

PURCHASER'S DATA

A. Site conditions			W.O. No 1185A1		
1	Ambient temperature, minimum:	1 °C	3	Atmospheric condition:	Humid & highly corrosive
	maximum:	39.8 °C	4	Altitude:	< 1000 m
	design:	40 °C	5	Location:	Outdoor
2	Relative humidity:	93 %	6		
B. Technical particulars					
1	Motor tag no.: #	147-KM-02			
2	Driven equipment name:	Butene-1 Unloading Compressor			
3	Voltage:	415V +/- 10%	18	Hazardous area classification:	Zone 2
4	Phase:	Three	19	Gas group/Temp class:	IIA IIB/T3
5	Frequency:	50 Hz +/- 5%	18	Type of explosion protection:	Ex(nA)
6	Fault level at 415V Switch board:	50kA	19	Type of ingress protection:	IP 55
7	Fault duration	0.25 Sec	20	Reacceleration	☒ Required ☐ Not required
	(Motor protected by combination of ACB with relay)		21	Diff. Protection CT's	☒ Required ☐ Not required
8	system earthing (for 415V system):	Direct	23	CT spec	Later
9	Duty:	Continuous			
10	Method of Starting	DOL	24	Color shade:	632 as per IS 5
11	Cable size:	1R X 3C X 95mm ²	25	Thermistors:	☒ Required ☐ Not required
12	Cable type:	AYFY	26	RTD:	☒ Required ☐ Not required
13	Temperature rise:	75 °C	27	BTD:	☒ Required ☐ Not required
14	Cooling:	TEFC/IC 4A1A1	28	RTD/BTD monitoring device:	☒ Required ☐ Not required
15	Insulation class:				
16	B / F with temp rise limited to Class B.				
17	Connection	DELTA	29	Applicable specification:	EIL spec. 6-51-0032
			30	REV - 4	

DRIVEN EQUIPMENT MANUFACTURER'S DATA

1	Suggested motor rating:	18.5 kW	9	Coupling type	V-Belt
2	Manufacturer:	DR/BBL	10	Torque required, starting:	6.28 mkg
3	Type of driver mounting	B3	11	maximum:	7.24 mkg
4	Driven equipment	COMPRESSOR	12	GD ² of eqpt., including flywheel:	27.82 kgm ²
5	shaft kW	12.1 kW		excluding flywheel:	N.A. kgm ²
6	kW at maximum load	12.1 kW	13	Maximum up:	N.A. kg
7	speed	495 rpm	14	Pulsation rate	N.A.
8	Rotation of eqpt. From coupling end	CW	15	Starting condition:	UNLOADED

MOTOR MANUFACTURER'S DATA

1	Rating:	18.5 kW	17	Space heater-voltage & power	N.A.
2	Manufacturer:	M/s Bharat Bijlee Ltd	18	Moment of inertia, GD ² :	0.46 kgm ²
3	No. of poles:	4	18	DE/NDE bearing type & no	NU 310 C3/BALL 6210 C3
4	Full load speed:	1460 RPM	20	Type of lubrication:	Grease
5	Mounting:	B3	21	Type of main terminal box	Stud type
6	Full load torque (FLT):	12.3 mkg	22	Type of neutral terminal box	N.A.
7	Starting torque:	260 % of FLT	23	Weight of motor:	160 kg
8	Break down or pull out torque:	270 %	24	Thermistors, quantity:	N.A. no.
9	Full load current (FLC):	34.4 A		make:	type: N.A.
10	Starting current at 100% voltage:	600 % of FLC	25	RTD, quantity:	N.A. no.
11	Rotation viewed from coupling end:	Bi-Directional		make:	type: N.A.
12	Starting time at, 75% voltage:	2 sec.	26	BTD, quantity:	N.A. no.
13	100% voltage:	1 sec.		make:	type: N.A.
14	Locked rotor withstand time (cold/hot) at,		27	Shaft voltage:	200m V
	75% voltage:	35 / 18 sec.	28	Critical speed, 1 st /2 nd stage:	3000 / # RPM
	100% voltage:	20 / 10 sec.	29	Pressurization panel	N.A.
15	Efficiency at 75%, 100% load	91.2 / 91.2		make:	type: N.A.
16	Power factor at 75%, 100% load	0.79 / 0.82	30	Canopy (FRP):	NOT IN BBL SCOPE OF SUPPLY.
Frame Designation of Motor		180M,MN18M433			

