

# Specifications

Strong clamp mechanism, high rigidity and high accuracy can be achieved by TSUDAKOMA's technology for NC rotary tables.

In case of DD motor drive system, high speed, high accuracy and backlash-less are realized.

In case of worm gear drive system, high rigidity and high output torque are realized.

Lineup of products applicable for aluminium and difficult-to-machine materials such as titanium, inconel and so on.

Widely used as 5-face and 5-axis machining of various parts for aircrafts, railway vehicles, automobiles power generators and construction machinery etc.

Model of NC Milling Heads			MHFD-40,S17H,C380	MHFD-50,S12B,C380	MHFW-40,S15H,C380	MHFW-50,S12B,C380		
Model of spindle			MHS-4017H	MHS-5012B	MHS-4015H	MHS-5012B		
Type of tool shank for main spindle			HSK-A63(like BT40)	BT-50	HSK-A63(like BT40)	BT-50		
Model of spindle motor		Manufacturer	ATE	FANUC	FANUC	FANUC		
		Model	AC150/100/4	BiI160S/13000	BiI112S/20000	BiI160S/13000		
Model of sensor		Manufacturer	LENORD+BAUER	FANUC	FANUC	FANUC		
		Model	MiniCoder GEL2442	$\alpha$ iBZ sensor 256S	$\alpha$ iBZ sensor 192H	$\alpha$ iBZ sensor 256S		
Motor output		kW	38(S2 15min.) 30(S1)	60(S3 25%) 37(S1)	18.5(S2 10min.) 11(S1)	60(S3 25%) 37(S1)		
Motor rated torque ( continuous )		Nm	16.8	79	31	79		
Max. speed		min <sup>-1</sup>	17,000	12,000	15,000	12,000		
Drive system			Direct drive	Direct drive	Worm gear	Worm gear		
C-axis fitting dimension		mm	$\phi$ 380	$\phi$ 380	$\phi$ 380	$\square$ 550(by square flange)		
A(B)-axis rotary joint			Available	Available	Available	Available		
C-axis rotary joint			N / A	N / A	N / A	N / A		
Clamp system			Hydraulic	Hydraulic	Hydraulic	Hydraulic		
Clamp torque		A(B)-axis	Hydraulic 3.5MPa	Nm	2,100	3,500	3,500	4,500
			Hydraulic 4.9MPa	Nm	3,000	5,000	5,000	6,000
		C-axis	Hydraulic 3.5MPa	Nm	3,100	3,500	3,500	4,500
			Hydraulic 4.9MPa	Nm	4,400	5,000	5,000	6,000
Model of motor		Manufacturer	FANUC	FANUC	FANUC	FANUC		
		A(B)-axis	DiS800/250(1 set)	DiS1500/200(2 sets)	$\alpha$ iS12/4000	$\alpha$ iS12/4000		
		C-axis	DiS1200/250(1 set)	DiS1200/250(2 sets)	$\alpha$ iS8/4000	$\alpha$ iS12/4000		
Model of sensor		Manufacturer	FANUC	FANUC	FANUC	FANUC		
		A(B)-axis	$\alpha$ iCZ sensor 512A	$\alpha$ iCZ sensor 512A	$\alpha$ iCZ sensor 512AS	$\alpha$ iCZ sensor 512AS		
		C-axis	$\alpha$ iCZ sensor 1024A	$\alpha$ iCZ sensor 1024A	$\alpha$ iCZ sensor 1024AS	$\alpha$ iCZ sensor 1024AS		
Speed reduction ratio		A(B)-axis	1/1	1/1	1/360	1/360		
		C-axis	1/1	1/1	1/300	1/360		
Output torque ( continuous )		A(B)-axis	Nm	320	1,200	750	1,500	
		C-axis	Nm	480	960	840	1,500	
Max. speed		A(B)-axis	min <sup>-1</sup>	30	30	8.3(motor:3000min <sup>-1</sup> )	8.3(motor:3000min <sup>-1</sup> )	
		C-axis	min <sup>-1</sup>	30	30	10(motor:3000min <sup>-1</sup> )	8.3(motor:3000min <sup>-1</sup> )	
Min. setting unit		A(B)-axis	degree	0.0001	0.0001	0.0001	0.0001	
		C-axis	degree	0.0001	0.0001	0.0001	0.0001	
Range of rotating angle		A(B)-axis	degree	$\pm$ 100	$\pm$ 100	$\pm$ 100	$\pm$ 100	
		C-axis	degree	$\pm$ 270	$\pm$ 270	$\pm$ 270	$\pm$ 270	
Indexing accuracy		A(B)-axis	arc sec.	$\pm$ 15	$\pm$ 15	$\pm$ 15	$\pm$ 15	
		C-axis	arc sec.	$\pm$ 15	$\pm$ 15	$\pm$ 15	$\pm$ 15	
Net weight		A(B)-axis	kg	580	1,700	700	1,270	
		C-axis	kg	380	700	400	800	
		Total weight	kg	960	2,400	1,100	2,070	

Unit sale is available for A(B)-axis, C-axis as well as spindle units.

Other type of spindles to mach various needs are also available.