



**DIRECT DRIVE TECHNOLOGY**  
Product Catalogue  
VERSION 4.1.1



# PIAB SERIES

LINEAR SERVO MOTOR ACTUATOR



# PART NUMBERING SYSTEM

## COIL ASSEMBLY

PIAB - P1 - S - TM - 1.0 - FC - HC - E1.0 - O - 1060 - 00

### ACTUATOR MODEL

### MOTOR MODEL

P1	PIX200-027-030
P2	PIX200-027-050
P3	PIX200-040-050

### CONNECTION TYPE

S	Series
P	Parallel

### THERMAL PROTECTION

NF	PT 100
TM**	Thermostat

### 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

### POWER CABLE OPTIONS

NF	No Ferrite Core (Flying Leads)
FC	Ferrite Core (Recommended)
9NF	No Ferrite Core, D Sub 9 pins Female Connector
CNF	No Ferrite Core, Circular Quick Lock 6 pins Male Connector

### DESIGN VERSIONS

00	Standard
01	Customized Version
:	

### EFFECTIVE STROKE (mm)

100-1700	Open type
100-1700	Covered Type
100-1060	Bellow Type

### COVER

O	Open
C	Covered
B	Bellow

### ENCODER RESOLUTION

EA	Analog
E0.5	0.5um
E1.0	1.0um

### HALL SENSOR AND CONNECTOR OPTIONS

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)

\* TC - Sensor output to temperature controller  
 \*\* TM - On/Off switch, triggers at 100°C  
 \*\*\* Encoder, power & hall cable

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

# PIAB SERIES

## IRON CORE ACTUATOR

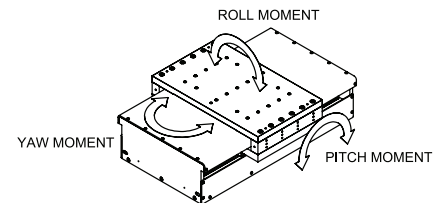
### PIAB-P1

- Iron Core Actuator
- Peak force to 542N, Continuous force to 108N

SPECIFICATION		MODEL	
		PIAR-P1	
Motor Parameters	Unit	S	P
Peak Force	N	542	
Continuous Force @ 105°C*	N	108	
Continuous Stall Force @ 105°C*	N	77	
Peak Power @ 105°C	W	1823	
Continuous Power @ 105°C*	W	73	
Peak Current	Apk	30.4	60.8
Continuous Current @ 105°C*	Apk	6.1	12.2
Continuous Stall Current @ 105°C*	Arms	4.3	8.6
Force Constant	N/Apk	17.8	8.9
Back EMF Constant	Vpk/m/s	20.5	10.3
Coil Resistance L-L @ 25°C	Ohm	1.9	0.5
Coil Resistance L-L @ 120°C*	Ohm	2.6	0.7
Inductance L-L @ 1kHz	mH	4.9	1.2
Motor Constant @ 25°C*	N//W	14.9	
Motor Constant @ 120°C*	N//W	12.7	
Max Terminal Voltage	Vdc	600	
<b>Accuracy</b>			
Repeatability**	um	±2um	
Accuracy***	um	±20um/300mm	
Straightness***	um	±8um/300mm	
	um	±8um/300mm	
<b>Linear Guide Rated Load and Static Moment</b>			
Model Code		LM Guide	
Block Quantity		4	
Maximum bearing load	kN	3.1	
Pitch moment	Nm	287	
Yaw moment	Nm	287	
Roll moment	Nm	218	

**Notes:**

1.  $Apk = 1.414 * Arms$ ;  $Vpk = 1.414 * Vrms$ .
2. Specifications tolerance: ±10%.
3. \* Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
4. \*\* Depend on encoder resolution.
5. Peak force and current : 4% duty ratio and 1 second duration.
6. \*\*\* Specific accuracy, straightness and flatness requirement, contact PBA for more information.
7. For customized stroke length, contact PBA.
8. For different motor models, contact PBA.
9. Specifications are subject to change without prior notice.



# PIAB SERIES

## IRON CORE ACTUATOR

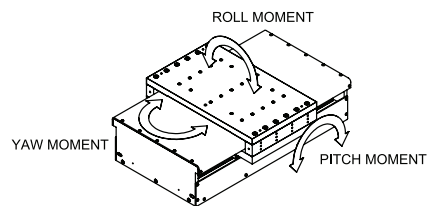
### PIAB-P2

- Iron Core Actuator
- Peak force to 893N, Continuous force to 179N

SPECIFICATION		MODEL	
		PIAR-P2	
Motor Parameters	Unit	S	P
Peak Force	N		893
Continuous Force @ 105°C*	N		179
Continuous Stall Force @ 105°C*	N		126
Peak Power @ 105°C	W		2323
Continuous Power @ 105°C*	W		93
Peak Current	Apk	29.3	88.7
Continuous Current @ 105°C*	Apk	5.9	11.7
Continuous Stall Current @ 105°C*	Arms	4.15	8.30
Force Constant	N/Apk	30.4	15.2
Back EMF Constant	Vpk/m/s	35	17.5
Coil Resistance L-L @ 25°C	Ohm	2.6	0.7
Coil Resistance L-L @ 120°C*	Ohm	3.6	0.9
Inductance L-L @ 1kHz	mH	7.1	1.8
Motor Constant @ 25°C*	N//W		21.8
Motor Constant @ 120°C*	N//W		18.5
Max Terminal Voltage	Vdc		600
<b>Accuracy</b>			
Repeatability**	um		±2um
Accuracy***	um		±20um/300mm
Straightness***	um		±8um/300mm
Flatness***	um		±8um/300mm
<b>Linear Guide Rated Load and Static Moment</b>			
Model Code			LM Guide
Block Quantity			4
Maximum bearing load	kN		3.1
Pitch moment	Nm		287
Yaw moment	Nm		287
Roll moment	Nm		218

