

# ABB BALDOR RELIANCE III

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## Customer information packet

### ECP4106T-5

20HP, 3510RPM, 3PH, 60HZ, 256T, 0954M, TEFC, F1

Class - CLI GP A,B,C,D

Division - Division II

**Specifications**

|                                       |                                                          |
|---------------------------------------|----------------------------------------------------------|
| <b>Enclosure</b>                      | TEFC                                                     |
| <b>Frame</b>                          | 256T                                                     |
| <b>Frame Material</b>                 | Iron                                                     |
| <b>Frequency</b>                      | 60.00 Hz                                                 |
| <b>Haz Area Class and Group</b>       | CL I GP A,B,C,D                                          |
| <b>Haz Area Division</b>              | Division II                                              |
| <b>Motor Letter Type</b>              | Three Phase                                              |
| <b>Output @ Frequency</b>             | 20.000 HP @ 60 HZ                                        |
| <b>Phase</b>                          | 3                                                        |
| <b>Synchronous Speed @ Frequency</b>  | 3600 RPM @ 60 HZ                                         |
| <b>Voltage @ Frequency</b>            | 575.0 V @ 60 HZ                                          |
| <b>Agency Approvals</b>               | CSA EEV<br>NEMA PREMIUM<br>NEMA_PREMIUM<br>UR<br>CCSA US |
| <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>Constant Torque Speed Range</b>    | 6                                                        |
| <b>Current @ Voltage</b>              | 17.900 A @ 575.0 V                                       |
| <b>Design Code</b>                    | B                                                        |
| <b>Drip Cover</b>                     | No Drip Cover                                            |
| <b>Duty Rating</b>                    | CONT                                                     |
| <b>Efficiency @ 100% Load</b>         | 91.0 %                                                   |
| <b>Electrically Isolated Bearing</b>  | Not Electrically Isolated                                |
| <b>Enclosure Modification</b>         | Severe Duty Features                                     |
| <b>Feedback Device</b>                | NO FEEDBACK                                              |
| <b>Front Face Code</b>                | Standard                                                 |

**Part Detail**

|                     |            |
|---------------------|------------|
| <b>Revision</b>     | AF         |
| <b>Type</b>         | AC         |
| <b>Mech. spec.</b>  | 09J371     |
| <b>Base</b>         |            |
| <b>Status</b>       | PRD/A      |
| <b>Elec. spec.</b>  | 09WGT123   |
| <b>Layout</b>       | 09LYJ371   |
| <b>Eff. date</b>    | 09-16-2025 |
| <b>CD Diagram</b>   | CD0006     |
| <b>Poles</b>        | 02         |
| <b>Leads</b>        | 3#12       |
| <b>Proprietary</b>  | False      |
| <b>Created date</b> | 12-24-2014 |

|                               |                             |
|-------------------------------|-----------------------------|
| Front Shaft Indicator         | None                        |
| Haz Area Temp Code            | T3                          |
| Heater Indicator              | No Heater                   |
| High Voltage Full Load Amps   | 17.9 a                      |
| Insulation Class              | F                           |
| Inverter Code                 | Inverter Duty               |
| KVA Code                      | G                           |
| Lifting Lugs                  | Standard Lifting Lugs       |
| Locked Bearing Indicator      | Locked Bearing              |
| Max Speed                     | 5400 rpm                    |
| Motor Lead Exit               | Ko Box                      |
| Motor Lead Quantity/Wire Size | 3 @ 12 AWG                  |
| Motor Lead Termination        | Flying Leads                |
| Motor Standards               | NEMA                        |
| Motor Type                    | 0954M                       |
| Mounting Arrangement          | F1                          |
| Number of Poles               | 2                           |
| Overall Length                | 24.78 IN                    |
| Power Factor                  | 91                          |
| Product Family                | Super-E Chemical Processing |
| Pulley End Bearing Type       | Ball                        |
| Pulley Face Code              | Standard                    |
| Pulley Shaft Indicator        | Standard                    |
| Rodent Screen                 | None                        |
| Service Factor                | 1.15                        |
| Shaft Diameter                | 1.625 IN                    |
| Shaft Extension Location      | Pulley End                  |
| Shaft Ground Indicator        | No Shaft Grounding          |
| Shaft Rotation                | Reversible                  |
| Shaft Slinger Indicator       | Shaft Slinger               |
| Speed                         | 3510 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**

