

- 1. THE SYSTEM COMPLIES TO CAP-437 7TH.
- 2. ALL ELECTRICAL/INSTRUMENT ARE SUITABLE FOR CLASS 1 DN.2 GROUP D APPLICATION.
- ALL PIPING SYSTEM AND ALL EQUIPMENT ARE TO BE ELECTRICALLY BONDED.
- ALL THE ITEMS BEYOND THE DASH DOTTED LINES ARE NOT INCLUDED IN SCOPE OF SUPPLY AND TO BE CARRIED OUT BY OTHERS/CLIENTS.
- 6. PUMP CONTROL/OPERATION & SHUTDOWN LOGICS ARE DERIVED FROM THE MOTOR STARTER PANEL.
- 7. SKID COAMING HEIGHT TO BE 150MM FOR PUMP SKID, DISPENSER SKID AND TANK SKID. 8. TANKS' DRAIN SHALL ONLY PLUGGED WHEN TRANSFER OUT OF
- DESIGNED AREA.

 9. REFUELING OPERATION SHALL ALWAYS MAN FROM DISPENSER UNIT (REMOTE CONTROL PANEL).



A	ST	ISSUED FOR REVIEW & APPROVAL	15/08/15
REV	BY	DESCRIPTIONS	DATE
		REVISION	

15/08/15 DESIGNED BY ENGINEER ST ENGINEER LEAD ST 15/08/15 CHECKED BY APPROVED BY 15/08/15 ENGR MANAGER ST DATE NAME DESIGNATION

PETRICO ENGINEERING PTE LTD

CUSTOMER :

CSOC

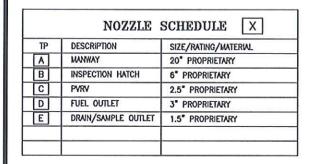
PROJECT :

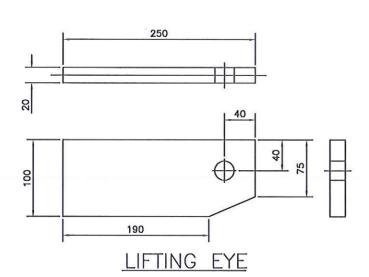
HY4001/HY4002/HY4003

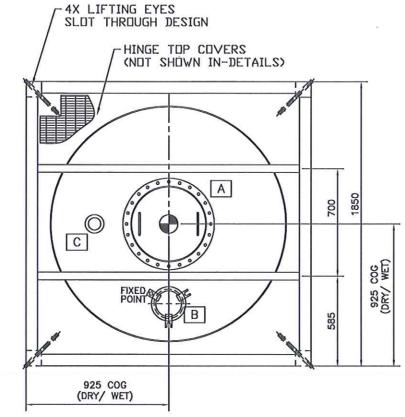
TITLE :

P&ID FOR HELICOPTER REFUELING SYSTEM

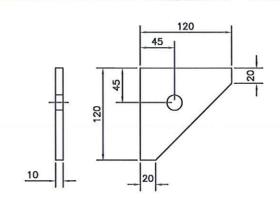
PETRICO JOB NUMBER	CLASS	
N/A	ABS	
CUSTOMER DRAWING NUMBER:	REV	
N/A	A	
DRAWING NUMBER:	SHEET	
PRS-1056-1	1/1	



