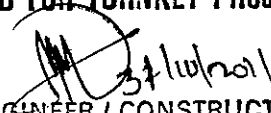



S No		
I	Engine (Eicher)	
1	Model	322ES
2	Type	Natural Aspirated Air Cooled, Four Stroke ✓
3	No. Of Cylinders	Two ✓
4	Bore(mm)	100 ✓
5	Stroke(mm)	125 ✓
6	Piston Displacement(cc)	1963 ✓
7	Compression Ration	17:01
8	Governing Type	Class A1
9	Injection Type	Direct injection into piston cavity
10	Injector Opening Pressure	240+11kg/cm2
11	Rated Power HP (KW)	24 (17.5)
12	Rated Speed	1500 RPM ✓
13	Maximum no Load Speed	1565 RPM
14	Minimum Idle Speed	1200+20 RPM ✓
15	Firing Order	2-1
16	Direction Of rotation	Clockwise when seen engine front
17	Air Cleaner	Dry type, Donaldson make
18	Tappet Clearance (Inlet/Exhaust)	0.15/0.15mm
19	Fuel Filter Element (primary& Secondary)	MICO 945030106
20	Blower Belt Size	Cogged V Belt AVX BTRW 1185
21	Battery	12v, 75 AH
22	Total Oil Capacity (ltrs)	8 ✓
23	Oil Filter Element	0.5ltr.Insert
24	Genset Dry Weight(kg)	360
25	External Dimensions (LxWxH)	610 x 565 x 1025mm
26	Fuel Consumption per hour	3 Ltrs per hour
II	Alternator (KEC/CG/ Leroy Somer)	
1	KVA	15 ✓
2	P.F	0.8 ✓
3	Insulation	H-CLASS ✓
4	PHASE	3/1 PHASE ✓
5	AMPS	20.9 ✓
III	Control Panel	
1	Multi functional digital meter	voltage amps frequency
2	Run Hour indication	engine runs hours ✓
3	MCB	25 amps ✓
4	CT ratio coils	50/5 ✓
5	ESU	4 sAfeties(llop,hst,lfi,emergency stop)
IV	Sound Proof Enclosure	
1	Indication lamps	dgon loadon2 ✓
2	Dimensions	1950*1030*1500 L*W*H
3	sound level	less than 75dba
4	Power coated multi color four door	red and white

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APTRANSCO/VIDYUTHI SOUDHA/HYD.

	Standardised Guaranteed Technical Particulars for Diesel Generator Set
	STD/GTP-DWG/Approval No. 224-1/ Revision Mo. 0
	Prepared & Approved during October - 2011

Page: 1 of 18

ANNEXURE - VI

SPECIFICATIONS & TECHNICAL DETAILS FOR 5 KVA / 7.5 KVA DIESEL GENSETS (Air Cooled)

Diesel engine and alternator shall be close coupled or provided with flexible coupling and mounted on a base plate of robust construction.

SPECIFICATION FOR ALTERNATOR, AIR COOLED DIESEL ENGINE AND STANDARD CONTROL PANEL:

1. ALTERNATOR :


The Alternator shall be self excited and self regulated of specified KVA rating in single phase at 230 Volt, 50 Hz, 1500 RPM and 0.8 pf lagging power factor and shall conform to IS:13364 (Part 1):1992. The alternators shall be of brush type or brush less type with VG-1 Grade of voltage regulation. The alternators shall be screen-protected drip proof with Min.IP-21 degree of protection as per IS:4691/85. The class of insulation of the Alternator would be F/H. The rated voltage of Alternator will be 230/240 V.


2. DIESEL ENGINE :

Diesel Engine shall be air cooled as specified, electric start developing required B.H.P at 1500 RPM with Class A-2 Governing or better for alternator to deliver specified continuous KVA output at 0.8 lagging pf at NTP conditions. The Diesel Engine should be capable of providing 10% overload for one hour for every 11 hours continuous running at full load. Turbocharged Engine shall conform to BS: 5514/BS: 649, other naturally aspirated Diesel Engine shall conform to IS:10000 Series Standards as applicable. The Diesel Engine shall be complete with the following accessories:

- a) Fuel tank with capacity for 12 hours continuous running at full load.
- b) Engine instrument Panel consisting of starting switch with Key, Lube Oil temperature and pressure gauges, (water temperature gauge in case of water cooled engines), RPM indicator and hour meter.
- c) Safety controls to shut down the engine in the event of low lube oil pressure or high cylinder head temperature in case of air-cooled engines or high water temperature in case of water-cooled engines.
- d) Exhaust silencer of Residential type.
- e) 12V or 24V starting system complete with starter motor, charging alternator and Cut out.

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Page 2 of 18
Page 18 of 22

- f) Lead Acid Batteries of suitable ratings with connecting cables. The batteries shall be supplied in uncharged conditions and shall conform to relevant IS Specn.
- g) Standard set of tools consisting of a set of 3 spanners, one screw driver, one standard plier and one nose plier of appropriate size shall be provided to the DDOs along with DG sets free of cost for each of DG sets.


3. STANDARD CONTROL PANEL :

The Control Panel shall be fabricated from steel sheet of 1.5 mm thick minimum duly pretreated and aesthetically finished. The Control Panel shall be totally enclosed, dust and vermin proof, floor mounted or wall mounted/skid mounted or integral type (unless specifically specified as one of these options by DDOs) with IP-53 degree of protection as per IS:13947(pt 1)/1993(reaffirmed 2004).

The Control Panel shall have the following instruments:


- a) Composite meter for digital display of :-
- i) Generator voltage .
 - ii) Load Current.
 - iii) Power Factor.
 - iv) Frequency (for 15 KVA & above)
 - v) Energy (for 15 KVA & above)
- b) One MCCB of suitable rating for DG sets .
- c) Push button-switch for ON and OFF operation .
- d) Pilot lamps, three in case of single-phase and five numbers in case of three phase (one for each phase, one for load on set and one for charging on).
- e) Battery charger complete with voltage regulator, voltmeter and ammeter for charging the battery from mains. This will be in addition to the battery charging alternator fitted on the engine. All the components in the control panel shall be properly mounted, duly wired and labeled. Suitable terminals are to be provided for panel incoming and outgoing connections. The instruments/Components shall be of reputed make.

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5. Diesel Generator Set complete with ISI Marked Diesel marked Engine/Alternator are to be accepted. However, if adequate offers with ISI marked engine & alternator are not received then procurement will be made as per relevant IS Specification

6. Supplier shall furnish complete & satisfactory TTC for Engines, Alternator complete with enclosures to be used by them for each rating of the items clearly identifying Make, Model & Ratings of the item tested. The TTC shall be from any Government Lab.

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	STD/GTP-DWG/Approval No. 224-1/ Revision Mo. 0
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Page 3 of 18

The TTC of 3 phase alternator shall cover Unbalanced Load Test as per cl.24 of IS:13364(pt.1 or pt.2)/1992 as applicable.


