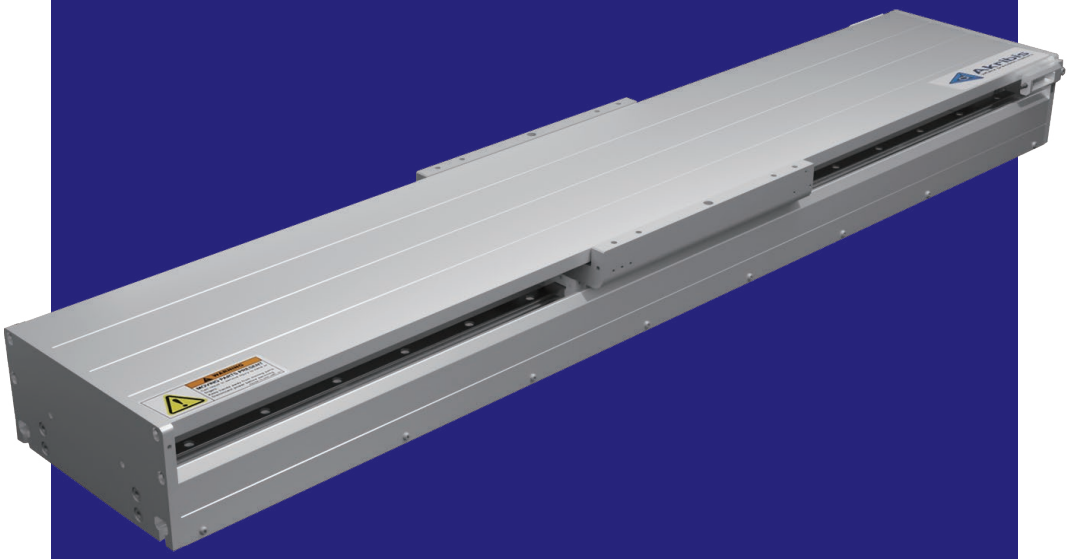


DGL SERIES

- Linear motor positioning system
- Excellent force / size ratio
- Precise homing
- Standard design

EN-26.3.1

DGL Series

Introduction

Akribis DGL series utilize direct drive linear motor positioning system. It consists of dual linear guides, linear motor, encoder feedback and aluminium cover to form a compact high-performance module.

The linear motor in the DGL is using Akribis' patented AUM series ironless linear motor or AJM series iron core linear motor. The AUM linear motor has no cogging, suitable for velocity control and scanning applications. AJM series has iron core, suitable for point-to-point motion control and it is more cost-effective compared to AUM series.

F_{cn} (Continuous Force) = 35.2N~446.8N
F_{pk} (Peak Force) = 176.0N~2830.0N

Features

- Optional built-in linear motor
- Stroke from 100mm to 1200mm, customized stroke up to 100m
- Repeatability up to ±1μm
- Optional resolution of 0.05μm or 0.1μm
- High precision and accurate homing
- Velocity up to 5m/s, acceleration up to 10G or higher

Applications

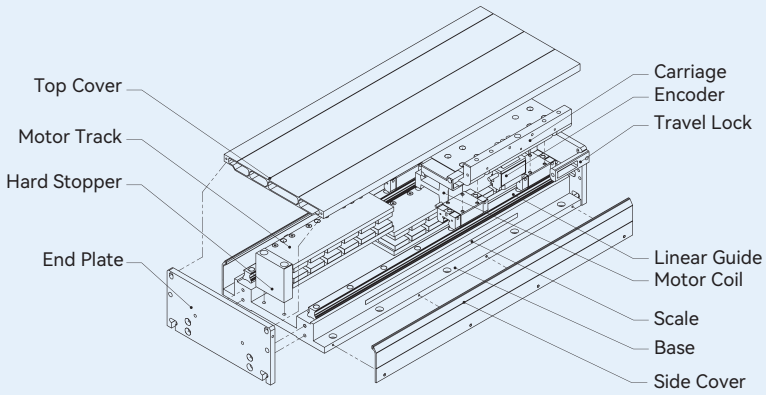
Suitable for point to point micron level fast positioning, can satisfy 5m/s velocity or higher, stroke unlimited (100m or longer).

Transport and fast positioning in electronics, semiconductor, solar PV, lithium battery, LCD display. And industrial printer and laser manufacturing scenarios which require high velocity, high precision, harsh trajectory following and velocity ripples.

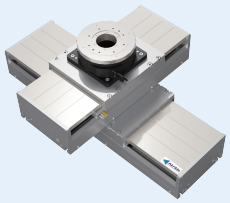
Dual Guide Modules Series	Linear Motor Series		Continuous Force (F_{cn}) / Peak Force (F_{pk}) Unit: N (50 / 100 / 500 / 1000 / 1500 / 3000)	Stroke (mm)[1]	Repeatability (μm)	Page
DGL150	AJM30	AJM30-B2	68.1 / 214.7	100 ~ 1200	up to ±1	038
		AJM30-B4	136.2 / 429.4			039
	AUM2	AUM2-S4	35.2 / 176.0			040
DGL180	AJM50	AJM50-B2	117.0 / 369.0	100 ~ 1200	up to ±1	043
		AJM50-B4	234.0 / 738.1			044
	AUM3	AUM3-S2	57.0 / 289.0			045
		AUM3-S4	113.0 / 578.0			046
DGL200	AJM80	AJM80-B2	174.5 / 550.2	100 ~ 1200	up to ±1	049
		AJM80-B4	348.9 / 1100.4			050
	AUM4	AUM4-S2	110.0 / 624.0			051
		AUM4-S4	211.0 / 1248.0			052
DGL260	AJM100	AJM100-B2	223.4 / 704.5	100 ~ 1200	up to ±1	055
		AJM100-B4	446.8 / 1409.1			056
	AUM5	AUM5-S2	197.0 / 1415.0			057
		AUM5-S4	393.0 / 2830.0			058

Note:
[1] Longer stroke available upon request.
★ Products can be customized to meet specific working environments, please contact cust-service@akribis-sys.com.

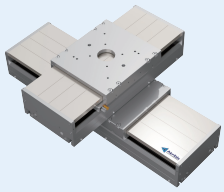
Exploded View



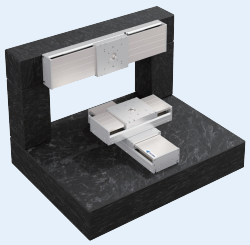
DGL Application Scenarios



XYT Stack



XY Stack



Fixed Gantry

DGL150 Ironcore & Ironless Series

		DGL150 Ironcore Series		DGL150 Ironless Series
Motor specifications	**Unit**	**Value**		
Motor	-	AJM30-B2	AJM30-B4	AUM2-S4
Continuous Force (NC) @100℃ ❶	N	68.1	136.2	35.2
Peak Force	N	214.7	429.4	176.0
Force Constant ±10%	N/Arms	29.6	29.6	22.0
Back EMF Constant ±10%	Vpeak/(m/s)	24.2	24.2	18.0
Resistance (L-L) @25℃ ±10% ❷	Ω	3.9	2.0	13.17
Inductance (L-L) ±30% [AJM] ❸ Inductance (L-L) ±40% [AUM] ❹	mH	16.5	8.2	3.88
Continuous Current (NC) @100℃ ❶	Arms	2.3	4.6	1.6
Peak Current	Arms	9.0	18.0	8.0
Max. Bus Voltage	Vdc	600	600	330
Magnetic Period	mm	20	20	30
Mechanical specifications	**Unit**	**Value**		
Effective Stroke	mm	100-1200	100-1200	100-1200
Resolution	μm	0.05/0.1		
Repeatability	μm	±1		
Horizontal Straightness	μm/mm	±2/100	±2/100	±2/100
Vertical Straightness	μm/mm	±4/100	±4/100	±4/100
No-load Moving Mass	kg	2.4	3.5	1.1
Maximum Bearing Load	N	3120	3120	640
Rated Payload	kg	10	20	20
Max. Static Moment	Nm	102	102	36

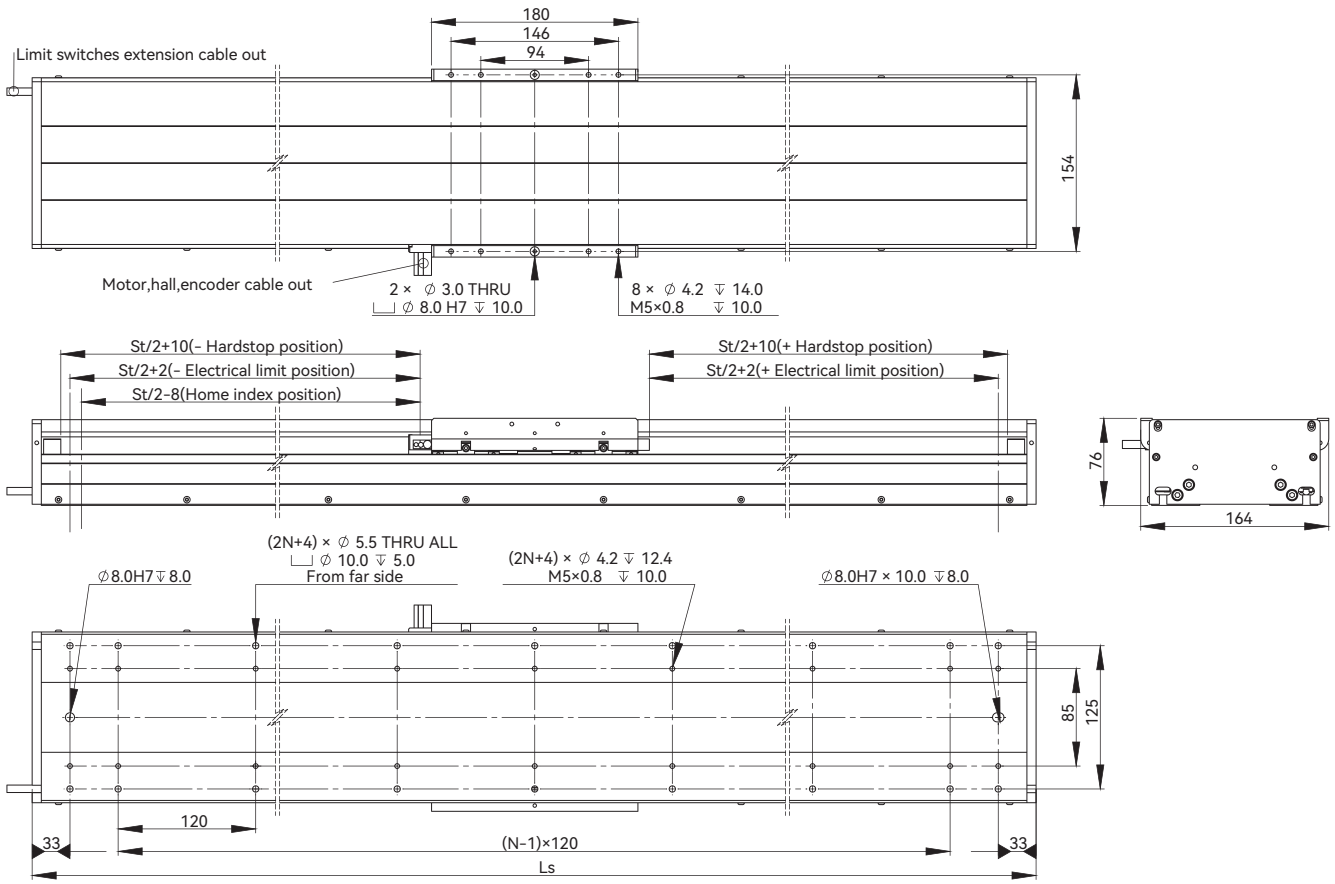
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m lead wire.
❸ Inductance is measured by current frequency of 1 kHz.
❹ Inductance is measured by current frequency of 1 kHz. The variation range of AUM inductance is ±40% because three phase inductances are different. The value in the catalog is the average between the maximum and minimum values. For each phase, the variation range is ±20%.

- All values are measured based on module fully mounted on a 5μm granite table.
- Values are measured according to Akribis measurement standard.
- All specifications above are standard, contact Akribis for special request（cust-service@akribis-sys.com）.

