

### SVLC series



### CNC Vertical Lathe Machine

CNC Vertical lathe is ideal machine for machining short bar-shaped And disc-shaped work pieces in medium, small batch, especially for machining work pieces in large batch when high precision and repetitive accuracy are needed. The reasonable layout makes assembly and maintenance easier. The pick-up-damping of work piece avoids elasticity error caused by inertia. Close contacting between damper and datum surface of work piece ensures that reliable accuracy to be achieved. Irregular-shaped work piece can be easily machined due to ease loading and unloading of work piece. The structure of damper reduces producing cost. Operating elements are ergonomically optimized and wording space is totally enclosed. Production cell can be arranged for building automatic production line.

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**Features**

- Reinforced wall thickness design for bed and cross beam, the spindle box and the bed were designed as a whole part to realize the rigidity.
- Spindle unit is designed according to high rigidity; it belongs to the high-speed spindle. Imported high speed grease lubricant; HSK angle-contact spindle bearing for high precision.
- The main transmission agent adopt narrow V-belt to contact with spindle, this kind of transmission ability is 0.5-1.5 higher than normal V-belt.
- The guide way for two axes adopt SNS series bearing from THK for high precision and heavy loading, it can reduce the frictional resistance, exothermal and heat deformed. It can also increase the accuracy of cutting, improve the rapid travel speed and promote the production efficiency.
- Cutting feed for X and Y axes of ball screw adopt the servo motor by means of elastic coupling to realize the connection. Pre-stretching for ball screw when assembly from both side in order to increase the rigidity. The support part for ball screw of X and Z axes adopt Lange-angle angle contact bearing to realize the rigidity and accuracy, so that to reduce the inaccuracy caused by extension of ball screw in high temperature condition.
- Balancing cylinder for Z axis, this can extend the life of ball screw and overcome the heavy loading on turret and vertical sliding plate.
- horizontal 8-position turret or electric turret for optional, which has the simple structure, high speed displacement and high reliability.
- According to different demands of customer, the machine can equipped with different system, such as Fanuc Oi-mate, Fanuc Oi-TC or Siemens 840D.
- The muscle shape for bed is designed with Ansys software to make the machine with high rigidity. High density cast iron as material can realize the high intensity and good damping ability.
- Special structure design for spindle unit is mature and advanced. The spindle box and bed connected as a whole part by means of holes fit to realize the high rigidity for whole spindle part. This machine can also equipped with C axis, together with dynamic turret and tools, which can drilling, milling and tapping as a vertical machine center.
- The X and Z axes will be droved with servo motors to connect with ball screw by means of elastic coupling.
- According to different demands of customer, the machine can equipped with different turret
- Standard chuck is from SMW company of Germany, the brand is IN-D500/Z380 hydraulic chuck with diameter 510. Max. rotation speed with 1500rpm.
- The machine equipped with full-protect cover, auto door of cover is optional. which can make up the automatic production line.
- The hydraulic pump station is equipped with new micro-digital pressure controller to realize the real time display and monitor, each parameter will be displayed direct viewing and also convenience for adjustment.
- Standard control system is imported from Fanuc Company: Fanuc Oi mate TC

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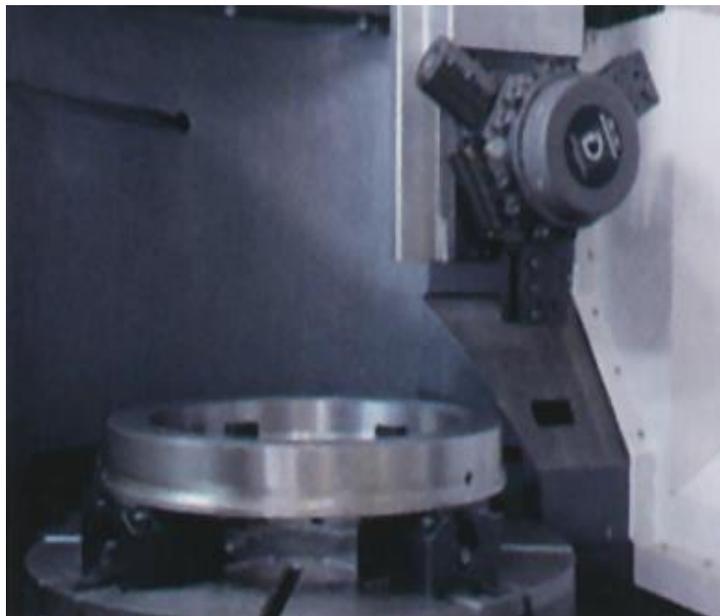
system.

