

低壓半密型WPI泵浦用馬達(空心軸)

MODEL : AMRCNH

HIGH THRUST HOLLOWSHAFT PUMP MOTORS
LOW VOLTAGE SQUIRREL CAGE
FRAME SIZE (SGV) 5009 ~ 5810



DWG NO.

3A057H897E

REV. 04

1/1

SPECIFICATION TABLE

MODEL
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HIGH THRUST MOTORS LOW VOLTAGE SQUIRREL CAGE

| | ITEM | STANDARD SPECIFICATION |
|--|---|--|
| R A T I N G | KIND OF MOTOR | SQUIRREL-CAGE INDUCTION MOTOR (SCIM), VHS, ODP/WPI |
| | DESIGN STANDARD | NEMA MG-1, PREMIUM EFFICIENCY |
| | VOLTAGE | 460 V |
| | FREQUENCY | 60HZ |
| | OUTPUT RANGE | 250 ~ 800HP |
| | R.P.M. (SYN.) | 1800 ~ 900R.P.M. (4 ~ 8 POLE) |
| | TIME DUTY | CONTINUOUS S.F. 1.15 OR S.F. 1.0 (S1, MCR) |
| | FRAME SIZE (SGV) | 5009 ~ 5810 |
| | PROTECTION ENCLOSURE | OPEN, DRIP PROOF (IP23), NEMA WEATHER-PROTECTED TYPE I(WPI) |
| | COOLING METHOD | SELF VENTILATED, INTERIOR COOLING (IC01) |
| | MOUNTING | FLANGE MOUNTING (IM3011) |
| HIGH THRUST LOAD | AS DWG NO. 3A057H899E | |
| A P P L I C A T I O N | POWER CONDITION | VOLTAGE : $\pm 10\%$, FREQUENCY $\pm 5\%$, AND 10% MAX. OF COMBINED VOLTAGE AND FREQUENCY, BUT FREQUENCY VARIATION DOES NOT EXCEED $\pm 5\%$ |
| | DESIGNED PRIMARILY | FOR DEEP WELL TURBINE PUMP |
| | ENVIRONMENT CONDITIONS | PLACE : SHADOW, NON-HAZARDOUS AMBIENT TEMPERATURE : -15 ~ 40°C RELATIVE HUMIDITY : LESS THAN 80% RH (NON-CONDENSATION) ALTITUDE : LESS THAN 3,300 ft |
| | DRIVE METHOD | DIRECT COUPLING |
| | DIRECTION OF ROTATION | COUNTER-CLOCKWISE FACING THE COUPLING END |
| METHOD OF STARTING | FULL VOLTAGE DIRECT-ON-LINE OR VFD OR Y- Δ START | |
| P E R F O R M A N C E | TEST PROCEDURE | IEEE-112 METHOD-B AND FULL VOLTAGE MEASURING STARTING PERFORMANCE FOR MOTORS 300HP AND UNDER. IEEE-112 METHOD E-F AND REDUCED VOLTAGE MEASURING STARTING PERFORMANCE FOR THE OTHERS. |
| | TYPICAL PERFORMANCE | AS DWG NO. 3A057H899E |
| | TEMPERATURE RISE | NOT TO EXCEED 105°C FOR S.F. 1.15 OR 80°C FOR S.F. 1.0 BY RESISTANCE METHOD |
| | OVER SPEED | 200HP AND SMALLER:125% SYN. RPM FOR TWO MINUTES(4P); 150% SYN. RPM FOR TWO MINUTES (6P & 8P). 201HP AND LARGER: 125% SYN. RPM FOR TWO MINUTES (4P AND SLOWER). |
| | OVER TORQUE | 160% RATED TORQUE FOR 15 SEC |
| ACCESSORY | STEADY BUSH AS DWG NO. 4B049R279E | |

