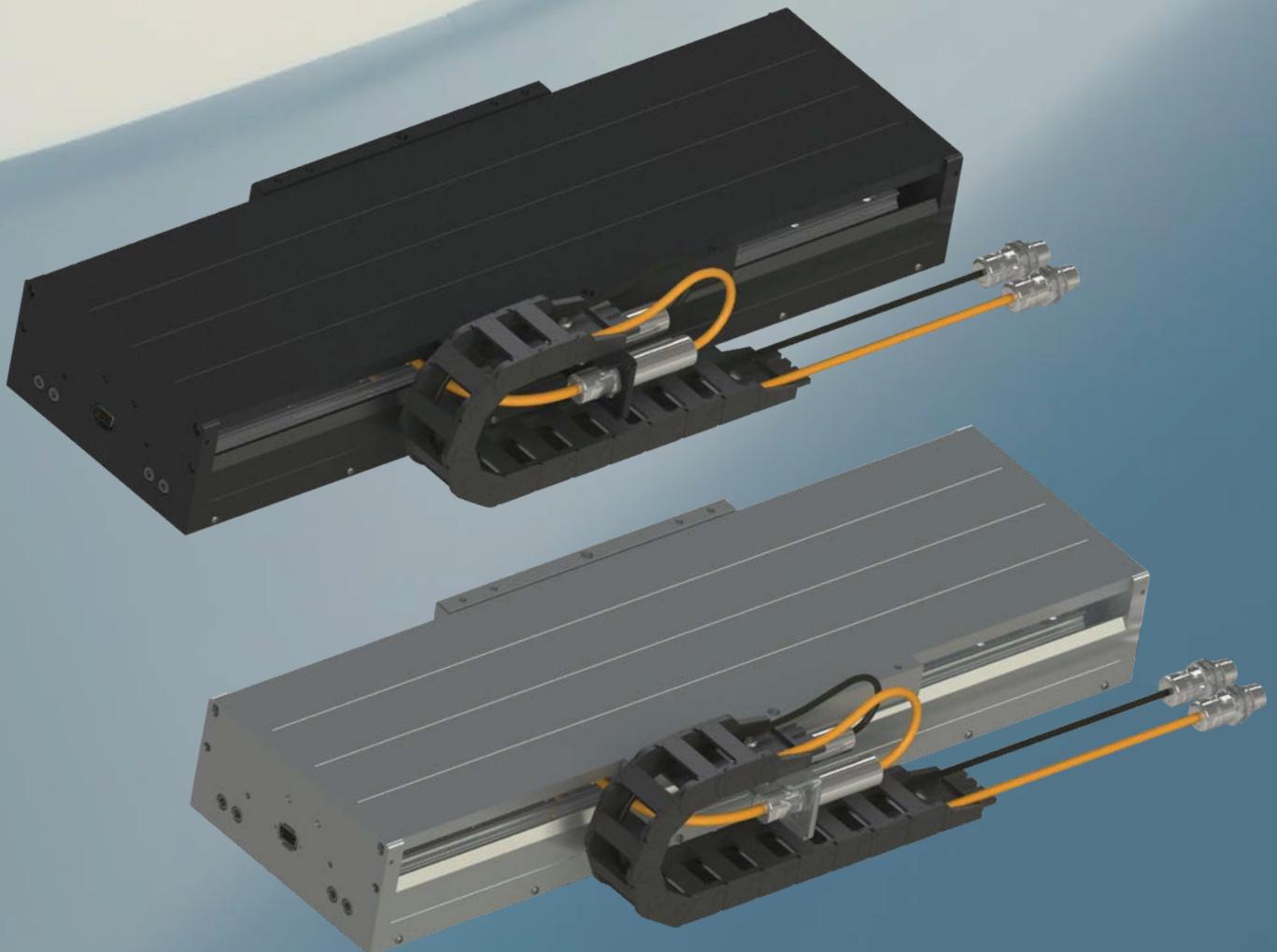


# DGH SERIES

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LINEAR STAGE



# Company Profile



**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 Aug 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 44 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.

The corporate headquarters of **Akribis Systems** is situated in **Singapore**. We have manufacturing facilities in Singapore and in Shanghai & Nantong, China.

Our sales network includes our sales offices in USA, South Korea, Japan, Thailand, Malaysia and Taiwan, and is reinforced by our comprehensive distribution channels in Asia, Europe and North America.

## **1 DGH MODULE INTRODUCTION**

**3 DGH150**  
Safety  
DGH150 Ironcore Series  
DGH150 Ironless Series  
DGH150 Ordering Part Number

**9 DGH180**  
Safety  
DGH180 Ironcore Series  
DGH180 Ironless Series  
DGH180 Ordering Part Number

**15 DGH200**  
Safety  
DGH200 Ironcore Series  
DGH200 Ironless Series  
DGH200 Ordering Part Number

**21 DGH260**  
Safety  
DGH200 Ironcore Series  
DGH200 Ironless Series  
DGH200 Ordering Part Number

**26 DGH STACK**  
DGH Stake Ordering Part Number

**29 DGH ACCESSORIES**  
Pneumatic Clamps  
Machine Vibration Control  
Accessible Regreasing Ports  
M23 / DSUB Termination and Energy  
Chain option

**33 DGH ORDERING EXAMPLE**

## DGH Module Introduction

Akribis DGH series utilise 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 DGH can be using Akribis' patented AUM series ironless linear motor or AJM series iron core linear motor. The AUM linear motor has no cogging, allowing for velocity control and scanning applications. Although the AJM linear motor is iron core, it is more cost-effective than the AUM and is still suitable for point-to-point motion.

	Linear Motors	Series	Continuous Force (F <sub>cn</sub> )					Peak Force (F <sub>pk</sub> )		Unit: N	Stroke (mm)
			50	100	300	500	1000	1500			
 DGH150	 AJM Series	DGH150-AJM30-B2	68.1			214.7					100
		DGH150-AJM30-B4	136.2			429.4					~
	 AUM Series	DGH150-AUM2-S4	35.2			176					800
 DGH180	 AJM Series	DGH180-AJM50-B2	117			369				100	
		DGH180-AJM50-B4	234			738.1					~
	 AUM Series	DGH180-AUM3-S2	57			289					800
		DGH180-AUM3-S4	113			578					
 DGH200	 AJM Series	DGH200-AJM80-B2	174.5			550.2				100	
		DGH200-AJM80-B4	348.9			1100.4					~
	 AUM Series	DGH200-AUM4-S2	110			624					800
		DGH200-AUM4-S4	211			1248					
			Continuous Force (F <sub>cn</sub> )					Peak Force (F <sub>pk</sub> )		Unit: N	Stroke (mm)
			500	1500	2000	2500	3000	3500			
 DGH260	 AJM Series	DGH260-AJM100-B2	223.4			704.5				100	
		DGH260-AJM100-B4	446.8			1409.1					~
	 AUM Series	DGH260-AUM5-S2	197			1415					800

 Larger stroke on request.

## Enhanced Performance

The DGH series is Akribis' high performance linear stage series, boasting superior specifications and performance to the DGL series, Akribis' primary linear stage series. To meet the challenges of the future for greater precision and quality, the DGH design is the cumulation of improved fabrication capabilities, data-driven selection of precision grade components and the collaboration of specialists in the different fields.

## Safety Feature

To match the power that Akribis' motor can produce, safety is especially integral to the DGH series' design. The DGH design underwent rigorous testing during its development to meet the industry's increasing expectations for safety while maintaining a high load capacity to max velocity ratio. In addition, the safety feature is developed and sized with the intention to combine multiple Akribis' modules for a multi-axis stage without sacrificing load capacity. DGH series' electrical components are UL certified and capable of handling the high stress generated by the powerful motion. Feel at ease while wielding the full potential of Akribis' motor in the DGH series.

## Cost Effective

The DGH design is cost effective at its core. The DGH series focuses on the most crucial elements to provide high precision performance while keeping prices low. No-frills and only the essentials, the DGH hits that balance of quality and cost. As mentioned, for that extra versatility that is required from time to time, Akribis offers additional accessories. Do contact your local Akribis sales office for more information.



Motor	Unit	DGH150 Ironcore Series		DGH150 Ironless Series
		AJM30-B2	AJM30-B4	AUM2-S4
Continuous Force	N	68.1	136.2	35.2
Peak Force	N	214.7	429.4	176.0
Effective Stroke	mm	100-800		
Resolution	μm	0.05 / 0.1 / 0.5 / SINCOS		
Accuracy <sup>①</sup>	μm	±2.0		
Min. Incremental Motion <sup>②</sup>	μm	0.5		
Repeatability <sup>②</sup>	μm	±0.5		
Horizontal Straightness	μm	10.0		
Vertical Straightness	μm	20.0		
No-load Moving Mass	kg	2.4	3.5	1.1
Rated Payload	kg	10.0	20.0	20.0
Pitch	arcsec	±10		
Roll	arcsec	±10		
Yaw	arcsec	±10		

① After Error Mapping

② Applicable for encoder resolutions 0.05μm, 0.1μm & SINCOS only

Note:

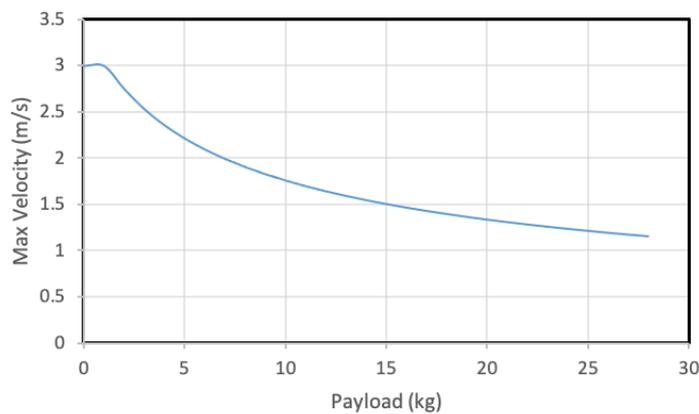
\* All values are measured based on module fully mounted on a 5μm granite table.

\* Values are measured according to Akribis measuring standard.

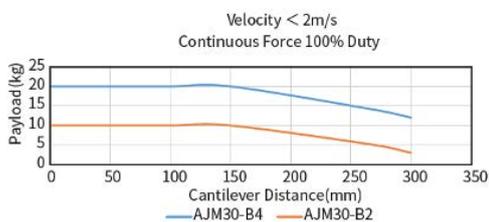
\* All specifications above are standard, contact Akribis for special request.

