



XWA series

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XBA series

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XFA series

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OPTION

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OVERVIEW

XBA series consist of small high power bldc motor and high level box type driver and line up 20~400W output power. Exclusive gear head had combined with motor and made a combination simple to install.



FEATURE

■ SMALL · HIGH POWER

This product have a dimension 90X90mm(3.54in×3.54in) in side length and 57mm(2.24) in thickness, operates 150W high power and attributes to the space saving of equipment.

■ EXCELLENT STABILITY FOR SPEED

Implement excellent speed stability with less speed fluctuation. Speed change due to change of the load is very small.

■ WIDE SPEED CONTROL RANGE, CONSTANT TORQUE

Speed can be widely controlled from 200r/min to 3000r/min.

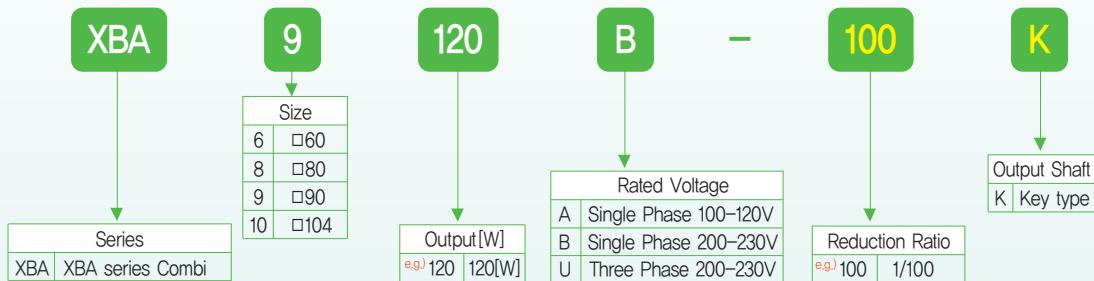
■ VARIABLE CONTROL FUNCTION

Speed setting of multistep, instantaneous stop as well as slow start, slow down function that shows great power in a sensitive transportation can be performed and respond to variable usage methods.

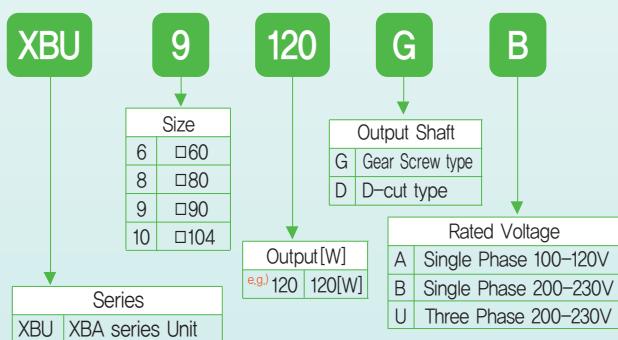
In addition, following features exist.

- Response for single phase 100V, 200V three phase 200V, power input.
- Response for high impact gearhead.
- Meet foreign safety specification and response world voltage.
- Capable of respond for extending to maximum 10.5m(413.39in) between motor and driver (Using option cable)
- Equipped the plate for DIN rail (option)

