

# ABB BALDOR RELIANCE III

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## Customer information packet

### ZDVSM4316T

75HP, 1800RPM, 3PH, 60HZ, 365T, TEFC, FOOT,

Class - None

Division - Not Applicable

**Specifications**

|                                      |                                                                                        |
|--------------------------------------|----------------------------------------------------------------------------------------|
| <b>Enclosure</b>                     | TEFC                                                                                   |
| <b>Frame</b>                         | 365T                                                                                   |
| <b>Frame Material</b>                | Iron                                                                                   |
| <b>Frequency</b>                     | 60.00 Hz<br>90.00 Hz                                                                   |
| <b>Haz Area Class and Group</b>      | None                                                                                   |
| <b>Haz Area Division</b>             | Not Applicable                                                                         |
| <b>Motor Letter Type</b>             | Three Phase                                                                            |
| <b>Output @ Frequency</b>            | 75.000 HP @ 60 HZ<br>75.000 HP @ 90 HZ                                                 |
| <b>Phase</b>                         | 3                                                                                      |
| <b>Synchronous Speed @ Frequency</b> | 3000 RPM @ 90 HZ                                                                       |
| <b>Voltage @ Frequency</b>           | 460.0 V @ 60 HZ<br>460.0 V @ 90 HZ<br>230.0 V @ 90 HZ<br>230.0 V @ 60 HZ               |
| <b>Agency Approvals</b>              | CCSA US                                                                                |
| <b>Ambient Temperature</b>           | 40 °C                                                                                  |
| <b>Auxiliary Box</b>                 | NO AUXILLARY BOX                                                                       |
| <b>Base Indicator</b>                | Rigid                                                                                  |
| <b>Bearing Grease Type</b>           | Polyrex EM (-20F +300F)                                                                |
| <b>Constant Torque Speed Range</b>   | 1000:1                                                                                 |
| <b>Current @ Voltage</b>             | 89.200 A @ 460.0 V<br>85.600 A @ 460.0 V<br>178.000 A @ 230.0 V<br>171.000 A @ 230.0 V |
| <b>Design Code</b>                   | A                                                                                      |
| <b>Drip Cover</b>                    | No Drip Cover                                                                          |
| <b>Duty Rating</b>                   | CONT                                                                                   |
| <b>Feedback Device</b>               | TACHOMETER                                                                             |
| <b>Heater Indicator</b>              | No Heater                                                                              |
| <b>High Voltage Full Load Amps</b>   | 85.6 a                                                                                 |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | S          |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  |            |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | A36WG4073  |
| <b>Layout</b>       | 617438-426 |
| <b>Eff. date</b>    | 10-22-2025 |
| <b>CD Diagram</b>   | 416820-002 |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        | 3#4,6#6    |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 10-19-2010 |

|                                      |                            |
|--------------------------------------|----------------------------|
| <b>Insulation Class</b>              | F                          |
| <b>Inverter Code</b>                 | Inverter Duty              |
| <b>KVA Code</b>                      | J                          |
| <b>Lifting Lugs</b>                  | No Lifting Lugs            |
| <b>Max Speed</b>                     | 3600 rpm                   |
| <b>Motor Lead Quantity/Wire Size</b> | 3 @ 2 AWG                  |
| <b>Motor Standards</b>               | NEMA                       |
| <b>Motor Type</b>                    | A36068M                    |
| <b>Mounting Arrangement</b>          | F1                         |
| <b>Number of Poles</b>               | 4                          |
| <b>Overall Length</b>                | 36.75 IN                   |
| <b>Pulley End Bearing Type</b>       | Ball                       |
| <b>Pulley Face Code</b>              | Standard                   |
| <b>Service Factor</b>                | 1.00                       |
| <b>Shaft Ground Indicator</b>        | No Shaft Grounding         |
| <b>Shaft Rotation</b>                | Reversible                 |
| <b>Shaft Slinger Indicator</b>       | No Slinger                 |
| <b>Speed</b>                         | 1785 rpm<br>2675 rpm       |
| <b>Speed Code</b>                    | Single Speed               |
| <b>Starting Method</b>               | Direct on line             |
| <b>Thermal Device - Bearing</b>      | None                       |
| <b>Thermal Device - Winding</b>      | Normally Closed Thermostat |

