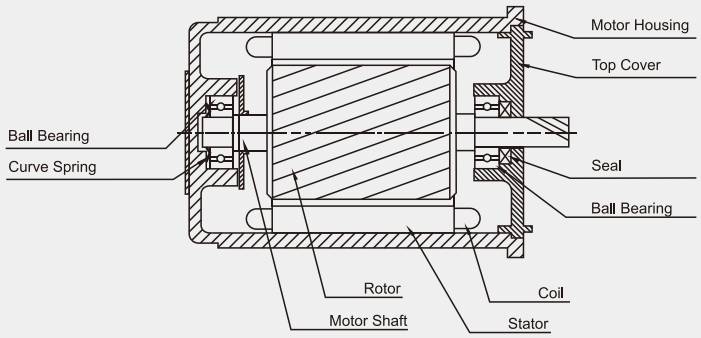
GENERAL PURPOSE MOTOR

- Continuous Rating
- High Efficiency, Low Noise
- Multifunctional
- 1 Phase: with Capacitor
- 3 Phase: Continuous Running, Suitable for Industrial Machinery

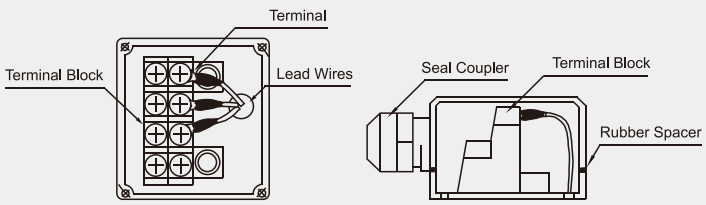
INDUCTION MOTOR, LEAD-WIRE TYPE (6W-90W)

INDUCTION MOTOR CONSTRUCTION

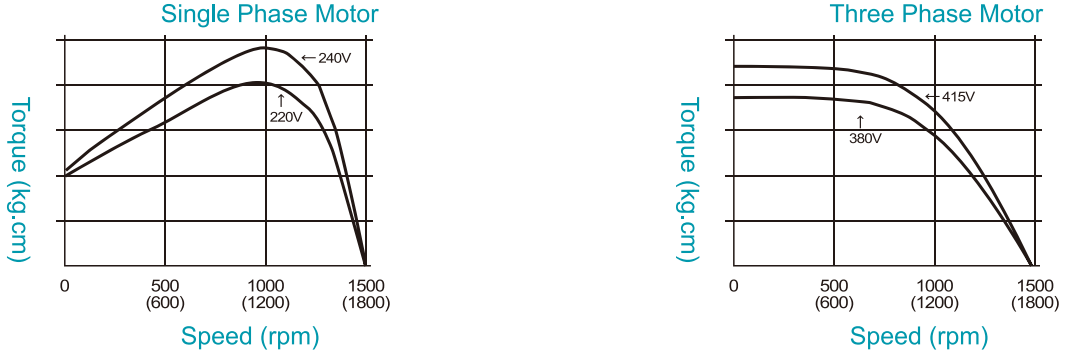


INDUCTION MOTOR, TERMINAL BOX TYPE (6W-90W)

TERMINAL BOX CONSTRUCTION



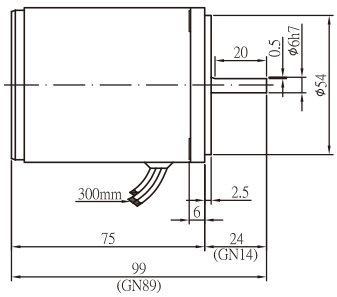
INDUCTION MOTOR CURVE

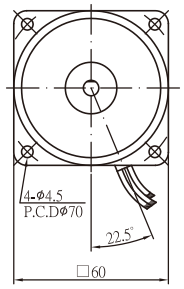


NOTES：At 50Hz, a 4-pole motor has synchronous turning speed of 1500rpm, 1800rpm at 60Hz.

IK Series
INDUCTION MOTOR, LEAD-WIRE TYPE-IP22

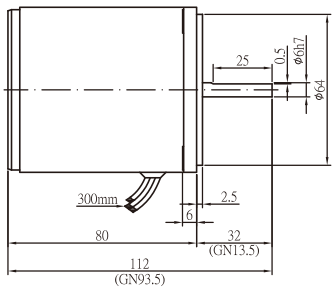
■ OUTLINE & SPECIFICATION
■ UNIT：mm

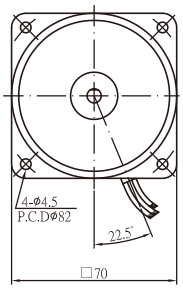




6W

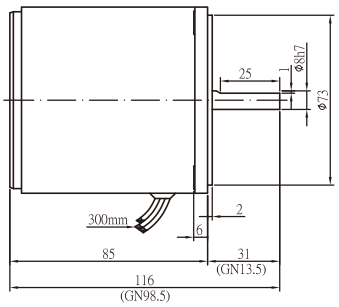
6W MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITOR (μF)
2IK6A(GN)-A	6	1ø100/110	50/60	4	1150/1400	Continuous	0.7/0.63	0.51/0.41	0.22/0.21	2.5/300V
2IK6A(GN)-C	6	1ø200/220	50/60	4	1150/1550	Continuous	0.65/0.7	0.51/0.54	0.1/0.1	0.7/450V
2IK6A(GN)-CE	6	1ø230/240	50	4	1100/1200	Continuous	0.74/0.77	0.55/0.5	0.11/0.1	0.7/450V