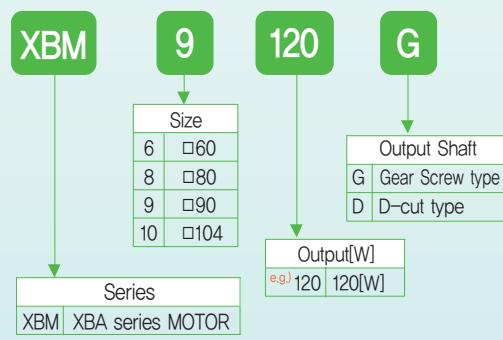
CONTROL UNIT + MOTOR + GEAR HEAD



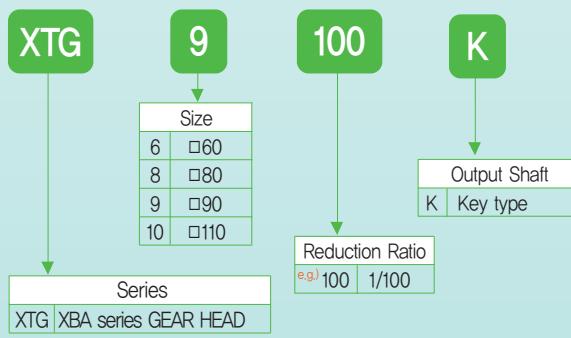
MOTOR + CONTROL UNIT



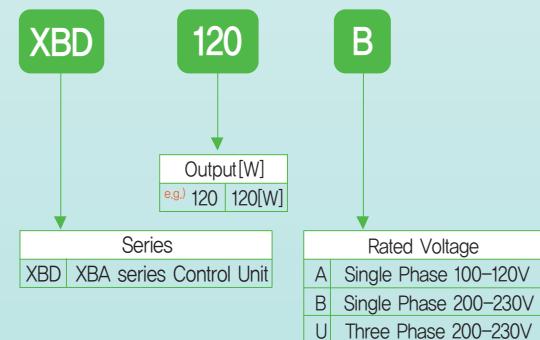
MOTOR



GEAR HEAD



CONTROL UNIT



SPECIFICATION

		Combi type	XBA620A-□	XBA620B-□	XBA620U-□	XBA840A-□	XBA840B-□	XBA840U-□	XBA975A-□	XBA975B-□	XBA975U-□						
Title	Gear type	XBM620G			XBM840G			XBM975G									
	D-Cut type	XBM620D			XBM840D			XBM975D									
	Rated Output (continuous) W		20			40			75								
Power Input	Voltage V	Single Phase 100-120	Single Phase 200-230	Three Phase 200-230	Single Phase 100-120	Single Phase 200-230	Three Phase 200-230	Single Phase 100-120	Single Phase 200-230	Three Phase 200-230							
	Frequency Hz	50/60			50/60			50/60									
	Rated Input Current A	0.70	0.40	0.27	1.10	0.66	0.43	1.80	1.00	0.75							
	Maximum Input Current A	1.30	0.90	0.50	2.00	1.30	0.88	2.60	2.00	1.20							
Rated Torque N·m(kgf·cm) (lb·in)		0.066(0.66) (0.57)			0.133(1.33) (1.15)			0.25(2.5) (2.17)									
Starting Torque N·m(kgf·cm) (lb·in)		0.08(0.8) (0.69)			0.16(1.6) (1.39)			0.32(3.2) (2.78)									
Permissible Load Inertia J kg·m ² (oz·in ²) Moment		1.25x10 ⁻⁴ (6.8)			2.5x10 ⁻⁴ (13.7)			3.75x10 ⁻⁴ (20.5)									
Rated Speed r/min		3,000															
Speed Control Range r/min		200 to 3,000 (Speed Ratio 1:15)															
Speed Regulation	Load	Less than ±1% (0 ~ rated torque, at rated speed)															
	Voltage	Less than ±1% (supply voltage ±10%, at rated speed with no load)															
	Temperature	Less than ±1% (0 to +40°C (+32 to +104°F), at rated speed with no load)															

※ For permissible load inertia in the geared motor, refer to 32 page.

※ Enter the ratio in the box(□) model number.

※ The values for each item is for the motor only.

