

TC40 Series

TC40/M/L/LM | TC40C/MC/LC/LMC

SG WIA Heavy Duty CNC Turning Center



Technical Leader

The CNC Turning Center TC40series, designed by SG WIA with years of expertise and the latest technology, is a Turning Center that maximizes productivity and performance.

MODEL	Chuck Size			Bed		Turret		
	15"	18"	21"	Standard	Long	10 Stations	12 Stations	Mill Turret
TC40	●	○		●		●	○	
TC40L	●	○			●	●	○	
TC40M	●	○		●			●	●
TC40LM	●	○			●		●	●
TC40C			●	●		●	○	
TC40LC			●		●	●	○	
TC40MC			●	●			●	●
TC40LMC			●		●		●	●

●: Standard ○: Option

- Box guideways for heavy-duty cutting
- One-piece bed structure with high rigidity
- Stabilized main spindle structure to minimize thermal displacement
- Specialized in heavy cutting by applying 2-Step gear box type main spindle (Max. Torque Opt. 3,378 N·m)



01 BASIC STRUCTURE

High Rigidity Bed & Structure for Heavy Duty Cutting CNC Turning Center

Servo Turret

- No. of Tools : 10 [12] EA
- Tool Size (O.D/I.D)
 - 32/Ø60 (Ø1 1/4"/Ø2 1/4")
- Mill Turret : BMT75 ('M' Type)

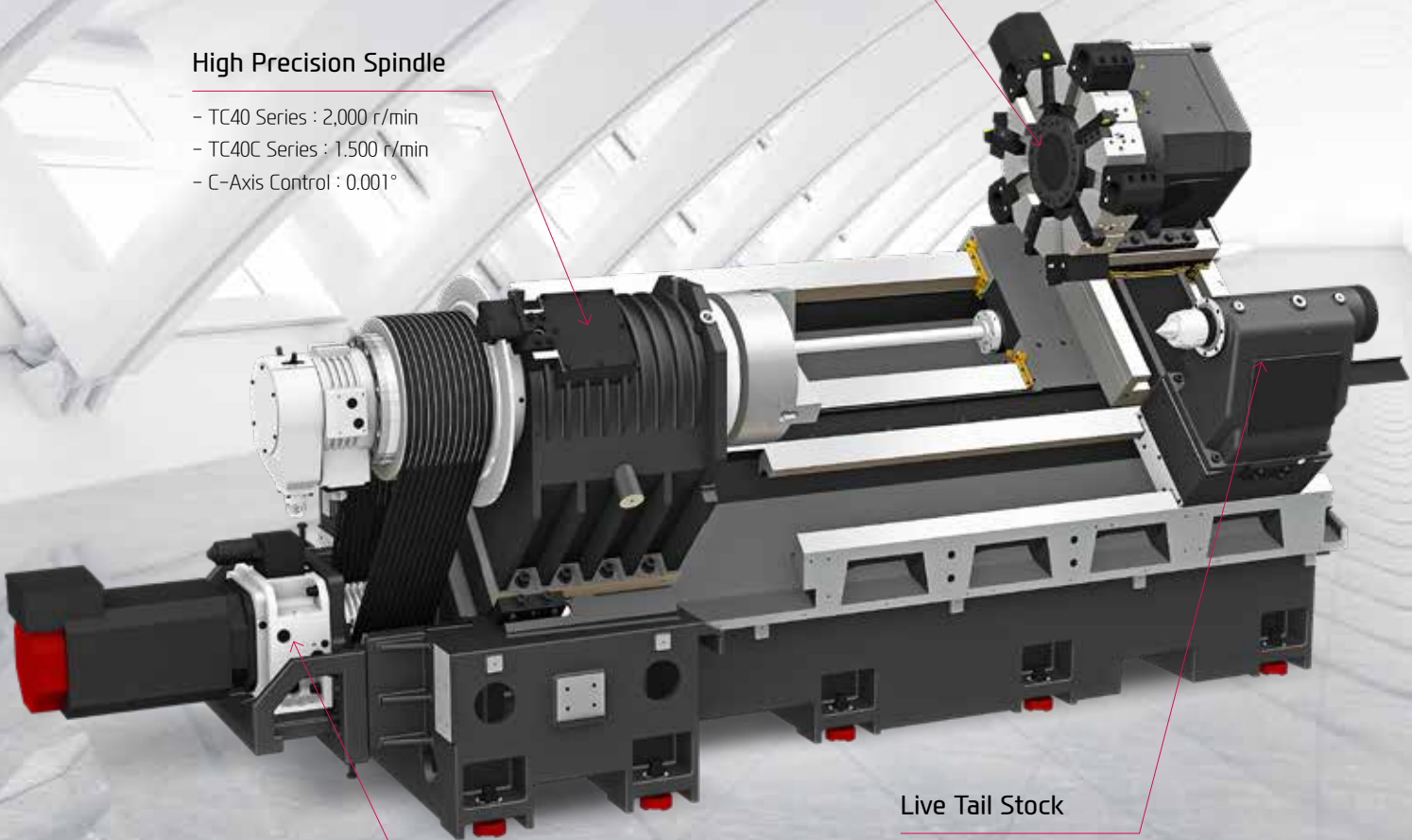
High Precision Spindle

- TC40 Series : 2,000 r/min
- TC40C Series : 1,500 r/min
- C-Axis Control : 0.001°

2-step Gear Box

Live Tail Stock

- Taper : MT#6
- [MT#5 : Built-In Opt.]

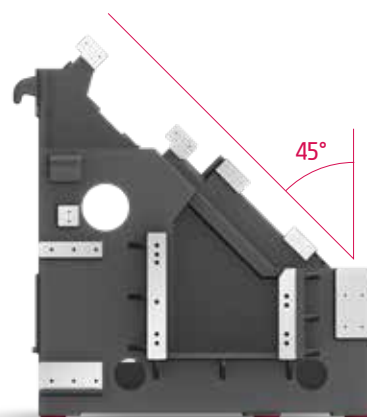


HIGH RIGIDITY STRUCTURE FOR HEAVY DUTY CUTTING

ALL-IN-ONE TYPE OF BED

High Precision & Rigidity, One-Piece Structure

The TC40 Series features a 45° slant bed design which is developed through finite element analysis (FEA) to absorb vibration and minimize thermal displacement so as to maintain high stability.



GUIDEWAY

Box Guideway

With the mounting of box guideways on all axis, the machine offers excellent vibration absorption even against during heavy-duty cutting, enabling high-quality machining.

Improved saddle rigidity

The contact area between the saddle and the cross-slide has been increased for high rigidity.

Ball Screw

Large diameter ball screws with preloading prevent deformation due to heat. Also double-anchor support method improves rigidity.



Rapid Traverse Rate (X/Z) **16/20** m/min (623/787 ipm)

Travel (X/Z)

TC40/40M | TC40C/40MC

330/1,105 mm (13"/43.5")

TC40L/40LM | TC40LC/40LMC

330/2,200 mm (13"/86.6")

02 HIGH PRECISION SPINDLE

Long Lasting, High Accuracy & Excellent Performance CNC Turning Center

Spindle Specifications

[] : Option

MODEL	Speed	Motor (Max./Cont.)	Torque (Max./Cont.)	Driving Method
TC40/L	2,000 rpm	35/26/22 kW (47/35/29.5 HP)	2,450/1,540 N.m (1,807/1,135.8 lbf.ft)	Belt + 2-Step Gear
		[37/30 kW (50/40 HP)]	[3,378/2,739 N.m (2,491.5/2,020.2 lbf.ft)]	
TC40C/LC	1,500 rpm	37/30 kW (50/40 HP)	3,378/2,739 N.m (2,491.5/2,020.2 lbf.ft)	Belt
TC40M/LM	2,000 rpm	30/22 kW (40/29.5 HP)	1,611/993 N.m (1,188.2/732.4 lbf.ft)	Belt + 2-Step Gear
		[37/30 kW (50/40 HP)]	[3,378/2,739 N.m (2,491.5/2,020.2 lbf.ft)]	
TC40MC/LMC	1,500 rpm	37/30 kW (50/40 HP)	2,457/1,992 N.m (1,812.2/1,469.2 lbf.ft)	Belt

HEAVY DUTY CUTTING & HIGH ACCURACY

MAIN SPINDLE

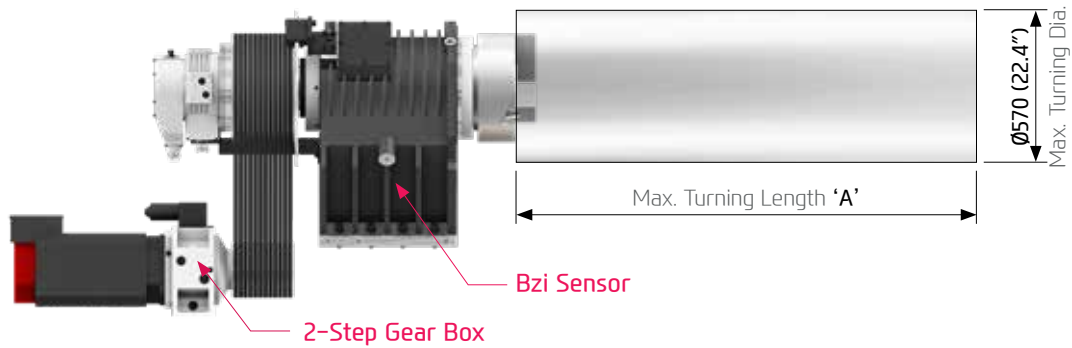
Spindle Ideal for Heavy Cutting

High-precision double-row cylindrical roller bearings and angular contact bearings offer increasement in rigidity of the spindle. In addition, the two-step gearbox guarantees strong torque at low speed and stable machining capability at high speed.



