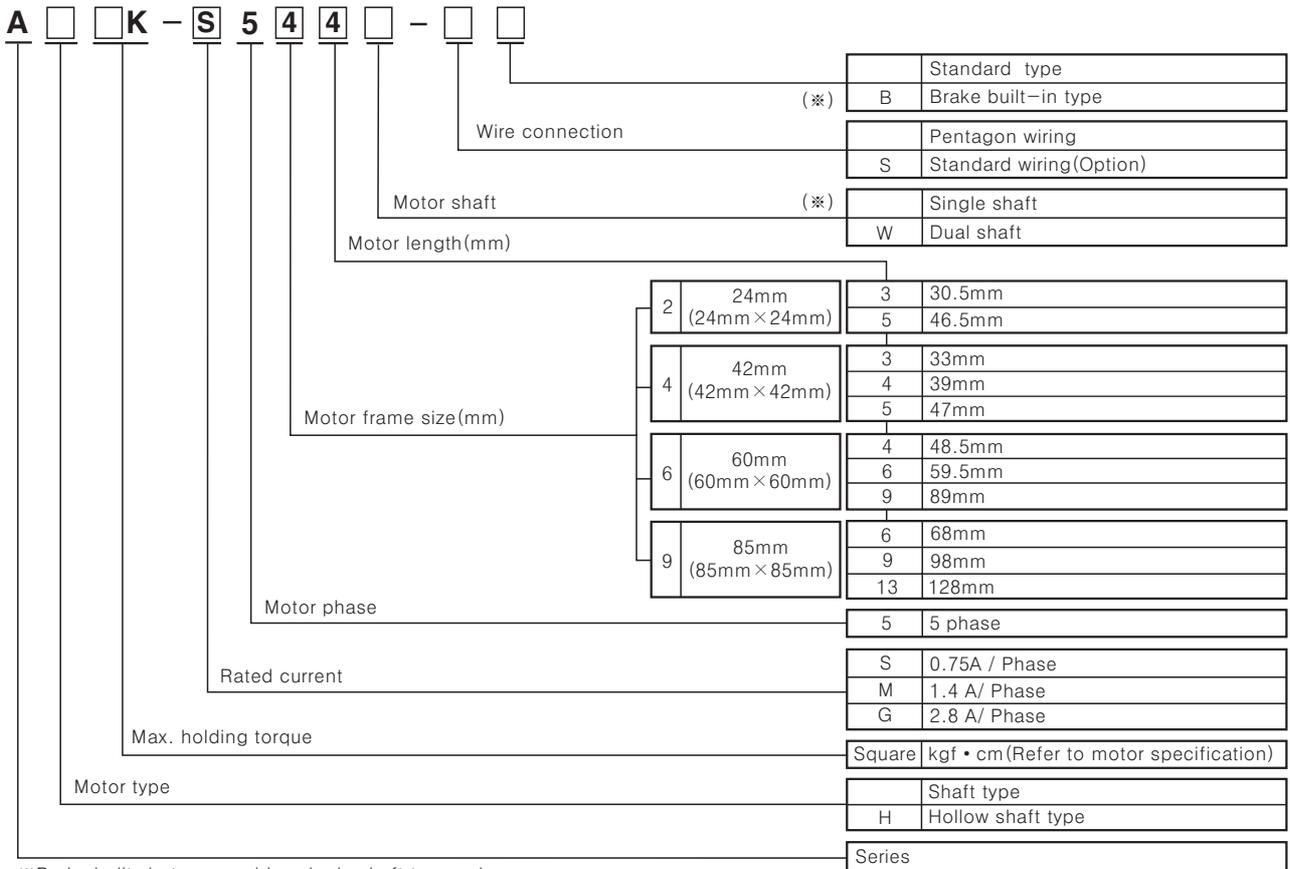


5-Phase Stepping Motor

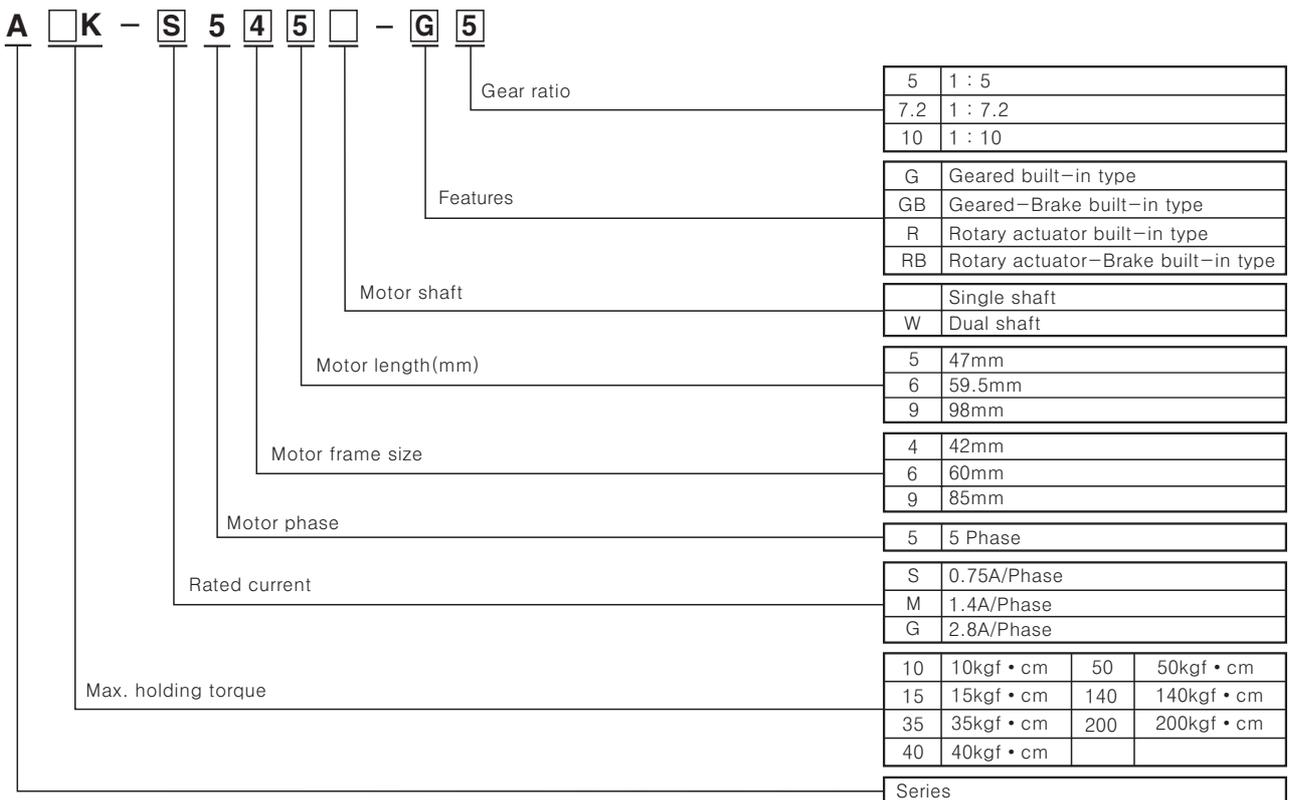
Ordering information

●Application model : Shaft type, Hollow shaft type, Shaft type+Brake built-in type



*Brake built-in type provides single shaft type only.

