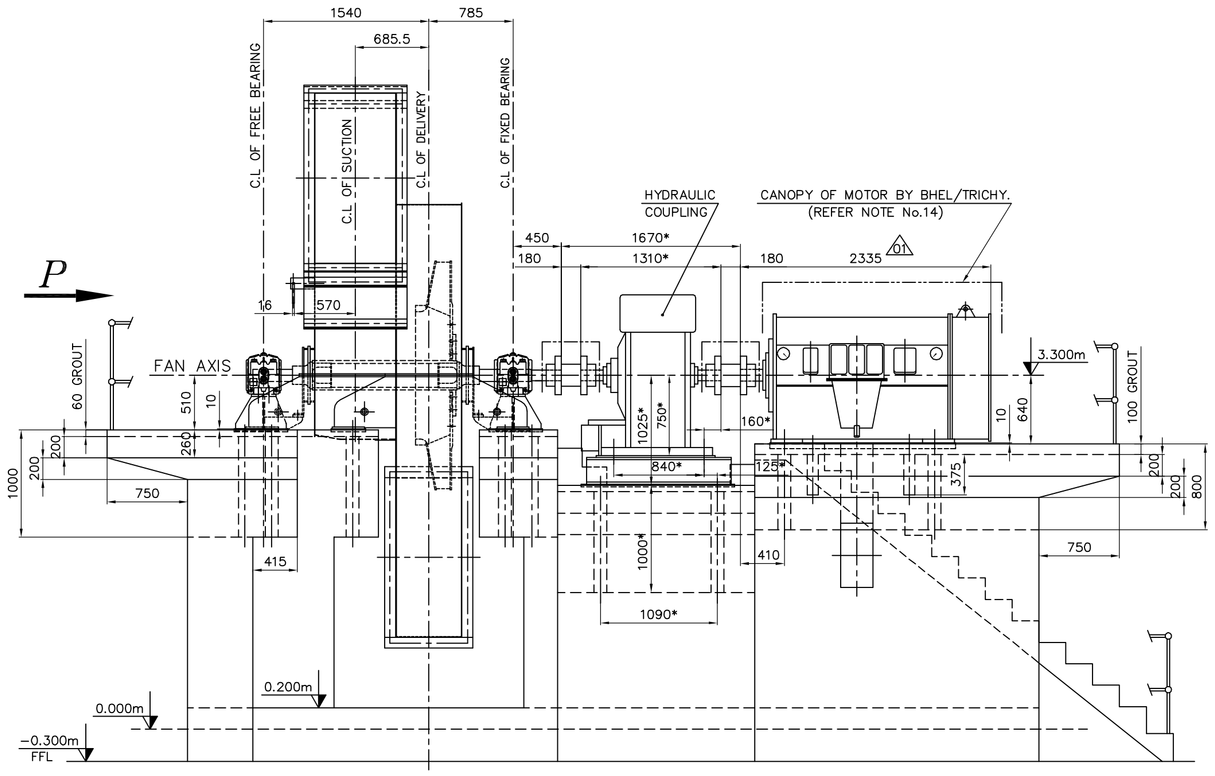
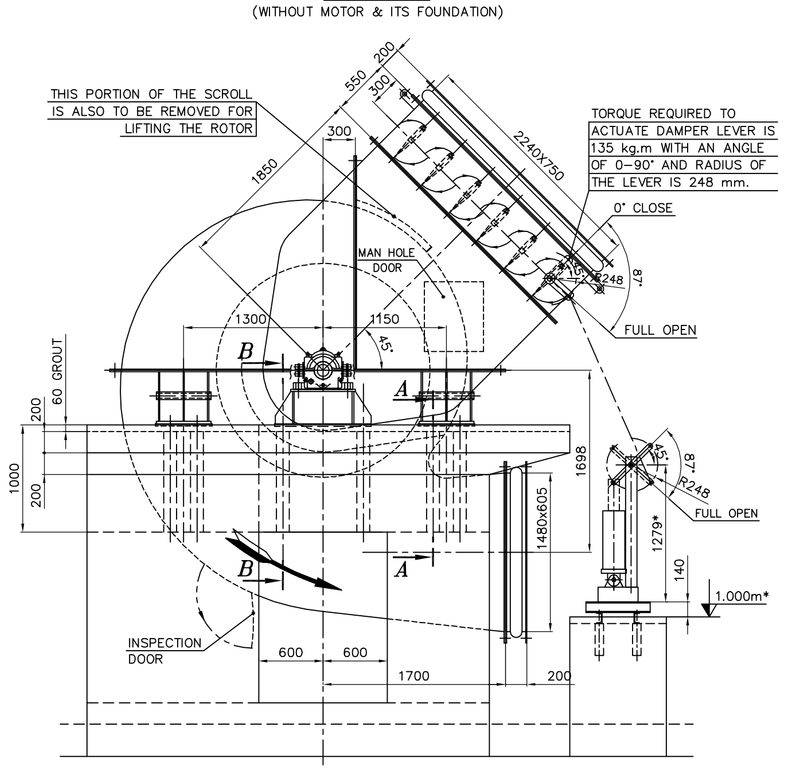