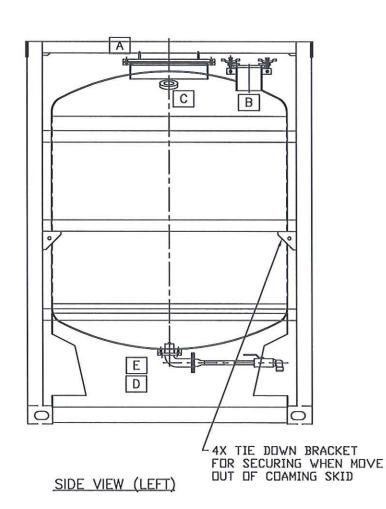


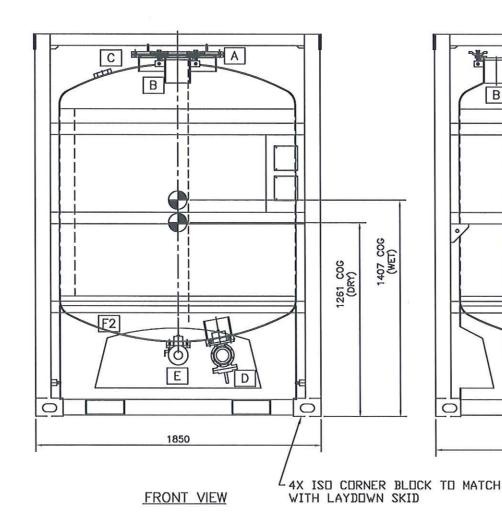


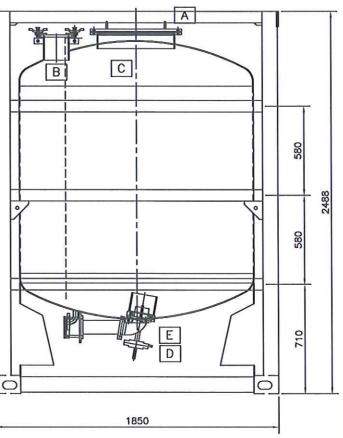
TO	TE TANK DESIGN SPECIFICATION
DESIGN CODE	ASME VIII DIV. I & IMDG T4
PRESSURE	217 KPAG (INTERNAL)/-21 KPAG (VACUUM)
TEMPERATURE	-20 ° C / 60 ° C
САРАСПҮ	2900 LITERS
JOINT EFFICIENCY	0.7
NDT	100% DPI + 0% RT+ 100 MPI (MAIN LOAD POINT)
VESSEL MATERIAL	ASTM A240-316L
FRAME MATERIAL	ASTM A500 (DESIGN TO DNV 2.7-1)
WEIGHT	1,450 KG (EMPTY) / 3,830 KG (FULL)
PAINTING	OFFSHORE 3 COAT SYSTEM (FRAME)



TIE DOWN LUG







SIDE VIEW (RIGHT)

NOTES :-

- ALL WELDING TO BE CARRIED OUT IN ACCORDANCE WITH QUALIFIED WELDING PROCEDURE TO ASME IX.
- 2. ALL FLANGES TO BE AS PER OR IN ACCORDANCE WITH ANSI B16.5.
- 3. ALL FLANGE FACING TO BE RF AND SHALL
- HAVE A FINISH OF 250 AARH.

 4. ALL FLANGES BOLT HOLES TO STRADDLE PIPING CENTRELINE.
- ALL DIMENSIONS SHOWN ARE IN MM UNLESS OTHERWISE SPECIFIED.
- AMPLE LIFTING EYES WERE PROVIDED FOR LIFTING OPERATION.
- ALL FILLET WELD 6MM UNLESS OTHERWISE SPECIFIED.
- 8. ALL MAJOR LOAD POINT SUBJECTED TO 100% MPI.
- TANK C/W DRIP TRAY OF 6" HEIGHT COAMING WITH 2" PLUG ON THE DRIP TRAY.



A ST IS		ST ISSUED FOR REVIEW & APPROVAL			15/08/15
REV	BY		DESCRIPT	DATE	
			REVISION		
DESIG	DESIGNED BY		ENGINEER	ST	15/08/15
CHECKED BY		3Y	ENGINEER LEAD	ST	15/08/15

APPROVED BY ENGR MANAGER ST 15/08/15 DESIGNATION NAME DATE

PETRICO ENGINEERING PTE LTD

CUSTOMER:

CSOC

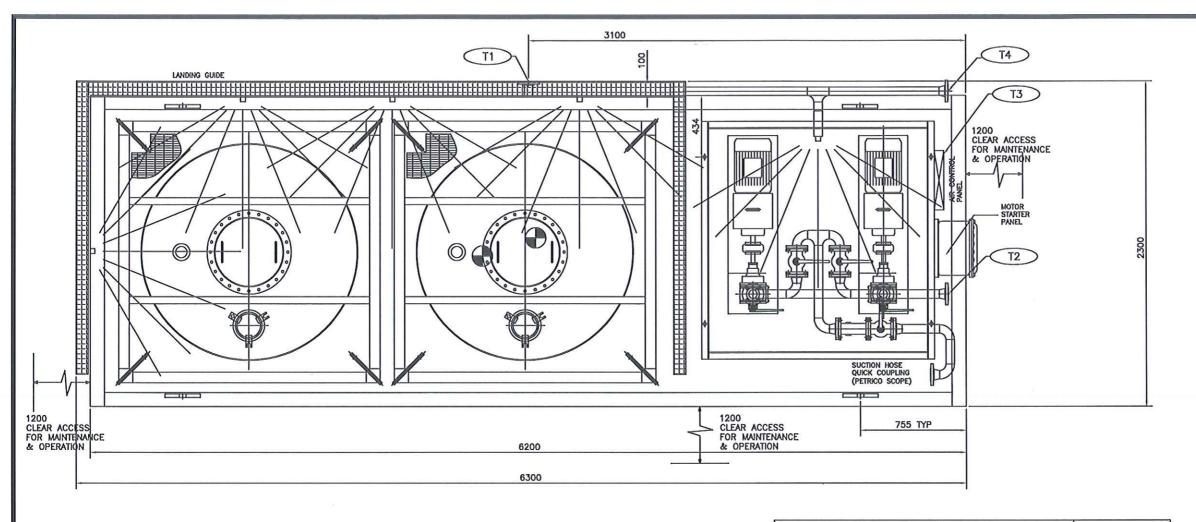
PROJECT :

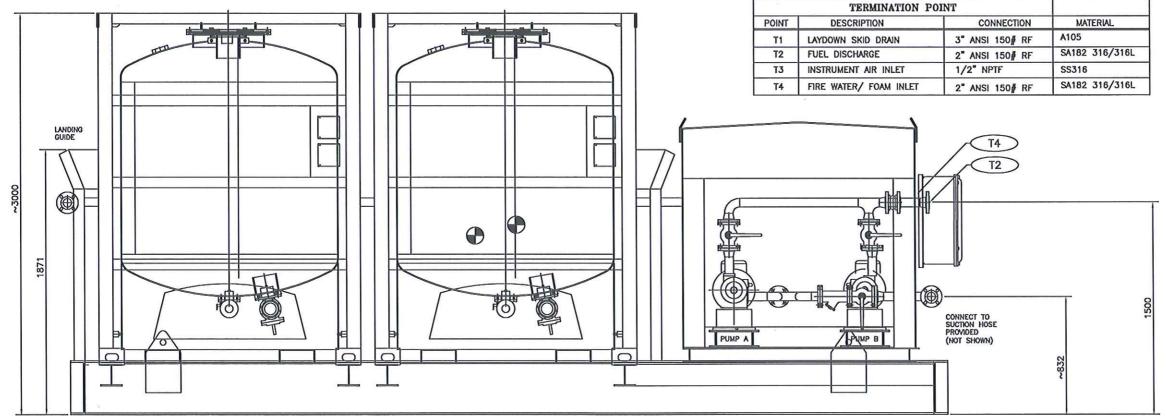
HY4001/ HY4002/ HY4003

TITLE :

