



## Tuson Manufacturing Company Key Factory Equipment Listing

Revision 2022-06-18

<u>List Machine Sequence</u>	<u>Machine Category</u>	<u>Picture Within Website Photo Gallery?</u>	<u>Machine Description</u>	<u>Manufacturer</u>	<u>Country</u>	<u>Model</u>	<u>Number of Machines</u>	<u>Processing Size Capabilities in mm (inches)</u>	<u>Precision in mm (inches)</u>	<u>Other Characteristics</u>
1	Turning Equipment	Yes	Linear Swiss Turn Automatic Lathe	DMG Mori	Japan	Sprint 20-8	1	Diameter = 25.4 (1.0) Length = 299.7 (11.8)	X-Axis Positioning Accuracy: 0.0025 (0.0001) Z-Axis Positioning Accuracy: 0.0025 (0.0001) Inner and Outer Diameter: 0.0025 (0.0001) Length: 0.013 (0.0005) Roundness: 0.0025 (0.0001)	Two spindle machine
2	Turning Equipment	No	MCSY CNC Turn/Mill Machine	Mori-Seiki	Japan	NL-2500	2	Diameter = 355.6 (14.0) Length = 703.6 (27.7)	X-Axis Positioning Accuracy: 0.0025 (0.0001) Z-Axis Positioning Accuracy: 0.0025 (0.0001) Inner and Outer Diameter: 0.0025 (0.0001) Length: 0.013 (0.0005) Roundness: 0.0025 (0.0001)	Includes sub-spindle and live tooling
3	Turning Equipment	Yes	CNC Lathe	Mori-Seiki	Japan	CL-253	5	Diameter = 410.4 (17.1) Length = 480.1 (18.9)	X-Axis Positioning Accuracy: 0.0025 (0.0001) Z-Axis Positioning Accuracy: 0.0025 (0.0001) Inner and Outer Diameter: 0.0025 (0.0001) Length: 0.013 (0.0005) Roundness: 0.0025 (0.0001)	
4	Turning Equipment	Yes	CNC Lathe	Okuma	Japan	LU-400	1	Diameter = 419.1 (16.5) Length = 998.2 (39.3)	X-Axis Positioning Accuracy: 0.0025 (0.0001) Z-Axis Positioning Accuracy: 0.0025 (0.0001) Inner and Outer Diameter: 0.0025 (0.0001) Length: 0.013 (0.0005) Roundness: 0.0025 (0.0001)	Horizontal two-axis machine; Includes SMW Auto-Blok automatic indexing chuck
5	Turning Equipment	Yes	CNC Turn / Mill Machine	Okuma	Japan	LB-15II BB M/500	1	Diameter = 368.3 (14.5) Length = 497.8 (19.6)	X-Axis Positioning Accuracy: 0.0025 (0.0001) Z-Axis Positioning Accuracy: 0.0025 (0.0001) Inner and Outer Diameter: 0.0025 (0.0001) Length: 0.013 (0.0005) Roundness: 0.0025 (0.0001)	Includes live tooling
6	Horizontal Machining Equipment	No	CNC Horizontal Machining Center	Mori-Seiki	Japan	NH-4000	5	X-Axis Travel = 558.8 (22.0) Y-Axis Travel = 558.8 (22.0) Z-Axis Travel = 629.9 (24.8)	X-Axis Positioning Accuracy: 0.005 (0.0002) Y-Axis Positioning Accuracy: 0.005 (0.0002) Z-Axis Positioning Accuracy: 0.005 (0.0002) Length: N/A Roundness: N/A	Maximum table weight 400 kg (880 lbs.)
7	Horizontal Machining Equipment	Yes	CNC Horizontal Machining Center	Mori-Seiki	Japan	NH-5000	7	X-Axis Travel = 596.9 (23.5) Y-Axis Travel = 627.4 (24.7) Z-Axis Travel = 668.0 (26.3)	X-Axis Positioning Accuracy: 0.005 (0.0002) Y-Axis Positioning Accuracy: 0.005 (0.0002) Z-Axis Positioning Accuracy: 0.005 (0.0002) Length: N/A Roundness: N/A	Maximum table weight 500 kg (1,100 lbs.)
8	Horizontal Machining Equipment	No	CNC Horizontal Machining Center	Mori-Seiki	Japan	NH-5000	1	X-Axis Travel = 596.9 (23.5) Y-Axis Travel = 627.4 (24.7) Z-Axis Travel = 668.0 (26.3)	X-Axis Positioning Accuracy: 0.005 (0.0002) Y-Axis Positioning Accuracy: 0.005 (0.0002) Z-Axis Positioning Accuracy: 0.005 (0.0002) Length: N/A Roundness: N/A	Maximum table weight 500 kg (1,100 lbs.); 40 taper machine with 120 tool magazine
9	Vertical Machining Equipment	Yes	Vertical Machining Center	Mitsubishi	Japan	DV-1000	4	X-Axis Travel = 609.6 (24) Y-Axis Travel = 1,016 (40)	X-Axis Positioning Accuracy: 0.005 (0.0002) Y-Axis Positioning Accuracy: 0.005 (0.0002) Z-Axis Positioning Accuracy: 0.005 (0.0002) Length: N/A Roundness: N/A	Includes Midaco Auto Pallet System; Maximum pallet weight 455 kg (1,000 lbs.)