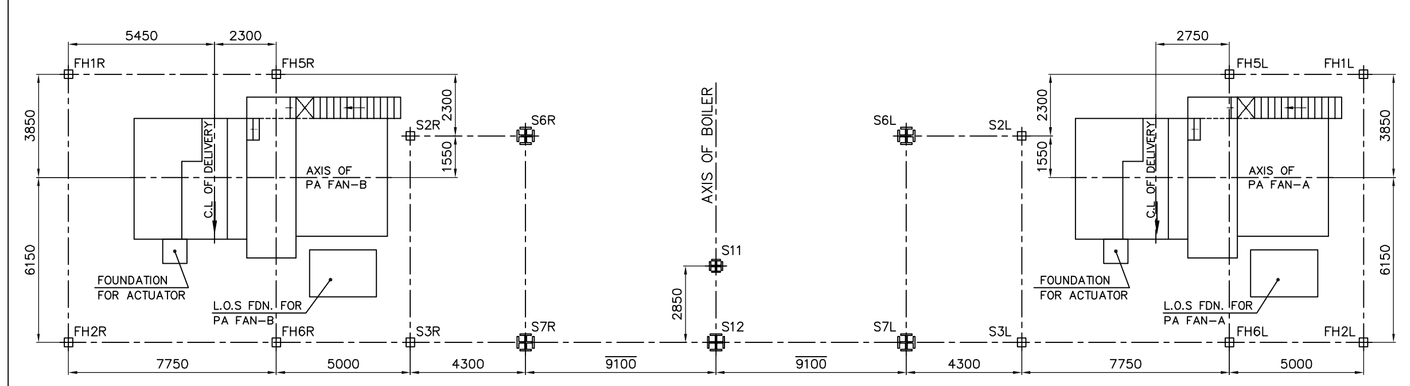


