

A55 PLUS SPECIFICATIONS

GENERAL SPECIFICATIONS:

Pallet Size (Metric Type)	400mm x 400mm	16" x 16"
Axis Travel X, Column Longitudinal	560 mm	22"
Axis Travel Y, Spindle Vertical	560 mm	22"
Axis Travel Z, Table Cross	560 mm	22"
Spindle Center to Top of Pallet	80-640 mm	3.1" - 25.2"
Spindle Nose to Center of Pallet	150-710 mm	5.9" - 27.9"
Spindle Drive Motor (Duty Rated)	22 kW AC	30 HP AC
	(Continuous) 18.5 kW AC	25 HP AC
Spindle Speed	50 to 12,000 RPM	
Floor Space	3690 mm x 2630 mm	145.3" x 103.5"
Weight with ATC40	9260 kg	20,400 lbs.
Workzone Limitations	600 mm Dia.x 700 mm Ht 23.6" x 27.55"	

BED:

Construction	One Piece Meehanite Casting	
Number of Guides (X-axis)	2	
(Z-axis)	2	
Size of Guides (X-axis)	53 mm	2.09"
(Z-axis)	53 mm	2.09"
Distance Between Guides (X-axis)	510 mm (*)	20.08" (*)
(Z-axis)	420 mm (*)	16.54" (*)
Width of Linear Guide Truck (X-axis)	140 mm	5.51"
(Z-axis)	140 mm	5.51"
Length of Linear Guide Truck (X-axis)	155 mm	6.10"
(Z-axis)	201 mm	7.91"
(*) Center-to-Center dimension		

TABLE (Z-AXIS):

Thrust Capacity (cont)	1204 kg	2655 lbs
Rapid Traverse	30,000 mm/min	1180 ipm
Feedrate	30,000 mm/min	1180 ipm
Type of Drive	AC Digital Servo Motor	
Ball Screw Diameter	45 mm	1.77"
Axis Motor	3.5 kW	5 HP

SPINDLE HEAD (Y-AXIS):

Thrust Capacity (cont)	1204 kg	2655 lbs
Rapid Traverse	30,000 mm/min	1180 ipm
Feedrate	30,000 mm/min	1180 ipm
Type of Drive	AC Digital Servo Motor	
Ball Screw	45 mm	1.77"
Axis Motor	3.5 kW	5 HP

TRAVELING COLUMN (X-AXIS):

Construction	One Piece Meehanite Casting	
Number of Guides (Y-axis)	2	
Size of Guides (Y-axis)	53 mm	2.09"
Distance Across Guides (Y-axis)	500 mm (*)	19.70" (*)
Length of Linear Guide Truck (Y-axis)	155 mm	6.1"
Width of Linear Guide Truck (Y-axis)	100 mm	3.94"
Thrust Capacity (cont)	1204 kg	2655 lbs.
Rapid Traverse	30,000 mm/min	1180 ipm
Feedrate	30,000 mm/min	1180 ipm
Type of Drive	AC Digital Servo Motor	
Ball Screw Diameter	45 mm	1.77"
Axis Motor	3.5 kW	5 HP

(*) Center-to-Center Dimension

ACCURACIES (with proper environment control):

Positioning (Full Travel)

X-Y-Z: Standard $\pm .003$ mm $\pm .000120$ "

With Moire Scales $\pm .002$ mm $\pm .000080$ "

Repeatability

X-Y-Z: Standard $\pm .0015$ mm $\pm .000060$ "

With Moire Scales $\pm .001$ mm $\pm .000040$ "

INDEX PALLET/TABLE:

Workpiece Positioning on Pallet 24-M16 Tapped holes and
(2) precision edge locators

Center Hole 50 mm 1.97"

Pallet/Table Index Range 360 degrees, bi-directional

Programming Increment One degree

Positioning Method Curvic Coupling

Pallet Change Time 6 seconds

Pallet Index Time 90°/180° Index Table 2.6/3.4 sec

Rotary Table 2.8/3.6 sec

Pallet Load Capacity 400 kg 880 lbs.

Pallet Indexing Accuracy:

1° Index Table ± 2.0 seconds of arc

NC Rotary Table ± 4.0 seconds of arc

Pallet Indexing Repeatability:

1° Index Table ± 1.0 seconds of arc

NC Rotary Table ± 2.0 seconds of arc

Pallet Positioning Repeatability $\pm .005$ mm $\pm .0002$ "

Distance Floor to Pallet Top 1100 mm 43.30"

Pallet Clamp Force 45.1kN 10,140 lbs.

SPINDLE:

Spindle Nose	No. 40 Taper	
Tooling	CAT V-flange	
Tool Clamp (mechanical)	9.8 kN	2200 lbs
Spindle Speed Range	One Range (integral spindle)	
Option	Two Range (high torque spindle)	
Spindle Start-up Time	0.5 sec. (0 to 6000 rpm)	
	1.6 sec. (0 to 12,000 rpm)	
Spindle Orientation	Electric Servo Control	
Obtain Full HP: Standard Range	5000 rpm	
High Torque Option	1060 rpm	
Spindle Bearing Design:	Front	2-Angular Contact Ball Bearings
	Rear	1 Roller Bearing
Bearing: Inner Diameter	85 mm	3.35"
	Outer Diameter	130 mm 5.12"
Spindle Temperature Control	Oilmatic (Temperature control of motor windings, inner spindle area, and bearings)	
Diameter of Spindle	195 mm	7.68"
Diameter of Spindle Snout	81 mm	3.19"

ATC:

Capacity: Standard	40 Tools	
Optional	60, 128, 208 Tools	
Tool Change Time	0.9 sec	
Chip-to-Chip Time	3.4 seconds	
Max. Tool Size (Diameter)	ATC 40, 60 [128, 208]	
All pockets full	70 mm [80 mm]	2.76" [3.15"]
Adjacent pockets empty	140 mm	5.51"
Max Tool Length	300 mm	11.81"
Max. Tool Weight	8 kg	17.6 lbs.
Tool Selection	Random	
Max. Tool Moment	110 kgf.cm	96.14" lbs.

COOLANT SYSTEM:

Distribution	External	
Type	Flood	
No. of Nozzles	8	
Operating Pressure	5 kg/cm ²	70 psi
Reservoir Capacity	450 l	118 gal.
Flow Rate	30 l/min	8 gal./min
Thru-Spindle Coolant Pressure	15 kg/cm ²	210 psi

UTILITIES:

Air Supply: Pressure	5 kg/cm ²	70 psi
Volume	600 l/min	21.2 cfm
Electrical Specification: Volts 230 or 460, specify		
Phase	3	
Cycle	60	
KVA	64	

CAPACITY:

Hydraulic Tank 100 l 26 gal.

Slide Way Lube Tank .83 l .22 gal.

Oilmatic 20 l 5.3 gal.

HOME POSITIONS:

X-Axis Center of Stroke

Y/Z-Axis Stroke (+) End

B-Axis Edge Locator Parallel to X

METAL REMOVAL RATES:

AL 3000 cc/min 183 cu in/min

S55C 600 cc/min 36 cu in/min

ALARM FOR LOW LUBE:

- Air pressure check

- Lube level in tank check

COOLANT FLOW:

	kg/cm ²	PSI	l/min	gal/min
8 Nozzles	4.5	64	30	8
Base Coolant	4.5	64	30	8
Overhead Shower Coolant	4.5	64	30	8
Work Washer Gun	2.5	35	20	5