



# SPUR GEAR AC MOTORS | Ø 60 - 90 mm 6 - 120W

## AI series induction type

Transmotec sell a broad range of geared AC motors in standard and customized configurations. These AC gear motors are designed for continuous operation and hundred percent duty cycle. Transmotec is the ideal supplier source specially to instrument and apparatus builders. We keep a high number of motors in stock for immediate delivery.

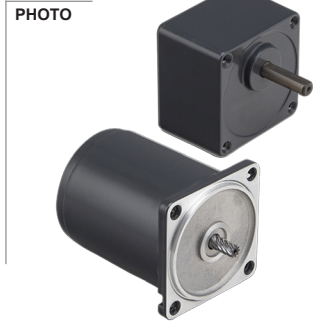
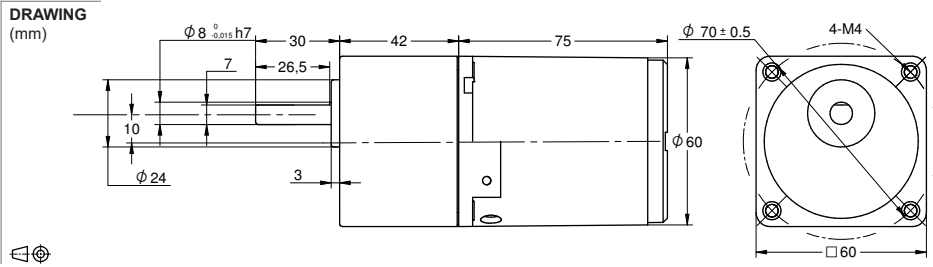
### Customizations include:

- ✓ Customized harness
- ✓ Shaft configuration
- ✓ Winding configuration
- ✓ And more...

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Motor model AI-006W ← **SOLD** → Gear box model S60A ← **SEPARATELY** →



**MODEL NO. DESIGNATION**

Motor model - Voltage - S/T C/B S= Single phase / T=Three phase C=Cable / B = Terminal box Example: **AI-006W-230-SC (\*)**

Gear box model - Gear ratio Example: **S60A-050 (\*)**

**\* ALL MOTORS AND GEAR BOXES ARE SOLD SEPARATELY. SELECT GEAR BOX FRAME SIZE SAME AS MOTOR FRAME SIZE. ASSEMBLY SCREWS ARE INCLUDED IN DELIVERY**

GEAR MOTOR DATA RATIO	3	3,6	5	6	7,5	9	1	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	500	600	750	
<b>230VAC 50Hz 1 phase</b>																														
Nominal rpm 220 VAC	400	333	240	200	160	133	120	96	80	67	60	48	40	33	30	24	20	16	13	12	10	8	7	6						
Nominal rpm 230 VAC	483	403	290	242	193	161	145	116	97	81	73	58	48	40	36	29	24	19	16	15	12	10	8	7						
Nominal Nm 220 VAC	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.7	0.9	1.1	1.3	1.4	1.8	1.9	2.4	2.9	3.2	3.8	4.8	5.7	6.3						
Nominal Nm 230 VAC	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.6	0.7	0.9	1.1	1.2	1.5	1.6	2.0	2.4	2.6	3.2	4.0	4.8	5.3						
<b>400VAC 50Hz 3 phase</b>																														
Nominal rpm 380 VAC	400	333	240	200	160	133	120	96	80	67	60	48	40	33	30	24	20	16	13	12	10	8	7	6						
Nominal Nm 380 VAC	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.7	0.7	0.9	1.1	1.3	1.4	1.8	1.9	2.4	2.9	3.2	3.8	4.8	5.7	6.3						
<b>120VAC 60Hz 1 phase</b>																														
Nominal rpm 110 VAC	483	403	290	242	193	161	145	116	97	81	73	58	48	40	36	29	24	19	16	15	12	10	8	7						
Nominal Nm 110 VAC	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.6	0.7	0.9	1.1	1.2	1.5	1.6	2.0	2.4	2.6	3.2	4.0	4.8	5.3						
<b>208VAC 60Hz 3 phase</b>																														
Nominal rpm 220 VAC	483	403	290	242	193	161	145	116	97	81	73	58	48	40	36	29	24	19	16	15	12	10	8	7						
Nominal Nm 220 VAC	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.6	0.6	0.7	0.9	1.1	1.2	1.5	1.6	2.0	2.4	2.6	3.2	4.0	4.8	5.3						
<b>GEAR HEAD DATA</b>																														
Efficiency (%)	81	81	81	81	81	81	81	81	81	81	73	73	73	73	73	73	66	66	66	66	66	66	66	66						
Max. torque (Nm)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3					
Radial F 20 mm shaft (N)	80	80	80	80	80	80	80	80	80	80	180	180	180	180	180	180	180	180	180	180	180	180	180	180						
Max. thrust load (N)	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30						
Out rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw						

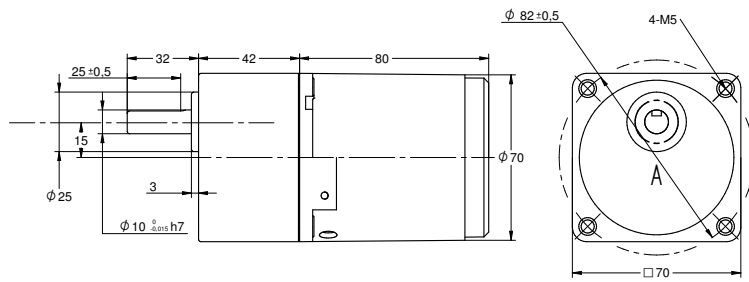
GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	AC induction	Voltage
Insulation Class	130 (B)	155 (F)
Speed tolerance	± 5%	
Cables 6W-25W   40W-120W	AWG20   AWG-18 300 mm	Harness
Cables wiring	Table at bottom of page	Per request
Housing materials	Aluminium	
Gears and shaft material	40Cr	Shaft dimensions
Bearings types	Ball bearings	
Operating temperature	-10...+40 °C	-40...+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE   UL label	No   No	
IP rating cable   terminal box	IP20   IP54	
<b>Insulation Resistance</b>		
100 M Ω or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.		
<b>Dielectric Strength</b>		
Sufficient to withstand 1.5 kV at 50 Hz or 60 Hz applied between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity.		
<b>Temperature Rise</b>		
Temperature rise of windings are 176°F (80°C) or less measured by the resistance change method after rated operation under normal ambient temperature and humidity.		