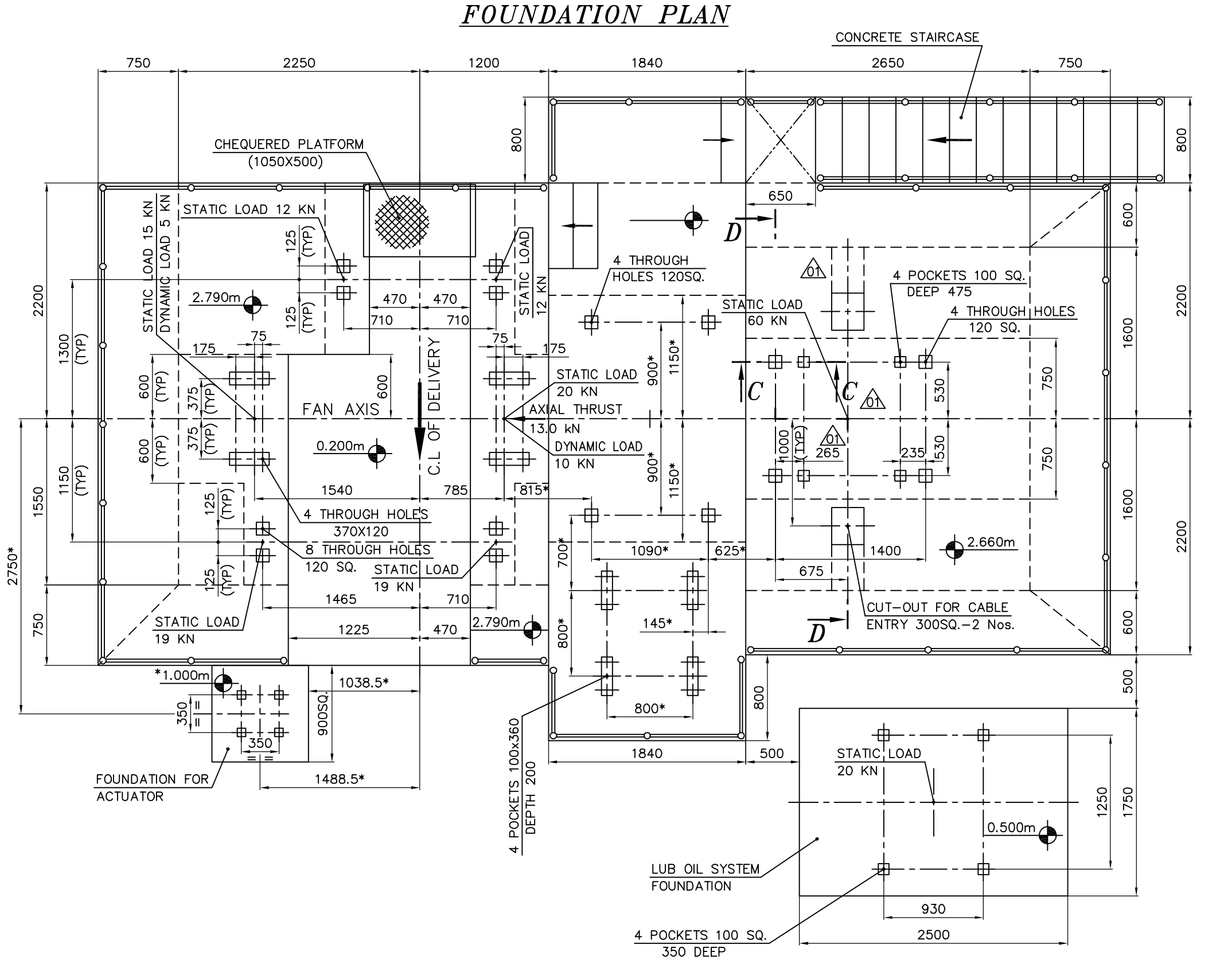
VIEW–P
(WITHOUT MOTOR & ITS FOUNDATION)



