

Speed Control Motor--Reversible Motor 6W Unit Type & Component Package Type



■ Specs       **IP54**

Motor output	6W				
Type	Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type
Round shaft type	6R6SU-1 / 6R6SV-1		6R6SU-2 / 6R6SV-2		6R6SU-2E / 6R6SV-2E
Pinion shaft type	6R6PU-1 / 6R6PV-1		6R6PU-2 / 6R6PV-2		6R6PU-2E / 6R6PV-2E
Capacity of capacitor (μF)	3.5		0.8		0.6
Power input (V)	Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230
Power frequency (Hz)	60				50
Rated current (A)	0.29	0.30	0.13	0.14	0.15
Variable speed range (r/min)	70~1700				70~1400
Permissible torque (Nm)	1200r/min	0.05	0.05	0.05	0.05
	90r/min	0.05	0.05	0.05	0.05
Starting torque (Nm) <small>Note 1</small>	0.04		0.04		0.05
Rated torque (Nm)	0.04		0.04		0.05
Rated speed (r/min)	1450		1550		1200
Permissible inertia (GD ²) <small>Note 2</small>	0.25 kgcm ²				
Ambient temperature	Single phase 110V/115V : -10~+50°C ; Single phase 220V/230V : -10~+40°C				
Ambient humidity	Max.85%RH				

※Controller TU3□ or TUD3□ , please attached with the unit type 6R6SU-□/6R6PU-□
Controller TS3□ or TS3□-HR /TS3□-SSSD or TS1□-P or TS1□-P-SSSD or TE3□ , please attached with the component package type 6R6SV-□/6R6PV-□

Note1:That values shown for rated torque and starting torque of reversible motors are reference data measured for operation without the brake applied.

Note2:The brake attached with motor which can shorten the time for starting/stopping and clockwise/counterclockwise rotation.

The holding force provided by motor is not the safety brake using
※6R6□U-□/6R6□V-□ holding torque is 50gcm(But at the initial the holding torque may lower than 50gcm) : over rotation around 4 rev/min(Reference value) ※ 1 Nm = 10.19716 Kgcm

■ 6R6PU-□/6R6PV-□ + 6A□ Series Gearhead Specs & Permissible Torque/Permissible Inertial Load(GD²) When Gearhead Attached

Gear ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
60 Hz	Speed range (r/min)	High speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low speed	23	19	14	11	9.3	7.7	7	5.6	4.6	3.8	3.5	2.8	2.3
	Permissible torque (Nm)	1200r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
		90r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
50 Hz	Speed range (r/min)	High speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low speed	23	19	14	11	9.3	7.7	7	5.6	4.6	3.8	3.5	2.8	2.3
	Permissible torque (Nm)	1200r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
		90r/min	0.14	0.16	0.23	0.27	0.34	0.41	0.45	0.56	0.68	0.81	0.9	1.1	1.3
Permissible inertia load GD ² (kgcm ²)		2.3	3.3	6.3	9	14	20.3	25	39	56.3	81	100	156	225	

Gear ratio		36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Speed range (r/min)	High speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low speed	1.9	1.4	1.1	0.93	0.77	0.7	0.58	0.46	0.38	0.35	0.28	0.23	0.19
	Permissible torque (Nm)	1200r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6					
		90r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6					
50 Hz	Speed range (r/min)	High speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low speed	1.9	1.4	1.1	0.93	0.77	0.7	0.58	0.46	0.38	0.35	0.28	0.23	0.19
	Permissible torque (Nm)	1200r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6					
		90r/min	1.5	2.2	2.6	3.2	3.9	4.3	4.9	6					
Permissible inertia load GD ² (kgcm ²)		324	625						625						

※1 : Gearhead 6A□ series , please enter the gear ratio 3~360 in the box□

※2 : 60Hz : Speed control range is 70~1700r/min ; 50Hz:Speed control range is 70~1400r/min

※3 : 「Permissible torque」 : It refers to the value of load torque driven by the gearhead's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft.No marking indicates rotation in the same direction

※5 : 1 Nm = 10.19716 Kgcm

■ Permissible Overhung Load/Permissible Thrust Load

Round shaft type

Model	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit:kg f)
	10mm from shaft end	20mm from shaft end	
6R6SU-□ 6R6SV-□	5	11	Permissible thrust load do not exceed the weight of motor 1/2.If exceed the rated weight will decrease the service life of motor. Please using indirect transmission machinery such as coupling,belt,chain.As the applications which will need the thrust load

Pinion shaft type (Gearhead attached)

Model	Gear Ratio	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit:kg f)
		10mm from shaft end	20mm from shaft end	
6R6PU-□ 6R6PV-□	3, 3.6, 5	10	15	3
	6, 7.5, 9, 10, 12.5, 15, 18, 20	15	20	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	20	30	

■ Dimensions

◆ Unit type

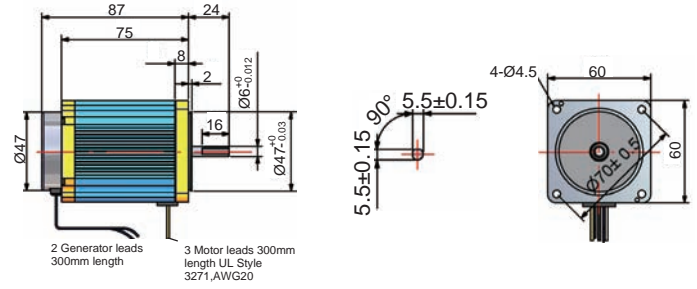
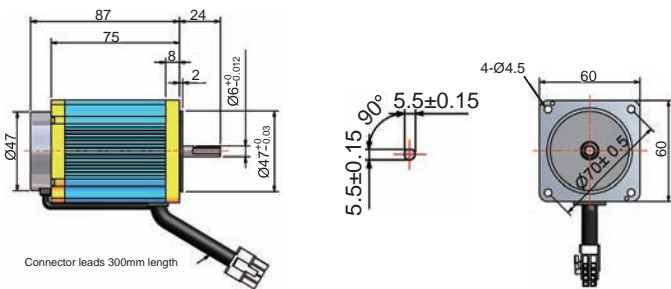
Round shaft type 6R6SU-□