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

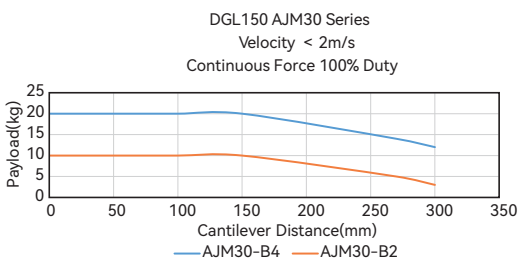
DGL150 Ironcore Series

DGL150-AJM30-B2 Dimensional Drawing

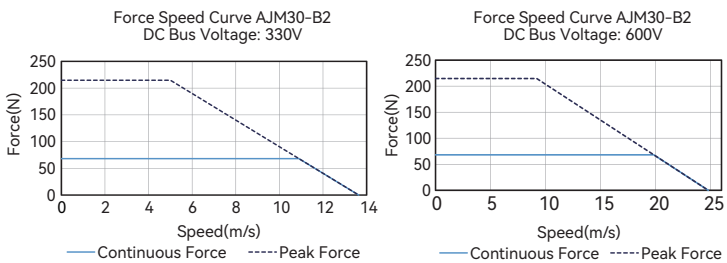


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	370	8.3
200	3	470	9.7
300	5	570	11.0
400	5	670	12.4
500	5	770	13.7
600	7	870	15.1
700	7	970	16.4
800	9	1070	17.9
900	9	1170	19.2
1000	9	1270	20.6
1100	11	1370	21.9
1200	11	1470	23.3

Cantilever-Payload Curve

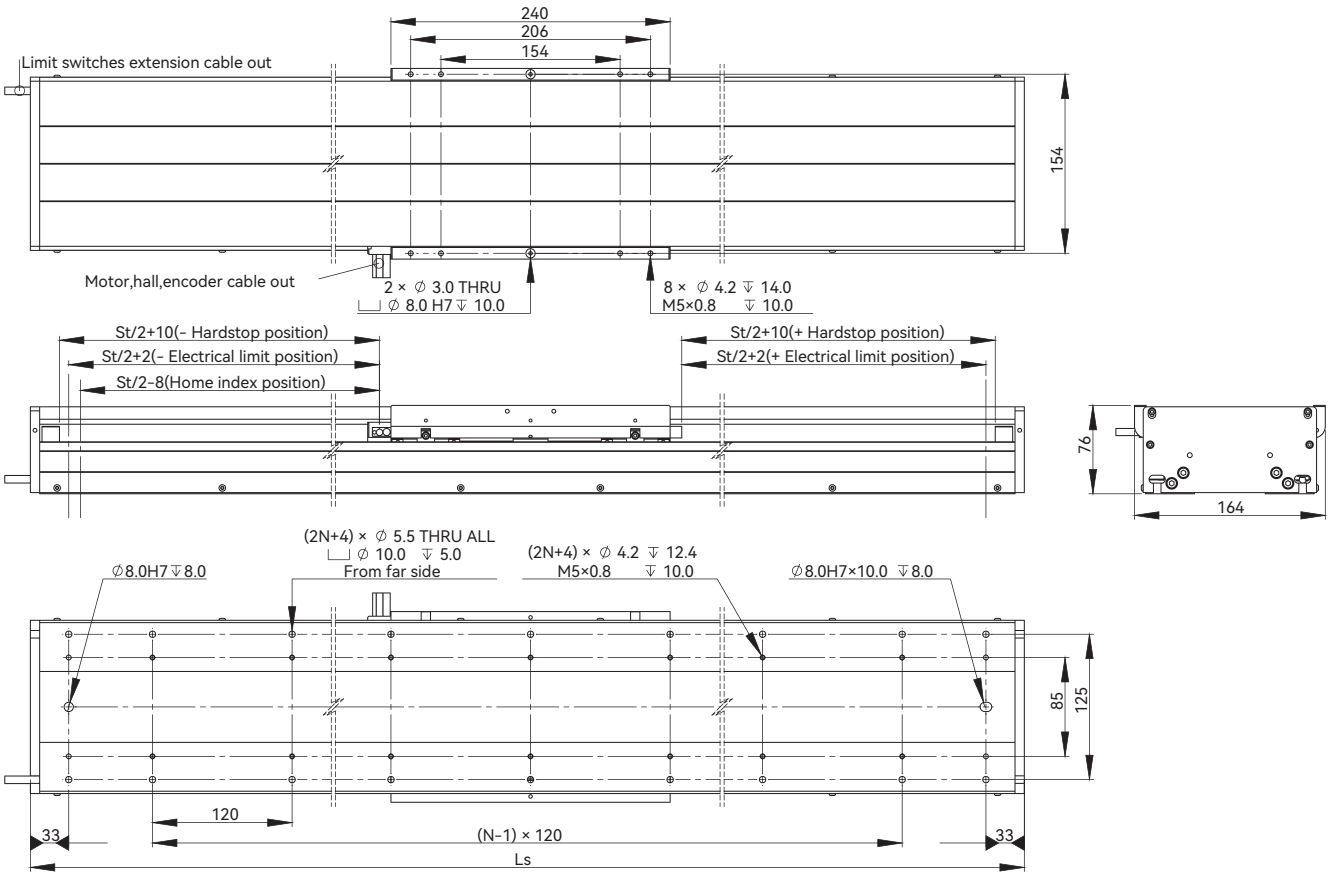


Force-Speed Curve



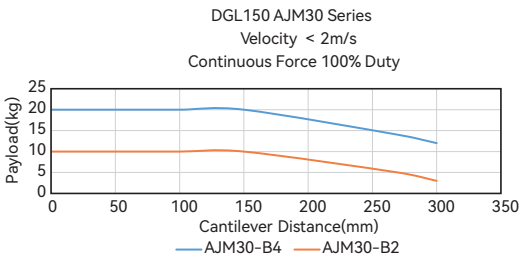
DGL150 Ironcore Series

DGL150-AJM30-B4 Dimensional Drawing

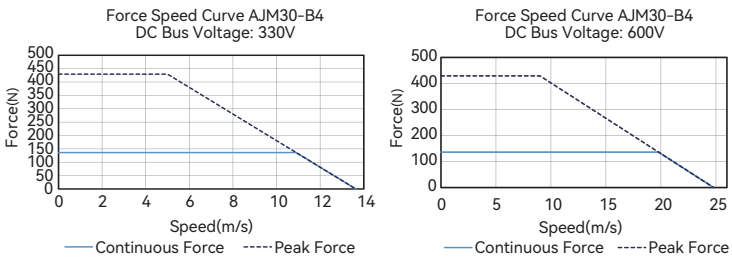


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	430	9.8
200	3	530	11.2
300	5	630	12.6
400	5	730	14.1
500	7	830	15.5
600	7	930	16.7
700	7	1030	18.2
800	9	1130	19.5
900	9	1230	21.0
1000	11	1330	22.3
1100	11	1430	23.7
1200	13	1530	25.1

Cantilever-Payload Curve

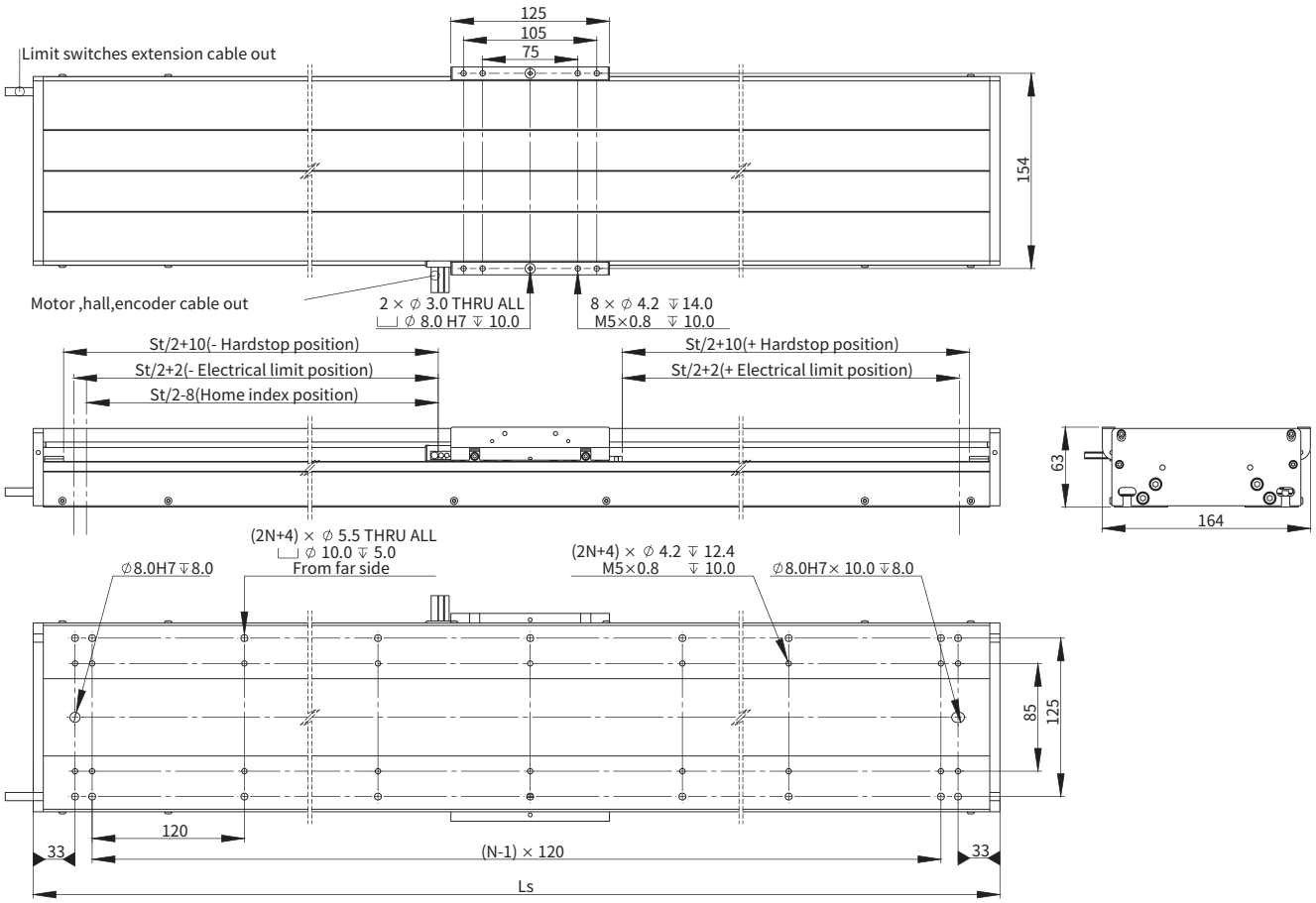


Force-Speed Curve



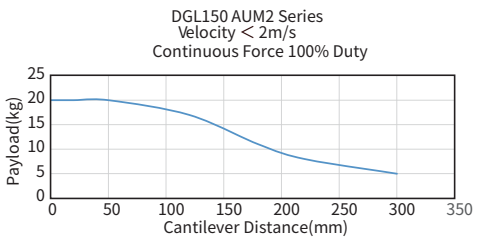
DGL150 Ironless Series

DGL150-AUM2-S4 Dimensional Drawing

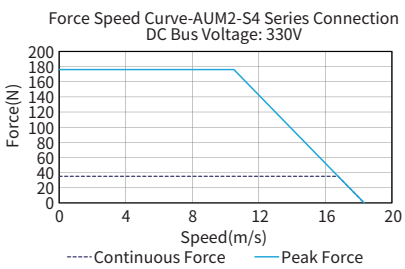


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	1	313	5.5
200	3	413	6.9
300	3	513	8.0
400	5	613	9.4
500	5	713	10.8
600	7	813	11.9
700	7	913	13.3
800	7	1013	14.7
900	9	1113	15.7
1000	9	1213	17.0
1100	11	1313	18.3
1200	11	1413	19.4

Cantilever-Payload Curve



Force-Speed Curve



Ordering Part Number (OPN)

DGL150 (Ironcore)

DGL150-S01-J01AD01-A1

Model:
DGL150

Cover Type:
S: Standard (Clear Anodized)
T: Standard (Black Anodized)

Effective Stroke:[1]
01: 100mm
02: 200mm
03: 300mm
04: 400mm
05: 500mm
06: 600mm
07: 700mm
08: 800mm
09: 900mm
10: 1000mm
11: 1100mm
12: 1200mm

Termination:
1: Motor: Flying Leads/Encoder: DSUB 15/Hall: DSUB 9
2: Motor: DSUB 9W4/Encoder: DSUB 15/Hall: DSUB 9

Cable Length:
A: 0.5m
B: 3.0m

Scale Type:
1: Steel Tape, 11ppm/K

Encoder Type:
AD0: ABA-20, BiSS C (50nm)
A70: ABA-50, BiSS C (50nm)
A71: ABA-50, Mitsubishi 2-Wires (50nm)
A73: ABA-50, EnDat 2.2 (50nm)
ABH: ABI-51X, TTL (0.1μm)
R2H: Quantic, TTL (0.1μm)

Motor Type:
J01: AJM30-B2-J (Peak Force: 214.7N)
J02: AJM30-B2-K (Peak Force: 214.7N)
J03: AJM30-B4-J (Peak Force: 429.4N)
J04: AJM30-B4-K (Peak Force: 429.4N)

DGL150 (Ironless)

DGL150-S01-U06AD01-A1

Model:
DGL150

Cover Type:
S: Standard (Clear Anodized)
T: Standard (Black Anodized)

Effective Stroke:[1]
01: 100mm
02: 200mm
03: 300mm
04: 400mm
05: 500mm
06: 600mm
07: 700mm
08: 800mm
09: 900mm
10: 1000mm
11: 1100mm
12: 1200mm

Termination:
1: Motor: Flying Leads/Encoder: DSUB 15/Hall: DSUB 9
2: Motor: DSUB 9W4/Encoder: DSUB 15/Hall: DSUB 9

Cable Length:
A: 0.5m
B: 3.0m

Scale Type:
1: Steel Tape, 11ppm/K

Encoder Type:
AD0: ABA-20, BiSS C (50nm)
A70: ABA-50, BiSS C (50nm)
A71: ABA-50, Mitsubishi 2-Wires (50nm)
A73: ABA-50, EnDat 2.2 (50nm)
ABH: ABI-51X, TTL (0.1μm)
R2H: Quantic, TTL (0.1μm)

Motor Type:
U06: AUM2-S-S4-K (Peak Force: 176.0N)

Note:
[1] Standard stroke in intervals of 100mm only. For more options, please contact Akribis sales engineers (cust-service@akribis-sys.com).
★ Products can be customized to meet specific working environments, please contact cust-service@akribis-sys.com.