| NP3995ABBL                       |              |              |           |             |                         |                              |                    |                      |             |                    |                       |               |                      |          |
|----------------------------------|--------------|--------------|-----------|-------------|-------------------------|------------------------------|--------------------|----------------------|-------------|--------------------|-----------------------|---------------|----------------------|----------|
| <b>CAT #</b>                     |              | ECP4106T-5   |           |             |                         | <b>SER</b>                   |                    |                      |             | <b>CC</b>          |                       | 010A          |                      |          |
| <b>SPEC</b>                      |              | 09J371T123G1 |           |             |                         | <b>RATING</b>                |                    | 40C AMB-CONT         |             |                    |                       |               |                      |          |
| <b>HZ</b>                        | <b>VOLTS</b> |              |           | <b>AMPS</b> |                         |                              | <b>RPM</b>         | <b>HP</b>            | <b>CODE</b> | <b>SF</b>          | <b>DES</b>            | <b>PF</b>     | <b>NEMA NOM. EFF</b> |          |
| 60                               | 575          |              |           | 17.9        |                         |                              | 3510               | 20                   | G           | 1.15               | B                     | 91 %          | 91 %                 |          |
| <b>PH</b>                        |              | 3            | <b>CL</b> | F           | <b>MAX RPM</b>          |                              | 5400               | <b>MAX CORR KVAR</b> |             | 2.1                | <b>USABLE AT 208V</b> |               | N/A                  |          |
| IP55                             |              | <b>FR</b>    |           | 256T        | <b>ENCL</b>             |                              | TEFC               | <b>DE BRG</b>        |             | 6309               | <b>ODE BRG</b>        |               | 6309                 |          |
| <b>GREASE</b>                    |              | POLYREX EM   |           |             |                         |                              |                    | <b>MTR WT</b>        |             | 310                | <b>LBS</b>            |               |                      |          |
| <b>USABLE AT</b>                 |              | N/A          |           |             |                         |                              |                    |                      |             |                    |                       |               |                      |          |
|                                  |              |              |           |             |                         |                              |                    |                      |             |                    |                       |               |                      |          |
|                                  |              |              |           |             |                         |                              |                    |                      |             |                    |                       |               |                      |          |
| <b>CL I DIV 2 GRPS A,B,C,D</b>   |              |              |           |             | <b>CL I ZONE 2 GRPS</b> |                              |                    |                      |             | <b>IIA,IIB,IIC</b> |                       | <b>TEMP T</b> | 200                  | <b>C</b> |
| <b>1.0 SF ON PWM INVERTER</b>    |              |              |           |             | <b>POWER</b>            |                              | <b>INV TEMP CL</b> |                      | 200         | <b>C</b>           |                       |               |                      |          |
| <b>CHP</b>                       | 60-90        | <b>HZ</b>    | 1.5:1     | <b>CT</b>   | 3-60                    | <b>HZ</b>                    | 20:1               | <b>VT</b>            | 0-60        | <b>HZ</b>          | 1000:1                |               |                      |          |
| <b>SPACE HEATER LEADS H1-H2:</b> |              |              |           |             | <b>TIE LIKE NUMBERS</b> |                              |                    |                      |             | <b>TOGETHER</b>    |                       |               |                      |          |
| <b>V</b>                         |              | <b>A</b>     |           | <b>W</b>    |                         | <b>MAX SPACE HEATER TEMP</b> |                    |                      |             |                    |                       |               |                      |          |