- The electric cabinet is designed with full protect structure and equipped with air conditioner, in order to protect the dust and cooling the temperature.



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### Technical specifications

Model	Units	SVLC3240	SVLC5060	SVLC6070	SVLC8080	
Machining capability	Max. swing dia.	mm	500	600	800	1000
	Max. cutting dia.	mm	320	500	600	800
	Max. cutting height	mm	400	600	700	800
Spindle	Range of speed	r/min	50-2500	50-2000	50-1000	50-800
	Chuck diameter	inch	12"	12"	21"	24"
	Form and code of spindle nose		A,8	A,8	A,11	A,15
X/Z-axis	Travel of X-axis	mm	300	-50, +500	-50,+650	Horizontal 520 Vertical 800
	Travel of Z-axis	mm	450	500	700	850
	Rapid traveling speed of X-axis	m/min	20	20	10	10
	Rapid traveling speed of Z-axis	m/min	20	20	15	12
Accuracy	Machining accuracy		IT6-IT7	IT6-IT7	IT6-IT7	IT6-IT7
	Positioning accuracy of X/Z-axis	mm	0.016/0.018	0.018/0.020	0.018/0.020	0.018/0.020
	Repositioning accuracy of X/Z-axis	mm	0.005/0.006	0.006/0.008	0.006/0.008	0.0075/0.015
Turret	Form of turret		Horizontal,8-station	Horizontal,8-station	Horizontal,8-station	Vertical, 6-station
	Size of tool for turning O.D.	mm	25x25	32x32	32x32   25x25	32x32
	Size of boring tool rod	mm	40/32/25	50/40/32	50/40/32	50/40/32
Motor power	Spindle motor (rated/30min)	kW	15/18.5	15/18.5	22/30	37/45
	Servo motor of X-axis	kW	1.8	1.8	3	3
	Servo motor of Z-axis	kW	3	3	3	4.2
Overall dimensions of machine	L	mm	3220	3700	3640	2960
	W	mm	1843	2265	2510	3920
	H	mm	2543	3050	3438	3671
Net weight of machine		kg	6000	9000	10000	15000

<b>Model</b>	<b>SVLC10080</b>
<b>Max. swing dia.</b>	<b>1200</b>
<b>Max. cutting height</b>	<b>800</b>
<b>Max. cutting dia.</b>	<b>1000</b>
<b>Rated/max. torque of spindle</b>	<b>6594/8133</b>
<b>Form and code of spindle nose</b>	<b>Z520</b>
<b>Range of spindle speed</b>	<b>Low speed step, 2-200 High speed step, 7-300</b>
<b>Standard chuck and oil cylinder</b>	<b>1000 (Chuck dia.) 250 (Cylinder dia.of oil cylinder)</b>
<b>Rapid traveling speed of X-axis</b>	<b>10</b>
<b>Rapid traveling speed of Z-axis</b>	<b>10</b>
<b>Travel of X-axis</b>	<b>-100,+700</b>
<b>Travel of Z-axis</b>	<b>700</b>
<b>Ram cross-section dimension</b>	<b>200x200-</b>
<b>Form of turret</b>	<b>Vertical4-station/horizontal8-station</b>
<b>Tool size</b>	<b>32x32</b>
<b>Overall dimensions of machine (L x W x H)</b>	<b>4000x2600x4000</b>
<b>Machining accuracy</b>	<b>IT6-IT7</b>
<b>Net weight</b>	<b>15000</b>
<b>Min. feed of turret (Z-axis/X-axis)</b>	<b>0.001</b>
<b>Power of power supply</b>	<b>160</b>