SPECIFICATION

		Combi type	XBA9120A-□	XBA9120B-□	XBA9120U-□	XBA9150A-□	XBA9150B-□	XBA9150U-□			
Title		Gear type	XBM9120G			XBM9150G					
		D-Cut type	XBM9120D			XBM9150D					
Rated Output (continuous) W		120			150						
Power Input	Voltage	V	Single Phase 100~120	Single Phase 200~230	Three Phase 200~230	Single Phase 100~120	Single Phase 200~230	Three Phase 200~230			
	Frequency	Hz	50/60			50/60					
	Rated Input Current	A	2.50	1.50	1.00	3.00	1.80	1.15			
	Maximum Input Current	A	3.80	2.70	1.60	4.64	3.23	1.96			
Rated Torque N·m(kgf·cm) (lb·in)		0.4(4.0) (3.47)			0.5(5.0) (4.34)						
Starting Torque N·m(kgf·cm) (lb·in)		0.5(5.0) (4.34)			0.63(6.3) (5.47)						
Permissible Load Inertia J kg·m ² (oz·in ²) Moment		6.0x10 ⁻⁴ (32.8)			6.0x10 ⁻⁴ (32.8)						
Rated Speed r/min		3,000									
Speed Control Range r/min		200 to 3,000 (Speed Ratio 1:15)									
Speed Regulation	Load	Less than ±1% (0 ~ rated torque, at rated speed)									
	Voltage	Less than ±1% (supply voltage ±10%, at rated speed with no load)									
	Temperature	Less than ±1% (0 to +40°C (+32 to +104°F), at rated speed with no load)									

※ For permissible load inertia in the geared motor, refer to 32 page.

※ Enter the ratio in the box(□) model number.

※ The values for each item is for the motor only.

SPECIFICATIONS

		Combi type	XBA10200B-□	XBA10200U-□	XBA10400U-□		
Title		Gear type	XBM10200G		XBM10400G		
		D-Cut type	XBM10200D		XBM10400D		
Rated Output (continuous) W		200		400			
Power Input	Voltage V	Single Phase 200~230	Three Phase 200~230	Three Phase 200~300			
	Frequency Hz	50/60		50/60			
	Rated Input Current A	2.10	1.75	2.30			
	Maximum Input Current A	3.36	2.80	3.68			
Rated Torque N·m(kgf·cm)		0.65(6.5)		1.3(13)			
Starting Torque N·m(kgf·cm)		0.81(8.1)		1.6(16)			
Motor Permissible Load Inertia	J kg·m ²	8.75x10 ⁻⁴		15x10 ⁻⁴			
	GD ² kgf·m ²	35		60			
Rated Speed r/min		3,000					
Speed Control Range r/min		200~3,000 (Speed Ratio 1:15)					
Speed Regulation	Load	Less than ±1% (0 ~ rated torque, at rated speed)					
	Voltage	Less than ±1% (supply voltage ±10%, at rated speed with no load)					
	Temperature	Less than ±1% (0 to +40°C (+32 to +104°F), at rated speed with no load)					

※ For permissible load inertia in the geared motor, refer to 32 page.

※ Enter the ratio in the box(□) model number.

※ The values for each item is for the motor only.

COMMONALITIES

Category	Specifications
SLOW RUN / SLOW STOP	0.5 to 15 seconds (Applicable for both Slow Run and Slow Stop)
Speed Control Method	1. Built-in Potentiometer 2. External Potentiometer (20KΩ 1/4W) 3. External DC Voltage(0~5 Volt)
Input Signal	Photocoupler input method, input resistance: 2KΩ, operates at DC 12V±10%, common for EXT, CW, and CCW
Output Signal	Opencollector output, external use conditions: Less than 26.4V 10mA, common for Speed Out and Alarm Out.
Protection Functions	If following protection functions are operated, control unit alarm signal is output and motor will come to stop. <ul style="list-style-type: none"> ● Protection for machine overload : When an overload that exceeds the motor's rate torque has been continued for more than 5 seconds ● Protection for overvoltage : When the voltage permitted for the control unit has exceed specified voltage ● Protection guard for image formation : When malfunction occurs in the motor feedback signals due to cables disconnection and connector disconnection. ● Protection for undervoltage : When the voltage permitted at the control unit has shortage of more than specified voltage ● Protection for over speeding : When the speed of the motor exceed 3800r/min
Motor Insulation Class	Class B (130°C)
Rating	Continuous

