

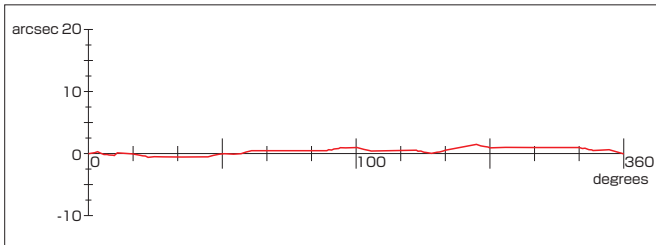
High-precision Specification by Rotary Encoders or MP Scales

Indexing accuracy can be upgraded by attaching a rotary encoder or MP scale to the spindle of the rotary table. The sum of the cumulative indexing accuracy of the rotary encoder or the MP scale and electrically divided errors of the pre-amplifier or the waveform shaping unit is referred to as the indexing accuracy of the rotary tables with scales. The indexing accuracy is guaranteed by TSUDAKOMA.

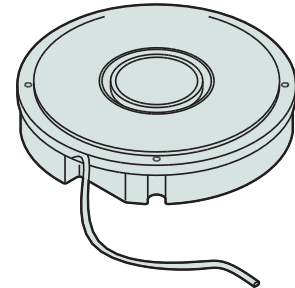
Model Description

"RWB-□□□R,□□"
 RE (Rotary encoders)
 RI (MP scales)

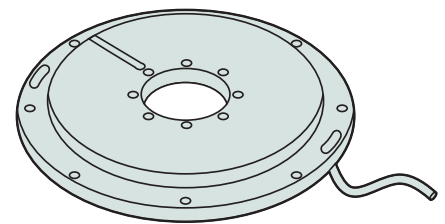
Example of measurement indexing accuracy with scale



Rotary encoder



MP scale



Indexing accuracy with scale

Unit:arcsecond

		Rotary encoders		MP scales	
		Order Code	Accuracy with scale	Order Code	Accuracy with scale
RN-100	Rotary axis	RCN23*1, RCN25*1	15"	—	—
RBS/RBH-160 RWE/RWA/RWH-160,200	Rotary axis	RCN23*1 or RU77-4096A	15"	MPI 536A	15"
RBS/RBH-250,320 RWA/RWH-250,320	Rotary axis	RCN83*1, RCN85*1 or RS97-1024	10"/RCN83*1, RS97-1024 6"/RCN85*1	MPI 736B	10"
RWB-250	Rotary axis	RCN83*1, RCN85*1, RON8** or RS97-1024	10"/RCN83*1, RS97-1024 6"/RCN85*1, RON8**	MPI 736B	10"
RWB-320	Rotary axis			MPI 1072B	8"
RWB-400,500,630 RCH-800,1000,1250,1600 RCV-800,1000,1250,1600	Rotary axis			MPI 1272B	8"
TWA-130	Rotary axis*	RCN23*1 or RU77-4096A	15"	MPI 536A	15"
TWS-250	Tilt axis				
TWA-160	Rotary axis				
TWS-500	Tilt axis				
TWA-200	Rotary axis				
TBS-130	Rotary axis*	RCN23*1 RCN83*1, RCN85*1 or RU77-4096A RS97-1024	15"/RCN23*1, RU77-4096A 10"/RCN83*1, RS97-1024 6"/RCN85*1	MPI 736B	10"
TBS-160	Tilt axis				
TBS-250	Tilt axis				
TN-450	Rotary axis	RCN83*1, RCN85*1 or RS97-1024	10"/RCN83*1, RS97-1024 6"/RCN85*1	MPI 1272B	8"
TWB-320	Rotary axis	RCN23*1 RCN83*1, RCN85*1	15"/RCN23*1 10"/RCN83*1 6"/RCN85*1	MPI 736B	10"
	Tilt axis*			MPI 1072B	15"
TWB-630	Rotary axis	RCN23*1, RCN25*1 RCN83*1, RCN85*1	15"/RCN23*1 10"/RCN25*1, RCN83*1 6"/RCN85*1	MPI 1272B	8"
	Tilt axis*				15"
TWB-1000	Rotary axis	RCN83*1, RCN85*1	10"/RCN83*1 6"/RCN85*1	MPI 1272B	8"
	Tilt axis				15"

