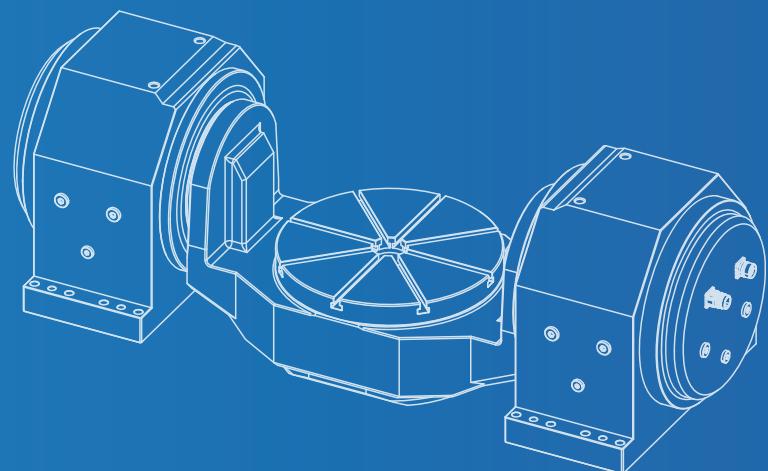
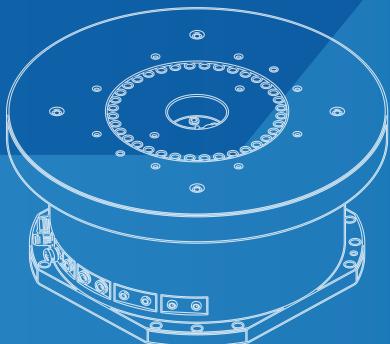
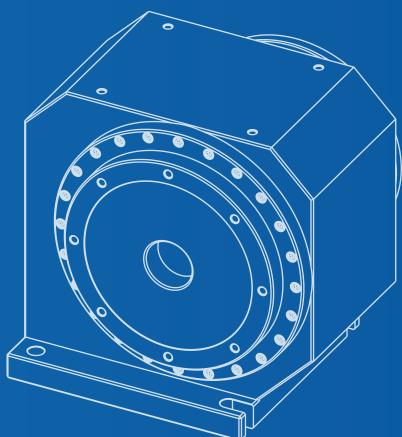


CNC

Direct Drive Motors

- Linear Motors
- CNC Turntable





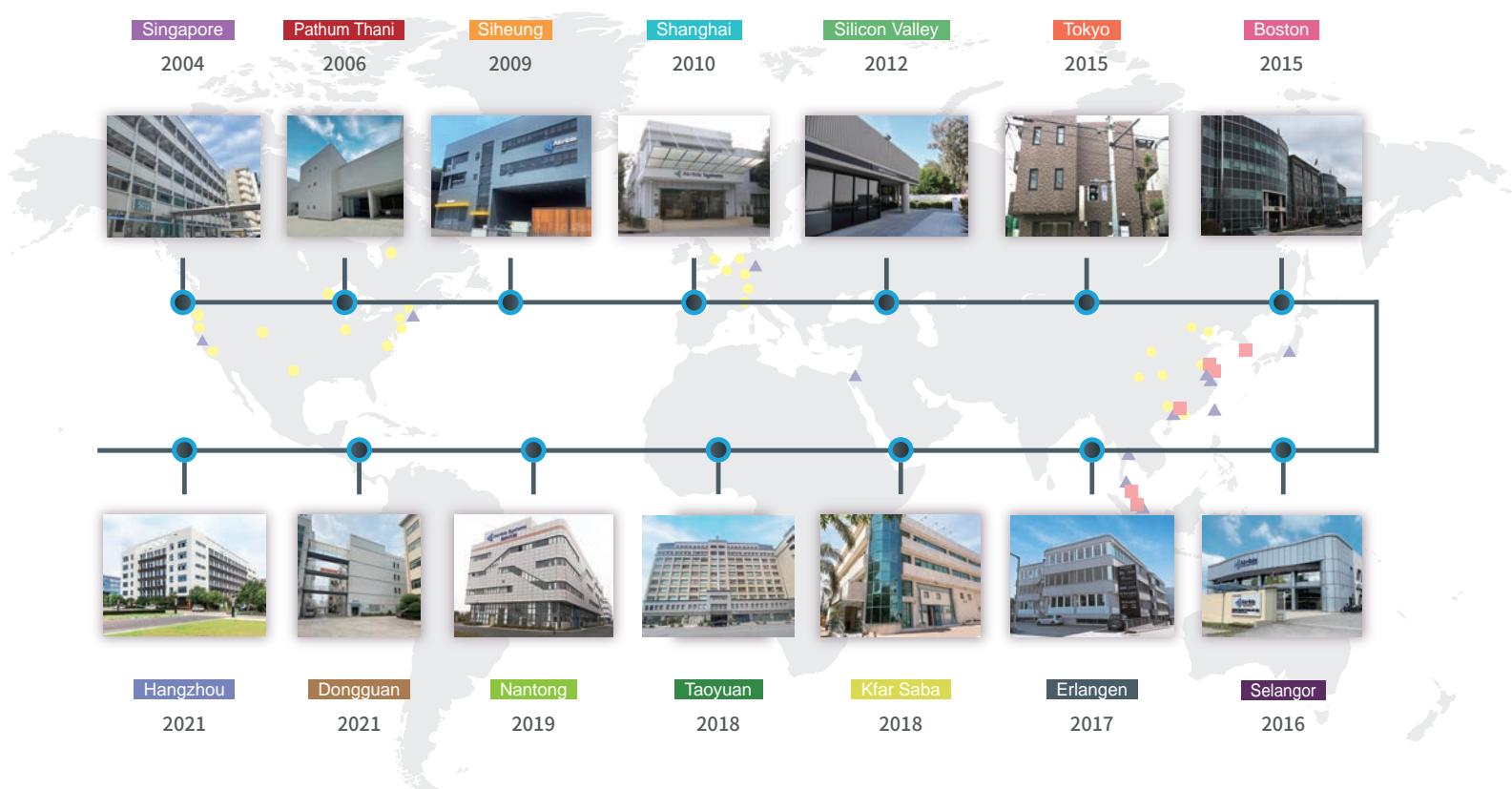
Akribis is a Latinized Greek word that means “Precision”. On the Akribis logo, the letter “a” is formed by a line and a circle, representing linear and rotary motions. These are supported by a tetrahedron structure, the same structure as the diamond crystal which has many exceptional physical properties.

The logo signifies that Akribis Systems’ sound engineering expertise is the basis of the company’ s foundation, and this enables us to provide customers with precise, direct drive motion control solutions.

Akribis Systems Pte Ltd was founded in 2004. We design and manufacture direct drive motors, stages and precision systems that are used in equipment for manufacturing, inspection and testing. Akribis Systems supports a wide range of industries including semiconductor, solar, flat panel, hard disk, LED, printed circuit board, printing, photonics and biomedical manufacturing.

From the beginning, the company has been focusing on innovation and development of new technologies and solutions in motion control, with more than 85 patents applied. Backed by a very strong and committed engineering team, the company continues to develop custom motors and systems for the most demanding applications.

We have manufacturing facilities in Singapore and in Shanghai, Nantong and Dongguan, China and in Selangor, Malaysia and in Siheung, Korea. Our sales network includes our sales offices in USA, Germany, South Korea, Japan, Thailand, Israel and Malaysia, and is reinforced by our comprehensive distribution channels in Asia, Europe and North America.



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Akribis Systems
WHERE PRECISION MATTERS

1 - Linear Motor for CNC Machine Tool

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4 - Others

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Akribis

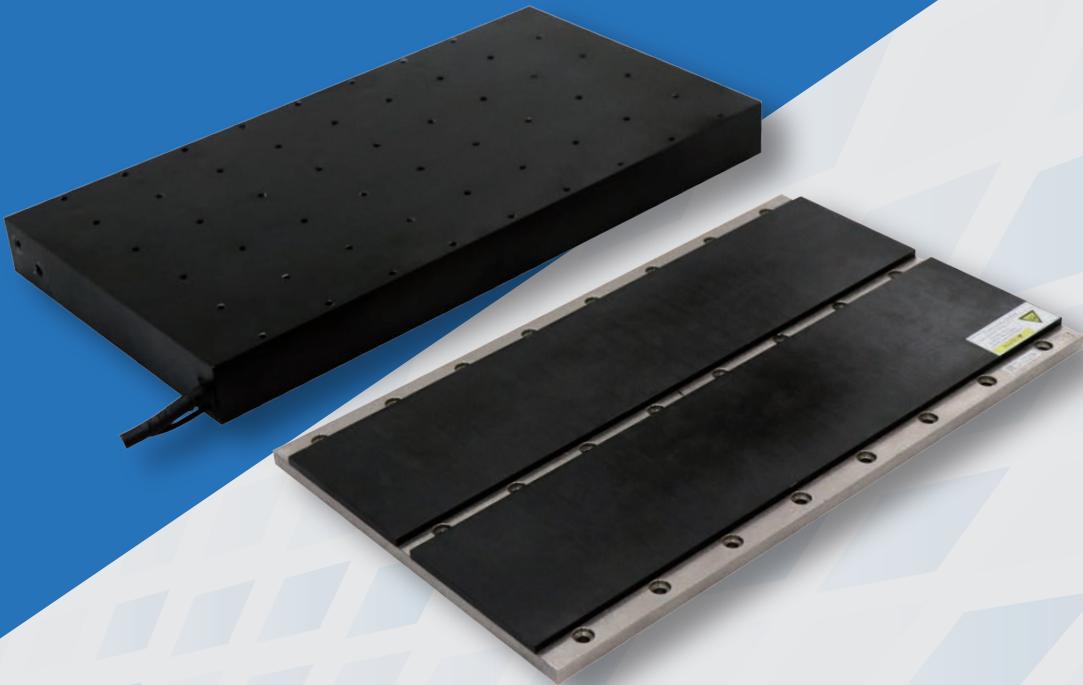
Why is there a need to differentiate linear motors for machine tools?

Machine tool as a whole requires different set of requirements. Following are some main reasons:

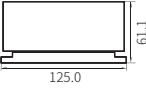
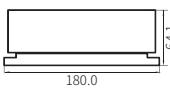
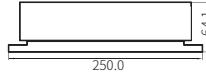
1. Machine tools generally demands for higher thrust force than the conventional motor application
2. There is a greater demand in responsiveness for machine tools
3. Motor components built for machine tools require higher level of cooling

The AKM, AKMF and AKH series are motors developed specifically for machine tool applications and we have considered the following in the motors: Electromagnetic design, Structural design, Thermodynamic simulation / testing

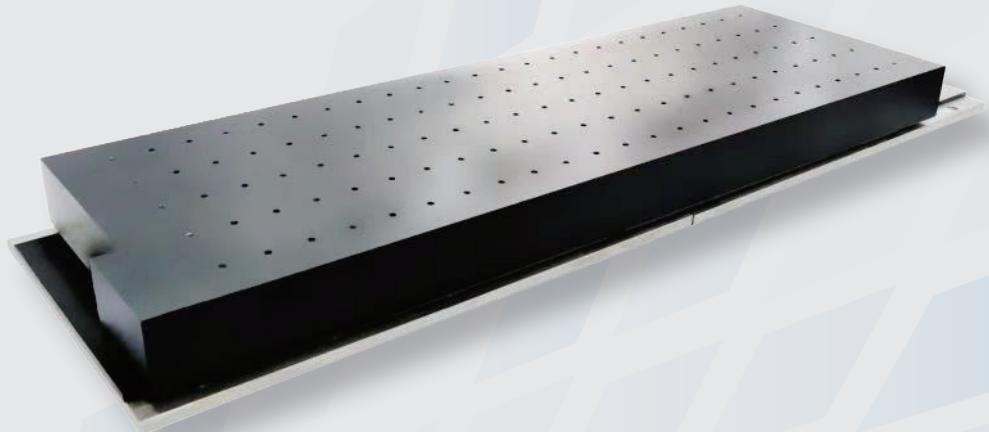
Linear Motor



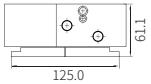
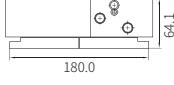
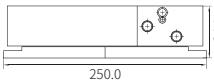
AKM Series

	Model	Coil Length (mm)	Continuous Force(Fcn) / Peak Force(Fpk)						Unit: N
			200	500	1000	2000	3500	5500	
	AKM30-B1	112	• 108.4 / ■ 241.6						
	AKM30-B2	196		• 216.8 / ■ 483.2					
	AKM30-B4	364			• 433.6 / ■ 966.3				
	AKM50-B1	112		• 180.7 / ■ 402.6					
	AKM50-B2	196			• 361.3 / ■ 805.3				
	AKM50-B4	364				• 722.6 / ■ 1610.5			
	AKM50-B6	532					• 1029.8 / ■ 2415.8		
	AKM100-B1	112			• 361.3 / ■ 805.3				
	AKM100-B2	196				• 722.6 / ■ 1610.5			
	AKM100-B4	364					• 1445.3 / ■ 3221.1		
	AKM150-B4	364					• 2027.0 / ■ 4831.6		
	AKM150-B8	700						• 3839.1 / ■ 9663.2	
	AKM200-B4	364					• 2539.6 / ■ 6442.2		
	AKM200-B8	700						• 4817.7 / ■ 12884.3	

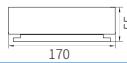
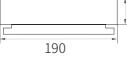
Note: The above are the parameters of AKM self-cooling motor, please refer to the motor parameters table on page 14~26 for water-cooling motor parameters.



AKMF Series

	Model	Coil Length (mm)	● Continuous Force(Fcn) / ■ Peak Force(Fpk)						Unit: N
			500	1000	2000	3000	4000	5000	
	AKMF100-W-B2	236			● 1033.9 / ■ 1511.5				
	AKMF100-W-B4	404			● 1976.5 / ■ 3023.0				
	AKMF100-W-B6	572			● 2873.7 / ■ 4534.6				
	AKMF150-W-B4	404			● 2599.3 / ■ 4578.5				
	AKMF150-W-B6	572			● 3762.3 / ■ 6867.7				
	AKMF200-W-B4	404			● 3183.4 / ■ 6046.1				
	AKMF200-W-B6	618			● 4584.1 / ■ 9069.1				

AKH Series

	Model	Coil Length (mm)	● Continuous Force(Fcn) / ■ Peak Force(Fpk)						Unit: N
			200	500	1000	2000	3500	5500	
	AKH100-W-B2	263			● 1097 / ■ 2750				
	AKH100-W-B4	479			● 2167 / ■ 5500				
	AKH130-W-B4	479			● 2817 / ■ 7150				
	AKH150-W-B2	263			● 1646 / ■ 4125				
	AKH150-W-B4	479			● 3250 / ■ 8250				
	AKH200-W-B2	263			● 2194 / ■ 5500				
	AKH200-W-B4	479			● 4334 / ■ 11000				
	AKH200-W-B6	695			● 6319 / ■ 16500				

Advantages of Using Linear Motor Technology

Linear motors can achieve high acceleration rates, high positioning accuracy with minimal maintenance. The nature of linear motor do not require mechanical drive components to operate and hence, it has high reliability for long service life with zero mechanical friction loss.

— High Precision

With the load directly coupled to the motor, there's no need for other intermediate components such as gearboxes or ball screws drive where backlash and error occurs and positioning accuracy is high.

— High Velocity and Acceleration

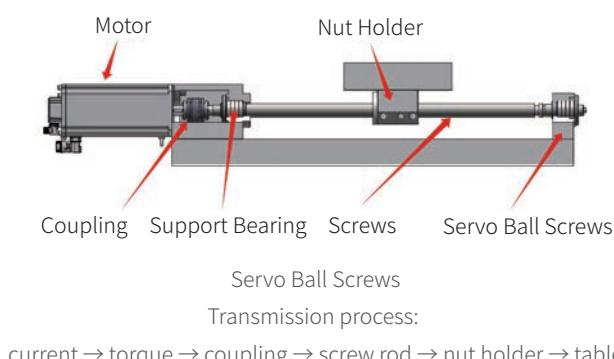
With direct drive the dynamic response for CNC machinery can now reach the maximum running speed of 120~150m/min, with acceleration reaching 20m/s².

— No Limitation on Distance Travelled

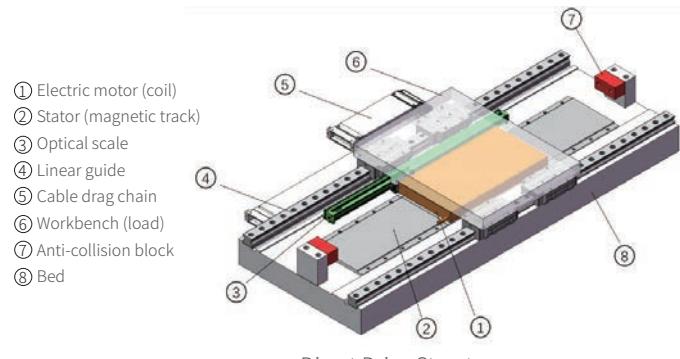
Linear motor is not limited by the length and deformation of screw drive systems, distance will no longer be an issue for manufacturers.

— Minimal Maintenance and High Accuracy

With no mechanical drive components to operate, it has high reliability for long service life with zero mechanical friction loss.



Transmission process:
current → torque → coupling → screw rod → nut holder → table



Transmission process: current → thrust → table

Comparative Analysis

Project	Conventional Screw Machine	Linear Motor Machine
Rapid traverse	36-48 m/min	60-120 m/min
Positioning accuracy	0.005-0.01 mm	0.002-0.005 mm
Reverse clearance	≥3 μm	≈0
Machine accuracy life	2-3 year	10 year

Exploded View for Easy Motor Installation

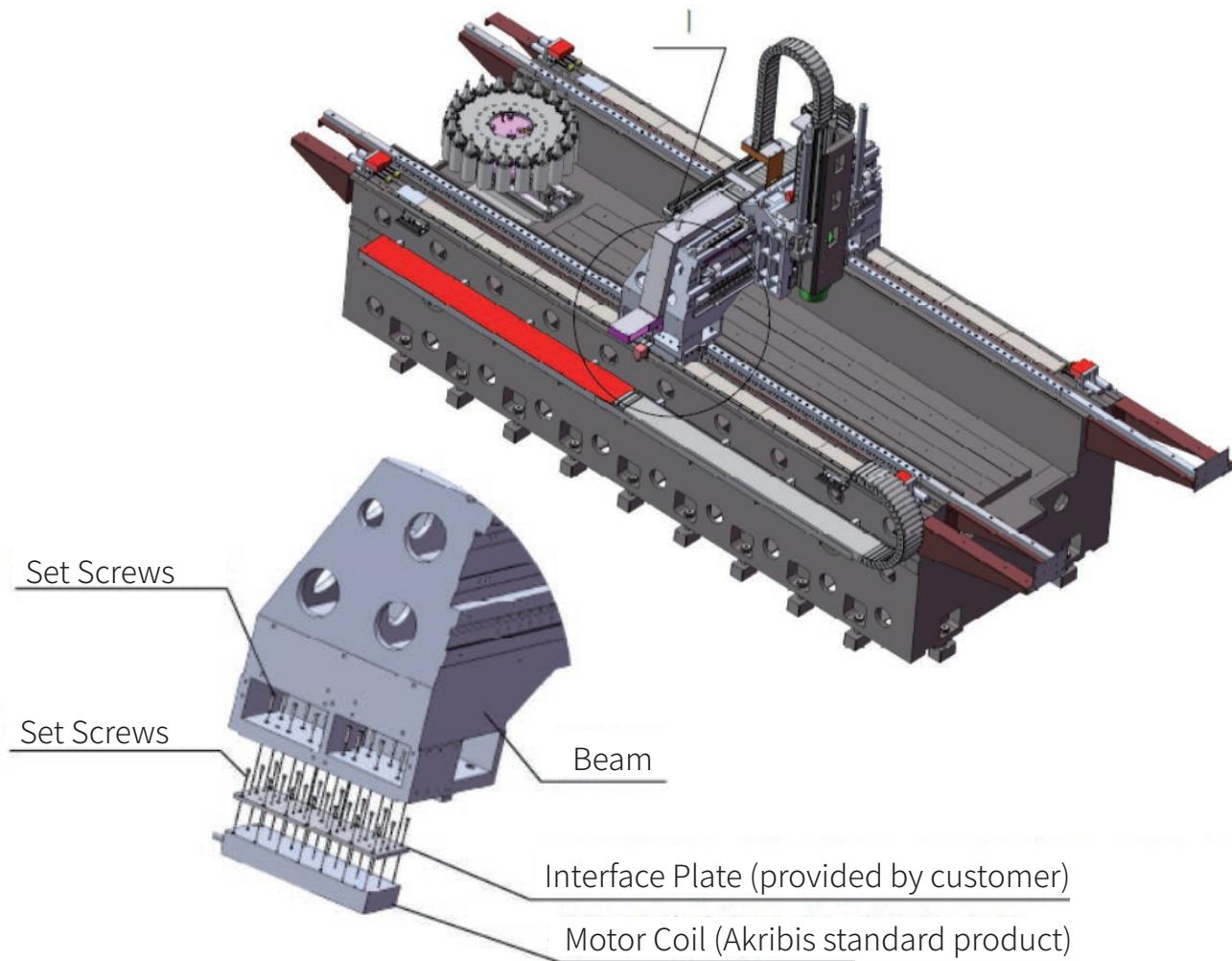


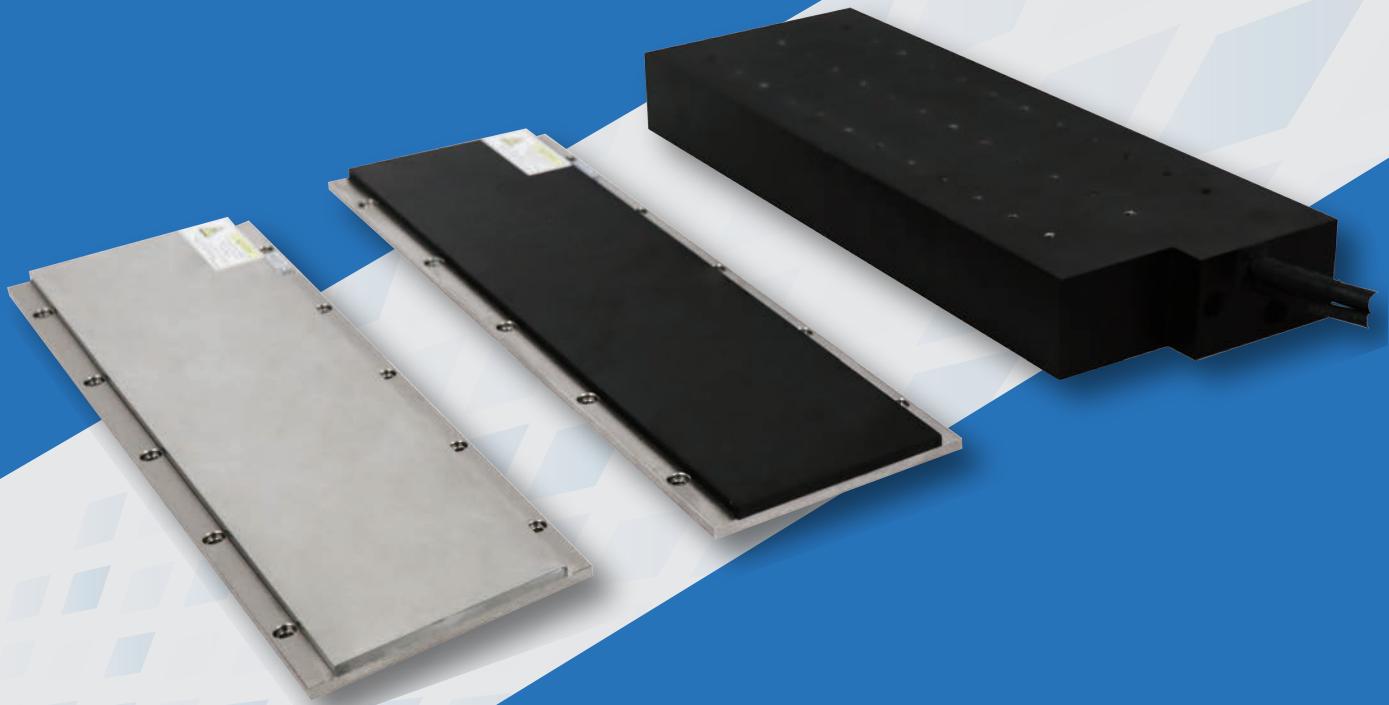
Fig.1 Linear Motor Installation Example

Steps in Linear Motor Applications

Step 1: Clean the transition plate and dry it as shown in figure 1.

Step 2: Install the coil on the motor mounting transition plate with set screws and apply anti-loosening adhesive.

Step 3: Fasten the motor mounting transition plate with the beam through the set screws, and apply anti-loosening adhesive.



AKM SERIES

- Iron core technology
- Low cogging force
- High force and stiffness
- Self-cooling and water-cooling are optional

AKM30-B1				
Performance Parameters		Symbol	Unit	Series
Continuous Force (NC) @100°C ^①	F_{cn}	N	108.4	
Peak Force	F_{pk}	N	241.6	
Force Constant ±10%	K_f	N/Arms	23.0	
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	18.7	
Motor Constant @25°C	K_m	N/Sqrt(W)	17.7	
Resistance (L-L) 25°C ±10% ^②	R_{25}	Ω	1.1	
Inductance (L-L) ±30% ^③	L	mH	21.0	
Electrical Time Constant	T_e	ms	18.8	
Continuous Current (NC) @100°C ^①	I_{cn}	Arms	4.8	
Peak Current	I_{pk}	Arms	14.4	
Continuous Power Dissipation (NC) @100°C ^①	P_{cn}	W	49.9	
Max. Coil Temperature	t_{max}	°C	100	
Thermal Dissipation Constant (NC) ^①	K_{thn}	W/°C	0.7	
Max. Bus Voltage	U_{bus}	Vdc	600	
Magnetic Period	T_{NN}	mm	42	
Attraction Force	F_a	kN	0.4	
Mechanical Parameters				
Coil Mass (NC)	m_{cn}	kg	1.5	
Coil Length (NC)	L_{cn}	mm	112	
Track Mass Per Meter	m_{track}	kg/m	2.6	
Other Information				
Insulation Class	Class B (130°C)			
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.

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

AKM30-B2				
Performance Parameters		Symbol	Unit	Series
Continuous Force (NC) @100°C ^①	F_{cn}	N	216.8	
Peak Force	F_{pk}	N	483.2	
Force Constant ±10%	K_f	N/Arms	45.9	
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	37.5	
Motor Constant @25°C	K_m	N/Sqrt(W)	25.0	
Resistance (L-L) 25°C ±10% ^②	R_{25}	Ω	2.2	
Inductance (L-L) ±30% ^③	L	mH	42.0	
Electrical Time Constant	T_e	ms	18.8	
Continuous Current (NC) @100°C ^①	I_{cn}	Arms	4.8	
Peak Current	I_{pk}	Arms	14.4	
Continuous Power Dissipation (NC) @100°C ^①	P_{cn}	W	99.8	
Max. Coil Temperature	t_{max}	°C	100	
Thermal Dissipation Constant (NC) ^①	K_{thn}	W/°C	1.3	
Max. Bus Voltage	U_{bus}	Vdc	600	
Magnetic Period	T_{NN}	mm	42	
Attraction Force	F_a	kN	0.8	
Mechanical Parameters				
Coil Mass (NC)	m_{cn}	kg	2.7	
Coil Length (NC)	L_{cn}	mm	196	
Track Mass Per Meter	m_{track}	kg/m	2.6	
Other Information				
Insulation Class	Class B (130°C)			
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.

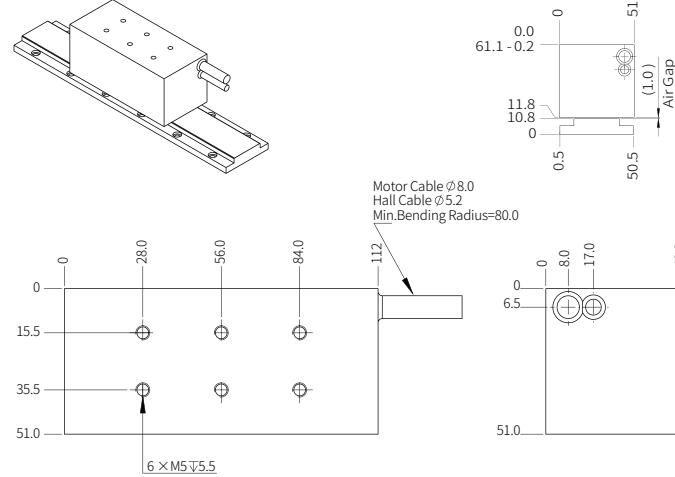
Abbreviations: WC-Water Cooling.

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

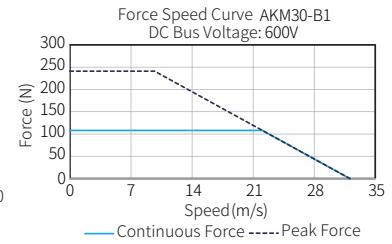
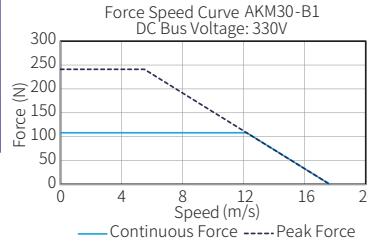
③ Inductance is measured by current frequency of 1 kHz.

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

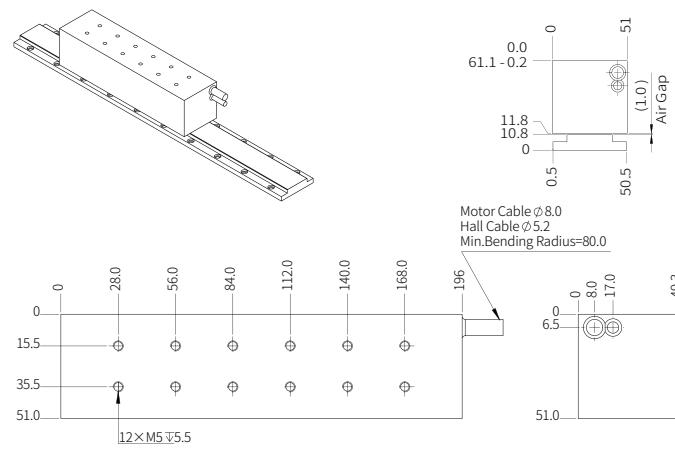
Dimensional Drawing



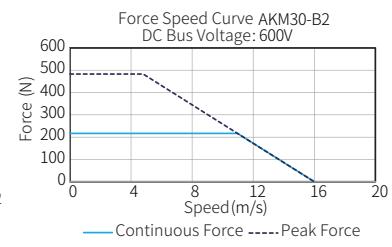
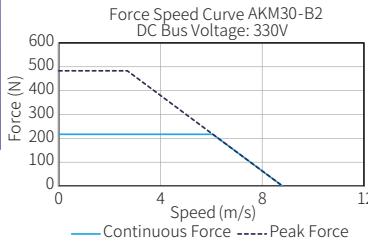
Force Speed Curves



Dimensional Drawing



Force Speed Curves



AKM30-B4			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (NC) @100°C	F _{cn}	N	433.6
Peak Force	F _{pk}	N	966.3
Force Constant ±10%	K _f	N/Arms	45.9
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	37.5
Motor Constant @25°C	K _m	N/Sqrt(W)	35.4
Resistance (L-L) 25°C ±10%	R ₂₅	Ω	1.1
Inductance (L-L) ±30%	L	mH	21.0
Electrical Time Constant	T _e	ms	18.8
Continuous Current (NC) @100°C	I _{cn}	Arms	9.6
Peak Current	I _{pk}	Arms	28.8
Continuous Power Dissipation (NC) @100°C	P _{cn}	W	199.5
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC)	K _{thn}	W/°C	2.7
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42
Attraction Force	F _a	kN	1.6
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	5.3
Coil Length (NC)	L _{cn}	mm	364
Track Mass Per Meter	m _{track}	kg/m	2.6
Other Information			
Insulation Class	Class B (130°C)		
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.

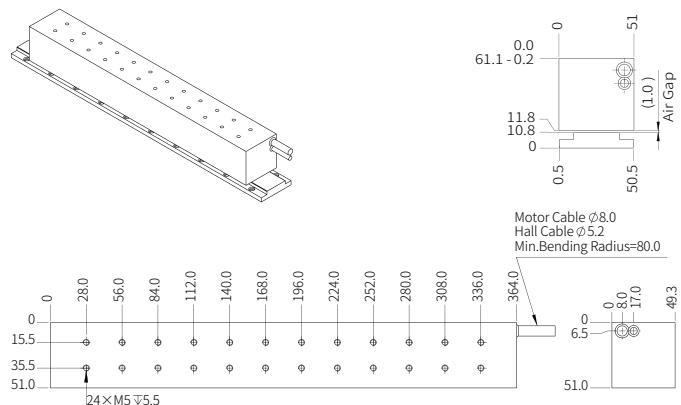
Abbreviations: WC-Water Cooling.

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

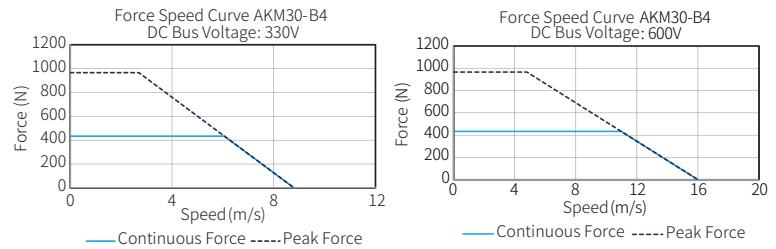
③ Inductance is measured by current frequency of 1 kHz.

