



DIRECT DRIVE TECHNOLOGY
Product Catalogue
VERSION 4.1.1

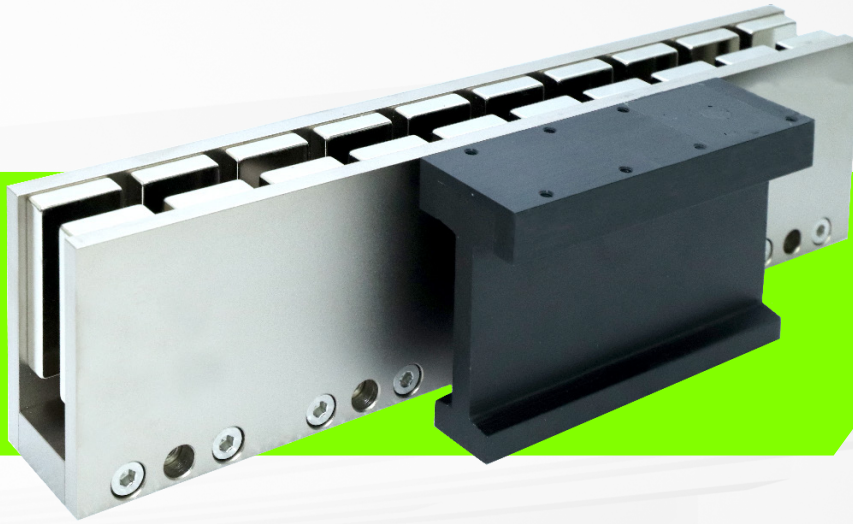


DXB/BT SERIES
IRONLESS LINEAR MOTOR

- PLAY VIDEO -

DXB/BT SERIES

IRONLESS LINEAR MOTOR



High-Speed Ironless Linear Motors With Minimal Velocity Ripple

DX series' ironless patented overlapping winding formers provides excellent force density Vs coil size ratio resulting in high force and acceleration generation. DX Coil's overlapping manufacturing technology allows for the selection of smaller size motors in comparison against the competition due to its higher force density and further improved heat dissipation achieved through optional forced air-cooling methods.

All DX series forces are designed with high flex cables, embedded hall effect sensor and over-temperature protection (thermostats or PT100) that makes it the ideal choice for the most demanding applications. The Modular U-channel Magnet tracks available in 60mm length increments allows for easy assembly of unrestricted stroke length.

- Low speed/torque ripple
- Fast dynamic response
- Zero backlash
- Maintenance-free
- High acceleration
- Long strokes without performance loss
- Easy assembly over long stroke lengths

**Technical specifications subject to change without prior notice*

APPLICATION

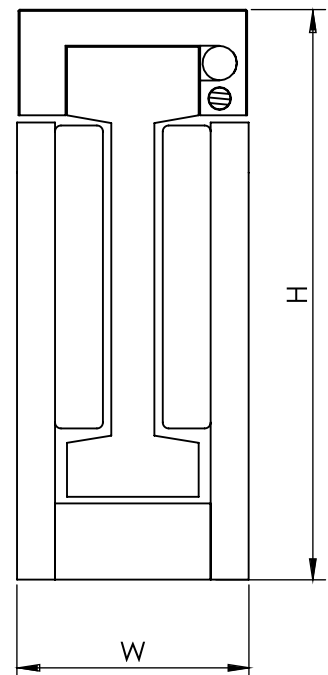
- Laser trimming
- Precision positioning stages
- Photonics
- Biotech handlers
- FPD/LCD transfer
- Wire and Die Bonding
- Microscope stages
- Semiconductor machines
- Diamond cutting
- Micro Precise Fabrication
- Precision Stamping

PART NUMBERING SYSTEM

07

DX10B	08
DX20B	09
DX30B	12
DX50B/BT	15
DX65B/BT	18
DX90B/BT	22

Motor Model	Coil Size	Continuous Force (N)	Peak Force (N)	Coil Weight (Kg)	Coil Length (mm)	Motor W x H (mm)
DX10B	C1	3.2	15.8	0.02	22	21.6 x 36
	C2	6.3	31.6	0.04	43	
	C3	9.5	47.5	0.06	64	
	C4	12.7	63.3	0.08	85	
DX20B	C1	9	45	0.058	31	21.2 x 55.6
	C2	18	92	0.11	61	
	C3	27	137	0.17	91	
	C4	37	183	0.23	121	
	C5	46	229	0.28	151	
DX30B	C1	29	145	0.21	61	35.7 x 68.5
	C2	58	289	0.41	121	
	C3	87	434	0.62	181	
	C4	116	579	0.83	241	
	C5	145	724	1.04	301	
DX50B	C1	45	223	0.25	61	38.7 x 93
	C2	89	446	0.52	121	
	C3	134	669	0.76	181	
	C4	179	893	1.07	241	
	C5	223	1116	1.25	301	
DX50BT	C6	268	1339	1.58	361	38.7 x 95
	C8	357	1785	2.14	481	
DX65B	C2	138	692	1.05	121	50 x 122
	C3	208	1038	1.57	181	
	C4	277	1384	2.09	241	
	C5	346	1703	2.61	301	
DX65BT	C6	415	2077	3.23	361	50 x 124
	C8	554	2769	4.43	481	
	C10	692	3461	5.54	601	
	C12	831	4153	6.64	721	
DX90B	C2	179	894	1.3	121	54 x 148
	C3	268	1342	1.95	181	
	C4	358	1789	2.56	241	
DX90BT	C6	537	2683	4	361	54 x 150
	C8	716	3578	5.31	481	
	C10	894	4472	6.63	601	
	C12	1073	5366	7.96	721	



PART NUMBERING SYSTEM

COIL ASSEMBLY



MOTOR MODEL	
DX10B	DX65B
DX20B	DX65BT
DX30B	DX90B
DX50B	DX90BT
DX50BT	

MOTOR COIL SIZE
C1
C2
C3
C4
C5
:

All models inclusive of built-in hall sensor (Hall sensor not available for DX10)

CONNECTION TYPE
S Series
P Parallel

THERMAL PROTECTION
TC* PT100 Sensor Available for all DX series
TM** Thermostat Available for all DX30-90BT only

CABLE LENGTH***
0.5 0.5m
1.0 1.0m
2.0 2.0m
3.0 3.0m
4.0 4.0m
5.0 5.0m

* TC-Sensor output to temperature controller

** TM-On/Off switch, trigger at 100°C

*** Minimum Bending Radius-10 times of cable diameter

DESIGN VERSIONS
00 Standard
01 Customised Version
:

HALL SENSOR AND CONNECTOR OPTIONS
NH No Hall Cable/Connector (Only applies to DX10, all other models inclusive hall sensor)
H Flying Leads (No Connector)
HC 9 pins D Sub Male Connector
CHC 5 pins Circular Quick Lock Male Connector
HCL 9 pins D Sub Male Connector with Line Driver

POWER CABLE OPTIONS
NF No Ferrite Core (Flying Leads)
FC Ferrite Core (Recommended, not applies to DX10)
9NF No Ferrite Core, D Sub 9 pins Female Connector
CNF No Ferrite Core, Circular Quick Lock 6 pins Male Connector

COOLING TYPE
NC No Cooling (Standard)
AC Air Cooling
WC Water Cooling

MAGNET TRACK



MOTOR MODEL	
DX10B	DX50B
DX20B	DX65B
DX30B	DX90B

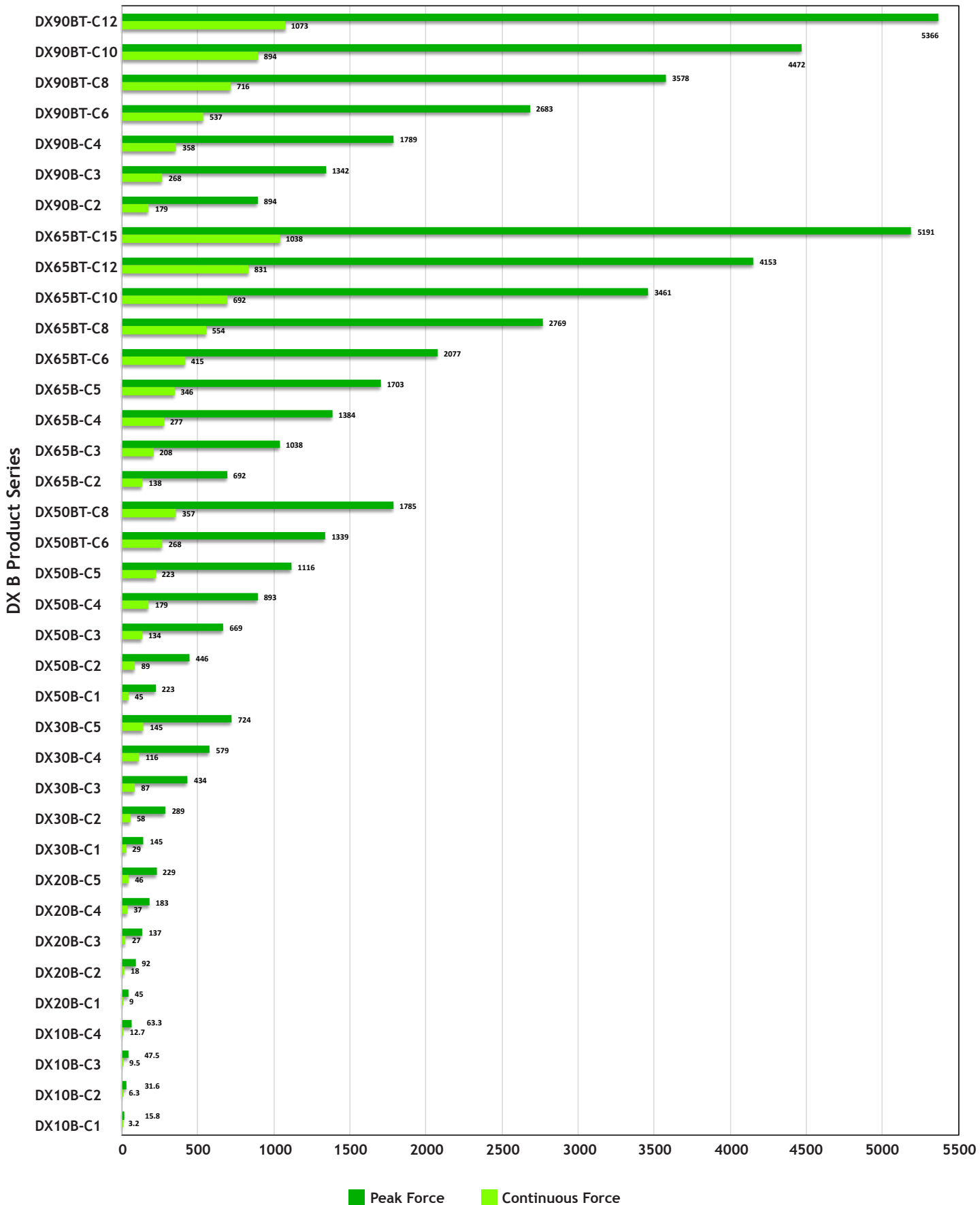
MAGNET TRACK LENGTH*	
TL63 - 63mm*	TL240 - 240mm**
TL84 - 84mm*	TL300 - 300mm**
TL105 - 105mm*	TL360 - 360mm**
TL120 - 120mm**	TL480 - 480mm**
TL180 - 180mm**	TL660 - 660mm**