●Application model : Geared built-in type, Geared+Brake built-in type, Rotary actuator, Rotary actuator+Brake built-in type



5-Phase Stepping Motor

Specifications

Type		Model	A/phase (A)	Max. holding torque (kgf · cm)	Max. allowable torque (kgf · cm)	Moment of rotor inertia (g · cm ²)	Winding resistance(Ω)	Motor length (mm)	
24 Square	Shaft type	02K-S523(W)	0.75	0.18	—	4.2	1.1	30.5	
		04K-S525(W)	0.75	0.28	—	8.2	1.7	46.5	
42 Square	Shaft type	A1K-S543(W)	0.75	1.3	—	35	1.7	33	
		A2K-S544(W)	0.75	1.8	—	54	2.2	39	
		A3K-S545(W)	0.75	2.4	—	68	2.2	47	
	Hollow shaft type	AH1K-S543	0.75	1.3	—	35	1.7	33	
		AH2K-S544	0.75	1.8	—	54	2.2	39	
		AH3K-S545	0.75	2.4	—	68	2.2	47	
	Geared built-in type	A10K-S545(W)-G5	0.75	—	10	68	1.7	74.5	
		A15K-S545(W)-G7.2	0.75	—	15	68	2.2	74.5	
		A15K-S545(W)-G10	0.75	—	15	68	2.2	74.5	
	60 Square	Shaft type / Shaft type + Brake built-in type	A4K-S564(W)-B	0.75	4.2	—	175	2.6	48.5
A4K-M564(W)-B			1.4	4.2	—	175	0.8	48.5	
A8K-S566(W)-B			0.75	8.3	—	280	4.0	59.5	
A8K-M566(W)-B			1.4	8.3	—	280	1.1	59.5	
A16K-M569(W)-B			1.4	16.6	—	560	1.8	89	
A16K-G569(W)-B			2.8	16.6	—	560	0.56	89	
Hollow shaft type		AH4K-S564(W)	0.75	4.2	—	175	2.6	48.5	
		AH4K-M564(W)	1.4	4.2	—	175	0.8	48.5	
		AH8K-S566(W)	0.75	8.3	—	280	4.0	59.5	
		AH8K-M566(W)	1.4	8.3	—	280	1.1	59.5	
		AH16K-M569(W)	1.4	16.6	—	560	1.8	89	
		AH16K-G569(W)	2.8	16.6	—	560	0.56	89	
Geared built-in type		A35K-M566(W)-G5	1.4	—	35	280	1.1	94.5	
		A40K-M566(W)-G7.2	1.4	—	40	280	1.1	94.5	
		A50K-M566(W)-G10	1.4	—	50	280	1.1	94.5	
Geared + Brake built-in type		A35K-M566-GB5	1.4	—	35	280	1.1	136	
		A40K-M566-GB7.2	1.4	—	40	280	1.1	136	
		A50K-M566-GB10	1.4	—	50	280	1.1	136	
Rotary actuator type		A35K-M566(W)-R5	1.4	—	35	280	1.1	93.5	
		A40K-M566(W)-R7.2	1.4	—	40	280	1.1	93.5	
		A50K-M566(W)-R10	1.4	—	50	280	1.1	93.5	
Rotary actuator + Brake built-in type		A35K-M566-RB5	1.4	—	35	280	1.1	136	
		A40K-M566-RB7.2	1.4	—	40	280	1.1	136	
		A50K-M566-RB10	1.4	—	50	280	1.1	136	
85 Square		Shaft type / Shaft type + Brake built-in type	A21K-M596(W)-B	1.4	21	—	1400	1.76	68
			A21K-G596(W)-B	2.8	21	—	1400	0.4	68
			A41K-M599(W)-B	1.4	41	—	2700	2.6	98
			A41K-G599(W)-B	2.8	41	—	2700	0.58	98
	A63K-M5913(W)-B		1.4	63	—	4000	3.92	128	
	A63K-G5913(W)-B		2.8	63	—	4000	0.86	128	
	Hollow shaft type	AH21K-M596(W)	1.4	21	—	1400	1.76	68	
		AH21K-G596(W)	2.8	21	—	1400	0.4	68	
		AH41K-M599(W)	1.4	41	—	2700	2.6	98	
		AH41K-G599(W)	2.8	41	—	2700	0.58	98	
		AH63K-M5913(W)	1.4	63	—	4000	3.92	128	
		AH63K-G5913(W)	2.8	63	—	4000	0.86	128	
	Geared built-in type	A140K-M599(W)-G5	1.4	—	140	2700	2.6	145	
		A140K-G599(W)-G5	2.8	—	140	2700	0.58	145	
		A200K-M599(W)-G7.2	1.4	—	200	2700	2.6	145	
		A200K-G599(W)-G7.2	2.8	—	200	2700	0.58	145	
		A200K-M599(W)-G10	1.4	—	200	2700	2.6	145	
		A200K-G599(W)-G10	2.8	—	200	2700	0.58	145	
	Geared + Brake built-in type	A140K-M599-GB5	1.4	—	140	2700	2.6	182	
		A140K-G599-GB5	2.8	—	140	2700	0.58	182	
		A200K-M599-GB7.2	1.4	—	200	2700	2.6	182	
		A200K-G599-GB7.2	2.8	—	200	2700	0.58	182	
		A200K-M599-GB10	1.4	—	200	2700	2.6	182	
		A200K-G599-GB10	2.8	—	200	2700	0.58	182	

※ () Stands for dual shaft of motor. The brake built-in type provides single shaft type only.

※ Motor length was measured without shaft.

※ Hollow shaft type with standard wiring is customizable. (Except for 24mm)

5-Phase Stepping Motor

■ Specifications

●24 square

Model	02K-S523(W)	04K-S525(W)
Max. holding torque	0.18 kgf · cm (0.018N · m)	0.28kgf · cm (0.028 N · m)
Moment of rotor inertia	4.2 g · cm ² (4.2×10 ⁻⁷ kg · m ²)	8.2 g · cm ² (8.2×10 ⁻⁷ kgf · m ²)
Rated current	0.75A/Phase	
Basic step angle	0.72° / 0.36° (Full step/Half step)	
Insulation class	CLASS B type(130℃)	
Insulation resistance	Min. 100MΩ (Standard 500VDC mega) between Motor coil-case	
Dielectric strength	1Min. at 0.5kVAC 50/60Hz between Motor coil-case	
Ambient temperature	-10℃ ~ +50℃, Storage condition : -25℃ ~ +85℃	
Ambient humidity	35 ~ 85%RH	
Protection	IP30(IEC34-5 standard)	
Unit weight	Approx. 0.07kg	Approx. 0.12kg

