

# **BALDOR® • RELIANCE**

## **Product Information Packet**

### **D50500R-BV**

**500HP, 1750RPM, DC, C4412ATZ, DPG-FV,**

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Part Detail			
Type:	DC	Prod. Type:	TR
Power Code:	C	Weight:	3480
Frame Group:	C 4412ATZ	Mounting Pos.:	F2
HP:	500	Enclosure:	DPFV
RPM:	1750/2050	Wound:	STR. SHUNT
Service Factor:	1.0	Arm V:	500
Arm A:	797.00	Field V:	300
Field A:	10.87	Field A Hot:	7.84/5.59
Insulation Class:	F	Ambient:	40
Duty:	CONT	DE Bearing:	110BC02J30X
ODE Bearing:	95BC02J30X	Brushes:	419904-52BK
Brush Qty.:			

616492-001

### DIRECT CURRENT MOTORS AND GENERATORS INDUSTRIAL-RPM III

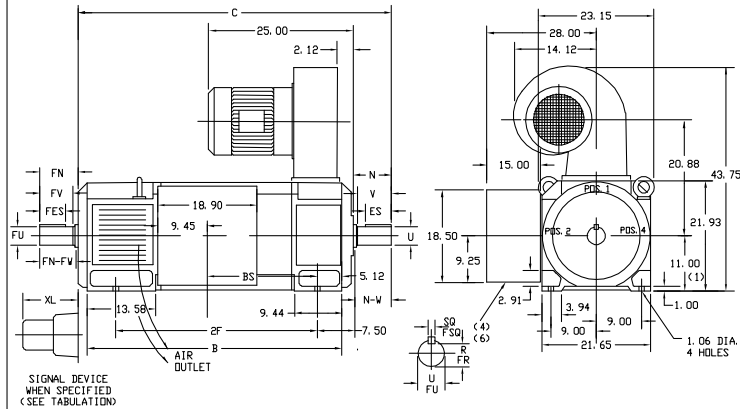
ENCLOSURE: DRIP PROOF FULLY GUARDED  
SPLASHPROOF

MOUNTING: FOOT

COOLING: FORCE VENTILATED WITH  
INTEGRAL BLOWER & MOTOR

ACCESSORIES: FLANGE MOUNTED  
TACHOMETER

FRAME C4412ATZ - C4414ATZ



DIMENSIONS ARE IN INCHES.

FRAME	DUTY	C	BS	B	2F	DRIVE END SHAFT AND KEY						(5) OPPOSITE DRIVE END SHAFT AND KEY				WT. (LBS)				
						N	N-W	UX(2)	V	R(3)	SQ	ES	FN	FN-FW	FUK(2)		FV	FR(3)	FSQ	FES
C4412ATZ	COUPLED	58.32	19.81	46.56	36.00	7.62	7.25	3.625	7.00	3.134	.875	5.75	7.62	7.25	3.625	7.00	3.134	.875	5.75	3245
UC4412ATZ	BELTED	59.32	19.81	46.56	36.00	8.62	8.25	4.125	8.00	3.563	1.000	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3275
C4413ATZ	COUPLED	62.25	23.75	50.56	40.00	7.62	7.25	3.625	7.00	3.134	.875	5.75	7.62	7.25	3.625	7.00	3.134	.875	5.75	3660
UC4413ATZ	BELTED	63.25	23.75	50.56	40.00	8.62	8.25	4.125	8.00	3.563	1.000	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3690
C4414ATZ	COUPLED	68.56	30.05	56.56	45.00	7.62	7.25	3.625	7.00	3.134	.875	5.75	7.62	7.25	3.625	7.00	3.134	.875	5.75	4280
UC4414ATZ	BELTED	69.56	30.05	56.56	45.00	8.62	8.25	4.125	8.00	3.563	1.000	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	4310

