

# ABB BALDOR RELIANCE III

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## Customer information packet

### EM3707

5HP, 1750RPM, 3PH, 60HZ, 215, 3642M, TEFC, F1, N

Class - None

Division - Not Applicable

**Specifications**

|                                       |                                                               |
|---------------------------------------|---------------------------------------------------------------|
| <b>Enclosure</b>                      | TEFC                                                          |
| <b>Frame</b>                          | 215                                                           |
| <b>Frame Material</b>                 | Steel                                                         |
| <b>Frequency</b>                      | 60.00 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>             | 5.000 HP @ 60 HZ                                              |
| <b>Phase</b>                          | 3                                                             |
| <b>Synchronous Speed @ Frequency</b>  | 1800 RPM @ 60 HZ                                              |
| <b>Voltage @ Frequency</b>            | 230.0 V @ 60 HZ<br>460.0 V @ 60 HZ                            |
| <b>Agency Approvals</b>               | CURUSEEV<br>NEMA PREMIUM                                      |
| <b>Ambient Temperature</b>            | 40 °C                                                         |
| <b>Auxiliary Box</b>                  | NO AUXILLARY BOX                                              |
| <b>Auxiliary Box Lead Termination</b> | None                                                          |
| <b>Base Indicator</b>                 | Rigid                                                         |
| <b>Bearing Grease Type</b>            | Polyrex EM (-20F +300F)                                       |
| <b>Blower</b>                         | None                                                          |
| <b>Current @ Voltage</b>              | 6.700 A @ 460.0 V<br>13.900 A @ 208.0 V<br>13.400 A @ 230.0 V |
| <b>Design Code</b>                    | B                                                             |
| <b>Drip Cover</b>                     | No Drip Cover                                                 |
| <b>Duty Rating</b>                    | CONT                                                          |
| <b>Efficiency @ 100% Load</b>         | 89.5 %                                                        |
| <b>Electrically Isolated Bearing</b>  | Not Electrically Isolated                                     |
| <b>Feedback Device</b>                | NO FEEDBACK                                                   |
| <b>Front Face Code</b>                | Standard                                                      |
| <b>Front Shaft Indicator</b>          | None                                                          |
| <b>Heater Indicator</b>               | No Heater                                                     |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | F          |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  | 36G890     |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 36WGS268   |
| <b>Layout</b>       | 36LYG890   |
| <b>Eff. date</b>    | 05-01-2024 |
| <b>CD Diagram</b>   | CD0005     |
| <b>Poles</b>        | 04         |
| <b>Leads</b>        | 9#16       |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 02-27-2015 |

|                               |                     |
|-------------------------------|---------------------|
| High Voltage Full Load Amps   | 6.7 a               |
| Insulation Class              | F                   |
| Inverter Code                 | Inverter Ready      |
| KVA Code                      | J                   |
| Lifting Lugs                  | No Lifting Lugs     |
| Locked Bearing Indicator      | No Locked Bearing   |
| Motor Lead Exit               | Ko Box              |
| Motor Lead Quantity/Wire Size | 9 @ 16 AWG          |
| Motor Lead Termination        | Flying Leads        |
| Motor Standards               | NEMA                |
| Motor Type                    | 3642M               |
| Mounting Arrangement          | F1                  |
| Number of Poles               | 4                   |
| Overall Length                | 18.17 IN            |
| Power Factor                  | 78                  |
| Product Family                | General Purpose     |
| Pulley End Bearing Type       | Ball                |
| Pulley Face Code              | Standard            |
| Pulley Shaft Indicator        | Standard            |
| Rodent Screen                 | None                |
| Service Factor                | 1.15                |
| Shaft Diameter                | 1.125 IN            |
| Shaft Extension Location      | Pulley End          |
| Shaft Ground Indicator        | No Shaft Grounding  |
| Shaft Rotation                | Reversible          |
| Shaft Slinger Indicator       | No Slinger          |
| Speed                         | 1750 rpm            |
| Speed Code                    | Single Speed        |
| Starting Method               | Direct on line      |
| Thermal Device - Bearing      | None                |
| Thermal Device - Winding      | None                |
| Vibration Sensor Indicator    | No Vibration Sensor |
| Winding Thermal 1             | None                |
| Winding Thermal 2             | None                |

**Nameplate**

| NP1259L      |              |  |      |      |     |   |  |    |   |  |  |
|--------------|--------------|--|------|------|-----|---|--|----|---|--|--|
| CAT.NO.      | EM3707       |  |      |      |     |   |  |    |   |  |  |
| SPEC.        | 36G890S268G1 |  |      |      |     |   |  |    |   |  |  |
| HP           | 5            |  |      |      |     |   |  |    |   |  |  |
| VOLTS        | 230/460      |  |      |      |     |   |  |    |   |  |  |
| AMP          | 13.4/6.7     |  |      |      |     |   |  |    |   |  |  |
| RPM          | 1750         |  |      |      |     |   |  |    |   |  |  |
| FRAME        | 215          |  | HZ   | 60   |     |   |  | PH | 3 |  |  |
| SER.F.       | 1.15         |  | CODE | J    | DES | B |  | CL | F |  |  |
| NEMA-NOM-EFF | 89.5         |  | PF   | 78   |     |   |  |    |   |  |  |
| RATING       | 40C AMB-CONT |  |      |      |     |   |  |    |   |  |  |
| CC           | 010A         |  |      |      |     |   |  |    |   |  |  |
| DE           | 6206         |  | ODE  | 6205 |     |   |  |    |   |  |  |
| ENCL         | TEFC         |  | SN   |      |     |   |  |    |   |  |  |

