BALDOR
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BALDOR • RELIANCE

Product Information Packet

D5020RS-BV

20HP,1750RPM,DC,2113ATZ,DPG-FV,

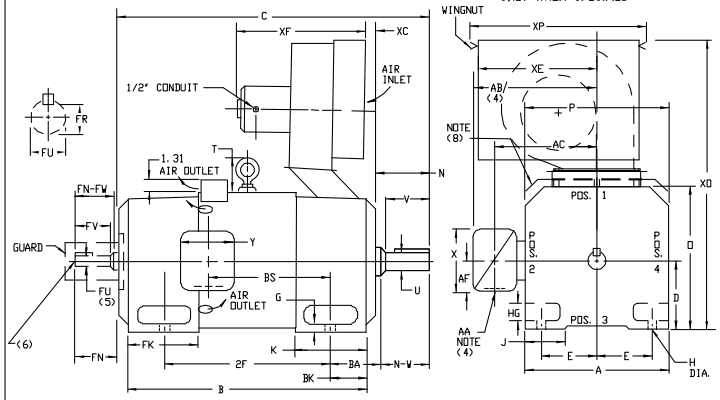
Part Detail			
Type:	DC	**Prod. Type:**	TR
Power Code:	C	**Weight:**	370
Frame Group:	MC 2113ATZ	**Mounting Pos.:**	F1
HP:	20	**Enclosure:**	DPFV
RPM:	1750/2300	**Wound:**	STAB SHUNT
Service Factor:	1.0	**Arm V:**	500
Arm A:	37.00	**Field V:**	300
Field A:	2.24	**Field A Hot:**	1.71/1.14
Insulation Class:	F	**Ambient:**	40
Duty:	CONT	**DE Bearing:**	50BC03J30X
ODE Bearing:	45BC02J30X	**Brushes:**	419904-51AB
Brush Qty.:			

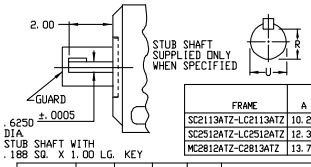
609952-096

INDUSTRIAL DIRECT CURRENT MOTORS AND GENERATORS – RPM III

ENCLOSURE: DRIP-PROOF FULLY-GUARDED, SPLASHPROOF
MOUNTING:FOOT
METHOD OF DRIVE: COUPLED OR BELTED
FRAMES SC2113ATZ THRU C2813ATZ

COOLING: FORCE VENTILATED WITH INTEGRAL BLOWER AND MOTOR AIR FILTERED-SPECIAL BAFFLE
ACCESSORIES: PROVISION FOR TACHOMETER MOUNTING ONLY WHEN SPECIFIED



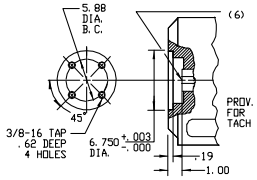


DIMENSIONS ARE IN INCHES

FRAME	XC	XE	XF	XD	XP
SC2113ATZ-LC2113ATZ	1.00	10.00	17.25	28.00	14.50
SC2512ATZ-LC2512ATZ	2.50	10.00	17.25	30.31	14.50
MC2812ATZ-C2813ATZ	1.75	10.00	18.50	30.62	14.50

FRAME	A	BK(1)	E	G	H	HG	J	O	P	T	BA	K	FK	BK
SC2113ATZ-LC2113ATZ	10.25	5.25	4.25	.44	.44	1.38	1.75	10.44	10.31	2.56	3.50	5.19	6.81	2.38
SC2512ATZ-LC2512ATZ	12.31	6.25	5.00	.50	.56	1.62	2.00	12.50	12.44	3.06	4.25	6.06	8.00	3.00
MC2812ATZ-C2813ATZ	13.78	7.00	5.50	.62	.56	1.88	2.75	14.00	13.94	3.38	4.75	6.75	9.19	3.50