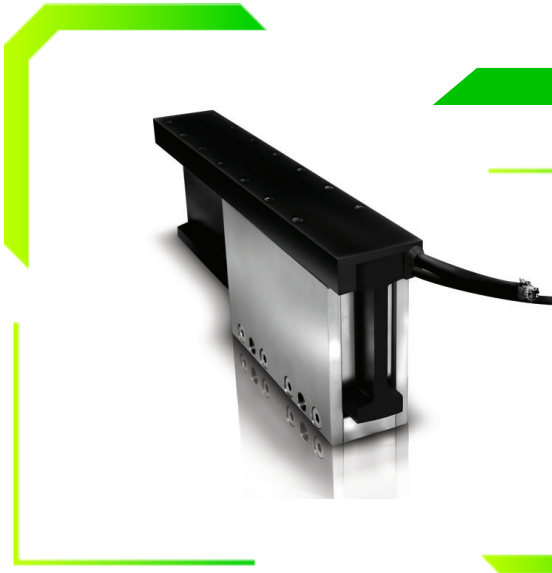
* Only applicable to DX10 only

** Track length in incremental of 60mm

FORCE CHART FOR DX B SERIES LINEAR MOTOR

Force Chart For DX B Motors





DXB/BT SERIES

IRONLESS LINEAR MOTOR

DX10B

- IRONLESS MOTOR
- Peak force to 63N, Continuous force to 12N
- Hall sensor not available for DX10

SPECIFICATION		MODEL			
		DX10B-C1	DX10B-C2	DX10B-C3	DX10B-C4
		S	S	S	S
Performance		Unit			
Peak Force	N	15.8	31.6	47.5	63.3
Continuous Force @ 120°C*	N	3.2	6.3	9.5	12.7
Peak Power @ 120°C	W	316	631	947	1262
Continuous Power @ 120°C*	W	12.6	25.2	37.9	50.5
Electrical					
Peak Current	A ^{pk}	14.01			
Continuous Current @ 120°C*	A ^{pk}	2.80			
Continuous Stall Current @ 120°C*	Arms	1.98			
Force Constant	N/A ^{pk}	1.1	2.3	3.4	4.5
Back EMF Constant	V ^{pk} /m/s	1.3	2.6	3.9	5.2
Coil Resistance L-L @ 25°C	ohm	1.06	2.12	3.18	4.24
Coil Resistance L-L @ 120°C*	ohm	1.47	2.94	4.41	5.88
Inductance L-L @ 1kHz	mH	0.11	0.22	0.33	0.44
Motor Constant @ 25°C*	N//W	1.05	1.48	1.81	2.09
Motor Constant @ 120°C*	N//W	0.89	1.26	1.54	1.78
Max. Terminal Voltage	Vdc	60			
Thermal					
Thermal Resistance @ 120°C*	°C/W	7.53	3.66	2.51	1.88
Max. Coil Temperature	°C	120			
Mechanical					
Coil Weight	kg	0.02	0.04	0.06	0.08
Coil Length	mm	22	43	64	85
Attractive Force	N	0			
Electrical Cycle Length	mm	21			

Notes:

1. A_{pk} = 1.414 * A_{rms}; V_{pk} = 1.414 * V_{rms}.
2. * Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
3. ^ Air cool (AC), 6mm/4mm (OD/ID) 2m long air hose, pressure >2bar.
4. Specifications tolerance : inductance ±30%, all others ±10%.
5. Peak force and current : 4% duty ratio and 1 second duration
6. Specifications are subject to change without prior notice.

DXB/BT

PIX

PSM/PSME

CVC

CVCA

RVCA

PDDR

PCA

PWA

PLA

PDAB

PIAB

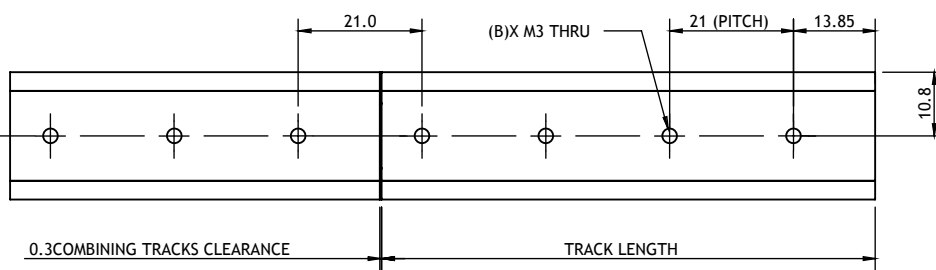
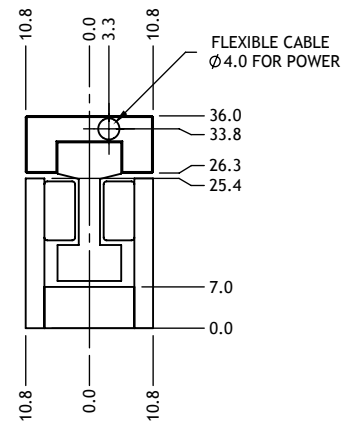
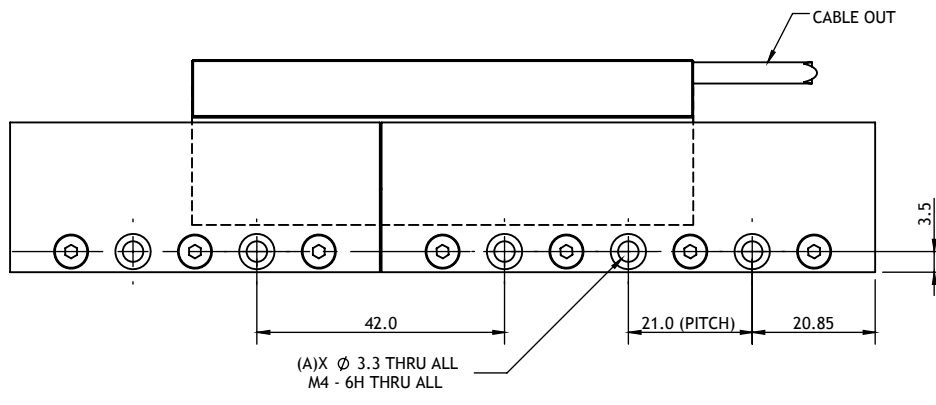
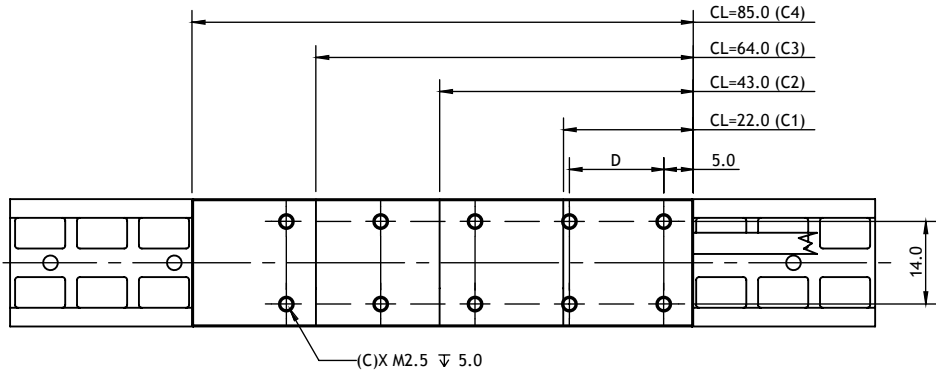
OCTO

PRG

LINEAR ENCODER

SERVO AMPLIFIER

DX10B



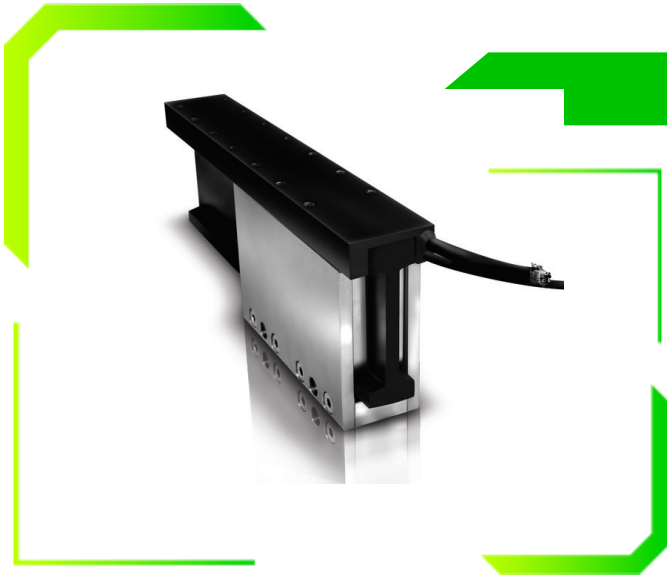
Standard Magnet Track

SIZE	TRACK LENGTH (mm)	WEIGHT (kg)	NUMBER OF MOUNTING HOLE A	NUMBER OF MOUNTING HOLE B
TL 63	62.7	0.15	2	3
TL 84	83.7	0.20	3	4
TL 105	104.7	0.25	4	5

Motor Coil

SIZE	WEIGHT (kg)	NUMBER OF MOUNTING HOLE (TOP MOUNT) C	MOUNTING HOLE PITCH (mm) D
C1	0.02	4	12.0
C2	0.04	6	16.0
C3	0.06	8	16.0
C4	0.08	10	16.0

For COOLING OPTIONS, please ask for detail drawing



DXB/BT SERIES

IRONLESS LINEAR MOTOR

DX20B

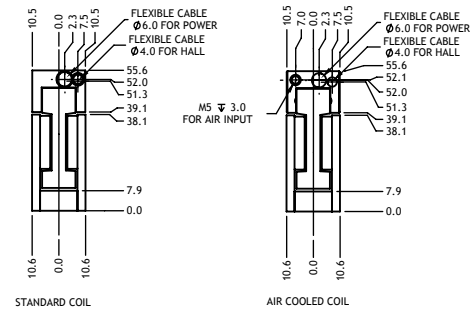
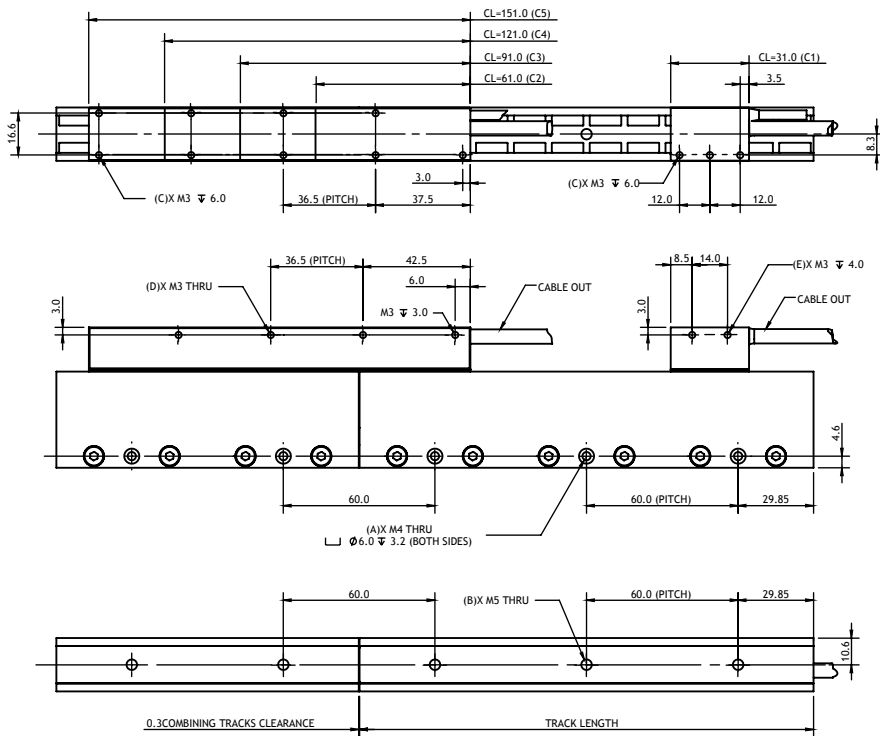
- Ironless Motor
- Peak force to 229N, Continuous force to 60N
- Integrated Hall Sensor

