ABB BALDOR RELIANCE

Customer information packet

IDCRPM281004

100HP, 1800, 460V, FL2890, TEFC, F3

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Specifications

Enclosure	TEFC
Frame	FL2890Z
Frame Material	Exposed Laminations
Frequency	60.00 Hz
Output @ Frequency	100.000 HP @ 60 HZ
Phase	3
Synchronous Speed @ Frequency	1800 RPM @ 60 HZ
Voltage @ Frequency	460.0 V @ 60 HZ
Agency Approvals	CCSA US
	NEMA PREMIUM
Auxiliary Box	NO AUXILLARY BOX
Base Indicator	Rigid
Bearing Grease Type	Polyrex EM (-20F +300F)
Constant Torque Speed Range	1-60
Current @ Voltage	98.000 A @ 460.0 V
Duty Rating	CONT
Feedback Device	NO FEEDBACK
Frame Prefix	FL
Heater Indicator	No Heater
High Voltage Full Load Amps	98.0 a
Insulation Class	H
KVA Code	F
Motor Standards	NEMA
Mounting Arrangement	F3
Overall Length	36.59 IN
Product Family	General Industrial
Pulley End Bearing Type	Ball
Pulley Face Code	Standard
Service Factor	1.00
Shaft Diameter	2.624 IN
Shaft Ground Indicator	Shaft Grounding
Shaft Rotation	Reversible

Part Detail

Revision	B
Type	AC
Mech. spec.	
Base	
Status	PRD/A
Elec. spec.	LS7031A
Layout	617245-073
Eff. date	03-24-2022
CD Diagram	422927-001
Poles	04
Leads	
Proprietary	False
Created date	11-01-2021

Speed	1800 rpm
Starting Method	Full Voltage
Thermal Device - Bearing	None
Thermal Device - Winding	Normally Closed Thermostat

Nameplate

000613007QF

DUTY	HP	RPM	AMPS	VOLTS	HZ
CONT	100	1800	98	460	60

CAT.NO.	IDCRPM281004		**SPEC. NO.**	F28-A000-0372							
SER.NO			**FRAME SIZE**	FL2890Z		**TYPE PSM**					
AMB.	40	**S.F.**	1.00	**ENCL.**	TEFC	**PH**	3	**DESIGN**	B	**CODE**	F
NEMA NOM. EFF	97.3		**GUARANTEED EFFICIENCY**	96.7		**POWER FACTOR**	99.1			**INSUL. CLASS**	H
D.E. BRG.	75BC02J30X		**O.D.E. BRG.**	55BC02J30X							
VPWM INVERTER DUTY @1.0SF	**CHP HZ**	60-90	**CT HZ**	1-60		**VT HZ**	0-60				
	IP54 X/T										

000692000VY

MEAS OPEN CIRCUIT VOLTAGE

IS **VOLTS AT** **RPM.**

S.O.	FRAME	HP	TYPE	PHASE	HERTZ	RPM
--	FL2890	100	PSM	3	60	1800

VOLTS	AMPS	DUTY	AMB^{O}C	INSUL	S.F.	NEMA DESIGN
460	96.9	CONT	40	H	1.15	B

CODE LETTER	ENCL	ROTOR INERTIA (lb-ft^2)	STATOR RES.@ 25^{O}C OHMS (BETWEEN LINES)	
G	TEFC	11.1	.06784	TYPICAL DATA

PERFORMANCE

LOAD	HP	AMPERES	RPM	% POWER FACTOR	% EFFICIENCY
NO LOAD	0	32.1	1800	3.50	N/A
1/4	25.0	28.3	1800	86.8	95.3
2/4	49.9	49.0	1800	98.7	96.8
3/4	74.9	72.6	1800	99.4	97.2
4/4	99.8	96.9	1800	99.1	97.3
5/4	125	122	1800	98.3	97.2

SPEED TORQUE

	RPM	TORQUE (% FULL LOAD)	TORQUE (lb-ft)	AMPERES
LOCKED ROTOR	0	169	493.9	688.0
PULL OUT	1800	220	642.1	275.6
FULL LOAD	1800	100	291.5	96.9