## Safety

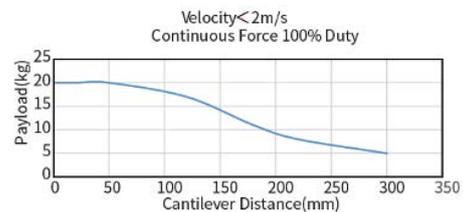
### Max Allowed Velocity Curve



■ Cantilever-Payload Curve



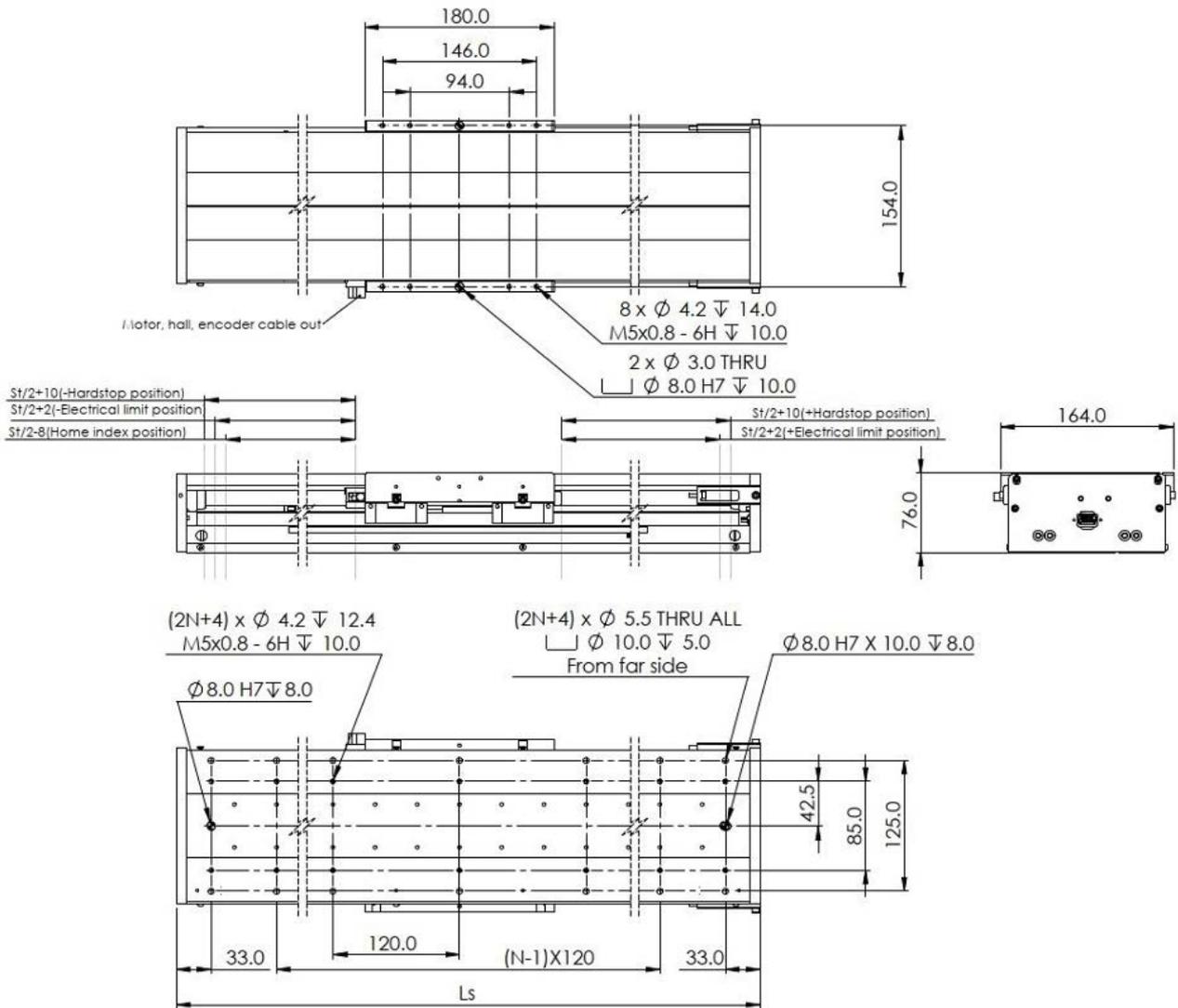
■ Cantilever-Payload Curve



# THE DGH Series

## DGH150 Ironcore Series

DGH150-AJM30-B2 Dimension Drawing

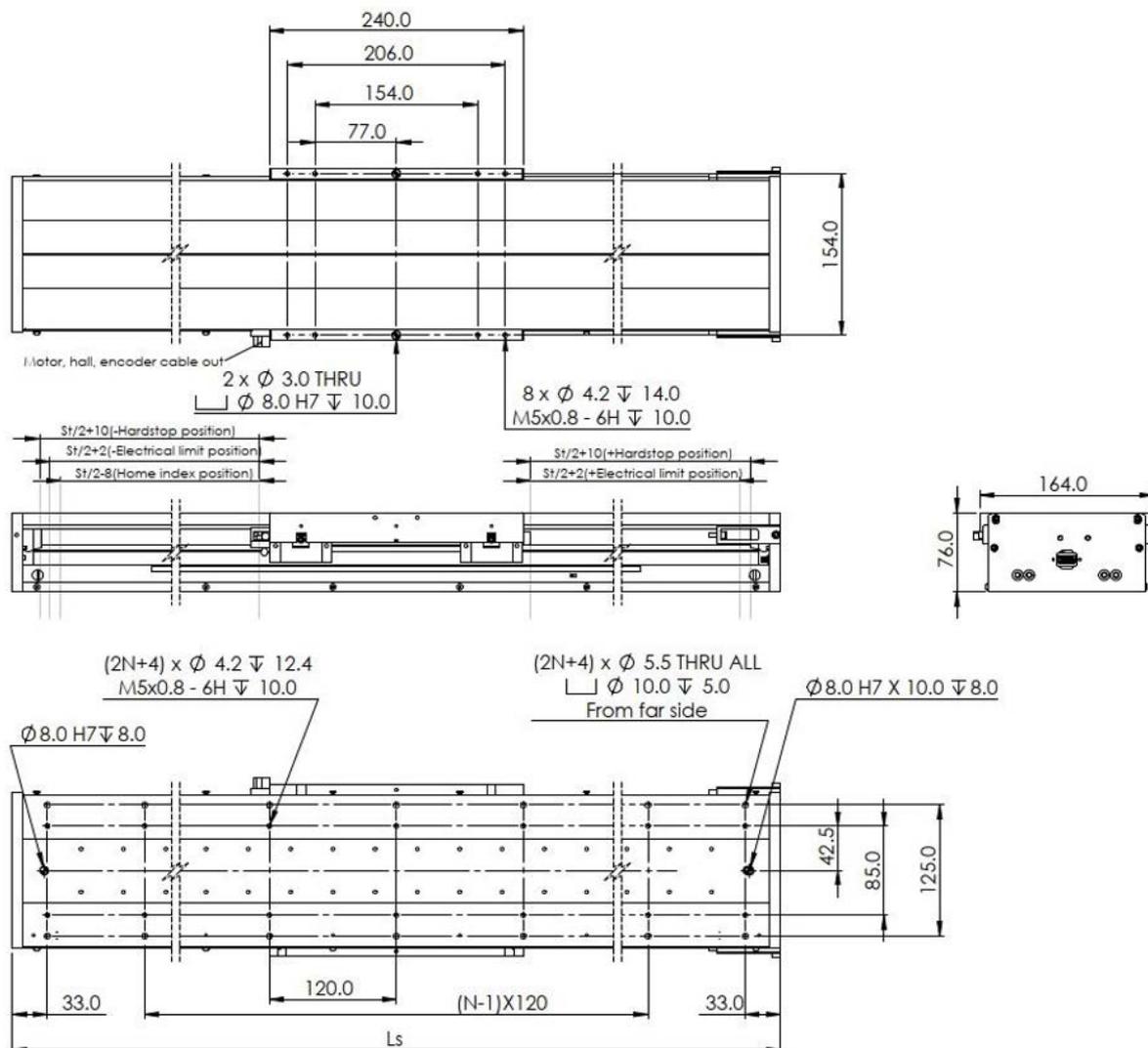


Effective Stroke (mm)	N	Module Length Ls (mm)	Module Mass (kg)
100	1	370	8.3
200	3	470	9.7
300	3	570	11.0
400	5	670	12.4
500	5	770	13.7
600	7	870	15.1
700	7	970	16.4
800	7	1070	17.9

# THE DGH Series

## DGH150 Ironcore Series

DGH150-AJM30-B4 Dimension Drawing

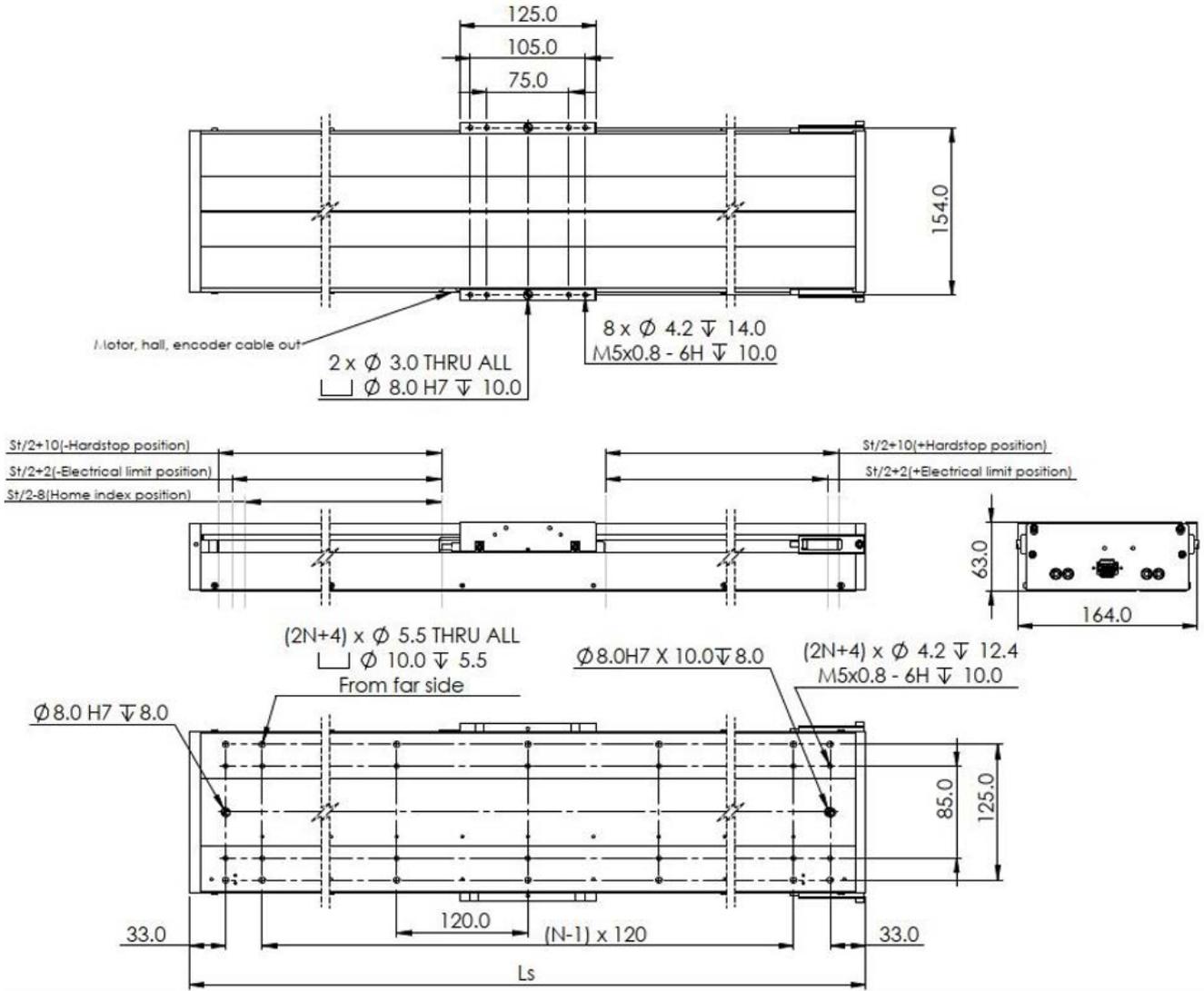


Effective Stroke (mm)	N	Module Length Ls (mm)	Module Mass (kg)
100	3	430	9.8
200	3	530	11.2
300	5	630	12.6
400	5	730	14.1
500	5	830	15.5
600	7	930	16.7
700	7	1030	18.2
800	9	1130	19.5

# THE DGH Series

## DGH150 Ironless Series

DGH150-AUM-S4 Dimension 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	5	813	11.9
700	7	913	13.3
800	7	1013	14.7

# THE DGH Series

## DGH150 Ordering Part Number

DGH150 (Ironcore)

**DH1 S 01 J05 E73 1 A 2**

**Model:**

DH1: DGH150

**Cover Type:**

S: Standard (Clear Anodized)  
 T: Standard (Black Anodized)  
 C: Conventional (Clear Anodized)  
 D: Conventional (Black Anodized)

**Stroke:**

01: 100mm  
 02: 200mm  
 03: 300mm  
 04: 400mm  
 05: 500mm  
 06: 600mm  
 07: 700mm  
 08: 800mm

**Motor Type:**

J05: AJM30-B2-K5 (Peak: 214.7N)  
 J06: AJM30-B4-K5 (Peak: 429.4N)

**Termination:**

2: DSUB  
 3: M23

**Cable Length:**

A: 0.5m

**Scale Type ①:**

1: Steel Tape, 11ppm/K  
 2: Glass G8 Soda Lime, 8ppm/K  
 3: Glass G0 Robax, 0ppm/K

**Encoder Type:**

E73: ABA50E EnDat2.2 (0.05um)  
 E71: ABA50M Mitsubishi (0.05um)  
 EBH: Quantic (0.1um)  
 EBF: Quantic (0.5um)  
 E9H: ABI51D (0.1um)  
 E90: ABI51D (SINCOS)  
 EA0: ABI22 (SINCOS)

① ABA50E/M & Quantic only Steel Tape, ABI51D only Glass

DGH150 (Ironless)

**DH1 S 01 U10 E73 1 A 2**

**Model:**

DH1: DGH150

**Cover Type:**

S: Standard (Clear Anodized)  
 T: Standard (Black Anodized)  
 C: Conventional (Clear Anodized)  
 D: Conventional (Black Anodized)

**Stroke:**

01: 100mm  
 02: 200mm  
 03: 300mm  
 04: 400mm  
 05: 500mm  
 06: 600mm  
 07: 700mm  
 08: 800mm

**Motor Type:**

U10: AUM2-S-S4-K5 (Peak: 176.0N)  
 U11: AUM2-P-S4-K5 (Peak: 176.0N)

**Termination:**

2: DSUB  
 3: M23

**Cable Length:**

A: 0.5m

**Scale Type ①:**

1: Steel Tape, 11ppm/K  
 2: Glass G8 Soda Lime, 8ppm/K  
 3: Glass G0 Robax, 0ppm/K

**Encoder Type:**

E73: ABA50E EnDat2.2 (0.05um)  
 E71: ABA50M Mitsubishi (0.05um)  
 EBH: Quantic (0.1um)  
 EBF: Quantic (0.5um)  
 E9H: ABI51D (0.1um)  
 E90: ABI51D (SINCOS)  
 EA0: ABI22 (SINCOS)

① ABA50E/M & Quantic only Steel Tape, ABI51D only Glass

Motor	Unit	DGH180 Ironcore Series		DGH180 Ironless Series	
		AJM50-B2	AJM50-B4	AUM3-S2	AUM3-S4
Continuous Force	N	117.0	234.0	57.0	113.0
Peak Force	N	369.0	738.1	289.0	578.0
Effective Stroke	mm	100-800			
Resolution	μm	0.05 / 0.1 / 0.5 / SINCOS			
Accuracy <sup>①</sup>	μm	±2.0			
Min. Incremental Motion <sup>②</sup>	μm	0.5			
Repeatability <sup>②</sup>	μm	±0.5			
Horizontal Straightness	μm	10.0			
Vertical Straightness	μm	20.0			
No-load Moving Mass	kg	3.5	4.9	2.9	3.9
Rated Payload	kg	20.0	30.0	40.0	50.0
Pitch	arcsec	±10			
Roll	arcsec	±10			
Yaw	arcsec	±10			

① After Error Mapping

② Applicable for encoders

with resolutions 0.05μm, 0.1μm or SINCOS only

Note:

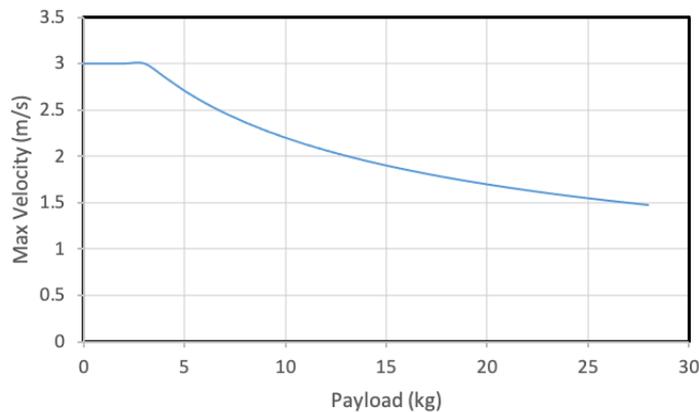
\* All values are measured based on module fully mounted on a 5μm granite table.

\* Values are measured according to Akribis measuring standard.

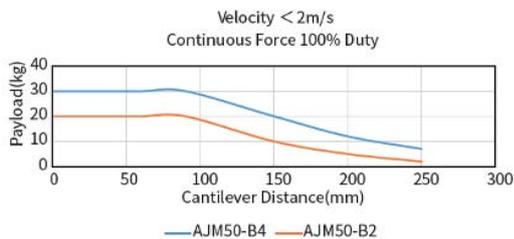
\* All specifications above are standard, contact Akribis for special request.

