

# ABB BALDOR RELIANCE III

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## Customer information packet

### SUM70504SM-4

5HP, 1755RPM, 3PH, 60HZ, 180TY, XPNV, V1

Class - CLI GP C,D

Division - Not Applicable

**Specifications**

|                          |                         |
|--------------------------|-------------------------|
| Enclosure                | XPNV                    |
| Frame                    | 180TY                   |
| Frame Material           | Iron                    |
| Frequency                | 60.00 Hz                |
| Haz Area Class and Group | CLI GP C,D              |
| Haz Area Division        | Not Applicable          |
| Motor Letter Type        | Three Phase             |
| Phase                    | 3                       |
| Agency Approvals         | CCSA US                 |
| Base Indicator           | Rigid                   |
| Bearing Grease Type      | Polyrex EM (-20F +300F) |
| Design Code              | B                       |
| Drip Cover               | No Drip Cover           |
| Duty Rating              | CONT                    |
| Haz Area Temp Code       | T3C                     |
| Heater Indicator         | No Heater               |
| Insulation Class         | F                       |
| Inverter Code            | Not Inverter            |
| IP Rating                | IP68                    |
| KVA Code                 | J                       |
| Lifting Lugs             | Standard Lifting Lugs   |
| Motor Standards          | NEMA                    |
| Motor Type               | M                       |
| Mounting Arrangement     | V1                      |
| Number of Poles          | 4                       |
| Product Family           | Pump - Centrifugal      |
| Pulley End Bearing Type  | Ball                    |
| Pulley Face Code         | Standard                |
| Service Factor           | 1.15                    |
| Shaft Diameter           | 0.875 IN                |
| Shaft Rotation           | Reversible              |
| Shaft Slinger Indicator  | No Slinger              |

**Part Detail**

|              |            |
|--------------|------------|
| Revision     | C          |
| Type         | AC         |
| Mech. spec.  |            |
| Base         |            |
| Status       | PRD/A      |
| Elec. spec.  | 86086      |
| Layout       | 619738-002 |
| Eff. date    | 07-21-2025 |
| CD Diagram   |            |
| Poles        | ///        |
| Leads        |            |
| Proprietary  | False      |
| Created date | 10-25-2021 |

|                          |                            |
|--------------------------|----------------------------|
| Speed Code               | Single Speed               |
| Starting Method          | Direct on line             |
| Thermal Device - Winding | Normally Closed Thermostat |

**Nameplate**

| 000613007MS     |                              |      |             |              |               |         |        |    |        |
|-----------------|------------------------------|------|-------------|--------------|---------------|---------|--------|----|--------|
| CAT.NO.         | SUM70504SM-4                 |      |             | SPEC NO.     | S18-CWS0-0008 |         |        |    |        |
| SER.NO.         |                              |      |             |              | FRAME SIZE    | 180TY   |        |    |        |
| CONSTANT HP RPM | HP                           | RPM  | VOLTS       | AMPS         | HZ            |         | S.F.   |    |        |
|                 | 5                            | 1755 | 230/460     | 13.8/6.9     |               | 6-60    | 1.00   |    |        |
|                 | 5                            | 1755 | 230/460     | 13.8/6.9     |               | 60      | 1.15   |    |        |
|                 | @                            |      | HZ          | CODE         | J             |         |        |    |        |
|                 | TYPE                         | P    | INSUL.CLASS | F            | TORQUE        | 10:1_VT |        |    | DESIGN |
| D.E. BRG.       | 50BC02JPP30A                 |      |             | ENCL         | TENV          | DUTY    | 15 MIN | PH | 3      |
| O.D.E. BRG.     | 25BC02JPG30A                 |      |             | MOTOR WEIGHT |               | AMB     |        | 40 |        |
|                 | FINAL CONN VOLTAGE = 460 *15 |      |             |              |               |         |        |    |        |
|                 | MIN IN AIR ;SUB. IN SEWAGE / |      |             |              |               |         |        |    |        |
|                 | WATER ONLY                   |      |             |              |               |         |        |    |        |

|                     |       |     |  |
|---------------------|-------|-----|--|
| 000613007RC         |       |     |  |
| CLASS I GROUP       | C D X | NO. |  |
| CLASS II GROUP      | X X X |     |  |
| OPERATING TEMP CODE | T3C   |     |  |

| 000692000MB                   |  |
|-------------------------------|--|
| SUITABLE FOR OPERATION ON PWM |  |
| INVERTER EQUIPPED WITH IGBT   |  |
| DEVICES AND CAPABLE OF        |  |
| CARRIER                       |  |
| FREQUENCY OF 2 KHZ MINIMUM    |  |
|                               |  |
|                               |  |

