

CNC Vertical Turning Lathes

VTB(C) 85R/100R

VTB-85R/VTC-85R/VTB-100R/VTC-100R





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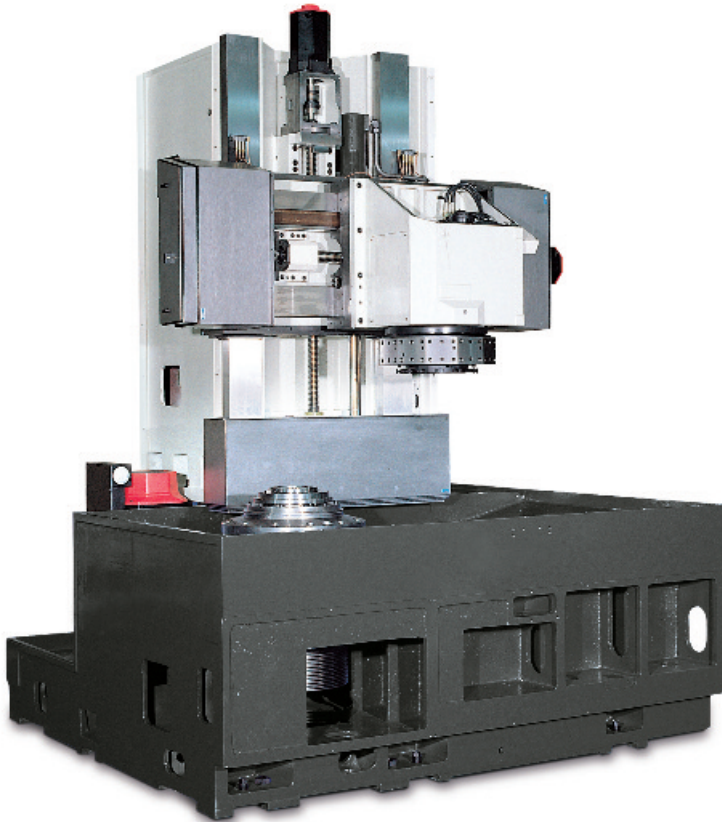
VTB(C) 85R/100R

The **VTB-85R/100R** CNC Vertical Turning Lathe provides well balanced machining with high accuracy against a long-term operation as well as heavy duty machining by the high quality construction. It is designed to maximize productivity and performance with high rigidity structure of main spindle, wide box type guide ways, 12-position turret and variable optional accessory for heavy duty machining.

High Quality CNC Vertical Turning Lathe Equipped with Multi-use, Rationality, and Flexibility!

- One-piece cast iron bed & column of high-rigid construction
- Induction hardened and precision ground box type guide ways
- Rapid traverse speed (X/Z) 15m/min (85R) and 12m/min (100R)
- Heavy duty machining capacity with high torque 292kgf.m (85R) and 512kgf.m (100R) spindle
- Machining progress intensiveness available by the complex machining of turn-mill function (VTC only)