●42 square

Model	Shaft type	A1K-S543(W)	A2K-S544(W)	A3K-S545(W)	—	—	—
	Hollow shaft type	AH1K-S543	AH2K-S544	AH3K-S545	—	—	—
	Shaft type+ Geared buit-in type	—	—	—	A10K-S545(W)-G5	A15K-S545(W)-G7.2	A15K-S545(W)-G10
Max. allowable torque	—	—	—	—	10kgf · cm (1.0 N · m)	15kgf · cm (1.5 N · m)	15kgf · cm (1.5 N · m)
Max. holding torque	1.3kgf · cm (0.13 N · m)	1.8kgf · cm (0.18 N · m)	2.4kgf · cm (0.24 N · m)	—	—	—	—
Moment of rotor inertia	35 g · cm ² (35×10 ⁻⁷ kg · m ²)	54 g · cm ² (54×10 ⁻⁷ kg · m ²)	68 g · cm ² (68×10 ⁻⁷ kg · m ²)	—	68 g · cm ² (68×10 ⁻⁷ kg · m ²)		
Rated current	0.75A/Phase						
Basic step angle	0.72° / 0.36(Full / Half step)				0.144° / 0.072° (Full / Half step)	0.1° / 0.05° (Full / Half step)	0.072° / 0.036° (Full / Half step)
Gear ratio	—				1 : 5	1 : 7.2	1 : 10
Allowable speed range	—				0 ~ 360rpm	0 ~ 250rpm	0 ~ 180rpm
Backlash[min]	—				±35' (0.58°)		
Insulation class	CLASS B type(130℃)						
Insulation resistance	Min. 100MΩ (Standard 500VDC mega) between Motor coil-case						
Dielectric strength	1Min. at 1kVAC(0.5kVAC for 0.75A/Phase) 50/60Hz between Motor coil-case						
Ambient temperature	-10℃ ~ +50℃, Storage condition : -25℃ ~ +85℃						
Ambient humidity	35 ~ 85%RH						
Protection	IP30(IEC34-5 standard)						
Unit weight	Approx. 0.25kg	Approx. 0.3kg	Approx. 0.4kg	Approx. 5.8kg			

5-Phase Stepping Motor

■ Specifications

●60 square

Model	Shaft type	A4K-S564(W)	A4K-M564(W)	A8K-S566(W)	A8K-M566(W)	A16K-M569(W)	A16K-G569(W)
	Hollow shaft type	AH4K-S564(W)	AH4K-M564(W)	AH8K-S566(W)	AH8K-M566(W)	AH16K-M569(W)	AH16K-G569(W)
	Shaft type+ Brake built-in type	A4K-S564-B	A4K-M564-B	A8K-S566-B	A8K-M566-B	A16K-M569-B	A16K-G569-B
Max. holding torque		4.2kgf • cm (0.42N • m)		8.3kgf • cm (0.83N • m)		16.6kgf • cm (1.66N • m)	
Moment of rotor inertia		175g • cm ² (175 × 10 ⁻⁷ kg • m ²)		280g • cm ² (280 × 10 ⁻⁷ kg • m ²)		560g • cm ² (560 × 10 ⁻⁷ kg • m ²)	
Rated current		0.75A/Phase	1.4A/Phase	0.75A/Phase	1.4A/Phase	1.4A/Phase	2.8A/Phase
Basic step angle		0.72° / 0.36 (Full/Half step)					
Electro magnetic brake	Rated excitation voltage	24VDC (non-polarity)					
	Rated excitation current	0.33A					
	Static friction torque	4kgf • cm					
	Rotation part inertia	2.5 × 10 ⁻⁶ kgf • cm ²					
	Operating time	Max. 22ms					
	Releasing time	Max. 37ms					
Insulation class		CLASS B type (130°C)					
Insulation resistance		Min. 100MΩ (Standard 500VDC mega) between Motor coil-case					
Dielectric strength		1Min. at 1kVAC (0.5kVAC for 0.75A/Phase) 50/60Hz between Motor coil-case					
Ambient temperature		-10 ~ +50°C, Storage condition : -25 ~ +85°C					
Ambient humidity		35 ~ 85%RH					
Protection		IP30 (IEC34-5 standard)					
Unit weight		Standard type : 0.6kg, Brake built-in type : 0.9kg		Standard type : 0.8kg, Brake built-in type : 1.1kg		Standard type : 1.3kg, Brake built-in type : 1.6kg	

●60 square

Model	Shaft type+ Geared built-in type	A35K-M566(W)-G5	A40K-M566(W)-G7.2	A50K-M566(W)-G10	
	Geared type+ Brake built-in type	A35K-M566-GB5	A40K-M566-GB7.2	A50K-M566-GB10	
	Rotary actuator type	A35K-M566(W)-R5	A40K-M566(W)-R7.2	A50K-M566(W)-R10	
	Rotary actuator type+ Brake built-in type	A35K-M566-RB5	A40K-M566-RB7.2	A50K-M566-RB10	
Max. holding torque		35kgf • cm (3.5N • m)		40kgf • cm (4.0 N • m)	50kgf • cm (5.0 N • m)
Moment of rotor inertia		280 g • cm ² (280 × 10 ⁻⁷ kg • m ²)			
Rated current		1.4A/Phase			
Basic step angle		0.144° / 0.072° (Full/Half step)		0.1° / 0.05° (Full/Half step)	0.072° / 0.036° (Full/Half step)
Gear ratio		1 : 5		1 : 7.2	1 : 10
Allowable speed range		0 ~ 360rpm		0 ~ 250rpm	0 ~ 180rpm
Backlash [min]		±20' (0.33°)			
Electro magnetic brake	Rated excitation voltage	24VDC (non-polarity)			
	Rated excitation current	0.33A			
	Static friction torque	4kgf • cm			
	Rotation part inertia	2.5 × 10 ⁻⁶ kgf • cm ²			
	Operating time	Max. 22ms			
	Releasing time	Max. 37ms			
Absolute position error (★1)		±20 minute (0.33°)			
Lost motion (★1)		±20 minute (0.33°)			
Insulation class		CLASS B type (130°C)			
Insulation resistance		Min. 100MΩ (Standard 500VDC mega) between Motor coil-case			
Dielectric strength		1Min. at 1kVAC 50/60Hz between Motor coil-case			
Ambient temperature		-10°C ~ +50°C, Storage condition : -25°C ~ +85°C			
Ambient humidity		35 ~ 85%RH			
Protection		IP30 (IEC34-5 standard)			
Unit weight		Geared type:1.3kg, Geared+Brake type:1.4kg, Rotary actuator type:1.5kg, Rotary actuator+Brake type:1.8kg			

※ (★1) It is only available for rotary actuator type.

