

# ABB BALDOR RELIANCE III

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## Customer information packet

### VJPFPM2559T-4

76M 4P OPSB VER 405TCZ DRIPCOVER

**Specifications**

|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| <b>Enclosure</b>                      | OPSB                                       |
| <b>Frame</b>                          | 405TCZ                                     |
| <b>Frame Material</b>                 | Steel                                      |
| <b>Frequency</b>                      | 50.00 Hz<br>60.00 Hz                       |
| <b>Motor Letter Type</b>              | Three Phase                                |
| <b>Output @ Frequency</b>             | 100.000 HP @ 50 HZ<br>125.000 HP @ 60 HZ   |
| <b>Phase</b>                          | 3                                          |
| <b>Synchronous Speed @ Frequency</b>  | 1500 RPM @ 50 HZ                           |
| <b>Voltage @ Frequency</b>            | 460.0 V @ 60 HZ<br>380.0 V @ 50 HZ         |
| <b>Agency Approvals</b>               | CSA EEV<br>UL                              |
| <b>Ambient Temperature</b>            | 40 °C                                      |
| <b>Auxiliary Box</b>                  | NO AUXILLARY BOX                           |
| <b>Auxiliary Box Lead Termination</b> | None                                       |
| <b>Base Indicator</b>                 | No Mounting                                |
| <b>Bearing Grease Type</b>            | Polyrex EM (-20F +300F)                    |
| <b>Blower</b>                         | None                                       |
| <b>Current @ Voltage</b>              | 141.000 A @ 380.0 V<br>145.000 A @ 460.0 V |
| <b>Design Code</b>                    | B                                          |
| <b>Drip Cover</b>                     | Drip Cover                                 |
| <b>Duty Rating</b>                    | CONT                                       |
| <b>Efficiency @ 100% Load</b>         | 94.5 %                                     |
| <b>Electrically Isolated Bearing</b>  | Not Electrically Isolated                  |
| <b>Feedback Device</b>                | NO FEEDBACK                                |
| <b>Front Shaft Indicator</b>          | None                                       |
| <b>Heater Indicator</b>               | No Heater                                  |
| <b>High Voltage Full Load Amps</b>    | 141.0 a                                    |
| <b>Insulation Class</b>               | F                                          |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | D          |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  | 44E270     |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 44WGW359   |
| <b>Layout</b>       | 44LYE270   |
| <b>Eff. date</b>    | 08-01-2023 |
| <b>CD Diagram</b>   | CD1480     |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        | 12#2       |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 07-06-2018 |

|                               |                       |
|-------------------------------|-----------------------|
| Inverter Code                 | Not Inverter          |
| KVA Code                      | F                     |
| Lifting Lugs                  | Vertical Lifting Lugs |
| Locked Bearing Indicator      | Locked Bearing        |
| Motor Lead Quantity/Wire Size | 12 @ 2 AWG            |
| Motor Lead Termination        | Flying Leads          |
| Motor Standards               | NEMA                  |
| Motor Type                    | 4476M                 |
| Mounting Arrangement          | F1                    |
| Number of Poles               | 4                     |
| Overall Length                | 38.47 IN              |
| Power Factor                  | 85                    |
| Product Family                | Fire Pump Motor       |
| Pulley End Bearing Type       | Ball                  |
| Pulley Face Code              | C-Face                |
| Pulley Shaft Indicator        | Tapped & Key          |
| Rodent Screen                 | Included              |
| Service Factor                | 1.15                  |
| Shaft Diameter                | 1.625 IN              |
| Shaft Ground Indicator        | No Shaft Grounding    |
| Shaft Rotation                | Reversible            |
| Shaft Slinger Indicator       | No Slinger            |
| Speed                         | 1475 rpm<br>1775 rpm  |
| Speed Code                    | Single Speed          |
| Starting Method               | Wye Start - Delta Run |
| Thermal Device - Winding      | None                  |
| Vibration Sensor Indicator    | No Vibration Sensor   |
| Winding Thermal 1             | None                  |
| Winding Thermal 2             | None                  |