FRAME	C	B	BS	2F	DRIVE END SHAFT AND KEY N	N-W	U(2)	V	R(3)	SQ.	LGTH.	OPPOSITE DRIVE END SHAFT AND KEY(5) FN	FN-FW	FU(2)	FV	FR(3)	SQ.	LGTH.	WT. LBS.
SC2113ATZ	28.38	22.50	11.38	18.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	345
MC2113ATZ	29.62	23.75	12.62	18.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	370
LC2113ATZ	31.25	25.38	14.25	18.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	400
SC2512ATZ	31.69	25.06	12.06	20.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	535
MC2512ATZ	33.19	26.56	13.56	20.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	570
LC2512ATZ	34.69	28.06	15.06	20.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	610
MC2812ATZ	37.38	29.94	14.25	22.00	5.00	4.75	2.375	4.50	2.021	.625	3.50	4.50	4.25	2.125	4.00	1.845	.500	3.00	810
LC2812ATZ	39.62	32.19	16.50	22.00	5.00	4.75	2.375	4.50	2.021	.625	3.50	4.50	4.25	2.125	4.00	1.845	.500	3.00	885
LC2813ATZ	41.25	33.81	18.12	25.00	5.00	4.75	2.375	4.50	2.021	.625	3.50	4.50	4.25	2.125	4.00	1.845	.500	3.00	940



(1) 'D' DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 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. 609959-1, 'X/P' 609959-2, MILL 609959-3)
(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 OPP. DRIVE END, ADD .25 TO 'C' DIM. FOR BRACKET COVER.
(8) FOR HORIZONTAL APPLICATIONS ONLY.
TERMINAL BOX CAN BE ROTATED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.
TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-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.
MOTOR WEIGHT MAY VARY 15% FOR NON-STANDARD RATINGS AND/OR ACCESSORIES.
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.
BLOWER MOTOR

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

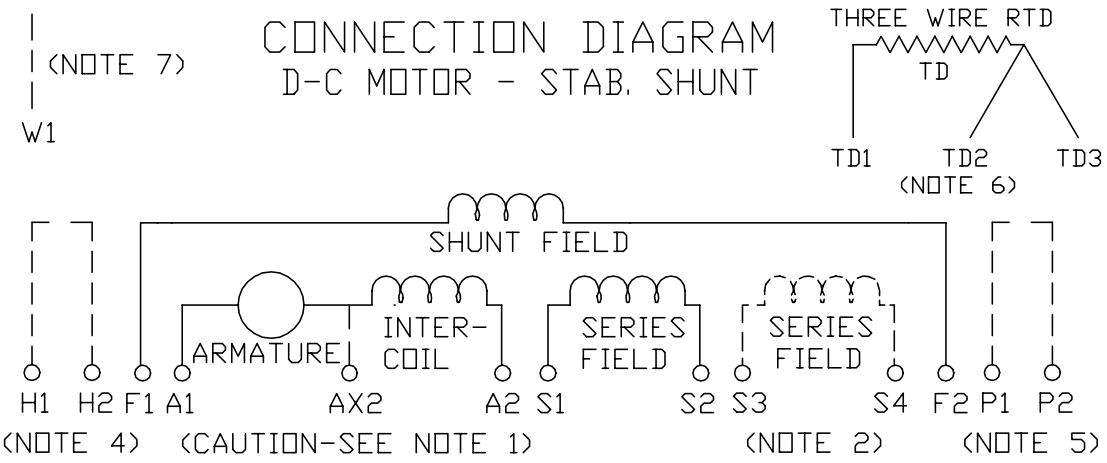
REV. DESC: LOADED TO BUS		
REV. LTR: –	VERSION: 00	TDR: 000000577407
FILE: \RGG\00015\585	REVISED: 11:42:37 01/26/2011	BY: CONNAS
MTL: –		