DGL180 Ironcore & Ironless Series

		DGL180 Ironcore Series		DGL180 Ironless Series	
Motor Specifications	**Unit**	**Value**			
Motor	-	AJM50-B2	AJM50-B4	AUM3-S2	AUM3-S4
Continuous Force (NC) @100℃ ❶	N	117.0	234.0	57.0	113.0
Peak Force	N	369.0	738.1	289.0	578.0
Force Constant ±10%	N/Arms	50.9	50.9	31.4	62.8
Back EMF Constant ±10%	Vpeak/(m/s)	41.5	41.5	25.6	51.3
Resistance (L-L) @25℃ ±10% ❷	Ω	6.0	3.1	9.41	18.70
Inductance (L-L) ±30% [AJM] ❸ Inductance (L-L) ±40% [AUM] ❹	mH	25.9	13.0	6.99	13.98
Continuous Current (NC) @100℃ ❶	Arms	2.3	4.6	1.8	1.8
Peak Current	Arms	9.0	18.0	9.2	9.2
Max. Bus Voltage	Vdc	600	600	330	330
Magnetic Period	mm	20	20	60	60
Mechanical specifications	**Unit**	**Value**			
Effective Stroke	mm	100-1200	100-1200	100-1200	100-1200
Resolution	μm	0.05/0.1			
Repeatability	μm	±1			
Horizontal Straightness	μm/mm	±2/100	±2/100	±2/100	±2/100
Vertical Straightness	μm/mm	±4/100	±4/100	±4/100	±4/100
No-load Moving Mass	kg	3.5	4.9	2.9	3.9
Maximum Bearing Load	N	3120			
Rated Payload	kg	20	30	40	50
Max. Static Moment	Nm	140	140	140	140

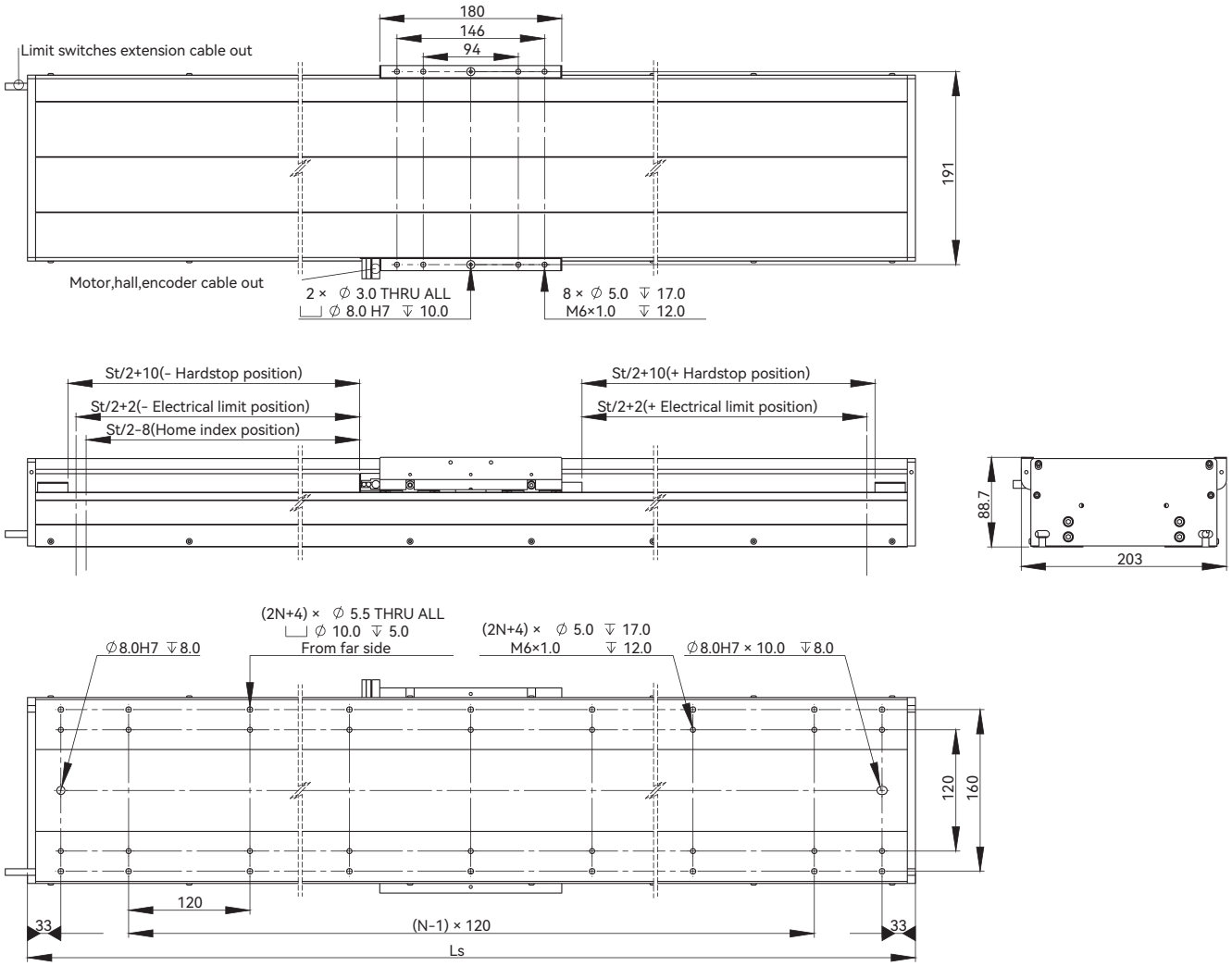
❶ Measurement is taken at ambient temperature 25℃. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m lead wire.
❸ Inductance is measured by current frequency of 1 kHz.
❹ Inductance is measured by current frequency of 1 kHz. The variation range of AUM inductance is ±40% because three phase inductances are different. The value in the catalog is the average between the maximum and minimum values. For each phase, the variation range is ±20%.

- All values are measured based on module fully mounted on a 5μm granite table.
- Values are measured according to Akribis measurement standard.
- All specifications above are standard, contact Akribis for special request（cust-service@akribis-sys.com）.

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

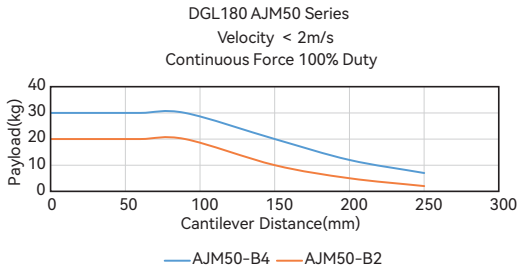
DGL180 Ironcore Series

DGL180-AJM50-B2 Dimensional Drawing

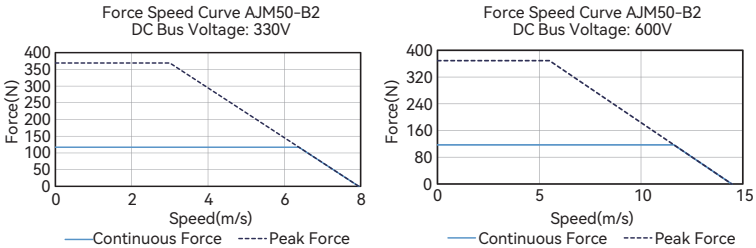


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	420	12.7
200	3	520	14.5
300	5	620	16.6
400	5	720	18.4
500	7	820	20.4
600	7	920	22.3
700	7	1020	24.3
800	9	1120	26.2
900	9	1220	28.3
1000	11	1320	30.1
1100	11	1420	32.3
1200	11	1520	33.9

Cantilever-Payload Curve

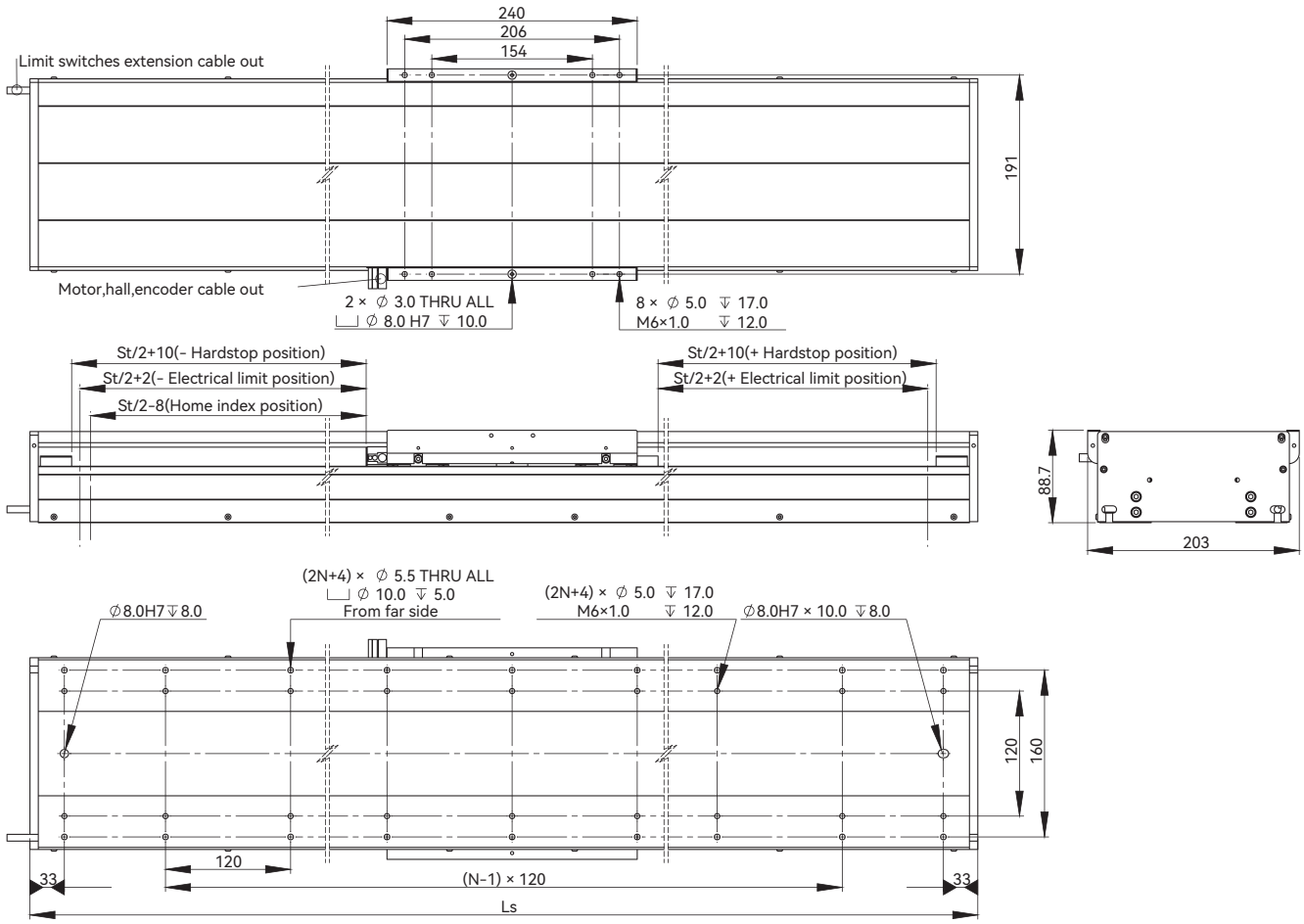


Force-Speed Curve



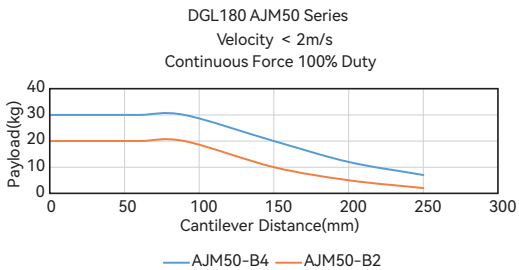
DGL180 Ironcore Series

DGL180-AJM50-B4 Dimensional Drawing

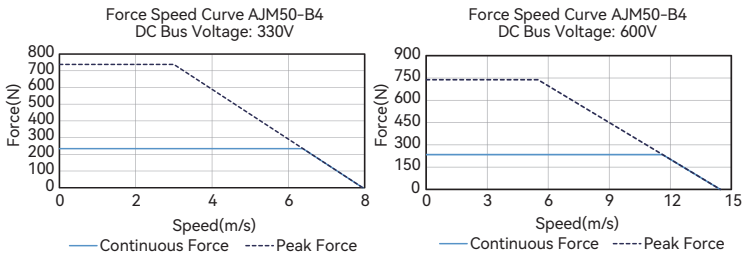


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	480	15.1
200	5	580	17.2
300	5	680	19.0
400	5	780	21.1
500	7	880	23.0
600	7	980	25.1
700	9	1080	26.7
800	9	1180	28.9
900	9	1280	30.8
1000	11	1380	32.7
1100	11	1480	34.6
1200	13	1580	36.7