**Nameplate**

| 000613007HV       |                |      |                 |          |          |      |                     |       |     |          |
|-------------------|----------------|------|-----------------|----------|----------|------|---------------------|-------|-----|----------|
| CAT NO            | ZDVSM4316T     |      |                 | SPEC NO. | P36G3220 |      |                     |       |     |          |
| SER.NO.           |                |      |                 | FRAME    | 365T     |      |                     |       |     |          |
|                   | HP             | RPM  | VOLTS           | AMPS     |          | HZ   | TYPE                | P     |     |          |
| BASE              | 75             | 1780 | 230/460         | 172/86   |          | 60   | SF                  | 1.00  |     |          |
| MAX               | 75             | 2675 | 230/460         | 166/83   |          | 90   | INSUL.CLASS         |       | F   |          |
| DRIVE END BEARING | 65BC03J30X     |      | CONSTANT TORQUE |          |          | DUTY | CONT                |       | AMB | 40       |
| OPP D.E. BEARING  | 65BC03J30X     |      | 1000:1          |          | ENCL     | TEFC | PHASE               | 3     |     |          |
| DESIGN NO.        | A36WG4073-R002 |      | FLUX AMPS       |          | 62/31    |      | VPWM INVERTER READY |       |     |          |
| MAX SPEED/RPM     | 3600           |      | OVERTEMP PROT   |          | 2        | WK2  | 16.2                | POLES |     | 4 WEIGHT |

**Parts List**

| Part number | Description                         | Quantity |
|-------------|-------------------------------------|----------|
| SA209351    | SA P36G3220                         | 1.000 ea |
| RA196613    | RA P36G3220                         | 1.000 ea |
| 000613007HV | N/P BALDOR VSMaster, CURUS          | 1.000 ea |
| 000692000VD | LABEL WARNING                       | 1.000 ea |
| 421948032   | LABEL, MYLAR                        | 1.000 ea |
| 004824015A  | GREASE POLYREX EM                   | 0.544 lb |
| 032018008AK | HHCS 1/4-20X1 PLATED                | 4.000 ea |
| 032018012DK | HHCS 1/2-13X1-1/2 PLTD. 032018012DR | 4.000 ea |
| 032018024CK | HHCS 3/8-16X3 PLTD.                 | 3.000 ea |
| 034180012DA | KEY 1X4X1/4X1-1/2 L                 | 1.000 ea |
| 034530052AB | P/NIP 1/8X6-1/2 Zinc                | 1.000 ea |
| 035000001A  | ALFTG 1/8" 1610-BL                  | 1.000 ea |
| 034690002AB | PPLG 1/4" PLTD.                     | 1.000 ea |
| 702676001C  | FAN 360                             | 1.000 ea |
| 078559001A  | +FANCV - 360                        | 1.000 ea |
| 085922073B  | BRKT 360 085922072WCC KB            | 1.000 ea |
| 410700004F  | WSHR                                | 1.000 ea |
| 415072001B  | CLAMP                               | 1.000 ea |
| 415096002A  | CPLG 1/8 HEX TYPE                   | 1.000 ea |
| 412118006A  | DRAIN                               | 1.000 ea |
| 412118006A  | DRAIN                               | 1.000 ea |
| 032018012DK | HHCS 1/2-13X1-1/2 PLTD. 032018012DR | 4.000 ea |
| 032018024CK | HHCS 3/8-16X3 PLTD.                 | 3.000 ea |
| 035000001A  | ALFTG 1/8" 1610-BL                  | 1.000 ea |
| 034690002AB | PPLG 1/4" PLTD.                     | 1.000 ea |
| 085922073B  | BRKT 360 085922072WCC KB            | 1.000 ea |
| 032018005AK | HHCS 1/4-20X5/8 PLATED              | 4.000 ea |
| 032018008CK | HHCS 3/8-16X1L PLATED               | 4.000 ea |
| 043292000AJ | GASK 320-400                        | 1.000 ea |
| 077176000L  | C/BOX, PAINTED 440                  | 1.000 ea |
| 077176001A  | CBOX Cover 360-400                  | 1.000 ea |