PERFORMANCE DATA

MODEL
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HIGH THRUST HOLLOWSHAFT PUMP MOTORS LOW VOLTAGE SQUIRREL CAGE



DP, NEMA, CLASS F, 40°C AMBIENT,
CONTINUOUS DUTY, 1.15 S.F. 460V 60HZ

TYPICAL PERFORMANCE (460V)

| HP | FULL LOAD RPM | FRAME SIZE (SGV) | EFFICIENCY (%) | | | | | | POWER FACTOR | | | CURRENT | | TORQUE | | | ROTOR WR ² lb-ft ² | DOWN THRUST LBS | APPROX. ROTOR WEIGHT LBS | APPROX. WEIGHT LBS | REED FREQ. Hz |
|-----|---------------------|------------------------|----------------|------|-------------|-------------|--------------|-------------|--------------|--------------|-----------------|--------------|-----------------|----------------|-----|-------|--|-----------------------|-----------------------------------|--------------------------|---------------------|
| | | | FULL LOAD | | 3/4 LOAD | 1/2 LOAD | FULL LOAD | 3/4 LOAD | 1/2 LOAD | FULL LOAD | LOCKED ROTOR | FULL LOAD | LOCKED ROTOR | BREAK- DOWN | | | | | | | |
| | | | NOM. | MIN. | NOM. | NOM. | % | % | % | A | A | lb-ft | %FLT | %FLT | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| 250 | 887 | 5009 | 95.0 | 94.1 | 94.3 | 94.1 | 83.6 | 81.1 | 73.4 | 295 | 1977 | 1481 | 90 | 190 | 210 | 39500 | 1320 | 4300 | 28 | | |
| | 300 | 887 | 5009 | 95.0 | 94.1 | 94.5 | 94.3 | 84.3 | 82.5 | 75.8 | 351 | 2372 | 1777 | 90 | 190 | 257 | 39500 | 1510 | 4530 | 28 | |
| 350 | 1185 | 5009 | 95.8 | 95.0 | 95.3 | 95.0 | 81.9 | 79.0 | 69.0 | 418 | 2768 | 1552 | 110 | 200 | 142 | 33800 | 1060 | 3950 | 30 | | |
| | 890 | 5806 | 95.0 | 94.1 | 94.3 | 93.7 | 83.1 | 79.2 | 70.9 | 415 | 2768 | 2066 | 90 | 190 | 422 | 38800 | 1700 | 5230 | 35 | | |
| 400 | 1184 | 5009 | 95.8 | 95.0 | 95.4 | 95.2 | 83.7 | 81.1 | 73.5 | 467 | 3163 | 1775 | 110 | 200 | 174 | 33800 | 1200 | 4170 | 29 | | |
