

# Tool Room Training Centre

SL NO.	NAME OF THE MACHINE	SUPPLIER	SECTION	QUANTITY
1	Lathe machine	PRACTION (BANKA 40)	Conventional	2
2	Lathe machine	PRACTION (PIONEER)	Conventional	2
3	Vertical knee & column type milling machine	BFW	Conventional	2
4	Horizontal knee & column type milling machine	BFW	Conventional	1
5	Surface grinding machine	HMT	Conventional	1
6	Tool & cutter grinding machine	HMT	Conventional	1
7	Hydraulic power hacksaw	PRACTION	Conventional	1
8	Radial drilling machine	PRACTION	Conventional	1
9	Bench drilling machine	PRACTION	Conventional	3
10	Pedestal drilling machine	PRACTION	Conventional	2
11	CNC Milling	BFW	CNC	1
12	CNC Turning	ACE MICROMATIC	CNC	1
13	Fanuc Robot	FANUC	CNC	1
14	Flexible Manufacturing System	MTAB	FMS	1
15	EDM	ELECTRONICA	EDM	1
16	Wire EDM	ELECTRONICA	EDM	1
17	Coordinate Measuring Machine(CMM)	XIAN HIGH TECH	Metrology	1
18	Tool makers microscope	BS PYROMATIC	Metrology	1
19	Floating carriage thread diameter Micrometer	BS PYROMATIC	Metrology	1
20	Gear testing machine	BS PYROMATIC	Metrology	1
21	Profile Projector	BS PYROMATIC	Metrology	1
22	ProE/ CREO	Modular Infotech	CAD/CAM/CAE	50
23	CATIA	CSM Software	CAD/CAM/CAE	10
24	AutoCAD	Ashish Computers	CAD	40

## CNC MILLING

SL NO.	DESCRIPTION	SPECIFICATION
1	Clamping area	350 x 600 mm
2	No./width/CD of T- slot	3/ 14/ 25
3	Maximum safe load on table	350 Kg
4	Distance from table to spindle face	150- 500 mm
5	Distance from spindle centre to column face	150- 500 mm
6	Distance from floor to table top	1000 mm
	<u>TRAVERSE</u>	
7	X- axis	450 mm
8	Y- axis	350 mm
9	Z- axis	350 mm
	<u>AXIS DRIVE</u>	
10	Feed rates	1-1000 m/min
11	Rapid feed rate X/Y/Z axis	36/36/36 m/min
	<u>SPINDLE</u>	
12	Power (Cont./ 30 min. Rating)	3.7/5.5 Kw 5.5/7.5 Kw
13	Spindle	8000 rpm 1000 rpm
14	Taper	BT 40
	<u>AUTO TOOL CHANGER</u>	
15	No. of tools	20
16	Maximum tool diameter with adj. pocket empty	80/125
17	Maximum tool length	200 mm
18	Maximum tool weight	8 Kg
19	Tool change time (tool to tool)	2.2 sec
	<u>ACCURACY</u>	
20	Positioning	+/- 0.005 mm
21	Repeatability	+/- 0.003 mm
	<u>INSTALLATION DATA</u>	
22	Machine weight (Approx.)	<u>3500 kg Approx</u>
23	Total connected load	<u>20 KVA</u>
24	Pneumatic supply	<u>6 Bar</u>
25	Power supply	<u>415V, 50 Hz, 3 phase</u>
26	CNC system	<u>Fanuc oiMC</u>

## ● CNC TURNING

	DESCRIPTION	SPECIFICATION
C A P A C I T Y	Swing over bed	Dia 450 mm
	Swing over carriage	Dia 225 mm
	Distance between centers	300 mm
	Maximum machining diameter	270 mm
	Maximum longitudinal travel (Z- axis)	300 mm
	Maximum transverse travel (X- axis)	140 mm
	Maximum power requirement	16 KVA
	Approx. weight	4000 Kg
	Spindle centre height from floor	1050 mm
S P I N D L E	Spindle nose	A2-5
	Bore through spindle	Dia 47 mm
	Maximum bar capacity	Dia 36 mm
	Front bearing I.D	Dia 80 mm
	Spindle speed	50-4000 rpm
	Spindle motor (A.C Motor) con./15 min	Fanuc Beeta 6/6000i,5.5 Kw/ 7.5 kW
T A I L S T O C K	Tailstock quill diameter	80 mm
	Tailstock taper in quill	MT - 4
	Tailstock quill stroke	100 mm
	Tailstock base travel	135 mm
	Thrust (Maximum recommended)	500 Kg @ 20 kg/cm <sup>2</sup>
X & Z A X I S	Cross slide inclination	30 degree
	Number of turret stations	8
	Standard cutting tools	25 X 25 mm
	Ball screw diameter X-axis	<u>Dia 32 mm, Pitch = 10 mm</u>
	Ball screw diameter Z-axis	+/- 0.005 mm
	Feed motor X-axis & Z-axis	+/- 0.003 mm
	X-axis & Z-axis Rapid rate	20 m/min