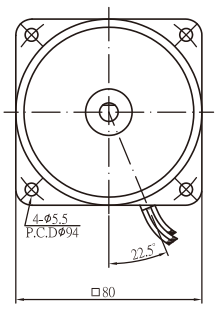




15W

15W MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITY (μF)
3IK15A(GN)-A	15	1ø100/110	50/60	4	1200/1600	Continuous	0.88/1.04	1.22/0.91	0.36/0.35	5/300V
3IK15A(GN)-C	15	1ø200/220	50/60	4	1150/1600	Continuous	0.75/1.1	1.12/0.93	0.18/0.18	1.2/450V
3IK15A(GN)-CE	15	1ø230/240	50	4	1300/1300	Continuous	1.06/1.06	1.14/1.13	0.17/0.17	1.2/450V



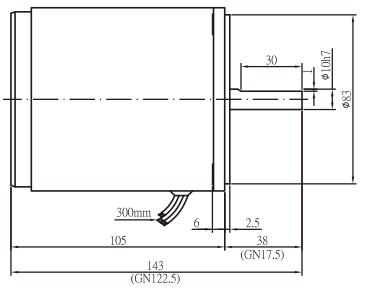


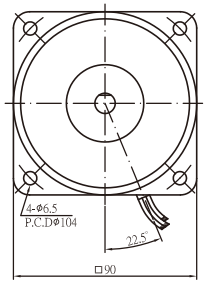
25W

25W MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITY (μF)
4IK25A(GN)-A	25	1ø100/110	50/60	4	1250/1600	Continuous	1.4/1.4	1.93/1.51	0.57/0.45	6/300V
4IK25A(GN)-C	25	1ø200/220	50/60	4	1250/1600	Continuous	1.57/1.38	1.91/1.52	0.28/0.25	1.5/450V
4IK25A(GN)-CE	25	1ø230/240	50	4	1300/1300	Continuous	1.38/1.55	1.9/1.86	0.25/0.24	1.5/450V
4IK25A(GN)-S	25	3ø220	50/60	4	1300/1550	Continuous	5.12/4.04	1.89/1.56	0.22/0.19	-
4IK25A(GN)-U	25	3ø380	50/60	4	1200/1350	Continuous	3.96/2.97	2.04/1.79	0.11/0.11	-

IK Series
INDUCTION MOTOR, LEAD-WIRE TYPE-IP22

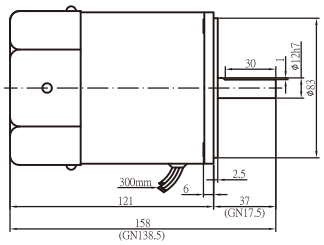
■ OUTLINE & SPECIFICATION
■ UNIT：mm

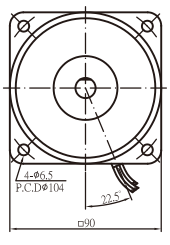


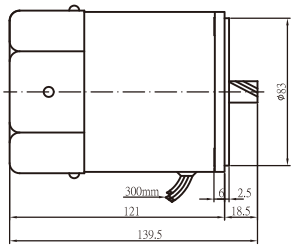


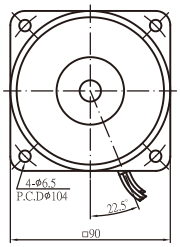
40W

40W MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITY (μF)
5IK40A(GN)-A	40	1ø100/110	50/60	4	1250/1600	Continuous	2.14/2.66	3.17/2.41	0.87/0.76	10/300V
5IK40A(GN)-C	40	1ø200/220	50/60	4	1300/1650	Continuous	1.75/2.17	3.01/2.35	0.4/0.34	2.5/450V
5IK40A(GN)-CE	40	1ø230/240	50	4	1350/1350	Continuous	2.3/2.58	2.87/2.84	0.32/0.32	2.5/450V
5IK40A(GN)-S	40	3ø220	50/60	4	1400/1600	Continuous	10.51/7.83	2.83/2.4	0.29/0.27	-
5IK40A(GN)-U	40	3ø380	50/60	4	1350/1600	Continuous	9.25/6.68	2.85/2.45	0.16/0.15	-