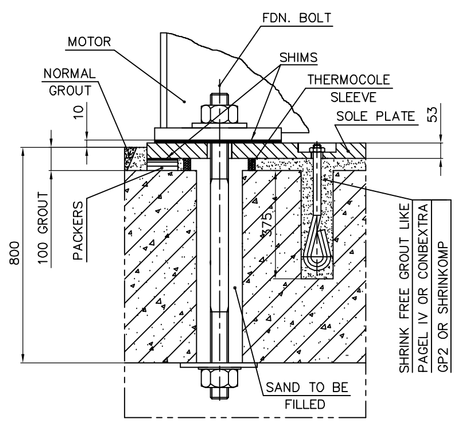
KEY PLAN
BHEL/TRICHY REFERENCE DRG. 0–00–515–93628 (LAYOUT OF COLD AIR DUCTING)
(KEY PLAN SHOWN IS INFORMATIVE ONLY. FOR EXACT LOCATION REFER BOILER LAYOUT DRAWINGS.)



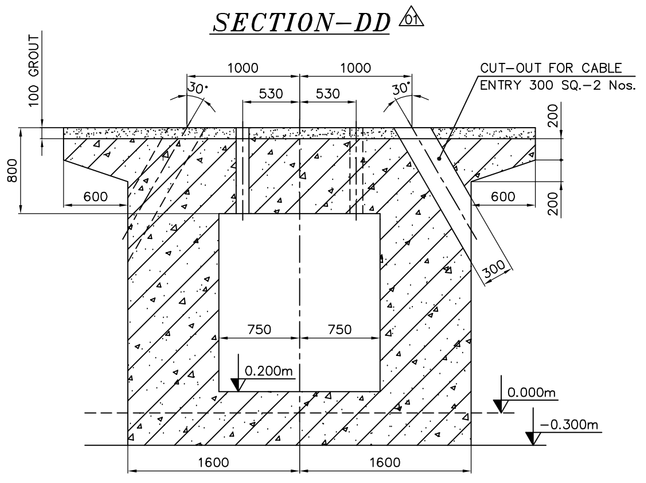
FOUNDATION PLAN



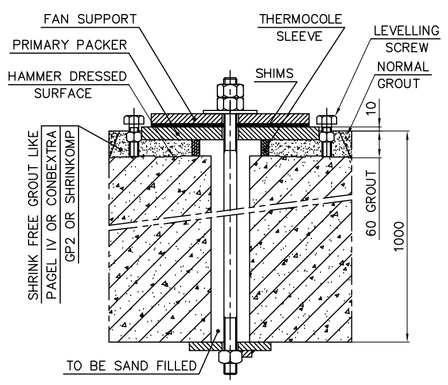
SECTION–CC



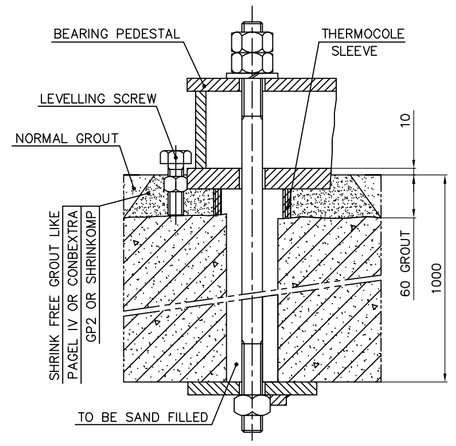
SECTION–DD



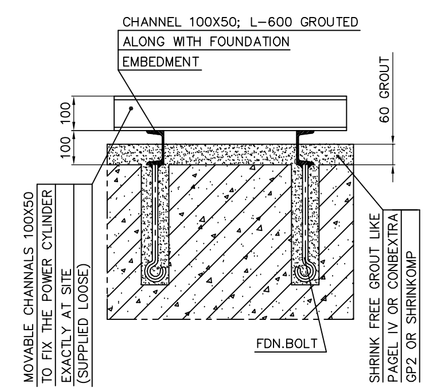
SECTION–AA



SECTION–BB



SECTION–EE*



NOTES:–

01. THE LOADS INDICATED ON FOUNDATION ARE WITHOUT ALLOWANCES FOR VIBRATIONS. CIVIL DESIGNERS/CONSULTANTS ARE RESPONSIBLE FOR PROPER DESIGN OF FOUNDATION TAKING INTO ACCOUNT OF THE ALLOWANCES FOR VIBRATION ALSO.
02. THE NATURAL FREQUENCY OF THE FOUNDATION SHOULD BE MINIMUM ±20% AWAY FROM THE OPERATING FREQUENCY OF THE FAN. THE NATURAL FREQUENCY OF THE CONNECTING DUCT AND SUPPORTING STRUCTURE SHOULD BE CLEARLY AWAY FROM THE OPERATING FREQUENCY OF THE FAN.
03. ADOPT IS : 2974 / PART–IV FOR THE FOUNDATION DESIGN.
04. THE CONNECTING DUCTS AT INLET AND OUTLET OF FAN MUST BE SELF SUPPORTED AND SHOULD NOT BE WELDED WITH EXPANSION JOINTS.
05. FOUNDATION POCKETS SHOULD BE PERPENDICULAR TO THE FLAT SURFACES OF FOUNDATION.
06. ACCURATE TEMPLATES SHALL BE USED FOR LOCATING CORES FOR POCKET HOLES TO ENSURE THEIR DIMENSIONAL ACCURACY.
07. TOLERANCE BETWEEN ANY TWO POCKET CENTRES IS ±5 mm.
08. TOLERANCE ON CONCRETE LEVELS $^{+0}_{-25}$ mm.
09. IN AREAS WHERE SOLE PLATES AND ANCHOR PLATES ARE TO BE INCORPORATED IN FOUNDATION CONCRETE, THE SIZE OF THE COARSE AGGREGATE USED SHALL NOT EXCEED 20 mm AND DOWN GRADED TO FACILITATE CHIPPING AND SCRAPPING AND THEREBY ENSURING MAXIMUM CONTACT ON THE MATING AREAS.