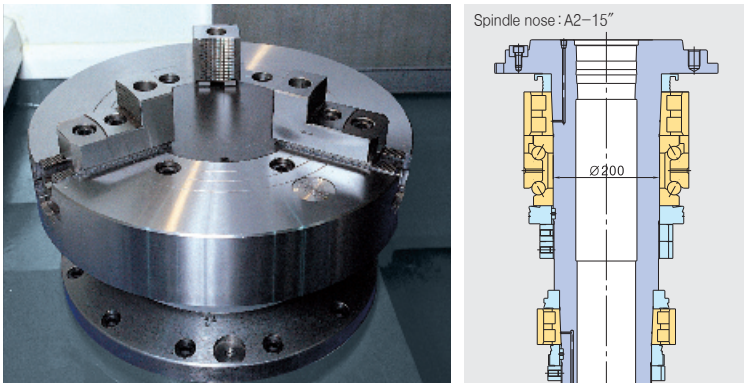




High quality cast iron constructions

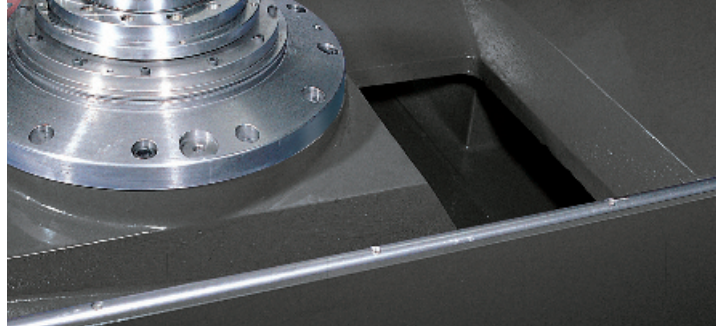
- The column, cross rail and bed are constructed of high quality one-piece cast iron and those are superior to absorb in vibration. These main components are densely ribbed, thick walled, and fully stress relieved for long lasting accuracy.
- The wide box guide ways are induction hardened and precision ground. Mating surfaces of the sliding components are coated with fluoroplastic resin and are hand scraped for perfect fit. Fully automatic metered lubrication system provided.
- All the guide ways are totally enclosed with the covers and protected from chips and lubrication oil.

High rigidity, High precision spindle



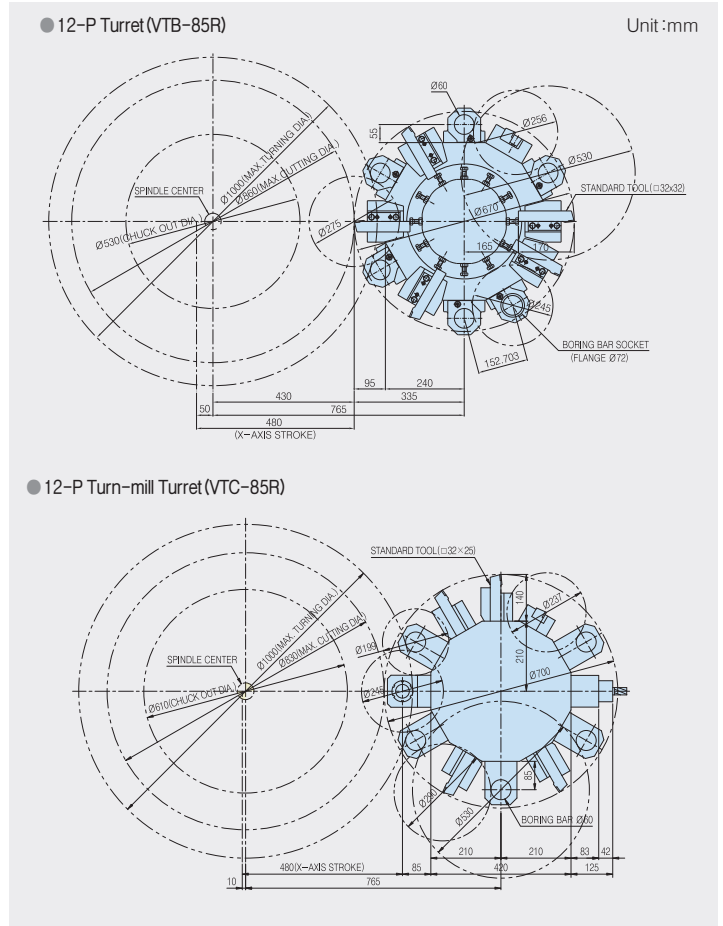
- The main spindle is designed with high-rigid bearing of $\varnothing 200\text{mm}$ & row symmetry structure and it restrains vibration & heat variation. It assures and keeps high accuracy at the strong cutting and a long-term operation.
- A2-15" sized spindle nose structure guarantees safe cutting of large diameter workpiece.
- High torque(292kgf.m) spindle structure, allows powerful cutting and reduces process time.(Option)

Convenience and safety

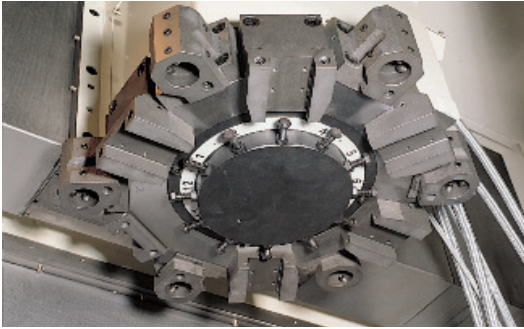


- Machine inside keeps being clean by furnishing the inclined structure with large drain hole and the chip shower device for easy chip disposal.
- Totally enclosed splash guard is to protect operator's safe and clean machine area.
- Safety clutch installed at feeding axes(X/Z axis) protects the machine and motor from damage when the machine is overloaded.
- Safety switch is installed at front door to prevent the door from opening during machine running and protect the operator from accident.
- High-Low chucking system is to use high pressure during roughing and low pressure during finishing, so it minimizes the workpiece deformation to perform precise turning and machining.
- Easy loading and preparing workpiece is supplied by short distance(550mm) from machine front side to the spindle.

