

AKH SERIES

- ▶ Iron core technology
- ▶ Low cogging force
- ▶ Fast response and high bandwidth
- ▶ High force density and low mass

EN-26.3.1

AKH Series

Introduction

AKH series motor provides various sizes and two different cooling systems, water-cooling and nature-cooling. It features with compact size, high force density, and quick response, which is suitable for applications with strict requirements of speed, accuracy, and response performance.

Continuous Force F_{cn} = 631N ~ 6097N

Peak Force F_{pk} = 2139N ~ 12834N

Features


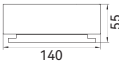


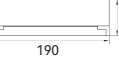


- ▶ Self-cooling, water-cooling optional
- ▶ Small size and high thrust force
- ▶ High response and bandwidth
- ▶ High motor constants
- ▶ Patented water-cooling design
- ▶ Max bus voltage of 600Vdc

Applications

Suitable for applications with strict requirements of speed, accuracy, and response performance. Also, applicable to point-to-point micron level positioning with max speed of 5m/s or faster.

Applications & Industries:

- ▶ CNC machines, including laser processing machines, mold machines, lathes, grinders, etc
- ▶ High-speed positioning system for handling applications
- ▶ Semiconductor, PV, lithium battery, glass and LCD

	Series	Coil Length (mm)	Continuous Force (F_{cn}) / PeakForce (F_{pk})						Unit: N
			1000	2000	3000	4000	5000	6000	
	AKH100-N-B2	232	• 631 / ■ 2139						
	AKH100-N-B3	340	• 852 / ■ 3209						
	AKH100-N-B4	448	• 984 / ■ 4278						
	AKH100-W-B2	263	• 1070 / ■ 2139						
	AKH100-W-B4	479		• 2112 / ■ 4278					
	AKH100-W-B6	695			• 3048 / ■ 6417				
	AKH130-N-B3	340	• 961 / ■ 4171						
	AKH150-N-B2	232	• 864 / ■ 3209						
	AKH150-N-B4	448	• 1440 / ■ 6417						
	AKH150-W-B2	263		• 1604 / ■ 3209					
	AKH150-W-B4	479			• 3169 / ■ 6417				
	AKH150-W-B6	695				• 4573 / ■ 9626			
	AKH200-N-B2	232	• 989 / ■ 4278						
	AKH200-N-B4	448	• 1604 / ■ 8556						
	AKH200-W-B2	263		• 2139 / ■ 4278					
	AKH200-W-B4	479				• 4225 / ■ 8556			
	AKH200-W-B6	695					• 6097 / ■ 12834		

AKH100-N-ORB

			AKH100-N-B2		AKH100-N-B3		AKH100-N-B4	
Performance Parameters	Symbol	Unit	L	H	L	H	L	H
Continuous Force (NC) @100°C ❶	F_{cn}	N	631	631	852	852	984	984
Peak Force	F_{pk}	N	2139	2139	3209	3209	4278	4278
Force Constant ±10%	K_f	N/Arms	137	87	137	87	137	87
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	112	71	112	71	112	71
Motor Constant @25°C	K_m	N/Sqrt(W)	45	45	55	55	64	64
Resistance (L-L) 25°C ±10% ❷	R_{25}	Ω	6.2	2.5	4.1	1.6	3.1	1.2
Inductance (L-L) ±30% ❸	L	mH	27.0	10.9	18.0	7.3	13.5	5.4
Electrical Time Constant	T_e	ms	4.4	4.4	4.4	4.4	4.4	4.4
Continuous Current (NC) @100°C ❶	I_{cn}	Arms	4.6	7.3	6.2	9.8	7.2	11.3
Peak Current	I_{pk}	Arms	20.0	31.5	30.0	47.3	40.0	63.1
Continuous Power Dissipation (NC) @100°C ❶	P_{cn}	W	252	252	306	306	306	306
Max. Coil Temperature	t_{max}	°C	100	100	100	100	100	100
Thermal Dissipation Constant (NC) ❶	K_{thn}	W/°C	3.4	3.4	4.1	4.1	4.1	4.1
Max. Bus Voltage	U_{bus}	Vdc	600	600	600	600	600	600
Magnetic Period	T_{NN}	mm	27	27	27	27	27	27
Attraction Force	F_a	N	4.3	4.3	6.4	6.4	12.8	12.8
Mechanical Parameters								
Coil Mass (NC)	m_{en}	kg	5.0	5.0	7.1	7.1	10.0	10.0
Coil Length (NC)	L_{cn}	mm	232	232	340	340	448	448
Track Mass Per Meter	m_{track}	kg/m	9	9	9	9	9	9
Other Information								
Insulation Class	Class B (130°C)							
Protection Grade	IP00							
Compliance with Global Standards	RoHS, CE							
Ambient Temperature	Operation	0°C to 40°C (non-freezing)						
	Storage	-15°C to 70°C (non-freezing)						
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)						
	Storage	10%RH to 90%RH (non-condensing)						
Recommended Ambience	Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.							

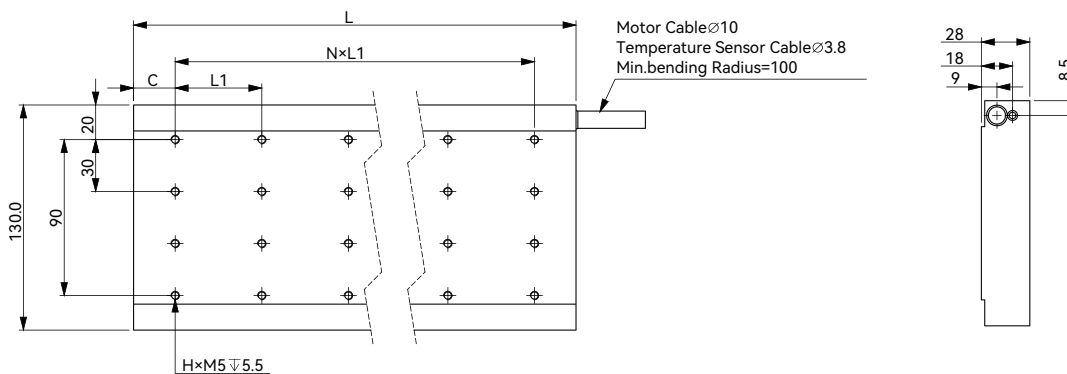
❶ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
Abbreviations: NC-Natural Cooling.

❷ Resistance is measured by DC current with standard 0.5 m cable.

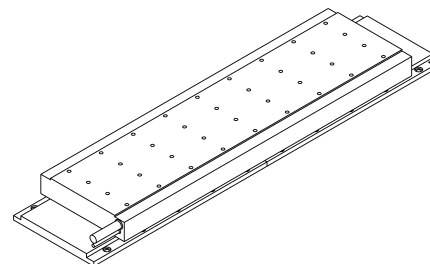
❸ Inductance is measured by current frequency of 1 kHz.

The contents of datasheet are subject to change without prior notice.

