OCS's submersible pumps are used for pipeline post trenching by water Jetting or other applications requiring high water volumes of water. During the post trenching operation the submersible pump supply high volume of water to the water distribution manifold from where large quantities of water will be supplied to the high pressure jetting pump and then to the water spooler for high pressure jetting operation.

*The submersible pump employed in the OCS's pipeline post trenching spread is a 400QWB series submersible pump which can deliver water at a rate of **7045GPM** with a head of **10m**. The flow passage components of this series sewage pump are made from excellent hydraulic model design, which synthesizes pump construction, sealing, cooling, controlling and protection into an optimized design. With these unique designs, this submersible pump set has characteristics of excellent drainage & fibrous materials winding prevention, high efficiency, energy saving and good reliability. By working with special electric control cabinet, the pump set can work automatically, which provides extra safety and reliability to the pump set.*

Submersible Pump Specifications	
Model	400QWB1600-10-75
Flow rate (m^3/hr)	1600
Head (m)	10
Rotation Speed (r/min)	740

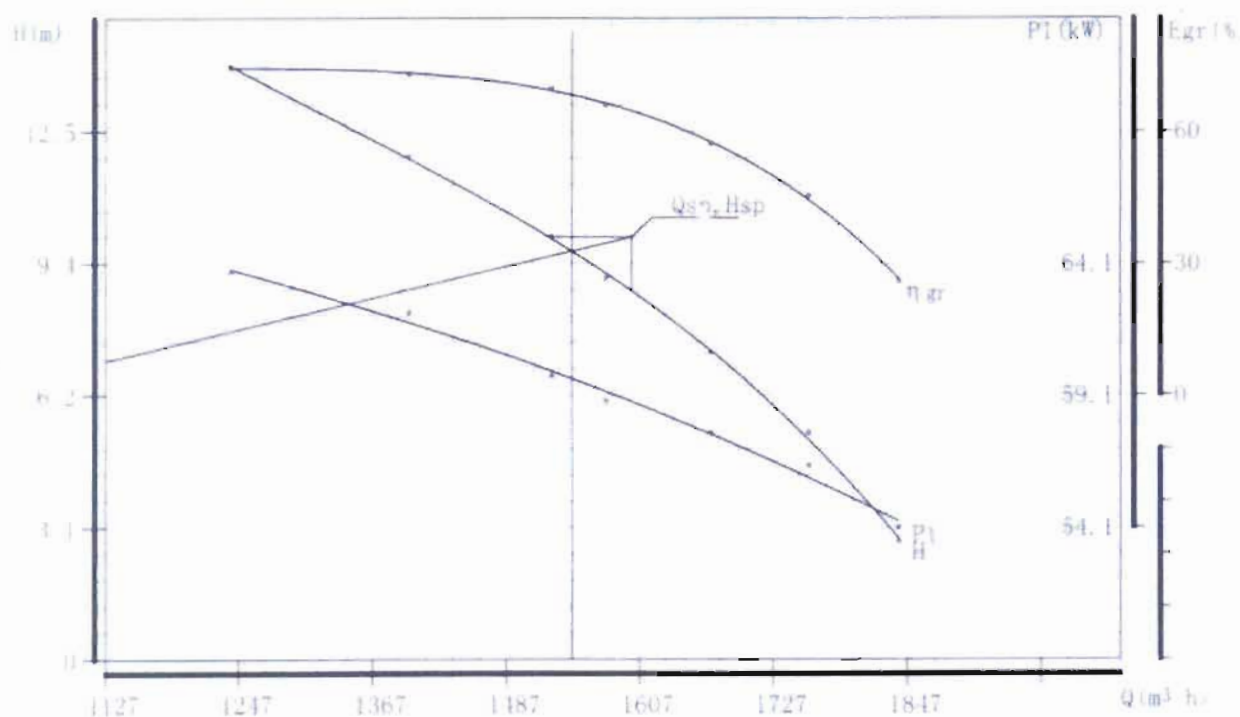| Motor Power (kW)	75
Voltage (V)	380
Current (A)	125

OCS has Equipment passports for individual equipments which must be reviewed before each project to assess the status. The equipment passport gives the working history, maintenance and certification history for Engines, Fluid Ends and Pump skids.