|              |                                        |          |
|--------------|----------------------------------------|----------|
| 402731001A   | GASK 360-440                           | 1.000 ea |
| 415000115H   | T/LUG #2AWG-4/0AWG                     | 1.000 ea |
| 611712053RY  | TACH & HARDWARE KIT                    | 1.000 ea |
| 033775004EA  | DRSCR #6-1/4 304 S.S.                  | 2.000 ea |
| 034180034HA  | KEY 5/8X5/8X4-1/4 L                    | 1.000 ea |
| MG1025N19    | WILKO 778.50 BLUE GREEN - 55 GAL DRUMS | 0.250 ga |
| 004824003CBY | WILKO PAINT 060.02 - ACTIVATOR         | 0.063 ga |
| 14PA1000     | PACKAGING 314 GROUP COMBINED PRINT     | 1.000 ea |
| 032018005DL  | 1/2-13 X 5/8 SILICON BRONZE HHCS       | 1.000 ea |

|            |         |                                       |       |     |       |                                                   |
|------------|---------|---------------------------------------|-------|-----|-------|---------------------------------------------------|
| NP VOLTS   | 230/460 |                                       |       |     |       | WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C) |
| NP AMPS    | 172/86  | Base Volt                             | 460   | R1  | 0.045 | X1 0.239                                          |
| HP         | 75      | NL AMPS                               | 30.80 | R2  | 0.225 | X2 0.110                                          |
| BASE SPEED | 1783    | Slip (HZ)                             | 0.57  | R2B | 0.021 | X2B 0.339                                         |
| PHASE/HZ   | 3/60    | WK <sup>2</sup> (lb-ft <sup>2</sup> ) | 0.000 | R2E | 0.005 | XM 7.820                                          |

### Rated Full Load Data

|              | RPM    | HP    | Torque | Volts | Freq-Hz | Amps |
|--------------|--------|-------|--------|-------|---------|------|
| Base Speed   | 1782.8 | 74.9  | 220.5  | 460   | 60      | 86.2 |
| Max Speed    | 2673   | 74.8  | 147.0  | 460   | 90      | 83.5 |
| CT Min Speed | 1.7828 | 0.075 | 220.5  | 0.46  | 0.06    | 86.2 |

### Load Performance at Base Speed

|           | RPM    | HP    | Torque | Volts | Freq-Hz | Amps  |
|-----------|--------|-------|--------|-------|---------|-------|
| No Load   | 1798.9 | 0.0   | 0.0    | 460   | 60      | 30.8  |
| 1/4       | 1795.7 | 18.8  | 54.9   | 460   | 60      | 36.9  |
| 1/2       | 1791.7 | 37.5  | 109.8  | 460   | 60      | 50.3  |
| 3/4       | 1787.7 | 56.2  | 164.9  | 460   | 60      | 67.3  |
| Full Load | 1782.8 | 74.9  | 220.5  | 460   | 60      | 86.2  |
| O/L       | 1762   | 149.7 | 446.0  | 460   | 60      | 179.0 |

| Blower Data | Volts | Ph/Hz | FL Amps | LR Amps | Frame | CFM |
|-------------|-------|-------|---------|---------|-------|-----|
|             |       |       |         |         |       |     |