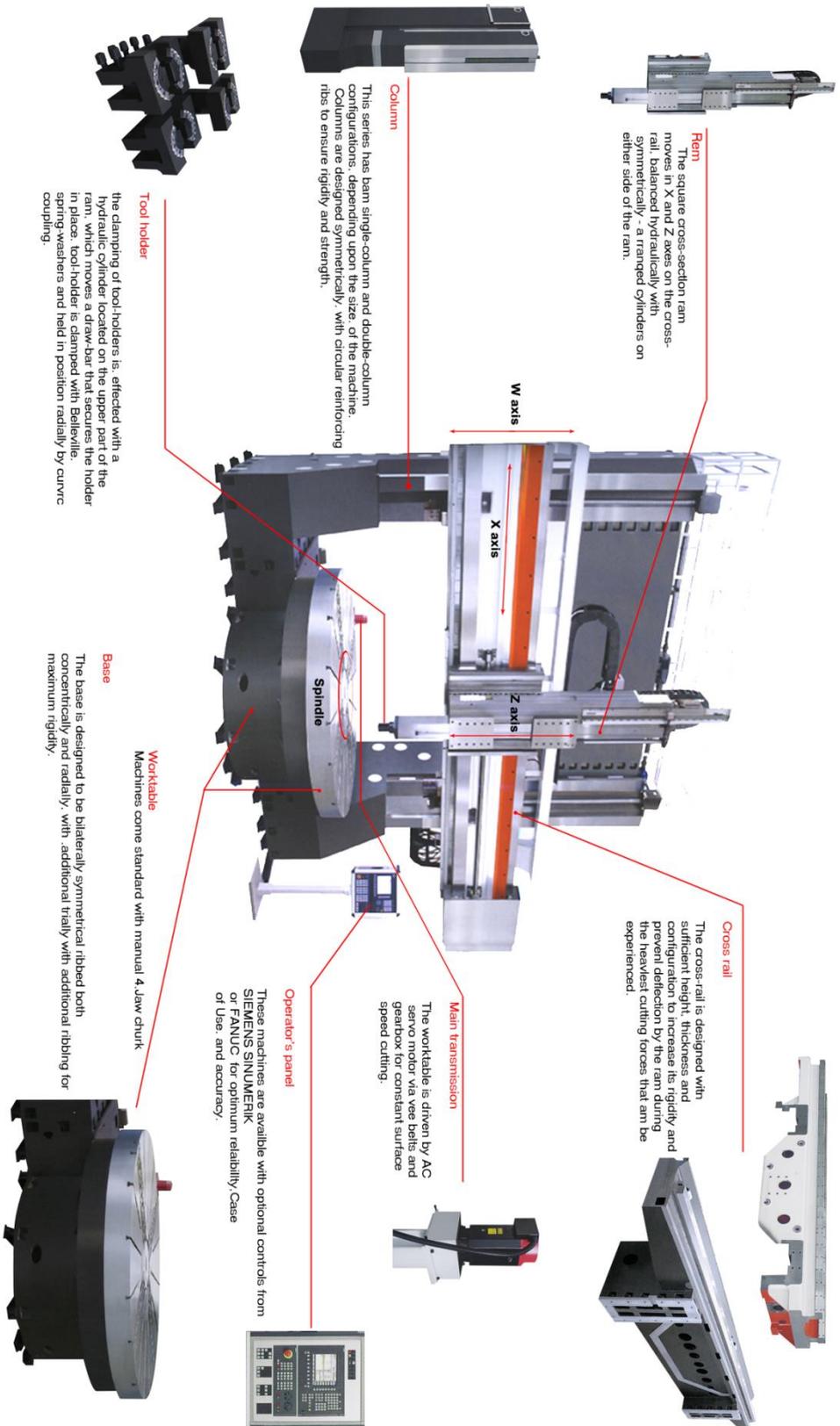


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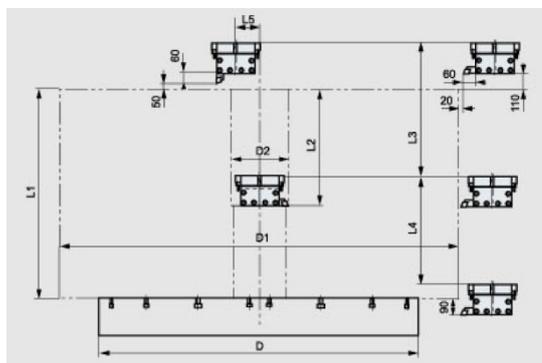


Diagram of external chucking

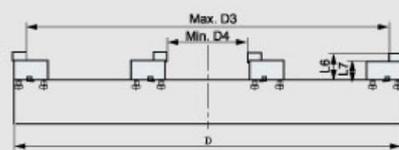