SPECIFICATION	MODEL									
	DX20B-C1		DX20B-C2		DX20B-C3		DX20B-C4		DX20B-C5	
	S	S	P	S	P	S	P	S	P	
Performance	Unit									
Peak Force	N	45	92	137	183	229				
Continuous Force @ 120°C*	N	9	18	27	37	46				
Continuous Force AC @ 120°C^	N		24	36	48	60				
Peak Power @ 120°C	W	377	744	1116	1488	1860				
Continuous Power @ 120°C*	W	15	30	45	60	74				
Continuous Power AC @ 120°C^	W		50	75	101	126				
Electrical										
Peak Current	A ^{pk}	10.50	10.50	21.00	10.50	21.00	10.50	21.00	10.50	21.00
Continuous Current @ 120°C*	A ^{pk}	2.10	2.10	4.20	2.10	4.20	2.10	4.20	2.10	4.20
Continuous Current AC @ 120°C^	A ^{pk}		2.73	5.46	2.73	5.46	2.73	5.46	2.73	5.46
Continuous Stall Current @ 120°C*	Arms	1.40	1.40	2.80	1.40	2.80	1.40	2.80	1.40	2.80
Force Constant	N/A ^{pk}	4.33	8.70	4.40	13.10	6.50	17.40	8.70	21.80	10.9
Back EMF Constant	V ^{pk} /m/s	5.00	10.0	5.0	15.0	7.50	20.1	10.0	25.10	12.5
Coil Resistance L-L @ 25°C	ohm	3.25	6.5	1.6	9.8	2.4	13.0	3.3	16.3	4.1
Coil Resistance L-L @ 120°C*	ohm	4.56	9.0	2.2	13.5	3.4	18.0	4.5	22.5	5.6
Inductance L-L @ 1kHz	mH	0.77	1.53	0.38	2.30	0.57	3.06	0.77	3.83	0.96
Motor Constant @ 25°C*	N//W	2.77	3.95		4.84		5.59		6.24	
Motor Constant @ 120°C*	N//W	2.34	3.36		4.11		4.75		5.31	
Max. Terminal Voltage	Vdc	400								
Thermal										
Thermal Resistance @ 120°C*	°C/W	3.6	3.19		2.13		1.60		1.28	
Thermal Resistance AC @ 120°C^	°C/W		1.89		1.26		0.94		0.76	
Max. Coil Temperature	°C	120								
Mechanical										
Coil Weight	kg	0.058	0.11		0.17		0.23		0.28	
Coil Weight AC^	kg		0.11		0.17		0.23		0.28	
Coil Length	mm	31	61		91		121		151	
Attractive Force	N	0								
Electrical Cycle Length	mm	30								

Notes:

1. A_{pk} = 1.414 * A_{rms}; V_{pk} = 1.414 * V_{rms}.
2. * Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
3. ^ Air cool (AC), 6mm/4mm (OD/ID) 2m long air hose, pressure >2bar.
4. Specifications tolerance : inductance ±30%, all others ±10%.
5. Peak force and current : 4% duty ratio and 1 second duration
6. Specifications are subject to change without prior notice.

DX20B



Standard Magnet Track

SIZE	TRACK LENGTH (mm)	WEIGHT (kg)	NUMBER OF MOUNTING HOLE A	NUMBER OF MOUNTING HOLE B
TL 120	119.7	0.44	2	2
TL 180	179.7	0.66	3	3
TL 240	239.7	0.88	4	4
TL 300	299.7	1.10	5	5
TL 360	359.7	1.32	6	6
TL 480	479.7	1.76	8	8
TL 660	659.7	2.42	11	11

Motor Coil

SIZE	WEIGHT (kg)	NUMBER OF MOUNTING HOLE (TOP MOUNT) C	NUMBER OF MOUNTING HOLE (SIDE MOUNT) D	NUMBER OF MOUNTING HOLE (SIDE MOUNT) E
C1	0.058	3		2
C2	0.11	3	1	
C3	0.17	5	2	
C4	0.23	7	3	
C5	0.28	9	3	

For COOLING OPTIONS, please ask for detail drawing



DXB SERIES

IRONLESS LINEAR MOTOR

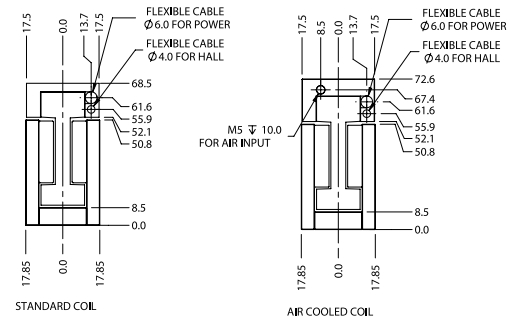
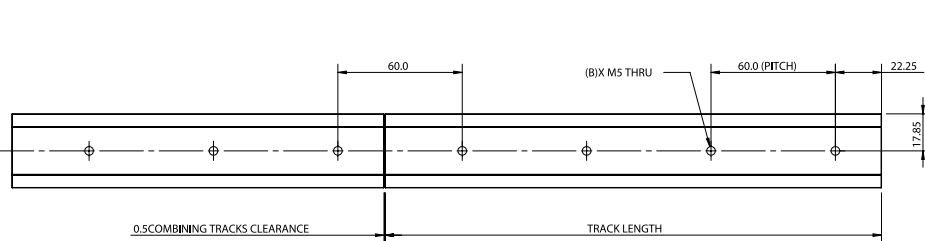
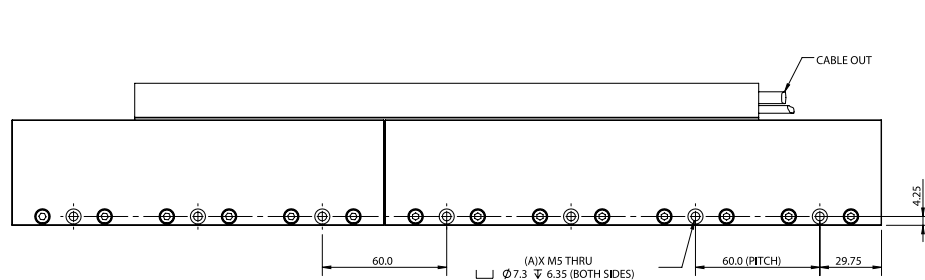
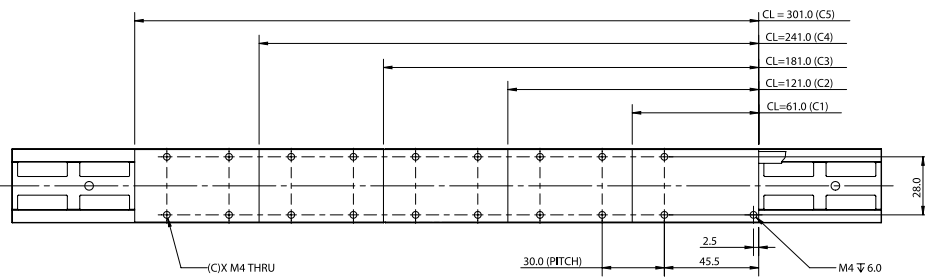
DX30B

- Ironless Motor
- Peak force to 724N, Continuous force to 188N
- Integrated Hall Sensor

SPECIFICATION	MODEL										
	DX30B-C1		DX30B-C2		DX30B-C3		DX30B-C4		DX30B-C5		
	S	P	S	P	S	P	S	P	S	P	
Performance											
	Unit										
Peak Force	N	145	289	434	579	724					
Continuous Force @ 120°C*	N	29	58	87	116	145					
Continuous Force AC @ 120°C^	N	38	75	113	150	188					
Peak Power @ 120°C	W	695	1390	2086	2781	3476					
Continuous Power @ 120°C*	W	28	56	83	111	139					
Continuous Power AC @ 120°C^	W	47	94	141	188	235					
Electrical											
Peak Current	A ^{pk}	11.81	23.63	11.81	23.63	11.81	23.63	11.81	23.63	11.81	23.63
Continuous Current @ 120°C*	A ^{pk}	2.36	4.73	2.36	4.73	2.36	4.73	2.36	4.73	2.36	4.73
Continuous Current AC @ 120°C^	A ^{pk}	3.07	6.14	3.07	6.14	3.07	6.14	3.07	6.14	3.07	6.14
Continuous Stall Current @ 120°C*	Arms	1.75	3.50	1.75	3.50	1.75	3.50	1.75	3.50	1.75	3.50
Force Constant	N/A ^{pk}	12.3	6.1	24.5	12.3	36.8	18.4	49.0	24.5	61.3	30.6
Back EMF Constant	V ^{pk} /m/s	14.1	7.0	28.2	14.1	42.3	21.1	56.4	28.2	70.4	35.2
Coil Resistance L-L @ 25°C	ohm	4.8	1.2	9.6	2.4	14.4	3.6	19.2	4.8	24.0	6.0
Coil Resistance L-L @ 120°C*	ohm	6.6	1.7	13.3	3.3	19.9	5.0	26.6	6.6	33.2	8.3
Inductance L-L @ 1kHz	mH	3.00	0.75	6.00	1.50	9.00	2.25	12.00	3.00	15.00	3.75
Motor Constant @ 25°C*	N/√W	6.46		9.13		11.18		12.91		14.44	
Motor Constant @ 120°C*	N/√W	5.49		7.76		9.51		10.98		12.27	
Max. Terminal Voltage	Vdc	400									
Thermal											
Thermal Resistance @ 120°C*	°C/W	3.42		1.71		1.14		0.85		0.68	
Thermal Resistance AC @ 120°C^	°C/W	2.02		1.01		0.67		0.51		0.40	
Max. Coil Temperature	°C	120									
Mechanical											
Coil Weight	kg	0.21		0.41		0.62		0.83		1.04	
Coil Weight AC^	kg	0.23		0.46		0.69		0.93		1.16	
Coil Length	mm	61		121		181		241		301	
Attractive Force	N	0									
Electrical Cycle Length	mm	60									

Notes:
 1. Apk = 1.414 * Arms; Vpk = 1.414 * Vrms.
 2. * Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
 3. ^ Air cool (AC), 6mm/4mm (OD/ID) 2m long air hose, pressure >2bar.
 4. Specifications tolerance : inductance ±30%, all others ±10%.
 5. Peak force and current : 4% duty ratio and 1 second duration
 6. Specifications are subject to change without prior notice.