It is important to regularly review the list of critical spare parts of the equipment before each project.

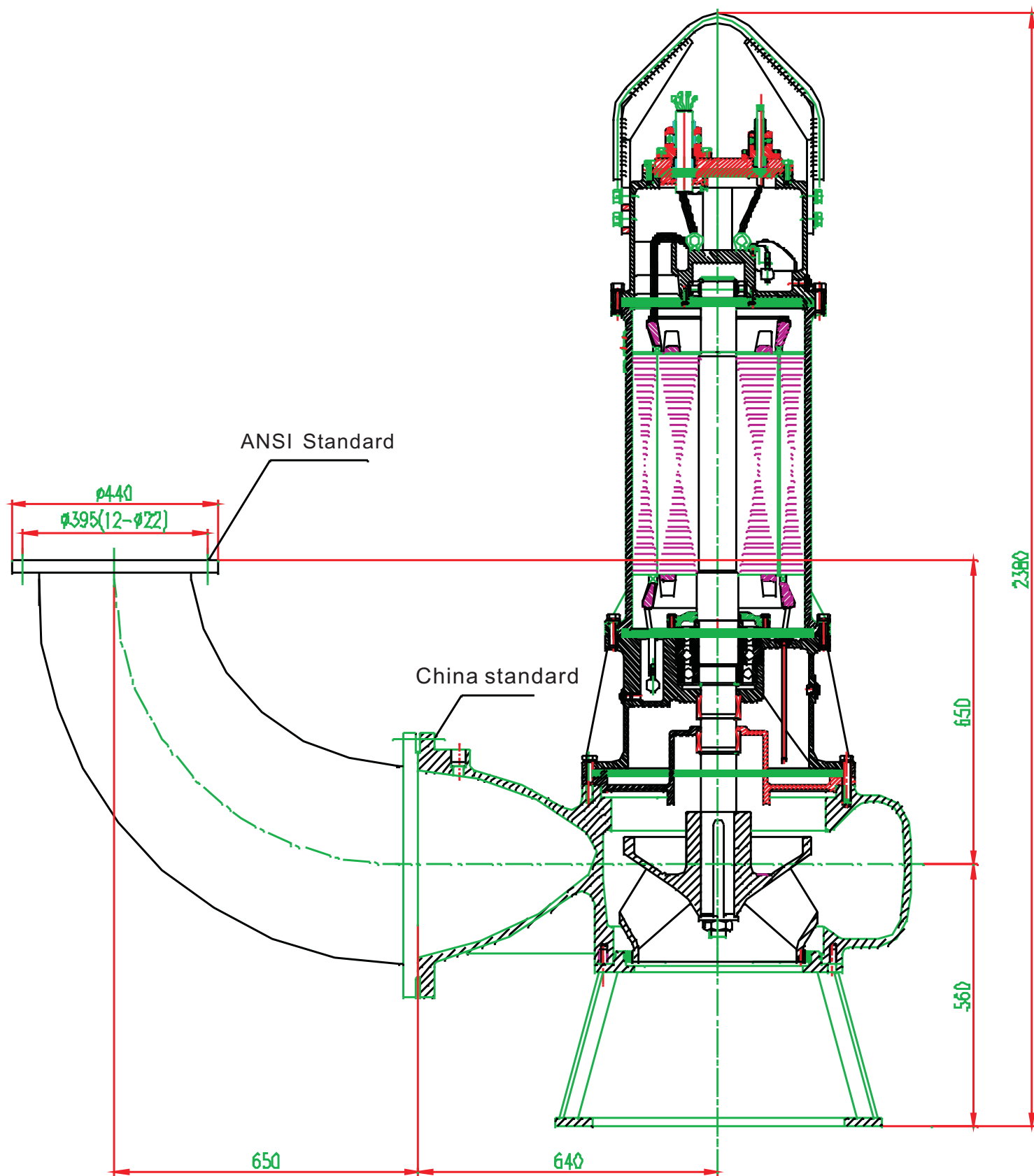*Where failures occur during operations Equipment bulletins will be issued to document the problem and the remediation solutions applied. The equipment bulletin