1,125		-800, +1,015	
Z-axis travel (ram travel)	mm	800		900 (1,200)		900 (1,200, 1,400)		900 (1,200)		900 (1,200, 1,400)	
Cross slide repositioning	mm	500		750		800 (1,200, 1,400)		750		800 (1,200, 1,400)	
Main spindle (SP1)											
RPM range - 1st gear	RPM	1-160		1-140		1-140		1-62		1-62	
RPM range - 2nd gear	RPM	160-600		140-400		140-400		62-300		62-300	
Rotary tool spindle (SP2)											
RPM range - 1st gear	RPM	xxx	1-1,200	xxx	1-1,200	xxx	1-1,200	xxx	1-1,200	xxx	1-1,200
RPM range - 2nd gear	RPM	xxx	1,200-2,500	xxx	1,200-2,500	xxx	1,200-2,500	xxx	1,200-2,500	xxx	1,200-2,500
Multi-tool turret											
Type of clamping taper		SK50	BT50/DIN	SK50	BT50/DIN	SK50	BT50/DIN	SK50	BT50/DIN	SK50	BT50/DIN
Number of magazine positions		12	16	12	16	12	16	12	16	12	16
Max. tool holder weight	kg	50		50		50		50		50	
Maximum tool size	mm	40 × 40		40 × 40		40 × 40		40 × 40		40 × 40	
Other specifications											
Coolant tank	L	550		550		550		550		550	
Machine power supply		3 × 400 V, 50 Hz		3 × 400 V, 50 Hz		3 × 400 V, 50 Hz		3 × 400 V, 50 Hz		3 × 400 V, 50 Hz	
Total power consumption	KVA	85	105	85	105	85	105	85	105	85	105
Approximate dimensions	mm	4,600 × 4,000		4,600 × 5,200		5,600 × 4,300		5,300 × 5,500		5,900 × 4,500	
Machine net weight	kg	22,000		25,000		36,000 (38,000, 40,000)		27,000		40,000 (42,000, 44,000)	



Technical Specifications		VLC 2000	VLC 2000C	VLC 2500	VLC 2500C	VLC 3000	VLC 3000C	VLC 4000	VLC 4000C
Number of controlled axes		2	3	2	3	2	3	2	3
Machine design									
Control system		Sinumerik control system with SHOPTURN function							
Multi-tool turret		Automated tool change, off the work area							
Ram unit diameter		220 × 220 (250 × 250)		250 × 250 (280 × 280)		250 × 250 (280 × 280)		250 × 250 (280 × 280)	
Operating range									
Max. swing diameter	mm	2,600		3,000		3,600		4,600	
Clamping surface diameter	mm	2,000		2,500		3,000		4,000	
Max. workpiece weight	kg	15,000		20,000		30,000		35,000	
Max. workpiece height	mm	2,050 (2,450, 2,650)		2,050 (2,450, 2,650)		2,000 (2,600, 3,200)		1,900 (2,500, 3,100)	
Travels									
X-axis travel	mm	-1,000, +1,350		-900, +1,600		-1,500, +1,825		-2,000, +2,500	
Z-axis travel (ram travel)	mm	950 (1,200, 1,400)		1,200 (1,200, 1,400)		1,500		1,500	
Cross slide repositioning	mm	1,150 (1,550, 1,550)		1,150 (1,550, 1,550)		1,200 (1,400, 2,000)		1,200 (1,400, 2,000)	
Main spindle (SP1)									
RPM range - 1st gear	RPM	1-50		1-40		1-40		1-14	
RPM range - 2nd gear	RPM	50-220		40-180		40-120		14-80	
Rotary tool spindle (SP2)									
RPM range - 1st gear	RPM	xxx	1-1,200	xxx	1-1,200	xxx	1-1,200	xxx	1-1,200
RPM range - 2nd gear	RPM	xxx	1,200-2,500	xxx	1,200-2,500	xxx	1,200-2,500	xxx	1,200-2,500
Multi-tool turret									
Type of clamping taper		SK50	BT50/DIN	SK50	BT50/DIN	SK50	BT50/DIN	SK50	BT50/DIN
Number of magazine positions		12	16	12	16	16		16	
Max. tool holder weight	kg	50		50		50		50	
Maximum tool size	mm	40 × 40		40 × 40		40 × 40		40x40	
Other specifications									
Coolant tank	L	900		1,100		2,000		2,500	
Machine power supply		3 × 400 V, 50 Hz		3 × 400 V, 50 Hz		3 × 400 V, 50 Hz		3 × 400 V, 50 Hz	
Total power consumption	KVA	115	130	115	130	115	185	130	200
Approximate machine dimensions	mm	6,900 × 4,700		7,600 × 5,200		11,000 × 8,700		12,500 × 10,000	
Machine net weight	kg	55,000 (57,000, 59,000)		62,000 (64,000, 66,000)		72,000 (82,000, 92,000)		102,000 (112,000, 124,000)	

