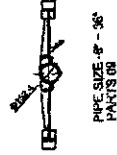
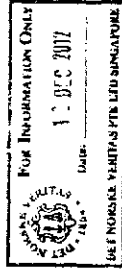
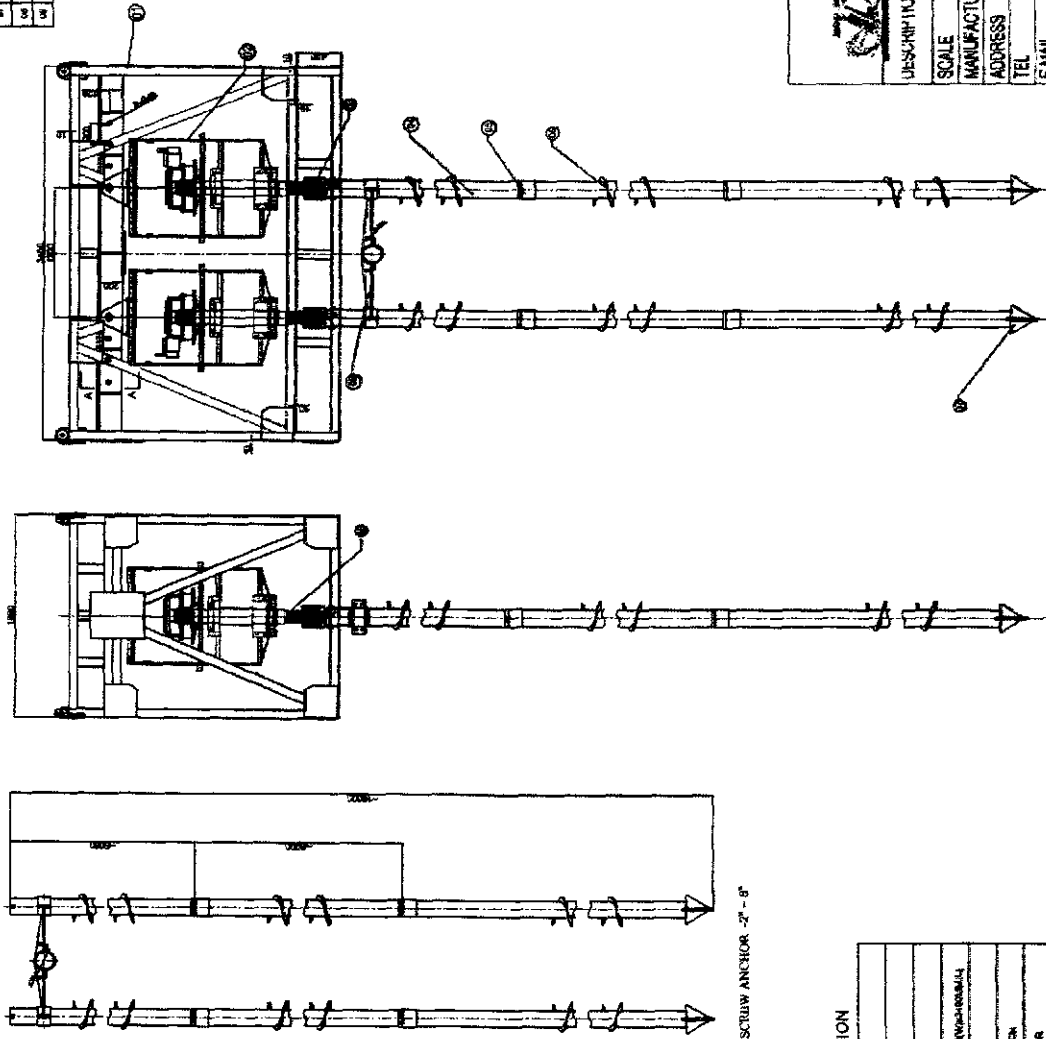


D.	DRAWING NO.	DESCRIPTION	QTY	UNIT WT (KG)	TOTAL WT (KG)	REMARK
01	D048M010002	FRAME	1	2012	2012	
02	D048M010012	MOTOR BOX	2	352	704	
03	D048M010017	SCREW SOCKET	2	38.5	77	
04	D048M010021	PIPE	4	182.5	1086	
05	D048M010016	THREADED BUSH	4	13.8	55.2	
06	D048M010023	VANE	12	3.3	39.6	
07	D048M010024	DRILLS	2	14.5	29	
08	D048M010019	SHAFT	2	35.61	71.22	
09	D048M010022	SUPPORT END BRACKET	1	20.3	20.3	



ANCHOR PIPE SPECIFICATION

DESCRIPTION	PARAMETER
MAX TORQUE ON BIT	24 HEDRONE
SHAFT WALL THICKNESS	3000MM
FRAMEWORK DIMENSION	2400MM (HORIZONTAL) X 2400MM (VERTICAL)
SHAFT LENGTH	18M
MAX SHAFT DIMENSION	OD 3 INCH - 40.9 INCH
MOTOR	HYDRAULIC MOTOR
BLADE DIMENSION	OD 300 MM
OUTPUT TORQUE	2.5 RPM
RATED REVOLUTIONS PER MIN	0 -- 18 RPM
SYSTEM OPERATING PRESSURE	200 BAR
WATER DEPTH	20 M

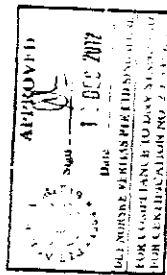
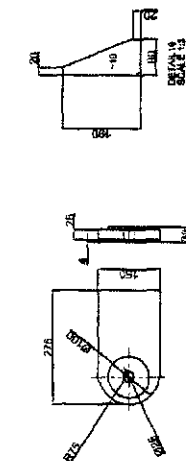
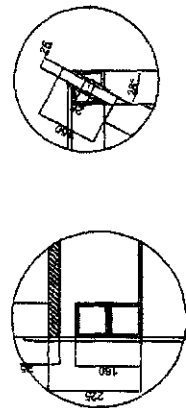
TITLE:

G.A. DRAWING

DESCRIPTION	18.1 Ton Two Drill Hydraulic Anchor pipe									
SCALE	NTS		THIRD ANGLE PROJECTION	ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED						
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD									
ADDRESS	18 Kian Teck Way, Singapore 629749 FAX +65 6285 9126									
TEL	(96) 6285 9884 (96) 6285 1987 11-12-2012									
E-MAIL	tancheng@tancheng.com.sg HULL NO 967									
CUSTOMER	HAFAR MARINE PTE LTD									
VESSEL NAME	HAFAR NEPTUNE									
MODEL NO	TC18 TDHPPD002 ENGR YH DRAWN VAN BACHKEO									
PROJECT NO	P1200485 CHKD YH SERIAL NO TC2012006									
DIAGRAM NO	D048S010001 APPD Li REVISION 6									
	SHEET 1/4									