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

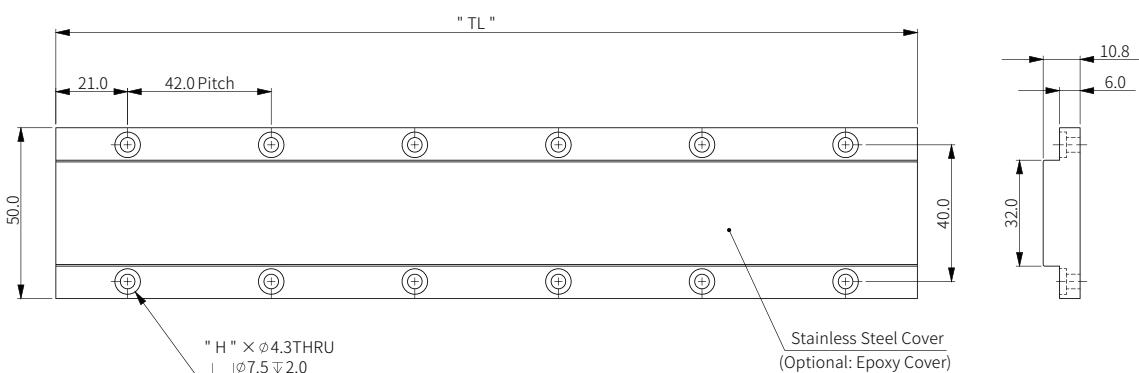
■ Dimensional Drawing



■ Force Speed Curves



AKM30 Track



Magnet Track P/N:	Track Length "TL"	No. of Holes "H"
AKM30-TL168-S	168.0	8
AKM30-TL252-S	252.0	12
AKM30-TL420-S	420.0	20

For epoxy cover option, change "-S" to "-E". (e.g. AKM30-TL168-E)

Part Numbering

Motor Coil

AKM30-B2-J-NH-0.5-FB

Motor Model:

AKM30

Coil Length:

B1 / B2 / B4

Thermal Sensor:

J / K

- ① J=Thermostat(standard)
- ② K=PT100(RTD)
- ③ H9D=With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
- ④ NH=Without Built-in Hall Sensor C/W Flying Leads
- ⑤ FB=With Ferrite Bead C/W Flying Leads
- ⑥ 9W4M=Without Ferrite Bead C/W D-Sub 9W4 Male Connector

Power Cable:

FB / 9W4M

Cable Length(m):

0.5 / 3.0

Sensor Cable:

H9D / NH

Motor Track

AKM30-TL420-S

Track Type and Cover:

S / E

Motor Model:

AKM30

- ⑦ S=Stainless Steel Cover
- ⑧ E=Epoxy Cover

Track Length:

TL168 / TL252 / TL420

AKM50-B1			
Performance Parameters	Symbol	Unit	Series
Continuous Force (NC) @100°C ①	F _{cn}	N	180.7
Peak Force	F _{pk}	N	402.6
Force Constant ±10%	K _f	N/Arms	38.3
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	31.2
Motor Constant @25°C	K _m	N/Sqrt(W)	26.4
Resistance (L-L) 25°C ±10% ②	R ₂₅	Ω	1.4
Inductance (L-L) ±30% ③	L	mH	31.8
Electrical Time Constant	τ _e	ms	22.7
Continuous Current (NC) @100°C ④	I _{cn}	Arms	4.8
Peak Current	I _{pk}	Arms	14.4
Continuous Power Dissipation (NC) @100°C ⑤	P _{cn}	W	62.4
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC) ⑥	K _{thin}	W/°C	0.8
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42.0
Attraction Force	F _a	kN	0.7
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	2.2
Coil Length (NC)	L _{cn}	mm	112
Track Mass Per Meter	m _{track}	kg/m	4.8
Other Information			
Insulation Class	Class B (130°C)		
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.

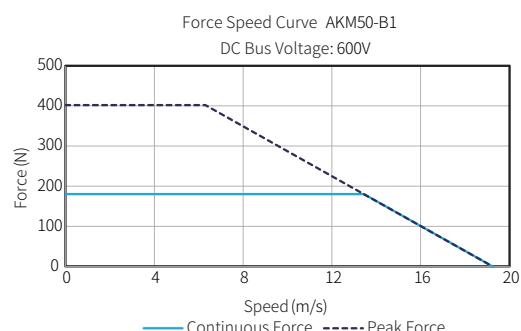
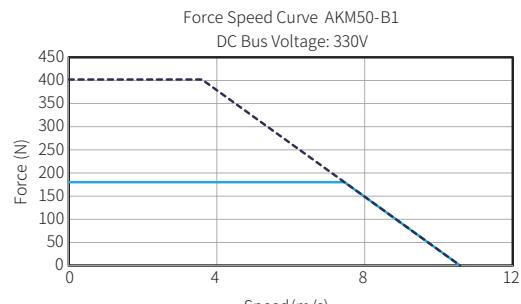
Abbreviations: WC-Water Cooling.

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

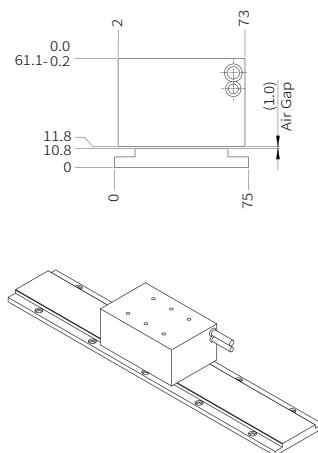
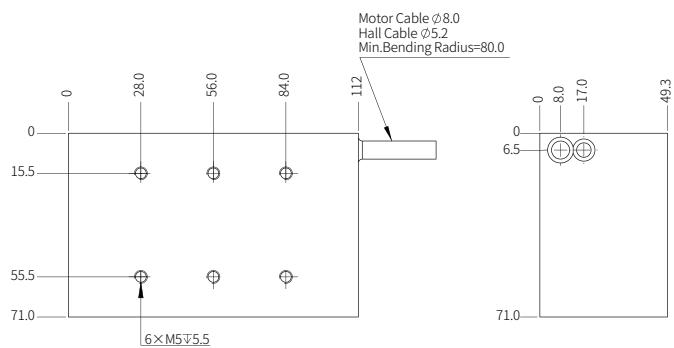
③ Inductance is measured by current frequency of 1 kHz.

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

■ Force Speed Curves



■ Dimensional Drawing



AKM50-B2			
Performance Parameters	Symbol	Unit	Series
Continuous Force (NC) @100°C	F _{cn}	N	361.3
Continuous Force (WC) @100°C	F _{cw}	N	579.6
Peak Force	F _{pk}	N	805.3
Force Constant ±10%	K _f	N/Arms	76.5
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	62.5
Motor Constant @25°C	K _m	N/Sqr(W)	37.3
Resistance (L-L) 25°C ±10%	R ₂₅	Ω	2.8
Inductance (L-L) ±30%	L	mH	63.6
Electrical Time Constant	T _e	ms	22.7
Continuous Current (NC) @100°C	I _{cn}	Arms	4.8
Continuous Current (WC) @100°C	I _{cw}	Arms	8.2
Peak Current	I _{pk}	Arms	14.4
Continuous Power Dissipation (NC) @100°C	P _{cn}	W	124.7
Continuous Power Dissipation (WC) @100°C	P _{cw}	W	364.0
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC)	K _{thn}	W/°C	1.7
Thermal Dissipation Constant (WC)	K _{thw}	W/°C	4.9
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42.0
Attraction Force	F _a	kN	1.3
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	4.1
Coil Mass (WC)	m _{cw}	kg	4.9
Coil Length (NC)	L _{cn}	mm	196
Coil Length (WC)	L _{cw}	mm	234
Track Mass Per Meter	m _{track}	kg/m	4.8
Other Information			
Insulation Class	Class B (130°C)		
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.

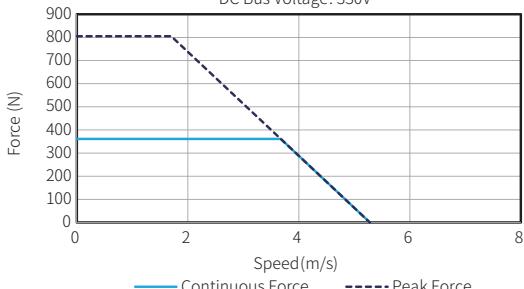
③ Inductance is measured by current frequency of 1 kHz.

④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.

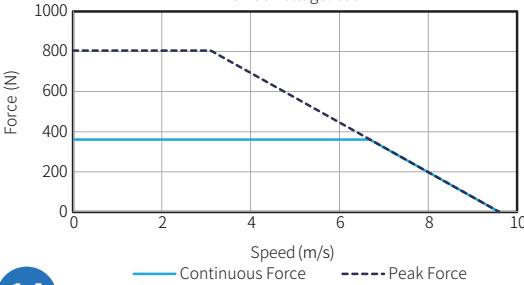
The contents of datasheet are subject to change without prior notice.

Force Speed Curves

Force Speed Curve AKM50-B2
DC Bus Voltage: 330V

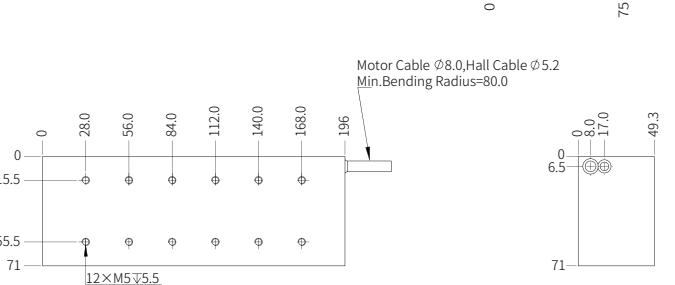
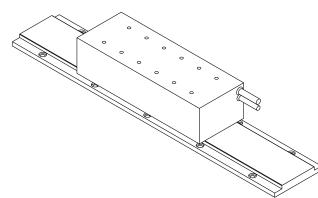


Force Speed Curve AKM50-B2
DC Bus Voltage: 600V

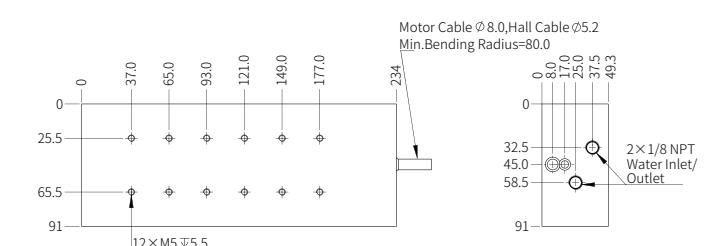
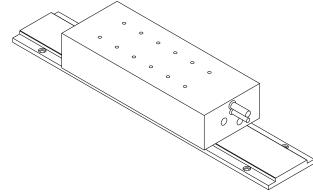


Dimensional Drawing

AKM50-B2



AKM50-W-B2



AKM50-B4			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (NC) @100°C ①	F _{cn}	N	722.6
Continuous Force (WC) @100°C ②③	F _{cw}	N	1159.3
Peak Force	F _{pk}	N	1610.3
Force Constant ±10%	K _f	N/Arms	76.5
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	62.5
Motor Constant @25°C	K _m	N/Sqr(W)	52.8
Resistance (L-L) 25°C ±10% ④	R ₂₅	Ω	1.4
Inductance (L-L) ±30% ⑤	L	mH	31.8
Electrical Time Constant	T _e	ms	22.7
Continuous Current (NC) @100°C ①	I _{cn}	Arms	9.6
Continuous Current (WC) @100°C ②③	I _{cw}	Arms	16.4
Peak Current	I _{pk}	Arms	28.8
Continuous Power Dissipation (NC) @100°C ①	P _{cn}	W	249.4
Continuous Power Dissipation (WC) @100°C ②③	P _{cw}	W	727.9
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC) ①	K _{thn}	W/°C	3.3
Thermal Dissipation Constant (WC) ②③	K _{thw}	W/°C	9.7
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42.0
Attraction Force	F _a	kN	2.7
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	7.9
Coil Mass (WC)	m _{cw}	kg	9.1
Coil Length (NC)	L _{cn}	mm	364
Coil Length (WC)	L _{cw}	mm	402
Track Mass Per Meter	m _{track}	kg	4.8
Other Information			
Insulation Class	Class B (130°C)		
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.

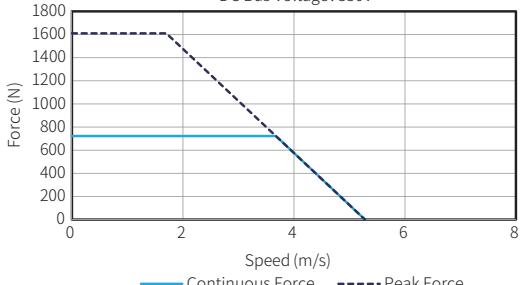
④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.

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

Force Speed Curves

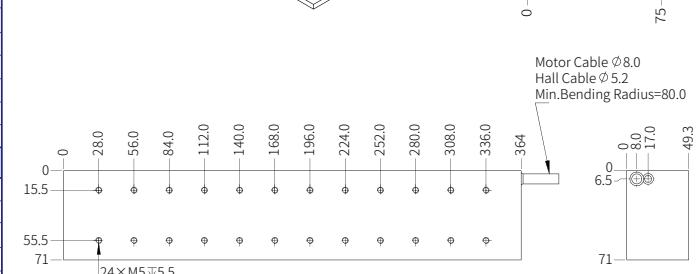
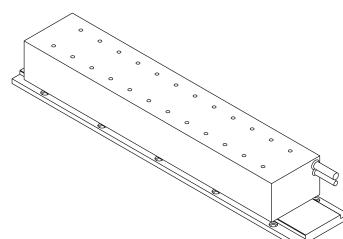
Force Speed Curve AKM50-B4

DC Bus Voltage: 330V

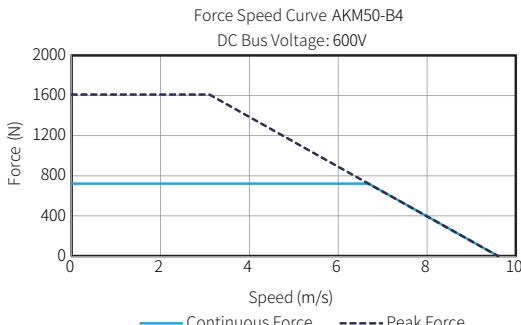
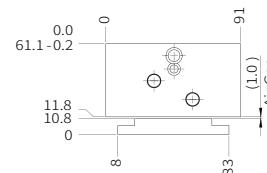
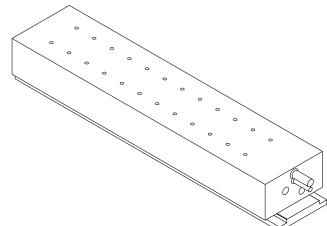


Dimensional Drawing

AKM50-B4



AKM50-W-B4



AKM50-B6			
Performance Parameters	Symbol	Unit	Series
Continuous Force (NC) @100°C ①	F _{cn}	N	1029.8
Peak Force	F _{pk}	N	2415.8
Force Constant ±10%	K _f	N/Arms	76.5
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	62.5
Motor Constant @25°C	K _m	N/Sqrt(W)	64.7
Resistance (L-L) 25°C ±10% ②	R ₂₅	Ω	0.9
Inductance (L-L) ±30% ③	L	mH	21.2
Electrical Time Constant	T _e	ms	22.7
Continuous Current (NC) @100°C ④	I _{cn}	Arms	13.7
Peak Current	I _{pk}	Arms	43.2
Continuous Power Dissipation (NC) @100°C ⑤	P _{cn}	W	337.7
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC) ⑥	K _{thn}	W/°C	4.5
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42.0
Attraction Force	F _a	kN	4.2
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	11.7
Coil Length (NC)	L _{cn}	mm	532
Track Mass Per Meter	m _{track}	kg	4.8
Other Information			
Insulation Class	Class B (130°C)		
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.

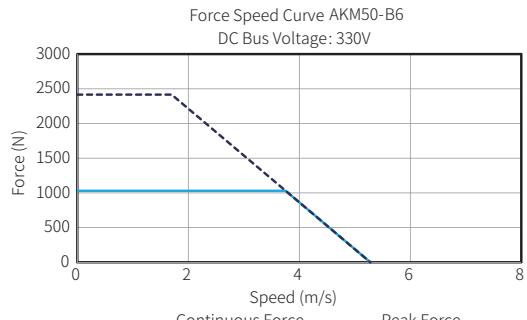
Abbreviations: WC-Water Cooling.

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

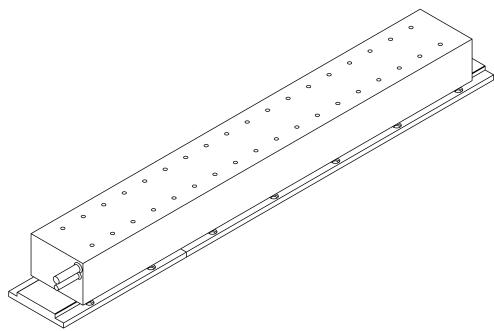
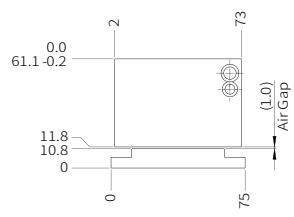
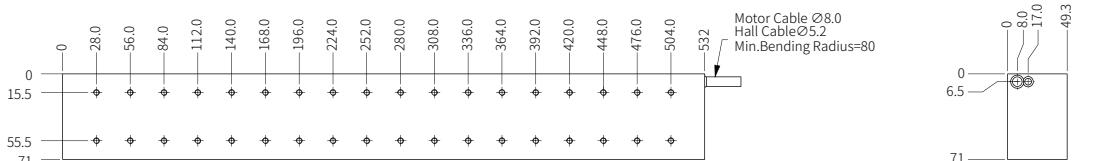
③ Inductance is measured by current frequency of 1 kHz.

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

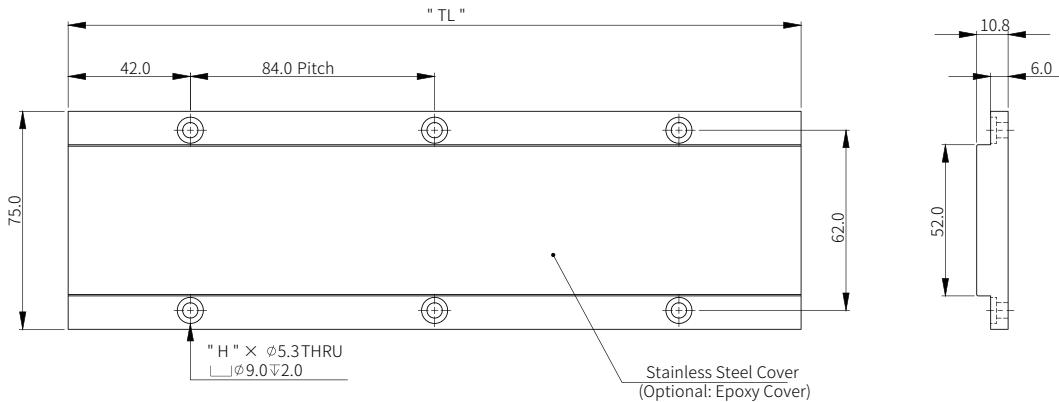
■ Force Speed Curves



■ Dimensional Drawing



AKM50 Track



Magnet Track P / N:	Track Length "TL"	No.of Holes "H"
AKM50-TL168-S	168.0	4
AKM50-TL252-S	252.0	6
AKM50-TL420-S	420.0	10

For epoxy cover option, change "S" to "E". (e.g. AKM50-TL168-E)

Part Numbering

Motor Coil

AKM50-W-B2-J-NH-0.5-FB

Motor Model:

AKM50

Power Cable:

FB/9W4M

Cooling Type:

Blank=Natural Cooling
W=Water Cooling

Cable Length(m):

0.5/3.0

Coil Length:

B1/B2/B4/B6

Sensor Cable:

H9D/NH

Thermal Sensor:

J/K

- ① J=Thermostat(standard)
- ② K=PT100(RTD)
- ③ H9D=With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
- ④ NH=Without Built-in Hall Sensor C/W Flying Leads
- ⑤ FB=With Ferrite Bead C/W Flying Leads
- ⑥ 9W4M=Without Ferrite Bead C/W D-Sub 9W4 Male Connector

Motor Track

AKM50-TL420-S

Track Type and Cover:

S/E

Motor Model:

AKM50

Track Length:

TL168/TL252/TL420

⑦ S=Stainless Steel Cover

⑧ E=Epoxy Cover

AKM100-B1			
Performance Parameters	Symbol	Unit	Series
Continuous Force (NC) @100°C ①	F _{cn}	N	361.3
Peak Force	F _{pk}	N	805.3
Force Constant ±10%	K _f	N/Arms	76.5
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	62.5
Motor Constant @25°C	K _m	N/Sqrt(W)	41.2
Resistance (L-L) 25°C ±10% ②	R ₂₅	Ω	2.3
Inductance (L-L) ±30% ③	L	mH	58.0
Electrical Time Constant	T _e	ms	25.2
Continuous Current (NC) @100°C ④	I _{cn}	Arms	4.8
Peak Current	I _{pk}	Arms	14.4
Continuous Power Dissipation (NC) @100°C ⑤	P _{cn}	W	102.4
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC) ⑥	K _{thn}	W/°C	1.4
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42.0
Attraction Force	F _a	kN	1.3
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	4.0
Coil Length (NC)	L _{cn}	mm	112
Track Mass Per Meter	m _{track}	kg	8.6
Other Information			
Insulation Class	Class B (130°C)		
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.

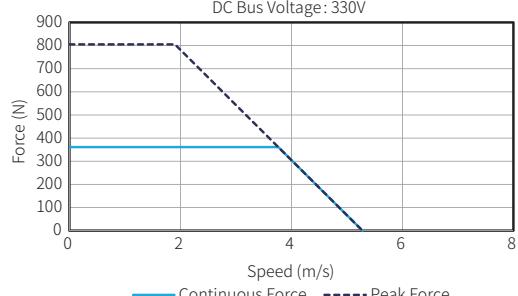
③ Inductance is measured by current frequency of 1 kHz.

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

■ Force Speed Curves

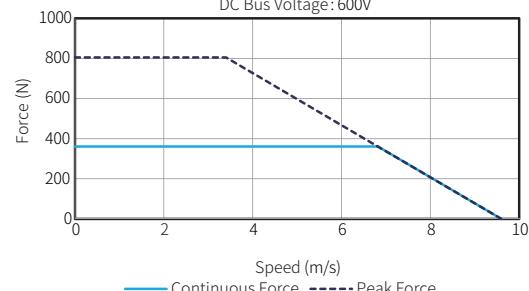
Force Speed Curve AKM100-B1

DC Bus Voltage: 330V

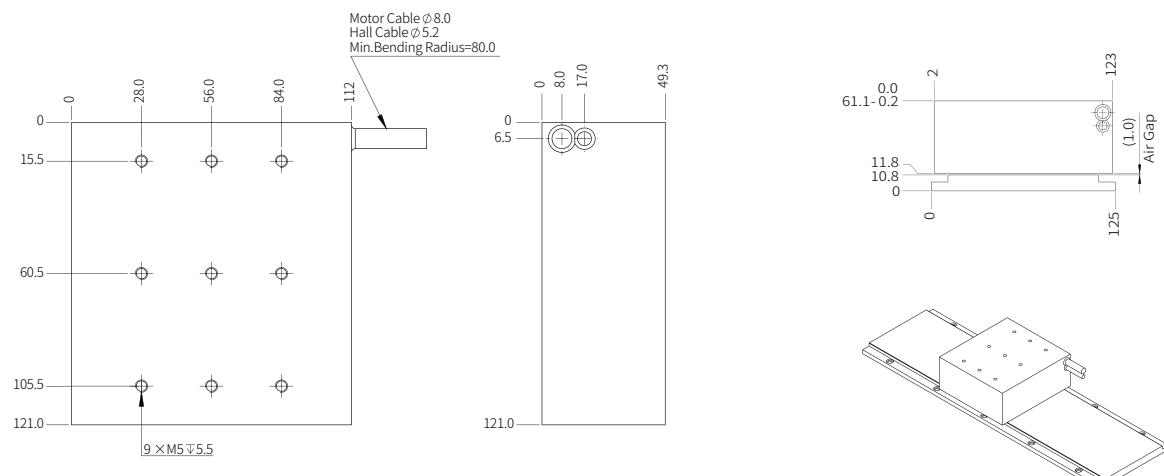


Force Speed Curve AKM100-B1

DC Bus Voltage: 600V



■ Dimensional Drawing

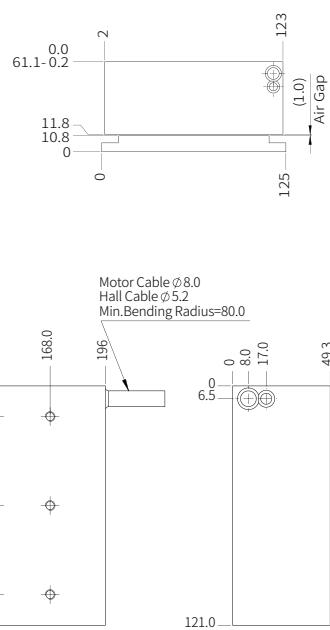
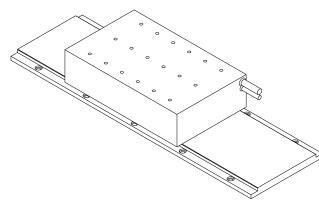


AKM100-B2			
Performance Parameters	Symbol	Unit	Series
Continuous Force (NC) @100°C	F _{cn}	N	722.6
Continuous Force (WC) @100°C	F _{cw}	N	1159.3
Peak Force	F _{pk}	N	1610.5
Force Constant ±10%	K _f	N/Arms	153.0
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	124.9
Motor Constant @25°C	K _m	N/Sqr(W)	58.2
Resistance (L-L) 25°C ±10%	R ₂₅	Ω	4.6
Inductance (L-L) ±30%	L	mH	116.0
Electrical Time Constant	T _e	ms	25.2
Continuous Current (NC) @100°C	I _{cn}	Arms	4.8
Continuous Current (WC) @100°C	I _{cw}	Arms	8.2
Peak Current	I _{pk}	Arms	14.4
Continuous Power Dissipation (NC) @100°C	P _{cn}	W	204.9
Continuous Power Dissipation (WC) @100°C	P _{cw}	W	597.9
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC)	K _{thn}	W/°C	2.7
Thermal Dissipation Constant (WC)	K _{thw}	W/°C	8.0
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42.0
Attraction Force	F _a	kN	2.7
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	7.0
Coil Mass (WC)	m _{cw}	kg	8.5
Coil Length (NC)	L _{cn}	mm	196
Coil Length (WC)	L _{cw}	mm	236
Track Mass Per Meter	m _{track}	kg	8.6
Other Information			
Insulation Class	Class B (130°C)		
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.		

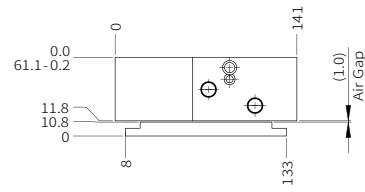
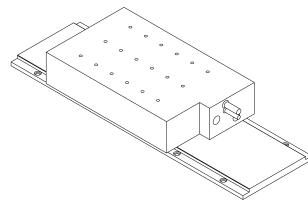
- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 Abbreviations: WC-Water Cooling.
 ② Resistance is measured by DC current with standard 0.5 m cable.
 ③ Inductance is measured by current frequency of 1 kHz.
 ④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.
 The contents of datasheet are subject to change without prior notice.

■ Dimensional Drawing

AKM100-B2



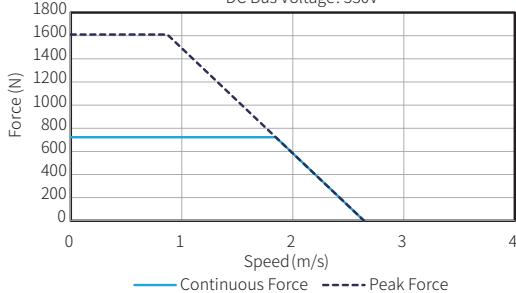
AKM100-W-B2



■ Force Speed Curves

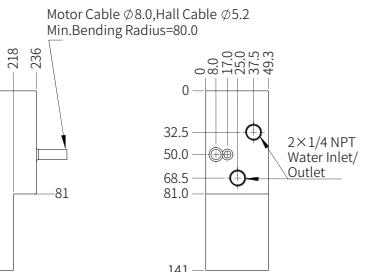
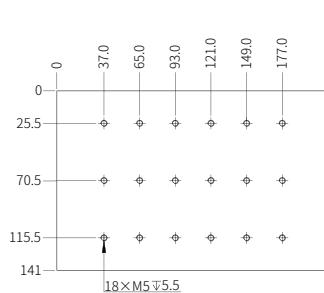
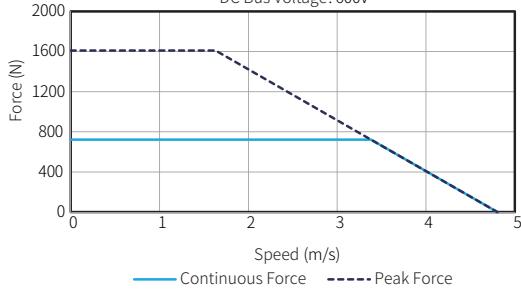
Force Speed Curve AKM100-B2

DC Bus Voltage: 330V



Force Speed Curve AKM100-B2

DC Bus Voltage: 600V



AKM100-B4			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (NC) @100°C ①	F _{cn}	N	1445.3
Continuous Force (WC) @100°C ①②	F _{cw}	N	1947.3
Peak Force	F _{pk}	N	3221.1
Force Constant ±10%	K _f	N/Arms	153.0
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	124.9
Motor Constant @25°C	K _m	N/Sqr(W)	82.4
Resistance (L-L) 25°C ±10% ③	R ₂₅	Ω	2.3
Inductance (L-L) ±30% ④	L	mH	58.0
Electrical Time Constant	T _e	ms	25.2
Continuous Current (NC) @100°C ①	I _{cn}	Arms	9.6
Continuous Current (WC) @100°C ①②	I _{cw}	Arms	13.4
Peak Current	I _{pk}	Arms	28.8
Continuous Power Dissipation (NC) @100°C ①	P _{cn}	W	409.8
Continuous Power Dissipation (WC) @100°C ①②	P _{cw}	W	803.1
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC) ①	K _{thn}	W/°C	5.5
Thermal Dissipation Constant (WC) ①②	K _{thw}	W/°C	10.7
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42.0
Attraction Force	F _a	kN	5.4
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	13.5
Coil Mass (WC)	m _{cw}	kg	15.8
Coil Length (NC)	L _{cn}	mm	364
Coil Length (WC)	L _{cw}	mm	404
Track Mass Per Meter	m _{track}	kg	8.6
Other Information			
Insulation Class	Class B (130°C)		
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.

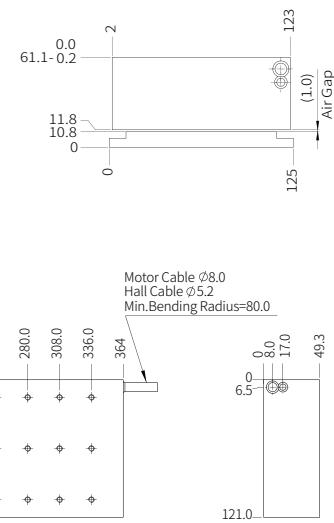
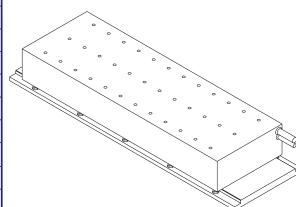
③ Inductance is measured by current frequency of 1 kHz.

④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.

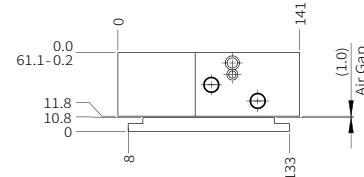
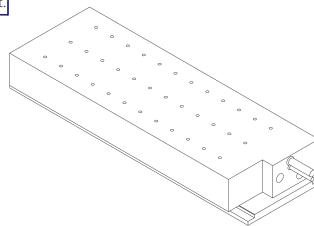
The contents of datasheet are subject to change without prior notice.