| | 890 | 5806 | 95.0 | 94.1 | 94.5 | 94.0 | 82.1 | 79.1 | 70.5 | 480 | 3163 | 2362 | 90 | 190 | 453 | 38800 | 1780 | 5400 | 34 | | |
| 450 | 1780 | 5009 | 96.2 | 95.4 | 95.5 | 95.0 | 88.6 | 88.1 | 84.0 | 494 | 3558 | 1328 | 110 | 210 | 138 | 30900 | 1030 | 3940 | 30 | | |
| | 1188 | 5806 | 95.8 | 95.0 | 95.6 | 94.8 | 83.0 | 80.4 | 72.8 | 530 | 3558 | 1990 | 90 | 190 | 326 | 32900 | 1510 | 5200 | 35 | | |
| | 891 | 5808 | 95.0 | 94.1 | 95.0 | 94.6 | 82.3 | 79.0 | 70.2 | 539 | 3558 | 2654 | 100 | 200 | 556 | 38800 | 2090 | 6030 | 30 | | |
| 500 | 1779 | 5009 | 96.2 | 95.4 | 96.0 | 95.5 | 88.8 | 88.3 | 84.3 | 548 | 3954 | 1477 | 110 | 200 | 158 | 30900 | 1130 | 4070 | 29 | | |
| | 1188 | 5806 | 95.8 | 95.0 | 95.6 | 95.0 | 82.2 | 79.4 | 71.0 | 595 | 3954 | 2211 | 90 | 190 | 344 | 32900 | 1540 | 5320 | 34 | | |
| | 891 | 5808 | 95.0 | 94.1 | 94.8 | 94.5 | 81.7 | 78.1 | 68.8 | 603 | 3954 | 2949 | 100 | 200 | 567 | 38800 | 2120 | 6040 | 30 | | |
| 600 | 1780 | 5808 | 96.2 | 95.4 | 95.5 | 95.0 | 90.3 | 89.8 | 87.5 | 647 | 4744 | 1771 | 90 | 200 | 323 | 30100 | 1560 | 5340 | 32 | | |
| | 1190 | 5808 | 95.8 | 95.0 | 95.1 | 94.5 | 82.0 | 78.1 | 68.5 | 715 | 4744 | 2649 | 90 | 200 | 453 | 32900 | 1890 | 5770 | 30 | | |
| | 891 | 5810 | 95.0 | 94.1 | 94.7 | 94.5 | 82.1 | 78.8 | 69.7 | 720 | 4744 | 3538 | 100 | 200 | 711 | 38800 | 2590 | 6780 | 26 | | |
| 700 | 1781 | 5810 | 96.2 | 95.4 | 95.5 | 95.0 | 90.7 | 90.2 | 88.3 | 751 | 5535 | 2065 | 100 | 200 | 386 | 30100 | 1690 | 5750 | 28 | | |
| | 1188 | 5808 | 95.8 | 95.0 | 95.1 | 94.7 | 83.3 | 81.0 | 73.6 | 821 | 5535 | 3096 | 90 | 190 | 471 | 32900 | 1940 | 5820 | 30 | | |
| 800 | 1780 | 5810 | 96.2 | 95.4 | 95.5 | 95.0 | 90.7 | 90.2 | 89.0 | 859 | 6326 | 2362 | 100 | 200 | 426 | 30100 | 1800 | 6040 | 27 | | |
| | 1189 | 5810 | 95.8 | 95.0 | 95.5 | 95.0 | 84.0 | 81.4 | 73.5 | 931 | 6326 | 3535 | 90 | 200 | 616 | 32900 | 2440 | 6700 | 26 | | |

