

BARON-MAX[®] VL-Range Vertical Machining Centers

Linear Guide ways VL Range

*Powerful Machines, Simple User Friendly Programming
At a Very Affordable Pricing*



Cost Effective, High Performance Vertical Machining Centers

BARON-MAX VL Range High Performance Vertical Machining Centers

Linear Guide ways VL Range

Model: VL-600 / VL-800 / VL-1000 / VL-1300 / VL-1500

The machine is designed to provide outstanding stiffness, rigidity, thermal stability, speed, power and accuracy to tackle even the toughest production part materials and tolerances



- Fully enclosure with interlock siding doors, integrated coolant wash gun & air guns
- 12/16 KW spindle motor with 10,000 rpm ISO40 cartridge spindle
- 24 tools Double arm automatic tool changer
- Double pretension high precision C3 grade double nuts ball screws directly coupled to the servo drive motor on all directly coupled to the servo drive motor on all models
- Duplex angular contact bearings support both ends of all ballscrews,
- All axes laser calibrated & ballbar verified.
- One year parts and labor warranty and two years Siemens Control Warranty



Spindle speed up
to 12,000 rpm



24 tools ATC
Magazine



Heavy duty cutting
and high accuracy



High quality
surface finishing



Laser calibration and
Ball-bar analysis

Baron Max Cost Effective High Performance Vertical Machining Centers

The Baron max VMC's offer Real CNC Machining Power, Precision and Performance. Available in a full range of models, there is a machine to meet most any requirement

Baron Max VL-600 / VL-800

- X/Y/Z travel - 600/460/500mm(VL-600)
- 800/500/500mm (VL-800)
- 7.5/11kW Spindle Motor
- BT40 spindle (CAT 40 Opt)
- 60~10,000rpm speed (12,000 rpm opt)
- XYZ axes linear guide ways
- 30/30/30 m/min rapids
- 24 station Swing Arm type ATC



Baron Max VL-1000

- | | |
|---|---|
| ■ X/Y/Z travel - 1020/600/600mm | ■ XY Linear Guide ways, Z axes Box Ways |
| ■ 12/16kW Spindle Motor | ■ 30/30/24 m/min rapids |
| ■ 60~10,000rpm speed range (12,000 rpm opt) | ■ 24 station Swing Arm type ATC |
| ■ High rigidity 4 Linear Guide ways on base | ■ BT40 spindle (CAT 40 Opt) |

Baron Max VL-1300 / VL-1500 Provides 4 linear guideways for heavy duty with high accuracy



Baron Max VL-1300

- X/Y/Z travel – 1300 x 610 x 610mm
- 12/16kW Spindle Motor
- BT40 spindle (CAT 40 Opt)
- 60~10,000rpm speed range (12,000 rpm opt)
- **High rigidity 4 Linear Guide ways on base**
- **XY Linear Guide ways, Z axes Box Ways**
- 30/30/24 m/min rapids
- 24 station Swing Arm type ATC

Baron Max VL-1500

- X/Y/Z travel – 1500 x 670 x 650mm
- 12/16kW Spindle Motor
- BT40 spindle (CAT 40 Opt)
- 60~10,000rpm speed range (12,000 rpm opt)
- **High rigidity 4 Linear Guide ways on base**
- **XY Linear Guide ways, Z axes Box Ways**
- 30/30/24 m/min rapids
- 24 station Swing Arm type ATC