GENERAL SPECIFICATIONS

Item	Motor	Control Unit
Dielectric Strength	If applying 60Hz 1,500V between the coil and the case for 1 minute after continuous operating under normal temperature and humidity conditions, any fault is not occurred.	Sufficient to withstand 3.0kV at 50Hz applied between power supply terminal (I/O terminal) and I/O terminals for 1 minute, and 1.5kV at 50Hz applied between protective earth terminal and power supply terminals.
Insulation Resistance	After continuous operating under normal temperature and humidity conditions, if measured the resistance value between the coil and the case using DC500V Mega Tester, should be over 100MΩ.	If the resistance value between protection ground terminal and power input is measured using DC500V Mega Tester, should be over 100MΩ.
Ambient Temperature	0°C to +40°C(+32°F to +104°F) (nonfreezing)	0°C to +50°C(+32°F to +122°F) (nonfreezing)
Ambient Humidity		Less than 85% (non condensing)
Atmosphere		No corrosive gas or dust.
Degree of Protection	IP65 (excluding the output shaft side)	IP10

(Caution) Use it, ensuring that surface temperature of motor does not exceed over 90°C.

PERMISSIBLE TORQUE - GEARED MOTOR

N · m / [kgf·cm]

Item	Speed Control Range [r/min] Gear Ratio	60~600	30~300	20~200	15~150	10~100	6~60	3~30	1.5~15
		5	10	15	20	30	50	100	200
XBA620()-□K	0.29	0.59	0.88	1.2	1.7	2.8	5.6	6.0	
	2.9	5.9	8.8	12	17	28	56	60	
XBA840()-□K	0.59	1.2	1.8	2.3	3.4	5.6	11.2	16.0	
	5.9	12	18	23	34	56	112	160	
XBA975()-□K	1.1	2.3	3.4	4.5	6.5	10.8	21.5	30	
	11	23	34	45	65	108	215	300	
XBA9120()-□K	1.8	3.6	5.4	7.2	10.3	17.2	30	30	
	18	36	54	72	103	172	300	300	
XBA9150()-□K	2.7	5.4	8.1	10.8	15.4	25.8	30	30	
	27	54	81	108	154	258	300	300	
XBA10200()-□K	2.9	5.9	8.8	11.7	16.8	28.0	52.7	70	
	29	59	88	117	168	280	527	700	
XBA10400U-□K	5.9	11.7	17.6	23.4	33.5	55.9	70	70	
	59	117	176	237	335	559	700	700	

※ () of item name represents voltage specification

※ □ of item name represents the reduction ratio.

※ Rotation direction is the same direction of additional motor marked in the □, others is reverse direction.

PERMISSIBLE LOAD INERTIA (J)-GEARED MOTOR $J \times 10^{-4}$ kgf-m²(GD² kgf-cm²)

Model	Gear Ratio	5	10	15	20	30	50	100	200
XBA620()-□K		1.55 (6.2)	6.2 (24.8)	14 (56.0)	24.8 (99.2)	55.8 (223.2)	155 (620.0)	155 (620.0)	155 (620.0)
XBA840()-□K		5.5 (22.5)	22 (88.0)	49.5 (198.0)	88 (352.0)	198 (792.0)	550 (2200)	550 (2200)	550 (2200)
XBA975()-□K		20 (80.2)	78 (312.0)	180 (720.0)	260 (1040)	720 (2880)	2000 (8000)	2000 (8000)	2000 (8000)
XBA9120()-□K		25 (100.0)	100 (400.0)	225 (900.0)	400 (1600)	900 (3600)	2500 (10000)	2500 (10000)	2500 (10000)
XBA9150()-□K		25 (100.0)	100 (400.0)	225 (900.0)	400 (1600)	900 (3600)	2500 (10000)	2500 (10000)	2500 (10000)
XBA10200()-□K		37.5 (150)	150 (600)	338 (1352)	600 (2400)	1350 (5400)	3750 (15000)	3750 (15000)	3750 (15000)
XBA10400U-□K		37.5 (150)	150 (600)	338 (1352)	600 (2400)	1350 (5400)	3750 (15000)	3750 (15000)	3750 (15000)

※ () indicates voltage specification.

