

CNC Turning Centre Lathe with Industrial control, Electrical Control Box, Central Automatic Lubrication System, LM Guides for X & Z Axes, 8 Station Programmable Turret, Flood Coolant System, hydraulic Chuck, hydraulic tailstock

- The turning center is a 2 axis production machine with 8 station programmable turret.
- The machine is built on casted base and bed and offered with industrial CNC control tank
- It is offered with industrial CNC control system, Siemens/ Fanuc
- Other features include dynamically calibrated cartridge spindle, hydraulic Chuck and manual tailstock, removable chip tray.
- It comes automatic lubrication system and adjustable flood coolant system
- Option: Automatic door, safety interlock, chip conveyer



Objective

Understand the concept, components of advanced industrial machine and learn about the advanced Fanuc/Siemens/Syntec controller handling & programming skills for a turning machine to produce different kinds of components with optimized cycles and execute different kinds of practical applications simulated as exercises.

Learning Objectives:

Having successfully completed this lab, the student will demonstrate knowledge in –

- Learn about techniques to optimize the cutting parameters
- Advanced programming techniques matching industrial standards.
- Advanced machining cycles & control techniques.
- Knowledge on centralized Lubrication and re-circulating coolant system
- Learn about Intricate Tool changers system.
- Maintenance of CNC machineries and Trouble shooting

SPECIFICATIONS

Axes		
X- axis travel	mm	130
Z - axis Travel	mm	400
Programmable feed rate	mm/min	0-10000
Rapid feed rate	mm/min	30000
Axis motor X / Z Type		AC SERVO MOTOR
Slides		Linear Motion Guide ways
CAPACITY		
Chuck size (Manual/ Hydraulic)	mm	200
Chuck Type		Hydraulic
Maximum turning Diameter	mm	225
Maximum turning Length	mm	350
Bed	type	45 deg Slant bed
No. of axes	no	2
Swing over cross slide	mm	160
Swing over bed	mm	528
Distance between centers	mm	410
ACCURACY		
Positioning Accuracy	mm	0.01
Repeatability	mm	±0.005
SPINDLE		
Spindle nose taper		A2-5
Bore through spindle	mm	52

Note: Specifications are subject to change.

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Bar stock Dia for Manual chuck	mm	48
Bar stock Dia for Pnu / Hyd chuck	mm	46
Spindle run out	mm	0.005
Programmable spindle speed	rpm	150 – 4000
Spindle motor: Continuous (15 min rated)	kW	"Fanuc: 5.5 (7.5); Siemens: 5.5 (7.5)"
CNC detail		
Control system		"SIEMENS 828D; FANUC 0i TF"
Turret		
Tool cross section		25 x 25
No. of Station	no	8 (BTP 80)
Indexing Time Adjacent Tool & 180 Deg	Sec	0.45 / 1.6
Boring bar size(capacity)	mm	40
Tailstock		
Tailstock base travel	mm	190
Tail stroke Quill Stroke	mm	100
Quill Diameter	mm	80
Tail stroke Taper		MT-4
Coolant / Lubrication		
Capacity	L	100/ 25 LPM
Coolant motor	kW	0.37
Lubrication	-	Automatic
Hydraulic Power Pack		
Hydraulic power pack	L	30 Lts
System pressure	kg/ cm3	30 kg / cm2
Power source		
Power Required	KVA	16
Main supply ($\pm 10\%$)		415V, 3 Ph., 50/60 Hz
Stabilizer		3 phase servo type
Machine dimensions		
L x W x H	mm	2200 x 1860 x 1900
Weight (approx)	Kgs	2650
Features		
Compatibility / Upgradable		FMS / CIM system
Standard Accessories		
User Manual CD	No.	1
Allen Key (full Set)	Set	1
Double Ended Spanner	Set	1
Screwdriver (Full Set)	Set	1
Oilcan	Nos.	1
Brush 63mm	Nos.	1
Billets MS	Nos.	3
Control box Key	Nos.	1
MOP Key	Nos.	1
Foot Switch (for Hydraulic Chuck & Tail Stock) included when hydraulic accessories ordered	Nos.	2
Ethernet Cable	Nos.	1
Chuck Key	Nos.	1
Vibration Pad with bolt	Nos.	5
Eye Bolt M24	Nos.	4
Leveling Plate with Bolt	Nos.	1
Soft Jaw	Set	1
Hardened Jaw	Set	1

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Releaser Nut with spanner	Nos.	1
Revolving Center MT4 (bullet type)	Nos.	1
Boring Bar Sleeve with Grub Screw Dia 6.8,8,10,12,16,20mm	set	1
Axial Tool Mount	Nos.	2
Radial Tool Mount	Nos.	4
Flash Card 2GB	Nos.	1
Adapter (For Fanuc only)	Nos.	1
Card Reader with Cable	Nos.	1
Touchup Paint (Small can)	Nos.	1
Air Gun with 8mm Spiral hose and Connector	Set	1