Dimension

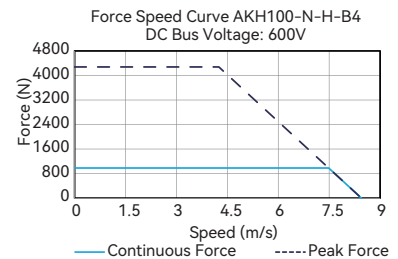
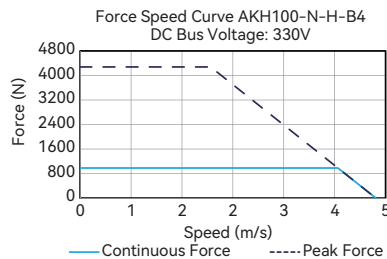
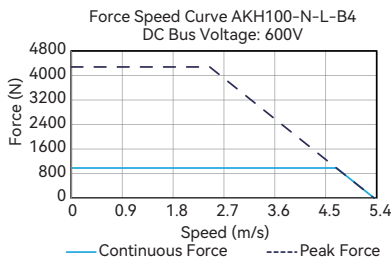
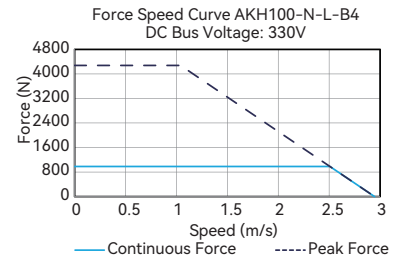
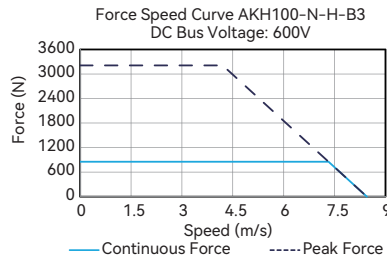
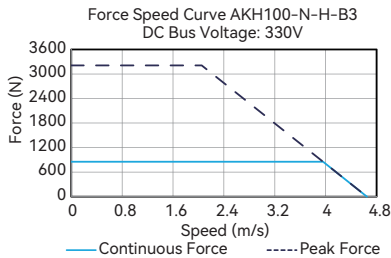
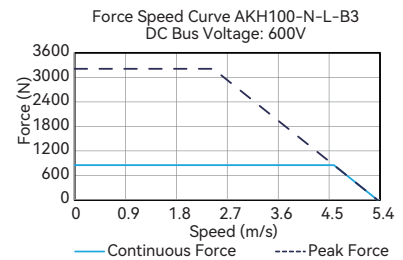
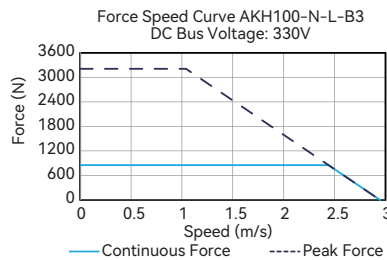
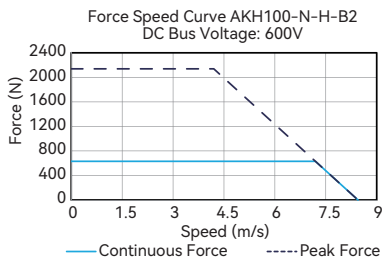
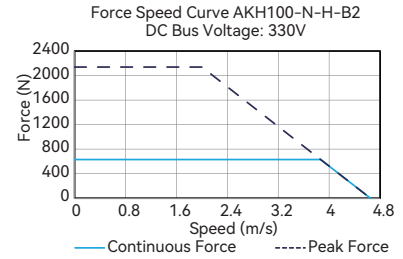
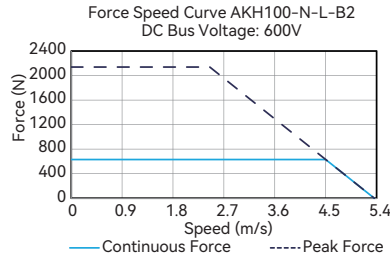
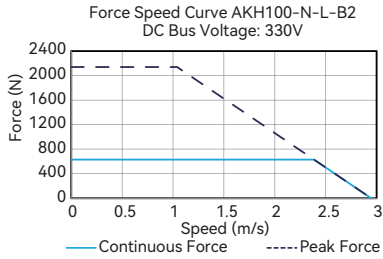


Motor Type	L	C	L1	N	H
AKH100-L/H-B2	232	16	50	4	20
AKH100-L/H-B3	340	20	60	5	24
AKH100-L/H-B4	448	24	50	8	36



Force-Speed Curve

Introduction | Sizing Guide | Frequently Asked Questions | Linear Motors | Voice Coil Motors | Direct Drive Rotary Motors | Magnet Spring | Motion Control of Gantry Stages

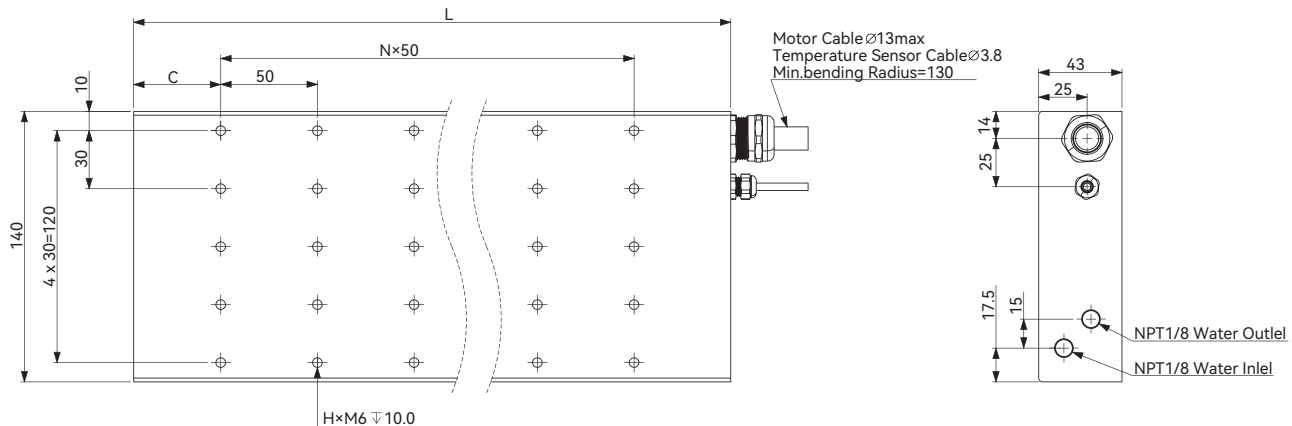


AKH100-W-ORC

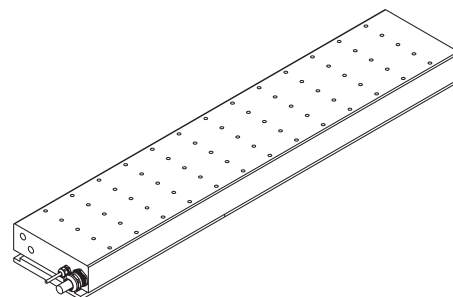
Performance Parameters	Symbol	Unit	AKH100-W-B2		AKH100-W-B4		AKH100-W-B6	
			L	H	L	H	L	H
Continuous Force (WC) @100°C ^{①④}	F _{cw}	N	1070	1070	2112	2112	3048	3048
Peak Force	F _{pk}	N	2139	2139	4278	4278	6417	6417
Force Constant ±10%	K _f	N/Arms	137	87	137	87	137	87
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	112	71	112	71	112	71
Motor Constant @25°C	K _m	N/Sqrt(W)	45.1	45.2	63.9	63.9	78.2	78.2
Resistance (L-L) 25°C ±10% ^②	R ₂₅	Ω	6.2	2.5	3.1	1.2	2.1	0.8
Inductance (L-L) ±30% ^③	L	mH	27.0	10.9	13.5	5.4	9.0	3.6
Electrical Time Constant	τ _e	ms	4.4	4.4	4.4	4.4	4.4	4.4
Continuous Current (WC) @100°C ^{①④}	I _{cw}	Arms	8.0	12.6	15.8	24.9	22.8	36.0
Peak Current	I _{pk}	Arms	20.0	31.5	40.0	63.1	60.0	94.6
Continuous Power Dissipation (WC) @100°C ^{①④}	P _{cw}	W	761	761	1484	1484	2060	2060
Max. Coil Temperature	t _{max}	°C	100	100	100	100	100	100
Thermal Dissipation Constant (WC) ^{①④}	K _{thw}	W/°C	10.1	10.1	19.8	19.8	27.5	27.5
Max. Bus Voltage	U _{bus}	V _{dc}	600	600	600	600	600	600
Magnetic Period	τ _{NN}	mm	27	27	27	27	27	27
Attraction Force	F _a	N	4.3	4.3	8.5	8.5	12.8	12.8
Mechanical Parameters								
Coil Mass (WC)	m _{cw}	kg	7	7	13	13	19	19
Coil Length (WC)	L _{cw}	mm	263	263	479	479	695	695
Track Mass Per Meter	m _{track}	kg/m	9	9	9	9	9	9
Other Information								
Insulation Class	Class B (130°C)							
Protection Grade	IP66							
Compliance with Global Standards	RoHS, CE							
Ambient Temperature	Operation	0°C to 40°C (non-freezing)						
	Storage	-15°C to 70°C (non-freezing)						
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)						
	Storage	10%RH to 90%RH (non-condensing)						
Recommended Ambience	Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.							

- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
Abbreviations: WC=Water Cooling.
- ② Resistance is measured by DC current with standard 0.5 m cable.
- ③ Inductance is measured by current frequency of 1 kHz.
- ④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 6 L/min.
- The contents of datasheet are subject to change without prior notice.