10. NON–SHRINK GROUT IS TO BE USED. REFER GENERAL SPECIFICATIONS ISSUED BY BHEL/RANIPET FOR NON–SHRINK GROUT. THIS ALSO CONTAINS THE PREPARATIONS OF PRIMARY PACKERS & SHIMS.
11. GROUTING SHOULD BE DONE ONLY AFTER FINAL ALIGNMENT OF FAN.
12. ELEVATIONS & POCKET DEPTH SHOWN IN FOUNDATION PLAN INCLUDING GROUTING THICKNESS.
13. GROUTING IS IN THE SCOPE OF ERECTION GROUP/CONTRACTOR.
14. HANDRAILS, STEEL PLATFORMS, CANOPY OF MOTOR & THEIR EMBEDMENTS ARE IN THE SCOPE OF BHEL/TRICHY.
15. FAN FOUNDATION SHOULD NOT BE USED AS SUPPORT FOR OTHER STRUCTURES OR EQUIPMENTS.
16. FOUNDATION CONFIGURATION SHOWN IN THIS DRAWING IS ONLY INFORMATIVE/TYPICAL. TYPE AND DETAILS OF FOUNDATION ARE TO BE FINALISED BY CIVIL DESIGNERS/CONSULTANTS AND CUSTOMERS.
17. FOR MOTOR ERECTION, REFER MOTOR SUPPLIER'S ERECTION MANUAL.
18. SOLE PLATE, FOUNDATION BOLTS & FASTENERS RELATED TO MOTORS WILL BE IN THE SCOPE OF MOTOR SUPPLIER (BHEL BHOPAL UNIT)

FAN DETAILS:–

TYPE	: NDV 20 HERAKLES
WEIGHT OF FAN WITHOUT MOTOR & COUPLING	: 8000 Kg
WEIGHT OF ROTATING PARTS OF FAN	: 1750 Kg
GD^2 OF FAN	: 2200 Kg.m^2
SPEED OF FAN	: VARIABLE (990 TO 1480 RPM)
NO. OF FANS PER BOILER	: TWO (BOTH IDENTICAL)
MAX. WEIGHT TO BE HANDLED FOR MAINTENANCE	: 5650 Kg 6

MOTOR DETAILS:– 4

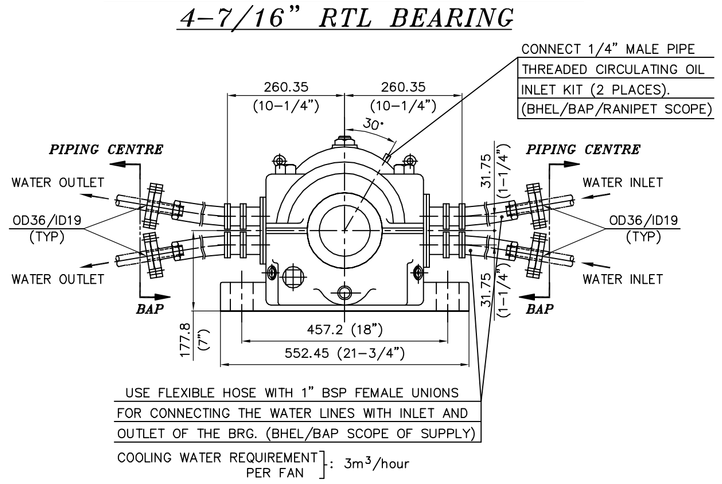
MAKE		: M/s. BHEL/BHOPAL
TYPE		: SQ. CAGE INDUCTION, 1LA7636–4, TETV, IP–55, B3
RATING		: 800 KW/1482 RPM/6600 V/ 85 AMP
WEIGHT OF MOTOR		: 5650 Kg
WEIGHT OF ROTATING PARTS		: 1100 Kg
GD^2 OF ROTOR (MOTOR)		: 124 Kg.m^2
MOTOR DRG. NO.		: 3 402 00 46430, REV01 Sh. 01 OF 06
MAX. FOUNDATION LOADING (ALTERNATING)		: 60 kN UPWARDS
PER MOTOR LONGITUDINAL SIDE		: 115 kN DOWNWARDS
BEARINGS	D.E	: NU226M+6226C3
	N.D.E	: NU222M
LUBRICATION		: GREASE (SERVOGEM–3 OR EQUIVALENT)

