



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

AIR series reversible induction type

Transmotec sell a broad range of geared AC motors in standard and customized configurations. These reversible AC motors are designed for applications that require a motor that frequently and rapidly change the direction of rotation. The motors have an internal mechanical permanent friction brake that continuously apply a torque brake to the rotor to enable a speedy change of rotational direction. The duty cycle is thirty percent. 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:

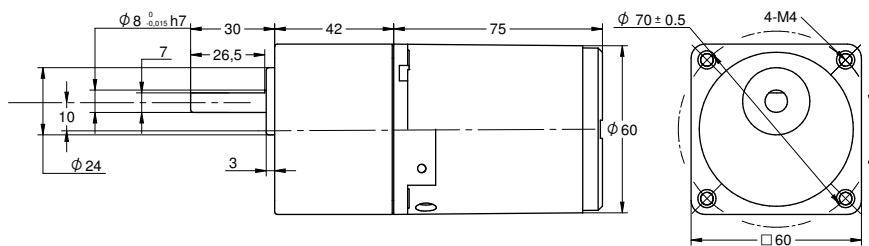
- ✓ Customized harness
- ✓ Shaft configuration
- ✓ Winding configuration
- ✓ And more...

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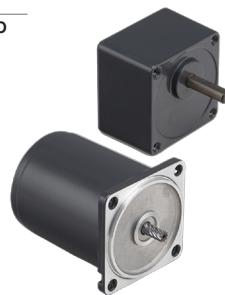
| Model | Voltage | Number of phases | Frequency Hz | Frame size | Power | Page |
|---------------|------------|------------------|--------------|------------|-------|-------------------|
| AIR-006W+S60A | 110-380VAC | 1-3 | 50/60 | 60mm | 6 | 1 |
| AIR-015W+S70A | 110-380VAC | 1-3 | 50/60 | 70mm | 15 | 2 |
| AIR-025W+S80A | 110-220VAC | 1-3 | 50/60 | 80mm | 25 | 3 |
| AIR-040W+S90A | 110-220VAC | 1-3 | 50/60 | 90mm | 40 | 4 |
| AIR-060W+S90A | 110-220VAC | 1-3 | 50/60 | 90mm | 60 | 5 |
| AIR-090W+S90A | 110-220VAC | 1-3 | 50/60 | 90mm | 90 | 6 |
| AIR-120W+S90B | 110-220VAC | 1-3 | 50/60 | 90mm | 120 | 7 |

Motor model AIR-006W ↔ SOLD SEPARATELY ↔ Gear box model S60A

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: **AIR-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 | | |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
| 230VAC 50Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 120VAC 60Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 rpm 120 VAC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | |
| Nominal Nm 120 VAC | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GEAR HEAD DATA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | |
| 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 | | | | | | | |

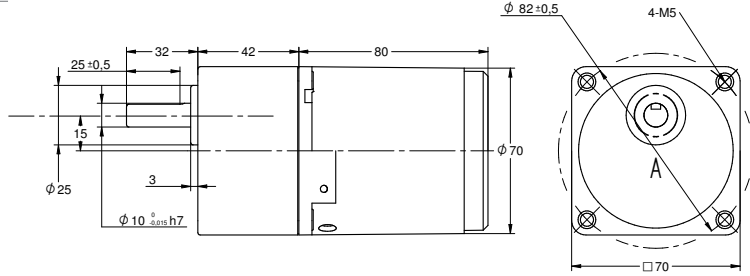
| GEAR MOTOR FEATURES | STANDARD | CUSTOMIZATION |
|--|-----------------------------|------------------|
| Motor type | AC induction | Voltage |
| Insulation Class | 130 (B) | 155 (F) |
| Speed tolerance | ± 5% | |
| Cables 6W-25W 40W-120W | AWG20 AWG-18 300 mm | Harness |
| Cables wiring | Table at 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 | Yes 230 400 (VAC) 120 208 | |
| IP rating cable terminal box | IP20 IP54 | |
| Insulation Resistance 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. | | |
| Dielectric Strength 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. | | |
| Temperature Rise 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 |
| Nominal voltage (VAC) A | 220 | 110 |
| Nominal voltage (VAC) B | 230 | 120 |
| Phase Frequency Hz | 1 50 | 1 60 |
| Number of poles | 4 | 4 |
| Output (W) | 6 | 6 |
| Nominal speed (rpm) voltage A | 1200 | |
| Nominal speed (rpm) voltage B | | 1450 |
| Nominal torque mNm voltage A | 48 | |
| Nominal torque mNm voltage B | | 40 |
| Nominal current (A) voltage A | 0.15 | |
| Nominal current (A) voltage B | | 0.20 |
| Stall torque mNm voltage A | 55 | |
| Stall torque mNm voltage B | | 45 |
| Capacitor μF included in delivery | 1 | 2.5 |
| Weight motor Kg | 0.8 | 0.8 |
| Weight gear motor Kg | 1.2 | 1.2 |

