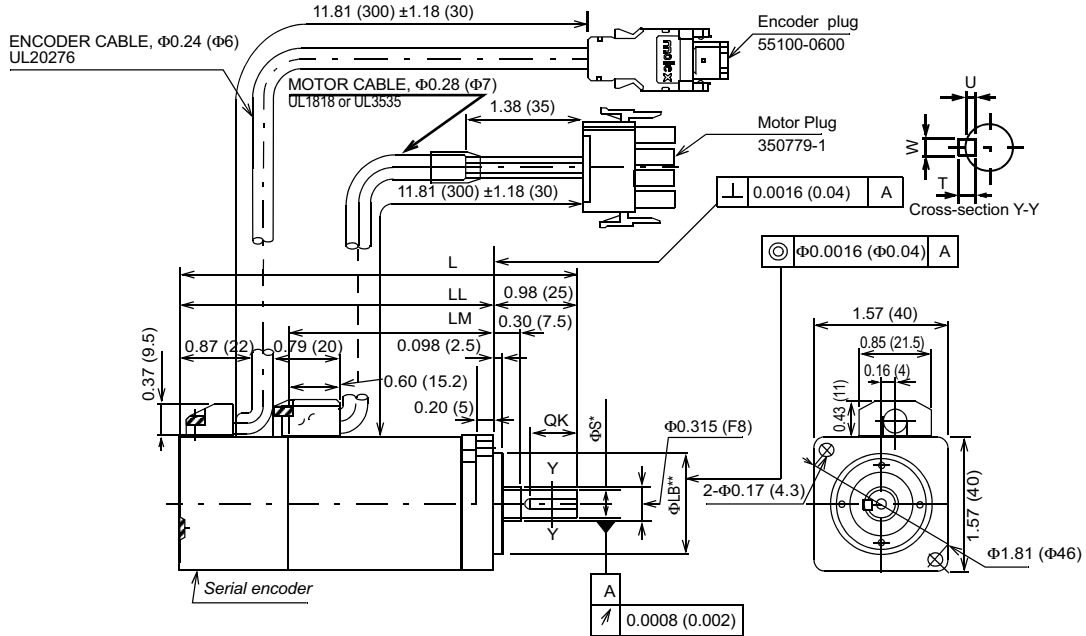


## Dimensions in inches (mm)

### (1) 13-Bit Incremental or 16-Bit Absolute Encoder, without Brake

- 30W (0.04hp), 50W (0.07hp), 100W (0.13hp)

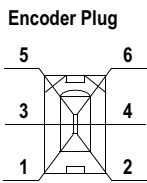


Type SGMAH-†	QK	U	W	T	L	LL	LM	ΦS*	ΦLB**	Output W (hp)	Approximate Mass lb (kg)	Allowable Radial Load lb (N)	Allowable Thrust Load lb (N)
A3□□F2□	Without Keyway				3.72 (94.5)	2.74 (69.5)	1.44 (36.5)	0.24 (6)	1.18 (30)	30 (0.04)	0.66 (0.3)	15 (68)	12 (54)
A3□□F4□	0.55 (14)	0.047 (1.2)	0.079 (2)	0.079 (2)	4.02 (102)	3.03 (77)	1.73 (44)			50 (0.07)	0.88 (0.4)		
A5□□F2□	Without Keyway				4.7 (119.5)	3.72 (94.5)	2.42 (61.5)			0.31 (8)	100 (0.13)	1.10 (0.5)	
A5□□F4□	0.55 (14)	0.047 (1.2)	0.079 (2)	0.079 (2)									
01□□F2□	Without Keyway												
01□□F4□	0.55 (14)	0.07 (1.8)	0.12 (3)	0.12 (3)									

†Some motor dimensions vary for motors with the optional shaft seal: See p.19 for details.

#### Connector Specifications

Specified Tolerances				
Dimension	*ΦS		**ΦLB	
Unit	Diameter	Tolerance	Diameter	Tolerance
in	0.2362	+0.0000-0.0003	1.181	+0.0000-0.0008
	0.3150	+0.0000-0.0004		
mm	6.000	+0.000-0.008	30.000	+0.000-0.021
	8.000	+0.000-0.009		



Encoder Connection		
Pin	Output	Wire Color
1	PG 5V	Red
2	PG 0V	Black
3	Battery +	Orange
4	Battery -	White/Orange
5	Data +	Light Blue
6	Data -	White/Light Blue

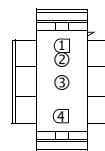
Note: Pins Number 3 and 4 are connectors used for 16-bit absolute encoder option only.