1. Recommended list of maintenance spares for two years operation shall include the following as minimum:
a) Bearings DE/NDE one set b) Terminal box cover with screws c) Fan d) Terminal Block
2. Starting time calculation shall be based on operating condition specified in material Requisition eg. open valve condition/closed valve condition, at no load/under load, as applicable.
3. Canopy shall be provided for motors installed outdoor.
4. Acceptable indigenous makes of Ex n type MV motors : ABB / Bharat Bijlee / CGL / KEC / marathon Electric Motor / Siemens
our rotor are stiff rotor as per clause 10.0 of EIL specn. Hence lower than syn. Speed no critical speed is arise.

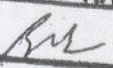
PESO:A/P/HQ/MH/104/1868/(P234446)DT.29.07.09

CIMFR:ERTL(E)/TES/B178/0008/12-08

ALL PERFORMANCE FIGURES ARE SUBJECT TO IS TOLERANCE

MOTOR CANOPY AND CABLE LUGS ARE NOT IN BBL SCOPE OF SUPPLY.

A 10.11.2009 ISSUED WITH MR
Rev. No. Date Purpose
FOR bbl MADE BY MPS DT.12/22/2010

Reviewed By:
DRESSER-RAND


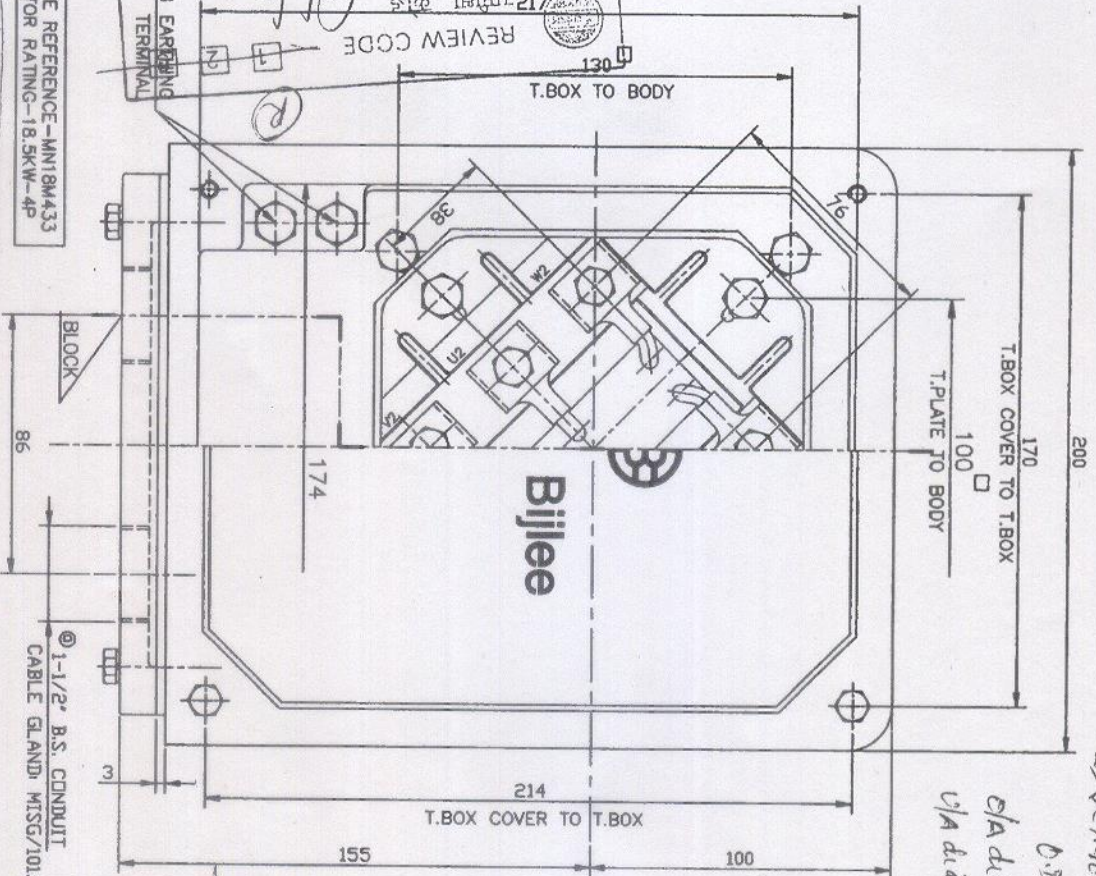
REVIEW CODE		1	2	3
Prepared by	Checked by	Approved by		
Signature & Name		Signature & Name		
Date / Time		Date / Time		