※ □ indicates deceleration ratio.

PERMISSIBLE OVERHANG LOAD AND PERMISSIBLE THRUST LOAD

Model	Gear Ratio	Permissible Overhang Load				Permissible Thrust Load		
		10mm(0.3937in) from end of the output shaft.		20mm(0.7874in) from end of the output shaft.				
		N	kgf	N	kgf	N	kgf	
Geared Motor	XBA620()-□K	5	100	10	150	15	40	4
		10~20	150	15	200	20		
		30~200	200	20	300	30		
	XBA840()-□K	5	200	20	250	25	100	10
		10~20	300	30	350	35		
		30~200	450	45	550	55		
	XBA975()-□K	5	300	30	400	40	150	15
		10~20	400	40	500	50		
		30~200	500	50	650	65		
	XBA9120()-□K	5	300	30	400	40	150	15
		10~20	400	40	500	50		
		30~200	500	50	650	65		
	XBA9150()-□K	5	300	30	400	40	150	15
		10~20	400	40	500	50		
		30~200	500	50	650	65		

Model		Deceleration Ratio	Permissible Overhang Load				Permissible Thrust Load	
			10mm(0.3937in) from end of the output shaft.		20mm(0.7874in) from end of the output shaft.			
			N	kgf	N	kgf	N	kgf
Geared Motor	XBA10200()-□K	5~20	550	55	800	80	200	20
		30~50	1000	100	1250	125	300	30
		100~200	1400	140	1700	170	400	40
	XBA10400U-□K	5~20	550	55	800	80	200	20
		30~50	1000	100	1250	125	300	30
		100~200	1400	140	1700	170	400	40
Motor	XBM620D		87.2	8.72	107	10.7	• Do not engage the thrust load. If unavoidable, engage below 50% of motor weight.	
	XBM840D		117	11.7	137	13.7		
	XBM975D		156	15.6	176	17.6		
	XBM9120D		156	15.6	176	17.6		
	XBM9150D		156	15.6	176	17.6		
	XBM10200D		197	19.7	221	22.1		
	XBM10400D		197	19.7	221	22.1		

※ () indicates voltage specification.

※ □ indicates deceleration ratio.

MOTOR

■ Model : XBM840D

[Unit : mm(inch)]

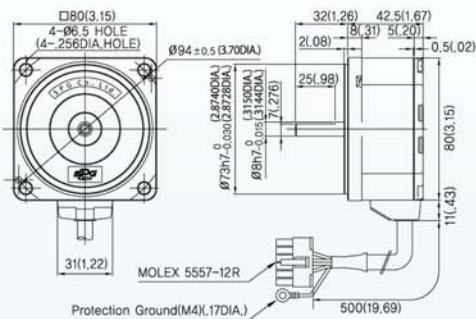


Table 2-Weight

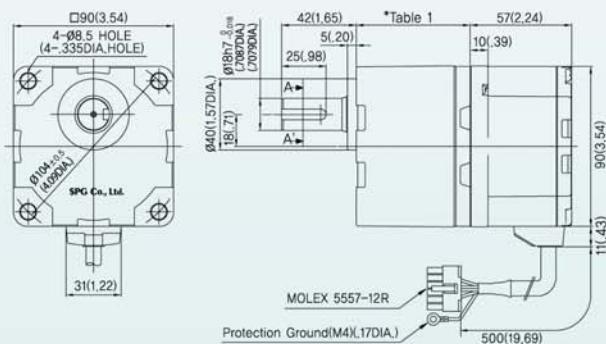
Part	Weight:kg.(lbs)	
Motor	0.75(1.65)	
Gear Head	XTG85K~XTG820K XTG830K~XTG8100K XTG8200K	0.61(1.34) 0.72(1.59) 0.80(1.76)

GEARED MOTOR

■ Model : XBA975()-□K

- Motor : XBM975G
- Gear Head : XTG95K~XTG9200K
- Control Unit : XBD75()

[Unit : mm(inch)]

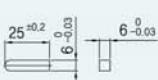


※ () of item name represents voltage specification

※ □ indicates deceleration ratio.