Notes:

1.  $Apk = 1.414 \cdot Arms$ ;  $Vpk = 1.414 \cdot Vrms$ .
2. Specifications tolerance: ±10%.
3. \* Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
4. \*\* Depend on encoder resolution.
5. Peak force and current : 4% duty ratio and 1 second duration.
6. \*\*\* Specific accuracy, straightness and flatness requirement, contact PBA for more information.
7. For customized stroke length, contact PBA.
8. For different motor models, contact PBA.
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DXB/BT  
 PIX  
 PSM/PSME  
 CVC  
 CVCA  
 RVCA  
 PDDR  
 PCA  
 PWA  
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 SERVO AMPLIFIER

# PIAB SERIES

## IRON CORE ACTUATOR

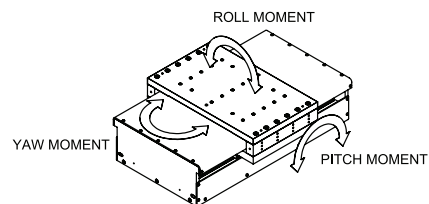
### PIAB-P3

- Iron Core Actuator
- Peak force to 943N, Continuous force to 189N

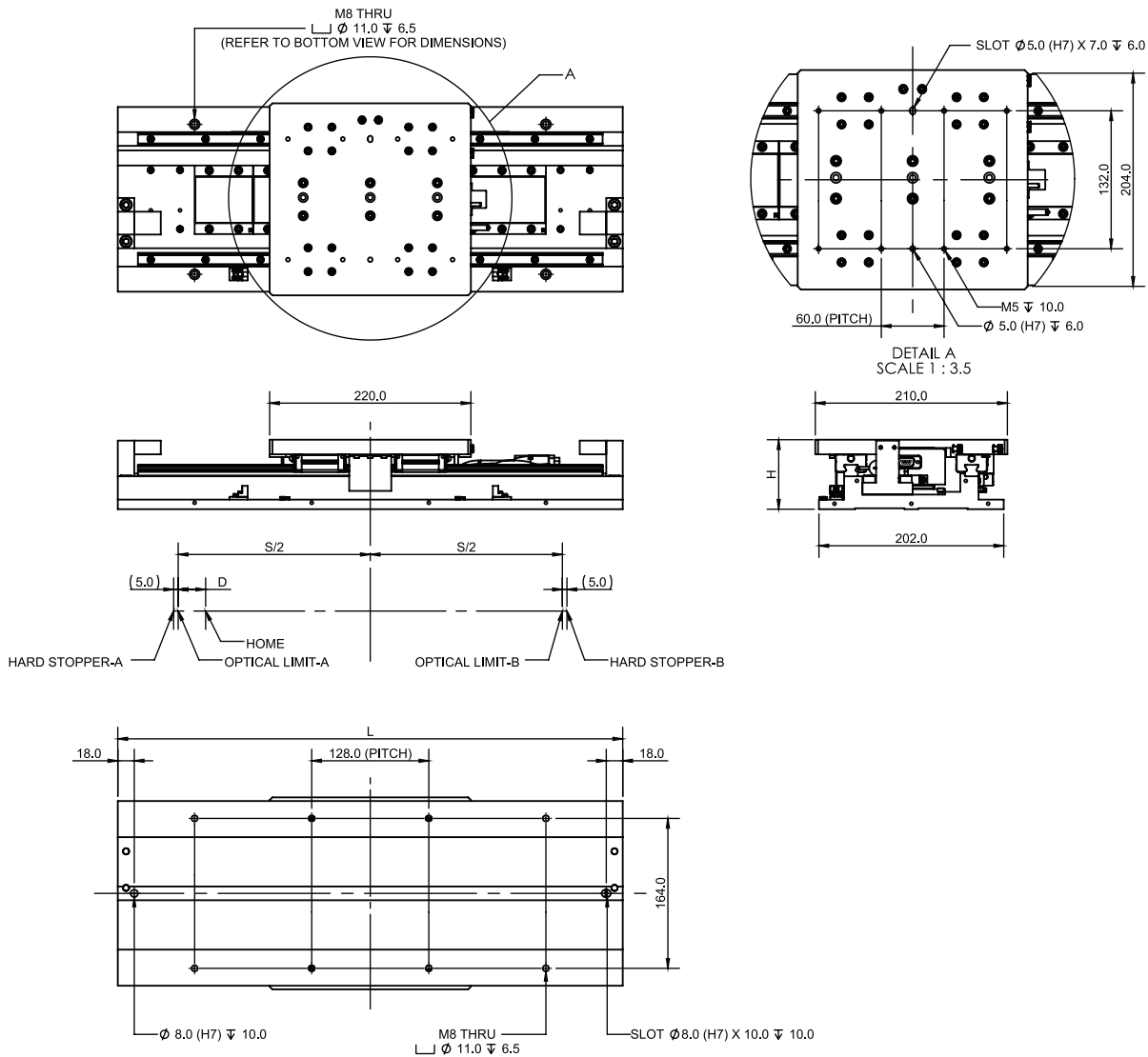
SPECIFICATION		MODEL	
		PIAR-P3	
Motor Parameters	Unit	S	P
Peak Force	N	1515	
Continuous Force @ 105°C*	N	303	
Continuous Stall Force @ 105°C*	N	214	
Peak Power @ 105°C	W	2662	
Continuous Power @ 105°C*	W	106	
Peak Current	Apk	20.5	41.0
Continuous Current @ 105°C*	Apk	4.1	8.2
Continuous Stall Current @ 105°C*	Arms	2.9	5.8
Force Constant	N/Apk	73.9	37.0
Back EMF Constant	Vpk/m/s	85.0	42.5
Coil Resistance L-L @ 25°C	Ohm	6.1	1.5
Coil Resistance L-L @ 120°C*	Ohm	8.4	2.1
Inductance L-L @ 1kHz	mH	60.6	15.1
Motor Constant @ 25°C*	N//W	34.6	
Motor Constant @ 120°C*	N//W	29.4	
Max Terminal Voltage	Vdc	600	
Accuracy			
Repeatability**	um	±2um	
Accuracy***	um	±20um/300mm	
Straightness***	um	±8um/300mm	
	um	±8um/300mm	
Linear Guide Rated Load and Static Moment			
Model Code		LM Guide	
Block Quantity		4	
Maximum bearing load	kN	3.1	
Pitch moment	Nm	287	
Yaw moment	Nm	287	
Roll moment	Nm	218	

