



Specs

Motor output		60W								
Round shaft	9R60S-1M		9R60S-2M		9I60S-3M		9R60S-2ME	9I60S-3ME		
							9R60S-2M3C	9I60S-3M3C		
Pinion shaft	9R60P-1M		9R60P-2M		9I60P-3M		9R60P-2ME	9I60P-3ME		
							9R60P-2M3C	9I60P-3M3C		
Motor	Capacity of capacitor (μF)	20		5		—		4	—	
	Power input (V)	Single phase 110	Single phase 110	Single phase 220	Single phase 230	Three Phase 230		Single phase 230	Three Phase 230	
	Power frequency (Hz)	60					50			
	Rated current (A)	1.49	1.53	0.75	0.78	0.80		0.83	1.00	
	Starting torque (kgcm)	4.00		4.00		5.60		4.70	7.00	
	Rated torque (kgcm)	4.20		4.20		4.30		5.10	5.43	
	Rated speed (r/min)	1500		1500		1450		1200	1150	
	Permissible inertia (GD 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								
Braker	Power input (V)	Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 220	Single phase 230	Single phase 230		
	Power frequency (Hz)	60					50			
	Consumption current (A)	0.13	0.13	0.07	0.07	0.07	0.07	0.07		
	Consumption power (W)	7.4								
	Static friction torque (kgcm)	5								

※9R60□-□M(E/3C)holding torque is 400gcm(But at the initial the holding torque may lower than 400gcm) ; over rotation around 6 rev/min(Reference value)

9R60P-□M(E/3C) / 9I60P-3M(E/3C)+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	Rotation speed (r/min)	600	500	360	300	240	200	180	144	120	100	90	72	60	
	Permissible torque(kgcm)	-1M,-2M type	11.3	13.6	18.9	22.7	28.4	34	37.8	47.3	56.7	68	76	90	108
		-3M type	11.6	13.9	19.4	23.2	29	34.8	38.7	48.4	58.1	69.7	77	92	111
50 Hz	Rotation speed (r/min)	500	417	300	250	200	167	150	120	100	83	75	60	50	
	Permissible torque(kgcm)	-2ME,-2M3C type	13.8	16.5	23	27.5	34.4	41.3	45.9	57.4	68.9	82.6	92	110	132
		-3ME,-3M3C type	14.7	17.6	24.4	29.3	36.7	44	48.9	61.1	73.3	88	98	117	140
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	Rotation speed (r/min)	50	36	30	24	20	18	15	12	10	9	7	6	5	
	Permissible torque(kgcm)	-1M,-2M type	130	181	217	271	325	361	400						
		-3M type	133	185	222	277	333	370	400						
50 Hz	Rotation speed (r/min)	42	30	25	20	17	15	13	10	8	8	6	5	4	
	Permissible torque(kgcm)	-2ME,-2M3C type	158	219	263	329	395	400	400						
		-3ME,-3M3C type	168	233	280	350	400	400							
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 : The max synchronous speed is 1800r/min ; 50Hz : The max synchronous speed is 1500r/min

※3 : 「Permissible torque」 : It refers to the value of load torque driven by the gearhead's output.Each value is shown for the corresponding gear ratio.-1M type:It indicates 9R60P-□M is single phase 110V/115V 60Hz ; -2 type:Single phase 220V/230V 60Hz ; -2E/23C type:Single phase 230V 50Hz ; the other types please refer to the above table.

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

■ 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	
9R60S-□M(E/3C) 9I60S-3M(E/3C)	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

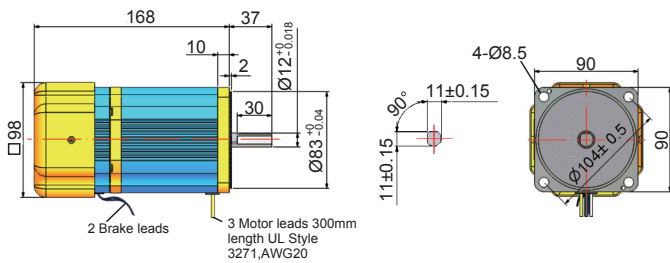
Pinion shaft type(Gearhead attached)

Model	Gear Ratio	Permissible Overhung Load(Unit : kg f)		Permissible Thrust Load (Unit:kg f)
		10mm from shaft end	20mm from shaft end	
9R60P-□M(E/3C) 9I60P-3M(E/3C)	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