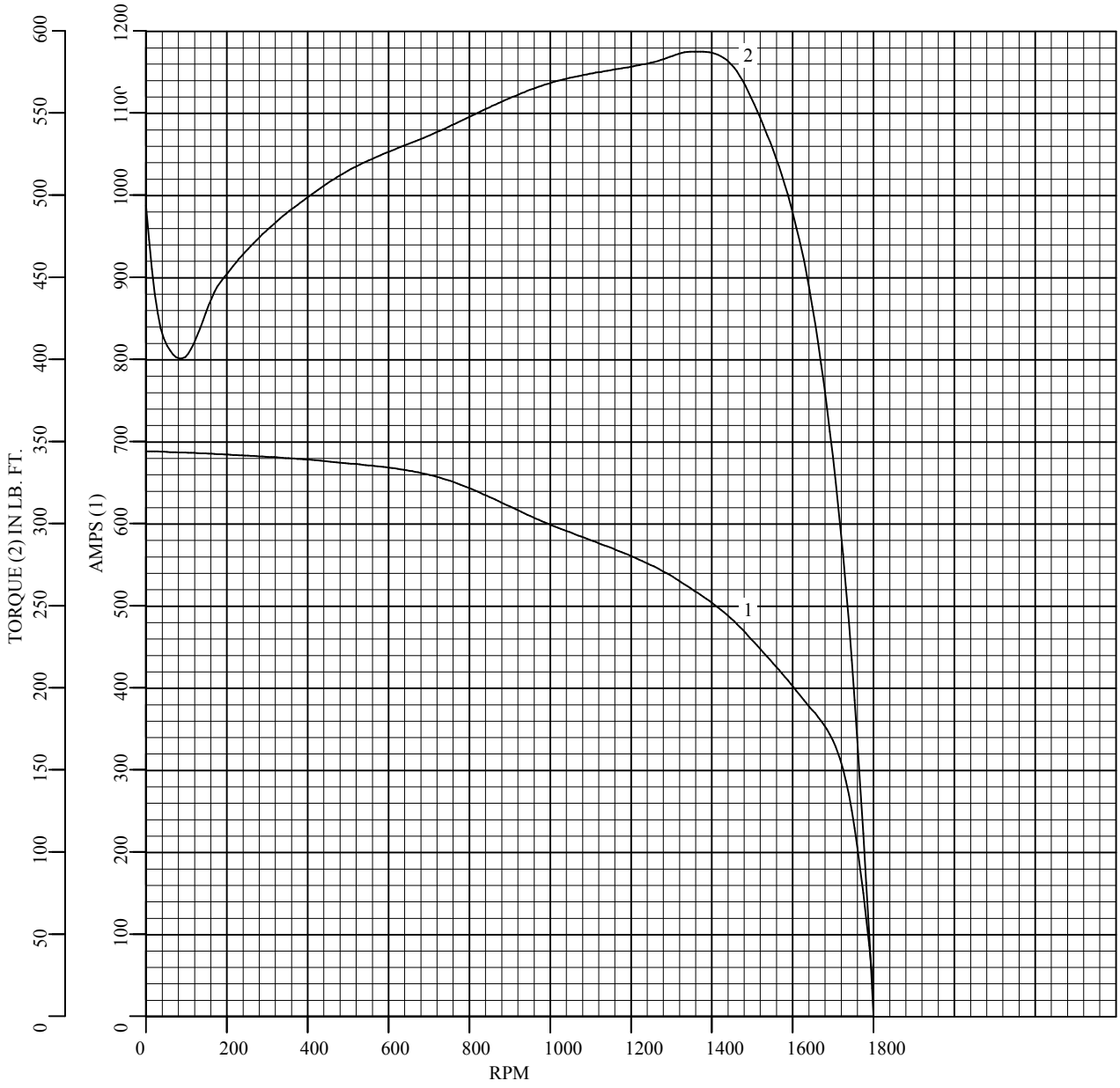
THIS IS A PERMANENT MAGNET MOTOR

GENERATED OPEN CIRCUIT LINE-LINE VOLTAGE at 25^{O}C = 22.1 VOLTS PER 100 RPM

REMARKS:

S.O.	--	HERTZ	60	AMB°C	40	CODE LETTER	G
FRAME	FL2890	RPM	1800	INSUL	H	WK² (lb-ft²)	11.1
HP	100	VOLTS	460	S.F.	1.15	NEMA DESIGN	B
TYPE	PSM	AMPS	96.9	ENCL	TEFC	STATOR RES.@ 25°C	.06784
PHASE	3	DUTY	CONT			OHMS (BETWEEN LINES)	

Amps & Torque vs. RPM
During Acceleration



TYPICAL DATA

BALDOR
A MEMBER OF THE ABB GROUP

DR. BY	CAD
CK. BY	RFM
APP. BY	RFM
DATE	05/25/2016

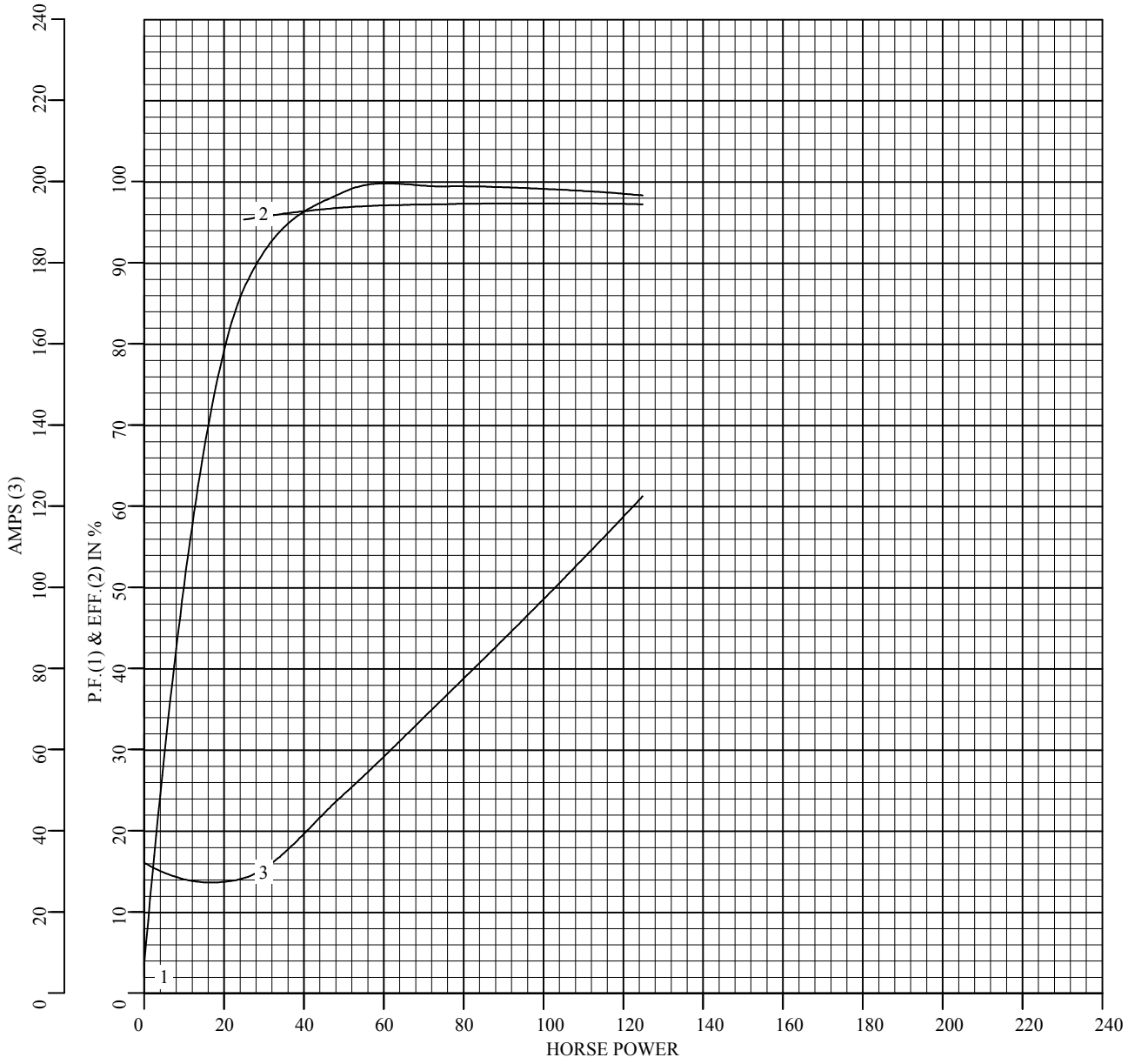
LSPM MOTOR PERFORMANCE CURVES

LS7031A

ISSUE DATE 05/25/2016

S.O.	--	HERTZ	60	AMB°C	40	CODE LETTER	G
FRAME	FL2890	RPM	1800	INSUL	H	WK² (lb-ft²)	11.1
HP	100	VOLTS	460	S.F.	1.15	NEMA DESIGN	B
