

NOTES:-

- THE LOADS INDICATED ON FOUNDATION ARE WITHOUT ALLOWANCES FOR VIBRATIONS. CIVIL DESIGNERS ARE RESPONSIBLE FOR PROPER DESIGN OF FOUNDATION TAKING INTO ACCOUNT OF THE ALLOWANCES FOR VIBRATION ALSO.
- THE DIFFERENT NATURAL FREQUENCIES OF THE FOUNDATION HAVE TO BE 20% AWAY FROM THE SPEED FREQUENCY, $f_{nmax} = n/60$ AND 15% AWAY FROM THE DOUBLE OF THE SPEED FREQUENCY, $2 \times f_{nmax}$. THIS MEANS: $0.8x f_n$ TO $1.2x f_n$ AND $0.85x(2x f_n)$ TO $1.15x(2x f_n)$. SPEED FREQUENCY $f_{nmax} = 24.83$ HZ ($2 \times f_{nmax} = 49.66$ HZ)
- THE STIFFNESS OF THE FOUNDATION HAS TO BE AT LEAST $CF > 1.0E+06$ N/mm FOR EACH LOAD POINT OF THE FAN IN LONGITUDINAL TRANSVERSAL AND VERTICAL DIRECTIONS RELATING TO THE FAN AXIS. IT HAS TO BE TAKEN INTO CONSIDERATION THAT ON SETTLING THE FOUNDATION THE TOTAL NATURAL FREQUENCIES OF THE FOUNDATION CAN ARISE DUE TO THE SOIL COMPACTION AND THE RESULTING INCREASES OF THE ELASTIC MODULUS. AN UNEVEN SETTLING OF THE FOUNDATION HAS TO BE EXCLUDED.
- THE RATIO OF THE FOUNDATION MASS TO THE ROTOR MASS HAS TO BE GREATER THAN 25.
- ADOPT IS: 2974 / PART-IV FOR THE FOUNDATION DESIGN.
- THE CONNECTING DUCTS AT INLET AND OUTLET OF FAN MUST BE SELF SUPPORTED AND SHOULD NOT BE WELDED WITH EXPANSION JOINTS.
- FOUNDATION POCKETS SHOULD BE PERPENDICULAR TO THE FLAT SURFACES OF FOUNDATION.
- ACCURATE TEMPLATES SHALL BE USED FOR LOCATING CORES FOR POCKET HOLES TO ENSURE THEIR DIMENSIONAL ACCURACY.
- TOLERANCE BETWEEN ANY TWO POCKET CENTRES IS ± 5 mm.
- TOLERANCE ON CONCRETE LEVELS $+0$ -25 mm.
- 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.
- 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.
- GROUTING SHOULD BE DONE ONLY AFTER FINAL ALIGNMENT OF FAN.
- ELEVATIONS & POCKET DEPTH SHOWN IN FOUNDATION PLAN ARE INCLUDING GROUTING THICKNESS.
- GROUTING IS IN THE SCOPE OF ERECTION / CONTRACTOR
- HANDRAILS, STEEL PLATFORMS, LADDERS & CANOPY FOR MOTOR AND THEIR EMBEDMENTS ARE IN THE SCOPE OF BHEL/TRICHY.
- FAN FOUNDATION SHOULD NOT BE USED AS SUPPORT FOR OTHER STRUCTURES OR EQUIPMENTS.
- FOUNDATION CONFIGURATION SHOWN IN THIS DRAWING IS ONLY INFORMATIVE/TYPICAL. TYPE AND DETAILS OF FOUNDATION ARE TO BE FINALISED BY CIVIL DESIGNERS (PEM, BHEL).
- FOR MOTOR ERECTION, REFER MOTOR SUPPLIER'S ERECTION MANUAL.
- BASE FRAME, SOLE PLATE, FOUNDATION BOLTS & FASTENERS RELATED TO MOTORS WILL BE IN THE SCOPE OF MOTOR SUPPLIER (BHEL BHOPAL UNIT)

FAN DETAILS:

