

# **BALDOR**® • *RELIANCE*

## **Product Information Packet**

# **D51125RR-BV**

**125HP, 1150RPM, DC, 3214ATZ, DPG-FV,**

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| Part Detail       |            |                |            |
|-------------------|------------|----------------|------------|
| Type:             | DC         | Prod. Type:    | TR         |
| Power Code:       | C          | Weight:        | 1475       |
| Frame Group:      | UC 3214ATZ | Mounting Pos.: | F2         |
| HP:               | 125        | Enclosure:     | DPFV       |
| RPM:              | 1150/2000  | Wound:         | STR. SHUNT |
| Service Factor:   | 1.0        | Arm V:         | 500        |
| Arm A:            | 204.00     | Field V:       | 300        |
| Field A:          | 8.37       | Field A Hot:   | 5.96/2.80  |
| Insulation Class: | F          | Ambient:       | 40         |
| Duty:             | CONT       | DE Bearing:    |            |
| ODE Bearing:      | 65BC02J30X | Brushes:       | 419904-52Z |
| Brush Qty.:       |            |                |            |

616032-001

## INDUSTRIAL DIRECT CURRENT MOTORS AND GENERATORS - RPM III

ENCLOSURE: DRIP-PROOF FULLY-GUARDED  
SPLASHPROOF  
MOUNTING: FOOT

COOLING: FORCE VENTILATED  
WITH INTEGRAL  
BLOWER AND MOTOR

ACCESSORIES: PROVISION FOR  
TACHOMETER MOUNTING  
ONLY WHEN SPECIFIED

FRAMES SC3210ATZ THRU ULC3214ATZ

DIMENSIONS ARE IN INCHES

| FRAME                | XAC  | XC   | XE   | XF    | XO    |
|----------------------|------|------|------|-------|-------|
| SC3210ATZ-ULC3214ATZ | 6.75 | 3.25 | 8.50 | 19.25 | 28.00 |

| FRAME                | A     | D(1) | E    | C   | H   | HG   | J    | O     | P     | T    | BA   | K    | FK   | STO. LG.(6) | BK   |
|----------------------|-------|------|------|-----|-----|------|------|-------|-------|------|------|------|------|-------------|------|
| SC3210ATZ-ULC3214ATZ | 15.50 | 8.00 | 6.25 | .75 | .69 | 2.25 | 3.00 | 15.81 | 15.62 | 3.54 | 5.25 | 6.75 | 7.94 | 10.44       | 4.00 |

(1) "P" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.

(2) "U" AND "FU" VARY----+.000 - .001

(3) "R" AND "FR" VARY----+.000 - .015

(4) TERMINAL BOX VARIES WITH H.P. FOR DIMENSIONS "AA", "AB", "AC", "AF", "X" AND "Y" REFER TO BOX D/S. (STD. 609979-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100)

(5) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.

(6) MOTOR SHAFT TAPPED FOR SCREW IN STUB SHAFT.

(7) WHEN THE MOTOR APPLICATION DOES NOT REQUIRE THE USE OF DPG DRIVE END, ADD .25 TO "C" DIM. FOR BRACKET COVER.

(8) DIMENSION FOR FRAMES WITH PREFIX LDC, LMC, LLC, LC, ULSC, ULMC, ULLC OR ULC.

(9) "XO" DIMENSION IS NOT APPLICABLE TO "C3214ATZ" FRAMES (BLOWER MOTOR IS CENTERED ON SHAFT C/L).

TERMINAL BOX CAN BE ROTATED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, V-4, V-5, W-7, OR C-1 MOUNTING IS SPECIFIED.

BOX LOCATED ON TOP WHEN SPECIFIED.

BLOWER ASSEMBLY CAN BE LOCATED AT POSITIONS 1, 2 OR 4, EXCEPT BLOWER ASSEMBLY AND TERMINAL BOX CAN NOT BE LOCATED AT THE SAME POSITION.