■ Dimensional Drawing

AKM100-B4

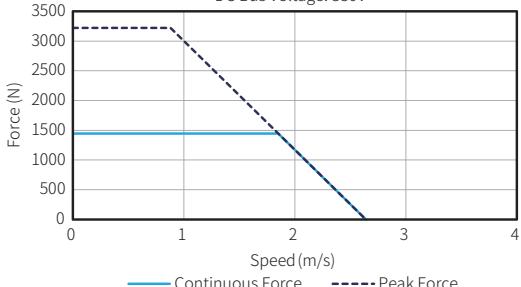


AKM100-W-B4

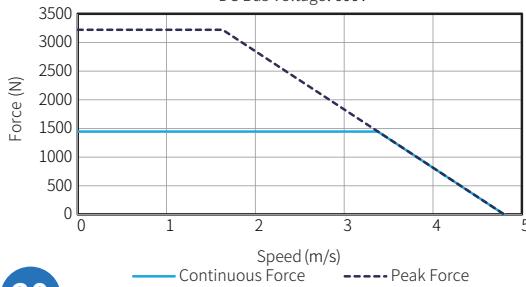


■ Force Speed Curves

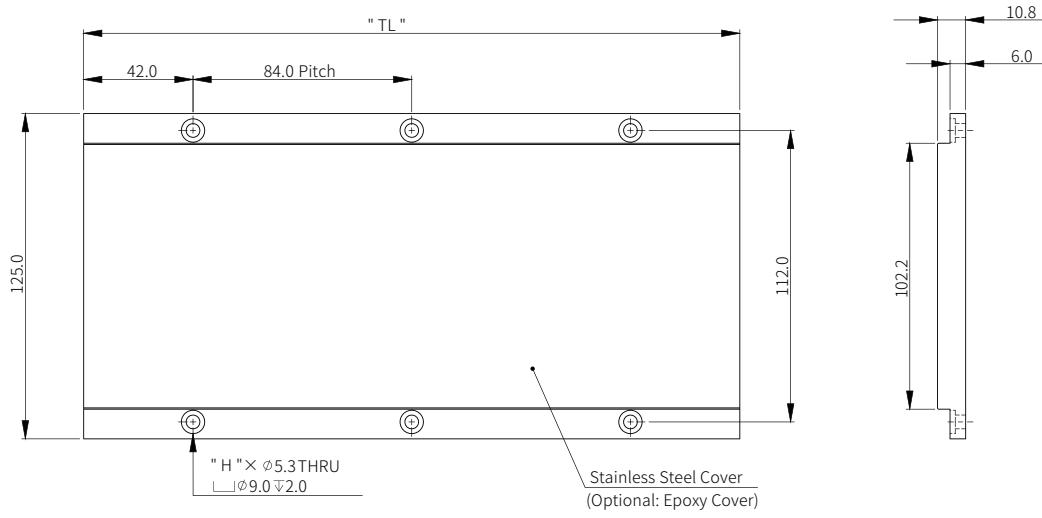
Force Speed Curve AKM100-B4
DC Bus Voltage: 330V



Force Speed Curve AKM100-B4
DC Bus Voltage: 600V



AKM100 Track



Part Numbering

Motor Coil

AKM100-W-B2-J-NH-0.5-FB

Motor Model:

AKM100

Power Cable:

FB/9W4M

Cooling Type:

Blank=Natural Cooling

W=Water Cooling

Cable Length(m):

0.5/3.0

Coil Length:

B1 / B2 / B4

Sensor Cable:

H9D/NH

Thermal Sensor:

J / K

① J=Thermostat(standard)

② K=PT100(RTD)

③ H9D=With Built-in Hall Sensor C/W 9-Pins D-Sub Connector

④ NH=Without Built-in Hall Sensor C/W Flying Leads

⑤ FB-With Ferrite Bead C/W Flying Leads

⑥ 9W4M=Without Ferrite Bead C/W D-Sub 9W4 Male Connector

Motor Track

AKM100-TL420-S

Track Type and Cover:

S/E

Motor Model:

AKM100

① S=Stainless Steel Cover

② E=Epoxy Cover

Track Length:

TL168 / TL252 / TL420

AKM150-B4			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (NC) @100°C ①	F _{cn}	N	2027.0
Continuous Force (WC) @100°C ②③	F _{cw}	N	2738.4
Peak Force	F _{pk}	N	4831.6
Force Constant ±10%	K _f	N/Arms	229.5
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	187.4
Motor Constant @25°C	K _m	N/Sqr(W)	104.8
Resistance (L-L) 25°C ±10% ④	R ₂₅	Ω	3.2
Inductance (L-L) ±30% ⑤	L	mH	80.5
Electrical Time Constant	T _e	ms	25.2
Continuous Current (NC) @100°C ①	I _{cn}	Arms	9.0
Continuous Current (WC) @100°C ②③	I _{cw}	Arms	12.6
Peak Current	I _{pk}	Arms	28.8
Continuous Power Dissipation (NC) @100°C ①	P _{cn}	W	498.4
Continuous Power Dissipation (WC) @100°C ②③	P _{cw}	W	982.1
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC) ④	K _{thn}	W/°C	6.6
Thermal Dissipation Constant (WC) ②③	K _{thw}	W/°C	13.1
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42.0
Attraction Force	F _a	kN	8.0
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	20.2
Coil Mass (WC)	m _{cw}	kg	22.3
Coil Length (NC)	L _{cn}	mm	364
Coil Length (WC)	L _{cw}	mm	404
Track Mass Per Meter	m _{track}	kg	15.2
Other Information			
Insulation Class	Class B (130°C)		
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.

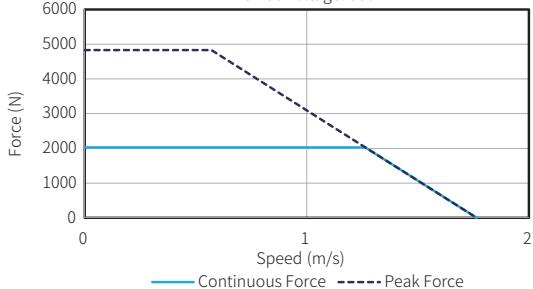
③ Inductance is measured by current frequency of 1 kHz.

④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.

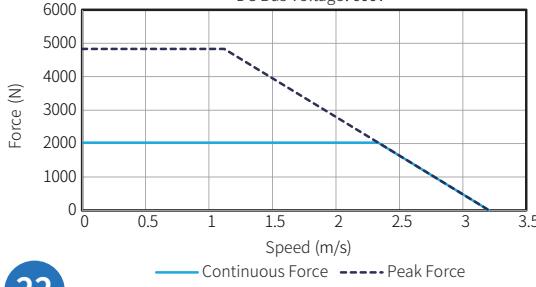
The contents of datasheet are subject to change without prior notice.

Force Speed Curves

Force Speed Curve AKM150-B4
DC Bus Voltage: 330V

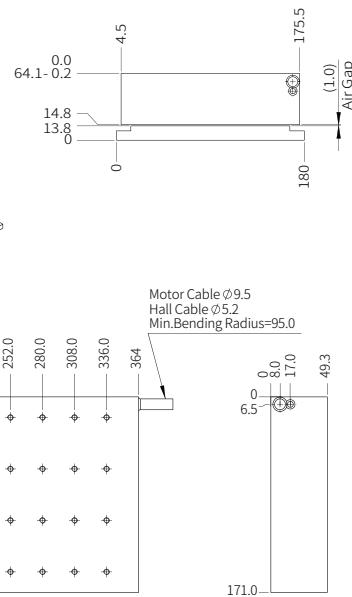
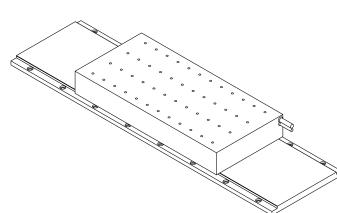


Force Speed Curve AKM150-B4
DC Bus Voltage: 600V

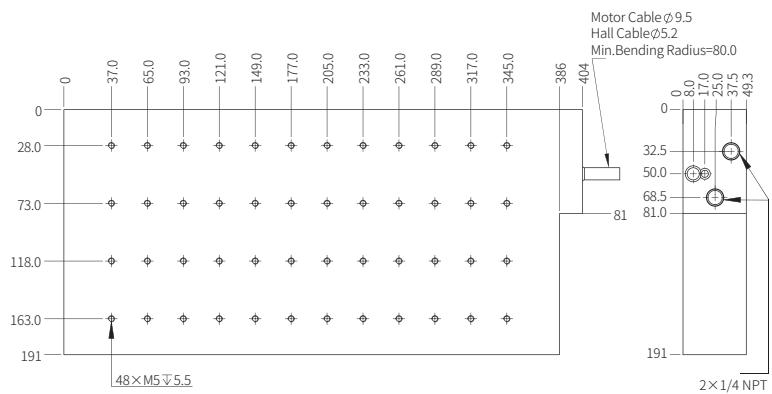
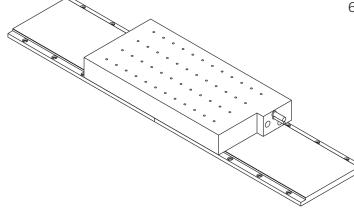


Dimensional Drawing

AKM150-B4



AKM150-W-B4



AKM150-B8			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (NC) @100°C ①	F _{cn}	N	3839.1
Continuous Force (WC) @100°C ①②	F _{cw}	N	5216.1
Peak Force	F _{pk}	N	9963.2
Force Constant ±10%	K _f	N/Arms	229.5
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	187.4
Motor Constant @25°C	K _m	N/Sqr(W)	148.1
Resistance (L-L) 25°C ±10% ③	R ₂₅	Ω	1.6
Inductance (L-L) ±30% ④	L	mH	40.3
Electrical Time Constant	T _e	ms	25.2
Continuous Current (NC) @100°C ①	I _{cn}	Arms	17.0
Continuous Current (WC) @100°C ①②	I _{cw}	Arms	24.0
Peak Current	I _{pk}	Arms	57.6
Continuous Power Dissipation (NC) @100°C ①	P _{cn}	W	893.9
Continuous Power Dissipation (WC) @100°C ①②	P _{cw}	W	1781.6
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC) ⑤	K _{thn}	W/°C	11.9
Thermal Dissipation Constant (WC) ⑤⑥	K _{thw}	W/°C	23.8
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42.0
Attraction Force	F _a	kN	16.0
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	39.4
Coil Mass (WC)	m _{cw}	kg	42.9
Coil Length (NC)	L _{cn}	mm	700
Coil Length (WC)	L _{cw}	mm	786
Track Mass Per Meter	m _{track}	kg	15.2
Other Information			
Insulation Class	Class B (130°C)		
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.

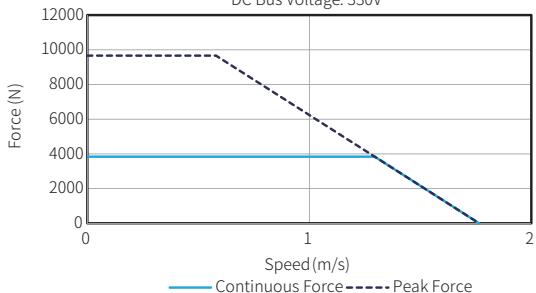
③ Inductance is measured by current frequency of 1 kHz.

④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.

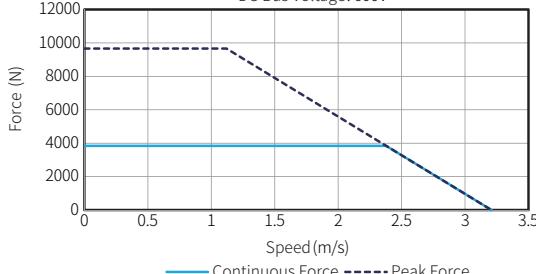
The contents of datasheet are subject to change without prior notice.

Force Speed Curves

Force Speed Curve AKM150-B8
DC Bus Voltage: 330V

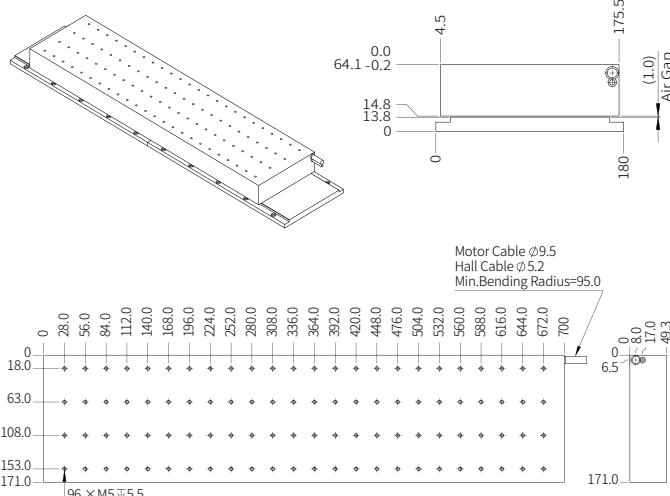


Force Speed Curve AKM150-B8
DC Bus Voltage: 600V

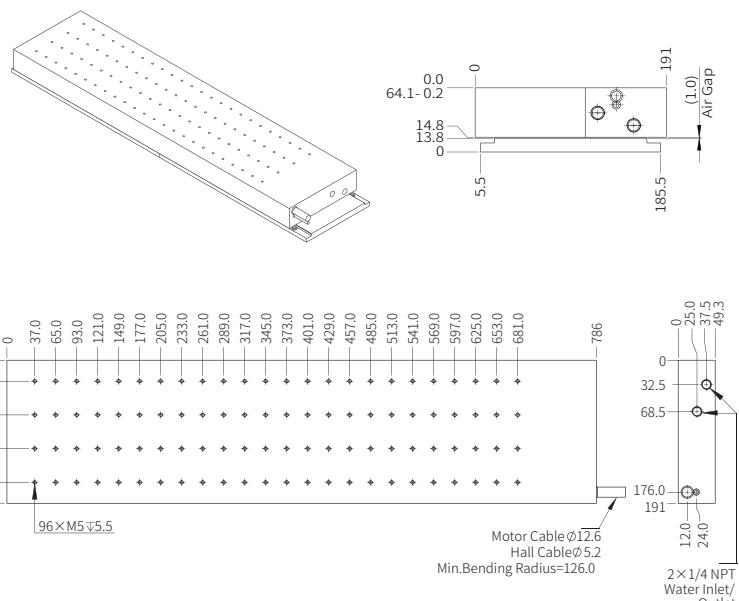


Dimensional Drawing

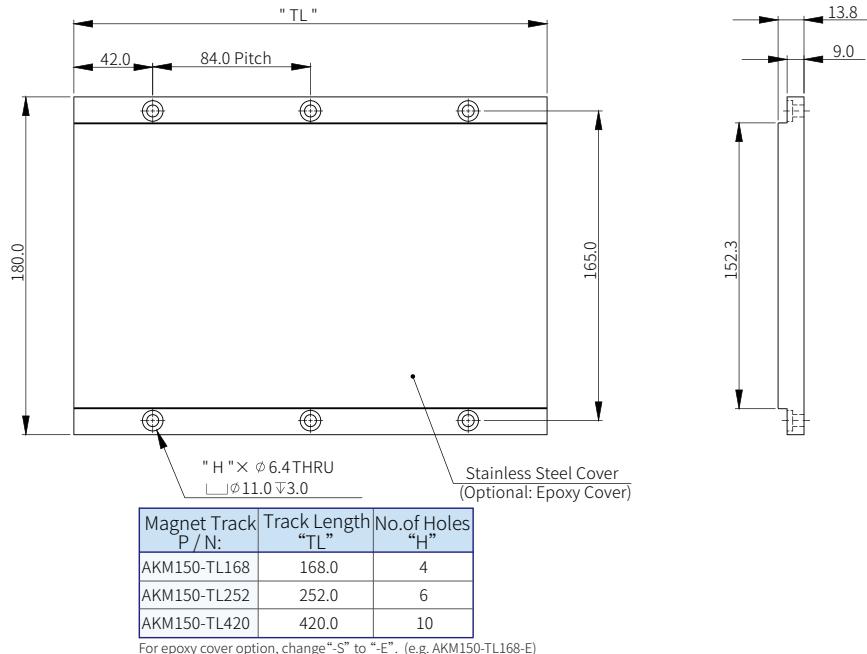
AKM150-B8



AKM150-W-B8



AKM150 Track



Part Numbering

Motor Coil

AKM150-W-B4-J-NH-0.5-FB

Motor Model:
AKM150Cooling Type:
Blank=Natural Cooling
W=Water CoolingCoil Length:
B4 / B8Thermal Sensor:
J / K

- ① J=Thermostat(standard)
- ② K=PT100(RTD)
- ③ H9D=With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
- ④ NH=Without Built-in Hall Sensor C/W Flying Leads
- ⑤ FB=With Ferrite Bead C/W Flying Leads
- ⑥ 9W4M=Without Ferrite Bead C/W D-Sub 9W4 Male Connector

Power Cable:
FB/9W4MCable Length(m):
0.5 / 3.0Sensor Cable:
H9D / NH

Motor Track

AKM150-TL420-S

Track Type and Cover:
S / EMotor Model:
AKM150

- ⑦ S=Stainless Steel Cover
- ⑧ E=Epoxy Cover

Track Length:
TL168 / TL252 / TL420

AKM200-B4			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (NC) @100°C ①	F _{cn}	N	2539.6
Continuous Force (WC) @100°C ②③	F _{cw}	N	3249.8
Peak Force	F _{pk}	N	6442.2
Force Constant ±10%	K _f	N/Arms	306.0
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	249.8
Motor Constant @25°C	K _m	N/Sqr(W)	124.9
Resistance (L-L) 25°C ±10% ④	R ₂₅	Ω	4.0
Inductance (L-L) ±30% ⑤	L	mH	103.0
Electrical Time Constant	T _e	ms	25.8
Continuous Current (NC) @100°C ①	I _{cn}	Arms	8.4
Continuous Current (WC) @100°C ②③	I _{cw}	Arms	10.8
Peak Current	I _{pk}	Arms	28.8
Continuous Power Dissipation (NC) @100°C ①	P _{cn}	W	545.6
Continuous Power Dissipation (WC) @100°C ②③	P _{cw}	W	904.4
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC) ④	K _{thn}	W/°C	7.3
Thermal Dissipation Constant (WC) ②③	K _{thw}	W/°C	12.1
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42.0
Attraction Force	F _a	kN	10.7
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	26.5
Coil Mass (WC)	m _{cw}	kg	29.0
Coil Length (NC)	L _{cn}	mm	364
Coil Length (WC)	L _{cw}	mm	404
Track Mass Per Meter	m _{track}	kg	22.4
Other Information			
Insulation Class	Class B (130°C)		
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.

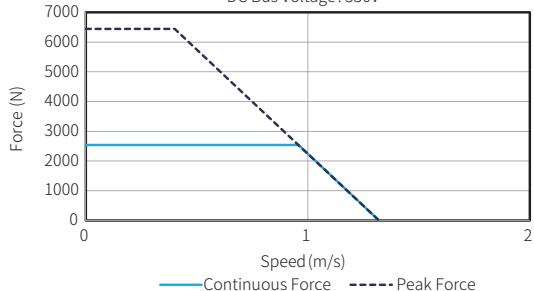
③ Inductance is measured by current frequency of 1 kHz.

④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.

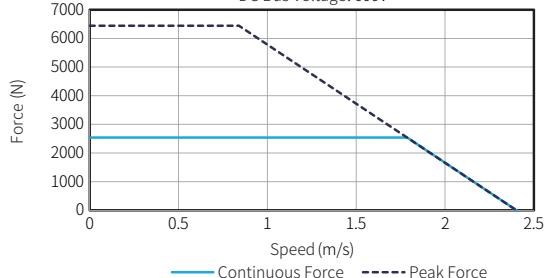
The contents of datasheet are subject to change without prior notice.

Force Speed Curves

Force Speed Curve AKM200-B4
DC Bus Voltage: 330V

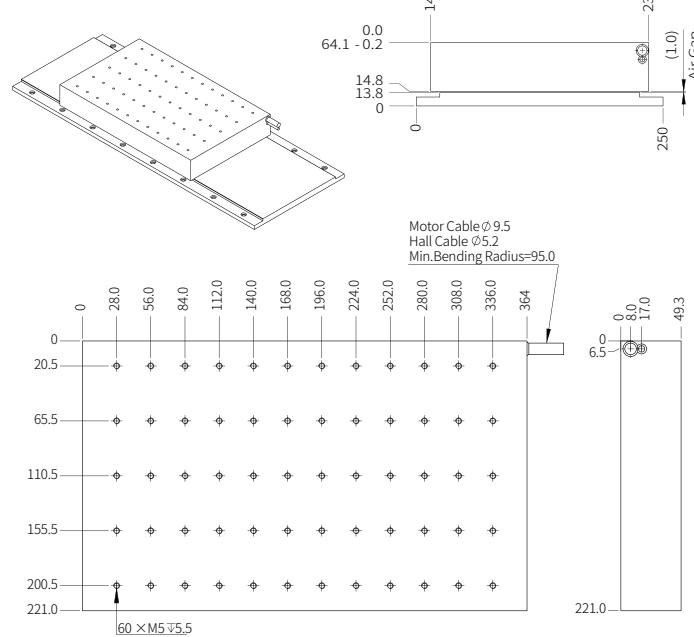


Force Speed Curve AKM200-B4
DC Bus Voltage: 600V

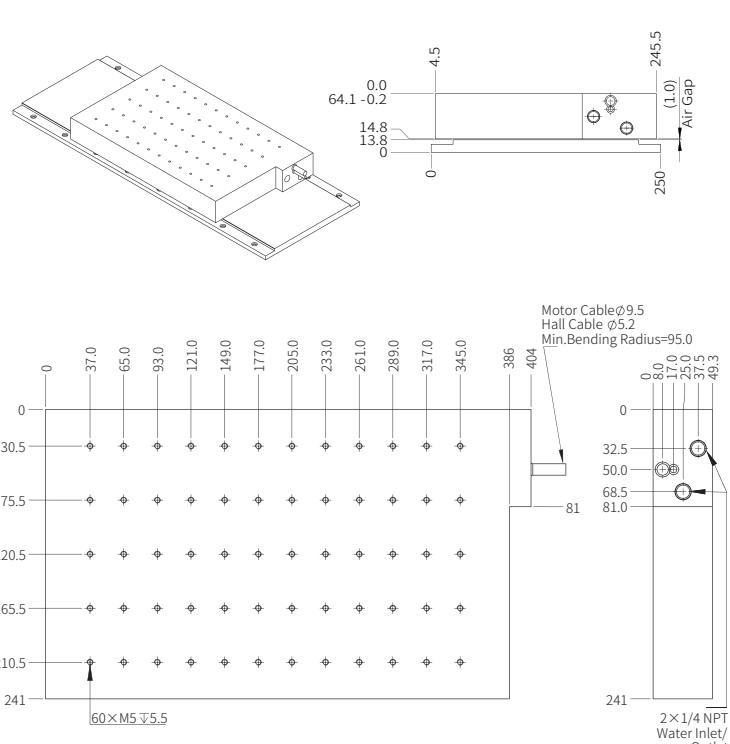


Dimensional Drawing

AKM200-B4



AKM200-W-B4



AKM200-B8			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (NC) @100°C ①	F _{cn}	N	4817.7
Continuous Force (WC) @100°C ①②	F _{cw}	N	6190.1
Peak Force	F _{pk}	N	12884.3
Force Constant ±10%	K _f	N/Arms	306.0
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	249.8
Motor Constant @25°C	K _m	N/Sqr(W)	176.7
Resistance (L-L) 25°C ±10% ③	R ₂₅	Ω	2.0
Inductance (L-L) ±30% ④	L	mH	51.5
Electrical Time Constant	T _e	ms	25.8
Continuous Current (NC) @100°C ①	I _{cn}	Arms	16.0
Continuous Current (WC) @100°C ①②	I _{cw}	Arms	20.6
Peak Current	I _{pk}	Arms	57.6
Continuous Power Dissipation (NC) @100°C ①	P _{cn}	W	989.8
Continuous Power Dissipation (WC) @100°C ①②	P _{cw}	W	1640.7
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (NC) ⑤	K _{thn}	W/°C	13.2
Thermal Dissipation Constant (WC) ⑤⑥	K _{thw}	W/°C	21.9
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42.0
Attraction Force	F _a	kN	21.4
Mechanical Parameters			
Coil Mass (NC)	m _{cn}	kg	51.6
Coil Mass (WC)	m _{cw}	kg	55.8
Coil Length (NC)	L _{cn}	mm	700
Coil Length (WC)	L _{cw}	mm	786
Track Mass Per Meter	m _{track}	kg	22.4
Other Information			
Insulation Class	Class B (130°C)		
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.

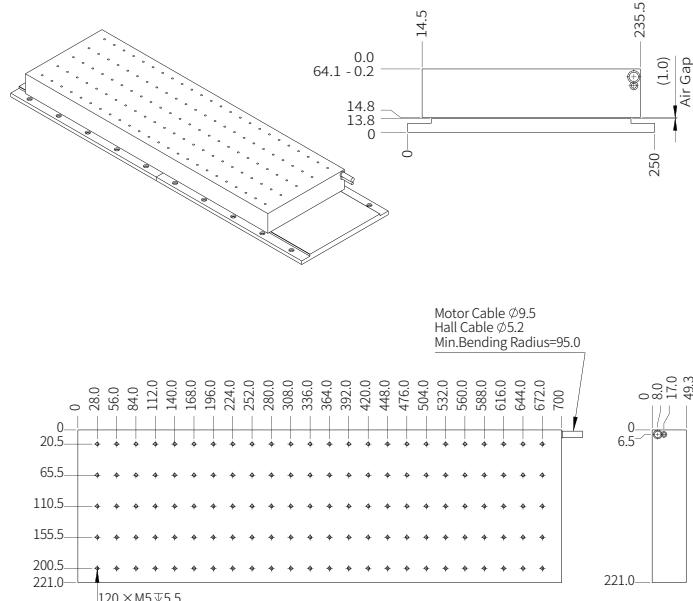
③ Inductance is measured by current frequency of 1 kHz.

④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.

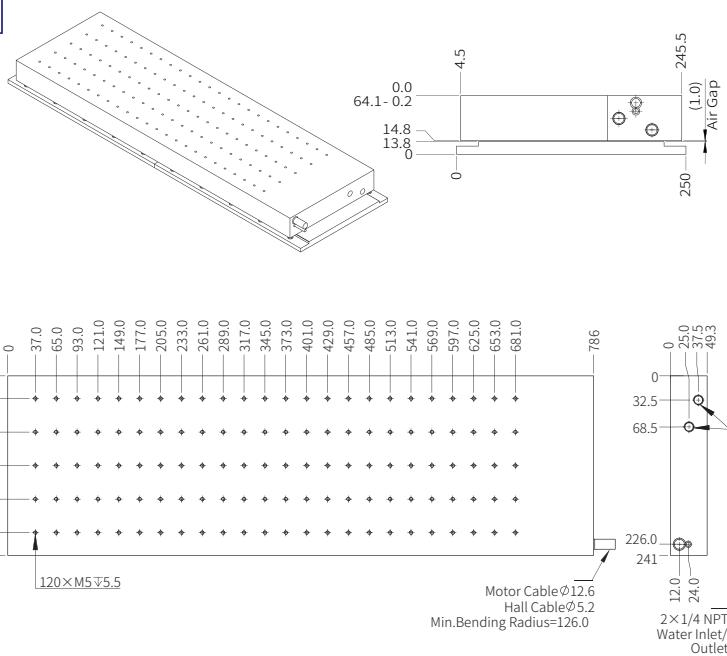
The contents of datasheet are subject to change without prior notice.

■ Dimensional Drawing

AKM200-B8



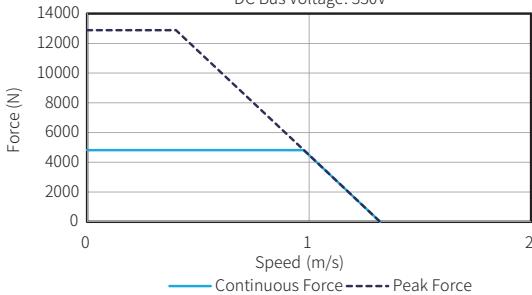
AKM200-W-B8



■ Force Speed Curves

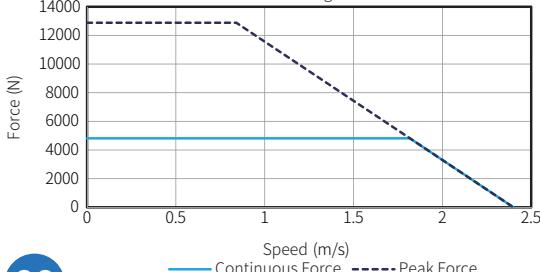
Force Speed Curve AKM200-B8

DC Bus Voltage: 330V

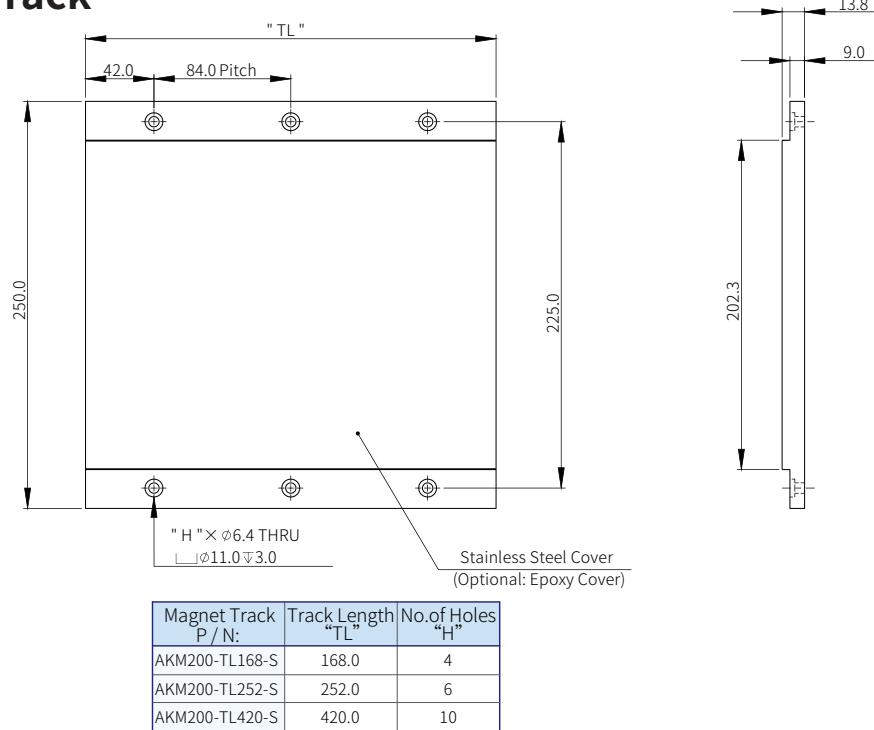


Force Speed Curve AKM200-B8

DC Bus Voltage: 600V



AKM200 Track



Part Numbering

Motor Coil

AKM200-W-B8-J-NH-0.5-FB

Motor Model:

AKM200

Power Cable:

FB 9W4M

Cooling Type:

Blank=Natural Cooling
W=Water Cooling

Cable Length(m):

0.5 / 3.0

Coil Length:

B4 / B8

Sensor Cable:

H9D NH

Thermal Sensor:

J/K

- ① J=Thermostat(standard)
- ② K=PT100(RTD)
- ③ H9D=With Built-in Hall Sensor C/W 9-Pins D-Sub Connector
- ④ NH=Without Built-in Hall Sensor C/W Flying Leads
- ⑤ FB=With Ferrite Bead C/W Flying Leads
- ⑥ 9W4M=Without Ferrite Bead C/W D-Sub 9W4 Male Connector

Motor Track

AKM200-TL420-S

Track Type and Cover:

S/E

Motor Model:

AKM200

Track Length:

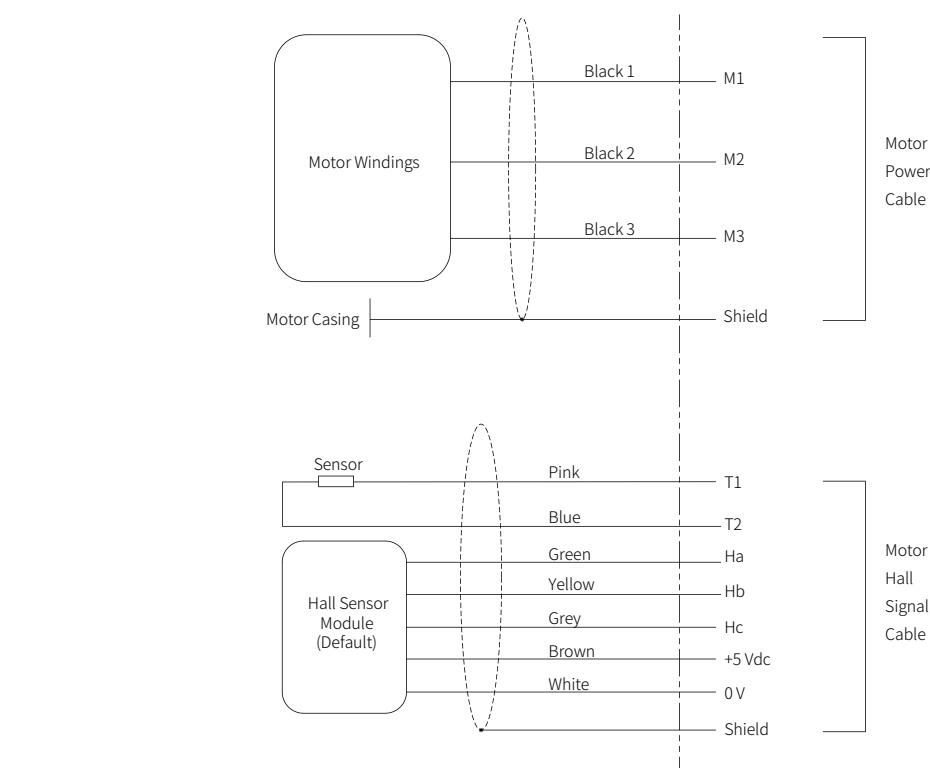
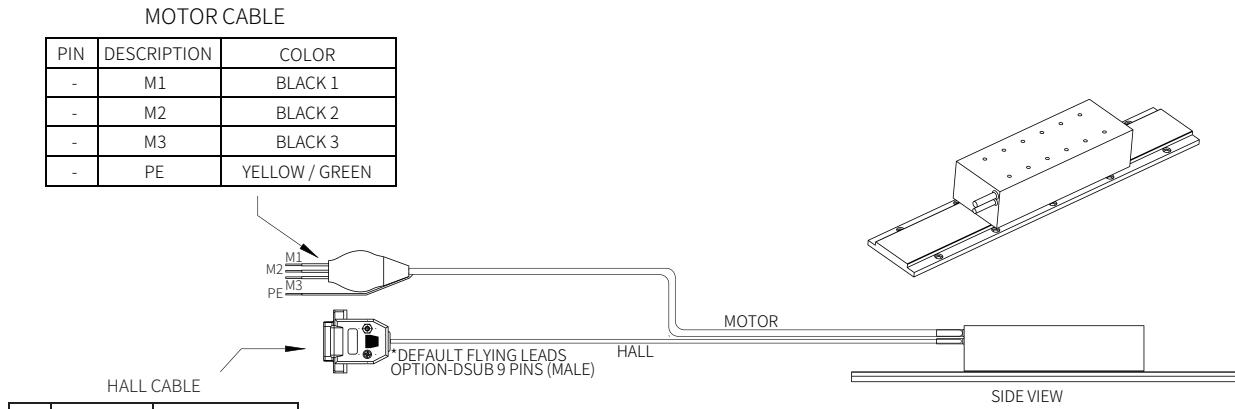
TL168 / TL252 / TL420

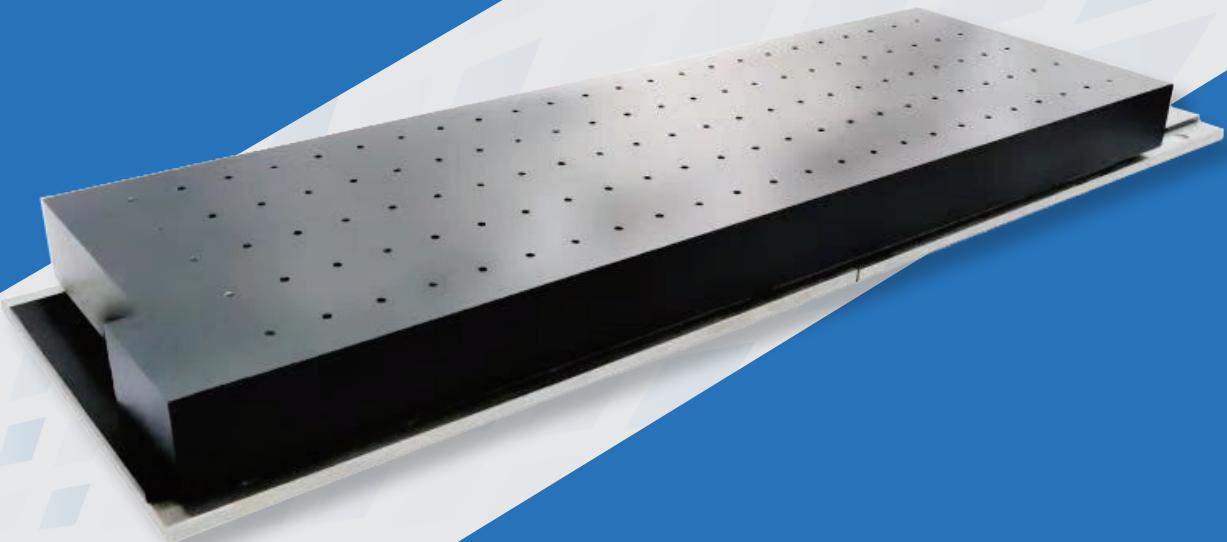
- ① S=Stainless Steel Cover
- ② E=Epoxy Cover

AKM Motor Cable Connection

Akribis Systems
WHERE PRECISION MATTERS

AKM 30 / 50 / 100 / 150 / 200 Series Motor Cable Connection





AKMF SERIES

- Able to meet the needs of high-speed
and high-precision machining
- Low cogging force
- No reverse clearance
- High responsiveness and bandwidth
- Water-cooled design

AKMF100-W-B2			
Performance Parameters	Symbol	Unit	Series
Continuous Force (WC) @100°C ①②	F_{cw}	N	1033.9
Peak Force	F_{pk}	N	1511.5
Force Constant ±10%	K_f	N/Arms	160.1
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	130.7
Motor Constant @25°C	K_m	N/Sqrt(W)	50.0
Resistance (L-L) 25°C ±10% ③	R_{25}	Ω	6.8
Inductance (L-L) ±30% ④	L	mH	103.2
Electrical Time Constant	T_e	ms	15.1
Continuous Current (WC) @100°C ①②	I_{cw}	Arms	6.8
Peak Current	I_{pk}	Arms	12.0
Continuous Power Dissipation (WC) @100°C ①②	P_{cw}	W	609.6
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K_{thw}	W/°C	8.1
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{NN}	mm	42
Attraction Force	F_a	kN	2.7
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	8.3
Coil Length (WC)	L_{cw}	mm	236
Track Mass Per Meter	m_{track}	kg	8.6
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 2 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 10 L/min.

