

高壓半密型WPI泵浦用馬達 (實心軸)

MODEL : AMRKED

HIGH THRUST SOLIDSHAFT PUMP MOTORS
MEDIUM VOLTAGE SQUIRREL CAGE
FRAME SIZE (SSV) 447VP ~ 449VP



DWG NO.

3A057M075E

REV. 01

| | | SPECIFICATION TABLE | | MODEL |
|--------------------|------------------------|--|--|---------------|
| | | HIGH THRUST SOLIDSHAFT PUMP MOTORS MEDIUM VOLTAGE SQUIRREL CAGE | | AMRKED |
| | | STANDARD SPECIFICATION | | |
| RATING | KIND OF MOTOR | SQUIRREL-CAGE INDUCTION MOTOR (SCIM), VSS, ODP / WPI | | |
| | DESIGN STANDARD | NEMA MG-1, PREMIUM EFFICIENCY | | |
| | VOLTAGE | 2300V / 4000V, 4160V | | |
| | FREQUENCY | 60HZ | | |
| | OUTPUT RANGE | 100 ~ 300HP | | |
| | 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 (SSV) | 447VP ~ 449VP | | |
| | PROTECTION ENCLOSURE | OPEN, DRIP PROOF (IP23), NEMA WEATHER-PROTECTED TYPE I(WPI) | | |
| | COOLING METHOD | SELF VENTILATED, INTERIOR COOLING (IC 01) | | |
| | MOUNTING | FLANGE MOUNTING (IM3011) | | |
| | HIGH THRUST LOAD | AS DWG NO. 3A057M077E | | |
| APPLICATION | 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-CLOCK-WISE FACING THE COUPLING END | | |
| | METHOD OF STARTING | FULL VOLTAGE DIRECT-ON-LINE | | |
| PERFORMANCE | TEST PROCEDURE | IEEE-112 METHOD B AND FULL VOLTAGE MEASUREMENT STARTING PERFORMANCE FOR MOTORS 300HP AND UNDER. IEEE-112 METHOD E-F AND REDUCED VOLTAGE MEASUREMENT STARTING PERFORMANCE FOR OTHERS | | |
| | TYPICAL PERFORMANCE | AS DWG NO. 3A057M077 | | |
| | 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. R.P.M. FOR TWO MINUTES (4P); 150% SYN. R.P.M. FOR TWO MINUTES (6P & 8P), 201HP AND LARGER: 125% SYN. R.P.M. FOR TWO MINUTES (4P AND SLOWER) | | |
| | OVER TORQUE | 160% RATED TORQUE FOR 15 SEC | | |

| | | |
|--|--|------------------------|
| | PERFORMANCE DATA | MODEL AMRKED |
| | HIGH THRUST SOLIDSHAFT PUMP MOTORS MEDIUM VOLTAGE SQUIRREL CAGE | |



DP, NEMA, DESIGN B, CODE G, CLASS F, 40°C AMBIENT,
CONTINUOUS DUTY, 1.15 S.F. 2300V / 4000V, 4160V 60HZ

TYPICAL PERFORMANCE

(2300V)