10	Vertical Machining Equipment	No	Verticle Machining Center	Milltronics	USA	RW-20	1	X-Axis Travel = 508 (20) Y-Axis Travel = 863.6 (34)	X-Axis Positioning Accuracy: 0.013 (0.0005) Y-Axis Positioning Accuracy: 0.013 (0.0005) Z-Axis Positioning Accuracy: 0.013 (0.0005) Length: N/A Roundness: N/A	
11	Vertical Machining Equipment	No	Vertical Machining Center	Mori-Seiki	Japan	GV-503	1	X-Axis Travel = 749.3 (29.5) Y-Axis Travel = 551.2 (21.7)	X-Axis Positioning Accuracy: 0.005 (0.0002) Y-Axis Positioning Accuracy: 0.005 (0.0002) Z-Axis Positioning Accuracy: 0.005 (0.0002) Length: N/A Roundness: N/A	Includes Two Station Automatic Pallet Changer; Maximum pallet weight 300 kg (660 lbs.)
12	Vertical Machining Equipment	Yes	CNC Vertical Machining Center	Mori-Seiki	Japan	MV-40B	2	X-Axis Travel = 408.9 (16.1) Y-Axis Travel = 800.1 (31.5)	X-Axis Positioning Accuracy: 0.005 (0.0002) Y-Axis Positioning Accuracy: 0.005 (0.0002) Z-Axis Positioning Accuracy: 0.005 (0.0002) Length: N/A Roundness: N/A	Has interpolation and rigid tapping; Maximum table weight 700 kg (1,540 lbs.)
13	Vertical Machining Equipment	No	CNC Vertical Machining Center	Okuma	Japan	MC4VAE	1	X-Axis Travel = 408.9 (16.1) Y-Axis Travel = 650.2 (25.6)	X-Axis Positioning Accuracy: 0.005 (0.0002) Y-Axis Positioning Accuracy: 0.005 (0.0002) Z-Axis Positioning Accuracy: 0.005 (0.0002) Length: N/A Roundness: N/A	Has 32 tool magazine and helical interpolation; Maximum table weight 500 kg (1,100 lbs.)
14	Vertical Machining Equipment	No	CNC Vertical Machining Center	Mori-Seiki	Japan	SV-400	1	X-Axis Travel = 429.3 (16.9) Y-Axis Travel = 459.7 (18.1)	X-Axis Positioning Accuracy: 0.005 (0.0002) Y-Axis Positioning Accuracy: 0.005 (0.0002) Z-Axis Positioning Accuracy: 0.005 (0.0002) Length: N/A Roundness: N/A	Maximum table weight 500 kg (1,100 lbs.)
15	Vertical Machining Equipment	No	CNC Vertical Machining Center	Okuma	Japan	MC4VA/HC	1	X-Axis Travel = 408.9 (16.1) Y-Axis Travel = 650.2 (25.6)	X-Axis Positioning Accuracy: 0.005 (0.0002) Y-Axis Positioning Accuracy: 0.005 (0.0002) Z-Axis Positioning Accuracy: 0.005 (0.0002) Length: N/A Roundness: N/A	Includes 4th axis Tsudakoma Rotary Table and Pallet System; Maximum table weight 500 kg (1,100 lbs.)
16	Finishing Equipment	No	Automatic Surface Grinder	Okamoto	Japan	124 ACC DBX	1	Maximum Workpiece Size = 304.8 (12) x 406.4 (16) x 609.6 (24)	Workpiece Height: +/- 0.0025 (+/- 0.0001)	
17	Finishing Equipment	No	CNC Cylindrical O.D. Plunge Grinder	Okuma	Japan	GP-36F	1	Diameter = 300 (11.81) Length = 650 (25.59)	Diameter: 0.013 (0.00005)	
18	Finishing Equipment	No	CNC Cylindrical OD Plunge Grinder	Mitsubishi	Japan	CY034	2	Diameter = 300 (11.81) Length = 500 (19.7)	Diameter: 0.013 (0.00005)	
19	Finishing Equipment	No	Open Face Lapping Machine	Spitfire	USA	SP-72	2	Table Diameter = 1,829 (72)	Flatness: 0.0013 (0.00005)	
20	Finishing Equipment	No	Open Face Automatic Lapping Machine	Lapmaster	USA	LP-48	1	Table Diameter = 1,219 (48)	Flatness: 0.0013 (0.00005)	
21	Finishing Equipment	No	Open Face Automatic Lapping Machine	Lapmaster	USA	LP-36	1	Table Diameter = 914 (36)	Flatness: 0.0013 (0.00005)	
22	Finishing Equipment	No	Vibratory Finishing Machine	Almco	USA	OR-5C	2	Capacity = 141.6 Liters (5.0 Cubic Feet)	N/A	
23	Finishing Equipment	No	High Pressure Parts Washer	ADF	USA	M-900	3	Diameter Capacity = 812.8 (32) to 1,219.2 (48)	N/A	
24	Finishing Equipment	No	Spray Immersion Cleaning System	Proceco	Canada	Typhoon-SI	1	Maximum Workpiece Size = 152.4 (6.0) x 152.4 (6.0) x 304.8 (12.0)	N/A	
25	Finishing Equipment	No	3 Stage Conveyor Wash System	Inline Cleaning Systems	USA	0606WRD-Mini	1	Maximum Workpiece Size = 152.4 (6) x 152.4 (6) x 152.4 (6)	N/A	
26	Sawing Equipment	No	Band Saw	Amada	Japan	HA-250W	3	Diameter Maximum = 254 (10) Size Maximum (Flat) = 279.4 (11) x 254 (10) or 304.8 (12) x 177.8 (7)	Length: +/- 0.75 (+/- 0.03)	