- Up to size 2,500, single-column design
- Variable design, multiple options
- Available with two rams and two turrets
- Optional Master-Slave type main drive, pallet replacement
- Ideal for heavy-duty, precision machining
- Suitable for both cooperative and specialised production
- Suitable for both piece and small to medium batch production



Technical Specifications		HLM-S	HLM-M	HLM-L	HLM-XL
Basic parameters					
Swing diameter over bed	mm	up to 1,100	1,200 to 1,600	1,200 to 2,000	1,200 to 2,000
Swing diameter over slide	mm	up to 790	830 to 1,230	830 to 1,630	600 to 1,400
Distance between centers	mm	up to 12,000	2,000 to 12,000	2,000 to 12,000	3,000 to 12,000
Load bearing capacity with one rest	kg	up to 5,000	7,500	7,500 to 15,000	22,000
Spindle					
Main drive from	kW	as specified	30	30 to 37.5	45
Spindle flange	in accordance with ISO	as specified	A2-11	A2-11	A2-15
Spindle drilling	mm	as specified	153	153 to 230	230
Spindle revolutions	RPM	as specified	600	600 to 400	400
Cross slide travel (X-axis)	mm	up to 550	600 to 800	600 to 1,000	600 to 1,000
Tailstock					
Type/travel		Fixed/manual	Fixed/manual	Fixed/hydraulic	Fixed/hydraulic
Inner taper	type	as specified	MK 6	MK 6	MK 6
Other specifications					
Machine power supply		3 × 400 V, 50 Hz	3 × 400 V, 50 Hz	3 × 400 V, 50 Hz	3 × 400 V, 50 Hz
Approximate max. height	mm	up to 2,050	2,250	2,500	2,800
Approximate weight	kg	up to 8,000 and more	from 10,500	from 12,000	from 16,000