SIGNAL DEVICE	XL	WT. (LBS.)
SPY	10.88	7
BC-42	13.38	25
BC-46	15.68	35
M-627A	10.50	14
M-628A	10.50	14
M-727A	10.50	14
M-737A	10.50	14
RD-11	10.00	17
RD-51	16.68	38
RD-61	10.00	17
H56	10.00	17
RE-045	2.56	5
RE-210	15.31	17
TG2168A	2.56	5
TS2014N	6.50	5
TS2087N	11.00	17
RD-120	1.88	5
RL67	2.00	5
HS35	3.00	5
M285	3.12	20
RPY444	11.00	15
N3 DR W4	3.62	10

- (1) THIS DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH 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) REMOVABLE COVER PLATE FOR CUSTOMER DRILLING. TERMINAL BOX CAN BE POSITIONED FOR EITHER TOP OR BOTTOM CONDUIT ENTRY.
- (5) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.
- (6) TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7 OR C-1 MOUNTING IS SPECIFIED.
- (7) AIR FILTER SUPPLIED ONLY WHEN SPECIFIED. BLOWER ASSEMBLY CAN BE LOCATED AT POSITIONS 1, 2 OR 4.

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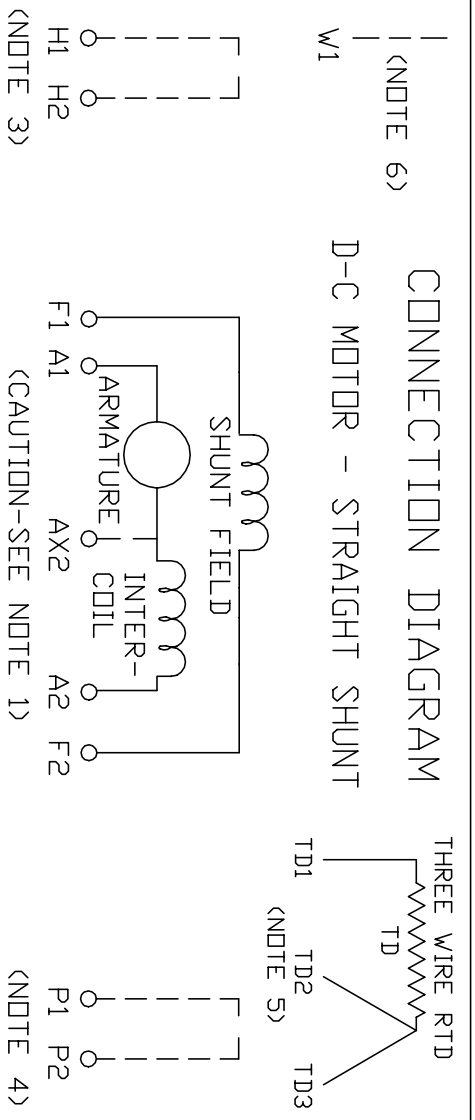
CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT BALDOR'S PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION.

REV. DESC: LOADED TO BUS	VERSION: 00	TDR: 000000578087
REV. LTR: -	REVISED: 02:11:43 01/31/2011	BY: CONNAS
FILE: \RGG\00016\134		
MTL: -		

**BALDOR**

DIMENSION DRAWING, C4412ATZ - C4414ATZ, DPP, FOOT MTG, FRC VENT.