VP No. 6907/2324

Signature & Name
Date / 12/11/11
REVIEW CODE

TYPE REFERENCE-MN18M433
MOTOR RATING-18.5KW-4P

- ① TINNED TYPE CU LUGS NOT IN BBL SCOPE OF SUPPLY
- ② TAG NO.-147-KM-01
- ③ CABLE GLAND AS PER IS/IEC-60079-0(2004)
- ④ T.BOX IS ROTATABLE 360° IN THE STEP OF 90°



→ 3CX70mm² APF Cable Dim:

O.D : 31 ± 2 mm

C/A die : 27.5 mm Approx.

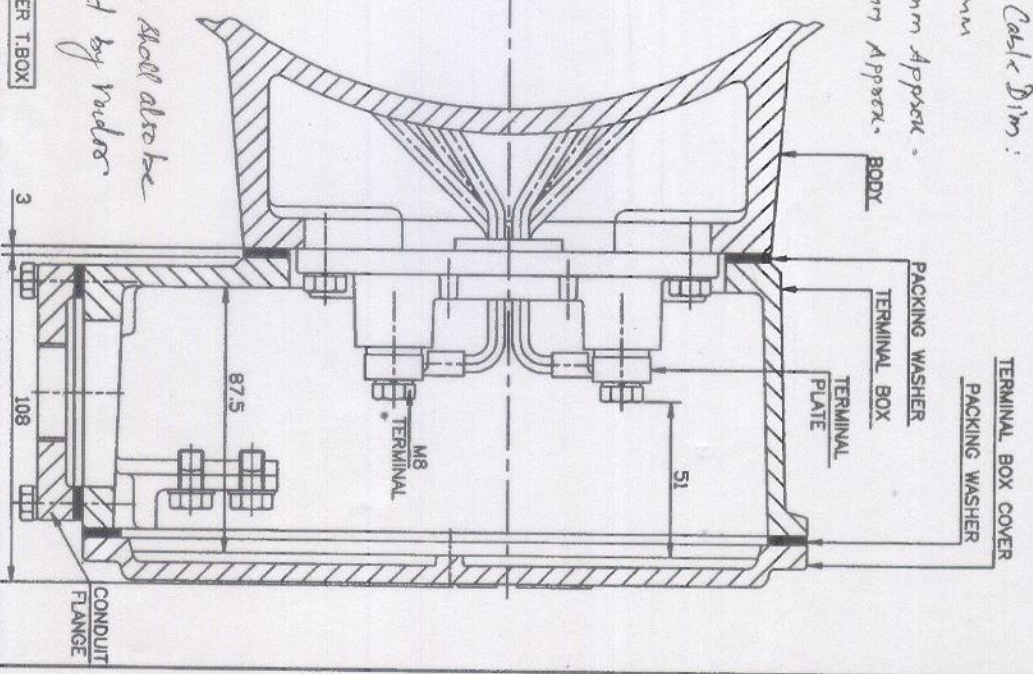
W/A die : 25.9 mm Approx.

→ Cu. lugs shall also be supplied by vendor.

① HIGHER T.BOX

① 1-1/2" B.S. CONDUIT
CABLE GLAND: MISC/101/5- IND. ①

① CABLE SIZE-1X3CX70mm²sq.
FOR APFV ARMOURD CABLE-650V
[AS PER CUSTOMER CABLE SIZE-1X3CX96mm²sq.
IS NOT POSSIBLE EVEN WITH HIGHER T.BOX SIZE.]