0	DESCRIPTION	QTY	UNIT	TOTAL	MATERIAL
01	HOLLOW BAR 80x80x1720x8	8	WT.(KG)	239.01	S355J2H
02	HOLLOW BAR 80x80x2480x8	4	WT.(KG)	172.31	
03	HOLLOW BAR 80x80x3300x8	8	WT.(KG)	343.93	
04	HOLLOW BAR 80x80x2100x8	4	WT.(KG)	143.91	
05	HOLLOW BAR 80x80x2083x8	4	WT.(KG)	196.63	
06	HOLLOW BAR 80x80x2075x8	4	WT.(KG)	144.17	
07	HOLLOW BAR 80x80x3721x8	1	WT.(KG)	64.63	
08	HOLLOW BAR 80x80x1840x8	2	WT.(KG)	63.92	
09	HOLLOW BAR 80x80x240x8	4	WT.(KG)	16.68	
10	HOLLOW BAR 80x80x185x8	1	WT.(KG)	2.87	
11	HOLLOW BAR 80x80x320x8	6	WT.(KG)	33.95	E306
12	PL 25THK x 3460W x 200L	2	WT.(KG)	270.66	
13	PL 25THK x 3460W x 300L	1	WT.(KG)	202.93	
14	PL 25THK x 400W x 300L	1	WT.(KG)	23.48	
15	PL 10THK x 800W x 400L	2	WT.(KG)	32.84	
16	PL 10THK x 300W x 300L	12	WT.(KG)	84.48	
17	PL 10THK x 200W x 200L	1	WT.(KG)	3.13	
18	PL 10THK x 276W x 150L	4	WT.(KG)	12.92	
19	PL 10THK x 100W x 90L	14	WT.(KG)	4.9	
20	PL 10THK x 400W x 300L	5	WT.(KG)	58.28	

QTY. STATED ABOVE AS PER DETAIL DWG SHOWN.



FRAME SPECIFICATION

DESCRIPTION	PARAMETER
GROSS MASS	8 TON
TARE MASS	2 TON
PAYLOAD	4 TON
OPERATIONAL CLASS	RA6
DESIGN TEMPERATURE	-20°C
NUMBER OF SLING LEGS	4
ANGLE OF SLING LEG FROM VERTICAL IN DEGREES	45°
WATER DEPTH	25 M

TITLE:



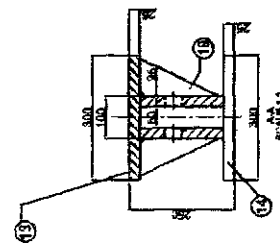
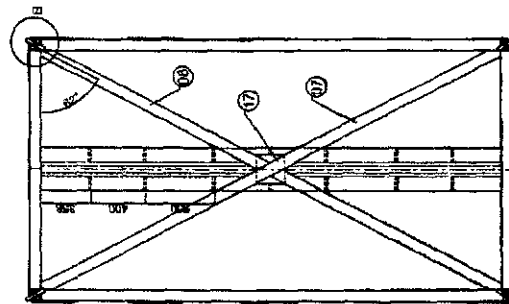
FRAME

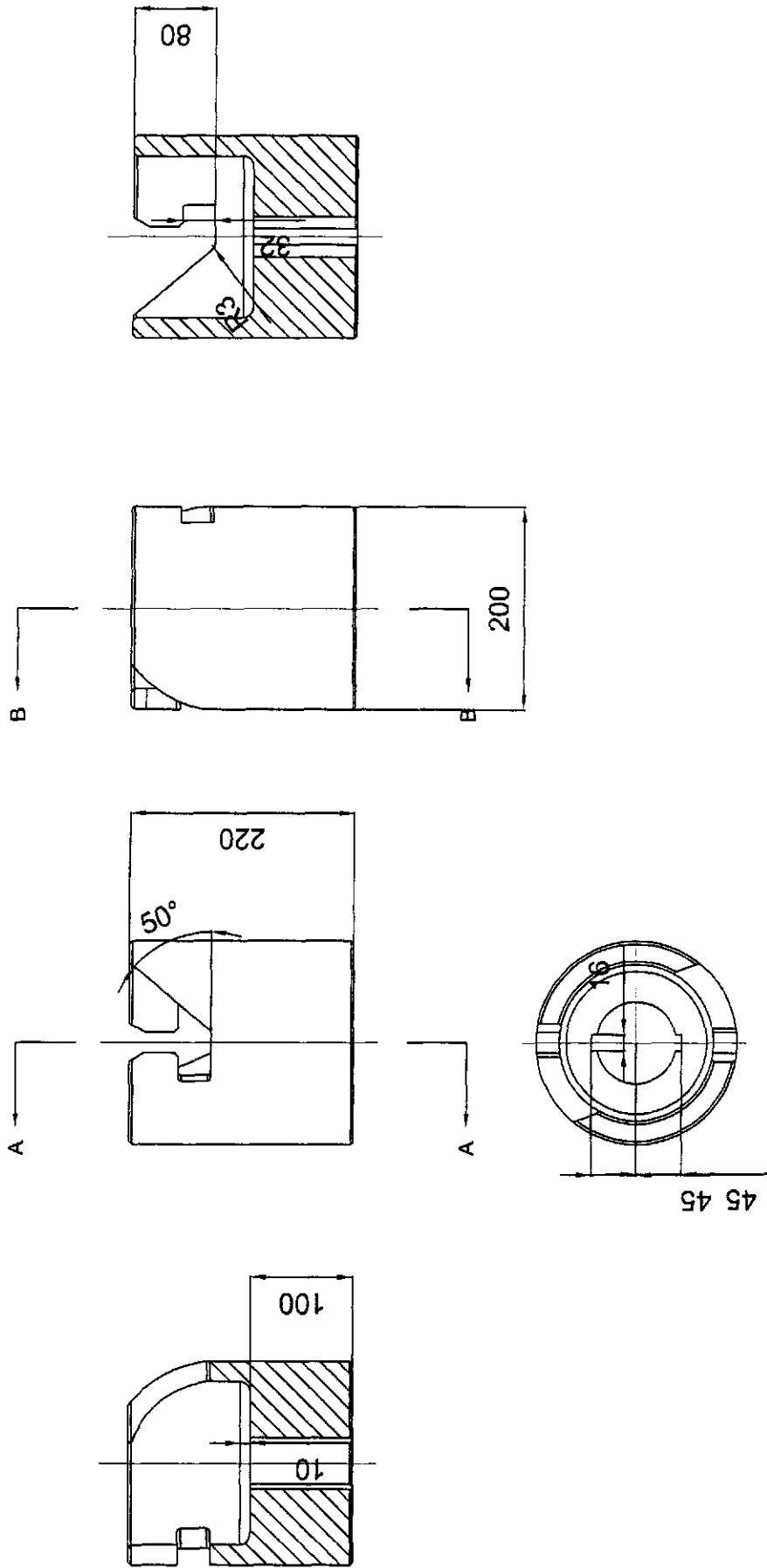
DESCRIPTION 18.1 Ton Two Drill Hydraulic Anchor pipe