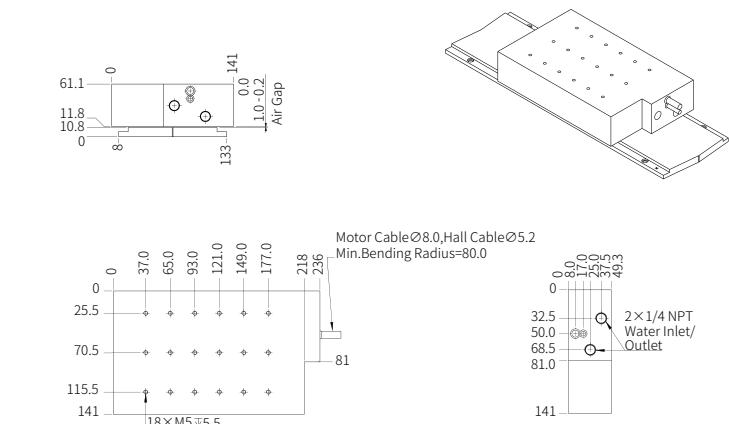
The contents of datasheet are subject to change without prior notice.

AKMF100-W-B4			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (WC) @100°C ①②	F_{cw}	N	1976.5
Peak Force	F_{pk}	N	3023.0
Force Constant ±10%	K_f	N/Arms	160.1
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	130.7
Motor Constant @25°C	K_m	N/Sqrt(W)	70.5
Resistance (L-L) 25°C ±10% ③	R_{25}	Ω	3.4
Inductance (L-L) ±30% ④	L	mH	51.6
Electrical Time Constant	T_e	ms	15.0
Continuous Current (WC) @100°C ①②	I_{cw}	Arms	13.0
Peak Current	I_{pk}	Arms	24.0
Continuous Power Dissipation (WC) @100°C ①②	P_{cw}	W	1123.7
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K_{thw}	W/°C	15.0
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{NN}	mm	42
Attraction Force	F_a	kN	5.4
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	14.8
Coil Length (WC)	L_{cw}	mm	404
Track Mass Per Meter	m_{track}	kg	8.6
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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.		

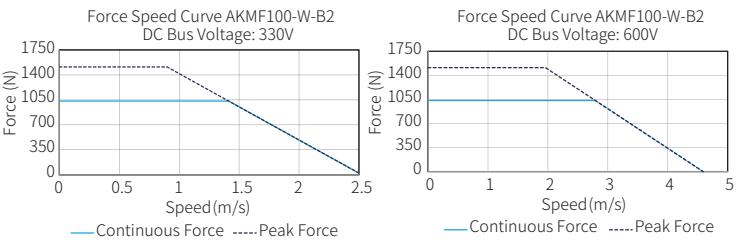
① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 Abbreviations: WC-Water Cooling.
 ② Resistance is measured by DC current with standard 2 m cable.
 ③ Inductance is measured by current frequency of 1 kHz.
 ④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.

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

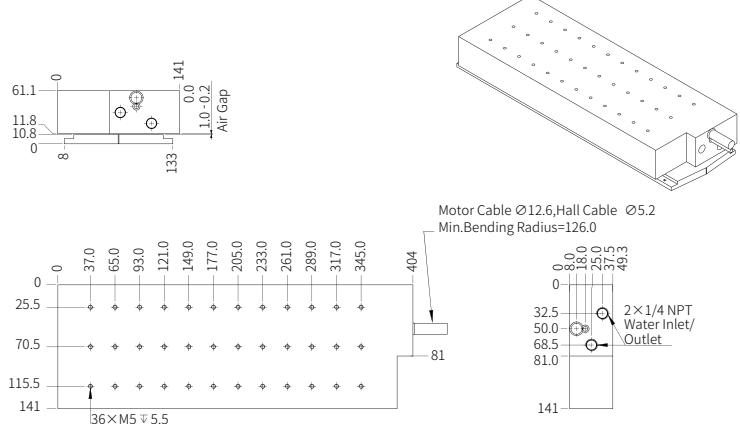
Dimensional Drawing



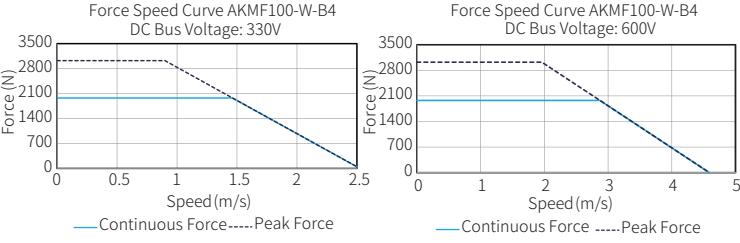
Force Speed Curves



Dimensional Drawing



Force Speed Curves



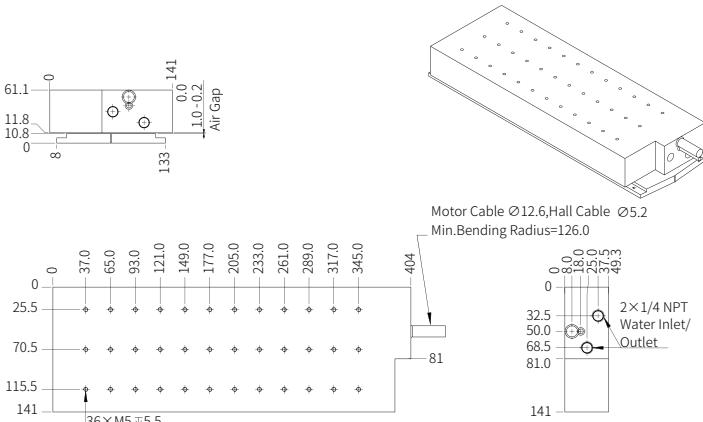
AKMF100-W-B4-D30			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (WC) @100°C ①②	F_{cw}	N	1927.1
Peak Force	F_{pk}	N	2947.5
Force Constant ±10%	K_f	N/Arms	78.0
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	63.7
Motor Constant @25°C	K_m	N/Sqrt(W)	68.7
Resistance (L-L) 25°C ±10%③	R_{25}	Ω	0.9
Inductance (L-L) ±30%④	L	mH	12.6
Electrical Time Constant	T_e	ms	14.6
Continuous Current (WC) @100°C ①④	I_{cw}	Arms	26.0
Peak Current	I_{pk}	Arms	48.0
Continuous Power Dissipation (WC) @100°C ①⑤	P_{cw}	W	1123.7
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①⑥	K_{thw}	W/°C	15.0
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{INN}	mm	42
Attraction Force	F_a	kN	5.4
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	14.8
Coil Length (WC)	L_{cw}	mm	404
Track Mass Per Meter	m_{track}	kg	8.6
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 2 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 10 L/min.
 The contents of datasheet are subject to change without prior notice.

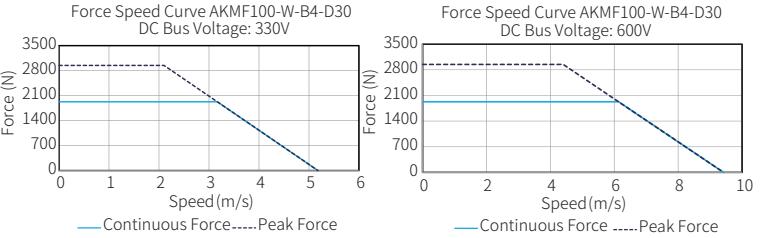
AKMF100-W-B6			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (WC) @100°C ①②	F_{cw}	N	2873.7
Peak Force	F_{pk}	N	4534.6
Force Constant ±10%	K_f	N/Arms	240.1
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	196.0
Motor Constant @25°C	K_m	N/Sqrt(W)	86.5
Resistance (L-L) 25°C ±10%③	R_{25}	Ω	5.1
Inductance (L-L) ±30%④	L	mH	77.4
Electrical Time Constant	T_e	ms	15.1
Continuous Current (WC) @100°C ①④	I_{cw}	Arms	12.6
Peak Current	I_{pk}	Arms	24.0
Continuous Power Dissipation (WC) @100°C ①⑤	P_{cw}	W	1577.5
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①⑥	K_{thw}	W/°C	21.0
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{INN}	mm	42
Attraction Force	F_a	kN	8.0
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	21.3
Coil Length (WC)	L_{cw}	mm	572
Track Mass Per Meter	m_{track}	kg	8.6
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 2 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 10 L/min.
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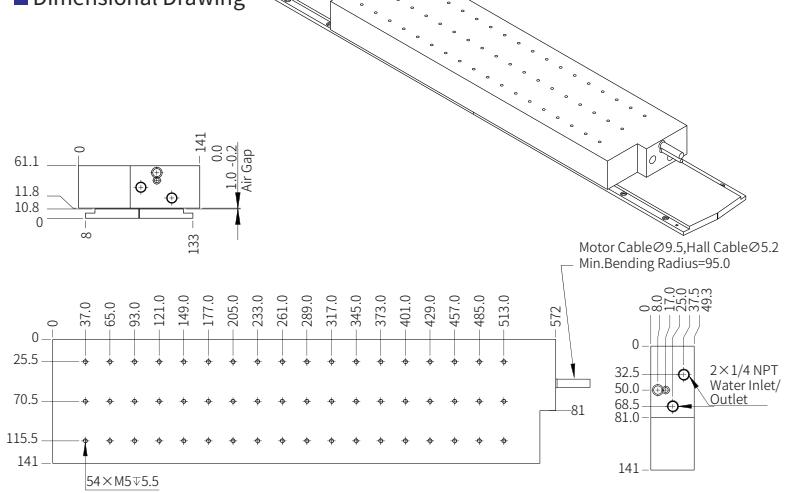
Dimensional Drawing



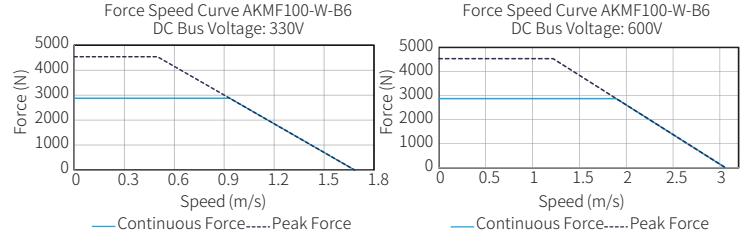
Force Speed Curves



Dimensional Drawing



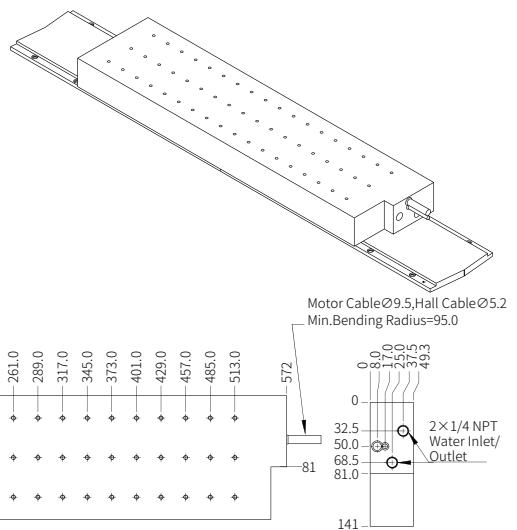
Force Speed Curves



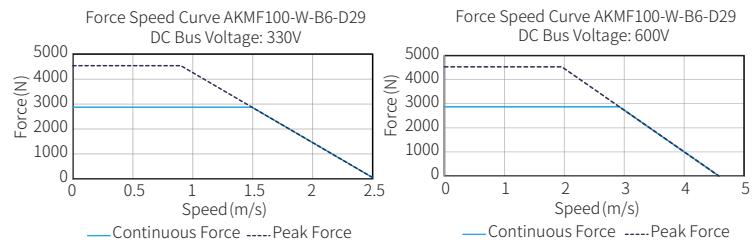
AKMF100-W-B6-D29			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (WC) @100°C ①④	F _{CW}	N	2873.7
Peak Force	F _{Pk}	N	4534.6
Force Constant ±10%	K _f	N/Arms	160.1
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	130.7
Motor Constant @25°C	K _m	N/Sqr(W)	86.7
Resistance (L-L) 25°C ±10% ③	R ₂₅	Ω	2.3
Inductance (L-L) ±30% ③	L	mH	34.4
Electrical Time Constant	T _e	ms	15.1
Continuous Current (WC) @100°C ①④	I _{CW}	Arms	18.9
Peak Current	I _{Pk}	Arms	36.0
Continuous Power Dissipation (WC) @100°C ①④	P _{CW}	W	1569.8
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (WO) ①④	K _{thw}	W/°C	20.9
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	42
Attraction Force	F _a	kN	8.0
Mechanical Parameters			
Coil Mass (WC)	m _{CW}	kg	21.3
Coil Length (WC)	L _{CW}	mm	572
Track Mass Per Meter	m _{track}	kg	8.6
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 2 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 10 L/min.
 The contents of datasheet are subject to change without prior notice.

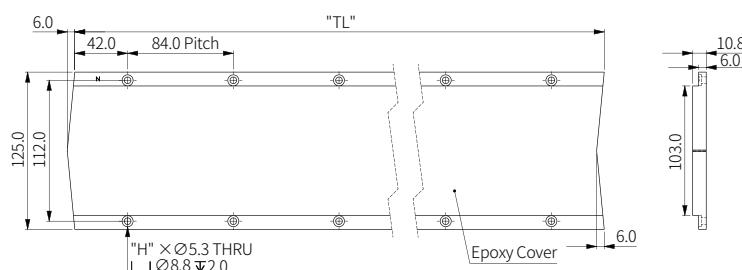
Dimensional Drawing



Force Speed Curves



AKMF100 Track



Track P/N:	Track Length "TL" (mm)	No.of Holes "H"	Mass(kg)
AKMF100-TL168-E	168	8	1.4
AKMF100-TL252-E	252	12	2.2
AKMF100-TL420-E	420	20	3.6

Part Numbering

Motor Coil

AKMF100-W-B2-K56-NH-0.5-NFB-D29

Motor Model:
AKMF100

Cooling Type:
W

Coil Length:
B2 / B4 / B6

Thermal Sensor:
K56

- W=Water Cooling
- K56=PT1000(RTD)+SNM.100.DK(PTC)
- NH=Without Built-in Hall Sensor C/W Flying Leads
- Without Ferrite Bead C/W Flying Leads
- Blank=Standard Model
- D29/D30=Special Type

Special Type:
Blank / D29 / D30

Power Cable:
NFB

Cable Length(m):
0.5 / 3.0

Sensor Cable:
NH

Motor Track

AKMF100-TL420-E

Motor Model:
AKMF100

- E=Epoxy Cover

Track Type and Cover:
E

Track Length:
TL168 / TL252 / TL420

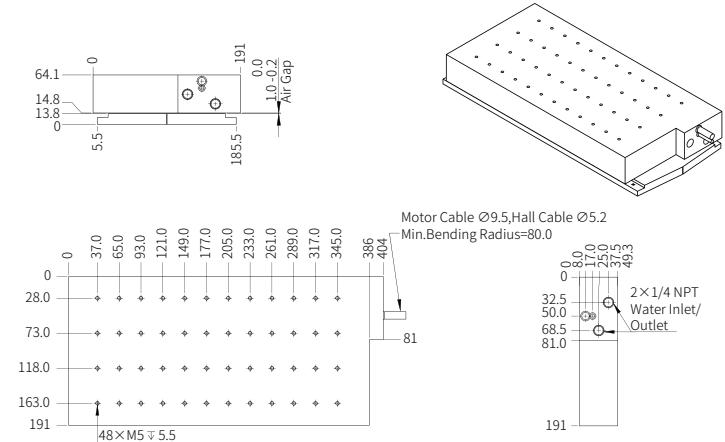
AKMF150-W-B4			
Performance Parameters	Symbol	Unit	Series
Continuous Force (WC) @100°C ①②	F_{cw}	N	2599.3
Peak Force	F_{pk}	N	4578.5
Force Constant ±10%	K_f	N/Arms	242.4
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	197.9
Motor Constant @25°C	K_m	N/Sqrt(W)	90.5
Resistance (L-L) 25°C ±10%③	R_{25}	Ω	4.8
Inductance (L-L) ±30%④	L	mH	77.1
Electrical Time Constant	T_e	ms	16.1
Continuous Current (WC) @100°C ①②	I_{cw}	Arms	11.3
Peak Current	I_{pk}	Arms	24.0
Continuous Power Dissipation (WC) @100°C ①②	P_{cw}	W	1177.3
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K_{thw}	W/°C	15.7
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{NN}	mm	42
Attraction Force	F_a	kN	8.0
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	18.5
Coil Length (WC)	L_{cw}	mm	404
Track Mass Per Meter	m_{track}	kg	15.2
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 2 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 10 L/min.
- The contents of datasheet are subject to change without prior notice.

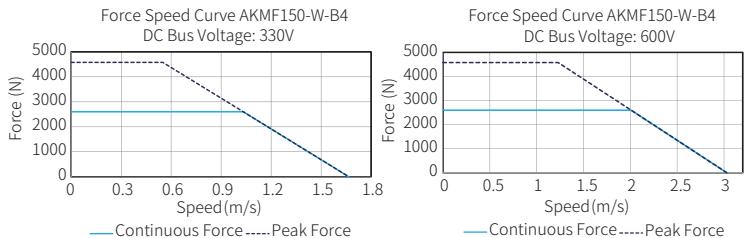
AKMF150-W-B4-D31			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (WC) @100°C ①②	F_{cw}	N	2555.1
Peak Force	F_{pk}	N	4500.6
Force Constant ±10%	K_f	N/Arms	119.1
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	97.3
Motor Constant @25°C	K_m	N/Sqrt(W)	89.6
Resistance (L-L) 25°C ±10%③	R_{25}	Ω	1.2
Inductance (L-L) ±30%④	L	mH	19.3
Electrical Time Constant	T_e	ms	16.3
Continuous Current (WC) @100°C ①②	I_{cw}	Arms	22.6
Peak Current	I_{pk}	Arms	48.0
Continuous Power Dissipation (WC) @100°C ①②	P_{cw}	W	1162.5
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K_{thw}	W/°C	15.5
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{NN}	mm	42
Attraction Force	F_a	kN	8.0
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	18.5
Coil Length (WC)	L_{cw}	mm	404
Track Mass Per Meter	m_{track}	kg	15.2
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 2 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 10 L/min.
- The contents of datasheet are subject to change without prior notice.

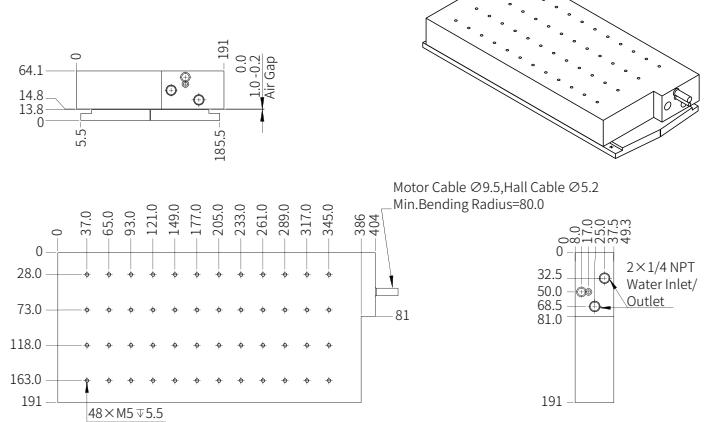
Dimensional Drawing



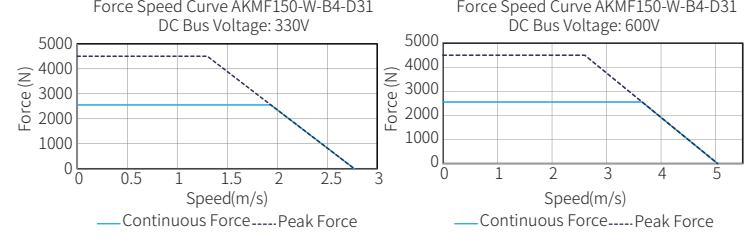
Force Speed Curves



Dimensional Drawing



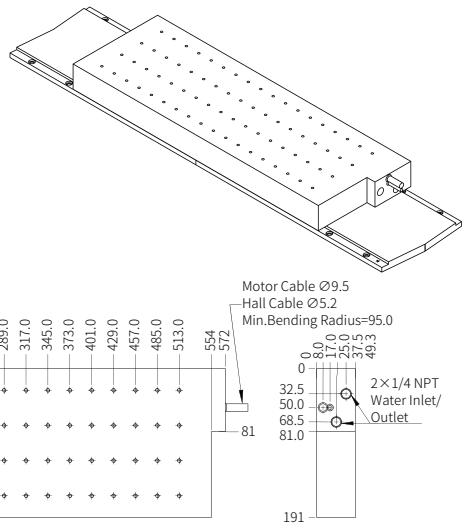
Force Speed Curves



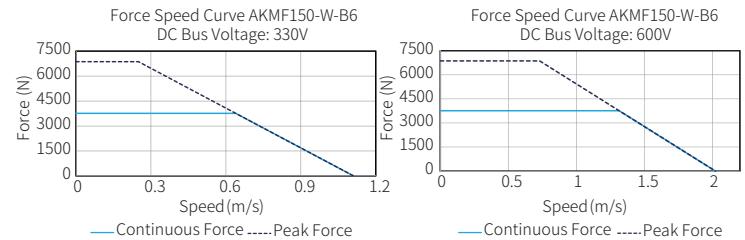
AKMF150-W-B6			
Performance Parameters	Symbol	Unit	Series
Continuous Force (WC) @100°C ①②	F_{CW}	N	3762.3
Peak Force	F_{pk}	N	6867.7
Force Constant ±10%	K_f	N/Arms	363.6
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	296.9
Motor Constant @25°C	K_m	N/Sqr(W)	110.8
Resistance (L-L) 25°C ±10%③	R_{25}	Ω	7.2
Inductance (L-L) ±30%④	L	mH	115.6
Electrical Time Constant	T_e	ms	16.1
Continuous Current (WC) @100°C ①②	I_{CW}	Arms	10.9
Peak Current	I_{pk}	Arms	24.0
Continuous Power Dissipation (WC) @100°C ①②	P_{CW}	W	1646.6
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K_{thw}	W/°C	22.0
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{NN}	mm	42
Attraction Force	F_a	kN	12.1
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	27.5
Coil Length (WC)	L_{cw}	mm	572
Track Mass Per Meter	m_{track}	kg	15.2
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 2 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 10 L/min.
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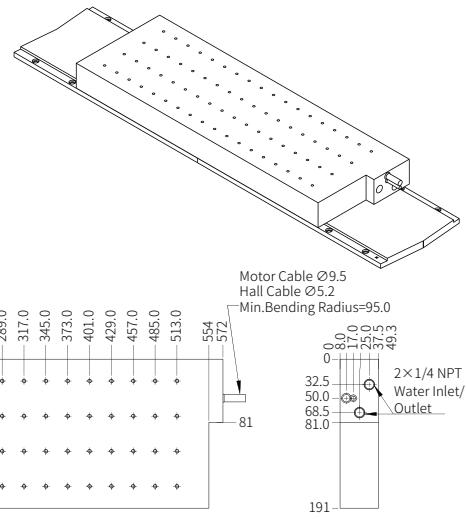
Dimensional Drawing



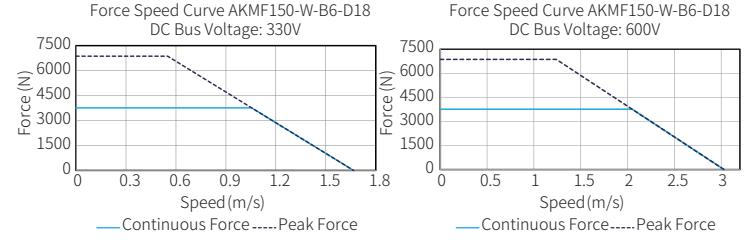
Force Speed Curves



Dimensional Drawing



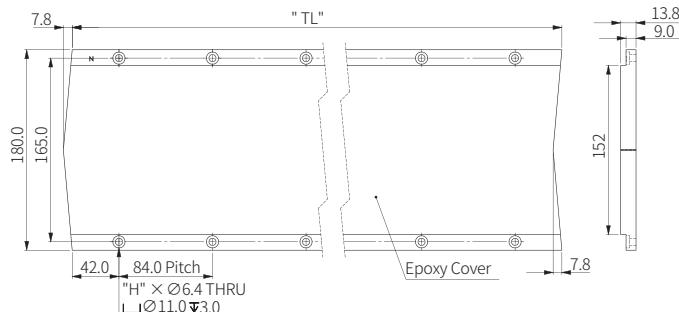
Force Speed Curves



AKMF150-W-B6-D18			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (WC) @100°C ①②	F_{CW}	N	3762.3
Peak Force	F_{pk}	N	6867.7
Force Constant ±10%	K_f	N/Arms	242.4
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	197.9
Motor Constant @25°C	K_m	N/Sqr(W)	114.3
Resistance (L-L) 25°C ±10%③	R_{25}	Ω	3.0
Inductance (L-L) ±30%④	L	mH	51.4
Electrical Time Constant	T_e	ms	17.1
Continuous Current (WC) @100°C ①②	I_{CW}	Arms	16.3
Peak Current	I_{pk}	Arms	36.0
Continuous Power Dissipation (WC) @100°C ①②	P_{CW}	W	1548.0
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K_{thw}	W/°C	20.6
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{NN}	mm	42
Attraction Force	F_a	kN	12.1
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	27.5
Coil Length (WC)	L_{cw}	mm	572
Track Mass Per Meter	m_{track}	kg	15.2
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 2 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 10 L/min.
 The contents of datasheet are subject to change without prior notice.

AKMF150 Track



Track P/N:	Track Length "TL" (mm)	No.of Holes "H"	Mass(kg)
AKMF150-TL168-E	168	8	2.6
AKMF150-TL252-E	252	12	3.8
AKMF150-TL420-E	420	20	6.4

Part Numbering

■ Motor Coil

AKMF150-W-B4-K56-NH-0.5-NFB-D18

Motor Model:
AKMF150

Special Type:
Blank / D18 / D31

Cooling Type:
W

Power Cable:
NFB

Coil Length:
B4 / B6

Cable Length(m):
0.5 / 3.0

Thermal Sensor:
K56

Sensor Cable:
NH

- ① W=Water Cooling
- ② K56=PT1000(RTD)+SNM100.DK(PTC)
- ③ NH=Without Built-in Hall Sensor C/W Flying Leads
- ④ Without Ferrite Bead C/W Flying Leads
- ⑤ Blank=Standard Model
- ⑥ D18/D31=Special Type

■ Motor Track

AKMF150-TL420-E

Track Type and Cover:
E

Motor Model:
AKMF150

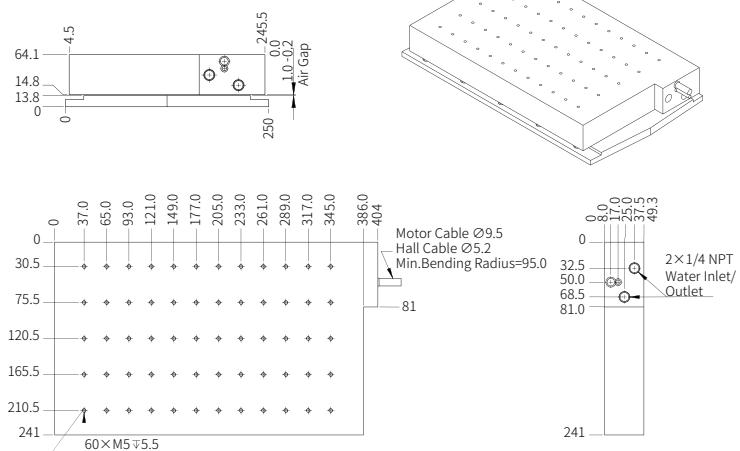
Track Length:
TL168 / TL252 / TL420

E=Epoxy Cover

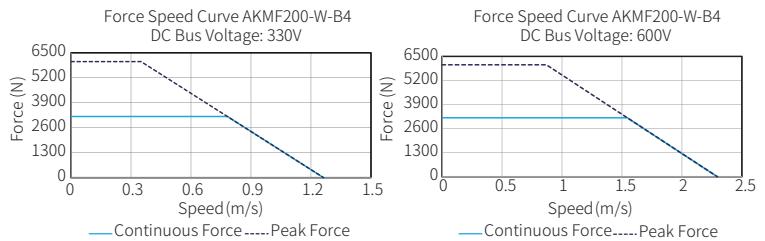
AKMF200-W-B4			
Performance Parameters	Symbol	Unit	Series
Continuous Force (WC) @100°C ①④	F _{cw}	N	3183.4
Peak Force	F _p	N	6046.1
Force Constant ±10%	K _f	N/Arms	320.1
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	261.4
Motor Constant @25°C	K _m	N/Sqrt(W)	102.7
Resistance (L-L) 25°C ±10%②	R ₂₅	Ω	6.5
Inductance (L-L) ±30%③	L	mH	101.6
Electrical Time Constant	T _e	ms	15.7
Continuous Current (WC) @100°C ①④	I _{cw}	Arms	10.5
Peak Current	I _p	Arms	24.0
Continuous Power Dissipation (WC) @100°C ①④	P _{cw}	W	1372.8
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (WC) ①④	K _{thw}	W/°C	18.3
Max. Bus Voltage	U _{bus}	V _{dc}	600
Magnetic Period	T _{NN}	mm	42
Attraction Force	F _a	kN	10.7
Mechanical Parameters			
Coil Mass (WC)	m _{cw}	kg	24.1
Coil Length (WC)	L _{cw}	mm	404
Track Mass Per Meter	m _{track}	kg	22.4
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 2 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 10 L/min.
 The contents of datasheet are subject to change without prior notice.

