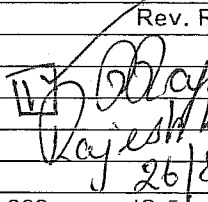


ENGINEERS INDIA LTD (A Govt of India Undertaking)	MV SQ.CAGE INDUCTION MOTOR DATASHEET (ZONE-2) : CT- 2 & CWTP PROJECT : BRHAMAPUTRA PETROCHEMICAL COMPLEX	Part-B, Section B-3.10 Datasheet No. 6907-125-16-50-DS-51 Rev. Page 1 of 1
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Site Conditions				
1 Ambient temperature, Minimum	1 ⁰ C	3	Atmospheric condition	Humid & highly corrosive
	39.8 ⁰ C	4	Altitude	< 1000 m
2 Design	40 ⁰ C	5	Location	Outdoor
3 Relative humidity	93%	6		
Technical Particulars				

1 Motor Tag No	125-LK-102-FM1 / FM2 / FM3 / FM4 / FM5				Rev. R
2 Driven Equipment name	COOLING TOWER FAN				
3 Voltage	415V +/- 6%	16	Hazardous area classificat.	Zone-2	
4 Phase	Three	17	Gas group	IIA, IIB	
5 Frequency	50Hz +/- 3%	18	Type of explosion protection	Ex(n)	
6 Fault level	50 kA	19	Type of ingress protection	IP55	
7 Method of starting	DOL	20	Colour shade	Epoxy based 632 as per IS-5	
8 Winding connection	Delta	21	Thermistors	Not Required	
9 No of terminals	3	22	RTD	Not Required	
10 Cable size Rev. R1 (M/s EIL Confirmed)	Power-2x3Cx95 mm ² Sp Htr-3Cx2.5 mm ²	23	BTD	Not Required	
11 Cable Type Rev. R1	Power - AYFY Sp Htr-YWY	24	RTD/BTD monitoring device	Not Required	
12 Temp rise	80 ⁰ C				
13 Cooling	TEFC		Make	Not Applicable	
14 Insulation class	Class "F" with temp rise limited to class B	25	Applicable specification	EIL Specification 6-51-0032 ITP 6-81-1032	
15		26			

DRIVEN EQUIPMENT MANUFACTURER's DATA				
1 Suggested Motor Rating	90 Kw	9	Torque required Starting	-
2 Manufacturer	Paharpur		maximum	44.17 Kgm
3 BKW at full load	65.77 Kw	10	GD2 of equipment including flywheel	68.55 Kg m ² at motor shaft
4 KW at end of curve	Not Applicable		excluding flywheel	-
5 Speed	98 RPM	11	Thrust up	1394 Kg
6 Rotation viewed from coupling end	Clockwise		down	-
7 Driven Equipment	Axial flow fan	12	Starting condition	DOL
8 Coupling type	Drive Shaft & Gear Box			

MOTOR MANUFACTURER's DATA				
1 Rating	90 Kw	16	Efficiency at 75% voltage	93.3%
2 Manufacturer	Marathon Electric		100% voltage	93.9%
3 No of poles	4	17	Power factor at starting	0.37
4 Frame designation	E280M		100% load	0.87
5 Full load speed	1480	18	Moment of inertia, GD ²	4.601 Kgm²
6 Mounting	IMB3	19	NDE bearing type & no	Ball / 6314
7 Full load torque (FLT)	59.169 Kgm	20	DE bearing type & no	Ball / 6317
8 Starting Torque	220%	21	Type of lubrication	Lithium based Grease
9 Break down or pull out torque	270%	22	Weight of motor - Kg	758 Kg
10 Full load current (FLC)	153A	23	Thermistors : Quantity / No	Not Applicable
11 Starting current at 100% voltage	600% of FLC		Make / Type	
12 Rotation viewed from coupling end	Clockwise	24	RTD : Quantity / No	Not Applicable
13 Starting time at 75% voltage	5.0 Secs		Make / Type	
	100% voltage	25	BTD : Quantity / No	Not Applicable
14 Locked rotor withstand time (cold/hot) at			Make / Type	
	75% voltage	26	Shaft voltage - Volts	Not Applicable for LT Motors
	100% voltage	27	Critical speed, 1st / 2nd stage	More than 130% of rated speed
15 Space heater - voltage & power	240V & 2x60W	28	Canopy for outdoor motors	Will be provided by PCTL