MOTOR DATA				
Base voltage (VAC)	230	400	120	208
Nominal voltage (VAC) A	220	380	110	220
Nominal voltage (VAC) B	230		120	
Phase   Frequency Hz	1   50	3   50	1   60	3   60
Number of poles	4	4	4	4
Output (W)	6	6	6	6
Nominal speed (rpm) voltage A	1200	1200	1450	1450
Nominal speed (rpm) voltage B	1450		1450	
Nominal torque mNm voltage A	48	48	40	40
Nominal torque mNm voltage B	40		40	
Nominal current (A) voltage A	0.13	0.04	0.16	0.07
Nominal current (A) voltage B	0.14		0.18	
Stall torque mNm voltage A	50	85	40	70
Stall torque mNm voltage B			40	
Capacitor μF included in delivery	0.8		2.0	
Weight motor Kg	0.75	0.75	0.75	0.75
Weight gear motor Kg	1.15	1.15	1.15	1.15

ELECTRIC WIRING CONNECTION	
VERSION C 1 PHASE	capacitor white-blue   neutral N-red   phase-white CW, -blue CWW
VERSION B 1 PHASE	capacitor U2-Z2   neutral N-U1   phase-U2 CW, -Z2 CWW
VERSION C B 3 PHASES	-blue, -red, -white. Swap a pair for inversed rotation

Motor model AI-015W ← **SOLD** → Gear box model S70A  
**SEPARATELY**

**DRAWING**  
(mm)



**PHOTO**



**MODEL NO. DESIGNATION**

Motor model - Voltage - S/T C/B S= Single phase / T=Three phase C=Cable / B = Terminal box Example: **AI-006W-230-SC (\*)**

Gear box model - Gear ratio Example: **S60A-050 (\*)**

**\* ALL MOTORS AND GEAR BOXES ARE SOLD SEPARATELY. SELECT GEAR BOX FRAME SIZE SAME AS MOTOR FRAME SIZE. ASSEMBLY SCREWS ARE INCLUDED IN DELIVERY**

GEAR MOTOR DATA RATIO	3	3,6	5	6	7,5	9	1	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	500	600	750	
<b>230VAC 50Hz 1 phase</b>																														
Nominal rpm 220 VAC	400	333	240	200	160	133	120	96	80	67	60	48	40	33	30	24	20	16	13	12	10	8	7	6	5	4	2	2	2	
Nominal rpm 230 VAC	400	333	240	200	160	133	120	96	80	67	60	48	40	33	30	24	20	16	13	12	10	8	7	6	5	4	2	2	2	
Nominal Nm 220 VAC	0.3	0.5	0.5	0.6	0.8	0.9	1.0	1.3	1.5	1.8	1.8	2.3	2.7	3.3	3.7	4.6	5.0	6.2	7.4	8.3	9.9	12.4	14.9	16.5	18.4	22.1	36.9	44.3	55.3	
Nominal Nm 230 VAC	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.3	1.5	1.8	1.8	2.3	2.7	3.3	3.7	4.6	5.0	6.2	7.4	8.3	9.9	12.4	14.9	16.5	18.4	22.1	36.9	44.3	55.3	
<b>400VAC 50Hz 3 phase</b>																														
Nominal rpm 380 VAC	400	333	240	200	160	133	120	96	80	67	60	48	40	33	30	24	20	16	13	12	10	8	7	6	5	4	2	2	2	
Nominal Nm 380 VAC	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.3	1.5	1.8	1.8	2.3	2.7	3.3	3.7	4.6	5.0	6.2	7.4	8.3	9.9	12.4	14.9	16.5	18.4	22.1	36.9	44.3	55.3	
<b>120VAC 60Hz 1 phase</b>																														
Nominal rpm 110 VAC	483	403	290	242	193	161	145	116	97	81	73	58	48	40	36	29	24	19	16	15	12	10	8	7	6	5	3	2	2	
Nominal Nm 110 VAC	0.3	0.3	0.4	0.5	0.6	0.8	0.9	1.1	1.3	1.5	1.5	1.9	2.3	2.8	3.1	3.8	4.2	5.2	6.2	6.9	8.3	10.4	12.5	13.9	15.5	18.6	31.0	37.2	46.5	
<b>208VAC 60Hz 3 phase</b>																														
Nominal rpm 220 VAC	483	403	290	242	193	161	145	116	97	81	73	58	48	40	36	29	24	19	16	15	12	10	8	7	6	5	3	2	2	
Nominal Nm 220 VAC	0.3	0.3	0.4	0.5	0.6	0.8	0.9	1.1	1.3	1.5	1.5	1.9	2.3	2.8	3.1	3.8	4.2	5.2	6.2	6.9	8.3	10.4	12.5	13.9	15.5	18.6	31.0	37.2	46.5	
<b>GEAR HEAD DATA</b>																														
Efficiency (%)	81	81	81	81	81	81	81	81	81	81	73	73	73	73	73	73	66	66	66	66	66	66	66	66	66	59	59	59	59	
Max. torque (Nm)	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	
Radial F 20 mm shaft (N)	120	120	120	120	120	120	120	120	120	120	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	
Max. thrust load (N)	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	
Out rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw

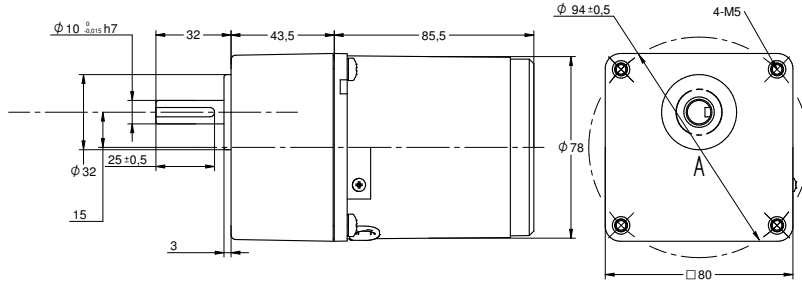
GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	AC induction	Voltage
Insulation Class	130 (B)	155 (F)
Speed tolerance	± 5%	
Cables 6W-25W   40W-120W	AWG20   AWG-18 300 mm	Harness
Cables wiring	Table at bottom of page	Per request
Housing materials	Aluminium	
Gears and shaft material	40Cr	Shaft dimensions
Bearings types	Ball bearings	
Operating temperature	-10...+40 °C	-40...+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE   UL label	No   No	
IP rating cable   terminal box	IP20   IP54	
<b>Insulation Resistance</b> 100 M Ω or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.		
<b>Dielectric Strength</b> Sufficient to withstand 1.5 kV at 50 Hz or 60 Hz applied between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity.		
<b>Temperature Rise</b> Temperature rise of windings are 176°F (80°C) or less measured by the resistance change method after rated operation under normal ambient temperature and humidity.		

MOTOR DATA				
Base voltage (VAC)	230	400	120	208
Nominal voltage (VAC) A	220	380	110	220
Nominal voltage (VAC) B	230		120	
Phase   Frequency Hz	1   50	3   50	1   60	3   60
Number of poles	4	4	4	4
Output (W)	15	15	15	15
Nominal speed (rpm) voltage A	1200	1200	1450	1450
Nominal speed (rpm) voltage B	1200		1450	
Nominal torque mNm voltage A	125	125	105	105
Nominal torque mNm voltage B	125		105	
Nominal current (A) voltage A	0.18	0.08	0.30	0.12
Nominal current (A) voltage B	0.20		0.32	
Stall torque mNm voltage A	90	220	65	180
Stall torque mNm voltage B	90		65	
Capacitor μF included in delivery	1.2		5	
Weight motor Kg	1.1	1.1	1.1	1.1
Weight gear motor Kg	1.6	1.6	1.6	1.6

ELECTRIC WIRING CONNECTION	
VERSION C 1 PHASE	capacitor white-blue   neutral N-red   phase-white CW, -blue CWW
VERSION B 1 PHASE	capacitor U2-Z2   neutral N-U1   phase-U2 CW, -Z2 CWW
VERSION C B 3 PHASES	-blue, -red, -white. Swap a pair for inversed rotation

# Motor model AI-025W ← SOLD SEPARATELY → Gear box model S80A

DRAWING (mm)



PHOTO



## MODEL NO. DESIGNATION

Motor model - Voltage - S/T C/B S= Single phase / T=Three phase C=Cable / B = Terminal box Example: **AI-006W-230-SC (\*)**

Gear box model - Gear ratio Example: **S60A-050 (\*)**

**\* ALL MOTORS AND GEAR BOXES ARE SOLD SEPARATELY. SELECT GEAR BOX FRAME SIZE SAME AS MOTOR FRAME SIZE. ASSEMBLY SCREWS ARE INCLUDED IN DELIVERY**

GEAR MOTOR DATA RATIO	3	3,6	5	6	7,5	9	1	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	500	600	750
<b>230VAC 50Hz 1 phase</b>																													
Nominal rpm 220 VAC	417	347	250	208	167	139	125	100	83	69	63	50	42	35	31	25	21	17	14	13	10	8	7	6	5	4	3	2	2
Nominal rpm 230 VAC	417	347	250	208	167	139	125	100	83	69	63	50	42	35	31	25	21	17	14	13	10	8	7	6	5	4	3	2	2
Nominal Nm 220 VAC	0.5	0.6	0.8	1.0	1.2	1.5	1.6	2.0	2.4	2.9	2.9	3.7	4.4	5.3	5.8	7.3	7.9	9.9	11.9	13.2	15.8	19.8	23.8	26.4	29.5	35.4	59.0	70.8	88.5
Nominal Nm 230 VAC	0.5	0.6	0.8	1.0	1.2	1.5	1.6	2.0	2.4	2.9	2.9	3.7	4.4	5.3	5.8	7.3	7.9	9.9	11.9	13.2	15.8	19.8	23.8	26.4	29.5	35.4	59.0	70.8	88.5
<b>120VAC 60Hz 1 phase</b>																													
Nominal rpm 110 VAC	517	431	310	258	207	172	155	124	103	86	78	62	52	43	39	31	26	21	17	16	13	10	9	8	6	5	3	3	2
Nominal Nm 110 VAC	0.4	0.5	0.7	0.8	1.0	1.2	1.3	1.7	2.0	2.4	2.4	3.0	3.6	4.3	4.8	6.0	6.5	8.2	9.8	10.9	13.1	16.3	19.6	21.8	24.3	29.2	48.7	58.4	73.0
<b>208VAC 60Hz 3 phase</b>																													
Nominal rpm 220 VAC	517	431	310	258	207	172	155	124	103	86	78	62	52	43	39	31	26	21	17	16	13	10	9	8	6	5	3	3	2
Nominal Nm 220 VAC	0.4	0.5	0.7	0.8	1.0	1.2	1.3	1.7	2.0	2.4	2.4	3.0	3.6	4.3	4.8	6.0	6.5	8.2	9.8	10.9	13.1	16.3	19.6	21.8	24.3	29.2	48.7	58.4	73.0
<b>GEAR HEAD DATA</b>																													
Efficiency (%)	81	81	81	81	81	81	81	81	81	81	81	73	73	73	73	73	66	66	66	66	66	66	66	66	66	59	59	59	59
Max. torque (Nm)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Radial F 20 mm shaft (N)	150	150	150	150	150	150	150	150	150	150	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
Max. thrust load (N)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Out rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	AC induction	Voltage
Insulation Class	130 (B)	155 (F)
Speed tolerance	± 5%	
Cables 6W-25W   40W-120W	AWG20   AWG-18 300 mm	Harness
Cables wiring	Table at bottom of page	Per request
Housing materials	Aluminium	
Gears and shaft material	40Cr	Shaft dimensions
Bearings types	Ball bearings	
Operating temperature	-10...+40 °C	-40...+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE   UL label	No   No	
IP rating cable   terminal box	IP20   IP54	
<b>Insulation Resistance</b> 100 M Ω or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.		
<b>Dielectric Strength</b> Sufficient to withstand 1.5 kV at 50 Hz or 60 Hz applied between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity.		
<b>Temperature Rise</b> Temperature rise of windings are 176°F (80°C) or less measured by the resistance change method after rated operation under normal ambient temperature and humidity.		