27	Automation Equipment	Yes	6 Axis Robot	Faunc	Japan	M-710iC	2	Maximum Payload: 45 kg (99 lbs.)	N/A	
28	Inspection and Measurement Equipment	Yes	Coordinate Measuring System	Hexagon	Sweden	Metrology Global Performance Silver Edition 7.10.7 DCC	1	X-Axis Travel = 0 - 700 (27.56) Y-Axis Travel = 0 - 1,000 (39.37) Z-Axis Travel = 0 - 660 (25.98)	X,Y, & Z Axis Repeatability: +/- 0.0025 (+/- .0001)	Includes PC-Demos CAD++ software and full scanning capabilities
29	Inspection and Measurement Equipment	Yes	Coordinate Measuring System	Hexagon	Sweden	Sheffield D28 Discovery II DCC	1	X-Axis Travel = 0 - 762 (30) Y-Axis Travel = 0 - 940 (37) Z-Axis Travel = 0 - 610 (24)	X,Y, & Z Axis Repeatability: +/- 0.0025 (+/- .0001)	Includes PC-Demis Software
30	Inspection and Measurement Equipment	Yes	Optical Comparator	Micro-Vu	USA	H14	3	X-Axis Travel = 0 - 203 (8) Z-Axis Travel = 0 - 152 (6) Focus Travel = 0 - 76 (3)	N/A	Includes Q16 Processor and (1) Edge Sensor
31	Inspection and Measurement Equipment	No	Borescope System	Gradient Lens	USA	Hawkeye Blue Rigid	1	Minimum Bore Diameter: 6.35 (.25)	N/A	Critical Internal Inspections
32	Inspection and Measurement Equipment	No	Brinell Hardness Tester	Ametek/Newage	USA	NB3010	1	N/A	N/A	Brinell Indenter Measuring Capabilities
33	Inspection and Measurement Equipment	No	Page Wilson Universal Surface Hardness Tester	Page Wilson	USA	4	1	N/A	N/A	Rockwell and Superficial Measuring Capabilities
34	Inspection and Measurement Equipment	No	Surface Finish Tester	Mitutoyo	Japan	SJ-400	1	N/A	N/A	36 Surface Measurement Parameter Options, 6 Profile Measurement Options
35	Inspection and Measurement Equipment	Yes	Surface Finish Tester	Mitutoyo	Japan	SJ-410	1	N/A	N/A	46 Surface Measurement Parameter Options, 6 Profile Measurement Options
36	Inspection and Measurement Equipment	No	Cleanliness Measurement System	Scienceware	USA	N/A	1	N/A	N/A	Includes Gravimetric Analytical Balance Scale, Lab Oven, and Discant Cabinet
37	Inspection and Measurement Equipment	No	Flatness Table	Federal Products	USA	N/A	1	305 (12) x 305 (12) x 102 (4)	Resolution: 0.0001 (0.000005) Range: 0.075 (0.003)	Includes Mitutoyo Amplifier and Probe