**Nameplate**

| NP3454L          |               |                 |      |                  |                 |      |  |            |              |                 |               |             |      |
|------------------|---------------|-----------------|------|------------------|-----------------|------|--|------------|--------------|-----------------|---------------|-------------|------|
| <b>CAT.NO.</b>   | VJPFPM2559T-4 |                 |      |                  | <b>CUST P/N</b> |      |  |            |              | <b>I.P.</b>     | 23            |             |      |
| <b>SPEC.</b>     | 44E270W359H2  |                 |      |                  | <b>SER.NO.</b>  |      |  |            |              | <b>FRAME</b>    | 405TCZ        |             |      |
| <b>HZ</b>        | 60            | <b>HP</b>       | 125  |                  | <b>RPM</b>      | 1775 |  | <b>HZ</b>  | 50           |                 | <b>HP</b>     | 100         |      |
|                  |               |                 |      |                  |                 |      |  |            |              |                 |               | <b>RPM</b>  | 1475 |
| <b>VOLTS</b>     | 460           |                 |      |                  | <b>CODE</b>     | F    |  |            | <b>VOLTS</b> | 380             |               |             |      |
|                  |               |                 |      |                  |                 |      |  |            |              |                 |               | <b>CODE</b> | F    |
| <b>AMPS</b>      | 145           |                 |      |                  | <b>DES</b>      | B    |  |            | <b>AMPS</b>  | 141             |               |             |      |
|                  |               |                 |      |                  |                 |      |  |            |              |                 |               | <b>DES</b>  | B    |
| <b>EFF</b>       | 94.5          | <b>SER.F.</b>   | 1.15 |                  | <b>PF</b>       | 85   |  | <b>EFF</b> | 94.1         |                 | <b>SER.F.</b> | 1.15        |      |
|                  |               |                 |      |                  |                 |      |  |            |              |                 |               | <b>PF</b>   | 85   |
| <b>RATING</b>    | 40C AMB-CONT  |                 |      |                  | <b>DE BRG</b>   | 6316 |  |            |              | <b>GREASE</b>   | POLYREX EM    |             |      |
| <b>BLANK</b>     |               |                 |      |                  | <b>ODE BRG</b>  | 6312 |  |            |              | <b>MTR. WT.</b> | 590           |             |      |
|                  |               |                 |      |                  | <b>CLASS</b>    | F    |  | <b>PH</b>  | 3            |                 |               |             |      |
|                  |               |                 |      |                  | <b>ENCL</b>     | OPSB |  | <b>CC</b>  | 010A         |                 |               |             |      |
| <b>HTR-VOLTS</b> |               | <b>HTR-AMPS</b> |      | <b>HTR-WATTS</b> |                 |      |  |            |              |                 |               |             |      |

**AC Induction Motor Performance Data**

Record # 52882

Typical performance - not guaranteed values

| Winding: 44WGW359-R001 |        |              | Type: 4476M  |                                       | Enclosure: OPSB       |                |          |
|------------------------|--------|--------------|--------------|---------------------------------------|-----------------------|----------------|----------|
| Nameplate Data         |        |              |              | 460 V, 60 Hz:<br>Single Voltage Motor |                       |                |          |
| Rated Output (HP)      |        | 125//100     |              | Full Load Torque                      |                       | 369 LB-FT      |          |
| Volts                  |        | 460//380     |              | Start Configuration                   |                       | direct on line |          |
| Full Load Amps         |        | 145//141     |              | Breakdown Torque                      |                       | 991 LB-FT      |          |
| R.P.M.                 |        | 1775//1475   |              | Pull-up Torque                        |                       | 385 LB-FT      |          |
| Hz                     | 60//50 | Phase        | 3            | Locked-rotor Torque                   |                       | 490 LB-FT      |          |
| NEMA Design Code       |        | B            | KVA Code     | F                                     | Starting Current      |                | 845 A    |
| Service Factor (S.F.)  |        | 1.15         |              | No-load Current                       |                       | 42.8 A         |          |
| NEMA Nom. Eff.         |        | 94.5         | Power Factor | 85                                    | Line-line Res. @ 25°C |                | 0.0453 Ω |
| Rating - Duty          |        | 40C AMB-CONT |              | Temp. Rise @ Rated Load               |                       | 48°C           |          |
| S.F. Amps              |        |              |              | Temp. Rise @ S.F. Load                |                       | 58°C           |          |
|                        |        |              |              | Locked-rotor Power Factor             |                       | 24.7           |          |
|                        |        |              |              | Rotor inertia                         |                       | 14.4 LB-FT2    |          |

