VTL | VLP | VTF | VTM | VTMP

Your partner for multifunctional vertical turning

SIRMU

VTL - VLP - VTF - VTM - VTMP
VERTICAL LATHES AND TURNING, MILLING, DRILLING, GRINDING CENTERS

VTL | VLP

Greater precision, reliability and efficiency

VTL | VTLc

Fixed and movable cross-rail machines line, characterized by high-speed and higly-flexible use. Suitable for machining in **aeronautic, motoring, oil, general and precision mechanic fields.**

SIRMU offers to the market its new series of CNC vertical lathes and CNC turning - milling - drilling centres, platform diameter ranging from 800 to 6.000 mm, suitable for multi-purpose turning, milling, drilling and grinding machining.
These machines are the result of Sirmu's over forty years experience into vertical turning field.

All new series' models dispose of technologically advanced solutions, characterized by easy designing and building turning into extremely reliable, flexible, versatile, accurate performances. The complete modularity allows a deep models' personalization according to users' real needs. The wide range of accessories grants the max use flexibility.

VTL line		
Platform diameter	mm	800 - 1000 - 1200
Max. turning diameter	mm	1500
Spindle motor power	kW	60
Platform speed	min^{-1}	3÷800 / 3÷700
VTLc line		
Milling motor power	kW	21,5
Max. speed milling spindle	min^{-1}	3000

VLP | VLPc

Fixed and movable cross-rail machines line, characterized by high stiffness and compactness. Suitable for machining in **aeronautic, motoring, oil, general and precision mechanic fields.**

VLP line		
Platform diameter	mm	1000 - 1200
Max. turning diameter	mm	1500
Spindle motor power	kW	60 - 71 - 100
Platform speed	min^{-1}	3÷450
VLPc line		
Milling motor power	kW	22 - 30 - 37
Max. speed milling spindle	min^{-1}	3000

VTF | VTM

Optimised machining processes, secure investments,

VTF | VTFc

Fixed cross-rail machines line, featuring extreme stiffness. Suitable to **railway, energy, aerospace and precision mechanics fields machining.**

HIGHLIGHTS

- **Hydrostatic guideways**
- **Two ram models for higher flexibility or heavy duty cutting conditions**
- **Direct linear mesuring scales**
- **Customized in-process measuring solutions**
- **tool breakage detection system**

VTF line		
Platform diameter	mm	1250 - 1500
Max. turning diameter	mm	1800
Spindle motor power	kW	60 - 71 - 100
Platform speed	min^{-1}	3÷450
VTFc line		
Milling potor power	kW	22 - 30 - 37
Max. speed milling spindle	min^{-1}	3000

successful manufacturing

VTM | VTMc

Movable cross-rail machines line characterized by great use versatility. Suitable for **energy, aerospace, iron and steel, oil and general mechanics fields** machining.

VTM line		
Diametro piattaforma	mm	1250 - 1500 - 1800 - 2000 - 2200
Diametro max. tornibile	mm	1800 - 2200 - 2600
Potenza motore mandrino	kW	60 - 71 - 100 - 130
Velocità piattaforma	min^{-1}	3÷450 - 1,5÷320 - 1,5÷280 - 1,5÷260
VTMc line		
Milling potor power	kW	22 - 30 - 37
Max. speed milling spindle	min^{-1}	3000

VTMP | VTMPc

VTMP | VTMPc

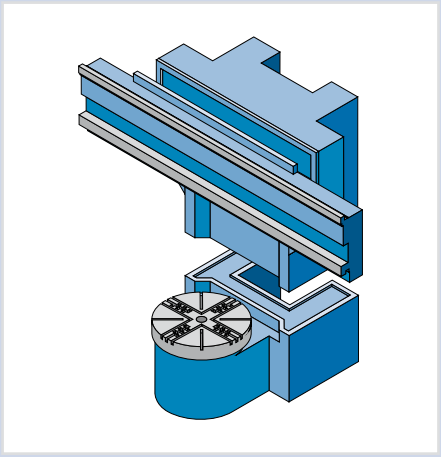
Two-columns, movable cross-rail machines line of medium-high dimensions that combine accuracy, cutting capacity and high-stiffness. Proven performances guaranteed by the design of the main elements such as bed, columns and cross-rail, built in a solid closed frame. Suitable for machining in **energy, aeronautic-space, iron and steel, oil and general mechanics.**