## Safety

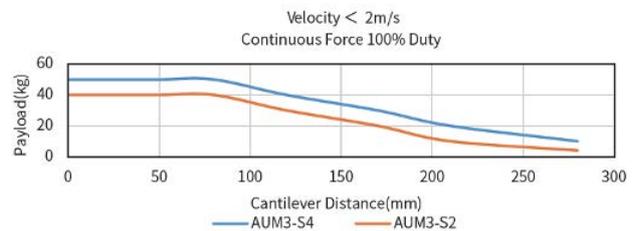
### Max Allowed Velocity Curve



#### ■ Cantilever-Payload Curve



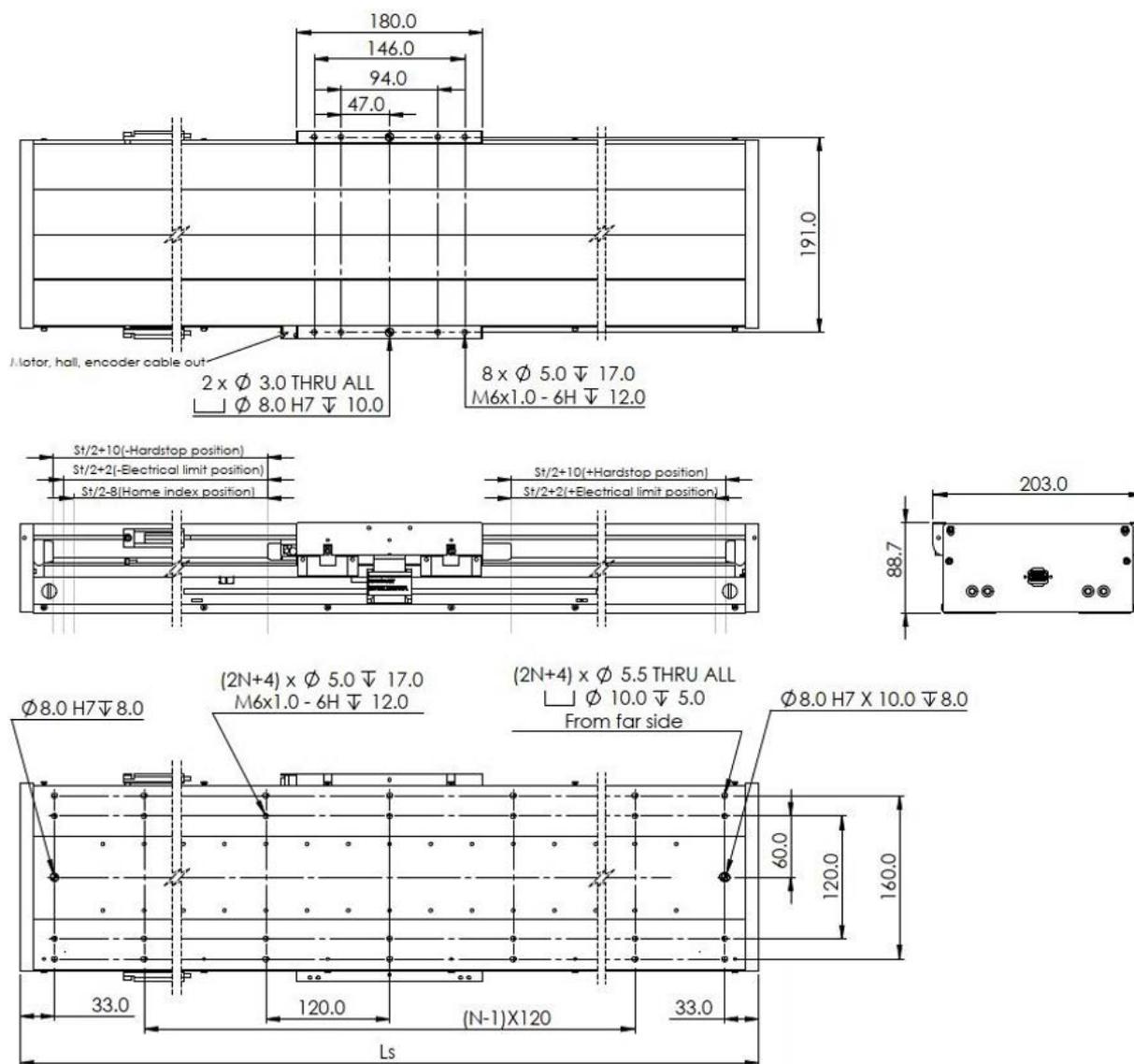
#### ■ Cantilever-Payload Curve



# THE DGH Series

## DGH180 Ironcore Series

DGH180-AJM50-B2 Dimension Drawing

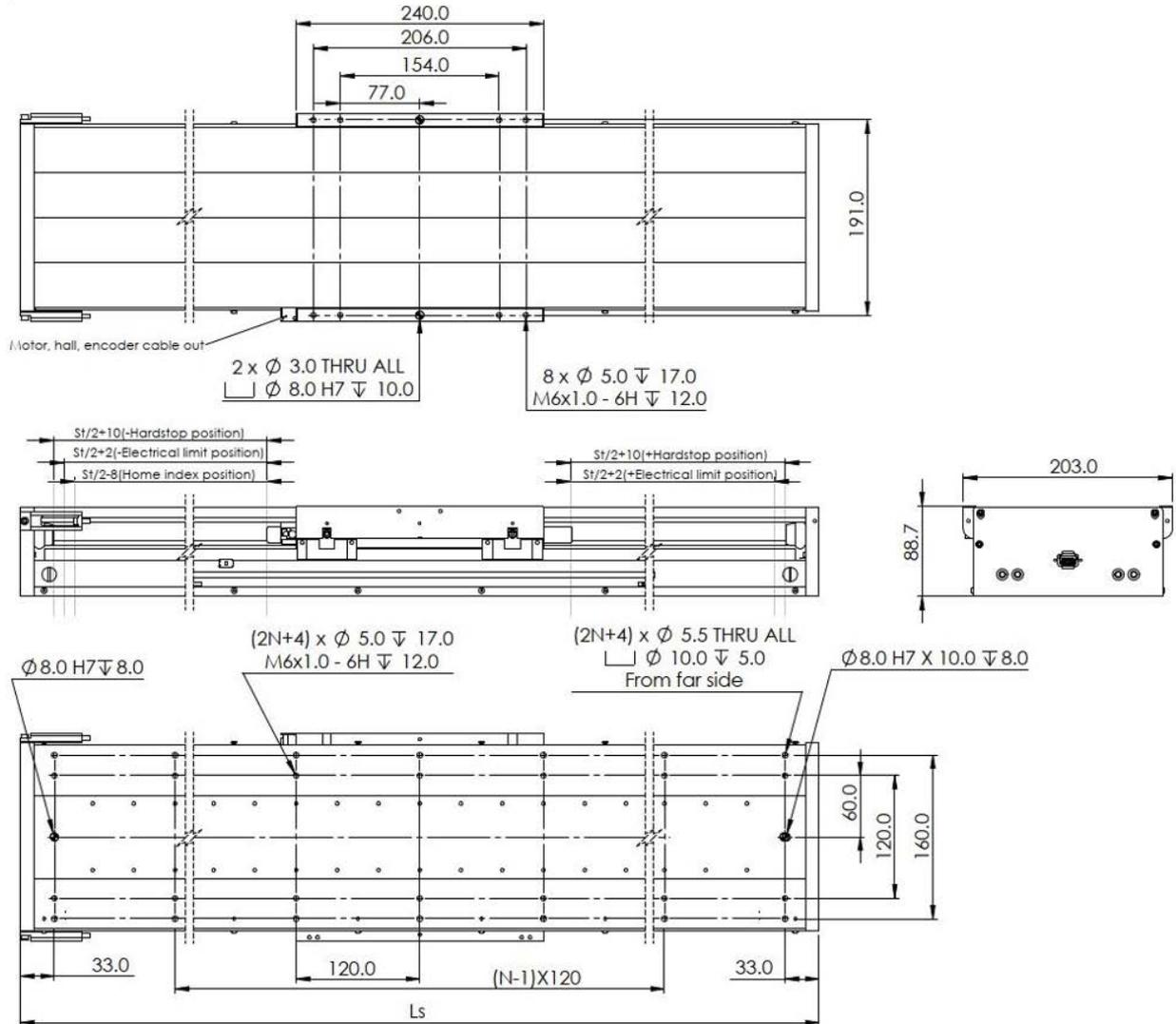


Effective Stroke (mm)	N	Module Length $L_s$ (mm)	Module Mass (kg)
100	3	420	12.7
200	3	520	14.5
300	5	620	16.6
400	5	720	18.4
500	5	820	20.4
600	7	920	22.3
700	7	1020	24.3
800	9	1120	26.2

# THE DGH Series

## DGH180 Ironcore Series

DGH180-AJM50-B4 Dimension Drawing

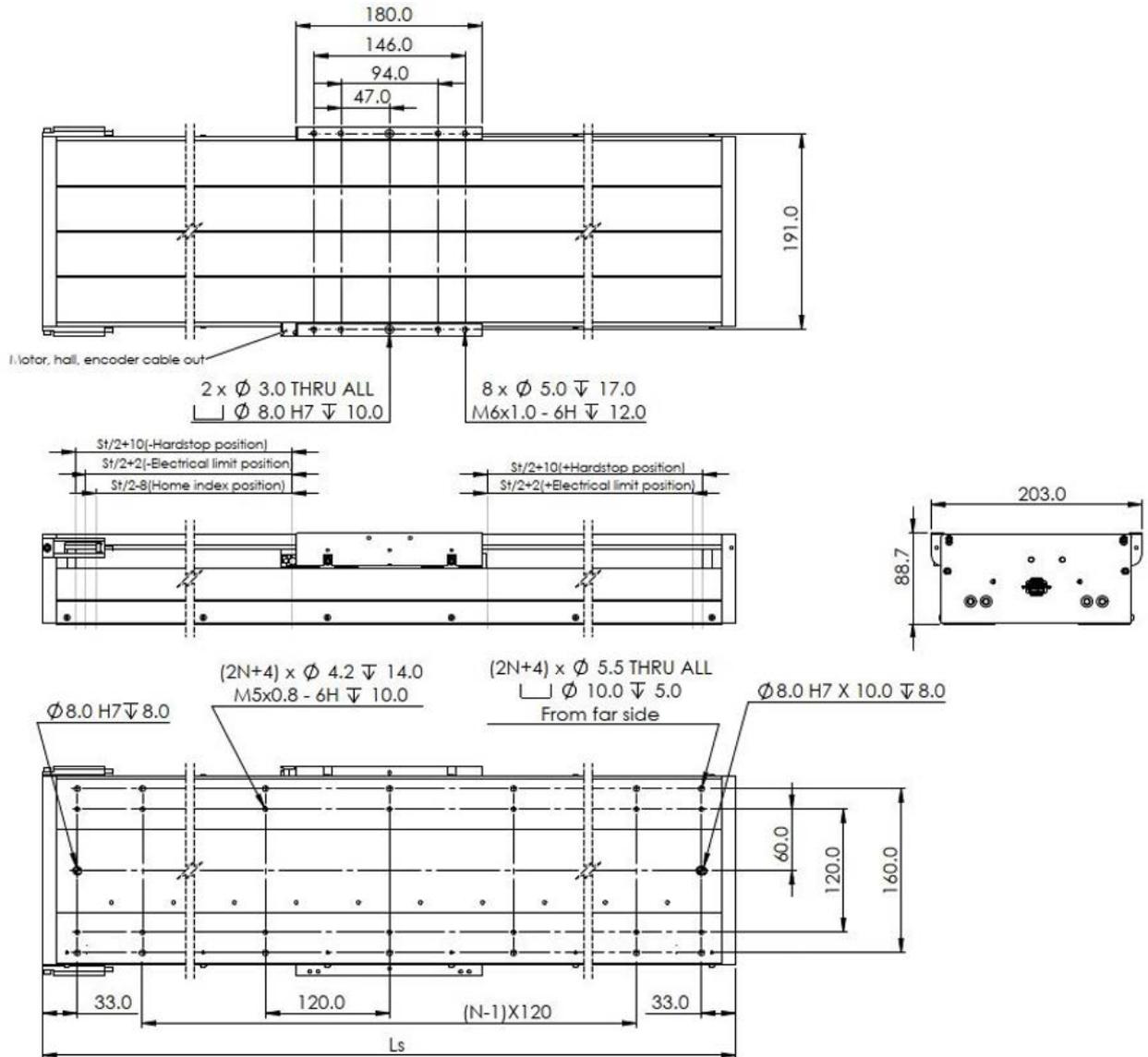


Effective Stroke (mm)	N	Module Length Ls (mm)	Module Mass (kg)
100	3	480	15.1
200	3	580	17.2
300	5	680	19.0
400	5	780	21.1
500	7	880	23.0
600	7	980	25.1
700	7	1080	26.7
800	9	1180	28.9