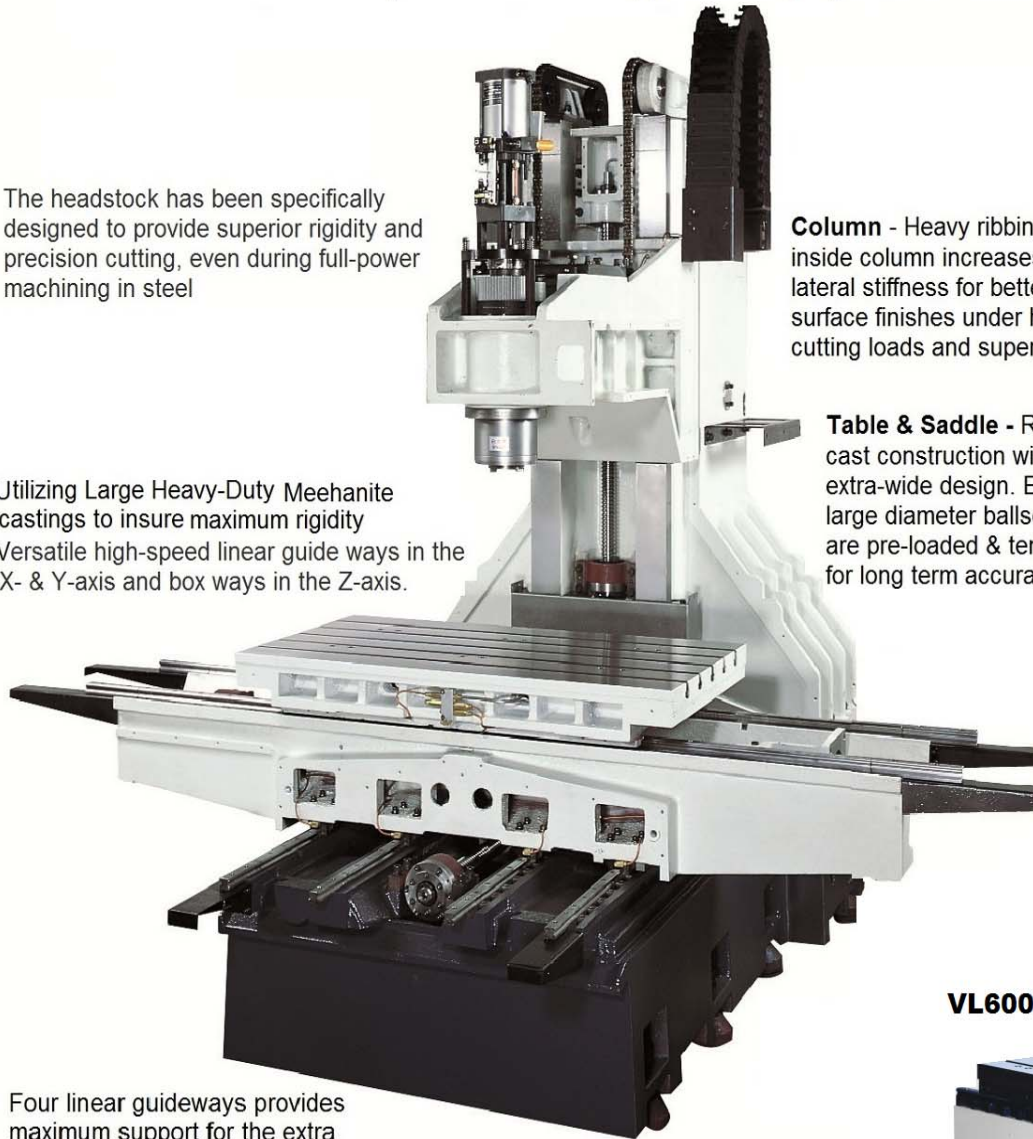
Superior construction, features & performance

The headstock has been specifically designed to provide superior rigidity and precision cutting, even during full-power machining in steel

Column - Heavy ribbing inside column increases the lateral stiffness for better surface finishes under heavy cutting loads and superior

Utilizing Large Heavy-Duty Meehanite castings to insure maximum rigidity
Versatile high-speed linear guide ways in the X- & Y-axis and box ways in the Z-axis.

Table & Saddle - Rigid, cast construction with extra-wide design. Extra large diameter ballscrews are pre-loaded & tensioned for long term accuracy



Four linear guideways provides maximum support for the extra wide saddle



VL600/VL-800 Show

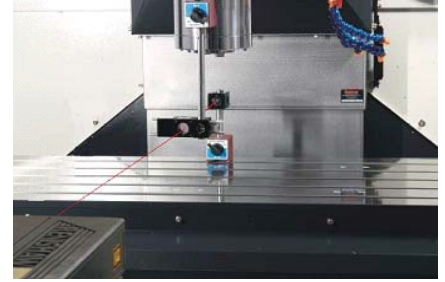
Standard features

- 4 linear guide ways bed construction for heavy duty with high accuracy
- 12/16 Kw high power spindle motor offers high torque output
- Pneumatic counter weight system with air tank provides excellent stability.
- Flood coolant system with programmable air blast
- High volume chip flushing system
- Screw type Auger conveyor
- Heat exchangers for control cabinets
- Rigid tapping

Full range, Quality Assurance..... Full laser calibration and ball bar testing to ensure squareness and accuracy



Every machine is measured & calibrated by a Renishaw Laser and Ball-Bar analysis and undergoes a rigorous 50 hours of non-stop running before shipment. A certificate of accuracy is also included for each machine.