Plug: 55100-0600 (Molex)

Mating connector:

Socket: 54280-0600

#### Motor Plug



Motor Connection		
Pin	Output	Wire Color
1	Phase U	Red
2	Phase V	White
3	Phase W	Blue
4	FG (Frame Ground)	Green/Yellow

Plug: 350779-1 (AMP)

Pin: 350561-3 or 350690-3 (Nos. 1 to 3)

Ground pin: 770210-1 (No 4)

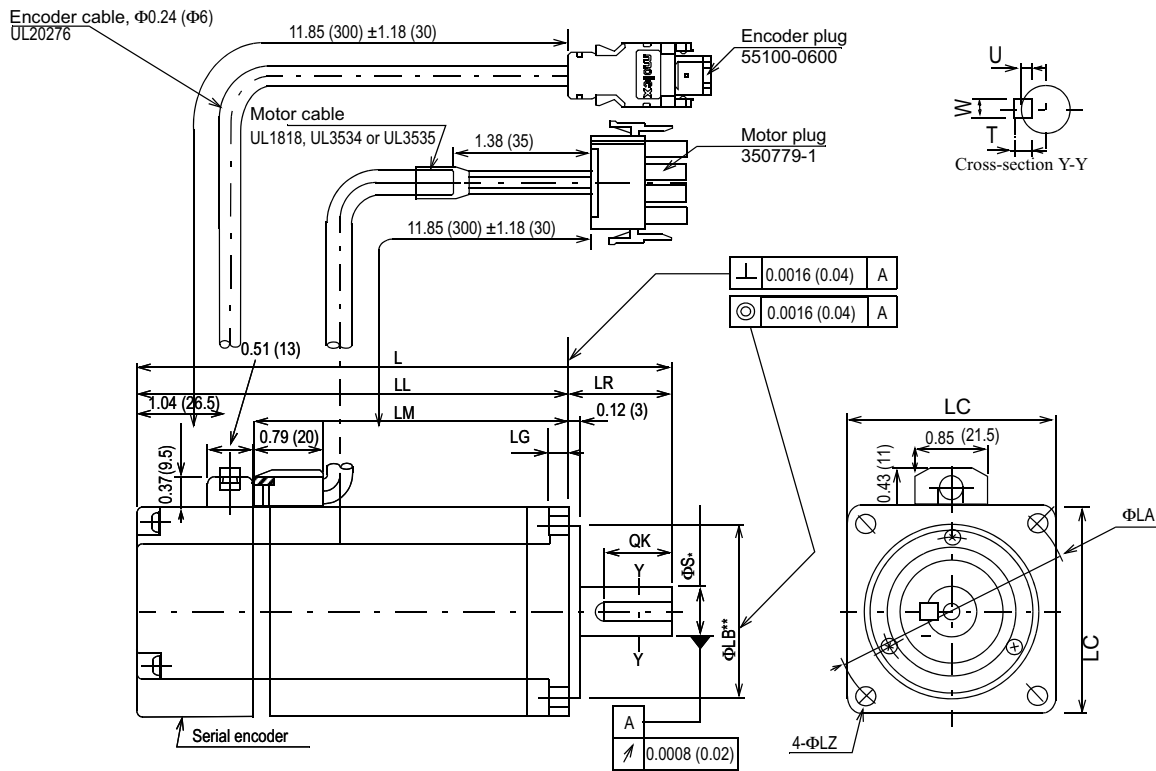
Mating connector:

Cap: 350780-1

Socket: 350570-3 or 350689-3

# 100/200V Single-phase Sigma II Servo Systems

- 200W (0.27hp), 400W (0.53hp), 750W (1.01hp)



