

Vertical Machining Center

VP-12



Tongtai **Tongtai Machine & Tool Co., Ltd.**

Headquarters

No.3, Luke 3rd Rd., Luzhu Dist., Kaohsiung City 82151, Taiwan

TEL : 886-7-9761588 FAX : 886-7-9761589

www.tongtai.com.tw

Taoyuan Branch	TEL : +886-3-4551399	FAX : +886-3-4559730
Taichung Branch	TEL : +886-4-23589600	FAX : +886-4-23589153
Japan Branch	TEL : +81-047-712-0835	FAX : +81-047-712-0870
Europe Branch	TEL : +31-161-454639	
Malaysia Branch	TEL : +603-78597113	FAX : +603-78597115
Vietnam Branch	TEL : +84-24-62766090	
Thailand Branch	TEL : +66-2-3164708-10	FAX : +66-2-3164711
Indonesia Office	TEL : +62-21-45850875	FAX : +62-21-45850876

Members of TTGroup

Honor Seiki Co., Ltd.
TEL : 886-7-9759888
FAX : 886-7-9759999
www.honorseiki.com

Asia Pacific Elite Corp.
TEL : 886-4-23589313
FAX : 886-4-23588913
www.apecnc.com

Quick-Tech Machinery Co., Ltd.
TEL : 886-7-6955386
FAX : 886-7-6955387
www.quicktech.com.tw

PCI-SCEMM
TEL : 33-4-77426161
FAX : 33-4-77426023
www.pci.fr

ANGER Machining GmbH
TEL : 43-7229-71041-0
FAX : 43-7229-71041-199
www.anger-machining.com

MEMBER OF
TTGROUP

China Operation Center

Shuzhou Tong-yu Machine & Tool Co., Ltd.

No.555 Huahong Rd., Economic Development Zone of Wujiang,
Suzhou City, Jiangsu Province, China

TEL : 86-512-63430168 FAX : 86-512-63431622

E-mail : sales@tong-yu.com.cn

www.tongtai.com.tw/cn

Wuhan Branch	TEL : +86-27-84586587	
Chongqing Branch	TEL : +86-23-67865925	FAX : +86-23-67867717
Guandong Branch	TEL : +86-769-81158198	FAX : +86-769-81158108
Tianjin Branch	TEL : +86-22-24417640	FAX : +86-22-24416738
Shanghai Office	TEL : +86-21-24208138	FAX : +86-21-34073262
Shenyang Office	TEL : +86-24-24142968	FAX : +86-24-24115782



Official Website



Global Network

VP-12 2024.3.12 ©All the specifications in the brochure are subject to change without prior notice.

MEMBER OF
TTGROUP

www.tongtai.com.tw

VP-12



- The VP-12 combines the advantage of a smaller footprint with a large internal machining space, equipped with a high-speed spindle to meet the requirements of efficient and precise machining.
- Direct-drive spindle BBT-40 provides a high rigidity and high efficiency.
- The tool magazine allows for flexible tool placement and pre-selection, coupled with a high-speed ATC mechanism to reduce non-cutting time, showcasing efficiency similar to drilling and tapping machining centers.
- High quality spindle and high rigidity structure design subject to high standards of machine accuracy to achieve good cutting performance.
- By Tongtai production system, we check every detail process from design, manufacturing, assembly and QC.



CONTENTS

- 03 Main structure
- 07 Operation / Peripheral Accessories
- 08 Spindle output and torque chart
- 09 Standard / Optional Accessories · Machine Dimensions
- 10 Specifications