7. The testing of diesel generating sets shall be tested at 0.8 PF.


8. DG sets shall meet the requirements of Environmental (Protection) Rules 1986 as laid down by Min. of Environment & Forests read with GSR 371 (E) dated 17.2.2002, GSR 520(E) dated 1.7.2003 and No.448 (E) dated 12.07.2004 in respect of noise and emission norms.

9. Supplier shall furnish copy of Type approval certificate from an Authorised agency for emission norms for each model of engine and noise level norms for each model of DG Set with tender as well as at the time of registration and pre-despatch inspection.

10. Scope of supply shall include supply and commissioning of the complete DG sets at the consignee's end but shall exclude installation and erection.

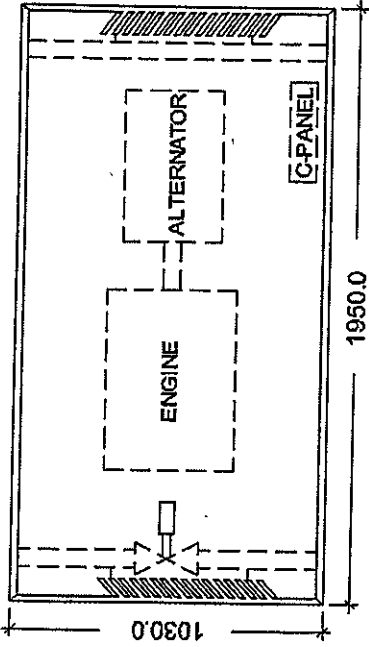
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APTRANSCO/VIDYUTH SODHA/HYD.

	Standardised Guaranteed Technical Particulars for Diesel Generator Set
	STD/GTP-DWG/Approval No. 224-1/ Revision Mo. 0
	Prepared & Approved during October - 2011

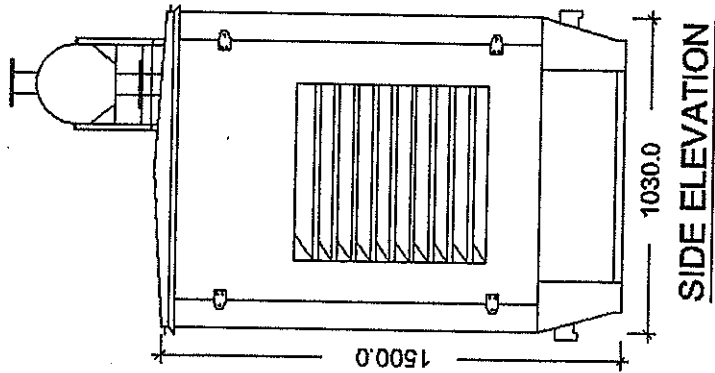
Note: all dimensions are in mm

- a) Fuel inlet
- b) Fuel guage
- c) Emergency stop PB

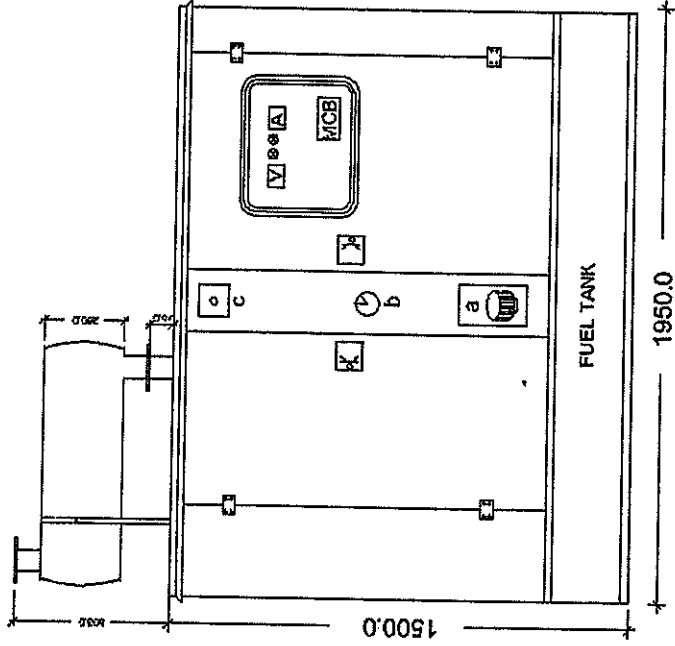


PLAN

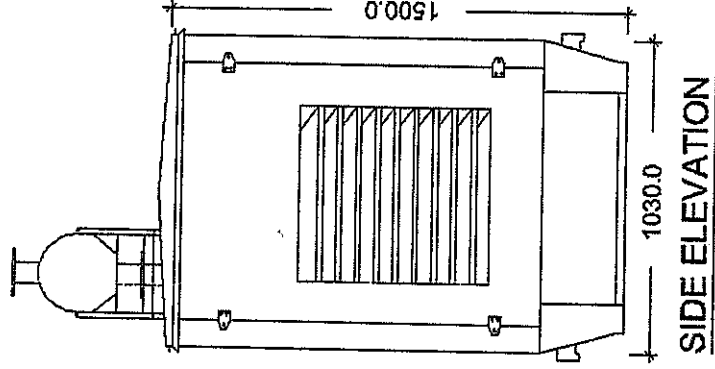
Standardised Drawing for Diesel Generator Set
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SIDE ELEVATION



FRONT ELEVATION



SIDE ELEVATION

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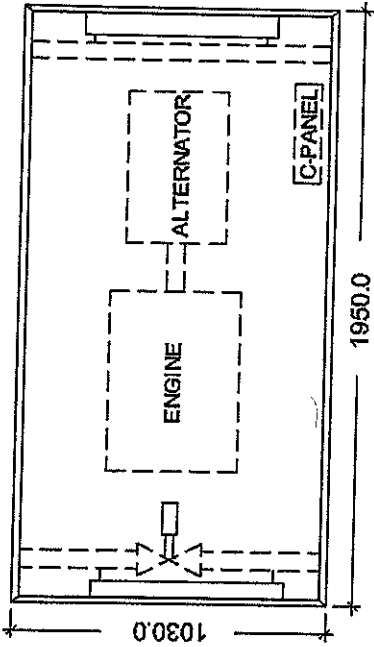
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CHIEF ENGINEER / CONSTRUCTION-1
 APTRANSCO/MDYUTH SOJ/DH/HYD