Type SGMAH-†	L	LL	LM	LR	LG	LC	ΦLA	ΦLZ	ΦS*	ΦLB**	QK	U	W	T	Output W (hp)	Approximate Mass lb (kg)	Allowable Radial Load lb (N)	Allowable Thrust Load lb (N)
02□□F4□	4.98 (126.5)	3.8 (96.5)	2.46 (62.5)	1.18 (30)	0.24 (6)	2.36 (60)	2.76 (70)	0.22 (5.5)	0.55 (14)	1.97 (50)	0.79 (20)	0.12 (3)	0.2 (5)	0.2 (5)	200 (0.27)	2.43 (1.1)	55 (245)	17 (74)
04A□F4□	6.08 (154.5)	4.9 (124.5)	3.56 (90.5)												400 (0.53)			
08A□F4□	7.28 (185)	5.71 (145)	4.37 (111)	1.57 (40)	0.31 (8)	3.15 (80)	3.54 (90)	0.28 (7)	0.63 (16)	2.76 (70)	1.18 (30)	0.12 (3)	0.2 (5)	0.2 (5)	750 (1.01)	7.5 (3.4)	88 (392)	33 (147)

\*Please see the following table for dimension tolerances.

†Some motor dimensions vary for motors with the optional shaft seal: [See p.20](#) for details.

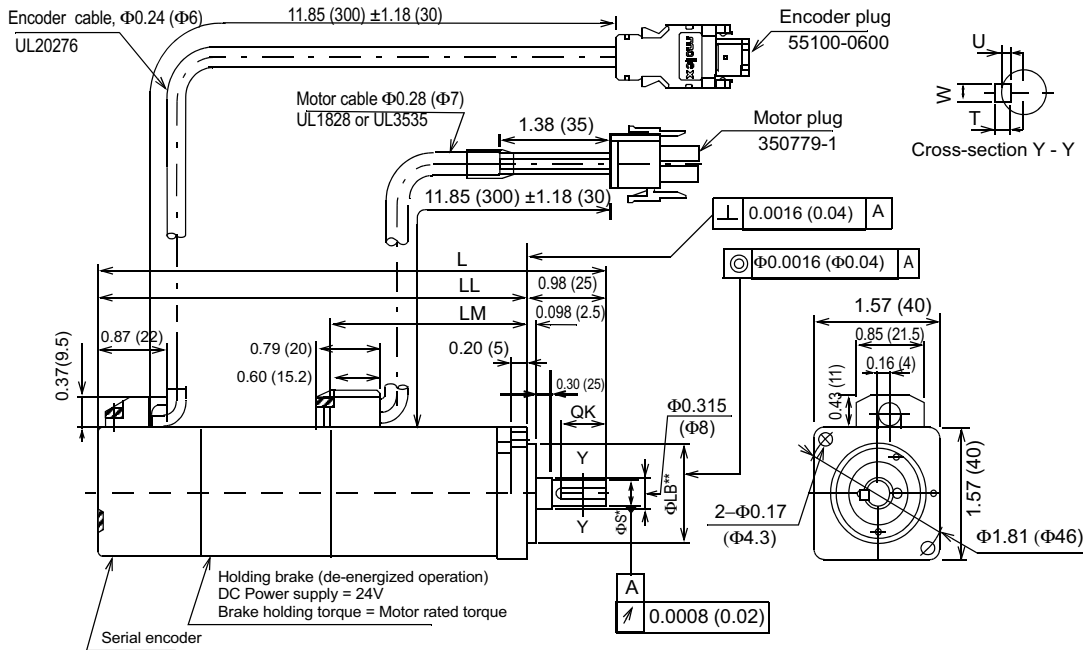
Specified Tolerances					
Dimension		*ΦS		**ΦLB	
Unit	Diameter	Tolerance		Diameter	Tolerance
in	0.5512	+0.0000-0.0004		1.9685	+0.0000-0.0010
	0.6299	+0.0000-0.0004		2.7559	+0.0000-0.0012
mm	14.000	+0.000-0.011		50.000	+0.000-0.025
	16.000	+0.000-0.011		70.000	+0.000-0.030

# 100/200V Single-phase Sigma II Servo Systems

SGMAH Servomotors

## (2) 13-Bit Incremental or 16-Bit Absolute Encoder, with Brake

- 30W (0.04hp), 50W (0.07hp), 100W (0.13hp)



Type SGMAH.†	U	W	T	L	LL	LM	ΦS*	ΦLB**	QK	Output W (hp)	Approximate Mass lb (kg)	Allowable Radial Load lb (N)	Allowable Thrust Load lb (N)
A3□□F2C	0.047 (1.2)	0.079 (2)		4.96 (126)	3.98 (101)	1.44 (36.5)	0.24 (6)	1.18 (30)	0.55 (14)	30 (0.04)	1.32 (0.6)	15 (68)	12 (54)
A3□□F4C				5.26 (133.5)	4.27 (108.5)	1.73 (44.0)				50 (0.07)	1.54 (0.7)		
A5□□F2C				0.07 (1.8)	0.12 (3)	0.12 (3)				6.3 (160)	5.31 (135)		
A5□□F4C													

†Some motor dimensions vary for motors with the optional shaft seal: See p.19 for details.