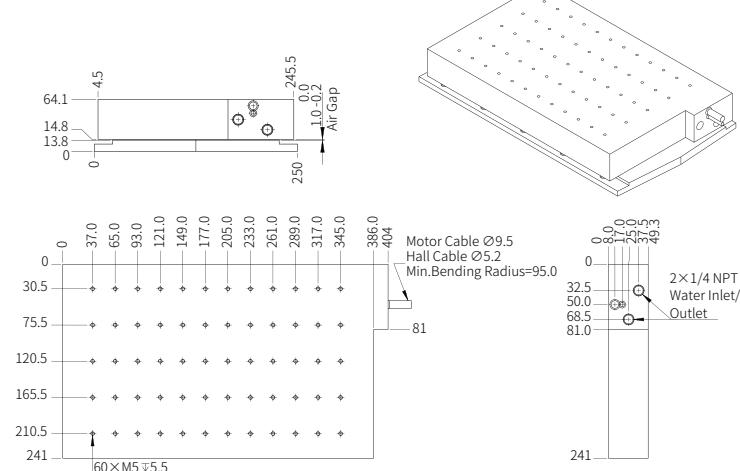
Dimensional Drawing



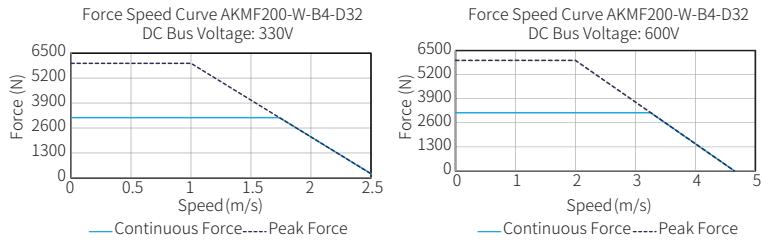
Force Speed Curves



Dimensional Drawing



Force Speed Curves



AKMF200-W-B4-D32			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (WC) @100°C ①④	F _{cw}	N	3143.6
Peak Force	F _p	N	5970.5
Force Constant ±10%	K _f	N/Arms	158.1
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	129.0
Motor Constant @25°C	K _m	N/Sqrt(W)	101.4
Resistance (L-L) 25°C ±10%②	R ₂₅	Ω	1.6
Inductance (L-L) ±30%③	L	mH	25.4
Electrical Time Constant	T _e	ms	15.7
Continuous Current (WC) @100°C ①④	I _{cw}	Arms	20.9
Peak Current	I _p	Arms	48.0
Continuous Power Dissipation (WC) @100°C ①④	P _{cw}	W	1372.8
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (WC) ①④	K _{thw}	W/°C	18.3
Max. Bus Voltage	U _{bus}	V _{dc}	600
Magnetic Period	T _{NN}	mm	42
Attraction Force	F _a	kN	10.7
Mechanical Parameters			
Coil Mass (WC)	m _{cw}	kg	24.1
Coil Length (WC)	L _{cw}	mm	404
Track Mass Per Meter	m _{track}	kg	22.4
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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.		

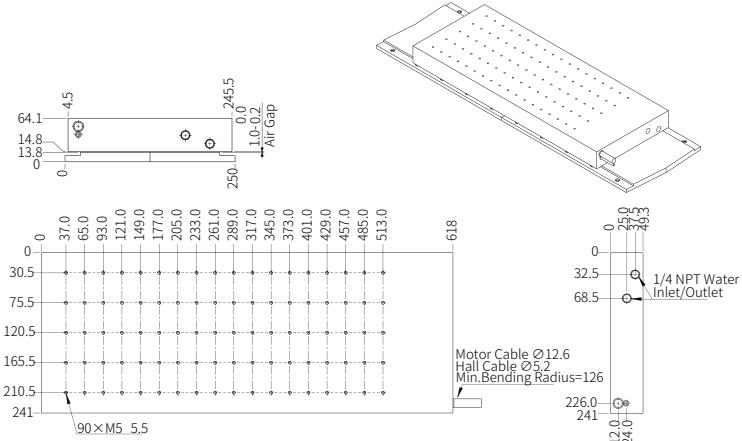
① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 Abbreviations: WC-Water Cooling.
 ② Resistance is measured by DC current with standard 2 m cable.
 ③ Inductance is measured by current frequency of 1 kHz.
 ④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.
 The contents of datasheet are subject to change without prior notice.

AKMF200-W-B6			
Performance Parameters	Symbol	Unit	Series
Continuous Force (WC) @100°C ①②	F_{cw}	N	4584.1
Peak Force	F_{pk}	N	9069.1
Force Constant ±10%	K_f	N/Arms	480.2
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	392.0
Motor Constant @25°C	K_m	N/Sqrt(W)	125.6
Resistance (L-L) 25°C ±10% ③	R_{25}	Ω	9.8
Inductance (L-L) ±30% ④	L	mH	152.4
Electrical Time Constant	T_e	ms	15.6
Continuous Current (WC) @100°C ①②	I_{cw}	Arms	10.0
Peak Current	I_{pk}	Arms	24.0
Continuous Power Dissipation (WC) @100°C ①②	P_{cw}	W	1903.6
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K_{thw}	W/°C	25.4
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{NN}	mm	42
Attraction Force	F_a	kN	16.1
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	38.0
Coil Length (WC)	L_{cw}	mm	618
Track Mass Per Meter	m_{track}	kg	22.4
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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.		

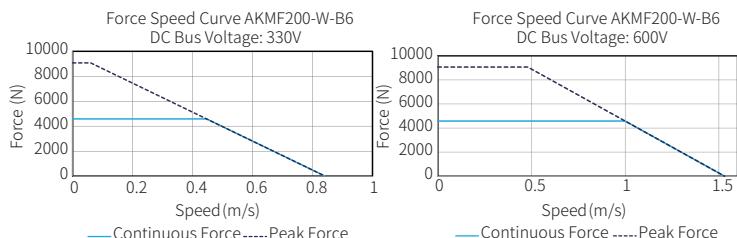
① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
 Abbreviations: WC-Water Cooling.
 ② Resistance is measured by DC current with standard 2 m cable.
 ③ Inductance is measured by current frequency of 1 kHz.
 ④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.

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

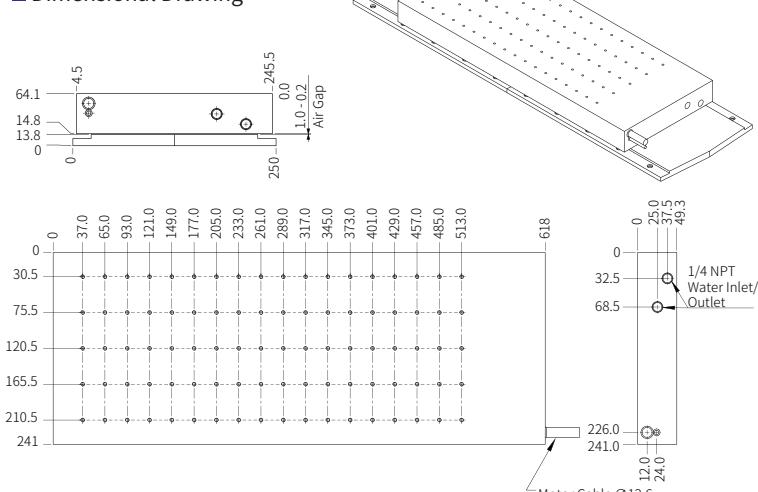
Dimensional Drawing



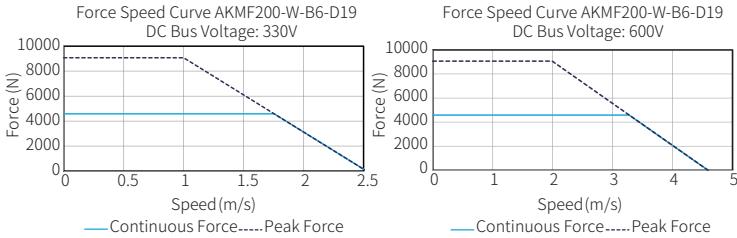
Force Speed Curves



Dimensional Drawing



Force Speed Curves

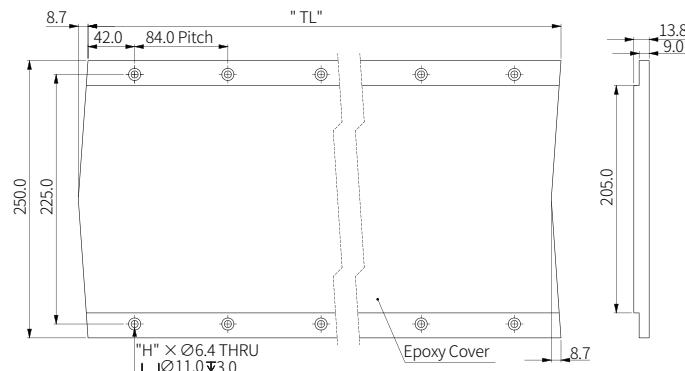


AKMF200-W-B6-D19			
Performance Parameters	Symbol	Unit	Parallel
Continuous Force (WC) @100°C ①②	F_{cw}	N	4584.1
Peak Force	F_{pk}	N	9069.1
Force Constant ±10%	K_f	N/Arms	160.1
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	130.7
Motor Constant @25°C	K_m	N/Sqrt(W)	125.6
Resistance (L-L) 25°C ±10% ③	R_{25}	Ω	1.1
Inductance (L-L) ±30% ④	L	mH	16.9
Electrical Time Constant	T_e	ms	15.6
Continuous Current (WC) @100°C ①②	I_{cw}	Arms	30.1
Peak Current	I_{pk}	Arms	72.0
Continuous Power Dissipation (WC) @100°C ①②	P_{cw}	W	1903.6
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K_{thw}	W/°C	25.4
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{NN}	mm	42
Attraction Force	F_a	kN	16.1
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	38.0
Coil Length (WC)	L_{cw}	mm	618
Track Mass Per Meter	m_{track}	kg	22.4
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 2 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 10 L/min.

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

AKMF200 Track



Track P/N:	Track Length "TL" (mm)	No.of Holes "H"	Mass(kg)
AKMF200-TL168-E	168	8	3.8
AKMF200-TL252-E	252	12	5.7
AKMF200-TL420-E	420	20	9.4

Part Numbering

Motor Coil

AKMF200-W-B4-K56-NH-0.5-NFB-D19

Motor Model:
AKMF200

Special Type:
Blank / D19 / D32

Cooling Type:
W

Power Cable:
NFB

Coil Length:
B4 / B6

Cable Length(m):
0.5 / 3.0

Thermal Sensor:
K56

Sensor Cable:
NH

- ① W=Water Cooling
- ② K56=PT1000(RTD)+SNM.100.DK(PTC)
- ③ NH=Without Built-in Hall Sensor C/W Flying Leads
- ④ Without Ferrite Bead C/W Flying Leads
- ⑤ Blank=Standard Model
- ⑥ D19/D32=Special Type

Motor Track

AKMF200-TL420-E

Track Type and Cover:
E

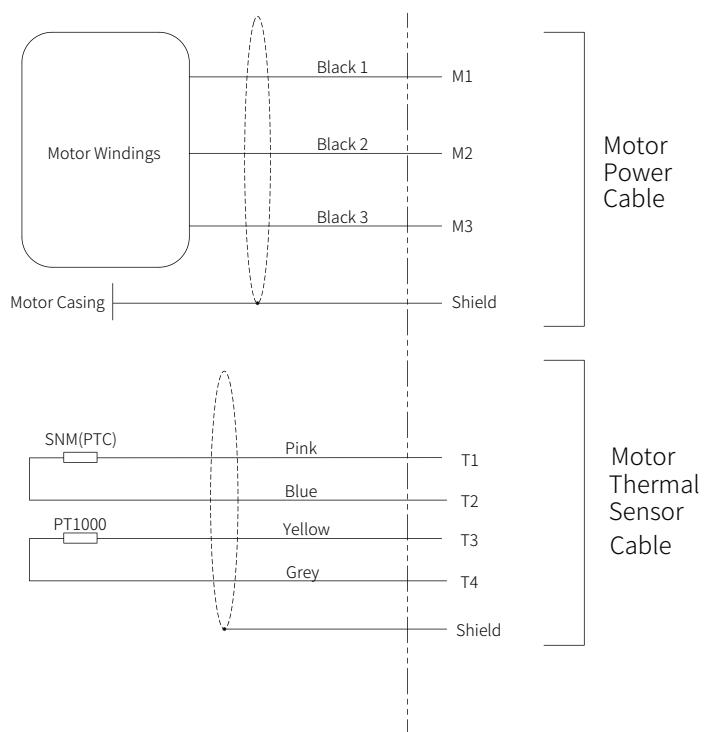
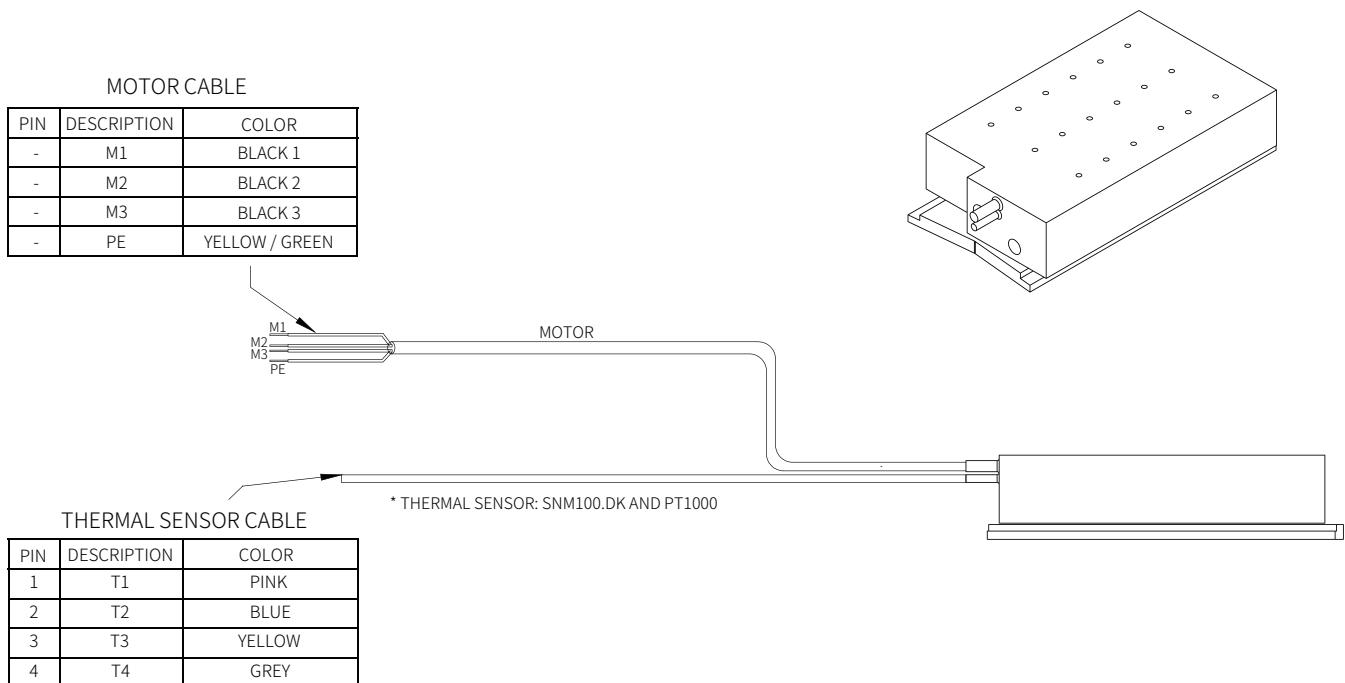
Model:
AKMF200

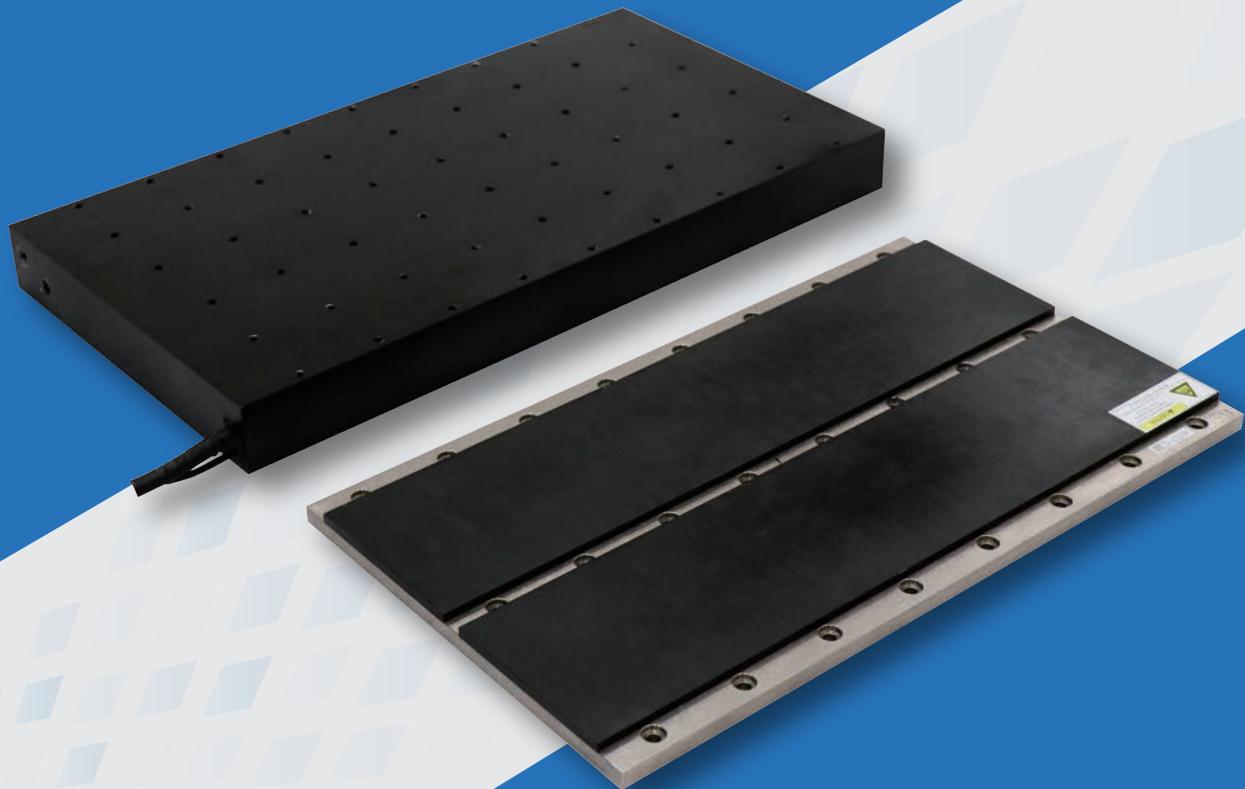
Track Length:
TL168 / TL252 / TL420

E=Epoxy Cover

AKMF Motor Cable Connection

AKMF 100 / 150 / 200 Series Motor Cable Connection





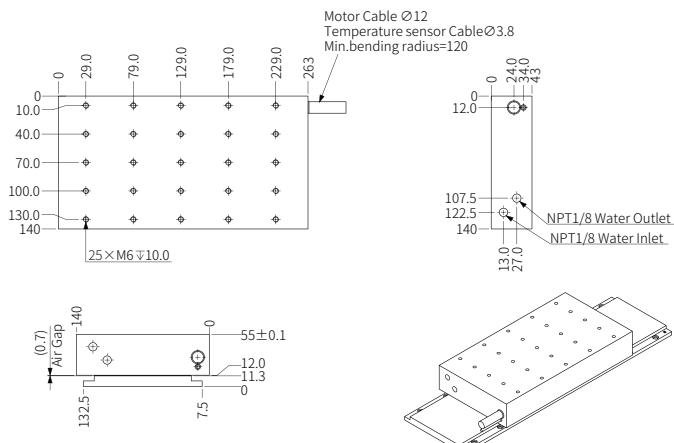
AKH SERIES

- Iron core technology
- Low cogging force
- Fast response
- High force density and low mass
- Excellent water-cooled design

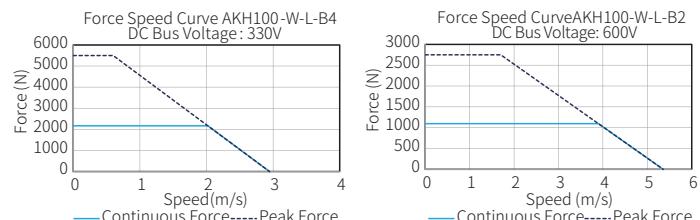
AKH100-W-L-B2			
Performance Parameters	Symbol	Unit	L
Continuous Force (WC) @100°C ①②	F_{cw}	N	1097
Peak Force	F_{pk}	N	2750
Force Constant ±10%	K_f	N/Arms	137
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	112
Motor Constant @25°C	K_m	N/Sqr(W)	45.1
Resistance (L-L) 25°C ±10%③	R_{25}	Ω	6.2
Inductance (L-L) ±30%④	L	mH	27.0
Electrical Time Constant	T_e	ms	4.4
Continuous Current (WC) @100°C ①②	I_{cw}	Arms	8.0
Peak Current	I_{pk}	Arms	30.0
Continuous Power Dissipation (WC) @100°C ①②	P_{cw}	W	761
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K_{thw}	W/°C	10.1
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{NN}	mm	27
Attraction Force	F_a	kN	4.3
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	7
Coil Length (WC)	L_{cw}	mm	263
Track Mass Per Meter	m_{track}	kg	9
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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.

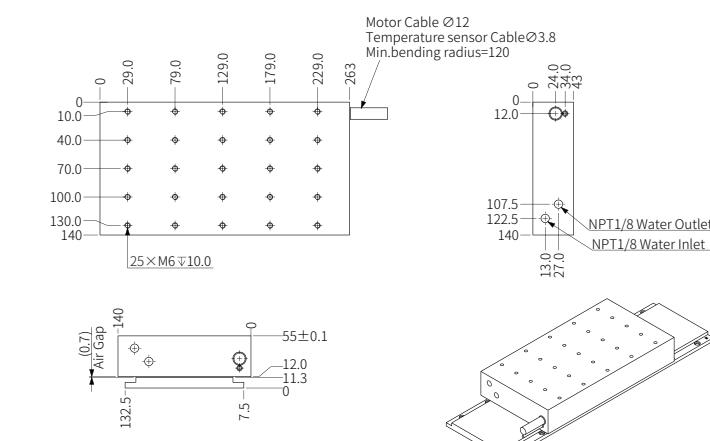
Dimensional Drawing



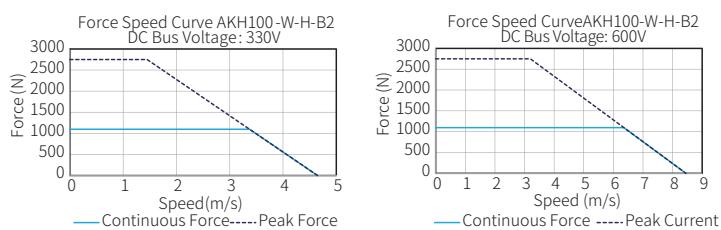
Force Speed Curves



Dimensional Drawing



Force Speed Curves



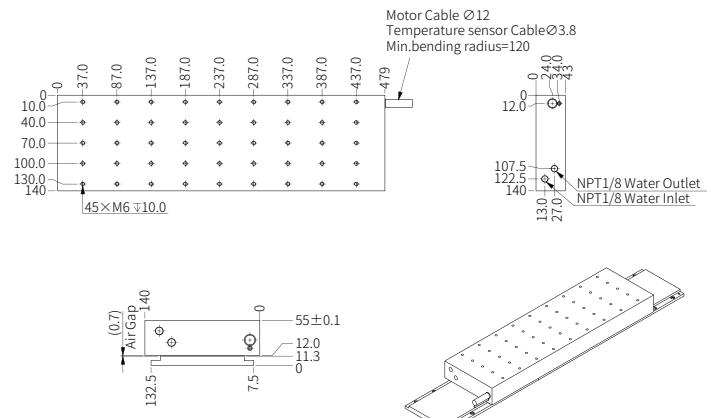
AKH100-W-H-B2			
Performance Parameters	Symbol	Unit	H
Continuous Force (WC) @100°C ①②	F_{cw}	N	1097
Peak Force	F_{pk}	N	2750
Force Constant ±10%	K_f	N/Arms	87
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	71
Motor Constant @25°C	K_m	N/Sqr(W)	45.2
Resistance (L-L) 25°C ±10%③	R_{25}	Ω	2.5
Inductance (L-L) ±30%④	L	mH	10.9
Electrical Time Constant	T_e	ms	4.4
Continuous Current (WC) @100°C ①②	I_{cw}	Arms	12.6
Peak Current	I_{pk}	Arms	47.3
Continuous Power Dissipation (WC) @100°C ①②	P_{cw}	W	761
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K_{thw}	W/°C	10.1
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{NN}	mm	27
Attraction Force	F_a	kN	4.3
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	7
Coil Length (WC)	L_{cw}	mm	263
Track Mass Per Meter	m_{track}	kg	9
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 10 L/min.
- The contents of datasheet are subject to change without prior notice.

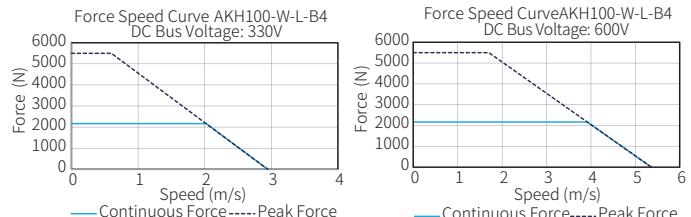
AKH100-W-L-B4				
Performance Parameters		Symbol	Unit	L
Continuous Force (WC) @100°C ①②		F_{cw}	N	2167
Peak Force		F_{pk}	N	5500
Force Constant ±10%		K_f	N/Arms	137
Back EMF Constant ±10%		K_e	Vpeak/(m/s)	112
Motor Constant @25°C		K_m	N/Sqr(W)	63.9
Resistance (L-L) 25°C ±10% ③		R_{25}	Ω	3.1
Inductance (L-L) ±30% ④		L	mH	13.5
Electrical Time Constant		T_e	ms	4.4
Continuous Current (WC) @100°C ①②		I_{cw}	Arms	15.8
Peak Current		I_{pk}	Arms	60.0
Continuous Power Dissipation (WC) @100°C ①②		P_{cw}	W	1484
Max. Coil Temperature		t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②		K_{thw}	W/°C	19.8
Max. Bus Voltage		U_{bus}	Vdc	600
Magnetic Period		T_{NN}	mm	27
Attraction Force		F_a	kN	8.5
Mechanical Parameters				
Coil Mass (WC)	m_{cw}	kg	13	
Coil Length (WC)	L_{cw}	mm	479	
Track Mass Per Meter	m_{track}	kg	9	
Other Information				
Insulation Class	Class B (130°C)			
Compliance with Global Standards	RoHS			
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.

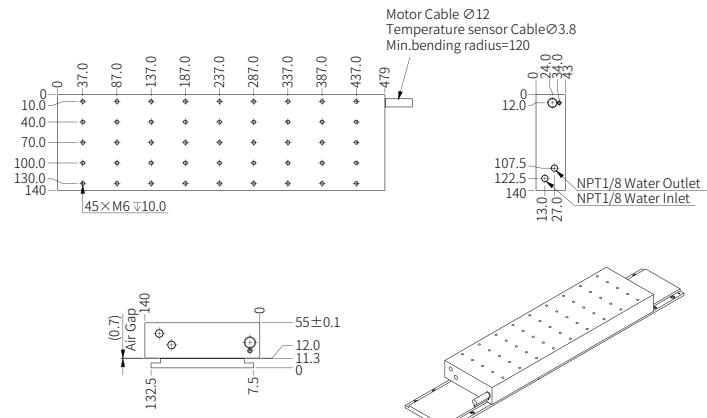
Dimensional Drawing



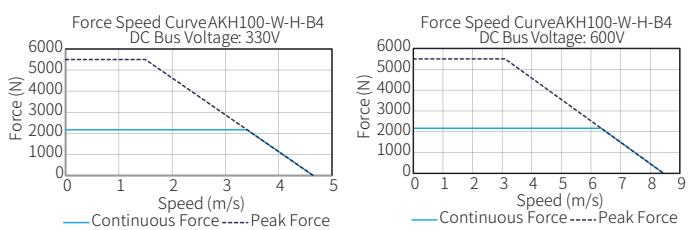
Force Speed Curves



Dimensional Drawing

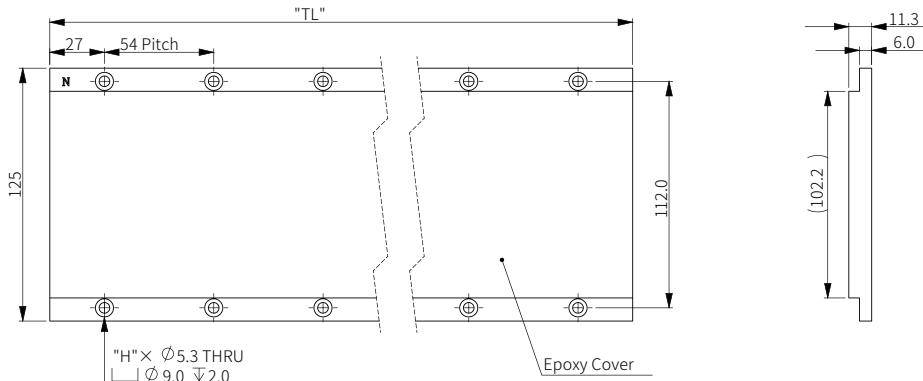


Force Speed Curves



- 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 10 L/min.
- The contents of datasheet are subject to change without prior notice.

AKH100 Track



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

Part Numbering

Motor Coil

AKH100-W-L-B2-DE-NF-005-FF-0RB

Motor Model:
AKH100 / AKH150Design Control Code:
0RBCooling Type:
N / WPower Cable:
FF / XWWinding Code:
L/HCable Length(m):
005Coil Length:
B2 / B4Sensor Cable:
NF

- 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=0.5m
- ⑥ FF=With Ferrite Bead C/W Flying Leads
- ⑦ XW=Without Ferrite Bead C/W D-Sub 9W4 Male Connector

Thermal Sensor:
DE

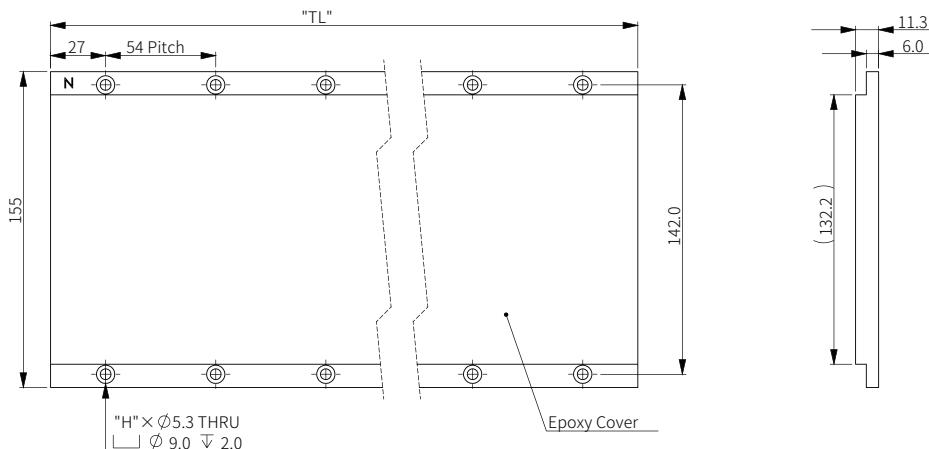
Motor Track

AKH100-TL270-E

Track Type and Cover:
EMotor Model:
AKH100 / AKH130 / AKH150 / AKH200Track Length:
TL270 / TL432

⑧ E=Epoxy Cover

AKH130 Track



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

Part Numbering

Motor Coil

AKH130-W-L-B3-DE-NF-005-FF-0RB

Motor Model:

AKH130

Design Control Code:

0RB

Cooling Type:

N/W

Power Cable:

FF/XW

Winding Code:

L/H

Cable Length(m):

005

Coil Length:

B3/B4

Sensor Cable:

NF

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=0.5m

⑥ FF=With Ferrite Bead C/W Flying Leads

⑦ XW=Without Ferrite Bead C/W D-Sub 9W4 Male Connector

Thermal Sensor:

DE

Motor Track

AKH130-TL270-E

Track Type and Cover:

E

Motor Model:

AKH100 / AKH130 / AKH150 / AKH200

Track Length:

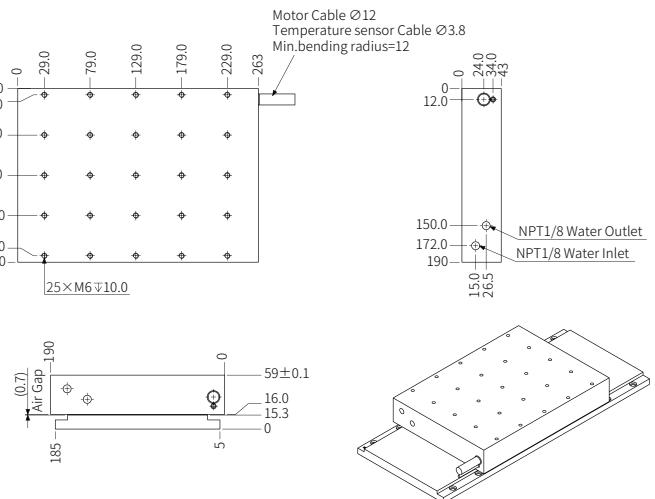
TL270 / TL432

⑧ E=Epoxy Cover

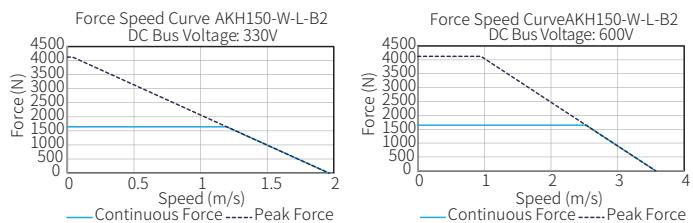
AKH150-W-L-B2			
Performance Parameters	Symbol	Unit	L
Continuous Force (WC) @100°C ①②	F _{CW}	N	1646
Peak Force	F _{Pk}	N	4125
Force Constant ±10%	K _f	N/Arms	206
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	168.0
Motor Constant @25°C	K _m	N/Sqr(W)	56.7
Resistance (L-L) 25°C ±10% ③	R ₂₅	Ω	8.8
Inductance (L-L) ±30% ④	L	mH	38.5
Electrical Time Constant	T _e	ms	4.4
Continuous Current (WC) @100°C ①②	I _{CW}	Arms	8.0
Peak Current	I _{Pk}	Arms	30.0
Continuous Power Dissipation (WC) @100°C ①②	P _{CW}	W	1084
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K _{thw}	W/°C	14.5
Max. Bus Voltage	U _{bus}	V _{dc}	600
Magnetic Period	T _{NN}	mm	27
Attraction Force	F _a	kN	6.4
Mechanical Parameters			
Coil Mass (WC)	m _{CW}	kg	10
Coil Length (WC)	L _{CW}	mm	263
Track Mass Per Meter	m _{track}	kg	19
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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.