Motor Weight : 1130g

◆ Component package type

Round shaft type 6R6SV-□

Motor Weight : 1110g

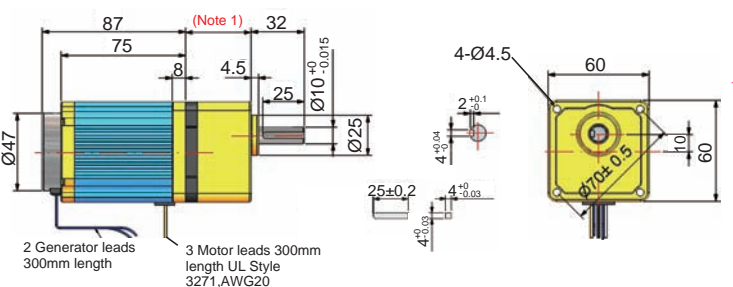
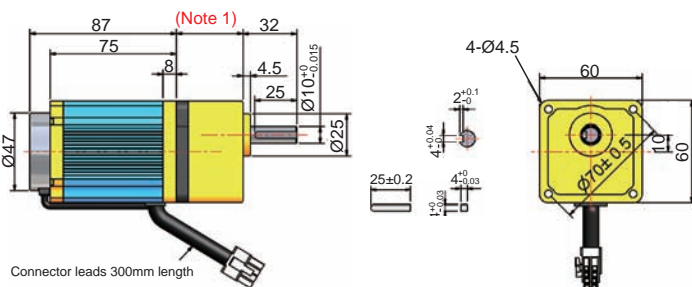


Pinion shaft type 6R6PU-□+6A□

Motor Weight : 1120g

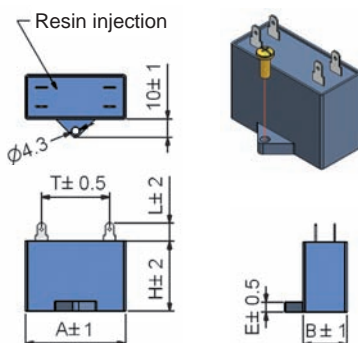
Pinion shaft type 6R6PV-□+6A□

Motor Weight : 1100g



■ Capacitor Dimensions(Included with single phase motors)

*(Note1)



6A□ Gearhead Length/Weight		
Model	Length(mm)	Weight(g)
6A3~6A100	39.5	400
6A120~6A360	43.5	440

※We also have gearhead 6A□N with shaft Ø8.For details please refer to the P.4

Capacity of capacitor (µF/VAC)	A	B	H	L	T	E
3.5/250	37	14	23	10	24	4
0.8/450	37	14	23	8	24	4
0.6/450	37	14	23	7	24	4

Speed Control Motor--Reversible Motor 25W Unit Type & Component Package Type



■ Specs **IP54**

Motor output		25W				
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type
Round shaft type		8R25SU-1 / 8R25SV-1		8R25SU-2 / 8R25SV-2		8R25SU-2E / 8R25SV-2E 8R25SU-23C / 8R25SV-23C
Pinion shaft type		8R25PU-1 / 8R25PV-1		8R25PU-2 / 8R25PV-2		8R25PU-2E / 8R25PV-2E 8R25PU-23C / 8R25PV-23C
Capacity of capacitor (μF)		8		2		1.5
Power input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230
Power frequency (Hz)		60				50
Rated current (A)		0.69	0.70	0.32	0.33	0.26
Variable speed range (r/min)		70~1700				70~1400
Permissible torque (Nm)	1200r/min	0.21	0.21	0.21	0.21	0.21
	90r/min	0.11	0.11	0.12	0.12	0.12
Starting torque (Nm)	Note 1	0.14		0.14		0.16
Rated torque (Nm)		0.17		0.17		0.21
Rated speed (r/min)		1500		1500		1250
Permissible inertia (GD ²)	Note 2	1.2 kgcm ²				
Ambient temperature		Single phase 110V/115V : -10~+50°C ; Single phase 220V/230V : -10~+40°C				
Ambient humidity		Max.85%RH				

※Controller TU3□ or TUD3□, please attached with the unit type 8R25SU-□/8R25PU-□
Controller TS3□ or TS3□-HR /TS3□-SSSD or TS1□-P or TS1□-P-SSSD or TE3□, please attached with the component package type 8R25SV-□/8R25PV-□

Note1: That values shown for rated torque and starting torque of reversible motors are reference data measured for operation without the brake applied.

Note2: The brake attached with motor which can shorten the time for starting/stopping and clockwise/counterclockwise rotation.