Dimension

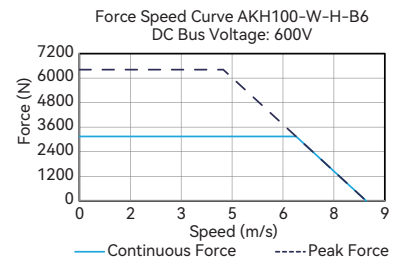
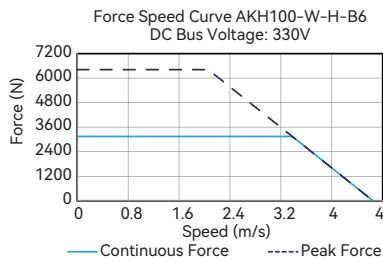
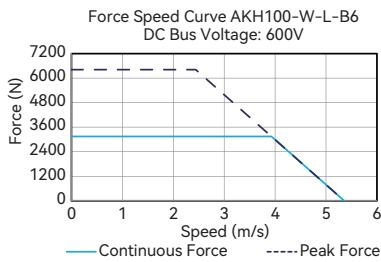
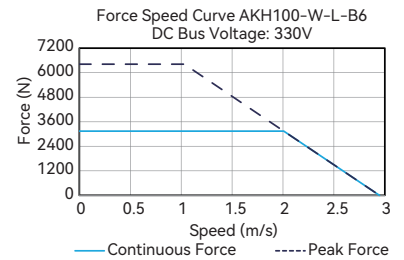
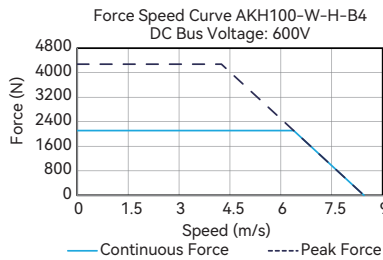
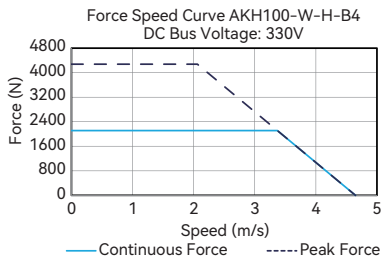
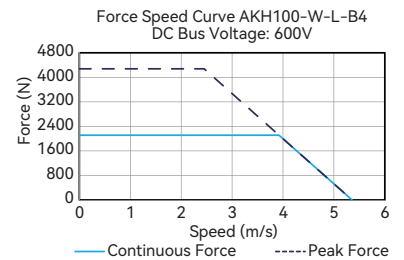
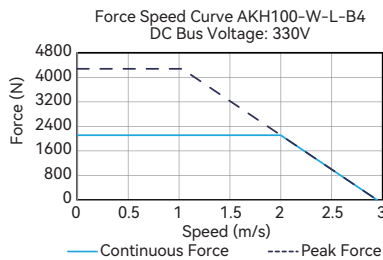
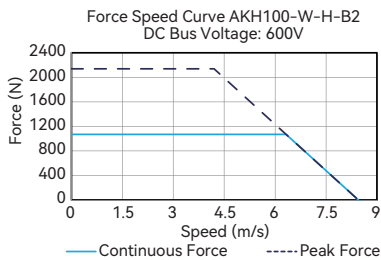
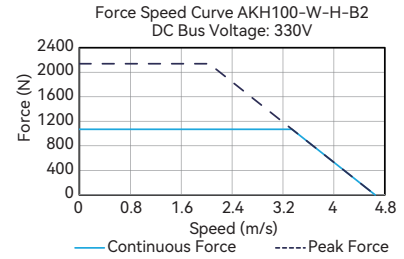
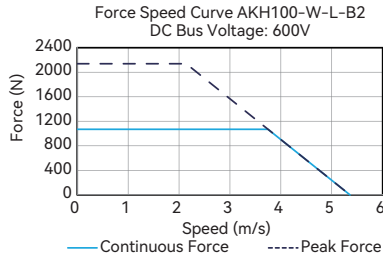
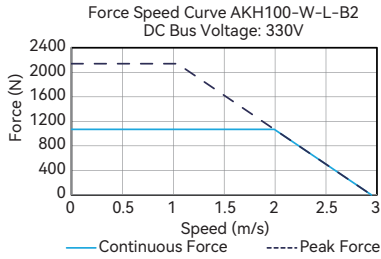


Motor Type	L	C	N	H
AKH100-W-L/H-B2	263	29	4	25
AKH100-W-L/H-B4	479	37	8	45
AKH100-W-L/H-B6	695	45	12	65

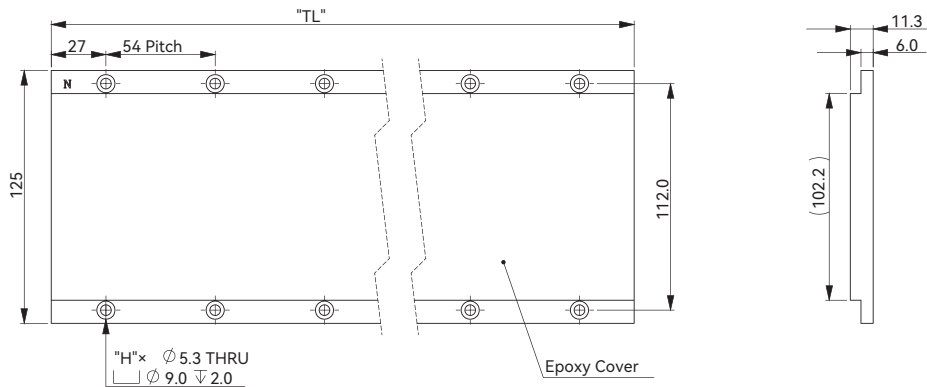


Force-Speed Curve

Introduction | Sizing Guide | Frequently Asked Questions | Linear Motors | Voice Coil Motors | Direct Drive Rotary Motors | Magnet Spring | Motion Control of Gantry Stages



AKH100 Track



Magnet Track P / N:	Track Length "TL"	No. of Holes "H"
AKH100-TL270-E	270	10
AKH100-TL432-E	432	16

AKH130-N-0RB

			AKH130-N-B3	
Performance Parameters	Symbol	Unit	L	H
Continuous Force (NC) @100°C ①	F _{cn}	N	961	961
Peak Force	F _{pk}	N	4171	4171
Force Constant ±10%	K _f	N/Arms	178	113
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	146	92
Motor Constant @25°C	K _m	N/Sqrt(W)	63	63
Resistance (L-L) 25°C ±10% ②	R ₂₅	Ω	5.3	2.1
Inductance (L-L) ±30% ③	L	mH	23.4	9.4
Electrical Time Constant	T _e	ms	4.4	4.4
Continuous Current (NC) @100°C ①	I _{cn}	Arms	5.4	8.5
Peak Current	I _{pk}	Arms	30.0	47.3
Continuous Power Dissipation (NC) @100°C ①	P _{cn}	W	299	299
Max. Coil Temperature	t _{max}	°C	100	100
Thermal Dissipation Constant (NC) ①	K _{thn}	W/°C	4.0	4.0
Max. Bus Voltage	U _{bus}	Vdc	600	600
Magnetic Period	T _{NN}	mm	27	27
Attraction Force	F _a	N	8.3	8.3
Mechanical Parameters				
Coil Mass (NC)	m _{cn}	kg	9.1	9.1
Coil Length (NC)	L _{cn}	mm	340	340
Track Mass Per Meter	m _{track}	kg/m	11	11
Other Information				
Insulation Class	Class B (130°C)			
Protection Grade	IP00			
Compliance with Global Standards	RoHS, CE			
Ambient Temperature	Operation	0°C to 40°C (non-freezing)		
	Storage	-15°C to 70°C (non-freezing)		
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)		
	Storage	10%RH to 90%RH (non-condensing)		
Recommended Ambience	Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.			

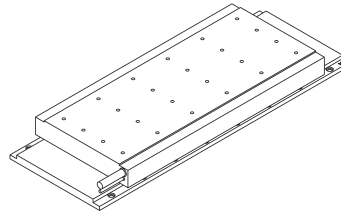
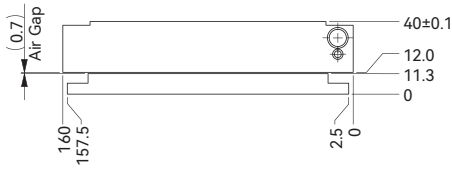
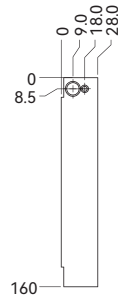
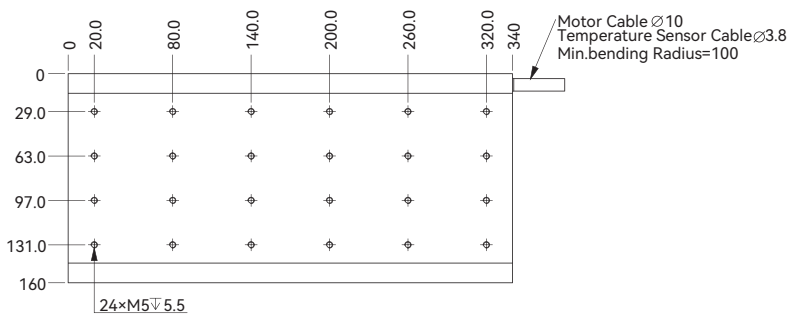
① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
Abbreviations: NC-Natural Cooling.