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Client	PINNACLE GENERATORS

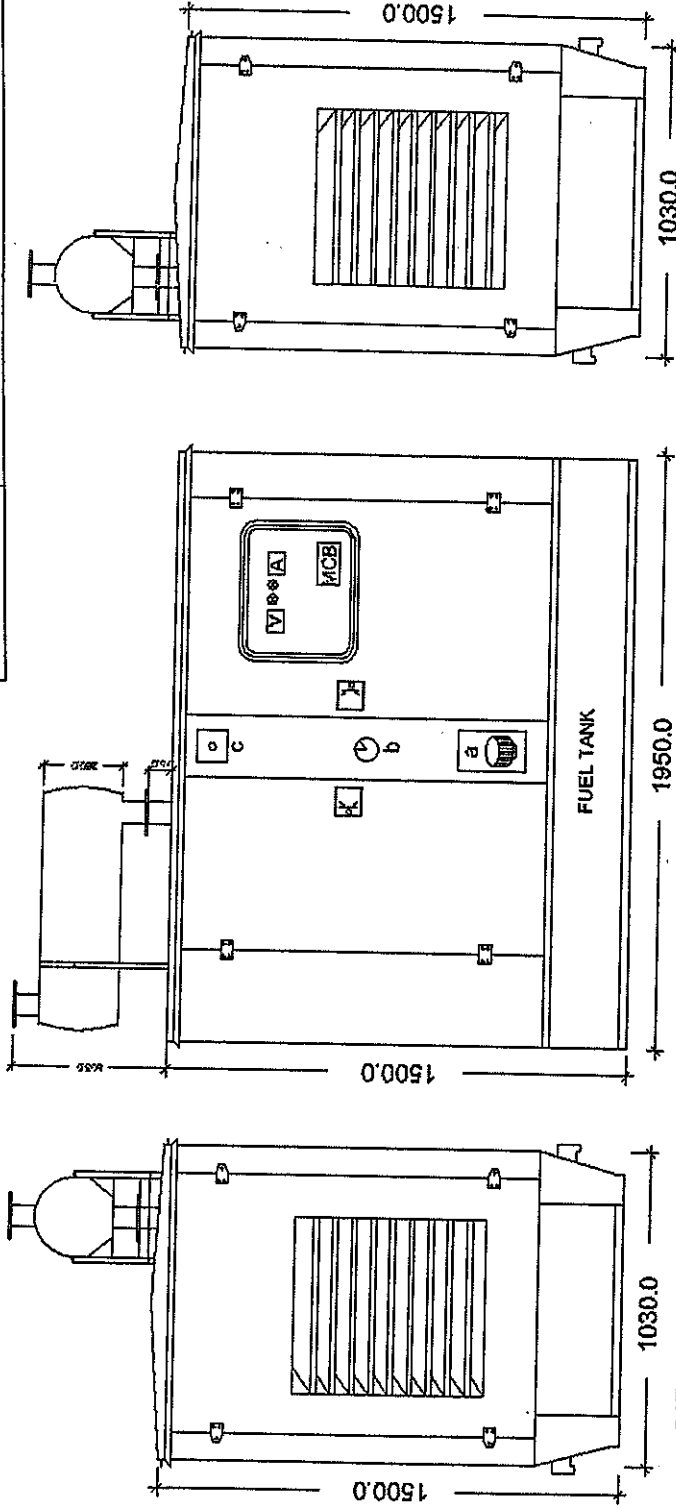
Note: all dimensions are in mm

- a) Fuel inlet
- b) Fuel gauge
- c) Emergency stop PB



PLAN

Standardised Drawing for Diesel Generator Set
 STD/GTP-DWG/Approval No. 224-1/ Revision Mo. 0
 Prepared & Approved during October - 2011



SIDE ELEVATION

FRONT ELEVATION

SIDE ELEVATION

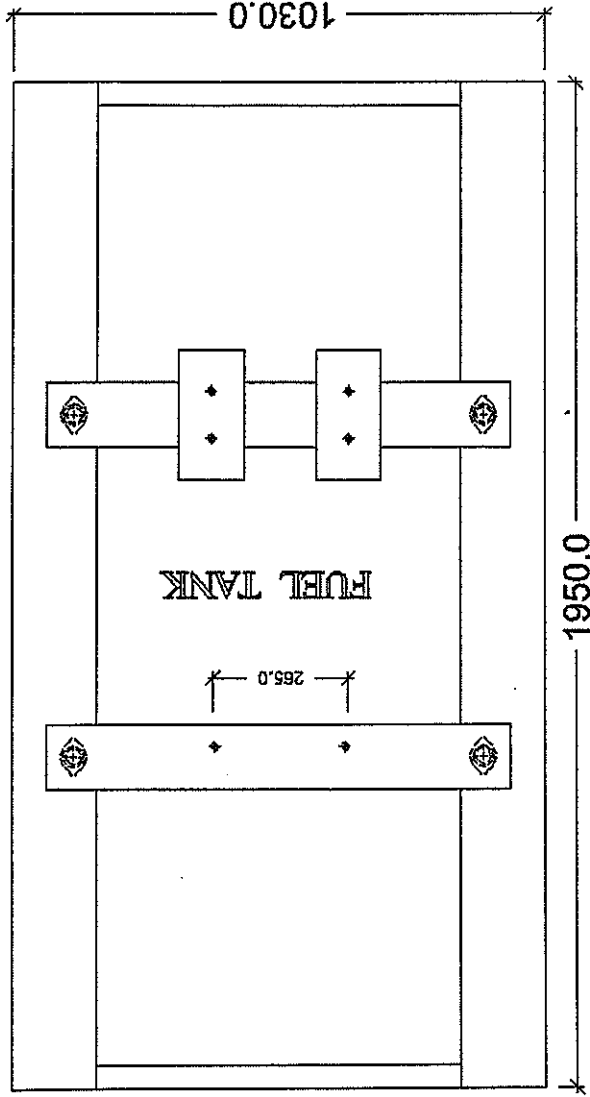
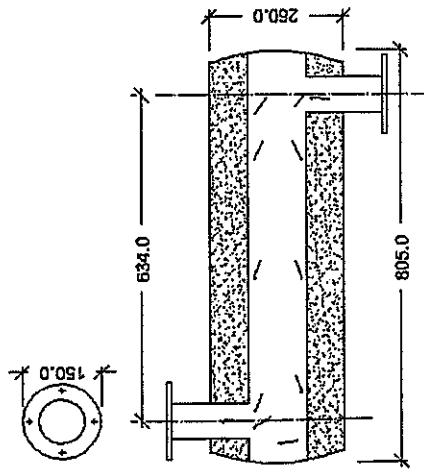
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CHIEF ENGINEER / CONSTRUCTION -1
 A TRANSCO/ADYU/...

