

HONOR SEIKI Co., Ltd.

Precision, Reliability, Performance, No Compromises!

VL
SERIES

Imported by:

CNC
SYSTEMS INC
THE POWER OF PRECISION

14312 Chambers Road Tustin, CA 92780 (714) 838-3999
40 Water Street Kennebunk, ME 04043 (207) 985-6503

Email: info@cncsystems.com Web: www.cncsystems.com



**CNC Vertical
Turning Experts!**

Honor Seiki Company, Ltd.

VL
SERIES

VL-300C/CM
VL-400C/CM
VL-500C/CM
VL-600C/CM



CNC
SYSTEMS INC
THE POWER OF PRECISION



■ **Honor Seiki continuous to develop quality machines to meet the highest standards in precision, efficiency and reliability.**

With 30 years' experience in machine tool design and manufacturing, HONOR SEIKI is the most professional and largest machine tool maker in CNC Vertical Lathe, Vertical Turning Center and Gantry type Turning/Milling/Grinding Center in Taiwan. Honor Seiki brand is internationally recognized and sold over 50 countries with many repeated orders. Unlike others who over diversify, Honor Seiki focuses solely on vertical turning lathe, with an undivided aim to perfect our product line and bring about greatest customer satisfaction. We are very proud of providing our machines to many leading companies around the world. The industrials we provide include aerospace, automotive, railway, high speed rail, mining, oil and gas, wind power...etc. From outer space rockets to deep ocean submarines, all utilize Honor Seiki vertical lathe to maximize their machining potential. We are proud of our accomplishments in bringing accolades to Taiwan. Our business model is based on cooperation, lasting partnership and mutual benefits in order to best serve our clients and help them reap their greatest gain, with special emphasis on Quality, Efficiency, Accuracy, Honest and Responsibility. We always fulfill our promises to our customers. Honor Seiki LTD is your best partnership to prosper and grow your business.



With Multiple World Wide Patents Let HONOR's Experience Guide You .

104 掛號
臺北中山區長安東路1段23號10樓之1
受文者：榮田精機股份有限公司（代理人：黃志揚 專利代理人）
發文日期：中華民國102年11月11日
發文號：(102)智專一(一)第10272281149號
送別：
密等及解密條件：
附件：專利證書1紙
主旨：發給第101307903號專利案設計D157189號專利證書1紙，自民國105年起，每年應於11月10日以前繳納年費，請查照。
說明：
一、依102年10月8日所繳證書費及第1至第3年費辦理。
二、有關本局年費繳納通知僅屬提醒性質，非本局法定義務，嗣後每年年費，不待本局通知，務請依限自行繳納，以維護主權（貴公司）之權益。
正本：榮田精機股份有限公司（代理人：黃志揚 專利代理人）
局長 王美花
經濟部智慧財產局 局長 王美花



**Heavy Duty Ram
Small-Medium Series**

VL-66C/CM
VL-86C/CM
VL-100C/CM

VL

SERIES

VL-160 CM

C-Axis
Turning
Table diameter
CNC Vertical Lathe

**Heavy Duty Ram
Medium-Large Series**

VL-125C/CM
VL-160C/CM
VL-200C/CM
VL-250C/CM
VL-300C/CM
VL-400C/CM
VL-500C/CM
VL-600C/CM

**Y-Axis with Turning
PL Specialty Series**

PL-160CM
PL-200CM
PL-350CM



Providing Solutions



- Work Station Changers
- Auto Pallet Changers
- Custom Tool Changers
- Special Fixtures / Tooling

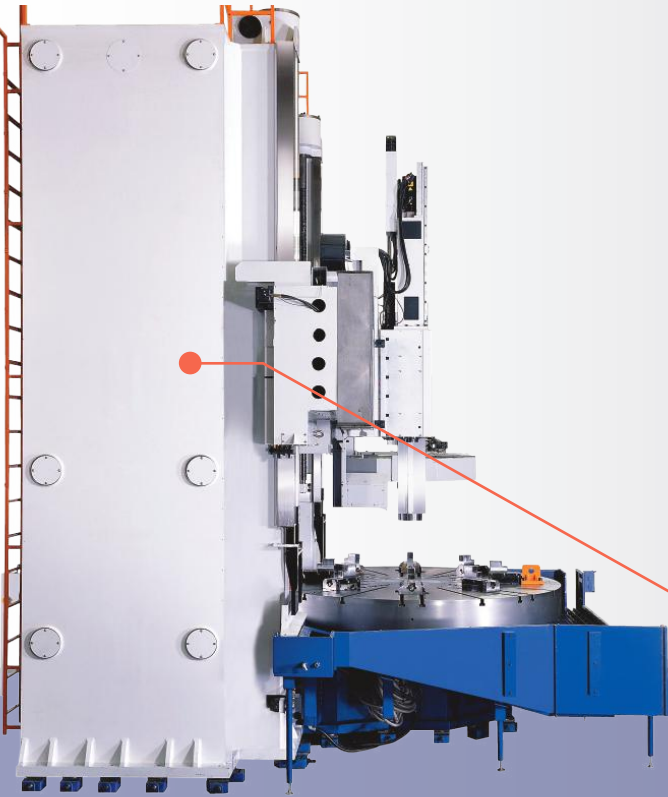
Diverse Fields of Applications:

- Aerospace
- Rail
- Power Generation
- Wind Power
- Large Valves
- Gears
- Oil & Gas
- Agricultural
- Marine
- Defense
- Automotive
- Machine Tool

Machine Structure Design

Massive Column Design

The massive symmetrically designed massive double column is hand scraped and fitted to the oversized base with ultimate precision. The heavily ribbed Meehanite castings ensure dynamic stability, excellent thermal characteristics and high rigidity for machining tough alloy materials. All Honor Seiki machines are designed with massive box ways for superior cutting capabilities.

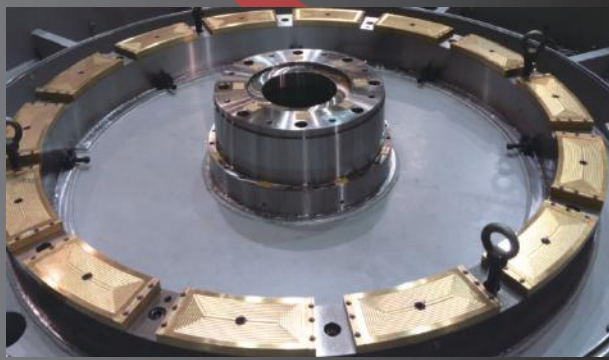


Largest Bearing Design in its Class



Thrust & centering Bearing

VL-300~VL500
(Op. on VL500)