BALDOR

DIMENSION DRAWING,SC2113ATZ – C2813ATZ,DPP,FOOT MTG.
SH 1 of 1

609952-096

CONNECTION DIAGRAM
D-C MOTOR - STAB. SHUNT



ARMATURE AND FIELD EXTERNAL CONNECTIONS
WARNING- SEE NOTE 8 FOR GROUNDING INSTRUCTIONS

ROTATION FACING COMMUTATOR END

1. CAUTION — ARMATURE AND SERIES FIELD MAY HAVE MULTIPLE LEADS. CONNECT ALL LUGS WITH THE SAME MARKING TOGETHER.
2. OPTIONAL SERIES FIELD IS MARKED S3 AND S4. FOR CUMULATIVE SERIES FIELD, CONNECT S3 TO S2 AND CONNECT S4 TO NEGATIVE. FOR DIFFERENTIAL SERIES FIELD CONNECT S4 TO S2 AND S3 TO NEGATIVE.
3. OPTIONAL CONTROL SIGNAL LEAD IS MARKED AX2. ALWAYS TAKE INTERPOLE DROP BETWEEN A2 AND AX2. NOTE: NEMA DESIGNATION FOR AX2 IS LETTER C.
4. SPACE HEATERS, WHEN PROVIDED, WILL HAVE LEADS MARKED H1 AND H2, H3, H4, ETC.
5. THERMAL PROTECTOR, WHEN PROVIDED, WILL HAVE LEADS MARKED P1 AND P2, P3, P4, ETC.
6. WINDING RTD'S, WHEN PROVIDED, WILL HAVE LEADS MARKED TD1, TD2, &TD3
7. BRUSH WEAR SENSOR, WHEN PROVIDED, WILL HAVE LEAD MARKED W1.
8. 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 _____ CUSTOMER ORDER NO. _____ RELIANCE S.O. NO. _____

RELIANCE ELECTRIC CLEVELAND, OHIO 44117 U. S. A.	DR. BY N. L. EVANS CK. BY N. JUESCHKE APP. BY E. J. HINGER DATE 5-5-69	CONNECTION DIAGRAM	406770-1 ORIGINAL AT RRC

C/R 290048, 354478, 354480

REL S.O.	FRAME	RATING	RPM	ARM. VOLTS	ARM. AMPS
	MC2113ATZ	20.0HP	1750	500	37.0

WINDING TYPE	S.F.	ENCL.	AMB °C/INSUL	DUTY	FIELD VOLTS
STAB. SHUNT	1.0	DPFV	40/F	CONT	300

POWER CODE	TYPE	WK^2 (LB-FT^2)	HOT ARM.CIR.RES.	FLD. AMPS@25 °C	HOT FIELD RES
C	TR	2.564	1.34	2.23	175

ARM. CIR. IND. (mh)	FIELD IND. (H)	COOLING AIR(CFM/IN H_2O)	TURNS PER COIL SHUNT/SERIES	TEST DATE
14.9	18.5	300/2.25	1125/4	-

LOAD PERFORMANCE

LOAD	AMPERES	TORQUE IN LB.-FT.	OUTPUT IN HP	RPM	% EFFICIENCY
NO LOAD	.99	0	0	2016	0
1/4	9.2	14.4	5.37	1962	77.0
2/4	19	30.3	11.1	1918	84.0
3/4	28	45.9	16.4	1879	84.8
4/4	37	60.9	21.4	1848	83.8
O.L.	56	89.0	30.4	1796	80.2

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
1.70	2015	1847	431	407
1.56	2108	1931	413	387
1.42	2216	2029	393	366
1.28	2358	2149	370	342
1.13	2546	2300	343	316