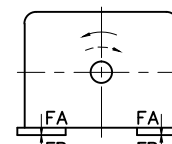
TYPE	: PAF 19/10.6-2
NO. OF FANS PER BOILER	: TWO
WEIGHT OF ROTATING PARTS	: 3060 kg
GD ² OF FAN	: 1400 kg.m ²
SPEED OF FAN	: 1490 Rpm

MOTOR DETAILS:

MAKE	: M/s. BHEL/BHOPAL
RATING	: 3100 Kw/1496 Rpm/11000V/TETV/IP55
TYPE	: 1LA7924-4
GD ² OF MOTOR	: 1060kg.m ²
WEIGHT OF MOTOR	: 15500 Kg.
WEIGHT OF ROTATING PARTS	: 4000 Kg.
MOTOR DRAWING NUMBER	: 14020041133
BEARING LUBRICATION TYPE	: ISO VG 68

FOUNDATION LOAD OF MOTOR

MAX. FORCE CALCULATED FROM THE MAX. IMPULSE TORQUE - FM = 142 kN
FORCE EXERTED BY WEIGHT ON EACH SIDE - FG = 78 kN
FOUNDATION LOAD ON EACH SIDE COMPRESSION - FA = FM+FG = 220 kN
TENSILE FORCE - FB = FM-FG = 64 kN
THE FORCE OCCUR ALTERNATIVELY INDEPENDENT OF THE DIRECTION OF ROTATION.



CUSTOMER NO. : R547-R548

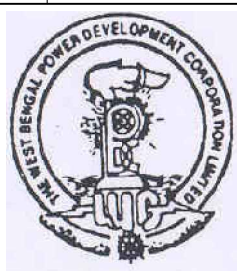
WEST BENGAL POWER DEVELOPMENT CORPN. LTD.,

SAGARDIGHI THERMAL POWER PROJECT

2 X 500 MW BOILER - PHASE-II, UNIT NO. 3&4

BHARAT HEAVY ELECTRICALS LIMITED.,

BOILER AUXILIARIES PLANT; RANIPET-632406



REV.	DATE	ALTERED	S.S.B	NAME	SIGN	DATE
01	03.08.2011	CHD. & APPD.	P.M.J	S.S.B		20.07.2011
				P.M.J		20.07.2011
				P.M.J		20.07.2011