5-Phase Stepping Motor

Specifications

●85 square

Model	Shaft type	A21K-M596(W)-□	A21K-G596(W)-□	A41K-M599(W)-□	A41K-G599(W)-□	A63K-M5913(W)-□	A63K-G5913(W)-□
	Hollow shaft type	AH21K-M596(W)	AH21K-G596(W)	AH41K-M599(W)	AH41K-G599(W)	AH63K-M5913(W)	AH63K-G5913(W)
	Shaft type+ Brake built-in type	A21K-M596-□B	A21K-G596-□B	A41K-M599-□B	A41K-G599-□B	A63K-M5913-□B	A63K-G5913-□B
Max. holding torque		21kgf·cm(2.1 N·m)		41kgf·cm(4.1 N·m)		63kgf·cm(6.3 N·m)	
Moment of rotor inertia		1400 g·cm ² (1400×10 ⁻⁷ kg·m ²)		2700 g·cm ² (2700×10 ⁻⁷ kg·m ²)		4000 g·cm ² (4000×10 ⁻⁷ kg·m ²)	
Rated current		1.4A/Phase	2.8A/Phase	1.4A/Phase	2.8A/Phase	1.4A/Phase	2.8A/Phase
Basic step angle		0.72° / 0.36° (Full/Half step)					
Electro magnetic brake	Rated excitation voltage	24VDC(non-polarity)					
	Rated excitation current	0.62A					
	Static friction torque	40kgf·cm					
	Rotation part inertia	42.5×10 ⁻⁶ kgf·cm ²					
	Operating time	Max. 80ms					
	Releasing time	Max. 70ms					
Insulation class		CLASS B type(130℃)					
Insulation resistance		Min. 100MΩ (Standard 500VDC mega) between Motor coil-case					
Dielectric strength		1Min. at 1kVAC 50/60Hz between Motor coil-case					
Ambient temperature		-10℃ ~ +50℃, Storage condition : -25℃ ~ +85℃					
Ambient humidity		35 ~ 85%RH					
Protection		IP30(IEC34-5 standard)					
Unit weight		Standard type : 1.7kg, Brake built-in type : 2.9kg		Standard type : 2.8kg, Brake built-in type : 4.0kg		Standard type : 3.8kg, Brake built-in type : 5.0kg	

●85 square

Model	Shaft type+ Geared built-in type	A140K-M599(W)-G5	A140K-G599(W)-G5	A200K-M599(W)-G7.2	A200K-G599(W)-G7.2	A200K-M599(W)-G10	A200K-G599(W)-G10
	Geared type+ Brake built-in type	A140K-M599-GB5	A140K-G599-GB5	A200K-M599-GB7.2	A200K-G599-GB7.2	A200K-M599-GB10	A200K-G599-GB10
Max. holding torque		140kgf·cm(14 N·m)		200kgf·cm(20 N·m)		200kgf·cm(20 N·m)	
Moment of rotor inertia		2700 g·cm ² (270×10 ⁻⁷ kg·m ²)					
Rated current		1.4A/Phase	2.8A/Phase	1.4A/Phase	2.8A/Phase	1.4A/Phase	2.8A/Phase
Basic step angle		0.144° / 0.072° (Full/Half step)		0.1° / 0.05° (Full/Half step)		0.072° / 0.036° (Full/Half step)	
Gear ratio		1 : 5		1 : 7.2		1 : 10	
Allowable speed range		0 ~ 360rpm		0 ~ 250rpm		0 ~ 180rpm	
Backlash[min]		±15' (0.25°)					
Electro magnetic brake	Rated excitation voltage	24VDC(non-polarity)					
	Rated excitation current	0.62A					
	Static friction torque	40kgf·cm					
	Rotation part inertia	42.5×10 ⁻⁶ kgf·cm ²					
	Operating time	Max. 80ms					
	Releasing time	Max. 70ms					
Insulation class		CLASS B type(130℃)					
Insulation resistance		Min. 100MΩ (Standard 500VDC mega) between Motor coil-case					
Dielectric strength		1Min. at 1kVAC 50/60Hz between Motor coil-case					
Ambient temperature		-10℃ ~ +50℃, Storage condition : -25℃ ~ +85℃					
Ambient humidity		35 ~ 85%RH					
Protection		IP30(IEC34-5 standard)					
Unit weight		Geared type : 4.4kg, Geared+Brake type : 5.6kg					

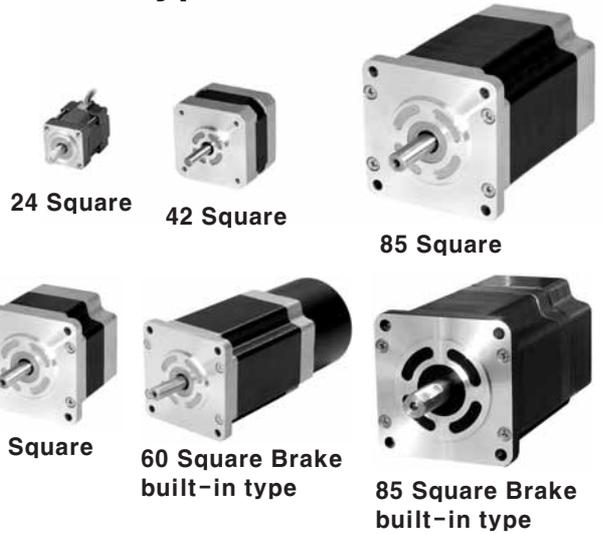
AK Series

- 24mm/□42mm/□60mm/□85mm Shaft type
- 60mm/□85mm Shaft type+Brake built-in type

Features

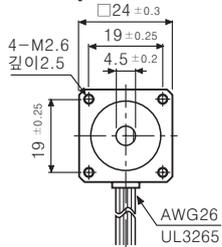
- Compact design and light weight with high accuracy, speed and torque
- Suitable for small-sized equipment applications
- Brake □60mm, □85mm of shaft type for compact equipment (AK-B Series)
- Brake force is released (AK-B Series) when applying power on brake wire. (24VDC non-polar type)
- Cost-effective

 Please read "Caution for your safety" in operation manual before using.

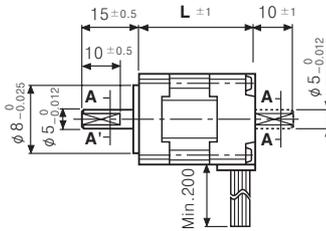


Dimensions

□24 Square



Sectioned A-A'

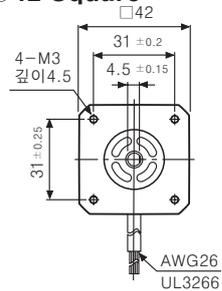


(Unit:mm)

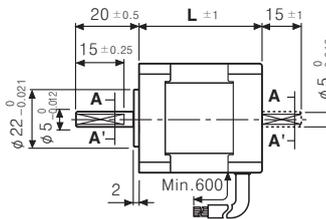
MODEL	L
02K-S523(W)	30.5
04K-S525(W)	46.5

※These dimensions are for dual shaft models. For single shaft models, ignore dotted line (.....) part.