Remarks: Calculated Data

**BALDOR • RELIANCE**

DR BY USBRRAN1  
CK BY CD  
APP BY USBRRAN1  
DATE 11/5/2024
**A-C MOTOR  
PERFORMANCE  
CURVES**
**A36WG4073**

Record: 76727

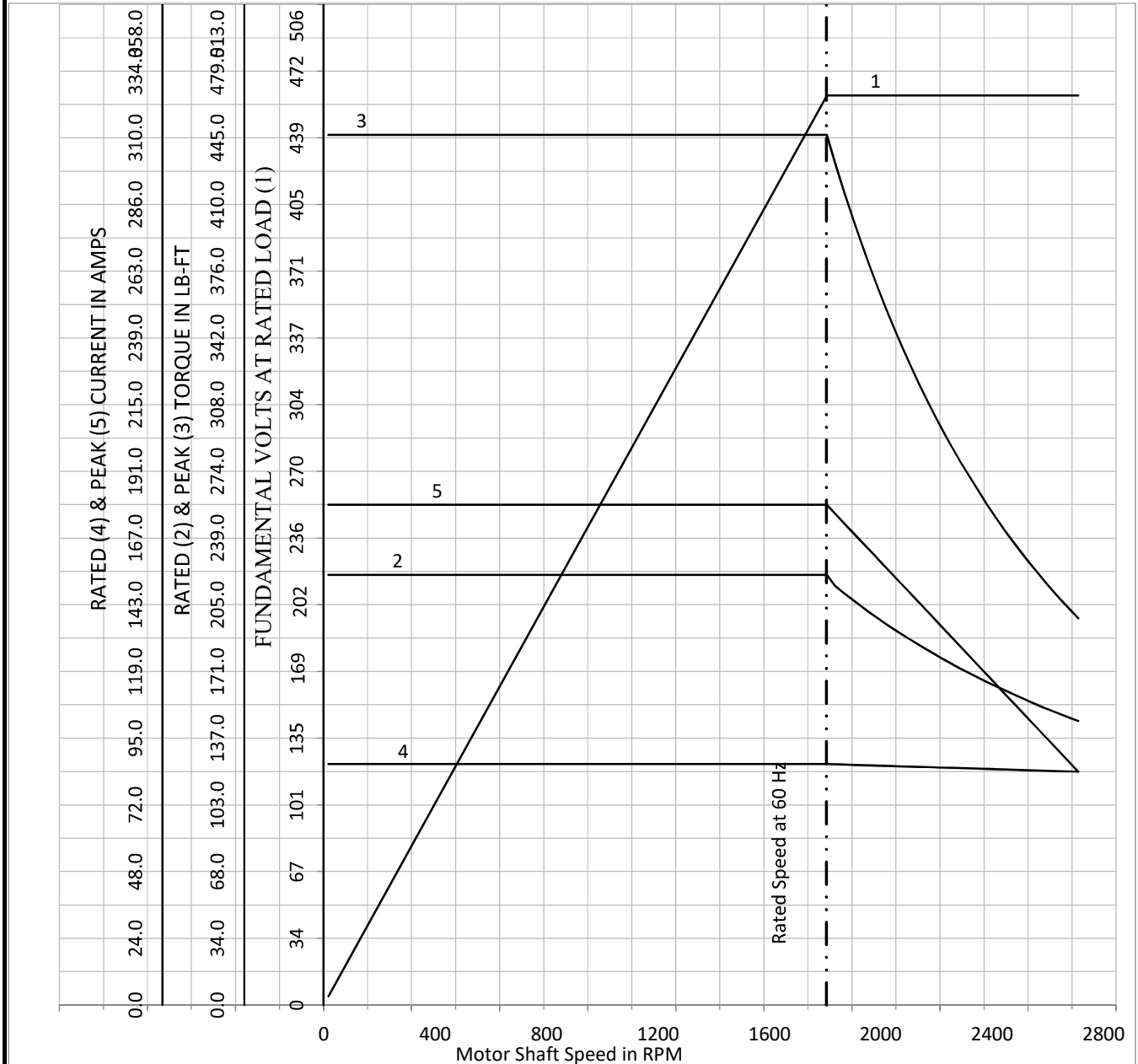
NP VOLTS 230/460  
NP AMPS 172/86  
HP 75  
BASE SPEED 1782.80005  
PHASE/HZ 3/60