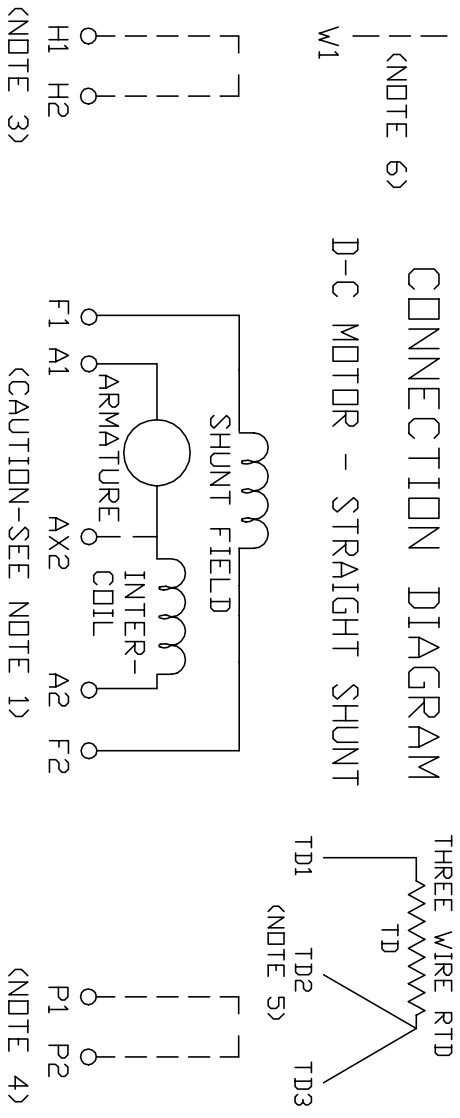
MOTOR WEIGHT MAY VARY 15% FOR NON-STANDARD RATINGS AND/OR ACCESSORIES.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

|  |                              |                    |
|--|------------------------------|--------------------|
| CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION. |                              |                    |
| REV. DESC: LOADED TO BUS   | VERSION: 00                  | TDR: 0000005780087 |
| REV. LTR: -  | REVISED: 03:36:51 01/28/2011 | BY: CONNAS         |
| FILE: \RGG\00016\040   |                              |                    |
| MTL: -   |                              |                    |

DIMENSION DRAWING, SC3210ATZ - ULC3214ATZ, DPG, FOOT MTG

SH 1 of 1



1. **CAUTION** — ARMATURE MAY HAVE MULTIPLE LEADS. CONNECT ALL LUGS WITH THE SAME MARKING TOGETHER.
2. OPTIONAL CONTROL SIGNAL LEAD IS MARKED AX2. ALWAYS TAKE INTERPOLE DROP BETWEEN A2 AND AX2. NOTE: NEMA DESIGNATION FOR AX2 IS LETTER C.
3. SPACE HEATERS, WHEN PROVIDED, WILL HAVE LEADS MARKED H1 AND H2, H3, H4, ETC.
4. THERMAL PROTECTOR, WHEN PROVIDED, WILL HAVE LEADS MARKED P1 AND P2, P3, P4, ETC.
5. WINDING RTD'S, WHEN PROVIDED, WILL HAVE LEAD MARKED W1.
6. BRUSH WEAR SENSOR, WHEN PROVIDED, WILL HAVE LEAD MARKED W1.
7. **WARNING** — MOTOR MUST BE GROUNDED TO PREVENT SERIOUS INJURIES TO PERSONNEL. GROUND THE MOTOR PER IEC, NATIONAL ELECTRICAL CODE AND ANY APPLICABLE LOCAL ELECTRICAL CODES. A TAPPED HOLE IS PROVIDED IN THE CONDUIT BOX, ON THE FOOT. FRAME BRACE OR OPPOSITE OPPOSITE DRIVE END BRACKET, ADJACENT TO THE TERMINAL BOX FOR FOR MOTOR GROUNDING. GROUND LEAD, WHEN PROVIDED, WILL BE GREEN.