The holding force provided by motor is not the safety brake using

※8R25□U-□/8R25□V-□ holding torque is 150gcm (But at the initial the holding torque may lower than 150gcm) ; over rotation around 5 rev/min(Reference value) ※ 1 Nm = 10.19716 Kgcm

■ 8R25PU-□/8R25PV-□ + 8A□ Series Gearhead Specs & Permissible Torque/Permissible Inertial Load(GD²) When Gearhead Attached

Gear ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
60 Hz	Speed range (r/min)	High speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low speed	23	19	14	11	9.3	7.7	7	5.6	4.6	3.8	3.5	2.8	2.3
	Permissible torque (Nm)	1200r/min	0.55	0.66	0.92	1.11	1.38	1.66	1.85	2.31	2.77	3.32	3.69	4.4	5.3
		90r/min	0.31	0.37	0.52	0.62	0.78	0.93	1.04	1.29	1.55	1.86	2.07	2.5	3
50 Hz	Speed range (r/min)	High speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low speed	23	19	14	11	9.3	7.7	7	5.6	4.6	3.8	3.5	2.8	2.3
	Permissible torque (Nm)	1200r/min	0.55	0.66	0.92	1.11	1.38	1.66	1.85	2.31	2.77	3.32	3.69	4.4	5.3
		90r/min	0.31	0.37	0.52	0.62	0.78	0.93	1.04	1.29	1.55	1.86	2.07	2.5	3
Permissible inertia load GD ² (kgcm ²)		10.8	15.6	30	43.2	67.5	97.2	120	187.5	270	389	480	750	1080	

Gear ratio		36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Speed range (r/min)	High speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low speed	1.9	1.4	1.1	0.93	0.77	0.7	0.58	0.46	0.38	0.35	0.28	0.23	0.19
	Permissible torque (Nm)	1200r/min	6.3	8.8	10.6	13.2	15		15						
		90r/min	3.6	4.9	5.9	7.4	8.9	9.9	11.2	14	15				
50 Hz	Speed range (r/min)	High speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low speed	1.9	1.4	1.1	0.93	0.77	0.7	0.58	0.46	0.38	0.35	0.28	0.23	0.19
	Permissible torque (Nm)	1200r/min	6.3	8.8	10.6	13.2	15		15						
		90r/min	3.6	4.9	5.9	7.4	8.9	9.9	11.2	14	15				
Permissible inertia load GD ² (kgcm ²)		1555	3000					3000							

※1 : Gearhead 8A□series, please enter the gear ratio 3~360 in the box□

※2 : 60Hz : Speed control range is 70~1700r/min ; 50Hz: Speed control range is 70~1400r/min

※3 : 「Permissible torque」 : It refers to the value of load torque driven by the gearhead's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction

※5 : 1 Nm = 10.19716 Kgcm

■ Permissible Overhung Load/Permissible Thrust Load

Round shaft type

Model	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit:kg f)
	10mm from shaft end	20mm from shaft end	
8R25SU-□ 8R25SV-□	9	14	Permissible thrust load do not exceed the weight of motor 1/2.If exceed the rated weight will decrease the service life of motor. Please using indirect transmission machinery such as coupling,belt,chain.As the applications which will need the thrust load

Pinion shaft type (Gearhead attached)

Model	Gear Ratio	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit:kg f)
		10mm from shaft end	20mm from shaft end	
8R25PU-□ 8R25PV-□	3, 3.6, 5	20	25	5
	6, 7.5, 9, 10, 12.5, 15, 18, 20	30	35	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	45	55	

■ Dimensions

◆ Unit type

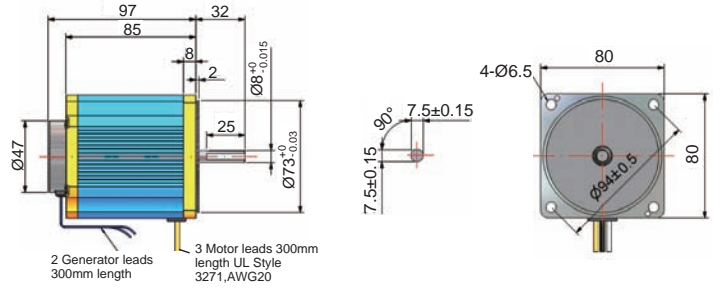
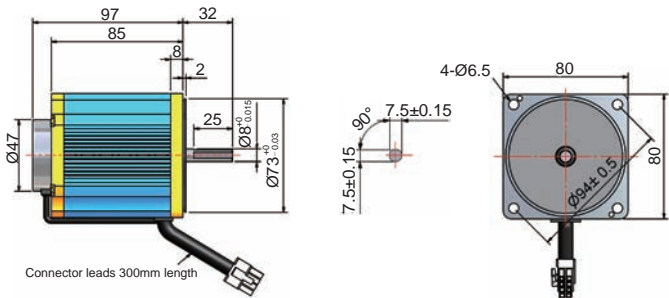
Round shaft type 8R25SU-□

Motor Weight : 2140g

◆ Component package type

Round shaft type 8R25SV-□

Motor Weight : 2120g

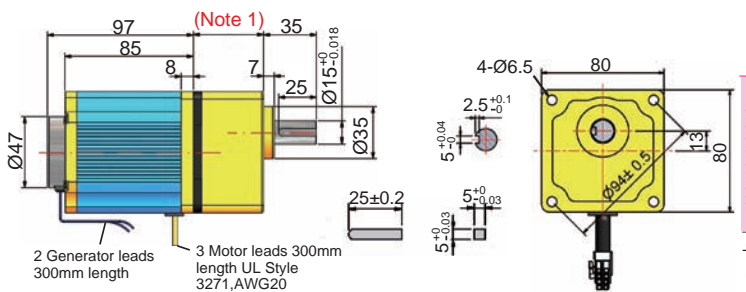
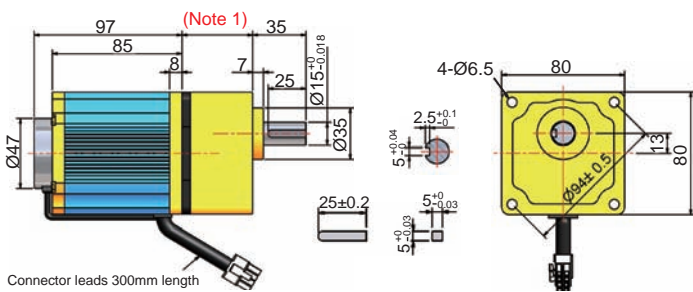