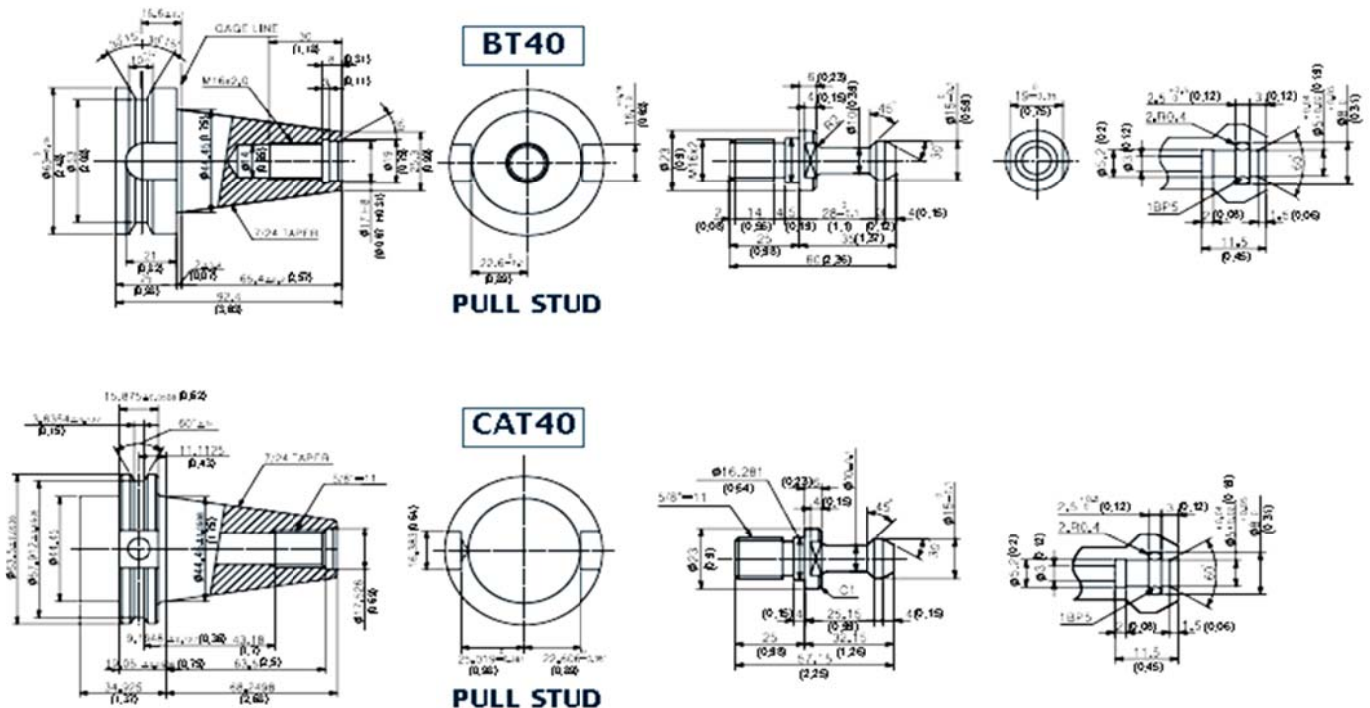


Inspection Standard	Positioning A	Repeatability R
ISO 10791 – 4	0.032	0.018
BaronMax ECO V Range	± 0.01	± 0.005

JIS B 6338 show the same value as ISO standard $L \leq 1250$ mm, P value of VDI 3441 is equivalent to A of ISO 10791 And Ps of VDI 3441 is equivalent to R of ISO 10791-4

All values shown above are inspecting for machine in good air conditioned environments

Tool shank & Pull stud



Product Features:



Mechanical accuracy is based on the flatness less than $5\text{ }\mu\text{m}$ in 1 M^2

High rigidity 4 Linear Guide ways on base, X Y axes Linear Guide ways, Z axes Box Ways