| HP | FULL LOAD RPM | FRAME SIZE (SSV) | 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 | | | | | |
| 100 | 1781 | 447VP | 93.7 | 92.5 | 92.7 | 91.7 | 82.5 | 78.2 | 68.0 | 24 | 158 | 295 | 115 | 215 | 42 | 10000 | 543 | 2440 | 50 |
| | 1185 | 447VP | 93.6 | 92.4 | 92.6 | 91.6 | 82.0 | 78.0 | 68.8 | 25 | 158 | 443 | 110 | 200 | 63 | 11200 | 707 | 2680 | 48 |
| | 889 | 447VP | 93.2 | 92.0 | 92.2 | 91.2 | 74.9 | 68.3 | 55.4 | 27 | 158 | 591 | 110 | 200 | 87 | 12400 | 837 | 2760 | 47 |
| 125 | 1779 | 447VP | 94.2 | 93.1 | 93.2 | 92.2 | 80.5 | 75.3 | 64.0 | 31 | 198 | 369 | 115 | 215 | 42 | 10000 | 543 | 2450 | 50 |
| | 1185 | 449VP | 94.2 | 93.1 | 93.2 | 92.2 | 81.0 | 77.0 | 67.0 | 31 | 198 | 554 | 105 | 200 | 63 | 11200 | 767 | 2890 | 37 |
| | 890 | 449VP | 93.3 | 92.1 | 92.3 | 91.3 | 77.0 | 71.4 | 59.3 | 33 | 198 | 738 | 115 | 210 | 101 | 12400 | 930 | 3020 | 36 |
| 150 | 1779 | 449VP | 94.8 | 93.9 | 93.8 | 92.8 | 83.9 | 80.7 | 71.7 | 35 | 237 | 443 | 115 | 205 | 53 | 10000 | 621 | 2720 | 38 |
| | 1185 | 449VP | 94.6 | 93.6 | 93.6 | 92.6 | 80.0 | 77.0 | 66.8 | 38 | 237 | 665 | 115 | 200 | 65 | 11200 | 792 | 2940 | 36 |
| | 888 | 449VP | 93.4 | 92.2 | 92.4 | 91.4 | 75.7 | 70.2 | 59.3 | 40 | 237 | 888 | 110 | 185 | 106 | 12400 | 961 | 3080 | 36 |
| 200 | 1779 | 449VP | 94.9 | 94.0 | 93.9 | 92.9 | 82.3 | 75.0 | 67.9 | 48 | 316 | 591 | 105 | 215 | 59 | 10000 | 650 | 2810 | 37 |
| | 1185 | 449VP | 94.9 | 94.0 | 93.9 | 92.9 | 81.0 | 75.0 | 67.6 | 51 | 316 | 887 | 125 | 210 | 76 | 11200 | 826 | 3030 | 36 |
| 250 | 1777 | 449VP | 95.0 | 94.1 | 94.0 | 93.0 | 82.2 | 77.6 | 67.3 | 60 | 395 | 738 | 110 | 215 | 62 | 10000 | 662 | 2830 | 37 |
| | 1184 | 449VP | 95.0 | 94.1 | 94.0 | 93.0 | 80.0 | 76.0 | 66.0 | 63 | 395 | 1111 | 115 | 200 | 76 | 11200 | 851 | 3080 | 36 |
| 300 | 1775 | 449VP | 95.0 | 94.1 | 94.0 | 93.0 | 83.8 | 80.2 | 72.0 | 71 | 474 | 888 | 100 | 200 | 67 | 10000 | 691 | 3130 | 37 |

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

2. BREAKDOWN & LOCKED ROTOR TORQUES ARE SHOWN AS AVERAGE EXPECTED VALUES.
3. EFFICIENCY, POWER FACTOR, SPEED AND TORQUE ARE THE SAME FOR OTHER VOLTAGES. CURRENT VALUES VARY INVERSELY WITH VOLTAGE.
4. DECLARED EFFICIENCY HAVN'T TAKEN INTO ACCOUNT OF THRUST LOAD LOSSES
5. TOLERANCE ACCORDING TO NEMA MG1-12& IEC 34-1
6. THRUST LOAD LOSSES ESTIMATED OF ANGULAR CONTACT BALL BEARING AS FOLLOWS : (ACCORDING TO NEMA STANDARD MG1-12.7)

| FRAME SIZE | LOSS HP /100 RPM RPM/1000 LB THRUST |
|-------------|-------------------------------------|
| 447VP~449VP | 0.0194 |

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

| THRUST(%) | 100 | 82 | 73 | 62 | 55 | 51 |
|--------------------|------|-------|-------|-------|-------|-------|
| BEARING LIFE(Hrs.) | 8800 | 15000 | 20000 | 30000 | 40000 | 50000 |