Pinion shaft type 8R25PU-□+8A□

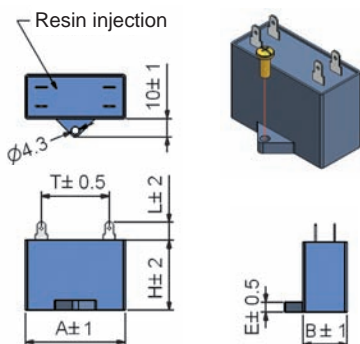
Motor Weight : 2120g

Pinion shaft type 8R25PV-□+8A□

Motor Weight : 2100g



■ Capacitor Dimensions(Included with single phase motors)



*(Note1)

9A□Gearhead Length/Weight		
Model	Length(mm)	Weight(g)
8A3-8A100	46.5	880
8A120-8A360	50.5	940

※We also have gearhead 8A□N with shaft Ø10.For details please refer to the P.4

Capacity of capacitor (µF/VAC)	A	B	H	L	T	E
8/250	48	19	29	10	34	5
2/450	38	20	29	8	24	4.5
1.5/450	38	17	26	9	24	5

Common technical information
Product number
Induction motor
Reversible motor
Speed control motor
Electromagnetic brake motor
Torque motor

Speed Control Motor--Reversible Motor 40W Unit Type & Component Package Type



■ Specs **IP54**

Motor output		40W				
Type		Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type
Round shaft type		9R40SU-1 / 9R40SV-1		9R40SU-2 / 9R40SV-2		9R40SU-2E / 9R40SV-2E
Pinion shaft type		9R40PU-1 / 9R40PV-1		9R40PU-2 / 9R40PV-2		9R40PU-2E / 9R40PV-2E
Capacity of capacitor (μF)		12		3.5		2.5
Power input (V)		Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230
Power frequency (Hz)		60				50
Rated current (A)		0.97	1.00	0.59	0.61	0.38
Variable speed range (r/min)		70~1700				70~1400
Permissible torque (Nm)	1200r/min	0.32	0.32	0.32	0.32	0.32
	90r/min	0.16	0.16	0.17	0.17	0.17
Starting torque (kgcm)	Note 1	0.27		0.27		0.32
Rated torque (kgcm)		0.28		0.28		0.33
Rated speed (r/min)		1450		1450		1250
Permissible inertia (GD ²)	Note 2	3 kgcm ²				
Ambient temperature		Single phase 110V/115V : -10~+50°C ; Single phase 220V/230V : -10~+40°C				
Ambient humidity		Max.85%RH				

※Controller TU3□ or TUD3□, please attached with the unit type 9R40SU-□/9R40PU-□
Controller TS3□ or TS3□-HR /TS3□-SSSD or TS1□-P or TS1□-P-SSSD or TE3□, please attached with the component package type 9R40SV-□/9R40PV-□

Note1: That values shown for rated torque and starting torque of reversible motors are reference data measured for operation without the brake applied.

Note2: The brake attached with motor which can shorten the time for starting/stopping and clockwise/counterclockwise rotation.

The holding force provided by motor is not the safety brake using

※9R40□U-□/9R40□V-□ holding torque is 400gcm (But at the initial the holding torque may lower than 400gcm) : over rotation around 6 rev/min(Reference value) ※ 1 Nm = 10.19716 Kgcm

■ 9R40PU-□/9R40PV-□ + 9A□ Series Gearhead Specs & Permissible Torque/Permissible Inertial Load(GD²) When Gearhead Attached

Gear ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
60 Hz	Speed range (r/min)	High speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low speed	23	19	14	11	9.3	7.7	7	5.6	4.6	3.8	3.5	2.8	2.3
	Permissible torque (Nm)	1200r/min	0.86	1.04	1.44	1.73	2.16	2.59	2.88	3.6	4.32	5.18	5.76	6.9	8.3
		90r/min	0.46	0.55	0.77	0.92	1.15	1.38	1.53	1.91	2.3	2.75	3.06	3.7	4.4
50 Hz	Speed range (r/min)	High speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low speed	23	19	14	11	9.3	7.7	7	5.6	4.6	3.8	3.5	2.8	2.3
	Permissible torque (Nm)	1200r/min	0.86	1.04	1.44	1.73	2.16	2.59	2.88	3.6	4.32	5.18	5.76	6.9	8.3
		90r/min	0.46	0.55	0.77	0.92	1.15	1.38	1.53	1.91	2.3	2.75	3.06	3.7	4.4
Permissible inertia load GD ² (kgcm ²)		27	39	75	108	169	243	300	469	675	972	1200	1875	2700	

Gear ratio		36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Speed range (r/min)	High speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low speed	1.9	1.4	1.1	0.93	0.77	0.7	0.58	0.46	0.38	0.35	0.28	0.23	0.19
	Permissible torque (Nm)	1200r/min	9.9	13.8	16.5	20.6	24.8	27.5	31.1	38.9	40				
		90r/min	5.3	7.3	8.8	11	13.2	14.6	16.5	20.7	24.8	27.5	34.4	40	
50 Hz	Speed range (r/min)	High speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low speed	1.9	1.4	1.1	0.93	0.77	0.7	0.58	0.46	0.38	0.35	0.28	0.23	0.19
	Permissible torque (Nm)	1200r/min	9.9	13.8	16.5	20.6	24.8	27.5	31.1	38.9	40				
		90r/min	5.3	7.3	8.8	11	13.2	14.6	16.5	20.7	24.8	27.5	34.4	40	
Permissible inertia load GD ² (kgcm ²)		3888	7500					7500							

※1 : Gearhead 9A□ series · please enter the gear ratio 3~360 in the box□

※2 : 60Hz : Speed control range is 70~1700r/min ; 50Hz: Speed control range is 70~1400r/min