# THE DGH Series

## DGH180 Ironless Series

DGH180-AUM3-S2 Dimension Drawing

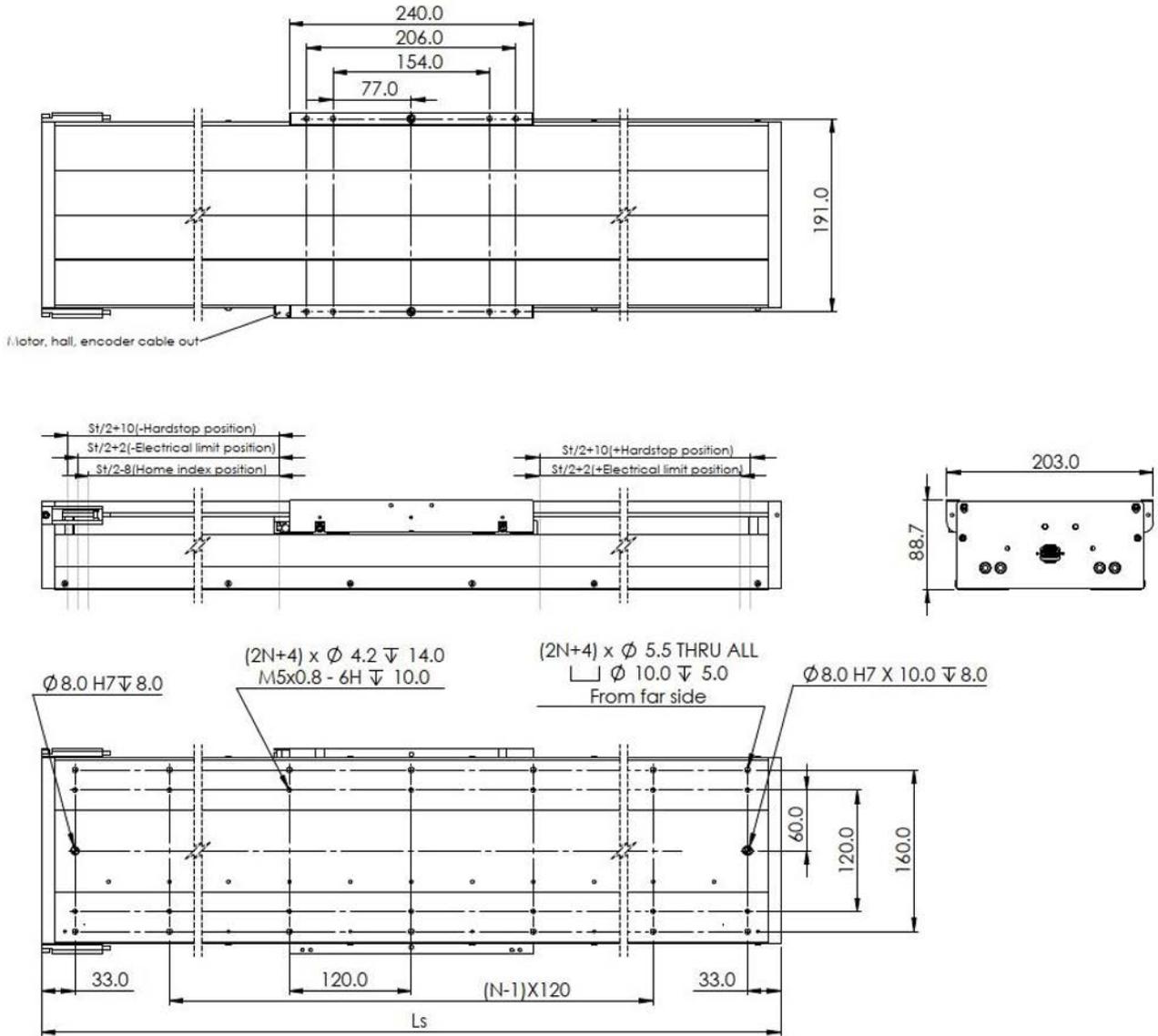


Effective Stroke (mm)	N	Module Length Ls (mm)	Module Mass (kg)
100	3	372	11.7
200	3	472	14.1
300	3	572	16.0
400	5	672	18.4
500	5	772	20.9
600	7	872	22.8
700	7	972	25.3
800	7	1072	27.8

# THE DGH Series

## DGH180 Ironless Series

DGH180-AUM3-S4 Dimension 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	5	832	23.2
600	7	932	25.2
700	7	1032	27.6
800	9	1132	30.0

# THE DGH Series

## DGH180 Ordering Part Number

DGH180 (Ironcore)

**DH2 S 01 J15 E73 1 A 2**

**Model:**

DH2: DGH180

**Cover Type:**

S: Standard (Clear Anodized)  
 T: Standard (Black Anodized)  
 C: Conventional (Clear Anodized)  
 D: Conventional (Black Anodized)

**Stroke:**

01: 100mm  
 02: 200mm  
 03: 300mm  
 04: 400mm  
 05: 500mm  
 06: 600mm  
 07: 700mm  
 08: 800mm

**Motor Type:**

J15: AJM50-B2-J (Peak: 369.0N)  
 J19: AJM50-B2-K5 (Peak: 369.0N)  
 J17: AJM50-B4-J (Peak: 738.1N)  
 J20: AJM50-B4-K5 (Peak: 738.1N)

**Termination:**

2: DSUB  
 3: M23

**Cable Length:**

A: 0.5m

**Scale Type ①:**

1: Steel Tape, 11ppm/K  
 2: Glass G8 Soda Lime, 8ppm/K  
 3: Glass G0 Robax, 0ppm/K

**Encoder Type:**

E73: ABA50E EnDat2.2 (0.05um)  
 E71: ABA50M Mitsubishi (0.05um)  
 EBH: Quantic (0.1um)  
 EBF: Quantic (0.5um)  
 E9H: ABI51D (0.1um)  
 E90: ABI51D (SINCOS)  
 EA0: ABI22 (SINCOS)

① ABA50E/M & Quantic only Steel Tape, ABI51D only Glass

DGH180 (Ironless)

**DH2 S 01 U17 E73 1 A 2**

**Model:**

DH2: DGH180

**Cover Type:**

S: Standard (Clear Anodized)  
 T: Standard (Black Anodized)  
 C: Conventional (Clear Anodized)  
 D: Conventional (Black Anodized)

**Stroke:**

01: 100mm  
 02: 200mm  
 03: 300mm  
 04: 400mm  
 05: 500mm  
 06: 600mm  
 07: 700mm  
 08: 800mm

**Motor Type:**

U17: AUM3-S-S2-J (Peak: 289.0N)  
 U33: AUM3-S-S2-K5 (Peak: 289.0N)  
 U19: AUM3-P-S2-J (Peak: 289.0N)  
 U34: AUM3-P-S2-K5 (Peak: 289.0N)  
 U25: AUM3-S-S4-J (Peak: 578.0N)  
 U35: AUM3-S-S4-K5 (Peak: 578.0N)  
 U27: AUM3-P-S4-J (Peak: 578.0N)  
 U36: AUM3-P-S4-K5 (Peak: 578.0N)

**Termination:**

2: DSUB  
 3: M23

**Cable Length:**

A: 0.5m

**Scale Type ①:**

1: Steel Tape, 11ppm/K  
 2: Glass G8 Soda Lime, 8ppm/K  
 3: Glass G0 Robax, 0ppm/K

**Encoder Type:**

E73: ABA50E EnDat2.2 (0.05um)  
 E71: ABA50M Mitsubishi (0.05um)  
 EBH: Quantic (0.1um)  
 EBF: Quantic (0.5um)  
 E9H: ABI51D (0.1um)  
 E90: ABI51D (SINCOS)  
 EA0: ABI22 (SINCOS)

① ABA50E/M & Quantic only Steel Tape, ABI51D only Glass

Motor	Unit	DGH200 Ironcore Series		DGH200 Ironless Series	
		AJM80-B2	AJM80-B4	AUM4-S2	AUM4-S4
Continuous Force	N	174.5	348.9	110.0	221.0
Peak Force	N	550.2	1100.4	624.0	1248.0
Effective Stroke	mm	100-800			
Resolution	μm	0.05 / 0.1 / 0.5 / SINCOS			
Accuracy <sup>①</sup>	μm	±2.0			
Min. Incremental Motion <sup>②</sup>	μm	0.5			
Repeatability <sup>②</sup>	μm	±0.5			
Horizontal Straightness	μm	10.0			
Vertical Straightness	μm	20.0			
No-load Moving Mass	kg	4.2	6.1	3.2	4.4
Rated Payload <sup>③</sup>	kg	39.3	78.5	44.5	89.1
Pitch	arcsec	±10			
Roll	arcsec	±10			
Yaw	arcsec	±10			

① After Error Mapping

② Applicable for encoders

with resolutions 0.05μm, 0.1μm or SINCOS only

③

Note:

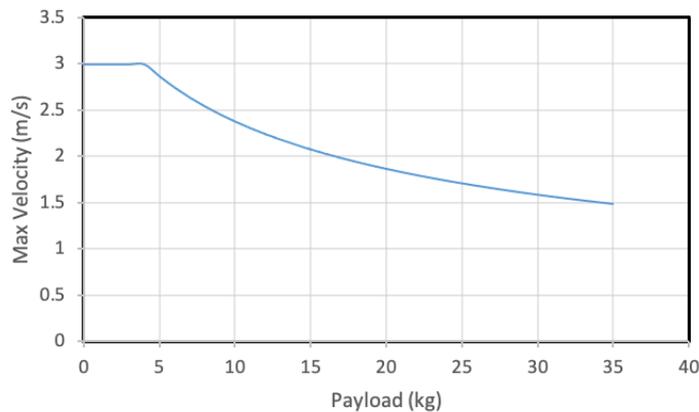
\* All values are measured based on module fully mounted on a 5μm granite table.

\* Values are measured according to Akribis measuring standard.

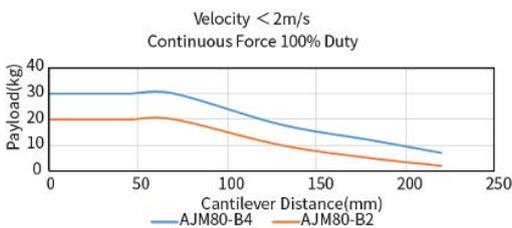
\* All specifications above are standard, contact Akribis for special request.