Hydraulic & Centering Bearing

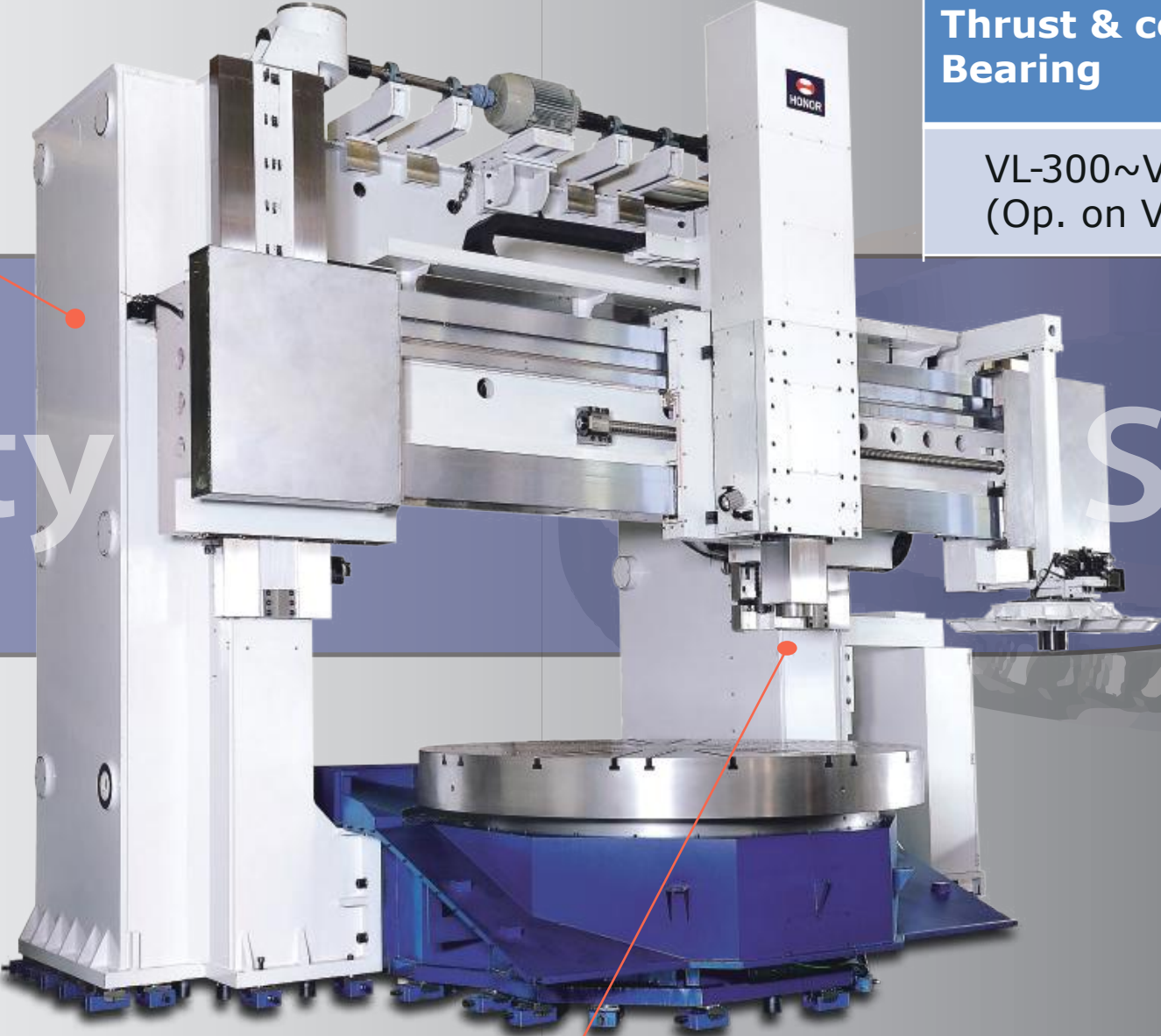
- VL 500~600

Heavy Duty Structure

Large Ram with Multiple Tooling Options

The RAM is made of high strength alloy steel specially ground and encapsulated in a heavy duty head casting. The ram is supported on eight (8) surfaces with turcite C that are hand scraped to ensure a high level of rigidity, precision and dynamic stability

Ram Sizes: 300 x 300 mm
400 x 400 mm



The X, and Z axis as well as the traveling cross rail are precision ground box ways with hand scraped turcite "C" mating surfaces. The Class 3 ballscrews are directly driven by high torque servo motors.

All sideways are automatically lubricated by a central system that controls the volume and timing to achieve proper amount of oils needed.

The cross rail is fully programmable in multiple increments of 200mm steps, The rail is precisely positioned by 3" diameter ground shot pins that come to rest on ground mating surfaces to ensure the highest level of accuracy and repeatability while changing the location plain.

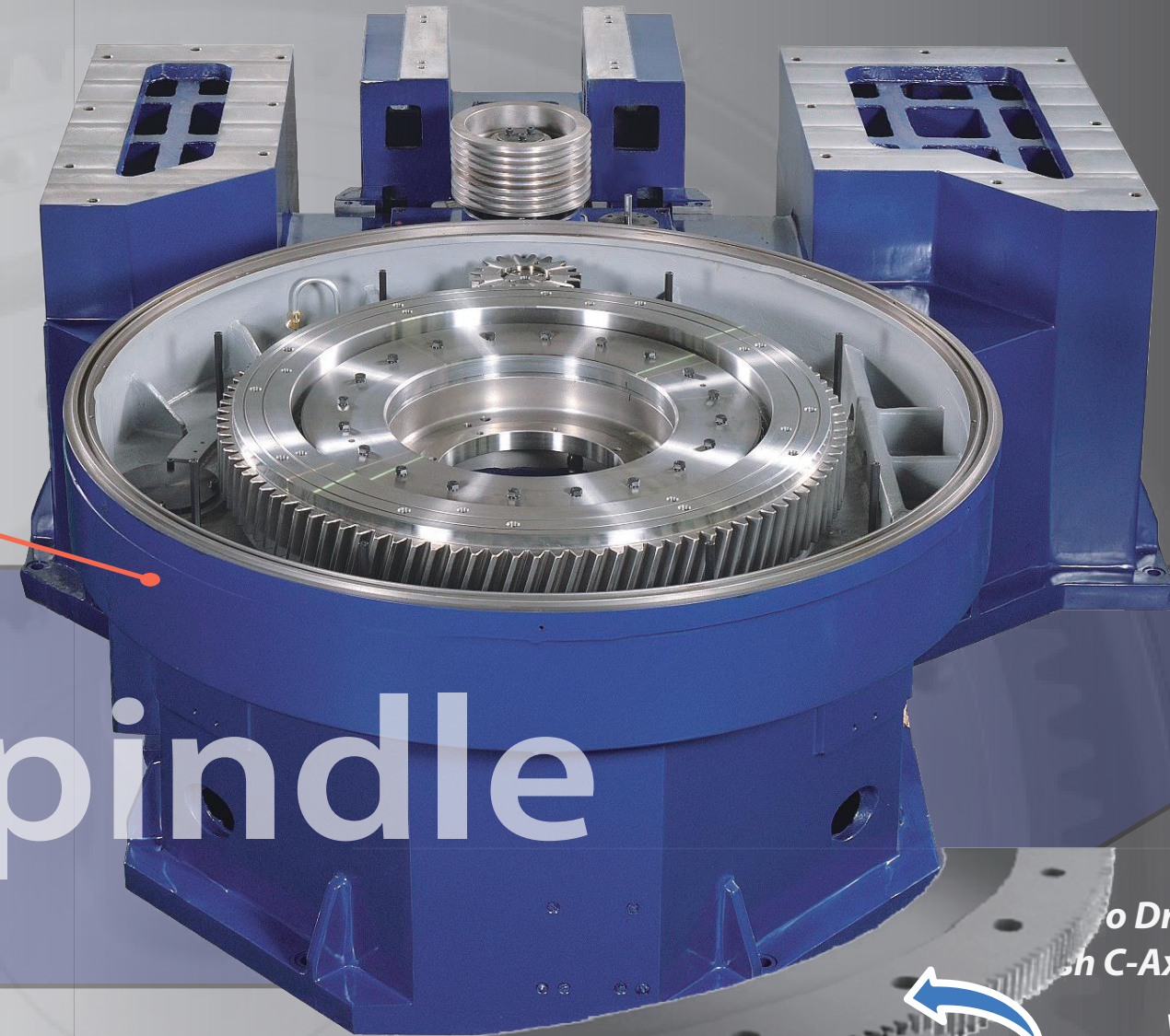


The spindle transmission bevel gears are made from high grade carbonized JIS grade SCM440 material ensuring an extremely efficient smooth running gear with low noise and a prolonged life.