※3 : 「Permissible torque」 : It refers to the value of load torque driven by the gearhead's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft. No marking indicates rotation in the same direction

※5 : 1 Nm = 10.19716 Kgcm

■ Permissible Overhung Load/Permissible Thrust Load

Round shaft type

Model	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit:kg f)
	10mm from shaft end	20mm from shaft end	
9R40SU-□ 9R40SV-□	14	20	Permissible thrust load do not exceed the weight of motor 1/2.If exceed the rated weight will decrease the service life of motor. Please using indirect transmission machinery such as coupling,belt,chain.As the applications which will need the thrust load

Pinion shaft type (Gearhead attached)

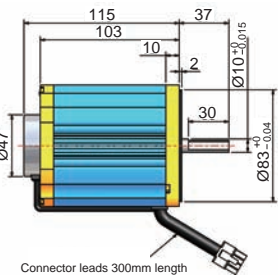
Model	Gear Ratio	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit:kg f)
		10mm from shaft end	20mm from shaft end	
9R40PU-□ 9R40PV-□	3, 3.6, 5	50	60	15
	6, 7.5, 9, 10, 12.5, 15, 18, 20	60	70	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	70	80	

■ Dimensions

◆ Unit type

Round shaft type 9R40SU-□

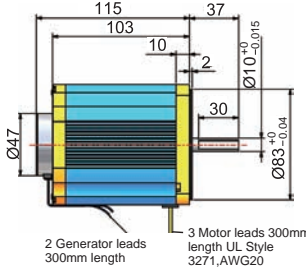
Motor Weight : 3120g



◆ Component package type

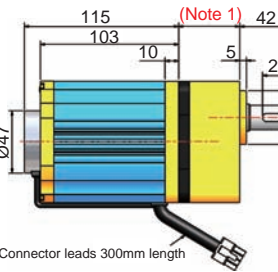
Round shaft type 9R40SV-□

Motor Weight : 3100g



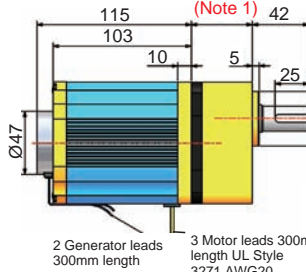
Pinion shaft type 9R40PU-□+9A□

Motor Weight : 3100g



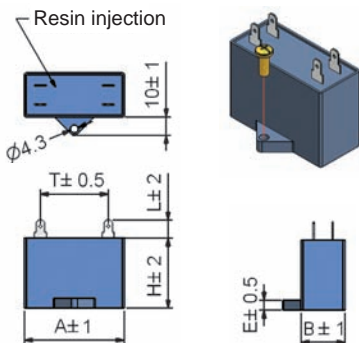
Pinion shaft type 9R40PV-□+9A□

Motor Weight : 3080g



■ Capacitor Dimensions(Included with single phase motors)

*(Note 1)



9A□ Gearhead Length/Weight		
Model	Length(mm)	Weight(g)
9A3~9A20	45.5	1170
9A25~9A100	58.5	1520
9A120~9A360	64.5	1610

※We also have gearhead 9A□N with shaft Ø12.For details please refer to the P.4

Capacity of capacitor (μF/VAC)	A	B	H	L	T	E
12/250	50	22	35	9	34	5
3.5/450	49	21	31.5	8	34	5
2.5/450	48	17	27	9	34	5

Speed Control Motor--Reversible Motor 60W Unit Type & Component Package Type



■ Specs       **IP54**

Motor output		60W				
Type	Unit type/ Component package type	Unit type/ Component package type		Unit type/ Component package type		
Round shaft type	9R60SU-1 / 9R60SV-1	9R60SU-2 / 9R60SV-2		9R60SU-2E / 9R60SV-2E		
Pinion shaft type	9R60PU-1 / 9R60PV-1	9R60PU-2 / 9R60PV-2		9R60PU-2E / 9R60PV-2E		
Capacity of capacitor (μF)	20		5		4	
Power input (V)	Single phase	Single phase	Single phase	Single phase	Single phase	
	110	115	220	230	230	
Power frequency (Hz)	60				50	
Rated current (A)	1.49	1.53	0.75	0.78	0.83	
Variable speed range (r/min)	70~1700				70~1400	
Permissible torque (Nm)	1200r/min	0.49	0.49	0.49	0.49	
	90r/min	0.27	0.27	0.28	0.28	
Starting torque (Nm) ^{Note 1}	0.4		0.4		0.47	
Rated torque (Nm)	0.42		0.42		0.51	
Rated speed (r/min)	1500		1500		1200	
Permissible inertia (GD ²) ^{Note 2}	4.6 kgcm ²					
Ambient temperature	Single phase 110V/115V : -10~+50°C ; Single phase 220V/230V : -10~+40°C					
Ambient humidity	Max.85%RH					

※Controller TU3□ or TUD3□, please attached with the unit type 9R60SU-□/9R60PU-□
 Controller TS3□ or TS3□-HR /TS3□-SSSD or TS1□-P or TS1□-P-SSSD or TE3□, please attached with the component package type 9R60SV-□/9R60PV-□

Note1: That values shown for rated torque and starting torque of reversible motors are reference data measured for operation without the brake applied.

Note2: The brake attached with motor which can shorten the time for starting/stopping and clockwise/counterclockwise rotation.