□42 Square



Sectioned A-A'

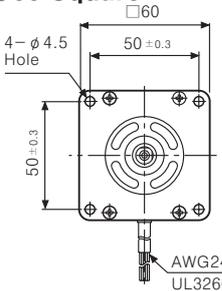


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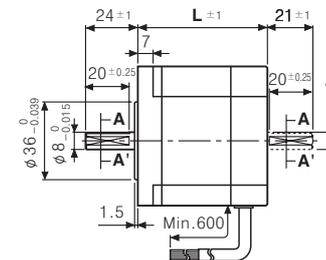
MODEL	L
A1K-S543(W)-□	33
A2K-S544(W)-□	39
A3K-S545(W)-□	47

※These dimensions are for dual shaft models. For single shaft models, ignore dotted line (.....) part.

□60 Square



Sectioned A-A'

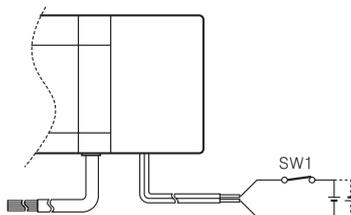


(Unit:mm)

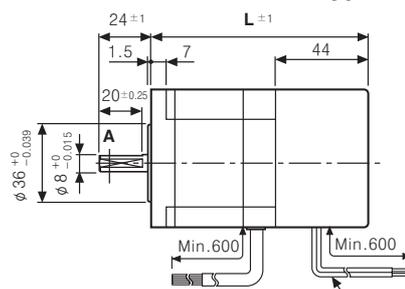
MODEL	L
A4K-□564(W)-□B	48.5
A8K-□566(W)-□B	59.5
A16K-□569(W)-□B	89

※These dimensions are for dual shaft models. For single shaft models, ignore dotted line (.....) part.

<Shaft type>



※Brake is non-polar "B" type.
Be sure to observe rated excitation voltage (24VDC).
※SW1 ON-Brake Release / SW1 OFF-Brake Execute



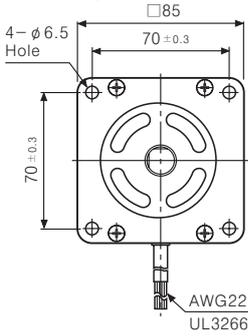
<Brake built-in type>

Electronic Brake Lead
2-wire (Non-polar type)

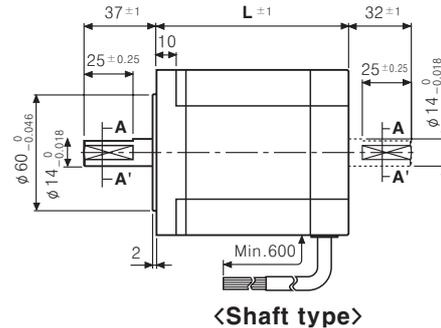
5-Phase Stepping Motor

Dimensions

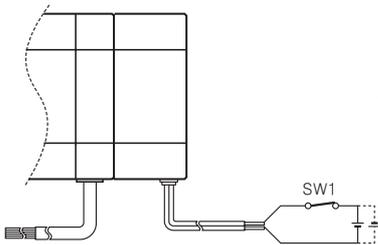
85 Square



Sectioned A-A'



<Shaft type>



<Brake built-in type>

(Unit:mm)

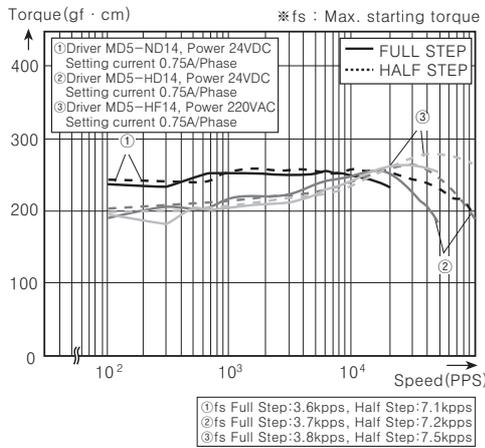
MODEL	L
A21K-8596(W)-B	68
A41K-8599(W)-B	98
A63K-85913(W)-B	128

*These dimensions are for dual shaft models. For single shaft models, ignore dotted line (.....) part.

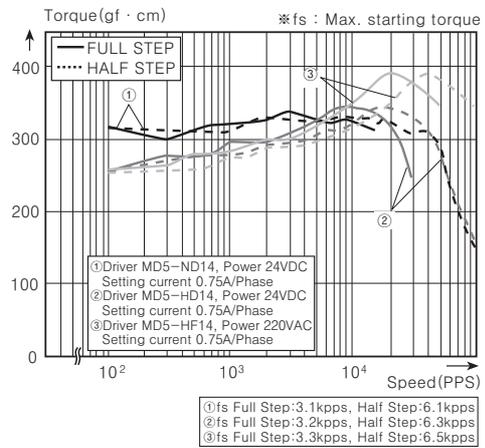
*Brake is non-polar "B" type.
Be sure to observe rated excitation voltage (24VDC).
*SW1 ON-Brake Release / SW1 OFF-Brake Execute