The 2-speed transmission driven by single or dual Fanuc or Siemens motors produces torques from 66,000 NM (VL300C with 100HP) to over 193,000 NM for the VL- with dual 100HP drive motors.

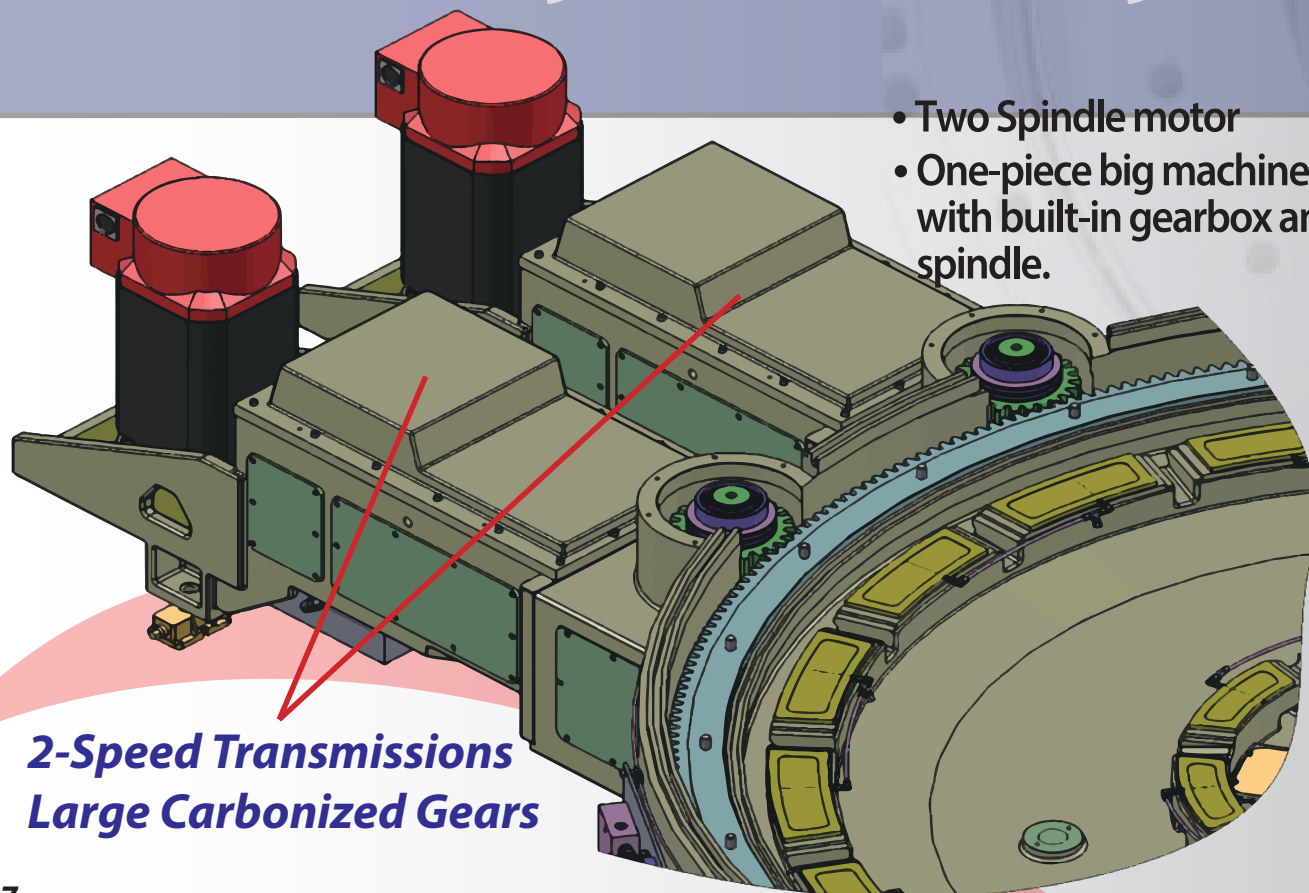
The CM model with full C-axis uses a separate servo motor to engage the main gear with a zero-backlash system for highly accurate drilling and milling type work

Large Beveled Gears Ensures Higher Torque and Low Noise

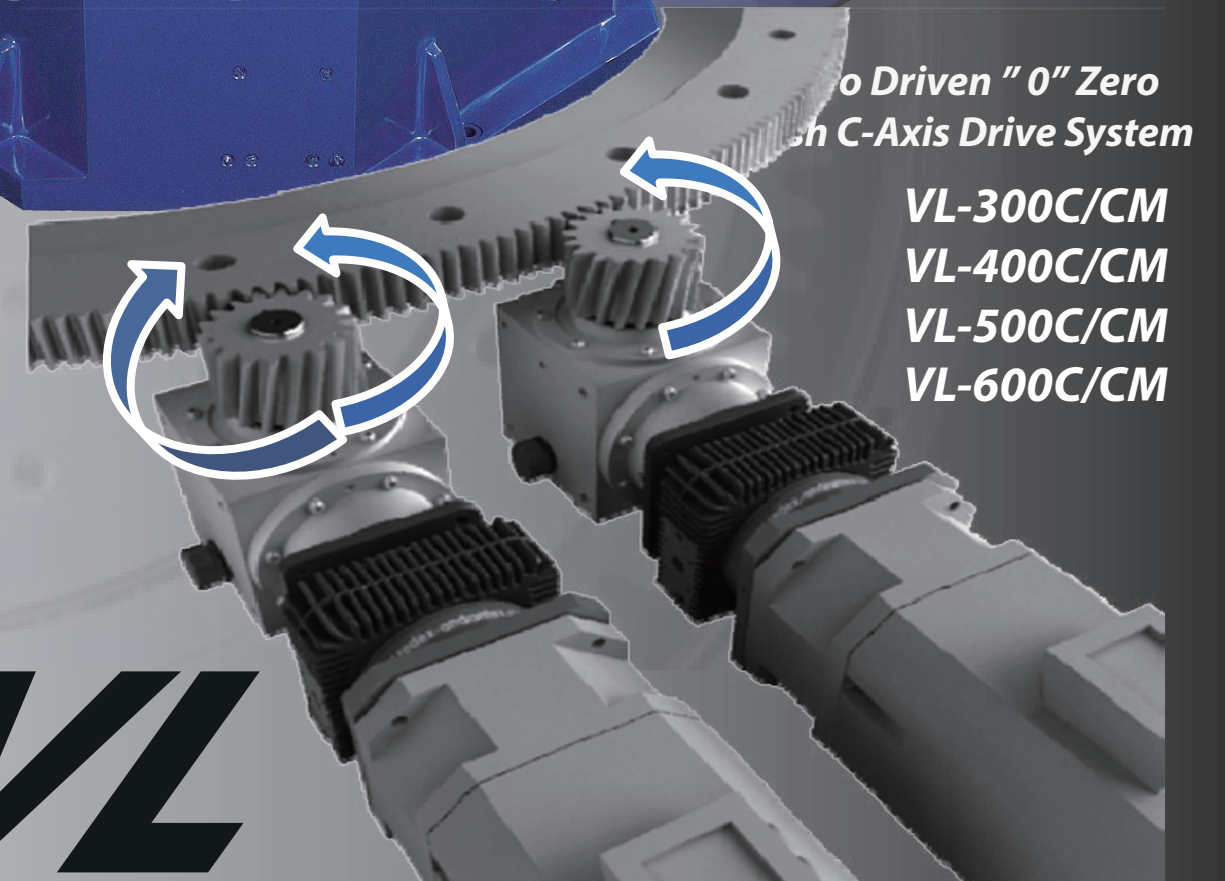


Heavy Duty Spindle

- Two Spindle motor
- One-piece big machine bed with built-in gearbox and spindle.