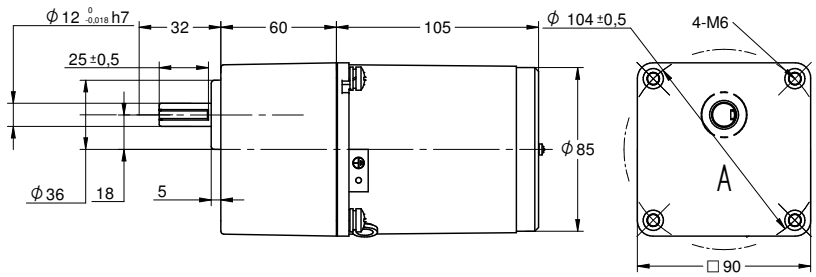
MOTOR DATA			
Base voltage (VAC)	230	120	208
Nominal voltage (VAC) A	220	110	220
Nominal voltage (VAC) B	230	120	
Phase   Frequency Hz	1   50	1   60	3   60
Number of poles	4	4	4
Output (W)	25	25	25
Nominal speed (rpm) voltage A	1250	1550	1550
Nominal speed (rpm) voltage B	1250	1550	
Nominal torque mNm voltage A	200	165	165
Nominal torque mNm voltage B	200	165	
Nominal current (A) voltage A	0.25	0.45	0.17
Nominal current (A) voltage B	0.23	0.50	
Stall torque mNm voltage A	120	120	250
Stall torque mNm voltage B	120	120	
Capacitor μF included in delivery	1.8	7	
Weight motor Kg	1.6	1.6	1.6
Weight gear motor Kg	2.4	2.4	2.4

## ELECTRIC WIRING CONNECTION

VERSION C 1 PHASE	capacitor white-blue   neutral N-red   phase-white CW, -blue CWW
VERSION B 1 PHASE	capacitor U2-Z2   neutral N-U1   phase-U2 CW, -Z2 CWW
VERSION C B 3 PHASES	-blue, -red, -white. Swap a pair for inversed rotation

# Motor model AI-040W ← SOLD SEPARATELY → Gear box model S90A

DRAWING (mm)



PHOTO



## MODEL NO. DESIGNATION

Motor model - Voltage - S/T C/B S= Single phase / T=Three phase C=Cable / B = Terminal box Example: **AI-006W-230-SC (\*)**

Gear box model - Gear ratio Example: **S60A-050 (\*)**

**\* ALL MOTORS AND GEAR BOXES ARE SOLD SEPARATELY. SELECT GEAR BOX FRAME SIZE SAME AS MOTOR FRAME SIZE. ASSEMBLY SCREWS ARE INCLUDED IN DELIVERY**

GEAR MOTOR DATA RATIO	3	3,6	5	6	7,5	9	1	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	500	600	750		
<b>230VAC 50Hz 1 phase</b>																															
Nominal rpm 220 VAC	417	347	250	208	167	139	125	100	83	69	63	50	42	35	31	25	21	17	14	13	10	8	7	6	5	4	3	2	2		
Nominal rpm 230 VAC	417	347	250	208	167	139	125	100	83	69	63	50	42	35	31	25	21	17	14	13	10	8	7	6	5	4	3	2	2		
Nominal Nm 220 VAC	0.8	0.9	1.3	1.5	1.9	2.3	2.6	3.2	3.8	4.6	5.1	5.7	6.9	8.3	9.2	11.5	12.5	15.6	18.7	20.8	24.9	31.2	37.4	41.6	46.5	55.8	92.9	112	139		
Nominal Nm 230 VAC	0.8	0.9	1.3	1.5	1.9	2.3	2.6	3.2	3.8	4.6	5.1	5.7	6.9	8.3	9.2	11.5	12.5	15.6	18.7	20.8	24.9	31.2	37.4	41.6	46.5	55.8	92.9	112	139		
<b>120VAC 60Hz 1 phase</b>																															
Nominal rpm 110 VAC	517	431	310	258	207	172	155	124	103	86	78	62	52	43	39	31	26	21	17	16	13	10	9	8	6	5	3	3	2		
Nominal Nm 110 VAC	0.6	0.8	1.1	1.3	1.6	1.9	2.1	2.6	3.2	3.8	4.2	4.7	5.7	6.8	7.6	9.5	10.3	12.9	15.4	17.2	20.6	25.7	30.9	34.3	38.4	46.0	76.7	92.0	115		
<b>208VAC 60Hz 3 phase</b>																															
Nominal rpm 220 VAC	517	431	310	258	207	172	155	124	103	86	78	62	52	43	39	31	26	21	17	16	13	10	9	8	6	5	3	3	2		
Nominal Nm 220 VAC	0.6	0.7	1.0	1.2	1.5	1.8	2.0	2.5	3.0	3.6	4.1	4.6	5.5	6.6	7.3	9.1	9.9	12.4	14.9	16.5	19.8	24.8	29.7	33.0	36.9	44.3	73.8	88.5	111		
<b>GEAR HEAD DATA</b>																															
Efficiency (%)	81	81	81	81	81	81	81	81	81	81	81	73	73	73	73	73	66	66	66	66	66	66	66	66	59	59	59	59	59		
Max. torque (Nm)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
Radial F 20 mm shaft (N)	350	350	350	350	350	350	350	350	350	350	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450		
Max. thrust load (N)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Out rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw		