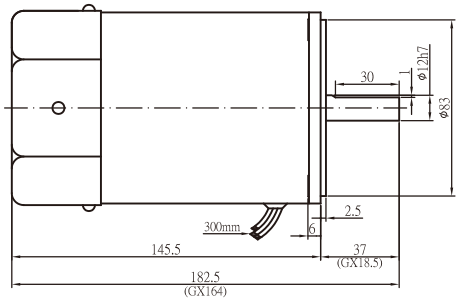


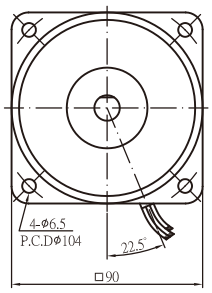




60W/
60W-GX

60W/60W-GX MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITY (μF)
5IK60A(GN, GX)-AF	60	1ø100/110	50/60	4	1200/1650	Continuous	2.6/2.94	5.0/3.5	1.8/1.12	16/300V
5IK60A(GN, GX)-CF	60	1ø200/220	50/60	4	1250/1600	Continuous	3.62/4.41	4.64/3.63	0.64/0.54	4/450V
5IK60A(GN, GX)-CEF	60	1ø230/240	50	4	1300/1350	Continuous	4.14/5.22	4.56/4.4	0.56/0.55	4/450V
5IK60A(GN, GX)-SF	60	3ø220	50/60	4	1300/1550	Continuous	13.72/10.70	4.47/3.77	0.41/0.39	-
5IK60A(GN, GX)-UF	60	3ø380	50/60	4	1400/1550	Continuous	14.33/10.15	4.2/3.79	0.21/0.22	-





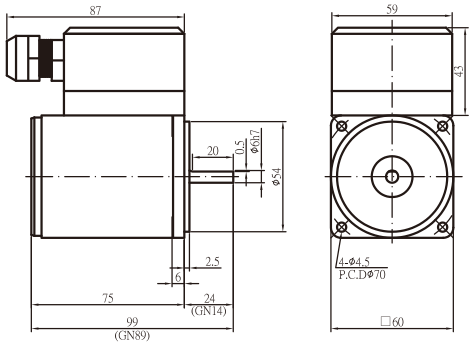
90W

90W MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITY (μF)
5IK90A(GX)-AF	90	1ø100/110	50/60	4	1300/1650	Continuous	4.76/5.86	6.68/5.33	1.5/1.41	22/250V
5IK90A(GX)-CF	90	1ø200/220	50/60	4	1300/1650	Continuous	4.3/4.21	6.7/5.34	0.76/0.72	6/450V 5/450V
5IK90A(GX)-CEF	90	1ø230/240	50	4	1350/1350	Continuous	4.93/5.08	6.44/6.42	0.66/0.68	5/450V
5IK90A(GX)-SF	90	3ø220	50/60	4	1400/1650	Continuous	23.3/18.25	6.4/5.3	0.7/0.6	-
5IK90A(GX)-UF	90	3ø380	50/60	4	1400/1650	Continuous	23.3/18.14	6.3/5.3	0.4/0.34	-

IK Series

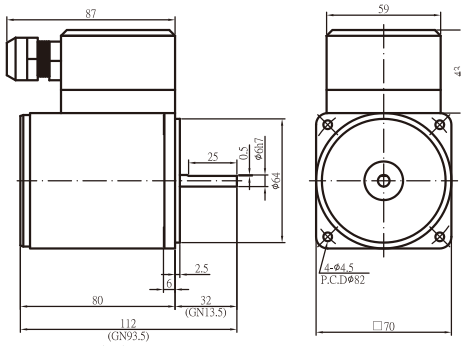
INDUCTION MOTOR, TERMINAL BOX TYPE-IP54

■ OUTLINE & SPECIFICATION
■ UNIT：mm



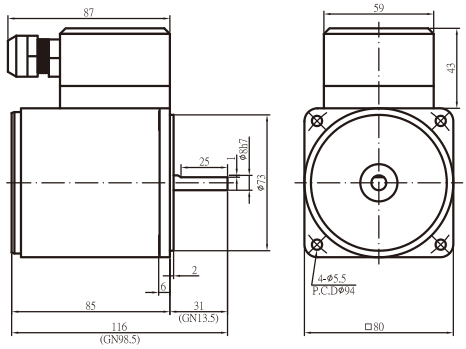
6W

6W MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITY (μF)
2IK6A(GN)-AT	6	1ø100/110	50/60	4	1150/1400	Continuous	0.7/0.63	0.5/0.41	0.22/0.21	2.5/300V
2IK6A(GN)-CT	6	1ø200/220	50/60	4	1150/1550	Continuous	0.65/0.7	0.51/0.54	0.1/0.1	0.7/450V
2IK6A(GN)-CET	6	1ø230/240	50	4	1100/1200	Continuous	0.74/0.77	0.55/0.5	0.11/0.1	0.7/450V



15W

15W MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITY (μF)
3IK15A(GN)-AT	15	1ø100/110	50/60	4	1150/1650	Continuous	0.88/1.04	1.22/0.91	0.36/0.35	5/300V
3IK15A(GN)-CT	15	1ø200/220	50/60	4	1150/1600	Continuous	0.75/1.1	1.12/0.93	0.18/0.18	1.2/450V
3IK15A(GN)-CET	15	1ø230/240	50	4	1300/1300	Continuous	1.06/1.06	1.14/1.13	0.17/0.17	1.2/450V