**2-Speed Transmissions
Large Carbonized Gears**



o Driven " 0" Zero
h C-Axis Drive System

VL-300C/CM
VL-400C/CM
VL-500C/CM
VL-600C/CM

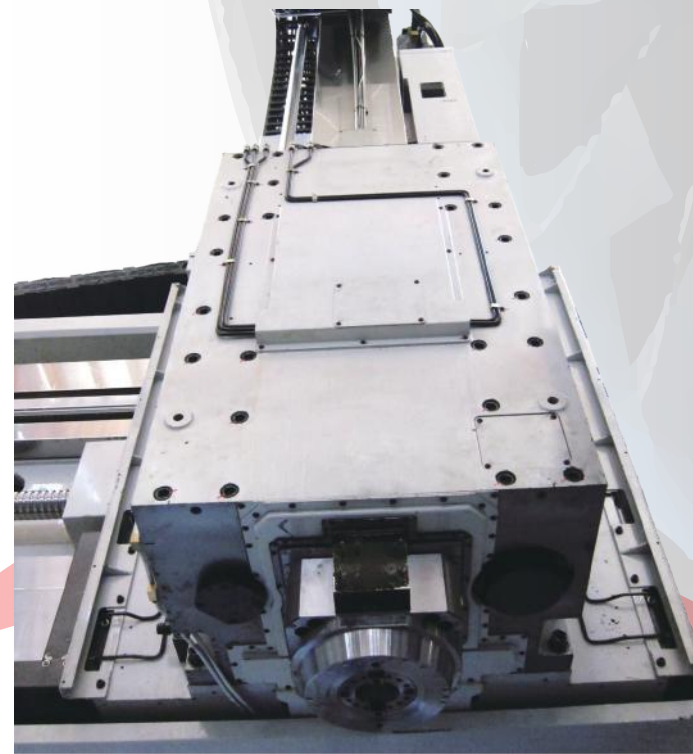
**VL
SERIES**

8 Turcite support surfaces **17,600 Lbs. clamping force**



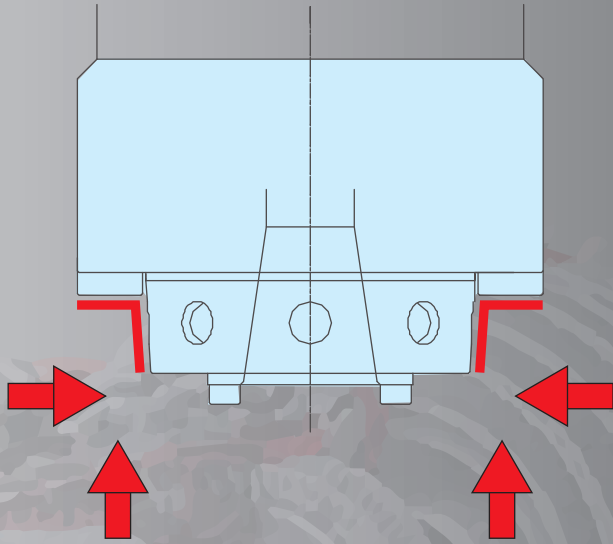
The machine headstock is designed for ultimate rigidity and accuracy by incorporating eight (8) Hand scraped turcite support surfaces for heavy machining of all materials.

Ram Sizes: 300 x 300 mm
400 x 400 mm



The Patented and extremely rigid Solid Lock tooling system is where Honor Seiki machines out perform all other brands. Utilizing a high level of tool holder and ram contact surface with the special ball lock clamping 100 HP cuts in exotic materials is easily achieved.

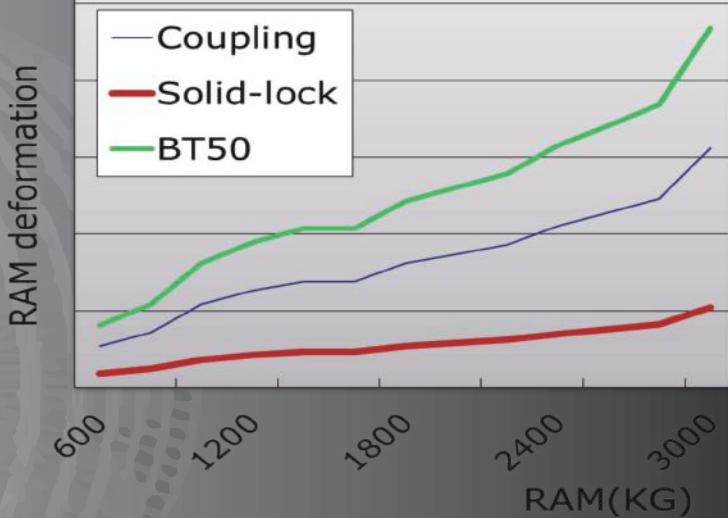
Solid Lock System



Two face contact ball clamping anti-vibration
Max. 8,000kg clamping force

• Honor Patent !

Clamping Stiffness Comparision



■ Milling Capacity

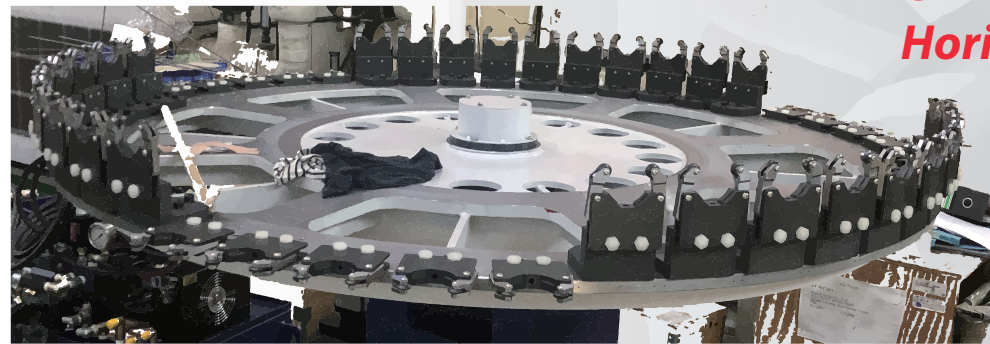
Model	VL-300CM
Spindle motor	11/15 kW
Material	S45C
Milling cutters	Ø100x7
Cutting depth	4.5 mm
Feed rate	720 mm/min
Cutting speed	160 m/min
Material removable rate	320 cm³/min



VL-Series Tool Changers

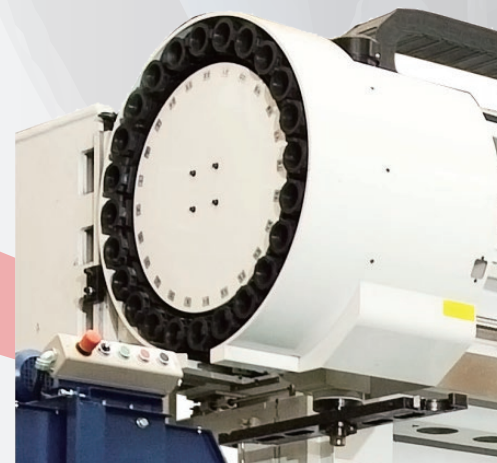
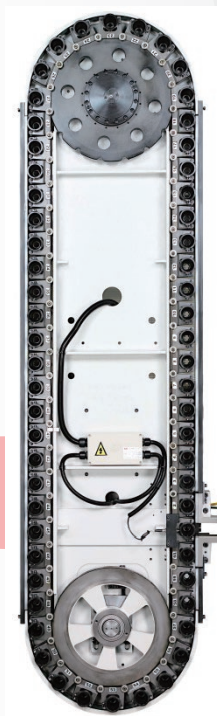
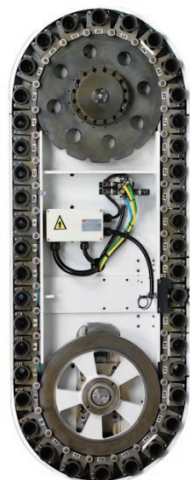