NOTE: Oil and coolant to be purchased locally by the user, as international shipment is being restricted by customs rules

Tooling Package

Turning & Facing Tool holder with Insert {Shank size 25 x 25 mm}	Set	1
Copy Turning LH, N, RH Tool Holder with Insert {Shank size 25 x 25 mm}	Set	1
External Threading Tool Holder with Insert {Shank size 25 x 25 mm}	Set	1
External Grooving Tool Holder with Insert (Parting up to dia38mm) {Shank size 25 x 25 mm}, 3 mm	Set	1
Boring bar tool holder with inserts (12 mm, 16 mm)	Set	2
Internal threading Tool holder with inserts (Shank dia 16 mm)	Set	1
Spirex Tap(ISO) M8	Set	
Centre drill (shank dia 8 mm, Tip dia 2 mm)	Set	1
Twist Drill (6,8,110,12,16 mm)	Set	1

Optional Accessories

A) Automatic Door	no.	1
Stabilizer 15 KVA	Nos.	1

OPTIONAL: SET OF STANDARD OPERATION AND MAINTENANCE SPARES FOR ONE YEAR

Spindle Belt	No.	1
Encoder Belt	No.	1
Flexible Coolant Hose	No.	1
Soft Jaw	Set	1
Tailstock O-Ring Kit	Set	1
0.18 SQMM 6 PAIR TWISTED PAIR CABLE (10 CORE)SHIELDED OUTSIDE DIA OF THE CABLE : 6 MM	Mts.	1
ASF4(L) 2A,24VDC	No.	1
ACMCB, 3POLE ,415VAC, 32 A PTR A 10 3P B32	No.	1
MPCB 0.63-1 A WITH 1NO AND 1 NC GV2 -ME05	Nos.	2
MPCB 1.6-2.5 A WITH 1NO AND 1 NC GV2 -ME05	No.	1
CONTACTOR +24 VDC , COIL VG, WITH COIL SUPPRESSOR, 6A LP1KO6 10BD	Nos.	3
DCMCB , 1 POLE, 1A PTR A031DC01	No.	1
ACMCB , 1 POLE, 3A PTR A101PC03	Nos.	2
DCMCB , 1POLE, 4A PTR A031DC04	No.	1
DCMCB , 1POLE, 2A PTR A031DC02	Nos.	2
AC MCB ,2 POLE,4 A PTR A101PC04	No.	1
DC MCB , 1 POLE 6A PTR A031DC06	No.	1
AC MCB ,3POLE,2 A PTR A103PC02	No.	1
24V DC POWER SUPPLY INPUT : 85-285 V OUTPUT: 12VDC, 5 A DIN RAIL MOUNTING TYPE	No.	1
Relay board 8 relay 1 CHANGE OVER RB81-TT-G2R1DC24	No.	1
INTERFACE MODULE 50PIN FR-50	No.	1

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50 CORE RIBBON CABLE FOR THE INTERFACE MODULE	Mts.	2
50 PIN FRC FEMALE CONNECTOR	No.	1
Mushroom head pushbutton latch type for Emergency with 1NO+1NC	No.	1
Work light with inbuilt choke smc fluorescent 11w/24vdc LAMPS:1x11 W PL-L	No.	1
ILLUMINATED PUSH BUTTON 18X18 FLUSH TYPE, SQUARE 24VDC OPERATED GREEN with 1 NO D16LMS1abHG	No.	1
ILLUMINATED PUSH BUTTON 18X18 FLUSH TYPE,	No.	1
REQUIRED EQUIPMENT AT SITE AND UTILITIES TO BE PROVIDED BY THE BUYER DURING COMMISSIONING, DEMONSTRATION & TRAINING		
For 54011 CNC MACHINE :		
Servo Stabilizer 16 KVA,3 Phase – 1 no.		

Training Skills -

- Convenient operation and Learn about advanced programming
- Identification of the Components of the CNC System
- User friendly and graphically assisted different canned cycles
- Discussion on Programming Elements
- Discussion on Industry Standard ISO G and M Codes
- Discussion on Various Tools to be used in a CNC Turning Operation
- Study on Process Planning
- Discussion on Program Zero and Offset definition
- Preparation of CNC Programs using CNC Turning Machines
- Discussion on Various Machining Cycles used in CNC Turning Programming
- General Maintenance

Note: As part of continuous improvement, Tesca reserves the right to alter machine design and specification without prior notice.

Ordering Details		
SN	Order Code	Details
1.	54011	Included in the package: Control Option: Siemens 828D or Fanuc Oi TF or Equivalent. Included in the package: BTP80 8-station tool turret 200 mm dia Hydraulic Chuck with Hydraulic Power Pack Hydraulic Tailstock Foot Switches Panel Cooler for the Controller Set of Operation and Maintenance Manuals Mobile Chip Tray Coolant Tank and Motor
2.	54011A	Export Packing
3.	54011B	Tooling Package
4.	54011C	OPTION Automatic Door

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