GA DRAWING FOR HELIFUEL PORTABLE TANK

PETRICO JOB NUMBER	CLASS	
N/A		
CUSTOMER DRAWING NUMBER:	REV	
N/A	A	
DRAWING NUMBER:	SHEET	
PRS-1056-2	1/1	





SIDE VIEW

NOTES :-

- ALL WELDING TO BE CARRIED OUT IN ACCORDANCE WITH QUALIFIED WELDING PROCEDURE TO ASME IX. ALL FLANGES TO BE AS PER OR IN ACCORDANCE
- WITH ANSI B16.5. ALL FLANGE FACING TO BE RF AND SHALL HAVE A
- FINISH OF 250 AARH.
- ALL FLANGES BOLT HOLES TO STRADDLE PIPING CENTRELINE.
 ALL DIMENSIONS SHOWN ARE IN MM UNLESS
- OTHERWISE SPECIFIED.
- AMPLE LIFTING EYES WERE PROVIDED FOR LIFTING OPERATION.
- PUMP'S SUCTION POINT TO TOTE TANK DISCHARGE POINT.
- LAYDOWN SKID WILL BE WELDED TO CLIENT
- PUMP UNIT WILL BE BOLTED TO LAYDOWN SKID BY PETRICO.



DENOTES OF COG.

WEIGHT: 6,120 KGS (DRY) WEIGHT: 10,620 KGS (FULL)

APPROVED BY ENGR MANAGER ST



		_			
В	LKS	ISS	UED FOR CONSTR	UCTION	22/08/15
A	A LKS IS:		LKS ISSUED FOR REVIEW & APPROVAL		15/08/15
REV			DESCRIPTIONS		DATE
			REVISION		
DESIGNED BY		3Y	ENGINEER	LKS	15/08/15
CHECKED BY		Υ	ENGINEER LEAD	ST	15/08/15

PETRICO ENGINEERING PTE LTD

DESIGNATION NAME

15/08/15

DATE

CUSTOMER:

CSOC

PROJECT:

HY4001/ HY4002/ HY4003

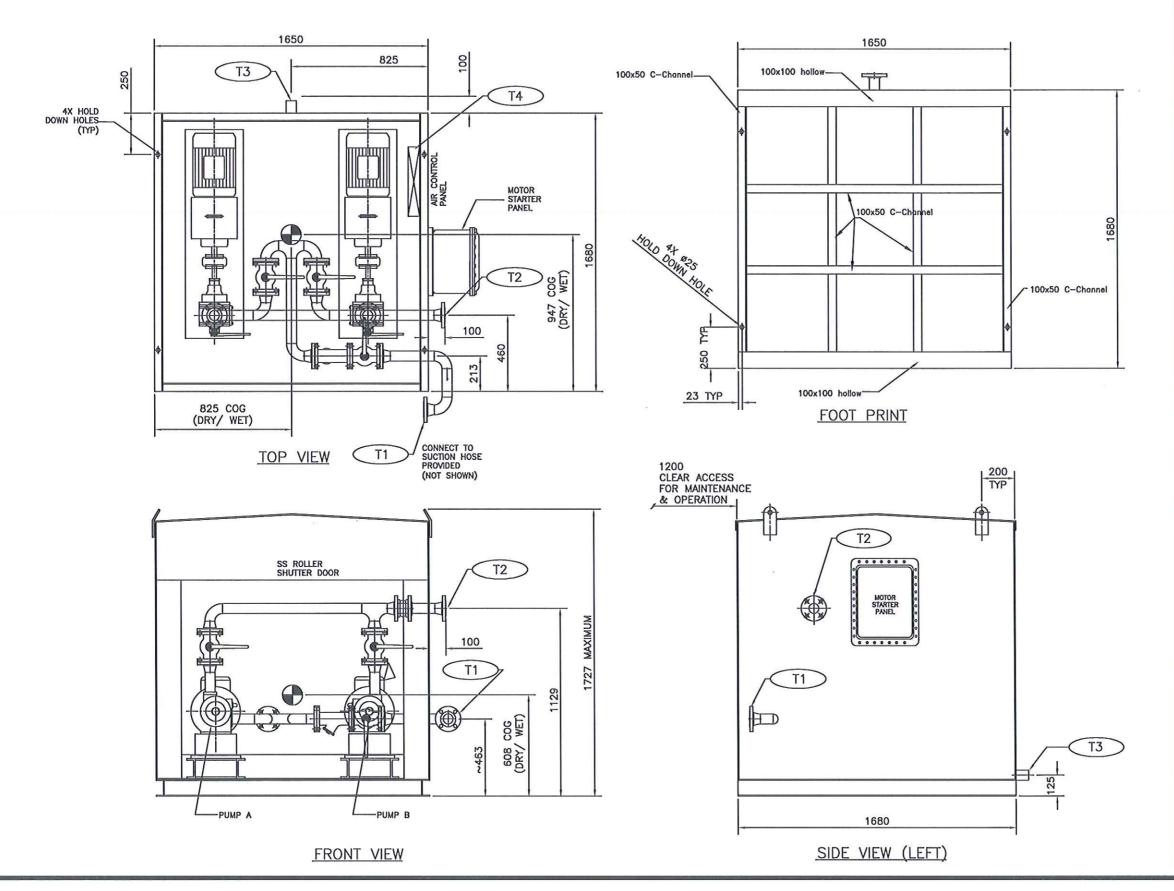
TITLE :

