

DIMENSIONAL DATA		UNIT	VALUES		
Stage width (1)	mm (in)		155 (6.1)		
Total stroke	mm (in)		50 (1.96)	100 (3.93)	150 (5.9)
Mechanical end stop adjustable from	mm (in)		0 - 50 (0 - 1.96)	50 - 100 (1.96 - 3.93)	100 - 150 (3.93 - 5.9)
Stage length	mm (in)		348 (13.7)	398 (15.66)	448 (17.63)
Stage height	mm (in)		69.5 (2.73) w/o tooling plate / 81.5 (3.2) w/ tooling plate		
Total mass with metal covers	kg (lbs)		8.0 (17.63)	8.6 (18.95)	9.2 (20.28)
Moving mass (w/o tooling plate)	kg (lbs)		3.0 (6.61)		
Tooling plate mass	kg (lbs)		1.1 (2.42)		
Inertia at the motor side	kg.m ²		29 E-6	31 E-6	33 E-6

MOTOR CAPABILITIES		UNIT	VALUES		
Tp Peak torque	Nm		1.72		
Tc Continuous torque	Nm		0.44		

LOAD CAPACITIES		UNIT	VALUES		
Horizontal / vertical load capacity (2)	kg (lbs)		25 (55.11)		
Side / upside down load capacity (2)	kg (lbs)		12 (26.45)		

DYNAMIC PERFORMANCE		UNIT	RECOMMENDED VALUES		
Maximum speed	m/s (in/s)		0.3 (11.81)		
Maximum acceleration	m/s ² (in/s ²)		30 (1181)		
Typical speed stability (3)	%		Refer to graph for typical value. Please contact ETEL for your specific application		
Typical position stability (peak value) (3)	nm		± 40		
Lifetime	km		Application dependent. Please contact ETEL		

STAGE ACCURACY (4) (5)		UNIT	TYPICAL VALUES		
			Dual feedback	Rotary feedback only (1 Vpp)	
Position accuracy					
short stroke	µm		± 2 / 25 mm		-
full stroke	µm		± 4		± 15
full stroke w/ calibration	µm		NTE* ± 2		-
Unidirectional repeatability	µm		± 0.4		± 0.5
Bidirectional repeatability	µm		± 0.6		± 1.5
Horizontal straightness					
short stroke	µm		± 2.5 / 25 mm		
full stroke	µm		± 3	± 3.5	± 4
Vertical straightness					
short stroke	µm		± 1 / 25 mm		
full stroke	µm		± 1.5	± 2	± 2.5
Yaw	arcsec		± 15		
Pitch	arcsec		± 10		
Roll	arcsec		± 10		

BALL SCREW SPECIFICATIONS		UNIT	VALUES		
Ø Diameter	mm		15		
p Pitch	mm		5		
η1 Efficiency	%		95		
Preload	-		High		
Tf Friction torque	Nm		0.08		
Fp Peak force	N		2000		
Fc Continuous force	N		500		

* NTE: Not To Exceed

ELECTRICAL SPECIFICATIONS		UNIT	
Kt	Torque constant	Nm/Arms	0.455
Ku	Back EMF constant at 1000 rpm (6)	Vrms/(rad/s)	0.291
R20	Electrical resistance at 25°C (6)	Ohm	22
L1	Electrical inductance (6)	mH	26.5
Ip	Peak current	Arms	3.96
Ic	Continuous current	Arms	0.96
Udc	Nominal input voltage	VDC	300
Pc	Max. cont. power dissipation	W	210
2p	Number of poles	-	10

GUIDING ELEMENT	
Type	Recirculating ball bearing, size 15
Preload	Light

ENCODER CHARACTERISTICS	LINEAR ENCODER	ROTARY ENCODER	
	Encoder type	Non-contact, optical, metal tape	Non-contact, optical, glass disc
Signal type	Incremental	Incremental	
Output signal	1 Vpp or TTL	1 Vpp	TTL 25x
Signal period	20 µm	± 163"	± 114"
Accuracy grade	± 5 µm/m	1024 lines/turn	1500 lines/turn

WORKING ENVIRONMENT	
Clean room compatibility (7)	ISO 7 (referred to ISO 14644-1 standard)
	Class 10000 (referred to US Fed Std 209E)
IP protection grade (8)	IP10

MATERIALS AND FINISH	
Base	Aluminum / Black anodized
Carriage	Aluminum / Black anodized
Metal covers	Aluminum / Powder coated

OPTIONS				
Limit switch	Optical, integrated in the linear encoder. NC type			
Brake	Holding brake energize to release			
TTL linear encoder output signal	Interpolation factor			
	Max. speed [m/s] (9)			
	5x	10x	50x	100x
		0.3		0.27
Encapsulation	Metal covers			

ACCESSORIES	
	Tooling plate, extension cables

The DynX Linear Series 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 DynX Handbook. Customer is responsible for setting safeties/limitations that will keep the motor in its safe operating area. ETEL cannot be held responsible if the stage is used in an improper way.

Notes: The specifications given may be mutually exclusive.

- (1) Without metal covers.
- (2) Indicative load capacity with a payload centered on the carriage. Please contact ETEL for any other case.
- (3) With ETEL electronics, at encoder level.
- (4) Values measured on a precision mounting surface (typical flatness 10 µm) with the axis uniformly supported over its full length with vibration insulation.
- (5) All mounting screws used. Specifications measured 25 mm above the center of the carriage with ETEL's controllers. The typical ambient temperature during the measurements is 22°C.
- (6) phase to phase.
- (7) ISO 5 (class 100) on request.
- (8) Please contact ETEL for more stringent needs.
- (9) For an input frequency of 10 MHz on an AccurET 300 position controller (input frequency is controller dependent). Limited by the interpolation chip. Please contact ETEL in case of greater requirements.

DXL-BS155 S S 0050 A A M 10 C4 7 B - C N x N N S - T x

	S	S	0050	A	A	M	10	C4	7	B	-	C	N	x	N	N	S	-	T	x	
STANDARD FEATURES	Precision grade																				
	Standard	S																			
	Axis configuration																				
	Single	S																			
	Upper	U																			
	Linear stroke																				
	50 mm			0050																	
	100 mm			0100																	
	150 mm			0150																	
	Base material																				
	Aluminum				A																
	Carriage material																				
	Aluminum				A																
	Linear encoder type																				
	Metal tape					M															
	No encoder					N															
	Linear encoder signals																				
	No linear encoder										xx										
	1 Vpp incremental										10										
	TTL 5x										11										
	TTL 10x										12										
	TTL 50x										13										
	TTL 100x										14										
	Motor options																				
	TM + TTL 25x rotary encoder										C4										
	TM + 1 Vpp rotary encoder										C5										
	TM w/o rotary encoder										C6										
	Environment																				
	ISO 7 (class 10000)										7										
	ISO 6 (class 1000)										6										
	ISO 5 (class 100)										5										
	Brake																				
Yes										B											
No										N											
Encapsulation																					
No										N											
Metal cover										C											
Temperature sensors																					
No										N											
Free digit																					
Limit switches																					
No										N											
Limit switches										S											
Air purge																					
No										N											
Finish																					
Standard										S											
Custom										C											
ACCESSORIES	Tooling plate																				
	No									N											
	Standard									T											
	Special									S											
Free digit																					