| 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 AIR-015W ← SOLD SEPARATELY → Gear box model S70A

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: AIR-006W-230-SC (*)

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

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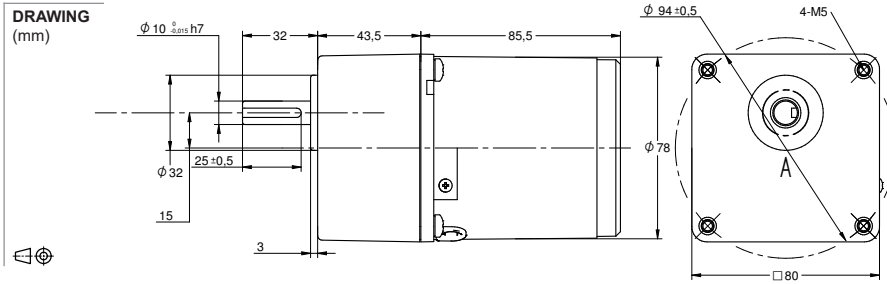
| GEAR MOTOR DATA RATIO | 3 | 3,6 | 5 | 6 | 7,5 | 9 | 1 | 12,5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 200 | 250 | 300 | 500 | 600 | 750 | | |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|-----|--|
| 230VAC 50Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 0.4 | 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 | | |
| 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 | | |
| 120VAC 60Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 rpm 120 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 | | |
| Nominal Nm 120 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 | | |
| GEAR HEAD DATA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | Yes 230 400 (VAC) 120 208 | |
| IP rating cable terminal box | IP20 IP54 | |
| Insulation Resistance 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. | | |
| Dielectric Strength 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. | | |
| Temperature Rise 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 |
| Nominal voltage (VAC) A | 220 | 110 |
| Nominal voltage (VAC) B | 230 | 120 |
| Phase Frequency Hz | 1 50 | 1 60 |
| Number of poles | 4 | 4 |
| Output (W) | 15 | 15 |
| Nominal speed (rpm) voltage A | 1200 | 1450 |
| Nominal speed (rpm) voltage B | 1200 | 1450 |
| Nominal torque mNm voltage A | 125 | 105 |
| Nominal torque mNm voltage B | 125 | 105 |
| Nominal current (A) voltage A | 0.23 | 0.43 |
| Nominal current (A) voltage B | 0.23 | 0.42 |
| Stall torque mNm voltage A | 110 | 85 |
| Stall torque mNm voltage B | 110 | 85 |
| Capacitor μF included in delivery | 1.5 | 6 |
| Weight motor Kg | 1.15 | 1.15 |
| Weight gear motor Kg | 1.65 | 1.65 |

| 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 AIR-025W ← **SOLD SEPARATELY** → Gear box model S80A