Notes:

1.  $Apk = 1.414 \cdot Arms$ ;  $Vpk = 1.414 \cdot Vrms$ .
2. Specifications tolerance: ±10%.
3. \* Ambient temperature 25°C, heat dissipation by natural convection, without heat sink attached.
4. \*\* Depend on encoder resolution.
5. Peak force and current : 4% duty ratio and 1 second duration.
6. \*\*\* Specific accuracy, straightness and flatness requirement, contact PBA for more information.
7. For customized stroke length, contact PBA.
8. For different motor models, contact PBA.
9. Specifications are subject to change without prior notice.



# PIAB - (OPEN TYPE)



MOTOR MODEL	HEIGHT (H) mm	STROKE (S) mm	ACTUATOR LENGTH (L) mm	STROKE/ACTUATOR LENGTH (S)/(L) mm	SLIDER MASS kg	MODULE MASS (W) kg	
P1	63	MIN:100 MAX:1700	MIN:424 MAX:2024	S=100+(Multiple of 64mm) L=S+220+(104mm)	3.7	MIN:9.5 MAX:34.5	W=9.5 + (Multiple of 1.0kg)
P2	63				4.4	MIN:10.3 MAX:37.8	W=10.3 + (Multiple of 1.1kg)
P3	76	5.5	MIN:11.7 MAX:39.2		W=11.7 + (Multiple of 1.1kg)		

FOR P1 AND P2  
 D=30 FOR STROKE 100, 292, 356, 548, 612, 804, 868, 1060, 1124, 1316, 1380, 1572, 1636  
 D=62 FOR STROKE 164, 420, 676, 932, 1184, 1444, 1700  
 D=94 FOR STROKE 228, 484, 740, 996, 1252, 1508