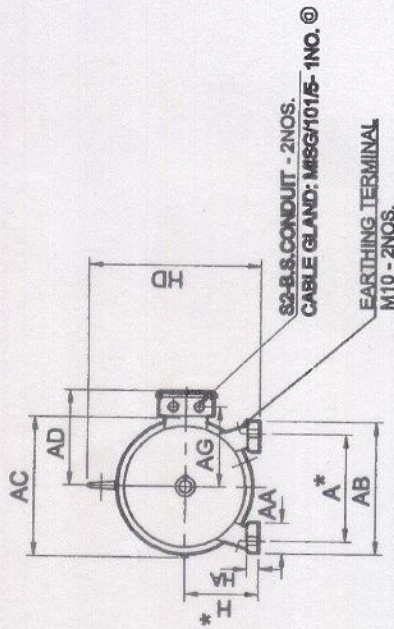
NO	DESCRIPTION	UNIT	QTY	REMARKS
1	TERMINAL BOX ASSEMBLY	EA	1	
2	CONDUIT	M	1	
3	PACKING WASHER	EA	1	
4	TERMINAL PLATE	EA	1	
5	MB EMBEDDING TERMINAL	EA	1	
6	CONDUIT FLANGE	EA	1	

BRHAT BILJE LTD.
KOLWA

TERMINAL BOX ASSEMBLY
(FOR TB 200-TYPE 1)

TBAE18MC014

200



TERMINAL BOX- SWAET.

TYPE REFERENCE—MN18M433
MOTOR RATING—18.5KW—4P

© HIGHER T.BOX

NONSTD.OVERALL DIMENSIONAL DRAWING
NON SPARKING T.E.F.C.(FOOT MOUNTED)
FR.SIZE 180M-4 POLE

©CABLE SIZE-1RX3CX70mm.sq.

FOR AYFY ARMoured CABLE: 650V

[AS PER CUSTOMER CABLE SIZE-1RX3CX95mm.sq.
IS NOT POSSIBLE EVEN WITH HIGHER T.BOX SIZE.]

Dimension	Tolerance	Specification
A-B	± 0.75	IS : 1231
H	-0.5	
K	$+0.430$	
D	± 0.480	IS : 1231
GAF		IS : 2048
(containing)		IS : 2540

ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE SPECIFIED.

① AMENDED AS PER CLIENTS REQUIREMENT & CI NO: 12/1147 ON 15.12.10 V.S.W

	AMEND		DRG No. E18M43006 © T.E.F.C. 180M
	DATE	APPD	
DRN 15.11.2010 CHD 15.11.2010	NAME BHARAT BIJLEE LTD. KALWA	V.S.K. P.R.F.	SCALE N.T.S.
CONSTRUCTION		WO.NO. 1185A1 45472-10	B ₃
© AMENDED AS PER CLIENTS REQUIREMENT & © INC. 12/1/147 ON 15.12.10 V.S.K.			