SCALE	NTS	THIRD ANGLE PROJECTION	ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD		
ADDRESS	18 Kien Teck Way, Singapore 62749	FAX	+65 6285 6125
TEL	+65 6285 6884	DATE	11-12-2012
E-MAIL	tiancheng@singtel.com.sg	HULL NO	987
CUSTOMER	HAFAR MARINE PTE LTD	VESSEL NAME	HAFAR NEPTUNE
MODEL NO	TC18.1TDH4002	SERIAL NO	TC12012008
PROJECT NO	P1200485	CHKD	REVISION 6
DIAGRAM NO	D0485010002	APPD	SHEET 2/4

NOTE:

1. ALL MATERIAL USED SHALL MEET REQUIREMENTS IN DNV 7-3.
2. ALL BOLTS, NUTS AND PINS SHALL MEET REQUIREMENTS IN SECTION 3.2.5 OF DNV 7-3.
3. ALL WELDS ON PRIMARY MEMBERS SHALL BE FULL PENETRATION WELDS.
4. ELECTRODES USED E70xx.

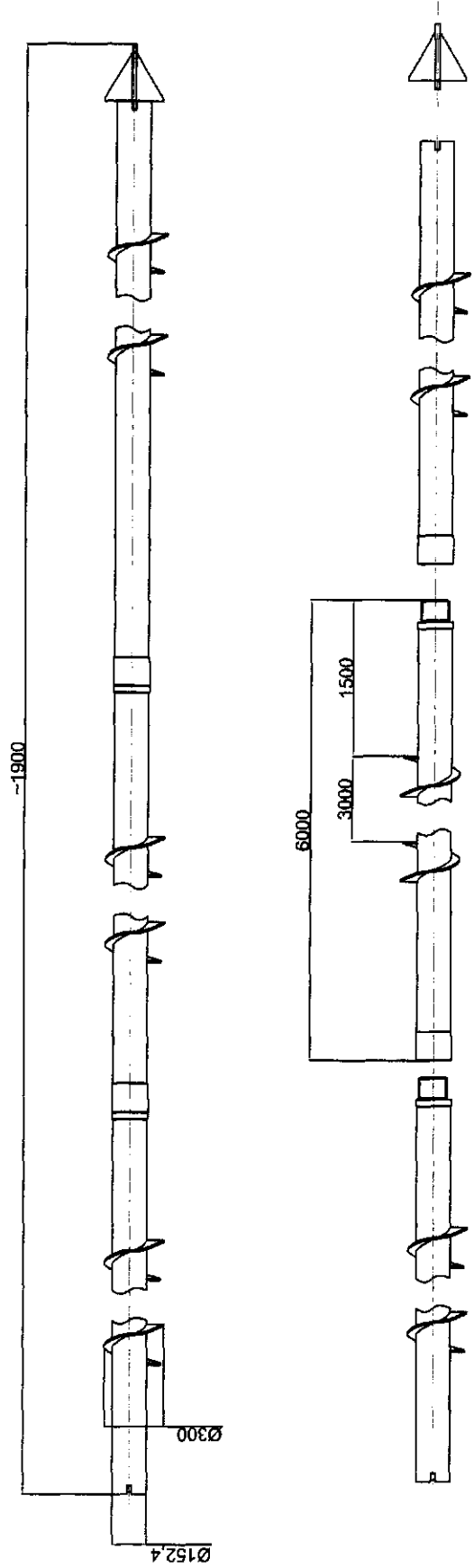




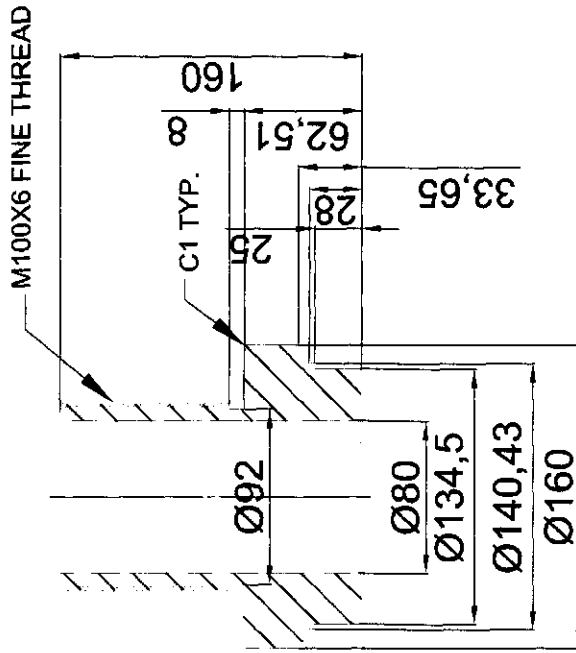
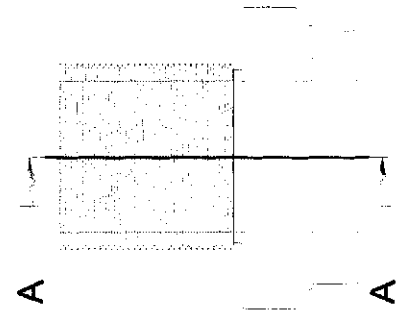
	TITLE: SCREW SOCKET
DESCRIPTION	18.1 Ton Two Drill Hydraulic Anchor pipe
SCALE	NTS
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD
ADDRESS	16 Kuan Teck Way, Singapore 628749
TEL	+65 6265 4864
E-MAIL	tiancheng@signgel.com.sg
CUSTOMER	HAFAR MARINE
MODEL NO	TC18.1TDH4PD002
PROJECT NO	P120048M
DIAGRAM NO	DX48M010009

SCALE	NTS
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD
ADDRESS	16 Kuan Teck Way, Singapore 628749
TEL	+65 6265 4864
E-MAIL	tiancheng@signgel.com.sg
CUSTOMER	HAFAR MARINE
MODEL NO	TC18.1TDH4PD002
PROJECT NO	P120048M
DIAGRAM NO	DX48M010009