The holding force provided by motor is not the safety brake using

※9R60□U-□/9R60□V-□ holding torque is 400gcm (But at the initial the holding torque may lower than 400gcm) : over rotation around 6 rev/min(Reference value) ※ 1 Nm = 10.19716 Kgcm

■ 9R60PU-□/9R60PV-□ + 9A□ Series Gearhead Specs & Permissible Torque/Permissible Inertial Load(GD²) When Gearhead Attached

Gear ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
60 Hz	Speed range (r/min)	High speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low speed	23	19	14	11	9.3	7.7	7	5.6	4.6	3.8	3.5	2.8	2.3
	Permissible torque (Nm)	1200r/min	1.32	1.59	2.21	2.65	3.31	3.97	4.41	5.51	6.62	7.94	8.82	10.5	12.6
		90r/min	0.76	0.91	1.26	1.51	1.89	2.27	2.52	3.15	3.78	4.54	5.04	6	7.2
50 Hz	Speed range (r/min)	High speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low speed	23	19	14	11	9.3	7.7	7	5.6	4.6	3.8	3.5	2.8	2.3
	Permissible torque (Nm)	1200r/min	1.32	1.59	2.21	2.65	3.31	3.97	4.41	5.51	6.62	7.94	8.82	10.5	12.6
		90r/min	0.76	0.91	1.26	1.51	1.89	2.27	2.52	3.15	3.78	4.54	5.04	6	7.2
Permissible inertia load GD ² (kgcm ²)		41	60	115	166	259	373	460	719	1035	1490	1840	2875	4140	

Gear ratio		36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Speed range (r/min)	High speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low speed	1.9	1.4	1.1	0.93	0.77	0.7	0.58	0.46	0.38	0.35	0.28	0.23	0.19
	Permissible torque (Nm)	1200r/min	15.2	21.1	25.3	31.6	37.9	40	40						
		90r/min	8.7	12	14.4	18.1	21.7	24.1	27.2	34	40				
50 Hz	Speed range (r/min)	High speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low speed	1.9	1.4	1.1	0.93	0.77	0.7	0.58	0.46	0.38	0.35	0.28	0.23	0.19
	Permissible torque (Nm)	1200r/min	15.2	21.1	25.3	31.6	37.9	40	40						
		90r/min	8.7	12	14.4	18.1	21.7	24.1	27.2	34	40				
Permissible inertia load GD ² (kgcm ²)		5962	11500					11500							

※1 : Gearhead 9A□series, please enter the gear ratio 3~360 in the box□

※2 : 60Hz : Speed control range is 70~1700r/min ; 50Hz:Speed control range is 70~1400r/min

※3 : 「Permissible torque」 : It refers to the value of load torque driven by the gearhead's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft.No marking indicates rotation in the same direction

※5 : 1 Nm = 10.19716 Kgcm

■ Permissible Overhung Load/Permissible Thrust Load

Round shaft type

Model	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit:kg f)
	10mm from shaft end	20mm from shaft end	
9R60SU-□ 9R60SV-□	24	27	Permissible thrust load do not exceed the weight of motor 1/2.If exceed the rated weight will decrease the service life of motor. Please using indirect transmission machinery such as coupling,belt,chain.As the applications which will need the thrust load

Pinion shaft type (Gearhead attached)

Model	Gear Ratio	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit:kg f)
		10mm from shaft end	20mm from shaft end	
9R60PU-□ 9R60PV-□	3, 3.6, 5	50	60	15
	6, 7.5, 9, 10, 12.5, 15, 18, 20	60	70	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	70	80	

■ Dimensions

◆ Unit type

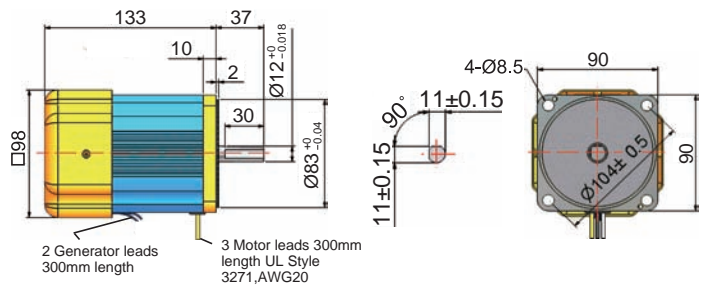
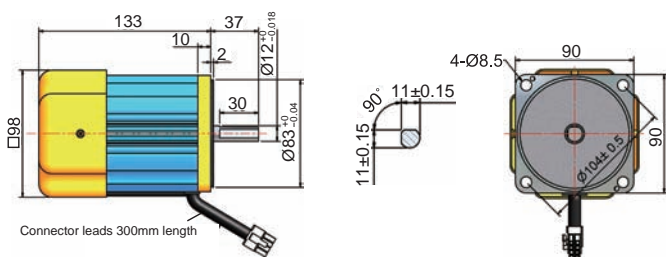
Round shaft type 9R60SU-□

Motor Weight : 3420g

◆ Component package type

Round shaft type 9R60SV-□

Motor Weight : 3400g

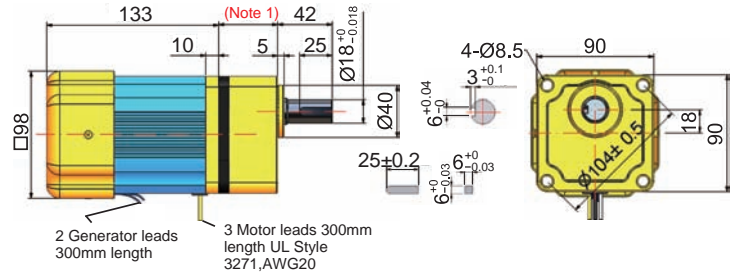
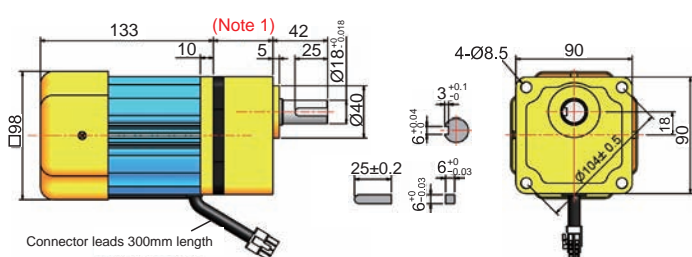