※ Geared motor includes the bolt set for installing. (for specification, refer to 28 page).

■ Key(accessories)



■ Key Groove

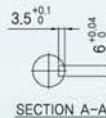


Table 1

Gear Ratio	Size:mm(inch)
XTG95K~XTG920K	45(1.77)
XTG930K~XTG9100K	58(2.28)
XTG9200K	64(2.52)

MOTOR

■ Model : XBM975D

[Unit : mm(inch)]

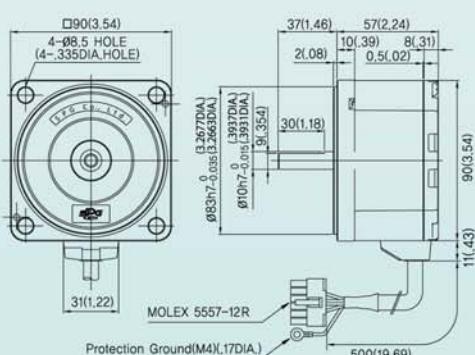


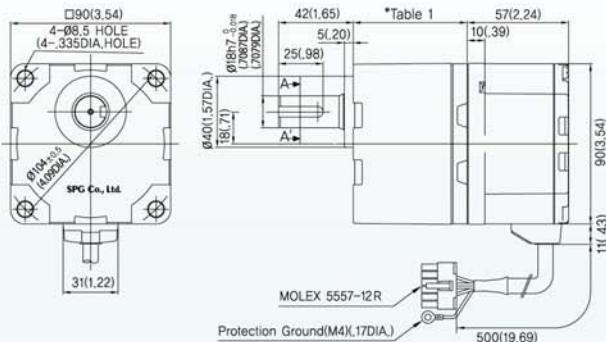
Table 2-Weight

Part	Weight:kg.(lbs)	
Motor	1.34(2.95)	
Gear Head	XTG95K~XTG920K XTG930K~XTG9100K XTG9200K	0.85(1.87) 1.15(2.54) 1.30(2.87)

GEARED MOTOR

■ Model : XBA9120()-□K

- Motor : XBM9120G
- Gear Head : XTG95K~XTG9200K
- Control Unit : XBD120()



※ () of item name represents voltage specification

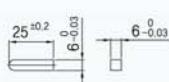
※ □ indicates deceleration ratio.

※ Geared motor includes the bolt set for installing. (for specification, refer to 29 page).

[Unit : mm(inch)]

■ Key(accessories)

■ Key Groove



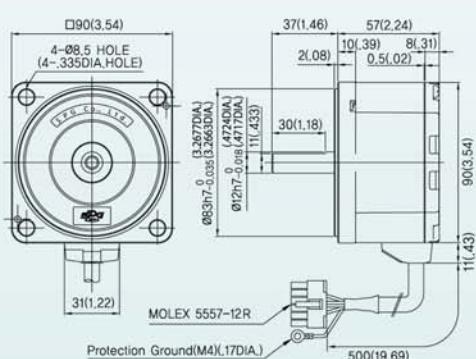
※ Table 1

Gear Ratio	Size:mm(inch)
XTG95K~XTG920K	45(1.77)
XTG930K~XTG9100K	58(2.28)
XTG9200K	64(2.52)

MOTOR

■ Model : XBM9120D

[Unit : mm(inch)]