Dimensional Drawing



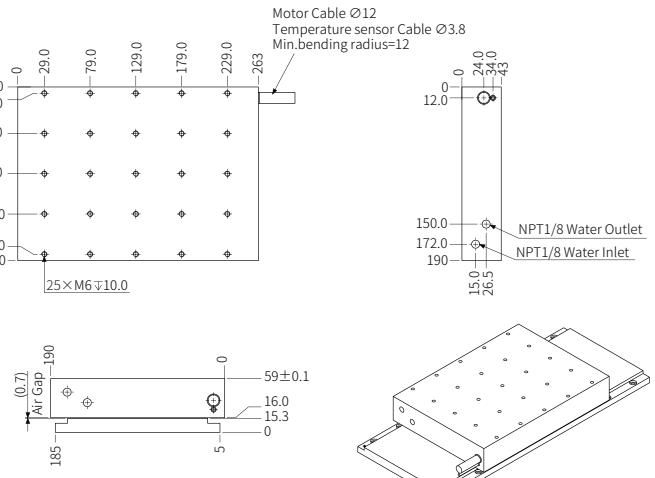
Force Speed Curves



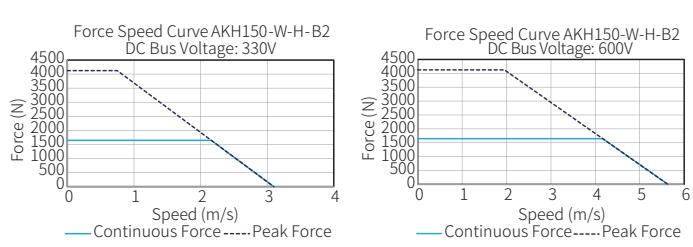
AKH150-W-H-B2			
Performance Parameters	Symbol	Unit	H
Continuous Force (WC) @100°C ①②	F _{CW}	N	1646
Peak Force	F _{Pk}	N	4125
Force Constant ±10%	K _f	N/Arms	130
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	106.5
Motor Constant @25°C	K _m	N/Sqr(W)	56.7
Resistance (L-L) 25°C ±10% ③	R ₂₅	Ω	3.5
Inductance (L-L) ±30% ④	L	mH	15.5
Electrical Time Constant	T _e	ms	4.4
Continuous Current (WC) @100°C ①②	I _{CW}	Arms	12.6
Peak Current	I _{Pk}	Arms	47.3
Continuous Power Dissipation (WC) @100°C ①②	P _{CW}	W	1084
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K _{thw}	W/°C	14.5
Max. Bus Voltage	U _{bus}	V _{dc}	600
Magnetic Period	T _{NN}	mm	27
Attraction Force	F _a	kN	6.4
Mechanical Parameters			
Coil Mass (WC)	m _{CW}	kg	10
Coil Length (WC)	L _{CW}	mm	263
Track Mass Per Meter	m _{track}	kg	19
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 10 L/min.
 The contents of datasheet are subject to change without prior notice.

Dimensional Drawing



Force Speed Curves



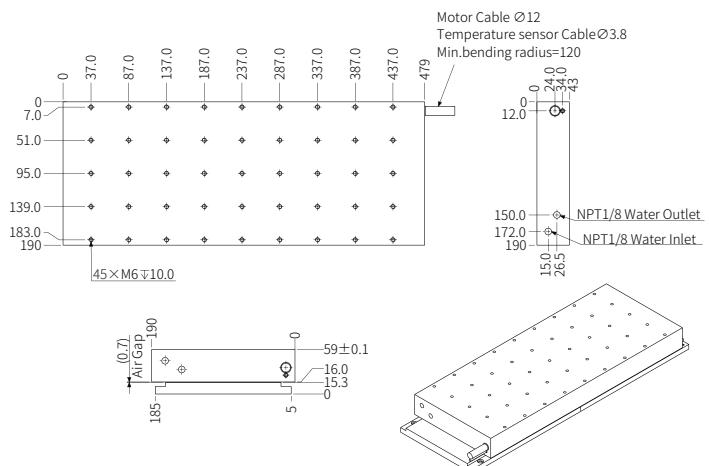
AKH150-W-L-B4			
Performance Parameters	Symbol	Unit	L
Continuous Force (WC) @100°C ①②	F _{CW}	N	3250
Peak Force	F _{Pk}	N	8250
Force Constant ±10%	K _f	N/Arms	206
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	168.0
Motor Constant @25°C	K _m	N/Sqr(W)	80.2
Resistance (L-L) 25°C ±10% ③	R ₂₅	Ω	4.4
Inductance (L-L) ±30% ④	L	mH	19.3
Electrical Time Constant	T _e	ms	4.4
Continuous Current (WC) @100°C ①②	I _{CW}	Arms	15.8
Peak Current	I _{Pk}	Arms	60.0
Continuous Power Dissipation (WC) @100°C ①②	P _{CW}	W	2115
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K _{thw}	W/°C	28.2
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	27
Attraction Force	F _a	kN	12.8
Mechanical Parameters			
Coil Mass (WC)	m _{CW}	kg	18
Coil Length (WC)	L _{CW}	mm	479
Track Mass Per Meter	m _{track}	kg	19
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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.

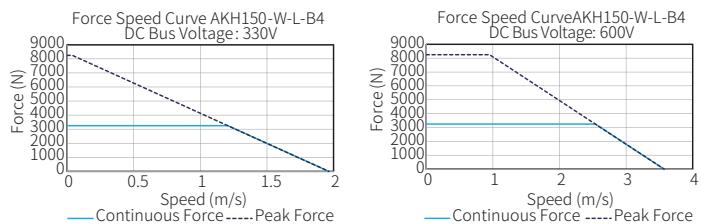
AKH150-W-H-B4			
Performance Parameters	Symbol	Unit	H
Continuous Force (WC) @100°C ①②	F _{CW}	N	3250
Peak Force	F _{Pk}	N	8250
Force Constant ±10%	K _f	N/Arms	130
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	106.5
Motor Constant @25°C	K _m	N/Sqr(W)	80.2
Resistance (L-L) 25°C ±10% ③	R ₂₅	Ω	1.8
Inductance (L-L) ±30% ④	L	mH	7.7
Electrical Time Constant	T _e	ms	4.4
Continuous Current (WC) @100°C ①②	I _{CW}	Arms	24.9
Peak Current	I _{Pk}	Arms	94.6
Continuous Power Dissipation (WC) @100°C ①②	P _{CW}	W	2114
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K _{thw}	W/°C	28.2
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	27
Attraction Force	F _a	kN	12.8
Mechanical Parameters			
Coil Mass (WC)	m _{CW}	kg	18
Coil Length (WC)	L _{CW}	mm	479
Track Mass Per Meter	m _{track}	kg	19
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 10 L/min.
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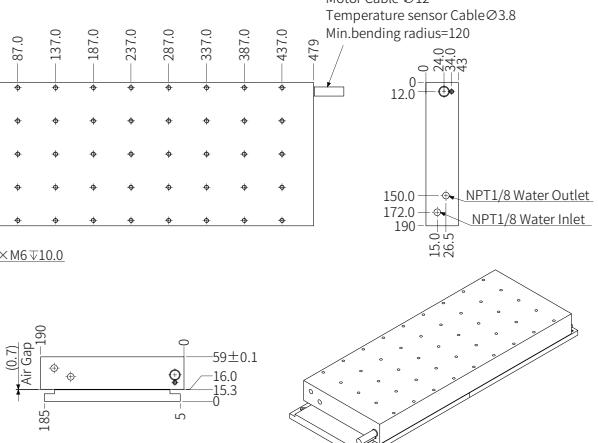
Dimensional Drawing



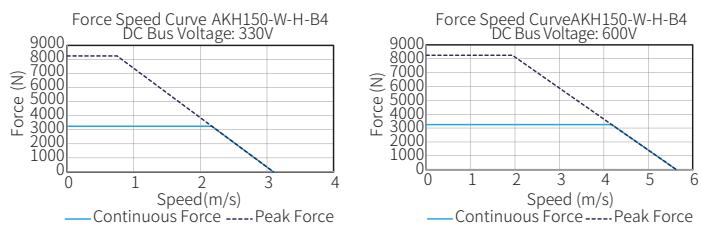
Force Speed Curves



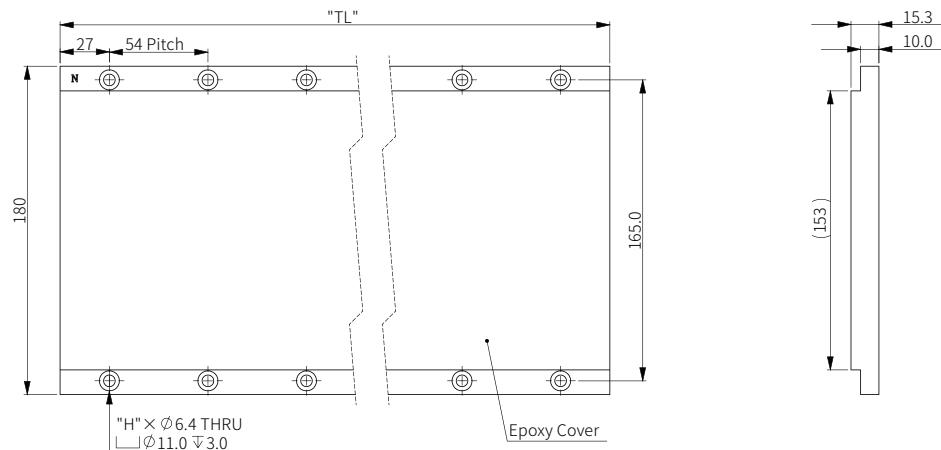
Dimensional Drawing



Force Speed Curves



AKH150 Track



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

AKH200-W-L-B2			
Performance Parameters	Symbol	Unit	L
Continuous Force (WC) @100°C ①②	F _{CW}	N	2194
Peak Force	F _{Pk}	N	5500
Force Constant ±10%	K _f	N/Arms	274
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	223.9
Motor Constant @25°C	K _m	N/Sqr(W)	63.9
Resistance (L-L) 25°C ±10% ③	R ₂₅	Ω	12.3
Inductance (L-L) ±30% ④	L	mH	54.1
Electrical Time Constant	T _e	ms	4.4
Continuous Current (WC) @100°C ①②	I _{CW}	Arms	8.0
Peak Current	I _{Pk}	Arms	30.0
Continuous Power Dissipation (WC) @100°C ①②	P _{CW}	W	1522
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K _{thw}	W/°C	20.3
Max. Bus Voltage	U _{bus}	V _{dc}	600
Magnetic Period	T _{NN}	mm	27
Attraction Force	F _a	kN	8.5

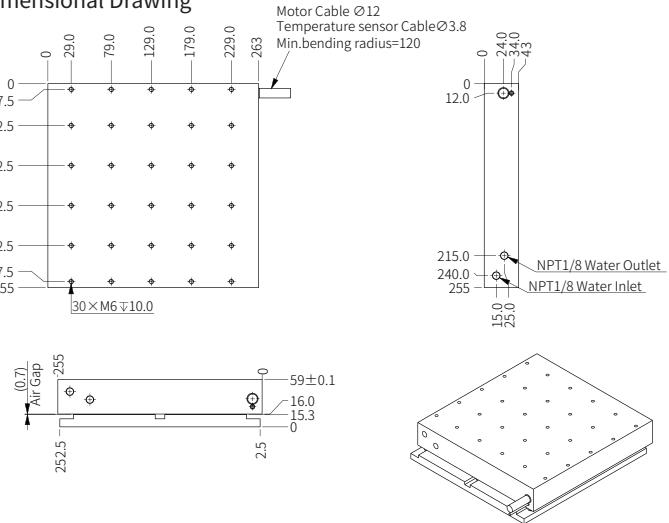
Mechanical Parameters			
Coil Mass (WC)	m _{CW}	kg	14
Coil Length (WC)	L _{CW}	mm	263
Track Mass Per Meter	m _{track}	kg	26

Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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.		

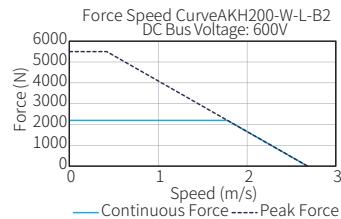
- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
- Abbreviations: WC-Water Cooling.
- ② Resistance is measured by DC current with standard 0.5 m cable.
- ③ Inductance is measured by current frequency of 1 kHz.
- ④ Water cooling test conditions: the inlet 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.

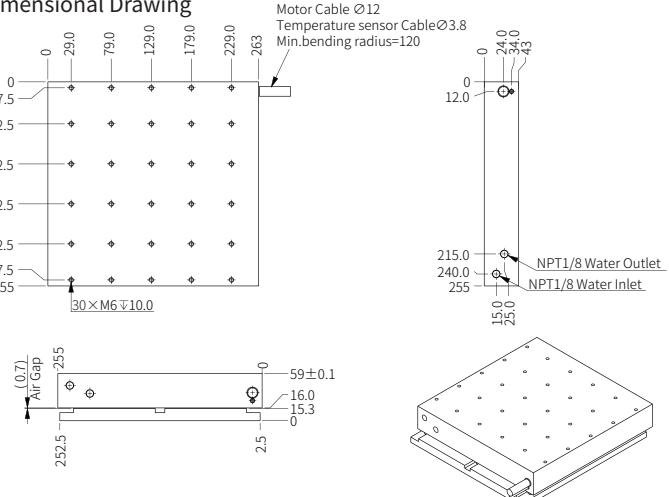
Dimensional Drawing



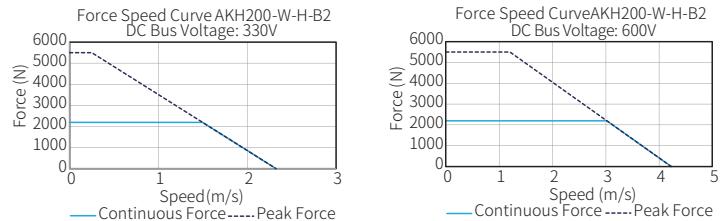
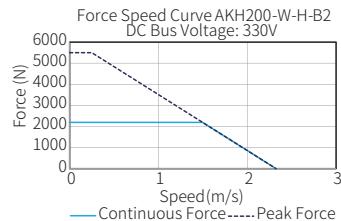
Force Speed Curves



Dimensional Drawing



Force Speed Curves



AKH200-W-H-B2			
Performance Parameters	Symbol	Unit	H
Continuous Force (WC) @100°C ①②	F _{CW}	N	2194
Peak Force	F _{Pk}	N	5500
Force Constant ±10%	K _f	N/Arms	174
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	142.0
Motor Constant @25°C	K _m	N/Sqr(W)	63.9
Resistance (L-L) 25°C ±10% ③	R ₂₅	Ω	4.9
Inductance (L-L) ±30% ④	L	mH	21.8
Electrical Time Constant	T _e	ms	4.4
Continuous Current (WC) @100°C ①②	I _{CW}	Arms	12.6
Peak Current	I _{Pk}	Arms	47.3
Continuous Power Dissipation (WC) @100°C ①②	P _{CW}	W	1521
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K _{thw}	W/°C	20.3
Max. Bus Voltage	U _{bus}	V _{dc}	600
Magnetic Period	T _{NN}	mm	27
Attraction Force	F _a	kN	8.5

Performance Parameters	Symbol	Unit	H
Coil Mass (WC)	m _{CW}	kg	14
Coil Length (WC)	L _{CW}	mm	263
Track Mass Per Meter	m _{track}	kg	26

Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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.		

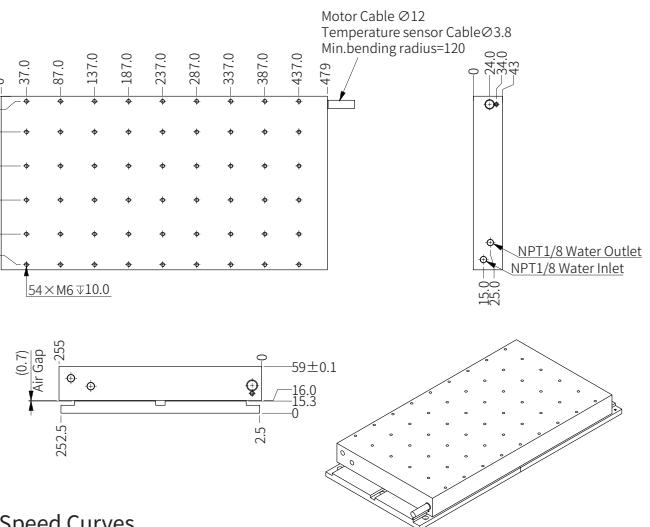
- ① Measurement is taken at ambient temperature 25°C. Value depends on the thermal environment.
- Abbreviations: WC-Water Cooling.
- ② Resistance is measured by DC current with standard 0.5 m cable.
- ③ Inductance is measured by current frequency of 1 kHz.
- ④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 10 L/min.

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

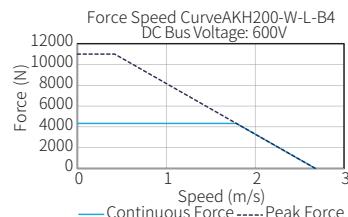
AKH200-W-L-B4			
Performance Parameters	Symbol	Unit	L
Continuous Force (WC) @100°C ①②	F _{cw}	N	4333
Peak Force	F _{pck}	N	11000
Force Constant ±10%	K _f	N/Arms	274
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	223.9
Motor Constant @25°C	K _m	N/Sqr(W)	90.3
Resistance (L-L) 25°C ±10%③	R ₂₅	Ω	6.2
Inductance (L-L) ±30%④	L	mH	27.0
Electrical Time Constant	T _e	ms	4.4
Continuous Current (WC) @100°C ①②	I _{cw}	Arms	15.8
Peak Current	I _{pck}	Arms	60.0
Continuous Power Dissipation (WC) @100°C ①②	P _{cw}	W	2968
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K _{thw}	W/°C	39.6
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	27
Attraction Force	F _a	kN	17
Mechanical Parameters			
Coil Mass (WC)	m _{cw}	kg	25
Coil Length (WC)	L _{cw}	mm	479
Track Mass Per Meter	m _{track}	kg	26
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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.

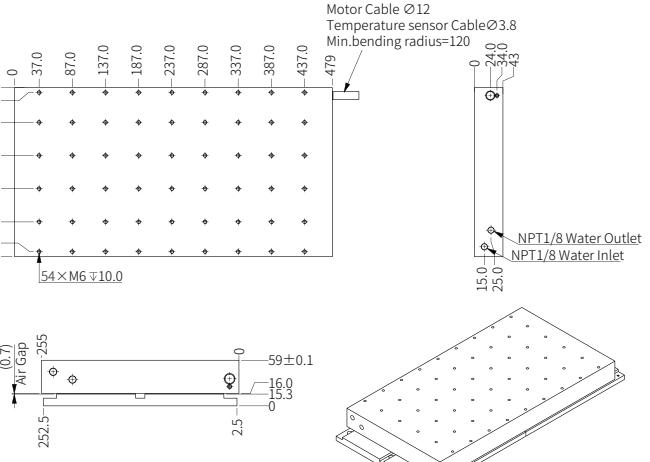
Dimensional Drawing



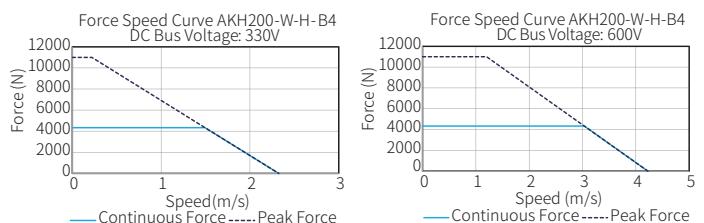
Force Speed Curves



Dimensional Drawing



Force Speed Curves



AKH200-W-H-B4			
Performance Parameters	Symbol	Unit	H
Continuous Force (WC) @100°C ①②	F _{cw}	N	4334
Peak Force	F _{pck}	N	11000
Force Constant ±10%	K _f	N/Arms	174
Back EMF Constant ±10%	K _e	Vpeak/(m/s)	142.0
Motor Constant @25°C	K _m	N/Sqr(W)	90.3
Resistance (L-L) 25°C ±10%③	R ₂₅	Ω	2.5
Inductance (L-L) ±30%④	L	mH	10.9
Electrical Time Constant	T _e	ms	4.4
Continuous Current (WC) @100°C ①②	I _{cw}	Arms	24.9
Peak Current	I _{pck}	Arms	94.6
Continuous Power Dissipation (WC) @100°C ①②	P _{cw}	W	2967
Max. Coil Temperature	t _{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K _{thw}	W/°C	39.6
Max. Bus Voltage	U _{bus}	Vdc	600
Magnetic Period	T _{NN}	mm	27
Attraction Force	F _a	kN	17
Mechanical Parameters			
Coil Mass (WC)	m _{cw}	kg	25
Coil Length (WC)	L _{cw}	mm	479
Track Mass Per Meter	m _{track}	kg	26
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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 10 L/min.
The contents of datasheet are subject to change without prior notice.

AKH200-W-L-B6			
Performance Parameters	Symbol	Unit	L
Continuous Force (WC) @100°C ①②	F_{cw}	N	6319
Peak Force	F_{pk}	N	16500
Force Constant ±10%	K_f	N/Arms	274
Back EMF Constant ±10%	K_e	Vpeak/(m/s)	224
Motor Constant @25°C	K_m	N/Sqr(W)	111
Resistance (L-L) 25°C ±10% ③	R_{25}	Ω	4.1
Inductance (L-L) ±30% ④	L	mH	20.0
Electrical Time Constant	T_e	ms	4.9
Continuous Current (WC) @100°C ①②	I_{cw}	Arms	23.0
Peak Current	I_{pk}	Arms	90.0
Continuous Power Dissipation (WC) @100°C ①②	P_{cw}	W	4207
Max. Coil Temperature	t_{max}	°C	100
Thermal Dissipation Constant (WC) ①②	K_{thw}	W/°C	56.1
Max. Bus Voltage	U_{bus}	Vdc	600
Magnetic Period	T_{NN}	mm	27
Attraction Force	F_a	kN	26
Mechanical Parameters			
Coil Mass (WC)	m_{cw}	kg	37
Coil Length (WC)	L_{cw}	mm	695
Track Mass Per Meter	m_{track}	kg	26
Other Information			
Insulation Class	Class B (130°C)		
Compliance with Global Standards	RoHS		
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.

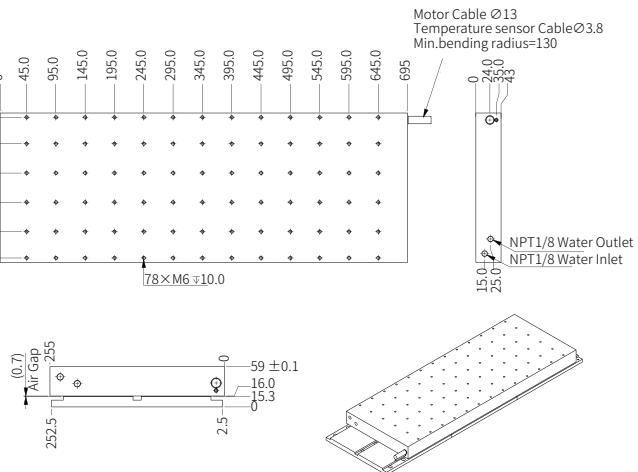
② Resistance is measured by DC current with standard 0.5 m cable.

③ Inductance is measured by current frequency of 1 kHz.

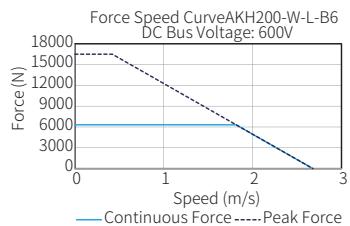
④ Water cooling test conditions: the inlet water temperature of motor is 20°C, and the flow rate is 6 L/min.

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

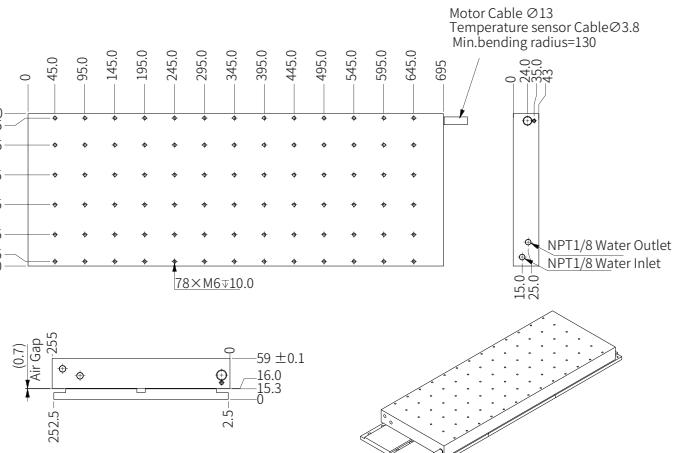
Dimensional Drawing



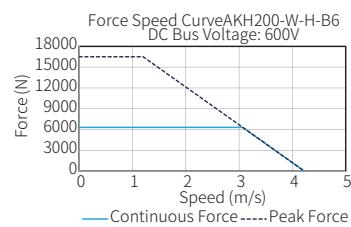
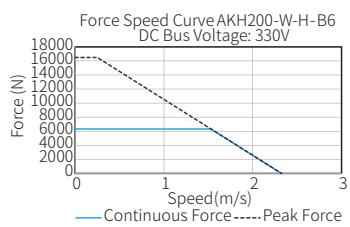
Force Speed Curves



Dimensional Drawing



Force Speed Curves



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

Abbreviations: WC-Water Cooling.

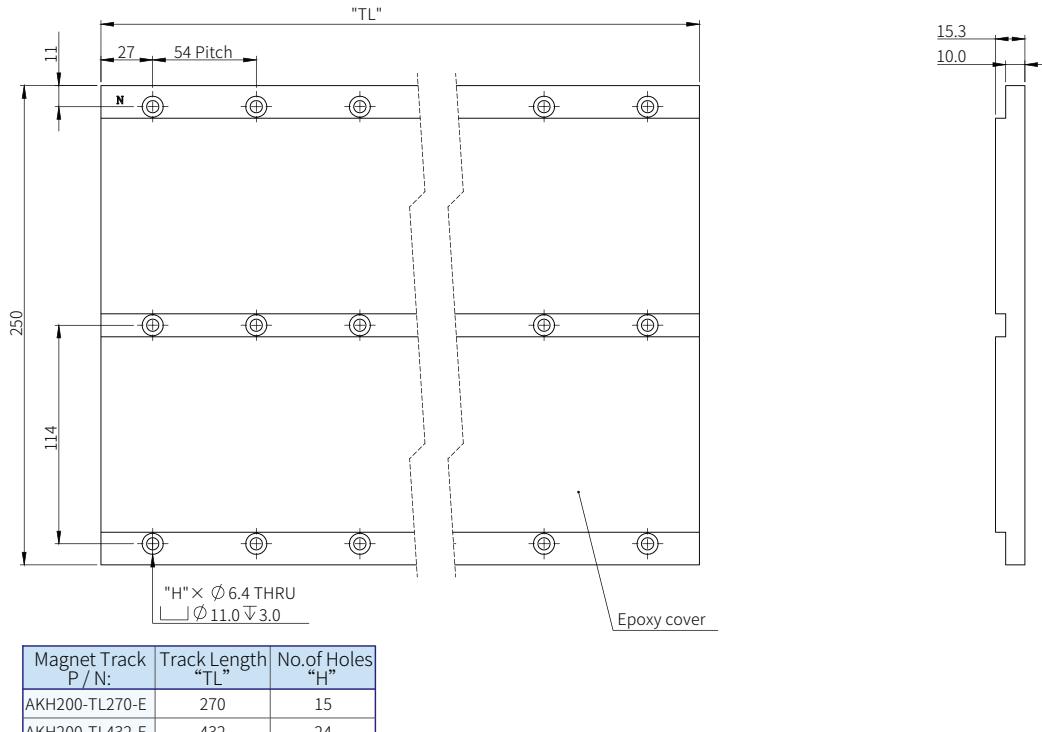
② Resistance is measured by DC current with standard 0.5 m cable.

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 10 L/min.

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

AKH200 Track



Part Numbering

Motor Coil

AKH200-W-L-B2-DE-NF-005-FF-0RB

Motor Model:

AKH200

Design Control Code:

0RB

Cooling Type:

N/W

Power Cable:

FF-XW

Winding Code:

L/H

Cable Length(m):

005

Coil Length:

B2 / B4 / B6

Sensor Cable:

NF

(N=Natural Cooling)

(W=Water Cooling)

(DE=PT1000(RTD) + SNM(PTC))

(NF=Without Built-in Hall Sensor C/W Flying Leads)

(005=0.5m)

(FF=With Ferrite Bead C/W Flying Leads)

(XW=Without Ferrite Bead C/W D-Sub 9W4 Male Connector)

Thermal Sensor:

DE

Motor Track

AKH130-TL270-E

Track Type and Cover:

E

Motor Model:

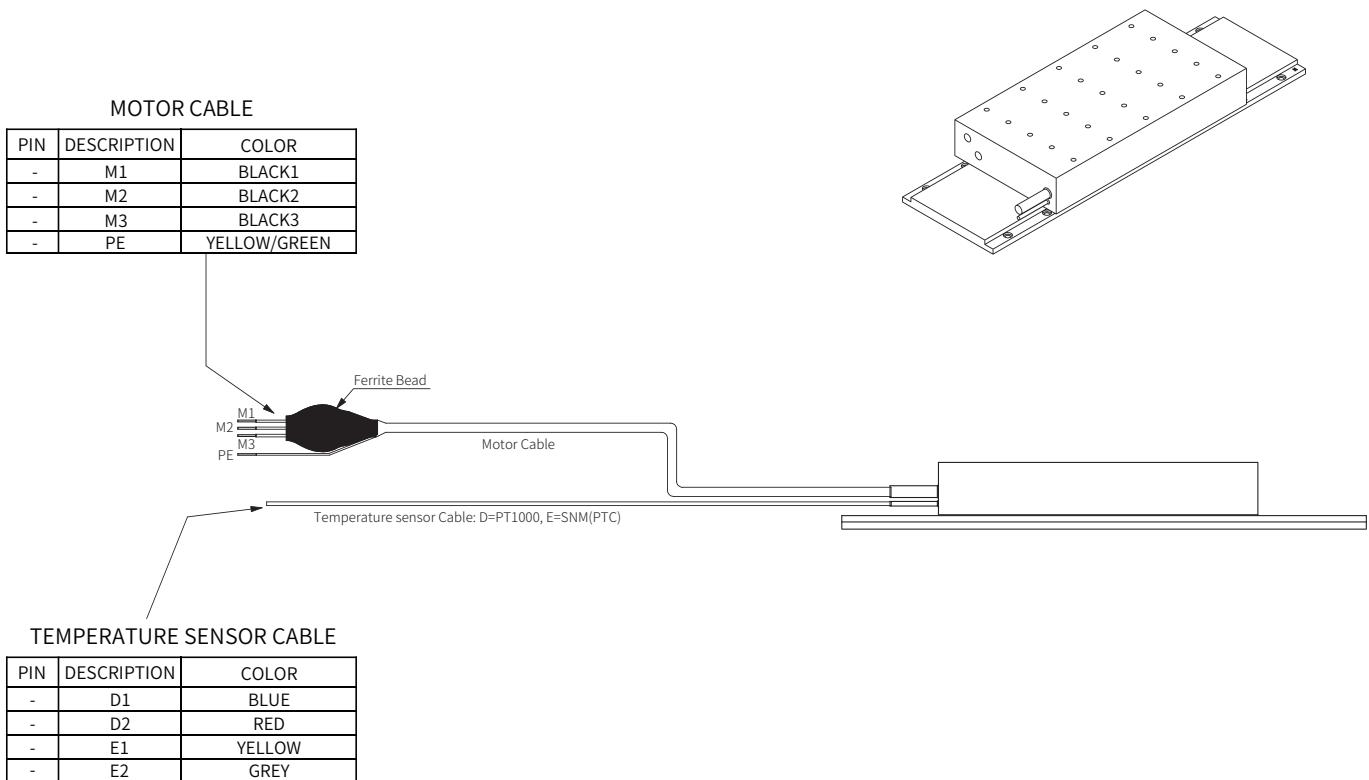
AKH100 / AKH130 / AKH150 / AKH200

Track Length:

TL270 / TL432

E=Epoxy Cover

AKH 100 / 130 / 150 / 200 Series Motor Cable Connection



DD Turntable for CNC

- DD Turntable refers to the rotary table driven by torque motor, the load is directly connected with the motor rotor, and there is no intermediate transmission mechanism.



Comparisons between DD Turntable and Ordinary Turntable

Contrastive contents	Ordinary TurntableC	DD Turntable
Mechanical accuracy	Transmission error, backlash and thermal deformation exist	No transmission error and no backlash and water cooling
Positioning accuracy	Approx. $\pm 15''$	25'' (VDI)
Structural volume	Complex and bulky	Simple and compact
Speed	Low speed and acceleration	High speed and acceleration
Responsiveness	Slow	Fast
Accuracy life	1 to 3 years	More than five years

Akribis 4-axis / 5-axis turntable is driven by Direct Drive motors. These motors can achieve similar speeds and accuracy to traditional methods. The product uses YRT special bearing, which has high axial and radial bearing capacity, and can bear two-way axial load, radial load and overturning moment simultaneously.

The turntable adopts a water-cooled design, which effectively reduces the thermal deformation and increases the torque output and improves the turntable's responsiveness and accuracy.