**Standard 12 to 24
Carousel Type ATC**



**CAPTO Vertical and
Horizontal Type ATC**

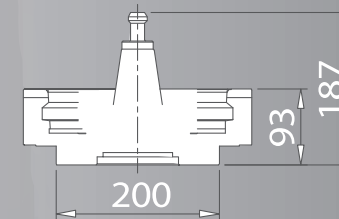
**Multiple Variations of Double Arm
Floor Mounted and Machine Mounted
Automatic Tool Changers Available**



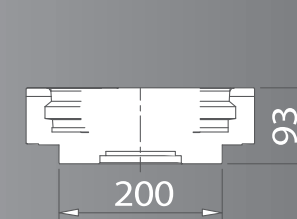
VL-Series Tooling Charts

■ Tool holder base :

SL-22A
(Two face contact tooling)

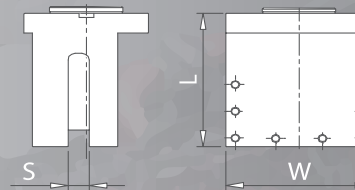


SL-22AT
(Two face contact tooling)

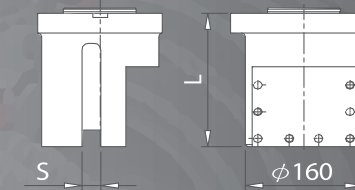


■ GC-200 / RG250 / SL-17T / SL-17A / SL-22A Tool holder :

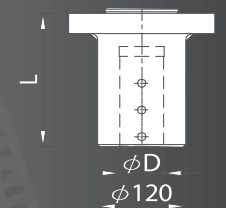
O.D. / Facing tool holder



I.D. / Facing tool holder



Boring tool holder



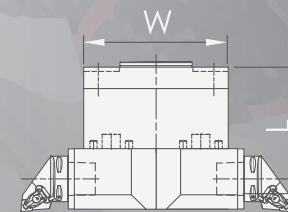
Model	L	S	W
IDF25-200-200	200	25	200
IDF32-200-200	200	32	200
* IDF32-240-200	200	32	240
IDF40-285-200	200	40	285

Note : Only for SL-17A & SL-22A

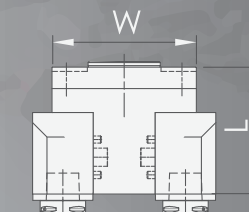
Model	L	S
IFL25-160-200	200	25
IFL32-160-200	200	32

Model	L	D
BOS40-120-200	200	40
BOS50-120-200	200	50
BOS60-120-200	200	60

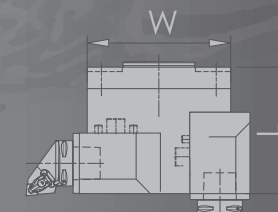
■ Capto Tool holder :



Model	L	W
BDC6-300-250	250	300



Model	L	W
FDC6-300-250	250	300



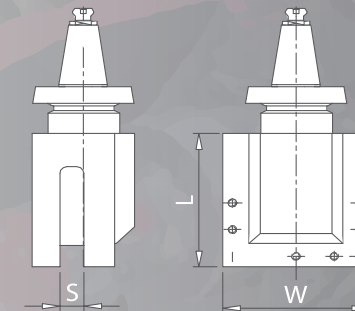
Model	L	W
VHC6-300-250	250	300



Model	L	W
HVC6-300-250	250	300

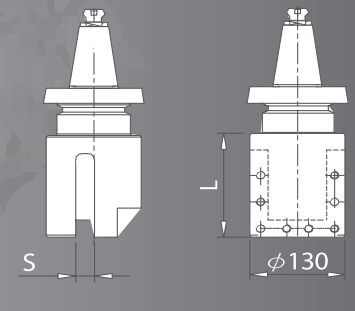
■ BT50 Tool holder :

O.D. / Facing tool holder



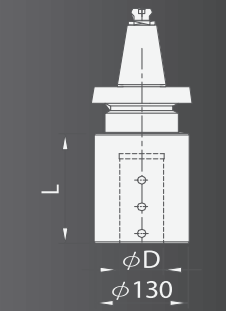
Model	L	S	W
BT50-IDF25-200-200	200	25	200
BT50-IDF32-200-200	200	32	200
BT50-IDF32-240-200	200	32	240

I.D. / Facing tool holder



Model	L	S
BT50-IFL25-130-200	200	25
BT50-IFL32-130-200	200	32

Boring tool holder

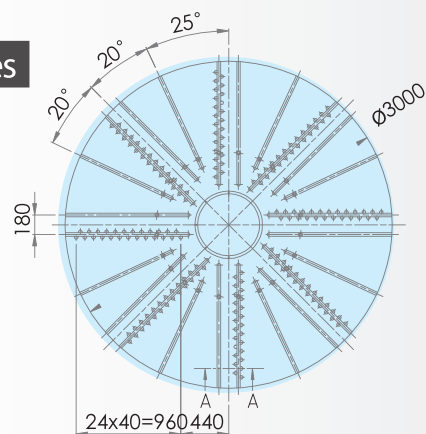


Model	L	D
BT50-BOS40-130-200	200	40
BT50-BOS50-130-200	200	50
BT50-BOS60-130-200	200	60

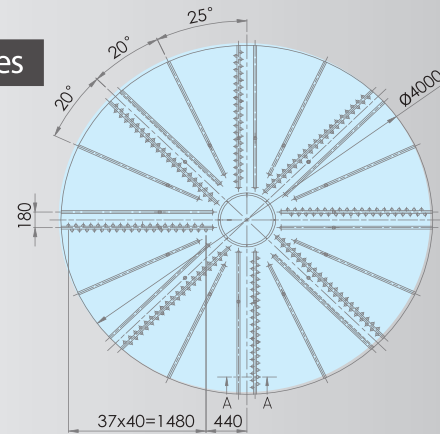
Note : W200 is only for □220 / W240 is only for □250

Table / Working Area / Jaws

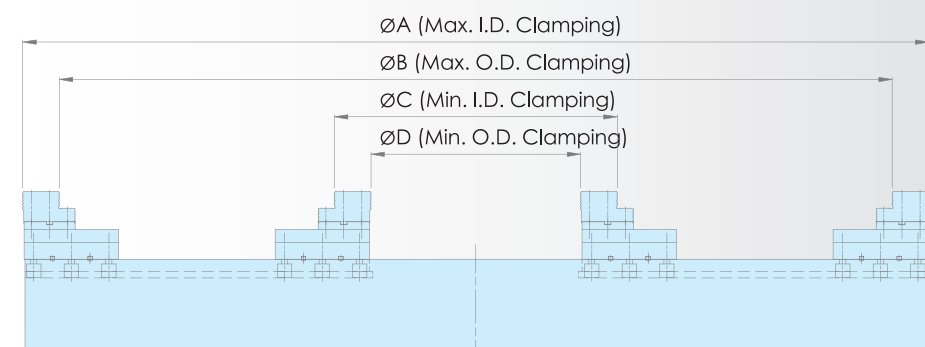
VL-300 Series



VL-400 Series

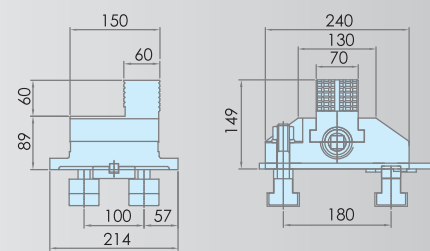


Workpiece Clamping

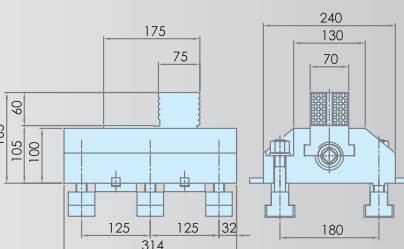


Model	A	B	C	D
VL-300	2980	2770	980	700
VL-400	4020	3740	980	700
VL-500	5000	4750	1350	1100
VL-600	6000	5750	1350	1100