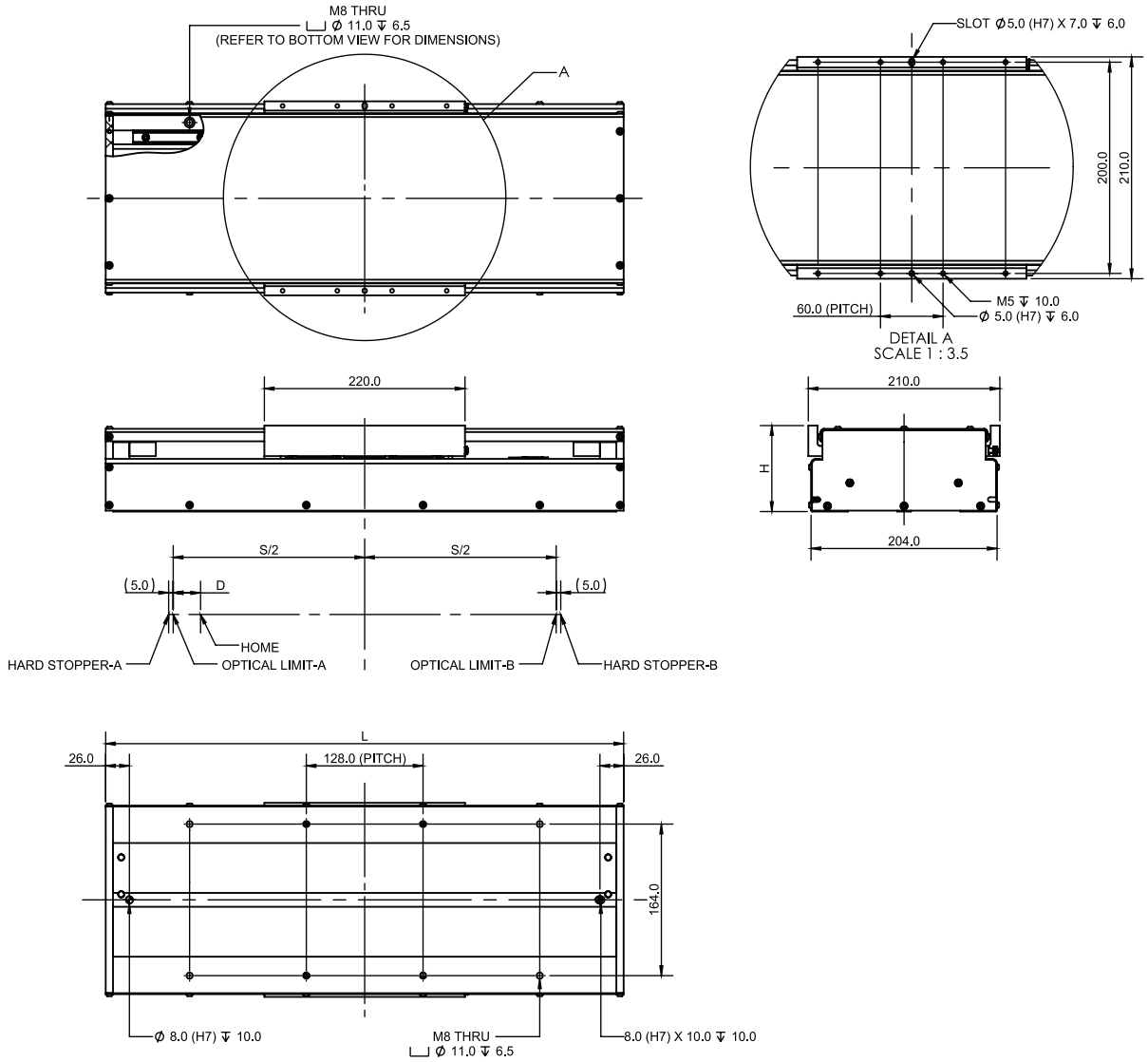
FOR P3  
 D=30 FOR ALL STROKES

### Notes:

- Slider Mass = Coil Mass + Carriage Mass
- Module mass increment of 1.7kg per 60mm

DXB/ BT  
 PIX  
 PSM/PSME  
 CVC  
 CVCA  
 RVCA  
 PDDR  
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 PWA  
 PLA  
 PDAB  
**PIAB**  
 OCTO  
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# PIAB - (COVERED TYPE)



MOTOR MODEL	HEIGHT (H) mm	STROKE (S) mm	ACTUATOR LENGTH (L) mm	STROKE/ACTUATOR LENGTH (S)/(L) mm	SLIDER MASS kg	MODULE MASS (W) kg
P1	80	MIN:100 MAX:1700	MIN:440 MAX:2040	S=100+(Multiple of 64mm) L=S+220+(120mm)	3.9	MIN:11.7 MAX:44.2 W=11.7 + (Multiple of 1.3kg)
P2	80				4.6	MIN:12.6 MAX:47.6 W=12.6 + (Multiple of 1.4kg)
P3	93				5.7	MIN:14.1 MAX:49.1 W=14.1 + (Multiple of 1.4kg)

FOR P1 AND P2  
 D=30 FOR STROKE 100, 292, 356, 548, 612, 804, 868, 1060, 1124, 1316, 1380, 1572, 1636  
 D=62 FOR STROKE 164, 420, 676, 932, 1184, 1444  
 D=94 FOR STROKE 228, 484, 740, 996, 1252, 1508

