

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.

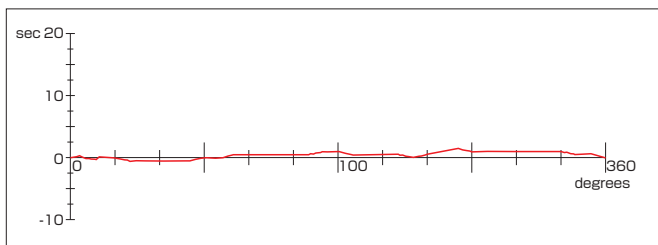
Model Description

"RWB-□□□R,□□"

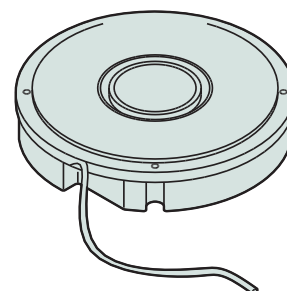
RE (Rotary encoders)

RI (MP scales)

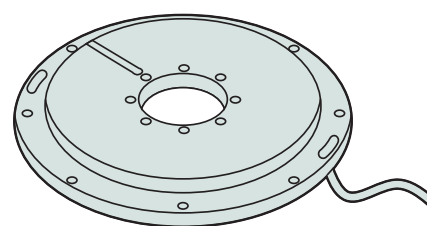
Example of measurement indexing accuracy with scale



Rotary encoder



MP scale



Indexing accuracy with scale

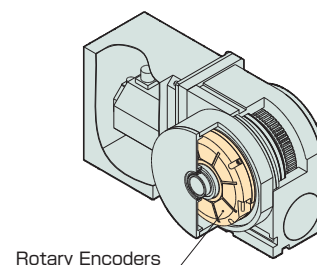
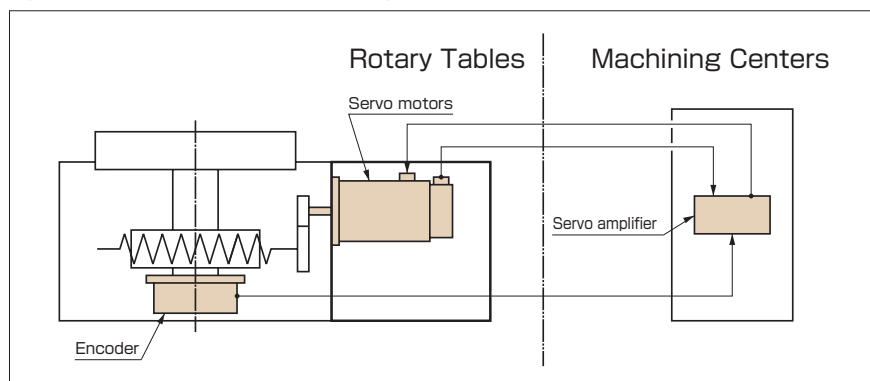
		Rotary encoders		MP scales	
		Order Code	Accuracy with scale	Order Code	Accuracy with scale
RN-100	Rotary axis	RCN23*1, RCN25*1	15sec	—	—
RBS/RBH-160 RWE/RWA/RWH-160,200	Rotary axis	RCN23*1 or RU77-4096A	15sec	MPI 536A	15sec
RBS/RBH-250,320 RWA/RWH-250,320	Rotary axis	RCN83*1, RCN85*1 or RS97-1024	10sec/RCN83*1, RS97-1024 6sec/RCN85*1	MPI 736B	10sec
RWB-250	Rotary axis	RCN83*1, RCN85*1 or RS97-1024	10sec/RCN83*1, RS97-1024 6sec/RCN85*1	MPI 736B	10sec
RWB-320	Rotary axis			MPI 1072B	8sec
RWB-400,500,630 RNCK-631 RCH-800,1000,1250 RCV-800,1000,1250,1600	Rotary axis			MPI 1272B	8sec
TWA-130	Rotary axis*	RCN23*1 or RU77-4096A	15sec	MPI 536A	15sec
TWA-160	Tilt axis				
TWA-200	Rotary axis				
TBS-130	Tilt axis				
TBS-160	Rotary axis	RCN23*1 RCN83*1, RCN85*1 or RU77-4096A RS97-1024	15sec/RCN23*1, RU77-4096A 10sec/RCN83*1, RS97-1024 6sec/RCN85*1	MPI 736B	10sec
	Tilt axis				
	Rotary axis				
TN-320	Rotary axis	RCN83*1, RCN85*1 or RS97-1024	10sec/RCN83*1, RS97-1024 6sec/RCN85*1	MPI 736B	10sec
	Tilt axis			MPI 1072B	10sec
TN-450	Rotary axis	RCN23*1 RCN83*1, RCN85*1	15sec/RCN23*1 10sec/RCN83*1 6sec/RCN85*1	MPI 1272B	8sec
	Tilt axis			MPI 736B	10sec
TWB-320	Rotary axis	RCN23*1, RCN25*1 RCN83*1, RCN85*1	15sec/RCN23*1 10sec/RCN25*1, RCN83*1 6sec/RCN85*1	MPI 1072B	15sec
	Tilt axis			MPI 736B	10sec
TWB-630	Rotary axis	RCN23*1, RCN25*1 RCN83*1, RCN85*1	15sec/RCN23*1 10sec/RCN25*1, RCN83*1 6sec/RCN85*1	MPI 1272B	8sec
	Tilt axis				15sec
	Rotary axis				8sec
TWB-1000	Rotary axis	RCN83*1, RCN85*1	10sec/RCN83*1 6sec/RCN85*1		15sec