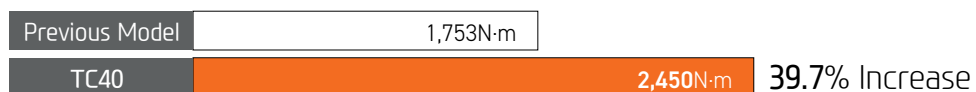
C-Axis Control

C-axis of TC40 Series can be controlled to 0.001° which makes it possible to process various shapes.



MODEL	Chuck Size	'A'	MODEL	Chuck Size	'A'
TC40	15"	1,043 mm (41.1")	TC40C	21"	1,025 mm (40.4")
TC40M		958 mm (37.7")	TC40MC		940 mm (37")
TC40L		2,138 mm (84.2")	TC40LC		2,120 mm (83.5")
TC40LM		2,053 mm (80.8")	TC40LMC		2,035 mm (80.1")

● Improved Spindle Torque



● Improved Machining Performance (Swing on carriage)



03 SERVO TURRET

High speed, High Accuracy, Highly Reliable Servo Turret

Standard Turret

[] : Option

No. of Tools

10 [12] EA

Tool Size (O.D./I.D)

□ 32/Ø60 mm
(Ø1 1/4"/Ø2 1/4")

Indexing Time

0.25 sec

Mill Turret

Type	Speed	Motor (Max./Cont)	Torque (Max./Cont)	Collet Size
BMT75	4,000 rpm	11/7.5/5.5 kW (15/10/7.5 HP)	140/70 N·m (103.2/51.6 lbf.ft)	ER40-Ø26 (1")
		[23/7.5 kW (31/10 HP)]	[146/48 N·m (107.7/35.4 lbf.ft)]	

VARIOUS DRIVEN PRECISION BMT TOOL HOLDERS

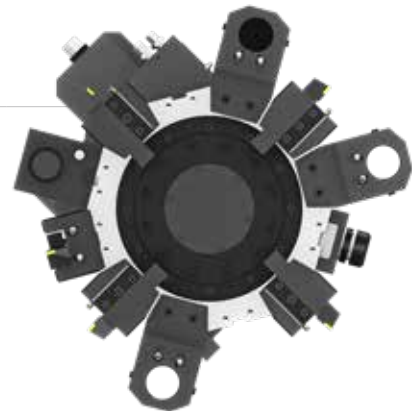
SERVO TURRET



Standard Turret

The turret of TC40 series is applied with high performance AC servo motor, improving machining reliability. 3-piece coupling shows excellent performance in indexing.

Powerful hydraulic tool clamping minimizes tool tip deviation caused by load.



BMT75 Mill Turret ('M' Type)

The BMT turret secures the tool with four bolts and key on the tool mounting surface of the turret, making it possible to powerfully fix the tool, ensuring high reliability in rigidity and precision.

STRAIGHT MILLING HEAD

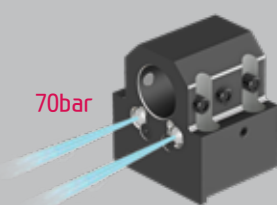


ANGULAR MILLING HEAD



Mill Tool Holder

Machining capability has increased with the addition of straight milling head tool holder.



70Bar High Pressure Coolant OPTION

Turret is designed to utilize **70bar** high pressure coolant and it shows optimum performance in machining difficult-to-cut material.

04 USER CONVENIENCE

Various Devices for User Friendly

TAIL STOCK & STEADY REST

High-performance Tail Stock

The large tailstock of $\varnothing 120\text{mm}$ is applied for high rigidity. The tailstock provides extra support with 120mm (4.7") travel. (MT#5 Built-in Tail Stock : Option)

Taper	Quill Dia.	Quill Travel
Live : MT#6	$\varnothing 120\text{ mm}$ ($\varnothing 4.7''$)	120 mm (4.7")

● Improved Tailstock Thrust

Previous Model	13.8 kN	
TC40 Series	17.2 kN	24.6% Increase



Steady Rest **OPTION**

For long parts, such as shafts, the steady rest increases rigidity and minimizes vibration.

<Programable Hyd. Steady Rest – SMW K 4.1 / $\varnothing 90\sim\varnothing 330$ ($\varnothing 3.5''\sim\varnothing 13''$)>

HIGH PRECISION SYSTEM



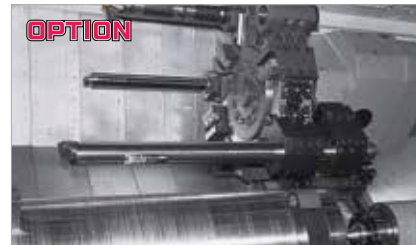
Automatic Q-Setter

Quick and accurate tool calibration can be done by contacting the tool tip with the sensor.



Linear Scale

Linear scales increase positioning accuracy and reduce distortion caused by thermal growth, thus ensuring a more accurate finished part



Long Boring Tool holder

When using long boring tool holder, deeper inner diameter machining is possible, enabling faster and more precise machining.

Optional

COOLANT UNIT



Standard Coolant (Nozzle)



Chuck Coolant (Upper Chuck)



Chuck Air Blow (Upper Chuck)

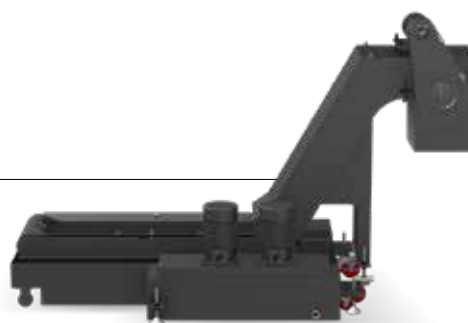


Gun Coolant

CHIP DISPOSAL SOLUTION

Chip Conveyor

Timely and effective disposal of chips will enhance productivity as well as the working environment.



Hinge	Chip Type : Roughing Chip, Long Chip, Chip complex	Material : SS41, 45C, Cast Steel	Front-Right Direction
	Highly efficient when disposing a lot of chips. Capable of handling stringy chips..		
Scraper	Chip Type : Finely broken chip blown out	Material : cast Iron, Nonferrous	
	Convenient for shortly cut chips.		
❖ Drum Filter	Chip Type : Powder, Micro Chip	Material : AL	
	Advantageous in precision, as the chips do not flow in to the coolant nozzle.		

❖ When ordering a drum filter chip conveyor, prior consult with hyudai wia's sales person.

05 FANUC – Smart Plus

The Compatible All-round Control



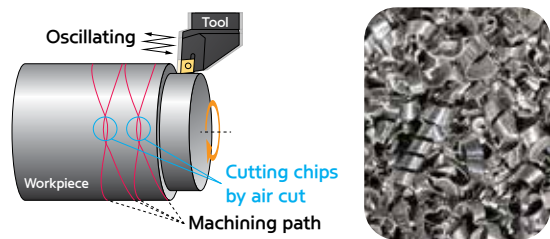
15" Touch-type Monitor as a standard



Fast Cycle Time Technology	Smart Machine Control	Fine Surface Technology
Smart Servo Control Technology	Conversational Program	SmartGuide-i
Machining-aid Function	i-HMI	5120M (2MB)
No. of Registerable Programs 1000 EA	Part Program Storage	

Servo Learning Oscillation Function for ChipBreaking **OPTION**

- Machining Method : he tool cuts the workpiece moving in a zigzag pattern. (Oscillating) → Air cut section occurs → Long chips break
- Advantage : Increase tool life, Enhance surface finishing, Improve chip disposal
- Machine : All turning centers with FANUC controller (Option)



(Developed special screen page for servo learning oscillation function / Even when this function is applied, the cycle time remains same.)

MMS (Machine Monitoring System)



MMS Cloud

A cloud server-based equipment monitoring system for collecting and analyzing facility operation data.

Manufacturing big data solution with design, manufacturing, and intelligence technology of SG-WIA
(Big data collection/Analysis/Visualization)

SMART CNC (FANUC Smart Plus)



1. Dialogue Program (Smart Guide-i)

This software offers the maximum user convenience through dialogue manipulation from setup to processing. This includes writing processing programs and simulation checks.

2. LAUNCHER

This software offers shortcuts for quick access to specialized features and frequently used features.

SPECIFICATIONS

Standard & Optional

● : Standard ○ : Option ☆ : Prior Consultation - : Non Applicable

Spindle		TC40/L	TC40M/LM
Main Spindle	15"	●	●
Hollow Chuck 3 Jaw	18"	○	○
Main Spindle	15"	☆	☆
Solid Chuck 3 Jaw	18"	☆	☆
Standard Soft Jaw (1set)		●	●
Chuck Clamp Foot Switch		●	●
2 Steps Hyd. Pressure Device		○	○
Spindle Inside Stopper		☆	☆
C-axis (0.001")		●	●
Cs contouring function		●	●
Chuck Open/Close Confirmation Device		●	●
2 Steps Chuck Foot Switch		○	○
Turret			
Tool Holder		●	●
10 station Turret		●	-
12 station Turret		○	●
Mill Turret	BMT	-	●
Straight Milling Head	Collet Type, 1ea	-	●
Angular Milling Head	Collet Type, 1ea	-	●
Straight Milling Head	Adapter Type	-	-
Angular Milling Head	Adapter Type	-	-
Boring Sleeve		●	●
Drill Socket		○	○
U-Drill Holder		○	○
U-Drill Holder	CAP (1EA)	○	○
Extension Holder	For Out-Dia	●	-
Angle Head		-	☆
Tail Stock & Steady Rest			
Live-center Tail Stock (MT #6)		●	●
Built-in Tail Stock (MT #5)		○	○
Manual Type Steady Rest		☆	☆
Manual Hyd. Steady Rest		☆	☆
Programmable Hyd. Steady Rest (SMW K 4.1)		○	○
Fixed Center		●	●
2 Steps Tail Stock Pressure System		☆	☆
Quill Forward/Reverse Confirmation Device		●	●
Tail Stock Foot Switch (When Tail Stock is selected)		●	●
Coolant & Air Blow			
Standard Coolant (Nozzle)		●	●
Chuck Coolant (Upper Chuck)		☆	☆
Gun Coolant		○	○
Through Spindle Coolant (Only for Special Chuck)		☆	☆
Chuck Air Blow (Upper Chuck)		○	○
Tail Stock Air Blow (Upper Tail Stock)		☆	☆
Turret Air Blow		☆	☆
Air Gun		○	○
Through Spindle Air Blow (Only for Special Chuck)		☆	☆
High Pressure Coolant	4.5Bar	●	●
	6Bar	○	○
	20Bar	○	○
	70Bar	○	○
Power Coolant System (For Automation)		☆	☆
Coolant Chiller		☆	☆
Chip Disposal			
Coolant Tank	315 ℓ (83.2 gal)	●/-	●/-
	420 ℓ (111 gal)	-/●	-/●
Chip Conveyor (Hinge/Scraper)	Front (Right)	○	○
	Front (Rear)	-	-
Special Chip Conveyor (Drum Filter)		☆	☆
Chip Wagon	Standard (180 ℓ [47.5 gal])	○	○
	Swing (200 ℓ [52.8 gal])	○	○
	Large Swing (290 ℓ [76.6 gal])	○	○
	Large Size (330 ℓ [87.2 gal])	○	○
	Customized	☆	☆