**Load Characteristics 460 V, 60 Hz, 125 HP**

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 58   | 77   | 83   | 85   | 85   | 84   | 85   |
| Efficiency      | 92.6 | 95.2 | 95.1 | 94.6 | 93.9 | 93   | 94.2 |
| Speed           | 1795 | 1790 | 1784 | 1777 | 1769 | 1761 | 1772 |
| Line amperes    | 55.1 | 80.2 | 111  | 145  | 182  | 223  | 167  |

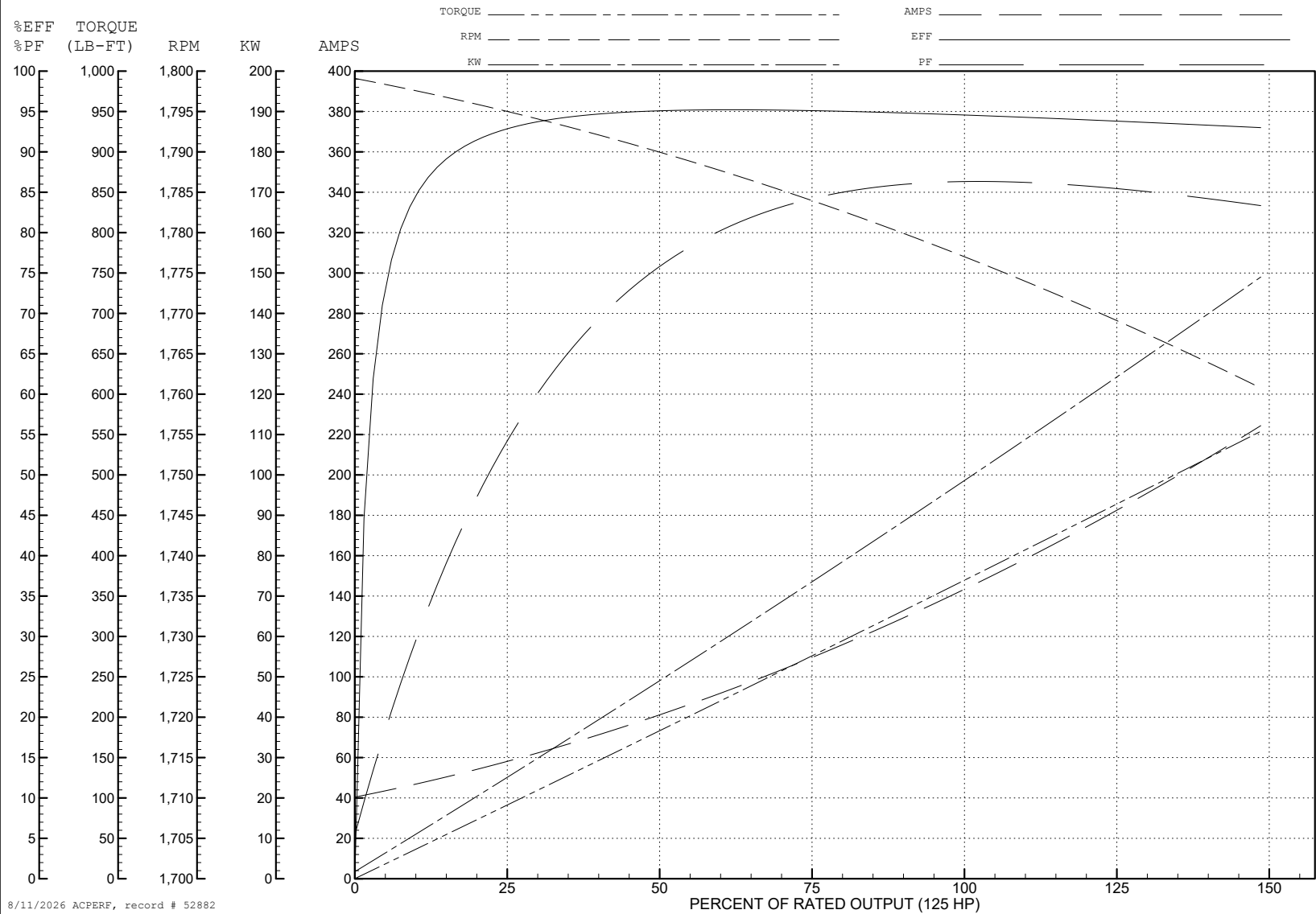
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WINDING # 44WG359