will be circulated to all field engineers to be informed about the possible failure that can occur during the operation and thereby avoid future failure.*
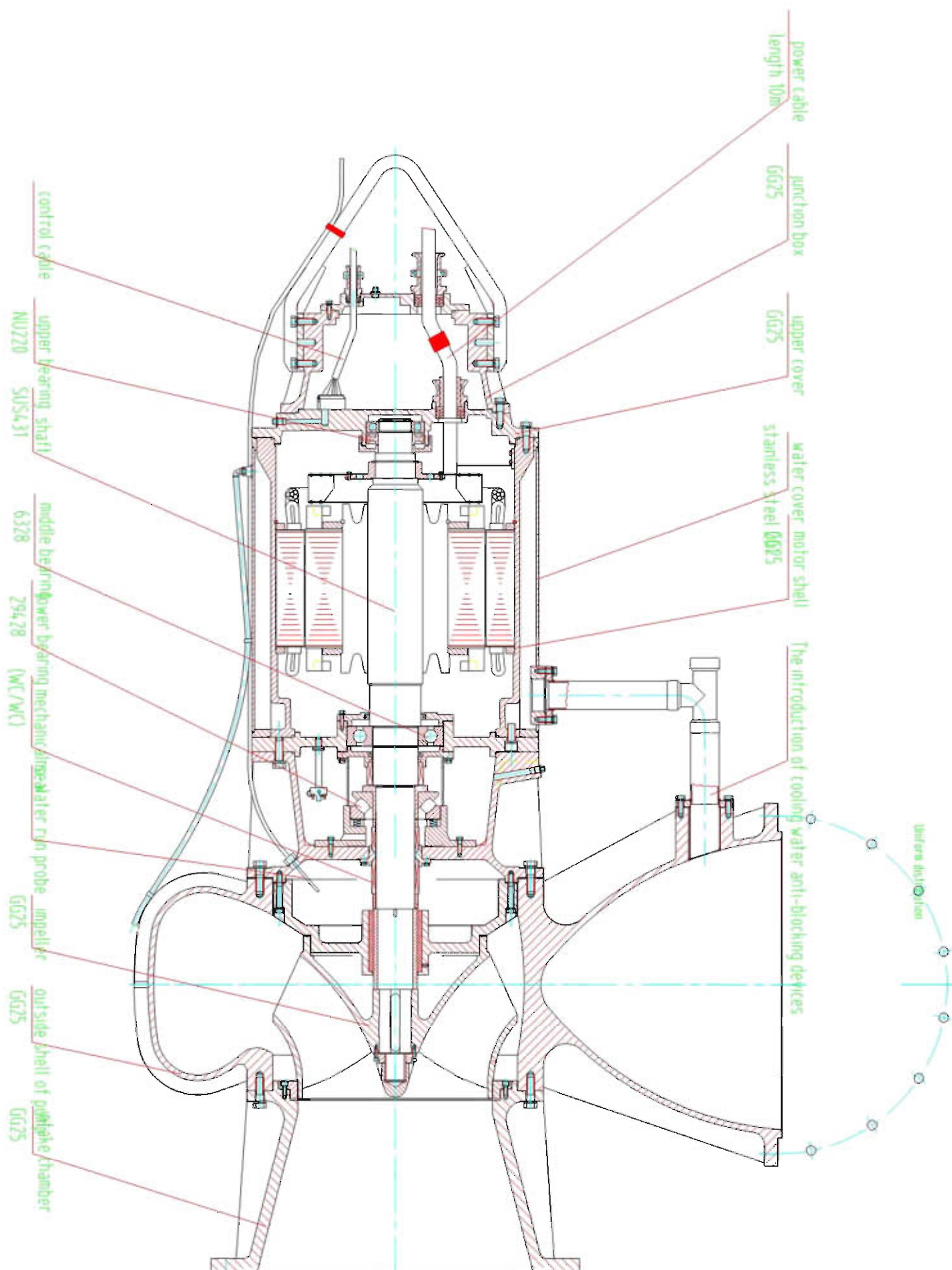
This equipment file remains a live document and will be constantly updated by the equipment department.