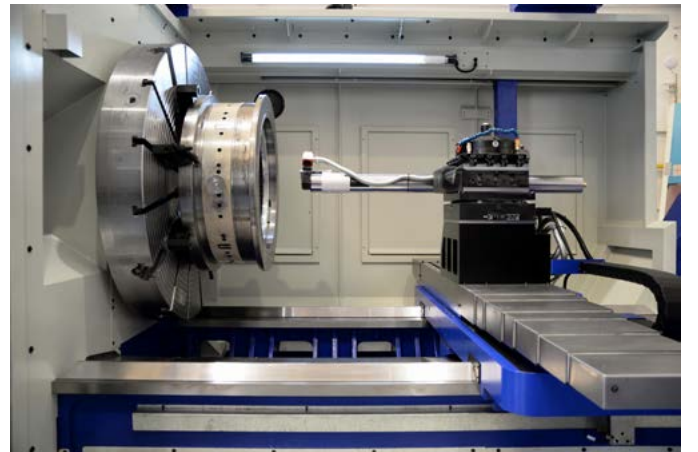
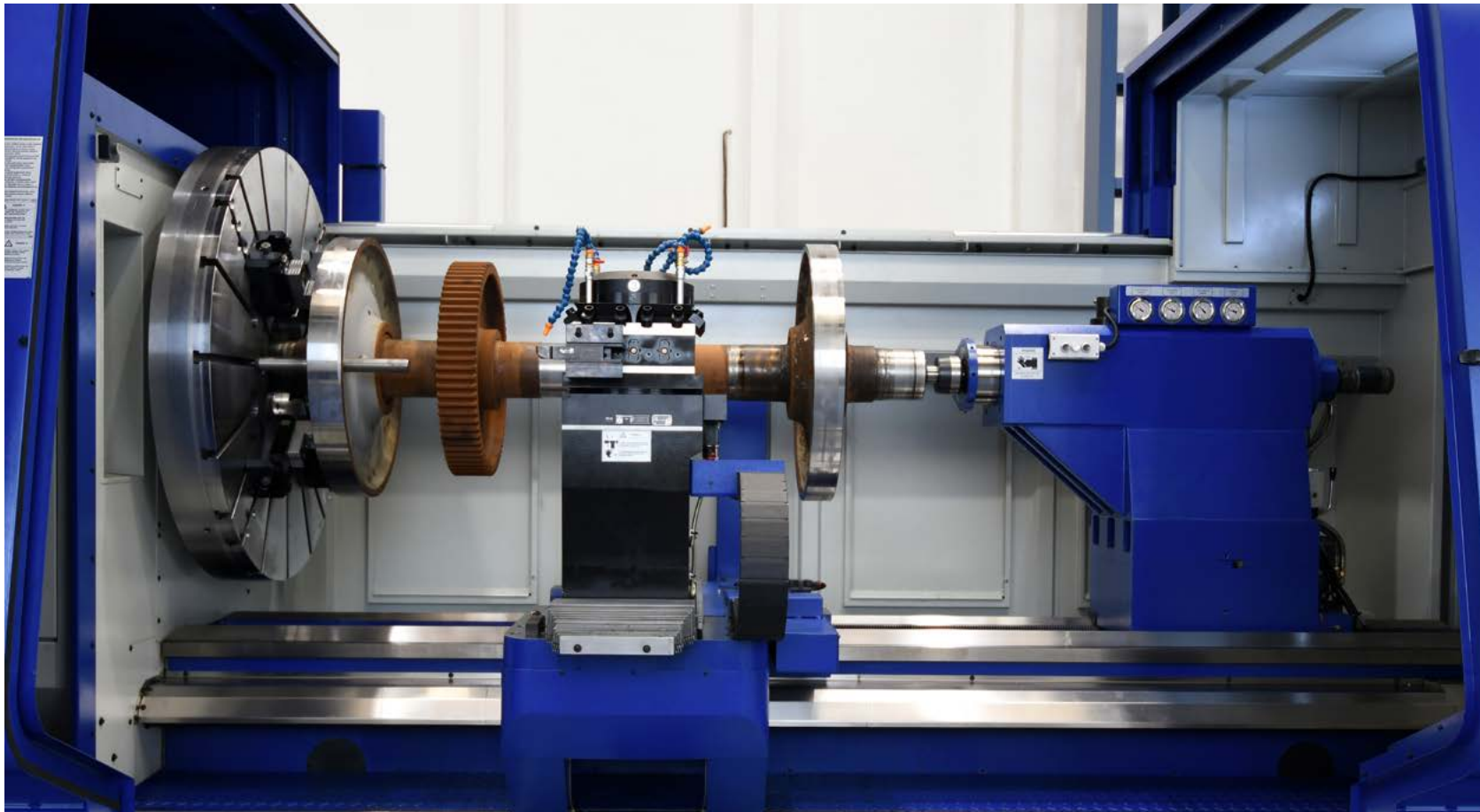
- Manual machine tools
- Variable design, multiple options
- 4 different sizes available
- HLM-S, the smallest type, with swing diameter over bed from 1,100 mm
- HLM-XL, the largest type, can be used to machine workpieces with a diameter of up to 2,000 mm
- Up to the length of 7 m, the machine bed is always solid
- Up to 4 hardened sliding surfaces



Technical Specifications		HLC-S	HLC-M	HLC-L	HLC-XL
Basic parameters					
Swing diameter over bed	mm	up to 1,100	1,200 to 1,400	1,400 to 2,000	1,500 to 2,000
Swing diameter over slide	mm	up to 790	820 to 1,220	820 to 1,520	660 to 1,960
Distance between centers	mm	up to 12,000	2,000 to 12,000	2,000 to 12,000	3,000 to 12,000
Load bearing capacity with one rest	kg	up to 6,500	7,500	7,500 to 15,000	20,000
Spindle					
Main drive from	kW	as specified	30	30 to 37.5	45
Spindle flange	in accordance with ISO	as specified	A2-11	A2-11	A2-15
Spindle drilling	mm	as specified	165 to 410	230 to 410	230 to 410
Spindle revolutions	RPM	as specified	660 to 400	660 to 400	400
Cross slide travel (X-axis)	mm	up to 550	600 to 800	600 to 1,000	550 to 1,250
Tailstock					
Type/travel		Fixed/manual	Fixed/manual	Fixed/manual	Fixed/hydraulic
Inner taper	type	as specified	MK 6	MK 6	MK 6
Other specifications					
Machine power supply		3 × 400 V, 50 Hz	3 × 400 V, 50 Hz	3 × 400 V, 50 Hz	3 × 400 V, 50 Hz
Approximate max. height	mm	up to 2,050	2,250	2,500	2,800
Approximate weight	kg	up to 10,000 and more	from 12,000	from 14,000	from 18,000

- CNC machine tools
 - Variable design, multiple options
 - 4 different sizes available
 - HLC-S, the smallest type, with swing diameter over bed from 760 mm
- HLC-XL, the largest type, can be used to machine workpieces with a diameter of up to 2,500 mm
 - Up to the length of 7 m, the machine bed is always solid
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 - Up to 4 hardened sliding surfaces







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