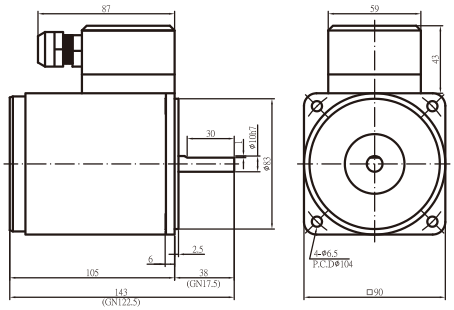
25W

25W MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITY (μF)
4IK25A(GN)-AT	25	1ø100/110	50/60	4	1250/1600	Continuous	1.4/1.4	1.93/1.51	0.57/0.45	6/300V
4IK25A(GN)-CT	25	1ø200/220	50/60	4	1250/1600	Continuous	1.57/1.38	1.91/1.52	0.28/0.25	1.5/450V
4IK25A(GN)-CET	25	1ø230/240	50	4	1300/1300	Continuous	1.38/1.55	1.9/1.86	0.25/0.24	1.5/450V
4IK25A(GN)-ST	25	3ø220	50/60	4	1300/1550	Continuous	5.12/4.04	1.89/1.56	0.22/0.19	-
4IK25A(GN)-UT	25	3ø380	50/60	4	1200/1350	Continuous	3.96/2.97	2.04/1.79	0.11/0.11	-

IK Series

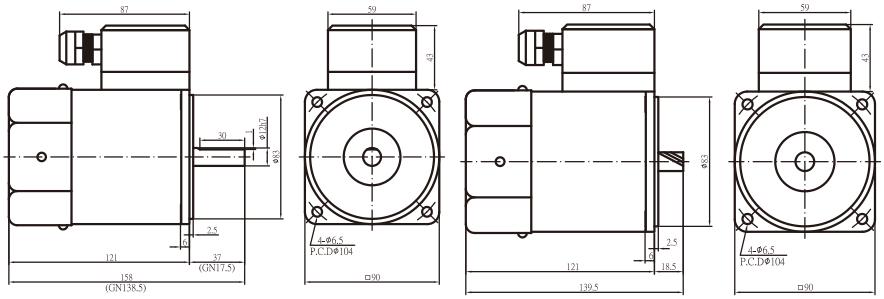
INDUCTION MOTOR, TERMINAL BOX TYPE-IP54

OUTLINE & SPECIFICATION
UNIT : mm



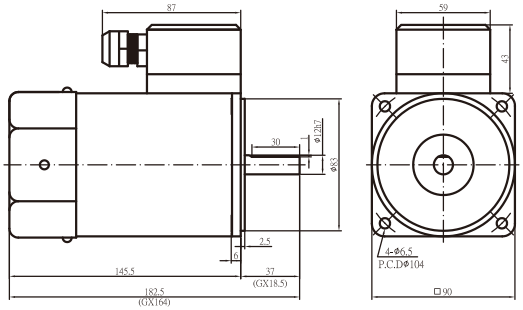
40W

40W MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITY (μF)
5IK40A(GN)-AT	40	1ø100/110	50/60	4	1250/1600	Continuous	2.14/2.66	3.17/2.41	0.87/0.76	10/300V
5IK40A(GN)-CT	40	1ø200/220	50/60	4	1300/1650	Continuous	1.75/2.17	3.01/2.35	0.4/0.34	2.5/450V
5IK40A(GN)-CET	40	1ø230/240	50	4	1350/1350	Continuous	2.3/2.58	2.87/2.84	0.32/0.32	2.5/450V
5IK40A(GN)-ST	40	3ø220	50/60	4	1400/1600	Continuous	10.51/7.83	2.83/2.4	0.29/0.27	-
5IK40A(GN)-UT	40	3ø380	50/60	4	1350/1600	Continuous	9.25/6.68	2.85/2.45	0.16/0.15	-



60W/
60W-GX

60W/60W-GX MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITY (μF)
5IK60A(GN, GX)-AFT	60	1ø100/110	50/60	4	1200/1650	Continuous	2.6/2.94	5.0/3.5	1.8/1.12	16/300V
5IK60A(GN, GX)-CFT	60	1ø200/220	50/60	4	1250/1600	Continuous	3.62/4.41	4.64/3.63	0.64/0.54	4/450V
5IK60A(GN, GX)-CEFT	60	1ø230/240	50	4	1350/1350	Continuous	4.14/5.22	4.56/4.4	0.56/0.55	4/450V
5IK60A(GN, GX)-SFT	60	3ø220	50/60	4	1300/1550	Continuous	13.72/10.70	4.47/3.77	0.41/0.39	-
5IK60A(GN, GX)-UFT	60	3ø380	50/60	4	1400/1550	Continuous	14.33/10.15	4.2/3.79	0.21/0.22	-