C-Type



F-Type



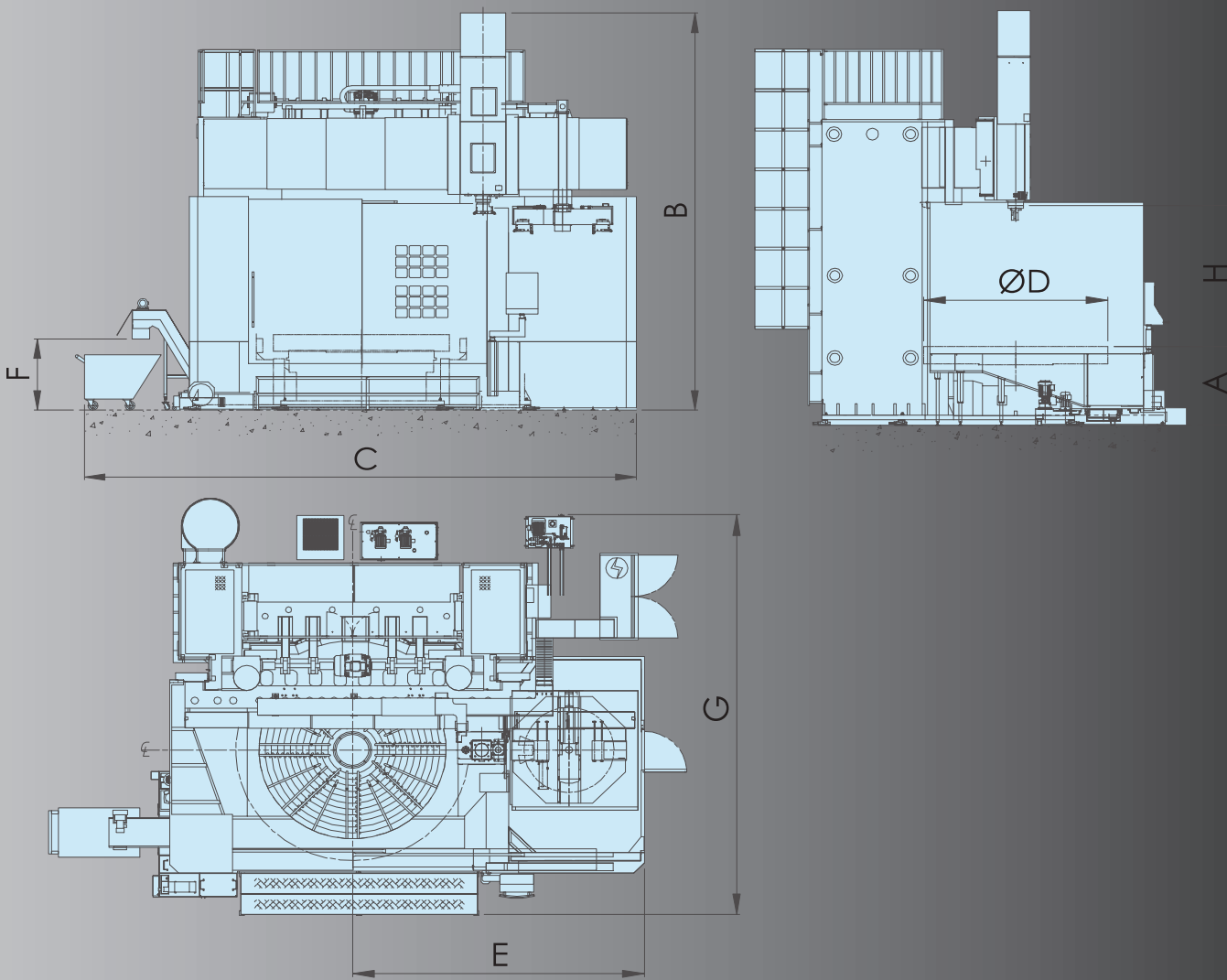
Model	A	ØB	C	ØD	ØE	F	G	R	L
VL-300	300	3000	37	3600	450	1500	880-2380	2000	300
VL-400	300	4000	37	4500	450	1500	880-2380	2450	300
VL-500	400	5000	50	6000	580	2200	1200-3000	3500	100
VL-600	400	6000	50	7000	580	2200	1200-3000	4000	100

Machine Dimensions



Machine Dimensions

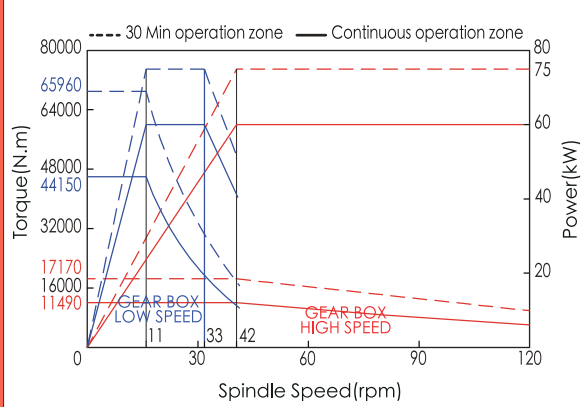
	A	B	C	ØD	E	F	G	H
VL-300C	1365	7150	9400	Ø3000	4680	1280	6750	2380
VL-300CM	1365	7750	9400	Ø3000	4680	1280	6750	2380
VL-400C	1365	7150	10200	Ø4000	5130	1280	7200	2380
VL-400CM	1365	7150	10200	Ø4000	5130	1280	7200	2380
VL-500C	1560	10000	11500	Ø5000	6400	N/A	10200	3000
VL-500CM	1560	10600	11500	Ø5000	6400	N/A	10200	3000
VL-600C	1560	10000	12500	Ø6000	6900	N/A	11000	3000
VL-600CM	1560	10600	12500	Ø6000	6900	N/A	11000	3000