## Safety

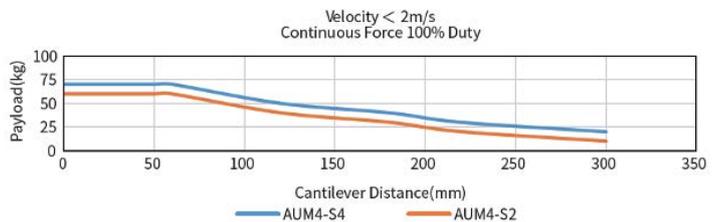
### Max Allowed Velocity Curve



### ■ Cantilever-Payload Curve



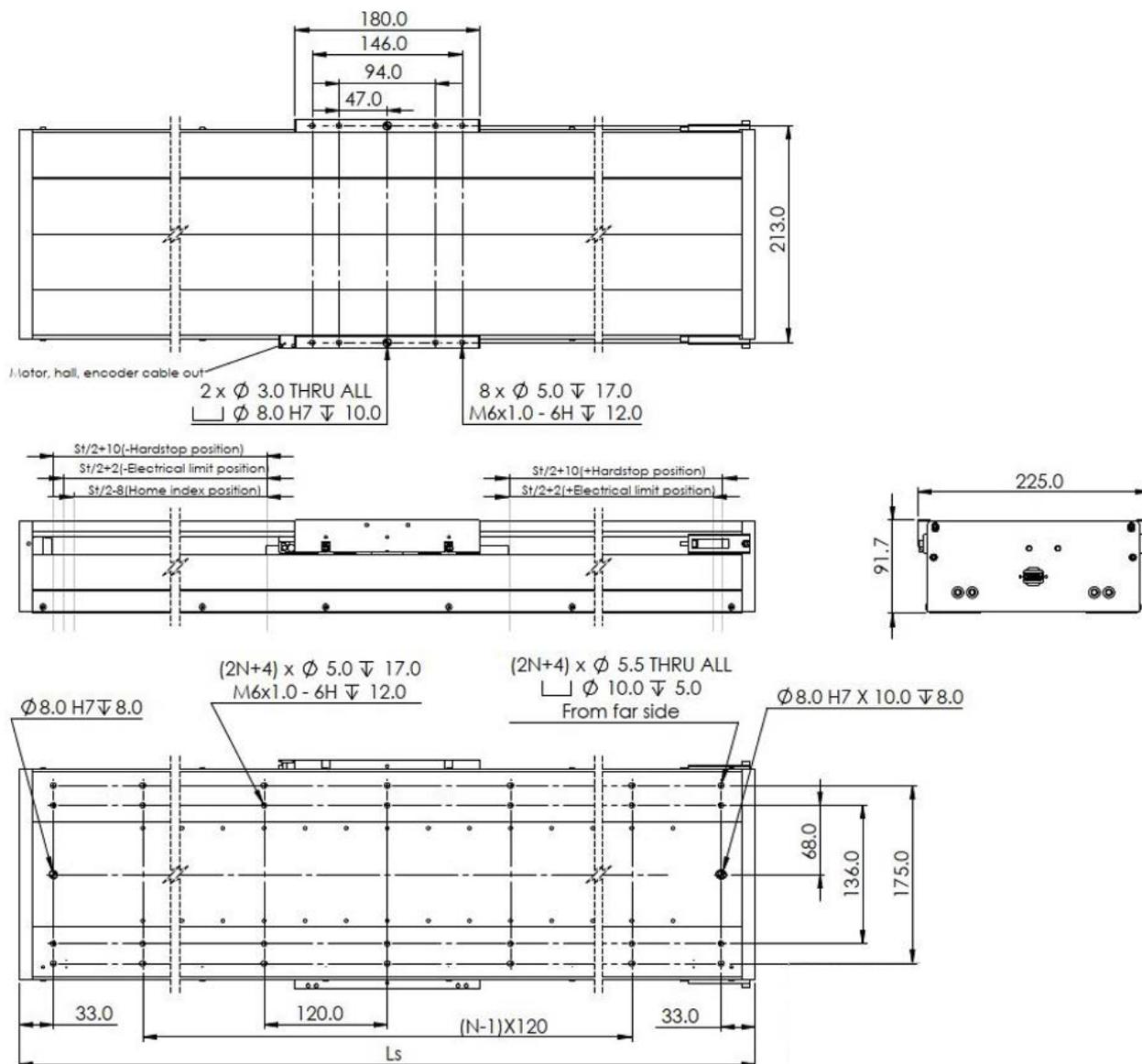
### ■ Cantilever-Payload Curve



# THE DGH Series

## DGH200 Ironcore Series

DGH200-AJM80-B2 Dimension Drawing

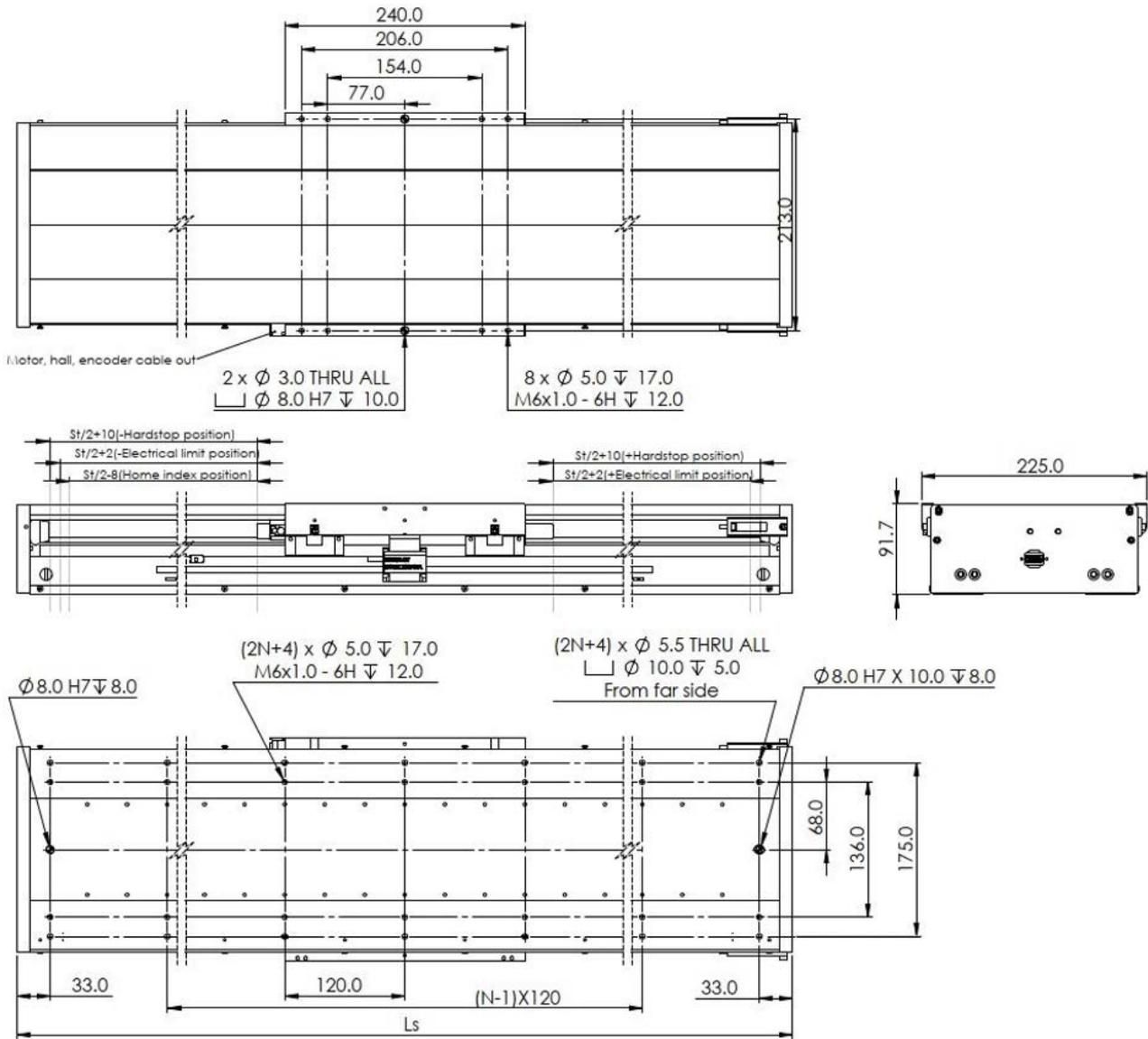


Effective Stroke (mm)	N	Module Length Ls (mm)	Module Mass (kg)
100	3	420	14.7
200	3	520	16.9
300	5	620	19.3
400	5	720	21.5
500	5	820	23.9
600	7	920	26.1
700	7	1020	28.5
800	9	1120	30.5

# THE DGH Series

## DGH200 Ironcore Series

DGH200-AJM80-B4 Dimension Drawing

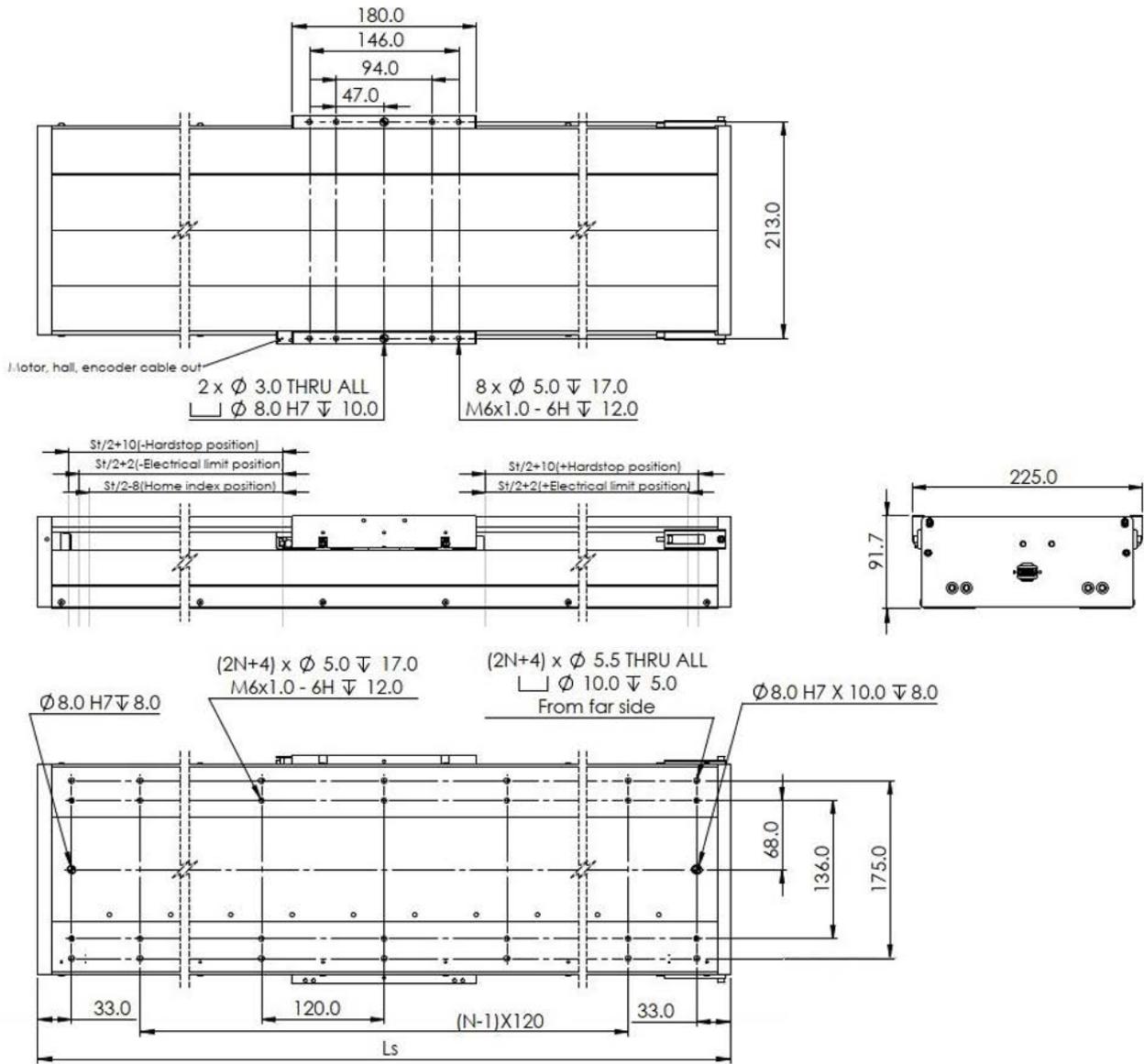


Effective Stroke (mm)	N	Module Length Ls (mm)	Module Mass (kg)
100	3	480	17.8
200	3	580	20.1
300	5	680	22.4
400	5	780	24.8
500	7	880	26.8
600	7	980	29.4
700	7	1080	31.5
800	9	1180	33.8

# THE DGH Series

## DGH200 Ironless Series

DGH200-AUM4-S2 Dimension Drawing

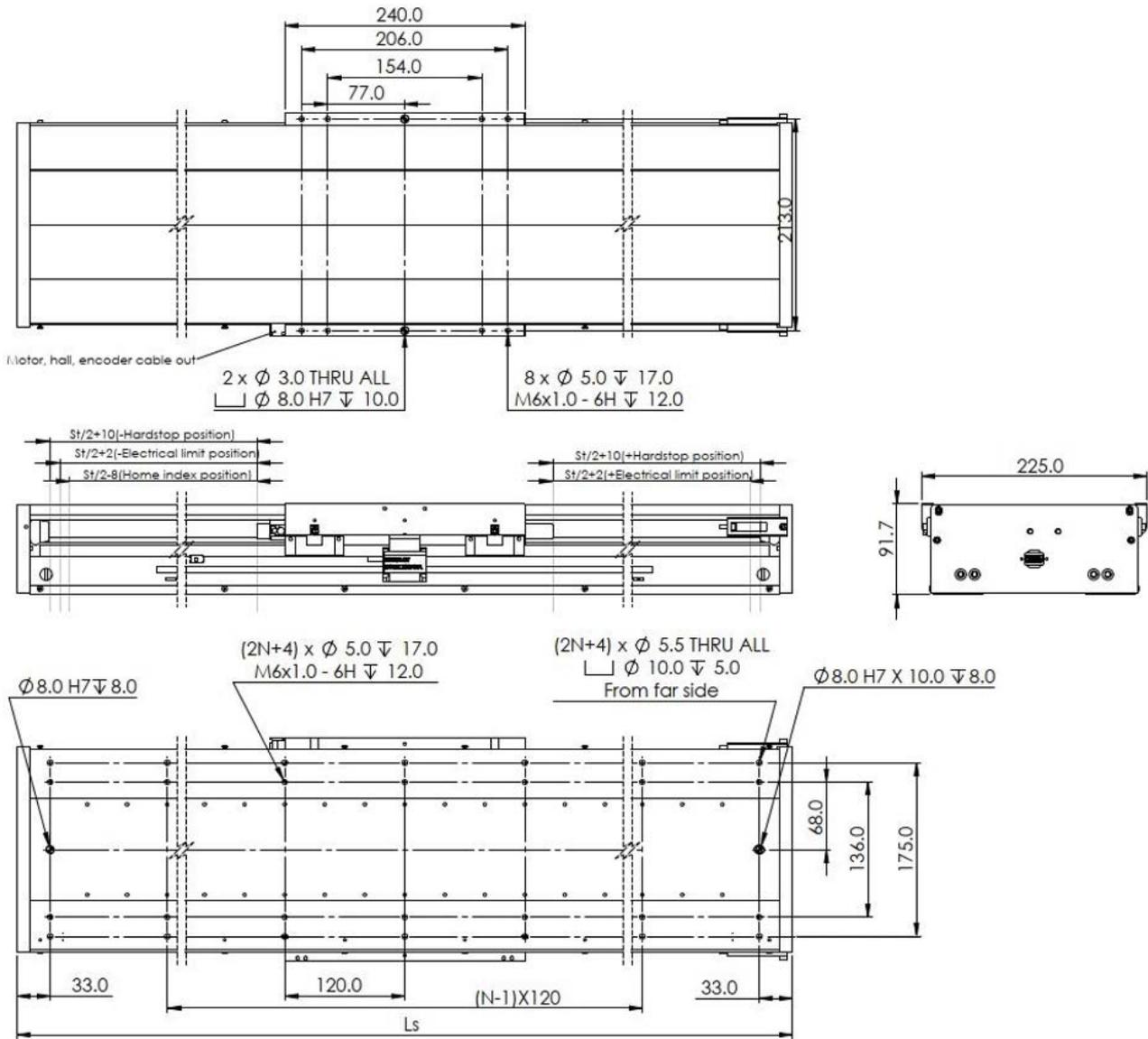


Effective Stroke (mm)	N	Module Length Ls (mm)	Module Mass (kg)
100	3	380	14.6
200	3	480	18.0
300	3	580	20.4
400	5	680	23.8
500	5	780	27.2
600	7	880	29.6
700	7	980	33.0
800	7	1080	36.4

# THE DGH Series

## DGH200 Ironless Series

DGH200-AUM4-S4 Dimension 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	5	840	30.2
600	7	940	32.7
700	7	1040	36.1
800	9	1140	39.4

# THE DGH Series

## DGH200 Ordering Part Number

DGH200 (Ironcore)

**DH3 S 01 J30 E73 1 A 2**

**Model:**

DH3: DGH200

**Cover Type:**

S: Standard (Clear Anodized)  
 T: Standard (Black Anodized)  
 C: Conventional (Clear Anodized)  
 D: Conventional (Black Anodized)

**Stroke:**

01: 100mm  
 02: 200mm  
 03: 300mm  
 04: 400mm  
 05: 500mm  
 06: 600mm  
 07: 700mm  
 08: 800mm

**Motor Type:**

J30: AJM80-B2-J (Peak: 550.2N)  
 J34: AJM80-B2-K5 (Peak: 550.2N)  
 J32: AJM80-B4-J (Peak: 1100.4N)  
 J35: AJM80-B4-K5 (Peak: 1100.4N)

**Termination:**

2: DSUB  
 3: M23

**Cable Length:**

A: 0.5m

**Scale Type ①:**

1: Steel Tape, 11ppm/K  
 2: Glass G8 Soda Lime, 8ppm/K  
 3: Glass G0 Robax, 0ppm/K

**Encoder Type:**

E73: ABA50E EnDat2.2 (0.05um)  
 E71: ABA50M Mitsubishi (0.05um)  
 EBH: Quantic (0.1um)  
 EBF: Quantic (0.5um)  
 E9H: ABI51D (0.1um)  
 E90: ABI51D (SINCOS)  
 EA0: ABI22 (SINCOS)

① ABA50E/M & Quantic only Steel Tape, ABI51D only Glass

DGH200 (Ironless)

**DH3 S 01 U42 E73 1 A 2**

**Model:**

DH3: DGH200

**Cover Type:**

S: Standard (Clear Anodized)  
 T: Standard (Black Anodized)  
 C: Conventional (Clear Anodized)  
 D: Conventional (Black Anodized)

**Stroke:**

01: 100mm  
 02: 200mm  
 03: 300mm  
 04: 400mm  
 05: 500mm  
 06: 600mm  
 07: 700mm  
 08: 800mm

**Motor Type:**

U42: AUM4-S-S2-J (Peak: 624.0N)  
 U66: AUM4-S-S2-K5 (Peak: 624.0N)  
 U44: AUM4-P-S2-J (Peak: 624.0N)  
 U67: AUM4-P-S2-K5 (Peak: 624.0N)  
 U50: AUM4-S-S4-J (Peak: 1248.0N)  
 U68: AUM4-S-S4-K5 (Peak: 1248.0N)  
 U52: AUM4-P-S4-J (Peak: 1248.0N)  
 U69: AUM4-P-S4-K5 (Peak: 1248.0N)

**Termination:**

2: DSUB  
 3: M23

**Cable Length:**

A: 0.5m

**Scale Type ①:**

1: Steel Tape, 11ppm/K  
 2: Glass G8 Soda Lime, 8ppm/K  
 3: Glass G0 Robax, 0ppm/K

**Encoder Type:**

E73: ABA50E EnDat2.2 (0.05um)  
 E71: ABA50M Mitsubishi (0.05um)  
 EBH: Quantic (0.1um)  
 EBF: Quantic (0.5um)  
 E9H: ABI51D (0.1um)  
 E90: ABI51D (SINCOS)  
 EA0: ABI22 (SINCOS)

① ABA50E/M & Quantic only Steel Tape, ABI51D only Glass

Motor	Unit	DGH260 Ironcore Series		DGH260 Ironless Series
		AJM100-B2	AJM100-B4	AUM5-S2
Continuous Force	N	223.4	446.8	197.0
Peak Force	N	704.5	1409.1	1415.0
Effective Stroke	mm	100-800		
Resolution	μm	0.05 / 0.1 / 0.5 / SINCOS		
Accuracy <sup>①</sup>	μm	±2.0		
Min. Incremental Motion <sup>②</sup>	μm	0.5		
Repeatability <sup>②</sup>	μm	±0.5		
Horizontal Straightness	μm	10.0		
Vertical Straightness	μm	20.0		
No-load Moving Mass	kg	6.1	8.6	6.6
Rated Payload <sup>③</sup>	kg	50.3	100.5	101.0
Pitch	arcsec	±10		
Roll	arcsec	±10		
Yaw	arcsec	±10		

① After Error Mapping

② Applicable for encoder

resolutions 0.05μm, 0.1μm & SINCOS only

③

Note:

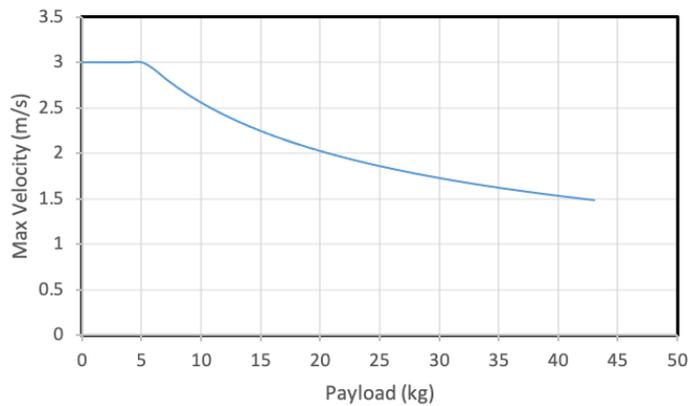
\* All values are measured based on module fully mounted on a 5μm granite table.