Cartridge Belt Drive Spindle



Largest and rigidity column



the ballscrews and linear ways are lubricated automatically by timer controlled oil injection



24 Tools Arm type Magazine



A screw type auger is provided as a standard feature



Double-anchored ballscrews with twin pre-loaded ball nut

Easy to Operate, Simpler Setups, Powerful CNC Functions Siemens Sinumerik 828D



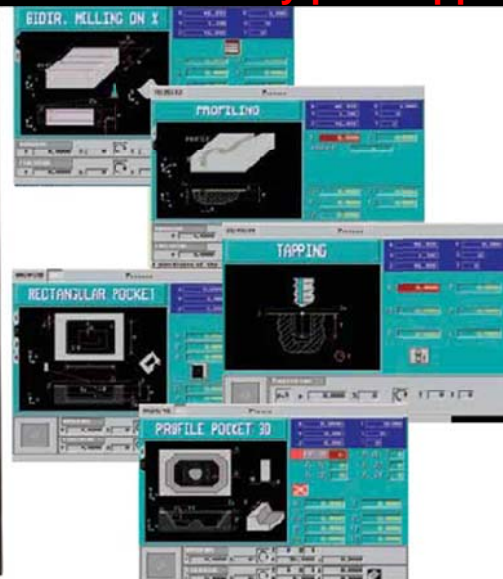
- 10.4" Color TFT Display, Full QWERTY keyboard
- ShopMill conversational programming,
- Program GUIDE and ISO programming
- 80-bit NANO Floating Point Accuracy technology to ensure high speed accuracy
- 3D Solid graphics simulation
- Advance Surface technology for high speed 3D surfaces
- Simplified Tool and Workpiece Management
- USB, Compact Flash Card, Ethernet on the Front Panel + RS-232C
- It's simple — easy-to-setup, easy-to-use

SINUMERIK 828D also meets the demands of high sophisticated mold & die applications



CNC 8055i MC

Ideal for large production lines and for unitary parts applications



- New Conversational Digitizing Cycles makes Digitizing extremely quick and easy
- 11" high resolution LCD Color Monitor
- 255 Tool Length, Diameter & Wear Offset
- High-Speed Algorithms
- Ethernet Capability, USB port standard
- Powerful Interactive Graphic Interface for easy programming - No Prior CNC knowledge required.
- Memory (512MB) & DNC communication
- Two ways of programming: Icon Based Conversational and G Code (On-line)
- Solid & Tool Path Graphic Simulation with zoom and part rotation
- Advanced Look Ahead 100 Block
- High-Level Programming
- On board PLC
- High-Speed Algorithms

The controller options consist of user friendly systems from Siemens & Fagor ideally suited to the first time user, Fanuc is also available if preferred.

Specifications

		VL-600	VL-800	VL-1000	VL-1300	VL-1500
MACHINING ENVELOPE						
Axis Travel	X	600 mm	800	1020 mm	1250 mm	1500 mm
	Y	460 mm	500	600 mm	610 mm	670 mm
	Z	500 mm	500	600 mm	610 mm	650 mm
Spindle nose to table (mm)		100~600		100~760	100~700	100~750
Spindle center to column		550 mm		640 mm	650 mm	750 mm
Table						
Table size (mm)		450*700	450*900	1100*600	1400*600	1700*610
Table loading capacity		450 kg		800 kg	1000 kg	1300 kg
T-slot configuration		16 mm x 4		18 mm x 5	18 mm x 5	18 mm x 5
Spindle						
Taper		BT# 40(STD.), CT#40 or DIN-69871A (Opt.), BT#50 (opt.) for LMC-1576				
CNC Control System		Siemens 828d sl, or FAGOR 8055i FL				
Spindle speed		10,000rpm 12000rpm (Option), 6000 #50 (Opt for VL-1500 only)				
Coolant thru spindle		Available. Complies with DIN 69871 from B tool holder				
Main motor (con/30 min KW)		7.5/11 KW, (Std),)		12/16 KW, (Siemens), 11/15 KW		
Axes Transmission						
X Y Z Ball screws		X-Y-Z: Ø32 x P12 x C3		X-Y-Z:Ø40*P12*C3	X: Ø50 x P10 x C3 Y-Z: Ø40 x P10 x C3	
X Y Z rapid feed		X-Y-Z axes: 30 m/min		X-Y axes : 30 m/min, Z axis: 20 m/min		
X Y Z feed rate		10 m/min		10 m/min		
Feed Motor torque (X-Y-Z) Nm		12 / 12 / 16 Nm		16 / 16 / 16 Nm		
Accuracy						
Positioning		±0.005 (±0.0002")				
Positioning repeatability		±0.003 mm (±0.0001")				
Automatic Toolchanger						
No. of Tools (ATC)		20 T Arm type	24 tools Arm Type.			
Tool selection		By address code, Random / bi-directional rotation				
Pull stud		MAS 403-P40T (45°),CT40 (45°) or DIN 69872 B (45°)				P50T (45°)-Opt
Max. Tool diameter		Ø 80 mm (Carousel type), Ø 76 mm (Arm type),				240 mm - #50
Max. Tool weight		8 KGs				15 kgs - #50
Max. Tool length		300 mm (12")				300 mm (12")
Tool change time (tool to tool)		2 sec for Arm Type				3 sec
Coolant and Chip Management						
Swarf removal		Chip auger (Standard), Chain type Chip Conveyor (Option)				
Coolant Tank Capacity		200 L	200 L	280 L	320 L	320 L