MODEL NO. DESIGNATION

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

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

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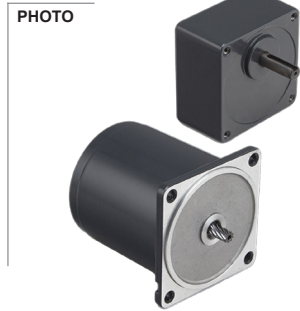
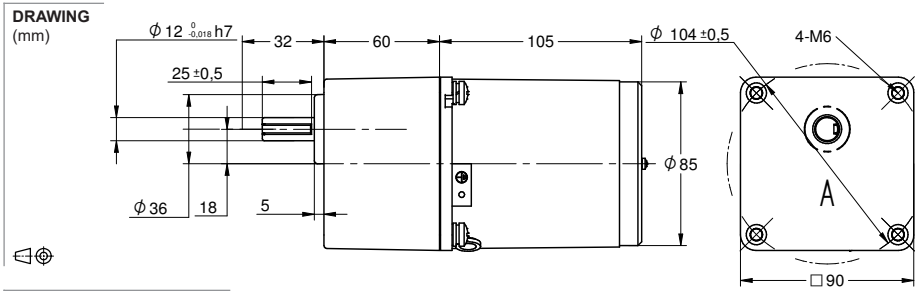
| GEAR MOTOR DATA RATIO | 3 | 3,6 | 5 | 6 | 7,5 | 9 | 1 | 12,5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 200 | 250 | 300 | 500 | 600 | 750 | |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|-----|
| 230VAC 50Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 3.2 | 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 | 3.2 | 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 | |
| 120VAC 60Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 rpm 120 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 | 2.7 | 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 | |
| Nominal Nm 120 VAC | 0.4 | 0.5 | 0.7 | 0.8 | 1.0 | 1.2 | 1.3 | 1.7 | 2.0 | 2.4 | 2.7 | 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 | |
| GEAR HEAD DATA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 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 | Yes 230 400 (VAC) 120 208 | |
| IP rating cable terminal box | IP20 IP54 | |
| Insulation Resistance 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. | | |
| Dielectric Strength 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. | | |
| Temperature Rise 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 |
| Nominal voltage (VAC) A | 220 | 110 |
| Nominal voltage (VAC) B | 230 | 120 |
| Phase Frequency Hz | 1 50 | 1 60 |
| Number of poles | 4 | 4 |
| Output (W) | 25 | 25 |
| Nominal speed (rpm) voltage A | 1250 | 1550 |
| Nominal speed (rpm) voltage B | 1250 | 1550 |
| Nominal torque mNm voltage A | 200 | 165 |
| Nominal torque mNm voltage B | 200 | 165 |
| Nominal current (A) voltage A | 0.29 | 0.45 |
| Nominal current (A) voltage B | 0.30 | 0.50 |
| Stall torque mNm voltage A | 140 | 140 |
| Stall torque mNm voltage B | 160 | 140 |
| Capacitor μF included in delivery | 2.2 | 8 |
| Weight motor Kg | 1.65 | 1.65 |
| Weight gear motor Kg | 2.45 | 2.45 |

| 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 AIR-040W ← SOLD SEPARATELY → Gear box model S90A



MODEL NO. DESIGNATION

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

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

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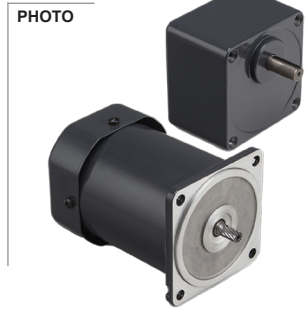
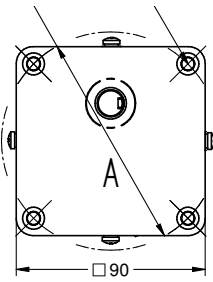
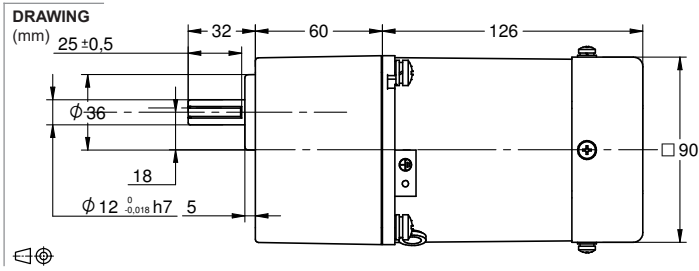
| GEAR MOTOR DATA RATIO | 3 | 3,6 | 5 | 6 | 7,5 | 9 | 1 | 12,5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 200 | 250 | 300 | 500 | 600 | 750 | |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|
| 230VAC 50Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | |
| 120VAC 60Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 rpm 120 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 | |
| Nominal Nm 120 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 | |
| GEAR HEAD DATA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | |
| 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 | 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 | Yes 230 400 (VAC) 120 208 | |
| IP rating cable terminal box | IP20 IP54 | |
| Insulation Resistance 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. | | |
| Dielectric Strength 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. | | |
| Temperature Rise 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 |
| Nominal voltage (VAC) A | 220 | 110 |
| Nominal voltage (VAC) B | 230 | 120 |
| Phase Frequency Hz | 1 50 | 1 60 |
| Number of poles | 4 | 4 |
| Output (W) | 40 | 40 |
| Nominal speed (rpm) voltage A | 1250 | 1550 |
| Nominal speed (rpm) voltage B | 1250 | 1550 |
| Nominal torque mNm voltage A | 315 | 260 |
| Nominal torque mNm voltage B | 315 | 260 |
| Nominal current (A) voltage A | 0.45 | 0.79 |
| Nominal current (A) voltage B | 0.45 | 0.80 |
| Stall torque mNm voltage A | 270 | 260 |
| Stall torque mNm voltage B | 270 | 260 |
| Capacitor μF included in delivery | 3 | 12 |
| Weight motor Kg | 1.65 | 1.65 |
| Weight gear motor Kg | 3 | 3 |