NOTE : 1. THE ABOVE ARE TYPICAL VALUES BASED ON TEST ACCORDING TO ANSI/IEEE STANDARD 112 METHOD F.

2. BREAKDOWN & LOCKED ROTOR TORQUES ARE SHOWN AS AVERAGE EXPECTED VALUES.

3. EFFICIENCY, POWER FACTOR, SPEED AND TORQUE ARE THE SAME FOR OTHER VOLTAGE.

CURRENT VALUES VARY INVERSELY WITH VOLTAGE.

4. DECLARED EFFICIENCY HAVEN'T TAKEN INTO ACCOUNT OF THRUST LOAD LOSSES

5. TOLERANCE ACCORDING TO NEMA MG1-12.

6. REDUCING THE THRUST LOAD WILL INCREASE BEARING LIFE AS FOLLOWS :

| | | | | | |
|----------------|------|-------|-------|-------|-------|
| THRUST(%) | 100 | 84 | 77 | 67 | 61 |
| MIN. LIFE(Hrs) | 8800 | 15000 | 20000 | 30000 | 40000 |

7. THE MAXIMUM MOMENTARY UP THRUST IS 30% OF STANDARD DOWN THRUST

8. EFFICIENCY AT NO THRUST RUNNING

9. THIS PERFORMANCE DATA IS ONLY FOR SINEPOWER, NOT SUITABLE FOR PWM POWER SOURCE.

10. THE VOLTAGE AND FREQUENCY COMBINATIONS NOT INCLUDED IN PERFORMANCE DATA ARE QUOTED CASE BY CASE.

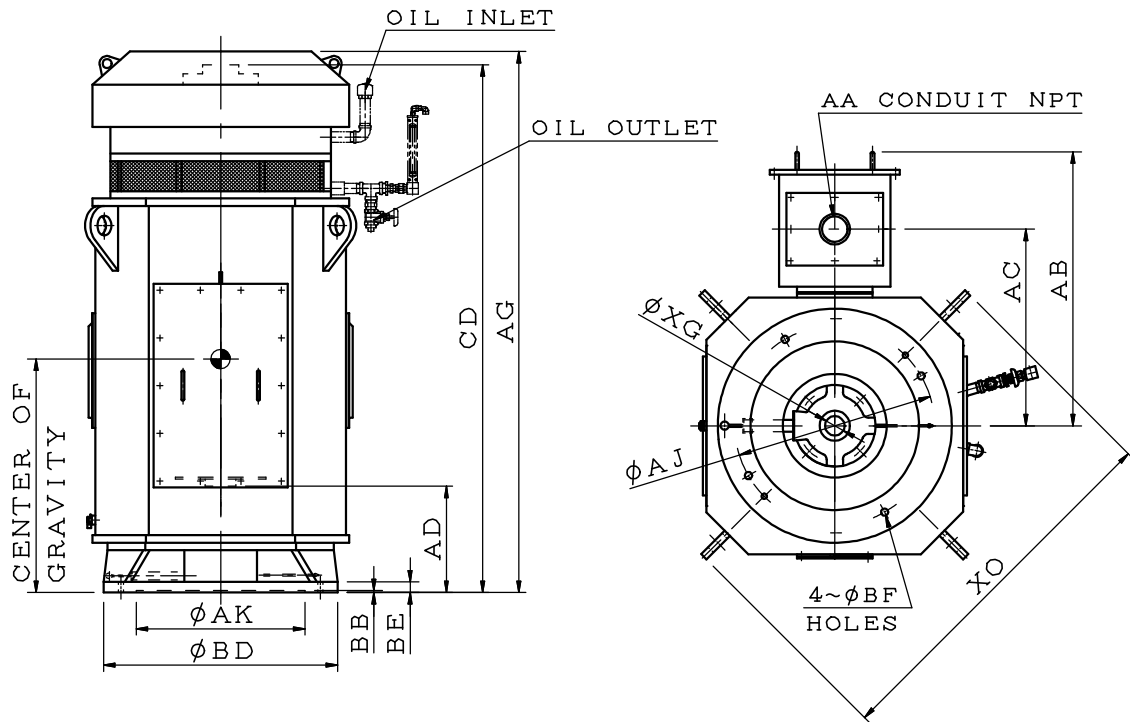
OUTLINE DIMENSIONS SHEET

MODEL

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HIGH THRUST HOLLOWSHAFT PUMP MOTORS
FRAME SIZE (SGV) 5009 ~ 5810

DRIP PROOF SQUIRREL CAGE, NEMA WEATHER PROTECTED I



DIMENSIONS IN INCHES

| FRAME SIZE (SGV) | MOUNTING | | | | | | XG | XO |
|------------------|----------|------|-------|------|------|------|-------|-------|
| | BD | AK | AJ | BF | BB | BE | | |
| 5000 | 20.00 | 13.5 | 14.75 | 0.69 | 0.25 | 1.18 | 2.559 | 40.69 |
| | *24.50 | 13.5 | 14.75 | 0.69 | | | | |
| | | | 22.00 | 0.94 | | | | |
| | 30.50 | 22.0 | 26.00 | 0.81 | | | | |
| 5800 | 24.50 | 13.5 | 22.00 | 0.94 | 0.25 | 1.38 | | 48.19 |
| | *30.50 | 22.0 | 26.00 | 0.81 | | | | |
| | | | 32.00 | 1.00 | | | | |

| FRAME SIZE (SGV) | CD | AG | TERMINAL HOUSING | | | | BEARING | | CENTER OF GRAVITY |
|------------------|-------|-------|------------------|-------|-------|-------|-------------|-----------|-------------------|
| | | | AA | AB | AC | AD | UPPER END | LOWER END | |
| 5009 | 57.06 | 63.40 | NPT4" | 32.88 | 22.80 | 8.35 | 29330E + | 6220C3 | 24.4 |
| 5806 | 55.39 | 62.60 | NPT5" | 36.58 | 25.63 | 7.00 | | | 6028 |
| 5808 | 61.30 | 68.50 | | | | 9.95 | 26.7 | | |
| 5810 | 68.78 | 75.98 | | | | 13.70 | 30.4 | | |