② Resistance is measured by DC current with standard 0.5 m cable.

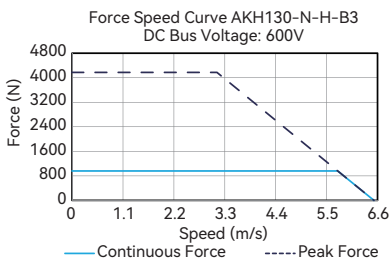
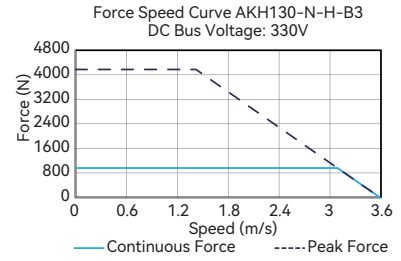
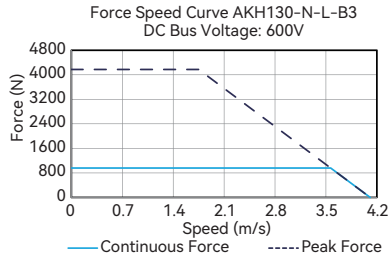
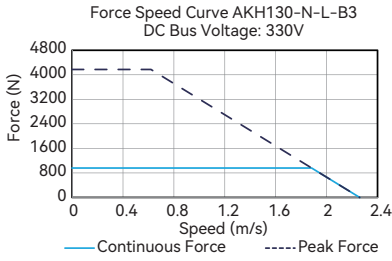
③ Inductance is measured by current frequency of 1 kHz.

The contents of datasheet are subject to change without prior notice.

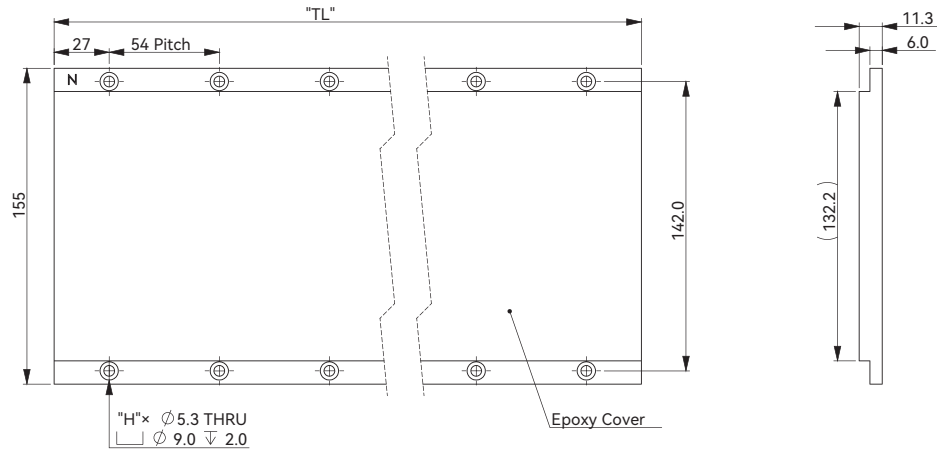
Dimension



Force-Speed Curve



AKH130 Track



Magnet Track P / N:	Track Length "TL"	No. of Holes "H"
AKH130-TL270-E	270	10
AKH130-TL432-E	432	16

AKH150-N-0RB

			AKH150-N-B2		AKH150-N-B4	
Performance Parameters	Symbol	Unit	L	H	L	H
Continuous Force (NC) @100°C ①	F _{cn}	N	864	864	1440	1440
Peak Force	F _{pk}	N	3209	3209	6417	6417
Force Constant ±10%	K _f	N/Arms	206	130	206	130
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	168	107	168	107
Motor Constant @25°C	K _m	N/Sqrt(W)	57	57	80	80
Resistance (L-L) 25°C ±10% ②	R ₂₅	Ω	8.8	3.5	4.4	1.8
Inductance (L-L) ±30% ③	L	mH	38.5	15.5	19.3	7.7
Electrical Time Constant	T _e	ms	4.4	4.4	4.4	4.4
Continuous Current (NC) @100°C ①	I _{cn}	Arms	4.2	6.6	7.0	11.0
Peak Current	I _{pk}	Arms	20.0	31.5	40.0	63.1
Continuous Power Dissipation (NC) @100°C ①	P _{cn}	W	299	299	415	415
Max. Coil Temperature	t _{max}	°C	100	100	100	100
Thermal Dissipation Constant (NC) ①	K _{thn}	W/°C	4.0	4.0	5.5	5.5
Max. Bus Voltage	U _{bus}	Vdc	600	600	600	600
Magnetic Period	T _{NN}	mm	27	27	27	27
Attraction Force	F _a	N	6.4	6.4	12.8	12.8
Mechanical Parameters						
Coil Mass (NC)	m _{cn}	kg	7.3	7.3	14.3	14.3
Coil Length (NC)	L _{cn}	mm	232	232	448	448
Track Mass Per Meter	m _{track}	kg/m	19	19	19	19
Other Information						
Insulation Class	Class B (130°C)					
Protection Grade	IP00					
Compliance with Global Standards	RoHS, CE					
Ambient Temperature	Operation	0°C to 40°C (non-freezing)				
	Storage	-15°C to 70°C (non-freezing)				
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)				
	Storage	10%RH to 90%RH (non-condensing)				
Recommended Ambience	Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.					

① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.

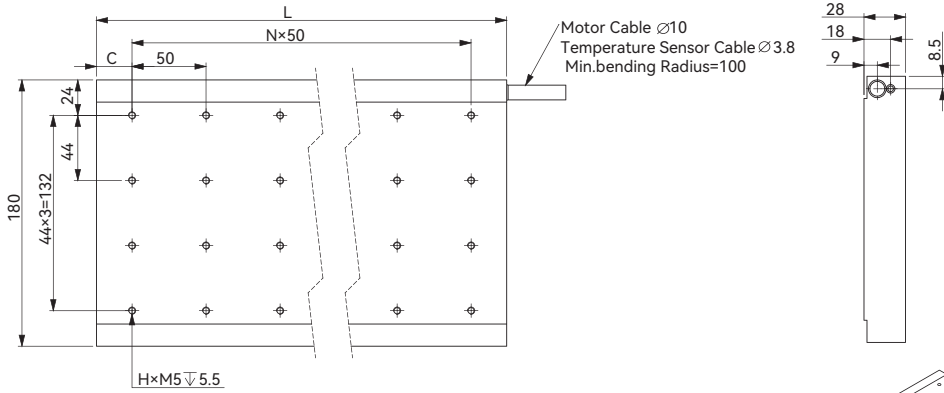
Abbreviations: NC-Natural Cooling.

② Resistance is measured by DC current with standard 0.5 m cable.

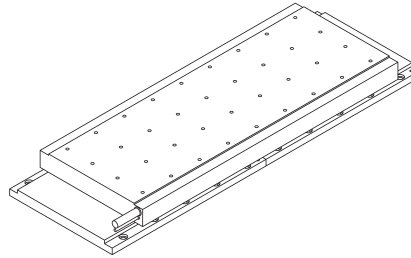
③ Inductance is measured by current frequency of 1 kHz.

The contents of datasheet are subject to change without prior notice.