**000613007MS**

|                 |                              |             |              |            |               |         |        |   |
|-----------------|------------------------------|-------------|--------------|------------|---------------|---------|--------|---|
| CAT.NO.         | SUM70504SM-4                 |             | SPEC NO.     |            | S18-CWS0-0008 |         |        |   |
| SER.NO.         |                              |             |              | FRAME SIZE | 180TY         |         |        |   |
|                 | HP                           | RPM         | VOLTS        | AMPS       | HZ            | S.F.    |        |   |
|                 | 5                            | 1755        | 230/460      | 13.8/6.9   | 6-60          | 1.00    |        |   |
|                 | 5                            | 1755        | 230/460      | 13.8/6.9   | 60            | 1.15    |        |   |
| CONSTANT HP RPM |                              | @           |              | HZ         | CODE          | J       |        |   |
| TYPE            | P                            | INSUL.CLASS |              | F          | TORQUE        | 10:1_VT | DESIGN | B |
| D.E. BRG.       | 50BC02JPP30A                 |             | ENCL         | TENV       | DUTY          | 15 MIN  | PH     | 3 |
| O.D.E. BRG.     | 25BC02JPG30A                 |             | MOTOR WEIGHT |            |               | AMB     | 40     |   |
|                 | FINAL CONN VOLTAGE = 460 *15 |             |              |            |               |         |        |   |
|                 | MIN IN AIR ;SUB. IN SEWAGE / |             |              |            |               |         |        |   |
|                 | WATER ONLY                   |             |              |            |               |         |        |   |

Record #86086 - Typical performance - not guaranteed values

|           |           |
|-----------|-----------|
| Winding   | 06WGA0017 |
| Type      | 0640M     |
| Enclosure | TENV      |

## Nameplate data

|                |          |              |    |
|----------------|----------|--------------|----|
| Rated Output   | 5        |              |    |
| Volts          | 230/460  |              |    |
| Full Load Amps | 13.8/6.9 |              |    |
| R.P.M.         | 1755     |              |    |
| Hz             | 60       | Phase        | 3  |
| KVA Code       | J        |              |    |
| S.F.           | 1.15     |              |    |
| NEMA Nom. Eff. | 89.5     | Power Factor | 76 |
| Duty           | 15 MIN   |              |    |
| S.F. Amps      |          |              |    |

460 V, 60 Hz:

High Voltage Connection

|                           |                          |
|---------------------------|--------------------------|
| Full Load Torque          | 14.92 LB-FT              |
| Start Configuration       | direct on line           |
| Breakdown Torque          | 53.26 LB-FT              |
| Pull-up Torque            | 26.84 LB-FT              |
| Locked-rotor Torque       | 31.7 LB-FT               |
| Starting Current          | 47.59 A                  |
| No-load Current           | 3.62                     |
| Line-line Res. @ 25°C     | 2.57 Ω                   |
| Temp. Rise @ Rated Load   | 56°C                     |
| Temp. Rise @ S.F. Load    | 69°C                     |
| Locked-rotor Power Factor | 41.4                     |
| Rotor inertia             | 0.372 lb-ft <sup>2</sup> |