Safety Device		TC40/L	TC40M/LM
Total Splash Guard		●	●
Chuck Hydraulic Pressure Maintenance Interlock		●	●
Electric Device			
Call Light	1Color : ●	●	●
Call Light & Buzzer	3Color : ● ● ● B	○	○
Electric Cabinet Light		○	○
Remote MPG		○	○
Workcounter	Digital	○	○
Totalcounter	Digital	○	○
Toolcounter	Digital	○	○
Multi-Tool counter	6ea	○	○
	9ea	○	○
Electric Circuit Breaker		○	○
AVR (Auto Voltage Regulator)		☆	☆
Transformer	40kVA	○	○
Auto Power Off		○	○
Measurement			
Q-Setter	Manual	☆	☆
	Automatic	○	○
Work Close Confirmation Device (Only for Special Chuck)	TACO	☆	☆
	SMC	☆	☆
Work Setter		☆	☆
Linear Scale	X Axis	○	○
	Z Axis	○	○
Coolant Level Sensor (Only for Chip Conveyor)		☆	☆
Environment			
Air Conditioner		○	○
Oil Mist Collector		☆	☆
Oil Skimmer (Only for Chip Conveyor)		○	○
MQL (Minimal Quantity Lubrication)		☆	☆
Fixture & Automation			
Auto Door		○	○
Auto Shutter (Only for Automatic System)		-	-
Sub Operation Pannel		☆	☆
Bar Feeder Interface		○	○
Bar Feeder		○	○
Extra M-Code 4ea		○	○
Automation interface		☆	☆
I/O Extension (IN & OUT)	16 Contact	○	○
	32 Contact	○	○
Parts Catcher		-	-
Turret Work Pusher (For Automation)		☆	☆
Hyd. Device			
Standard Hyd. Cylinder	Hollow	●	●
Standard Hyd. Unit	60bar/27 ℓ (7.1 gal)	●	●
S/W			
Dialogue Program (HW-DPRO)		○	○
DNC software (HW-eDNC)		○	○
Machine Monitoring System (HW-MMS Cloud)		☆	☆
Smart Guide-I : FANUC		●	●
Smart S/W		☆	☆
ETC			
Tool Box		●	●
Customized Color	Need Munsell No.	☆	☆
CAD & CAM		☆	☆

❖ 4 channel of TDC(Thermal Displacement Compensation) device is recommended, when more than 6 bar of high pressure coolant is applied, for the high quality machining.

Specifications are subject to change without notice for improvement. / Please refer to the S/W catalog (iRIS) for details by S/W product.

SPECIFICATIONS

Standard & Optional

● : Standard ○ : Option ☆ : Prior Consultation - : Non Applicable

Spindle		TC40C/LC	TC40MC/LMC
Main Spindle Hollow Chuck 3 Jaw	21"	●	●
Main Spindle Solid Chuck 3 Jaw	21"	☆	☆
Standard Soft Jaw (1set)		●	●
Chuck Clamp Foot Switch		●	●
2 Steps Hyd. Pressure Device		○	○
Spindle Inside Stopper		☆	☆
C-axis (0.001")		●	●
Cs contouring function		●	●
Chuck Open/Close Confirmation Device		●	●
2 Steps Chuck Foot Switch		○	○
Turret			
Tool Holder		●	●
10 station Turret		●	-
12 station Turret		○	●
Mill Turret	BMT	-	●
Straight Milling Head	Collet Type, 1ea	-	●
Angular Milling Head	Collet Type, 1ea	-	●
Straight Milling Head	Adapter Type	-	-
Angular Milling Head	Adapter Type	-	-
Boring Sleeve		●	●
Drill Socket		○	○
U-Drill Holder		○	○
U-Drill Holder	CAP (1EA)	○	○
Extension Holder	For Out-Dia	●	-
Angle Head		-	☆
Tail Stock & Steady Rest			
Live-center Tail Stock (MT #6)		●	●
Built-in Tail Stock (MT #5)		○	○
Manual Type Steady Rest		☆	☆
Manual Hyd. Steady Rest		☆	☆
Programmable Hyd. Steady Rest (SMW K 4.1)		○	○
Fixed Center		●	●
2 Steps Tail Stock Pressure System		☆	☆
Quill Forward/Reverse Confirmation Device		●	●
Tail Stock Foot Switch (When Tail Stock is selected)		●	●
Coolant & Air Blow			
Standard Coolant (Nozzle)		●	●
Chuck Coolant (Upper Chuck)		☆	☆
Gun Coolant		○	○
Through Spindle Coolant (Only for Special Chuck)		☆	☆
Chuck Air Blow (Upper Chuck)		○	○
Tail Stock Air Blow (Upper Tail Stock)		☆	☆
Turret Air Blow		☆	☆
Air Gun		○	○
Through Spindle Air Blow (Only for Special Chuck)		☆	☆
High Pressure Coolant	4.5Bar	●	●
	6Bar	○	○
	20Bar	○	○
	70Bar	○	○
Power Coolant System (For Automation)		☆	☆
Coolant Chiller		☆	☆
Chip Disposal			
Coolant Tank	315 ℓ (83.2 gal)	●/-	●/-
	420 ℓ (111 gal)	-/●	-/●
Chip Conveyor (Hinge/Scraper)	Front (Right)	○	○
	Front (Rear)	-	-
Special Chip Conveyor (Drum Filter)		☆	☆
Chip Wagon	Standard (180 ℓ [47.5 gal])	○	○
	Swing (200 ℓ [52.8 gal])	○	○
	Large Swing (290 ℓ [76.6 gal])	○	○
	Large Size (330 ℓ [87.2 gal])	○	○
	Customized	☆	☆