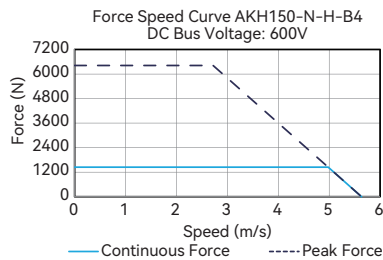
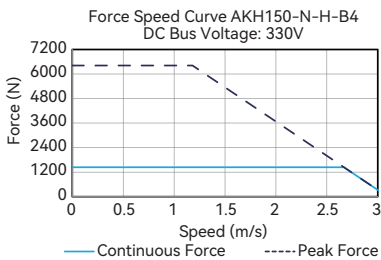
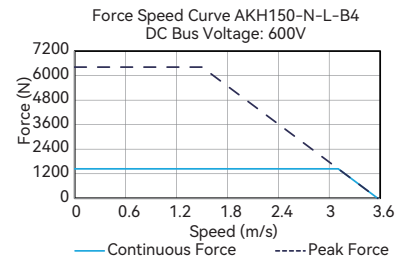
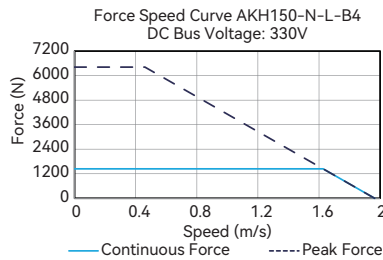
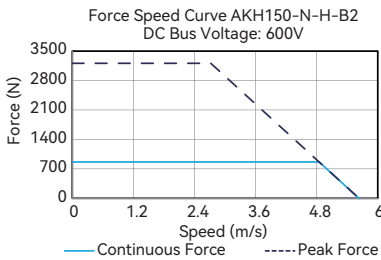
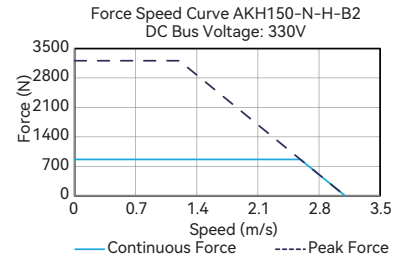
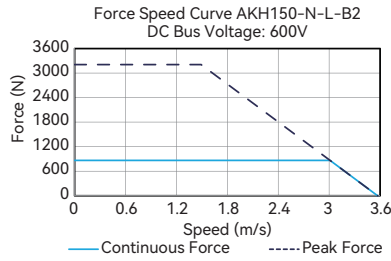
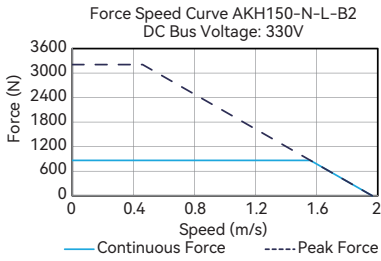
Dimension



Motor Type	L	C	N	H
AKH150-L/H-B2	232	16	4	20
AKH150-L/H-B4	448	24	8	36



Force-Speed Curve

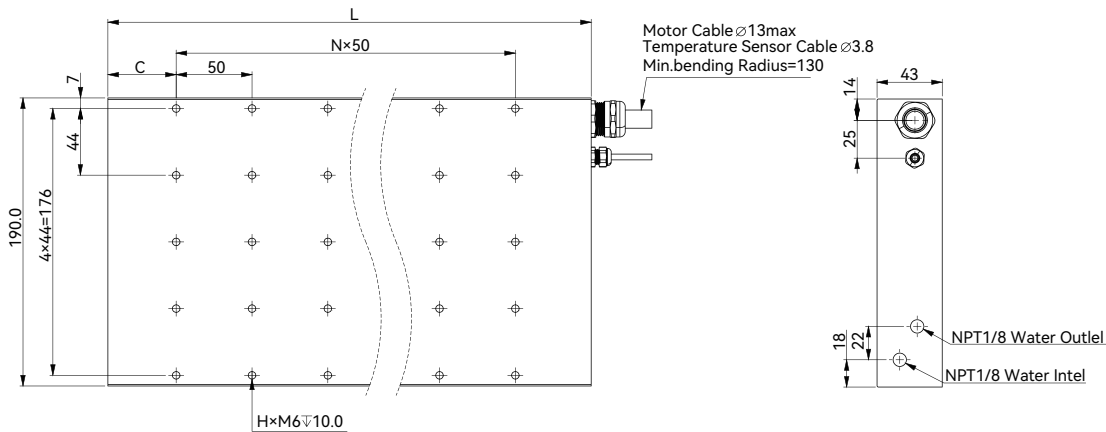


AKH150-W-0RC

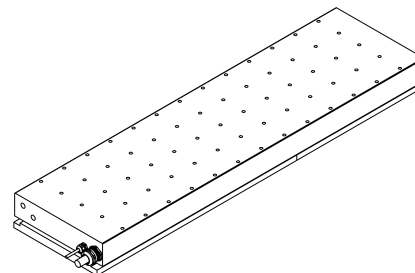
Performance Parameters	Symbol	Unit	AKH150-W-B2		AKH150-W-B4		AKH150-W-B6	
			L	H	L	H	L	H
Continuous Force (WC) @100°C ^{1,4}	F _{cw}	N	1604	1604	3169	3169	4573	4573
Peak Force	F _{pk}	N	3209	3209	6417	6417	9626	9626
Force Constant ±10%	K _f	N/Arms	206	130	206	130	206	130
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	168	107	168	107	168	107
Motor Constant @25°C	K _m	N/Sqrt(W)	56.7	56.7	80.2	80.2	98.3	98.3
Resistance (L-L) 25°C ±10% ²	R ₂₅	Ω	8.8	3.5	4.4	1.8	2.9	1.2
Inductance (L-L) ±30% ³	L	mH	38.5	15.5	19.3	7.7	12.8	5.2
Electrical Time Constant	τ _e	ms	4.4	4.4	4.4	4.4	4.4	4.4
Continuous Current (WC) @100°C ^{1,4}	I _{cw}	Arms	8.0	12.6	15.8	24.9	22.8	36.0
Peak Current	I _{pk}	Arms	20.0	31.5	40.0	63.1	60.0	94.6
Continuous Power Dissipation (WC) @100°C ^{1,4}	P _{cw}	W	1084	1084	2115	2115	2936	2936
Max. Coil Temperature	t _{max}	°C	100	100	100	100	100	100
Thermal Dissipation Constant (WC) ^{1,4}	K _{thw}	W/°C	14.5	14.5	28.2	28.2	39.1	39.1
Max. Bus Voltage	U _{bus}	V _{dc}	600	600	600	600	600	600
Magnetic Period	T _{NN}	mm	27	27	27	27	27	27
Attraction Force	F _a	N	6.4	6.4	12.8	12.8	19.2	19.2
Mechanical Parameters								
Coil Mass (WC)	m _{cw}	kg	10	10	18	18	26	26
Coil Length (WC)	L _{cw}	mm	263	263	479	479	695	695
Track Mass Per Meter	m _{track}	kg/m	19	19	19	19	19	19
Other Information								
Insulation Class	Class B (130°C)							
Protection Grade	IP66							
Compliance with Global Standards	RoHS, CE							
Ambient Temperature	Operation	0°C to 40°C (non-freezing)						
	Storage	-15°C to 70°C (non-freezing)						
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)						
	Storage	10%RH to 90%RH (non-condensing)						
Recommended Ambience	Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.							

- ¹ Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
Abbreviations: WC-Water Cooling.
- ² Resistance is measured by DC current with standard 0.5 m cable.
- ³ Inductance is measured by current frequency of 1 kHz.
- ⁴ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 6 L/min.
- The contents of datasheet are subject to change without prior notice.

Dimension

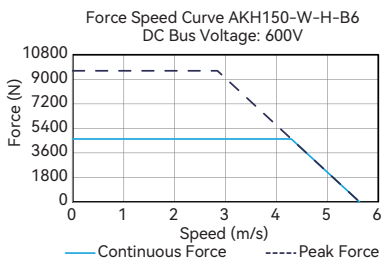
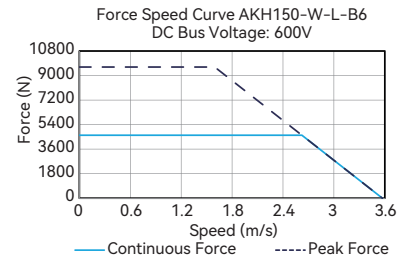
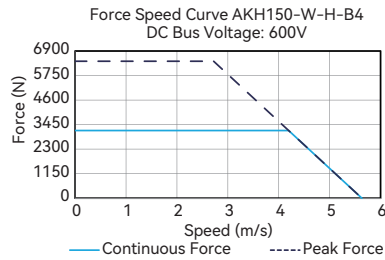
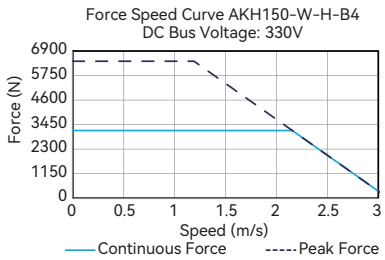
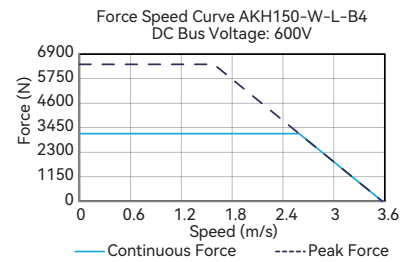
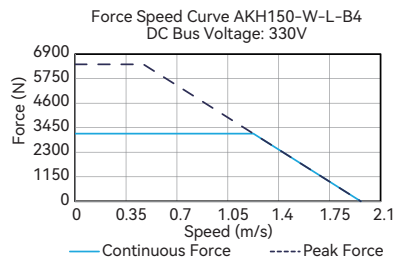
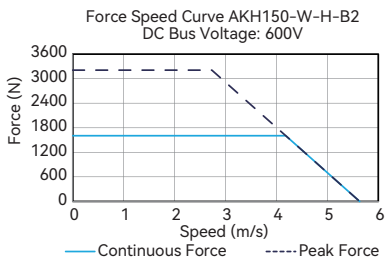
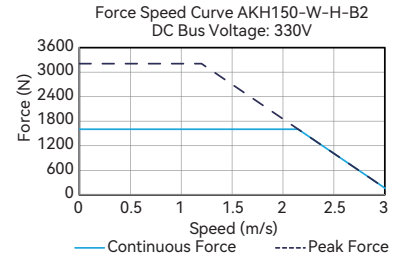
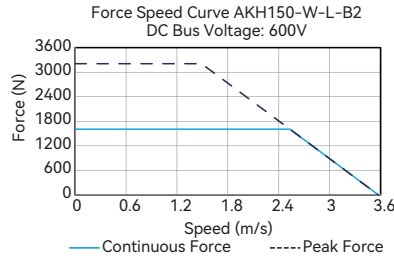
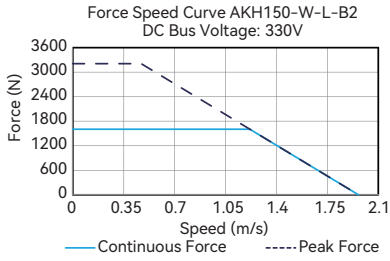