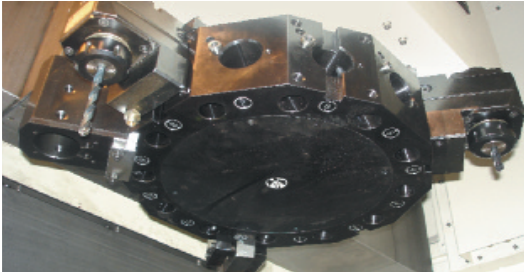
Turret Interference



Heavy duty 12-position turret

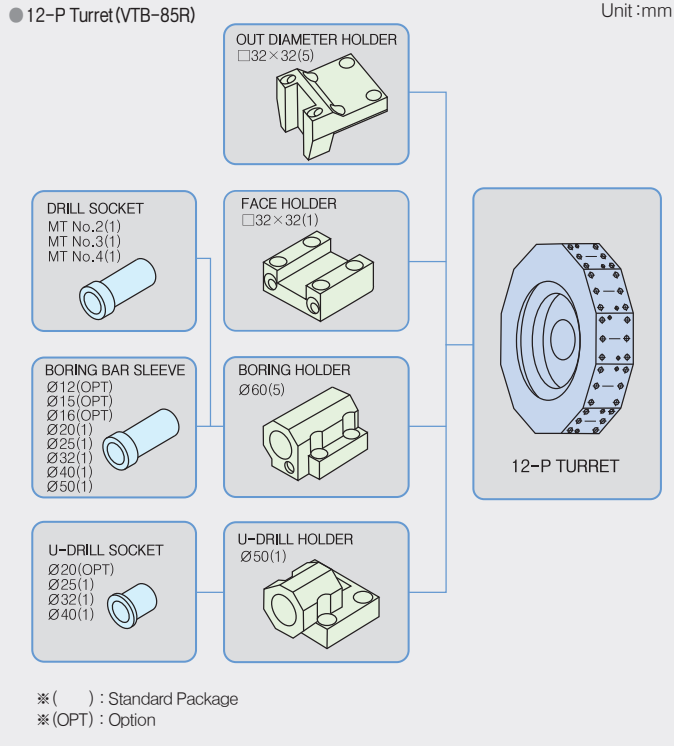


- Standard 12-position turret has a large Curvic coupling of dia. 280mm and a powerful heavy-duty cutting capacity.
- Tool change time : 0.8sec/1step, 1.7sec/full



- It maximizes machining progress intensiveness and productivity by the combination of turn and mill functions(VTC-85R/100R only).