Cantilever-Payload Curve

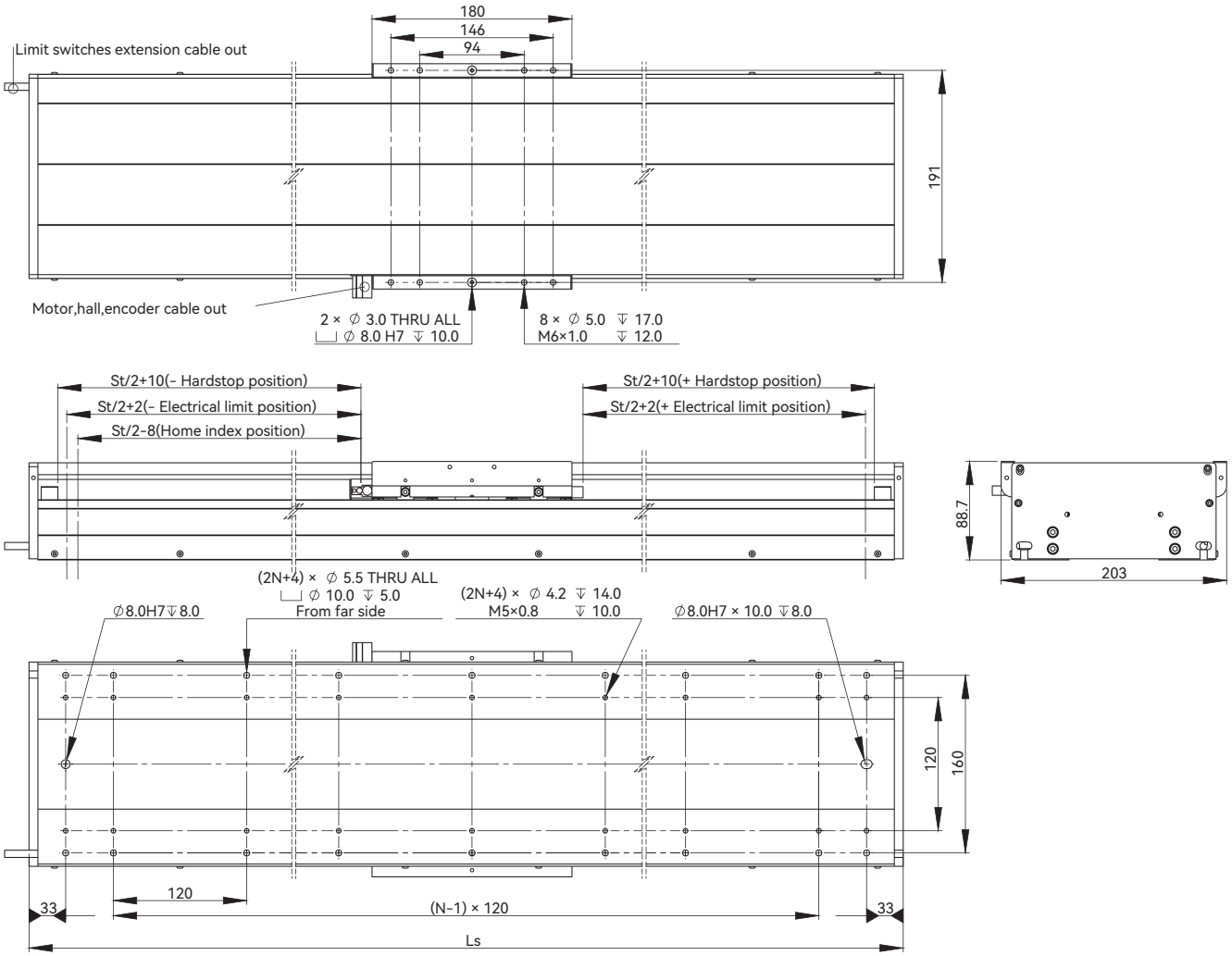


Force-Speed Curve



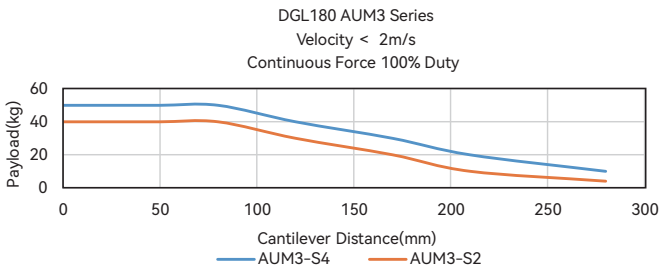
DGL180 Ironless Series

DGL180-AUM3-S2 Dimensional Drawing

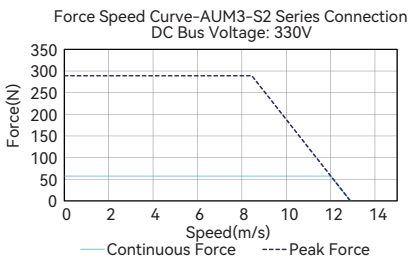


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	372	11.7
200	3	472	14.1
300	5	572	16.0
400	5	672	18.4
500	5	772	20.9
600	7	872	22.8
700	7	972	25.3
800	9	1072	27.8
900	9	1172	29.7
1000	9	1272	32.1
1100	11	1372	34.5
1200	11	1472	36.5

Cantilever-Payload Curve

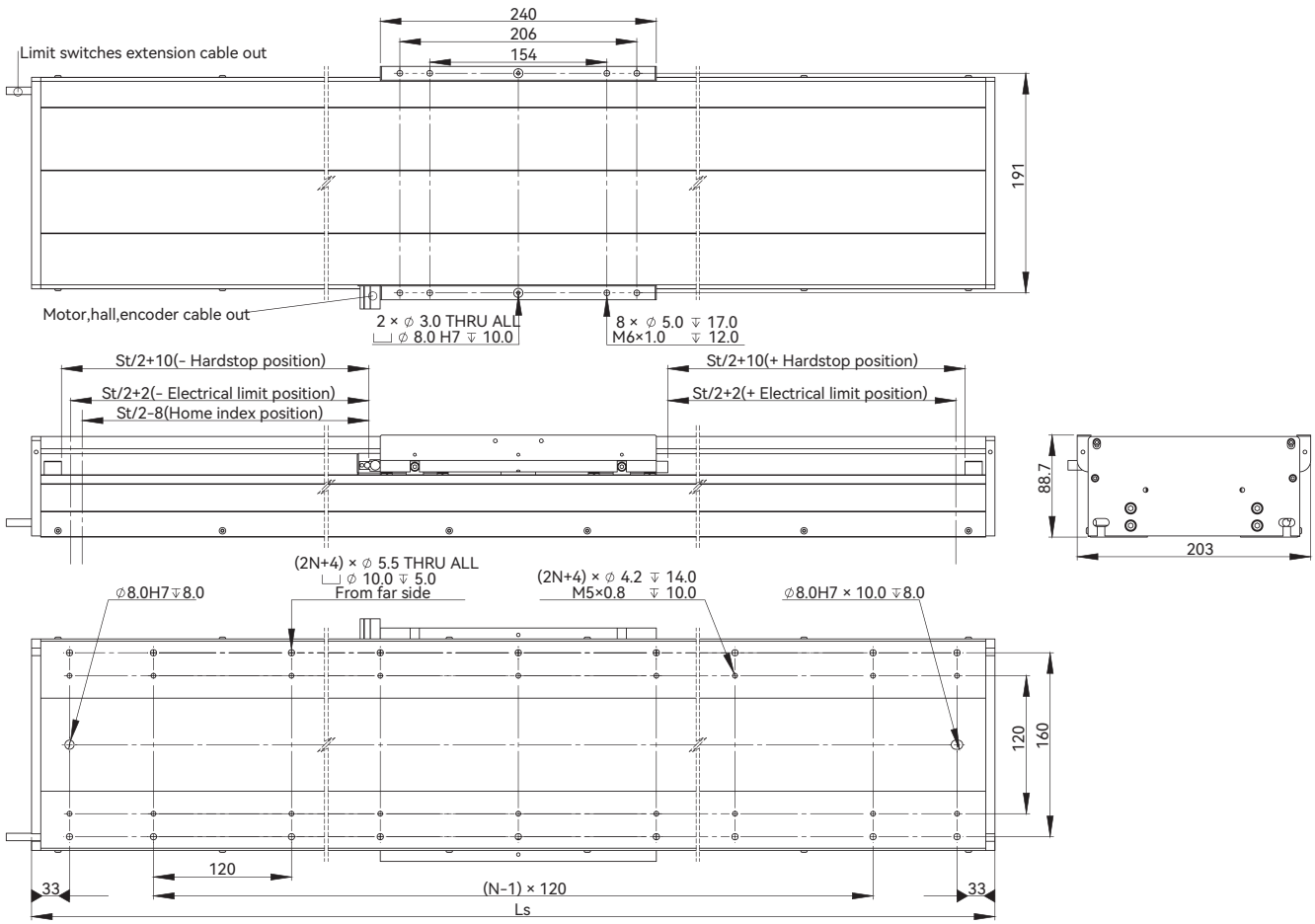


Force-Speed Curve



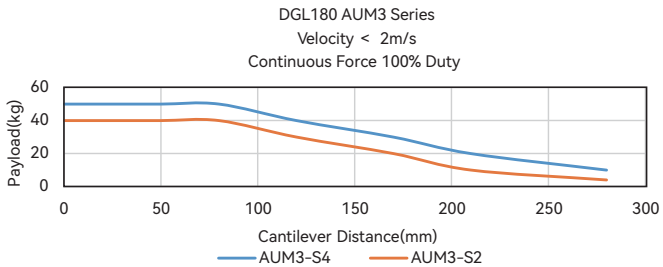
DGL180 Ironless Series

DGL180-AUM3-S4 Dimensional Drawing

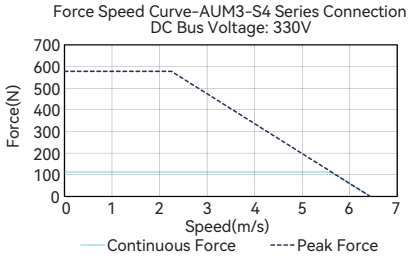


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	432	13.9
200	3	532	16.5
300	5	632	18.4
400	5	732	20.8
500	7	832	23.2
600	7	932	25.2
700	7	1032	27.6
800	9	1132	30.0
900	9	1232	32.1
1000	11	1332	34.5
1100	11	1432	36.9
1200	13	1532	38.9

Cantilever-Payload Curve



Force-Speed Curve



Ordering Part Number (OPN)

DGL180 (Ironcore)

DGL180-S01-J15AD01-A1

Model:
DGL180

Cover Type:
S: Standard (Clear Anodized)
T: Standard (Black Anodized)

Effective Stroke:[1]
01: 100mm
02: 200mm
03: 300mm
04: 400mm
05: 500mm
06: 600mm
07: 700mm
08: 800mm
09: 900mm
10: 1000mm
11: 1100mm
12: 1200mm

Motor Type:
J15: AJM50-B2-J (Peak Force: 369.0N)
J16: AJM50-B2-K (Peak Force: 369.0N)
J17: AJM50-B4-J (Peak Force: 738.1N)
J18: AJM50-B4-K (Peak Force: 738.1N)

Encoder Type:
AD0: ABA-20, BiSS C (50nm)
A70: ABA-50, BiSS C (50nm)
A71: ABA-50, Mitsubishi 2-Wires (50nm)
A73: ABA-50, EnDat 2.2 (50nm)
ABH: ABI-51X, TTL (0.1μm)
R2H: Quantic, TTL (0.1μm)

Scale Type:
1: Steel Tape, 11ppm/K

Cable Length:
A: 0.5m
B: 3.0m

Termination:
1: Motor: Flying Leads/Encoder: DSUB 15/Hall: DSUB 9
2: Motor: DSUB 9W4/Encoder: DSUB 15/Hall: DSUB 9

DGL180 (Ironless)

DGL180-S01-U17AD01-A1

Model:
DGL180

Cover Type:
S: Standard (Clear Anodized)
T: Standard (Black Anodized)

Effective Stroke:[1]
01: 100mm
02: 200mm
03: 300mm
04: 400mm
05: 500mm
06: 600mm
07: 700mm
08: 800mm
09: 900mm
10: 1000mm
11: 1100mm
12: 1200mm

Motor Type:
U17: AUM3-S-S2-J (Peak Force: 289.0N)
U18: AUM3-S-S2-K (Peak Force: 289.0N)
U25: AUM3-S-S4-J (Peak Force: 578.0N)
U26: AUM3-S-S4-K (Peak Force: 578.0N)

Encoder Type:
AD0: ABA-20, BiSS C (50nm)
A70: ABA-50, BiSS C (50nm)
A71: ABA-50, Mitsubishi 2-Wires (50nm)
A73: ABA-50, EnDat 2.2 (50nm)
ABH: ABI-51X, TTL (0.1μm)
R2H: Quantic, TTL (0.1μm)

Scale Type:
1: Steel Tape, 11ppm/K

Cable Length:
A: 0.5m
B: 3.0m

Termination:
1: Motor: Flying Leads/Encoder: DSUB 15/Hall: DSUB 9
2: Motor: DSUB 9W4/Encoder: DSUB 15/Hall: DSUB 9

Note:
[1] Standard stroke in intervals of 100mm only. For more options, please contact Akribis sales engineers (cust-service@akribis-sys.com).
★ Products can be customized to meet specific working environments, please contact cust-service@akribis-sys.com.