Motor Type	L	C	N	H
AKH150-W-L/H-B2	263	29	4	25
AKH150-W-L/H-B4	479	37	8	45
AKH150-W-L/H-B6	695	45	12	65

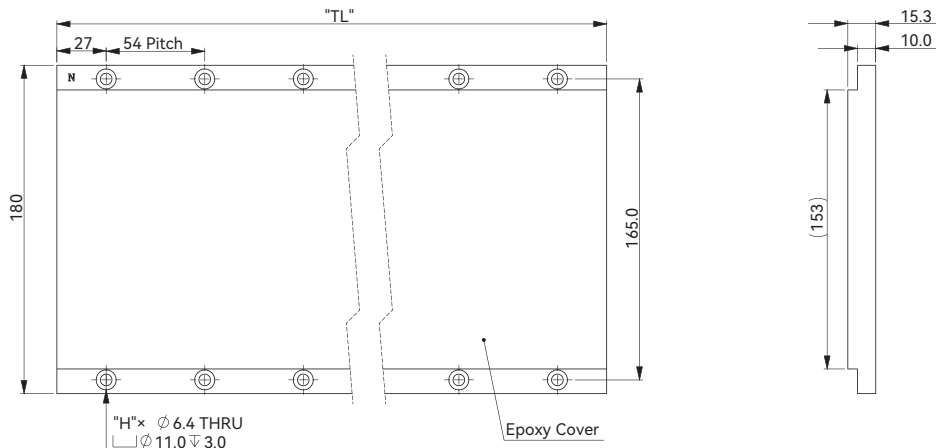


Force-Speed Curve

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AKH150 Track



Magnet Track P / N:	Track Length "TL"	No. of Holes "H"
AKH150-TL270-E	270	10
AKH150-TL432-E	432	16

AKH200-N-ORB

			AKH200-N-B2		AKH200-N-B4	
Performance Parameters	Symbol	Unit	L	H	L	H
Continuous Force (NC) @100°C	F _{cn}	N	989	989	1604	1604
Peak Force	F _{pk}	N	4278	4278	8556	8556
Force Constant ±10%	K _f	N/Arms	274	174	274	174
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	224	142	224	142
Motor Constant @25°C	K _m	N/Sqrt(W)	64	64	90	90
Resistance (L-L) 25°C ±10%	R ₂₅	Ω	12.3	4.9	6.2	2.5
Inductance (L-L) ±30%	L	mH	54.1	21.8	27.0	10.9
Electrical Time Constant	T _e	ms	4.4	4.4	4.4	4.4
Continuous Current (NC) @100°C	I _{cn}	Arms	3.7	5.8	6.0	9.5
Peak Current	I _{pk}	Arms	20.0	31.5	40.0	63.1
Continuous Power Dissipation (NC) @100°C	P _{cn}	W	325	325	428	428
Max. Coil Temperature	t _{max}	°C	100	100	100	100
Thermal Dissipation Constant (NC)	K _{thn}	W/°C	4.3	4.3	5.7	5.7
Max. Bus Voltage	U _{bus}	Vdc	600	600	600	600
Magnetic Period	T _{NN}	mm	27	27	27	27
Attraction Force	F _a	N	8.5	8.5	17.0	17.0
Mechanical Parameters						
Coil Mass (NC)	m _{cn}	kg	10	10	19	19
Coil Length (NC)	L _{cn}	mm	232	232	448	448
Track Mass Per Meter	m _{track}	kg/m	26	26	26	26
Other Information						
Insulation Class	Class B (130°C)					
Protection Grade	IP00					
Compliance with Global Standards	RoHS, CE					
Ambient Temperature	Operation	0°C to 40°C (non-freezing)				
	Storage	-15°C to 70°C (non-freezing)				
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)				
	Storage	10%RH to 90%RH (non-condensing)				
Recommended Ambience	Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.					

① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.

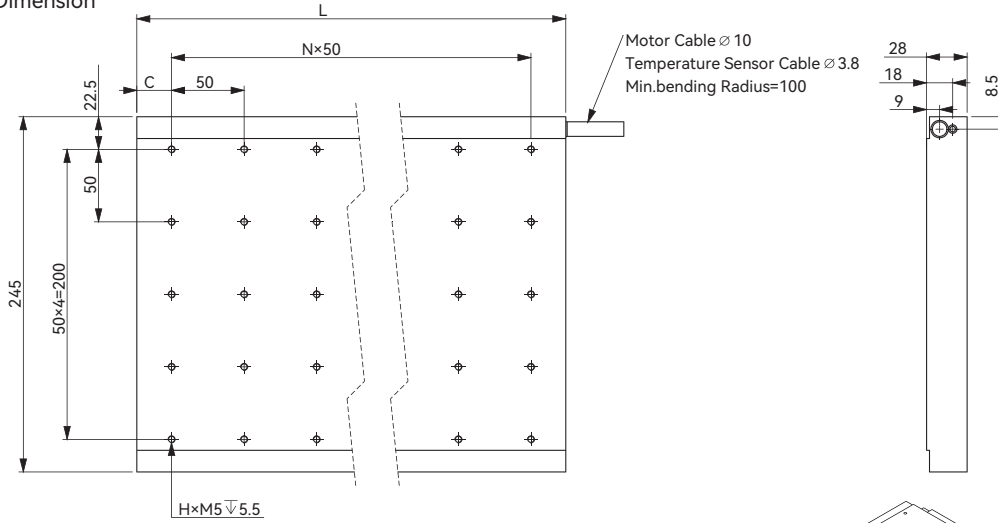
Abbreviations: NC-Natural Cooling.

② Resistance is measured by DC current with standard 0.5 m cable.

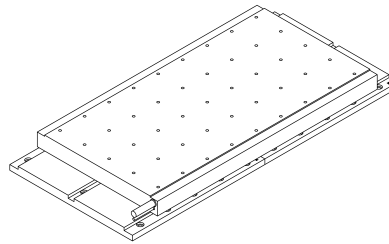
③ Inductance is measured by current frequency of 1 kHz.

The contents of datasheet are subject to change without prior notice.