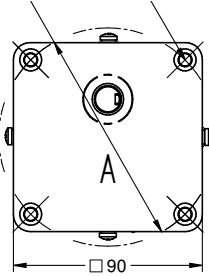
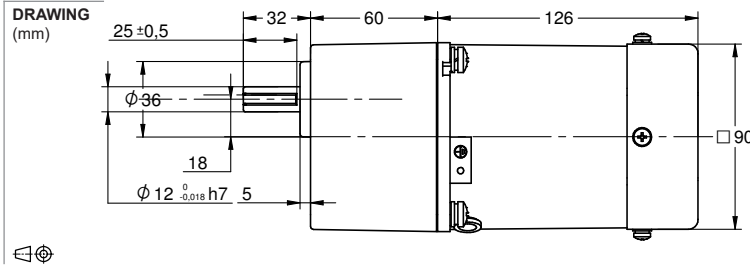
GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	AC induction	Voltage
Insulation Class	130 (B)	155 (F)
Speed tolerance	± 5%	
Cables 6W-25W   40W-120W	AWG20   AWG-18 300 mm	Harness
Cables wiring	Table at bottom of page	Per request
Housing materials	Aluminium	
Gears and shaft material	40Cr	Shaft dimensions
Bearings types	Ball bearings	
Operating temperature	-10...+40 °C	-40...+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE   UL label	No   No	
IP rating cable   terminal box	IP20   IP54	
<b>Insulation Resistance</b> 100 M Ω or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.		
<b>Dielectric Strength</b> Sufficient to withstand 1.5 kV at 50 Hz or 60 Hz applied between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity.		
<b>Temperature Rise</b> Temperature rise of windings are 176°F (80°C) or less measured by the resistance change method after rated operation under normal ambient temperature and humidity.		

MOTOR DATA			
Base voltage (VAC)	230	120	208
Nominal voltage (VAC) A	220	110	220
Nominal voltage (VAC) B	230	120	
Phase   Frequency Hz	1   50	1   60	3   60
Number of poles	4	4	4
Output (W)	40	40	40
Nominal speed (rpm) voltage A	1250	1550	1550
Nominal speed (rpm) voltage B	1250	1550	
Nominal torque mNm voltage A	315	260	250
Nominal torque mNm voltage B	315	260	
Nominal current (A) voltage A	0.35	0.55	0.25
Nominal current (A) voltage B	0.40	0.60	
Stall torque mNm voltage A	220	200	660
Stall torque mNm voltage B	220	200	
Capacitor μF included in delivery	2.5	8	
Weight motor Kg	2.4	2.4	2.4
Weight gear motor Kg	3.75	3.75	3.75

## ELECTRIC WIRING CONNECTION

VERSION C 1 PHASE	capacitor white-blue   neutral N-red   phase-white CW, -blue CWW
VERSION B 1 PHASE	capacitor U2-Z2   neutral N-U1   phase-U2 CW, -Z2 CWW
VERSION C B 3 PHASES	-blue, -red, -white. Swap a pair for inversed rotation

Motor model AI-060W ← **SOLD** → Gear box model S90A  
**SEPARATELY**



**MODEL NO. DESIGNATION**

Motor model - Voltage - S/T C/B S= Single phase / T=Three phase C=Cable / B = Terminal box Example: **AI-006W-230-SC (\*)**

Gear box model - Gear ratio Example: **S60A-050 (\*)**

**\* ALL MOTORS AND GEAR BOXES ARE SOLD SEPARATELY. SELECT GEAR BOX FRAME SIZE SAME AS MOTOR FRAME SIZE. ASSEMBLY SCREWS ARE INCLUDED IN DELIVERY**