Specified Tolerances				
Dimension	*ΦS		**ΦLB	
Unit	Diameter	Tolerance	Diameter	Tolerance
in	0.2362	+0.0000-0.0003	1.181	+0.0000-0.0008
	0.3150	+0.0000-0.0004		
mm	6.000	+0.000-0.008	30.000	+0.000-0.021
	8.000	+0.000-0.009		

### Connector Specifications:

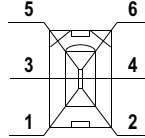
#### Motor Plug



Motor Connection		
1	Phase U	Red
2	Phase V	White
3	Phase W	Blue
4	FG (Frame Ground)	Green/Yellow
5	Brake Terminal	Red
6	Brake Terminal	Black

Plug: 350715-1 (AMP)  
 Pin: 350561-3 or 350690-3 (except No. 4)  
 Ground pin: : 770210-1 (No. 4)  
 Mating connector:  
 Cap: 350781-1  
 Socket: 350570-3 or 350689-3

#### Encoder Plug



Encoder Connection		
1	PG 5V	Red
2	PG 0V	Black
3	Battery +	Orange
4	Battery -	White/Orange
5	Data +	Light Blue
6	Data -	White/Light Blue

Note: Pins number 3 and 4 are connectors used for 16-bit absolute encoder option only.

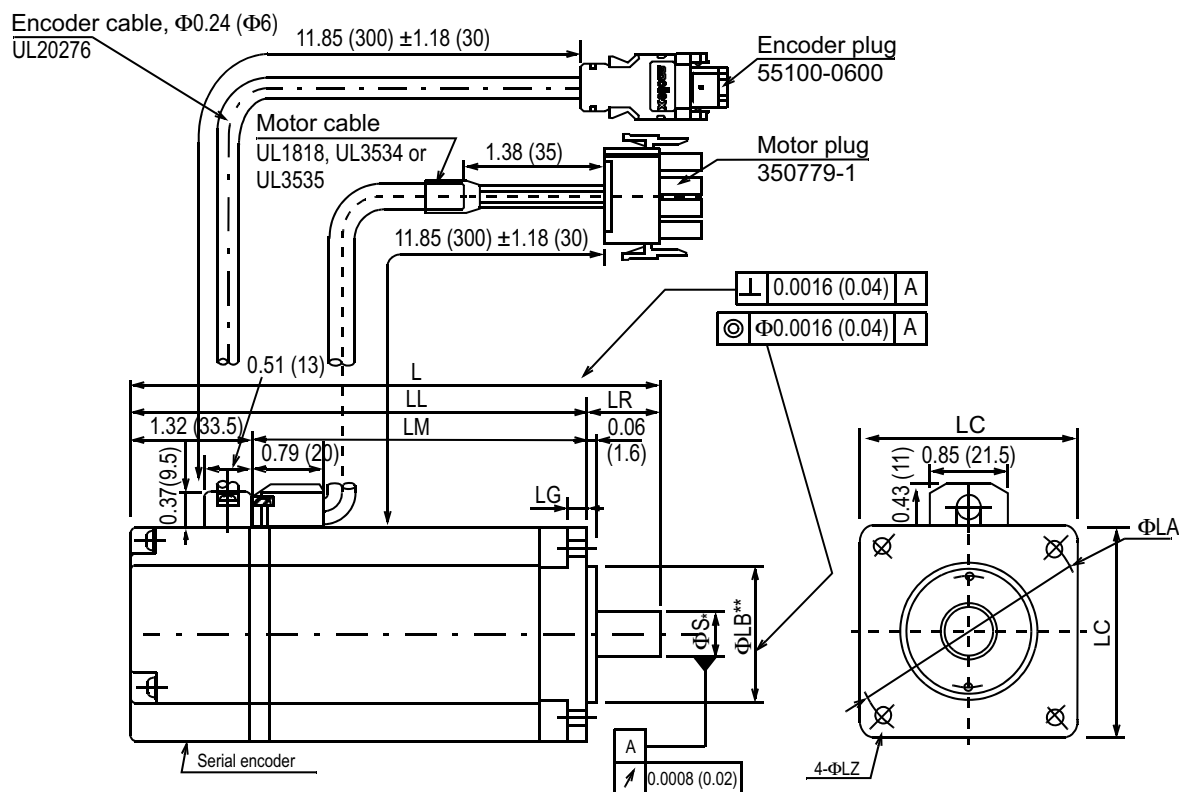
Plug: 55100-0600 (Molex)  
 Mating connector:  
 Socket: 54280-0600