**AC Induction Motor Performance Data**

Record # 35063

Typical performance - not guaranteed values

| Winding: 36WGS268-R016 |    |          | Type: 3642M                              |                     | Enclosure: TEFC           |            |              |
|------------------------|----|----------|------------------------------------------|---------------------|---------------------------|------------|--------------|
| Nameplate Data         |    |          | 460 V, 60 Hz:<br>High Voltage Connection |                     |                           |            |              |
| Rated Output (HP)      |    | 5        | Full Load Torque                         |                     | 14.9 LB-FT                |            |              |
| Volts                  |    | 230/460  | Start Configuration                      |                     | direct on line            |            |              |
| Full Load Amps         |    | 13.4/6.7 | Breakdown Torque                         |                     | 52.2 LB-FT                |            |              |
| R.P.M.                 |    | 1750     | Pull-up Torque                           |                     | 31.5 LB-FT                |            |              |
| Hz                     | 60 | Phase    | 3                                        | Locked-rotor Torque |                           | 34.9 LB-FT |              |
| NEMA Design Code       |    | B        | KVA Code                                 | J                   | Starting Current          |            | 49.1 A       |
| Service Factor (S.F.)  |    | 1.15     | No-load Current                          |                     | 3.24 A                    |            |              |
| NEMA Nom. Eff.         |    | 89.5     | Power Factor                             | 78                  | Line-line Res. @ 25°C     |            | 2.27 Ω       |
| Rating - Duty          |    | 40C      | AMB-CONT                                 |                     | Temp. Rise @ Rated Load   |            | 71°C         |
| S.F. Amps              |    |          |                                          |                     | Temp. Rise @ S.F. Load    |            | 87°C         |
|                        |    |          |                                          |                     | Locked-rotor Power Factor |            | 39.8         |
|                        |    |          |                                          |                     | Rotor inertia             |            | 0.391 LB-FT2 |

**Load Characteristics 460 V, 60 Hz, 5 HP**

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 39   | 60   | 72   | 78   | 83   | 83   | 81   |
| Efficiency      | 85   | 89.7 | 90.6 | 89.6 | 88.6 | 87   | 89   |
| Speed           | 1789 | 1776 | 1762 | 1750 | 1733 | 1714 | 1740 |
| Line amperes    | 3.55 | 4.31 | 5.43 | 6.65 | 7.94 | 9.64 | 7.42 |