TYPE	PSM	AMPS	96.9	ENCL	TEFC	STATOR RES.@ 25°C	.06784
PHASE	3	DUTY	CONT			OHMS (BETWEEN LINES)	

Performance Data vs. HP
At Synchronous Speed



TYPICAL DATA

BALDOR
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DR. BY	CAD
CK. BY	RFM
APP. BY	RFM
DATE	05/25/2016

LSPM MOTOR PERFORMANCE CURVES

LS7031A

ISSUE DATE 05/25/2016

RPM-AC FINNED FRAME VARIABLE SPEED ALTERNATING CURRENT MOTOR
FL2890Z

617245-073

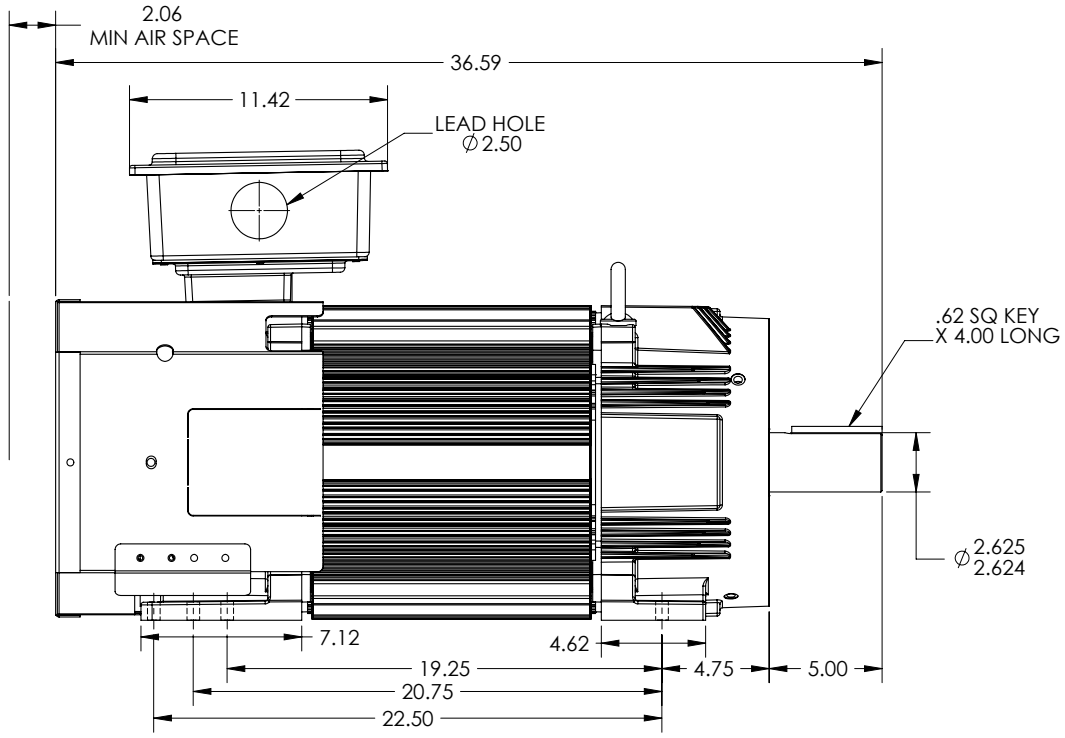
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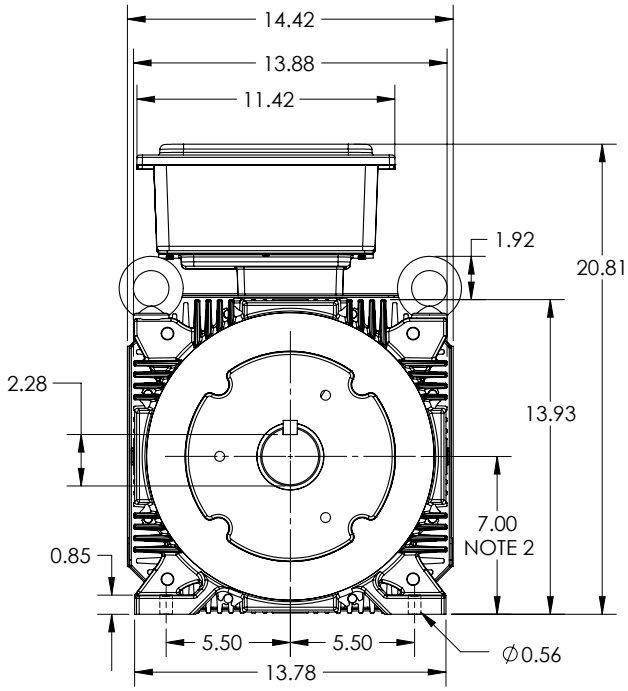
MOUNTING: FOOT