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

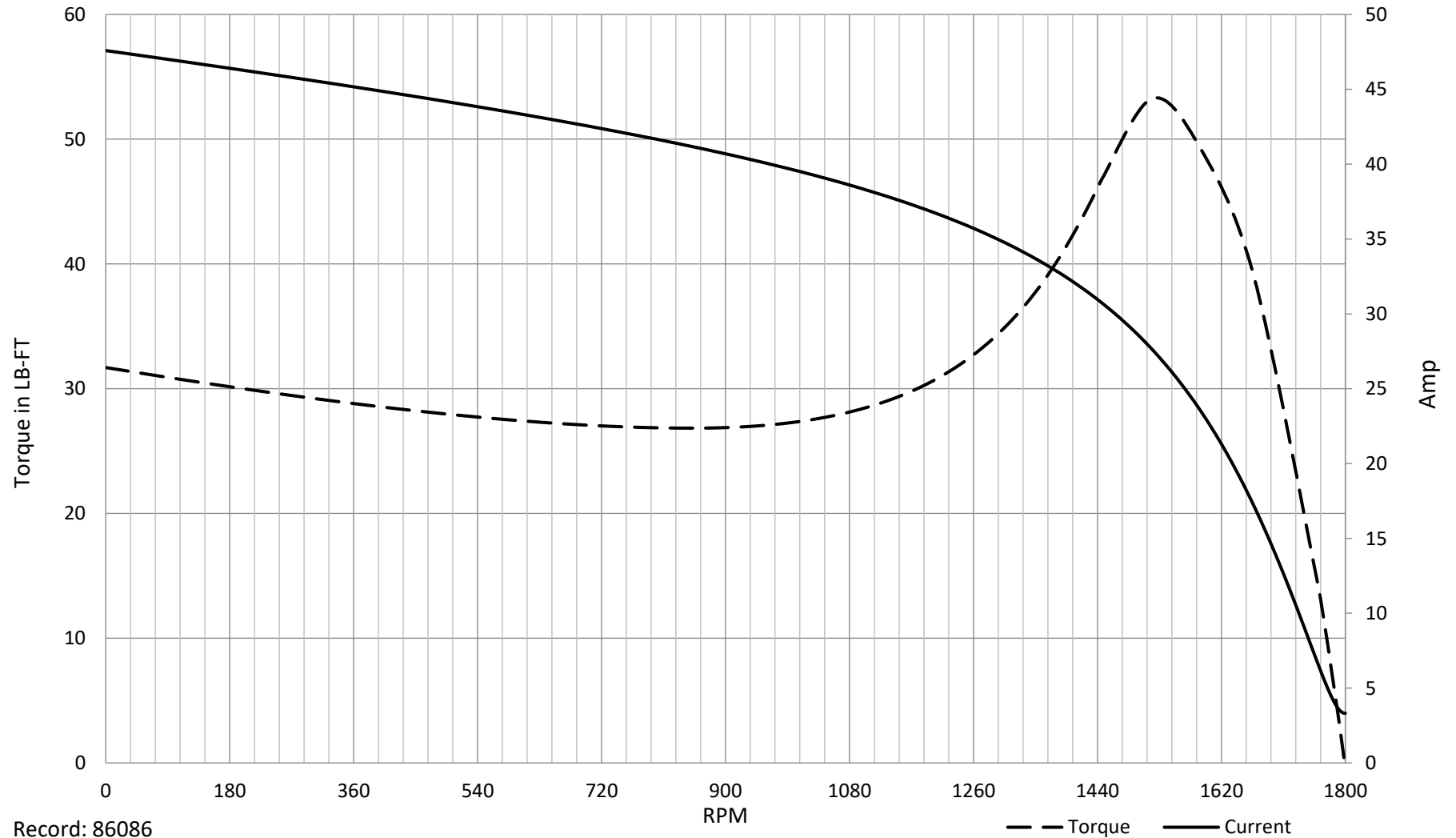
|                 |      |      |      |      |      |      |       |      |
|-----------------|------|------|------|------|------|------|-------|------|
| % of Rated Load | NL   | 25   | 50   | 75   | 100  | 125  | 150   | SF   |
| Power Factor    | 5    | 36   | 57   | 68   | 76   | 80   | 82    | 78   |
| Efficiency      | 0    | 81   | 88.6 | 90.2 | 89.8 | 88.6 | 84.1  | 89.1 |
| Speed           | 1799 | 1790 | 1780 | 1770 | 1758 | 1745 | 1729  | 1750 |
| Line amperes    | 3.62 | 3.96 | 4.65 | 5.68 | 6.87 | 8.26 | 10.11 | 7.7  |

**SPEED TORQUE / SPEED CURRENT CURVES**



06WGA0017

5HP 460V 60HZ



Record: 86086