Save on maintenance cost and have high reliability with zero backlash and minimum wear and tear. It is equipped with a standard Renishaw / Heidenhain feedback system which is widely compatible. Akribis's 4-axis and 5 axis turntable is also used in 5-axis machining centres, tool grinder, compound grinder, worm grinder, vertical grinder, turn-milling compound and other high precision grinding machines.

Why Akribis?

Brand positioning

Akribis focuses on Direct Drive technology, has obtained RoHS, CE, UL, ISO, OHSAS and other certifications. With a global sales network, Akribis is able to provide customers with cost-effective products.

Superior quality

Akribis products are designed and produced in strict accordance with the quality management system, and a sound service system ensures that customers will be able to achieve better product performance.

Customization

Akribis products are customizable according to meet customer requirements for their machine tool size, accuracy and use environment.

Dual Axis CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS



Features

- Applicable to 5-axis machining
- Direct drive technology, compact design
- Fast dynamic response, wear-free, zero backlash
- High torque density, high acceleration
- High speed for continuous processing
- Hydraulic clamping system for 3+2 machining
- High precision encoder compatible with various CNC systems

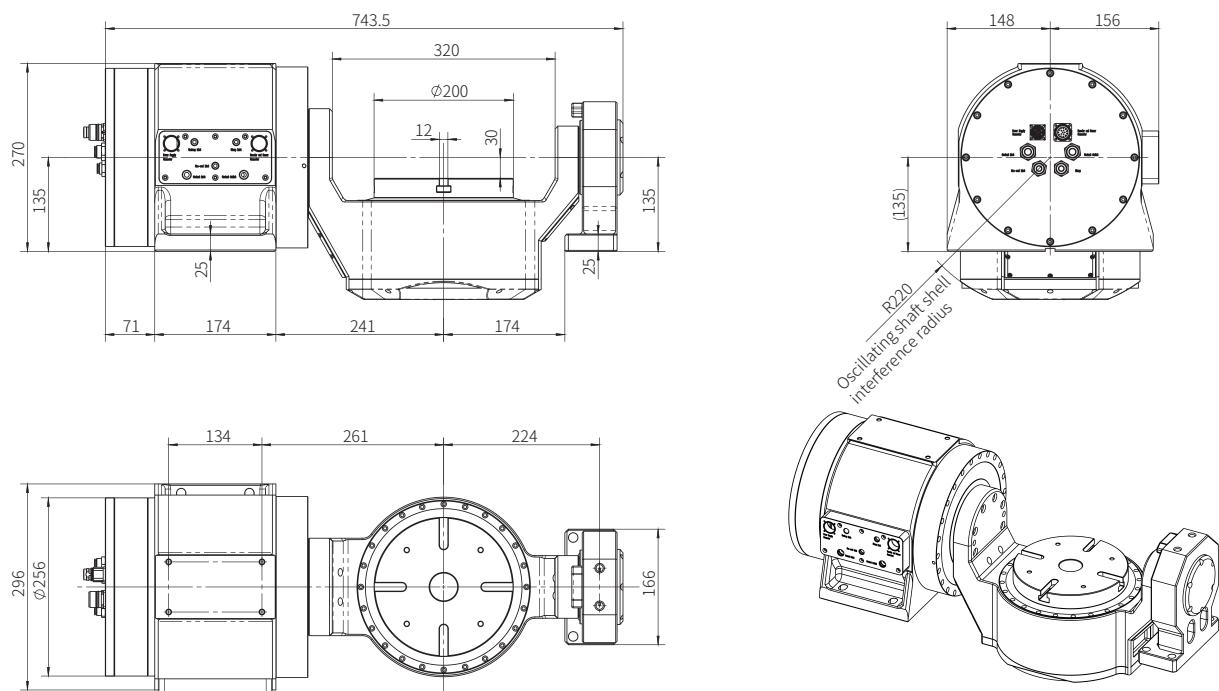


ATRT200

Specifications	Unit	Rotation Axis / C Axis	Swivel Axis / A Axis
Diameter	mm	200 ^①	/
Center Height of Swing Shaft	mm	/	135
Horizontal Height of Worktable	mm	105	/
Max. Swivel Angle	deg	N*360	±110
Continuous Torque	Nm	45	170
Peak Torque	Nm	127	462
Max. Speed	rpm	200	120
Cooling Mode	/	Water cooling	Water cooling
Clamping Mode	/	Pneumatic	Pneumatic
Clamping Torque	Nm	180 (6bar)	420 (6bar)
Accuracy	arcsec	10 (VDI)	10 (VDI)
Repeatability	arcsec	5 (VDI)	5 (VDI)
Max. Payload	kg	80	
Net Weight	kg	160	

① Table top is available in 260mm/280mm size

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings

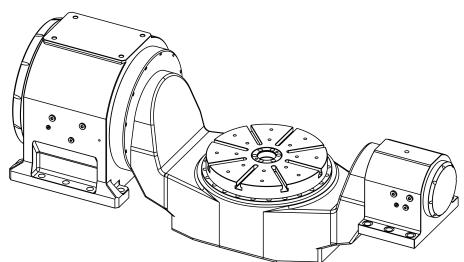
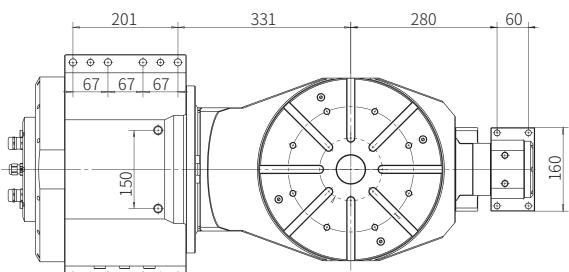
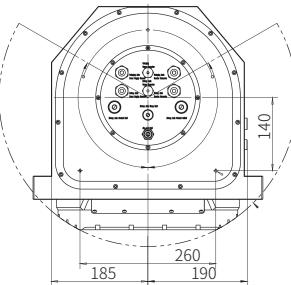
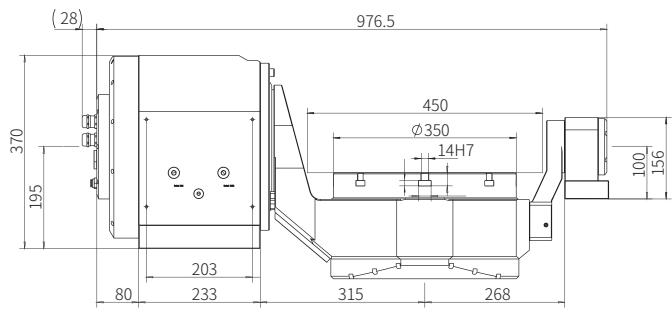
Dual Axis CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS

ATRT350S

Specifications	Unit	Rotation Axis / C Axis	Swivel Axis / A Axis
Diameter	mm	350	/
Center Height of Swing Shaft	mm	/	195
Horizontal Height of Worktable	mm	200	/
Max. Swivel Angle	deg	N*360	±120
Continuous Torque	Nm	180	460
Peak Torque	Nm	1300	3000
Max. Speed	rpm	100	60
Cooling Mode	/	Water cooling	Water cooling
Clamping Mode	/	Hydraulic	Hydraulic
Clamping Torque	Nm	700 (60bar)	1250 (60bar)
Accuracy	arcsec	10 (VDI)	10 (VDI)
Repeatability	arcsec	5 (VDI)	5 (VDI)
Max. Payload	kg	300	
Net Weight	kg	350	

Dimensional Drawing

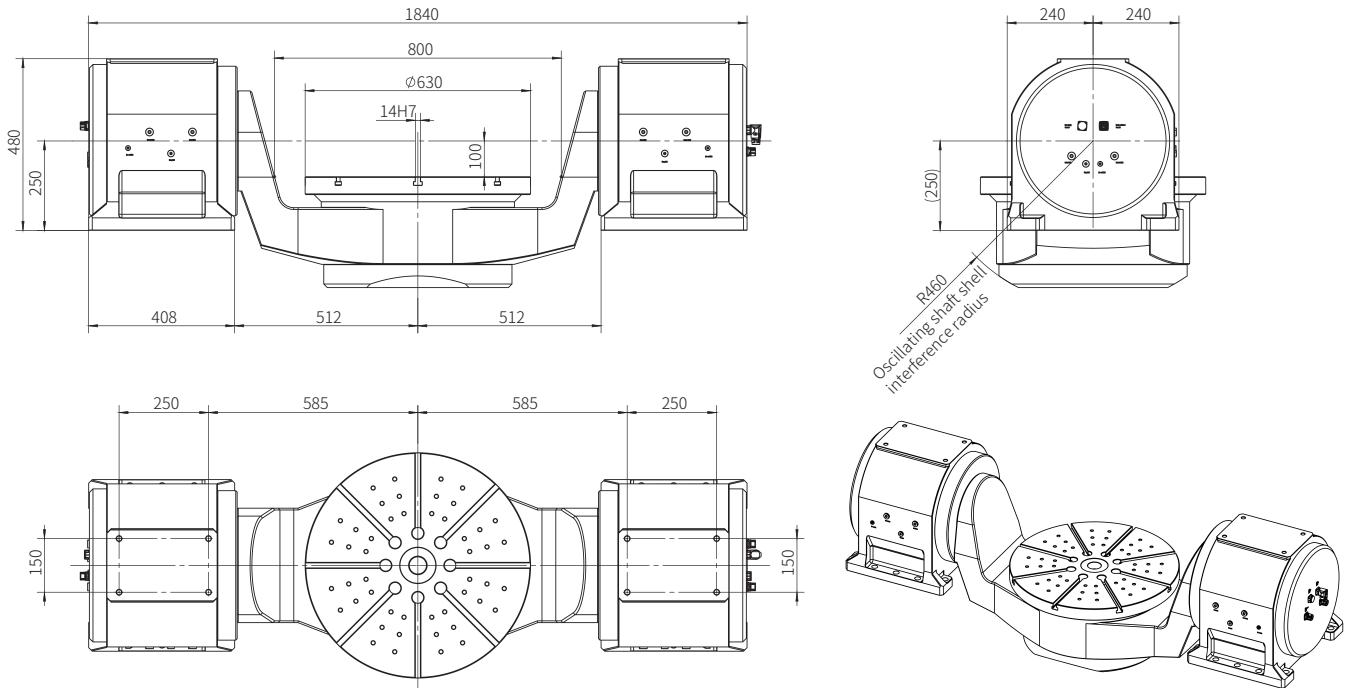


Note: Specific dimensions are subject to actual drawings

ATRT630

Specifications	Unit	Rotation Axis / C Axis	Swivel Axis / A Axis
Diameter	mm	630	/
Center Height of Swing Shaft	mm	/	250
Horizontal Height of Worktable	mm	150	/
Max. Swivel Angle	deg	N*360	±110
Continuous Torque	Nm	920	2000
Peak Torque	Nm	1440	4000
Max. Speed	rpm	100	60
Cooling Mode	/	Water cooling	Water cooling
Clamping Mode	/	Hydraulic	Hydraulic
Clamping Torque	Nm	2000 (60bar)	5000 (60bar)
Accuracy	arcsec	10 (VDI)	10 (VDI)
Repeatability	arcsec	5 (VDI)	5 (VDI)
Max. Payload	kg	600	
Net Weight	kg	1450	

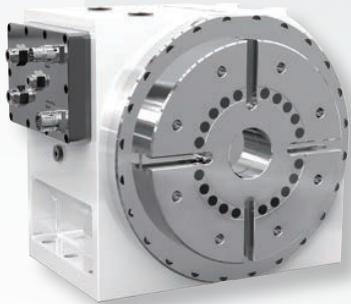
Dimensional Drawing



Note: Specific dimensions are subject to actual drawings

Single Axis Horizontal CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS



Features

- Direct drive technology, compact design
- Fast dynamic response, wear-free, zero backlash
- High torque density, high acceleration
- High precision encoder compatible with various CNC systems
- Applicable to workpiece rotation shaft of various special machine tools such as grinding, milling and turning

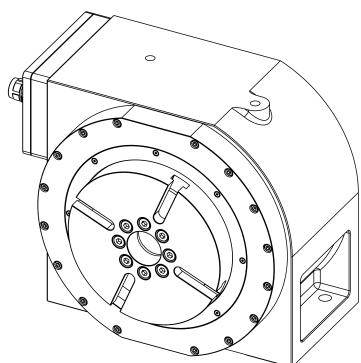
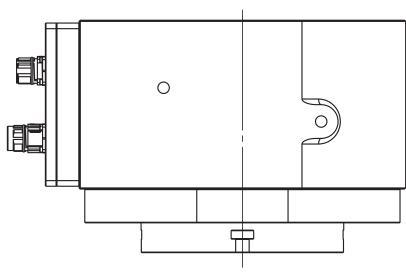
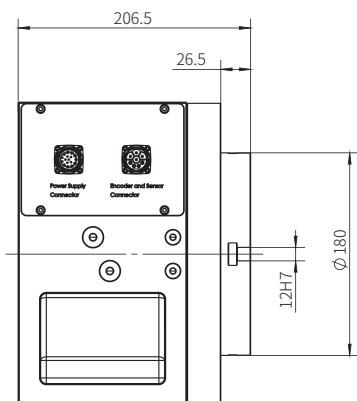
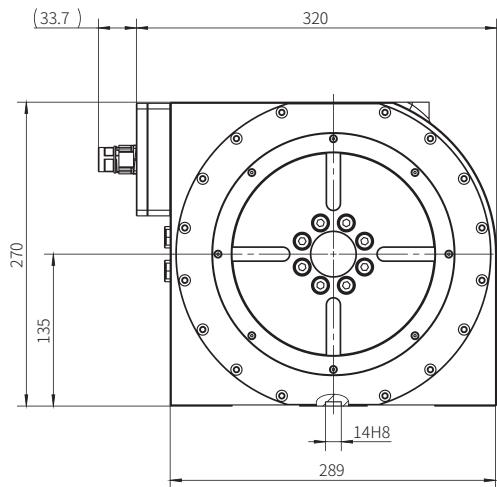
Single Axis Horizontal CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS

ARH170

Specifications	Unit	ARH170
Diameter	mm	180
Center Height	mm	135
T-slot Size	mm	12H7
Center Hole Diameter	mm	40H7
Continuous Torque	Nm	60
Peak Torque	Nm	129
Max. Speed	rpm	150
Clamping Mechanism	/	Pneumatic
Clamping Torque	Nm	50 (self locking) / 280 (6bar)
Accuracy	arcsec	12 (VDI)
Repeatability	arcsec	6 (VDI)
Cooling Mode	/	Water cooling
Max. Payload	kg	50
Net Weight	kg	75

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings

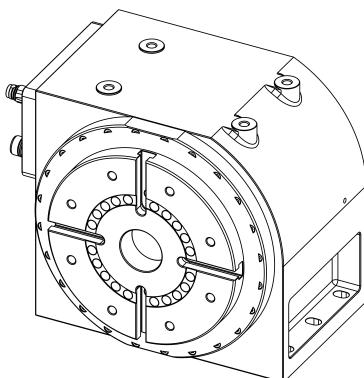
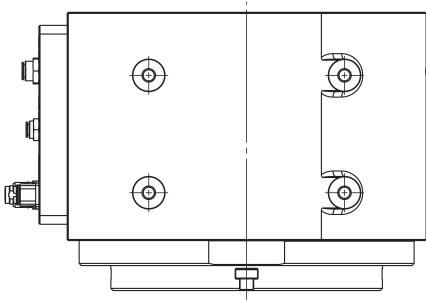
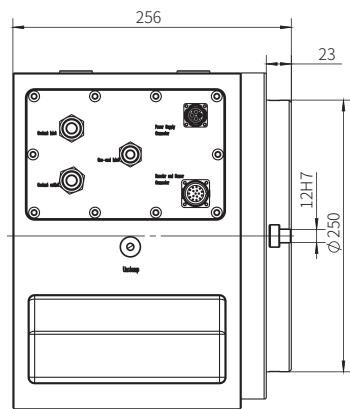
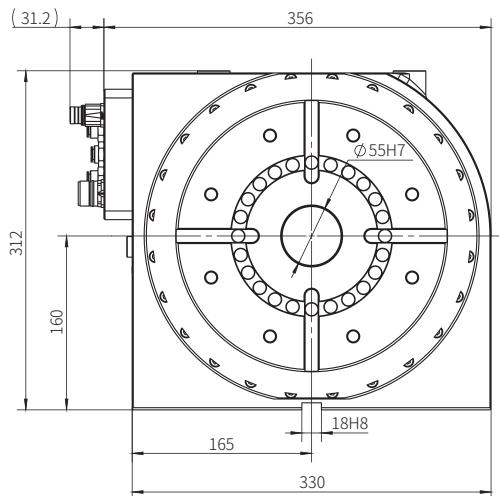
Single Axis Horizontal CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS

ARH250

Specifications	Unit	ARH250
Diameter	mm	250
Center Height	mm	160
T-slot Size	mm	12H7
Center Hole Diameter	mm	55H7
Continuous Torque	Nm	170
Peak Torque	Nm	450
Max. Speed	rpm	100
Clamping Mechanism	/	Natural hold (hydraulic 60bar release)
Clamping Torque	Nm	600
Accuracy	arcsec	12 (VDI)
Repeatability	arcsec	6 (VDI)
Cooling Mode	/	Water cooling
Max. Payload	kg	120
Net Weight	kg	115

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings.

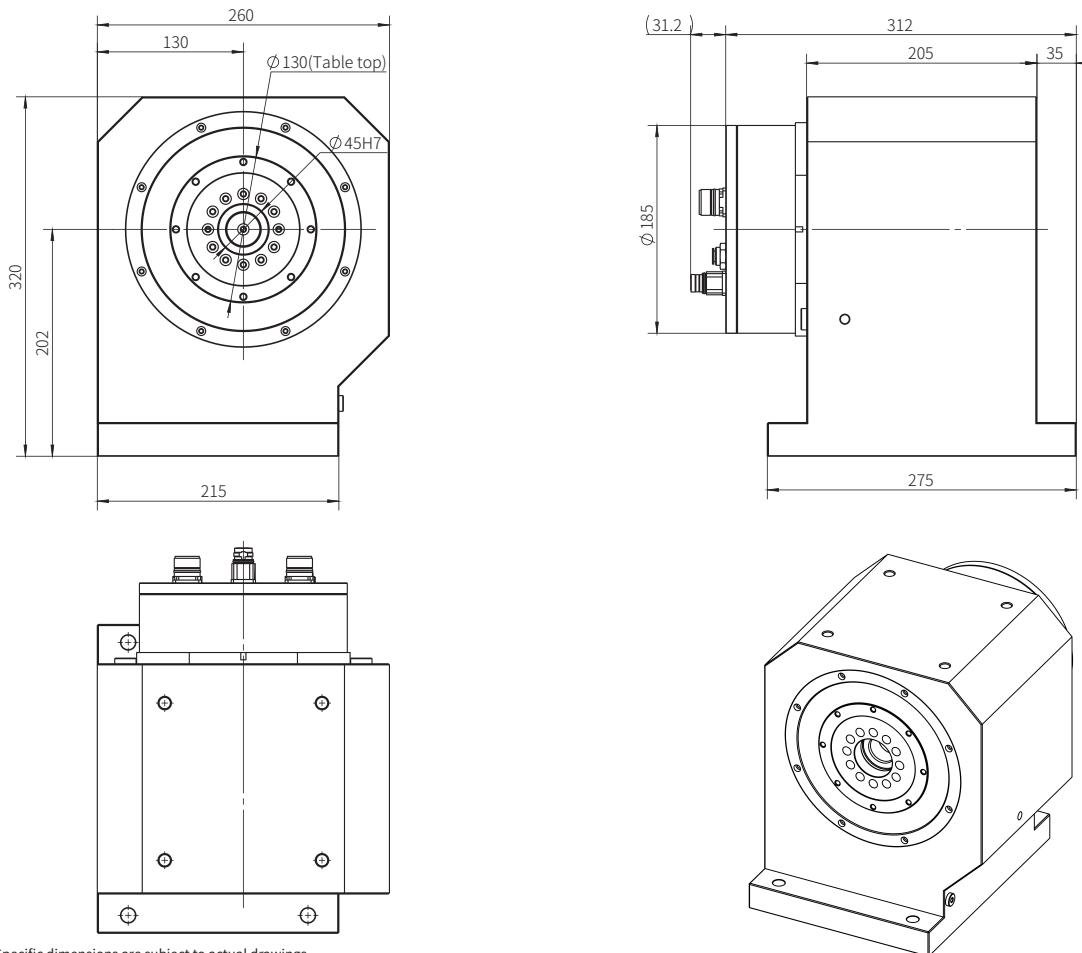
Single Axis Horizontal CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS

VRT100

Specifications	Unit	VRT100
Diameter	mm	130
Table Runout	mm	0.003~0.005
Center Height	mm	202
T-slot Size	mm	/
Center Hole Diameter	mm	45H7
Center Hole Runout	mm	0.003
Continuous Torque	Nm	90 (6L/min)
Peak Torque	Nm	270
Max. Speed	rpm	150
Clamping Mechanism	/	/
Clamping Torque	Nm	/
Accuracy	arcsec	12 (VDI)
Repeatability	arcsec	6 (VDI)
Cooling Mode	/	Water cooling
Max. Payload	kg	50
Net Weight	kg	115

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings.

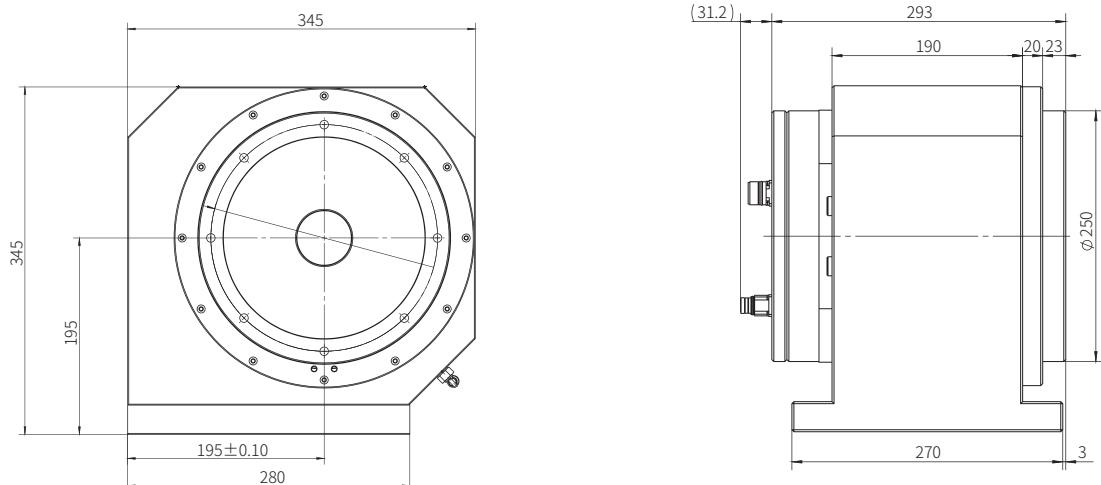
Single Axis Horizontal CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS

VRT250

Specifications	Unit	ARH-VRT250
Diameter	mm	250
Table Runout	mm	0.003~0.005
Center Height	mm	195
T-slot Size	mm	/
Center Hole Diameter	mm	55H7
Center Hole Runout	mm	0.003
Continuous Torque	Nm	150 (8L/min)
Peak Torque	Nm	450
Max. Speed	rpm	120
Clamping Mechanism	/	/
Clamping Torque	Nm	/
Accuracy	arcsec	10 (VDI)
Repeatability	arcsec	4 (VDI)
Cooling Mode	/	Water cooling
Max. Payload	kg	100
Net Weight	kg	170

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings

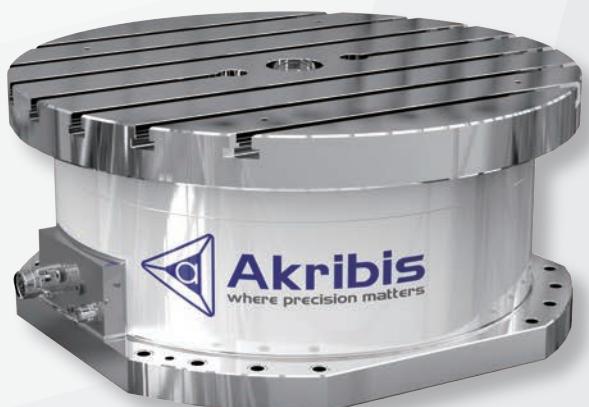
Single Axis Vertical CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS



Features

- Direct drive technology, compact design
- Fast dynamic response, wear-free, zero backlash
- High torque density, high acceleration
- High speed for continuous processing
- Pneumatic & hydraulic clamping system for positioning and processing at any angle
- High precision encoder compatible with various CNC systems
- Applicable to vertical turning, vertical grinding, turning milling compound, universal grinder, etc



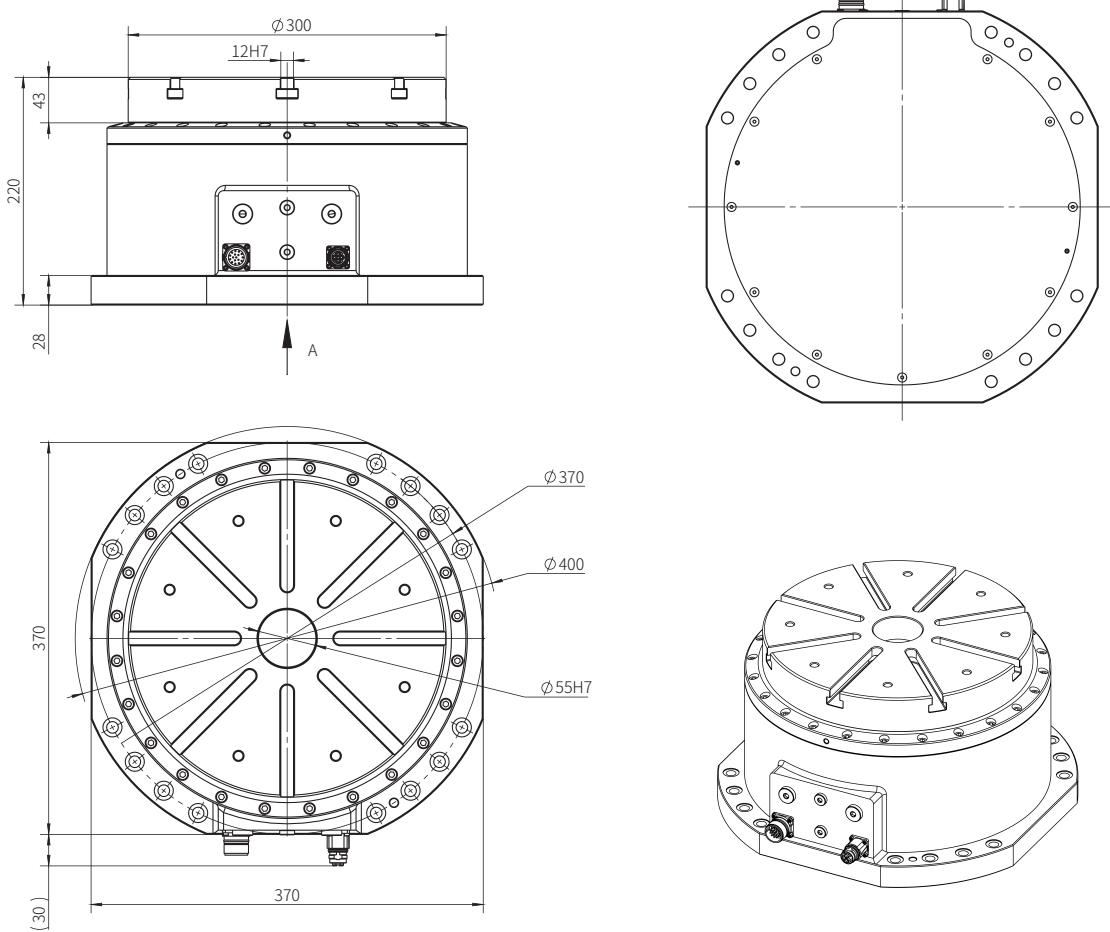
Single Axis Vertical CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS

ARV300

Specifications	Unit	ARV300
Diameter	mm	300
Height	mm	220
T-slot Size	mm	12H7
Center Hole Diameter	mm	55H7
Continuous Torque	Nm	180
Peak Torque	Nm	483
Max. Speed	rpm	110
Clamping Mechanism	/	Hydraulic
Clamping Torque	Nm	650 (60bar)
Accuracy	arcsec	12 (VDI)
Repeatability	arcsec	6 (VDI)
Cooling Mode	/	Water cooling
Max. Payload	kg	240
Net Weight	kg	105

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings

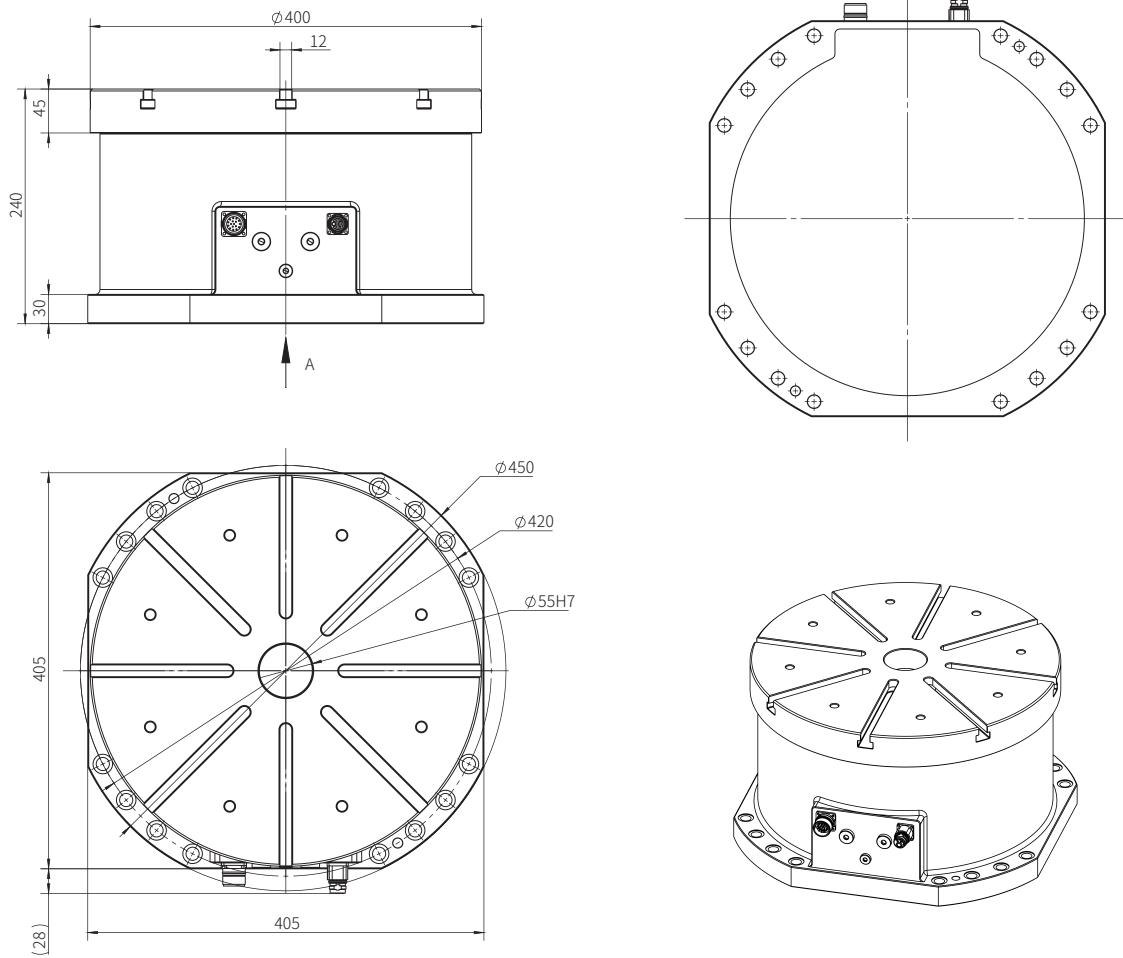
Single Axis Vertical CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS

ARV400

Specifications	Unit	ARV400
Diameter	mm	400
Height	mm	240
T-slot Size	mm	12H7
Center Hole Diameter	mm	55H7
Continuous Torque	Nm	300 (10L/min)
Peak Torque	Nm	750
Max. Speed	rpm	100
Clamping Mechanism	/	Hydraulic
Clamping Torque	Nm	1000 (60bar)
Accuracy	arcsec	12 (VDI)
Repeatability	arcsec	6 (VDI)
Cooling Mode	/	Water cooling
Max. Payload	kg	400
Net Weight	kg	180