DGL200 Ironcore & Ironless Series

		DGL200 Ironcore Series		DGL200 Ironless Series	
Motor Specifications	**Unit**	**Value**			
Motor	-	AJM80-B2	AJM80-B4	AUM4-S2	AUM4-S4
Continuous Force (NC) @100℃ ❶	N	174.5	348.9	110.0	221.0
Peak Force	N	550.2	1100.4	624.0	1248.0
Force Constant ±10%	N/Arms	75.9	75.9	48.0	96.0
Back EMF Constant ±10%	Vpeak/(m/s)	61.9	61.9	39.2	78.4
Resistance (L-L) @25℃ ±10% ❷	Ω	8.4	4.2	9.33	18.62
Inductance (L-L) ±30% [AJM] ❸ Inductance (L-L) ±40% [AUM] ❹	mH	37.3	18.6	7.67	15.33
Continuous Current (NC) @100℃ ❶	Arms	2.3	4.6	2.3	2.3
Peak Current	Arms	9.0	18.0	13.0	13.0
Max. Bus Voltage	Vdc	600	600	330	330
Magnetic Period	mm	20	20	60	60
Mechanical specifications	**Unit**	**Value**			
Effective Stroke	mm	100-1200	100-1200	100-1200	100-1200
Resolution	μm	0.05/0.1			
Repeatability	μm	±1			
Horizontal Straightness	μm/mm	±2/100	±2/100	±2/100	±2/100
Vertical Straightness	μm/mm	±4/100	±4/100	±4/100	±4/100
No-load Moving Mass	kg	4.2	6.1	3.2	4.4
Maximum Bearing Load	N	3120			
Rated Payload	kg	20	30	60	70
Max. Static Moment	Nm	145	166	145	166

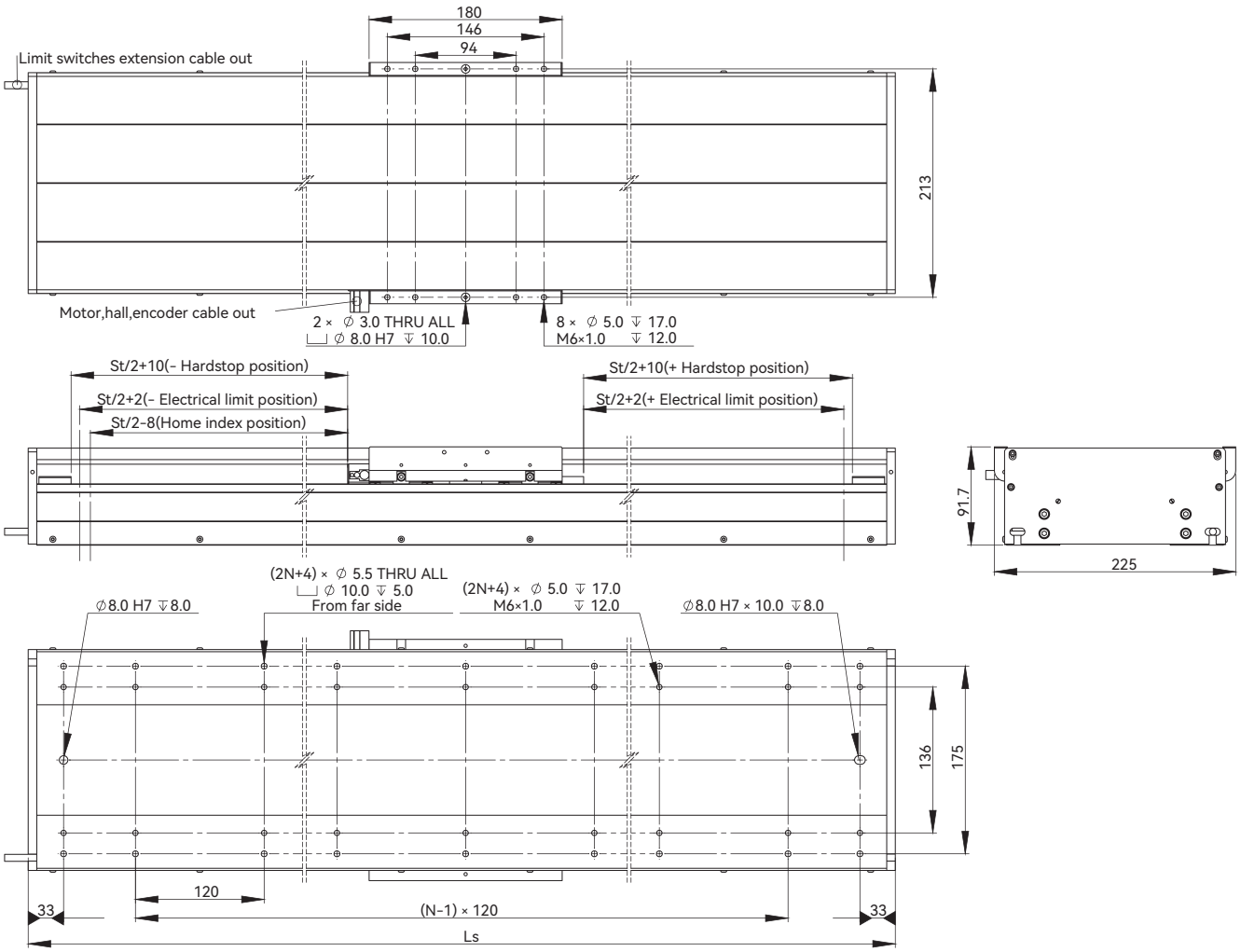
❶ Measurement is taken at ambient temperature 25ºC. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m lead wire.
❸ Inductance is measured by current frequency of 1 kHz.
❹ Inductance is measured by current frequency of 1 kHz. The variation range of AUM inductance is ±40% because three phase inductances are different. The value in the catalog is the average between the maximum and minimum values. For each phase, the variation range is ±20%.

- All values are measured based on module fully mounted on a 5μm granite table.
- Values are measured according to Akribis measurement standard.
- All specifications above are standard, contact Akribis for special request（cust-service@akribis-sys.com）.

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

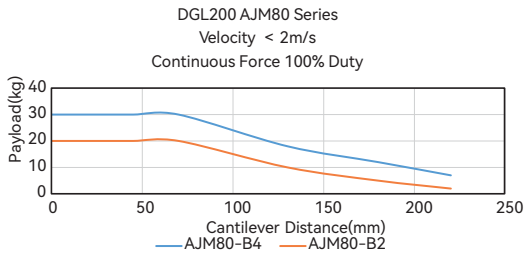
DGL200 Ironcore Series

DGL200-AJM80-B2 Dimensional Drawing

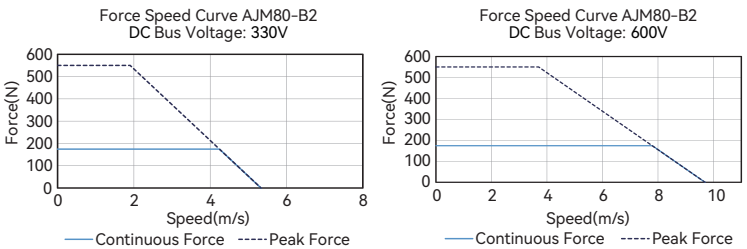


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	420	14.7
200	3	520	16.9
300	5	620	19.3
400	5	720	21.5
500	7	820	23.9
600	7	920	26.1
700	7	1020	28.5
800	9	1120	30.5
900	9	1220	33.1
1000	11	1320	35.2
1100	11	1420	37.6
1200	11	1520	39.8

Cantilever-Payload Curve

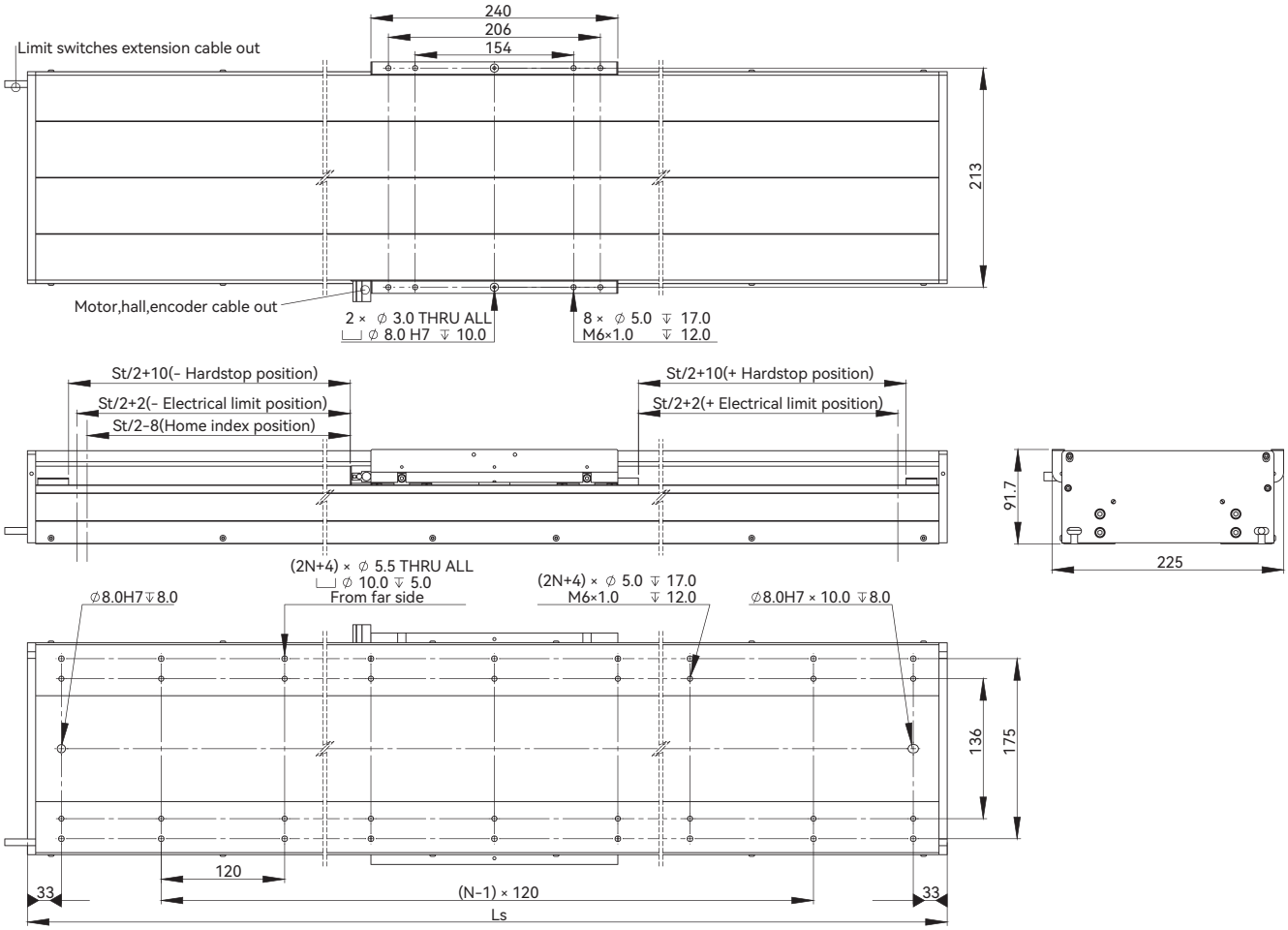


Force-Speed Curve



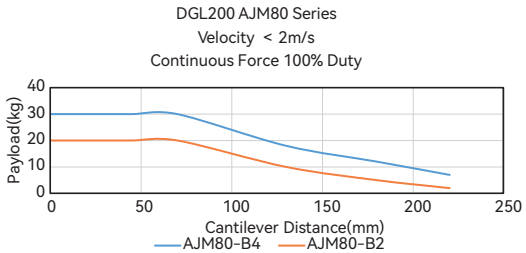
DGL200 Ironcore Series

DGL200-AJM80-B4 Dimensional Drawing

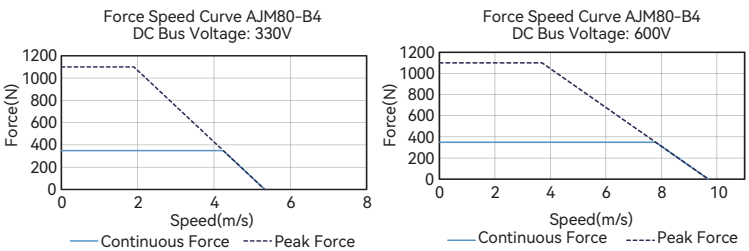


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	480	17.8
200	5	580	20.1
300	5	680	22.4
400	5	780	24.8
500	7	880	26.8
600	7	980	29.4
700	9	1080	31.5
800	9	1180	33.8
900	9	1280	36.1
1000	11	1380	38.5
1100	11	1480	40.7
1200	13	1580	43.1