DX30B



Standard Magnet Track

SIZE	TRACK LENGTH (mm)	WEIGHT (kg)	NUMBER OF MOUNTING HOLE	
			A	B
TL 120	119.5	1.14	2	2
TL 180	179.5	1.71	3	3
TL 240	239.5	2.28	4	4
TL 300	299.5	2.85	5	5
TL 360	359.5	3.42	6	6
TL 480	479.5	4.56	8	8

DX 30B Motor Coil

SIZE	WEIGHT (kg)	WEIGHT AIR COOL (kg)	NUMBER OF MOUNTING HOLE (TOP MOUNT) C
C1	0.21	0.23	2
C2	0.41	0.46	6
C3	0.62	0.69	10
C4	0.83	0.93	14
C5	1.04	1.16	18

DXB/BT SERIES

IRONLESS LINEAR MOTOR

DX50B/BT

- Ironless Motor
- Peak force to 1339N, Continuous force to 348N
- Integrated Hall Sensor

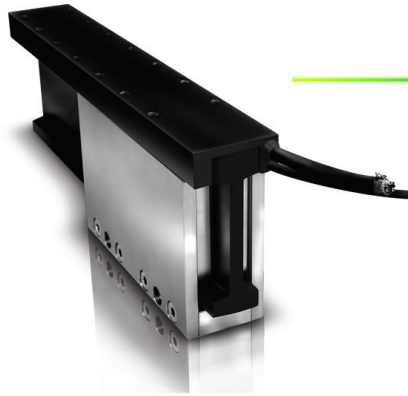


- DXB/BT
- PIX
- PSM/PSME
- CVC
- CVCA
- RVCA
- PDDR
- PCA
- PWA
- PLA
- PDAB
- PIAB
- OCTO
- PRG
- LINEAR ENCODER
- SERVO AMPLIFIER

SPECIFICATION	MODEL								
	DX50B-C1		DX50B-C2		DX50BT-C2	DX50B-C3			
	S	P	S	P	P	S	P		
Performance	Unit								
Peak Force	N	223			446			669	
Continuous Force @ 120°C*	N	45			89			134	
Continuous Force AC @ 120°C^	N	58			116			174	
Peak Power @ 120°C	W	751			1502			2253	
Continuous Power @ 120°C*	W	30			60			90	
Continuous Power AC @ 120°C^	W	51			102			152	
Electrical									
Peak Current	A ^{pk}	13.13	26.25	13.13	26.25	52.50	13.13	26.25	
Continuous Current @ 120°C*	A ^{pk}	2.63	5.25	2.63	5.25	10.50	2.63	5.25	
Continuous Current AC @ 120°C^	A ^{pk}	3.41	6.83	3.41	6.83	13.65	3.41	6.83	
Continuous Stall Current @ 120°C*	Arms	2.10	4.20	2.10	4.20	8.40	2.10	4.20	
Force Constant	N/A ^{pk}	17.0	8.5	34.0	17.0	8.5	51.0	25.5	
Back EMF Constant	V ^{pk} /m/s	19.6	9.8	39.1	19.6	9.8	58.7	29.3	
Coil Resistance L-L @ 25°C	ohm	4.2	1.1	8.4	2.1	0.5	12.6	3.2	
Coil Resistance L-L @ 120°C*	ohm	5.8	1.5	11.6	2.9	0.7	17.4	4.4	
Inductance L-L @ 1kHz	mH	3.11	0.78	6.22	1.56	0.39	9.33	2.33	
Motor Constant @ 25°C*	N/√W	9.85		13.55		16.59			
Motor Constant @ 120°C*	N/√W	8.14		11.51		14.10			
Max. Terminal Voltage	Vdc	400							
Thermal									
Thermal Resistance @ 120°C*	°C/W	3.16		1.58		1.05			
Thermal Resistance AC @ 120°C^	°C/W	1.87		0.94		0.62			
Max. Coil Temperature	°C	120							
Mechanical									
Coil Weight	kg	0.25		0.52		0.54		0.76	
Coil Weight AC^	kg	0.28		0.57		0.60		0.85	
Coil Length	mm	61			121		181		
Attractive Force	N	0							
Electrical Cycle Length	mm	60							

Notes:

1. Apk = 1.414 * Arms; Vpk = 1.414 * Vrms.
2. * Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
3. ^ Air cool (AC), 6mm/4mm (OD/ID) 2m long air hose, pressure >2bar.
4. Specifications tolerance : inductance ±30%, all others ±10%.
5. Peak force and current : 4% duty ratio and 1 second duration
6. Specifications are subject to change without prior notice.



DXB/BT SERIES

IRONLESS LINEAR MOTOR

DX50B/BT

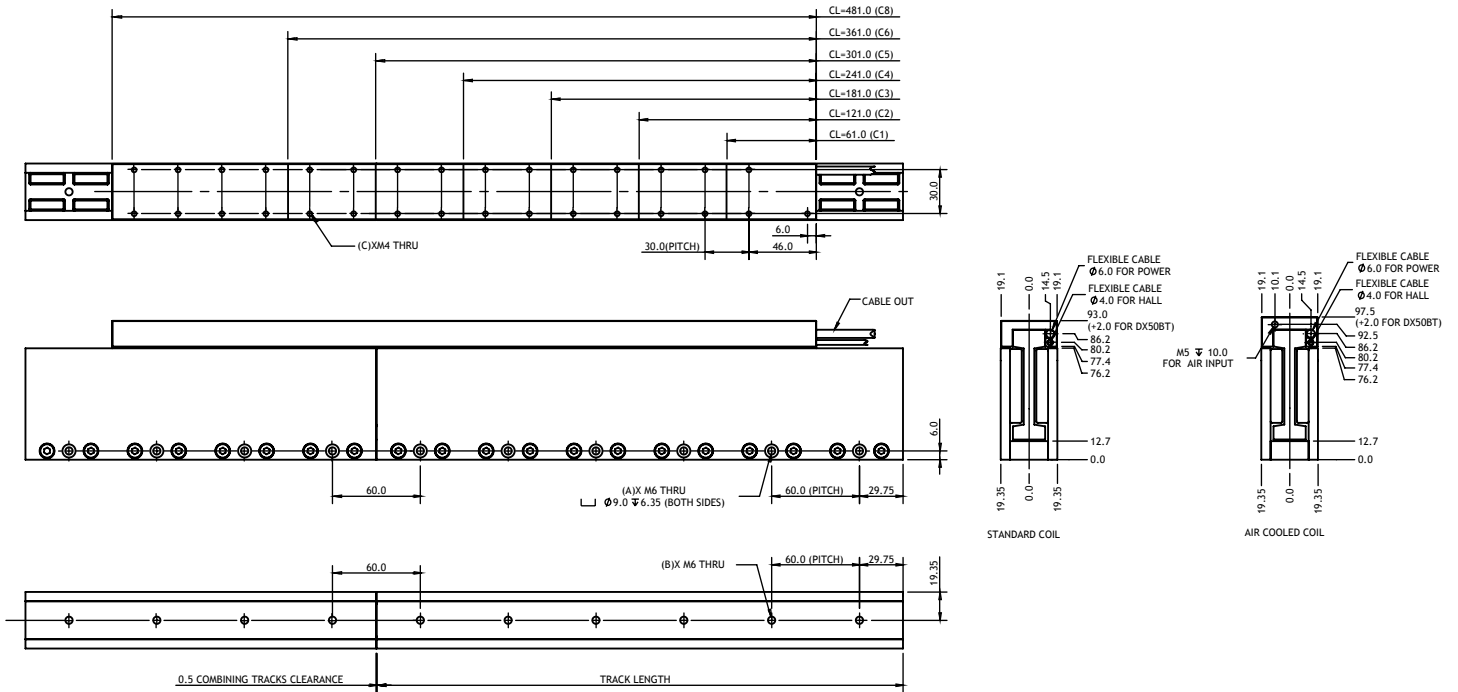
- Ironless Motor
- Peak force to 1339N, Continuous force to 348N
- Integrated Hall Sensor

SPECIFICATION	MODEL								
	DX50B-C4		DX50BT-C4	DX50-C5		DX50BT-C6	DX50BT-C8		
	S	P	P	S	P	P	P		
Performance	Unit								
Peak Force	N		893	1116		1339	1785		
Continuous Force @ 120°C*	N		179	223		268	357		
Continuous Force AC @ 120°C^	N		232	290		348	464		
Peak Power @ 120°C	W		3004	3755		4506	6008		
Continuous Power @ 120°C*	W		120	150		180	240		
Continuous Power AC @ 120°C^	W		203	254		305	406		
Electrical									
Peak Current	A ^{pk}		13.13	26.25	52.50	13.13	26.25	52.50	52.50
Continuous Current @ 120°C*	A ^{pk}		2.63	5.25	10.50	2.63	5.25	10.50	10.50
Continuous Current AC @ 120°C^	A ^{pk}		3.41	6.83	13.65	3.41	6.83	13.65	13.65
Continuous Stall Current @ 120°C*	Arms		2.10	4.20	8.40	2.10	4.20	8.40	8.40
Force Constant	N/A ^{pk}		68.0	34.0	17.0	85.0	42.5	25.5	34.0
Back EMF Constant	V ^{pk} /m/s		78.2	39.1	19.6	97.8	48.9	29.3	39.1
Coil Resistance L-L @ 25°C	ohm		16.8	4.2	1.1	21.0	5.3	1.6	2.1
Coil Resistance L-L @ 120°C*	ohm		23.2	5.8	1.5	29.1	7.3	2.2	2.9
Inductance L-L @ 1kHz	mH		12.44	3.11	0.78	15.55	3.89	1.17	1.56
Motor Constant @ 25°C*	N//W		19.16		21.42		23.46	27.09	
Motor Constant @ 120°C*	N//W		16.28		18.21		19.94	23.03	
Max. Terminal Voltage	Vdc		400						
Thermal									
Thermal Resistance @ 120°C*	°C/W		0.79		0.63		0.53	0.40	
Thermal Resistance AC @ 120°C^	°C/W		0.47		0.37		0.31	0.23	
Max. Coil Temperature	°C		120						
Mechanical									
Coil Weight	kg		1.07	1.05	1.25	1.58	2.14		
Coil Weight AC^	kg		1.19	1.17	1.40	1.75	2.37		
Coil Length	mm		241		301	361	481		
Attractive Force	N		0						
Electrical Cycle Length	mm		60						

Notes:

1. $A_{pk} = 1.414 * Arms$; $V_{pk} = 1.414 * V_{rms}$.
2. * Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
3. ^ Air cool (AC), 6mm/4mm (OD/ID) 2m long air hose, pressure >2bar.
4. Specifications tolerance : inductance $\pm 30\%$, all others $\pm 10\%$.
5. Peak force and current : 4% duty ratio and 1 second duration
6. Specifications are subject to change without prior notice.

DX50B/BT



Standard Magnet Track

SIZE	TRACK LENGTH (mm)	WEIGHT (kg)	NUMBER OF MOUNTING HOLE A	NUMBER OF MOUNTING HOLE B
TL 120	119.5	1.73	2	2
TL 180	179.5	2.60	3	3
TL 240	239.5	3.46	4	4
TL 300	299.5	4.33	5	5
TL 360	359.5	5.20	6	6
TL 480	479.5	6.92	10	10

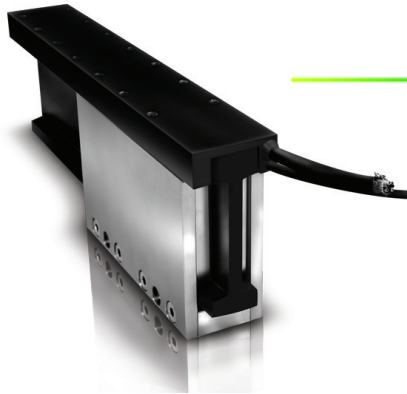
DX 50B Motor Coil

SIZE	WEIGHT (kg)	WEIGHT AIR COOL (kg)	NUMBER OF MOUNTING HOLE (TOP MOUNT) C
C1	0.25	0.28	3
C2	0.52	0.57	7
C3	0.76	0.85	11
C4	1.07	1.19	15
C5	1.25	1.40	19

DX 50BT Motor Coil

SIZE	WEIGHT (kg)	WEIGHT AIR COOL (kg)	NUMBER OF MOUNTING HOLE (TOP MOUNT) C
C2	0.54	0.60	7
C4	1.05	1.17	15
C6	1.58	1.75	23
C8	2.14	2.37	31

DXB/BT
PIX
PSM/PSME
CVC
CVC/A
RVCA
PDDR
PCA
PVA
PLA
PDAB
PIAB
OCTO
PRG
LINEAR ENCODER
SERVO AMPLIFIER



DXB/BT SERIES

IRONLESS LINEAR MOTOR

DX65B/BT

- Ironless Motor
- Peak force to 5191N, Continuous force to 1038N
- Integrated Hall Sensor