Characteristic

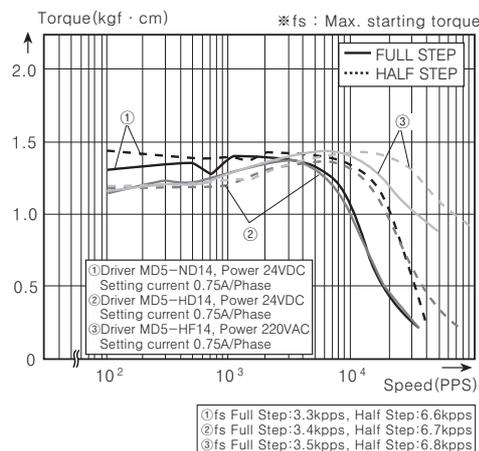
02K-S523



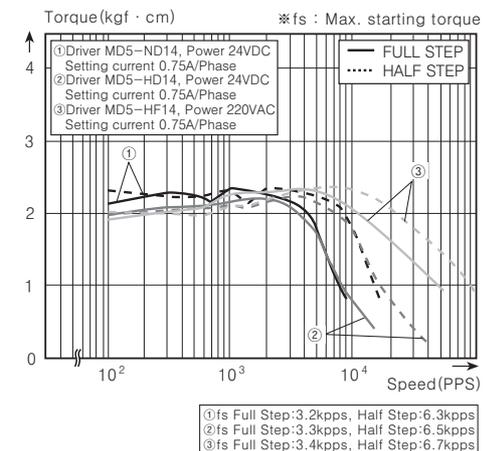
04K-S525



A1K-S543



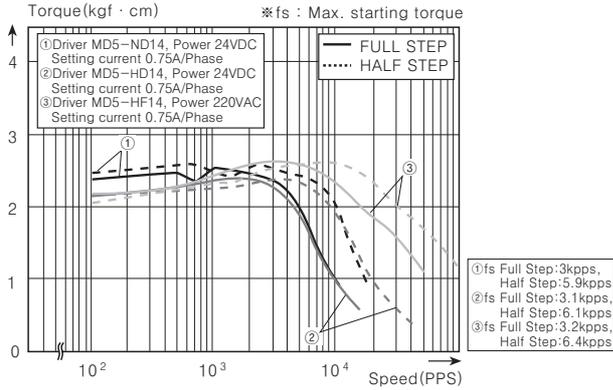
A2K-S544



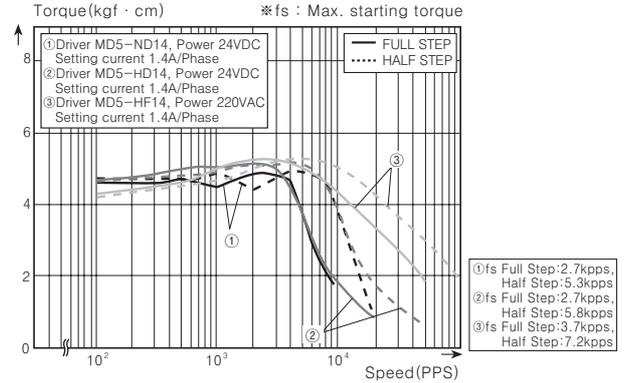
AK Series

Characteristic

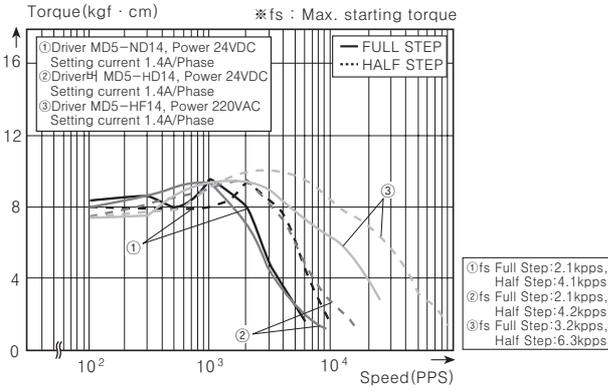
●A3K-S545



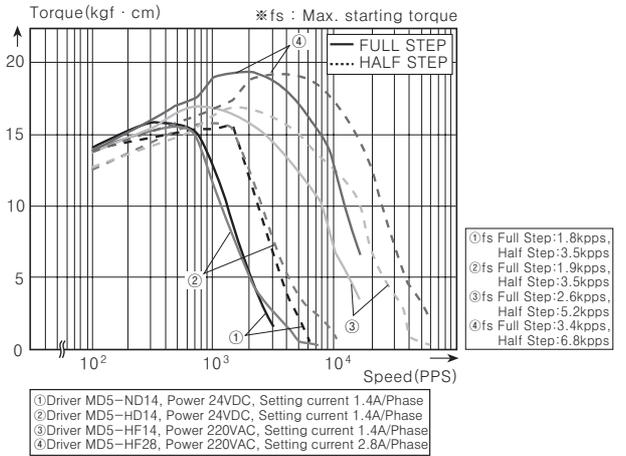
●A4K-M564 / A4K-M564-B



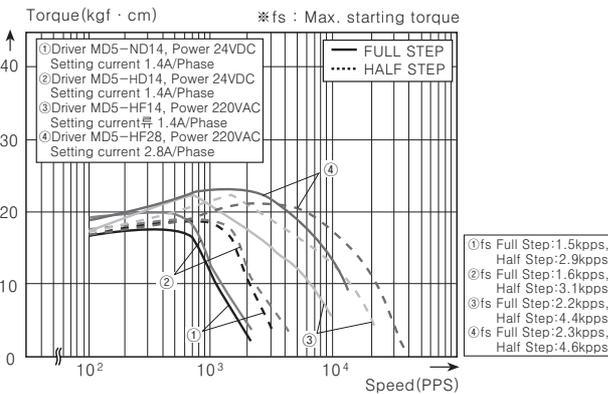
●A8K-M566 / A8K-M566-B



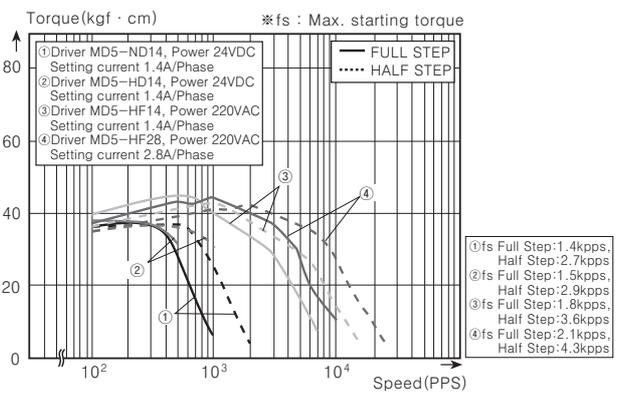
●A16K-□569 / A16K-□569-B



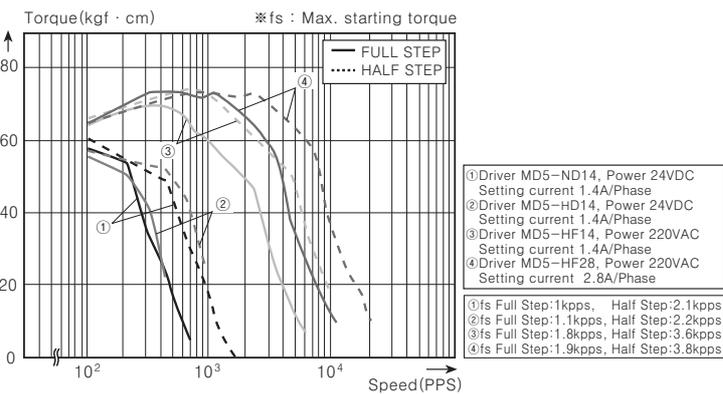
●A21K-□596 / A21K-□596-B



●A41K-□599 / A41K-□599-B



●A63K-G5913 / A63K-G5913-B



5-Phase Stepping Motor

□42mm/□60mm/□85mm Hollow shaft type

■ Features

- Compact design and light weight with high accuracy, speed and torque
- Suitable for small-sized equipment applications
- Remove the coupling connecting Ball-screw, TM-screw directly.
- Remove resonance (vibration · noise) without coupling.
- Cost-effective



42 Square

60 Square

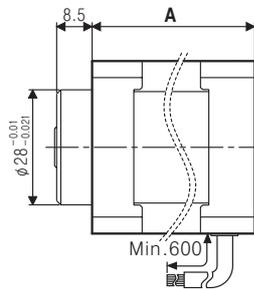
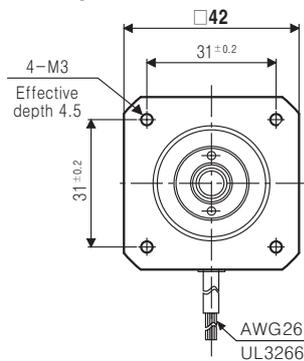
85 Square

⚠ Please read "Caution for your safety" in operation manual before using.