For other accuracy standard. from P.74

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

※Rotary encoders are unavailable.

Specifications of rotary encoders



HEIDENHAIN

Rotary Encoders	RON886	RCN23*1	RCN83*1	RCN85*1
Interface unit	IBV102	Not required	Not required	Not required
Recommended resolution	0.0005°	26bit 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
Recommended resolution	23bit ABS	23bit ABS

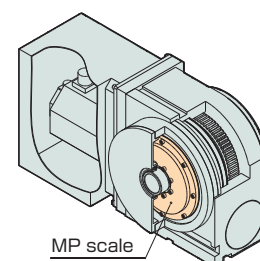
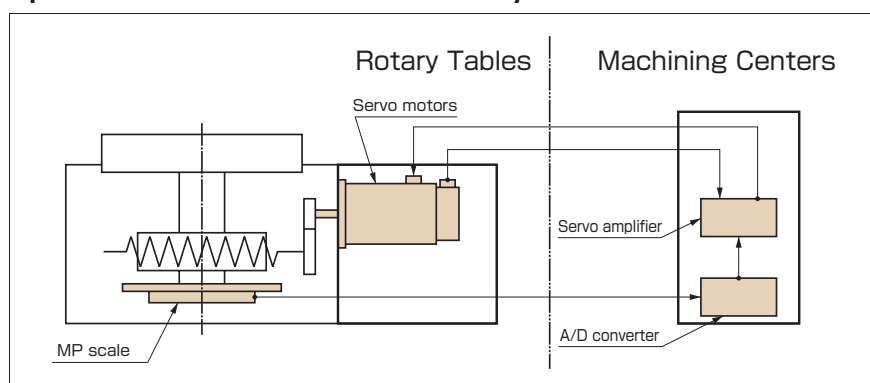
Model RU77 and corresponding Interface

RU77-4096A	☆
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
Recommended 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:Preamplifiers are necessary for MPR-series.

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

RBS

RBH

Multi-Spindle
RBM

TBS

RWE/RWA
RN

RWH

RWA-B
RNCV-B

RWB

RWB-K
RNCK

RCB

RCH
RNC

RCV

Multi-Spindle
RWM

TWA/TN

TWB
TTNC

Multi-Spindle
TWM

RDS

RTV
RTT

TDS
TDB

NC Controllers

Accessories

Options

Technical
Information