PRECISION INDEXING ROTARY TABLE

Standard

RTMB0140-050

DIMENSIONAL DATA		UNIT	VALUES
OD	Outside diameter	mm (in)	166 (6.53)
	Table height	mm (in)	115 (4.52)
ID	Inside diameter	mm (in)	Ø 25 (Ø 0.98)
	Total mass (1)	kg (lbs)	11 (24.25)
J	Rotor inertia (1)	kgm^2	2.48 E-3

TORQUE CAPABILITIES (1)		UNIT	VALUES
Tp	Peak torque (2)	Nm	60.4
Tc	Continuous torque (3)	Nm	12.3
Td	Max. detent torque (average to peak)	Nm	0.33

LOAD CAPACITIES	UNIT	VALUES
Axial load capacity (4)	kg (lbs)	12 (26.45)
Radial load capacity (5)	kg (lbs)	22 (48.50)
Upside down load capacity (4)	kg (lbs)	12 (26.45)
Moment load capacity (6)	Nm	15

DYNAMIC PERFORMANCES	UNIT	VALUES
Maximum speed (2)	rpm	1'200
Maximum acceleration	rad/s^2	10'000
Typical speed stability	%	Please contact ETEL
Typical position stability (7)	arcsec	± 0.7
Lifetime	rev.	Application dependent. Please contact ETEL

STAGE ACCURACY (8) (9)	UNIT	TYPICAL VALUES
Accuracy (w/o mapping) (10)	arcsec	± 25
Accuracy (w/ mapping) (10)	arcsec	± 6
Unidirectional repeatability (10)	arcsec	± 3
Bidirectional repeatability (10)	arcsec	± 5
Axial runout	µm	20
Radial runout (10)	µm	20

ELECTRICAL SPECIFICATIONS (1)		UNIT	TMB0140-050-3RAS	TMB0140-050-3RBS
Kt	Torque constant	Nm/Arms	5.16	2.58
Ku	Back EMF constant (11)	Vrms/(rad/s)	2.98	1.49
R20	Electrical resistance at 20°C (11)	Ohm	10.3	2.58
L1	Electrical inductance (11)	mH	56.2	14.1
Ip	Peak current (12)	Arms	18.5	37.0
Ic	Continuous current (3)	Arms	2.36	4.73
Udc	Nominal input voltage	VDC	300	300
Pc	Max. cont. power dissipation (3)	W	114	114
2p	Number of poles	-	22	22

GUIDING ELEMENT	
Type	Ball bearing
Preload	Medium

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ENCODER CHARACTERISTICS

Encoder type	Non-contact, optical
Signal type	Incremental
Output signal	1 Vpp
Number of lines of the grating disk	5'000

WORKING ENVIRONMENT

IP protection grade	IP40

MATERIALS AND FINISH

Base	Aluminum / Black anodized
Shaft	Stainless steel

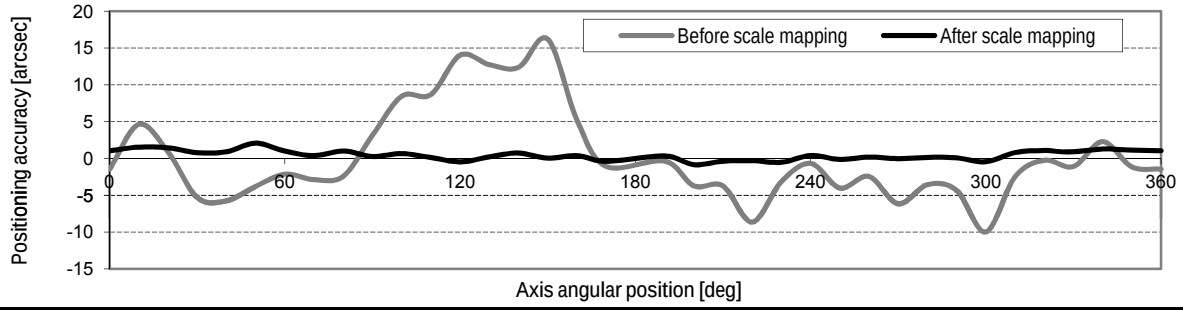
OPTIONS

	-

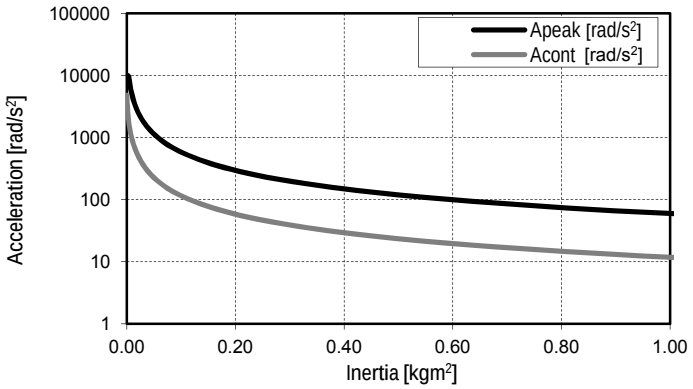
ACCESSORIES

	-

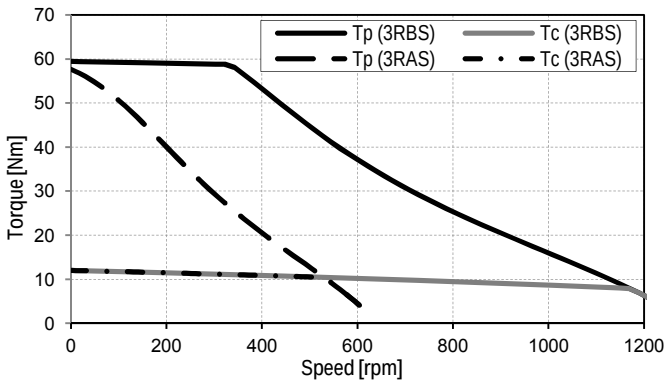
MAPPING



Acceleration = f (Inertia)



Torque = f (Speed)



The RTMB rotary tables proposed by ETEL are fully compliant with the Machinery Directive 2006/42/EC as long as the system is used under the working conditions described in the RTMB Hanbook. Customer is responsible for setting safeties/limitations that will keep the motor in its safe operating area. ETEL cannot be held responsible if the motor is used in an improper way.

Notes: The specifications given may be mutually exclusive.

(1) Tolerances: refer to the corresponding Handbook.
(2) See torque vs speed curve to check if the specifications can be reached based on selected winding and DC bus voltage limitation.
(3) Coils at 100°C, ambiant temperature at 20°C, with additional surface of 0.070m^2 fixed on the base and 0.0163m^2 on the rotor.
(4) Indicative load capacity with payload centered on the table. Please contact ETEL for any other case.
(5) Indicative load capacity with payload centered and the center of gravity 25mm above the interface surface of the rotor. Please contact ETEL for any other case.
(6) At the fastening holes of the rotor.
(7) With ETEL electronics, at encoder level.
(8) Values measured on a precision mounting surface (typical flatness 20 μm).
(9) All mounting screws used. Specifications measured with ETEL's controllers. The typical ambient temperature during the measurements is 22°C.
(10) Value measured 18.4mm above the interface surface of the rotor.
(11) Terminal to terminal.
(12) Refer to the Torque Handbook for the definition of peak current.