DRIVE METHOD: COUPLED OR BELTED

COOLING: FAN COOLED

ACCESSORIES: PROVISIONS FOR TACHOMETER MOUNTING ONLY WHEN SPECIFIED





235 AMP MILL TERMINAL BOX SHOWN
ROTATABLE IN 90° INCREMENTS

NOTE 1: O.D.E. C-FACE & TACHOMETER MOUNTING
1/2-13 TAP, 1.00 DEEP, ON A ∅7.25 B.C.
FACE RUNOUT AND ECCENTRICITY 0.004 MAX. T.I.R.

NOTE 2: SHAFT HEIGHT WILL NOT BE EXCEEDED
SHIMS UP TO 0.03 INCHES IN THICKNESS ARE USUALLY
REQUIRED FOR COUPLED OR GEARED MACHINES

DIMENSIONS ARE IN INCHES
MOTOR WEIGHT: 795 LBS. (MAY VARY 15%)

CUSTOMER IS RESPONSIBLE FOR DETERMINING THAT THE PRODUCT WILL PERFORM SUITABLY IN THE INTENDED APPLICATION

REV. DESC: INITIAL RELEASE			
REV: -	VERSION: 00	REVISED: 09:10:20 10/28/2021	TDR: 000001179398
MODEL NO. 617245-073			REF: -
BY: USWATUR			B

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DIM SHT,FL2890Z,TEFC,PROV FOR TACH,FT MTG,F3 MILL BOX

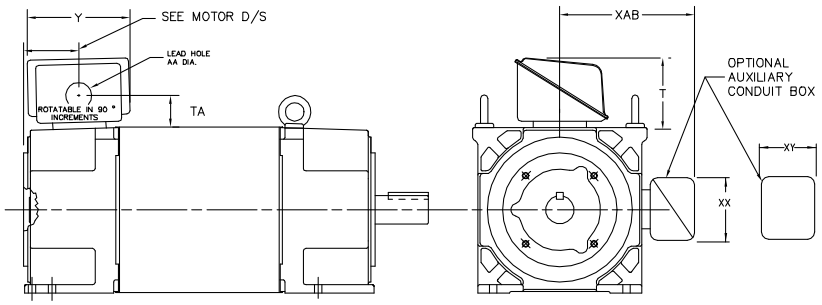
617245-073

616779-050

INDUSTRIAL ALTERNATING CURRENT MOTORS
RPM AC

STEEL, CAST IRON, MILL AND TERMINAL BOARD CONDUIT BOX DIMENSIONS

NEMA FRAMES RL210 thru RL280 and IEC FRAMES RDL132 thru RDL180
NEMA FRAMES FL180 thru FL280 and IEC FRAMES FDL112 thru FDL180