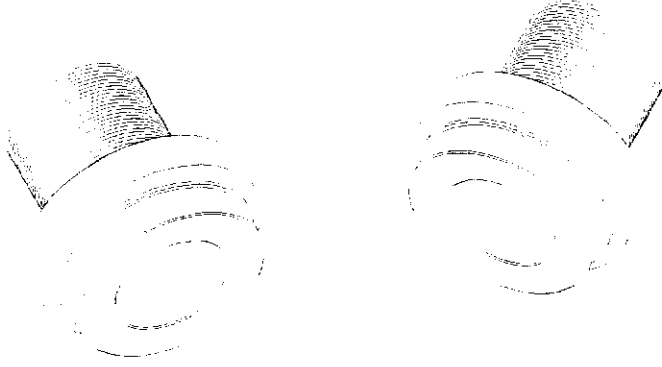
SCALE	NTS
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD
ADDRESS	16 Kuan Teck Way, Singapore 628749
TEL	+65 6265 4864
E-MAIL	tiancheng@signgel.com.sg
CUSTOMER	HAFAR MARINE
MODEL NO	TC18.1TDH4PD002
PROJECT NO	P120048M
DIAGRAM NO	DX48M010009



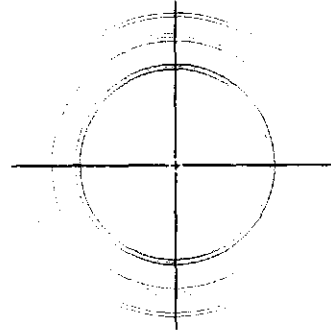
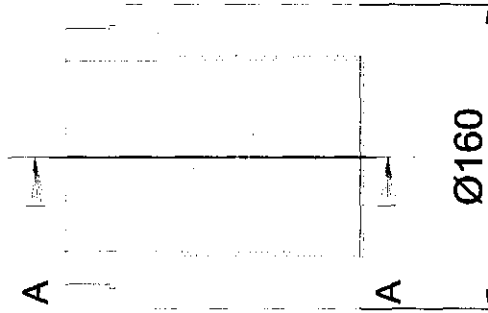
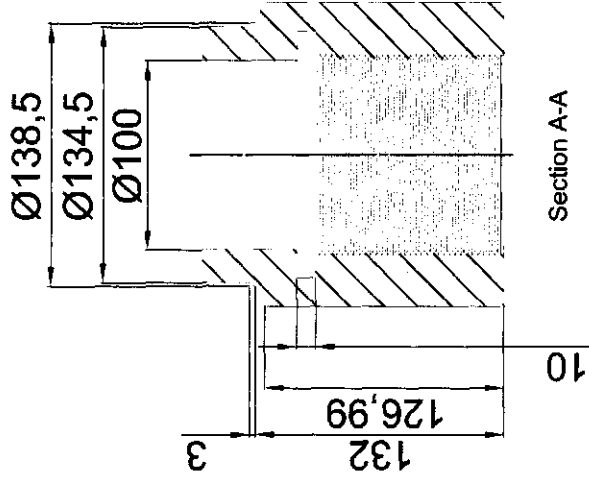
		TITLE: SCREW ANCHOR	
DESCRIPTION		18.1 Ton Two Drill Hydraulic Anchor pipe	
SCALE	NTS	 THIRD ANGLE PROJECTION	ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD		
ADDRESS	16 Kian Teck Way, Singapore 628749		
TEL	+65 6265 4864		
E-MAIL	tancheng@singnet.com.sg		
CUSTOMER	HAFAR MARINE	DRAWN	YAN BAOCHENG
MODEL NO	TC18.1TDHAPDD02	ENGR	YSA
PROJECT NO	P120048M	CHKD	
DIAGRAM NO	D048M10008	APPD	
		FAX	+65 6265 9125
		DATE	11-12-2012
		HULL NO	967
		VESSEL NAME	NEPTUNE
		SERIAL NO	TC/2012006
		REVISION	6
		SHEET	926



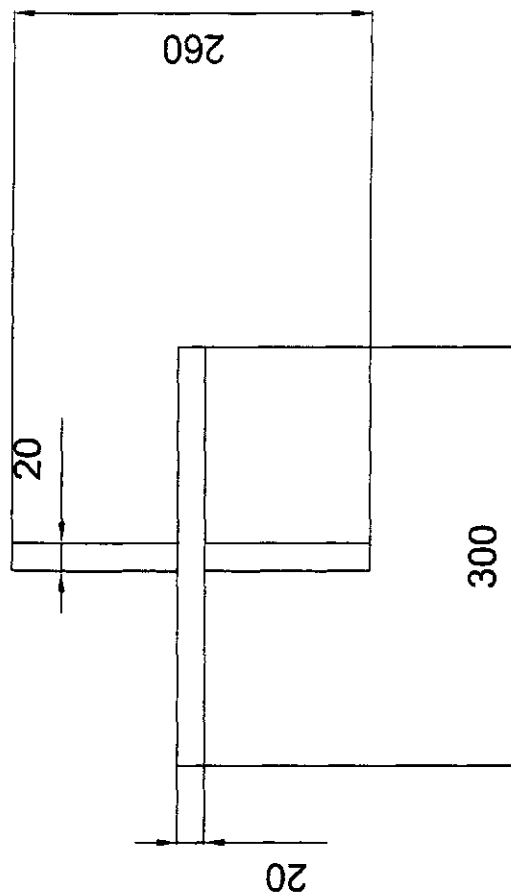
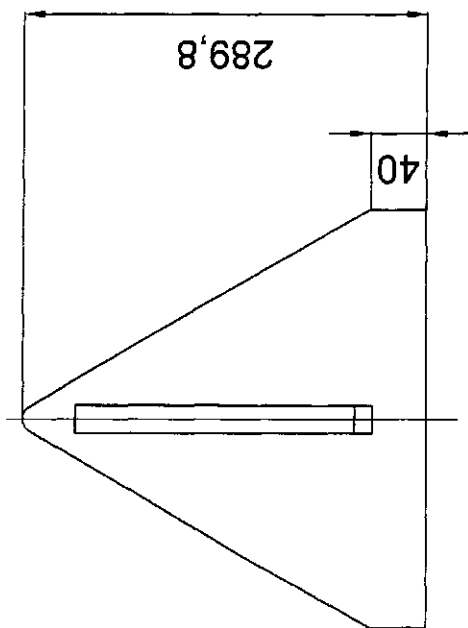
Section A-A