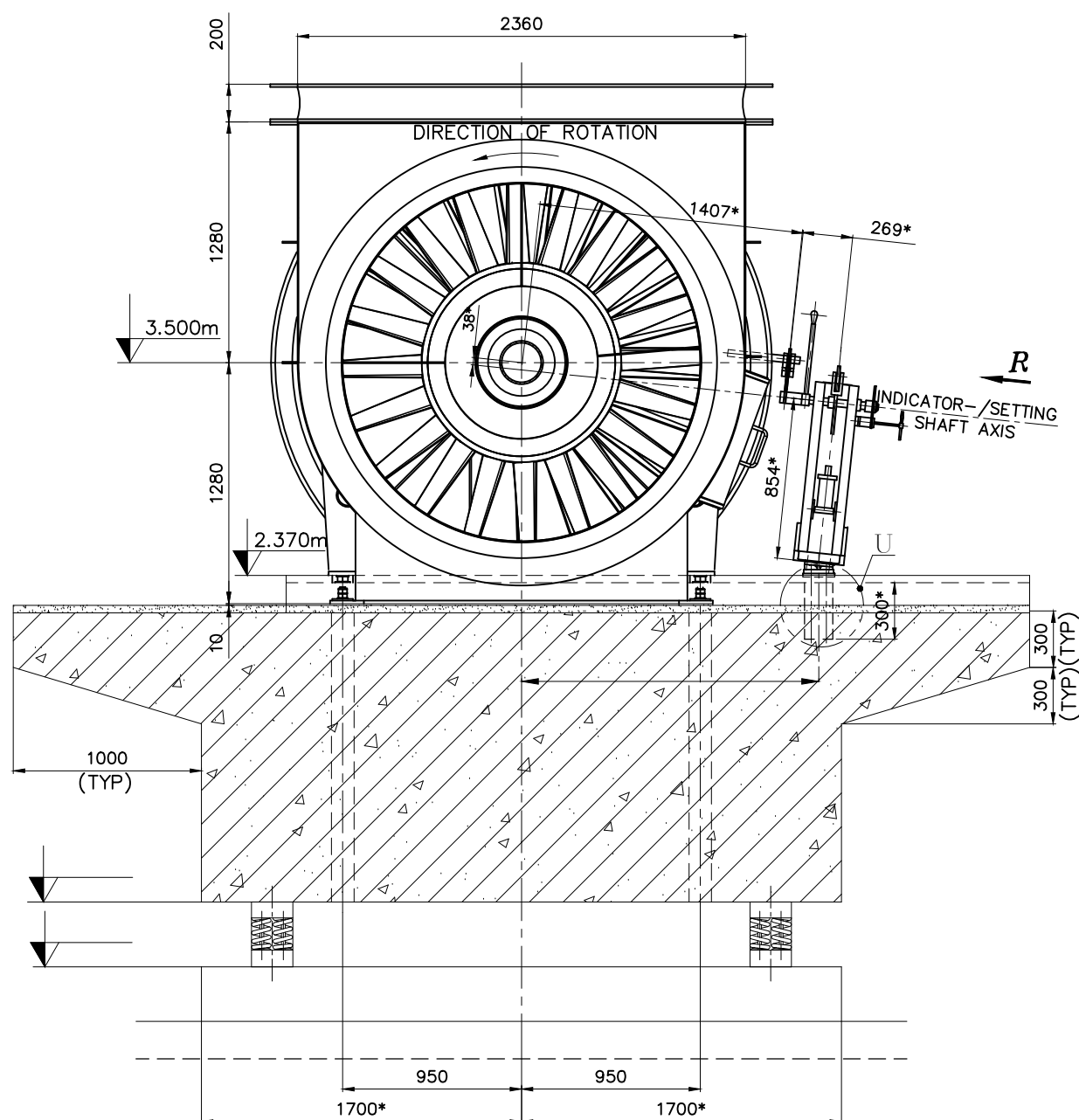
TITLE
GENERAL ARRANGEMENT OF P.A FAN - PAF 19/10.6-2

DRAWING NO. 1-00-100-22067	SCALE 1:35	CUSTOMER DRAWING NO.
		SHEET 01 OF 01
		REV. 01

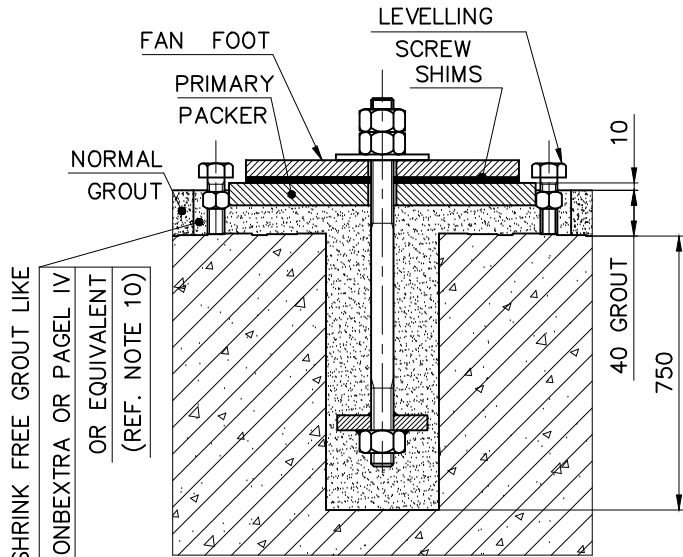
REV.	DATE	ALTERED	S.S.B
01	03.08.2011	CHD. & APPD.	P.M.J