Title	Noise Reduction Acoustic Enclosed DG Set Model P 322G20F 12.5, 15, 18 KVA
Client	PINNACLE GENERATORS

SILENCER & BASE FRAME FOR 12.5, 15, 18 KVA DG SET DIMENSION DETAILS




	Standardised Drawing for Diesel Generator Set STD/GTP-DWG/Approval No. 224-1/ Revision Mo. 0 Prepared & Approved during October - 2011
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Title	Noise Reduction Acoustic Enclosed DG Set Model P 322G20F 12.5, 15, 18 KVA
Client	PINNACLE GENERATORS

Note: all dimensions are in mm

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 CHIEF ENGINEER / CONSTRUCTION-1
 A TRANSCO/MDYUT 4 SOUDHA/HYD

S No	25 KVA DG SET SPECIFICATIONS	
I	Engine (Eicher)	
1	Model	422ES
2	Type	Natural Aspirated Air Cooled, Four Stroke
3	No. Of Cylinders	Three
4	Bore(mm)	100
5	Stroke(mm)	125
6	Piston Displacement(cc)	2945
7	Compression Ration	17:01
8	Governing Type	Class A1
9	Injection Type	Direct injection into piston cavity
10	Injector Opening Pressure	240+11kg/cm ²
11	Rated Power HP (KW)	34 (25)
12	Rated Speed	1500 RPM
13	Maximum no Load Speed	1565 RPM
14	Minimum Idle Speed	750+-25RPM
15	Firing Order	1.-3.2
16	Direction Of rotation	Clockwise when seen engine front
17	Air Cleaner	Dry type, Donaldson make
18	Tappet Clearance (inlet/Exhaust)	0.10/0.10mm
19	Fuel Filter Element (primary& Secondary)	MICO 945030106
20	Blower Belt Size	Cogged V Belt AVX BTRW 1185
21	Battery	12v, 75 AH
22	Total Oil Capacity (ltrs)	8
23	Oil Filter Element	0.5ltr.Spin-on type
24	Genset Dry Weight(kg)	445
25	External Dimensions (LxWxH)	820x565x1025mm
26	Fuel Consumption per hour	2 to 3 Ltr per hour
II	Alternator (KEC/CG/ Leroy Somer)	
1	KVA	25
2	P.F	0.8
3	Insulation	H-CLASS
4	PHASE	3/1 PHASE
5	AMPS	34.7
III	Control Panel	
1	Multi functional digital meter	voltage amps frequency
2	Run Hour indication	engine runs hours
3	MCB	40 amps
4	CT ratio coils	50/5
5	ESU	4 sfeties(llop,hst,lfl,emergency stop)
6	Indication lamps	dgon loadon2
IV	Sound Proof Enclosure	
1	Dimensions	LxWxH 2250 x1030x1500
2	sound level	less than 75dba
3	Power coated multi color four door	red and white


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Advantages:

- 1 Low cost of Ownership.
- 2 Low fuel consumption.

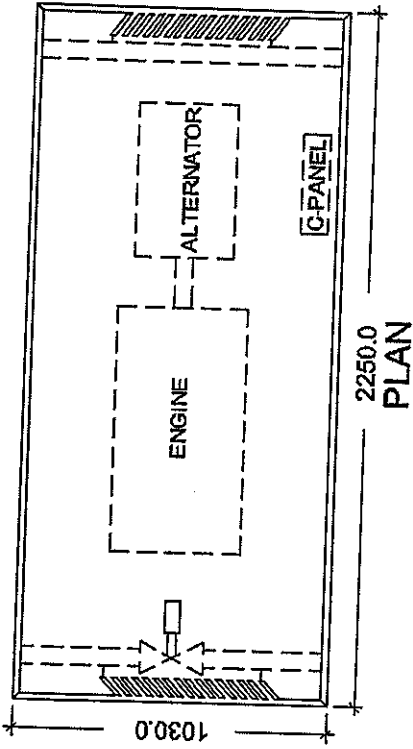
Jat Hydro
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 APTRANSCO/VIDYUTH Soudha/HYD.

cooling of cylinder liners.

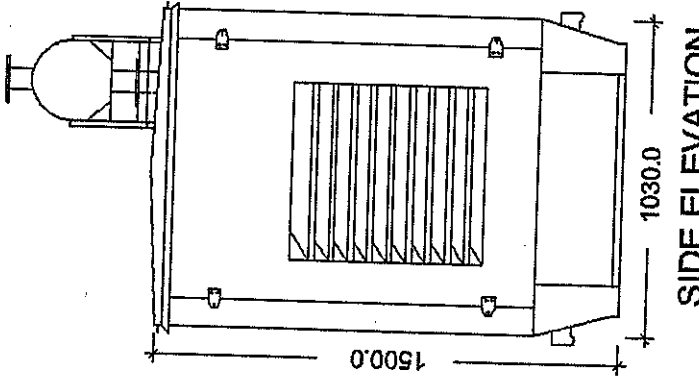
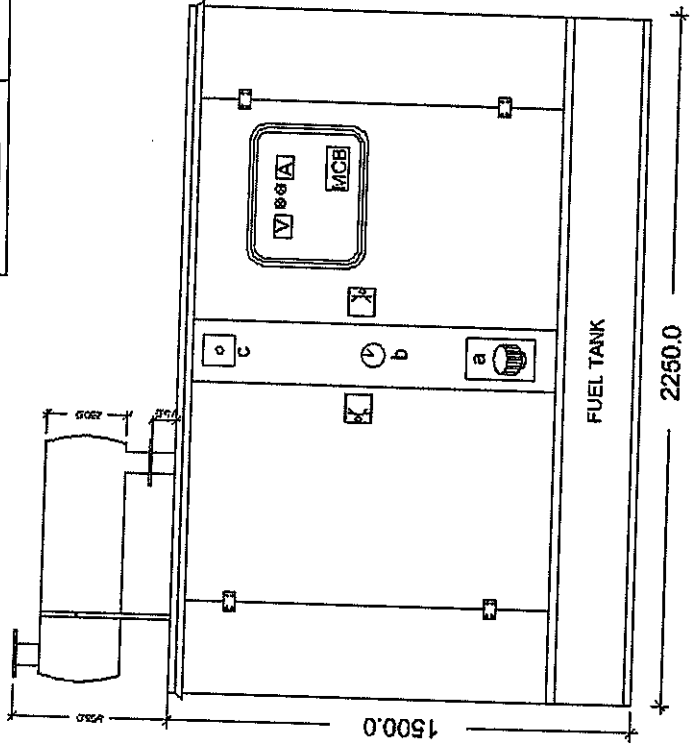
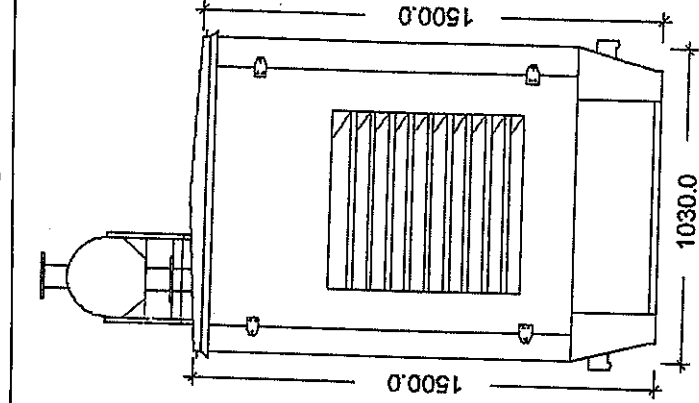
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	STD/GTP-DWG/Approval No. 224-2 / Revision Mo. 0
	Prepared & Approved during October – 2011

Note: all dimensions are in mm

- a) Fuel inlet
- b) Fuel guage
- c) Emergency stop PB



	Standardised Drawing for Diesel Generator Set
	STD/GTP-DWG/Approval No. 224-2/ Revision Mo. 0
	Prepared & Approved during October - 2011