\* Values are measured according to Akribis measuring standard.

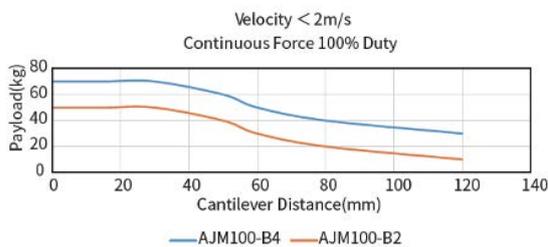
\* All specifications above are standard, contact Akribis for special request.

## Safety

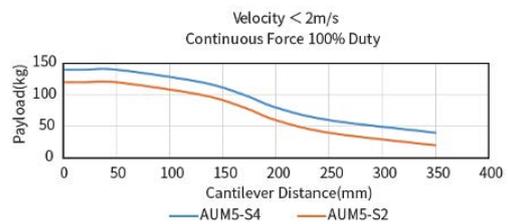
### Max Allowed Velocity Curve



### ■ Cantilever-Payload Curve



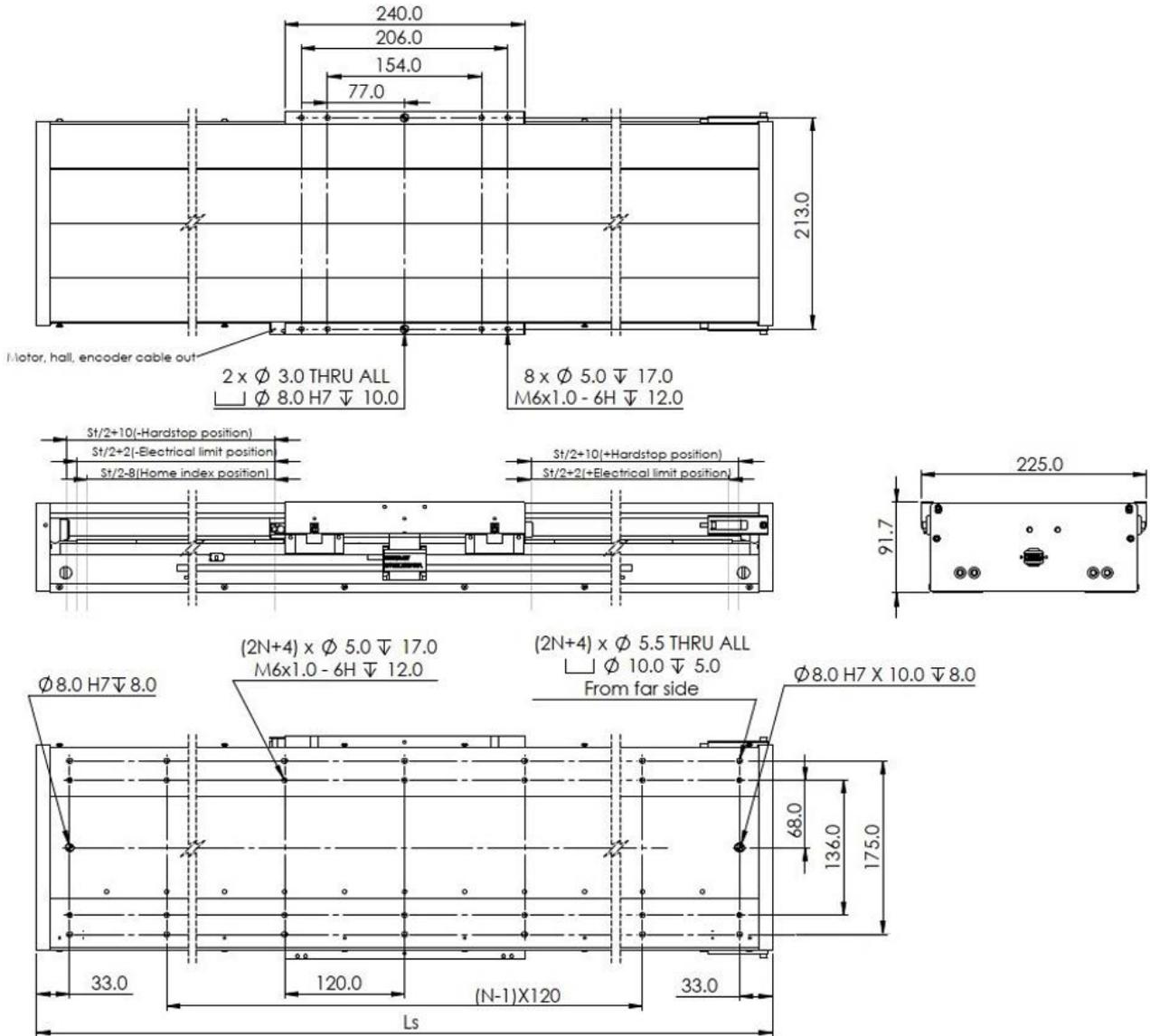
### ■ Cantilever-Payload Curve



# THE DGH Series

## DGH260 Ironcore Series

DGH260-AJM100-B2 Dimension Drawing

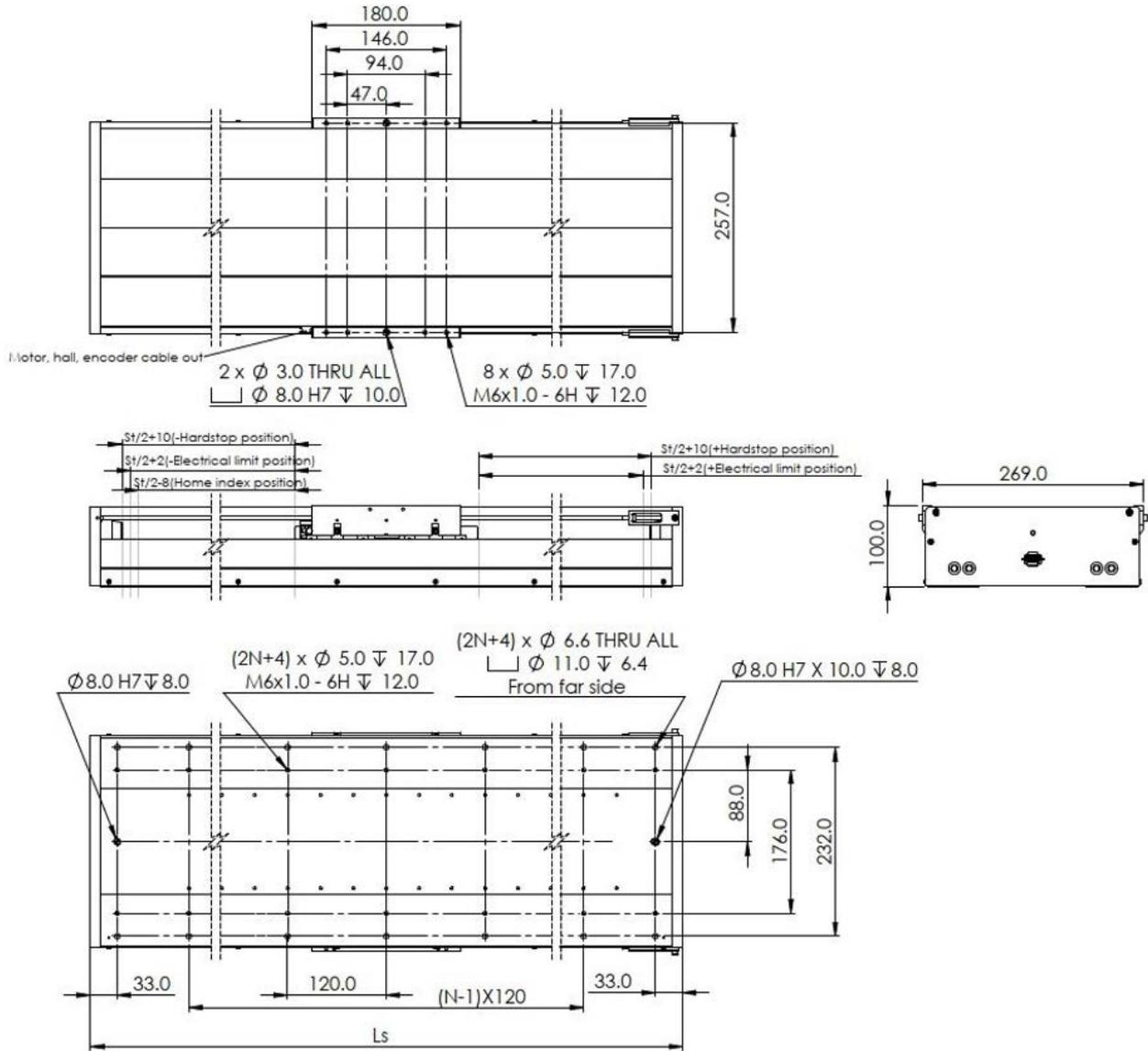


Effective Stroke (mm)	N	Module Length Ls (mm)	Module Mass (kg)
100	3	420	19.7
200	3	520	22.8
300	5	620	26.1
400	5	720	29.2
500	5	820	32.5
600	7	920	35.7
700	7	1020	39.1
800	9	1120	42.0

# THE DGH Series

## DGH260 Ironcore Series

DGH260-AJM100-B2 Dimension Drawing

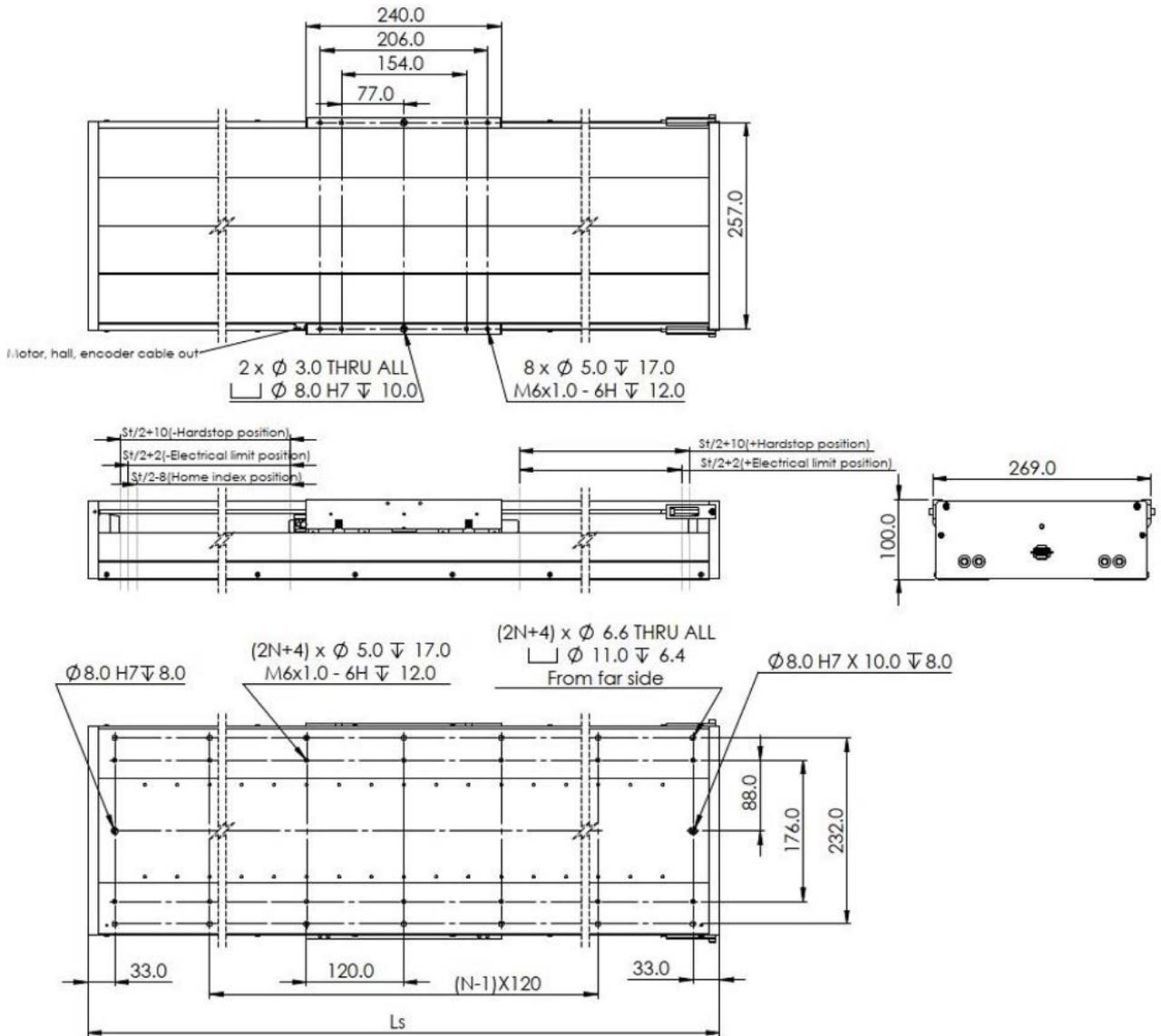


Effective Stroke (mm)	N	Module Length Ls (mm)	Module Mass (kg)
100	3	480	23.8
200	3	580	27.3
300	5	680	30.2
400	5	780	33.6
500	7	880	36.7
600	7	980	40.1
700	7	1080	43.2
800	9	1180	46.5