CUSTOMER \_\_\_\_\_ RELIANCE \_\_\_\_\_  
 ORDER NO. \_\_\_\_\_ S.O. NO. \_\_\_\_\_



Rev. by N.L. EVANS  
 CK. BY N. JESCHKE  
 App. BY E.J. HINER  
 DATE 5-5-69

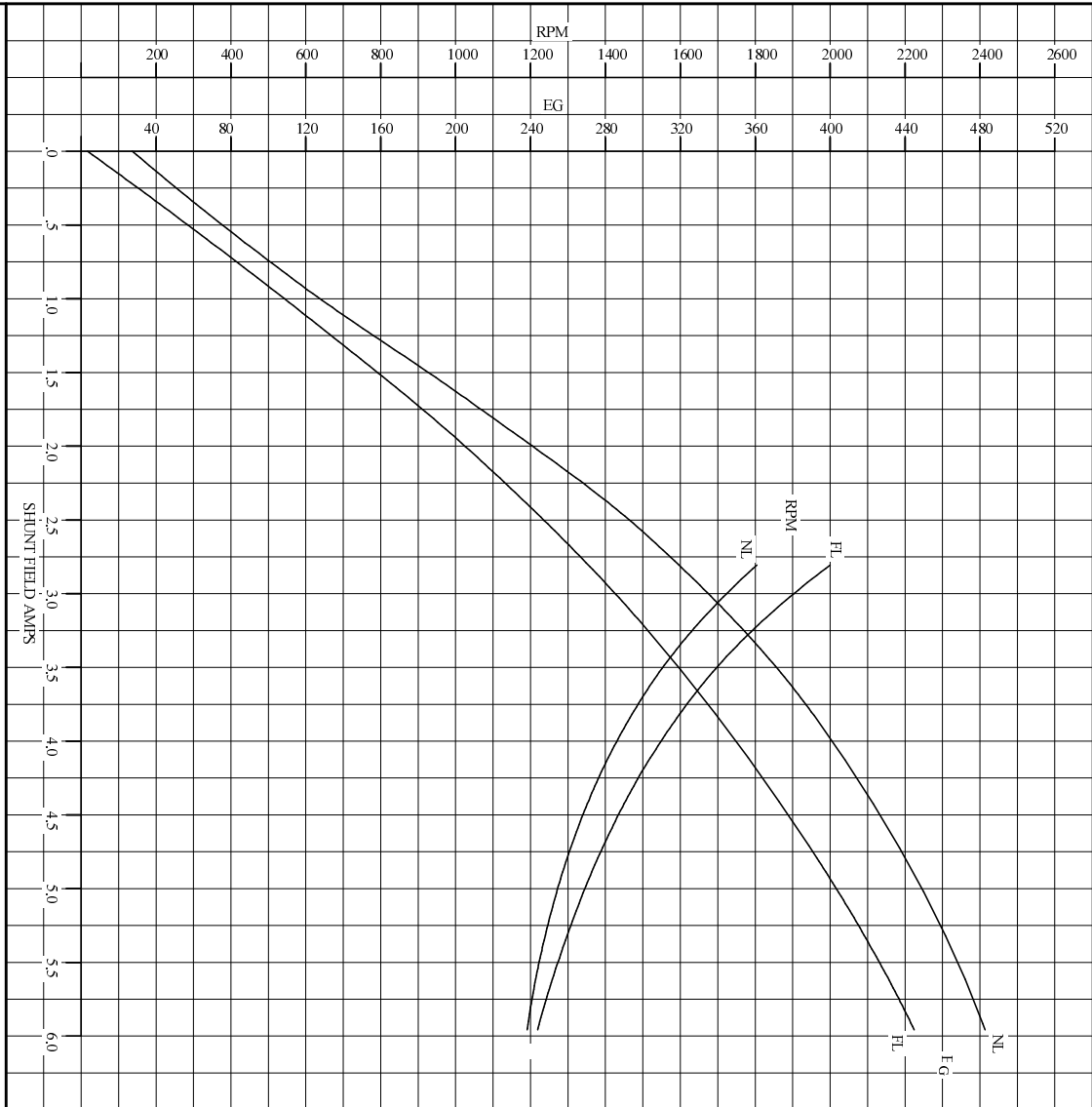
**CONNECTION DIAGRAM**

**406770-6**

ORIGINAL AT RCC

C/R 244907, 290048, 354478, 354480

|   |                   |                      |                         |  |
|---|-------------------|----------------------|-------------------------|--|
| REF. S.O.   | FRAME<br>C3214ATZ | RATING<br>125HP      | BASE SPEED<br>1150      | WINDING TYPE<br>STRAIGHT SHUNT                 |
| S.F. #<br>1.0                                     | ENCL.<br>DPFV     | AMB°C/INSUL<br>40/F  | DUTY<br>CONT            | POWER CODE/FORM FACTOR<br>C                    |
| COOLING AIR (CFM/IN H <sub>2</sub> O)<br>800/3.50 | R (sec)<br>.166   | R (hot)<br>.0605     | T <sub>b</sub><br>.0268 | T <sub>m</sub><br>.0101                        |
| RESISTANCE  | CURRENT           |                      | INDUCTANCE              |  |
| WINDING   | VOLTS             | 25°C<br>.0962        | HOT<br>.127             | 25°C<br>HOT<br>204                             |
| ARM CIRCUIT                                       | 500               | BASIC RPM<br>1380    |                         |  |
| SERIES S1-S2                                      | -                 | MAX CONT RPM<br>2000 |                         |  |
| SHUNT F1-F2                                       | 300               | 35.9                 | 50.4                    | 8.37   |
|   |                   |                      |                         | WINDER RPM MAX. SAFE<br>3600                   |
|   |                   |                      |                         | TYPE<br>TR                                     |
|   |                   |                      |                         | WR <sup>2</sup> (LB-FT <sup>2</sup> )<br>25.51 |
|   |                   |                      |                         | TURNS PER COIL<br>-                            |
|   |                   |                      |                         | H<br>560                                       |