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings

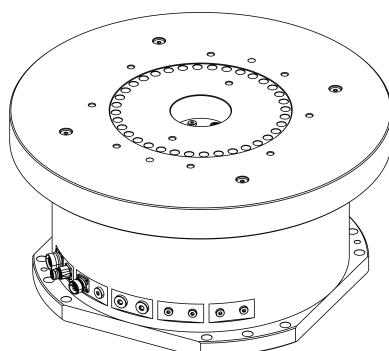
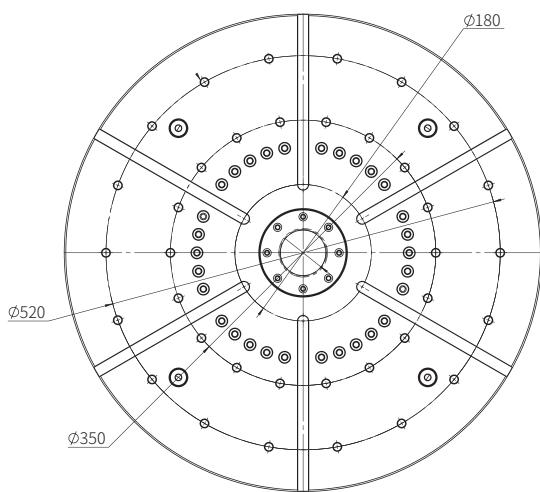
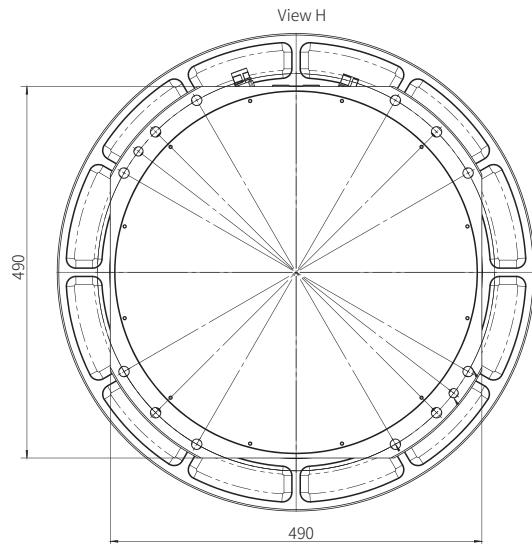
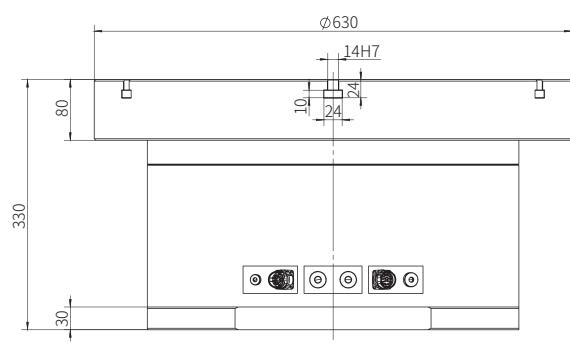
Single Axis Vertical CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS

ARV630

Specifications	Unit	ARV630
Diameter	mm	630
Height	mm	330
T-slot Size	mm	14H7
Center Hole Diameter	mm	60H7
Continuous Torque	Nm	440 (10L/min)
Peak Torque	Nm	1200
Max. Speed	rpm	70
Clamping Mechanism	/	Hydraulic
Clamping Torque	Nm	2000 (60bar)
Accuracy	arcsec	12 (VDI)
Repeatability	arcsec	6 (VDI)
Cooling Mode	/	Water cooling
Max. Payload	kg	800
Net Weight	kg	370

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings

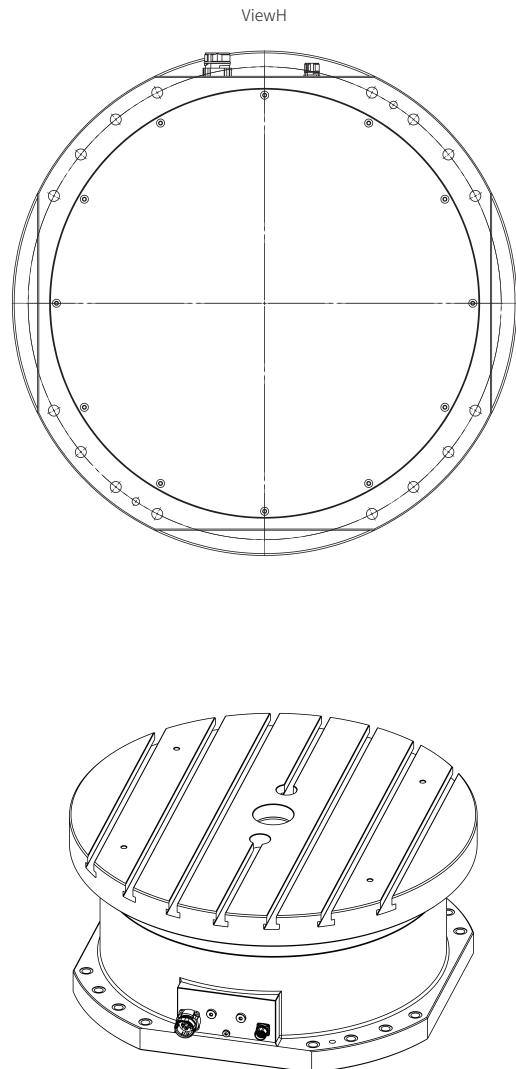
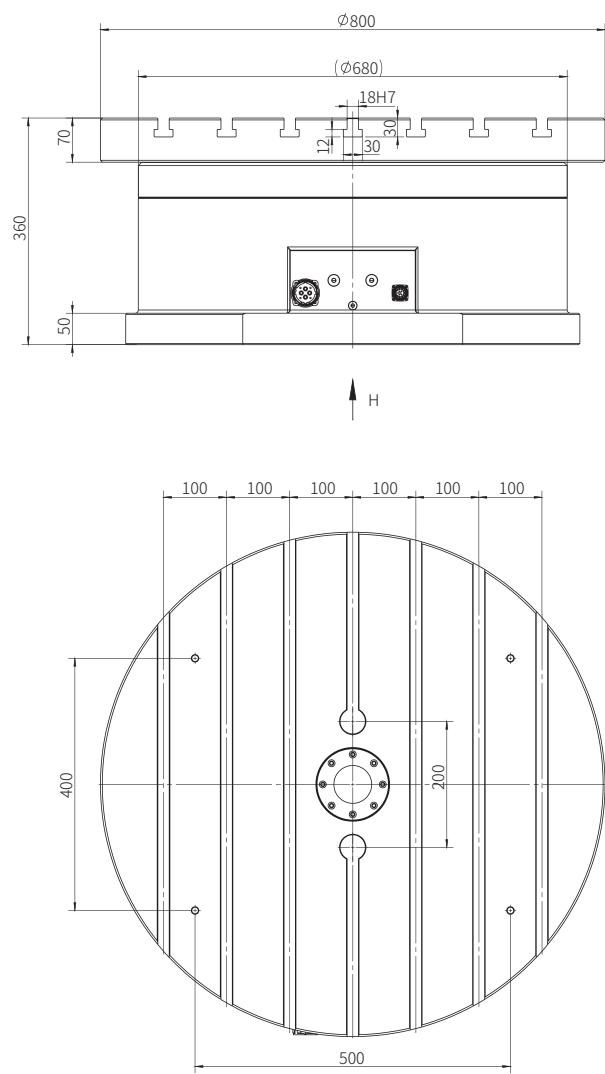
Single Axis Vertical CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS

ARV800

Specifications	Unit	ARV800
Diameter	mm	800
Height	mm	360
T-slot Size	mm	18H7
Center Hole Diameter	mm	80H7
Continuous Torque	Nm	1000 (10L/min)
Peak Torque	Nm	2700
Max. Speed	rpm	65
Clamping Mechanism	/	Hydraulic
Clamping Torque	Nm	3300 (60bar)
Accuracy	arcsec	12 (VDI)
Repeatability	arcsec	6 (VDI)
Cooling Mode	/	Water cooling
Max. Payload	kg	1200
Net Weight	kg	750

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings

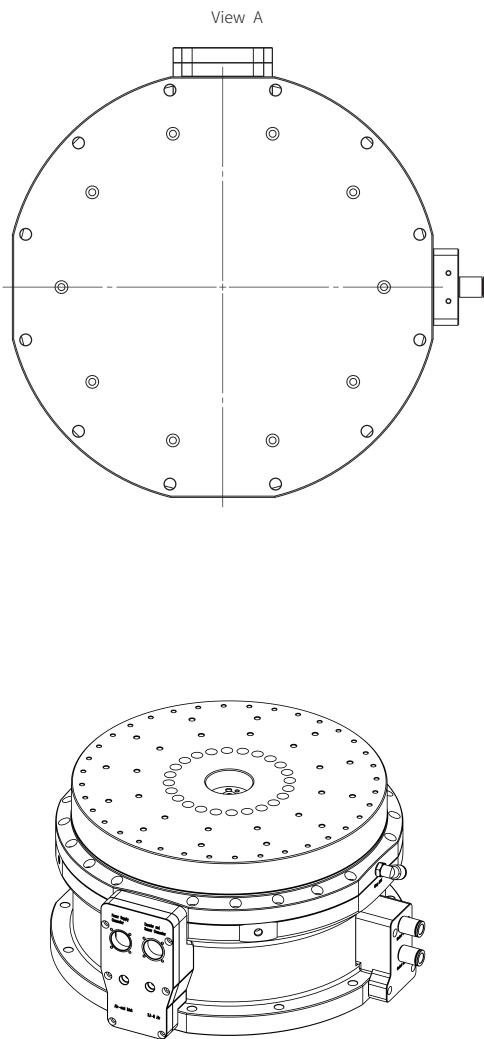
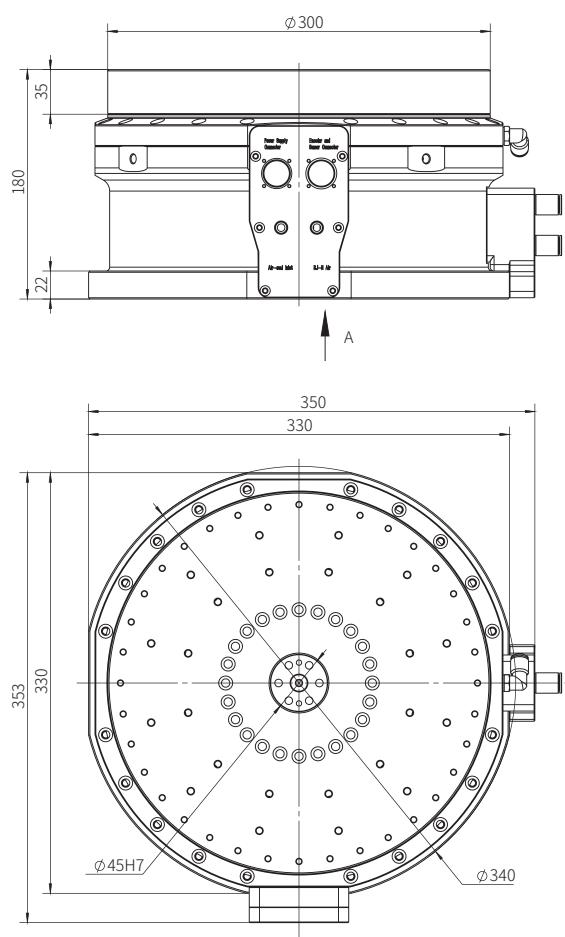
Single Axis Vertical CNC Turntable

Akribis Systems
WHERE PRECISION MATTERS

ARV300-HS

Specifications	Unit	ARV300-HS
Diameter	mm	300
Height	mm	180
T-slot Size	mm	/
Center Hole Diameter	mm	45H7
Continuous Torque	Nm	31 (5L/min)
Peak Torque	Nm	117
Max. Speed	rpm	2000
Clamping Mechanism	/	Pneumatic
Clamping Torque	Nm	200 (6bar)
Accuracy	arcsec	10 (VDI)
Repeatability	arcsec	6 (VDI)
Cooling Mode	/	Water cooling
Max. Payload	kg	20
Net Weight	kg	95

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings

Turntable for Tool Grinding Machinery

Akribis Systems
WHERE PRECISION MATTERS



Features

- Direct drive technology, compact design
- Fast dynamic response, wear-free, zero backlash
- High torque density, high acceleration
- High precision encoder compatible with various CNC systems

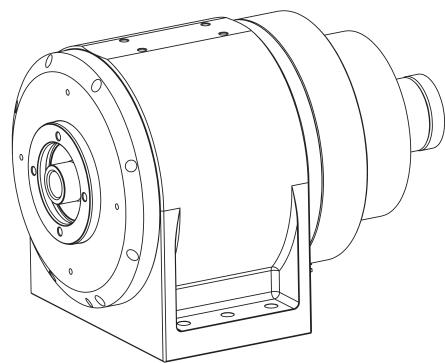
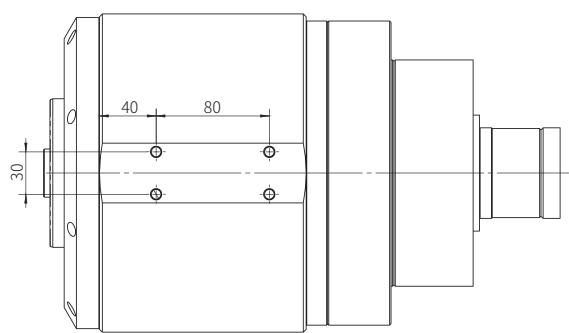
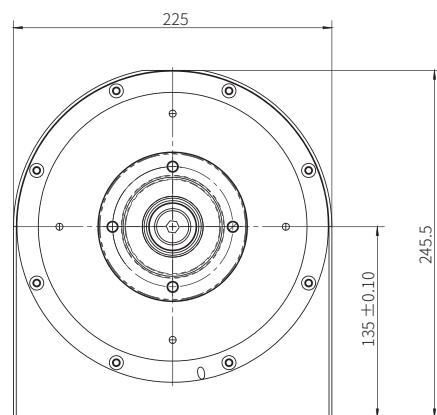
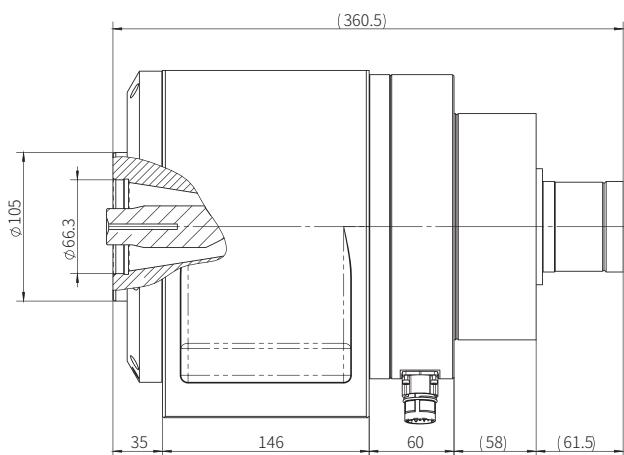
Turntable for Tool Grinding Machinery

Akribis Systems
WHERE PRECISION MATTERS

VRT7050

Specifications	Unit	VRT7050
Table Runout	mm	0.005
Center Height	mm	135
Center Hole Runout	mm	0.005
Continuous Torque	Nm	55
Max. Speed	rpm	200
Clamping Mode	/	/
Accuracy	arcsec	12 (VDI)
Repeatability	arcsec	6 (VDI)
Cooling Mode	/	water-cooling
Max. Payload	kg	50
Net Weight	kg	63
Interface Size	arcsec	BT50, Schaublin W25

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings

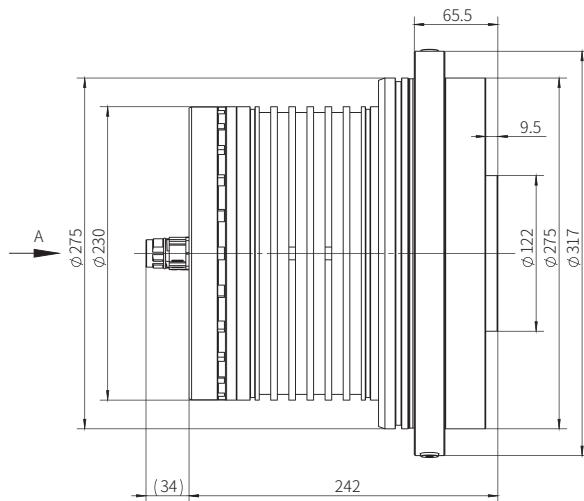
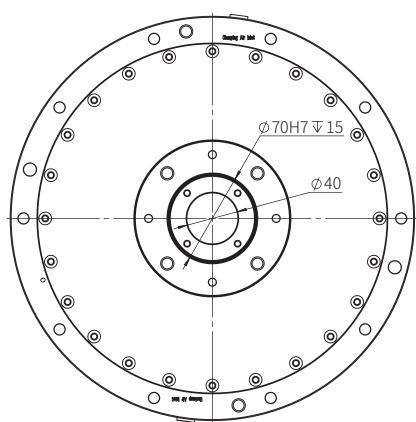
Turntable for Tool Grinding Machinery

Akribis Systems
WHERE PRECISION MATTERS

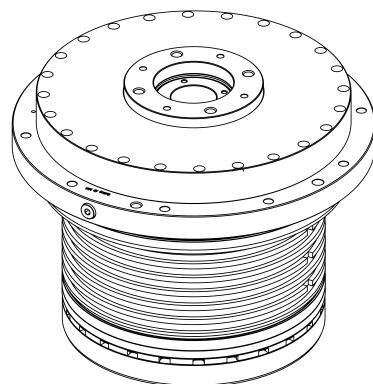
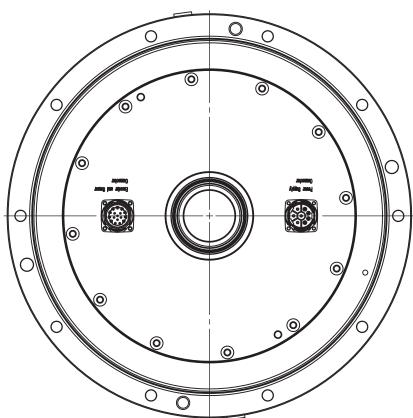
ARV100F

Specifications	Unit	ARV100F
Diameter	mm	122
Table Runout	mm	0.010
Height	mm	65.5
T-slot Size	mm	/
Center Hole Diameter	mm	70H7
Center Hole Runout	mm	0.010
Continuous Torque	Nm	170
Peak Torque	Nm	460
Max. Speed	rpm	120
Clamping Mechanism	/	Pneumatic
Clamping Torque	Nm	450 (6bar)
Accuracy	arcsec	10 (VDI)
Repeatability	arcsec	5 (VDI)
Cooling Mode	/	Water cooling
Max. Payload	kg	100
Net Weight	kg	60

Dimensional Drawing



View A



Note: Specific dimensions are subject to actual drawings

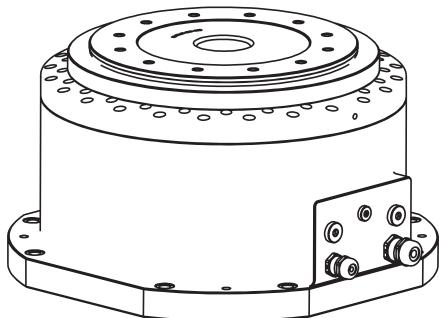
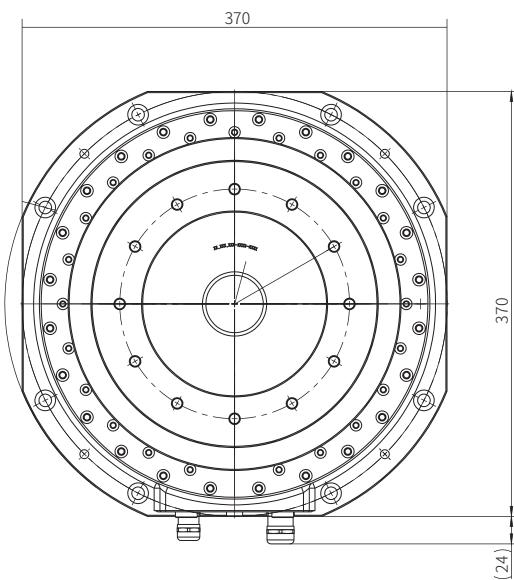
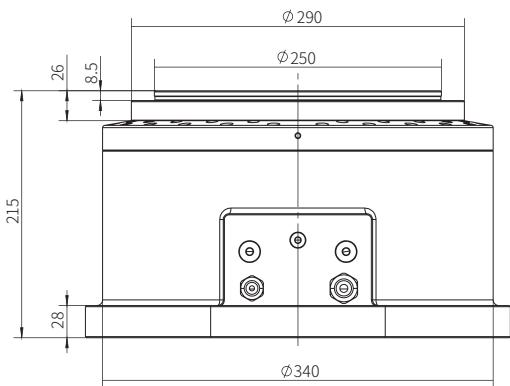
Turntable for Tool Grinding Machinery

Akribis Systems
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ARV250

Specifications	Unit	ARV250
Diameter	mm	250
Height	mm	215
Center Hole Diameter	mm	Ø50
Continuous Torque	Nm	277
Rated Voltage	V	220/380
Max. Speed	rpm	80/110
Clamping Mechanism	/	/
Accuracy	arcsec	10 (VDI)
Repeatability	arcsec	5 (VDI)
Cooling Mode	/	Water cooling
Max. Payload	kg	240
Net Weight	kg	85

Dimensional Drawing



Note: Specific dimensions are subject to actual drawings

Akribis-FAGOR Linear Motor CNC System

FAGOR automation offers an integral solution to high performance machining centers and production lathes because of our large selection of features. Our CNC systems meet the most demanding requirements. The range of CNC's goes from conversational programming CNCs for short production series that require quickness to high-speed CNCs with nanometric accuracy for machines of high technological value or CNC systems for specific applications such as Laser cutting, etc.

Features of FAGOR CNC System

- Easy programming. There is no need to know ISO programming language.
- Algorithm that provides the better performance, speed and accuracy in the machining process.
- Ergonomic and functional design (touch-screen, easy navigation, integrated manuals, sms communication, high-resolution graphics, keyboards and monitors with the highest level of sealing protection, etc.).
- Interface customizing tools.
- Free software download with no time limit to work at any PC.
- Axis position control (position loop) every 250 µs.
- Technological features like Look-Ahead. The CNC analyzes in advance the changes in the movements of the axes providing high speed machining. Our CNCs analyze 2,400 blocks in advance and block processing time is 0.25 ms.



FAGOR automation is an equipment manufacturer with over 30 years' experience in the development and manufacturing of products in aerospace, automobile, entertainment, green energy and other industries. For many years, FAGOR has been developing fixing devices and other components in high-demanding industries such as aerospace, automobile, and navy.

Linear encoders for FAGOR G2A and S2A Series

CNC Machine Tool and Other High-Accuracy Applications

The FAGOR G2A series are linear absolute encoders that comes with a small reader head, air take and connectors on both ends. There is a threaded head for different mounting options available and nut-free experience. In the latest update, we have added improvements to the performance in operating speed and vibration resistance. The design of securing points of the linear encoder (TDMS™) ensures consistency for both accuracy and repeatability.

Specifications

G2A	
Measuring system	Incremental: By means of a 20 µm-pitch graduated glass tape Absolute: Optical reading of sequential binary code
Glass thermal expansion coefficient	αtherm: 8 ppm/K approx.
Resolution	0.1 µm
Output signals	~1 Vpp
Pitch of incremental signal	20 µm
Limit frequency	< 100 kHz for 1 Vpp
Max cable length	75m
Supply voltage	5 V ± 10 , 250 mA (no-load)
Max bus voltage	Vdc
Accuracy	± 5 µm/m ± 3 µm/m
Max speed	180m/min
Max Vibration	200 m/s ² (55Hz to 2,000 Hz) IEC 60068-2-6
Max shock	300 m/s ² (11 ms) IEC 60068-2-27
Max acceleration	100 m/s ² in measuring direction
Moving force	< 5 N
Operating temperature	0 °C to 50 °C
Storage temperature	-20 °C to 70 °C
Weight	0.25 kg + 2.25 kg/m
Relative humidity	20% to 80%
Protection	IP 53 (Standard) IP 64 (DIN 40050) using pressurized air at 0.8 ± 0.2 bar in linear encoders
Reader head	With built-in connector Connection at both ends of the reader head



Measuring lengths in millimeters:

140 · 240 · 340 · 440 · 540 · 640 · 740 · 840 · 940 · 1040 ·

1140 · 1240 · 1340 · 1440 · 1540 · 1640 · 1740 · 1840 ·

2040 · 2240 · 2640 · 2840 · 3040

*Model description:

G2A:

Absolute linear encoders with SSI protocol for FAGOR and others.

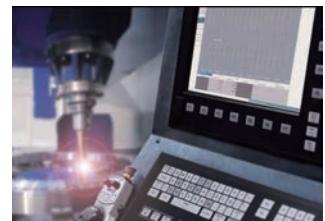
Akribis-FAGOR Solutions

Akribis-FAGOR linear motor CNC solution is developed by joint effort from Akribis Systems and FAGOR Automation. It is specially designed for linear motor-based metal machining CNC tools, offering OEMS with fully integrated solution. Key “members” in our CNC system:

- FAGOR 8060/8065/8070 CNC systems;
- FAGOR G2A/S2A series absolute enclosed encoders ;
- Akribis AKMF series ironcore high-thrust linear motors;

Our solution incorporates FAGOR Automation’s 40 years of experience in CNC system development and applications. Top class FAGOR CNC encoder system coupled with Akribis unique linear motor design can supply machine tool manufactureres with flexible linear motor based CNC machining center solutions.

CNC System Applications

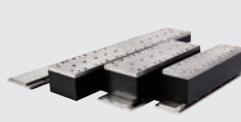


Standard Motors

AUM series



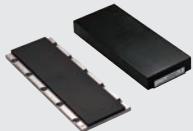
ACM series



AWM series



AJM series



AKM series



AQM series



AKH series



ACR series



AVM series



AVA series



ADR-A series



ADR-B series



ADR-P series



ADR-F series



ADR-T series



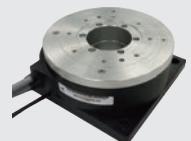
ACD series



ACW series



AXD series



ACM series

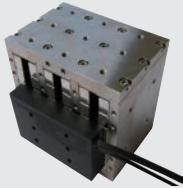


Direct Drive Products

Akribis Systems
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Special Motors

AHM series



ALM series



ACM-D series



ATA series



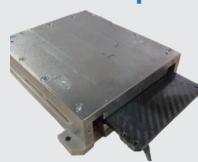
ADR-H series



AKD-T series



Motor with carbon fibre coil plate



Water cooled moving magnet linear motor

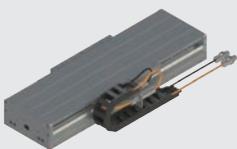


Standard Stages

DGL series



DGH-S series



DGC series



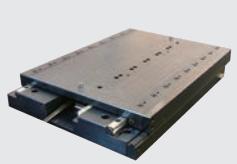
SGL series



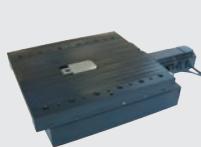
VPL series



XRL series



XRB250 series



VRG series



XMGV series



XRV series



DGV series



TGV series



APK series



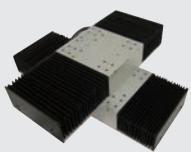
DGL XY series



DGL XY series



DGL XY series

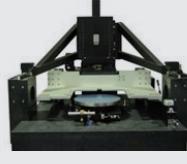


Precision Stages for Industries

5-axis XYZT for 3D measurement



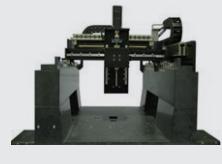
XYZ stage for wafer microscope



XYZ stage for mobile phone parts assembly



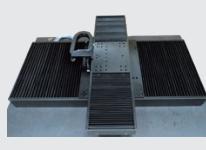
XYZ stage for epoxy dispensing



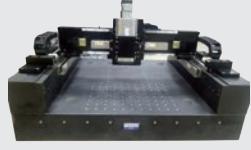
XYZ stage for optical system assembly



XYZ stage for laser application



H-drive gantry stage



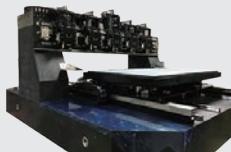
Hollow XY stage for wafer detection



XYZ stage for wafer detection



14-axis FPD stage for G6 laser packing



6-axis mini stage with a Roll-pitch-z module



XYZ stage for fiber optic alignment



TGB stage for epoxy dispensing



H-drive gantry stage for assembly and testing



XYT stage for glass laser cutting



XYZ stage for PCB exposure



XYZ stage for wafer testing



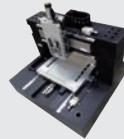
H-drive gantry stage for testing and laser application

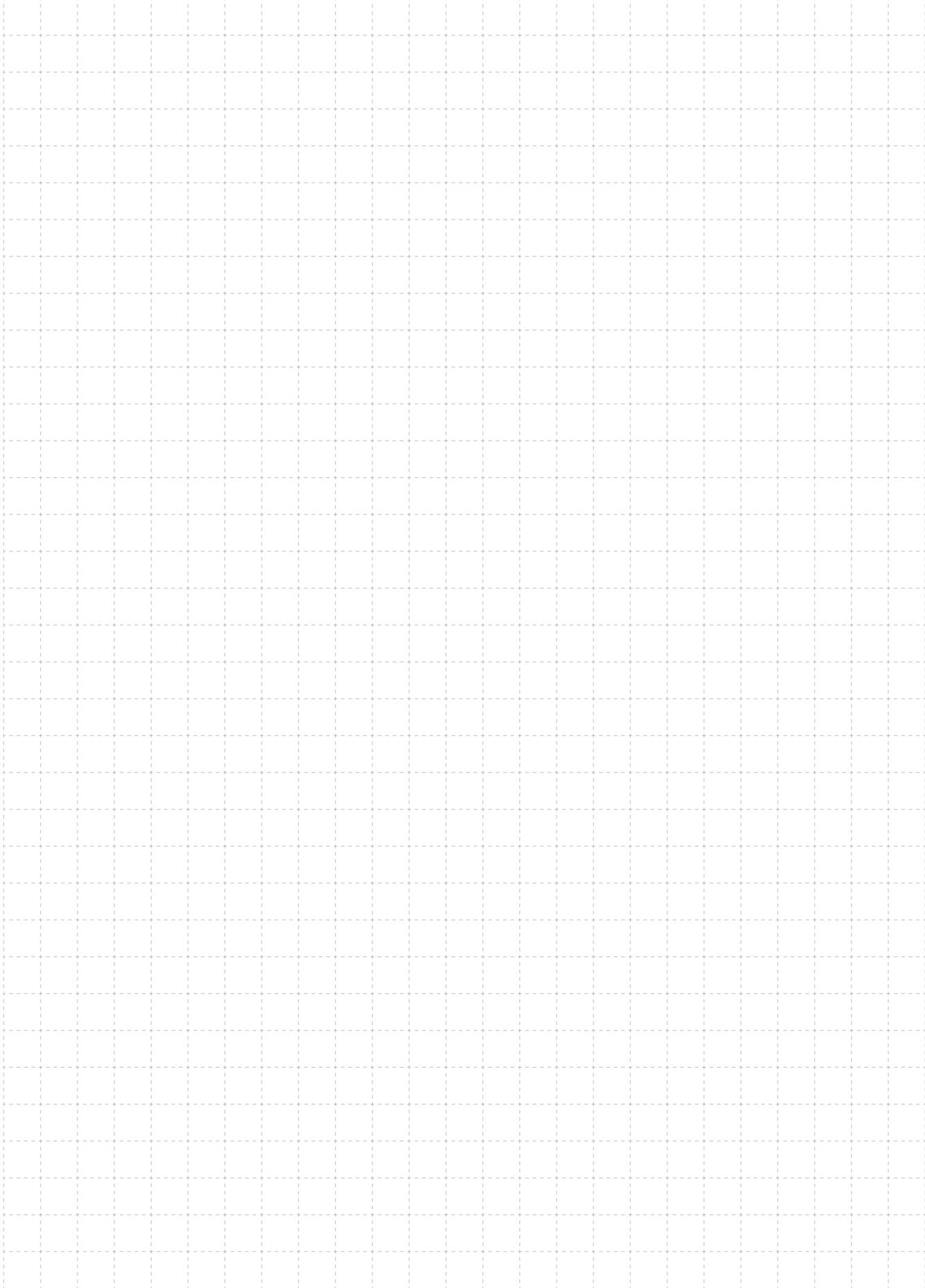


LX1030Z gantry machining center



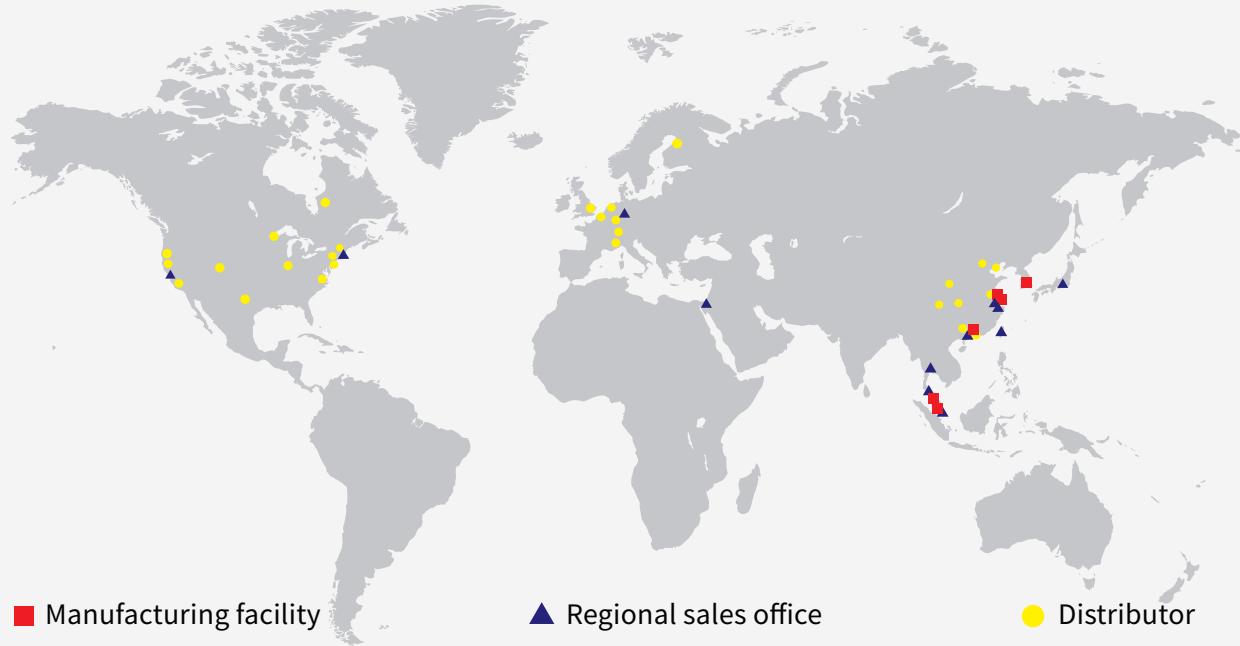
XYZ stage for laser marking and precision parts assembly





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