DRG. NO.- TN-

1185A1

TAG No:-147-KM-02

R1

 Bharat Bijlee
SPEED Vs TORQUE & CURRENT CHARACTERISTICS

CUSTOMER

: M/s DRESSER RAND INDIA PVT.LTD

W.O. NO.: 1185A1

SAP NO: 45472/10

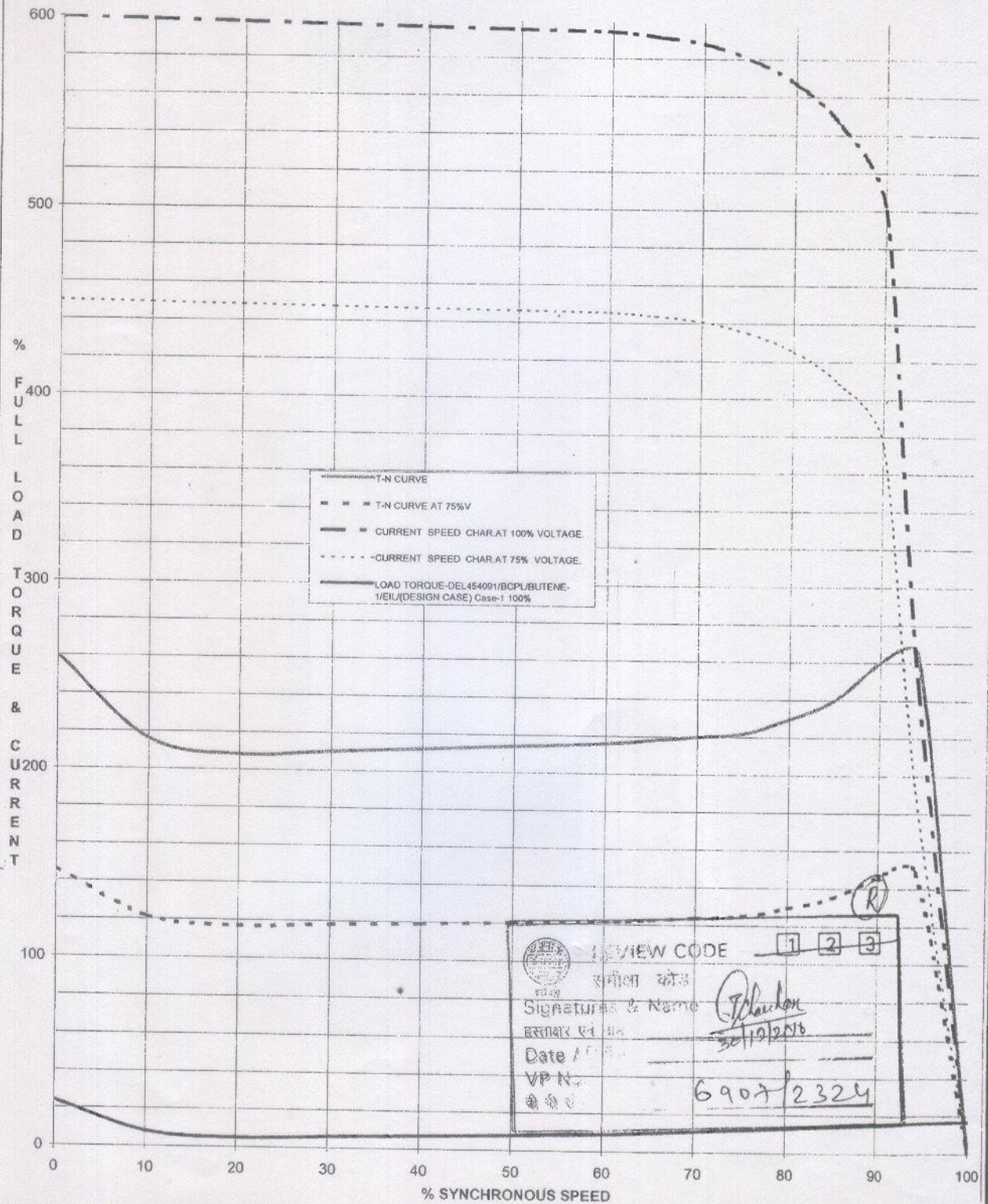
KW : 18.5

POLE : 4

VOLTS : 415

QTY :