Cantilever-Payload Curve

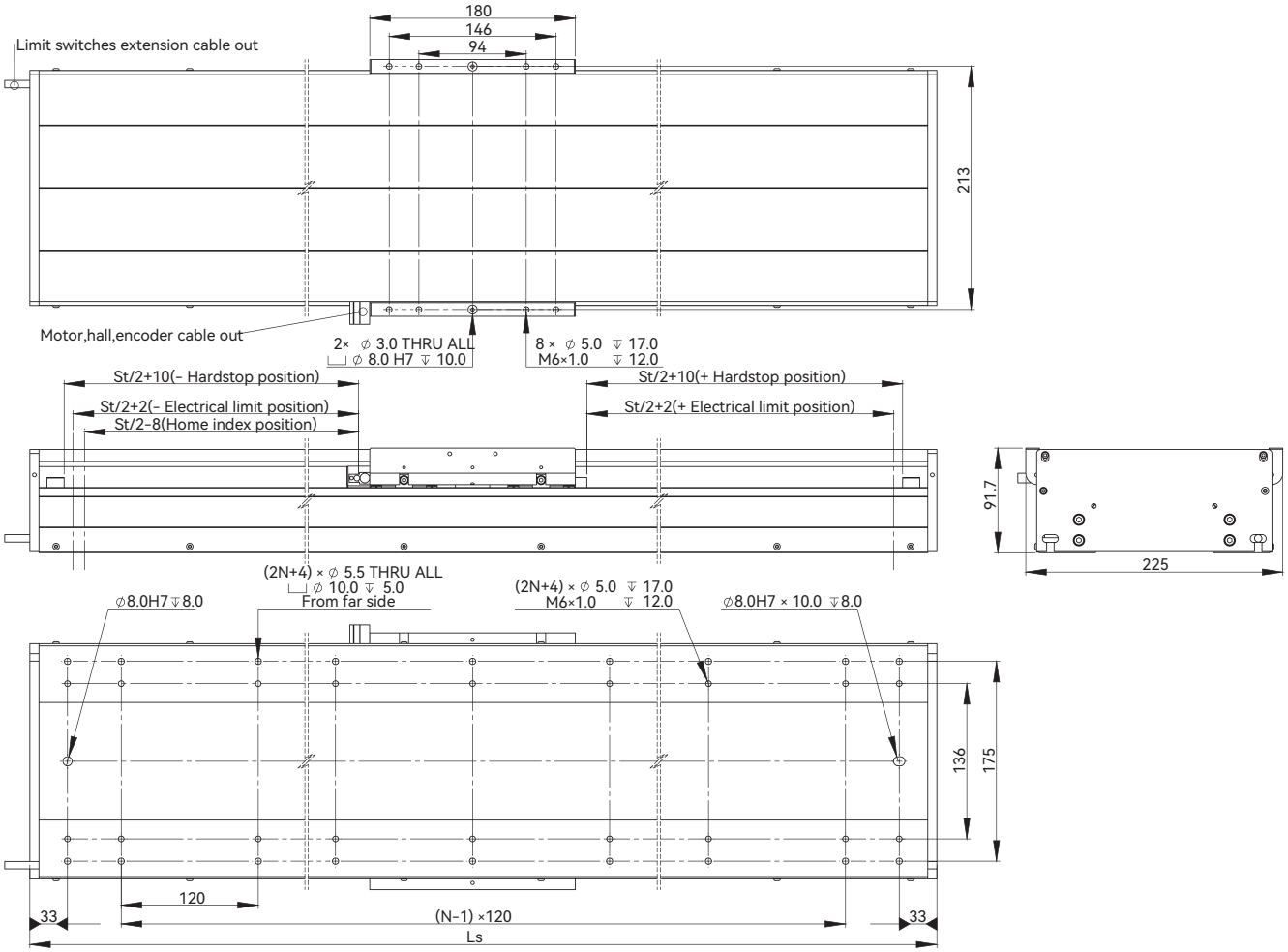


Force-Speed Curve



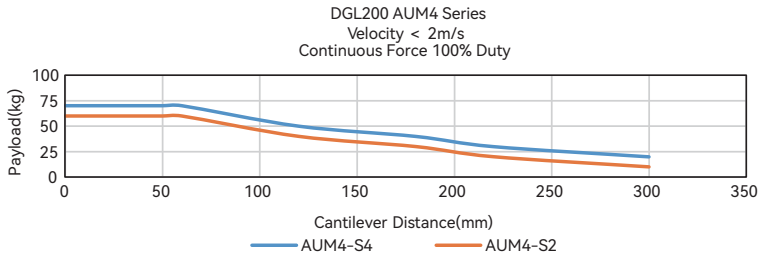
DGL200 Ironless Series

DGL200-AUM4-S2 Dimensional Drawing

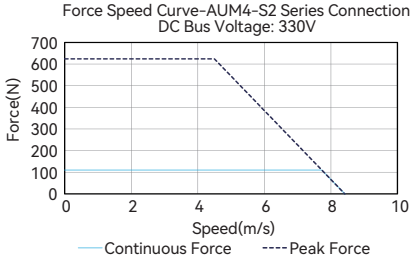


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	380	14.6
200	3	480	18.0
300	5	580	20.4
400	5	680	23.8
500	5	780	27.2
600	7	880	29.6
700	7	980	33.0
800	9	1080	36.4
900	9	1180	38.9
1000	9	1280	42.2
1100	11	1380	45.6
1200	11	1480	48.1

Cantilever-Payload Curve

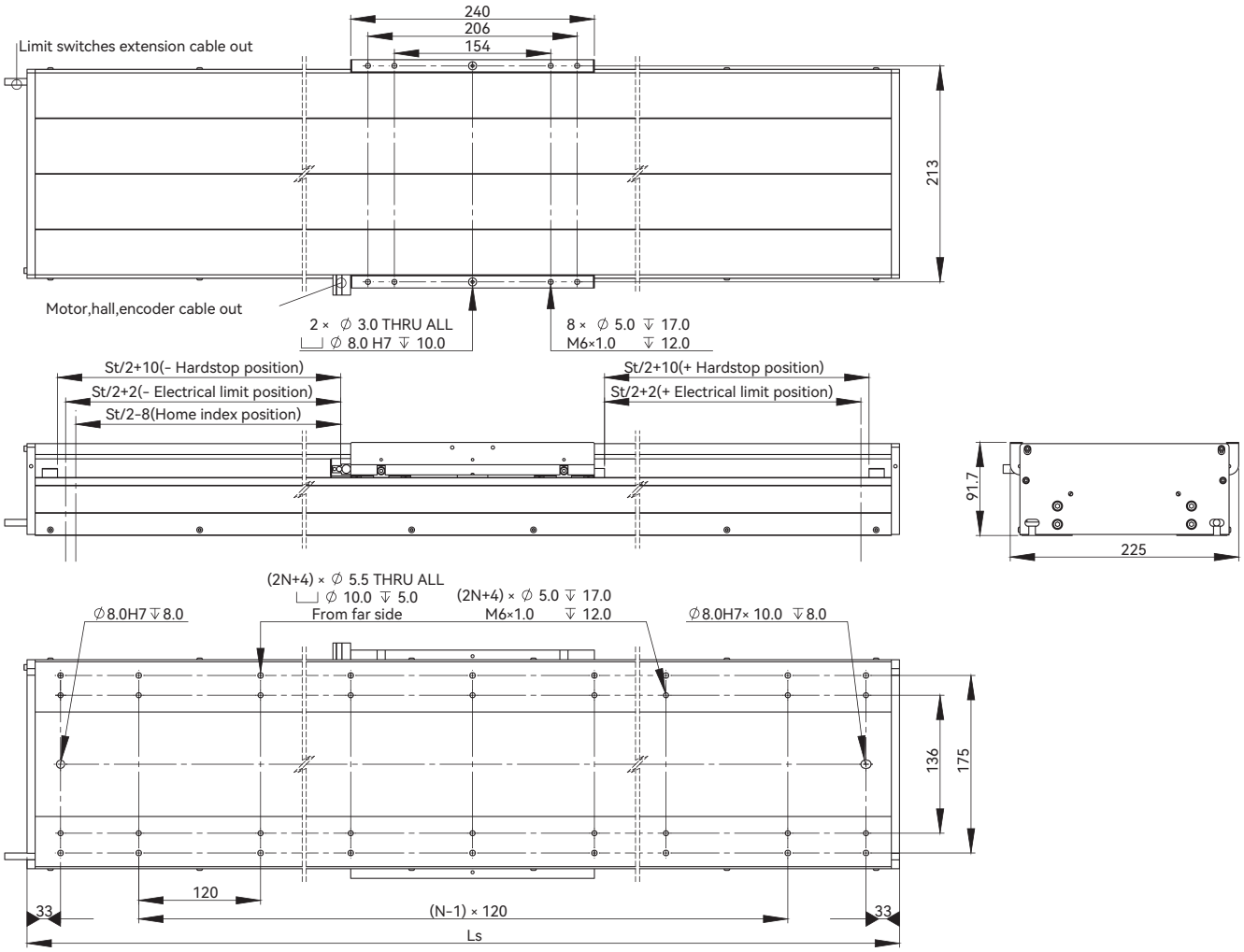


Force-Speed Curve



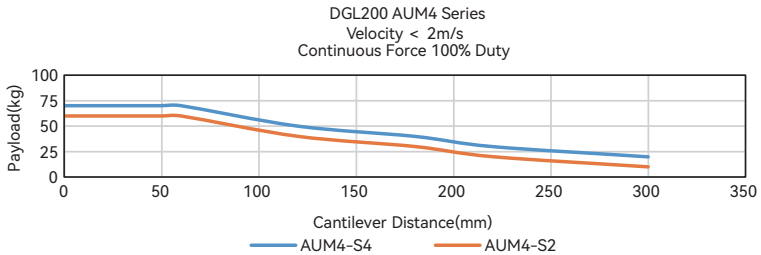
DGL200 Ironless Series

DGL200-AUM4-S4 Dimensional Drawing

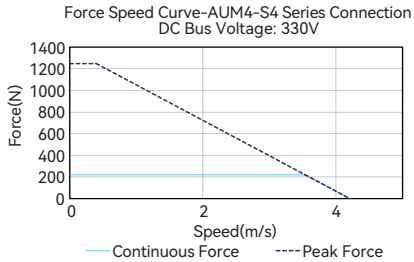


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	440	17.6
200	3	540	21.0
300	5	640	23.5
400	5	740	26.9
500	7	840	30.2
600	7	940	32.7
700	7	1040	36.1
800	9	1140	39.4
900	9	1240	41.9
1000	11	1340	45.2
1100	11	1440	48.6
1200	13	1540	51.1

Cantilever-Payload Curve



Force-Speed Curve



Ordering Part Number (OPN)

DGL200 (Ironcore)

DGL200-S01-J30AD01-A1

Model:
DGL200

Cover Type:
S: Standard (Clear Anodized)
T: Standard (Black Anodized)

Effective Stroke:[1]
01: 100mm
02: 200mm
03: 300mm
04: 400mm
05: 500mm
06: 600mm
07: 700mm
08: 800mm
09: 900mm
10: 1000mm
11: 1100mm
12: 1200mm

Termination:
1: Motor: Flying Leads/Encoder: DSUB 15/Hall: DSUB 9
2: Motor: DSUB 9W4/Encoder: DSUB 15/Hall: DSUB 9

Cable Length:
A: 0.5m
B: 3.0m

Scale Type:
1: Steel Tape, 11ppm/K

Encoder Type:
AD0: ABA-20, BiSS C (50nm)
A70: ABA-50, BiSS C (50nm)
A71: ABA-50, Mitsubishi 2-Wires (50nm)
A73: ABA-50, EnDat 2.2 (50nm)
ABH: ABI-51X, TTL (0.1μm)
R2H: Quantic, TTL (0.1μm)

Motor Type:
J30: AJM80-B2-J (Peak Force: 550.2N)
J31: AJM80-B2-K (Peak Force: 550.2N)
J32: AJM80-B4-J (Peak Force: 1100.4N)
J33: AJM80-B4-K (Peak Force: 1100.4N)

DGL200 (Ironless)

DGL200-S01-U42AD01-A1

Model:
DGL200

Cover Type:
S: Standard (Clear Anodized)
T: Standard (Black Anodized)

Effective Stroke:[1]
01: 100mm
02: 200mm
03: 300mm
04: 400mm
05: 500mm
06: 600mm
07: 700mm
08: 800mm
09: 900mm
10: 1000mm
11: 1100mm
12: 1200mm

Termination:
1: Motor: Flying Leads/Encoder: DSUB 15/Hall: DSUB 9
2: Motor: DSUB 9W4/Encoder: DSUB 15/Hall: DSUB 9

Cable Length:
A: 0.5m
B: 3.0m

Scale Type:
1: Steel Tape, 11ppm/K

Encoder Type:
AD0: ABA-20, BiSS C (50nm)
A70: ABA-50, BiSS C (50nm)
A71: ABA-50, Mitsubishi 2-Wires (50nm)
A73: ABA-50, EnDat 2.2 (50nm)
ABH: ABI-51X, TTL (0.1μm)
R2H: Quantic, TTL (0.1μm)

Motor Type:
U42: AUM4-S-S2-J (Peak Force: 624.0N)
U43: AUM4-S-S2-K (Peak Force: 624.0N)
U50: AUM4-S-S4-J (Peak Force: 1248.0N)
U51: AUM4-S-S4-K (Peak Force: 1248.0N)

Note:
[1] Standard stroke in intervals of 100mm only. For more options, please contact Akribis sales engineers (cust-service@akribis-sys.com).
★ Products can be customized to meet specific working environments, please contact cust-service@akribis-sys.com.