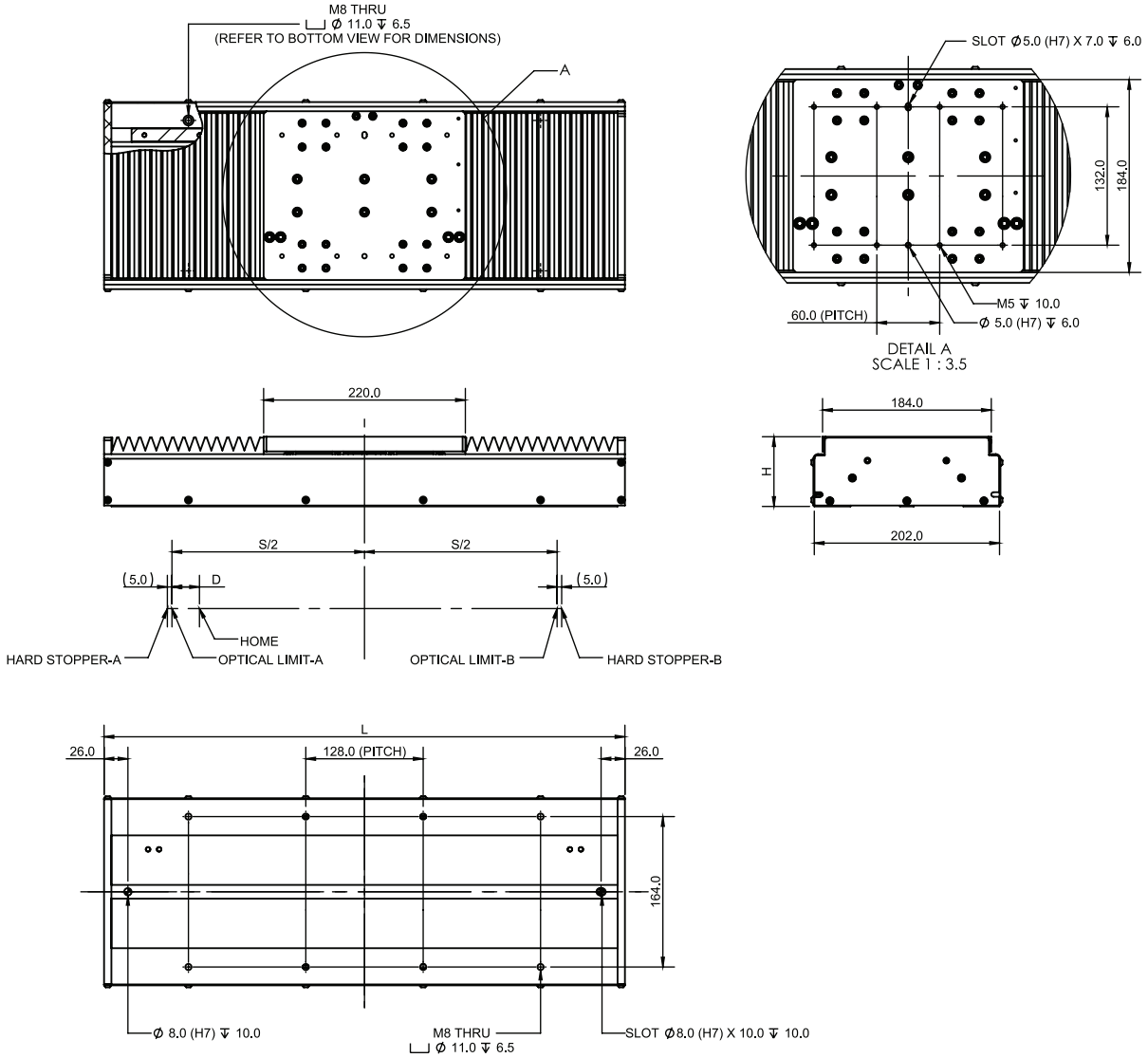
FOR P3  
 D=30 FOR ALL STROKES

**Notes:**

- Slider Mass = Coil Mass + Carriage Mass
- Module mass increment of 1.7kg per 60mm



# PIAB - (BELLOW TYPE)



MOTOR MODEL	HEIGHT (H) mm	STROKE (S) mm			ACTUATOR LENGTH (L) mm			SLIDER MASS kg	MODULE MASS (W) kg		
P1	63	100	164	228	440	568	696	3.6	12.0	13.3	15.5
		292	356	420	760	888	1016		16.7	18.9	21.0
P2	63	100	164	228	440	568	696	4.3	12.5	14.8	17.0
		292	356	420	760	888	1016		18.4	20.6	23.0
P3	76	100	164	228	440	568	696	5.4	14.5	16.9	19.4
		292	356	420	760	888	1016		20.8	23.3	25.7

FOR P1 AND P2  
 D=30 FOR STROKE 100, 292, 356  
 D=62 FOR STROKE 164, 420  
 D=94 FOR STROKE 228

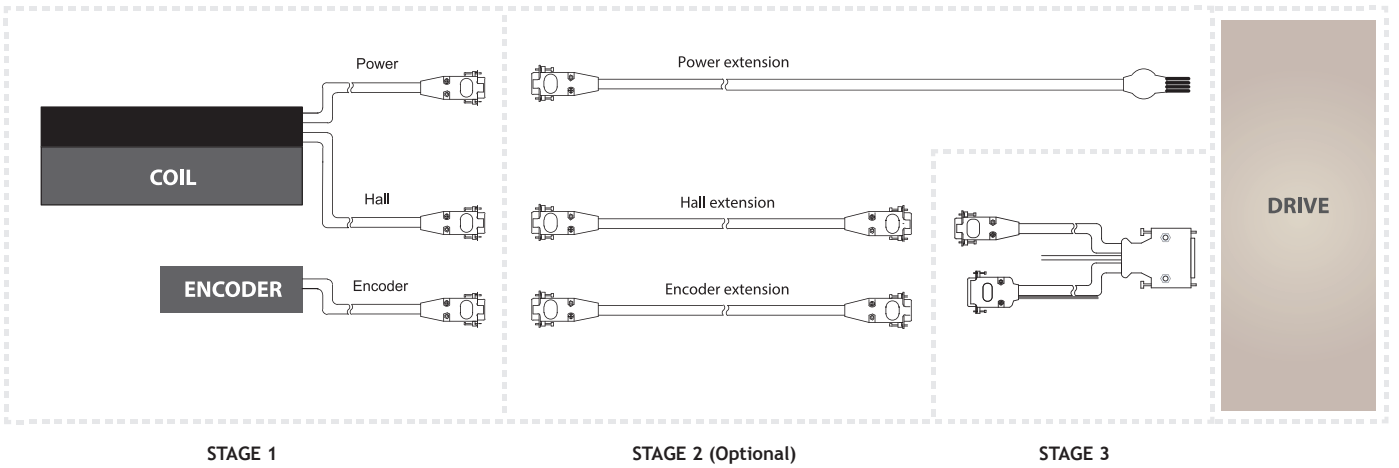
FOR P3  
 D=30 FOR ALL STROKES

**Notes:**

- Slider Mass = Coil Mass + Carriage Mass
- Module mass increment of 1.7kg per 60mm