90W

90W MODEL	OUTPUT (W)	VOLTAGE (V)	FREQ. (HZ)	POLE (P)	RATED SPEED (rpm)	RATED TIME	STARTING TORQUE (Kg.cm)	RATED TORQUE (Kg.cm)	RATED CURRENT (A)	CAPACITY (μF)
5IK90A(GX)-AFT	90	1ø100/110	50/60	4	1300/1650	Continuous	4.76/5.86	6.68/5.33	1.5/1.41	22/250V
5IK90A(GX)-CFT	90	1ø200/220	50/60	4	1300/1650	Continuous	4.3/4.21	6.89/5.34	0.76/0.72	5/450V
5IK90A(GX)-CEFT	90	1ø230/240	50	4	1350/1350	Continuous	4.93/5.08	6.44/6.42	0.66/0.68	5/450V
5IK90A(GX)-SFT	90	3ø220	50/60	4	1400/1650	Continuous	23.3/18.25	6.4/5.3	0.7/0.6	-
5IK90A(GX)-UFT	90	3ø380	50/60	4	1400/1650	Continuous	23.3/18.14	6.3/5.3	0.4/0.3	-

Products due to human error, natural disasters or other factors lead to poor or damaged, will not be covered under warranty.

SPEED REDUCER

■ OUTLINE & SPECIFICATION
■ UNIT : mm

HOW TO SELECT A SPEED REDUCER

■ ROTATION AND TORQUE GIVEN FROM CONJUNCTION WITH SPEED REDUCER

Following is the calculation formula:

Rotations : $N_G = \frac{N_m}{i}$

Torque : $T_G = T_M \bullet i \bullet \eta$

N_G : Rotations after conjunction with speed reducer (rpm)

N_M : Rotations of motor (rpm)

i : Ratio

T_G : Torque after conjunction with speed reducer (kg•cm)

T_M : Torque of motor (kg•cm)

η : The transmission efficiency of speed reducer

■ MAXIMUM TORQUE ALLOWED

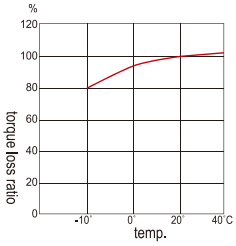
The maximum torque a speed reducer can tolerate is limited due to materials or other specs. Please see the specification of speed reducer for maximum torque allowed at different ratio.

■ ALLOWABLE RADIAL LOAD AND AXIAL LOAD

Radial load refers to the bending load of output shaft at the 1/2 point, commonly used in units linked by chains. Radial load can be disregarded if a coupling is used. Do not over-load since radial load and axial load may affect service life and strength.

■ ADJUSTED THE SPEED REDUCER RATIO VIA ENVIRONMENT TEMPERATURE

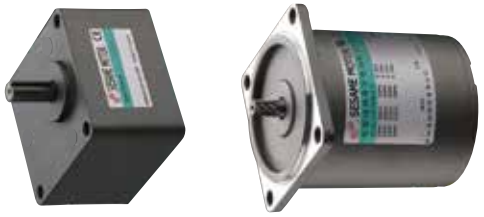
Transmission efficiency of a speed reducer apparently does affected by the environment temperature. The graphic display the torque loss percentage at different ambient temperature (for reference only).



■ MOTOR EQUIP WITH ROUND SHAFT AND GEAR SHAFT, ONLY GEAR SHAFT CAN CONJUNCT WITH SPEED REDUCER.

Speed Reducer
4GN15K
▲△

Motor (Gear shaft)
4IK25GN-A
▲ △

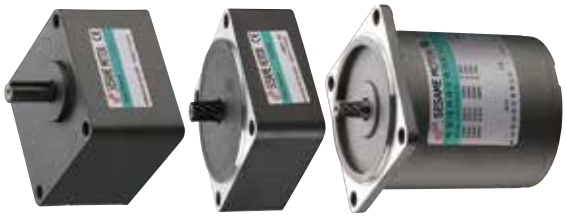


Motor (Round shaft)
4IK25A-A

Speed Reducer
4GN15K

Intermediate
Speed Reducer
4GN10X

Motor (Gear shaft)
4IK25GN-A



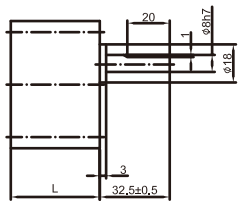
■ LOAD PATTERNS VS. LIFESPAN OF SPEED REDUCER

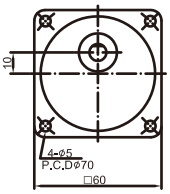
Speed Reducer lifespan will be vary by ways of loading including but not limit to operation time frame, different type of bearing. The following table assumes that the load gear is under the maximum permissible torque. (Reference for engineers)

Unit : hrs

	BEARING			BALL BEARING			
LOAD PATTERN	5 hrs/day	8 hrs/day	24 hrs/day	5 hrs/day	8 hrs/day	24 hrs/day	Application instructions
FIXED LOAD	2000	1500	1000	6250	5000	3400	Operated in one direction, such as conveyors.
SLIGHT IMPACT	1500	1250	800	4200	3400	2500	**Frequent start/stop, ex. cam operaton.**
STRONG IMPACT	800 ~1000	700 ~1000	600 ~700	2000 ~2500	1700 ~2500	1400 ~1700	Reversible motors, instant moment reversed, with brake system in an instant brake.