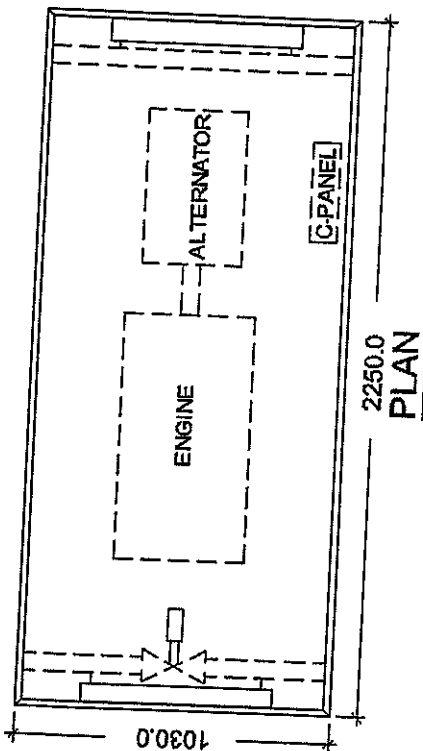
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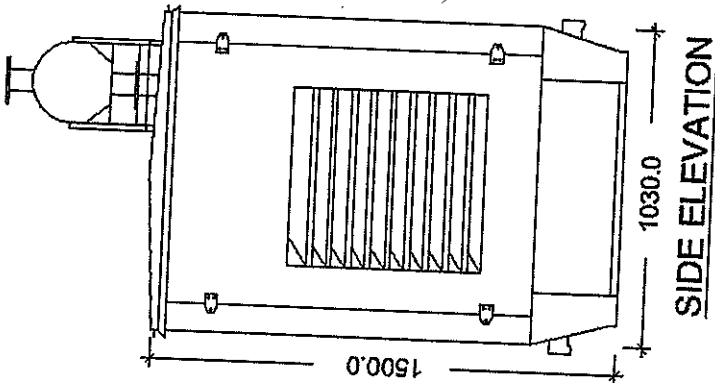
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Client	PINNACLE GENERATORS

Note: all dimensions are in mm

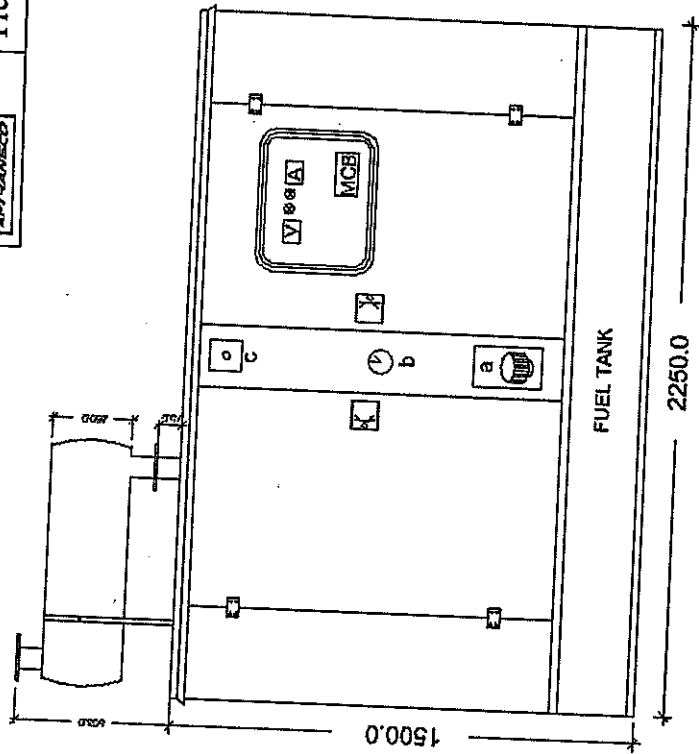
- a) Fuel inlet
- b) Fuel guage
- c) Emergency stop PB



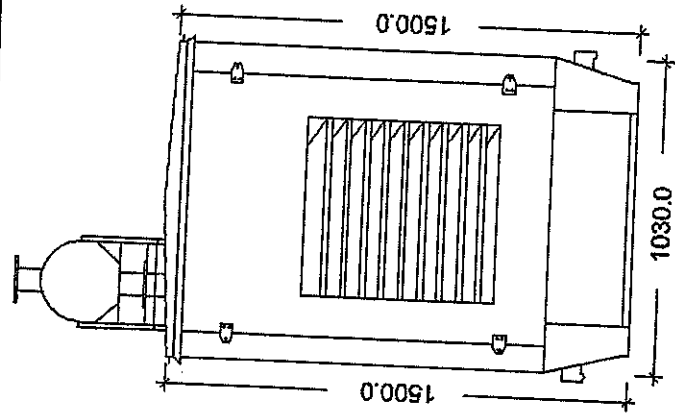
Standardised Drawing for Diesel Generator Set
 STD/GTP-DWG/Approval No. 224-2/ Revision Mo. 0
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SIDE ELEVATION



FRONT ELEVATION



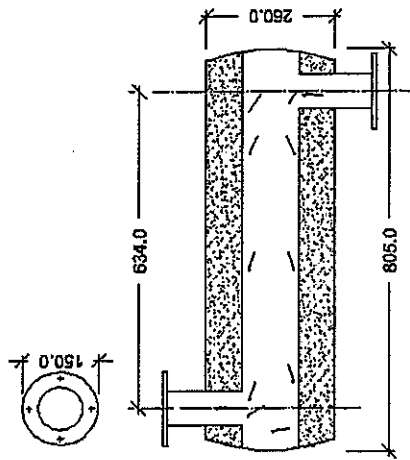
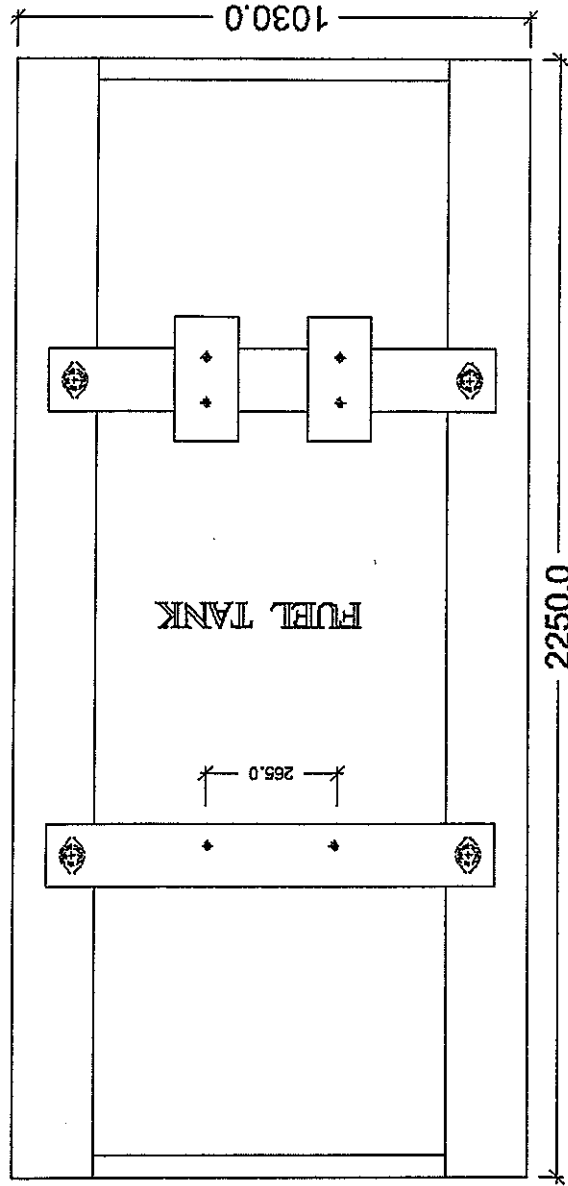
SIDE ELEVATION