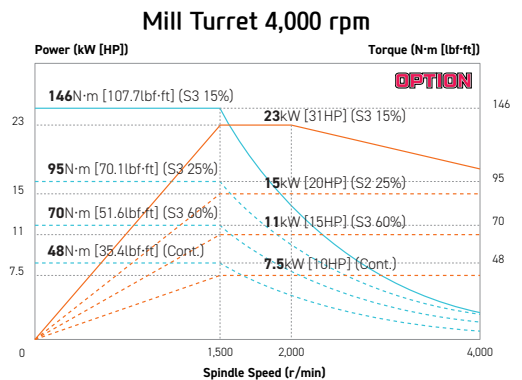
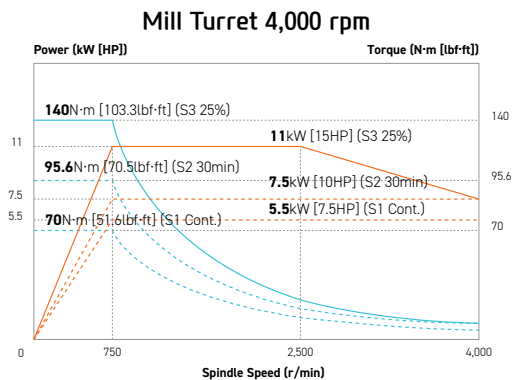
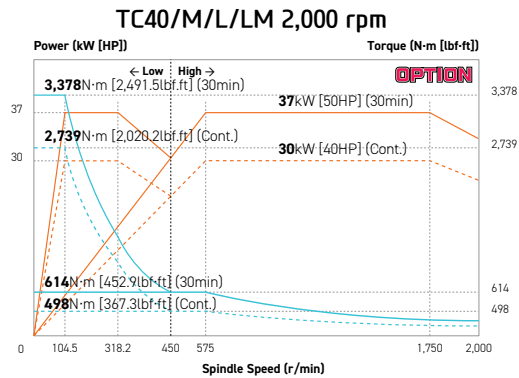
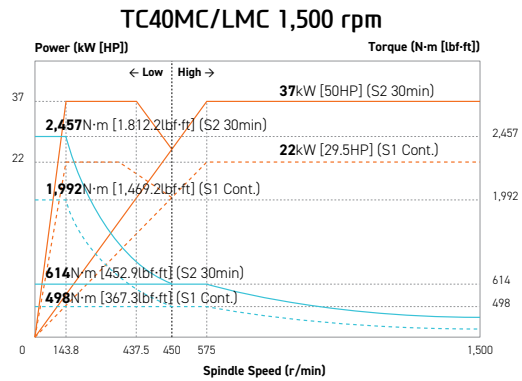
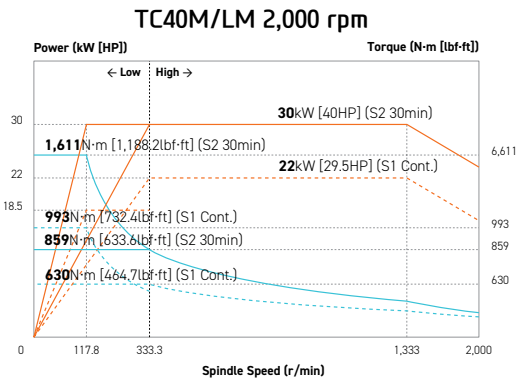
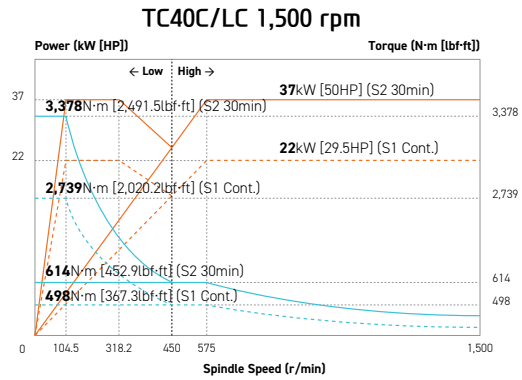
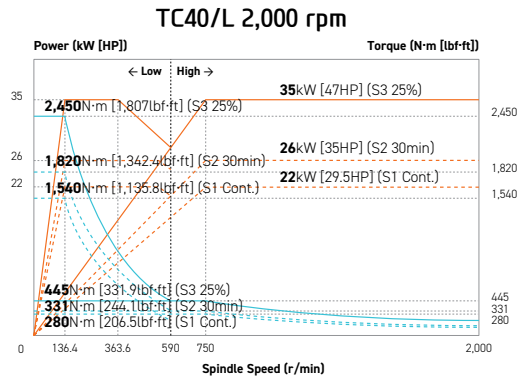
Safety Device		TC40C/LC	TC40MC/LMC
Total Splash Guard		●	●
Chuck Hydraulic Pressure Maintenance Interlock		●	●
Electric Device			
Call Light	1Color : ●	●	●
Call Light & Buzzer	3Color : ● ■ ■ B	○	○
Electric Cabinet Light		○	○
Remote MPG		○	○
Workcounter	Digital	○	○
Totalcounter	Digital	○	○
Toolcounter	Digital	○	○
Multi-Tool counter	6ea	○	○
	9ea	○	○
Electric Circuit Breaker		○	○
AVR (Auto Voltage Regulator)		☆	☆
Transformer	40kVA	○	○
Auto Power Off		○	○
Measurement			
Q-Setter	Manual	☆	☆
	Automatic	○	○
Work Close Confirmation Device (Only for Special Chuck)	TACO	☆	☆
	SMC	☆	☆
Work Setter		☆	☆
Linear Scale	X Axis	○	○
	Z Axis	○	○
Coolant Level Sensor (Only for Chip Conveyor)		☆	☆
Environment			
Air Conditioner		○	○
Oil Mist Collector		☆	☆
Oil Skimmer (Only for Chip Conveyor)		○	○
MQL (Minimal Quantity Lubrication)		☆	☆
Fixture & Automation			
Auto Door		○	○
Auto Shutter (Only for Automatic System)		-	-
Sub Operation Pannel		☆	☆
Bar Feeder Interface		○	○
Bar Feeder		○	○
Extra M-Code 4ea		○	○
Automation Interface		☆	☆
I/O Extension (IN & OUT)	16 Contact	○	○
	32 Contact	○	○
Parts Catcher		-	-
Turret Work Pusher (For Automation)		☆	☆
Hyd. Device			
Standard Hyd. Cylinder	Hollow	●	●
Standard Hyd. Unit	60bar/45 ℓ (11.9 gal)	●	●
S/W			
Dialogue Program (HW-DPRO)		○	○
DNC software (HW-eDNC)		○	○
Machine Monitoring System (HW-MMS Cloud)		☆	☆
Smart Guide-i : FANUC		●	●
Smart S/W		☆	☆
ETC			
Tool Box		●	●
Customized Color	Need Munsell No.	☆	☆
CAD & CAM		☆	☆

◆ 4 channel of TDC(Thermal Displacement Compensation) device is recommended, when more than 6 bar of high pressure coolant is applied, for the high quality machining.

Specifications are subject to change without notice for improvement. / Please refer to the S/W catalog (iRS) for details by S/W product.

SPECIFICATIONS

Spindle Output/Torque Diagram

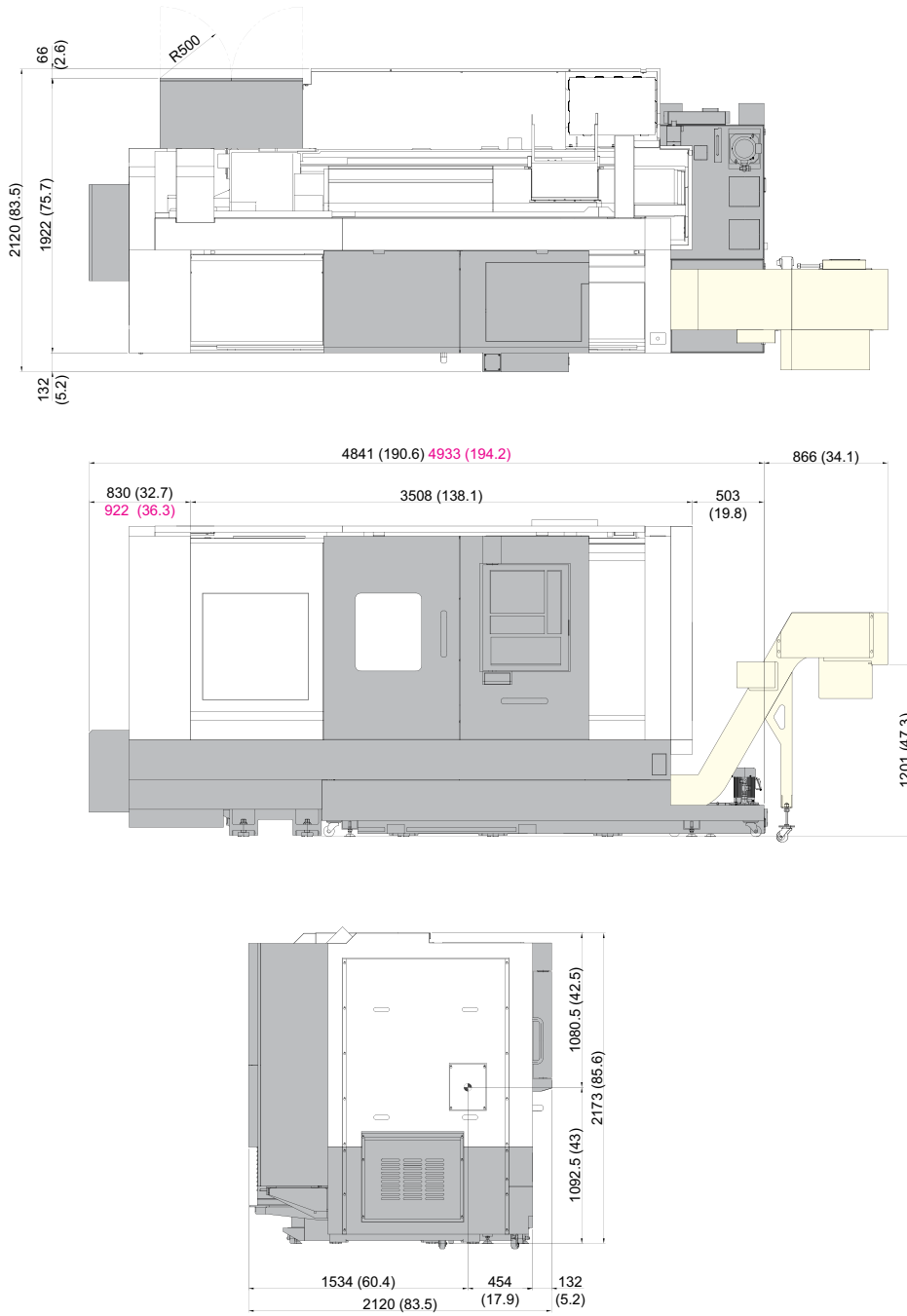


SPECIFICATIONS

External Dimensions

unit : mm(in)

TC40/M
TC40C/MC

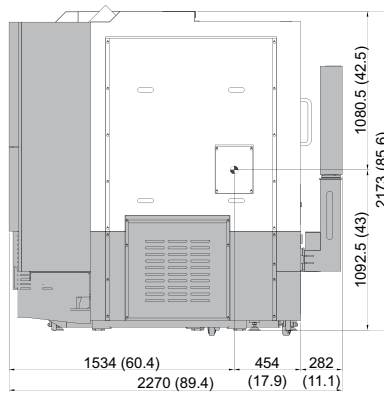
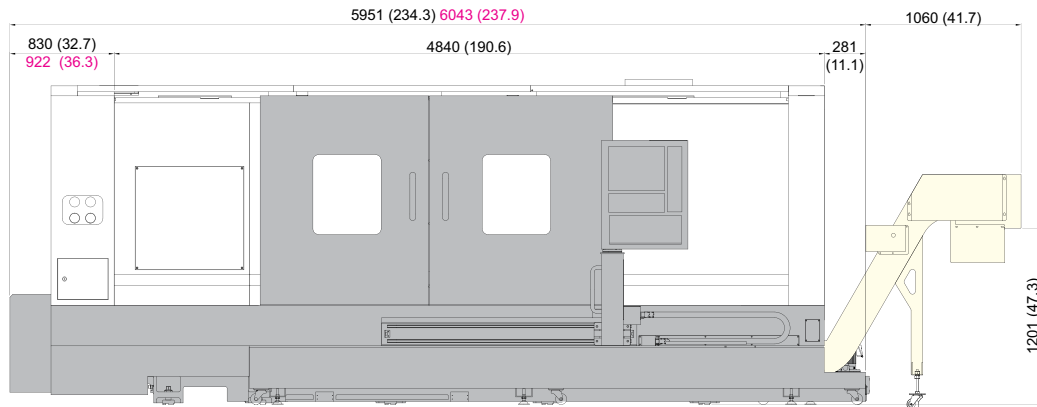
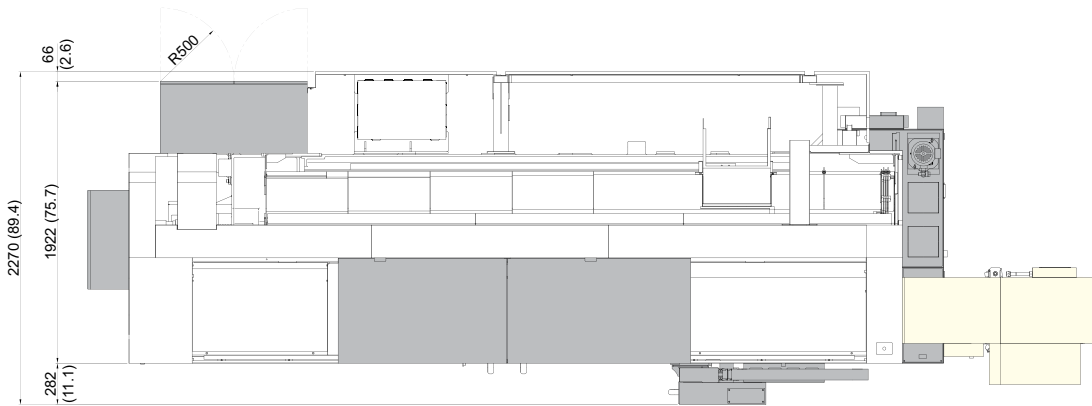