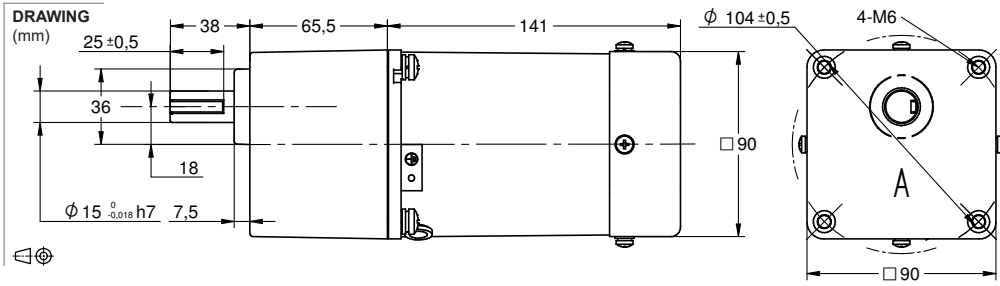
GEAR MOTOR DATA RATIO	3	3,6	5	6	7,5	9	1	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	500	600	750	
<b>230VAC 50Hz 1 phase</b>																														
Nominal rpm 220 VAC	417	347	250	208	167	139	125	100	83	69	63	50	42	35	31	25	21	17	14	13	10	8	7	6	5	4	3	2	2	
Nominal rpm 230 VAC	417	347	250	208	167	139	125	100	83	69	63	50	42	35	31	25	21	17	14	13	10	8	7	6	5	4	3	2	2	
Nominal Nm 220 VAC	1.1	1.4	1.9	2.3	2.9	3.4	3.8	4.8	5.7	6.9	7.6	8.6	10.3	12.4	13.7	17.2	18.6	23.3	27.9	31.0	37.2	46.5	55.8	62.0	69.3	83.2	139	166	208	
Nominal Nm 230 VAC	1.1	1.4	1.9	2.3	2.9	3.4	3.8	4.8	5.7	6.9	7.6	8.6	10.3	12.4	13.7	17.2	18.6	23.3	27.9	31.0	37.2	46.5	55.8	62.0	69.3	83.2	139	166	208	
<b>120VAC 60Hz 1 phase</b>																														
Nominal rpm 110 VAC	517	431	310	258	207	172	155	124	103	86	78	62	52	43	39	31	26	21	17	16	13	10	9	8	6	5	3	3	2	
Nominal Nm 110 VAC	0.9	1.1	1.5	1.8	2.3	2.8	3.1	3.8	4.6	5.5	6.2	6.9	8.3	10.0	11.1	13.9	15.0	18.8	22.6	25.1	30.1	37.6	45.1	50.2	56.1	67.3	112	135	168	
<b>208VAC 60Hz 3 phase</b>																														
Nominal rpm 220 VAC	517	431	310	258	207	172	155	124	103	86	78	62	52	43	39	31	26	21	17	16	13	10	9	8	6	5	3	3	2	
Nominal Nm 220 VAC	0.9	1.1	1.5	1.8	2.3	2.8	3.1	3.8	4.6	5.5	6.2	6.9	8.3	10.0	11.1	13.9	15.0	18.8	22.6	25.1	30.1	37.6	45.1	50.2	56.1	67.3	112	135	168	
<b>GEAR HEAD DATA</b>																														
Efficiency (%)	81	81	81	81	81	81	81	81	81	81	81	73	73	73	73	73	66	66	66	66	66	66	66	66	59	59	59	59	59	
Max. torque (Nm)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Radial F 20 mm shaft (N)	350	350	350	350	350	350	350	350	350	350	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	
Max. thrust load (N)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Out rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	AC induction	Voltage
Insulation Class	130 (B)	155 (F)
Speed tolerance	± 5%	
Cables 6W-25W   40W-120W	AWG20   AWG-18 300 mm	Harness
Cables wiring	Table at bottom of page	Per request
Housing materials	Aluminium	
Gears and shaft material	40Cr	Shaft dimensions
Bearings types	Ball bearings	
Operating temperature	-10...+40 °C	-40...+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE   UL label	No   No	
IP rating cable   terminal box	IP20   IP54	
<b>Insulation Resistance</b> 100 M Ω or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.		
<b>Dielectric Strength</b> Sufficient to withstand 1.5 kV at 50 Hz or 60 Hz applied between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity.		
<b>Temperature Rise</b> Temperature rise of windings are 176°F (80°C) or less measured by the resistance change method after rated operation under normal ambient temperature and humidity.		

MOTOR DATA			
Base voltage (VAC)	230	120	208
Nominal voltage (VAC) A	220	110	220
Nominal voltage (VAC) B	230	120	
Phase   Frequency Hz	1   50	1   60	3   60
Number of poles	4	4	4
Output (W)	60	60	60
Nominal speed (rpm) voltage A	1250	1550	1550
Nominal speed (rpm) voltage B	1250	1550	
Nominal torque mNm voltage A	470	380	380
Nominal torque mNm voltage B	470	380	
Nominal current (A) voltage A	0.50	0.80	0.40
Nominal current (A) voltage B	0.55	0.85	
Stall torque mNm voltage A	340	300	800
Stall torque mNm voltage B	340	300	
Capacitor μF included in delivery	4	12	
Weight motor Kg	2.7	2.7	2.7
Weight gear motor Kg	4.05	4.05	4.05

ELECTRIC WIRING CONNECTION	
VERSION C 1 PHASE	capacitor white-blue   neutral N-red   phase-white CW, -blue CWW
VERSION B 1 PHASE	capacitor U2-Z2   neutral N-U1   phase-U2 CW, -Z2 CWW
VERSION C B 3 PHASES	-blue, -red, -white. Swap a pair for inversed rotation

Motor model AI-090W ← **SOLD** → Gear box model S90B  
**SEPARATELY**



**MODEL NO. DESIGNATION**

Motor model - Voltage - S/T C/B S= Single phase / T=Three phase C=Cable / B = Terminal box Example: **AI-006W-230-SC (\*)**

Gear box model - Gear ratio Example: **S60A-050 (\*)**

**\* ALL MOTORS AND GEAR BOXES ARE SOLD SEPARATELY. SELECT GEAR BOX FRAME SIZE SAME AS MOTOR FRAME SIZE. ASSEMBLY SCREWS ARE INCLUDED IN DELIVERY**