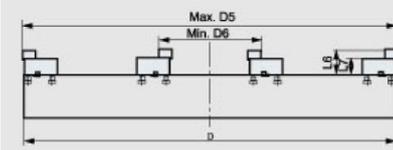


Diagram of internal chucking



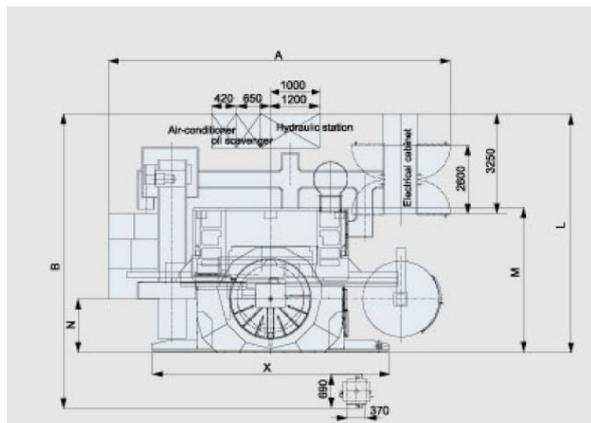
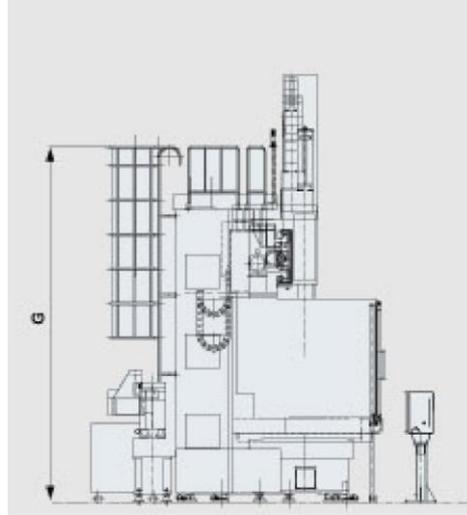
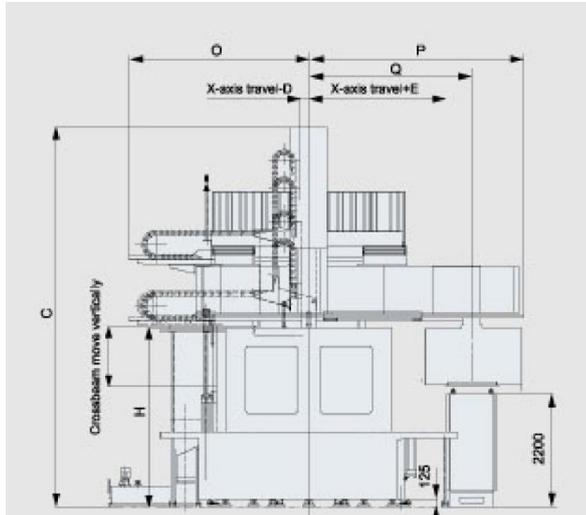
### Machine Range List