FRAME	TYPE	TERMINAL STRIP	AMPS	C/BOX	Y	TA	T	AA
FL180	STEEL	N	40	706320003A	5.00	1.62	3.00	1.12
FL180	STEEL	Y/N	75	706320005A	6.12	2.38	4.38	1.75/2.00
FL180	STEEL	N	208	706320007A	7.62	2.00	7.00	2.50/3.00
FL180	CAST IRON	Y/N	60	706320004C	5.75	2.38	4.38	1.0 TAP
FL180 & FDL11	MILL	Y	100	706310056A	7.75	2.30	4.40	PG29/PG16
FL210 & RL210	STEEL	N	61	075452000B	6.34	2.00	4.12	1.75
FL210 & RL210	STEEL	N	121	075454001AJ	7.69	2.38	5.25	1.94
FL210 & RL210	STEEL	N	305	706320016A	9.00	4.12	8.44	4.59
FL210 & RL210	CAST IRON	N	110	075460062B	7.25	2.50	5.25	1.5 TAP
FL210 & RL210 FDL13 & RDL13	MILL	Y	100	706310225R 706310056A	7.75	2.30	4.40	PG29/PG16
FL210 & RL210 FDL13 & RDL13	MILL	Y	160	706310226R 706310056B	9.00	3.06	5.40	PG36/PG16
FL210 & RL210 FDL13 & RDL13	MILL	Y/N	235	706310637A	11.42	4.00	6.72	2.50
FL250 & RL250	STEEL	N	61	075452000B	6.34	2.00	4.12	1.75
FL250 & RL250	STEEL	N	121	075454001AJ	7.69	2.38	5.25	1.94
FL250 & RL250	STEEL	N	305	706320016A	9.00	4.12	8.44	4.59
FL250 & RL250	CAST IRON	N	110	075460062B	7.25	2.50	5.25	1.5 TAP
FL250 & RL250	CAST IRON	N	210	706320013A	10.50	4.88	9.00	4.0 TAP
FL250 & RL250 FDL16 & RDL16	MILL	Y	100	706310225R 706310056A	7.75	2.30	4.40	PG29/PG16
FL250 & RL250 FDL16 & RDL16	MILL	Y	160	706310226R 706310056B	9.00	3.06	5.40	PG36/PG16
FL250 & RL250 FDL16 & RDL16	MILL	Y/N	235	706310637A	11.42	4.00	6.72	2.50
FL250 & RL250 FDL16 & RDL16	MILL	Y	400	706310063B	14.39	7.43	12.15	BLANK
FL280 & RL280	STEEL	N	160	706320009A	7.25	3.50	7.06	2.50
FL280 & RL280	STEEL	N	305	706320016A	9.00	4.12	8.44	4.59
FL280 & RL280	STEEL	N	500	702658001C	14.62	7.56	12.70	5.00
FL280 & RL280	CAST IRON	N	140	706320012B	9.25	4.81	8.56	3.0 TAP
FL280 & RL280	CAST IRON	N	210	706320013A	10.50	4.88	9.00	4.0 TAP
FL280 & RL280	CAST IRON	N	510	706320014D	15.00	7.56	12.81	5.0 TAP
FL280 & RL280 FDL18 & RDL18	MILL	Y	100	706310056A	7.75	2.30	4.40	PG29/PG16
FL280 & RL280 FDL18 & RDL18	MILL	Y	160	706310056B	9.00	3.06	5.40	PG36/PG16
FL280 & RL280 FDL18 & RDL18	MILL	Y/N	235	706310637A	11.42	4.00	6.72	2.50
FL280 & RL280 FDL18 & RDL18	MILL	Y	400	706310063B	14.39	7.43	12.15	BLANK

OPTIONAL AUXILIARY CONDUIT BOX DIMENSIONS (MAXIMUM)

FRAME SIZE	XAB	XX	XY	PART NUMBER	FRAME SIZE	XAB	XX	XY	PART NUMBER
FL210/FDL132/RL210/RDL132	7.38	4.25	4.25	602007-26-A	FL210/FDL132/RL210/RDL132	10.88	8.00	8.00	706310-3-B
FL250/FDL160/RL250/RDL160	8.44	4.25	4.25	602007-26-A	FL250/FDL160/RL250/RDL160	11.88	8.00	8.00	706310-3-B
FL280/FDL180/RL280/RDL180	9.12	4.25	4.25	602007-26-A	FL280/FDL180/RL280/RDL180	12.62	8.00	8.00	706310-3-B

(1) 'AA' CONDUIT.
(2) 'AA' PIPE TAP.
(3) CUSTOMER TO PROVIDE HOLE FOR CONDUIT.
(4) 2" DN -5A or 1" TAP DN -4C

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.