Typical performance - not guaranteed values.

125 HP 3 PH 60 HZ 1777 RPM 460 V 4476M

TORQUES (LB-FT): PO=991 PU=385 LR=490 LRA=845



**AC Induction Motor Performance Data**

Record # 52883

Typical performance - not guaranteed values

| Winding: 44WGW359-R001 |  |              |  | Type: 4476M                           |  | Enclosure: OPSB     |  |                           |             |
|------------------------|--|--------------|--|---------------------------------------|--|---------------------|--|---------------------------|-------------|
| Nameplate Data         |  |              |  | 380 V, 50 Hz:<br>Single Voltage Motor |  |                     |  |                           |             |
| Rated Output (HP)      |  | 125//100     |  | Full Load Torque                      |  | 355 LB-FT           |  |                           |             |
| Volts                  |  | 460//380     |  | Start Configuration                   |  | direct on line      |  |                           |             |
| Full Load Amps         |  | 145//141     |  | Breakdown Torque                      |  | 962 LB-FT           |  |                           |             |
| R.P.M.                 |  | 1775//1475   |  | Pull-up Torque                        |  | 406 LB-FT           |  |                           |             |
| Hz                     |  | 60//50 Phase |  | 3                                     |  | Locked-rotor Torque |  | 517 LB-FT                 |             |
| NEMA Design Code       |  | B            |  | KVA Code                              |  | F                   |  | Starting Current          | 829 A       |
| Service Factor (S.F.)  |  | 1.15         |  |                                       |  |                     |  | No-load Current           | 42 A        |
| NEMA Nom. Eff.         |  | 94.5         |  | Power Factor                          |  | 85                  |  | Line-line Res. @ 25°C     | 0.0453 Ω    |
| Rating - Duty          |  | 40C AMB-CONT |  |                                       |  |                     |  | Temp. Rise @ Rated Load   | 45°C        |
| S.F. Amps              |  |              |  |                                       |  |                     |  | Temp. Rise @ S.F. Load    | 55°C        |
|                        |  |              |  |                                       |  |                     |  | Locked-rotor Power Factor | 27.4        |
|                        |  |              |  |                                       |  |                     |  | Rotor inertia             | 14.4 LB-FT2 |

**Load Characteristics 380 V, 50 Hz, 100 HP**

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 57   | 77   | 84   | 85   | 85   | 84   | 85   |
| Efficiency      | 92.9 | 94.7 | 94.9 | 94.3 | 93.5 | 92.4 | 93.9 |
| Speed           | 1495 | 1490 | 1485 | 1478 | 1470 | 1463 | 1473 |
| Line amperes    | 53.7 | 77.9 | 107  | 141  | 177  | 217  | 163  |

ABB Motors and Mechanical Inc.

WINDING # 44WG359

Typical performance - not guaranteed values.

100 HP 3 PH 50 HZ 1478 RPM 380 V 4476M

TORQUES (LB-FT): PO=962 PU=406 LR=517 LRA=829