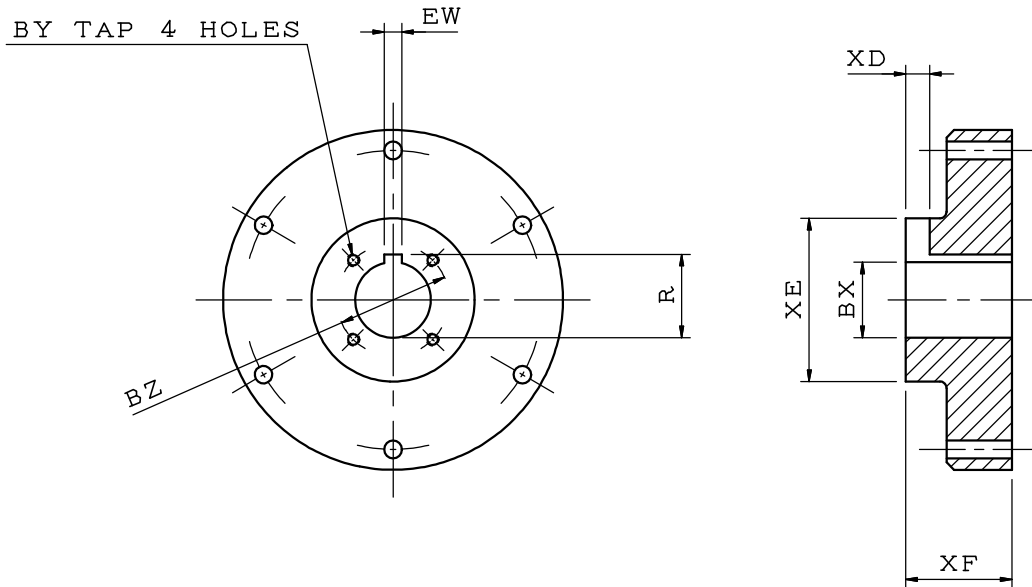
- NOTE: 1. DIMENSION AK TOLERANCE: +0.005 INCH, -0.000 INCH
 2. FOR COUPLING AS DWG NO. 4B049R277E
 3. WITH BALL TYPE NON-REVERSE RATCHET MECHANISM
 4. ROTATING DIRECTION: COUNTER CLOCK-WISE (VIEW FROM COUPLING END)
 5. * MARKED TABLE APPLIED TO STANDARD SIZE

OUTLINE DIMENSIONS SHEET

MODEL

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DRIVE COUPLING FOR HOLLOWSHAFT PUMP MOTOR
 FRAME SIZE (SGV) 5009 ~ 5810



DIMENSIONS IN INCHES

| FRAME SIZE | BX | BY | BZ | EW | R | XD | XE | XF |
|------------|-------|--------|------|-------|-------|-------|-------|-------|
| 5000 | 2.188 | 3/8-16 | 3.25 | 0.5 | 2.414 | 0.688 | 4.724 | 3.071 |
| 5800 | 2.438 | 3/8-16 | 3.25 | 0.625 | 2.714 | 0.813 | 4.724 | 3.071 |

- NOTE: 1. DIMENSION BX TOLERANCE: +0.0015 INCH, -0.000 INCH
 2. DIMENSION EW TOLERANCE: +0.002 INCH, -0.000 INCH
 3. DIMENSION R TOLERANCE: +0.010 INCH, -0.000 INCH

OUTLINE DIMENSIONS SHEET

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STEADY BUSH FOR HOLLOW SHAFT PUMP MOTOR