GEAR MOTOR DATA RATIO	3	3,6	5	6	7,5	9	1	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	500	600	750		
<b>230VAC 50Hz 1 phase</b>																															
Nominal rpm 220 VAC	417	347	250	208	167	139	125	100	83	69	63	50	42	35	31	25	21	17	14	13	10	8	7	6	5	4	3	2	2		
Nominal rpm 230 VAC	417	347	250	208	167	139	125	100	83	69	63	50	42	35	31	25	21	17	14	13	10	8	7	6	5	4	3	2	2		
Nominal Nm 220 VAC	1.7	2.0	2.8	3.4	4.3	5.1	5.7	7.1	8.5	10.2	11.3	12.8	15.3	18.4	20.4	25.6	27.7	34.7	41.6	46.2	55.4	69.3	83.2	92.4	103	124	207	248	310		
Nominal Nm 230 VAC	1.7	2.0	2.8	3.4	4.3	5.1	5.7	7.1	8.5	10.2	11.3	12.8	15.3	18.4	20.4	25.6	27.7	34.7	41.6	46.2	55.4	69.3	83.2	92.4	103	124	207	248	310		
<b>120VAC 60Hz 1 phase</b>																															
Nominal rpm 110 VAC	517	431	310	258	207	172	155	124	103	86	78	62	52	43	39	31	26	21	17	16	13	10	9	8	6	5	3	3	2		
Nominal Nm 110 VAC	1.4	1.7	2.3	2.8	3.5	4.2	4.6	5.8	6.9	8.3	9.2	10.4	12.5	15.0	16.6	20.8	22.6	28.2	33.9	37.6	45.1	56.4	67.7	75.2	84.1	101	168	202	252		
<b>208VAC 60Hz 3 phase</b>																															
Nominal rpm 220 VAC	517	431	310	258	207	172	155	124	103	86	78	62	52	43	39	31	26	21	17	16	13	10	9	8	6	5	3	3	2		
Nominal Nm 220 VAC	1.4	1.7	2.3	2.8	3.5	4.2	4.6	5.8	6.9	8.3	9.2	10.4	12.5	15.0	16.6	20.8	22.6	28.2	33.9	37.6	45.1	56.4	67.7	75.2	84.1	101	168	202	252		
<b>GEAR HEAD DATA</b>																															
Efficiency (%)	81	81	81	81	81	81	81	81	81	81	81	73	73	73	73	73	66	66	66	66	66	66	66	66	66	59	59	59	59	59	
Max. torque (Nm)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
Radial F 20 mm shaft (N)	350	350	350	350	350	350	350	350	350	350	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450	
Max. thrust load (N)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Out rotation when in cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	

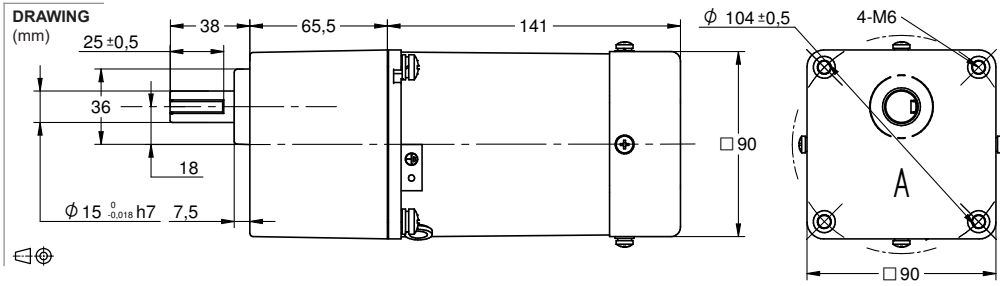
GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	AC induction	Voltage
Insulation Class	130 (B)	155 (F)
Speed tolerance	± 5%	
Cables 6W-25W   40W-120W	AWG20   AWG-18 300 mm	Harness
Cables wiring	Table at bottom of page	Per request
Housing materials	Aluminium	
Gears and shaft material	40Cr	Shaft dimensions
Bearings types	Ball bearings	
Operating temperature	-10...+40 °C	-40...+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE   UL label	No   No	
IP rating cable   terminal box	IP20   IP54	
<b>Insulation Resistance</b> 100 M Ω or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.		
<b>Dielectric Strength</b> Sufficient to withstand 1.5 kV at 50 Hz or 60 Hz applied between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity.		
<b>Temperature Rise</b> Temperature rise of windings are 176°F (80°C) or less measured by the resistance change method after rated operation under normal ambient temperature and humidity.		

MOTOR DATA			
Base voltage (VAC)	230	120	208
Nominal voltage (VAC) A	220	110	220
Nominal voltage (VAC) B	230	120	
Phase   Frequency Hz	1   50	1   60	3   60
Number of poles	4	4	4
Output (W)	90	90	90
Nominal speed (rpm) voltage A	1250	1550	1550
Nominal speed (rpm) voltage B	1250	1550	
Nominal torque mNm voltage A	700	570	570
Nominal torque mNm voltage B	700	570	
Nominal current (A) voltage A	0.72	1.40	0.55
Nominal current (A) voltage B	0.70	1.45	
Stall torque mNm voltage A	450	500	1100
Stall torque mNm voltage B	450	500	
Capacitor μF included in delivery	5	20	
Weight motor Kg	3.2	3.2	3.2
Weight gear motor Kg	4.7	4.7	4.7

ELECTRIC WIRING CONNECTION	
VERSION C 1 PHASE	capacitor white-blue   neutral N-red   phase-white CW, -blue CWW
VERSION B 1 PHASE	capacitor U2-Z2   neutral N-U1   phase-U2 CW, -Z2 CWW
VERSION C B 3 PHASES	-blue, -red, -white. Swap a pair for inversed rotation



# Motor model AI-120W ← SOLD SEPARATELY → Gear box model S90B



## MODEL NO. DESIGNATION

Motor model - Voltage - S/T C/B S= Single phase / T=Three phase C=Cable / B = Terminal box Example: **AI-006W-230-SC (\*)**