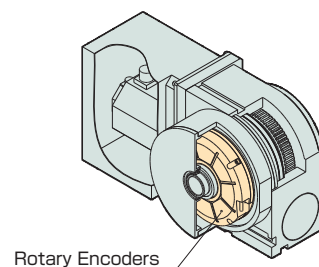
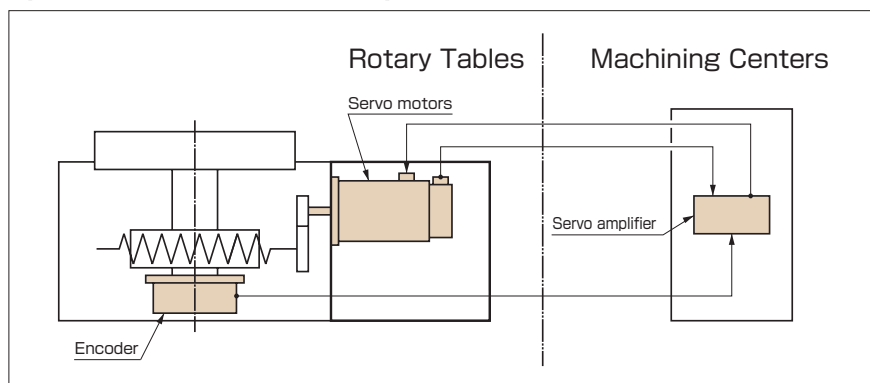
☞ For other accuracy standard. from P.76

Accuracy differs depending on the specifications of the tables. Ask us for further information.

※ Rotary encoder RCN23*1/RU77-4096A cannot be installed.

※ The scaled accuracy of the tilt axis of TWB-600, 1000 are the value after pitch error correction.

Specifications of rotary encoders



HEIDENHAIN

Rotary Encoders	RON886	RCN23*1	RCN25*1	RCN83*1	RCN85*1
Interface unit	IBV102	Not required	Not required	Not required	Not required
Resolution	0.0005°	26bit ABS	28bit ABS	29bit ABS	29bit ABS

Model RCN and corresponding Interface

RCN 23 1

Interface		
FANUC	9	F
MITSUBISHI ELECTRIC	9	M
EnDat 2.2	1	—

Magnescale

Rotary Encoders	RU77-4096A	RS97-1024
Resolution	23bit ABS	23bit ABS

Model RU77 and corresponding Interface

RU77-4096A G

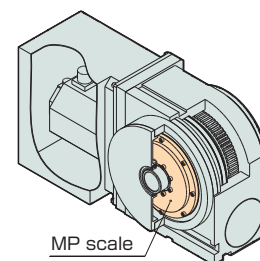
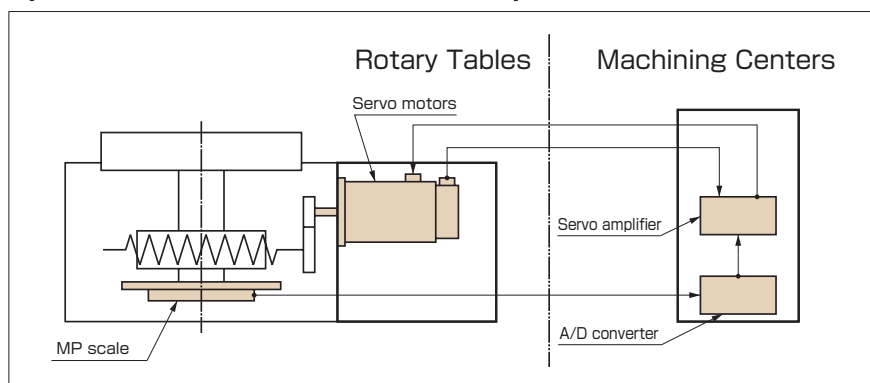
Interface	
FANUC	A
MITSUBISHI ELECTRIC	D
YASKAWA ELECTRIC	F

Model RS97 and corresponding Interface

RS97-1024EG

Interface	
FANUC	A
MITSUBISHI ELECTRIC	D

Specifications of MP scales (by NIDEC MACHINE TOOL CORPORATION)



MP scale	MPI 536A	MPI 736B	MPI 1072B	MPI 1272B
Resolution	0.0001°	0.0001°	0.00005°	0.00005°
A/D converter	ADB-20J10:A/B/Z phase square wave ADB-20J60:Serial I/F ADB-K60F:FANUC serial I/F ADB-K60M:Mitsubishi Electric Serial I/F			

Note 1:AD converter (corresponding to the serial output interface) is necessary in the MPRZ series.

Note 2:Pre-amplifiers are necessary for MPR-series.

Note 3:When using pre-amplifiers for MPR-series other than those of NIDEC MACHINE TOOL CORPORATION, please consult us.

RBS

RBH

RBM

TBS

RWE/RWA
RN

RWH

RWA-B

RWB

RWB-K

RCB

RCH

RCV

Multi-Spindle
RWM

TWA/TN

TWS

TWB

Multi-Spindle
TWM

RDS

TDS
TDB

NC
Controllers

Accessories

Options

Technical
Information