MAXIMUM SAFE SPEED = 4500 RPM

REMARKS: TYPICAL DATA

RELIANCE ELECTRIC

DR. BY J. MARTIN
CK. BY R.ERLACHER
APP. BY T. EVON
DATE 07/18/89

D-C MOTOR PERFORMANCE DATA

DG6393E

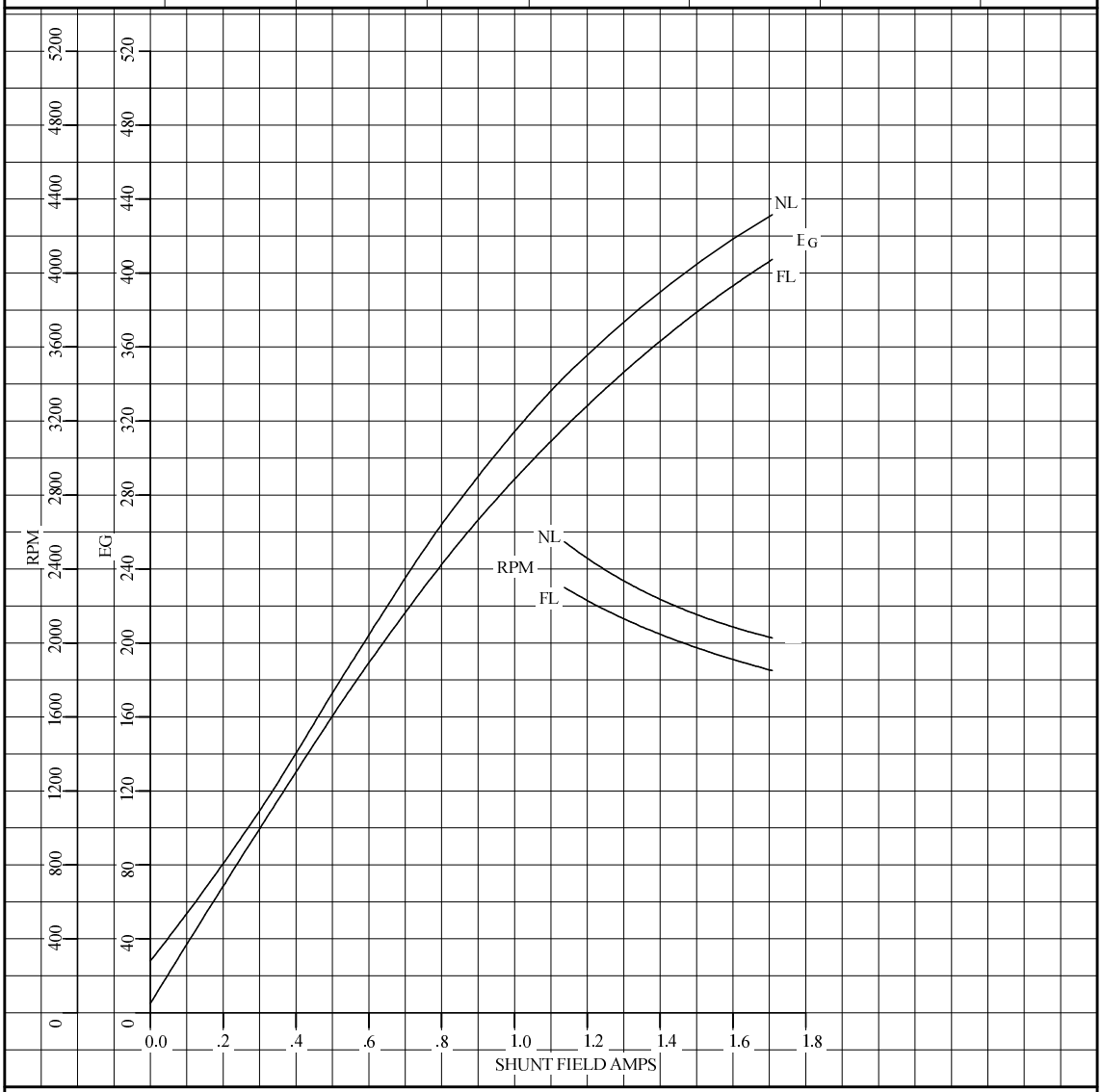
ISSUE DATE 07-11-91

REL S.O.	FRAME	RATING	BASE SPEED	WINDING TYPE
	MC2113ATZ	20.0HP	1750	STAB SHUNT

S.F.	ENCL.	AMB°C/INSUL	DUTY	POWER CODE/FORM FACTOR	TYPE	WK^2 (LB-FT^2)
1.0	DPFV	40/F	CONT	C	TR	2.564

COOLING AIR (CFM/IN H_2O)	$\bar{J}$ (sec)	$\bar{R}$ (hot)	T_E	T_M	BASIC RPM	MAX CONT RPM	WINDER RPM	MAX. SAFE
300/2.25	.242	.115	.0106	.0281	1950	2300	-	4500

WINDING	VOLTS	RESISTANCE		CURRENT		INDUCTANCE	TURNS PER COIL
		25°C	HOT	25°C	HOT		
ARM CIRCUIT	500	1.04	1.34	-	37.0	14.9 mH	-
SERIES S1-S2	-	.0497	.0641	-	37.0	-	4.00
SHUNT F1-F2	300	134	176	2.24	1.71	18.6 H	1125



REMARKS: TYPICAL DATA
CURVES VALID FOR NAMEPLATE SPEED RANGE ONLY

RELIANCE ELECTRIC

DR. BY J. MARTIN
CK. BY R.ERLACHER
APP. BY T. EVON
DATE 07/18/89

D-C APPLICATION DATA

SG6393E

ISSUE DATE 07-11-91