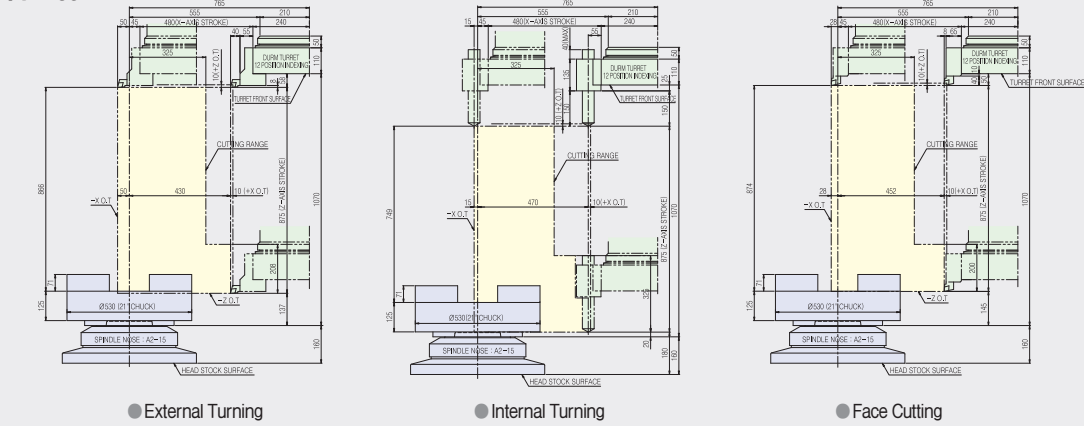
Tooling System



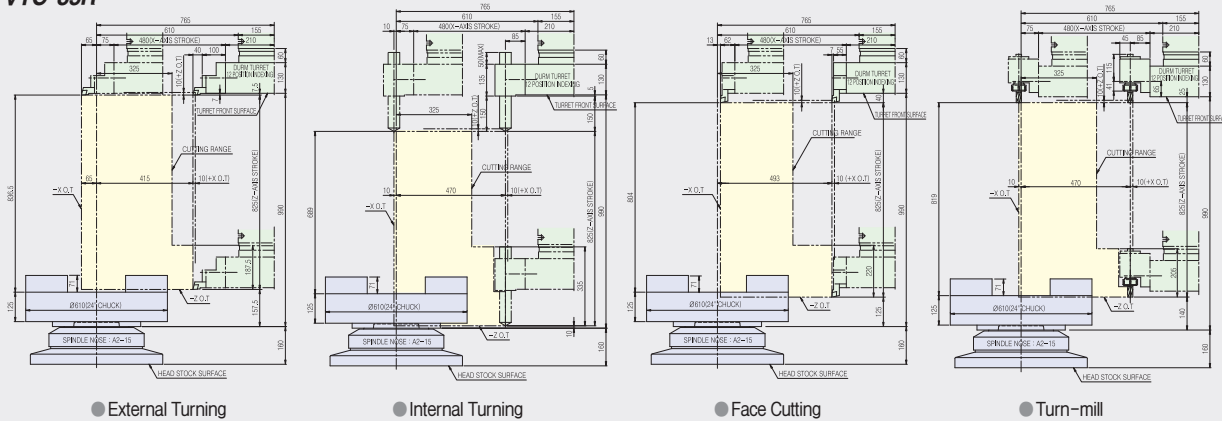
Tool Travel Range

VTB-85R

Unit : mm



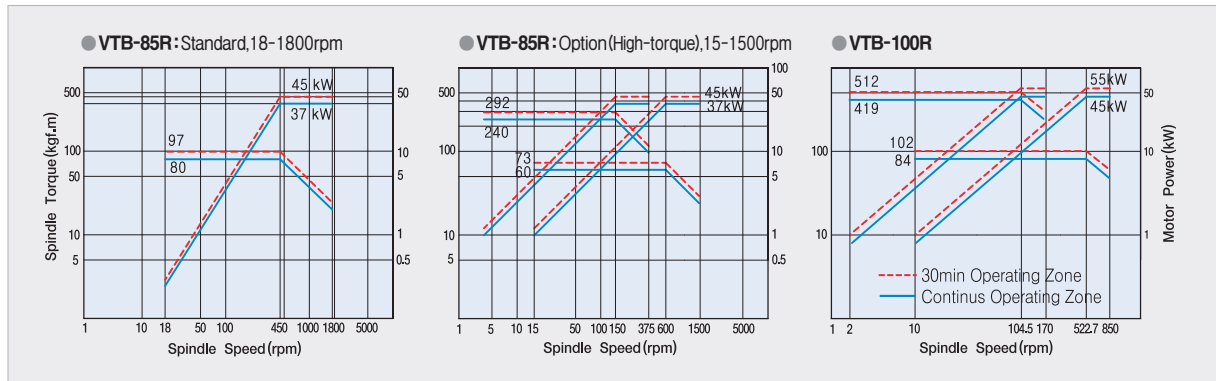
VTC-85R



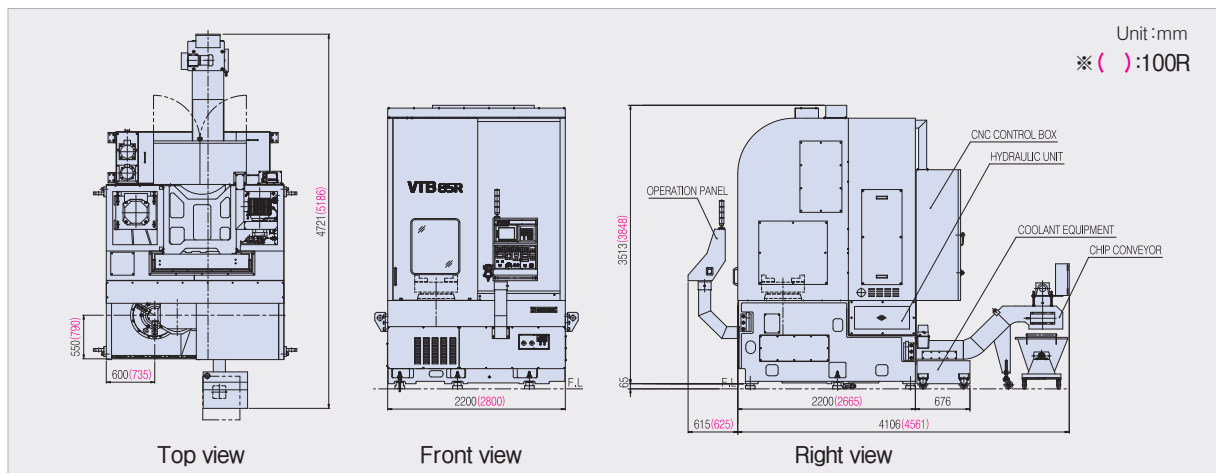
Machine Specifications

Items		Unit	VTB-85R	VTC-85R	VTB-100R	VTC-100R	
Capacity	Max. swing	mm (inch)	Ø1000(39.4)		Ø1250(49.2)		
	Max. turning diameter	mm (inch)	Ø850(33.5)	Ø830(32.7)	Ø1000(39.4)		
	Max. turning height	mm (inch)	850(33.5)	800(31.5)	900(35.4)		
	Standard chuck size	inch	Ø21" [Ø18"/Ø21"]		Ø32"		
Spindle	Spindle speed	rpm	18~1800 [20~2000/15~1500]		10~800		
	Spindle speed range	step	Stepless [Stepless/Auto 2]		Auto 2		
	Spindle nose	ASA	A2-15"		A2-15"		
	Diameter of spindle front bearing	mm (inch)	Ø200(7.9)		Ø200(7.9)		
	Max. spindle torque	kgf.m (lbf.ft)	97(705) [88(636)/292(2112)]		512(3700)		
Turret	Turret type	-	V-12	VDI 50	V-12	VDI 60	
	No. of tool	EA	Turning 12	Turn 6 / Mill 6	Turning 12	Turn 6 / Mill 6	
	Tool size	Square	mm (inch)	□32(□1.2)		□32(□1.2)	
		Boring bar dia.	mm (inch)	Ø60(Ø2.4)		Ø60(Ø2.4)	
	Rotary tool	Drill	mm (inch)	-	Ø25(Ø1)	-	Ø25(Ø1)
		End mill	mm (inch)	-	Ø25(Ø1)	-	Ø25(Ø1)
		Tap	mm (inch)	-	M16	-	M16
Speed		rpm	-	Max. 3000	-	Max. 3000	