REMARKS: TYPICAL DATA SPEED REGULATOR REQUIRED FOR STABILITY  
CURVES VALID FOR NAMEPLATE SPEED RANGE ONLY

DR. BY R. RELACHER  
CK. BY R. RELACHER  
APP. BY T. ENON  
DATE 01-11-95

**D-C APPLICATION DATA**

SC8386A  
ISSUE DATE 01-11-95

|                     |                |                           |                             |                 |               |
|---------------------|----------------|---------------------------|-----------------------------|-----------------|---------------|
| REL S.O.            | FRAME          | RATING                    | RPM                         | ARM. VOLTS      | ARM. AMPS     |
|                     | C3214ATZ       | 125HP                     | 1150                        | 500             | 204           |
| WINDING TYPE        | S.F.           | ENCL.                     | AMB °C/INSUL                | DUTY            | FIELD VOLTS   |
| STRAIGHT SHUNT      | 1.0            | DPFV                      | 40/F                        | CONT            | 300           |
| POWER CODE          | TYPE           | WK 2 (LB-PT 2)            | HOT ARM. CIR. RES.          | FLD. AMPS@25 °C | HOT FIELD RES |
| C                   | TR             | 25.51                     | .126                        | 8.36            | 50.3          |
| ARM. CIR. IND. (mh) | FIELD IND. (H) | COOLING AIR (CFM/IN H 20) | TURNS PER COIL SHUNT/SERIES | TEST DATE       |               |
| 3.75                | 15.7           | 800/3.50                  | 560/.00000                  | -               |               |

LOAD PERFORMANCE

| LOAD    | AMPERES | TORQUE IN LB.-FT. | OUTPUT IN HP | RPM  | % EFFICIENCY |
|---------|---------|-------------------|--------------|------|--------------|
| NO LOAD | 2.4     | 0                 | 0            | 1187 | 0            |
| 1/4     | 51      | 141               | 31.7         | 1180 | 83.7         |
| 2/4     | 102     | 285               | 64.2         | 1183 | 89.1         |
| 3/4     | 153     | 420               | 95.6         | 1195 | 90.0         |
| 4/4     | 204     | 543               | 126          | 1216 | 89.6         |
| O.L.    | 306     | 748               | 183          | 1284 | 87.5         |


RPM VS. FIELD AMPS

| FIELD AMPS | RPM N.L. | RPM F.L. | Eg N.L. @ BASE SPEED | Eg F.L. @ BASE SPEED |
|------------|----------|----------|----------------------|----------------------|
| 5.95       | 1187     | 1216     | 482                  | 444                  |
| 5.16       | 1253     | 1319     | 453                  | 410                  |
| 4.38       | 1358     | 1459     | 420                  | 371                  |
| 3.59       | 1527     | 1666     | 377                  | 325                  |
| 2.80       | 1804     | 2000     | 319                  | 270                  |

Eg VS. FIELD AMPS

| FIELD AMPS | RPM N.L. | RPM F.L. | Eg N.L. @ BASE SPEED | Eg F.L. @ BASE SPEED |
|------------|----------|----------|----------------------|----------------------|
| 5.95       | 1187     | 1216     | 482                  | 444                  |
| 5.16       | 1253     | 1319     | 453                  | 410                  |
| 4.38       | 1358     | 1459     | 420                  | 371                  |
| 3.59       | 1527     | 1666     | 377                  | 325                  |
| 2.80       | 1804     | 2000     | 319                  | 270                  |

REMARKS: TYPICAL DATA  
 MAXIMUM SAFE SPEED = 3600 RPM  
 SPEED REGULATOR REQUIRED FOR STABILITY

|   |   |   |
|---|---|---|
|  | DR. BY R. BRILACHER                                     | <b>D-C MOTOR PERFORMANCE DATA</b><br>D68386A<br>ISSUE DATE 01-11-95 |
|   | CK. BY R. BRILACHER<br>APP. BY T. EVON<br>DATE 01-11-95 |   |