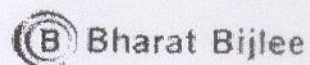
2



2	REV-2(R2) MADE BY MPS DT.12/24/2010	PREP	MPS	11/17/2010
1	REV-1(R1) MADE BY MPS DT.12/17/2010	APPD	MPS	11/17/2010

TAG No:-147-KM-02
LOAD Vs EFF., P.F.,

R1



CUSTOMER

: M/s DRESSER RAND INDIA PVT.LTD

W.O. NO. 1185A1

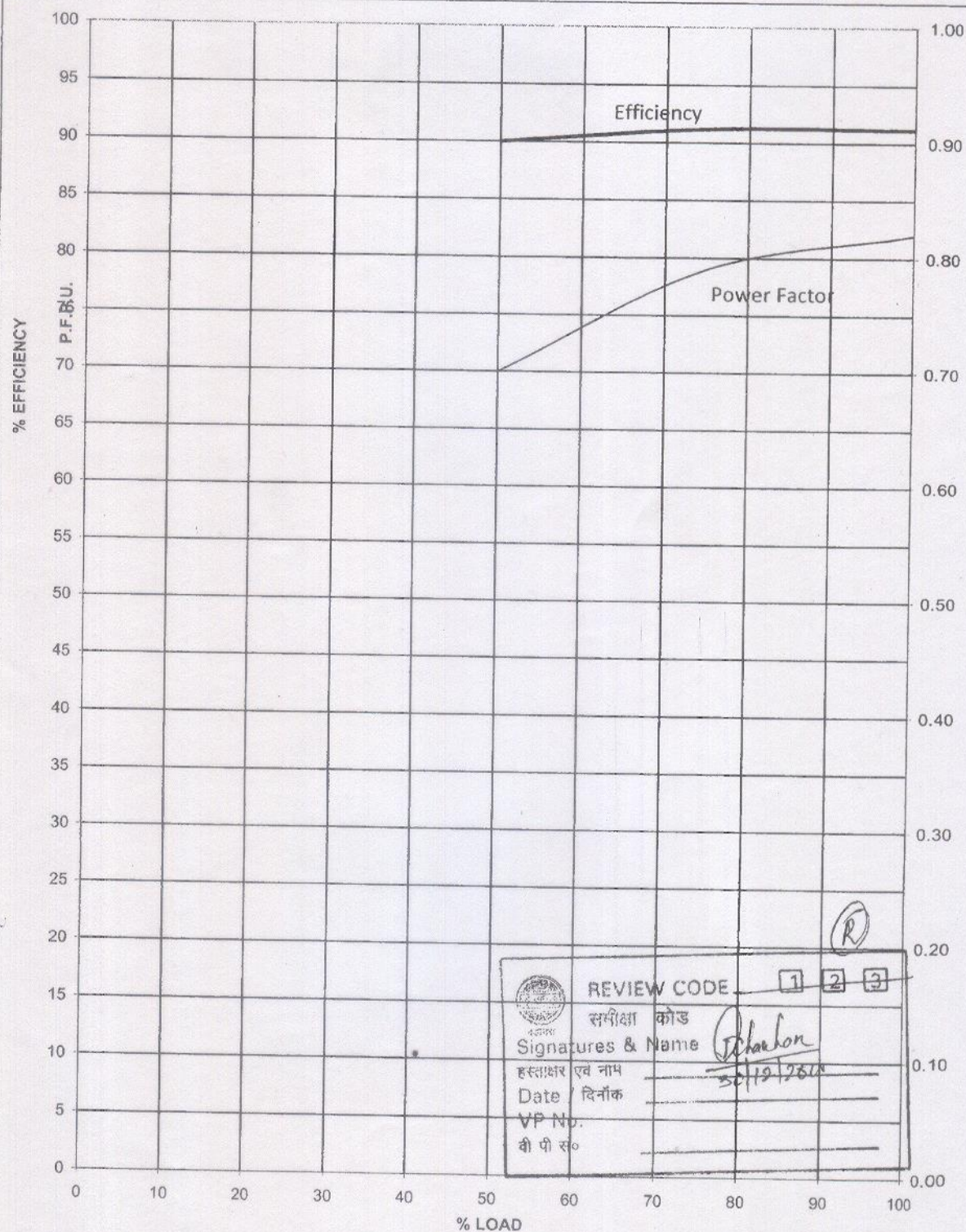
SAP NO: 45472/10

KW : 18.5

POLE : 4

VOLTS : 415

QTY : 2



	REVIEW CODE	☒ 1 ☒ 2 ☒ 3
	समीक्षा कोड	
	Signatures & Name	<i>Charlon</i>
	हस्ताक्षर एवं नाम	<i>50/12/2010</i>
	Date / दिनांक	
VP No.		
वी पी नं०		

2			PREP	MPS	11/17/2010
1	REV-1(R1) MADE BY MPS DT.12/17/2010		APPD	MPS	11/17/2010
NO	REVISION	SIGN			DATE

DRG. NO.- 10 20 600

TAG No:-147-KM-02

R1

 Bharat Bijlee

STARTING CURRENT VS STARTING TIME AND THERMAL WITHSTAND TIME.