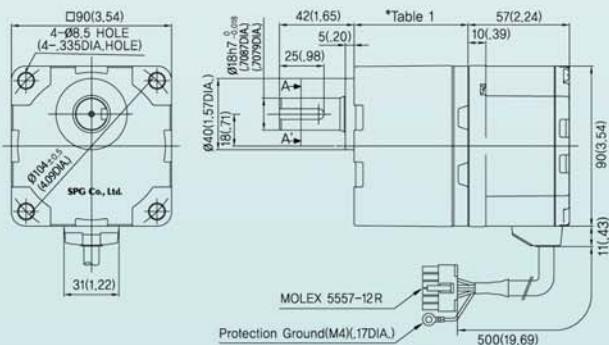
※ Table 2-Weight

Part	Weight:kg.(lbs)	
Motor	1.34(2.95)	
Gear Head	XTG95K~XTG920K XTG930K~XTG9100K XTG9200K	0.85(1.87) 1.15(2.54) 1.30(2.87)

GEARED MOTOR

■ Model : XBA9150()-□K

- Motor : XBM9150G
- Gear Head : XTG95K~XTG9200K
- Control Unit : XBD150()



※ () of item name represents voltage specification

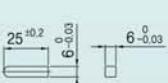
※ □ indicates deceleration ratio.

※ Geared motor includes the bolt set for installing. (for specification, refer to 29 page).

[Unit : mm(inch)]

■ Key(accessories)

■ Key Groove



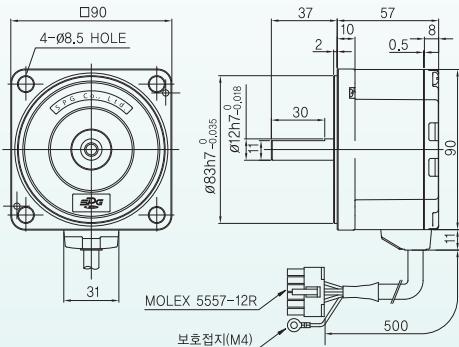
※ Table 1

Gear Ratio	Size:mm(inch)
XTG95K~XTG920K	45(1.77)
XTG930K~XTG9100K	58(2.28)
XTG9200K	64(2.52)

MOTOR

■ Model : XBM9150D

[Unit : mm]



※ 표2-Weight

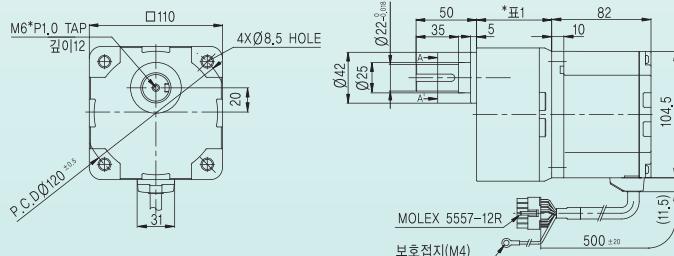
Part	Weight(kg)	
Motor	1.34	
Gear Head	XTG95K~XTG920K	0.85
	XTG930K~XTG9100K	1.15
	XTG9200K	1.30

GEARED MOTOR

■ Model : XBA10200()-□K

[Unit : mm]

- Motor : XBM10200G
- Gear Head : XTG105K~XTG10200K
- Control Unit : XBD200()



■ Key(accessories)

■ Key Groove



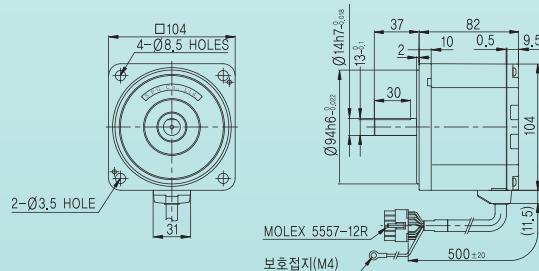
※ Table 1

Gear Ratio	Size(mm)
XTG105K~XTG1020K	60
XTG1030K~XTG1050K	72
XTG10100K~XTG10200K	86

MOTOR

■ Model : XBM10200D

[Unit : mm]



※ Table 2-Weight

Part	Weight(kg)	
Motor	2.4	
Gear Head	XTG105K~XTG1020K	3.0
	XTG1030K~XTG1050K	
	XTG10100K~XTG10200K	