**AC Induction Motor Performance Data**

Record # 92413

Typical performance - not guaranteed values

| Winding: 09WGT123-R001 |    |       | Type: 0954M                           |                     | Enclosure: TEFC         |          |         |
|------------------------|----|-------|---------------------------------------|---------------------|-------------------------|----------|---------|
| Nameplate Data         |    |       | 575 V, 60 Hz:<br>Single Voltage Motor |                     |                         |          |         |
| Rated Output (HP)      |    | 20    | Full Load Torque                      |                     | 30.1 LB-FT              |          |         |
| Volts                  |    | 575   | Start Configuration                   |                     | direct on line          |          |         |
| Full Load Amps         |    | 17.9  | Breakdown Torque                      |                     | 99 LB-FT                |          |         |
| R.P.M.                 |    | 3510  | Pull-up Torque                        |                     | 33 LB-FT                |          |         |
| Hz                     | 60 | Phase | 3                                     | Locked-rotor Torque |                         | 43 LB-FT |         |
| NEMA Design Code       |    | B     | KVA Code                              | G                   | Starting Current        |          | 116 A   |
| Service Factor (S.F.)  |    | 1.15  | No-load Current                       |                     | 3.75 A                  |          |         |
| NEMA Nom. Eff.         |    | 91    | Power Factor                          | 91                  | Line-line Res. @ 25°C   |          | 0.683 Ω |
| Rating - Duty          |    | 40C   | AMB-CONT                              |                     | Temp. Rise @ Rated Load |          | 68°C    |
| S.F. Amps              |    | 20.3  | Temp. Rise @ S.F. Load                |                     | 86°C                    |          |         |
|                        |    |       | Locked-rotor Power Factor             |                     | 26.7                    |          |         |
|                        |    |       | Rotor inertia                         |                     | 1.38 lb-ft²             |          |         |

**Load Characteristics 575 V, 60 Hz, 20 HP**

| % of Rated Load | 25   | 50   | 75   | 100  | 125  | 150  | S.F. |
|-----------------|------|------|------|------|------|------|------|
| Power Factor    | 73   | 87   | 91   | 91   | 92   | 91   | 93   |
| Efficiency      | 91.4 | 93.4 | 93   | 91   | 90.6 | 88.8 | 91.6 |
| Speed           | 3579 | 3559 | 3537 | 3513 | 3484 | 3451 | 3520 |
| Line amperes    | 5.87 | 9.39 | 13.3 | 17.9 | 22.7 | 27.8 | 20.3 |

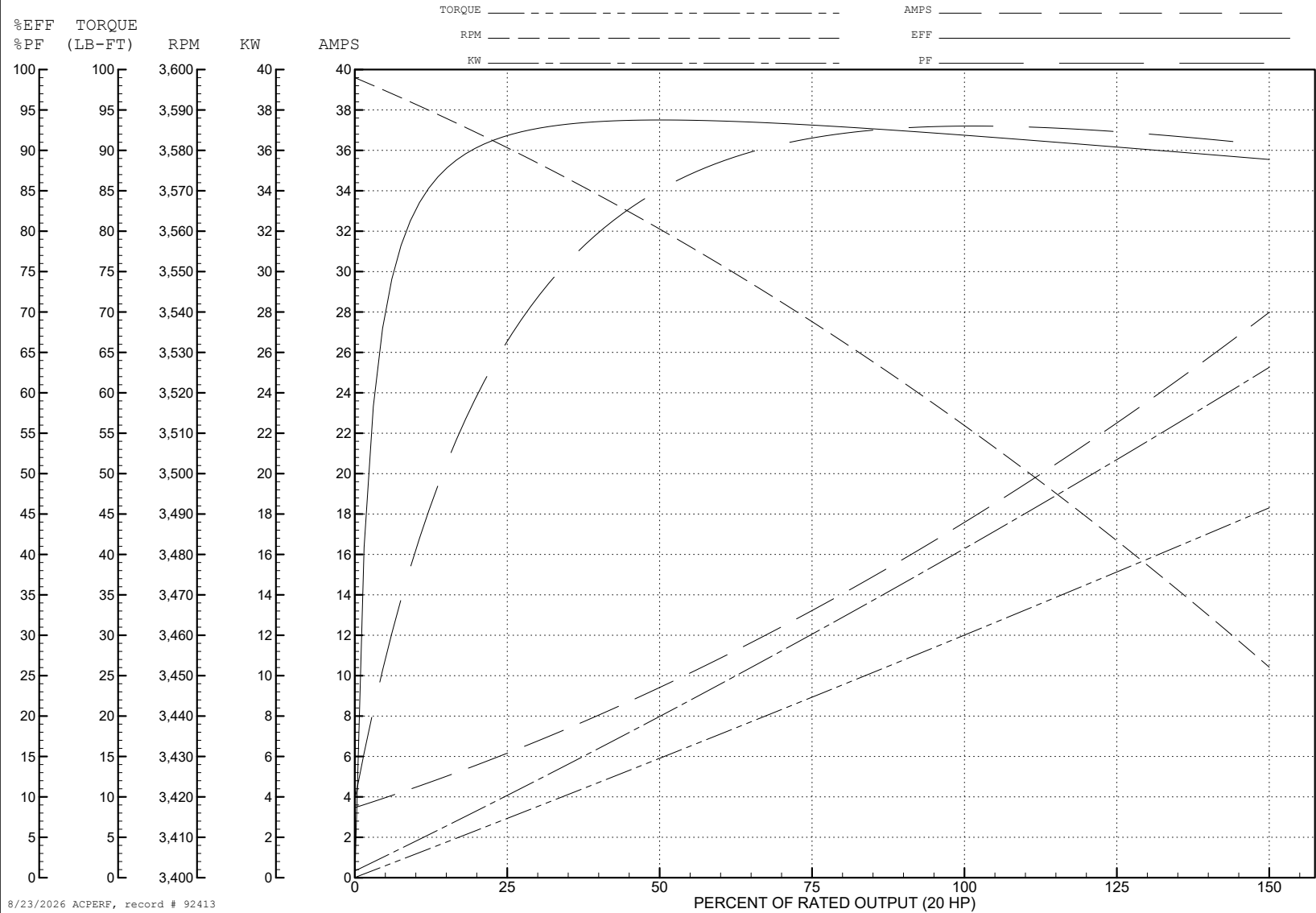
ABB Motors and Mechanical Inc.