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

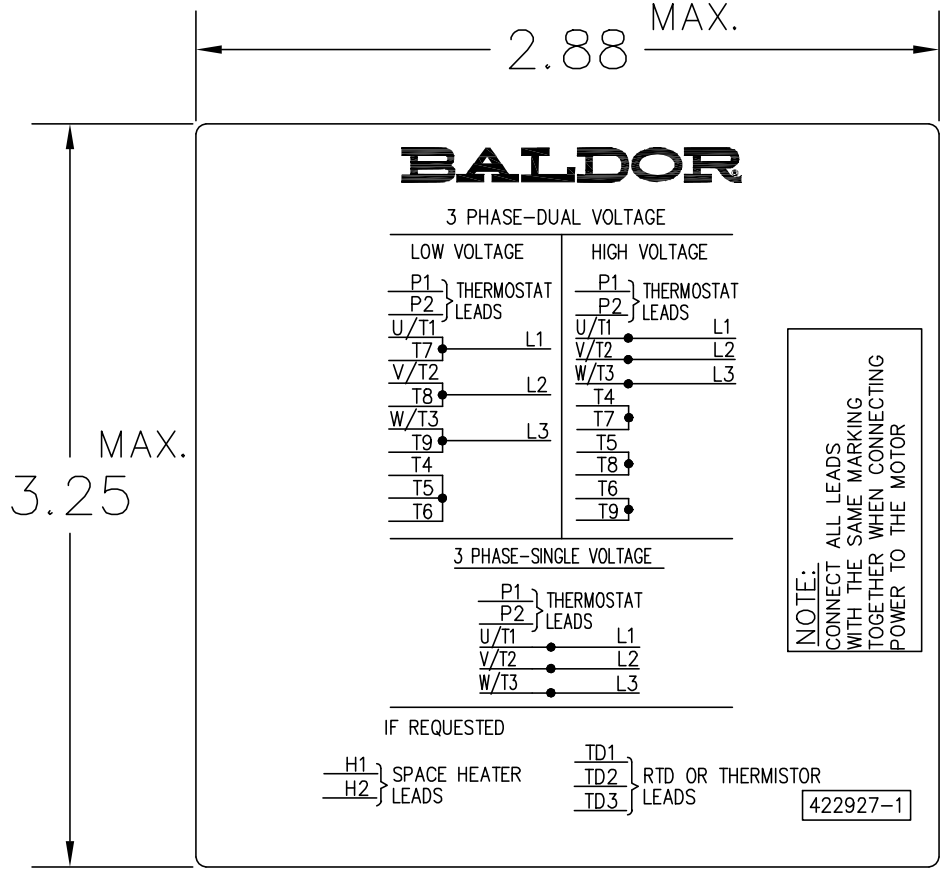
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REV. DESC: ADD 706310-637 & 639 BOX		TDR: 00000118O260
REV. LTR: F	VERSION: 06	
FILE: \RGG\00003\692	REVISED: 11:08:56 10/26/2021	BY: RGGRWM
MTL: -		

DIM SHT NEMA RL210-RL280 FL180-FL280 IEC RDL132-RDL180
SH 1 of 1

616779-050

422927–001



NOTE:
DATA TO BE SIZED SO THAT IT FITS INTO MATERIAL DECAL DIMENSIONS. MAKE LETTERS & NUMBERS AS LARGE AS POSIBLE.

MATERIAL: CERAMATIC DGF–P4
PERMA GRIP ADHESIVE

ALL LETTERS, NUMBERS AND LINES TO BE BLACK ON WHITE BACKGROUND.

422927–001

REV. DESC: CHANGE BACKGROUND COLOR FROM GOLD TO WHITE			BALDOR
REV. LTR: B	VERSION: 02	TDR: 000000788708	
FILE: \RGG\00000\203		REVISED: 08:09:29 03/04/2013	EXTERNAL CONNECTION LABEL
MTL: –		BY: RGGWT	SH 1 of 1