Base Volt 460  
NL AMPS 30.80  
Slip (HZ) 0.57  
WK<sup>2</sup> (lb-ft<sup>2</sup>) 0.000

WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C)

|     |       |     |       |
|-----|-------|-----|-------|
| R1  | 0.045 | X1  | 0.239 |
| R2  | 0.225 | X2  | 0.110 |
| R2B | 0.021 | X2B | 0.339 |
| R2E | 0.005 | XM  | 7.820 |

Variable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only

**BALDOR • RELIANCE**

DR BY USBRRAN1

CK BY CD

APP BY USBRRAN1

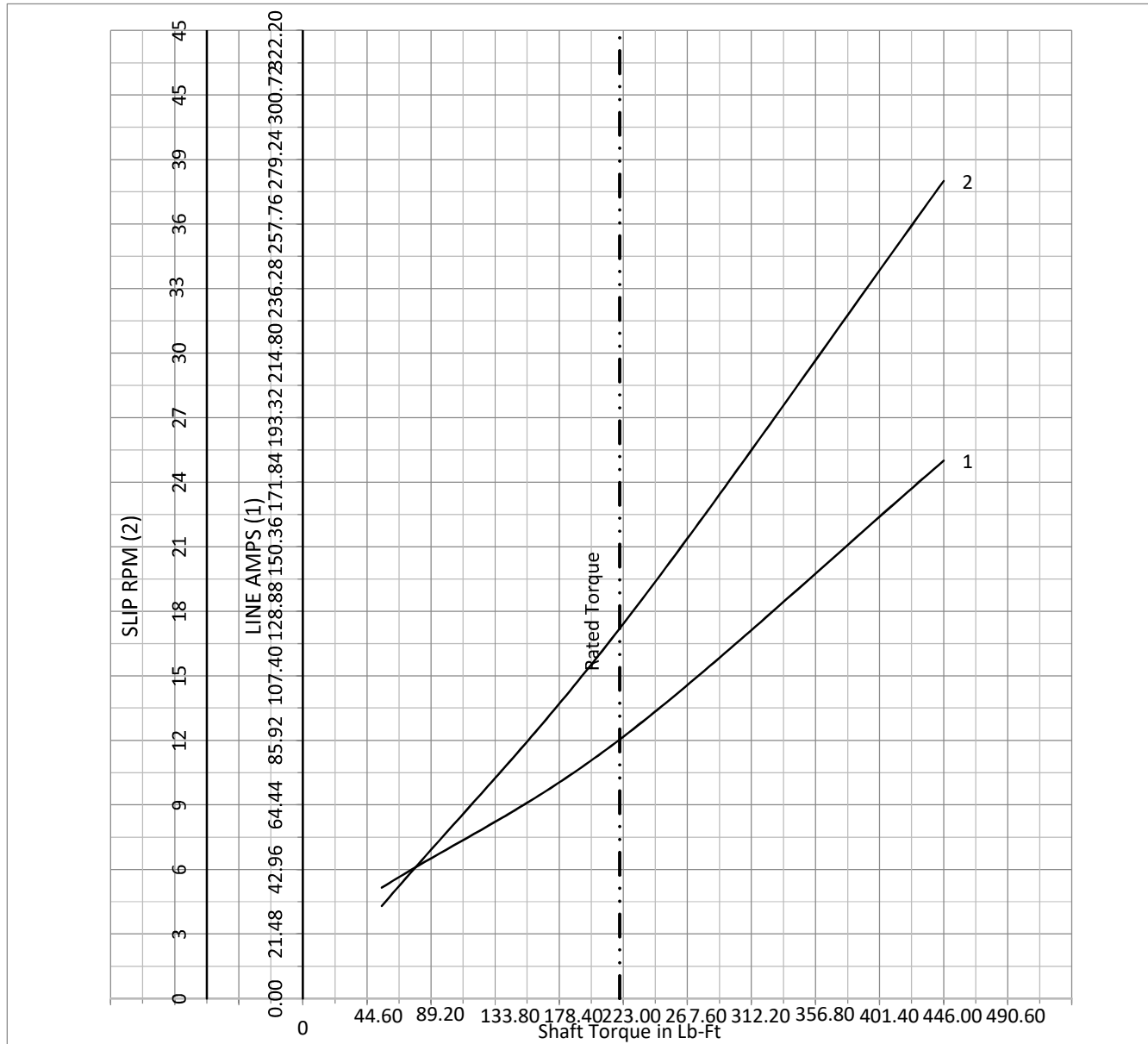
DATE 11/5/2024

**A-C MOTOR  
PERFORMANCE  
CURVES**
**A36WG4073**

Record: 76727

|            |             |              |       |                                                   |       |     |       |
|------------|-------------|--------------|-------|---------------------------------------------------|-------|-----|-------|
| NP VOLTS   | 230/460     | 0            | 0     | WYE CONN EQ CKT OHMS PER PHASE (BASE RATING, 20C) |       |     |       |
| NP AMPS    | 172/86      | Base Volt    | 460   | R1                                                | 0.045 | X1  | 0.239 |
| HP         | 75          | NL AMPS      | 30.80 | R2                                                | 0.225 | X2  | 0.110 |