01. MOTOR DIMENSIONS AND ITS FOUNDATION DETAILS
ALD.

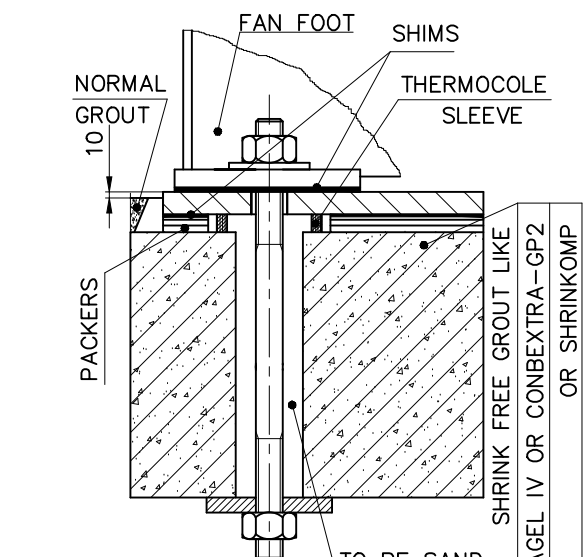
SECTION-EE



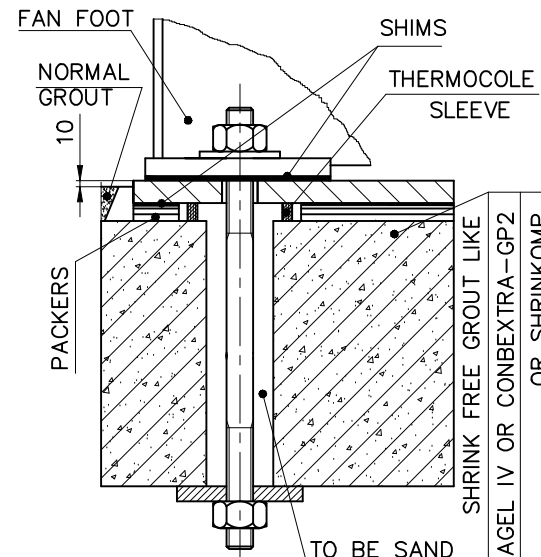
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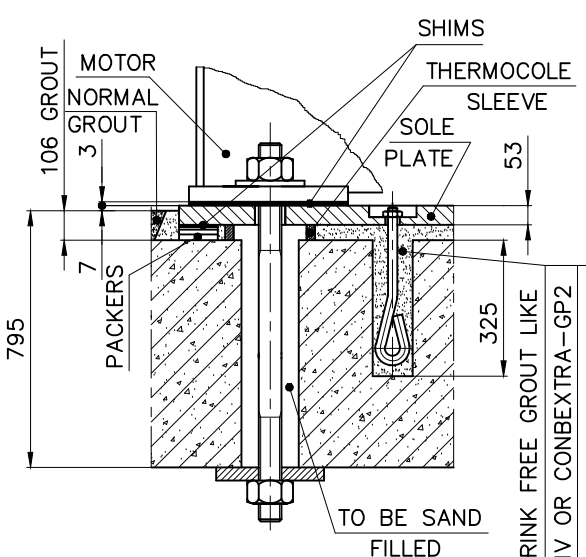
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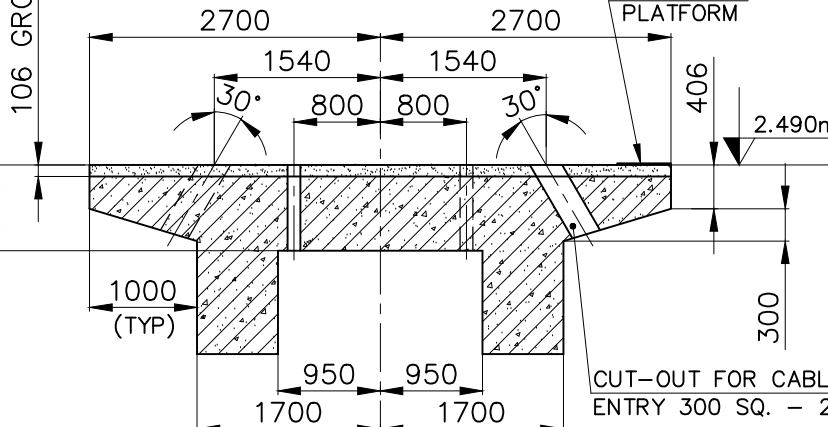
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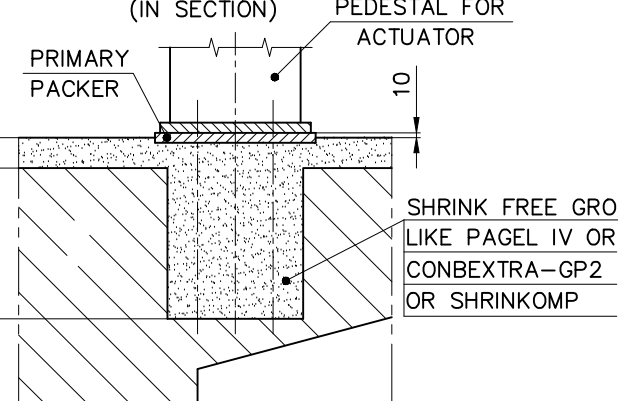
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SECTION-DD