Main specifications

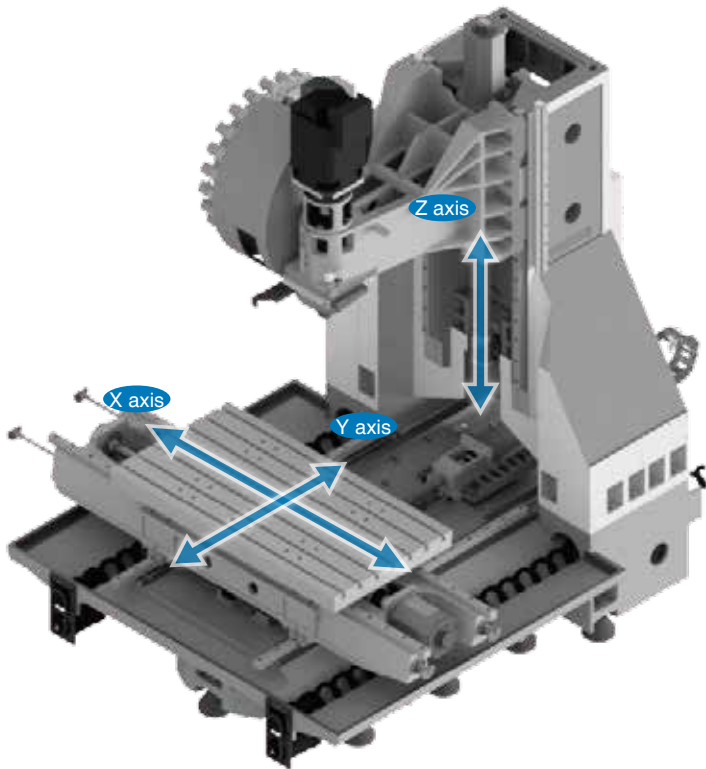
Item	Unit	VP-12
Spindle	rpm	10,000(opt. 15,000)
Rapid traverse	m/min	36/36/30
Travel	mm	1,270/670/710
Table size (LxW)	mm	1,350x710
Max. loading capacity	kg	1,300

Main structure

X/Y/Z axis specification

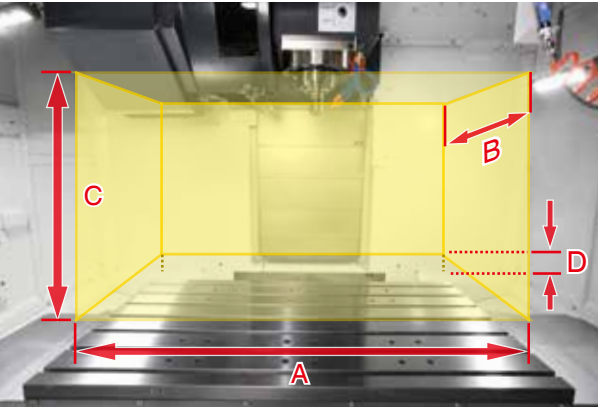
- More spacious machining space
- Smarter and reliable standard functions
- Reliable quality
- High production efficiency and stability

	VP-12
Spindle	10,000(opt.15,000) rpm
Rapid traverse	36/36/30 m/min
Travel	1,270/670/710 mm

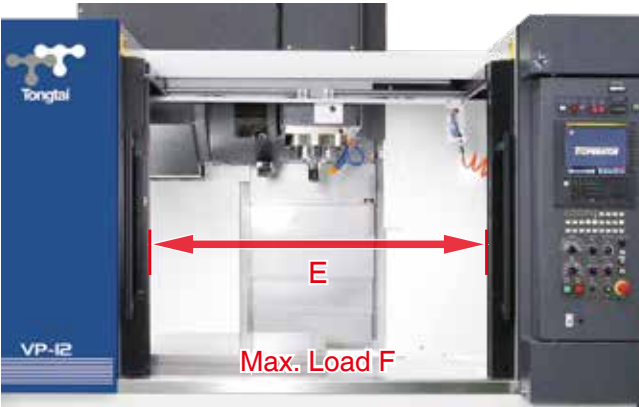


Working area

	VP-12
A X axis travel	1,270 mm
B Y axis travel	670 mm
C Z axis travel	710 mm
D Distance from table surface to spindle gage line	100 mm



	VP-12
E Door Width	1,300 mm
F Max. Load	1,300 kg



Direct-Drive Spindle

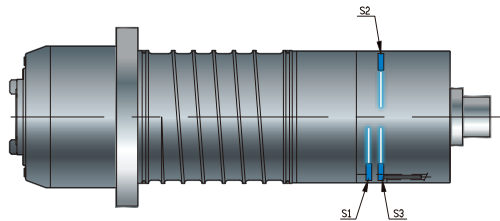
- The direct-drive spindle, paired with flexible couplings, can prevent the transmission of heat from the motor shaft.
- It offers high precision, low vibration, excellent lifespan, and quick maintenance advantages.
- Standard with the BIG-PLUS dual-face positioning spindle system, which enhances tool holder and spindle rigidity to ensure machining quality.