Model	D	D1	D2	L1	L2	L3	L4	L5
SVLC1205	1000	1250	200	600	200	650	0	100
SVLC 1606	1260	1600	300	1200	900	900	500	100
SVLC 2008	1600	2000	350	1600	900	900	1000	150
SVLC 2510	2000	2500	360	2000	1200	1200	1000	100
SVLC 3016	2500	3000	360	2000	1300	1300	1000	100
SVLC 2510	2250	2500	360	600	600	600	0	50
SVLC 3530	3300	3500	360	600	600	600	0	50
SVLC 3830	3600	3800	360	750	750	750	0	50
SVLC 3530	3100	3500	360	2800	1600	1600	1800	100
SVLC 4030	3600	4000	360	2800	1600	1600	1800	100
SVLC 4530	3600	4000	360	600	600	600	0	50
SVLC 4530	4000	4500	360	600	600	600	0	50
SVLC 4530	4000	4500	360	1400	1400	1400	0	50
SVLC 5050	4500	5000	570	4000	1900	2000	3500	20
SVLC 6380	5700	6300	570	4000	1900	2000	3500	20

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**CLAMPING RANGE LIST  
DIAGRAM OF MACHINE TOOL DIMENSION**



Model	unit	A	B	C	D	E	F	G	H
SVLC1205	mm	3563	2890	4264	100	1240	-	2480	1700
SVLC 1606	mm	7210	6025	5252	100	1600	1000	4370	2390
SVLC 2008	mm	6950	6040	6421	150	2050	1000	5180	2925
SVLC 2510	mm	10145	6155	7163	100	2800	1000	6260	3335
SVLC 3016	mm	10145	6300	7400	100	2800	1000	6500	3335
SVLC 2510	mm	9500	7500	5000	50	1900	-	4000	1100
SVLC 3530	mm	10280	7200	9000	100	3480	1800	7700	2300
SVLC 3830	mm	10280	7200	9000	100	3480	1800	7700	2300
SVLC 3530	mm	12900	7470	5700	50	3480	-	6930	2562
SVLC 4030	mm	12900	7470	5900	50	3480	-	7100	2562
SVLC 4530	mm	13400	7520	5700	50	3480	-	6930	2562
SVLC 4530	mm	14000	7520	5700	50	3600	-	6930	2562
SVLC 4530	mm	14000	7570	6500	50	3600	-	7800	2560
SVLC 5050	mm	13000	9100	11100	20	3000	3500	8550	6200
SVLC 6380	mm	15000	9850	11100	20	3650	3500	8550	6200

Model	unit	O	P	Q	L	M	N	X
SVLC1205	mm	1785	1800	-	2890	2110	900	3000
SVLC 1606	mm	2300	3620	2180	4800	2445	500	4654
SVLC 2008	mm	3630	3480	2650	5500	3015	1100	4820
SVLC 2510	mm	2580	4200	3540	5600	3940	1520	5520
SVLC 3016	mm	2580	4200	3540	5211	3940	1520	5520
SVLC 2510	mm	3650	3500	-	7100	5000	2800	5400
SVLC 3530	mm	3500	5600	4230	6100	4600	2400	4600
SVLC 3830	mm	3500	5600	4230	6100	4600	2400	4600
SVLC 3530	mm	5475	5475	3980	6920	5440	32100	9275
SVLC 4030	mm	5475	5475	3980	6920	5440	3211	9275
SVLC 4530	mm	5475	5475	3980	6920	5440	32100	9275
SVLC 4530	mm	5475	5600	3980	6920	5440	3211	9275
SVLC 4530	mm	5475	5600	3980	6920	5440	3211	9275
SVLC 5050	mm	6500	6500	-	9100	7150	3760	6050
SVLC 6380	mm	7500	7500	-	9850	8800	4410	7400