| 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 AIR-060W ← SOLD SEPARATELY → Gear box model S90A



MODEL NO. DESIGNATION

Motor model - Voltage - S/T C/B S= Single phase / T=Three phase C=Cable / B = Terminal box Example: AIR-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**

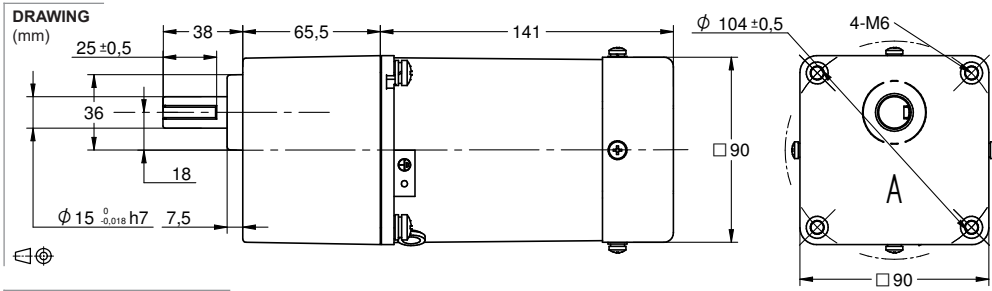
| GEAR MOTOR DATA RATIO | 3 | 3,6 | 5 | 6 | 7,5 | 9 | 1 | 12,5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 200 | 250 | 300 | 500 | 600 | 750 | | |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|--|--|
| 230VAC 50Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | |
| 120VAC 60Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 rpm 120 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 | | |
| Nominal Nm 120 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 | | |
| GEAR HEAD DATA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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) | 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 | 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 | Yes 230 400 (VAC) 120 208 | |
| IP rating cable terminal box | IP20 IP54 | |
| Insulation Resistance 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. | | |
| Dielectric Strength 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. | | |
| Temperature Rise 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 |
| Nominal voltage (VAC) A | 220 | 110 |
| Nominal voltage (VAC) B | 230 | 120 |
| Phase Frequency Hz | 1 50 | 1 60 |
| Number of poles | 4 | 4 |
| Output (W) | 60 | 60 |
| Nominal speed (rpm) voltage A | 1250 | 1550 |
| Nominal speed (rpm) voltage B | 1250 | 1550 |
| Nominal torque mNm voltage A | 470 | 380 |
| Nominal torque mNm voltage B | 470 | 380 |
| Nominal current (A) voltage A | 0.55 | 1.05 |
| Nominal current (A) voltage B | 0.60 | 1.05 |
| Stall torque mNm voltage A | 420 | 330 |
| Stall torque mNm voltage B | 460 | 380 |
| Capacitor μF included in delivery | 4.5 | 15 |
| Weight motor Kg | 2.75 | 2.75 |
| Weight gear motor Kg | 4.1 | 4.1 |

| 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 AIR-090W ← **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: AIR-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**