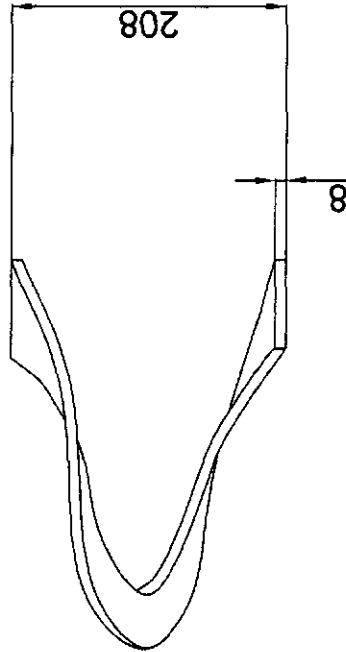
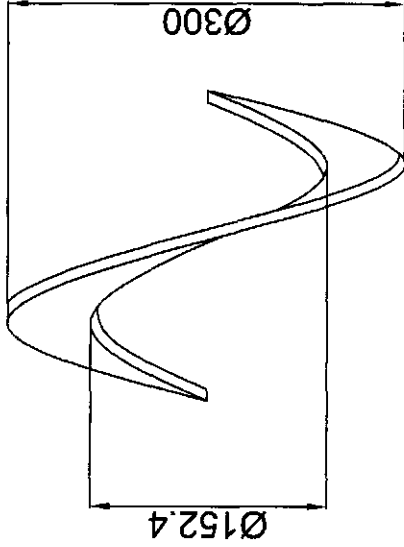
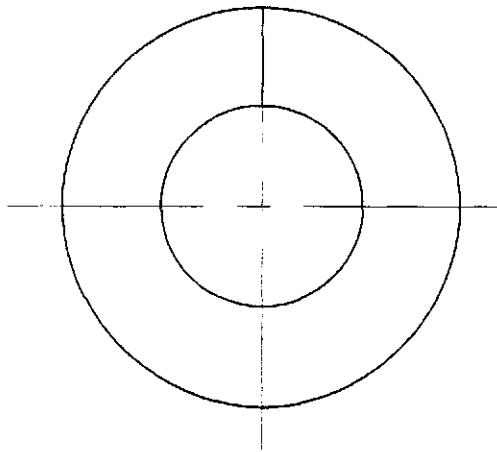
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	DESCRIPTION		18.1 Ton Two Drill Hydraulic Anchor pipe	
SCALE	NTS	 THIRD ANGLE PROJECTION	ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED	
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD			
ADDRESS	16 Kian Teck Way, Singapore 628749		FAX	+(65) 6265 9125
TEL	+(65) 6265 4884		DATE	11-12-2012
E-MAIL	tiancheng@singnet.com.sg		HULL NO	967
CUSTOMER	HAFAR MARINE	DRAWN	YAN BAOCHENG	VESSEL NAME NEPTUNE
MODEL NO	TC18.1TDHAPD02	ENGR		SERIAL NO TC12012006
PROJECT NO	P120048M	CHK'D		REVISION 6
DIAGRAM NO	D048M010017	APP'D		SHEET 17/26



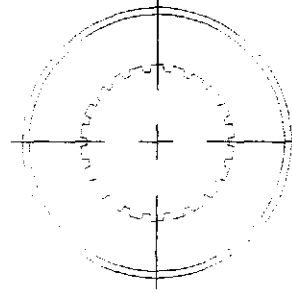
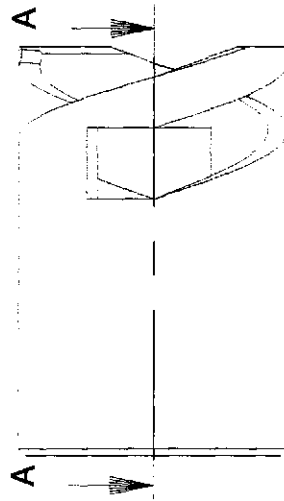
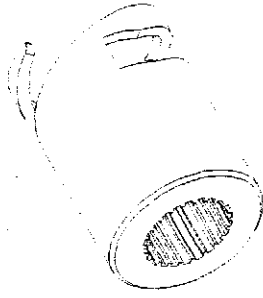
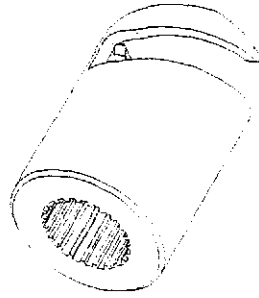
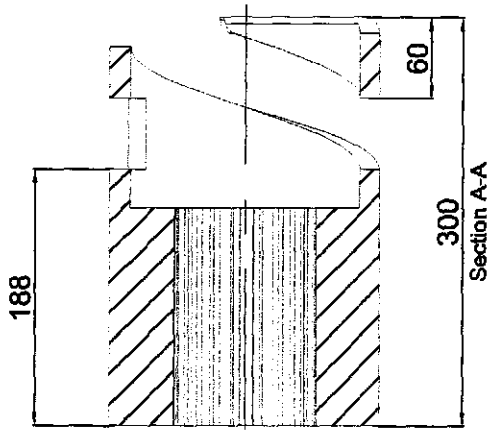
	TITLE: THREADED BUSH (FEMALE)
DESCRIPTION	18.1 Ton Two Drill Hydraulic Anchor pipe
SCALE	NTS
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD
ADDRESS	16 Kian Teck Way, Singapore 628749
TEL	+ (65) 6265 4664
E-MAIL	tiancheng@singnet.com.sg
CUSTOMER	HAFAR MARINE
MODEL NO	TC18.1TDHAPD02
PROJECT NO	P120048M
DIAGRAM NO	D048M010016
DATE	11-12-2012
FAX	+ (65) 6265 9125
DATE	11-12-2012
HULL NO	967
VESSEL NAME	NEPTUNE
SERIAL NO	TC12012006
REVISION	6
SHEET	16/26



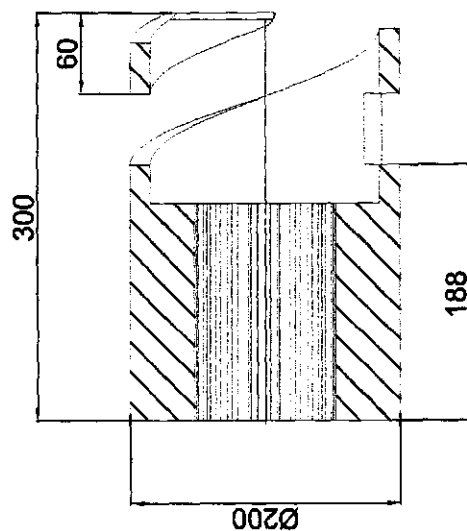
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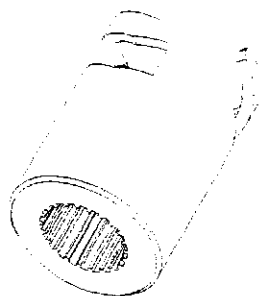
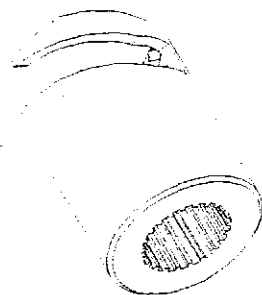
	TITLE: VANE	
	18.1 Ton Two Drill Hydraulic Anchor pipe	
DESCRIPTION		
SCALE	NTS	THIRD ANGLE PROJECTION
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD	
ADDRESS	16 Kian Teck Way, Singapore 628749	FAX +651 6265 9125
TEL	+651 6265 4864	+651 6265 1057
E-MAIL	liancheng@signal.com.sg	DATE 11-12-2012
CUSTOMER	HAFAR MARINE	DRAWN YAN BAOCHENG
MODEL NO	TC16.1TDHAP0002	ENGR YAN
PROJECT NO	P120048M	CHKD
DIAGRAM NO	D049M010011	APPD
		SHEET 11/26