DXB/ BT  
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# CABLE OPTION



## STAGE 1 | POWER AND HALL CABLE OPTION

PIAB-P1-S-TM-1.0-FC-HC-E1.0-O-1060-00

### POWER CABLE OPTIONS

NF		<table border="1"> <tr><td>M1</td><td>Grey</td></tr> <tr><td>M2</td><td>Brown</td></tr> <tr><td>M3</td><td>Black</td></tr> <tr><td>PE</td><td>Yellow</td></tr> <tr><td>Temp sensor 1</td><td>Black</td></tr> <tr><td>Temp sensor 2</td><td>Orange</td></tr> </table>	M1	Grey	M2	Brown	M3	Black	PE	Yellow	Temp sensor 1	Black	Temp sensor 2	Orange															
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9NF	 9 Pin D-sub Female	<table border="1"> <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>Brown</td></tr> <tr><td>P4</td><td>M3</td><td>Black(Jumper)</td></tr> <tr><td>P5</td><td>M2</td><td>Black</td></tr> <tr><td>P6</td><td>M2</td><td>Black(Jumper)</td></tr> <tr><td>P7</td><td>Temp sensor 1</td><td>Red</td></tr> <tr><td>P8</td><td>Temp sensor 2</td><td>Black</td></tr> <tr><td>P9</td><td>PE</td><td>Yellow &amp; Green</td></tr> </table>	P1	M1	Grey	P2	M1	Black(Jumper)	P3	M3	Brown	P4	M3	Black(Jumper)	P5	M2	Black	P6	M2	Black(Jumper)	P7	Temp sensor 1	Red	P8	Temp sensor 2	Black	P9	PE	Yellow & Green
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CNF	 Push Pull 6 Pin Male	<table border="1"> <tr><td>P1</td><td>M1</td><td>Grey</td></tr> <tr><td>P2</td><td>M2</td><td>Black</td></tr> <tr><td>P3</td><td>M3</td><td>Brown</td></tr> <tr><td>P4</td><td>Temp sensor 1</td><td>Red</td></tr> <tr><td>P5</td><td>Temp sensor 2</td><td>Black</td></tr> <tr><td>P6</td><td>PE</td><td>Yellow &amp; Green</td></tr> </table>	P1	M1	Grey	P2	M2	Black	P3	M3	Brown	P4	Temp sensor 1	Red	P5	Temp sensor 2	Black	P6	PE	Yellow & Green									
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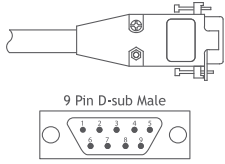
### HALL SENSOR OPTIONS

H	 Hall A Hall B Hall C 5V 0V	<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						
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0V	Black																	
HC	 9 Pin D-sub 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	
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HCL	 9 Pin D-sub Male	<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
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P2	Hall A-																	
P3	Hall B+																	
P4	Hall B-																	
P5	Hall C+																	
P6	Hall C-																	
P7	5V																	
P8	0V																	

Notes: All connectors shown are front view

# PIAB CABLE PIN OUT

## ENCODER CONNECTOR - 9 PIN D-SUB MALE



	RH200X / RH200Z	RH200B
P1	0V DC	0V DC
P2	A+	Sine+
P3	Z+	Z+
P4	B+	Cosine+
P5	+5V DC	+5V DC
P6	A-	Sine-
P7	Z-	Z-
P8	B-	Cosine-
P9	Inner	Inner
Casing	Outer	Outer

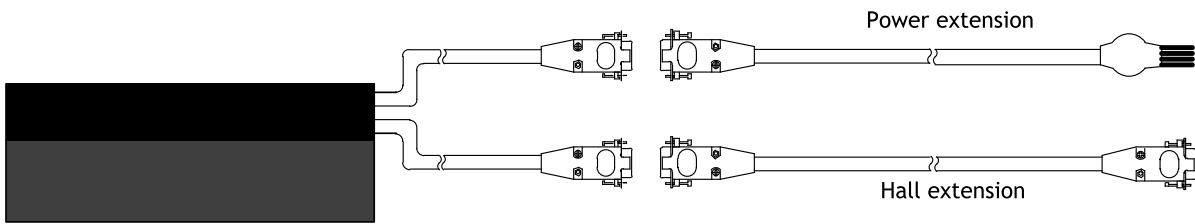
## OPTICAL LIMIT SWITCH (PM-L24)