# 100/200V Single-phase Sigma II Servo Systems

SGMAH Servomotors

- 200W (0.27hp), 400W (0.54hp) with NEMA 23\* Flange/Pilot



Type SGMAH-	L	LL	LM	LR	LG	LC	ΦLA	ΦLZ	ΦS*	ΦLB**	Output W (hp)	Approximate Mass lb (kg)	Allowable Radial Load lb (N)	Allowable Thrust Load lb (N)
02□AN21	4.67 (118.5)	3.9 (98.5)	2.56 (65)	0.79 (20)	0.24 (6)	2.36 (60)	2.63 (66.7)	0.18 (4.5)	0.50 (12.7)	1.5 (38.1)	200 (0.27)	2.43 (1.1)	55 (245)	17 (74)
04□AN21	5.77 (146.5)	5.0 (126.5)	3.66 (93)								400 (0.53)			

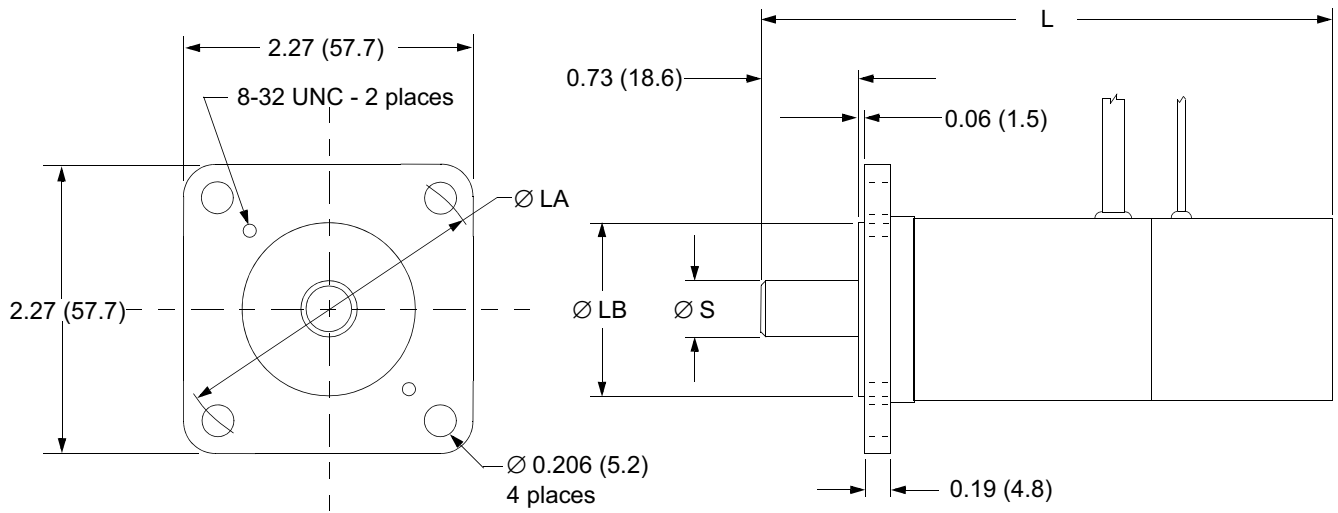
Specified Tolerances				
Dimension	*ΦS		**ΦLB	
Unit	Diameter	Tolerance	Diameter	Tolerance
in	0.5000	+0 -0.00043	1.5000	+0.0000 -0.00098
mm	12.7	+0 -0.011	38.1	+0.0000 -0.025

\*For servo application torques: shaft diameter is 0.5in (12.7mm) rather than 0.25 (6.35mm), as is in typical NEMA 23.