# THE DGH Series

## DGH260 Ironless Series

DGH260-AUM5-S2 Dimension Drawing

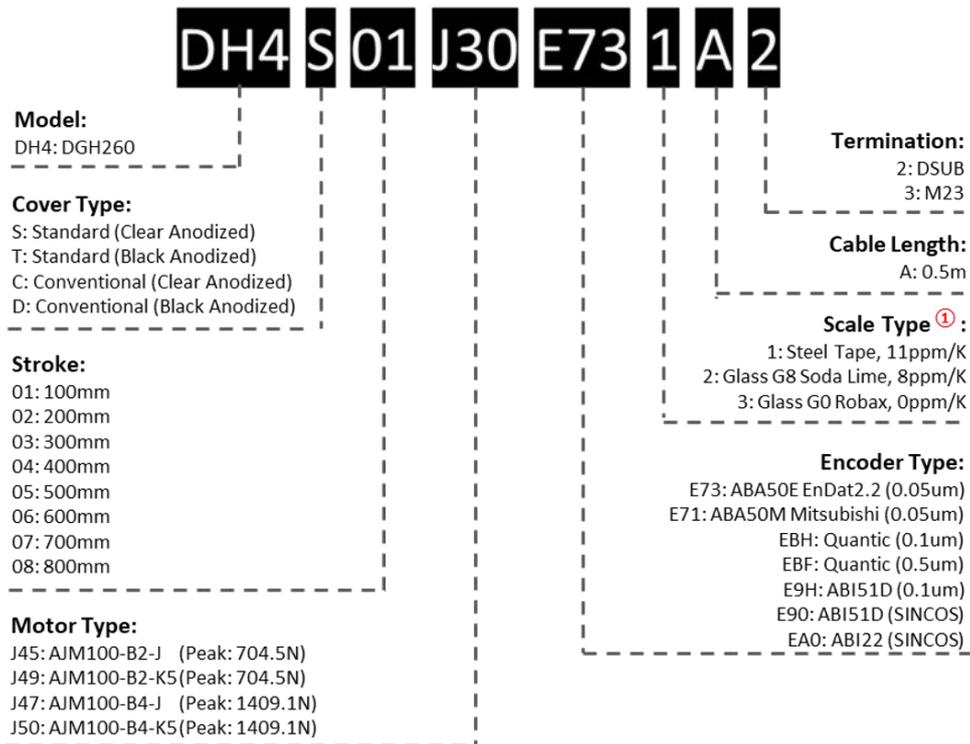


Effective Stroke (mm)	N	Module Length Ls (mm)	Module Mass (kg)
100	3	480	30.4
200	3	580	35.3
300	5	680	42.3
400	5	780	47.2
500	7	880	52.0
600	7	980	56.8
700	7	1080	61.7
800	9	1180	68.8

# THE DGH Series

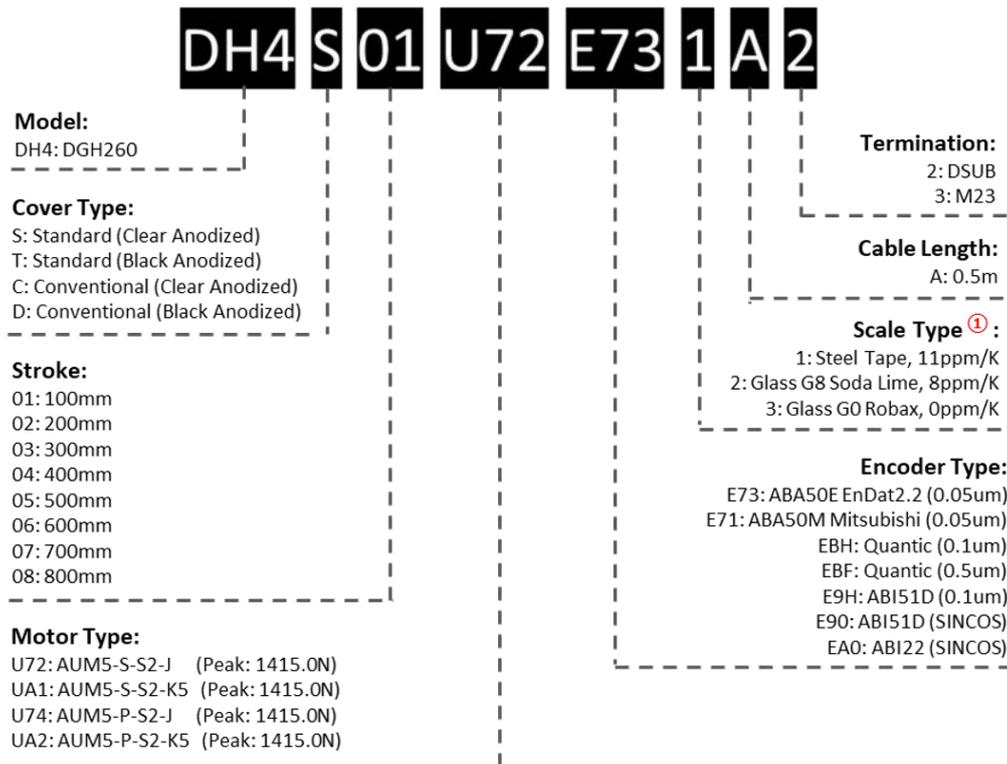
## DGH260 Ordering Part Number

DGH260 (Ironcore)



① ABA50E/M & Quantic only Steel Tape, ABI51D only Glass

DGH260 (Ironless)



① ABA50E/M & Quantic only Steel Tape, ABI51D only Glass

DGH 3 Axis Stacking



**Integrated Design and Modularity**

The DGH series is designed to utilise Akribis' stunning catalogue of modules and stages to create a cohesive and robust multi-axis assembly capable of meeting a variety of needs. On its own, the DGH series is carefully curated; integrating mechanical, electrical and control considerations to simplify the user's experience. For an even more user-centric experience, the DGH can be equipped with a selection of accessories to extend its versatility.

DGH 2 Axis Stacking



# THE DGH Series

## DGH Stack Ordering Part Number

DGH Stack (Ironcore)

**HS1 S 01 01 J17 J05 E73 1 A 2**

**Model:**

HS1: DGH-XY Stacked  
 HS2: DGH-XYT Stacked

**Cover Type:**

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

**Lower Axis Stroke:**

01: 100mm  
 02: 200mm  
 03: 300mm  
 04: 400mm  
 05: 500mm  
 06: 600mm  
 07: 700mm  
 08: 800mm

**Upper Axis Stroke:**

01: 100mm  
 02: 200mm  
 03: 300mm  
 04: 400mm

**Lower Axis Motor:**

J17: AJM50-B4-J (Peak: 738.1N)  
 J20: AJM50-B4-K5 (Peak: 738.1N)  
 J32: AJM80-B4-J (Peak: 1100.4N)  
 J35: AJM80-B4-K5 (Peak: 1100.4N)  
 J47: AJM100-B4-J (Peak: 1409.1N)  
 J50: AJM100-B4-K5 (Peak: 1409.1N)

**Termination:**

2: DSUB  
 3: M23

**Cable Length:**

A: 0.5m

**Scale Type:**

1: Steel Tape, 11ppm/K  
 2: Glass G8 Soda Lime, 8ppm/K  
 3: Glass G0 Robax, 0ppm/K

**Encoder Type:**

E73: ABA50E EnDat2.2 (0.05um)  
 E71: ABA50M Mitsubishi (0.05um)  
 EBH: Quantic (0.1um)  
 EBF: Quantic (0.5um)  
 E9H: ABI51D (0.1um)  
 E90: ABI51D (SINCOS)  
 EA0: ABI22 (SINCOS)

**Upper Axis Motor ①②:**

J05: AJM30-B2-K5 (Peak: 214.7N)  
 J06: AJM30-B4-K5 (Peak: 429.4N)  
 J15: AJM50-B2-J (Peak: 369.0N)  
 J17: AJM50-B4-J (Peak: 738.1N)  
 J19: AJM50-B2-K5 (Peak: 369.0N)  
 J20: AJM50-B4-K5 (Peak: 738.1N)  
 J30: AJM80-B2-J (Peak: 550.2N)  
 J32: AJM80-B4-J (Peak: 1100.4N)  
 J34: AJM80-B2-K5 (Peak: 550.2N)  
 J35: AJM80-B4-K5 (Peak: 1100.4N)

- ① J17 to J20 only matches with Lower Axis Motors J05 to J06  
 J32 to J35 only matches with Lower Axis Motors J15 to J20  
 J47 to J50 only matches with Lower Axis Motors J30 to J35

- ② For DGH-XYT Stack configuration the Theta Motor is tagged to the upper axis motor selected.  
 J05 to J20: AXD160-55 (Peak: 19.07Nm)  
 J30 to J35: AXD200-65 (Peak: 42.78Nm)

# THE DGH Series

## DGH Stack Ordering Part Number

DGH Stack (Ironless)

**HS1 S 01 01 U25 U17 E73 1 A 2**

**Model:**

HS1: DGH-XY Stacked  
 HS2: DGH-XYT Stacked

**Cover Type:**

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

**Lower Axis Stroke:**

01: 100mm  
 02: 200mm  
 03: 300mm  
 04: 400mm  
 05: 500mm  
 06: 600mm  
 07: 700mm  
 08: 800mm

**Upper Axis Stroke:**

01: 100mm  
 02: 200mm  
 03: 300mm  
 04: 400mm

**Lower Axis Motor:**

U25: AUM3-S-S4-J (Peak: 578.0N)  
 U27: AUM3-P-S4-J (Peak: 578.0N)  
 U35: AUM3-S-S4-K5 (Peak: 578.0N)  
 U36: AUM3-P-S4-K5 (Peak: 578.0N)  
 U50: AUM4-S-S4-J (Peak: 1248.0N)  
 U52: AUM4-P-S4-J (Peak: 1248.0N)  
 U68: AUM4-S-S4-K5 (Peak: 1248.0N)  
 U69: AUM4-P-S4-K5 (Peak: 1248.0N)  
 U72: AUM5-S-S2-J (Peak: 1415.0N)  
 U74: AUM5-P-S2-J (Peak: 1415.0N)  
 UA1: AUM5-S-S2-K5 (Peak: 1415.0N)  
 UA2: AUM5-P-S2-K5 (Peak: 1415.0N)

① U10 to U11 only matches with Lower Axis Motors U25 to U36  
 U17 to U36 only matches with Lower Axis Motors U50 to U69  
 U42 to U69 only matches with Lower Axis Motors U72 to UA2

② For DGH-XYT Stacked, Theta Motor used is tagged to the Upper Axis Motors chosen:  
 U10 to U36: AXD160-55 (Peak: 19.07Nm)  
 U42 to U69: AXD200-65 (Peak: 42.78Nm)

**Termination:**

2: DSUB  
 3: M23

**Cable Length:**

A: 0.5m

**Scale Type:**

1: Steel Tape, 11ppm/K  
 2: Glass G8 Soda Lime, 8ppm/K  
 3: Glass G0 Robax, 0ppm/K

**Encoder Type:**

E73: ABA50E EnDat2.2 (0.05um)  
 E71: ABA50M Mitsubishi (0.05um)  
 EBH: Quantic (0.1um)  
 EBF: Quantic (0.5um)  
 E9H: ABI51D (0.1um)  
 E90: ABI51D (SINCOS)  
 EA0: ABI22 (SINCOS)

