

COMPARISON DOCUMENT

4TH AXIS TABLES

TORMACH CNC MILL 4TH AXIS TABLES	microARC 4	MOTORIZED ROTARY TABLE		TILTING MOTORIZED ROTARY TABLE		SUPER SPACER MOTORIZED ROTARY TABLE	
SIZE	3.9 in. (100 mm)	6 in. (152 mm)	8 in. (203 mm)	6 in. (152 mm)	8 in. (203 mm)	6 in. (152 mm)	8 in. (203 mm)
PART NUMBER	38412	30267	30194	31847	31848	33089	33264
SPECIFICATIONS							
Height (without Handle)	5.7 in. (145 mm)	9.5 in. (240 mm)	11.7 in. (295 mm)	10.5 in. (265 mm)	11.875 in. (300 mm)	10.25 in. (260 mm)	11.2 in. (285 mm)
Height (with Handle)	7 in. (178 mm)	N/A					
Weight	38 lbs. (17 kg)	76 lbs. (31 kg)	94 lbs. (43 kg)	97 lbs. (44 kg)	148 lbs. (67 kg)	110 lbs. (50 kg)	141 lbs. (64 kg)
Diameter of Table	4 in. (100 mm) Chuck	6.3 in. (160 mm)	7.9 in. (200 mm)	6.3 in. (160 mm)	7.9 in. (200 mm)	6.3 in. (160 mm)	7.9 in. (200 mm)
Table to Centerline	3.1 in. (80 mm)	4.9 in. (125 mm)	5.9 in. (150 mm)	4.125 in. (105 mm)	4.75 in. (120 mm)	4.6 in. (116 mm)	5.9 in. (150 mm)
Horizontal Height for C-Axis Operation (without Chuck)	10.2 in. (260 mm)	3.2 in. (82 mm)	4.4 in. (112 mm)	6.5 in. (165 mm)	7.25 in. (185 mm)	6.0 in. (152 mm)	6.25 in. (160 mm)
T-Slot Width	N/A	.39 in. (10 mm)	.47 in. (12 mm)	.39 in. (10 mm)	.47 in. (12 mm)	.48 in. (12 mm)	.47 in. (12 mm)
Gear Ratio	1:50	1:90					
Motor Phase Current	4 Amps	2.8 Amps	5.5 Amps	5.5 Amps	5.5 Amps	5.5 Amps	5.5 Amps
Motor Mount	Custom	NEMA 23	NEMA 34	NEMA 34	NEMA 34	NEMA 34	NEMA 34
Through Bore Diameter	0.75 in. (19 mm)	MT-2 Morse Taper	MT-3 Morse Taper	MT-2 Morse Taper	MT-3 Morse Taper	1.55 in. (39 mm)	2.47 in. (63 mm)
Angular Resolution	26 arc-sec (0.0072°)	7.2 arc-sec. (0.002°)					
Angular Resolution Examples*	0.00025" @ 4" diameter	0.0001 inch @ 6-inch diameter 0.00015 inch @ 8-inch diameter					
Backlash	18 arc-sec (0.005°)	Setting Table to 60 - 80 Arc-Seconds (0.01667° - 0.02222°) is Recommended for Oil Penetration Between the Worm and Gear					
Backlash Example*	0.00017" @ 4" diameter						
Maximum Holding Torque	28 ft-lb (39 Nm)	90 ft-lb (122 Nm)	90 ft-lb (122 Nm)	90 ft-lb (122 Nm)	90 ft-lb (122 Nm)	90 ft-lb (122 Nm)	90 ft-lb (122 Nm)

***To convert rotational motion to linear distance:**

$$2 \times \pi \times r (\theta/360) = \text{Linear Motion}$$

Examples (These are both the same example):

$$\sin[26 \text{ arc-seconds}] \times 2" \text{ radius} = 0.00025"$$

$$\sin(0.0072^\circ) \times 2" \text{ radius} = 0.00025"$$

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FEATURES								
Nidec-Shimpo Harmonic Gearbox		✓						
Mounts for Vertical (A-axis) and Horizontal (C-axis) Operation			✓		✓		✓	
Manual Tilting Stage					✓		✓	
Includes ER40 Collet Fixture		✓						
Includes Reversible 3-jaw Chuck		✓					✓	
MACHINE COMPATIBILITY								
1100M/MX		✓	✓	✓	✓	✓	✓	✓
770M/MX		✓	✓		✓		✓	
PCNC 440		✓						
PCNC 1100		✓	✓	✓	✓	✓	✓	✓
PCNC 770		✓	✓		✓		✓	
RELATED PARTS (Required)								
38954	4th Axis Driver/Installation Kit (770M/MX, 1100M/MX)	✓	✓		✓		✓	
30266	4th Axis Integration Kit (PCNC 770/1100)	✓	✓		✓		✓	
38712	4th Axis Driver/Wiring Kit (PCNC 440)	✓	N/A		N/A		N/A	

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4TH AXIS ACCESSORY COMPATABILITY								
	100 mm 3-Jaw Chuck	Included						
	Standard and Reversible Jaws	Included						
	ER40 Collet Face Plate	Included						
	PCNC 440 Mounting Hardware	Included						
31921	4th Axis Homing Kit		PCNC 770 and PCNC 1100 Only					
34726	4th Axis Mounting Kit for Tombstone		✓	✓	✓	✓		
33146	Cast Iron Tombstone		✓	✓	✓	✓		
30197	Adjustable Tailstock (Tall)			✓				✓
32622	2-Jaw Chuck for 6" Table			✓		✓		
32677	Upgrade/Replacement Motor for 6" Table		✓		✓			
32627	2-Jaw Chuck for 6" Table		✓		✓			
34104	MT-1 Live Center		✓		✓	✓	✓	
34105	MT-3 Live Center			✓		✓		
31415	5C Collet Fixture for 8" Rotary Table			✓		✓		
31414	5C Collet Fixture for 6" Rotary Table		✓		✓			
30294	5C Collet Adapter for 8" Table			✓		✓		
31721	4-Jaw Chuck for 6" Table		✓		✓			
30292	3-Jaw Chuck for 6" Table		✓		✓			
30291	3-Jaw Chuck for 8" Table			✓		✓		
30293	4-Jaw Chuck for 8" Table			✓		✓		
30272	Adjustable Tailstock (Med.)		✓		✓	✓	✓	
33129	MT-1 Arbor for Medium Tailstock		✓		✓	✓		
31077	Interchangeable Point Live Center Set			✓				✓
34385	MT-3 Alignment Kit for ER40 Collet Fixture			✓		✓		
34383	MT-3 Alignment Kit for ER32 Collet Fixture			✓		✓		
34384	MT-2 Alignment Kit for ER40 Collet Fixture		✓		✓			
34382	MT-2 Alignment Kit for ER32 Collet Fixture		✓		✓			

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