SH 1 of 1



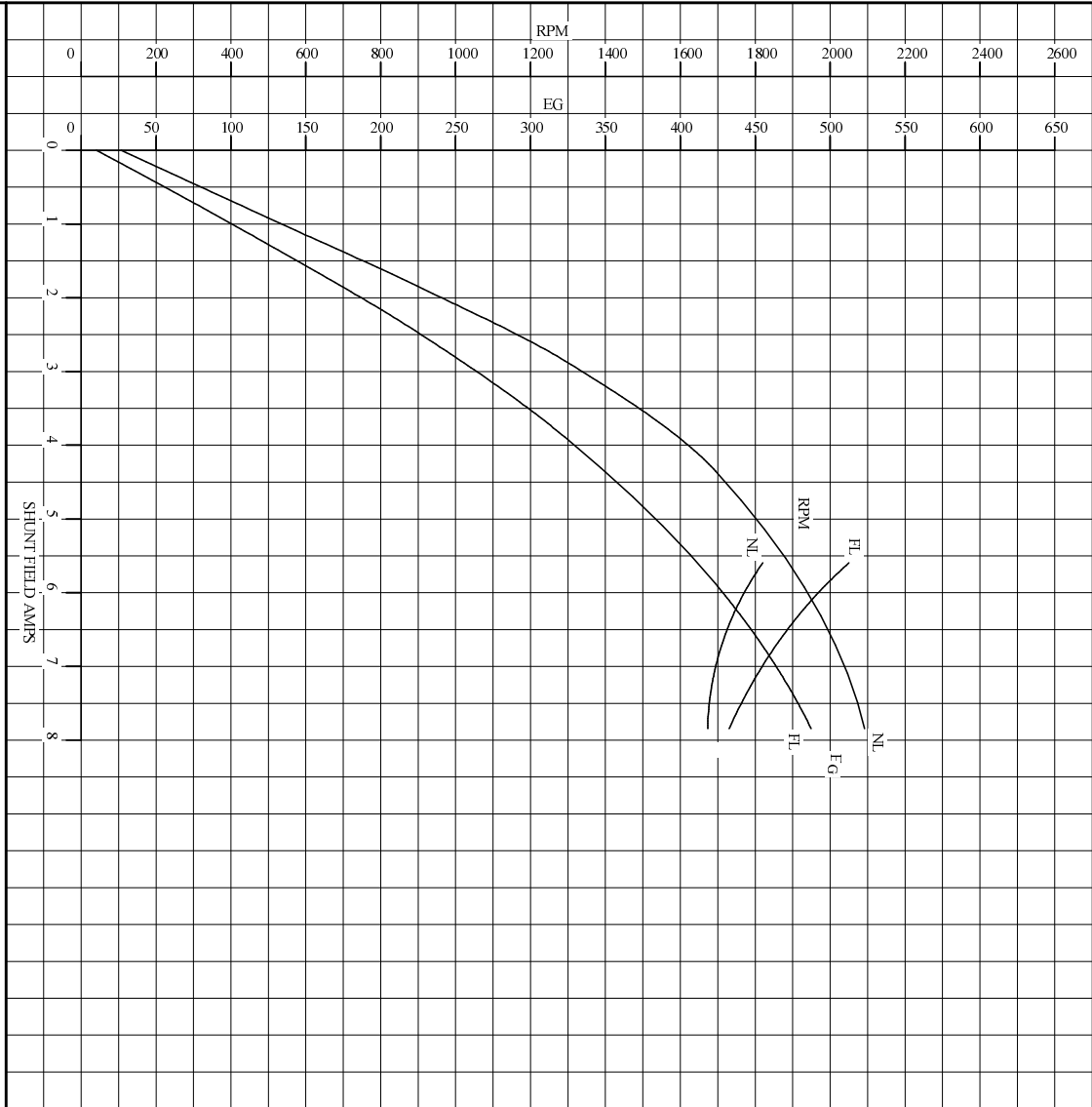
ROTATION FACING COMMUTATOR END

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 _____ ORDER NO. _____	CUSTOMER _____ RELIANCE S.D. NO. _____
 RELIANCE ELECTRIC CLEVELAND, OHIO 44117 U.S.A.	APPROVED BY: N. L. EVANS DATE: 5-5-69 CHECK BY: N. JESCHKE DATE: _____ APR BY: E. J. HINER
CONNECTION DIAGRAM <b>406770-6</b> ORIGINAL AT RCC	

