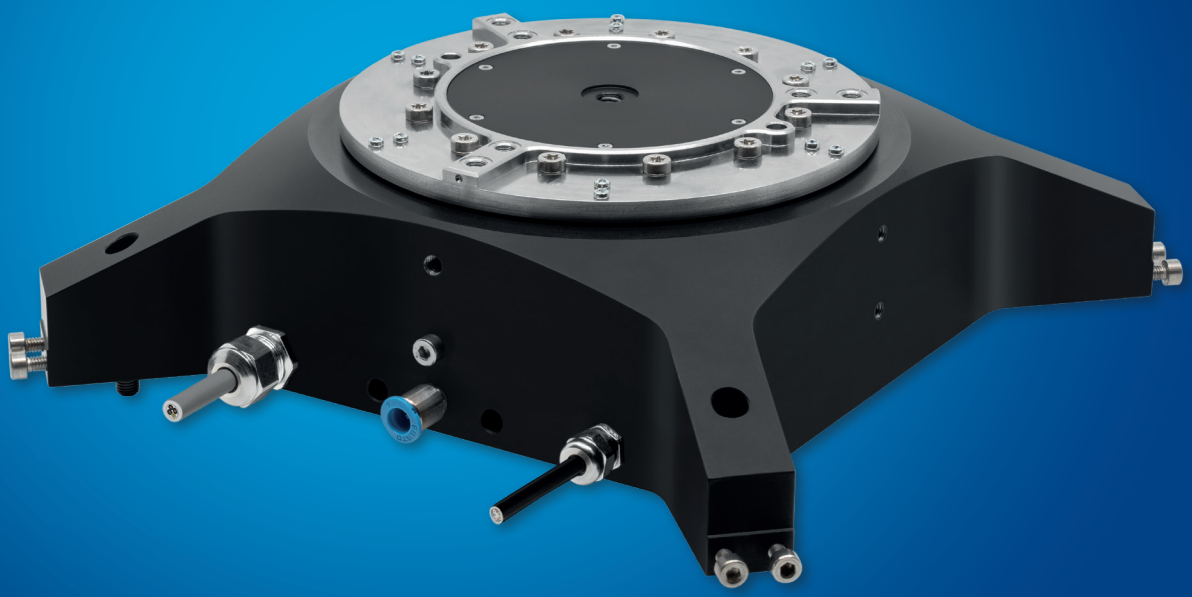

T STANDALONE AXIS

ASME-DXR+T01550303NAS0000

DXR+ with AccurET Modular

Data sheet

Version 2.2

ETEL

AXIS DESIGNATION	
Number of controlled axes	1
Axes name	Theta
Thrust transmitter: DD (direct drive) or ID (indirect drive)	DD

TESTING CONDITIONS	UNIT	
Position controller	-	Modular 300 4/7.5 Arms
Motion controller	-	UltimET
Rated payload (1)	kg	2
Rated inertia (1)	$kg.m^2$	0.018
Rated input voltage	VDC	96
Tool point position	mm	20 (above interface plate)
Ambient temperature	°C	22 ±1
Isolation system	-	QuiET

DIMENSIONAL DATA	UNIT	
Inside diameter	mm	44
Width	mm	215
Length	mm	215
Height	mm	67.5
Total stroke	°	Infinite (limited stroke is an option)
Total mass (without payload)	kg	5
Rotor inertia (without payload)	$kg.m^2$	0.004

TORQUE CAPABILITIES (2)	UNIT	
Peak torque	Nm	7.87
Continuous torque	Nm	1.74
Standstill torque	Nm	1.32
Max. detent torque (average to peak)	Nm	0
Static friction (maximal value)	Nm	1
Dynamic friction (maximal value)	Nm/(rad/s)	0.03

LOAD CAPACITIES	UNIT	
Maximum payload	kg	30

DYNAMIC PERFORMANCE	UNIT	
Duty cycle	%	10
Maximum speed	rad/s	30
Maximum acceleration	rad/s^2	180
Typical position stability at 2kHz	arcsec	±0.08

ACCURACY	UNIT	
Positioning accuracy (without mapping)	arcsec	±30
Positioning accuracy (with mapping)	arcsec	±3
Unidirectional repeatability	arcsec	±1
Bidirectional repeatability	arcsec	±2
Horizontal straightness / radial runout	µm	±3.5
Vertical straightness / total axial error at 0 [mm] radius	µm	±3

WORKING ENVIRONMENT	
Clean room compatibility (3)	ISO 2

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ELECTRICAL SPECIFICATIONS (2)		UNIT	
	Motor type	-	Toothless
	Motor model	-	TTB0126-030-3NA-239
	Number of phases	-	3
Kt	Force constant	Nm/Arms	1.23
Ku	Back EMF constant (4)	Vrms/(rad/s)	0.712
Km	Motor constant	Nm/√W	0.309
R20	Electrical resistance at 20°C (4)	Ohm	10.5
L1	Electrical inductance (4)	mH	2.65
Ip	Peak current	Arms	6.9
Ic	Continuous current	Arms	1.47
Is	Standstill current	Arms	1.11
ns	Standstill speed	rad/s	0.0016
Um	Max. input voltage	VDC	100
Pc	Max. cont. power dissipation	W	41.9
2p	Number of poles	-	28

ENCODER CHARACTERISTICS	UNIT	
Encoder and signal type	-	Optical - incremental
Output signal	-	1 Vpp
Signal period or line count	period/turn	18000
Reference mark	-	One
Power supply	V	5

VACUUM CHARACTERISTICS	UNIT	
Vacuum	bar	-0.06
Vacuum flow	l/min	5

TYPICAL MOVE AND SETTLE TIMES	UNIT	
Move 1: 0.004 deg within ±40 µdeg	ms	60
Move 2: 1 deg within ±40 µdeg	ms	100
Move 3: 90 deg within ±40 µdeg	ms	360
Move 4: 180 deg within ±40 µdeg	ms	500
Move 5: 360 deg within ±40 µdeg	ms	600

GUIDING ELEMENTS	
Type	Crossed roller bearing

MATERIAL AND FINISH	
Baseplate	Alluminium alloy
Carriage	Stainless steel

OPTIONS / ACCESSORIES / FEATURES	
Limited stroke	Configurable. See interface drawing
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. Unless stated otherwise, all measurements are made within the testing conditions.
(1) Payload can be assimilated to a cylinder of diameter 270 mm, 19 mm thick, weighting 2 kg. Inertia is expressed with respect to the center of gravity of the payload, Z being the axis of rotation.
(2) Tolerances on electrical parameters are available on request.
(3) Under laminar flow conditions at 0.25 m/s perpendicular to rotation axis. Measured at interface plate level. Contact ETEL for more details.
(4) Terminal to terminal.

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