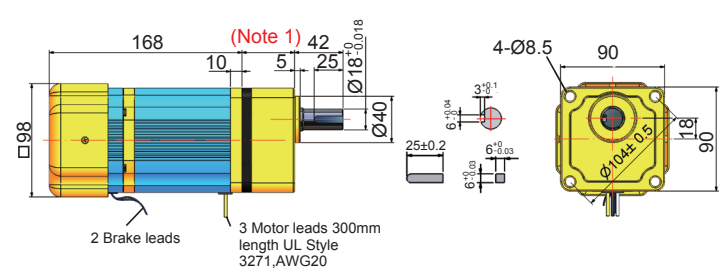
Round shaft type 9R60S-□M(E/3C) / 9I60S-3M(E/3C)

Motor Weight : 3900g

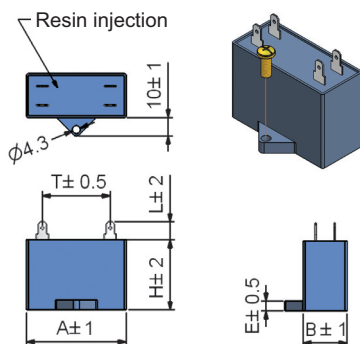


Pinion shaft type 9R60P-□M(E/3C) / 9I60P-3M(E/3C) + 9A□

Motor Weight : 3870g



■ 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
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

Common technical information

Product number code

Induction motor

Reversible motor

Speed control motor

Electromagnetic brake motor

Torque motor



Specs

Motor output		90W								
Round shaft	9R90S-1M	9R90S-2M		9I90S-3M		9R90S-2ME	9I90S-3ME			
						9R90S-2M3C	9I90S-3M3C			
Pinion shaft	9R90P-1M	9R90P-2M		9I90P-3M		9R90P-2ME	9I90P-3ME			
						9R90P-2M3C	9I90P-3M3C			
Motor	Capacity of capacitor (μF)	30		7		-		6	-	
	Power input (V)	Single phase 110	Single phase 110	Single phase 220	Single phase 230	Three Phase 230		Single phase 230	Three Phase 230	
		Power frequency (Hz)		60				50		
	Rated current (A)	2.13	2.35	1.00	1.03	0.84		1.00	0.94	
	Starting torque (kgcm)	5.30		5.80		7.50		6.40	9.40	
	Rated torque (kgcm)	6.10		6.05		6.10		7.40	7.50	
	Rated speed (r/min)	1500		1550		1500		1250	1250	
	Permissible inertia (GD 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								
Braker	Power input (V)	Single phase 110	Single phase 115	Single phase 220	Single phase 230	Single phase 220	Single phase 230	Single phase 230		
	Power frequency (Hz)	60						50		
	Consumption current (A)	0.13	0.13	0.07	0.07	0.07	0.07	0.07		
	Consumption power (W)	7.4								
	Static friction torque (kgcm)	5								

※9R90□-□M(E/3C)holding torque is 400gcm(But at the initial the holding torque may lower than 400gcm) ; over rotation around 6 rev/min(Reference value)

9R90P-□M(E/3C) / 9I90P-3M(E/3C)+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	Rotation speed (r/min)	600	500	360	300	240	200	180	144	120	100	90	72	60	
	Permissible torque(kgcm)	-1M,-2M type	16.5	19.8	27.5	33	41.2	49.4	55	68.6	82.4	98.8	110	131	157
		-3M type	16.5	19.8	27.5	32.9	41.2	49.4	54.9	68.6	82.4	98.8	110	131	157
50 Hz	Rotation speed (r/min)	500	417	300	250	200	167	150	120	100	83	75	60	50	
	Permissible torque(kgcm)	-2ME,-2M3C type	20	24	33.3	40	50	60	66.6	83.3	100	120	133	159	191
		-3ME,-3M3C type	20.3	24.3	33.8	40.5	50.6	60.8	67.5	84.4	101.3	121.5	135	161	194
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	Rotation speed (r/min)	50	36	30	24	20	18	15	12	10	9	7	6	5	
	Permissible torque(kgcm)	-1M,-2M type	189	262	315	393	400		400						
		-3M type	189	262	315	393	400		400						
50 Hz	Rotation speed (r/min)	42	30	25	20	17	15	13	10	8	8	6	5	4	
	Permissible torque(kgcm)	-2ME,-2M3C type	229	318	382	400		400							
		-3ME,-3M3C type	232	323	387	400		400							
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 : The max synchronous speed is 1800r/min ; 50Hz : The max synchronous speed is 1500r/min

※3 : 「Permissible torque」 : It refers to the value of load torque driven by the gearhead's output.Each value is shown for the corresponding gear ratio.-1M type:It indicates 9R90P-□M is single phase 110V/115V 60Hz ; -2 type:Single phase 220V/230V 60Hz ; -2E/23C type:Single phase 230V 50Hz ; the other types please refer to the above table.

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