SPECIFICATIONS

External Dimensions

unit : mm(in)

TC40L/LM
TC40LC/LMC



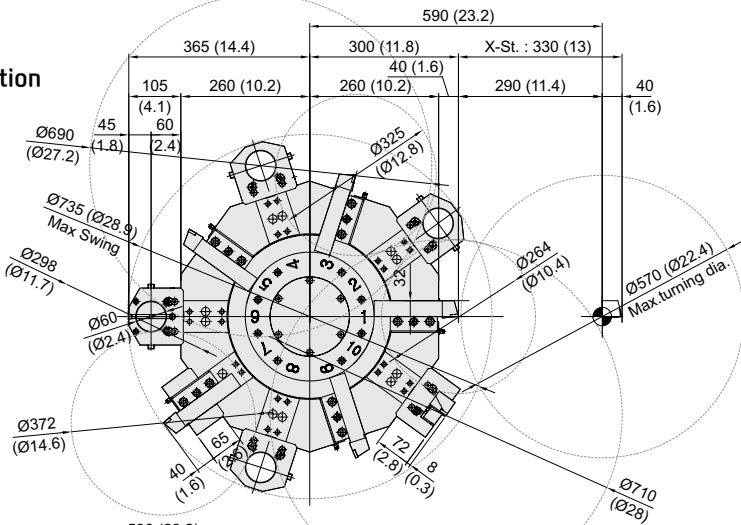
SPECIFICATIONS

Interference

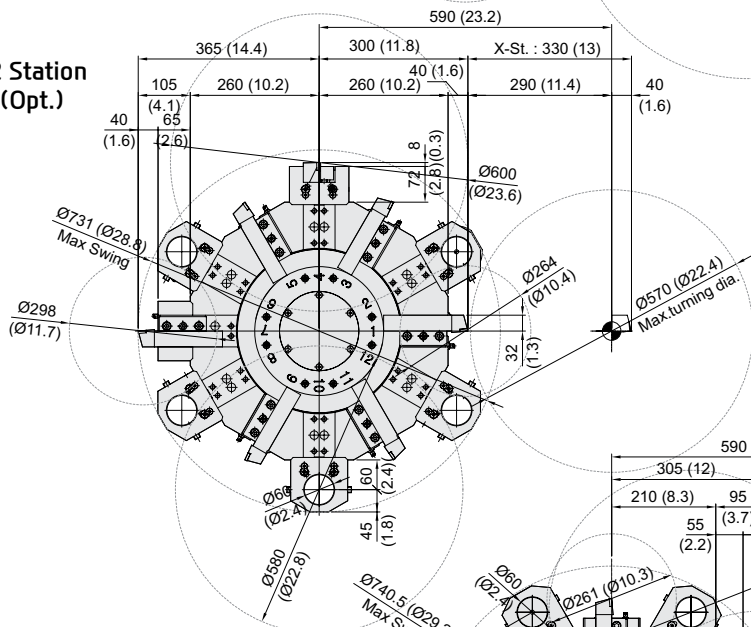
unit : mm(in)

TC40/L
TC40C/LC

10 Station

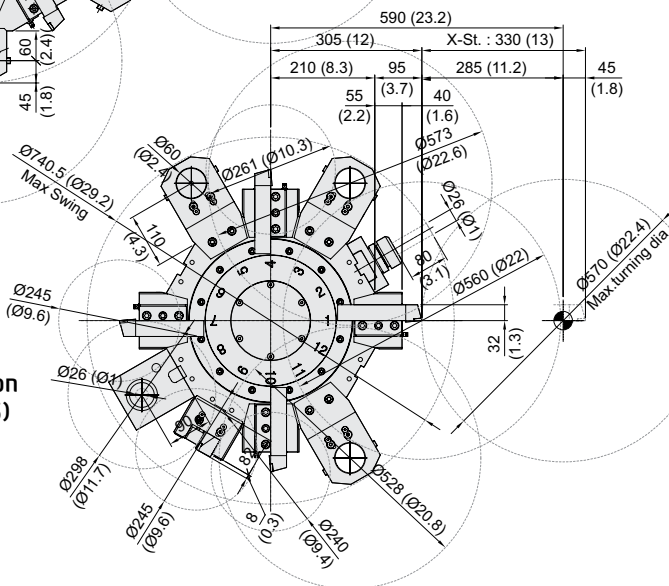


12 Station
(Opt.)



TC40M/LM
TC40MC/LMC

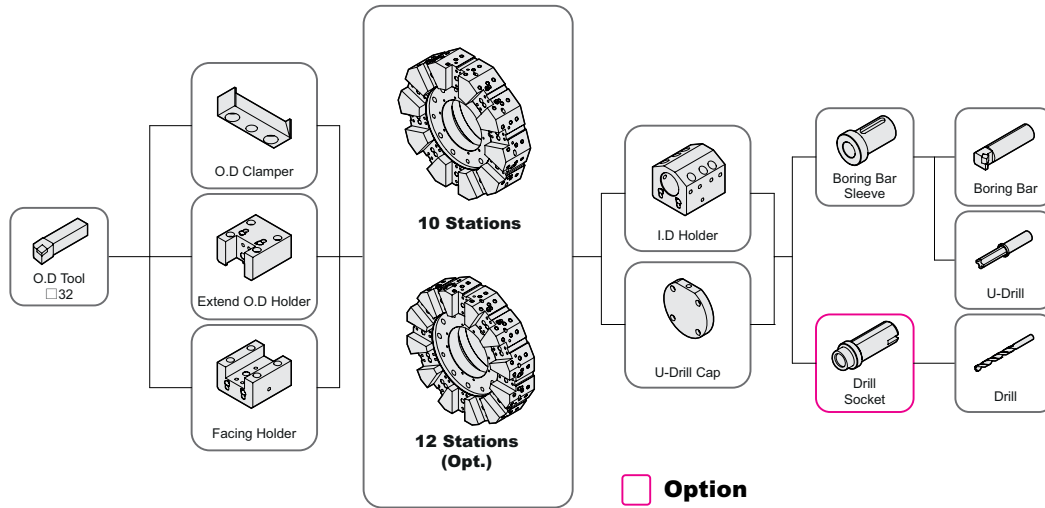
12 Station
(BMT75)



SPECIFICATIONS

Tooling System

unit : mm(in)



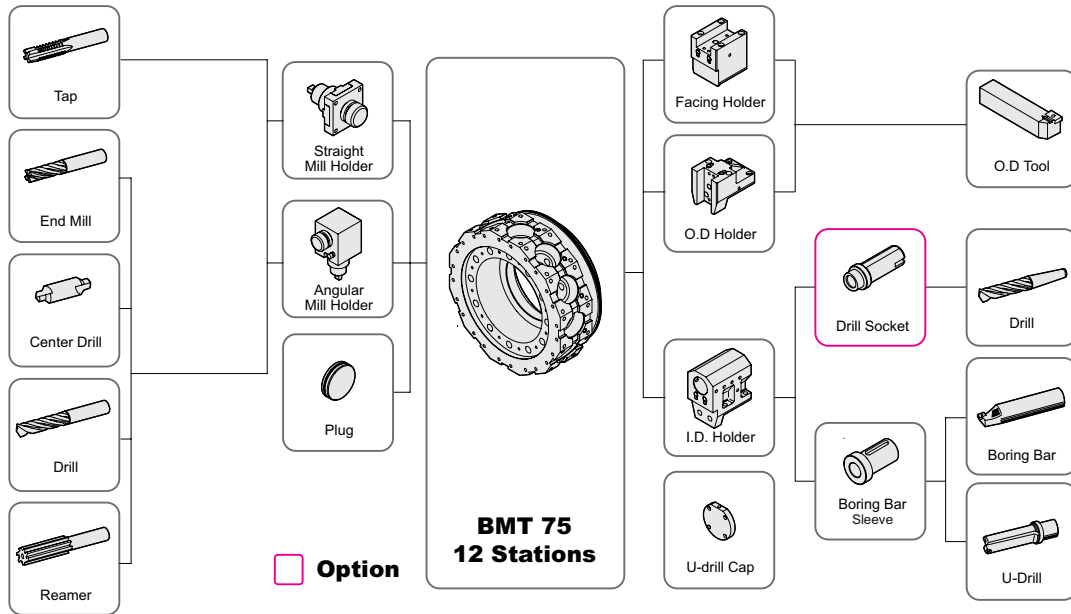
TC40/C/L/LC - Tooling Parts Detail

ITEM			10 Station		Opt. 12 Station	
			mm Unit	inch Unit	mm Unit	inch Unit
Turning Holder	O.D Holder	Right/Left	4	4	5	5
		Extension	1	1	1	1
	Facing Holder	1	1	1	1	
Boring Holder	I.D Holder	Single	4	4	5	5
		C-Clip	Opt.	Opt.	Opt.	Opt.
	U-Drill Holder	Cap	1	1	1	1
Driven Holder	Straight Mill Holder	Standard	-	-	-	-
	Angular Mill Holder	Standard	-	-	-	-
Socket	Boring	Ø16 (Ø5/8")	1	1	1	1
		Ø20 (Ø3/4")	1	1	1	1
		Ø25 (Ø1")	1	1	1	1
		Ø32 (Ø1 1/4")	1	1	1	1
		Ø40 (Ø1 1/2")	1	1	1	1
		Ø50 (Ø2")	1	1	1	1
	Drill	MT 2	Opt.	Opt.	Opt.	Opt.
		MT 3	Opt.	Opt.	Opt.	Opt.
		MT 4	Opt.	Opt.	Opt.	Opt.
	ER Collet		-	-	-	-
	Adapter Set		-	-	-	-