Item	unit	SVLC1606	SVLC2008	SVLC2510	SVLC3016	SVLC3530	SVLC4030
Worktable diameter	mm	1250(1400)	1600	2000	2500	3300	3600
Max. swing diameter	mm	1600	2000	2500	3000	3500	4000
Max. turning diameter	mm	1600	2000	2500	3000	3500	4000
Max. work piece height	mm	1200(1600)	1600	2000	2000	2800	2800
Max. work piece weight	t	6	8	10	16	30	30
Max. torque	nm	10960/13700	20000	34107/35184	68000	81000/66000	81000/66000
Vertical travel of ram	mm	900	900	1100	1250	1600	1600
Horizontal travel of ram	mm	-100-+1600	-150-+2050	-100-+2800	-100-+2800	-100-+3230	-100-+3480
Ram section size	mm	200x200	220x220	240x240	240x240	240x240	240x240
Tool bar section size	mm	40x40(32x32)	40x40	40x40	40x40	40x40	40x40
Station of tool magazine	station	12	12	12	12	12	12
Max. weight of each tool holder	kg	45	45	50	50	50	50
Cutting feed speed	mm/s	0.01-50	0.01-50	0.01-40	0.01-40	0.01-40	0.01-40
Rapid feed speed	m/min	8	8	8	8	8	8
Table rotating speed	r/min	1-312	1-254	1-180	1-160	1-81	1-81
Worktable shifting steps		2-step	2-step	2-step	2-step	2-step	2-step
Crossbeam vertical travel	mm	250x2(2-step) 250x4(4-step)	250x4-step	250x4-step	250x4-step	1800	1800
Main drive motor power	Kw	AC37/39	AC45/60	AC60/60	AC60/60	AC100/60	AC100/60
Power of motor of horizontal feed	Kw	7/5.32	7/5.32	7/5.32	7/5.32	7/5.37	7/5.37
Power of motor of vertical feed	kw	7/5.32	7/5.32	7/5.32	7/5.32	7/5.37	7/5.37
Work piece accuracy		IT6	IT6	IT6	IT6	IT6	IT6
Work piece surface accuracy	µm	Ra1.6	Ra1.6	Ra1.6	Ra1.6	Ra1.6	Ra1.6
Machine weight	kg	20000	35000	50000	50000	93000	10000
Overall dimensions of machine	mm	6500x4800x5500(6100)	7200x5500x6420	10600x5600x7163	10600x5600x7400	10280x7200x9000	10780x7200x9000
CNC system		FANUC/ SINUMERIK	FANUC /SINUMERIK	FANUC/ SINUMERIK	FANUC/ SINUMERIK	FANUC/ SINUMERIK	FANUC/ SINUMERIK

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Item	unit	SVLC5050	SVLC6380	SVLC1205	SVLC2510	SVLC3530	SVLC3830
Worktable diameter	mm	4500	5700	1000	2250	3300	3600
Max. swing diameter	mm	5000	6300	1250	2500	3500	3800
Max. turning diameter	mm	5000	6300	1250	2500	3500	3800
Max. work piece height	mm	4000	4000	600	600	700	750
Max. work piece weight	t	50	80	5	10	30	30
Max. torque	nm	100000	200000	9440	28000	81000	81000
Vertical travel of ram	mm	2000	2000	650	600	600	750
Horizontal travel of ram	mm	-20-+3000	-20-+3650	-100-+1200	-50-+1900	-50-+3230	-50-+3480
Ram section size	mm	400x400	400x400	200x400	240x240	240x240	240x240
Tool bar section size	mm	50x50	50x50	32x32	40x40	40x40	40x40
Station of tool magazine	station	-	-	-	-	12	12
Max. weight of each tool holder	kg	150	150	45	50	50	50
Cutting feed speed	mm/s	0.01-40	0.01-40	0.01-50	0.01-40	0.01-40	0.01-40
Rapid feed speed	m/min	8	8	8	10	8	8
Table rotating speed	r/min	0.5-40	0.4-32	2-400	1-120	1-77	1-77
Worktable shifting steps		2-step	2-step	2-step	2-step	2-step	2-step
Crossbeam vertical travel	mm	3500	3500	fixing	fixing	fixing	fixing
Main drive motor power	Kw	AC80	AC100	AC37	AC100/55	AC100/55	AC100/55
Power of motor of horizontal feed	Kw	8	8	4.87	7/5.37	7/5.37	7/5.37
Power of motor of vertical feed	kw	8	8	3.3	7/5.37	7/5.37	7/5.37
Work piece accuracy	IT6	IT6	IT6	IT6	IT6	IT6	IT6
Work piece surface accuracy	μm	Ra1.6	Ra1.6	Ra1.6	Ra1.6	Ra1.6	Ra1.6
Machine weight	kg	150000	200000	18000	50000	90000	95000
Overall dimensions of machine	mm	13000x9100x11100	15000x9850x11100	3600x3200x4264	9500x7500x5000	12900x7470x5700	12900x7470x5900
CNC system		SINUMERIK	SINUMERIK	SINUMERIK	FANUC/ SINUMERIK	FANUC/ SINUMERIK	FANUC/ SINUMERIK