	TITLE:		CAM BUSH 1	
	DESCRIPTION		18.1 Ton Two Drill Hydraulic Anchor pipe	
SCALE	NTS		THIRD ANGLE PROJECTION	ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD			
ADDRESS	16 Kian Teck Way, Singapore 628749			
TEL	+65 6265 4864			
E-MAIL	tancheng@singnet.com.sg			
CUSTOMER	HAFAR MARINE	DRAWN	YIN BAOCHENG	HULL NO 967
MODEL NO	TC18.1THAPDD02	ENGR	YAN	VESSEL NAME NEPTUNE
PROJECT NO	P120048M	CHKD		SERIAL NO TC12012006
DIAGRAM NO	D048M010019	APPD	Li	REVISION 6
				SHEET 19/26



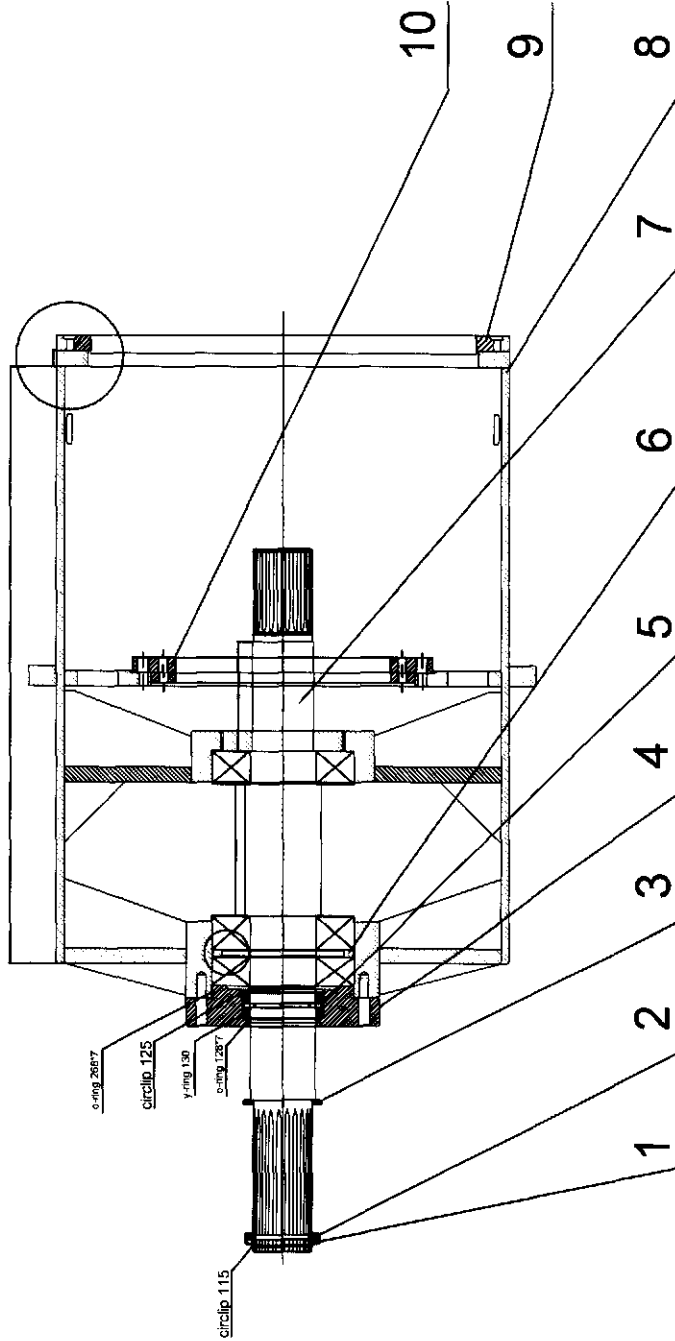
Section A-A



	TITLE:		18.1 Ton Two Drift Hydraulic Anchor pipe	
	DESCRIPTION			
SCALE	NTS	 THIRD ANGLE PROJECTION	ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED	
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD			
ADDRESS	18 Kuan Teck Way, Singapore 628749 FAX +65 (6265 9125			
TEL	+65 (6265 4864, +65 (6265 1067			
E-MAIL	tancheng@singnet.com.sg			
CUSTOMER	HAFAIR MARINE	DRAWN	YIM BAO-CHENG	HULL NO 967
MODEL NO	TC18.1TDHPPD02	ENGR		VESSEL NAME NEPTUNE
PROJECT NO	P120049M	CHKD		SERIAL NO TC12012006
				REVISION 6
DIAGRAM NO	D049M010018	APPD		SHEET 18/28

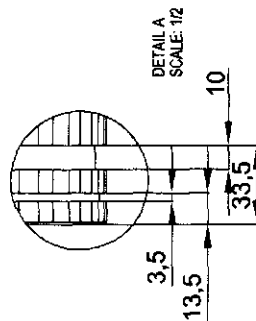
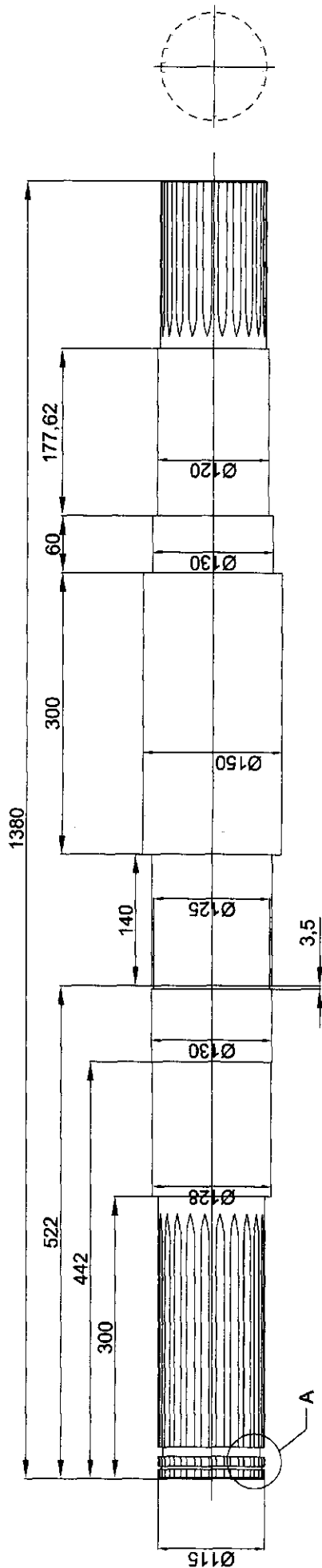
QTY	DESCRIPTION	D
1	CAP	01
1	RING	02
1	SHAFT BUSH	03
1	BEARING SUPPORT	04
1	OIL BUSH	05
1	BEARING CUP	06
1	SPLINE SHAFT	07
1	DRILL BASE	08
1	BASE COVER	09
1	MOTOR PLATE	10

QTY. STATED ABOVE AS PER DETAIL DWG. SHOWN.