C/R 244907, 290048, 354478, 354480

REF. S.O.	FRAME	RATING	BASE SPEED	WINDING TYPE					
	C4412ATZ	500HP	1750	STRAIGHT SHUNT					
S.F.	ENCL.	AMB°C/INSUL	DUTY	CONT	POWER CODE/FORM FACTOR	BASIC RPM	MAX CONT RPM	WINDER RPM	MAX. SAFE
1.0	DPFV	40/F			C	2000	2050	-	3000
COOLING AIR (CFM/IN H <sub>2</sub> O) (sec)		R (hot)	T <sub>e</sub>	T <sub>m</sub>					
1650/7.00		.468	.0375	.0338					
WINDING	VOLTS	RESISTANCE		CURRENT		INDUCTANCE		TURNS PER COIL	
ARM CIRCUIT	500	25°C	HOT	25°C	HOT				
SERIES S1-S2	-	.0130	.0193	-	797	.769 MH			
SHUNT F1-F2	300	27.6	-	-	7.84	25.3 H		630	



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

<b>BALDOR • DOUGLASS • RELIANCE</b>		DR. BY	B. GRANT	<b>D-C</b>
		CHK. BY	R. REILACHER	
		APP. BY	T. EYON	
		DATE	02/29/2000	<b>APPLICATION DATA</b>
				ISSUE DATE 02/29/2000

C/R 386599


REL S.O.	FRAME	RATING	RPM	ARM. VOLTS	ARM. AMPS
	C4412ATZ	500HP	1750	500	797
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	123.7	.0193	10.8	38.2

ARM. CIR. IND. (mh)	FIELD IND. (H)	COOLING AIR (CFM/IN H 20)	TURNS PER COIL SHUNT/SERIES	TEST DATE
.768	25.2	1650/7.00	630/.00000	-

LOAD PERFORMANCE					
LOAD	AMPERES	TORQUE IN LB.-FT.	OUTPUT IN HP	RPM	% EFFICIENCY
NO LOAD	13	0	0	1669	0
1/4	199	387	123	1667	89.3
2/4	399	796	252	1663	92.9
3/4	598	1173	378	1693	93.4
4/4	797	1521	501	1730	93.1
O.L.	1196	2086	738	1857	91.6