HIGHLIGHTS

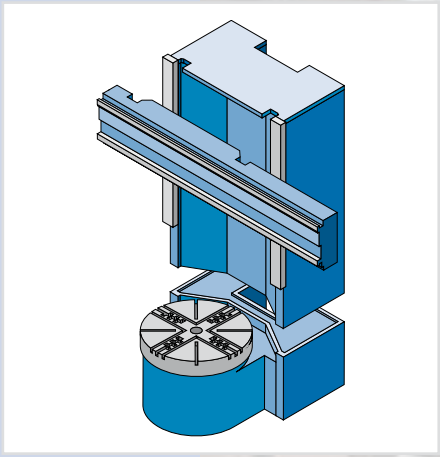
- **Hydrostatic slideways technology for all machines' axes**
- **Two RAMS machine models**
- **High static bending and torsional stiffness**
- **Direct linear measuring scales**
- **Spindle temperature control with thermostabilized lubrication (spindle thermal compensation)**

DOUBLE COLUMN									
VTMP line									
Platform diameter	mm	2200-2500	2800	3000	3500	4000	4500	5000	6000
Max. turning diameter	mm	3000	3500		4200	4600	5200	5600-6500	7200-8000
Spindle motor power	kW	60-71-100-130	60-71-100-135-155-190		100-135-155-190			100-135-155-190	
Platform speed	min^{-1}	1,5÷225	1,3÷190	1,3÷170	1÷140	1÷120	0,6÷100	0,6÷90-0,6÷60	0,3÷50
VTMPc line									
Milling motor power	kW	22-30-37	22-30-37		30-37-41		37-41	41-51	
Max. speed milling spindle	min^{-1}	3000	3000		3000-2000				

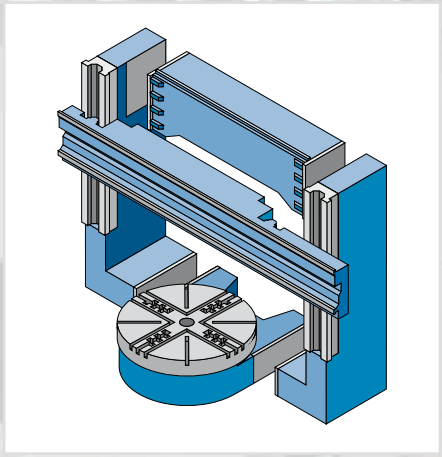
STRUCTURE, CROSS-RAIL, SADDLE, turning and milling slide



VTL - VLPF - VTF
Single column: fixed cross-rail

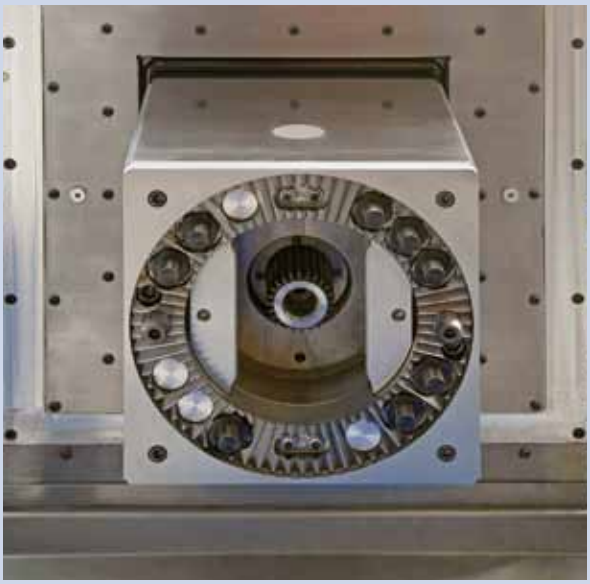


VTL - VLP - VTM
Single column: movable cross-rail



VTMP
Double column: movable cross-rail

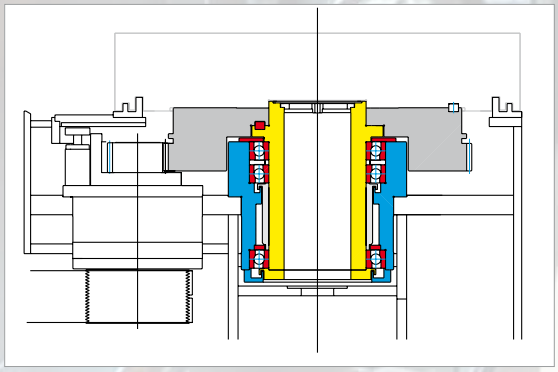
On the Ram's front part, the Hirth precision toothing ensures toolholder and milling heads' clamping, guaranteeing coupling accuracy and repeatability.