	TITLE: ASSEMBLY SHAFT			
DESCRIPTION	18.1 Ton Two Drill Hydraulic Anchor pipe			
SCALE	NTS		THIRD ANGLE PROJECTION	ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD			
ADDRESS	16 Kian Teck Way, Singapore 628749		FAX	+(65) 6265 9125
TEL	+(65) 6265 4864		DATE	11-12-2012
E-MAIL	tiantcheng@singnet.com.sg		HULL NO	987
CUSTOMER	HAFAR MARINE		DRAWN	YAN BAOCHENG
MODEL NO	TC18.1TDHAPD02		ENGR	NEPTUNE
PROJECT NO	P120048M		CHKD	TC12012006
DIAGRAM NO	D048M010022		APPD	REVISION 6
				SHEET 22/26

4440.



Quenching.

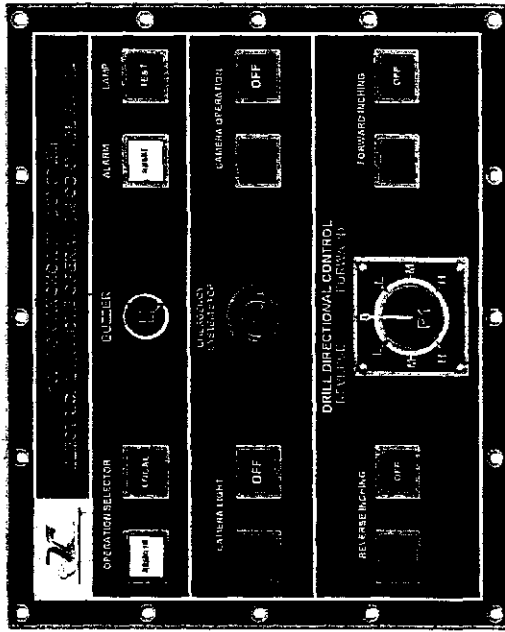
TITLE:		SPLINE SHAFT			
DESCRIPTION		18.1 Ton Two Drill Hydraulic Anchor pipe			
SCALE	NTS		THIRD ANGLE PROJECTION	ALL DIMENSIONS IN MM UNLESS OTHERWISE STATED	
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD				
ADDRESS	16 Klan Tek Way, Singapore 628749				
TEL	+65 6265 4884		+65 6265 1957		FAX
E-MAIL	tancheng@singnet.com.sg				
CUSTOMER	HAFAR MARINE	DRAWN	YANBAOCHENG		VESSEL NAME
MODEL NO	TC18.1TDHAP0002	ENGR			SERIAL NO
PROJECT NO	P120048M	CHKD			REVISION
DIAGRAM NO	D048M010020	APPD			SHEET
					20/26

440 NM



Note:
1) Ingress protection class: IP 56.
2) Panel supplied loose, position will be decided by yard.
3) Incoming and outgoing cables are all from the below of the panel.

1000 MM



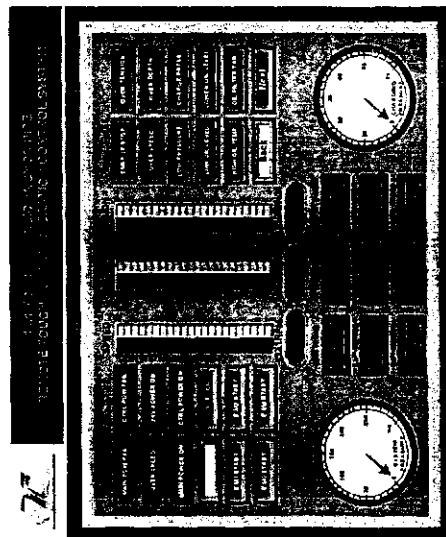
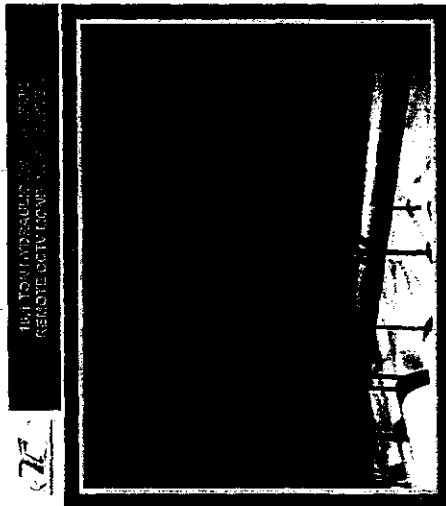
FRONT VIEW

400 MM

TITLE:	
18.1 TON HYDRAULIC ANCHOR PIPE SYSTEM 2X30HP ELECTRICAL STARTER CONTROL	
DESCRIPTION	
MANUFACTURER	
ADDRESS	
TEL	
FAX	
DATE	
FILE NO	
CUSTOMER	
MODEL NO	
PROJECT NO	
REVISION	
PAGE	

NOTE:
1) Ingress protection class: IP56.
2) Panel supplied loose, position will be decided by yard.
3) Incoming and outgoing cables are all from the below of the panel.

1000 MM



440 MM

	TITLE:		18.1 TON HYDRAULIC ANCHOR PIPE SYSTEM 2X30HP ELECTRICAL STARTER CONTROL			
	DESCRIPTION		2X30HP ELECTRICAL STARTER CONTROL			
	MANUFACTURER		PT KIAN TECK WAT SINGAPORE, S28748			
	ADDRESS		+65-6265 9861 & +65-6285 1087			
	TEL		lan@kian@ptkian.com.sg			
	FAX		+65 6265 9125			
	E-MAIL		DATE 20-11-2012			
	CUSTOMER		PULL NO 367			
	MODEL NO		SERIAL NO TTC-2012005			
	PROJECT NO		1			
DRAWING NO		ENGR LI TAN CHENG/TRANSON				
		CHECKED BY				
		PAGE 03-12				

- Note:
- 1) Ingress protection class: IP55.
 - 2) Panel supplied loose, position will be decided by user.
 - 3) Incoming and outgoing cables are all from the below of the panel.

