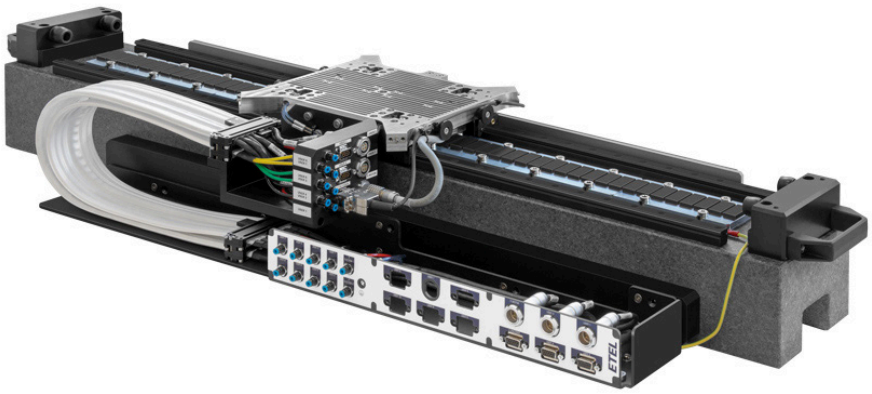

CHARON2 X with AccurET VHP

Data Sheet

Version 1.2

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

TESTING CONDITIONS	UNIT	
Position controller	-	VHP 100 10/30 Arms
Motion controller	-	UltimET
Rated payload	kg	5
Rated input voltage	VDC	96
Tool point position	mm	195
Ambient temperature	°C	22 ±1
Isolation system	-	QuiET

DIMENSIONAL DATA	UNIT	
Width	mm	336
Length	mm	1050 with handles / 984 without handles
Height	mm	144
Total stroke	mm	650
Moving mass (without payload)	kg	6
Total mass (without payload)	kg	53

FORCE / TORQUE CAPABILITIES (1)	UNIT	
Peak force	N	512
Continuous force	N	130
Standstill force	N	98
Max. detent force(average to peak)	N	7.1
Static friction (maximal value)	N	22
Dynamic friction (maximal value)	N/(m/s)	60

LOAD CAPACITIES	UNIT	
Maximum payload	kg	35

DYNAMIC PERFORMANCE	UNIT	
Duty cycle	%	30
Maximum speed	m/s	1
Maximum acceleration	m/s^2	20
Typical position stability at 2kHz	nm	±2

ACCURACY	UNIT	
Positioning accuracy (without mapping)	µm	±12.5
Positioning accuracy (with mapping)	µm	±1
Bidirectional repeatability	µm	±0.3
Horizontal straightness / radial runout	µm	±2.5
Vertical straightness / total axial error at tool point	µm	±2
Roll	arcsec	±3
Pitch	arcsec	±3.5
Yaw	arcsec	±5

WORKING ENVIRONMENT	
Clean room compatibility (2)	ISO 2

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ELECTRICAL SPECIFICATIONS (1)		UNIT	
	Motor type	-	Ironcore
	Motor model	-	LMG10-030-3QB-219
	Number of phases	-	3
Kt	Force constant	N/Arms	26.6
Ku	Back EMF constant (3)	Vrms/(m/s)	16.2
Km	Motor constant	Nm/√W	16.8
R20	Electrical resistance at 20 °C (3)	Ohm	1.68
L1	Electrical inductance (3)	mH	9.02
Ip	Peak current	Arms	30
Ic	Continuous current	Arms	5
Is	Standstill current	Arms	3.79
ns	Standstill speed	mm/s	0.22
Um	Max. input voltage	VDC	100
Pc	Max. cont. power dissipation	W	77.6
2τp	Magnetic period	mm	32

ENCODER CHARACTERISTICS	UNIT	
Encoder and signal type	-	Optical - incremental
Output signal	-	1 Vpp
Signal period or line count	µm	4
Reference mark	-	One
Power supply	V	5

TYPICAL MOVE AND SETTLE TIMES	UNIT	
Move 1: 10 µm within ±100 nm window	ms	40
Move 2: 25 mm within ±100 nm window	ms	130
Move 3: 80 mm within ±100 nm window	ms	185

GUIDING ELEMENTS	
Type	Ball bearing

MATERIAL AND FINISH	
Baseplate	Granite
Carriage	Stainless steel

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) Tolerances on electrical parameters are available on request.
(2) Under laminar flow conditions at 0.25 m/s along X axis. Measured at 230 mm from the bottom surface of the stage. Contact ETEL for more details.
(3) Terminal to terminal.