SPECIFICATIONS

Tooling System

unit : mm(in)



TC40M/MC/LM/LMC – Tooling Parts Detail

ITEM			12 Station	
			mm Unit	inch Unit
Turning Holder	O.D Holder	Right/Left	4	4
		Extension	-	-
	Facing Holder		1	1
Boring Holder	I.D Holder	Single	3	3
		C-Clip	Opt.	Opt.
	U-Drill Holder	Cap	1	1
Driven Holder	Straight Mill Holder	Standard	1	1
	Angular Mill Holder	Standard	1	1
Socket	Boring	Ø16 (Ø5/8")	1	1
		Ø20 (Ø3/4")	1	1
		Ø25 (Ø1")	1	1
		Ø32 (Ø1 1/4")	1	1
		Ø40 (Ø1 1/2")	1	1
		Ø50 (Ø2")	1	1
	Drill	MT 2	Opt.	Opt.
		MT 3	Opt.	Opt.
		MT 4	Opt.	Opt.
	ER Collet		Opt.	Opt.
Adapter Set		-	-	

Specifications are subject to change without notice for improvement.

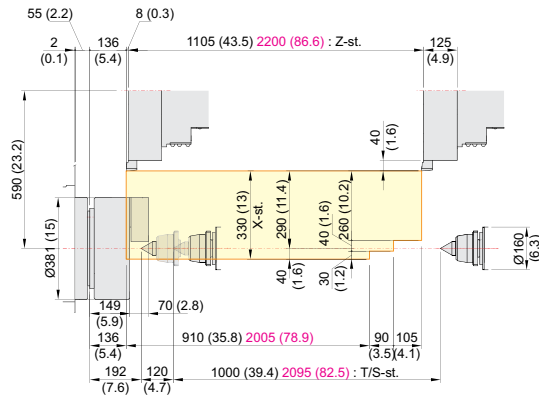
SPECIFICATIONS

Tooling Travel Range

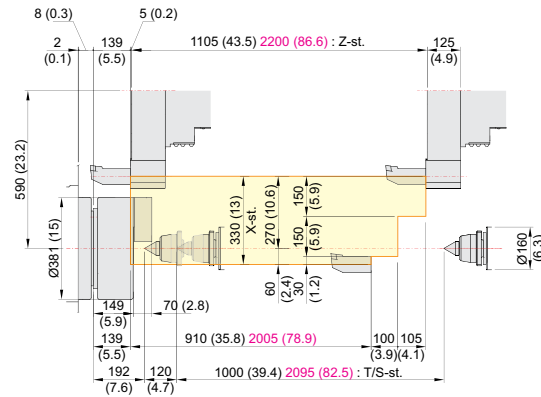
unit : mm(in)

TC40
TC40L

O.D Tool

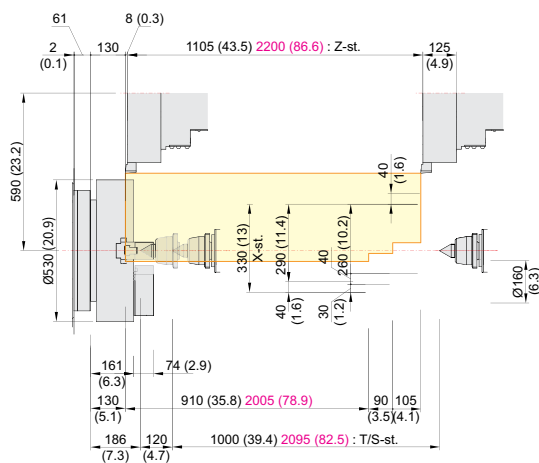


I.D Tool

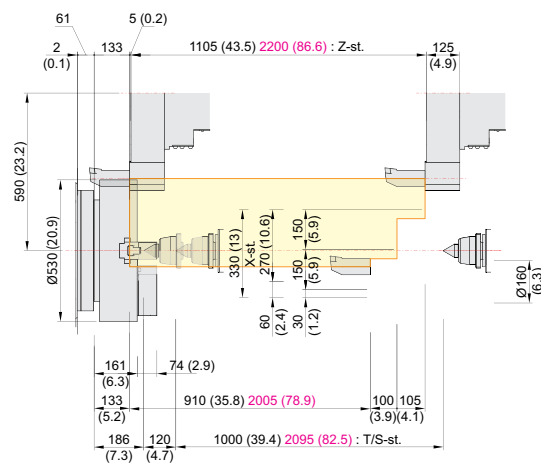


TC40C
TC40LC

O.D Tool



I.D Tool



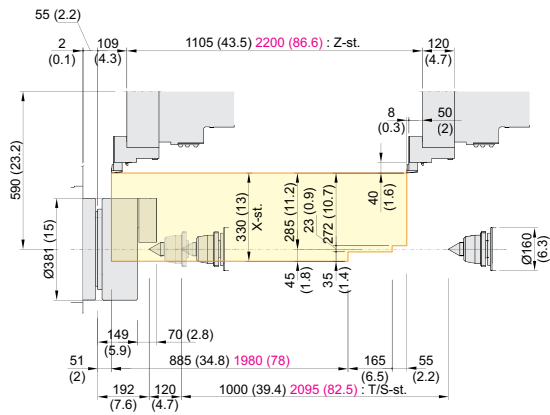
SPECIFICATIONS

Tooling Travel Range

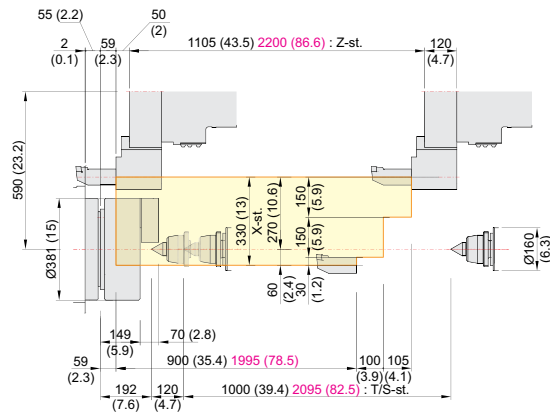
unit : mm(in)

TC40M
TC40LM

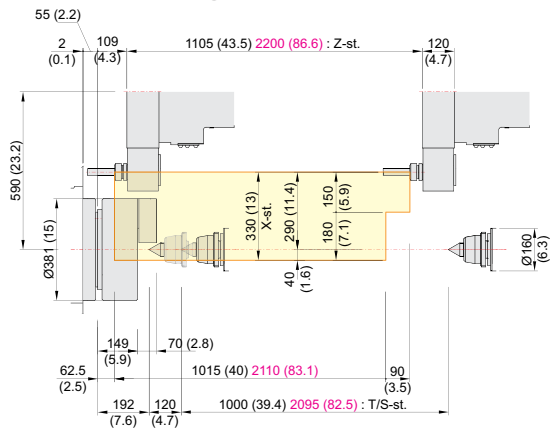
O.D Tool



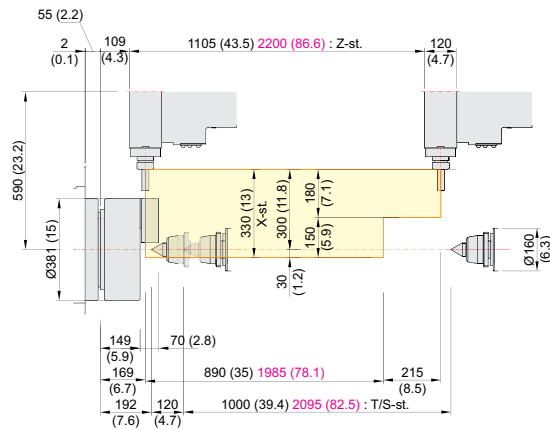
I.D Tool



Angular driven



Axial driven



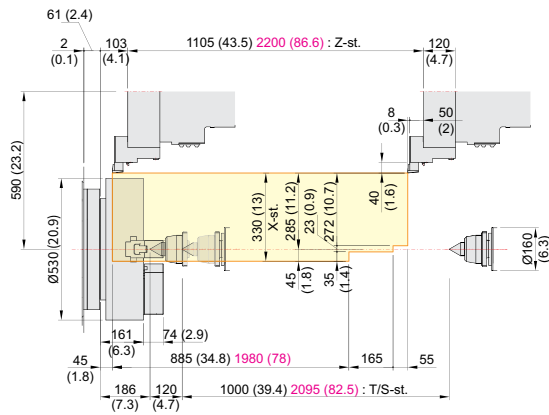
SPECIFICATIONS

Tooling Travel Range

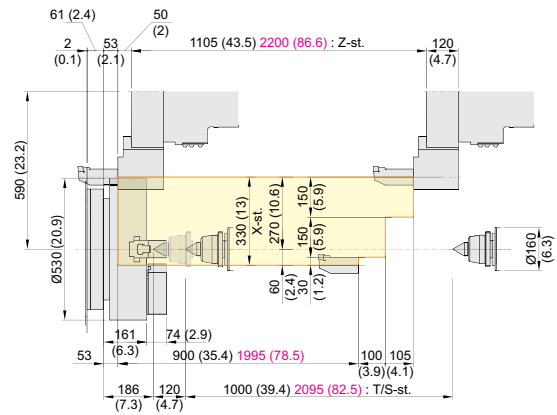
unit : mm(in)