Travel	X-axis travel	mm (inch)	480(18.9)		635(25)		
	Z-axis travel	mm (inch)	880(34.6)	825(32.5)	940(37)	950(37.4)	
	X/Z-axis rapid traverse	m/min (ipm)	15(590)		12(472)		
Motor	Spindle motor(Cont./30min)		AC 37/45(50/60)		AC 45/55(60/75)		
	X/Z-axis servo motor	kW(Hp)	AC 4(5.3)		AC 7(9.3)		
	Rotary motor		-	AC 7.5/11(10/15)	-	AC 11/15(15/20)	
Power Capacity		kVA	65	70	100		
Machine Weight		kg (lbs)	15,000(33,100)	15,500(34,200)	23,000(50,700)		
CNC Controller		-	FANUC 32i-A				

Spindle Torque & Power Diagram



External Dimensions



Standard Accessories

- Hydraulic chuck & cylinder Ø217/Ø327(85R/100R)
- Soft & hard jaw
- Turning Turret (VTB only)
- Turn-mill Turret (VTC only)
- C-axis scale (VTC only)
- Hydraulic unit & Coolant system
- Splash guard
- Chip pan
- X/Z-axis telescopic steel cover
- Dill socket MT#4, 3, 2
- U-dill socket (VTB only) Ø40, 32, 25mm
- Boring bar sleeve Ø50, 40, 32, 20mm
- OD/Face tool holder □32mm
- Boring tool holder Ø60mm
- Milling tool holder (VTC only) MRA50, MRR50
- Foot switch for hydraulic chuck
- Work light & Patrol lamp
- Chip shower equipment
- High-low chucking system
- Foundation bolt & seat plate
- Tool box with necessary tools