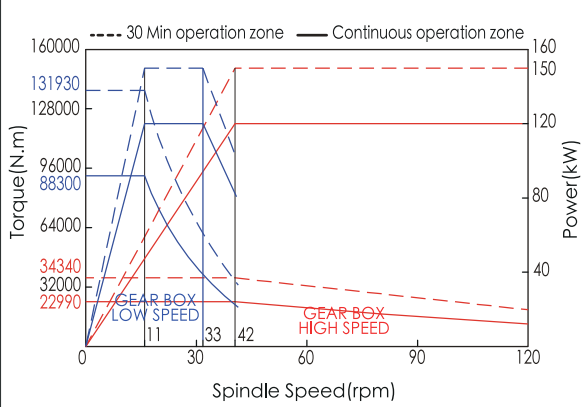
Main Spindle Power Charts

Table Speed, Torque, Output Chart

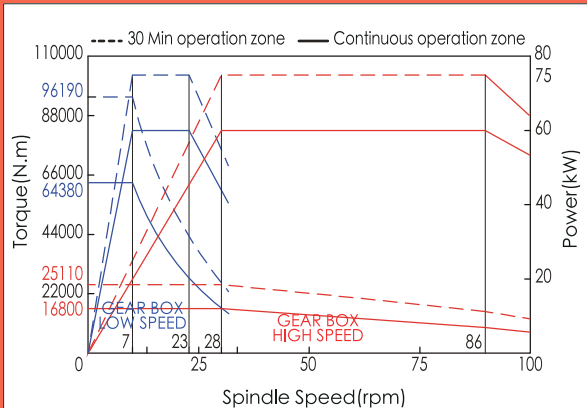
VL-300C 60/75kW



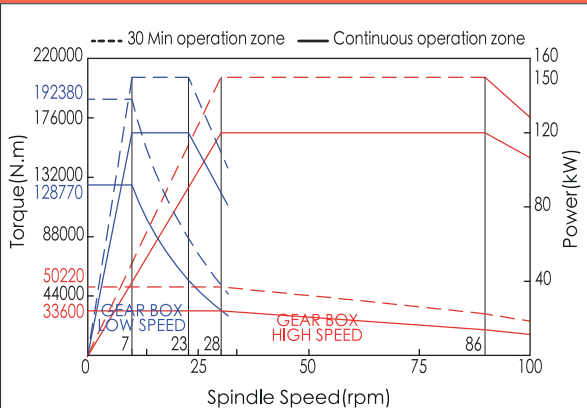
VL-300CM 60/75kW, x 2 motors



VL-400C 60/75kW

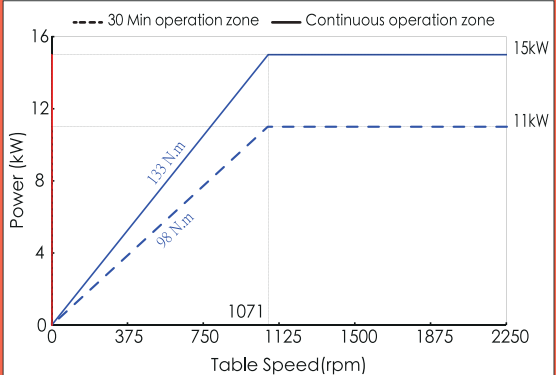


VL-400CM 60/75kW, x 2 motors

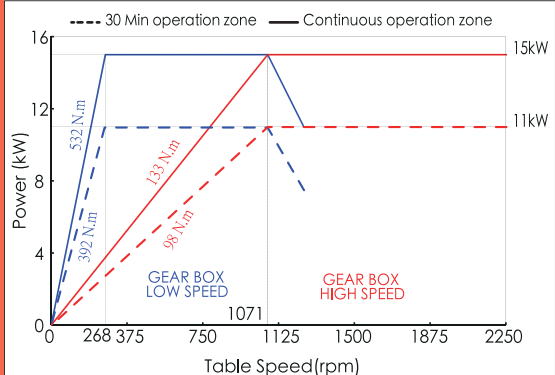


Milling Spindle Power

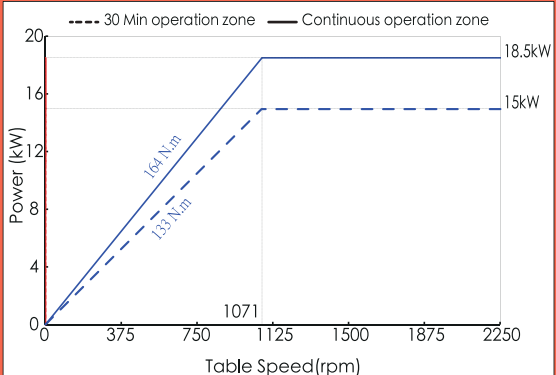
MODEL : α12 11/15kW



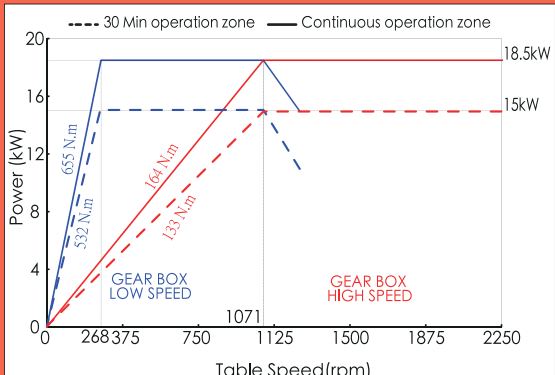
MODEL : α12 11/15kW, 2 steps (Option)



MODEL : α15 15/18.5kW



MODEL : α15 15/18.5kW, 2 steps (Option)



Milling Capacity



Milling Capacity

Model	VL-300C
Spindle motor	11/15 kW
Material	S45C
Milling cutters	Ø100x7
Cutting depth	4.5 mm
Feed rate	720 mm/min
Cutting speed	160 m/min
Material removable rate	320 cm ³ /min



VL-300C ~ VL-600C Specifications

SPECIFICATION	Unit	VL-300C	VL-400C	VL-500C	VL-600C
Capacity					
Table Diameter	mm/In	3000 / 118"	4000 / 157"	5000 / 196"	6000 / 236"
Max. Swing diameter	mm/In	3600 / 141.7"	4500 / 177"	6000 / 236"	7000 / 275"
Max. Turning diameter	mm/In	3600 / 141.7"	4500 / 177"	6000 / 236"	7000 / 275"
Max. turning height	mm/In	2000/78"	2000 / 78.7"	2600/102.36	2600/102.36
Max. Work Piece weight	Kg/Lbs	30000 /66138.67	40000 / 88184.90	80000 / 176369.80	100000/220462.26
Travel					
X axis travel	in	L 11.8" R 78.7"	L 11.8" R 96.45"	L 3.93" R 118.11"	L 3.93" R 157.48"
Z axis travel	in	59.05"	59.05"	86.61"	86.61"
Cross rail travel	in	59.05" (9.84"x 6 steps)	59.05" (9.84"x 6 steps)	70.86" (11.81"x 6 steps)	70.86" (11.81"x 6 steps)
Ram Size	in	11.81" x 11.81"	11.81" x 11.81"	15.74" x 15.74"	15.74" x 15.74"
Spindle					
Transmission Steps		2	2	2	2
Spindle Speed Low Gear	rpm/min	1.5-37	2-33	2-22	2-20
Spindle Speed High Gear	rpm/min	20-120	8-85	7-50	6-40
Max. Spindle torque NM	Nm	75,022	96,000	135,000	135,000
Live Tool Speed (CM only)	rpm/min				
Fanuc Motor					
Main Spindle	KW/HP	75 / 101	75 / 101	75 / 101	75 / 101
X-axis servo motor	KW/HP	5.5 / 7.4	5.5 / 7.4	5.5 / 7.4	5.5 / 7.4
Z-axis servo motor	KW/HP	5.5 / 7.4	5.5 / 7.4	5.5 / 7.4	5.5 / 7.4
C-axis servo motor	KW/HP				
Live tool spindle motor	KW/HP				
Feed					
Rapid Feedrate X axis	m/in	10/393.70"	10/393.70"	10/393.70"	10/393.70"
Rapid Feedrate Z axis	m/in	10/393.70"	10/393.70"	10/393.70"	10/393.70"
Cutting Feedrate	m/min	2	2	2	2
Manual jog feedrate	m/in	X1: 0.001mm X10: 0.01mm X100: 0.1mm	X1: 0.001mm X10: 0.01mm X100: 0.1mm	X1: 0.001mm X10: 0.01mm X100: 0.1mm	X1: 0.001mm X10: 0.01mm X100: 0.1mm
Tool Magazine and ATC (OPT)					
Number of Tool Positions	pcs	16	16	16	16
Tool Size	mm/in	32/ 1.25" 40/1.57"	25/0.98" 32/ 1.25" 40/1.57"	32/ 1.25" 40/1.57"	32/ 1.25" 40/1.57"
Max Tool Length in ATC	mm/in	400/15.74"	400/15.74"	450/17.71"	450/17.71"
Max total tool weight of magazine	Kg	600	600	450	600
Max. Tool Weight	kg	50	50	80	80
Approx tool to tool ATC time	sec	45	45	45	45
Machine Tank Capacity					
Hydraulic tank	L	350L	350L	350L	350L
Coolant tank	L	1200L	1300L	1300L	1300L
Lubrication tank	L	Slide Way: 8 L	Slide Way: 8 L	Slide Way: 8 L	Slide Way: 8 L
Spindle cooler tank	L	300L	300L	300L	300L
Machine dimensions					
Air Consumption	kgf/cm²	5	5	5	5
Electric Power Supply	KVA	90			
Coolant motor	watt	10BAR/1700W	10BAR/1700W	10BAR/1700W	10BAR/1700W
Floor space (L x W)	mm	9400 x 6750	10200 x 7200	10500 x 8000	13000 x 11000
Machine Height	mm	7,400	7,400	8,500	9,000
Machine Weight	kg/Lbs	99,000/218257.63	114,000/251326.97	135,000/297624.05	169,000/372581.22