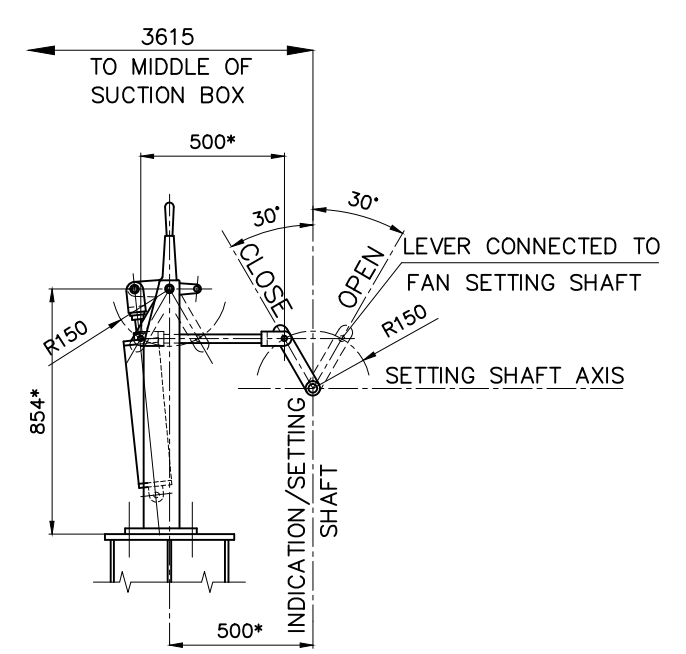


DETAIL-U*

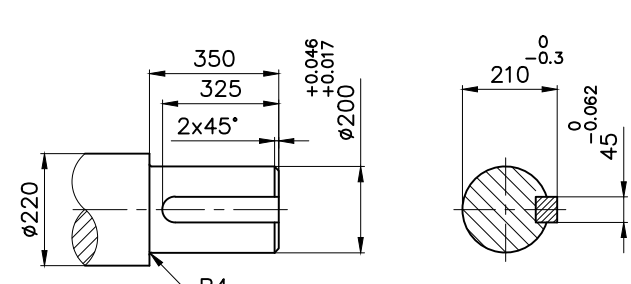


VIEW-R*

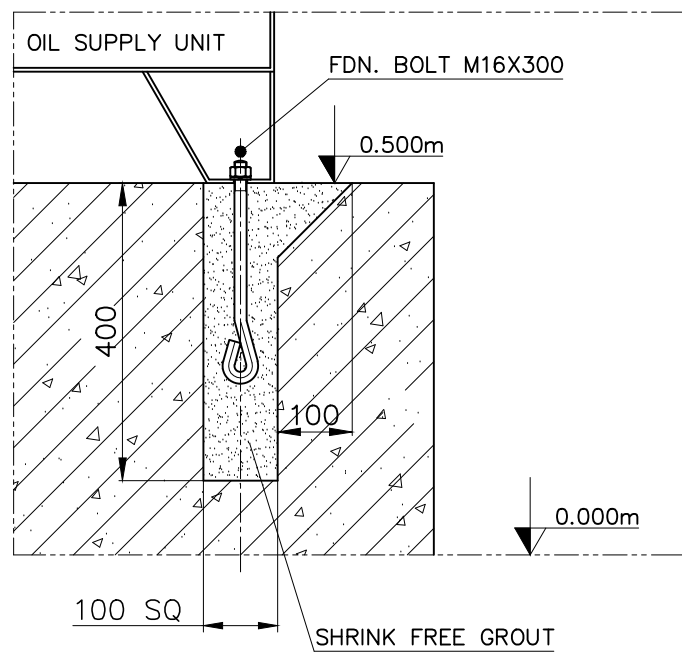
(ON ACTUATOR & ITS LINKAGE)