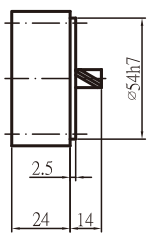
■2 GN□KE . 2 GN□ / SPEED REDUCER

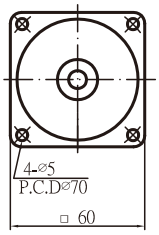




2GN3-18 L=32
2GN25-180 L=42

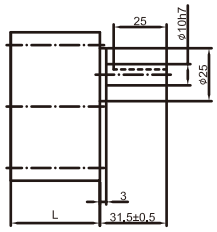
■2GN10X . 2GN10XK / INTERMEDIATE SPEED REDUCER

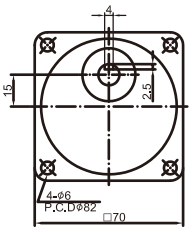




SPEED(rpm)	500	300	200	180	150	120	100	60	50	30	20	15	10
SPEED REDUCTION RATIO 50HZ	3	5	7.5	-	10	12.5	15	25	30	50	75	100	150
SPEED REDUCTION RATIO 60HZ	3.6	6	9	10	-	15	18	30	36	60	90	120	180
MAX. TORQUE (kgf.cm)	1.1	1.8	2.7	3.0	3.9	4.5	5.4	8.1	9.7	15	23	25	25

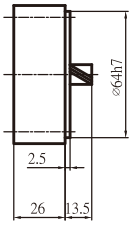
■3 GN□KE . 3 GN□ / SPEED REDUCER

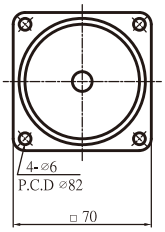




3GN3-18 L=32
3GN25-180 L=42

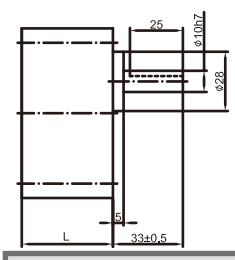
■3GN10X . 3GN10XK / INTERMEDIATE SPEED REDUCER

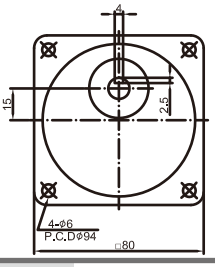




SPEED(rpm)	500	300	200	180	150	120	100	60	50	45	37.5	30	20	15	10
SPEED REDUCTION RATIO 50HZ	3	5	7.5	-	10	12.5	15	25	30	-	40	50	75	100	150
SPEED REDUCTION RATIO 60HZ	3.6	6	9	10	-	15	18	30	36	40	-	60	90	120	180
MAX. TORQUE (kgf.cm)	2.6	4.4	6.6	7.4	9.8	11	13	20	24	24	32	36	50	50	50

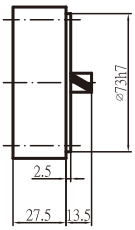
■4 GN□KE . 4 GN□ / SPEED REDUCER

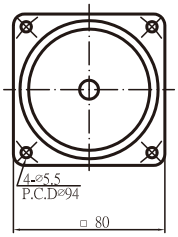




4GN3-180 L=43

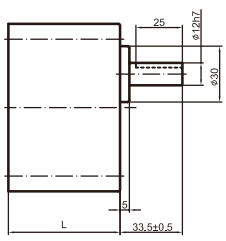
■4GN10X . 4GN10XK / INTERMEDIATE SPEED REDUCER

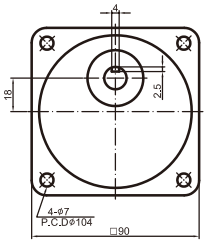




SPEED(rpm)	500	300	200	180	150	120	100	60	50	45	37.5	30	20	15	10
SPEED REDUCTION RATIO 50HZ	3	5	7.5	-	10	12.5	15	25	30	-	40	50	75	100	150
SPEED REDUCTION RATIO 60HZ	3.6	6	9	10	-	15	18	30	36	40	-	60	90	120	180
MAX. TORQUE (kgf.cm)	4.4	7.4	11	12	15	11	22	33	40	40	50	60	80	80	80