		Max. speed
VP-12	Std.	10,000 rpm
	Opt.	15,000 rpm



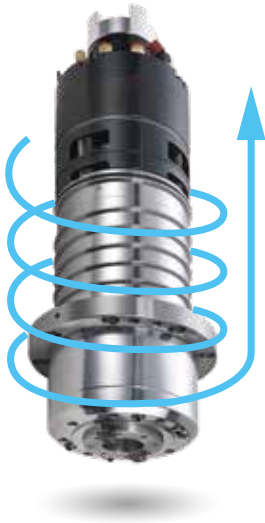
Intelligent spindle

- Clamping position sensors send the signals to the machine controller based on the position. (Tool Unclamping / Tool Clamping / Without Tool)
- The spindle motor automatically switches between high and low-speed coils to maintain high power output at high speeds, which could improve cutting efficiency.
- Equipped with air shield sealing technology to enhance bearing protection and prolong spindle lifespan.



Spindle cooling system (Opt.)

A spindle chiller, available as optional equipment, can automatically adjust spindle temperature according to machine temperature to reduce thermal displacement.



Coolant through spindle(opt.)

This feature improves the machining process more effectively, especially with deep hole drilling operations, and simultaneously increases the tool life.

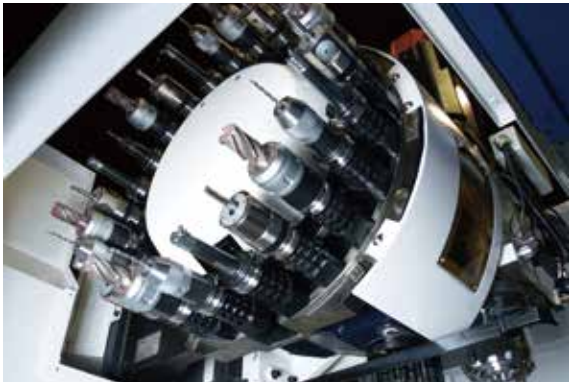
Coolant through spindle(CTS)	
Opt.	20 bar
	50 bar



Automatic Tool Changer (ATC)

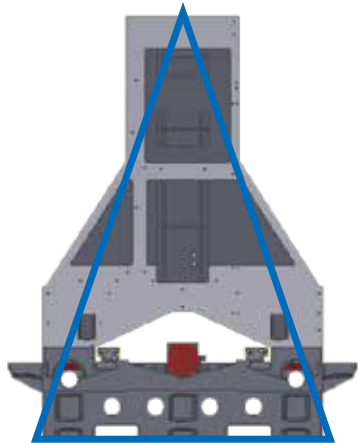
The maximum capacity of the tool magazine is 24 tools. It uses an arm-type rapid tool changer to shorten idle time and achieves the goal of high-efficiency machining.

Automatic Tool Changer(ATC)		
Tool shank		BBT-40
Tool capacity		24 pcs (opt.30)
Tool changing time	T to T	2.2 sec
	C to C	6 sec



High-rigidity frame structure design

Our base and column castings feature vibration-absorbing ribs that transfer vibration away from the cutting area.



Linear guideways

VP Series use linear guideways for each axis. Linear guideways are preloaded to provide zero clearance between the moving surfaces. They have a very low coefficient of friction, which allows faster movements without sacrificing repeatability or positioning accuracy.



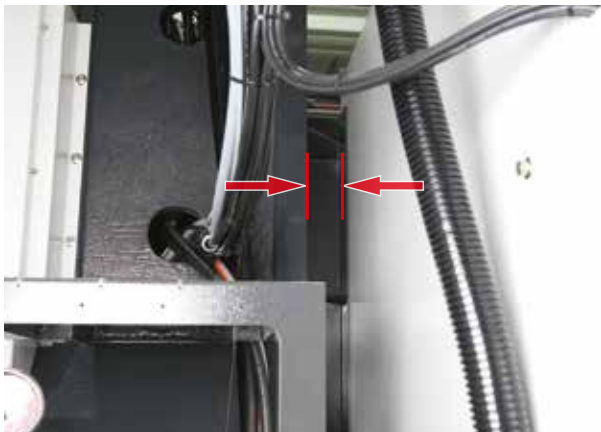
Ballscrew

The ballscrews are center-mounted and supported by high-precision angular contact thrust bearings on both ends.