Tianjin Ganquan Group Corporation			Test date: 2015.10.21			
			Report No.:w151021			
Pump No.:15474	Model:400QWB1600-10-75		Submersible Pump Performance Test			
Motor Rated Data	Pump Rated Data	Insulation Resistance		Voltage(V)	Current(A)	Power(W)
Voltage:380	Head: 10m	500MΩ,500V,Qualified	No-load			
Frequency: 50Hz						
Phrase:3		Withstand Voltage Test	Locked-rotor			
Pole:6		1760V, 1 min				
Power:75kW	Flow:1600m³/h	Interturn Impact	ResistanceΩ	20.3℃	75℃	
Rated Current: 154.8A	Test Medium:	5000V0.5µs, Qualified	U-V:	0	0	
Locked-rotor Current:	Clean Water		V-W	0	0	
Insulation Class: E	Water temp.:20.3℃	Leakage Test	W-U	0	0	

No.	Head (m)	Flow (m³/h)	Rotate Speed (r/min)	Current (A)	Input Power (kW)	Pump Set Efficiency	Measured Result
1	2.81	1839.78	983.0	103.95	54.104	25.99	Flow: Q=1546.43m³/h
2	5.37	1759.08	982.7	108.67	56.457	45.55	Head: H=9.67m
3	7.25	1671.02	981.6	110.49	57.690	57.23	Input Power: P1=59.721kW
4	9.02	1576.52	980.7	113.06	58.887	65.75	Pump Set Efficiency: Egr=68.16%
5	10.02	1527.81	979.7	114.87	59.813	69.73	Test Voltage:380V
6	11.91	1399.68	978.8	116.04	62.229	72.97	Test By Check By
7	14.01	1239.61	978.5	116.50	63.776	74.17	

ANSI Standard

φ440
φ395(12-φ22)

China standard

650

640

2380

650

560

power cable length 10m

junction box GG25

upper cover GG25

water cover motor shell stainless steel GG25

The introduction of cooling water anti-blocking devices

Uniform distribution

control cable

upper bearing shaft NU220 SUS431

middle bearing 6328

lower bearing mechanical seal water run probe 24.28 (WC/WC)

impeller GG25

outside shell of portable chamber GG25

Tianjian GanQuan Group

Sewage Pump

400QWB1600-10-75

ELEVATION VIEW
SCALE 1 : 30
LIFT WEIGHT = 24 MT

FOR LIFTING

Ø19 x 1.5M LENGTH (6x36) IWRC
GALV'D STEEL WIRE ROPE.
BOTH END SPLICED
WITH HARD EYES.
(TYP.)

12 MT G-4163
GREEN PIN
SHACKLE

Ø16 x 3.5M (6x36) IWRC EIPS
GALV'D STEEL WIRE ROPE.
BOTH END ALUMINIUM MECH-SPLICED
FEMALE WITH THIMBLE EYES.
(TYP.)

4.75 MT G-4163
GREEN PIN
SHACKLE

4.75 MT G-4163
GREEN PIN
SHACKLE

ELEVATION VIEW SIDE BARGE
SCALE 1 : 30

MAIN DECK BARGE

TIE OR AT PADEYE
ON THE DECK

WATER LEVEL

VIEW
SCALE 1:20

PADEYE ON DECK

FIND OF PADEYE

DRAFT ONLY

NOTES :
1. ALL DIMENSION ARE IN mm U.N.O.

DWG TITLE :	SUBMERSIBLE PUMP LIFTING ARRANGEMENT

OCS
Offshore Construction Specialists Pte Ltd.

DRAWN : ARYO P.	DATE 23.03.15
CHECKED : CHANN SL	DATE 23.03.15
ENGINEER : AARON LKH.	DATE 23.03.15
DCS APPR : KEITH J.	DATE 23.03.15

OFFSHORE
CONSTRUCTION
SPECIALISTS

SCALE	DWG NO	SIZE	REV
AS SHOWN	R1869-GEN-018	A3	A

| A | Aryo | 23.03.15 | ISSUED FOR REVIEW | | CSN | LKH | KJ | 23.03.15 |
| REV | BY | DATE | REVISION DESCRIPTION | | DRFTD CHECK | ENG | APP | DATE | WATER DRAWN |