Optional Accessories

- Hydraulic chuck & cylinder Ø18", Ø24"
- Automatic front door
- Work probe
- Tool setter
- X-axis scale
- Z-axis scale
- Chip air blow system
- Oil mist collector
- High pressure coolant system
- Chip conveyor & bucket
- Dill socket (VTB only) MT#5, 4, 3
- U-dill socket (VTB only) Ø40, 32, 25, 20mm
- Boring bar sleeve Ø50, 32, 25, 20, 16mm (VTC only) Ø50, 32, 25, 20, 16, 15, 12mm (VTB only)
- OD/Face tool holder □32mm
- D tool holder Ø60mm
- U-dill tool holder (VTB only) Ø50mm
- Milling tool holder (VTC only) MRA50, MRR50
- Transformer
- High torque gear box (2-speed)
- Spindle index (0.001°)



CNC Controller Specifications (FANUC 32i-A)

Control Axes	
Controlled axes	2(X, Z)
Simultaneously controllable axes	G00, G01 : 2 axes G02, G03 : 2 axes
Least command increment	0.001mm
Least input increment	0.001mm
Machine lock	
Emergency stop	
Over-travel	
Backlash compensation	
Interpolation & Feed Functions	
Positioning	G00
Linear interpolation	G01
Circular interpolation	G02, G03
Dwell	G04
Reference point return	G27, G28, G29
2nd reference point return	G30
Rapid traverse override	F0/25/50/100%
Feedrate override	0-150%
Jog override	0-150%
Override cancel	
Manual handle feedrate	
Automatic acceleration/deceleration	
Handle interruption	
Constant surface speed	
Spindle & Tool Functions	
Spindle speed command	S5 digits
Spindle speed override	50-120%
Cs conpour control(VTC only)	
Multi spindle control(VTC only)	
Tool number command	T6±T2 digits
Nose R compensation	G40, G41, G42
Number of tool offsets	32 EA
Tool Geom/Wear compensation	
Program & Editing	
Tape code	ISO/EIA
I/O interface	RS-232C
Part program storage	32Kbyte
No of registered program	63 EA
Program protect	
Label skip	
Program stop/end	M00/M02, M30
Optional stop	M01
Maximum commandable value	±99999.999mm
Program number	O4-digit
Sequence number	N5-digit
Absolute/Incremental programming	X,Z,U,W
Decimal point input	
Programmable data input	
Automatic coordinate system setting	
Multiple repetitive I	G71-G76
Multiple repetitive II	
Sub program call	
Work coordinate system	G54-G59
Local coordinate system	G52
Machine coordinate system	G53
Play back	

Operation, Setting & Display, etc.	
MDI/Display unit	10.4" color LCD
Operation functions	
Search function	
Dry run	
Single block	
Cycle start	
Feed hold	
Self-diagnostic function	
Display of PMC alarm message	
Help function	
Loadmeter display	
Alarm history display	
External message	
Servo setting display	
Clock function	
Memory card interface	
Graphic display	
Dynamic graphic display	
Language display	English/Italian/Germany/Korean
Manual Guide I	
Optional Functions	
Stored stroke check	2, 3
High speed skip function	Tool probe used G31
Extended part program editing	
Part program storage	64/128/256/512Kbyte 1M/2M/4M/8Mbyte
No. of registered programs	1000/4000 EA
Spindle orientation	
Number of tool offsets	64-2000 EA
Tool life management	
Cylindrical interpolation	
Helical interpolation	
Custom macro	
Automatic corner override	
Play back	
Program restart	
Stored pitch error compensation	
Addition of custom macro common variables	
Rigid tapp	
Run hour and parts count display	
Variable thread cutting	
Continuous threading	
Workpiece coordinate system preset	
Polar coordinate interpolation	
Background editing	
Inch/metric conversion	G20/G21
Thread cutting retract	
Direct drawing dimension program	



• Specifications and features are subject to change without prior notice.



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