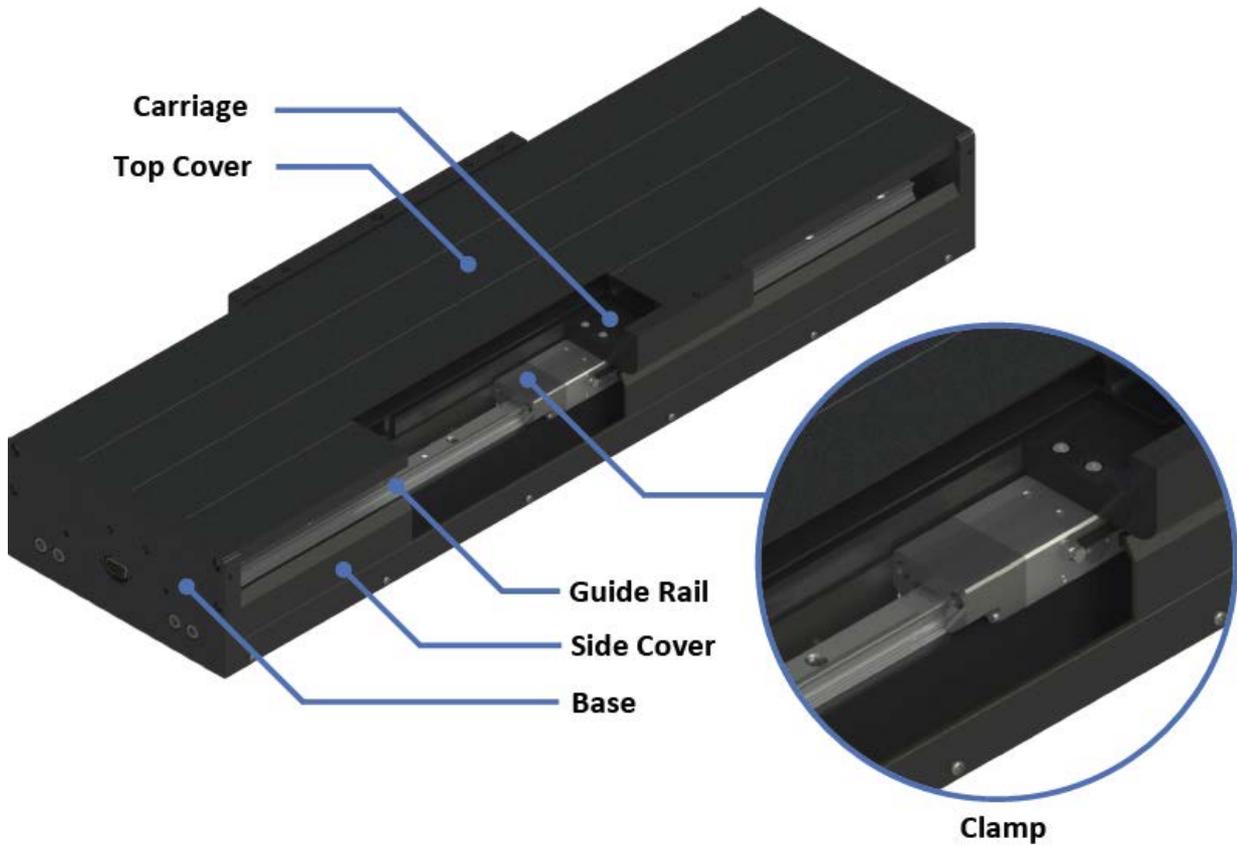
**Upper Axis Motor ①②:**

U10: AUM2-S-S4-K (Peak: 289.0N)  
 U11: AUM2-P-S4-K (Peak: 289.0N)  
 U17: AUM3-S-S2-J (Peak: 289.0N)  
 U19: AUM3-P-S2-J (Peak: 289.0N)  
 U33: AUM3-S-S2-K5 (Peak: 289.0N)  
 U34: AUM3-P-S2-K5 (Peak: 289.0N)  
 U25: AUM3-S-S4-J (Peak: 578.0N)  
 U27: AUM3-P-S4-J (Peak: 578.0N)  
 U35: AUM3-S-S4-K5 (Peak: 578.0N)  
 U36: AUM3-P-S4-K5 (Peak: 578.0N)  
 U42: AUM4-S-S2-J (Peak: 624.0N)  
 U44: AUM4-P-S2-J (Peak: 624.0N)  
 U66: AUM4-S-S2-K5 (Peak: 624.0N)  
 U67: AUM4-P-S2-K5 (Peak: 624.0N)  
 U50: AUM4-S-S4-J (Peak: 1248.0N)  
 U52: AUM4-P-S4-J (Peak: 1248.0N)  
 U68: AUM4-S-S4-K5 (Peak: 1248.0N)  
 U69: AUM4-P-S4-K5 (Peak: 1248.0N)

# THE DGH Series

## DGH Accessories

Pneumatic Clamps



### Clamp Option

#### + Safety Feature

Normally closed clamps that only opens when energised

#### + Easy Integration

Compatible with the following models with no changes to external footprints

- DGH180 (AUM3-S4 & AJM50-B4)
- DGH200 (AUM4-S4 & AJM80-B4)
- DGH260 (AJM100-B4)

**DH2 C 01**

#### Model:

DH2: DGH180 (S4 & B4)  
DH3: DGH200 (S4 & B4)  
DH4: DGH260 (B4)

#### Model:

01: Pneumatic Clamp (NC)

#### Accessory Type:

C: Clamp

# THE DGH Series

## DGH Accessories

Machine Vibration Control

Helps to improve setting time of a system

**DH M 01**

**Model:**  
DH: DGH All Models

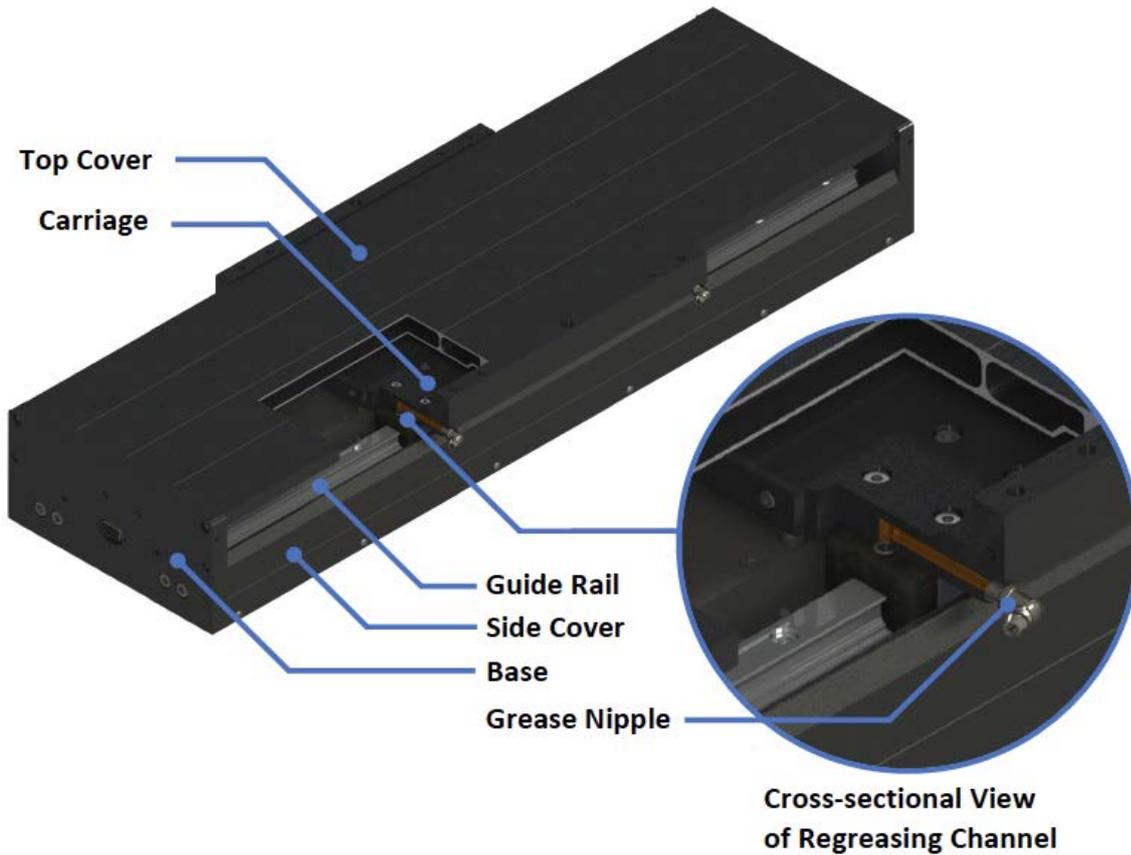
**Accessory Type:**  
M: MVC

**Model:**  
01: MVC-ACC-94

# THE DGH Series

## DGH Accessories

Accessible Regreasing Ports



### Accessible Regreasing Option

**+ Convenience Feature**

Able to regrease through all 4 runner blocks from the sides of the carriage through 4 greasing nipples without dismantling top and side covers

**+ Easy Integration**

Greasing channels are fabricated inside the carriage and a greasing nipple is installed on the outside

**DH1 G 01**

**Model:**

DH1: DGH150  
DH2: DGH180  
DH3: DGH200  
DH4: DGH260

**Model:**

01: With Grease Nipple  
02: Without Grease Nipple

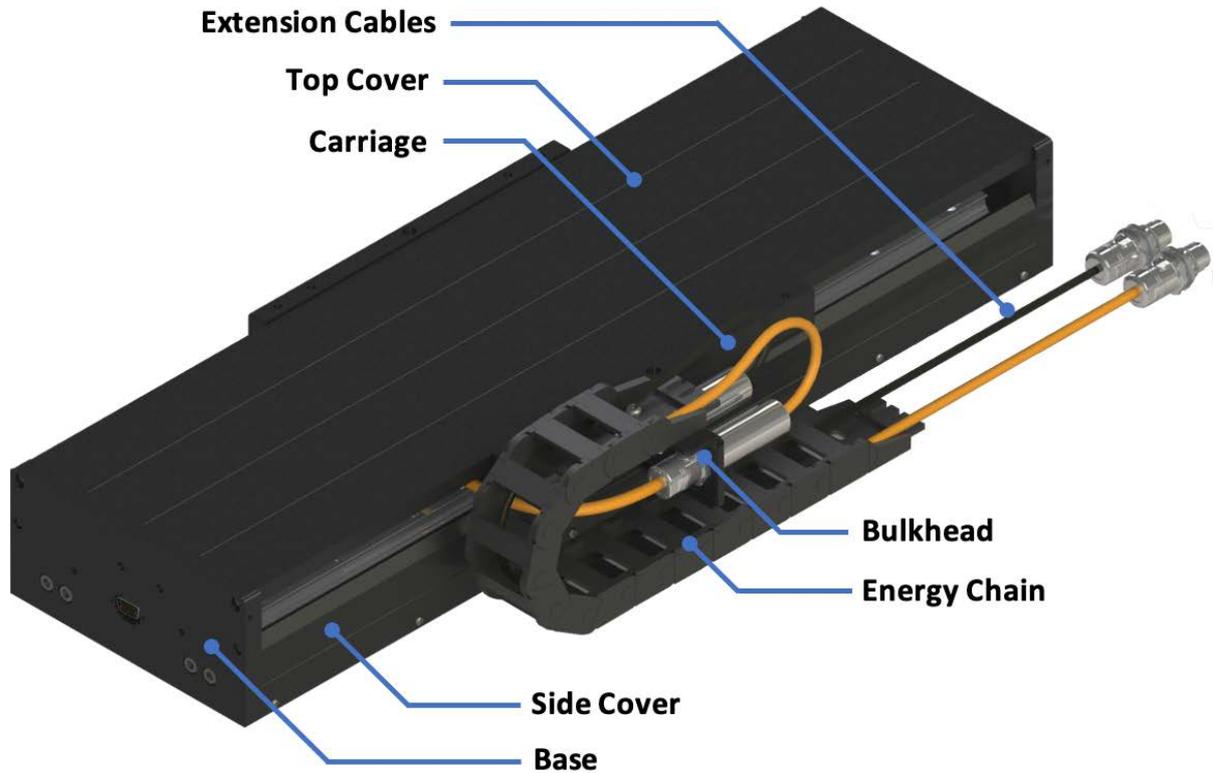
**Accessory Type:**

G: Greasing Channel

# THE DGH Series

## DGH Accessories

M23 / DSUB Termination and Energy Chain Option



### Bulkhead and Energy Chain Option

**+ Repairability and Maintenance**

Bulkhead Termination before Energy Chain allows for easy replacement of moving cables due to wear and tear.

**+ Cable Management & Protection**

Energy Chains organise and protect cables to increase their service lives

**+ Build to Specification**

Contact Akribis Sales Engineers for different requirements.

**DH1 E 01**

**Model:**

DH1: DGH150  
 DH2: DGH180  
 DH3: DGH200  
 DH4: DGH260

**Accessory Type:**

B: Bulkhead Only  
 E: Energy Chain & Bulkhead

**Inner Chain Width:**

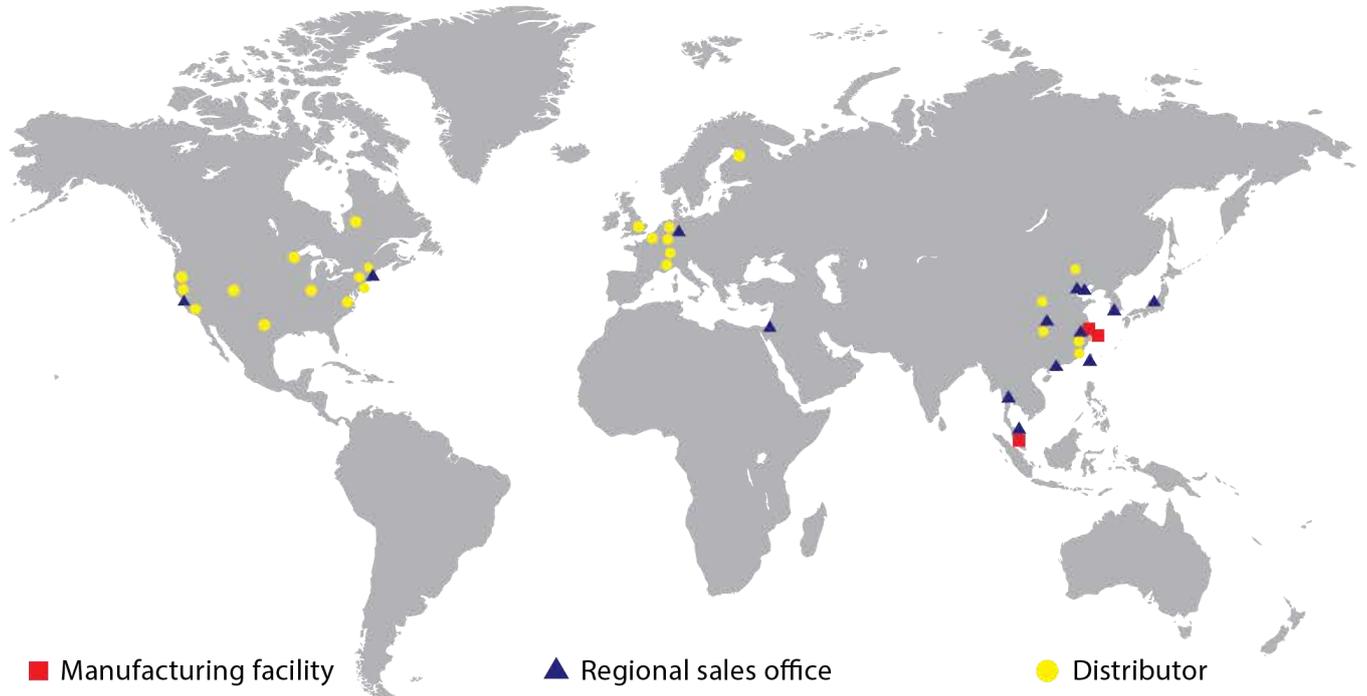
00: No Energy Chain  
 01: 38mm  
 02: 50mm  
 03: 63mm



Module	Model	DGH200
	Cover Type	Standard Cover (Black Anodized)
	Stroke	300mm
	Motor Type	AUM4-S-S2-J
	Encoder Type	ABA50E
	Scale Type	Steel Tape
	Cable Length	0.5
	Termination	M23
Accessories	Accessory 1	MVC
	Accessory 2	Energy Chain 38mm Width
	Accessory 3	M23 Motor Extension Cable 3m
	Accessory 4	M23 Encoder Extension Cable 3m
	Accessory 5	HD15 Limit Extension Cable 3m

Contact Akribis Sales Engineers for different requirements.

## Contact Us



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