Stability

A gap design between the column and the electrical cabinet to avoid heat transfer.



Safety

The safety glass window that has passed EN12417 standards and is certified by CE has been adopted to provide excellent protection to the operator. The impact strength is 200 times stronger than that of tempered glass of the same thickness. Furthermore, the front door uses multiple safety windows (tempered glass mixed with PC), which can extend the usage life.



Operation / Peripheral Accessories

Swivel-type operation panel

The swivel panel makes operator easy to operate and inspect during operation.



Easy Maintenance

By centralizing the management of the air FRL unit and hydraulic pump, daily maintenance can be easily performed.



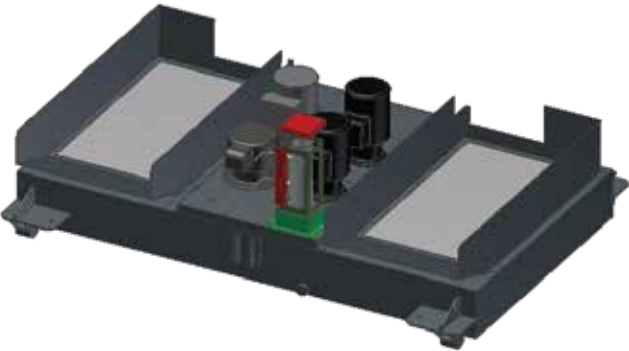
Convenience of Operation

Upon opening, the spacious area above allows for easy overhead crane operations.



Coolant tank

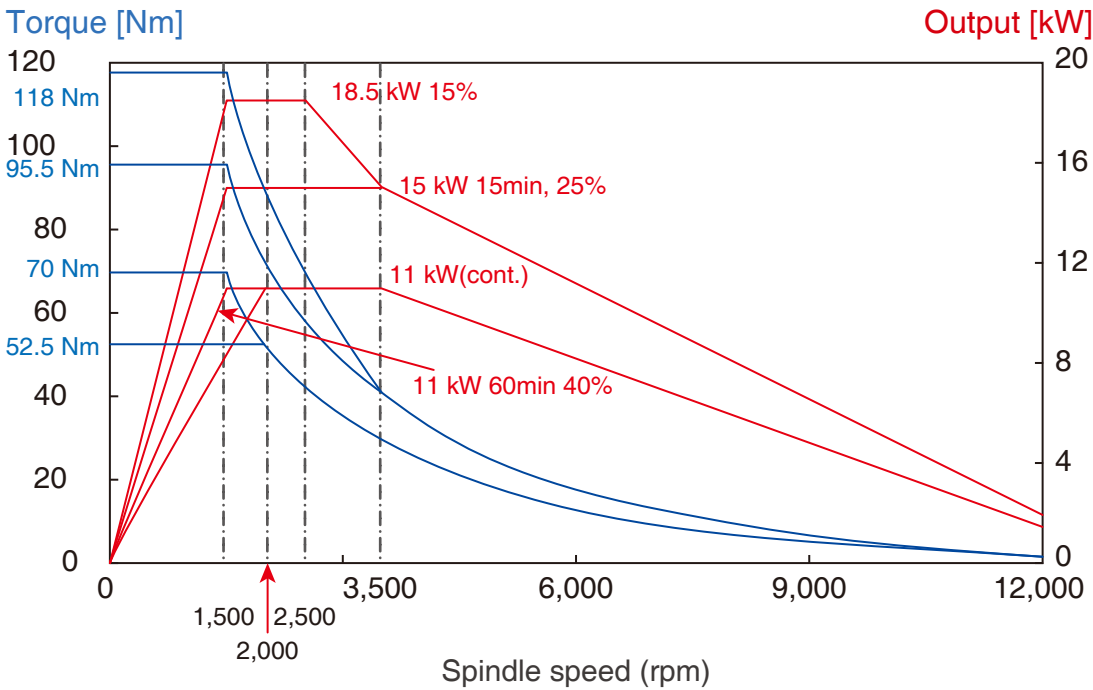
The large-capacity tray and high-mesh filter prevent chips from entering the coolant tank, and easy to maintain. Chip conveyor is also available as optional equipment.