# 100/200V Single-phase Sigma II Servo Systems

SGMAH  
Servomotors

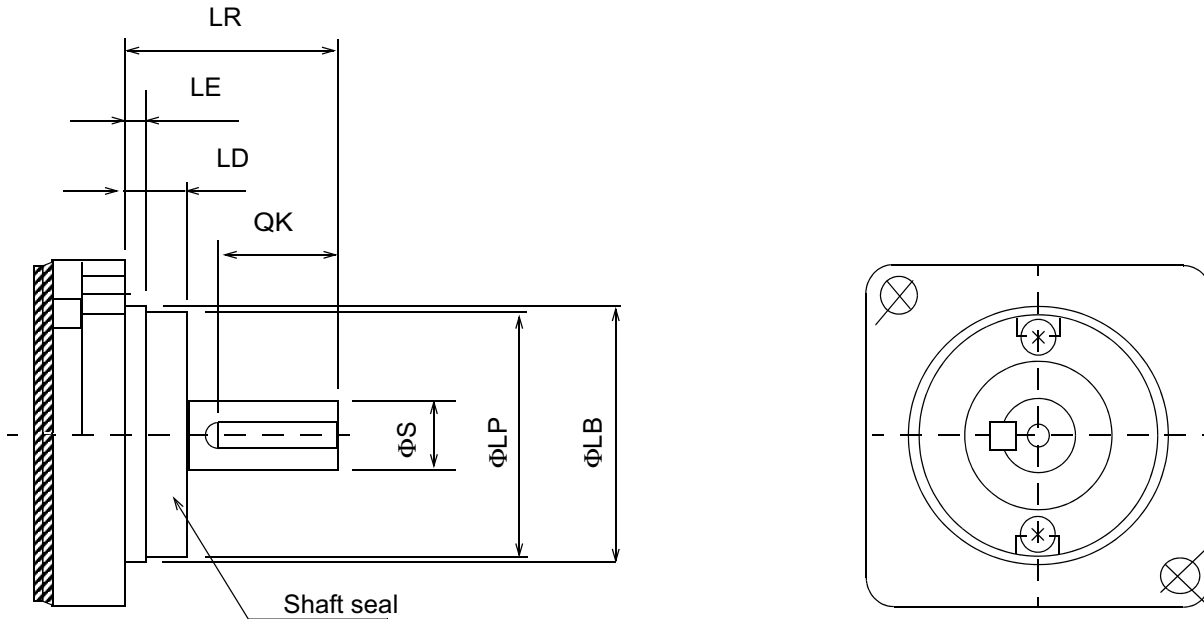


Motor type	*Dimensions - Inch (mm)			
	L	$\varnothing S$	$\varnothing LB$	$\varnothing LA$
SGMAH-A3 w/NEMA 23 Adaptor	3.72 (94.5)	0.2362 <sup>+0.000</sup> / <sup>-0.0003</sup> (6.0 <sup>+0.000</sup> / <sup>-0.006</sup> )	1.500 <sup>+0.002</sup> / <sup>-0.002</sup> (38.1 <sup>+0.05</sup> / <sup>-0.05</sup> )	2.625 (66.7)
SGMAH-A5 w/NEMA 23 Adaptor	4.02 (102)	0.2362 <sup>+0.000</sup> / <sup>-0.0003</sup> (6.0 <sup>+0.000</sup> / <sup>-0.006</sup> )	1.500 <sup>+0.002</sup> / <sup>-0.002</sup> (38.1 <sup>+0.05</sup> / <sup>-0.05</sup> )	2.625 (66.7)
SGMAH-01 w/NEMA 23 Adaptor	4.70 (119.5)	0.3150 <sup>+0.000</sup> / <sup>-0.0004</sup> (8.0 <sup>+0.000</sup> / <sup>-0.009</sup> )	1.500 <sup>+0.002</sup> / <sup>-0.002</sup> (38.1 <sup>+0.05</sup> / <sup>-0.05</sup> )	2.625 (66.7)

\*Dimensions include a field installed SGM-N23 adapter flange on the listed motor.