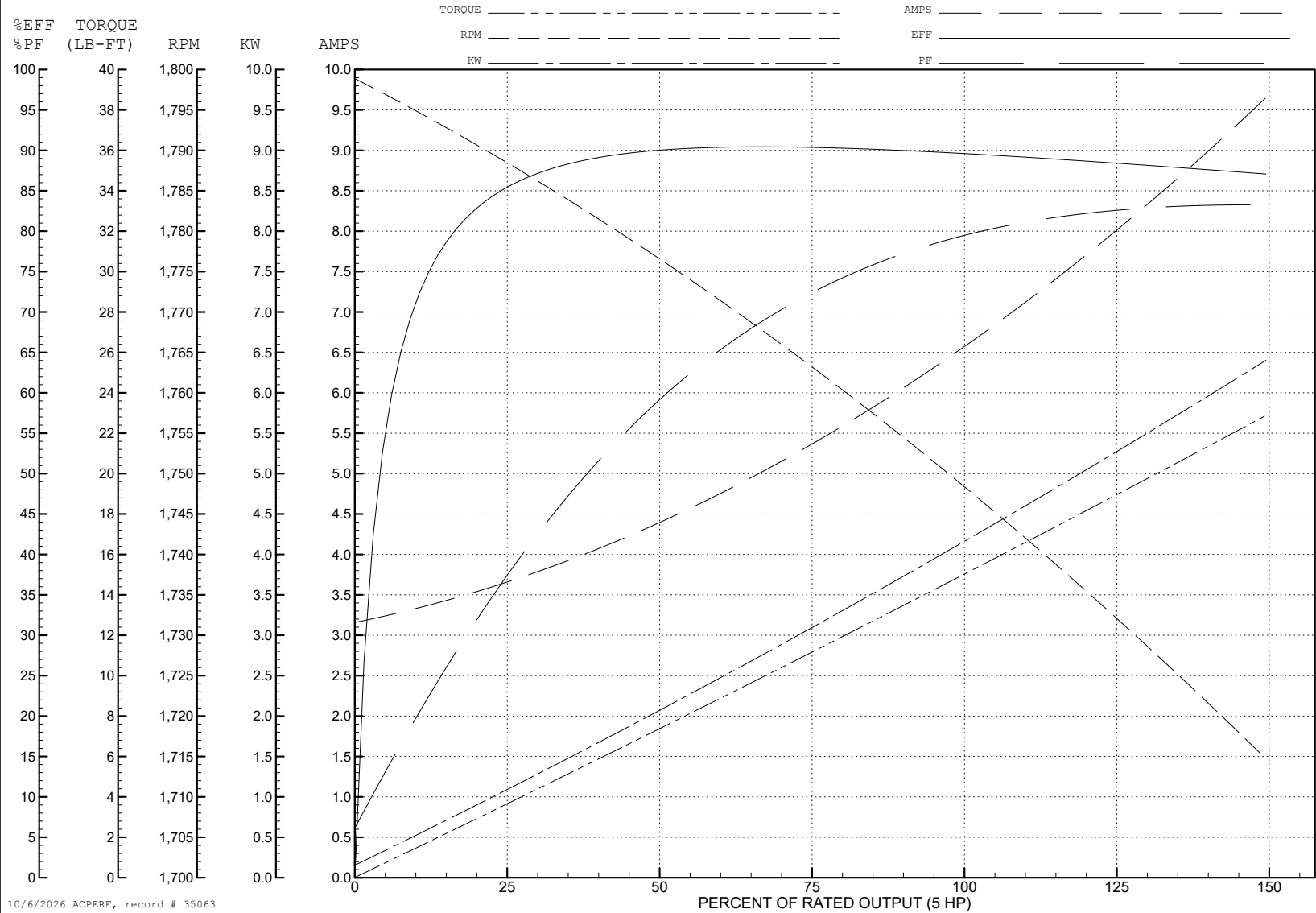
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WINDING # 36WGS268

Typical performance - not guaranteed values.

5 HP 3 PH 60 HZ 1750 RPM 460 V 3642M

TORQUES (LB-FT) : PO=52.2 PU=31.5 LR=34.9 LRA=49.1



**AC Induction Motor Performance Data**

Record # 93277

Typical performance - not guaranteed values

| Winding: 36WGS268-R016 |          |                   | Type: 3642M                             |  | Enclosure: TEFC |  |
|------------------------|----------|-------------------|-----------------------------------------|--|-----------------|--|
| Nameplate Data         |          |                   | 230 V, 60 Hz:<br>Low Voltage Connection |  |                 |  |
| Rated Output (HP)      |          | 5                 | Full Load Torque                        |  | 14.9 LB-FT      |  |
| Volts                  |          | 230/460           | Start Configuration                     |  | direct on line  |  |
| Full Load Amps         |          | 13.4/6.7          | Breakdown Torque                        |  | 52.2 LB-FT      |  |
| R.P.M.                 |          | 1750              | Pull-up Torque                          |  | 31.5 LB-FT      |  |
| Hz                     | 60 Phase | 3                 | Locked-rotor Torque                     |  | 34.9 LB-FT      |  |
| NEMA Design Code       |          | B KVA Code        | Starting Current                        |  | 98.2 A          |  |
| Service Factor (S.F.)  |          | 1.15              | No-load Current                         |  | 6.48 A          |  |
| NEMA Nom. Eff.         |          | 89.5 Power Factor | Line-line Res. @ 25°C                   |  | 0.567 Ω         |  |
| Rating - Duty          |          | 40C AMB-CONT      | Temp. Rise @ Rated Load                 |  | 71°C            |  |
| S.F. Amps              |          |                   | Temp. Rise @ S.F. Load                  |  | 86°C            |  |
|                        |          |                   | Locked-rotor Power Factor               |  | 39.8            |  |
|                        |          |                   | Rotor inertia                           |  | 0.391 lb-ft²    |  |

**Load Characteristics 230 V, 60 Hz, 5 HP**

| % of Rated Load | 25   | 50   | 75    | 100  | 125   | 150   | S.F. |
|-----------------|------|------|-------|------|-------|-------|------|
| Power Factor    | 38   | 60   | 72    | 78   | 83    | 83    | 81   |
| Efficiency      | 84.9 | 89.6 | 90.5  | 89.6 | 88.5  | 87    | 88.9 |
| Speed           | 1789 | 1776 | 1762  | 1750 | 1733  | 1714  | 1740 |
| Line amperes    | 7.1  | 8.62 | 10.86 | 13.3 | 15.88 | 19.28 | 14.8 |

ABB Motors and Mechanical Inc.

WINDING # 36WGS268

Typical performance - not guaranteed values.

5 HP 3 PH 60 HZ 1750 RPM 230 V 3642M

TORQUES (LB-FT) : PO=52.2 PU=31.5 LR=34.9 LRA=98.2