Wash Down	Option	Option	Option	Option	Option
Wash Gun	Standard	Standard	Standard	Standard	Standard
Air Gun	Standard	Standard	Standard	Standard	Standard
Cutter air blast	Standard	Standard	Standard	Standard	Standard
Coolant Through Spindle (20 or 50 bar)	Option	Option	Option	Option	Option
Guide Ways					
Way Construction (X, Y, Z)	X-Y: Linear Guide ways, Z: massive box-ways				
Way Size (X, Y, Z) - mm	X:#30, Y: #30, Z: #35	X:#30, Y: #25, Z: Box-ways	X:#40, Y: #30, Z: Box-ways		
Number of Linear Guides: X axis	2 Guides: X (Ball)	2 Guides: X (Ball)	2 Guides: X (Ball)		
Number of Linear Guides: Y axis	2 Guides: Y (Ball)	4 Guides: Y (Ball)	4 Guides: Y (Ball)		
Number of Linear Guides: Z axis	2 Guides: Z (Ball)	Box way : Z	Box way : Z		
Number of Guide Trucks: X, Y axis	X axis: 4, Y axis: 4	X axis: 6, Y axis: 8	X axis: 6, Y axis: 8		
Number of Guide Trucks: Z axis	4	2 Box ways	2 Box ways		
Machine Dimensions (W x D)	210 cm x 210 cm		220 x 220 cm	220 x 280 cm	230 x 300 cm
Machine height	260 cm	260 cm	270 cm	270 cm	280 cm
Coolant pump motor	1/2 HP				
Air required	7 kg/cm (85 psi)				
Machine weight (Approx)	3300 kg	3600 kg	5,800 kg	7,300 kg	7,600 kg

* *Specifications are subject to change without notice*

Standard Accessories:

- Fagor 8055i FL / Siemens 828D controllers available
- High speed 10,000 RPM spindle
- Powerful 12/16 Kw high torque spindle motor
- 24-station automatic dual arm tool changer
- Telescopic way covers for X, Y and Z axis
- Fully enclosed splash guard with interlock
- Auger conveyor
- Rigid tapping
- Coolant system
- Coolant gun
- Air gun
- Halogen work light
- Automatic lubrication system
- Portable MPG
- Leveling pads & bolts for installation
- Tool box & kits
- Lamp of cycle finish & alarm
- Heat exchanger for the electrical cabinet
- CE Norms

Optional Accessories:

- 12,000 rpm Spindle speed.
- Built in coolant through spindle with 20 bar pressure
- Extra cost for CTS/70 bar with separate CTS tank
- Tool offset Probe
- Work piece measuring probe
- Air conditioner for the electrical cabinet
- Wash down system
- Chain type chip conveyor with bucket
- 4th Axis preparation.
- Φ 8", 10" 12" and 14" 4th axis Rotary Tables
- Φ 8" and 10" 5th Axis Tilting Rotary Tables
- Oil skimmer
- Safety module for Fagor/Siemens controller
- EMC for Fagor/Siemens controller
- Transformer
- X-Y-Z axes linear scale