8. DATA SUBJECT TO CHANGE WITHOUT NOTICE
9. EFFICIENCY AT NO THRUST RUNNING

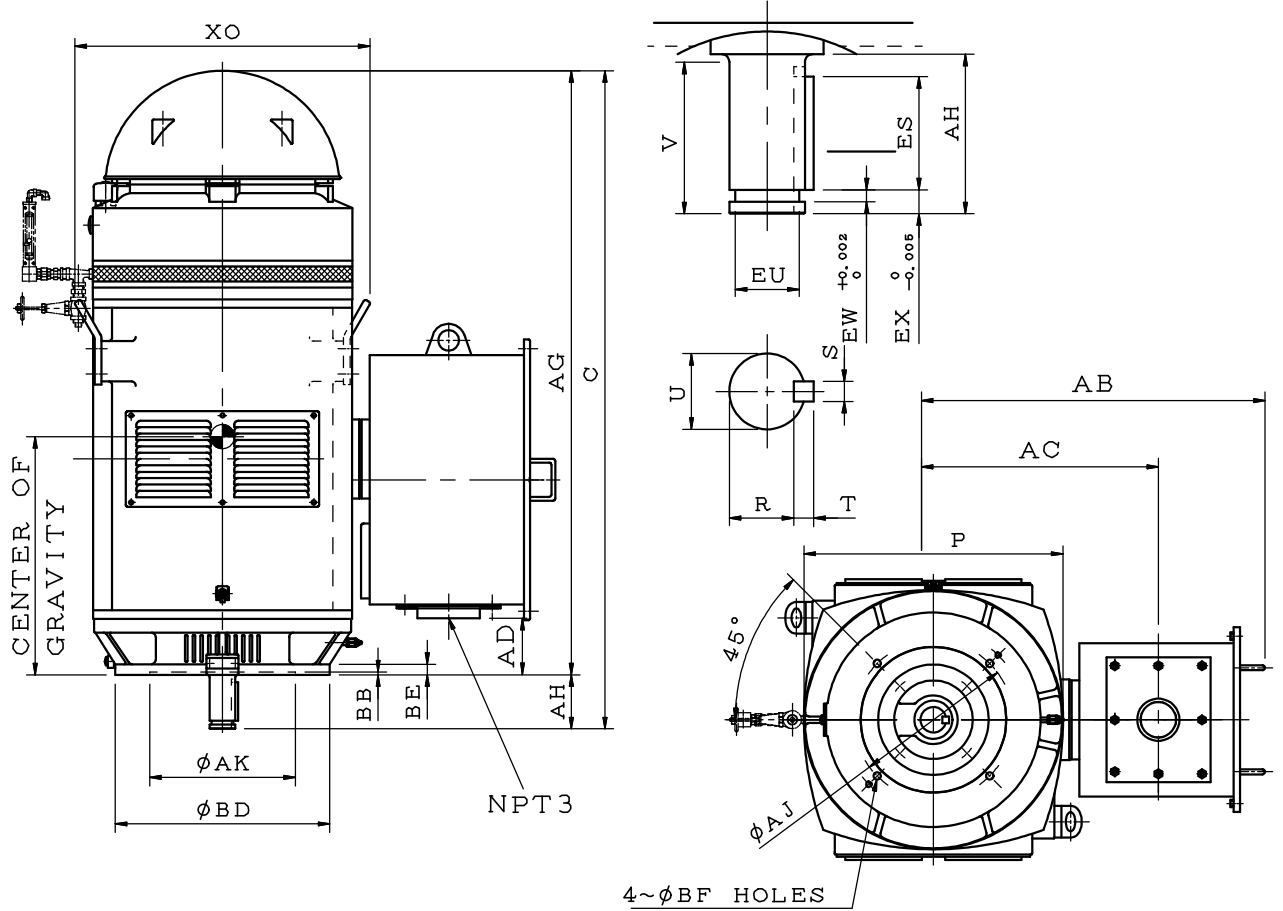
OUTLINE DIMENSIONS SHEET

MODEL

AMRKED

HIGH THRUST SOLIDSHAFT PUMP MOTORS
FRAME SIZE (SSV) 447VP ~ 449VP

DRIP PROOF SQUIRREL CAGE, NEMA WEATHER PROTECTED I



DIMENSIONS IN INCHES

| FRAME SIZE (SSV) | MOUNTING | | | | | | C | AG | XO | P | U | AH | V | CENTER OF GRAVITY |
|------------------|----------|-------|-------|------|------|------|-------|-------|-------|-------|-------|------|------|-------------------|
| | AK | AJ | BD | BF | BB | BE | | | | | | | | |
| 447VP | 13.50 | 14.75 | 20.00 | 0.69 | 0.25 | 1.00 | 61.80 | 55.80 | 27.55 | 24.00 | 2.875 | 6.00 | 5.50 | 20.24 |
| 449VP | 13.50 | 14.75 | 20.00 | 0.69 | 0.25 | 1.00 | 65.93 | 59.93 | 27.55 | 24.00 | 2.875 | 6.00 | 5.50 | 22.60 |

| FRAME SIZE (SSV) | EU | R | ES | EX | EW | S | T | TERMINAL HOUSING | | | BEARINGS | |
|------------------|-------|-------|------|------|-------|-------|-------|------------------|-------|------|-----------|-----------|
| | | | | | | | | AB | AC | AD | UPPER END | LOWER END |
| 447VP | 2.500 | 2.450 | 4.00 | 1.00 | 0.500 | 0.750 | 0.750 | 31.10 | 21.00 | 3.64 | 7326B | 6318C3 |
| 449VP | 2.500 | 2.450 | 4.00 | | | 0.750 | 0.750 | 31.10 | 21.00 | 5.70 | 7326B | 6318C3 |

- NOTE: 1. DIMENSION AK TOLERANCE: +0.005 INCH, -0.000 INCH
 2. DIMENSION U TOLERANCE: +0.000 INCH, -0.001 INCH
 3. DIMENSION R TOLERANCE: +0.000 INCH, -0.015 INCH
 4. DIMENSION EU TOLERANCE: +0.000 INCH, -0.005 INCH
 5. DIMENSION AH TOLERANCE: +0.06 INCH, -0.06 INCH
 6. FACE RUNOUT AND PERMISSIBLE ECCENTRICITY OF MOUNTING RABBET 0.007 INCH INDICATOR READING
 7. PERMISSIBLE SHAFT RUNOUT 0.003 INCH INDICATOR READING
 8. USABLE SHAFT LENGTH FOR V
 9. WITH BALL TYPE NON-REVERSE RATCHET MECHANISM.