Specifications are subject to change for improvement without notice:

VL-300CM ~ VL-600CM Specifications

SPECIFICATION	Unit	VL-300CM	VL-400CM	VL-500CM	VL-600CM
Capacity					
Table Diameter	mm/In	3000 / 118"	4000 / 157"	5000 / 196"	6000 / 236"
Max. Swing diameter	mm/In	3600 / 141.7"	4500 / 177"	6000 / 236"	7000 / 275"
Max. Turning diameter	mm/In	3600 / 141.7"	4500 / 177"	6000 / 236"	7000 / 275"
Max. turning height	mm/In	2000/78"	2000 / 78.7"	2600/102.36	2600/102.36
Max. Work Piece weight	Kg/Lbs	30000 /66138.67	40000 / 88184.90	80000 / 176369.80	100000/220462.26
Travel					
X axis travel	in	L 11.8" R 78.7"	L 11.8" R 96.45"	L 3.93" R 118.11"	L 3.93" R 157.48"
Z axis travel	in	59.05"	59.05"	86.61"	86.61"
Cross rail travel	in	59.05" (9.84"x 6 steps)	59.05" (9.84"x 6 steps)	70.86" (11.81"x 6 steps)	70.86" (11.81"x 6 steps)
Ram Size	in	11.81" x 11.81"	11.81" x 11.81"	15.74" x 15.74"	15.74" x 15.74"
Spindle					
Transmission Steps		2	2	2	2
Spindle Speed Low Gear	rpm/min	1.5-37	2-33	2-22	2-20
Spindle Speed High Gear	rpm/min	20-120	8-85	7-50	6-40
Max. Spindle torque NM	Nm	150,045	192,000	243,000	243,000
Live Tool Speed (CM only)	rpm/min	50-2250	50-2250	50-2250	50-2250
Fanuc Motor					
Main Spindle	KW/HP	150/203.9	150/203.9	150/203.9	150/203.9
X-axis servo motor	KW/HP	5.5 / 7.4	5.5 / 7.4	5.5 / 7.4	5.5 / 7.4
Z-axis servo motor	KW/HP	5.5 / 7.4	5.5 / 7.4	5.5 / 7.4	5.5 / 7.4
C-axis servo motor	KW/HP	CS axis	CS axis	CS axis	CS axis
Live tool spindle motor	KW/HP	18.5/25.15	18.5/25.15	18.5/25.15	18.5/25.15
Feed					
Rapid Feedrate X axis	m/in	10/393.70"	10/393.70"	10/393.70"	10/393.70"
Rapid Feedrate Z axis	m/in	10/393.70"	10/393.70"	10/393.70"	10/393.70"
Cutting Feedrate	m/min	2	2	2	2
Manual jog feedrate	m/in	X1: 0.001mm X10: 0.01mm X100: 0.1mm	X1: 0.001mm X10: 0.01mm X100: 0.1mm	X1: 0.001mm X10: 0.01mm X100: 0.1mm	X1: 0.001mm X10: 0.01mm X100: 0.1mm
Tool Magazine and ATC (OPT)					
Number of Tool Positions	pcs	20	20	24	24
Tool Size	mm/in	32/ 1.25" 40/1.57"	25/0.98" 32/ 1.25" 40/1.57"	32/ 1.25" 40/1.57"	32/ 1.25" 40/1.57"
Max Tool Length in ATC	mm/in	400/15.74"	400/15.74"	450/17.71"	450/17.71"
Max total tool weight of magazine	Kg	800	800	450	600
Max. Tool Weight	kg	50	50	80	80
Approx tool to tool ATC time	sec	45	45	45	45
Machine Tank Capacity					
Hydraulic tank	L	350L	350L	350L	350L
Coolant tank	L	1200L	1300L	1300L	1300L
Lubrication tank	L	Slide Way: 8 L	Slide Way: 8 L	Slide Way: 8 L	Slide Way: 8 L
Spindle cooler tank	L	300L	300L	300L	300L
Machine dimensions					
Air Consumption	kgf/cm²	5	5	5	5
Electric Power Supply	KVA	149	149		170
Coolant motor	watt	10BAR/1700W	10BAR/1700W	10BAR/1700W	10BAR/1700W
Floor space (L x W)	mm	8500 x 6500	10200 x 7000	12500 x 9000	13000 x 11000
Machine Height	mm	8,000	8,000	10,000	10,000
Machine Weight	kg/Lbs	100,000/220462.26	132,610/292355.00	140,000/308647.16	170,000 /374785.84

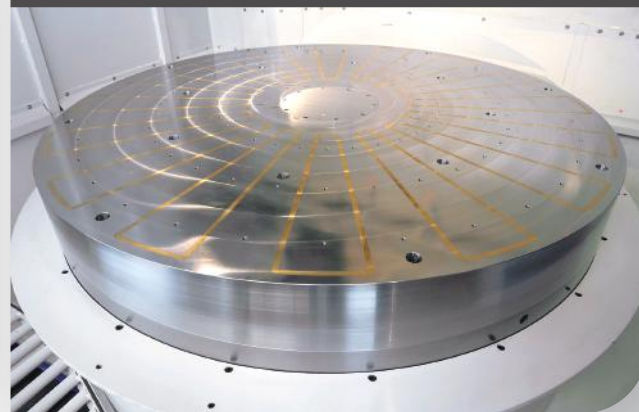


Optional Accessories

• Hydraulic chuck



• Magnetic chuck



• Touch probe (workpiece inspection)



• Tool presetter



• Siemens controller



• Oil skimmer (disk)



• Air conditioner for electrical cabinet



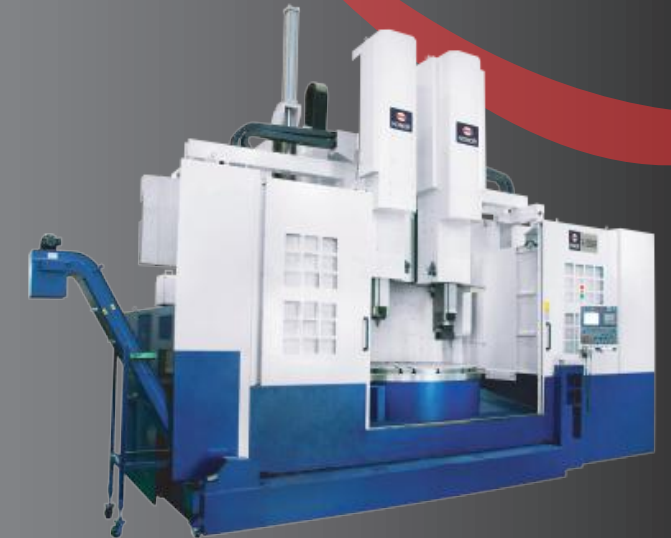
• Right Angle Tools



Specialized Machines



Y-Axis + Turning Machines



Dual Ram Machines



Pallet Machines



Special Guarding



Vertical Grinding Machines



Production Machines