SPECIFICATION	MODEL									
	DX65B-C2		DX65B-C3		DX65B-C4		DX65B-C5			
	S	P	S	P	S	P	S	P	S	P
Performance	Unit									
Peak Force	N	692		1038		1384		1703		
Continuous Force @ 120°C*	N	138		208		277		346		
Continuous Force AC @ 120°C^	N	173		260		346		415		
Peak Power @ 120°C	W	1951		2927		3902		4878		
Continuous Power @ 120°C*	W	78		117		156		195		
Continuous Power AC @ 120°C^	W	122		183		244		281		
Electrical										
Peak Current	A ^{pk}	15.63	31.25	15.63	31.25	15.63	31.25	15.63	31.25	
Continuous Current @ 120°C*	A ^{pk}	3.13	6.25	3.13	6.25	3.13	6.25	3.13	6.25	
Continuous Current AC @ 120°C^	A ^{pk}	3.91	7.81	3.91	7.81	3.91	7.81	3.75	7.50	
Continuous Stall Current @ 120°C*	Arms	2.50	5.00	2.50	5.00	2.50	5.00	2.50	5.00	
Force Constant	N/A ^{pk}	44.3	22.2	66.5	33.2	88.6	44.3	110.8	55.4	
Back EMF Constant	V ^{pk} /m/s	50.9	25.5	76.4	38.2	101.9	50.9	127.4	63.7	
Coil Resistance L-L @ 25°C	ohm	7.7	1.9	11.6	2.9	15.4	3.9	19.3	4.8	
Coil Resistance L-L @ 120°C*	ohm	10.7	2.7	16.0	4.0	21.3	5.3	26.6	6.7	
Inductance L-L @ 1kHz	mH	9.11	2.28	13.67	3.42	18.22	4.56	22.78	5.69	
Motor Constant @ 25°C*	N//W	18.4		22.6		26.1		29.1		
Motor Constant @ 120°C*	N//W	15.7		19.2		22.2		24.8		
Max. Terminal Voltage	Vdc	600								
Thermal										
Thermal Resistance @ 120°C*	°C/W	1.22		0.81		0.61		0.49		
Thermal Resistance AC @ 120°C^	°C/W	0.78		0.52		0.39		0.34		
Max. Coil Temperature	°C	120								
Mechanical										
Coil Weight	kg	1.05		1.57		2.09		2.61		
Coil Weight AC^	kg	1.13		1.69		2.25		2.81		
Coil Length	mm	121		181		241		301		
Attractive Force	N	0								
Electrical Cycle Length	mm	60								

Notes:

1. A^{pk} = 1.414 * Arms; V^{pk} = 1.414 * Vr_{ms}.
2. * Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
3. ^ Air cool (AC), 6mm/4mm (OD/ID) 2m long air hose, pressure >2bar.
4. Specifications tolerance : inductance ±30%, all others ±10%.
5. Peak force and current : 4% duty ratio and 1 second duration
6. Specifications are subject to change without prior notice.

DXB/BT SERIES

IRONLESS LINEAR MOTOR

DX65B/BT

- Ironless Motor
- Peak force to 5191N, Continuous force to 1038N
- Integrated Hall Sensor

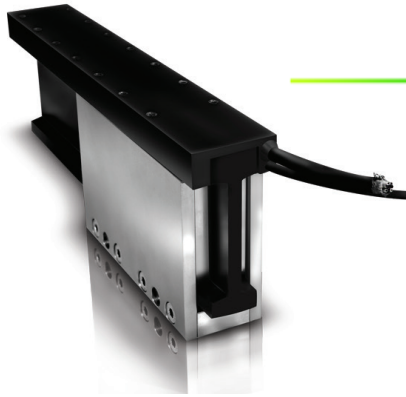


DXB/BT
PIX
PSM/PSME
CVC
CVCA
RVCA
PDDR
PCA
PWA
PLA
PDAB
PIAB
OCTO
PRG
LINEAR ENCODER
SERVO AMPLIFIER

SPECIFICATION		MODEL					
		DX65B-C6		DX65BT-C6	DX65B-C8		DX65BT-C8
		S	P	P	S	P	P
Performance							
	Unit						
Peak Force	N	2077			2769		
Continuous Force @ 120°C*	N	415			554		
Continuous Force AC @ 120°C^	N	498					
Peak Power @ 120°C	W	5854			7805		
Continuous Power @ 120°C*	W	234			312		
Continuous Power AC @ 120°C^	W	337					
Electrical							
Peak Current	A ^{pk}	15.63	31.25	62.5	15.63	31.25	62.50
Continuous Current @ 120°C*	A ^{pk}	3.13	6.25	12.5	3.13	6.25	12.50
Continuous Current AC @ 120°C^	A ^{pk}	3.75	7.50	15.00			
Continuous Stall Current @ 120°C*	Arms	2.50	5.00	10.00	2.50	5.00	10.00
Force Constant	N/A ^{pk}	132.9	66.5	33.2	177.2	88.6	44.3
Back EMF Constant	V ^{pk} /m/s	152.8	76.4	38.2	203.8	101.9	50.9
Coil Resistance L-L @ 25°C	ohm	23.1	5.8	1.4	30.8	7.7	1.9
Coil Resistance L-L @ 120°C*	ohm	32.0	8.0	2.0	42.6	10.7	2.7
Inductance L-L @ 1kHz	mH	27.33	6.83	1.71	36.44	9.11	2.28
Motor Constant @ 25°C*	N/√W	31.9			36.9		
Motor Constant @ 120°C*	N/√W	27.1			31.3		
Max. Terminal Voltage	Vdc	600					
Thermal							
Thermal Resistance @ 120°C*	°C/W	0.41			0.30		
Thermal Resistance AC @ 120°C^	°C/W	0.28					
Max. Coil Temperature	°C	120					
Mechanical							
Coil Weight	kg	3.13		3.23	4.36		4.43
Coil Weight AC^	kg	3.37		3.47			
Coil Length	mm	361			481		
Attractive Force	N	0					
Electrical Cycle Length	mm	60					

Notes:

1. A_{pk} = 1.414 * Arms; V_{pk} = 1.414 * Vr_{ms}.
2. * Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
3. ^ Air cool (AC), 6mm/4mm (OD/ID) 2m long air hose, pressure >2bar.
4. Specifications tolerance : inductance ±30%, all others ±10%.
5. Peak force and current : 4% duty ratio and 1 second duration
6. Specifications are subject to change without prior notice.



DXB/BT SERIES

IRONLESS LINEAR MOTOR

DX65B / BT

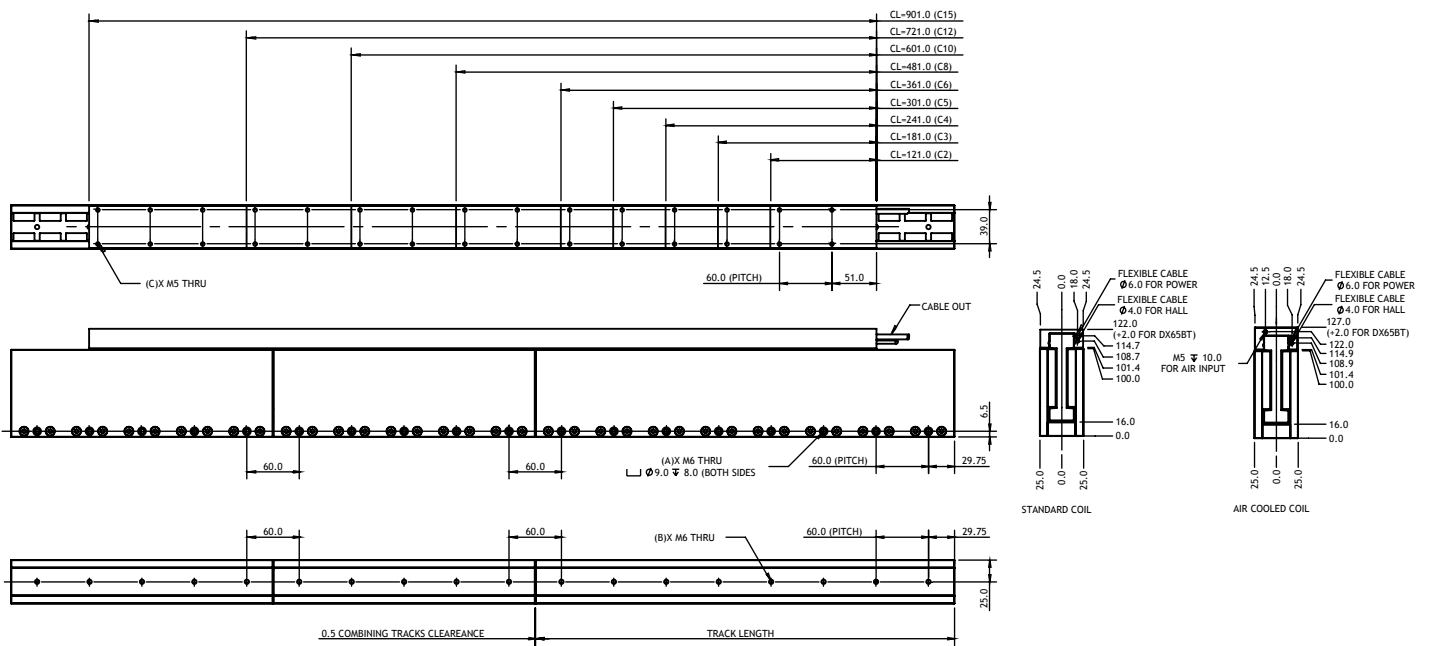
- Ironless Motor
- Peak force to 5191N, Continuous force to 1247N
- Integrated Hall Sensor

SPECIFICATION	Unit	MODEL				
		DX65B-C10		DX65BT-C10	DX65BT-C12	DX65BT-C15
		S	P	P	P	P
Performance						
Peak Force	N	3461		4153	5191	
Continuous Force @ 120°C*	N	692		831	1038	
Continuous Force AC @ 120°C^	N					
Peak Power @ 120°C	W	9756		11707	14634	
Continuous Power @ 120°C*	W	390		468	585	
Continuous Power AC @ 120°C^	W					
Electrical						
Peak Current	A ^{pk}	15.63	31.25	62.5	62.50	93.75
Continuous Current @ 120°C*	A ^{pk}	3.13	6.25	12.5	12.50	18.75
Continuous Current AC @ 120°C^	A ^{pk}					
Continuous Stall Current @ 120°C*	Arms	2.50	5.00	10		15.00
Force Constant	N/A ^{pk}	221.5	110.8	55.4	66.5	55.4
Back EMF Constant	V ^{pk} /m/s	254.7	127.4	63.7	76.4	63.7
Coil Resistance L-L @ 25°C	ohm	38.5	9.6	2.4	2.9	1.6
Coil Resistance L-L @ 120°C*	ohm	53.3	13.3	3.3	4.0	2.2
Inductance L-L @ 1kHz	mH	45.55	11.39	2.85	3.42	1.90
Motor Constant @ 25°C*	N//W	41.2		45.2	50.5	
Motor Constant @ 120°C*	N//W	35.0		38.4	42.9	
Max. Terminal Voltage	Vdc	600				
Thermal						
Thermal Resistance @ 120°C*	°C/W	0.24		0.20	0.16	
Thermal Resistance AC @ 120°C^	°C/W					
Max. Coil Temperature	°C	120				
Mechanical						
Coil Weight	kg	5.45	5.54	6.64	8.55	
Coil Weight AC^	kg					
Coil Length	mm	601		721	901	
Attractive Force	N	0				
Electrical Cycle Length	mm	60				

Notes:

1. Apk = 1.414 * Arms; Vpk = 1.414 * Vrms.
2. * Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
3. ^ Air cool (AC), 6mm/4mm (OD/ID) 2m long air hose, pressure >2bar.
4. Specifications tolerance : inductance ±30%, all others ±10%.
5. Peak force and current : 4% duty ratio and 1 second duration
6. Specifications are subject to change without prior notice.