Gear box model - Gear ratio Example: **S60A-050 (\*)**

**\* ALL MOTORS AND GEAR BOXES ARE SOLD SEPARATELY. SELECT GEAR BOX FRAME SIZE SAME AS MOTOR FRAME SIZE. ASSEMBLY SCREWS ARE INCLUDED IN DELIVERY**

GEAR MOTOR DATA RATIO	3	3,6	5	6	7,5	9	1	12,5	15	18	20	25	30	36	40	50	60	75	90	100	120	150	180	200	250	300	500	600	750	
<b>230VAC 50Hz 1 phase</b>																														
Nominal rpm 220 VAC	417	347	250	208	167	139	125	100	83	69	63	50	42	35	31	25	21	17	14	13	10	8	7	6	5	4	3	2	2	
Nominal rpm 230 VAC	417	347	250	208	167	139	125	100	83	69	63	50	42	35	31	25	21	17	14	13	10	8	7	6	5	4	3	2	2	
Nominal Nm 220 VAC	2.3	2.7	3.8	4.5	5.6	6.8	7.5	9.4	11.3	13.6	15.1	17.0	20.4	24.4	27.2	33.9	36.8	46.0	55.2	61.4	73.7	92.1	110	123	137	165	274	329	412	
Nominal Nm 230 VAC	2.3	2.7	3.8	4.5	5.6	6.8	7.5	9.4	11.3	13.6	15.1	17.0	20.4	24.4	27.2	33.9	36.8	46.0	55.2	61.4	73.7	92.1	110	123	137	165	274	329	412	
<b>120VAC 60Hz 1 phase</b>																														
Nominal rpm 110 VAC	517	431	310	258	207	172	155	124	103	86	78	62	52	43	39	31	26	21	17	16	13	10	9	8	6	5	3	3	2	
Nominal Nm 110 VAC	1.8	2.2	3.0	3.6	4.6	5.5	6.1	7.6	9.1	10.9	12.2	13.7	16.4	19.7	21.9	27.4	29.7	37.1	44.6	49.5	59.4	74.3	89.1	99.0	111	133	221	266	332	
<b>208VAC 60Hz 3 phase</b>																														
Nominal rpm 220 VAC	517	431	310	258	207	172	155	124	103	86	78	62	52	43	39	31	26	21	17	16	13	10	9	8	6	5	3	3	2	
Nominal Nm 220 VAC	1.8	2.2	3.0	3.6	4.6	5.5	6.1	7.6	9.1	10.9	12.2	13.7	16.4	19.7	21.9	27.4	29.7	37.1	44.6	49.5	59.4	74.3	89.1	99.0	111	133	221	266	332	
<b>GEAR HEAD DATA</b>																														
Efficiency (%)	81	81	81	81	81	81	81	81	81	81	81	73	73	73	73	73	66	66	66	66	66	66	66	66	66	59	59	59	59	59
Max. torque (Nm)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	
Radial F 20 mm shaft (N)	500	500	500	500	500	500	600	600	600	600	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	700	
Max. thrust load (N)	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	
Out rotation when in cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	cw	cw	cw	cw	cw	ccw	ccw	ccw	ccw	ccw	ccw	cw	cw	cw	cw	

GEAR MOTOR FEATURES	STANDARD	CUSTOMIZATION
Motor type	AC induction	Voltage
Insulation Class	130 (B)	155 (F)
Speed tolerance	± 5%	
Cables 6W-25W   40W-120W	AWG20   AWG-18 300 mm	Harness
Cables wiring	Table at bottom of page	Per request
Housing materials	Aluminium	
Gears and shaft material	40Cr	Shaft dimensions
Bearings types	Ball bearings	
Operating temperature	-10...+40 °C	-40...+40 °C
Manufacturing quality standards	ISO 9001	
RoHS compliance	Yes	
CE   UL label	No   No	
IP rating cable   terminal box	IP20   IP54	
<b>Insulation Resistance</b> 100 M Ω or more when 500 VDC megger is applied between the windings and the case after rated operation under normal ambient temperature and humidity.		
<b>Dielectric Strength</b> Sufficient to withstand 1.5 kV at 50 Hz or 60 Hz applied between the windings and the case for 1 minute after rated operation under normal ambient temperature and humidity.		
<b>Temperature Rise</b> Temperature rise of windings are 176°F (80°C) or less measured by the resistance change method after rated operation under normal ambient temperature and humidity.		

MOTOR DATA			
Base voltage (VAC)	230	120	208
Nominal voltage (VAC) A	220	110	220
Nominal voltage (VAC) B	230	120	
Phase   Frequency Hz	1   50	1   60	3   60
Number of poles	4	4	4
Output (W)	120	120	120
Nominal speed (rpm) voltage A	1250	1550	1550
Nominal speed (rpm) voltage B	1250	1550	
Nominal torque mNm voltage A	930	750	750
Nominal torque mNm voltage B	930	750	
Nominal current (A) voltage A	1.00	1.65	0.60
Nominal current (A) voltage B	0.95	1.80	
Stall torque mNm voltage A	650	600	1600
Stall torque mNm voltage B	650	600	
Capacitor μF included in delivery	7	25	
Weight motor Kg	3.4	3.4	3.4
Weight gear motor Kg	4.9	4.9	4.9

## ELECTRIC WIRING CONNECTION

VERSION C 1 PHASE	capacitor white-blue   neutral N-red   phase-white CW, -blue CWW
VERSION B 1 PHASE	capacitor U2-Z2   neutral N-U1   phase-U2 CW, -Z2 CWW
VERSION C B 3 PHASES	-blue, -red, -white. Swap a pair for inversed rotation