DGL260 Ironcore & Ironless Series

		DGL260 Ironcore Series		DGL260 Ironless Series	
Motor Specifications	**Unit**	**Value**			
Motor	-	AJM100-B2	AJM100-B4	AUM5-S2	AUM5-S4
Continuous Force (NC) @100℃ ❶	N	223.4	446.8	197.0	393.0
Peak Force	N	704.5	1409.1	1415.0	2830.0
Force Constant ±10%	N/Arms	97.1	97.1	78.6	157.2
Back EMF Constant ±10%	Vpeak/(m/s)	79.3	79.3	64.2	128.4
Resistance (L-L) @25℃ ±10% ❷	Ω	10.3	5.2	8.28	16.52
Inductance (L-L) ±30% [AJM] ❸ Inductance (L-L) ±40% [AUM] ❹	mH	47.2	23.6	13.00	26.00
Continuous Current (NC) @100℃ ❶	Arms	2.3	4.6	2.5	2.5
Peak Current	Arms	9.0	18.0	18.0	18.0
Max. Bus Voltage	Vdc	600	600	330	330
Magnetic Period	mm	20	20	84	84
Mechanical specifications	**Unit**	**Value**			
Effective Stroke	mm	100-1200	100-1200	100-1200	100-1200
Resolution	μm	0.05/0.1			
Repeatability	μm	±1			
Horizontal Straightness	μm/mm	±2/100	±2/100	±2/100	±2/100
Vertical Straightness	μm/mm	±4/100	±4/100	±4/100	±4/100
No-load Moving Mass	kg	6.1	8.6	6.6	9.9
Maximum Bearing Load	N	4050			
Rated Payload	kg	50	70	120	140
Max. Static Moment	Nm	145	218	218	310

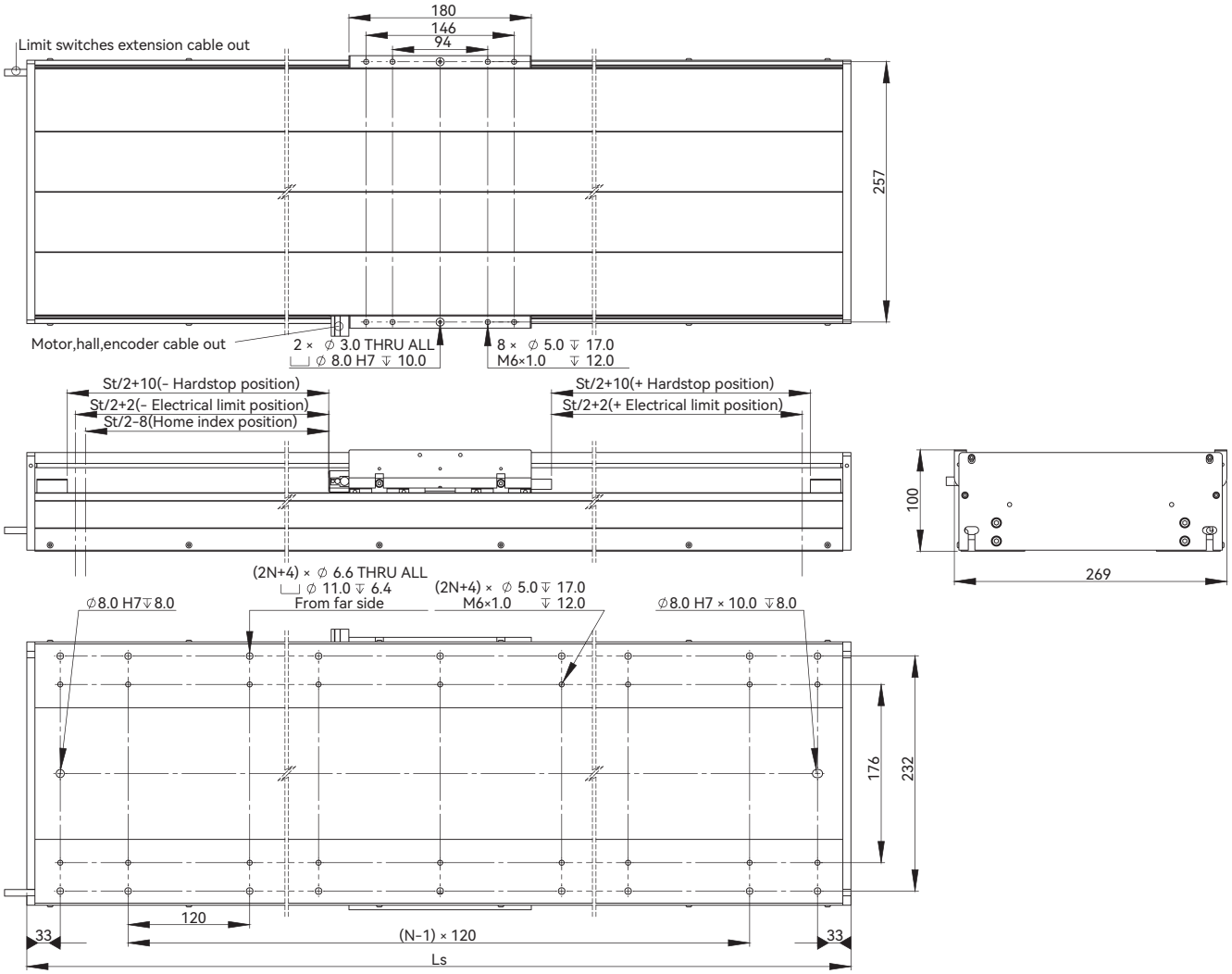
❶ Measurement is taken at ambient temperature 25ºC. Value depends on the thermal environment.
❷ Resistance is measured by DC current with standard 0.5m lead wire.
❸ Inductance is measured by current frequency of 1 kHz.
❹ Inductance is measured by current frequency of 1 kHz. The variation range of AUM inductance is ±40% because three phase inductances are different. The value in the catalog is the average between the maximum and minimum values. For each phase, the variation range is ±20%.

- All values are measured based on module fully mounted on a 5μm granite table.
- Values are measured according to Akribis measurement standard.
- All specifications above are standard, contact Akribis for special request（cust-service@akribis-sys.com）.

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

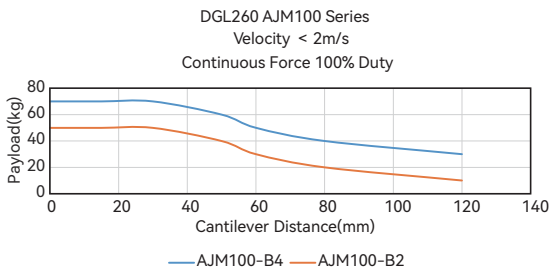
DGL260 Ironcore Series

DGL260-AJM100-B2 Dimensional Drawing

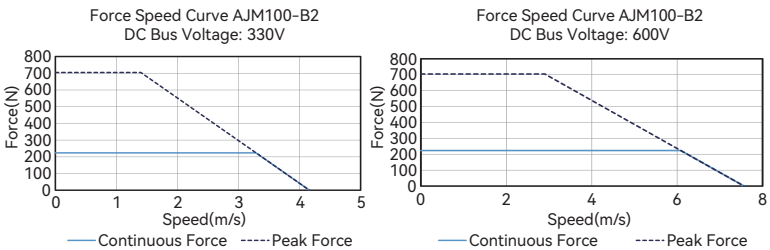


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	420	19.7
200	3	520	22.8
300	5	620	26.1
400	5	720	29.2
500	7	820	32.5
600	7	920	35.7
700	7	1020	39.1
800	9	1120	42.0
900	9	1220	45.5
1000	11	1320	48.5
1100	11	1420	51.9
1200	11	1520	55.0

Cantilever-Payload Curve

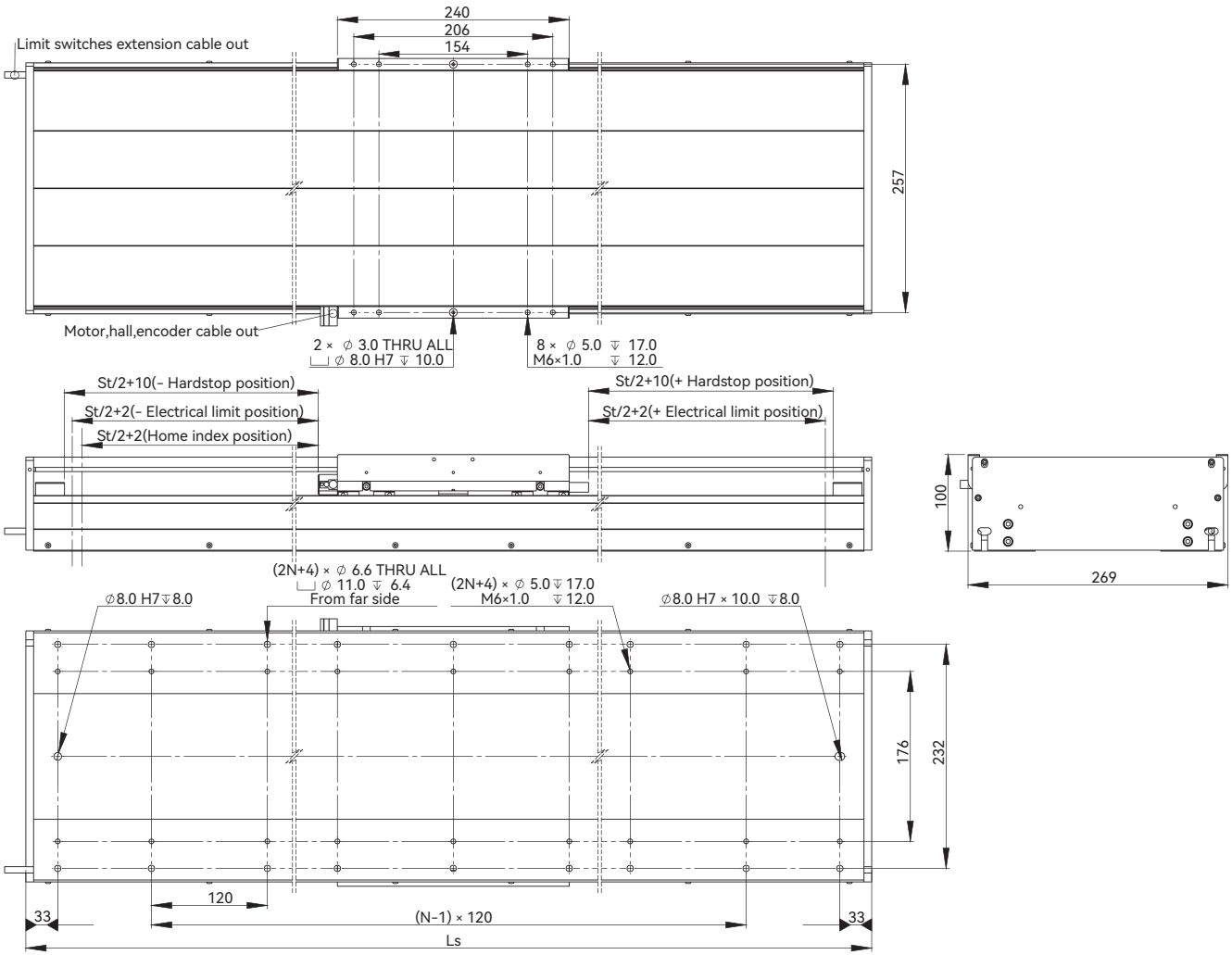


Force-Speed Curve



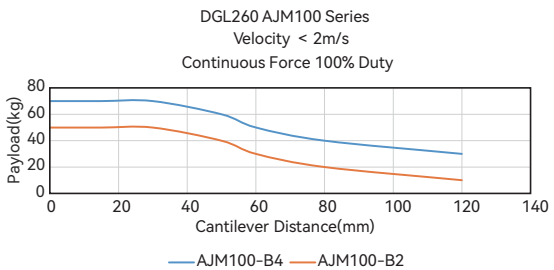
DGL260 Ironcore Series

DGL260-AJM100-B4 Dimensional Drawing

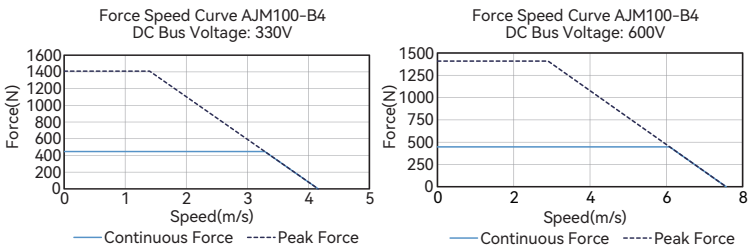


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	480	23.8
200	5	580	27.3
300	5	680	30.2
400	5	780	33.6
500	7	880	36.7
600	7	980	40.1
700	9	1080	43.2
800	9	1180	46.5
900	9	1280	49.6
1000	11	1380	53.0
1100	11	1480	56.1
1200	13	1580	59.4