+5 to 24V DC	Brown
GND	Blue
LIGHT-ON	Black
DARK-ON	White

## STAGE 2 | PIAB EXTENSION CABLE

Connection example: PIAB-P1-S-TM-1.0-FC-HC-E1.0-O-1060-00



	Extension Cable	Part Number																											
Power Extension Cable		CBL_EXT_PWR_PIXA_X.X																											
		CBL_EXT_PWR_PIXA_CC_X.X																											
Hall Sensor Extension Cable		CBL_EXT_HALL_PIXA_X.X																											
		CBL_EXT_HALL0_CC_X.X																											
		CBL_EXT_HALL0_DIF_X.X																											
Encoder Extension Cable		CBL_EXT_REN01_X.X																											
	<table border="1"> <thead> <tr> <th colspan="2">CABLE</th> <th colspan="2">CABLE LENGTH (X.X)</th> </tr> </thead> <tbody> <tr> <td>00</td> <td>RGH41, VIONIC, QUANTIC Digital</td> <td>0.5</td> <td>0.5 meter</td> </tr> <tr> <td>00A</td> <td>RGH41 Analog</td> <td>1.0</td> <td>1.0 meter</td> </tr> <tr> <td>01</td> <td>RH200 Digital</td> <td>2.0</td> <td>2.0 meter</td> </tr> <tr> <td>01B</td> <td>RH200 Analog</td> <td>3.0</td> <td>3.0 meter</td> </tr> <tr> <td>05</td> <td>ATOM Ri Interface Digital</td> <td>4.0</td> <td>4.0 meter</td> </tr> <tr> <td>05A</td> <td>ATOM Ri Interface Analog</td> <td>5.0</td> <td>5.0 meter</td> </tr> </tbody> </table>	CABLE		CABLE LENGTH (X.X)		00	RGH41, VIONIC, QUANTIC Digital	0.5	0.5 meter	00A	RGH41 Analog	1.0	1.0 meter	01	RH200 Digital	2.0	2.0 meter	01B	RH200 Analog	3.0	3.0 meter	05	ATOM Ri Interface Digital	4.0	4.0 meter	05A	ATOM Ri Interface Analog	5.0	5.0 meter
CABLE		CABLE LENGTH (X.X)																											
00	RGH41, VIONIC, QUANTIC Digital	0.5	0.5 meter																										
00A	RGH41 Analog	1.0	1.0 meter																										
01	RH200 Digital	2.0	2.0 meter																										
01B	RH200 Analog	3.0	3.0 meter																										
05	ATOM Ri Interface Digital	4.0	4.0 meter																										
05A	ATOM Ri Interface Analog	5.0	5.0 meter																										

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

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### 2. Load Parameter

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

### 3. Motion Parameter

	Profile 1	Profile 2	Profile 3
Moving distance	mm		
Moving time	s		
Moving velocity	m/s		
Acceleration	m/s <sup>2</sup>		
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		

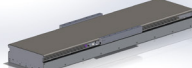
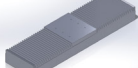
### 7. Mechanical Specification

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

### 9. Additional Requirements (Please Tick ( ) Accordingly)

Motor cable length	Controller	Amplifier	Encoder	Other: _____
m				

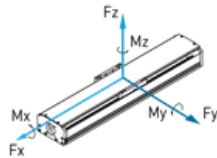
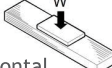

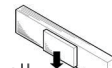
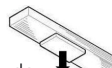
### 10. Actuator

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.

### 1a. Application Sketch With Approx Dimensions

### Stage Requirements

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

# 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.

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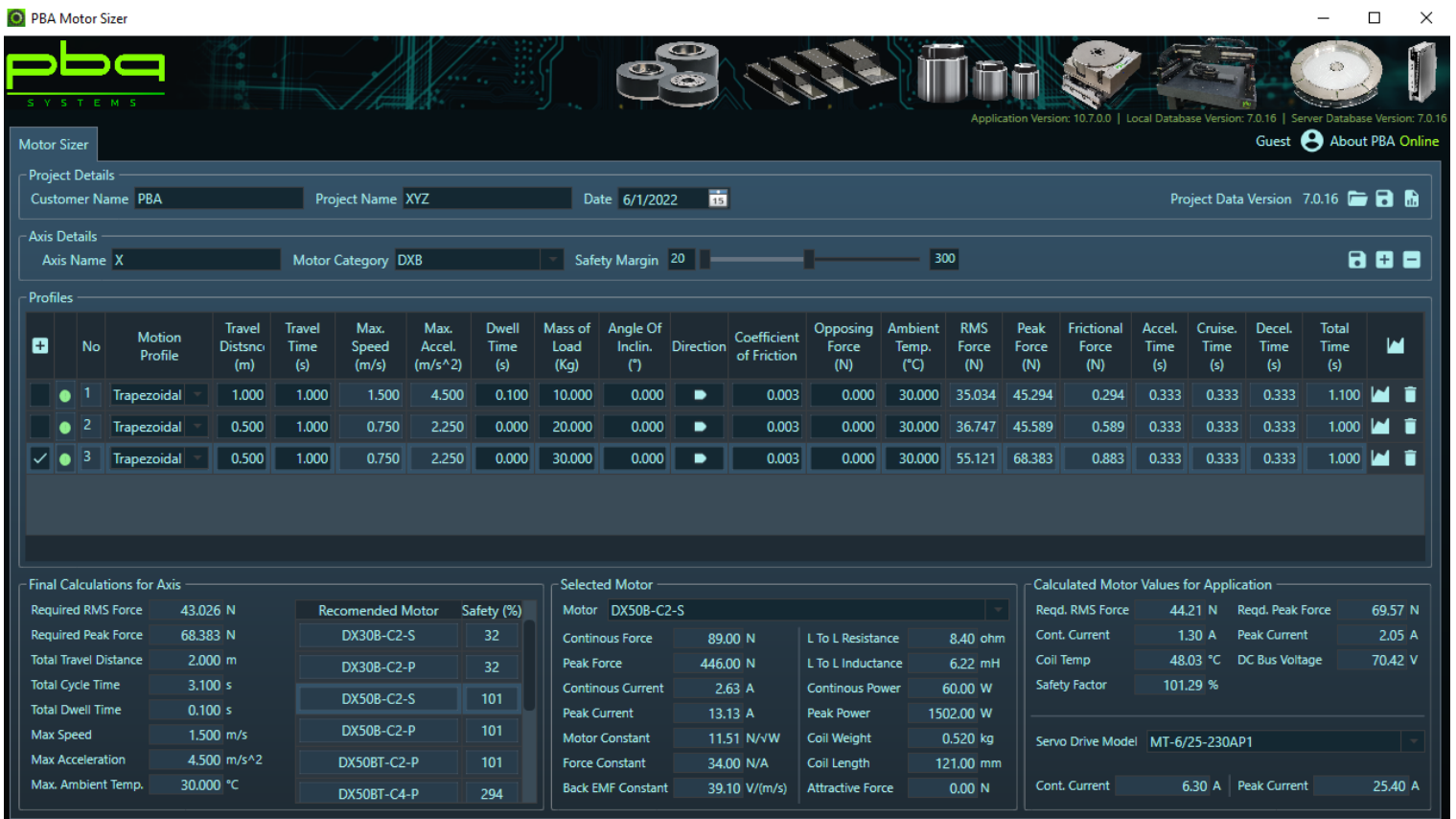
## PBA SYSTEMS LINEAR MOTOR SIZER SOFTWARE