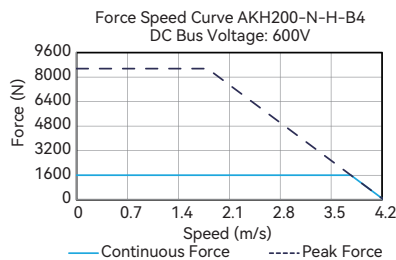
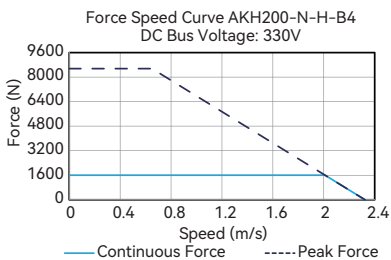
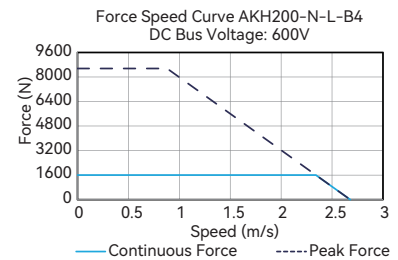
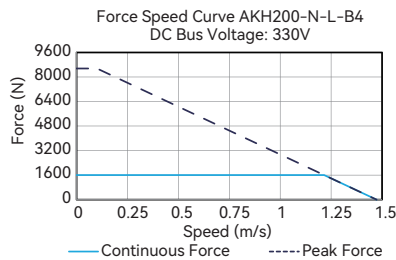
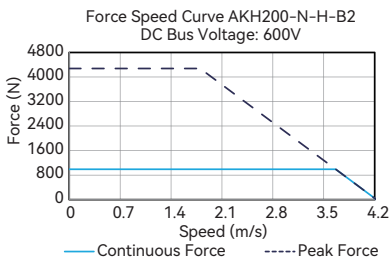
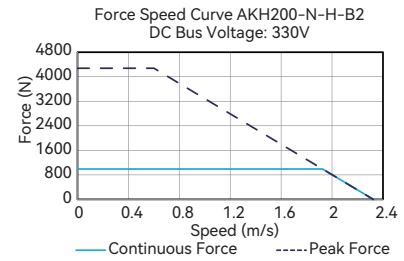
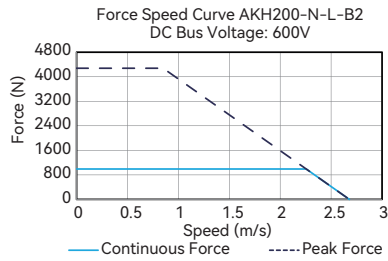
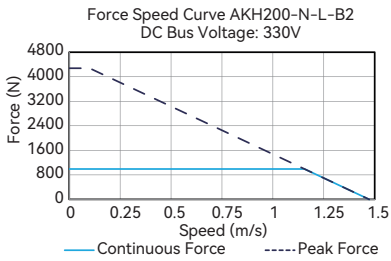
Dimension



Motor Type	L	C	N	H
AKH200-N-L/H-B2	232	16	4	20
AKH200-N-L/H-B4	448	24	8	36



Force-Speed Curve

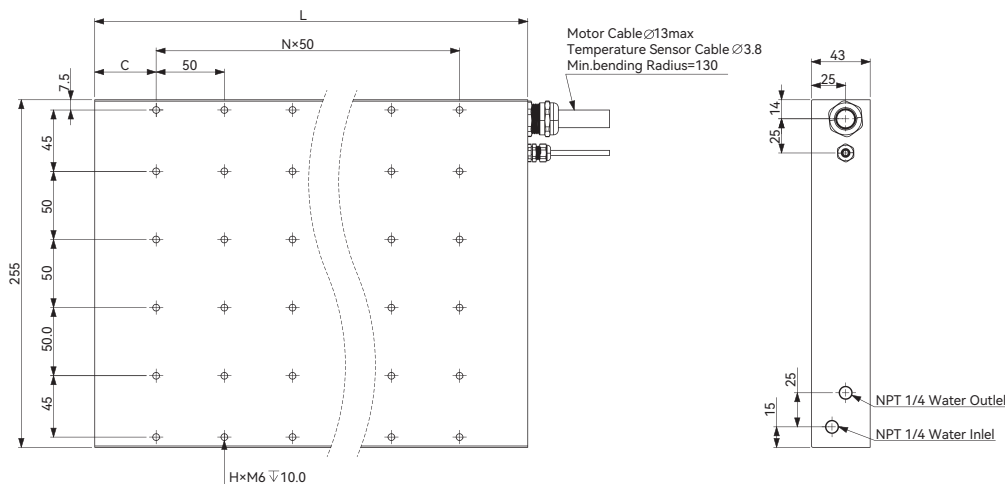


AKH200-W-ORC

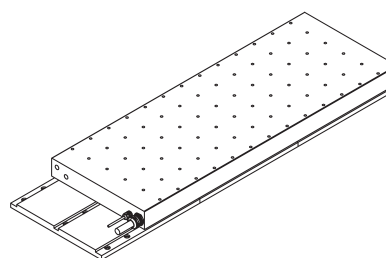
			AKH200-W-B2		AKH200-W-B4		AKH200-W-B6	
Performance Parameters	Symbol	Unit	L	H	L	H	L	H
Continuous Force (WC) @100°C ①④	F _{cw}	N	2139	2139	4225	4225	6097	6097
Peak Force	F _{pk}	N	4278	4278	8556	8556	12834	12834
Force Constant ±10%	K _f	N/Arms	274	174	274	174	274	174
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	224	142	224	142	224	142
Motor Constant @25°C	K _m	N/Sqrt(W)	63.9	63.9	90.3	90.3	105.9	105.9
Resistance (L-L) 25°C ±10% ②	R ₂₅	Ω	12.3	4.9	6.2	2.5	4.5	1.8
Inductance (L-L) ±30% ③	L	mH	54.1	21.8	27.0	10.9	19.8	8.0
Electrical Time Constant	T _e	ms	4.4	4.4	4.4	4.4	4.4	4.4
Continuous Current (WC) @100°C ①④	I _{cw}	Arms	8.0	12.6	15.8	24.9	22.8	36.0
Peak Current	I _{pk}	Arms	20.0	31.5	40.0	63.1	60.0	94.6
Continuous Power Dissipation (WC) @100°C ①④	P _{cw}	W	1522	1522	2968	2968	4491	4491
Max. Coil Temperature	t _{max}	°C	100	100	100	100	100	100
Thermal Dissipation Constant (WC) ①④	K _{thw}	W/°C	20.3	20.3	39.6	39.6	54.9	54.9
Max. Bus Voltage	U _{bus}	Vdc	600	600	600	600	600	600
Magnetic Period	T _{NN}	mm	27	27	27	27	27	27
Attraction Force	F _a	N	8.5	8.5	17.0	17.0	25.6	25.6
Mechanical Parameters								
Coil Mass (WC)	m _{cw}	kg	14	14	25	25	37	37
Coil Length (WC)	L _{cw}	mm	263	263	479	479	695	695
Track Mass Per Meter	m _{track}	kg/m	26	26	26	26	26	26
Other Information								
Insulation Class	Class B (130°C)							
Protection Grade	IP66							
Compliance with Global Standards	RoHS, CE							
Ambient Temperature	Operation	0°C to 40°C (non-freezing)						
	Storage	-15°C to 70°C (non-freezing)						
Ambient Humidity	Operation	10%RH to 80%RH (non-condensing)						
	Storage	10%RH to 90%RH (non-condensing)						
Recommended Ambience	Indoor (no direct sunlight); No corrosive gas, inflammable gas, oil mist or dust.							

- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
Abbreviations: WC-Water Cooling.
- ② Resistance is measured by DC current with standard 0.5 m cable.
- ③ Inductance is measured by current frequency of 1 kHz.
- ④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 6 L/min.
- The contents of datasheet are subject to change without prior notice.

Dimension

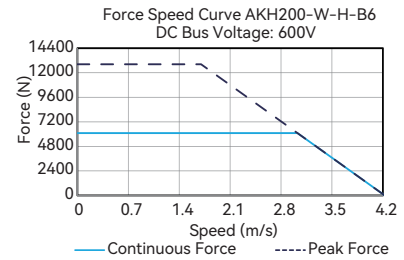
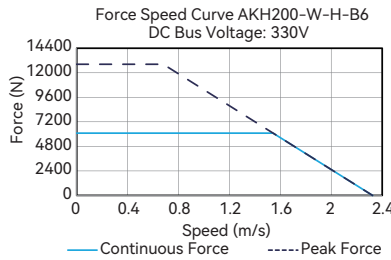
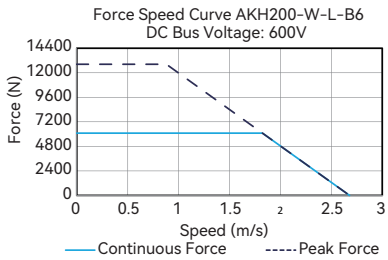
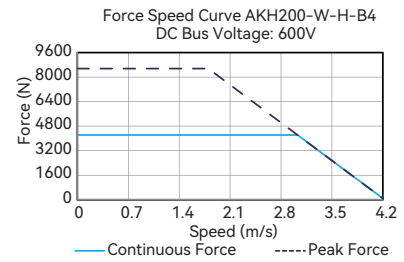
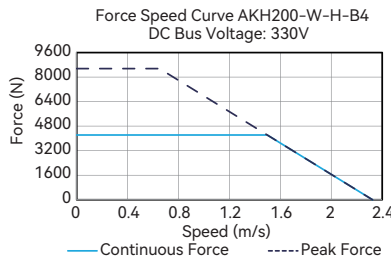
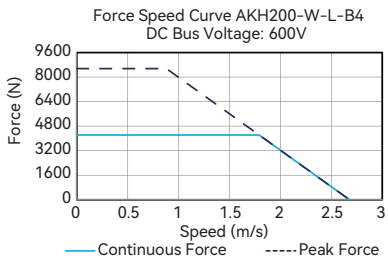
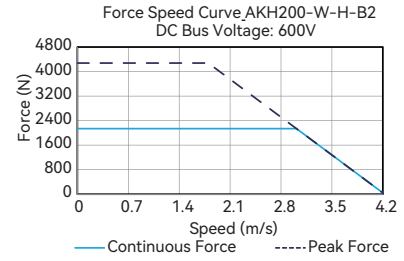
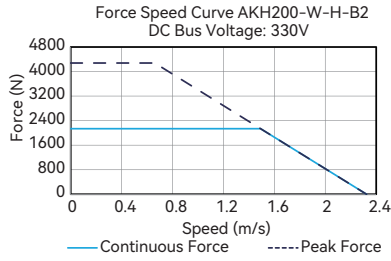
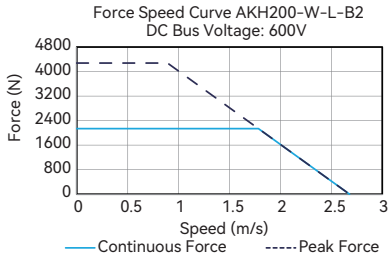