Cantilever-Payload Curve

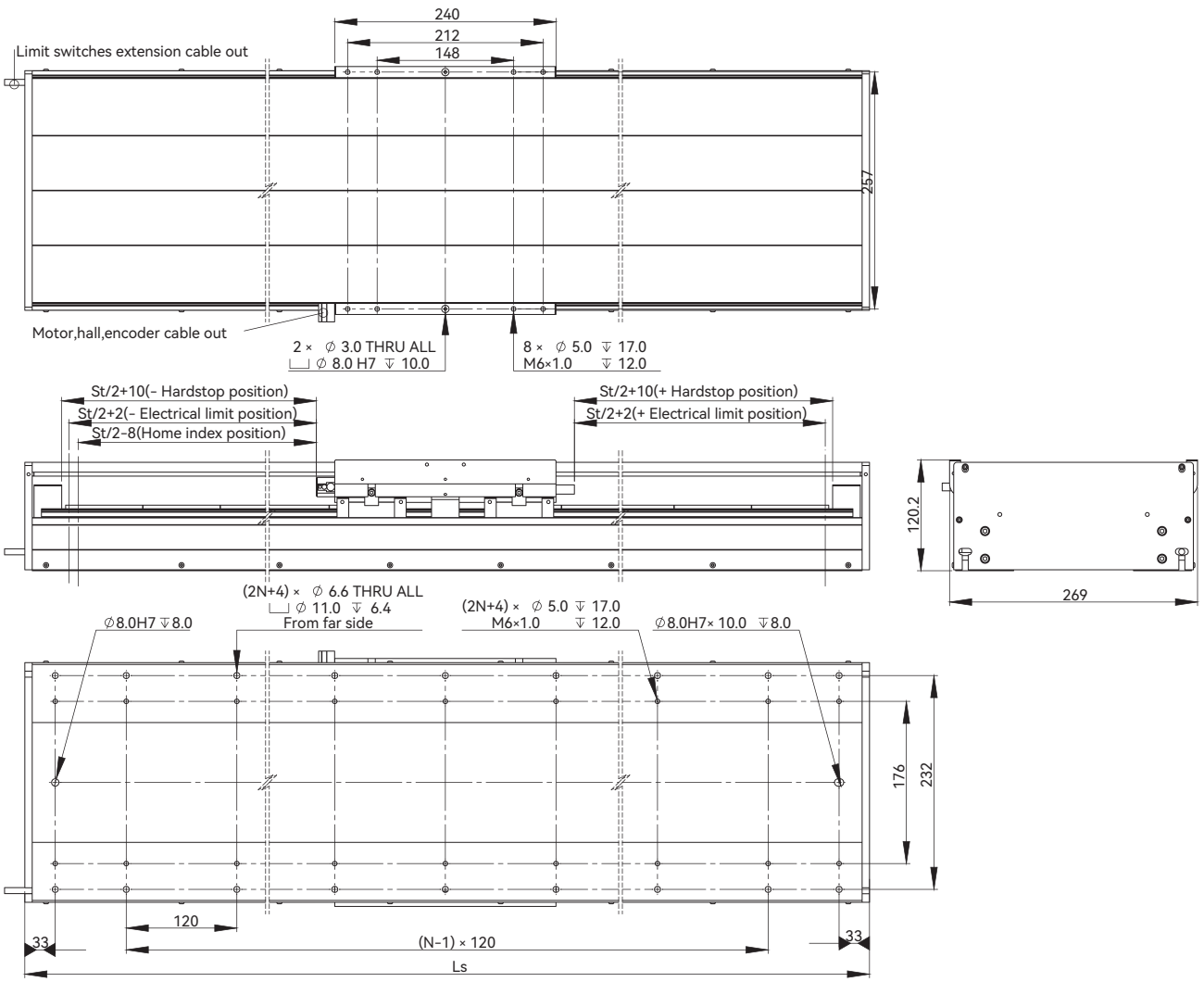


Force-Speed Curve



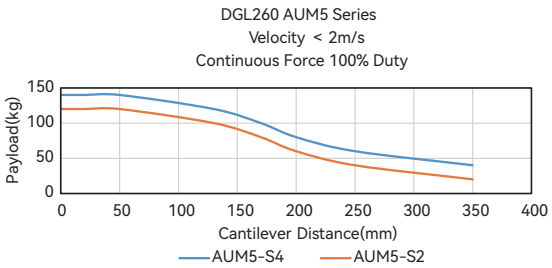
DGL260 Ironless Series

DGL260-AUM5-S2 Dimensional Drawing

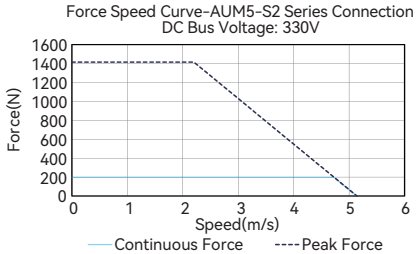


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	3	480	30.4
200	5	580	35.3
300	5	680	42.3
400	5	780	47.2
500	7	880	52.0
600	7	980	56.8
700	9	1080	61.7
800	9	1180	68.8
900	9	1280	73.6
1000	11	1380	78.5
1100	11	1480	83.3
1200	13	1580	88.2

Cantilever-Payload Curve

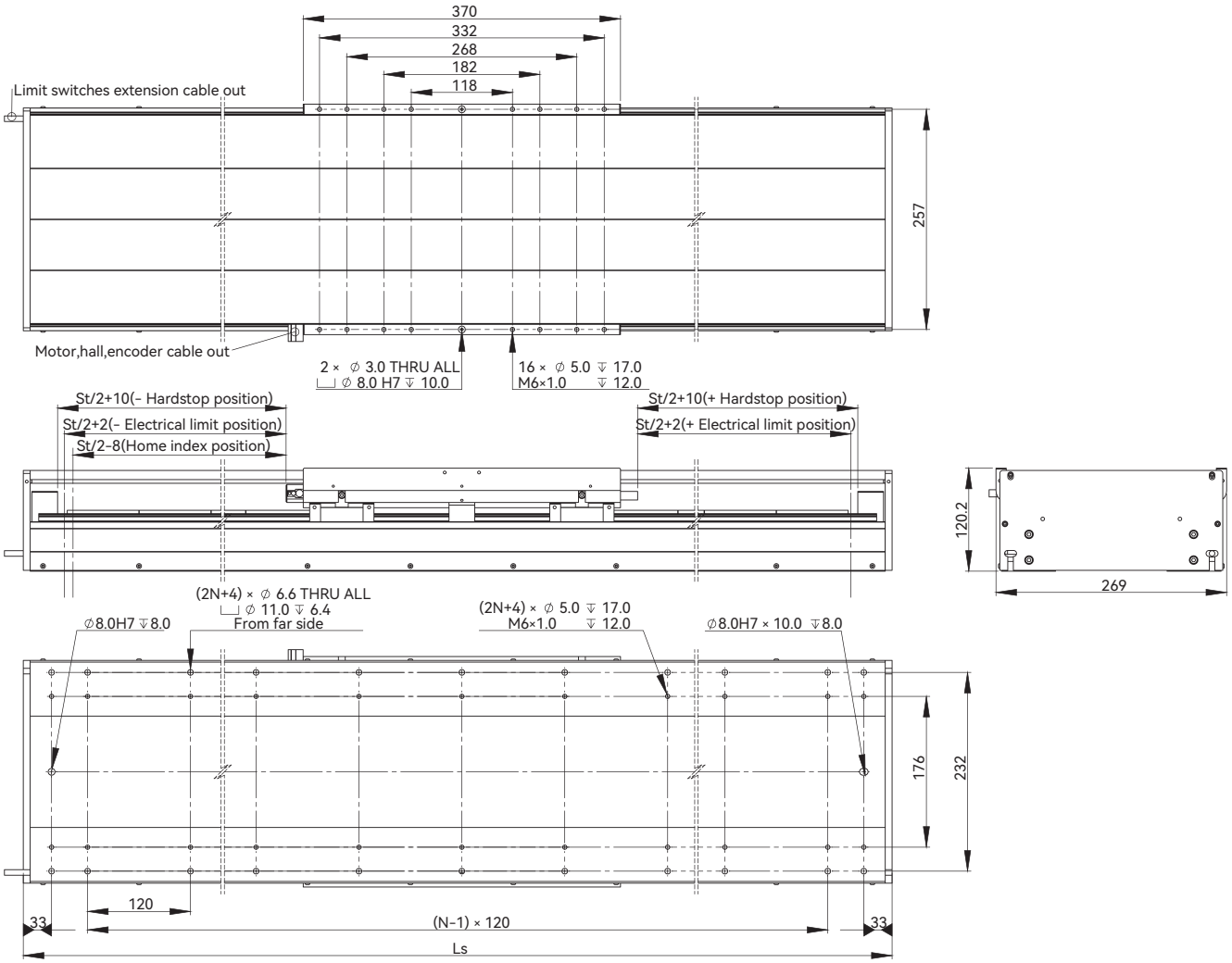


Force-Speed Curve



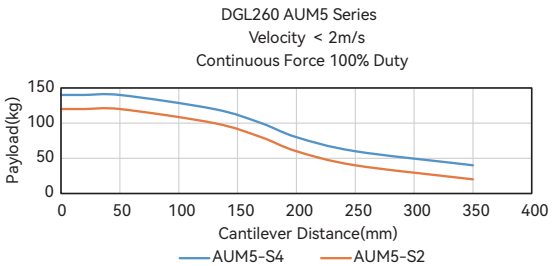
DGL260 Ironless Series

DGL260-AUM5-S4 Dimensional Drawing

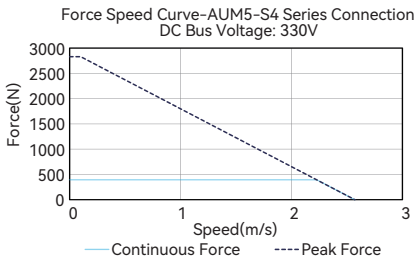


Effective Stroke(mm)	N	Module Length, Ls (mm)	Module Mass (kg)
100	5	610	41.5
200	5	710	46.3
300	5	810	51.3
400	7	910	56.1
500	7	1010	63.2
600	9	1110	68.0
700	9	1210	72.9
800	11	1310	77.8
900	11	1410	84.7
1000	11	1510	89.6
1100	13	1610	94.4
1200	13	1710	99.3

Cantilever-Payload Curve



Force-Speed Curve



Ordering Part Number (OPN)

DGL260 (Ironcore)

DGL260-S01-J45AD01-A1

Model:
DGL260

Cover Type:
S: Standard (Clear Anodized)
T: Standard (Black Anodized)

Effective Stroke:[1]
01: 100mm
02: 200mm
03: 300mm
04: 400mm
05: 500mm
06: 600mm
07: 700mm
08: 800mm
09: 900mm
10: 1000mm
11: 1100mm
12: 1200mm

Termination:
1: Motor: Flying Leads/Encoder: DSUB 15/Hall: DSUB 9
2: Motor: DSUB 9W4/Encoder: DSUB 15/Hall: DSUB 9

Cable Length:
A: 0.5m
B: 3.0m

Scale Type:
1: Steel Tape, 11ppm/K

Encoder Type:
AD0: ABA-20, BiSS C (50nm)
A70: ABA-50, BiSS C (50nm)
A71: ABA-50, Mitsubishi 2-Wires (50nm)
A73: ABA-50, EnDat 2.2 (50nm)
ABH: ABI-51X, TTL (0.1μm)
R2H: Quantic, TTL (0.1μm)

Motor Type:
J45: AJM100-B2-J (Peak Force: 704.5N)
J46: AJM100-B2-K (Peak Force: 704.5N)
J47: AJM100-B4-J (Peak Force: 1409.1N)
J48: AJM100-B4-K (Peak Force: 1409.1N)

DGL260 (Ironless)

DGL260-S01-U72AD01-A1

Model:
DGL260

Cover Type:
S: Standard (Clear Anodized)
T: Standard (Black Anodized)

Effective Stroke:[1]
01: 100mm
02: 200mm
03: 300mm
04: 400mm
05: 500mm
06: 600mm
07: 700mm
08: 800mm
09: 900mm
10: 1000mm
11: 1100mm
12: 1200mm

Termination:
1: Motor: Flying Leads/Encoder: DSUB 15/Hall: DSUB 9
2: Motor: DSUB 9W4/Encoder: DSUB 15/Hall: DSUB 9

Cable Length:
A: 0.5m
B: 3.0m

Scale Type:
1: Steel Tape, 11ppm/K

Encoder Type:
AD0: ABA-20, BiSS C (50nm)
A70: ABA-50, BiSS C (50nm)
A71: ABA-50, Mitsubishi 2-Wires (50nm)
A73: ABA-50, EnDat 2.2 (50nm)
ABH: ABI-51X, TTL (0.1μm)
R2H: Quantic, TTL (0.1μm)

Motor Type:
U72: AUM5-S-S2-J (Peak Force: 1415.0N)
U73: AUM5-S-S2-K (Peak Force: 1415.0N)
U80: AUM5-S-S4-J (Peak Force: 2830.0N)
U81: AUM5-S-S4-K (Peak Force: 2830.0N)

Note:
[1] Standard stroke in intervals of 100mm only. For more options, please contact Akribis sales engineers (cust-service@akribis-sys.com).
★ Products can be customized to meet specific working environments, please contact cust-service@akribis-sys.com.