TC40MC
TC40LMC

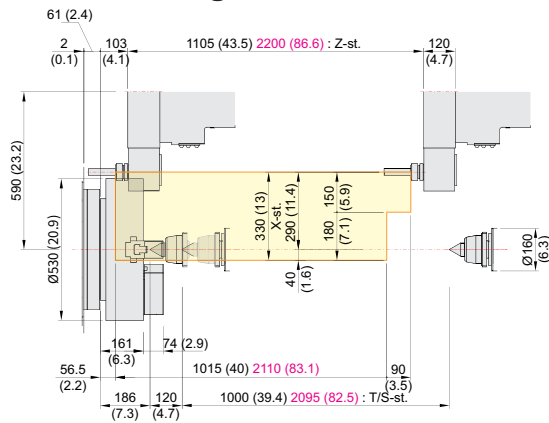
O.D Tool



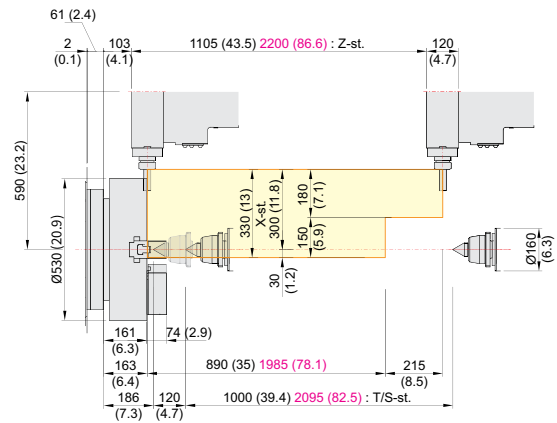
I.D Tool



Angular driven



Axial driven



SPECIFICATIONS

Specifications

[] : Option

ITEM			TC40	TC40M
CAPACITY	Swing Over the Bed	mm(in)	Ø800 (Ø31.5")	
	Swing Over the Carriage	mm(in)	Ø590 (Ø23.2")	
	Max. Turning Dia.	mm(in)	Ø570 (Ø22.4")	
	Max. Turning Length	mm(in)	1,043 (41.1")	958 (38.6")
	Bar Capacity	mm(in)	Ø117 (Ø4.6")	
SPINDLE	Chuck Size	inch	15" [18"]	
	Spindle Bore	mm(in)	Ø131 (Ø5.2")	
	Spindle Speed (rpm)	r/min	2,000 [2,000]	
	Motor (Max/Cont.)	kW(HP)	35/26/22 (47/35/29.5) [37/30 (50/40)]	30/22 (40/29.5) [37/30 (50/40)]
	Torque (Max/Cont.)	N·m(lbf·ft)	2,450/1,540 (1,807/1,135.8) [3,378/2,739 (2,491.5/2,020.2)]	1,611/993 (1,188.2/732.4) [3,378/2,739 (2,491.5/2,020.2)]
	Spindle Type	-	Belt + 2 Step Gear	Belt [Belt + 2 Step Gear]
	Spindle Nose	-	A2-11	
	C-axis Indexing	deg	0.001	
FEED	Travel	X/Z mm(in)	330/1,105 (13"/43.5")	
	Rapid Traverse Rate	X/Z m/min(ipm)	16/20 (623/787)	
	Slide Type	-	Box Guide	
TURRET	No. of Tools	ea	10 [12]	12
	Tool Size	OD mm(in)	□ 32 (□ 1 1/4")	
		ID mm(in)	Ø60 (Ø 1/2")	
	Indexing Time	sec/step	0.25	
LIVE TOOL	Milling Tool Speed (rpm)	r/min	-	4,000
	Motor (Max/Cont.)	kW(HP)	-	11/7.5/5.5 (15/10/7.5) [23/7.5 (31/10)]
	Torque (Max/Cont.)	N·m(lbf·ft)	-	140/70 (103.3/51.6) [146/48 (107.7/35.4)]
	Collet Size	mm(in)	-	ER40-Ø26 (1)
	Type	-	-	BMT75
TAIL STOCK	Taper	-	MT#6 : Live-center [MT#5 : Built-In]	
	Quill Dia.	mm(in)	Ø120 (Ø4.7")	
	Quill Travel	mm(in)	120 (4.7")	
	Travel	mm(in)	1,000 (39.4")	
TANK CAPACITY	Coolant Tank	ℓ (gal)	315 ℓ (83.2)	
	Lubricating Tank	ℓ (gal)	4 ℓ (1.1)	
POWER SUPPLY	Electric Power Supply	kVA	32kVA	
	Thickness of Power Cable	mm ²	Over 25	
	Voltage	V/Hz	220/60 (200/50*)	
MACHINE	Floor Space (L×W)	mm(in)	4,841×2,120 (190.6"×83.5")	
	Height	mm(in)	2,173 (85.6")	
	Weight	kg(lb)	8,300 (18,298)	8,400 (18,519)
CNC	Controller	-	FANUC i Series - Smart Plus	

Specifications are subject to change without notice for improvement.

SG WIA
MACHINE TOOL

TC40 Series
CNC Turning Center

24
+
25

CREATING VALUE
IN SEAMLESS MOBILITY

SPECIFICATIONS

Specifications

[] : Option

ITEM			TC40C	TC40MC
CAPACITY	Swing Over the Bed		Ø800 (Ø31.5")	
	Swing Over the Carriage		Ø590 (Ø23.2")	
	Max. Turning Dia.		Ø570 (Ø22.4")	
	Max. Turning Length		1,025 (40.4")	940 (37")
	Bar Capacity		Ø165 (Ø6.5")	
SPINDLE	Chuck Size		21"	
	Spindle Bore		Ø181 (Ø7.1")	
	Spindle Speed (rpm)		1,500	
	Motor (Max/Cont.)		37/30 (50/40)	37/30 (50/40)
	Torque (Max/Cont.)		3,378/2,739 (2,491.5/2,020.2)	2,457/1,992 (1,812.2/1,469.2)
	Spindle Type		Belt + 2 Step Gear	
	Spindle Nose		A1-15	
	C-axis Indexing		0.001 deg	
FEED	Travel	X/Z	330/1,105 (13"/43.5")	
	Rapid Traverse Rate	X/Z	16/20 (623/787)	
	Slide Type		Box Guide	
TURRET	No. of Tools		10 [12]	12
	Tool Size	OD	□ 32 (□ 1 1/4")	
		ID	Ø60 (Ø2 1/2")	
	Indexing Time		0.25 sec/step	
LIVE TOOL	Milling Tool Speed (rpm)		-	4,000
	Motor (Max/Cont.)		-	11/7.5/5.5 (15/10/7.5) [23/7.5 (31/10)]
	Torque (Max/Cont.)		-	140/70 (103.3/51.6) [146/48 (107.7/35.4)]
	Collet Size		-	ER40-Ø26 (1)
	Type		-	BMT75
TAIL STOCK	Taper		MT#6 : Live-center [MT#5 : Built-In]	
	Quill Dia.		Ø120 (Ø4.7")	
	Quill Travel		120 (4.7")	
	Travel		1,000 (39.4")	
TANK CAPACITY	Coolant Tank		315 ℓ (83.2)	
	Lubricating Tank		4 ℓ (1.1)	
POWER SUPPLY	Electric Power Supply		32kVA	
	Thickness of Power Cable		Over 25	
	Voltage		220/60 (200/50*)	
MACHINE	Floor Space (L×W)		4,933×2,120 (194.2"×83.5")	
	Height		2,173 (85.6")	
	Weight		8,700 (19,180)	8,800 (19,400)
CNC	Controller		FANUC i Series - Smart Plus	

SPECIFICATIONS

Specifications

[] : Option

ITEM			TC40L	TC40LM
CAPACITY	Swing Over the Bed	mm(in)	Ø800 (Ø31.5")	
	Swing Over the Carriage	mm(in)	Ø590 (Ø23.2")	
	Max. Turning Dia.	mm(in)	Ø570 (Ø22.4")	
	Max. Turning Length	mm(in)	2,138 (84.2")	2,053 (80.8")
	Bar Capacity	mm(in)	Ø117 (Ø4.6")	
SPINDLE	Chuck Size	inch	15" [18"]	
	Spindle Bore	mm(in)	Ø131 (Ø5.2")	
	Spindle Speed (rpm)	r/min	2,000	
	Motor (Max/Cont.)	kW(HP)	35/26/22 (47/35/29.5) [37/30 (50/40)]	30/22 (40/29.5) [37/30 (50/40)]
	Torque (Max/Cont.)	N·m(lbf·ft)	2,450/1,540 (1,807/1,135.8) [3,378/2,739 (2,491.5/2,020.2)]	1,611/993 (1,188.2/732.4) [3,378/2,739 (2,491.5/2,020.2)]
	Spindle Type	-	2 Step Gear + Belt	Belt [Belt + 2 Step Gear]
	Spindle Nose	-	A2-11	
	C-axis Indexing	deg	0.001	
FEED	Travel	X/Z mm(in)	330/2,200 (13"/86.6")	
	Rapid Traverse Rate	X/Z m/min(ipm)	16/20 (623/787)	
	Slide Type	-	Box Guide	
TURRET	No. of Tools	ea	10 [12]	12
	Tool Size	OD mm(in)	□ 32 (□ 1 1/4")	
		ID mm(in)	Ø60 (Ø 1/2")	
	Indexing Time	sec/step	0.25	
LIVE TOOL	Milling Tool Speed (rpm)	r/min	-	4,000
	Motor (Max/Cont.)	kW(HP)	-	11/7.5/5.5 (15/10/7.5) [23/7.5 (31/10)]
	Torque (Max/Cont.)	N·m(lbf·ft)	-	140/70 (103.3/51.6) [146/48 (107.7/35.4)]
	Collet Size	mm(in)	-	ER40-Ø26 (1)
	Type	-	-	BMT75
TAIL STOCK	Taper	-	MT#6 : Live-center [MT#5 : Built-In]	
	Quill Dia.	mm(in)	Ø120 (Ø4.7")	
	Quill Travel	mm(in)	120 (4.7")	
	Travel	mm(in)	2,095 (82.5")	
TANK CAPACITY	Coolant Tank	ℓ (gal)	420 ℓ (111)	
	Lubricating Tank	ℓ (gal)	4 ℓ (1.1)	
POWER SUPPLY	Electric Power Supply	kVA	32kVA	
	Thickness of Power Cable	mm ²	Over 25	
	Voltage	V/Hz	220/60 (200/50*)	
MACHINE	Floor Space (L×W)	mm(in)	5,951×2,270 (234.3"×89.4")	
	Height	mm(in)	2,173 (85.6")	
	Weight	kg(lb)	10,500 (23,149)	10,600 (23,369)
CNC	Controller	-	FANUC i Series - Smart Plus	