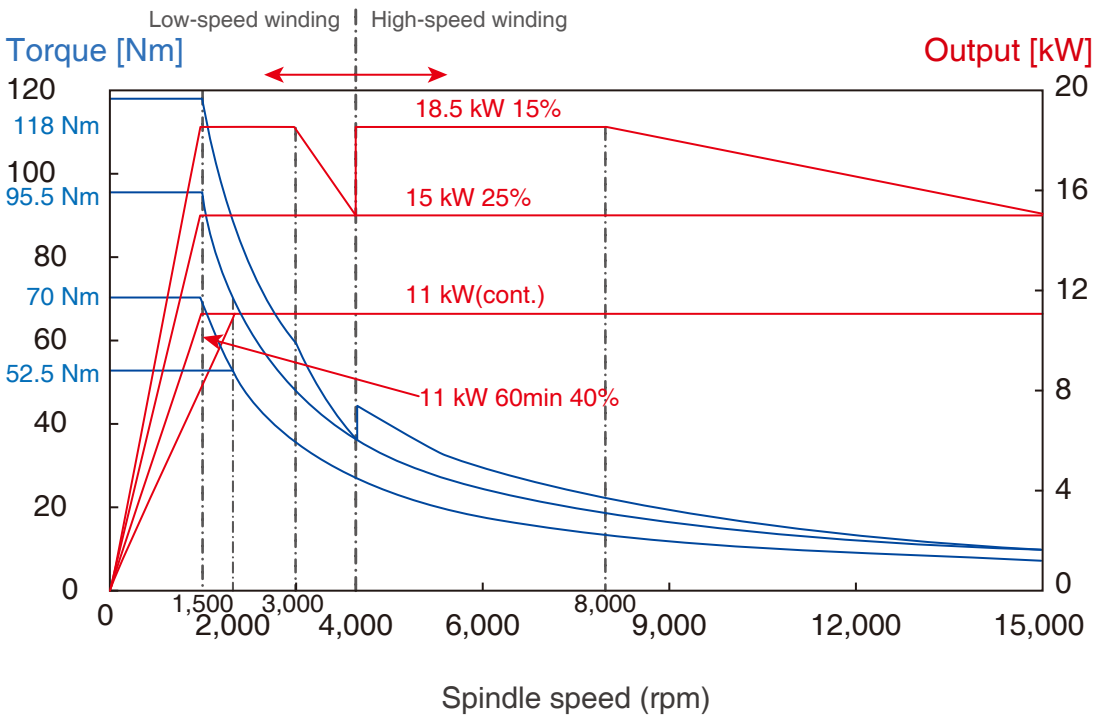
Coolant tank		std./opt.
Filter type coolant tank	Floating filter (filtration performance 40 mesh)	●
	Disc-type oil-water separator	○
	High-low water level sensor	○
Conveyor type coolant tank	Chip conveyor (chain plate/scraper)	●
	Floating filter (filtration performance 40 mesh)	●
	Disc-type oil-water separator	○
	High-low water level sensor	○