Pinion shaft type 9R60PU-□+9A□

Motor Weight : 3390g

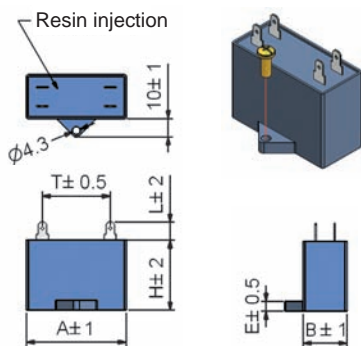
Pinion shaft type 9R60PV-□+9A□

Motor Weight : 3370g



■ Capacitor Dimensions(Included with single phase motors)

*(Note 1)



9A□ Gearhead Length/Weight		
Model	Length(mm)	Weight(g)
9A3~9A20	45.5	1170
9A25~9A100	58.5	1520
9A120~9A360	64.5	1610

※We also have gearhead 9A□U with shaft Ø15.For details please refer to the P.4

Capacity of capacitor (µF/VAC)	Capacity of capacitor (µF/VAC)					
	A	B	H	L	T	E
20/250	59	23	35	10	48	4.2
5/450	50	22	35	9	34	5
4/450	49	21	31.5	9	34	5

Speed Control Motor--Reversible Motor 90W Unit Type & Component Package Type



■ Specs            **IP54**

Motor output		90W				
Type	Unit type/ Component package type		Unit type/ Component package type		Unit type/ Component package type	
Round shaft type	9R90SU-1 / 9R90SV-1		9R90SU-2 / 9R90SV-2		9R90SU-2E / 9R90SV-2E	
Pinion shaft type	9R90PU-1 / 9R90PV-1		9R90PU-2 / 9R90PV-2		9R90PU-2E / 9R90PV-2E	
Capacity of capacitor (μF)	30		7		6	
Power input (V)	Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 230	
Power frequency (Hz)	60				50	
Rated current (A)	2.13	2.35	1.00	1.03	1.00	
Variable speed range (r/min)	70~1700				70~1400	
Permissible torque (Nm)	1200r/min	0.73	0.73	0.73	0.73	
	90r/min	0.3	0.29	0.26	0.26	
Starting torque (Nm) <small>Note 1</small>	0.53		0.58		0.64	
Rated torque (Nm)	0.61		0.61		0.74	
Rated speed (r/min)	1500		1550		1250	
Permissible inertia (GD ²) <small>Note 2</small>	4.6 kgcm ²					
Ambient temperature	Single phase 110V/115V : -10~+50℃ ; Single phase 220V/230V : -10~+40℃					
Ambient humidity	Max.85%RH					

※Controller TU3□ or TUD3□ , please attached with the unit type 9R90SU-□/9R90PU-□
Controller TS3□ or TS3□-HR /TS3□-SSSD or TS1□-P or TS1□-P-SSSD or TE3□ , please attached with the component package type 9R90SV-□/9R90PV-□

Note1: That values shown for rated torque and starting torque of reversible motors are reference data measured for operation without the brake applied.

Note2: The brake attached with motor which can shorten the time for starting/stopping and clockwise/counterclockwise rotation.

The holding force provided by motor is not the safety brake using

※9R90□U-□/9R90□V-□ holding torque is 400gcm (But at the initial the holding torque may lower than 400gcm) ; over rotation around 6 rev/min(Reference value) ※ 1 Nm = 10.19716 Kgcm

■ 9R90PU-□/9R90PV-□ + 9A□ Series Gearhead Specs & Permissible Torque/Permissible Inertial Load(GD²) When Gearhead Attached

Gear ratio		3	3.6	5	6	7.5	9	10	12.5	15	18	20	25	30	
60 Hz	Speed range (r/min)	High speed	566	472	340	283	226	188	170	136	113	94	85	68	56
		Low speed	23	19	14	11	9.3	7.7	7	5.6	4.6	3.8	3.5	2.8	2.3
	Permissible torque (Nm)	1200r/min	1.97	2.37	3.29	3.94	4.93	5.91	6.57	8.21	9.86	11.8	13.1	15.7	18.8
		90r/min	0.81	0.97	1.35	1.62	2.03	2.43	2.7	3.38	4.05	4.86	5.4	6.5	7.7
50 Hz	Speed range (r/min)	High speed	466	388	280	233	186	155	140	112	93	77	70	56	46
		Low speed	23	19	14	11	9.3	7.7	7	5.6	4.6	3.8	3.5	2.8	2.3
	Permissible torque (Nm)	1200r/min	1.97	2.37	3.29	3.94	4.93	5.91	6.57	8.21	9.86	11.8	13.1	15.7	18.8
		90r/min	0.7	0.84	1.17	1.4	1.76	2.11	2.34	2.93	3.51	4.21	4.68	5.6	6.7
Permissible inertia load GD ² (kgcm ²)		41	60	115	166	259	373	460	719	1035	1490	1840	2875	4140	
Gear ratio		36	50	60	75	90	100	120	150	180	200	250	300	360	
60 Hz	Speed range (r/min)	High speed	47	34	28	22	18	17	14	11	9.4	8.5	6.8	5.6	4.7
		Low speed	1.9	1.4	1.1	0.93	0.77	0.7	0.58	0.46	0.38	0.35	0.28	0.23	0.19
	Permissible torque (Nm)	1200r/min	22.6	31.4	37.7	40			40						
		90r/min	9.3	12.9	15.5	19.4	23.2	25.8	29.2	36.5	40				
50 Hz	Speed range (r/min)	High speed	38	28	23	18	15	14	11	9.3	7.7	7	5.6	4.6	3.8
		Low speed	1.9	1.4	1.1	0.93	0.77	0.7	0.58	0.46	0.38	0.35	0.28	0.23	0.19
	Permissible torque (Nm)	1200r/min	22.6	31.4	37.7	40			40						
		90r/min	8	11.2	13.4	16.8	20.1	22.4	25.3	31.6	37.9	40			
Permissible inertia load GD ² (kgcm ²)		5962	11500					11500							

※1 : Gearhead 9A□series , please enter the gear ratio 3~360 in the box□

※2 : 60Hz : Speed control range is 70~1700r/min ; 50Hz:Speed control range is 70~1400r/min

※3 : 「 Permissible torque 」 : It refers to the value of load torque driven by the gearhead's output.