Specifications are subject to change without notice for improvement.

SG WIA
MACHINE TOOL

TC40 Series
CNC Turning Center

26
+
27

CREATING VALUE
IN SEAMLESS MOBILITY

SPECIFICATIONS

Specifications

[] : Option

ITEM			TC40LC	TC40LMC
CAPACITY	Swing Over the Bed		mm(in) Ø800 (Ø31.5")	
	Swing Over the Carriage		mm(in) Ø590 (Ø23.2")	
	Max. Turning Dia.		mm(in) Ø570 (Ø22.4")	
	Max. Turning Length		2,120 (83.5")	2,035 (80.1")
	Bar Capacity		mm(in) Ø165 (Ø6.5")	
SPINDLE	Chuck Size		inch 21"	
	Spindle Bore		mm(in) Ø181 (Ø7.1")	
	Spindle Speed (rpm)		r/min 1,500	
	Motor (Max/Cont.)		37/30 (50/40)	37/30 (50/40)
	Torque (Max/Cont.)		3,378/2,739 (2,491.5/2,020.2)	2,457/1,992 (1,812.2/1,469.2)
	Spindle Type		- Belt + 2 Step Gear	
	Spindle Nose		- A1-15	
	C-axis Indexing		deg 0.001	
FEED	Travel	X/Z mm(in)	330/2,200 (13"/86.6")	
	Rapid Traverse Rate	X/Z m/min(ipm)	16/20 (623/787)	
	Slide Type	-	Box Guide	
TURRET	No. of Tools		10 [12]	12
	Tool Size	OD mm(in)	□ 32 (□ 1 1/4")	
		ID mm(in)	Ø60 (Ø2 1/2")	
	Indexing Time		sec/step 0.25	
LIVE TOOL	Milling Tool Speed (rpm)		r/min -	4,000
	Motor (Max/Cont.)		kW(HP) - 11/7.5/5.5 (15/10/7.5) [23/7.5 (31/10)]	
	Torque (Max/Cont.)		N·m(lbf·ft) - 140/70 (103.3/51.6) [146/48 (107.7/35.4)]	
	Collet Size		mm(in) - ER40-Ø26 (1)	
	Type		- BMT75	
TAIL STOCK	Taper		- MT#6 : Live-center [MT#5 : Built-In]	
	Quill Dia.		mm(in) Ø120 (Ø4.7")	
	Quill Travel		mm(in) 120 (4.7")	
	Travel		mm(in) 2,095 (82.5")	
TANK CAPACITY	Coolant Tank		ℓ (gal) 420 ℓ (111)	
	Lubricating Tank		ℓ (gal) 4 ℓ (1.1)	
POWER SUPPLY	Electric Power Supply		kVA 32kVA	
	Thickness of Power Cable		mm ² Over 25	
	Voltage		V/Hz 220/60 (200/50*)	
MACHINE	Floor Space (L×W)		mm(in) 6,043×2,270 (237.9"×89.4")	
	Height		mm(in) 2,173 (85.6")	
	Weight		10,900 (24,030)	11,000 (24,251)
CNC	Controller		- FANUC i Series - Smart Plus	

CONTROLLER

FANUC i Series – Smart Plus

[] : Option

Controlled axis / Display / Accuracy Compensation	
Control axis	2 axis (X, Z) / 3 axis (X, Z, C) / 4 axis (X, Z, Y, C) 5 axis (X, Z, B, C, A) / 6 axis (X, Z, Y, B, C, A) 7 axis (X1/Z1, X2/Z2, B2, C1/C2)
Simultaneously controlled axis	2 axis [Max. 4 axis]
Designation of spindle axis	3 axis [Max. 4 axis]
Least setting Unit	X, Z, Y, B axis : 0.001 mm (0.0001 inch) C, A axis : 0.001 deg
Least input increment	X, Z, Y, B axis : 0.001 mm (0.0001 inch) C, A axis : 0.001 deg
Inch / Metric conversion	G20 / G21
High response vector control	
Interlock	All axis / Each axis
Machine lock	All axis
Backlash compensation	± 0~9999 pulses (exc. Rapid traverse / Cutting feed)
Position switch	
LCD / MDI	15 inch LCD unit (with Touch Panel)
Feedback	Absolute motor feedback
Stored stroke check 1	Over travel
Stored stroke check 2, 3	
PMC axis control	
Operation	
Automatic operation (Memory)	
MDI operation	
DNC operation	Needed DNC software / CF card
Program restart	
Wrong operation prevention	
Program check function	Dry run
Single block	
Search function	Program Number / Sequence Number
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Circular interpolation	G02, G03
Exact stop mode	Single : G09, Continuous : G61
Dwell	G04, 0 ~ 9999.9999 sec
Skip	G31
Reference position return	1st reference : G28, 2nd reference : G30 Ref. position check : G27
Thread synchronous cutting	G33
Thread cutting retract	
Variable lead thread cutting	
Multi / Continuous threading	
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse Jog : 0~2,000 mm/min (79 ipm) Manual handle : x1, x10, x100 pulses Reference position return
Cutting Feed command	Direct input F code
Feedrate override	0 ~ 200% (10% Unit)
Rapid traverse override	1%, F25%, 50%, 100%
Override cancel	
Feed per minute	G98
Feed per revolution	G99
Look-ahead block	1 block
Program input	
Tape Code	EIA / ISO
Optional block skip	9 ea
Program stop / end	M00, M01 / M02, M30
Maximum command unit	± 999,999.999 mm (± 99,999.9999 inch)
Plane selection	X-Y : G17 / Z-X : G18 / Y-Z : G19
Workpiece coordinate system	G52, G53, 6 pairs (G54 ~ G59)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100 ~ #199, #500 ~ #999
G code system	A, B/C
Programmable mirror image	G51.1, G50.1
G code preventing buffering	G4.1
Direct drawing dimension program	Including Chamfering / Corner R
Conversational Program	Smart Guide-i

Program input	
Multiple repetitive cycles	I, II
Canned cycle for turning	
Auxiliary function / Spindle speed function	
Auxiliary function	M & 4 digit
Level-up M Code	High speed / Multi / Bypass M code
Spindle speed function	S & 5 digit, Binary output
Spindle override	0% ~ 150% (10% Unit)
Multi position spindle orientation	M19 (S##)
Rigid tapping	
Constant surface speed control	G96, G97
Tool function / Tool compensation	
Tool function	T & 2 digit + Offset 2 digit
Tool life management	
Tool offset pairs	128 pairs
Tool nose radius compensation	G40, G41, G42
Geometry / Wear compensation	
Direct input of offset measured B	
Editing function	
Part program storage size	5,120m (2MB)
No. of registerable programs	1,000 ea
Program protect	
Background editing	
Extended part program editing	Copy, move and change of NC program
Memory card program edit	
Data input / output & Interface	
I/O interface	CF card, USB memory Embedded Ethernet interface
Screen hard copy	
External message	
External key input	
External workpiece number search	
Automatic data backup	
Setting, display and diagnosis	
Self-diagnosis function	
History display & Operation	Alarm & Operator message & Operation
Run hour / Parts count display	
Maintenance information	
Actual cutting feedrate display	
Display of spindle speed / T code	
Graphic display	
Operating monitor screen	Spindle / Servo load etc.
Power consumption monitoring	Spindle & Servo
Spindle / Servo setting screen	
Multi language display	Support 24 languages
Display language switching	Selection of 5 optional Languages
LCD Screen Saver	Screen saver
Unexpected disturbance torque	BST (Back spin torque limit)
Function for machine type	
Cs contour control (C & A axis)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Polar coordinate interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Cylindrical interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Polygon turning (2 Spindles)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Canned cycle for drilling	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Spindle orientation expansion	MS, SY, TTS, TTMS, TTSY
Spindle synchronous control	MS, SY, TTS, TTMS, TTSY
Torque control	MS, SY, TTS, TTMS, TTSY
Y axis offset	Y, SY, TTSY
Arbitrary angular control	Y, SY, TTSY
Composite / Superimposed control	MS, SY, TTS, TTMS, TTSY
Balance cutting	TTS, TTMS, TTSY
Option	
Fast ethernet	Needed option board
Data server	Needed option board
Protection of data at 8 levels	
Tool offset pairs	200 pairs
Helical interpolation	
Optional block skip	40 ea, 200 ea (AICC II)

Figures in inch are converted from metric values.

The FANUC controller specifications are subject to change based on the policy of company CNC supplying.