Spindle Output and Torque Chart

βilT12/12000-B



αilT8/15000-B



Standard / Optional Accessories · Machine Dimensions

Specification

Standard / Optional Accessories

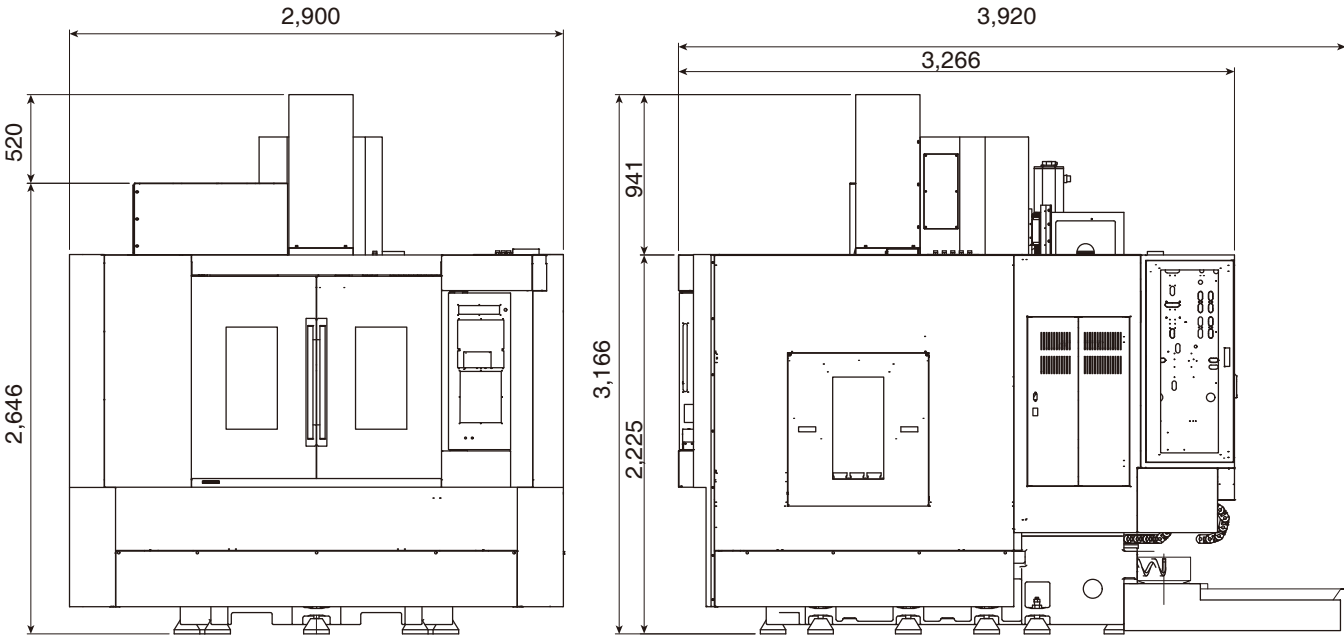
Std. ● Opt. ○

Item		Std.	Opt.	Item		Std.	Opt.
Spindle speed	10,000rpm(Direct-drive)	●		Tool breakage measurement system	Renishaw TS-27R		○
	15,000rpm(Direct-drive)		○		Tongtai tool breakage decetor		○
Type of tool shank	BBT-40	●		Workpiece measuring system	Renishaw OMP60		○
	HSK-A63		○	Positioning accuracy control	Linear scale		○
Tool storage capacity	24 pcs	●		Fanuc controller function	Fanuc fine surface machining	●	
	30 pcs		○		Tool life management	●	
Coolant through spindle	20 bar		○	Accessory	Air gun set	●	
	50 bar		○		LED work light	●	
Cooler	Spindle oil cooler		○		Tri-color warning light (LED)	●	
	Electrical cabinet cooler		○		Manual pulse generator	●	
Flushing system	Augers-style chip conveyor	●			Workpiece counter (CNC)	●	
	Bed flushing system		○		Air blow system	●	
Coolant tank	Coolant tank with filter box	●			Automatic low- or high-speed winding switch(※)	●	
	Coolant tank with chip conveyor		○		Automatic door		○
	Spindle nozzle coolant	●			Mist collector		○
	Chip shower		○		Transformer/ Stabilizer		○
	Coolant gun set		○		Hydraulic units and interface		○
	Disk type oil skimmer		○		Automatic power off system		○

(*Refer to the specifications of the spindle motor on page 8 of the catalog.)

Machine Dimensions

Unit : mm



Item	Specification	Unit	VP-12
Table	Table size (LxW)	mm	1,350×710
	Max. loading capacity	kg	1,300
	Table height from floor	mm	945
	T-slot (sizexNo.)	mm	18x7
Spindle	Spindle taper		7/24 Taper No.40
	Spindle speed	rpm	10,000(opt.15,000)
Travel	X/Y/Z axis travel	mm	1,270/670/710
	Distance from table surface to spindle gage line	mm	100-810
Feed	X/Y/Z axis rapid traverse	m/min	36/36/30
	Cutting feedrate	mm/min	1-10,000
ATC	Tool shank		BBT-40
	Tool capacity	pc	24(opt.30)
	Max. tool diameter	mm	Ø89(opt.Ø75)
	Max. tool diameter	mm	Ø125
	(w/o adjacent tool)	mm	300
	Max. tool length	kg	7
Motor	Max. tool weight	kW	11/15/18.5
	Spindle motor	kW	4/4/7
Machine size	X/Y/Z axis servo motor	mm	2,900×3,266×3,166
	Width x depth x height	kg	9,000
Controller	Weight		Fanuc 0i-MF Plus

©Specifications May Be Changed Without Prior Notice