FRAME SIZE (SGV) 5009 ~ 5810

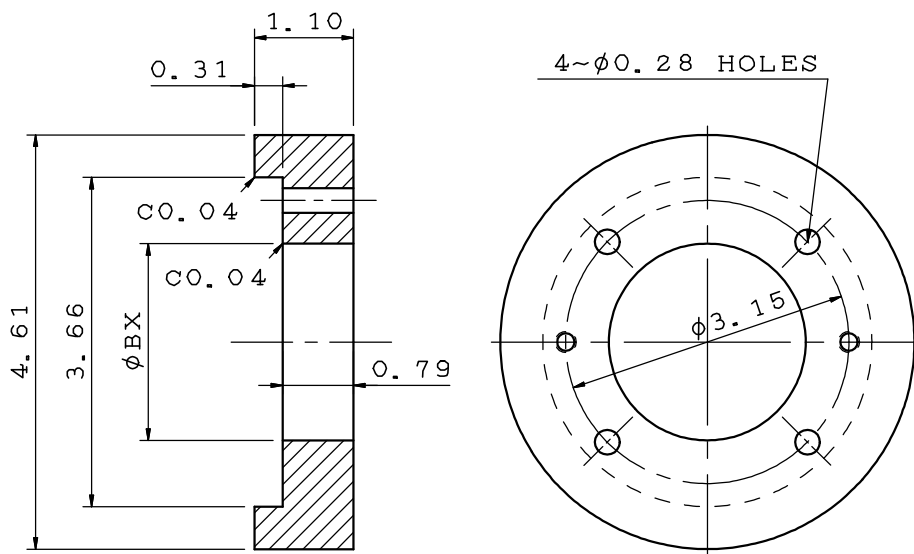


FIG. 1

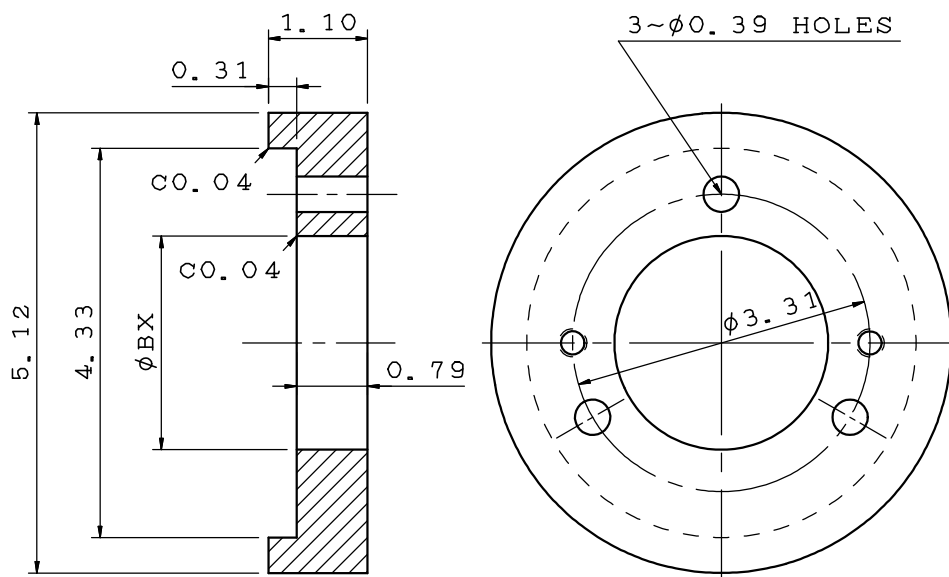


FIG. 2

DIMENSIONS IN INCHES

| | | |
|---------------|-------|-------|
| FRAME SIZE | 5009 | 5806 |
| | | 5808 |
| | | 5810 |
| FIG. NO. | 1 | 2 |
| BX | 2.188 | 2.438 |

NOTE: 1. DIMENSION BX TOLERANCE: $+0.0015$ INCH, -0.000 INCH