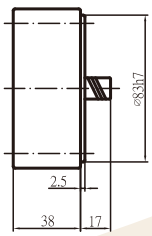
■5 GN□KE . 5 GN□ / SPEED REDUCER

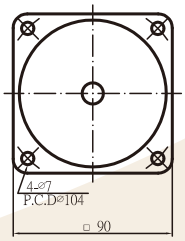




5GN3-18 L=42
5GN20-180 L=60

■5GN10X . 5GN10XK / INTERMEDIATE SPEED REDUCER



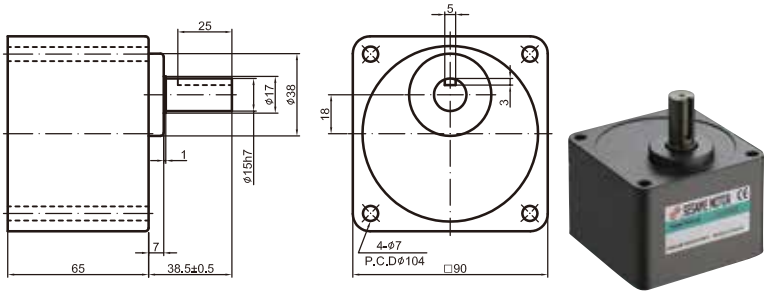


SPEED(rpm)	500	300	200	180	150	120	100	90	75	60	50	45	37.5	30	20	15	10
SPEED REDUCTION RATIO 50HZ	3	5	7.5	-	10	12.5	15	-	20	25	30	-	40	50	75	100	150
SPEED REDUCTION RATIO 60HZ	3.6	6	9	10	-	15	18	20	-	30	36	40	-	60	90	120	180
MAX. TORQUE (kgf.cm)	10	17	26	29	36	43	52	52	65	78	93	93	100	100	100	100	100

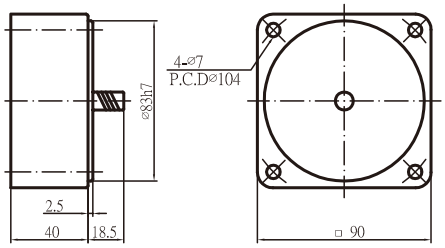
SPEED REDUCER

OUTLINE & SPECIFICATION
UNIT : mm

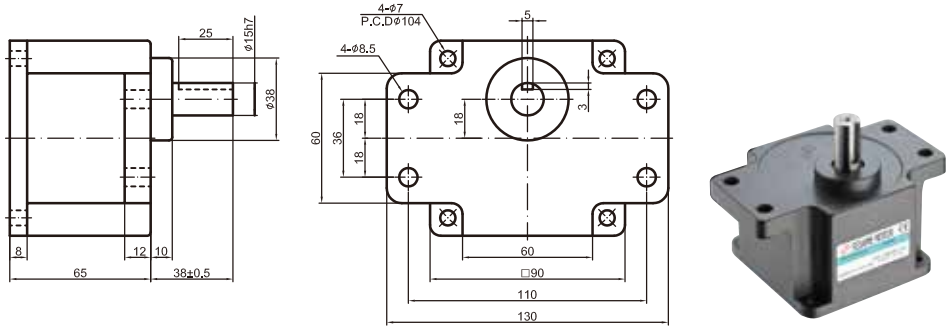
■5 GX□KB / SPEED REDUCER



■5GX10XK / INTERMEDIATE SPEED REDUCER

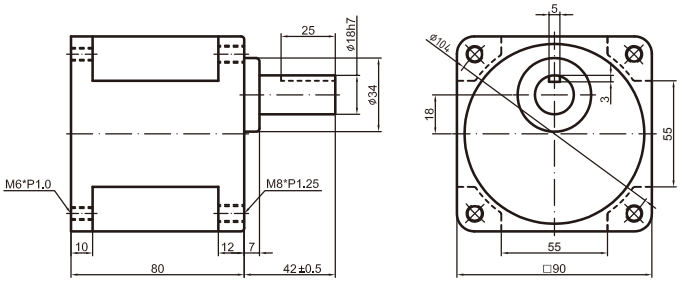


■5 GX□K / SPEED REDUCER



SPEED(rpm)	500	300	200	120	100	90	75	60	50	30	20	15	10	9	7.5
SPEED REDUCTION RATIO 50HZ	3	5	7.5	12.5	15	-	20	25	30	50	75	100	150	-	200
SPEED REDUCTION RATIO 60HZ	3.6	6	9	15	18	20	-	30	36	60	90	120	180	200	-
MAX. TORQUE (kgf.cm)	15	26	38	57	69	69	86	103	124	200	200	200	200	200	200

■5 GX□KBH / GRAVITY FORCE TYPE REDUCER



SPEED(rpm)	30	20	15	10	9	7.5
SPEED REDUCTION RATIO 50HZ	50	75	150	150	-	200
SPEED REDUCTION RATIO 60HZ	60	90	180	120	200	-
MAX. TORQUE(kgf.cm)	350	350	350	350	350	350

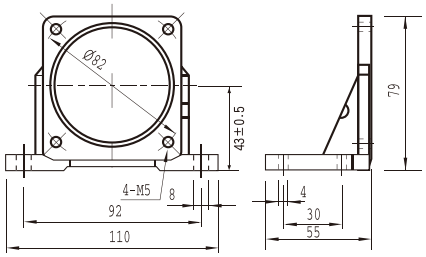
NOTES :

1. Please fill in the required speed reduction ratio in the ☐ (square) after the speed reducer model no.
2. Rotational speed is calculated by dividing the synchronous speed of the motor (50Hz: 1500rpm; 60Hz: 1800rpm) with the reduction ratio. Depending on total load, actual rotational speed is 2%~20~ less.
3. Speed reducers marked in the highlighted areas have opposite rotational direction to the motor. Others unmarked have the same rotational direction as the motor.
4. Attention: metal chips or objects in speed reducer will result in gear damage, noise and shorten service-life when assembling with motor.
5. Please make sure that the shaft size of the motor matches to that of the accompanying reducer model before assembly, otherwise inconformity will occur.