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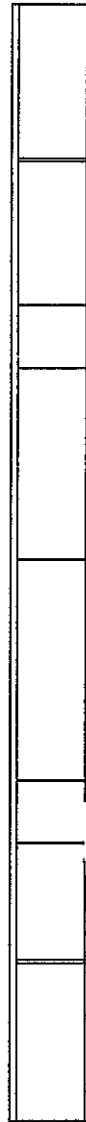
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Client	PINNACLE GENERATORS

SILENCER & BASE FRAME FOR 20,25 & 27 KVA DG SET DIMENSION DETAILS




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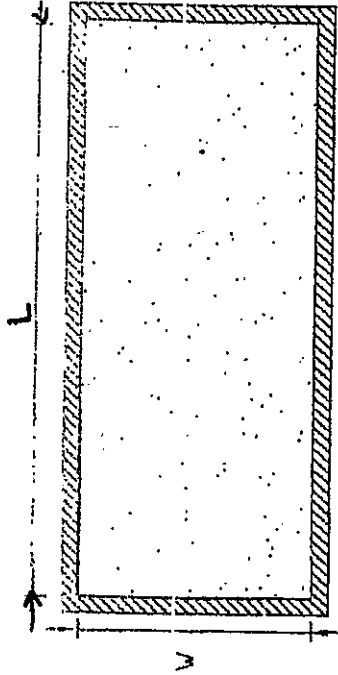
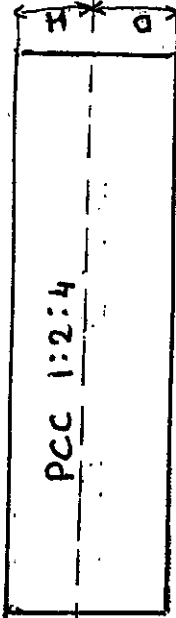

CHIEF ENGINEER / CONSTRUCTION - I
APTRANSCO/VIDYUTH Soudh-HYD.



Note: all dimensions are in mm

Title	Noice Reduction Acoustic Enclosed DG Set Model P 422G30F
Client	PINNACLE GENERATORS

	Standardised Drawing for Diesel Generator Set
	STD/GTP-DWG/Approval No. 224-2/ Revision Mo. 0
	Prepared & Approved during October - 2011




L	2400
B	1100
H	100
B	100

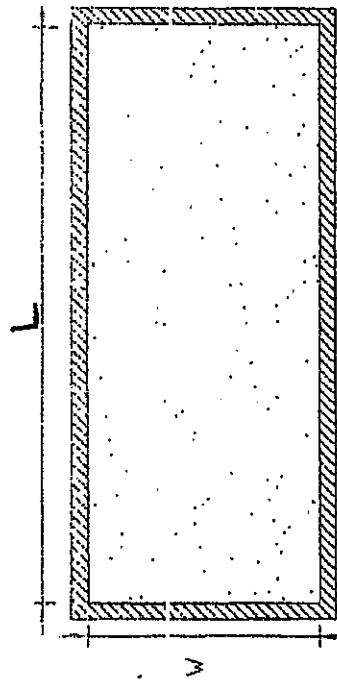
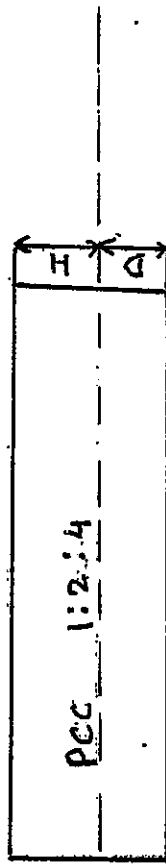
ALL DIMENSIONS ARE IN MM

FOUNDATION DRAWING

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[Signature]
 21/10/2011
 CHIEF ENGINEER / CONSTRUCTION-1
 A. TRANSCO/VIDYUTH SQUADHA/HYD.

	Standardised Drawing for Diesel Generator Set STD/GTP-DWG/Approval No. 224-3/ Revision No. 0 Prepared & Approved during October - 2011	ELAMECH ENGINEERS	TITLE: FOUNDATION DRAWING FOR 15 KVA DG SET
	19 Aug 2011 2:50PM HP LASERJET FAX		



L	2400
B	1350
H	100
D	100

ALL DIMENSIONS ARE IN MM

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 23/10/2011
 CHIEF ENGINEER / CONSTRUCTION
 A.P. TRANSCO / VIDYUTH Soudha / HYD.