SHIP AC 3PX415V/50HZ
ELECTRICAL MAIN SWITCH BOX
(MSB)

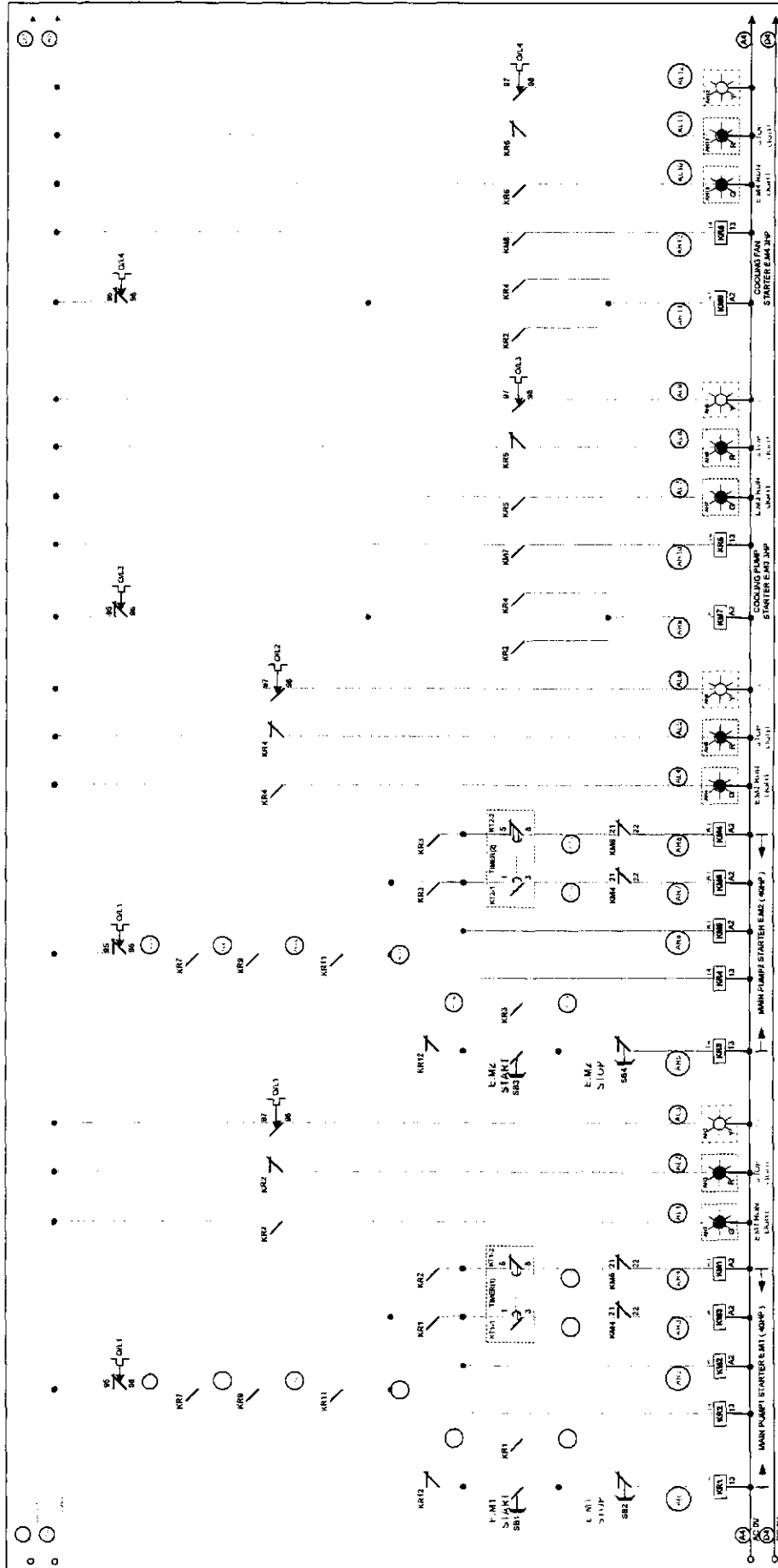
WEA1-MSB-MSP-1-25mm²X3C
WEA1-MSB-MSP-2-25mm²X3C

18.1 TON HYDRAULIC ANCHOR PIPE SYSTEM
ELECTRICAL MAIN STARTER PANEL
(MSP)

WEA2-MSP-HPU-1-16mm²X 6C
WEA2-MSP-HPU-2-16mm²X 6C
WEA2-MSP-HPU-3-4mm²X 3C
WED3-MSP-HPU-1-1.5mm²X 10C

E.M1 E.M2 E.M3
18.1 TON HYDRAULIC ANCHOR PIPE SYSTEM
HYDRAULIC POWER UNIT
(HPU)

	TITLE: 18.1 TON HYDRAULIC ANCHOR PIPE SYSTEM 2X30HP ELECTRICAL STARTER CONTROL				
D-DESCRIPTION	TIAN CHENG ELECTRICAL MARINE EQUIPMENT PTE LTD				
MANUFACTURER	TIANCHENG ELECTRICAL MARINE EQUIPMENT PTE LTD				
ADDRESS	16 KIAN TECK WAY SINGAPORE : 628749				
TEL	+65-6265 4864 & +65-6265 1057		FAX	(65) 6265 9125	
E-MAIL	tiancheng@singnet.com.sg				
CUSTOMER					
MODEL NO	AE44TS4500 3P4W3P4DUSMK-P-000158		SERIAL NO	TC-12012005	
PROJECT NO	P12012005		ENGR	LI TIAN CHENG	
DIAGRAM NO	D48E001000b		CHK'D		
			PAGE	06-12	



TITLE:	
18.1 TON HYDRAULIC ANCHOR PIPE SYSTEM 230VHP ELECTRICAL STARTER CONTROL	
MANUFACTURER: JIAN HENG ELEC. (HONG KONG) LTD.	
ADDRESS: 16 MAN TECK WAY SINGAPORE 628740	
TEL: +65-6285 4854 & +65-6285 1057	
E-MAIL: jianheng@singtel.com.sg	
CUSTOMER: JIAN HENG ELEC. (HONG KONG) LTD.	
PROJECT NO: JHE-181-181HP	
DRAWN NO: 08-12	

Note:

1. SB1 TO SB4, AH1 TO AH9 ALL TO BE INSTALLED ON THE MOTOR STARTER MAIN PANEL DOOR.
2. KR1 TO KR2, KT1, KT2 ALL TO BE INSTALLED IN THE MOTOR STARTER MAIN PANEL.