WINDING # 09WGT123

Typical performance - not guaranteed values.

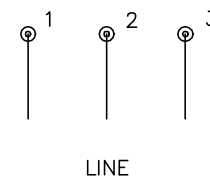
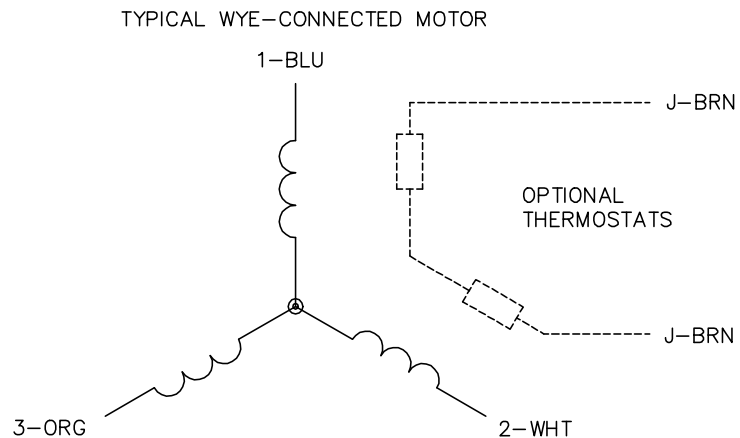
20 HP 3 PH 60 HZ 3510 RPM 575 V 0954M

TORQUES (LB-FT) : PO=99 PU=33 LR=43 LRA=116





CD0006


**NOTES:**

1. THREE LEAD MOTOR MAY BE EITHER WYE CONNECTED OR DELTA CONNECTED.
2. INTERCHANGE ANY TWO LINE LEADS TO REVERSE ROTATION.
3. OPTIONAL THERMOSTATS ARE PROVIDED WHEN SPECIFIED.
4. ACTUAL NUMBER OF INTERNAL PARALLEL CIRCUITS MAY VARY.
5. LEAD COLORS ARE OPTIONAL. LEADS MUST BE NUMBERED AS SHOWN.

CD0006

REV. DESC: ADD CLASS CONN00000007

REV. LTR: E

VERSION: 01

TDR: 000001099922

FILE: \AAA\00005\141

REVISED: 10:24:49 02/19/2019

BY: ENBRIRO

MTL: -


**BALDOR - RELIANCE®**

3PH, SV, 3 LEADS, WYE OR DELTA CONNECTED

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