



T STANDALONE AXIS

ASME-DXR+T01550303NAS0000

Data sheet

Version 1.0



TESTING CONDITIONS		UNIT	
Position controller	-		AccurET 300 4/7.5A
Rated payload	kg		1
Rated inertia	kg.m ²		7.74E-03
Tool point position	mm		20 above the rotor's interface
Ambient temperature	°C		22 ±1
Isolation system	-		none

DIMENSIONAL DATA (1)		UNIT	
Stage width	mm		215
Stage length	mm		215
Inside diameter	mm		Hollowshaft 37.5
Table height	mm		67.5
Total mass (without payload)	kg		5
Rotor inertia (without payload)	kg.m ²		3.3 E-3

TORQUE CAPABILITIES		UNIT	
T_p Peak torque	Nm		7.87
T_c Continuous torque (2)	Nm		1.74
T_s Stall torque	Nm		1.32
T_d Max. detent torque (average to peak)	Nm		0
T_{frs} Static friction (maximal value)	Nm		0.97
T_{frd} Dynamic friction (maximal value)	Nm/(rad/s)		4.30E-03

LOAD CAPACITIES		UNIT	
Axial load	kg		30

DYNAMIC PERFORMANCE		UNIT	
Maximum speed	rad/s (rpm)		41.8 (400)
Maximum acceleration	rad/s ²		2'200
Typical position stability (at encoder level)	arcsec		±0.2

STAGE ACCURACY		UNIT	
Positioning accuracy (without mapping)	arcsec		± 30
Positioning accuracy (with mapping)	arcsec		±3
Unidirectional repeatability	arcsec		±1
Bidirectional repeatability	arcsec		±2
Radial runout	µm		±3.5
Total axial error (at a diameter of 85 mm)	µm		±3

ENCODER CHARACTERISTICS		UNIT	
Encoder and signal type	-		Optical - incremental
Output signal	-		1 V _{pp} or TTL
Line count	Period/turn		18'000
Reference mark	-		one at 0±5 [deg]
Power supply	V		5 VDC ± 10 %

ELECTRICAL SPECIFICATIONS		UNIT	
	Motor type	-	Toothless
	Motor model	-	TTB0126-030-3NA
	Number of phases	-	3
Kt	Torque constant	Nm/Arms	1.23
Ku	Back EMF constant (3)	Vrms/(rad/s)	0.71
R20	Electrical resistance at 20°C (3)	Ohm	10.50
L1	Electrical inductance (3)	mH	2.65
Ip	Peak current	Arms	6.90
Ic	Continuous current (2)	Arms	1.47
Is	Stall current	Arms	1.11
ns	Stall speed	rad/s (rpm)	0.02
Udc	Nominal input voltage	VDC	300
Pc	Max. cont. power dissipation (2)	W	41.9 (depends on system configuration)
2p	Number of poles	-	28

WORKING ENVIRONMENT			
	Clean room compatibility (4)		ISO 5 / ISO 1 with option air purge
	IP protection grade		IP40

VACUUM CHARACTERISTICS		UNIT	
Vacuum supply for axis cleanliness			
V_c	Vacuum	bar	-0.06
Fv_c	Vacuum flow	l/min	5

TYPICAL MOVE AND SETTLE TIMES		UNIT	
	Move 1: 0.004° within ±40 µdeg	ms	250
	Move 2: 1° within ±40 µdeg	ms	250
	Move 3: 90° within ±40 µdeg	ms	400
	Move 4: 180° within ±40 µdeg	ms	500
	Move 5: 360° within ±40 µdeg	ms	600

GUIDING ELEMENTS			
	Type		Cross-roller bearing

MATERIAL AND FINISH			
	Baseplate		Aluminium base
	Shaft		Stainless steel

OPTIONS / ACCESSORIES / FEATURES		UNIT	
	Limit switch	-	No
	Limited stroke	-	Configurable. See interface drawing
	Temperature sensors	-	No
	Air purge	-	Bidirectionnal pneumatic fitting

According to the Machinery Directive 2006/42/EC, the system presently described falls into the "partly completed machinery" category and fully complies with it as long as the system is operated according to the working conditions described in the corresponding manual. Customer is responsible for setting safeties/limitations that will keep the motor in its safe operating area. ETEL cannot be held responsible if the system is used in an improper way.

Notes: The specifications given may be mutually exclusive.

- (1) Without any additional customer part attached to the mobile interface.
- (2) Coils at 80°C, with additional surface of 0.05 m² fixed on the base and 0.017 m² on the rotor made of black anodized aluminium.
- (3) Terminal to terminal.
- (4) Under laminar flow at 0.25 m/s perpendicular to rotation axis. Measured at interface plate height. Contact ETEL for more details.