DX65B/BT



Standard Magnet Track

SIZE	TRACK LENGTH (mm)	WEIGHT (kg)	NUMBER OF MOUNTING HOLE A	NUMBER OF MOUNTING HOLE B
TL 180	179.5	4.50	3	3
TL 240	239.5	6.00	4	4
TL 300	299.5	7.50	5	5
TL 360	359.5	9.00	6	6
TL 480	479.5	12.00	8	8

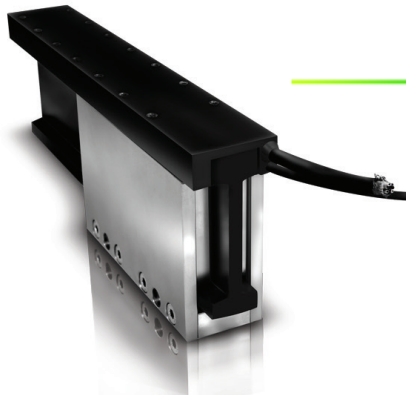
DX 65B Motor Coil

SIZE	WEIGHT (kg)	WEIGHT AIR COOL (kg)	NUMBER OF MOUNTING HOLE (TOP MOUNT) C
C2	1.05	1.13	4
C3	1.57	1.69	6
C4	2.09	2.25	8
C5	2.61	2.81	10
C6	3.13	3.37	12
C8	4.36		16
C10	5.45		20

DX 65BT Motor Coil

SIZE	WEIGHT (kg)	WEIGHT AIR COOL (kg)	NUMBER OF MOUNTING HOLE (TOP MOUNT) C
C6	3.23	3.47	12
C8	4.43		16
C10	5.54		20
C12	6.64		24
C15	8.55		30

DXB/BT
PIX
PSM/PSME
CVC
CVC/A
RVCA
PDDR
PCA
PWA
PLA
PDAB
PIAB
OCTO
PRG
LINEAR ENCODER
SERVO AMPLIFIER



DXB/BT SERIES

IRONLESS LINEAR MOTOR

DX90B/BT

- Ironless Motor
- Peak force to 5366N, Continuous force to 1234N
- Integrated Hall Sensor

SPECIFICATION	Unit	MODEL									
		DX90B-C2		DX90B-C3		DX90B-C4		DX90B-C6		DX90BT-C6	
		S	P	S	P	S	P	S	P	P	
Performance											
Peak Force	N	894	1342	1789	2683						
Continuous Force @ 120°C*	N	179	268	358	537						
Continuous Force AC @ 120°C^	N	215	322	429	617						
Peak Power @ 120°C	W	2217	3325	4433	6650						
Continuous Power @ 120°C*	W	89	133	177	266						
Continuous Power AC @ 120°C^	W	128	192	255	352						
Electrical											
Peak Current	A ^{pk}	16.88	33.75	16.88	33.75	16.88	33.75	16.88	33.75	67.50	
Continuous Current @ 120°C*	A ^{pk}	3.38	6.75	3.38	6.75	3.38	6.75	3.38	6.75	13.50	
Continuous Current AC @ 120°C^	A ^{pk}	4.05	8.10	4.05	8.10	4.05	8.10	3.88	7.76	15.53	
Continuous Stall Current @ 120°C*	Arms	2.70	5.40	2.70	5.40	2.70	5.40	2.70	5.40	10.80	
Force Constant	N/A ^{pk}	53.0	26.5	79.5	39.8	106.0	53.0	159.0	79.5	39.8	
Back EMF Constant	V ^{pk} /m/s	61.0	30.5	91.4	45.7	121.9	61.0	182.9	91.4	45.7	
Coil Resistance L-L @ 25°C	ohm	7.5	1.9	11.3	2.8	15.0	3.8	22.5	5.6	1.4	
Coil Resistance L-L @ 120°C*	ohm	10.4	2.6	15.6	3.9	20.8	5.2	31.1	7.8	1.9	
Inductance L-L @ 1kHz	mH	8.51	2.13	12.77	3.19	17.03	4.26	25.54	6.39	1.60	
Motor Constant @ 25°C*	N/√W	22.3	27.4	31.6	38.7						
Motor Constant @ 120°C*	N/√W	19.0	23.3	26.9	32.9						
Max. Terminal Voltage	Vdc	600									
Thermal											
Thermal Resistance @ 120°C*	°C/W	1.07	0.71	0.54	0.36						
Thermal Resistance AC @ 120°C^	°C/W	0.74	0.50	0.37	0.27						
Max. Coil Temperature	°C	120									
Mechanical											
Coil Weight	kg	1.30	1.95	2.56	3.90	4.00					
Coil Weight AC^	kg	1.39	2.08	2.74	4.16	4.27					
Coil Length	mm	121	181	241	361						
Attractive Force	N	0									
Electrical Cycle Length	mm	60									

Notes:

1. $A_{pk} = 1.414 * Arms$; $V_{pk} = 1.414 * V_{rms}$.
2. * Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
3. ^ Air cool (AC), 6mm/4mm (OD/ID) 2m long air hose, pressure >2bar.
4. Specifications tolerance : inductance ±30%, all others ±10%.
5. Peak force and current : 4% duty ratio and 1 second duration
6. Specifications are subject to change without prior notice.

DXB/BT SERIES

IRONLESS LINEAR MOTOR

DX90B/BT

- Ironless Motor
- Peak force to 5366N, Continuous force to 1234N
- Integrated Hall Sensor



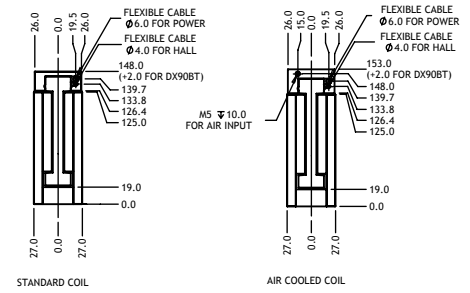
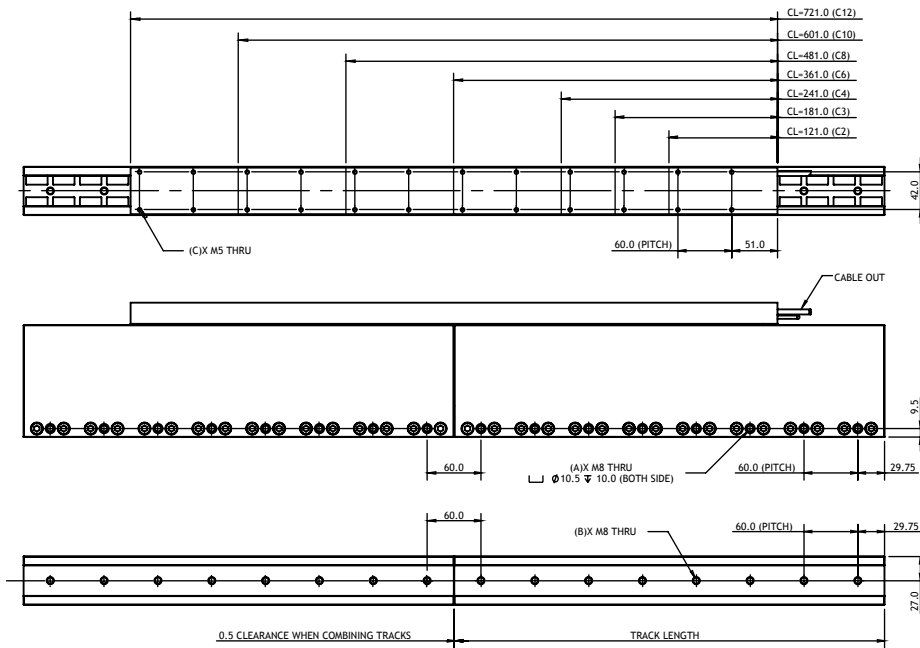
DXB/BT
PIX
PSM/PSME
CVC
CVCA
RVCA
PDDR
PCA
PWA
PLA
PDAB
PIAB
OCTO
PRG
LINEAR ENCODER
SERVO AMPLIFIER

SPECIFICATION	MODEL										
	DX90B-C8		DX90BT-C8		DX90B-C10		DX90BT-C10		DX90BT-C12		
	S	P	P		S	P	P		P		
Performance	Unit										
Peak Force	N	3578				4472				5366	
Continuous Force @ 120°C*	N	716				894				1073	
Continuous Force AC @ 120°C^	N										
Peak Power @ 120°C	W	8867				11084				13300	
Continuous Power @ 120°C*	W	355				443				532	
Continuous Power AC @ 120°C^	W										
Electrical											
Peak Current	A ^{pk}	16.88	33.75	67.50		16.88	33.75	67.50			
Continuous Current @ 120°C*	A ^{pk}	3.38	6.75	13.50		3.38	6.75	13.50			
Continuous Current AC @ 120°C^	A ^{pk}										
Continuous Stall Current @ 120°C*	Arms	2.70	5.40	10.80		2.70	5.40	10.80			
Force Constant	N/A ^{pk}	212.0	106.0	53.0		265.0	132.5	66.3		79.5	
Back EMF Constant	V ^{pk} /m/s	243.8	121.9	61.0		304.8	152.4	76.2		91.4	
Coil Resistance L-L @ 25°C	ohm	30.0	7.5	1.9		37.5	9.4	2.3		2.8	
Coil Resistance L-L @ 120°C*	ohm	41.5	10.4	2.6		51.9	13.0	3.2		3.9	
Inductance L-L @ 1kHz	mH	34.06	8.51	2.13		42.57	10.64	2.66		3.19	
Motor Constant @ 25°C*	N//W	44.7				50.0				54.7	
Motor Constant @ 120°C*	N//W	38.0				42.5				46.5	
Max. Terminal Voltage	Vdc					600					
Thermal											
Thermal Resistance @ 120°C*	°C/W	0.27				0.21				0.18	
Thermal Resistance AC @ 120°C^	°C/W										
Max. Coil Temperature	°C					120					
Mechanical											
Coil Weight	kg	5.17		5.31		6.46		6.63		7.96	
Coil Weight AC^	kg										
Coil Length	mm	481				601				721	
Attractive Force	N					0					
Electrical Cycle Length	mm					60					

Notes:

1. Apk = 1.414 * Arms; Vpk = 1.414 * Vrms.
2. * Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
3. ^ Air cool (AC), 6mm/4mm (OD/ID) 2m long air hose, pressure >2bar.
4. Specifications tolerance : inductance ±30%, all others ±10%.
5. Peak force and current : 4% duty ratio and 1 second duration
6. Specifications are subject to change without prior notice.