GA DRAWING FOR HELIFUEL LAYDOWN SKID

PETRICO JOB NUMBER	ABS	
N/A		
CUSTOMER DRAWING NUMBER:	REV	
N/A	В	
DRAWING NUMBER:	SHEET	
PRS-1056-3	1/3	

	TERMINATION POI			
POINT	DESCRIPTION	MATERIAL		
TI	PUMP FUEL INLET (CONNECT TO SUCTION HOSE)	2" ANSI 150# RF	SA182 316/316L	
T2	PUMP FUEL OUTLET	2" ANSI 150# RF	SA182 316/316L	
Т3	PUMP SKID DRAIN	2" NPTF	SA105	
T4	INSTRUMENT AIR SUPPLY	1/2" NPTF	SS316	

DESIGN DATA					
ITEM	PUMP UNIT				
LOCATION	ON COMMON LAYDOWN SKID				
FLOW CAPACITY	225 LPM (DESIGN)				
POWER BY	380 VAC/3PH/50HZ (5.5 KW)				
SPACE HEATER	230 VAC/1PH/50HZ				
WEIGHT	1,320KG (EMPTY) / 1,420KG (OPERATION)				



- ALL WELDING TO BE CARRIED OUT IN ACCORDANCE WITH QUALIFIED WELDING PROCEDURE TO ASME IX.

 ALL FLANGES TO BE AS PER OR IN ACCORDANCE WITH ANSI B10.5.

 ALL FLANGE FACING TO BE RF AND SHALL HAVE A FINISH OF 250 AARH.

 ALL FLANGES BOLT HOLES TO STRADDLE PIPING CENTRELINE.

 ALL DIMENSIONS SHOWN ARE IN MM UNLESS OTHERWISE SPECIFIED.

 AMPLE UFFING EYES WERE PROVIDED FOR LIFTING OPERATION.

 SUCTION HOSE WAS PROVIDED TO CONNECT FROM PUMP SKID SUCTION POINT TO TOTE TANK.



DENOTES CENTRE OF GRAVITY



	Luc		VEC 500 0045V		45 /00 /45
Α	LKS	ISSUED FOR REVIEW & A		& APPROVAL	15/08/15
REV	BY		DESCRIPT	DATE	
			REVISION		
DESIGNED BY		ΙΥ	ENGINEER	LKS	15/08/15
CHECKED BY		Y	ENGINEER LEAD	ST	15/08/15
APPROVED BY		BY	ENGR MANAGER	ST	15/08/15

PETRICO ENGINEERING PTE LTD

DESIGNATION NAME

DATE

CUSTOMER:

CSOC

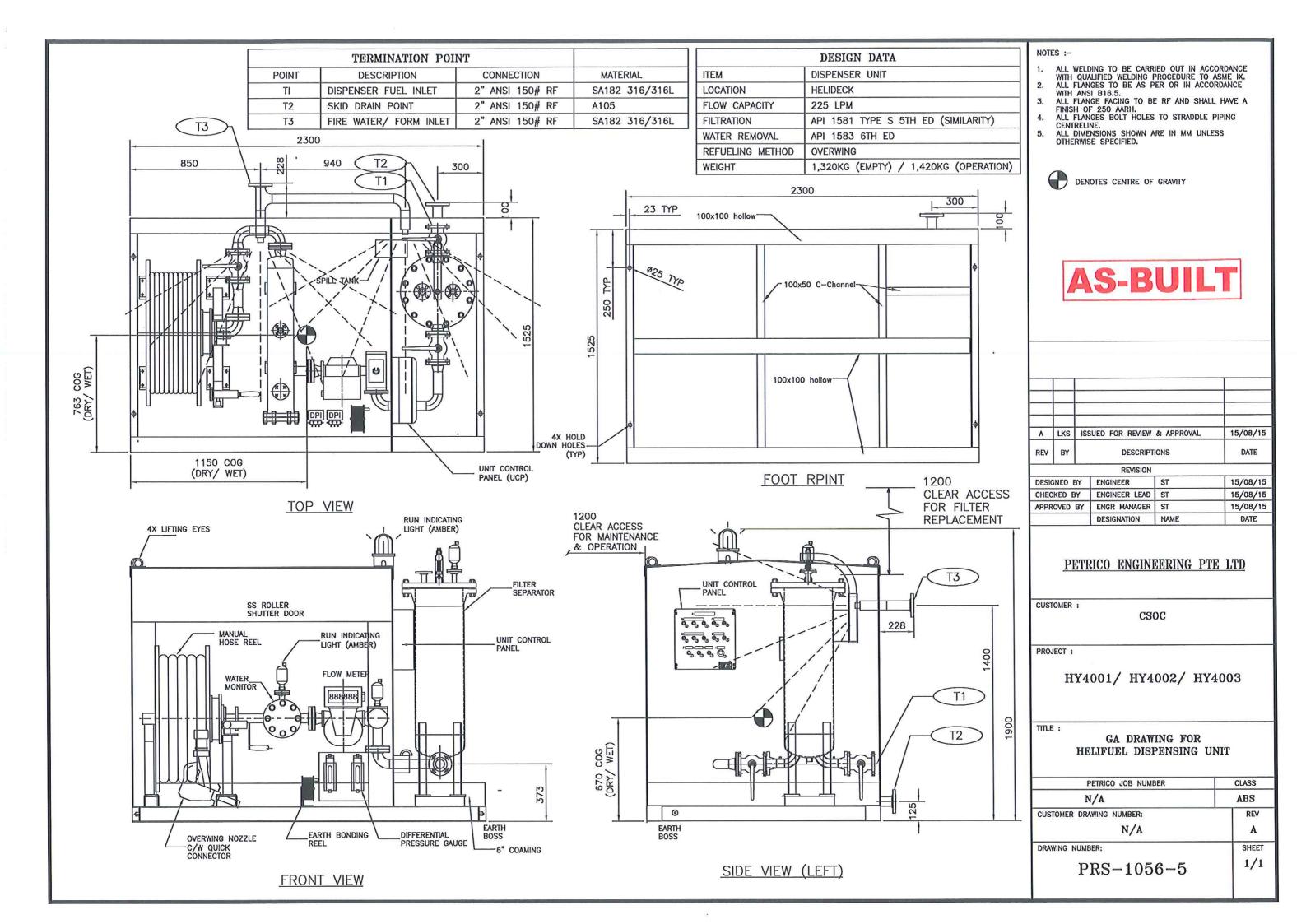
PROJECT :

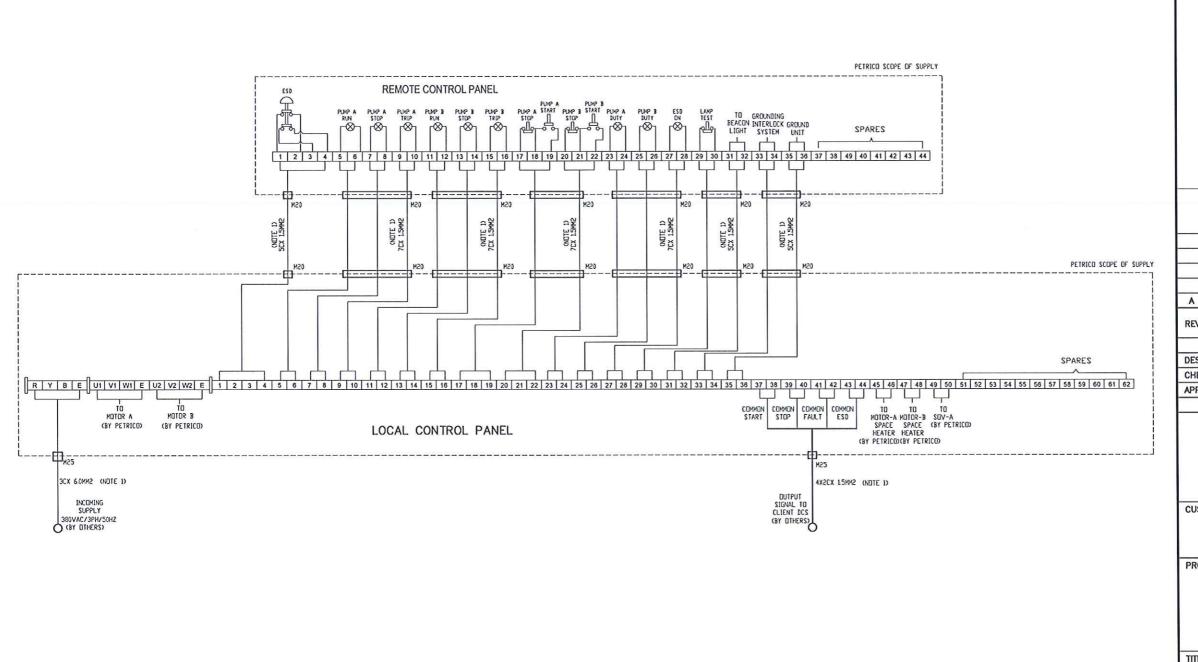
HY4001/ HY4002/ HY4003

TITLE :

GA DRAWING FOR HELIFUEL PUMP SKID

PETRICO JOB NUMBER	CLASS	
N/A	ABS	
CUSTOMER DRAWING NUMBER:	REV	
N/A	A	
DRAWING NUMBER:	SHEET	
PRS-1056-4	1/1	
	1	





NOTES:

1. CLIENT TO CONFIRM TYPE OF CABLE TO BE USED FOR PANEL. CABLE ENTRY ARRANGEMENT.



A	LKS	ISS	SUED FOR APPROV	AL.	15/08/15
REV	BY		DESCRIPT	DATE	
			REVISION		
DESIG	DESIGNED BY		ENGINEER	LKS	15/08/15
CHEC	CHECKED BY		ENGINEER LEAD	ST	15/08/15
APPR	APPROVED BY		ENGR MANAGER	ST	15/08/15
			DESIGNATION	NAME	DATE

PETRICO ENGINEERING PTE LTD

CUSTOMER :

CS0C

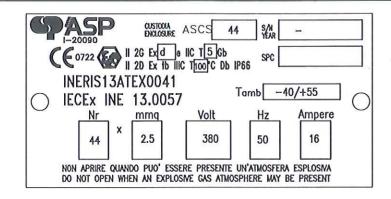
PROJECT :

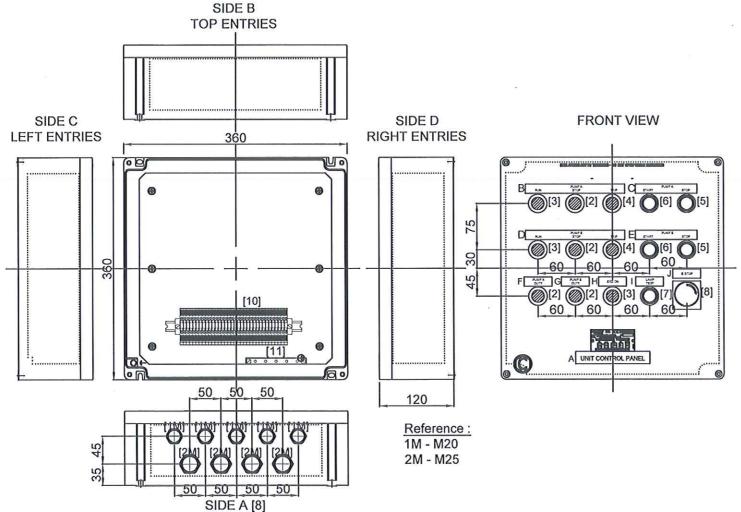
HY4001/ HY 4002/ HY4003

TITLE :

WIRING INTERFACE DRAWING

PETRICO JOB NUMBER	CLASS
-	ABS
CUSTOMER DRAWING NUMBER:	REV
N/A	A
DRAWING NUMBER:	SHEET
PRS-1056-9	1/1





DESCRIPTION			
UNIT CONTROL PANEL			
PUMP A RUN STOP TRIP			
ST	PUMP A	ГОР	
RUN	PUMP B STOP	TRIP	
ST	PUMP B	гор	
PUMP A DUTY			
PUMP B DUTY			
ESD ON			
LAMP TEST			
E-STOP			
	RUN ST RUN	UNIT CONTROL PARUN STOP PUMP A START STOP PUMP B STOP PUMP B START STOP PUMP A DUTY PUMP B DUTY ESD ON LAMP TEST	

REMOTE CONTROL PANEL

BOTTOM ENTRIES

			QUANTI	TY: 1 sets
Pos.	Qty	Description	Code	Maker
1	1	GRP Enclosure	ASCS44	Nuova ASP
2	4	Pilot Light - Green 220Vac	LIE3G40116/LIE1G40100A	
3	3	Pilot Light - Red 220Vac	LIE3R40115/LIE1R40099A	
4	2	Pilot Light - Yellow 220Vac	LIE3Y40117/LIE1Y40101A	
5	2	Push Button Green "NO Contact"	PBE3PG40092B/PBE1NO40090-1	Nuova ASP
6	2	Push Button Red "NC Contact"	PBE3PR40092A/PBE1NC40090-1	Ινάονα Λοι
7	1	Push Button Black "NO Contact"		
8	1	Emergency Push Button c/w Protection Cover "1 NC+1 NO"	PBE3FSC40096/PBE1NC40090-1/P BE1NO40090-1	
	4	Cable Entries - M25 (Bottom)	-	
•	4	PVC Stop Plug c/w L/N & Washer - M25		
9	5	Cable Entries - M20 (Bottom)	-	
	3	PVC Stop Plug c/w L/N & Washer - M20		
10	44	Terminals - 2.5mmsq	WDU2.5	Weidmuller
11	1	5 Way Earth Bar	-	-

NOTES :

- 1. ALL DIMENSION IN MM UOS.
- 2. CLIENT SPECIFIC REQUIREMENT. START YELLOW STOP — GREEN TRIP — RED
- 3. CLIENT TO DOUBLE CONFIRM DURING DETAILS ENGINEERING.