※4 : A colored background indicates gear shaft rotation in the opposite direction as the motor shaft.No marking indicates rotation in the same direction

※5 : 1 Nm = 10.19716 Kgcm

■ Permissible Overhung Load/Permissible Thrust Load

Round shaft type

Model	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit:kg f)
	10mm from shaft end	20mm from shaft end	
9R90SU-□ 9R90SV-□	24	27	Permissible thrust load do not exceed the weight of motor 1/2.If exceed the rated weight will decrease the service life of motor. Please using indirect transmission machinery such as coupling,belt,chain.As the applications which will need the thrust load

Pinion shaft type (Gearhead attached)

	Gear Ratio	Permissible Overhung Load (Unit : kg f)		Permissible Thrust Load (Unit:kg f)
		10mm from shaft end	20mm from shaft end	
9R90PU-□ 9R90PV-□	3, 3.6, 5	50	60	15
	6, 7.5, 9, 10, 12.5, 15, 18, 20	60	70	
	25, 30, 36, 50, 60, 75, 90, 100, 120, 150, 180, 200, 250, 300, 360	70	80	

■ Dimensions

Unit : mm

◆ Unit type

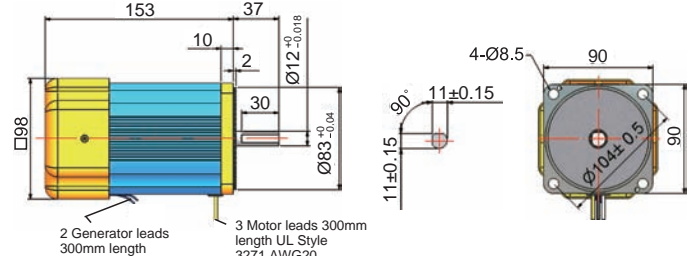
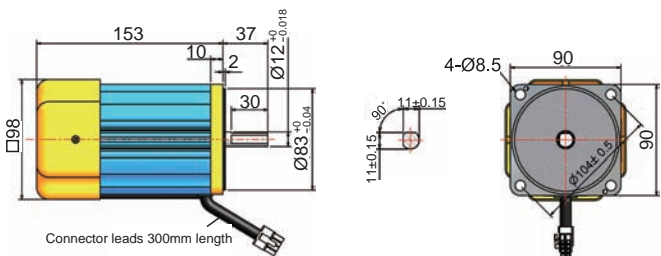
Round shaft type 9R90SU-□

Motor Weight : 4020g

◆ Component package type

Round shaft type 9R90SV-□

Motor Weight : 4000g

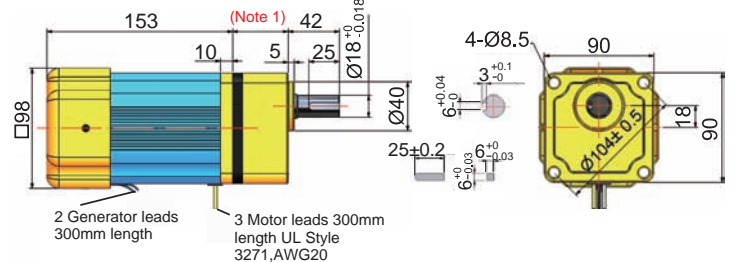
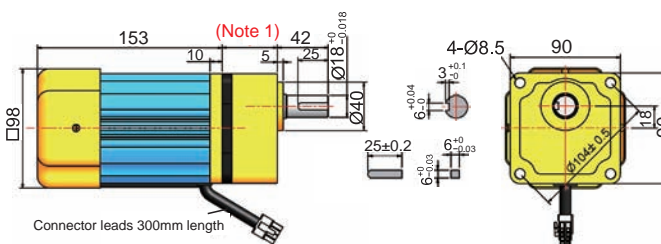


Pinion shaft type 9R90PU-□+9A□

Motor Weight : 3990g

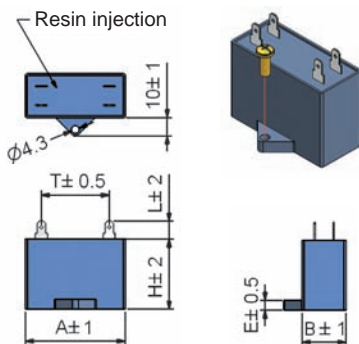
Pinion shaft type 9R90PV-□+9A□

Motor Weight : 3970g



■ Capacitor Dimensions(Included with single phase motors)

*(Note 1)



9A□ Gearhead Length/Weight		
Model	Length(mm)	Weight(g)
9A3~9A20	45.5	1170
9A25~9A100	58.5	1520
9A120~9A360	64.5	1610

※We also have gearhead 9A□U with shaft Ø15. For details please refer to the P.4

Capacity of capacitor (μF/VAC)	A	B	H	L	T	E
30/250	59	40	40	12	44	4
7/450	57.5	25	39	8	44	4
6/450	59	23	35	9	44	4.2