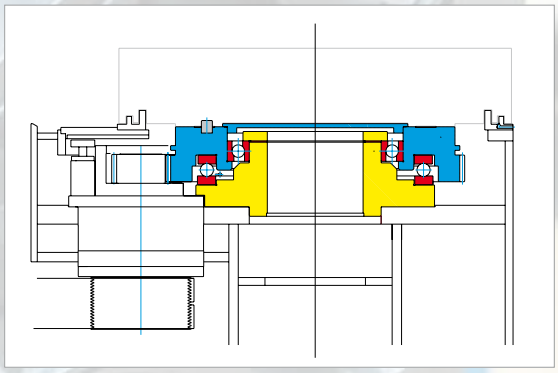
- **Modular design**
- **Machine structure design by FEM calculation**
- **Vibration-damped design**
- **RAM hydraulically balanced**
- **Mechanical compensation of the saddle's weigth on the cross-rail's guides**

SPINDLE LINE

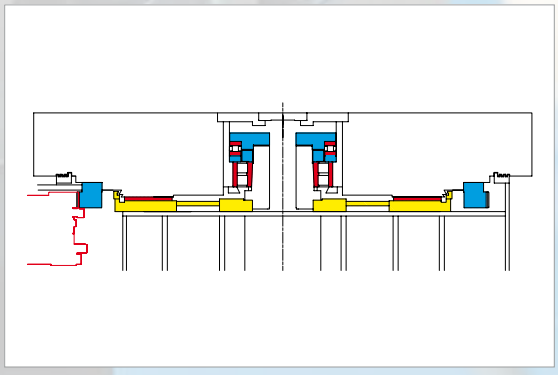
Three range of spindle available:



• "HIGH SPEED", mostly suitable for high-cutting speed machining



• "HIGH-CHARGE", mostly suitable for high loads



• "HYDROSTATIC SPINDLE", excellent for high-loads and high speed, boasting unlimited lifetime

GEARBOX

To better exploit the costant power and speed range field of the spindle motor, SIRMU machines are equipped with a 2 ranges epicycloidal gearbox and vertical axes with 2 or 4 speed ranges.

- **Compact dimensions**
- **Reduced noise**
- **Reliability**

Gearbox and spindle are lubrified continuously with thermal stabilized oil

"C" AXIS

ACCESSORY HEADS MAGAZINES

- Versatility of configuration thanks to a wide choice of ram attachments and accessories
- Machining of complex surfaces
- Meet specific needs and satisfy all the requirements in various fields of application

Our machines' versatility and productivity may be further enhanced by a complete range of automatic tool magazine options

TOOL CHANGERS

- Precision and positioning repeatability
- Regular operation at low, medium and high-speed
- Custom built solutions on our customers' needs