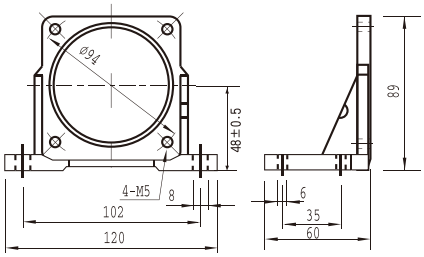
COMPONENTS

L TYPE BASE BRACKET FOR MOTOR INSTALLATION

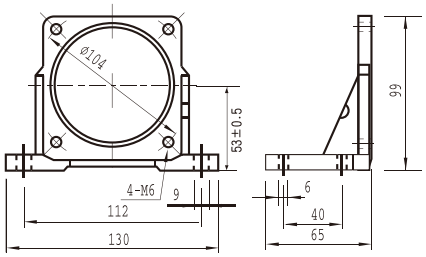
PAL-3N (□70mm)



PAL-4N (□80mm)

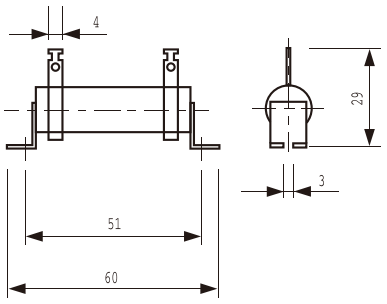


PAL-5N (□90mm)

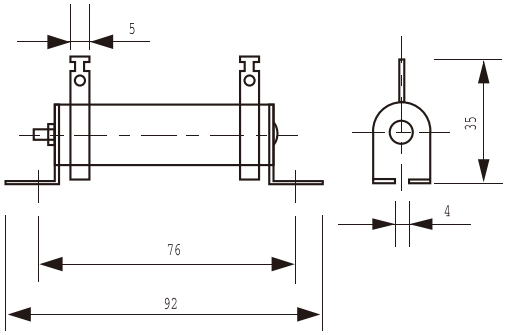


EXTERNAL RESISTOR FOR ELECTRONIC BRAKE CIRCUITS

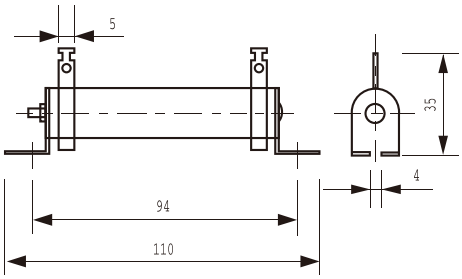
DDR10W10ΩJ (10/10)



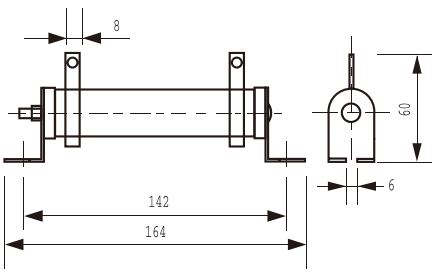
DDR20W20ΩJ (20/20)



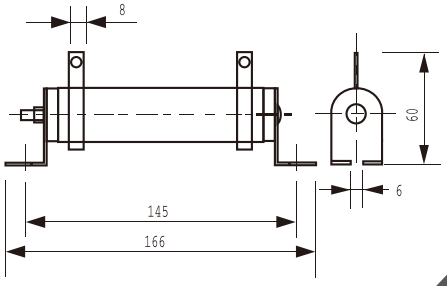
DDR30W20ΩJ (30/20)



DDR50W50ΩJ (50/50)

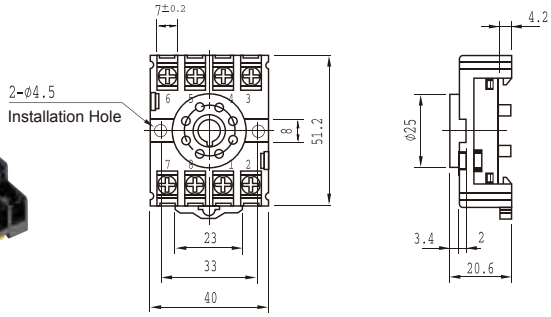


DDR80W50ΩJ (80/50)



EXTENDED BASE BRACKET

PF-083A PIN Base (8 PIN)



11-PFA PIN Base (11 PIN)