1. All above performance figures are subjected to IS Tolerance				
2. Power cable & Motor Space Heater cable : 2x3Cx95 Sqmm AYFY & 3Cx2.5 Sqmm YWY				
A	03.06.2010	ISSUED WITH BID PACKAGE	RK	MKS
Rev No	Date	Purpose	Prepared By	Checked By
				Approved

REVIEW CODE 1 2 3
Signature & Name of Engineer
Date/दिनांक
V.P. No.

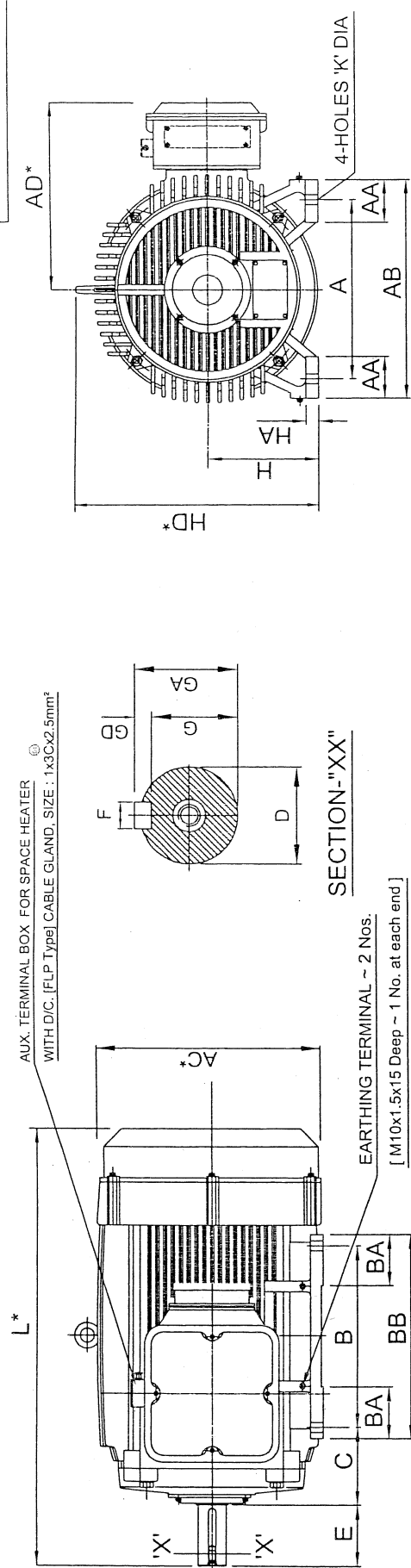
DRAWING No. CM111118

REV 01

6907 / 5827

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AUX. TERMINAL BOX FOR SPACE HEATER
WITH D/C. (FLP Type) CABLE GLAND, SIZE : 1x3Cx2.5mm²



SECTION "XX"

EARTHING TERMINAL ~ 2 Nos.
[M10x1.5x15 Deep ~ 1 No. at each end]

280	0	75	+0.030	140	79.5	20	0	0.052	12	0	67.5	0	457	419	190	24	560	112	490	120	625	550	450	1115	T20
NOM	TOL	NOM	TOL	NOM	TOL	NOM	TOL	NOM	TOL	NOM	TOL	NOM	TOL	NOM	TOL	NOM	TOL	NOM	TOL	NOM	TOL	NOM	TOL	NOM	TOL
H	SHAFT DIA.	D	SHAFT EXTN.	E	GA	F	GD	G	FIXING DIMENSIONS																
AD*	HD*	HA	BA	BB	AA	AB	AC*	L*	TAPPED CENTER HOLE AT SHAFT END (AS PER IS: 2540)																