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](http://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 <sup>2</sup> )	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**

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

**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/V/W	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

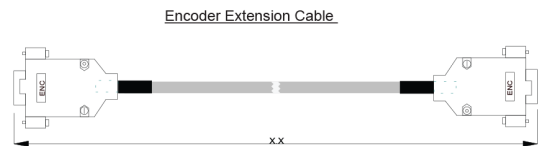
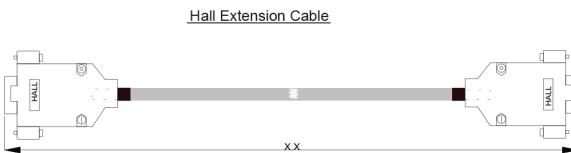
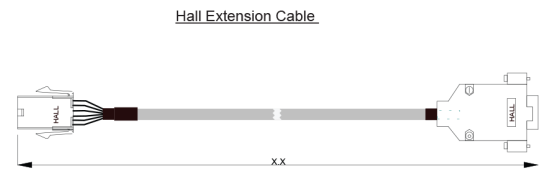
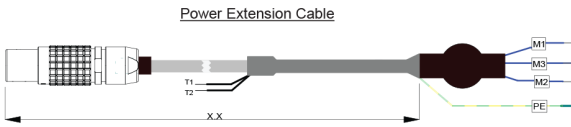
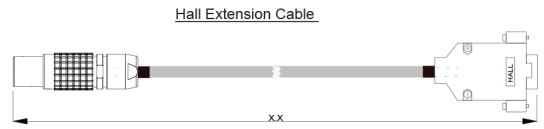
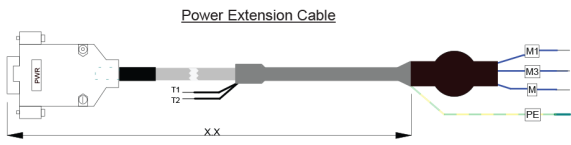
**Calculated Motor Values for Application**

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 %		

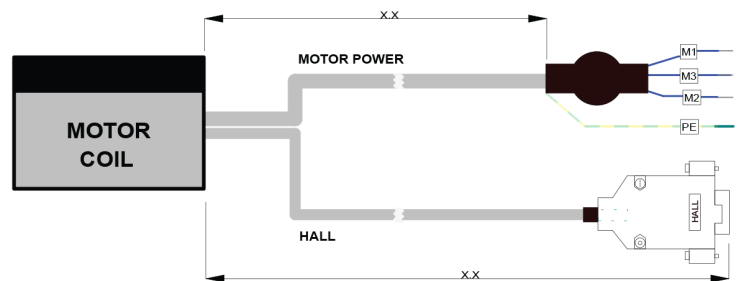
Servo Drive Model: MT-6/25-230AP1

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

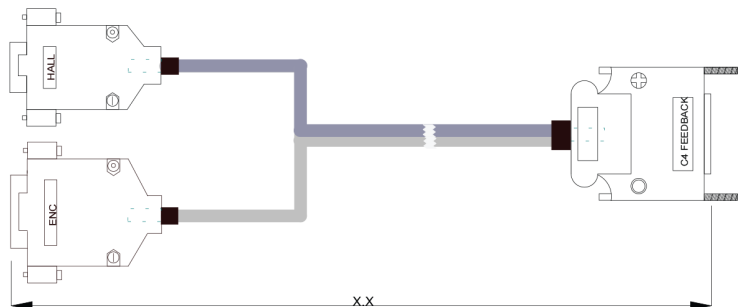
# APPENDIX



**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