## ⦿ FMS (FLEXIBLE MANUFACTURING SYSTEM)

- ⦿ Aristo Robot
- ⦿ XL Mill
- ⦿ XL Turn

### Aristo Robot

DESCRIPTION			SPECIFICATION
Number of Axis			80 mm
Vertical height			MT - 4
Joint actuators			100 mm
Transmission			135 mm
Joints			500 Kg @ 20 kg/cm <sup>2</sup>
Gripper			
Gripper actuator			
M O T O R	Waist	J1	340 degree
	Shoulder	J2	45 degree
	Elbow	J3	45 degree
	Wrist	J4	340 degree
	Pitch	J5	180 degree
	Roll	J6	340 degree
Control software			Specially developed Robot programming language
Path type			<u>Point to point, Continuous path, Linear &amp; Circular</u>
Communication			PC Parallel port
Power supply			230V AC, 50/60 Hz & 5A
Pay load			3 Kg
Repeatability			+/- 0.3 mm
Horizontal reach			654 mm
Tip speed			0.2 m/sec
Position feedback			Optical encoder(HP 2 Phase 500 PPR)
Operating temperature			18 to 40 degree C
Mounting method			Floor
Controller			PC based parallel port
Applications			Pick & place application kit, stacking
Weight	Body		35 Kg
	Control box		35 Kg

## XL Mill

DESCRIPTION	SPECIFICATION
Table size	360 X 130
Clamping area	360 X 130
Longitudinal travel in X axis	190 mm
Cross travel in Y axis	110 mm
Head travel in Z axis	115 mm
Spindle taper	ISO 130
System resolution	0.01 mm
Spindle speed programmable	0-4000 RPM
Programmable feed rate	0-1000 mm/min
Power supply	220V/ 50 cycles 1 HP
Spindle motor	PMDC 0.5 HP
Axis motor	Stepper 200 stops/rev
Machine Weight	170 Kg

## XL Turn

DESCRIPTION	SPECIFICATION
Chuck size	360 X 130
Between centres	210 mm, +/- 10 mm
Z axis travel	170 mm
Spindle speed	40-3000 RPM
Feed	0-1000 mm/min
Spindle nose/ taper/travel	A2-/ MT2/ 30 mm
Spindle nose/ taper/ travel	MT2/ 30 mm
Z axis ball screw	Dia 16 X 5 mm lead
X axis ball screw	Dia 12 X 2 mm lead
Coolant tank capacity	4 Ltr.
Type	2 axis continuous path control Fanuc emulation type

## WIRE EDM

DESCRIPTION	SPECIFICATION
X Axis	250 mm
Y Axis	350 mm
Z Axis	210 mm
U Axis	30 mm
V Axis	30 mm
Maximum job holding capacity	200mm
Maximum cutting speed	1.2 mm/minute
Maximum weight holding on the machine	300 Kg
Wire type	Brass wire with zinc coated (0.25mm)
Number of axis in machine	5 axis
Manufacturer	Electronica m/s tools ltd
Software used	Elcam

## ◉ EDM

DESCRIPTION	SPECIFICATION
X Axis	350 mm
Y Axis	250 mm
Z Axis	250 mm
Tank capacity	320 Ltr
Dielectric fluid	EDM oil
Maximum job holding capacity	200mm
Amper	50 Amp
Maximum weight holding on the machine	200 Kg
Wire type	Brass wire with zinc coated (0.25mm)
Number of axis in machine	3 axis
Tool material	Copper, graphite
Manufacturer	Electronica m/s tools ltd
Software used	Ez guru



## ● PROFILE PROJECTOR

MODEL NAME- CPJ-3105 MEASURING PROFILE PROJECTOR (UNIT: mm)		
SL NO.	DESCRIPTION	SPECIFICATION
1	Travel In X And Y Axis	150x50
2	Metallic Stage Dimension	340*142
3	Glass Test Dimension	196x196
4	Resolution Of X And Y Axis	0.001
5	Travel Of Z Axis	90
6	Screen	300
7	Rotary Range Of Screen	0-360
8	Rotary Indicator Scale	1'/0.01
9	Objective Magnification	5x, 10x, 50x
10	Objective View	Dia 6
11	Objective Work Distance	38.4
12	Digital Readout	Dc 3000
13	Instrument illumination	Surface & Contact :24V, 150W-Halogen Lamp
14	Power	110v/220v, 50/60 Hz
15	Accuracy	4+L/50 (Um)
16	Dimension (DxWxH)	780x780x1100
17	INSTRUMENT NET WEIGHT	135 Kg
18	INSTRUMENT GROSS WEIGHT	170 Kg

## ❶ CO-ORDINATE MEASURING MACHINE (CMM)

MODEL NAME- MQ8136S MANUAL MACHINE (UNIT: mm)		
	DESCRIPTION	SPECIFICATION
1	Measuring Size	500x600x400 (XxYxZ)
2	Form Size	1046x958x2235 (LxWxH)
3	Machine Weight	550 Kg
4	Max Weight To Be Measured	150 Kg
5	Max Size To Be Measured	900x642x408 (XxYxZ)
6	Power Supply/Power	220 V +/- 5%, 50 Hz/ 400 W
7	Air Pressure Of The Compressor (Min.)	0.55 MPa
8	Consume Air Flux	200L/min
9	Work Air Pressure	0.45 MPa