Motor Type	L	C	N	H
AKH200-W-L/H-B2	263	29	4	30
AKH200-W-L/H-B4	479	37	8	54
AKH200-W-L/H-B6	695	45	12	78

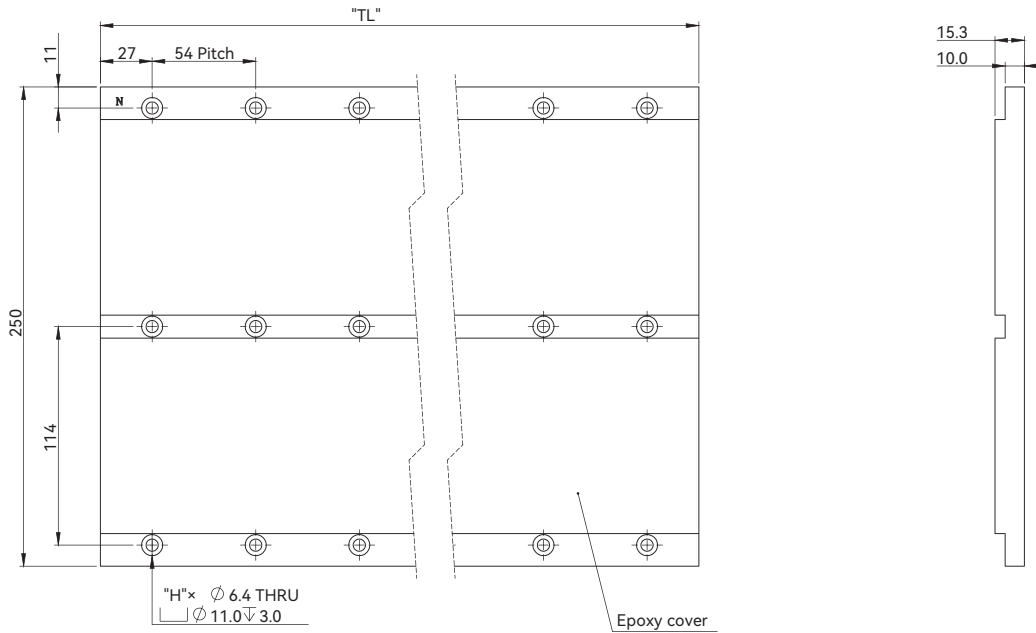


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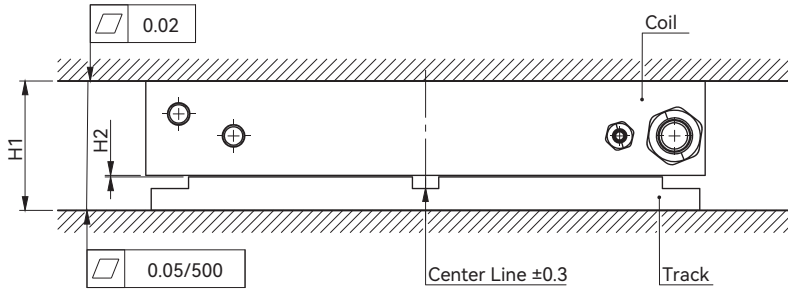


AKH200 Track



Magnet Track P / N:	Track Length "TL"	No. of Holes "H"
AKH200-TL270-E	270	15
AKH200-TL432-E	432	24

Motor Assembly Diagram



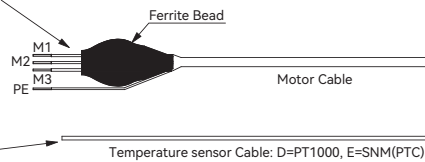
Installation Guide	Adaptive Track	H1	H2
AKH100-N-L/H-Bx-ORB	AKH100-TLXXX-E	40(+0.2,0.0)	0.7(+0.2,-0.2)
AKH130-N-L/H-Bx-ORB	AKH130-TLXXX-E	40(+0.2,0.0)	0.7(+0.2,-0.2)
AKH150-N-L/H-Bx-ORB	AKH150-TLXXX-E	44(+0.2,0.0)	0.7(+0.2,-0.2)
AKH200-N-L/H-Bx-ORB	AKH200-TLXXX-E	44(+0.2,0.0)	0.7(+0.2,-0.2)
AKH100-W-L/H-Bx-ORC	AKH100-TLXXX-E	55(+0.3,+0.1)	0.7(+0.3,-0.1)
AKH150-W-L/H-Bx-ORC	AKH150-TLXXX-E	59(+0.3,+0.1)	0.7(+0.3,-0.1)
AKH200-W-L/H-Bx-ORC	AKH200-TLXXX-E	59(+0.3,+0.1)	0.7(+0.3,-0.1)

- ① N = Natural Cooling
- ② W = Water Cooling

Motor Cable Connection

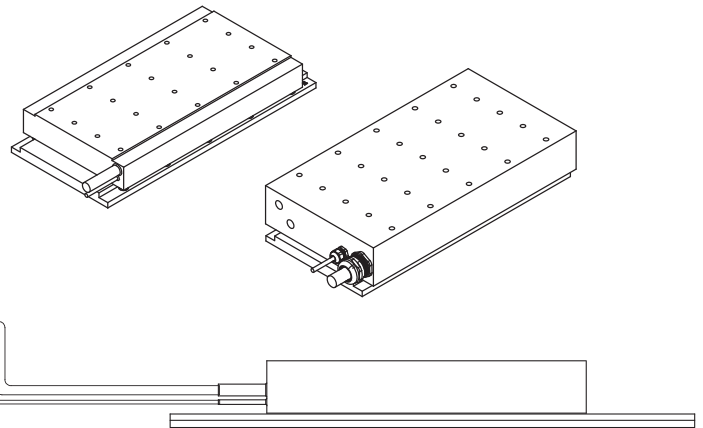
MOTOR CABLE

PIN	DESCRIPTION	COLOR
-	M1	BLACK1
-	M2	BLACK2
-	M3	BLACK3
-	PE	YELLOW/GREEN



TEMPERATURE SENSOR CABLE

PIN	DESCRIPTION	COLOR
-	D1	BLUE
-	D2	RED
-	E1	YELLOW
-	E2	GREY



Part Numbering

Motor Coil

AKH100-N-L-B2-DE-NF-005-FF-ORB



AKH100-W-L-B2-DE-NF-005-XF-ORC



- 1 N = Natural Cooling
- 2 W = Water Cooling
- 3 DE = PT1000(RTD) + SNM(PTC)
- 4 NF = Without Built-in Hall Sensor C/W Flying Leads
- 5 005 = 0.5 Meter
- 6 FF = With Ferrite Bead C/W Flying Leads
- 7 XW = Without Ferrite Bead C/W D-Sub 9W4 Male Connector
- 8 XF = Without Ferrite Bead C/W Flying Leads
- 9 ORB = Standard Model (for more options, please consult cust-service@akribis-sys.com)
- 10 OUA = NRTL-Certified Model
- 11 ORC = Standard Model (for more options, please consult cust-service@akribis-sys.com)

Motor Track

AKH100-TL270-E



- 12 E = Epoxy cover