HYDRAULIC COUPLING DETAILS:–*

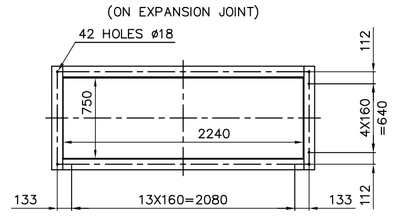
TYPE	:
MAKE	:
TOTAL WEIGHT WITHOUT OIL	:
	:
REQUIRED OIL VISCOSITY	:
MOMENT OF INERTIA (J) :	
PRIMARY WITH OIL	:
SECONDARY WITH OIL	:

} SHALL BE FURNISHED LATER

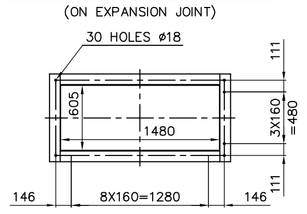
WATER CONNECTING DETAILS OF 4–7/16" RTL BEARING 4



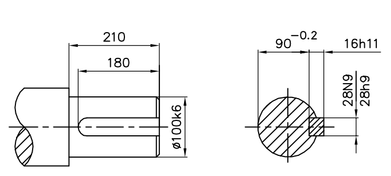
SUCTION FLANGE
(ON EXPANSION JOINT)



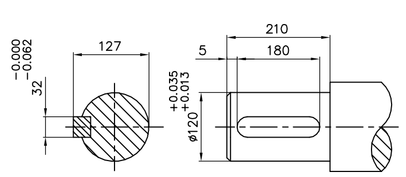
DELIVERY FLANGE
(ON EXPANSION JOINT)



FAN SHAFT END



MOTOR SHAFT END 4



DIMENSIONS / ITEMS MARKED WITH "*" WILL BE CONFIRMED LATER.

CUSTOMER NO : R132

REV	DATE	ALTERED: PSN/S.AGAR
01	11.04.2014	CHECKED: V.P.SHYAM

01. MOTOR DETAILS UPDATED.
02. SECTION–AA UPDATED.
03. WATER CONNECTION DETAILS OF BEARING UPDATED.

CAUTION: THE INFORMATION IN THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

CLIENT: COMPAGNIE D'E'LECTRICITE' DU SENEGAL SA
SENEGAL

PROJECT: 1x125MW THERMAL POWER PLANT, SENEGAL

EPC CONTRACTOR: promac ENGINEERING INDUSTRIES. LTD.
BANGALURU

CONSULTANT: POWERTEC ENGINEERING PVT. LTD.
CHENNAI.

BHARAT HEAVY ELECTRICALS LTD.
BOILER AUXILIARIES PLANT
RANIPET – 632 406

DRAWN	P.S.N
CHECKED	SANDEEP
APPROVED	V.P.S
DATE	17.08.13
ALL DIMENSIONS ARE IN MILLIMETRES	
SCALE	1:40

TITLE: GENERAL ARRANGEMENT OF PA FAN NDV 20

DRAWING No. 1–00–100–28869 REV. 01

EPCC DRG No:

Size A1