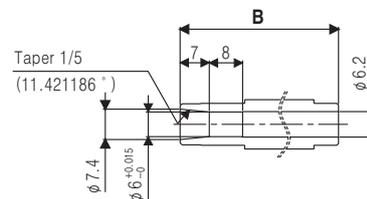


■ Dimensions

◎42 Square



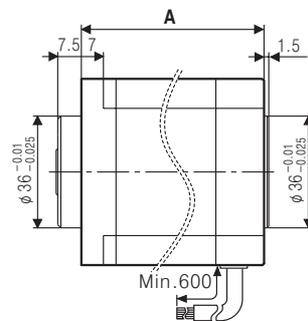
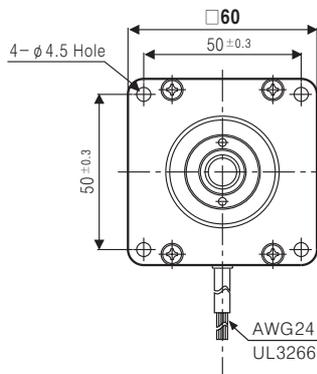
● Hole Dimensions



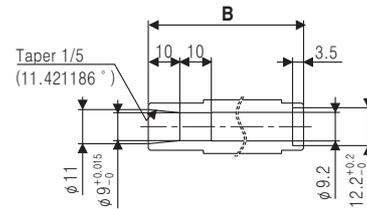
MODEL	A	B
AH1K-S543	33	38
AH2K-S544	39	44
AH3K-S545	47	52

(Unit:mm)

◎60 Square



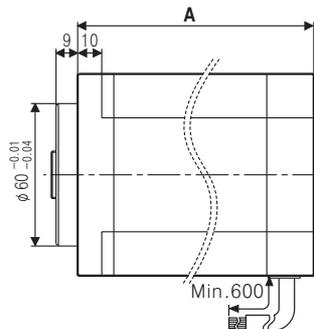
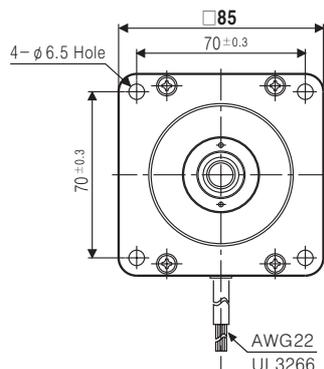
● Hole Dimensions



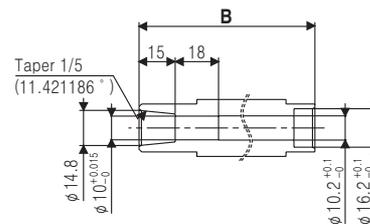
MODEL	A	B
AH4K-□564	48.5	49.3
AH8K-□566	59.5	60.3
AH16K-□569	89	89.8

(Unit:mm)

◎85 Square



● Hole Dimensions



MODEL	A	B
AH21K-□596	68	73
AH41K-□599	98	102.5
AH63K-□5913	128	133

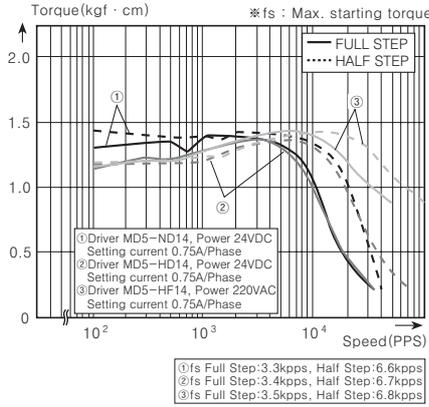
(Unit:mm)

* Depending on processing of shaft to be assembled, hollow shaft type can be used both single and dual shaft.