## Dimension Modifications for Motors with Optional Shaft Seal

- 30W (0.04hp), 50W (0.07hp), 100W (0.13hp)



Type SGMAH-	QK	φLB*	φS*	LE	LR	LD	φLP
A3	0.55 (14)	1.18 (30)	0.236 (6)	0.10 (2.5)	0.98 (25)	0.30 (7.5)	1.14 (28)
A5			0.315 (8)				
01							

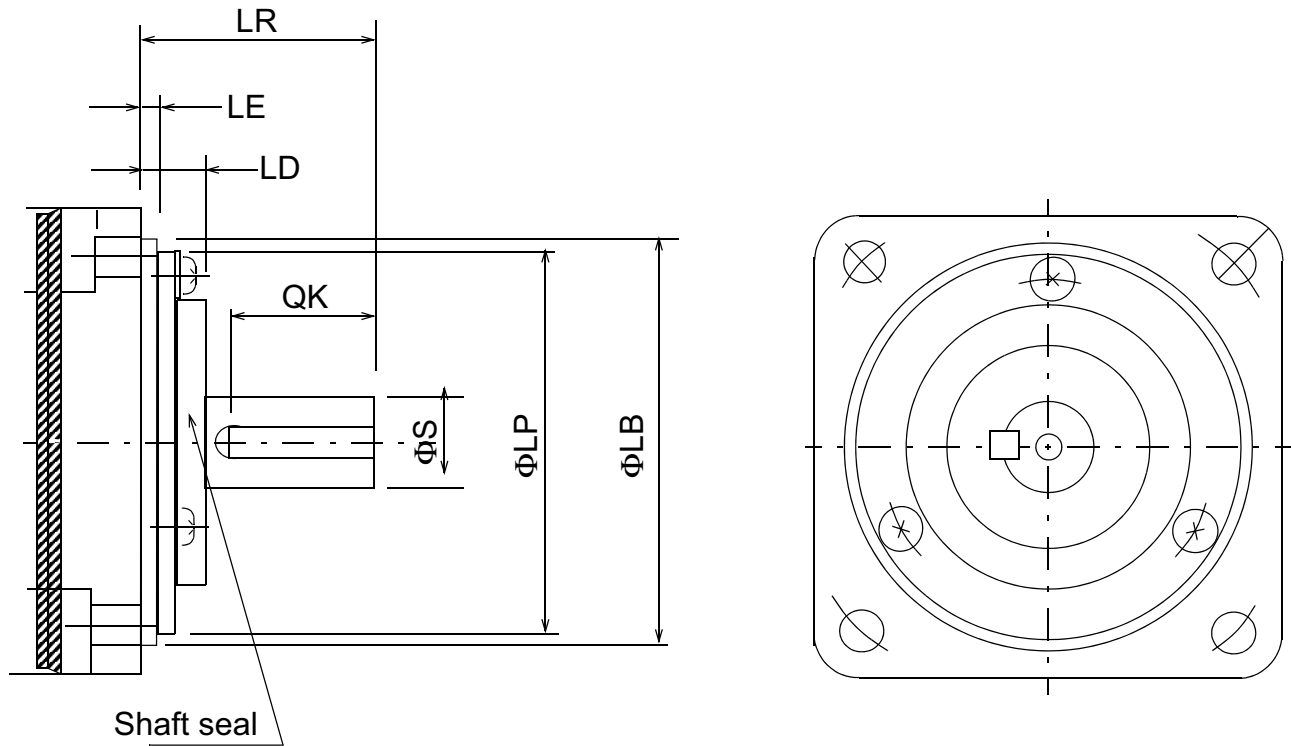
\*Tolerances for diameters LB and S are the same as those for motors without shaft seals.



# 100/200V Single-phase Sigma II Servo Systems

- 200W (0.27hp), 400W (0.53hp), 750W (1.01hp)

SGMAH Servomotors



Type SGMAH-	QK	φLB*	φS*	LE	LR	LD	φLP
02	0.55 (14)	1.97 (50)	0.55 (14)	0.12 (3)	1.18 (30)	0.39 (10)	1.89 (48)
04							2.60 (66)
08	0.98 (25)	2.76 (70)	0.63 (16)		1.57 (40)	0.43 (11)	

\*Tolerances for diameters LB and S are the same as those for motors without shaft seals.

## Torque Reduction Factor for SGMAH motors equipped with a shaft seal:

Servo Motor Model	A3	A5	01	02	04	08
Torque Reduction Factor	70%	80%	90%	90%	95%	95%

For example: The SGMAH-A3 continuous and peak torque rating should be reduced to 70% of the listed catalog specification.

To specify a motor with a shaft seal, refer to the motor part number explanation on the following page.