Α	LKS	ISS	SUED FOR APPROV	15/08/15	
REV	BY		DESCRIPTIONS		DATE
			REVISION		
DESIGNED BY		3Y	ENGINEER	LKS	15/08/15
CHECKED BY		BY.	ENGINEER LEAD	ST	15/08/15
APPR	APPROVED BY		ENGR MANAGER	ST	15/08/15
			DESIGNATION	NAME	DATE

PETRICO ENGINEERING PTE LTD

CUSTOMER :

CSOC

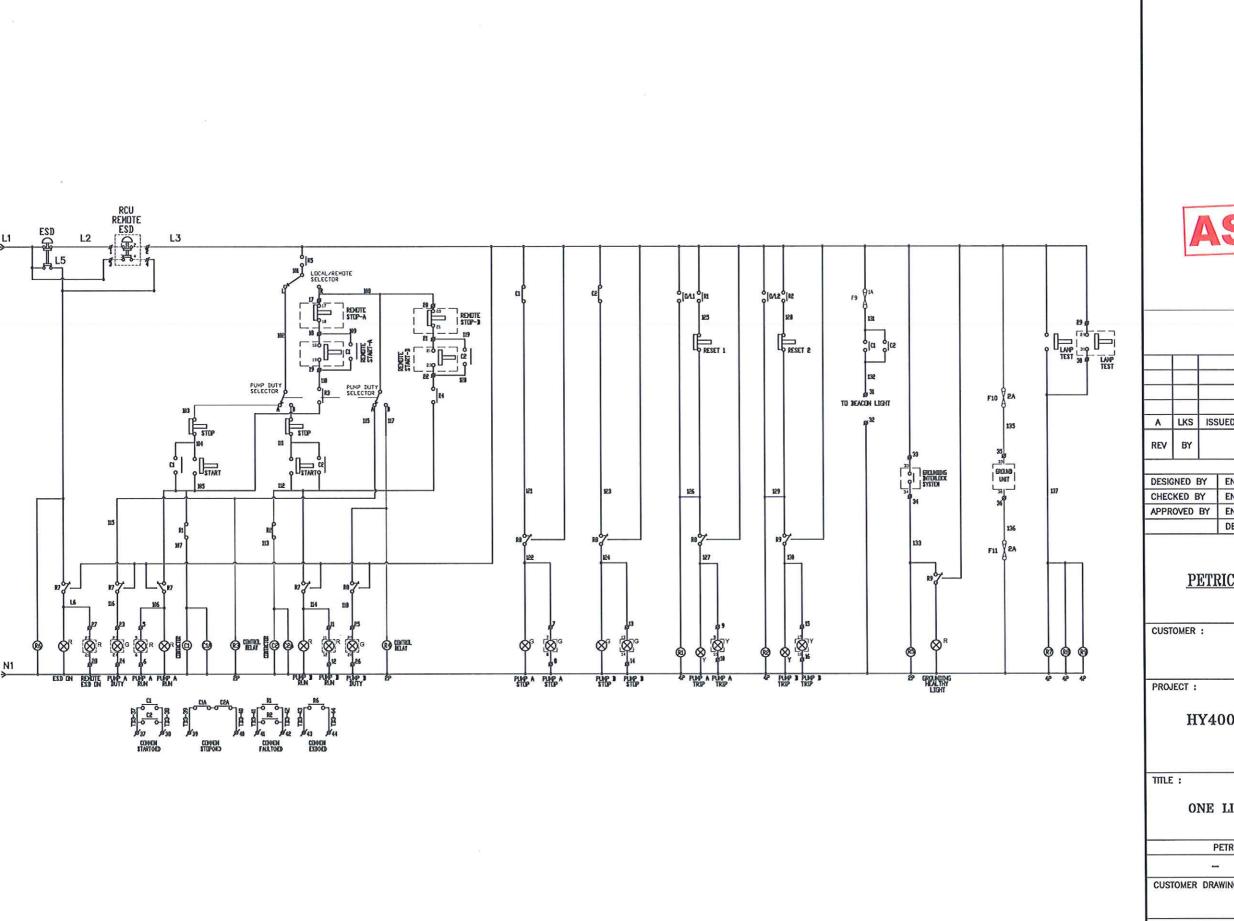
PROJECT :

HY4001/ HY4002/ HY4003

TITLE :

PANEL & TERMINAL LAYOUT DRAWING

PETRICO JOB NUMBER	CLASS	
_	ABS	
CUSTOMER DRAWING NUMBER:	REV	
N/A	A	
DRAWING NUMBER:	SHEET	
PRS-1056-12	3/3	



NOTES :



	_				
	LVC	lec	CHEO FOR APPROV		15 /08 /15
A	LKS	155	ISSUED FOR APPROVAL		15/08/15
REV	BY		DESCRIPTIONS		DATE
			REVISION		
DESIGNED BY ENGINEER		ENGINEER	ST	15/08/15	
CHECKED BY		ΙΥ	ENGINEER LEAD	ST	15/08/15
APPR	OVED	BY	ENGR MANAGER	ST	15/08/15
			DESIGNATION	NAME	DATE