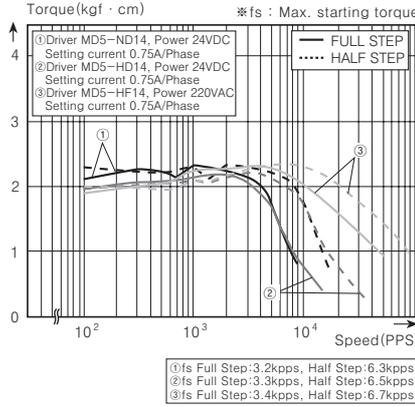
AHK Series

Characteristic

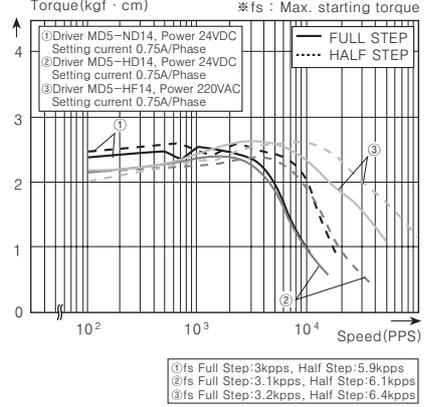
●AH1K-S543



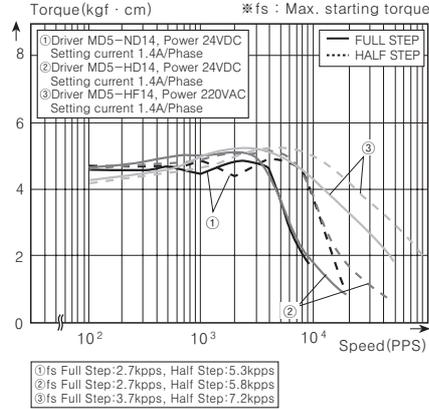
●AH2K-S544



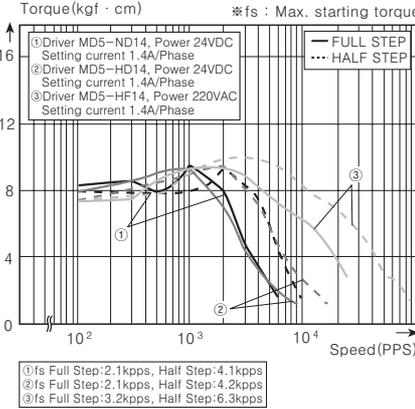
●AH3K-S545



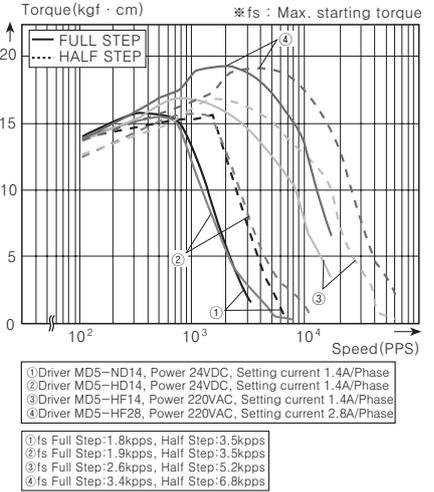
●AH4K-M564



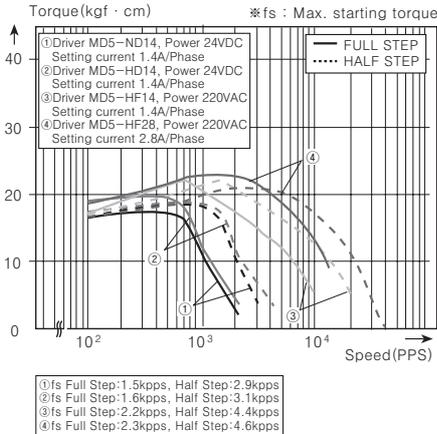
●AH8K-M566



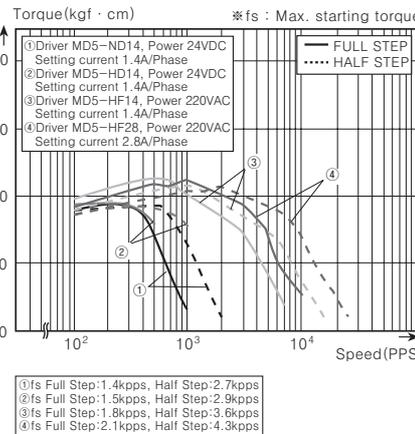
●AH16K-M(G)569



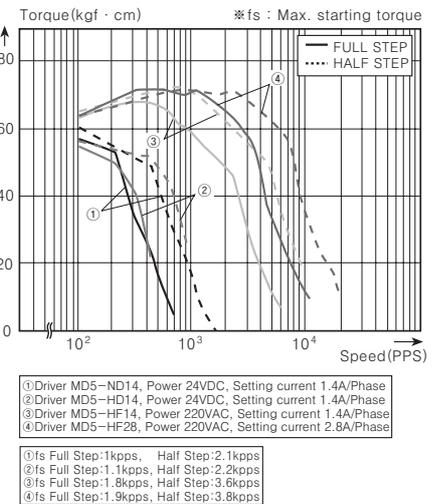
●AH21K-M(G)596



●AH41K-M(G)599



●AH63K-G5913

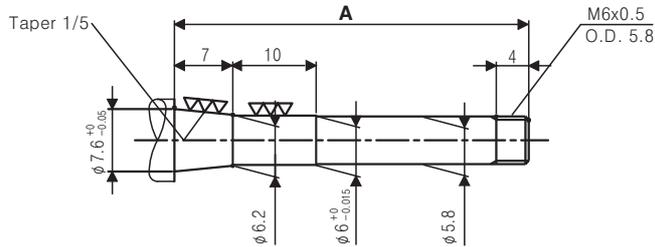


5-Phase Stepping Motor

■ Processing Example for Shaft Assembly

In order to assemble external shafts into Autonics motors, the shafts must be processed as shown in the figures below.

●42 Square Single shaft type

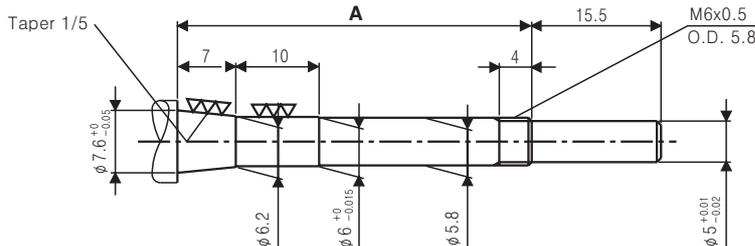


(Unit:mm)

MODEL	A
AH1K-S543	42.5
AH2K-S544	48.5
AH3K-S545	56.5

※ Lock Nut is included.

●42 Square Dual shaft type

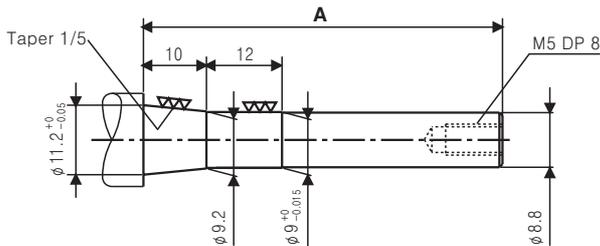


(Unit:mm)

MODEL	A
AH1K-S543W	42.5
AH2K-S544W	48.5
AH3K-S545W	56.5

※ Lock Nut is included.

●60 Square Single shaft type

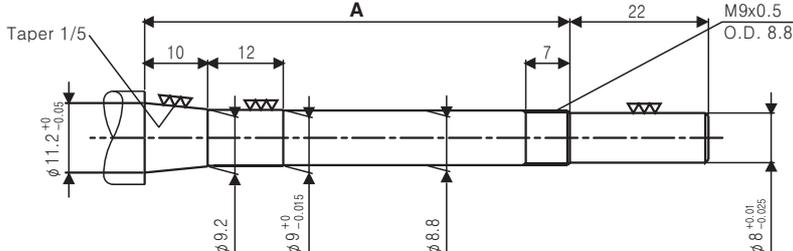


(Unit:mm)

MODEL	A
AH4K-□564	46
AH8K-□566	57
AH16K-□569	86.5

※ Hexagon wrench bolt, Flat washer, Spring washer and Lock Nut are included.

●60 Square Dual shaft type

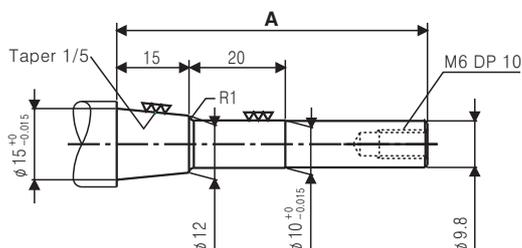


(Unit:mm)

MODEL	A
AH4K-□564W	56.5
AH8K-□566W	67.5
AH16K-□569W	97

※ Lock Nut is included.

●85 Square Single shaft type

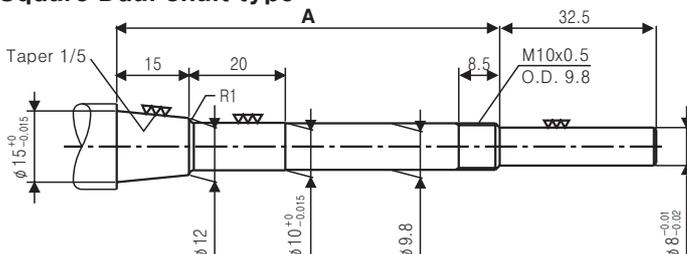


(Unit:mm)

MODEL	A
AH21K-□596	64.5
AH41K-□599	94
AH63K-□5913	124.5

※ Hexagon wrench bolt, Flat washer, Spring washer and Lock Nut are included.

●85 Square Dual shaft type



(Unit:mm)

MODEL	A
AH21K-□596W	79.5
AH41K-□599W	109.5
AH63K-□5913W	139.5

※ Lock Nut is included.