DX90B/BT



Standard Magnet Track

SIZE	TRACK LENGTH (mm)	WEIGHT (kg)	NUMBER OF MOUNTING HOLE A	NUMBER OF MOUNTING HOLE B
TL 240	239.5	8.50	4	4
TL 300	299.5	10.50	5	5
TL 360	359.5	12.50	6	6
TL 480	479.5	16.80	8	8

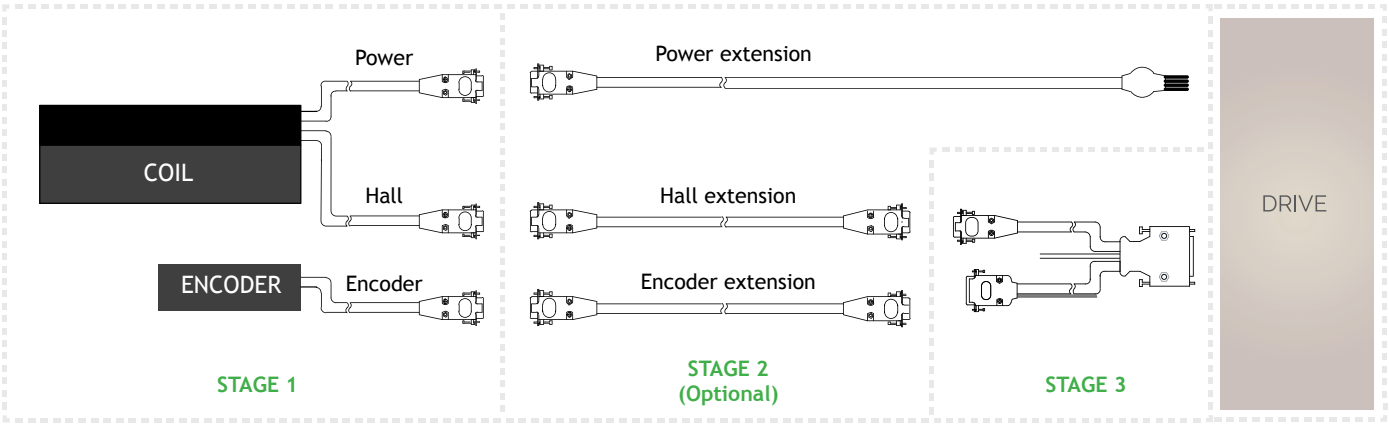
DX 90B Motor Coil

SIZE	WEIGHT (kg)	WEIGHT AIR COOL (kg)	NUMBER OF MOUNTING HOLE (TOP MOUNT) C
C2	1.30	1.39	4
C3	1.95	2.08	6
C4	2.56	2.74	8
C6	3.90	4.16	12
C8	5.17		16
C10	6.46		20

DX 90BT Motor Coil

SIZE	WEIGHT (kg)	WEIGHT AIR COOL (kg)	NUMBER OF MOUNTING HOLE (TOP MOUNT) C
C6	4.00	4.27	12
C8	5.31		16
C10	6.63		20
C12	7.96		24

CABLE OPTION



STAGE 1 | POWER AND HALL CABLE OPTION

DX50B-C4-P-TM-2.0-NC-FC-HC-00

POWER CABLE OPTIONS

NF																																
FC	 All the DX B (Except DX10B, DX BT, DX B-P Air Cool)	<table border="1"> <thead> <tr> <th></th> <th>DX10</th> <th>All DX except DX10</th> </tr> </thead> <tbody> <tr><td>M1</td><td>White</td><td>Grey</td></tr> <tr><td>M2</td><td>Green</td><td>Brown</td></tr> <tr><td>M3</td><td>Blue</td><td>Black</td></tr> <tr><td>PE</td><td>Shield / Yellow</td><td>Yellow</td></tr> <tr><td>TS1</td><td>Red</td><td>Black</td></tr> <tr><td>TS2</td><td>Black</td><td>Orange</td></tr> </tbody> </table>		DX10	All DX except DX10	M1	White	Grey	M2	Green	Brown	M3	Blue	Black	PE	Shield / Yellow	Yellow	TS1	Red	Black	TS2	Black	Orange									
		DX10	All DX except DX10																													
M1	White	Grey																														
M2	Green	Brown																														
M3	Blue	Black																														
PE	Shield / Yellow	Yellow																														
TS1	Red	Black																														
TS2	Black	Orange																														
	 DX BT, DX B-P Air Cool																															
9NF		<table border="1"> <thead> <tr> <th colspan="3">DX10</th> </tr> </thead> <tbody> <tr><td>P1</td><td>M1</td><td>White</td></tr> <tr><td>P2</td><td>M2</td><td>Green</td></tr> <tr><td>P3</td><td>M3</td><td>Blue</td></tr> <tr><td>P4</td><td>TS1</td><td>Red</td></tr> <tr><td>P5</td><td>TS2</td><td>Black</td></tr> <tr><td>P6</td><td></td><td></td></tr> <tr><td>P7</td><td></td><td></td></tr> <tr><td>P8</td><td></td><td></td></tr> <tr><td>P9</td><td></td><td></td></tr> </tbody> </table>	DX10			P1	M1	White	P2	M2	Green	P3	M3	Blue	P4	TS1	Red	P5	TS2	Black	P6			P7			P8			P9		
	DX10																															
P1	M1	White																														
P2	M2	Green																														
P3	M3	Blue																														
P4	TS1	Red																														
P5	TS2	Black																														
P6																																
P7																																
P8																																
P9																																
	 9 Pin D-sub Female	<table border="1"> <thead> <tr> <th colspan="3">All DX except DX10</th> </tr> </thead> <tbody> <tr><td>P1</td><td>M1</td><td>Grey</td></tr> <tr><td>P2</td><td>M1</td><td>Black (Jumper)</td></tr> <tr><td>P3</td><td>M3</td><td>Black</td></tr> <tr><td>P4</td><td>M3</td><td>Black (Jumper)</td></tr> <tr><td>P5</td><td>M2</td><td>Brown</td></tr> <tr><td>P6</td><td>M2</td><td>Black (Jumper)</td></tr> <tr><td>P7</td><td>TS1</td><td>Black</td></tr> <tr><td>P8</td><td>TS2</td><td>Orange</td></tr> <tr><td>P9</td><td>PE</td><td>Yellow</td></tr> </tbody> </table>	All DX except DX10			P1	M1	Grey	P2	M1	Black (Jumper)	P3	M3	Black	P4	M3	Black (Jumper)	P5	M2	Brown	P6	M2	Black (Jumper)	P7	TS1	Black	P8	TS2	Orange	P9	PE	Yellow
All DX except DX10																																
P1	M1	Grey																														
P2	M1	Black (Jumper)																														
P3	M3	Black																														
P4	M3	Black (Jumper)																														
P5	M2	Brown																														
P6	M2	Black (Jumper)																														
P7	TS1	Black																														
P8	TS2	Orange																														
P9	PE	Yellow																														
CNF	 Push Pull 5 Pin Male (for DX10)	<table border="1"> <thead> <tr> <th></th> <th>DX10</th> <th>All DX except DX10</th> </tr> </thead> <tbody> <tr><td>P1</td><td>M1</td><td>White</td></tr> <tr><td>P2</td><td>M2</td><td>Green</td></tr> <tr><td>P3</td><td>M3</td><td>Blue</td></tr> <tr><td>P4</td><td>TS1</td><td>Red</td></tr> <tr><td>P5</td><td>TS2</td><td>Black</td></tr> <tr><td>P6</td><td>PE</td><td>Yellow</td></tr> </tbody> </table>		DX10	All DX except DX10	P1	M1	White	P2	M2	Green	P3	M3	Blue	P4	TS1	Red	P5	TS2	Black	P6	PE	Yellow									
		DX10	All DX except DX10																													
P1	M1	White																														
P2	M2	Green																														
P3	M3	Blue																														
P4	TS1	Red																														
P5	TS2	Black																														
P6	PE	Yellow																														
	 Push Pull 6 Pin Male (for all DX except DX10)																															

HALL SENSOR OPTIONS

H		<table border="1"> <tr><td>Hall A</td><td>White</td></tr> <tr><td>Hall B</td><td>Green</td></tr> <tr><td>Hall C</td><td>Blue</td></tr> <tr><td>5V</td><td>Red</td></tr> <tr><td>0V</td><td>Black</td></tr> </table>	Hall A	White	Hall B	Green	Hall C	Blue	5V	Red	0V	Black						
	Hall A	White																
Hall B	Green																	
Hall C	Blue																	
5V	Red																	
0V	Black																	
		<table border="1"> <tr><td>P1</td><td>Hall A</td><td>White</td></tr> <tr><td>P2</td><td>Hall B</td><td>Green</td></tr> <tr><td>P3</td><td>Hall C</td><td>Blue</td></tr> <tr><td>P4</td><td>5V</td><td>Red</td></tr> <tr><td>P5</td><td>0V</td><td>Black</td></tr> </table>	P1	Hall A	White	P2	Hall B	Green	P3	Hall C	Blue	P4	5V	Red	P5	0V	Black	
P1	Hall A	White																
P2	Hall B	Green																
P3	Hall C	Blue																
P4	5V	Red																
P5	0V	Black																
HC	 9 Pin D-sub Male																	
CHC	 Push Pull 5 Pin Male	<table border="1"> <tr><td>P1</td><td>Hall A</td><td>White</td></tr> <tr><td>P2</td><td>Hall B</td><td>Green</td></tr> <tr><td>P3</td><td>Hall C</td><td>Blue</td></tr> <tr><td>P4</td><td>5V</td><td>Red</td></tr> <tr><td>P5</td><td>0V</td><td>Black</td></tr> </table>	P1	Hall A	White	P2	Hall B	Green	P3	Hall C	Blue	P4	5V	Red	P5	0V	Black	
	P1	Hall A	White															
P2	Hall B	Green																
P3	Hall C	Blue																
P4	5V	Red																
P5	0V	Black																
HCL		<table border="1"> <tr><td>P1</td><td>Hall A+</td></tr> <tr><td>P2</td><td>Hall A-</td></tr> <tr><td>P3</td><td>Hall B+</td></tr> <tr><td>P4</td><td>Hall B-</td></tr> <tr><td>P5</td><td>Hall C+</td></tr> <tr><td>P6</td><td>Hall C-</td></tr> <tr><td>P7</td><td>5V</td></tr> <tr><td>P8</td><td>0V</td></tr> </table>	P1	Hall A+	P2	Hall A-	P3	Hall B+	P4	Hall B-	P5	Hall C+	P6	Hall C-	P7	5V	P8	0V
	P1	Hall A+																
P2	Hall A-																	
P3	Hall B+																	
P4	Hall B-																	
P5	Hall C+																	
P6	Hall C-																	
P7	5V																	
P8	0V																	
	 9 Pin D-sub Male																	

Notes: All connectors shown are front view

The temperature in which the thermostat is active is shown as below:

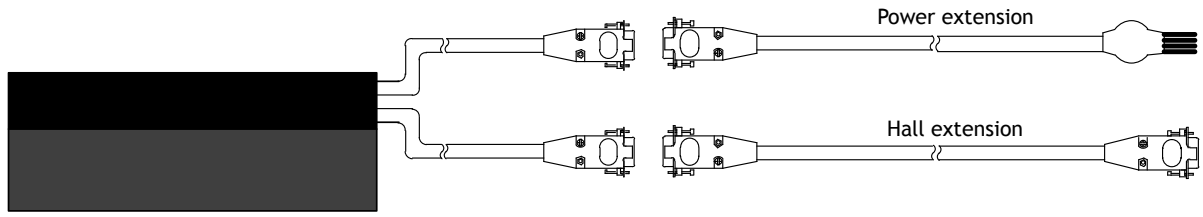
MODEL	THERMAL DEVICE TYPE	THERMOSTAT (NC) OPENS AT
DX10B	PT100	See Note 1
DX20B	PT100	See Note 1
DX30B	Thermostat	100 °C
DX50B	Thermostat	100 °C
DX65B	Thermostat	100 °C
DX90B	Thermostat	100 °C

- Programmable on temperature controller or analog inputs on motion controller.
- Recommended to set cut-off temperature to 100 °C (max) to prevent coil damage.
- User has to ensure that the thermal protection devices are wired to appropriate electronics to ensure that the motor power cutoff is active when temperature reaches its allowable limit.