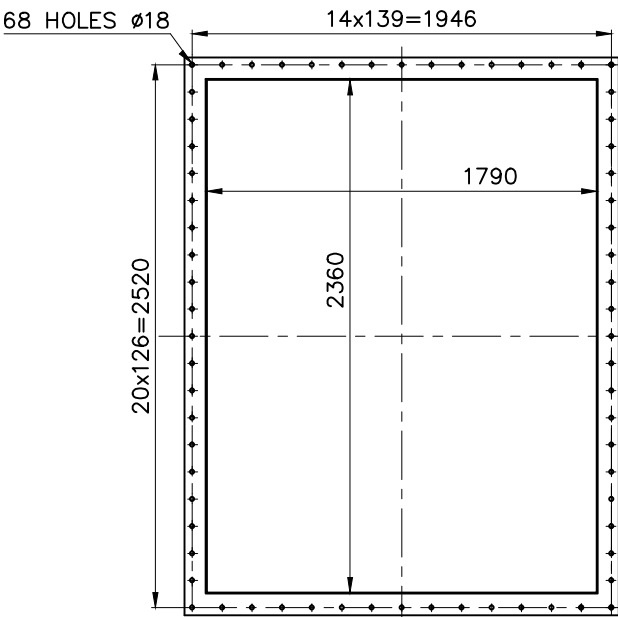
MOTOR SHAFT END



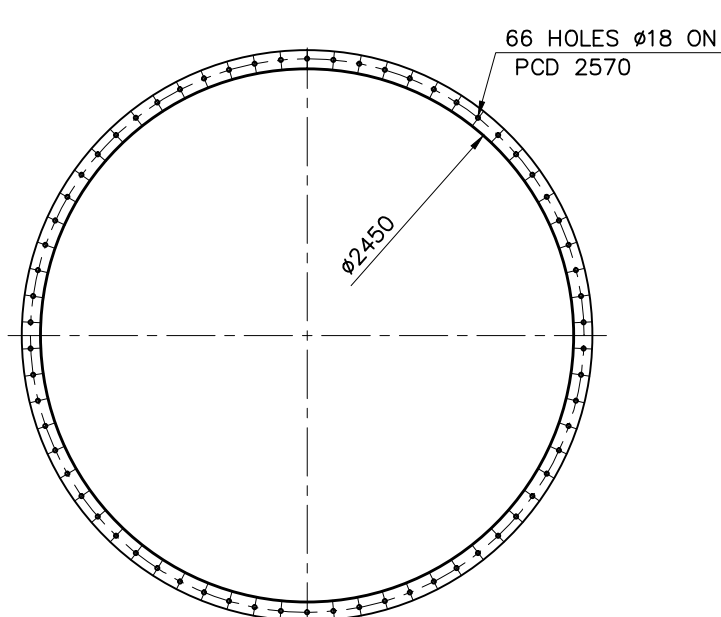
SECTION-FF



SUCTION FLANGE



DELIVERY FLANGE



BLANK DIMENSIONS WILL BE FURNISHED LATER

* DIMENSIONS SHALL BE CONFIRMED LATER

LOAD POINT	STATIC VERTICAL FORCE [N]	DYNAMIC VERTICAL FORCE [N]	STATIC HORIZONTAL IN AXIAL DIRECTION FORCE [N]	STATIC HORIZONTAL ACROSS TO AXIS FORCE [N]	DYN. HORIZONTAL ACROSS TO AXIS FORCE [N]
I	+14800	±400	±5100	±100	±400
II	+15500	±1700	±2800	±100	±1500
III	+10500	±600		±100	±600
IV	+6400	±600		±100	±600