FOUNDATION DRAWING

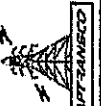
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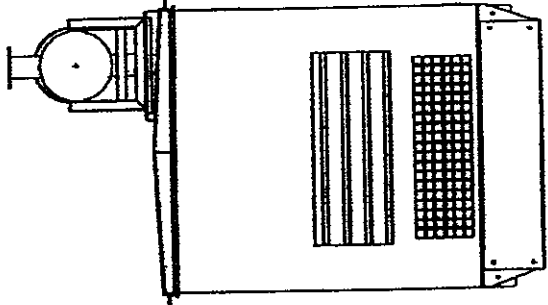
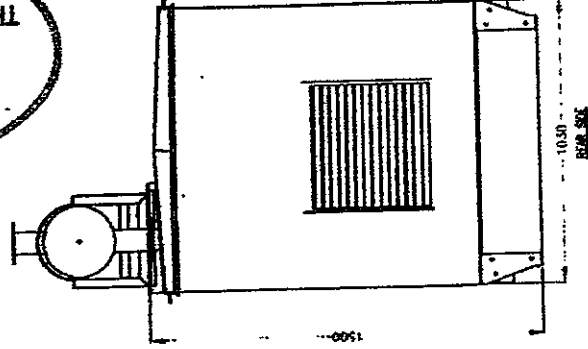
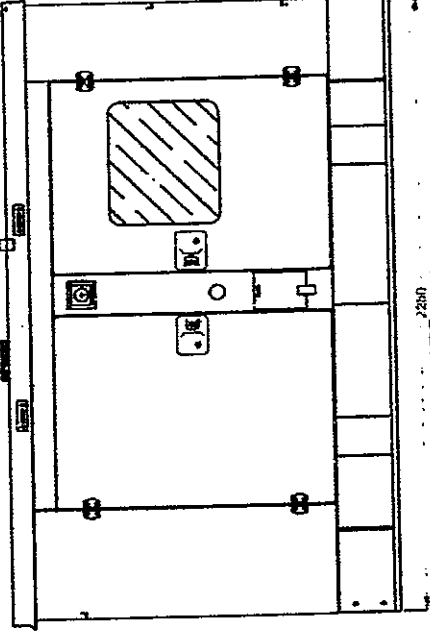
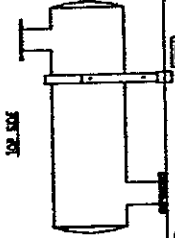
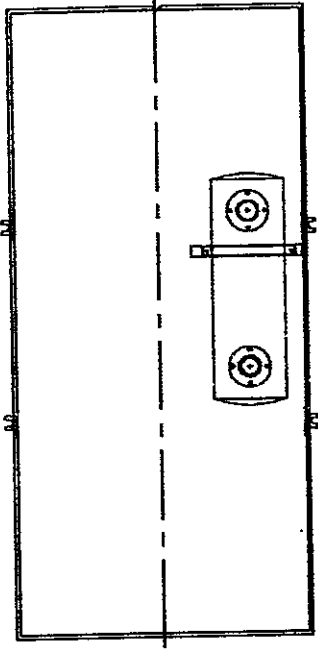
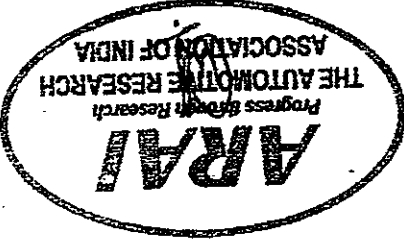
MECH ENGINEERS

Standardised Drawing for Diesel Generator Set

STD/GTP-DWG/Approval No. 224-3/ Revision Mo. 0

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- GENERAL NOTE:
1. MODULAR CONSTRUCTION
 2. CORRAL CONSTRUCTION, WELDING & A.P.P.
 3. APPLY SUCTION BRACKET THROUGHOUT IN EACH JOINT OF RATED PANELS
 4. ALL DIMENSIONS ARE IN MM. U.G.S.
 5. 90 DEG. SCALE.
 6. ASK P IN COME.

- GENERAL REMARKS:
1. THE MACHINE WEIGHTS, ONE SHOULD BE MET AT WEIGHT 200-100
 2. EXHAUST PIPE, INSULATION SHOULD BE PROVIDED AS PER AT SPECIFIED
 3. ALL DIMENSIONS ARE IN MM. U.G.S.
 4. ALL DIMENSIONS ARE IN MM. U.G.S.
 5. 90 DEG. SCALE.
 6. ASK P IN COME.

NO.	REV.	DATE	BY	CHKD.	DESCRIPTION

Standardised Drawing for Diesel Generator Set
 STD/GTP-DWG/Approval No. 224-3/ Revision No. 0
 Prepared & Approved during October - 2011



101 ALL DIMENSION ARE IN MM.

102

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105

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107

108

Standardised Drawing for Diesel Generator Set
 STD/GTP-DWG/Approval No. 224-4/ Revision Mo. 0
 Prepared & Approved during October - 2011



- LEGENDS**
- R - R PHASE
 - Y - Y PHASE
 - B - B PHASE
 - L1 - MAINS BATT. CHARGER ON
 - L2 - DG ON LOAD
 - LM - LAMP FOR BATT. CHARGING
 - HM - HOUR METER
 - PB - DG STOP
 - KS - KEY SW.
 - TS - CANOPY ON/OFF SW.
 - ESU - ENGINE SAFETY UNIT
 - MF - MULTI FUNCTION METER
 - OPM - OIL PRESSURE METER
 - TM - TEMP. METER- MAINS/D.G. CONT. ON SW.
 - C.A. - BATT. CH. AMMETER

CUTOUT SIZE

- MF - 92X92MM
- ESU - 69X69 MM
- ADC/VDC - 69X69 MM
- R, Y, B, L1, L2 - 8 MM SQ
- LM - 20 MM SQ
- PB1&2 - 12 MM SQ
- KS - 20MM SQ

SHEET THICKNESS - 1.5MM

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 A. TRANSCC, VIJAYTA SODHA/HYD.