Item	unit	SVLC4030	SVLC4530	SVLC4530
Worktable diameter	mm	3600	4000	4000
Max. swing diameter	mm	4000	4500	4500
Max. turning diameter	mm	4000	4500	4500
Max. work piece height	mm	700	700	1400
Max. work piece weight	t	30	30	30
Max. torque	nm	81000	97400	97400
Vertical travel of ram	mm	600	600	1400
Horizontal travel of ram	mm	-50-+3480	-50-+3600	-50-+3600
Ram section size	mm	240x240	240x240	240x240
Tool bar section size	mm	40x40	40x40	40x40
Station of tool magazine	station	12	12	12
Max. weight of each tool holder	kg	50	50	50
Cutting feed speed	mm/s	0.01-40	0.01-40	0.01-40
Rapid feed speed	m/min	8	8	8
Table rotating speed	r/min	1-77	1-60	1-60
Worktable shifting steps		2-step	2-step	2-step
Crossbeam vertical travel	mm	fixing	fixing	fixing
Main drive motor power	Kw	7/5.37	7/5.37	7/5.37
Power of motor of horizontal feed	Kw	7/5.37	7/5.37	7/5.37
Power of motor of vertical feed	kw	AC100/55	AC100/55	AC100/55
Work piece accuracy		IT6	IT6	IT6
Work piece surface accuracy	μm	Ra1.6	Ra1.6	Ra1.6
Machine weight	kg	95000	100000	105000
Overall dimensions of machine	mm	13400x7520x		
CNC system		FANUC/ SINUMERIK	FANUC /SINUMERIK	FANUC/ SINUMERIK

### Accessories

Item	SVLC
imported spindle bearing	•
SINUMERIK 840D	•
Manual 4-jaw independent worktable	•
C-axis worktable	-
Hydrostatic guide Way of X/Z-axis	•
Imported ball screw	•
Single ram	•
Air-conditional in the electrical Cabinet	•
X-axis scale	•
Z-axis scale	•
W-axis scale	•
Y-axis scale	-
Hydraulic station	•
Constant temperature cooling tank	•
Upgrading device for cooling	•
Pneumatic device	•
Chip convertor	•
Cooling device	•
Electrical device	•
Outside protection	•
12 station discal cool magazine	•
Turning & milling compound tool magazine ( 6+28 station)	
Chain-type milling tool magazine	*
Special turning tool magazine	*
Special head magazine	*
C-axis function	-
Chip convertor ( chain -type)	•
Oil- water segregator	•
Grounded operation panel	•
Work piece measurement	*
Tool detection	*
Standard tool holder	•
special tool holder	*
Straight boring & milling head	-
Right angle boring & milling head	-
Universal boring ,& milling head	-
Handle operation panel B-MPI	*
Positioning adapter	*
Multi stations tool turret	*
Square worktable	-
• standard accessories	* optional accessories