DXB/BT
PIX
PSM/PSME
CVC
CVCA
RVCA
PDDR
PCA
PWA
PLA
PDAB
PIAB
OCTO
PRG
LINEAR ENCODER
SERVO AMPLIFIER

STAGE 2 | DX B SERIES EXTENSION CABLE

Connection example: DX□B-□-□-□-□-□-9NF-HC-00



Extension Cable		Part Number													
Power Extension Cable		CBL_EXT_PWR0_X.X (DX10B)													
		CBL_EXT_PWR0_CC_X.X (DX10B)													
		CBL_EXT_PWR1_X.X (Except DX10B, DX BT, DXB-P Air Cool)													
		CBL_EXT_PWR1_CC_X.X (Except DX10B, DX BT, DXB-P Air Cool)													
		CBL_EXT_PWR2_X.X (For DX BT, DXB-P Air Cool)													
		CBL_EXT_PWR2_CC_X.X (For DX BT, DXB-P Air Cool)													
Hall Sensor Extension Cable		CBL_EXT_HALLO_X.X													
		CBL_EXT_HALLO_CC_X.X													
		CBL_EXT_HALLO_DIF_X.X													
Encoder Extension Cable		CBL_EXT_REN00_X.X													
		CBL_EXT_REN00A_X.X													
		CBL_EXT_REN01_X.X													
		CBL_EXT_REN01B_X.X													
		CBL_EXT_REN05_X.X													
		CBL_EXT_REN05A_X.X													
	<table border="1"> <thead> <tr> <th>CABLE</th> <th>CABLE LENGTH (X.X)</th> </tr> </thead> <tbody> <tr> <td>00</td> <td>RGH41, VIONIC, QUANTIC Digital</td> </tr> <tr> <td>00A</td> <td>RGH41 Analog</td> </tr> <tr> <td>01</td> <td>RH200 Digital</td> </tr> <tr> <td>01B</td> <td>PH200 Analog</td> </tr> <tr> <td>05</td> <td>ATOM Ri Interface Digital</td> </tr> <tr> <td>05A</td> <td>ATOM Ri Interface Analog</td> </tr> </tbody> </table>	CABLE	CABLE LENGTH (X.X)	00	RGH41, VIONIC, QUANTIC Digital	00A	RGH41 Analog	01	RH200 Digital	01B	PH200 Analog	05	ATOM Ri Interface Digital	05A	ATOM Ri Interface Analog
CABLE	CABLE LENGTH (X.X)														
00	RGH41, VIONIC, QUANTIC Digital														
00A	RGH41 Analog														
01	RH200 Digital														
01B	PH200 Analog														
05	ATOM Ri Interface Digital														
05A	ATOM Ri Interface Analog														

Notes: 1. X.X is the length of the cable in meters 2. For customized cable length, contact PBA

Application Form - Linear Motor Selection

Customer Name:	Date (DD/MM/YY):
Contact Email:	

PBA LINEAR MOTOR SELECTION QUESTIONNAIRE

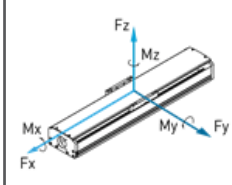
1. Application Description

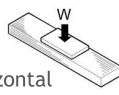

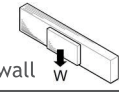
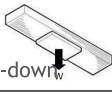
1a. Application Sketch With Approx Dimensions

2. Load Parameter

Moving mass (without motor coil)	kg	
Frictional force	N	
Oposing force	N	
Mx	N.m	My
	N.m	MZ
		N.m

Stage Requirements



<input type="checkbox"/> Horizontal		<input type="checkbox"/> Vertical	
<input type="checkbox"/> Sidewall		<input type="checkbox"/> Upside-down	

3. Motion Parameter

		Profile 1	Profile 2	Profile 3
Moving distance	mm			
Moving time	s			
Moving velocity	m/s			
Acceleration	m/s ²			
Dwell time	s			

4. Command/Bus (Please Circle Accordingly)

Pulse and direction / Analog / EtherCAT / IO trigger / Other : _____
--

5. Encoder (Please Circle Accordingly)

Resolution	um	
Incremental / Absolute / Analog		

6. Motion Precision

Accuracy	um/mm	
Repeatability	um	

7. Mechanical Specification

Effective stroke	mm	
Flatness	um/mm	
Straightness	um/mm	
Space constraints (L x W x H)	mm	

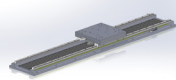
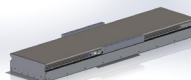
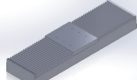
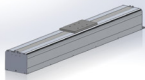
8. Working Environment

Room temperature	°C	
Clean room class		

9. Additional Requirements (Please Tick () Accordingly)

Motor cable length	Controller	Amplifier	Encoder	Other: _____
m				

10. Actuator

Open Frame	Enclosed			
	PARTIAL		BELLOW	
		STRIP SEAL		

11. Remarks: If you have any special motion request for sizing procedure, please specify your requirement in below remarks.

PBA SYSTEMS LINEAR MOTOR SIZER SOFTWARE



PBA Systems is a one-stop robotics provider with a focus on the development of core technology to offer a robust range of products and solutions in precision robotics and general robotics - enabling companies to thrive by making Industry 4.0 technology accessible to the market.

Our core strength is in design, development, and manufacturing of direct drive motor design and manufacturing, motion control, and precision modular assemblies.

Address:
**505 Yishun Industrial Park, A,
 Singapore 768733**

Contact Us:
**Tel: +(65) 6576 6766
 Fax: +(65) 6576 6768**



PBA SYSTEMS LINEAR MOTOR SIZER SOFTWARE

PBA Systems Motor Sizer Software is available to download from our website to assist in the calculation and selection.

Kindly visit us at www.pbasystems.com.sg or simply scan the QR CODE

SIMULATED PERFORMANCE CHARTS

PBA Motor Sizer

Application Version: 10.7.0.0 | Local Database Version: 7.0.16 | Server Database Version: 7.0.16

Guest [About PBA Online](#)

Motor Sizer

Project Details
 Customer Name: PBA | Project Name: XYZ | Date: 6/1/2022 | Project Data Version: 7.0.16

Axis Details
 Axis Name: X | Motor Category: DXB | Safety Margin: 20 | 300

Profiles

No	Motion Profile	Travel Distance (m)	Travel Time (s)	Max. Speed (m/s)	Max. Accel. (m/s ²)	Dwell Time (s)	Mass of Load (Kg)	Angle Of Incl. (°)	Direction	Coefficient of Friction	Opposing Force (N)	Ambient Temp. (°C)	RMS Force (N)	Peak Force (N)	Frictional Force (N)	Accel. Time (s)	Cruise. Time (s)	Decel. Time (s)	Total Time (s)
1	Trapezoidal	1.000	1.000	1.500	4.500	0.100	10.000	0.000	▶	0.003	0.000	30.000	35.034	45.294	0.294	0.333	0.333	0.333	1.100
2	Trapezoidal	0.500	1.000	0.750	2.250	0.000	20.000	0.000	▶	0.003	0.000	30.000	36.747	45.589	0.589	0.333	0.333	0.333	1.000
3	Trapezoidal	0.500	1.000	0.750	2.250	0.000	30.000	0.000	▶	0.003	0.000	30.000	55.121	68.383	0.883	0.333	0.333	0.333	1.000

Final Calculations for Axis

Required RMS Force	43.026 N	Recommended Motor	Safety (%)
Required Peak Force	68.383 N	DX30B-C2-S	32
Total Travel Distance	2.000 m	DX30B-C2-P	32
Total Cycle Time	3.100 s	DX50B-C2-S	101
Total Dwell Time	0.100 s	DX50B-C2-P	101
Max Speed	1.500 m/s	DX50BT-C2-P	101
Max Acceleration	4.500 m/s ²	DX50BT-C4-P	294
Max. Ambient Temp.	30.000 °C		

Selected Motor
 Motor: DX50B-C2-S

Continuous Force	89.00 N	L To L Resistance	8.40 ohm
Peak Force	446.00 N	L To L Inductance	6.22 mH
Continuous Current	2.63 A	Continuous Power	60.00 W
Peak Current	13.13 A	Peak Power	1502.00 W
Motor Constant	11.51 N/VW	Coil Weight	0.520 kg
Force Constant	34.00 N/A	Coil Length	121.00 mm
Back EMF Constant	39.10 V/(m/s)	Attractive Force	0.00 N

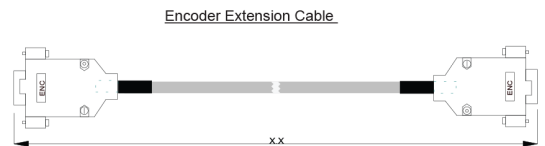
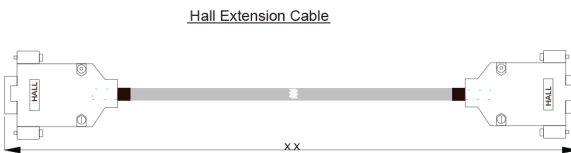
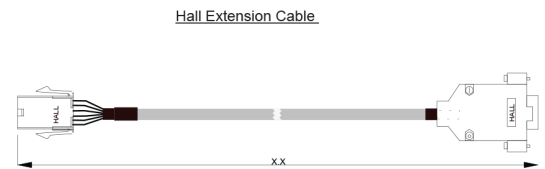
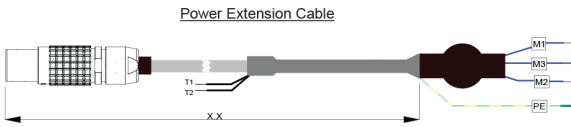
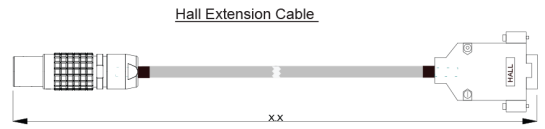
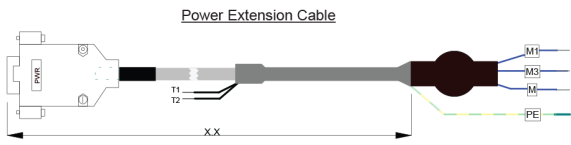
Calculated Motor Values for Application

Reqd. RMS Force	44.21 N	Reqd. Peak Force	69.57 N
Cont. Current	1.30 A	Peak Current	2.05 A
Coil Temp	48.03 °C	DC Bus Voltage	70.42 V
Safety Factor	101.29 %		

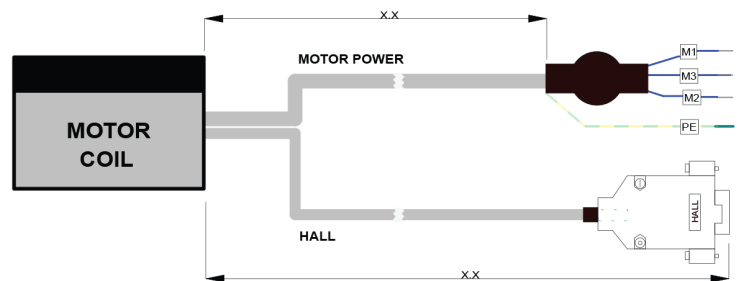
Servo Drive Model: MT-6/25-230AP1

Cont. Current: 6.30 A | Peak Current: 25.40 A

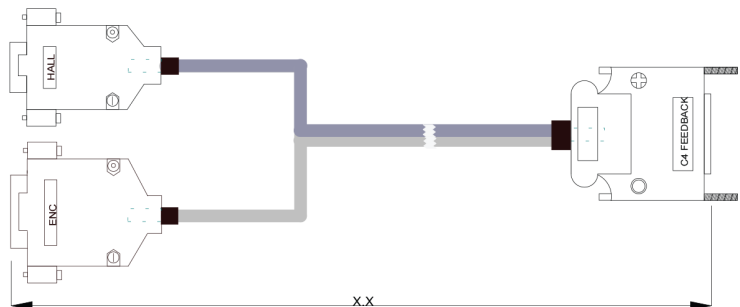
APPENDIX



MOTOR POWER HALL CABLE



MAXTUNE FEEDBACK CABLE



Notes:

1. X.X is the length of the cable in meter with a tolerance of $+ 0.10$ / $- 0$
2. All measurements are in meters (m) unless stated