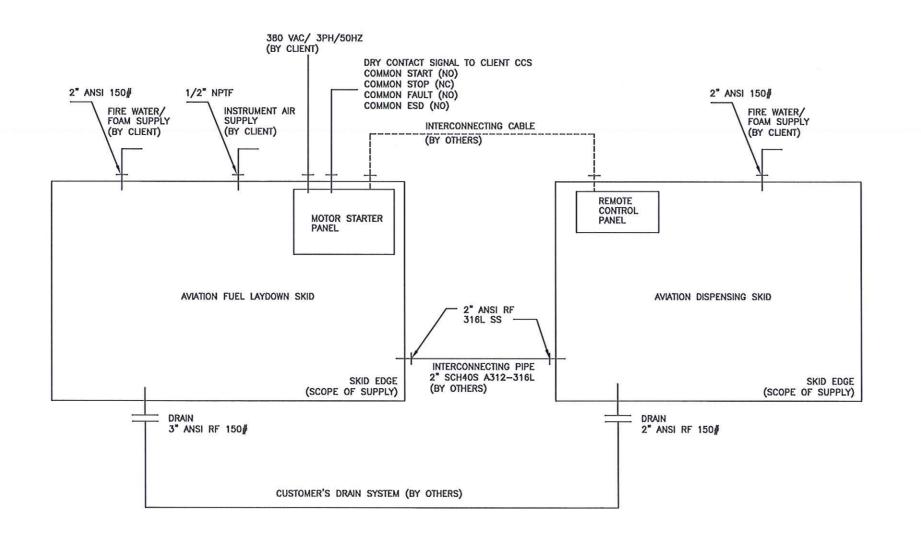
PETRICO ENGINEERING PTE LTD

CSOC

HY4001/ HY4002/ HY4003

ONE LINE ELECTRICAL DIAGRAM

PETRICO JOB NUMBER	CLASS
Team'	ABS
CUSTOMER DRAWING NUMBER:	REV
N/A	A
DRAWING NUMBER:	SHEET
PRS-1056-13	2/2



NOTES :

1. REFER P&ID FOR DETAILS INFORMATION.



A	LKS	ISSUED FOR REVIEW	& APPROVAL	15/08/15	
REV	BY	DESCRIP	DESCRIPTIONS		
		REVISION			
DESIGNED BY		BY ENGINEER	LKS	15/08/15	
CHECKED BY		Y ENGINEER LEAD	ST	15/08/15	
APPROVED BY		BY ENGR MANAGER	ST	15/08/15	
		DESIGNATION	NAME	DATE	

PETRICO ENGINEERING PTE LTD

CUSTOMER :

CSOC

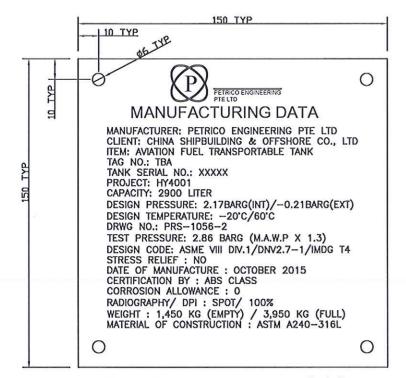
PROJECT :

HY4001/ HY4002/ HY4003

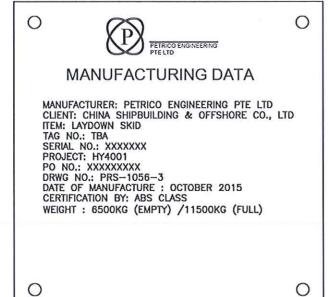
TITLE :

UTILITY INTERFACE DRAWING

PETRICO JOB NUMBER	CLASS	
_	ABS	
CUSTOMER DRAWING NUMBER:	REV	
N/A	A	
DRAWING NUMBER:	SHEET	
PRS-1056-14	1/1	



AVIATION FUEL TRANSPORTABLE TANK #1/ #2



JETTISON PLATFORM



0

FILTER SEPARATOR



AVIATION FUEL DISPENSING SKID



AVIATION FUEL PUMP SKID

0 0 PETRICO ENGINEERING PTE LTD MANUFACTURING DATA MANUFACTURER: PETRICO ENGINEERING PTE LTD CLIENT: CHINA SHIPBUILDING & OFFSHORE CO., LTD ITEM: WATER MONITOR TAG NO .: TBA SERIAL NO.: XXXXXXX PROJECT: HY4001 CAPACITY: 14 LITER DESIGN PRESSURE: 10.5 BARG OPERATING PRESSURE: 50 PSIG DESIGN TEMPERATURE: -20°C/60°C DESIGN CODE: ASME VIII DIV.1 2013ED FILTRATION: API 1583 6TH ED HYDROSTATIC TEST PRESSURE: 14.3 BARG DATE OF MANUFACTURE: OCTOBER 2015 CORROSION ALLOWANCE: 0
RADIOGRAPHY: SPOT DYE PENETRANT TEST: 100% CERTIFICATION BY: ABS CLASS WEIGHT: 58 KG (EMPTY) / 71 KG (FULL) 0

WATER MONITOR

NOTES :-

0

- 1. DIMENSION SHOWN IN MM UOS.
- 2. MATERIAL 1MM THK 316SS PLATE.
- LETTERING TO BE BLACK AND BACKGROUND TO BE BRIGHT METAL.
- 4. LETTERING TO BE 3MM SIZE AND LOGO TO BE 10MM SIZE.



A	LKS	ISS	SUED FOR REVIEW	& APPROVAL	15/08/15
REV	BY		DESCRIPT	IONS	DATE
			REVISION		
DESIG	GNED I	3Y	ENGINEER	LKS	15/08/15
CHECKED BY		3Y	ENGINEER LEAD	TSY	15/08/15
APPR	OVED	BY	ENGR MANAGER	ST	15/08/15
			DESIGNATION	NAME	DATE

PETRICO ENGINEERING PTE LTD

CUSTOMER :

CSOC

PROJECT :

HY4001/ HY4002/ HY4003

TITLE :

NAMEPLATE DRAWING

PETRICO JOB NUMBER	CLASS
_	ABS
CUSTOMER DRAWING NUMBER: N/A	REV A
DRAWING NUMBER: PRS-1056-15	1/1