PALLET CHANGER SYSTEM

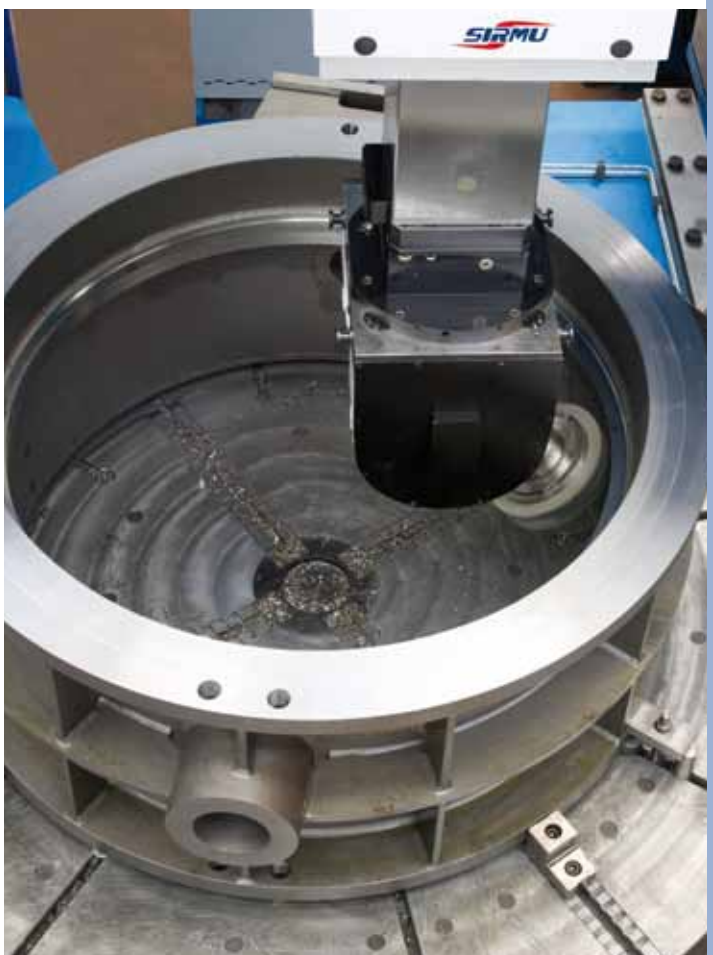
Maximum productivity with various ranges of pallet changer

PRESETTING DEVICES

- Turning tools presetting
- Laser calibration for live tools
- In-process workpiece measuring

SIRMU develops all its project closely collaborating with the customers, aiming to propose and optimize solutions that suit specific machining and requirements needed, with the main goals of:

- Increasing productivity
- Costs' reduction
- End user's satisfaction



CUSTOMER'S NEEDS

- FEASIBILITY ANALYSIS
- PRODUCTION PROCESSES ANALYSIS
- TECHNICAL AND ECONOMIC ANALYSIS

DESIGNING AND PRODUCTION

- PROJECT MANAGEMENT
- DOCUMENTATION
- PRE-ACCEPTANCE TEST
- LOGISTICS AND TRANSPORTATION

TURN-KEY PROJECTS

- CUSTOMISED SOLUTIONS
- PRODUCTION PROCESS STUDY AND ANALYSIS
- TOOLS
- TOOLINGS

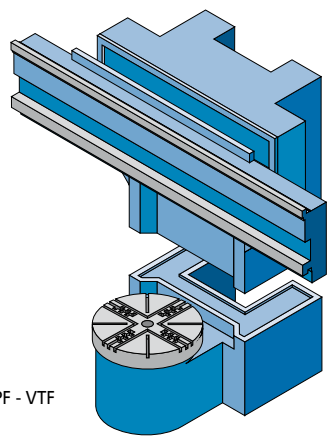
POST-SALE ASSISTANCE

- INSTALLATION AND START-UP
- TECHNICAL ASSISTANCE
- TELESERVICE
- PREVENTIVE MAINTENANCE
- PERSONNEL'S TRAINING

PRODUCTION PROGRAMME FOR VERTICAL TURNING

		VTLF Fixed Cross Rail	VTL Movable Cross Rail	VLPF Fixed Cross Rail	VLP Movable Cross Rail	VTF Fixed Cross Rail	VT Movable	
		80-100-120	80-100-120	100-120	100-120	125-150	125-150	180
SINGLE COLUMN LATHES								
Table diameter	mm	800 - 1000 - 1200		1000 - 1200		1250 - 1500	1250 - 1500	1800
Max. turning diameter	mm	1500		1500		1800	1800	2200
Max. turning height	mm	600 - 800 - 1000	1000 - 1400 - 1600	600 - 800 - 1000	1000 - 1400 - 1800	600 - 800 - 1000	1000 - 1400 - 1800	1200
Spindle motor power	kW	60		60 - 71 - 100		60 - 71 - 100	60 - 71 - 100	60 -
Table speed range	rpm	3 - 800 / 3 - 700*		3 - 450		3 - 450	3 - 450	1,5 - 320
Max. workpiece weight on the table	t	10		18		18	18	25
Vertical slide section	mm	230 x 230		260 x 260		260 x 260	260 x 260	
Z axis slide stroke	mm	800 - 1000 - 1200		800 - 1000 - 1200		800 - 1000 - 1200	1000 - 1200 - 1500	
Working and rapid feeds (X and Z axes) with mechanical pads guideways	mm/min	12000					12000	
Working and rapid feeds (X and Z axes) with hydrostatic guideways	mm/min					18000	18000	
MACHINING CENTER WITH LIVE TOOLS (TAPER ATTACHMENT ISO 50								
Milling motor power	kW	21,5		22 - 30 - 37		22 - 30 - 37	22 - 30 - 37	
Milling spindle speed range	Nr.	1		2		2	2	
Max. speed of the milling spindle	rpm	3000		3000		3000	3000	
C axis positioning accuracy: P	"	8		8		8	8	
Positioning repeatability: P_s	"	6		6		6	6	
Machine total weight	t	19 - 23	20 - 24	21 - 26		30 - 32	35 - 55	