| BASE SPEED | 1782.800049 | Slip (HZ)    | 0.57  | R2B                                               | 0.021 | X2B | 0.339 |
| PHASE/HZ   | 3/60        | WK2 (lb-ft2) | 0.000 | R2E                                               | 0.005 | XM  | 7.820 |

Vector PWM Inverter Duty  
Variable Speed AC Motor Curves



Calculated Data

Data Valid For Nameplate Speed Range only

**BALDOR • RELIANCE**

DR BY USBRRAN1

CK BY CD

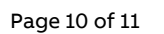
APP BY USBRRAN1

DATE 11/5/2024

**A-C MOTOR  
PERFORMANCE  
CURVES**

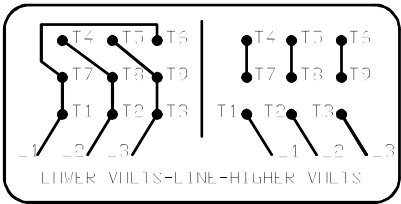
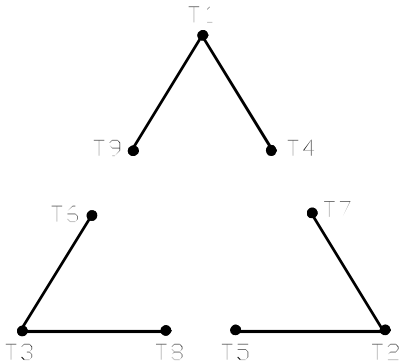
**A36WG4073**

Record: 76727



416820-002

A-C MOTOR  
CONNECTION DIAGRAM  
STANDARD 9 LEAD      DELTA-CONNECTED



(N.P. 1575-B)

|                                           |                              |                   |
|-------------------------------------------|------------------------------|-------------------|
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| REV. LTR: A                               | VERSION: 01                  | TDR: 000001009382 |
| FILE: \MGA\00000\661                      | REVISED: 02:46:19 02/13/2020 | BY: MGHMTT        |
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**BALDOR - RELIANCE®**

CONN DIAG — STANDARD 9 LEAD, DELTA-CONNECTED  
SH 1 of 1

416820-002