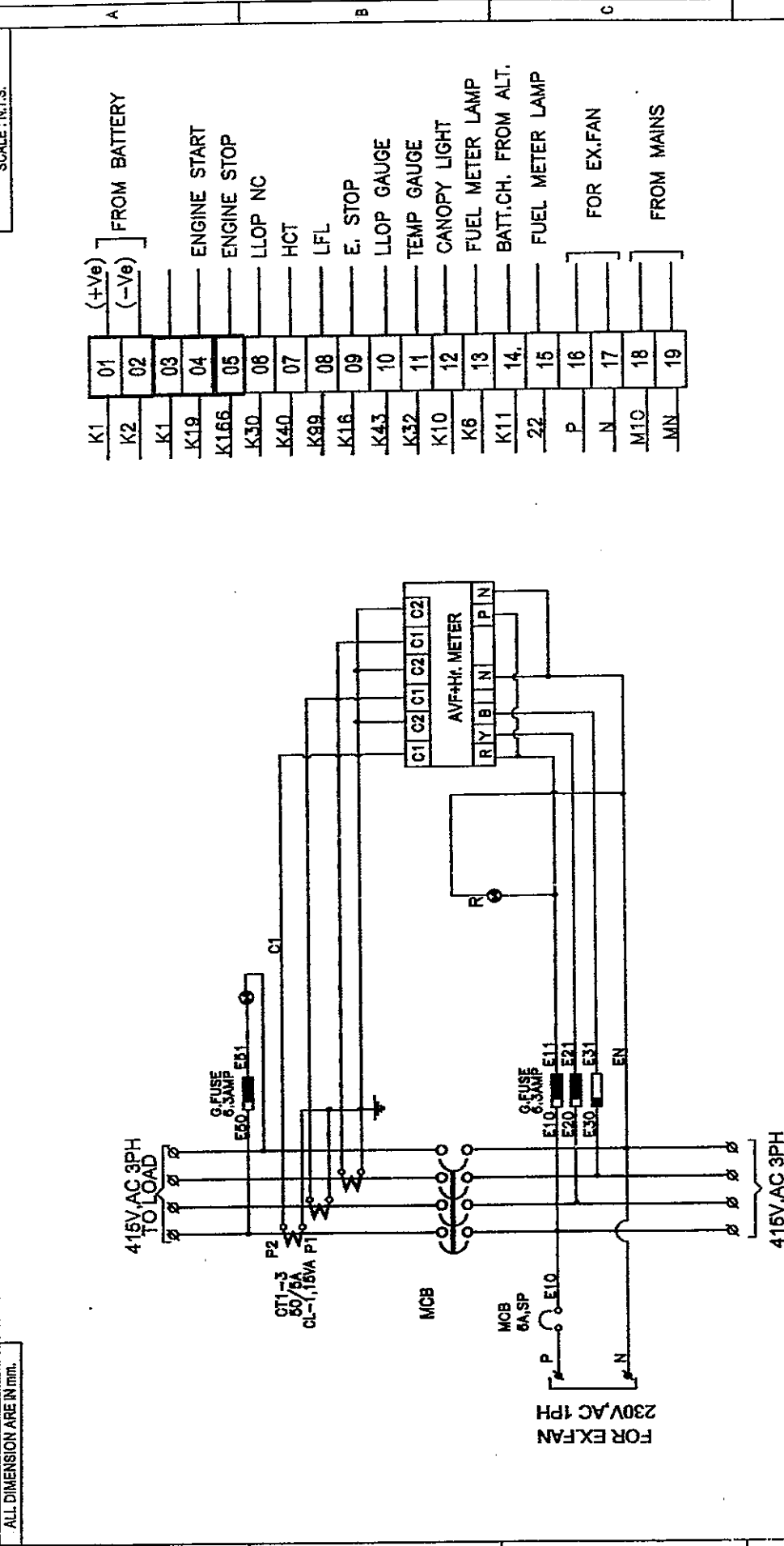
JAYCEE

WORKS: 50KM MILESTONE, MATHURA ROAD
 BEHIND CONTAINER DEPOT/POOJA FORGE LTD.
 PRITHLA, DISTT-PALWAL (HARYANA)
 PHONE : +91-01276-262393
 E-MAIL: sunil.sharma@jayceepower.com

DRWN.	MANOR	TITLE	DGSD. MANUAL PANEL (3-PHASE) GENERAL ARRANGEMENT DRAWING	JOB No. JC-1000	REV. 00
CHKD.	SUNIL BHARWA	CLIENT		DRG. No. JC-1000	
DATE	01-02-2011	PROJECT			
ISSP		ELECTRICAL			

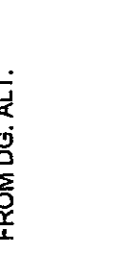
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101 102 103 104 105 106 107 108 SCALE: N.T.S.



Standardised Drawing for Diesel Generator Set
 STD/GTP-DWG/Approval No. 224-4/ Revision Mo. 0
 Prepared & Approved during October - 2011

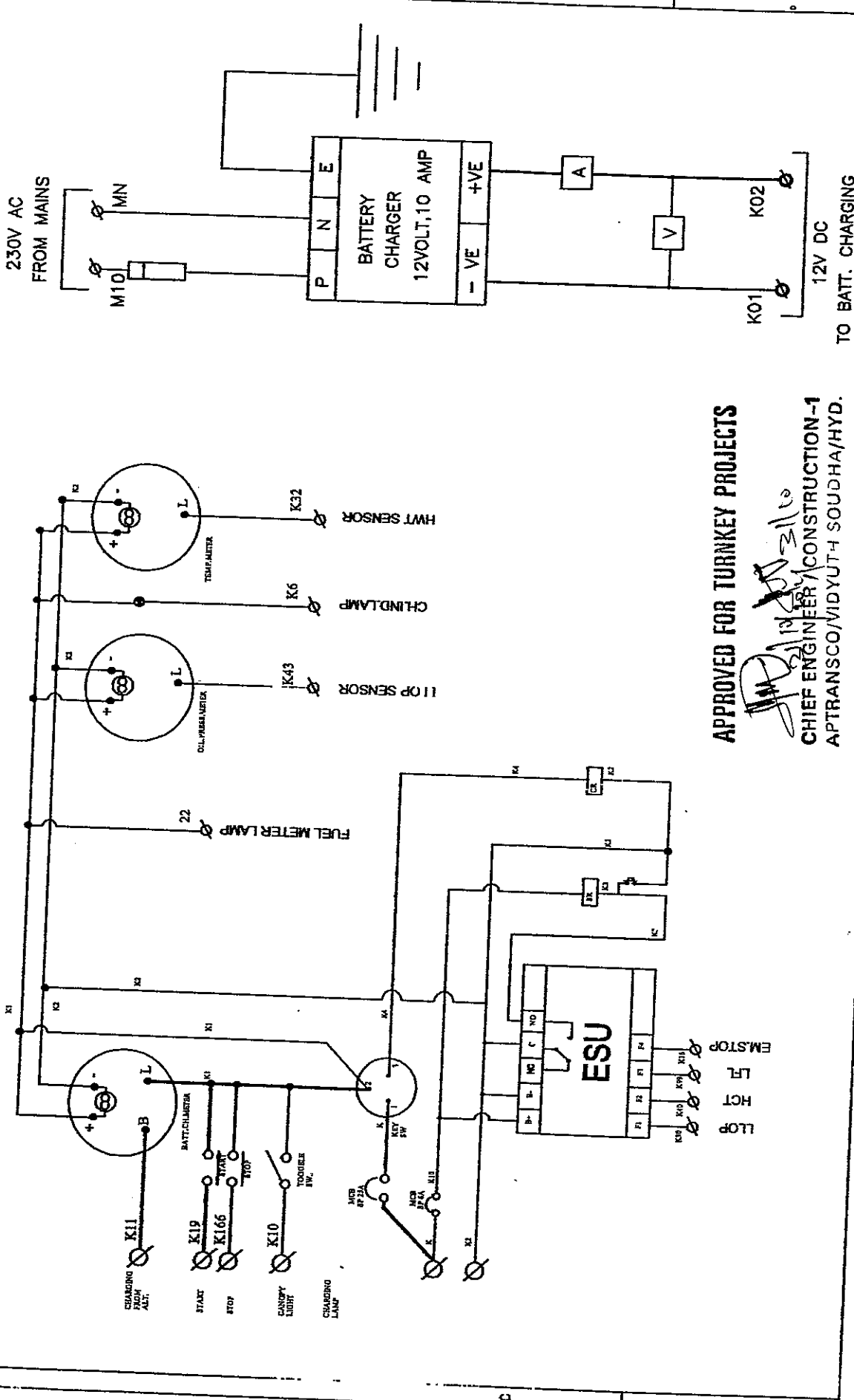
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WORKS: 50KM MILESTONE, MATHURA ROAD BEHIND CONTAINER DEPOT/POOJA FORGE LTD. PRITHLA, DISTT-PALWAL (HARYANA) PHONE : +91-01275-262393 E-MAIL: sunilsharma@jayceepower.com		DRWN.	TITLE	DRG. No.	
R5		M.SINGH	CLIENT	JC-1001	
R4		CHKO.	PROJECT		
R3		DATE			
R2		06-07-2009			
R1					

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DRWN. H/BRNGH TITLE DGS&D MANUAL PANEL (3-PHASE) ENGINE METERING & PROTECTION DRAWING JOB No. JC-1000

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