* 700 rpm max. for table diameter 1200 mm
** dimension for turning slide only
*** dimension for turning - milling - drilling slide only
**** 2000 rpm max. for Z axis = 2300 - 2600 - 3200 mm

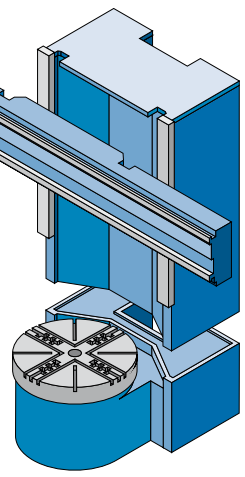


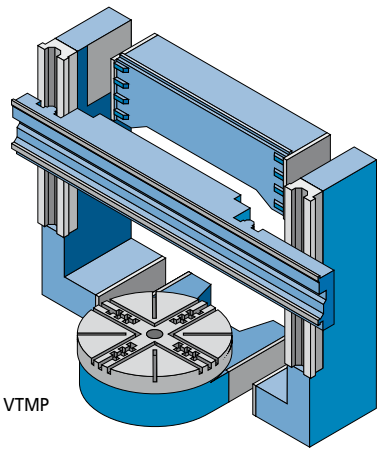
VTLF - VLPF - VTF

VTL - VLP - VTM

M Cross Rail		VTMP Movable Cross Rail								
200	220	220-250	280	300	350	400	450	500 M	500 I	600 I
		DOUBLE COLUMN LATHES								
2000	2200	2200 - 2500	2800	3000	3500	4000	4500	5000	5000	6000
2600		3000	3500		4200	4600	5200	5600 - 6500		7200 - 8000
- 1600 - 2000 - 2400		2000 - 2400 - 2800	2000 - 2400 - 2800 - 3200		2400 - 2800 - 3200 - 3600	3200 - 3600 - 4000	3600 - 4000 - 4600 - 5000	3600 - 4000 - 4600 - 5000 - 5600 - 6000		
71 - 100 - 130		60 - 71 - 100 - 130	60 - 71 - 100 - 135 - 155 - 190		100 - 135 - 155 - 190			100 - 130 - 155 - 190		
1,5 - 280	1,5 - 260	1,5 - 225	1,3 - 190	1,3 - 170	1-140	1 - 120	0,6 - 100	0,6 - 90	0,6 - 60	0,3 - 50
33		36 - 38	40	50	60	80	100	120	150	250
260 x 260		260 x 260	260 x 260** (300 x 300)***		300 x 300	300 x 300 (360 x 360)		300 x 300 (360 x 360) (400 x 400)		
1000 - 1200 - 1500		1300 - 1600 - 1800**	1300 - 1600 - 1800		1300 - 1600 - 1800 - 2100	1800 - 2100 - (2300**** - 2600****)		2100 - (2300**** - 2600****) - (3200****)		
12000		12000						/		
15000		15000								
) AND C-AXIS										
22 - 30 - 37		22 - 30 - 37	22 - 30 - 37		30 - 37 - 41		37 - 41	41 - 51		
2		2								
3000		3000	3000		3000 - 2000****					
9		10	10				12			15
6		6	6				8			10
35 - 55		90 - 95	100 -105		130	150	180	220		300

Data are subject to modifications without notice.





VTMP

SIRMU: our production programme for vertical turning represents the technological synthesis of the most appopriate solutions to any production requirement









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