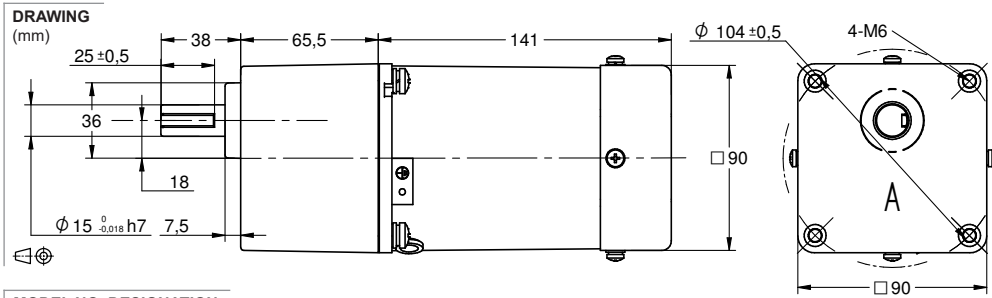
| GEAR MOTOR DATA RATIO | 3 | 3,6 | 5 | 6 | 7,5 | 9 | 1 | 12,5 | 15 | 18 | 20 | 25 | 30 | 36 | 40 | 50 | 60 | 75 | 90 | 100 | 120 | 150 | 180 | 200 | 250 | 300 | 500 | 600 | 750 | | |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|--|
| 230VAC 50Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | | |
| 120VAC 60Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 rpm 120 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 | | |
| Nominal Nm 120 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 | | |
| GEAR HEAD DATA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | Yes 230 400 (VAC) 120 208 | |
| IP rating cable terminal box | IP20 IP54 | |
| Insulation Resistance 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. | | |
| Dielectric Strength 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. | | |
| Temperature Rise 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 |
| Nominal voltage (VAC) A | 220 | 110 |
| Nominal voltage (VAC) B | 230 | 120 |
| Phase Frequency Hz | 1 50 | 1 60 |
| Number of poles | 4 | 4 |
| Output (W) | 90 | 90 |
| Nominal speed (rpm) voltage A | 1250 | 1550 |
| Nominal speed (rpm) voltage B | 1250 | 1550 |
| Nominal torque mNm voltage A | 700 | 570 |
| Nominal torque mNm voltage B | 700 | 570 |
| Nominal current (A) voltage A | 0.82 | 1.72 |
| Nominal current (A) voltage B | 0.81 | 1.72 |
| Stall torque mNm voltage A | 560 | 550 |
| Stall torque mNm voltage B | 560 | 600 |
| Capacitor μF included in delivery | 6 | 25 |
| Weight motor Kg | 3.25 | 3.25 |
| Weight gear motor Kg | 4.75 | 4.75 |

| 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 AIR-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: AIR-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 | |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|--|
| 230VAC 50Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | |
| 120VAC 60Hz 1 phase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 rpm 120 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 | |
| Nominal Nm 120 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 | |
| GEAR HEAD DATA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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) | 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 | Yes 230 400 (VAC) 120 208 | |
| IP rating cable terminal box | IP20 IP54 | |
| Insulation Resistance 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. | | |
| Dielectric Strength 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. | | |
| Temperature Rise 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 |
| Nominal voltage (VAC) A | 220 | 110 |
| Nominal voltage (VAC) B | 230 | 120 |
| Phase Frequency Hz | 1 50 | 1 60 |
| Number of poles | 4 | 4 |
| Output (W) | 120 | 120 |
| Nominal speed (rpm) voltage A | 1250 | 1550 |
| Nominal speed (rpm) voltage B | 1250 | 1550 |
| Nominal torque mNm voltage A | 930 | 750 |
| Nominal torque mNm voltage B | 930 | 750 |
| Nominal current (A) voltage A | 1.15 | 1.90 |
| Nominal current (A) voltage B | 1.15 | 1.90 |
| Stall torque mNm voltage A | 720 | 650 |
| Stall torque mNm voltage B | 720 | 720 |
| Capacitor μF included in delivery | 8 | 30 |
| Weight motor Kg | 3.25 | 3.25 |
| Weight gear motor Kg | 4.75 | 4.75 |

| 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 |