PURCHASE ORDER NO.	11HPO1497	Date. 11.04.2011
CUSTOMER	M/s. PAHARPUR COOLING TOWERS LIMITED	
ENCLOSURE & TYPE	TEFC-SC ; type 'h'	
MOUNTING	IMB3	
DUTY	S1	
SUPPLY SYSTEM	415 VOLTS ±10%, 50 HZ ±5%, 3 PHASE	

E280M	90	4	ITEM I	5 NOS.
FRAME SIZE	K.W.	POLE	INDENT ITEM No.	QTY.

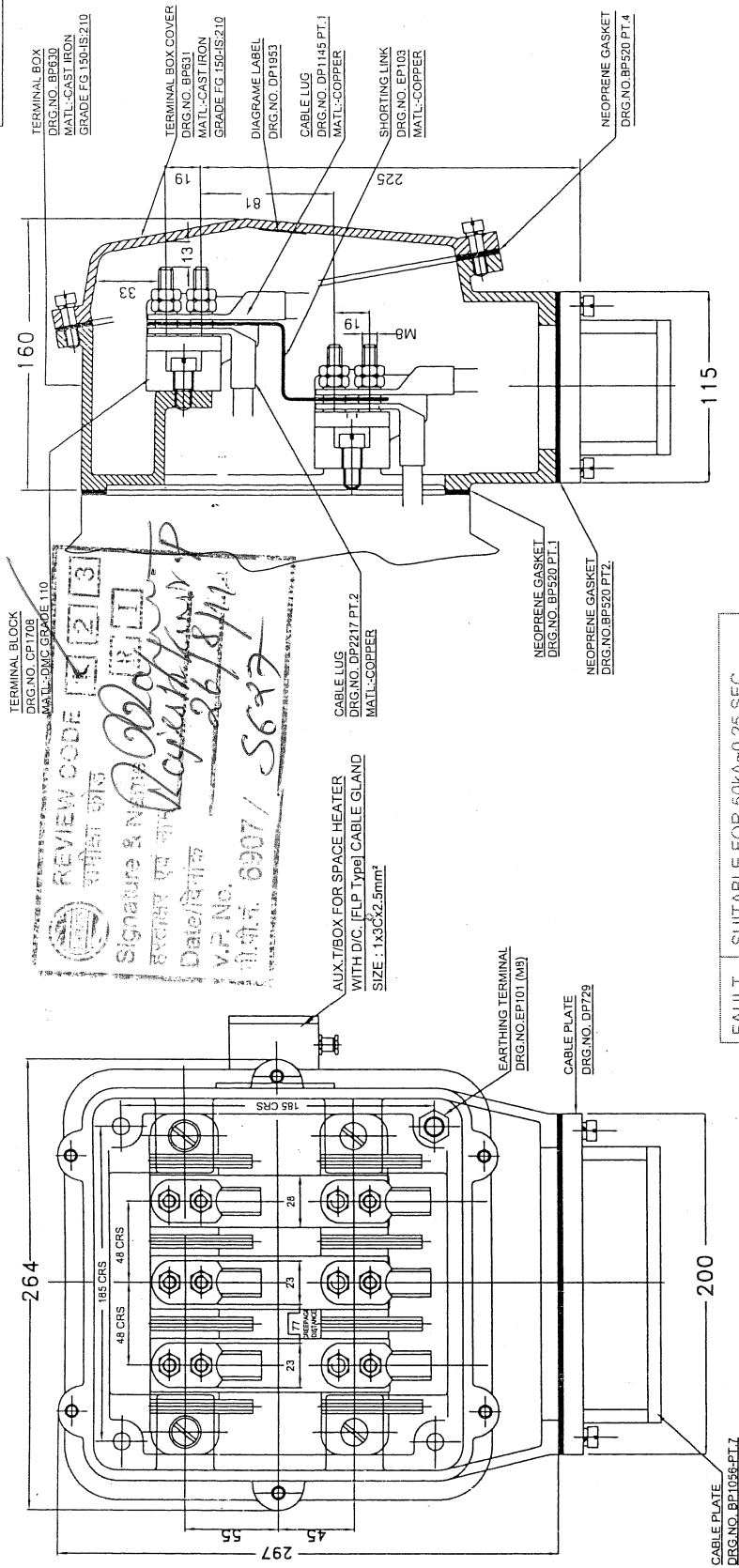
SUITABLE CABLE SIZE : 2x3Cx95mm²

GAS GROUP	IIA / IIB
DEGREE OF PROTECTION	IP55
CLASS OF INSULATION	'F'
AMBIENT TEMPERATURE	40°C
Temp. Rise Limited to Class 'B'	
TERMINAL BOX ASSLY.	CT3322

Marathon electric
A Regal Beloit Company
Marathon Electric Motors (India) Limited
Paharpur Works, 58 Taratala Road,
Kolkata - 700024, INDIA

OUTLINE DIMENSION DRAWING FOR E280M FRAME		TITLE		NON-SPARKING type "n" MOTOR		Ref. : IS / IEC 60079-15 (2008)	
01	08.07.11	i) SPACE HEATER CABLE GLAND SIZE CHANGED TO 1x3Cx2.5mm ²	08.05.11	B.BISWAS	08.05.11	DRAWING NO.	CM111118
REVISION	DATE	DETAIL OF REVISION	DATE	APPROVD	DATE	SCALE	DATE

IF IN DOUBT, PLEASE ENQUIRE



DEGREE OF PROTECTION : IP55

SUITABLE CABLE SIZE : 2x3Cx95mm²

E280M	90 KW / 4 POLE	ITEM I	5 NOS.	CM11118
FRAME SIZE	RATING	INDENT ITEM No.	QTY.	OUTLINE DRG. No.