CUSTOMER

: M/s DRESSER RAND INDIA PVT.LTD

W.O. NO. : 1185A1

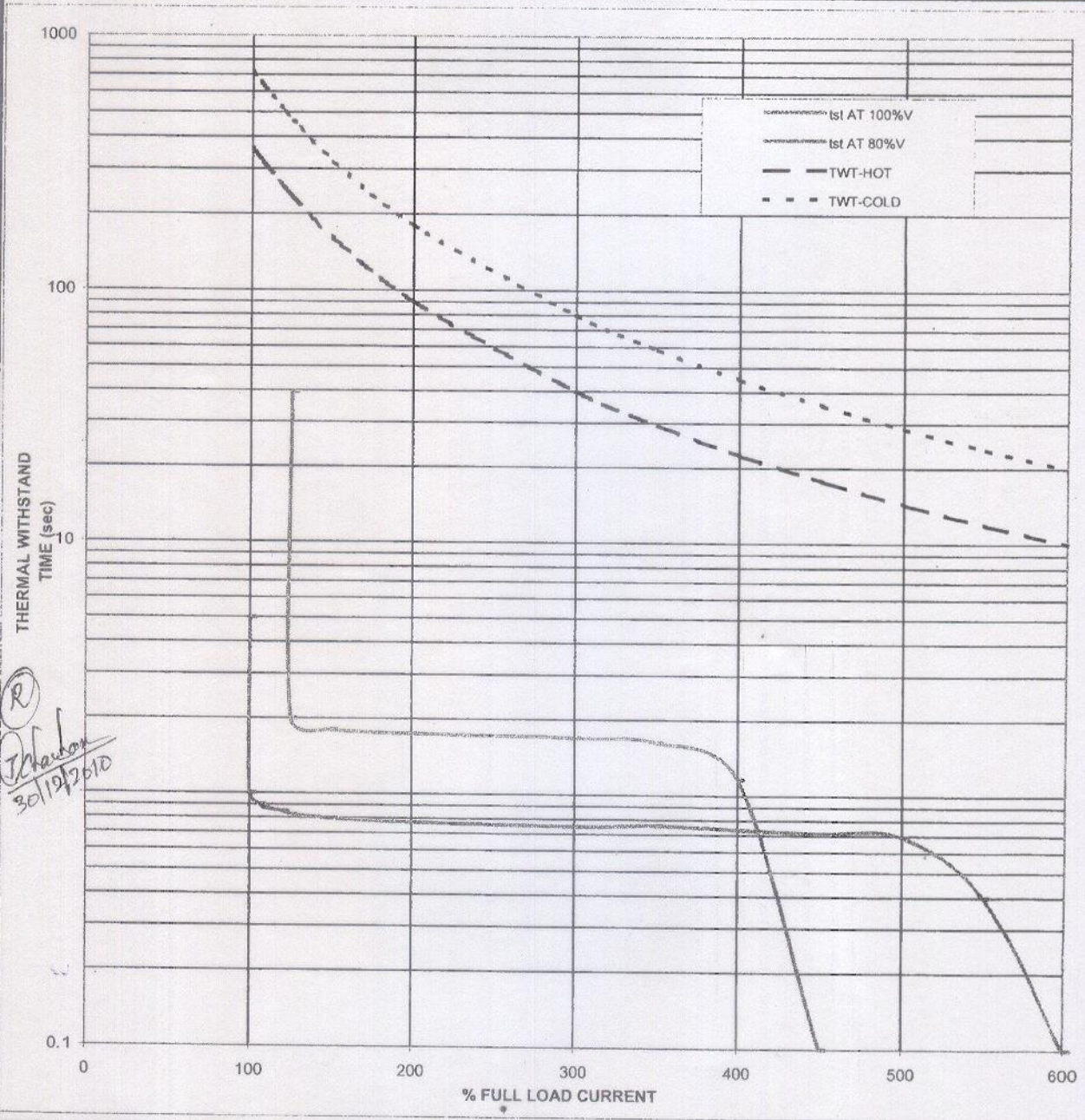
SAP NO: 45472/10

KW : 18.5

POLE : 4

VOLTS : 415

QTY : 2



L. R.CURRENT at 100% voltage :

600

% OF FLA

THERMAL WITHSTAND TIME(sec):

Starting time at 100% voltage=

1

sec

AT100% RATED VOLTAGE (HOT) :

10

Starting time at 75% voltage=

2

sec

AT100% RATED VOLTAGE (COLD):

20

2	REV-2(R2) MADE BY MPS DT.12/24/2010		PREP	MPS	11/17/2010
1	REV-1(R1) MADE BY MPS DT.12/17/2010		APPD	MPS	11/17/2010
NO	REVISION	SIGN		SIGN	DATE