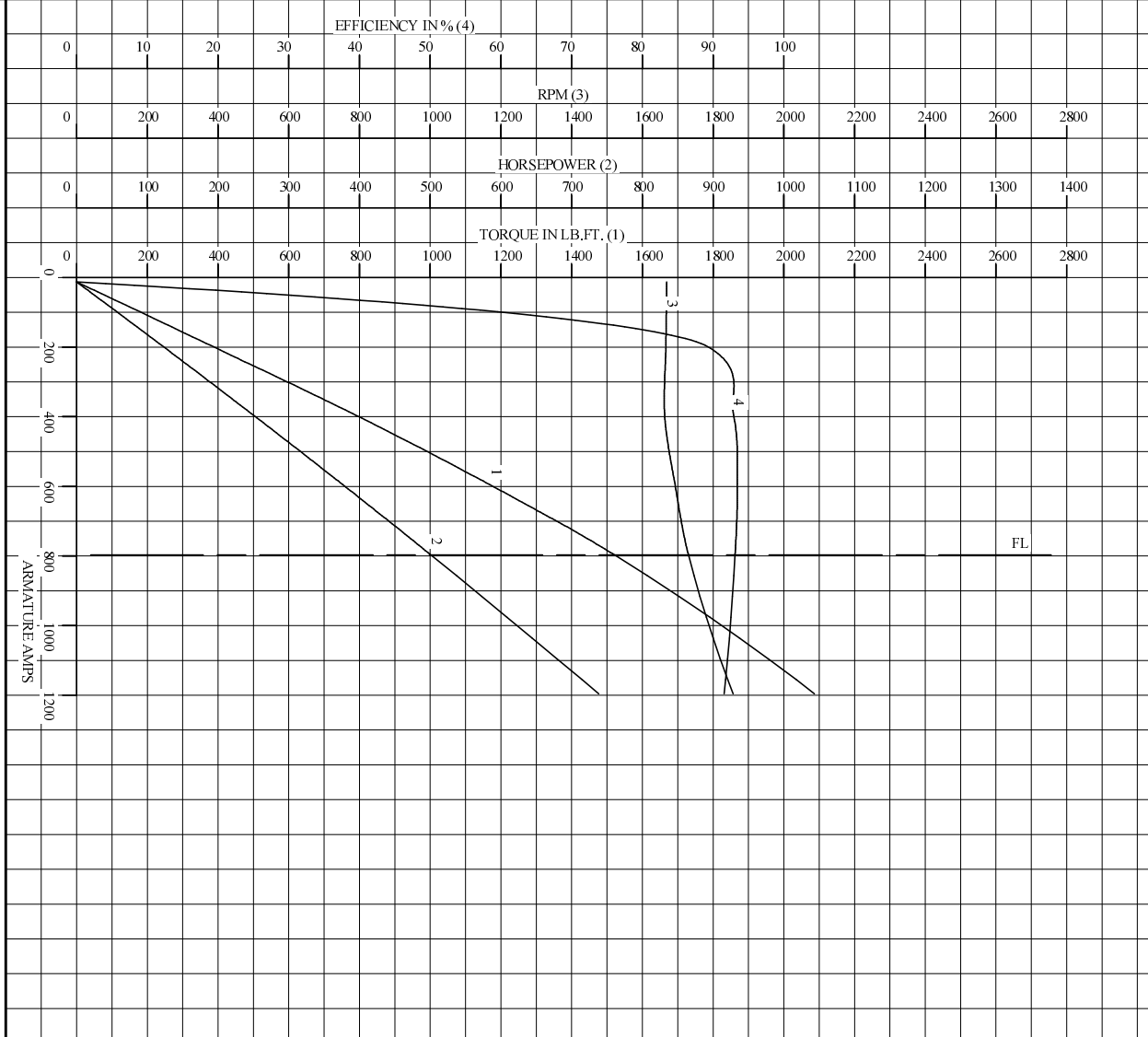
RPM VS. FIELD AMPS			Eg VS. FIELD AMPS		
FIELD AMPS	RPM N.L.	RPM F.L.	Eg N.L. @ BASE SPEED	Eg F.L. @ BASE SPEED	
7.84	1668	1730	522	487	
7.28	1683	1786	513	472	
6.71	1709	1854	502	454	
6.15	1754	1940	489	434	
5.59	1819	2050	473	411	

REMARKS: TYPICAL DATA  
 MAXIMUM SAFE SPEED = 3000 RPM  
 SPEED REGULATOR REQUIRED FOR STABILITY

	DR. BY B. GRANT	<b>D-C MOTOR PERFORMANCE DATA</b> DG9048A ISSUE DATE 02/29/2000
	CK. BY R. BRACHER APP. BY T. EVON DATE 9-25-97	

C/R 386599

REL. S.O.	C4412ATZ	DUTY CONT	TYPE TR	S.F.	1.0
FRAME	500HP	ENCL. DPFV	WK <sup>2</sup> (LB-FT <sup>2</sup> )	FLD.AMPS@25 °C	10.8
HP/KW	1750	AMB °C INSL.	HOT ARM. CIR. RES.	FIELD IND (H)	25.2
RPM	500	ARM. AMPS	ARM. CIRCUIT IND(ohm)	CFM/IN. H <sub>2</sub> O	1650/7.00
ARM. VOLTS	500	FIELD VOLTS	HOT FIELD RES.	TEST S.O.	-
MDG. TYPE	STRAIGHT SHUNT	POWER CODE	C	TEST DATE	-



**BALDOR • DOODGE • RELIANCE**

**D-C PERFORMANCE CURVES** **PC9048A**

DR. BY: B. GRANT  
 CK. BY: R. REINACHER  
 APP. BY: T. EYON  
 DATE: 02/29/20

ISSUE DATE: 02/29/20

C/R 386599