M/s. PCT

[illegible]

Marathon[®]
electric
A Regal Beloit Company

Marathon Electric Motors (India) Limited
Paharpur Works, 58 Taratala Road,
Kolkata - 700024, INDIA

Ref.: IS/IEC 60079 - 15 - (2005)

Marathon Electric Motors (India) Limited Rotating Machines Paharpur Works		REF. E280M4P_1
ISSUE A		
PAGE 1 of 1		
DATE 03.06.11		
Marathon electric A Regal Birla Company		
MOTOR DETAIL		BRAND CHALL FRAME E280M KW 90 POLE 4 S.O. NO. --- INSULATION - 'F' A/C ---
PERFORMANCE DATA		FRAME E280M KW 90 EFF 93.9 PF 0.87 EL 1480 RPM 1480 FLA 153 STARTING CURRENT (% FLA) 600 STARTING TORQUE (% FLT) 220 POT (% FLT) 270
TORQUE VS. SLIP CURVE		
Signature : Name : Date :		T.Chakraborty 03.06.11 APPROVED BY

Torque Vs. Slip Curve

E280M / 90 KW / 4 POLE

Marathon Electric Motors (India) Limited Rotating Machines Paharpur Works		REF. E280M4P_2
ISSUE A		
PAGE 1 of 1		
DATE 03.06.11		
Marathon electric A Regal Birla Company		
MOTOR DETAIL		BRAND CHALL FRAME E280M KW 90 POLE 4 S.O. NO. --- INSULATION - 'F' A/C ---
THERMAL WITHSTAND CURVE		
Signature : Name : Date :		T.Chakraborty 03.06.11 APPROVED BY

Thermal Withstand Curve

