

Item No. : 2	Project:
Quantity : 1 set	Application : river water
Description	Consultant pump specification
<u>General Specification</u> Pump model Pump type Liquid Temperature Installation type <u>Pump Data</u> Impeller type Performance Curve Flow rate (Capacity) Total dynamic head Pump efficiency Overall efficiency Solid passage dia. Outer diameter of impeller Shaft power Speed Total discharge conn. Column size Power cable & Control cable <u>Materials</u> Motor casing/housing Pump casing Impeller Vane/blades Impeller Hub Wearing ring Shaft Studs, Nuts, Screws O-ring Double Mechanical seal Heavy duty bearing <u>Surface treatment</u> <u>Motor data</u> Drive unit / Motor model Design Motor Protection type Insulation class Main voltage Rated power of motor Motor speed Motor efficiency Service factor Starting method Rated current <u>Monitoring system, Std.</u>	O-SAP 500-70A Submersible propeller pump (direct drive) Not more than 60°C Installation with pipe column Axial Flow with statically or dynamically balanced see the drawings 0.5m³/sec (1800m³/hr) 7 m 78.8% 69.3% Dia. 110mm 410 mm 43.6 kW 980 rpm D/N 600mm D/N 850mm - 1x20 m Submersible power cable - 1x20 m Submersible auxiliary control cable Cast Iron Cast Iron with Zinc Anode Duplex SS 2205 Duplex SS 2205 N/A SS 420 Stainless steel NBR Tungsten carbide & Silicon carbide Roller bearing with grease lubricate Impeller is painted by epoxy resin Paintmaterial: bituminous epoxy resin All cast parts are primed with a re-rust paint The finishing coat is two pack paint The color is black paint 55KW / 6P Squirrel-cage, induction motor IP68 Class H 380v, 3 pH, 50 Hz. 55KW 980rpm 88.0% 1.2 VSD 116A - 3 pcs PT100 at stator winding (A/B/C three phases) - PT100 at upper bearing - PT100 at lower bearing - Upper water leakage sensor (Float switch/ leakage electrode in motor junction chamber) - Lower water leakage sensor (Float switch/ leakage electrode in motor chamber) - Moisture sensor (HM1500 in motor junction chamber) - Vibration Sensor in top bearing housing - WLC Type Float Switch for LWL and HWL (external of pump)

**SUBMERSIBLE MOTOR PUMPS****MOTOR DATA****ELECTRICAL DATA**

Hz	Poles	Phaes	Output(kW)	Voltage(V)	Remarks
50	6	3	55	380	

Name Plate Rating	Output	kW	55
		Hp	75
	Phase		3
	Poles		6
	Voltage (V)		380
	Amperes (A)		116
	Speed (RPM)		980
	Rating		Continuous
	Rotor Type		Squirrel Cage
Insulation Class			H
Capacitor	Start		-
Size - μ F	Run		-
No Load Amperes			41
100% Load	Current (Amperes)		116
	Efficiency (%)		88.0
	Power Factor (%)		82.0
	Speed (RPM)		980
Start Current (A)			406
Full Load Torque (Kg-m)			54.66
Locked Rotor Torque (%)			150
Number of Starts Per Hour			6
Design Standard			IEC
Voltage Tolerance (%)			$\pm 10\%$
Frequency Tolerance (%)			$\pm 5\%$

ITEM	LOAD		
	50%	75%	100%
POWER INPUT[Kw]	31.3	46.9	62.5
POWER OUTPUT[kW]	27.5	41.25	55
CURRENT[A]	79.6	86.9	115.8
POWER FACTOR[%]	60.2	73.9	82
EFFICIENCY[%]	87.2	87.7	88
SPEED[RPM]	991	986	980



SUBMERSIBLE MOTOR PUMPS

CIRCLE DIAGRAM

MOTOR SPECIFICATION

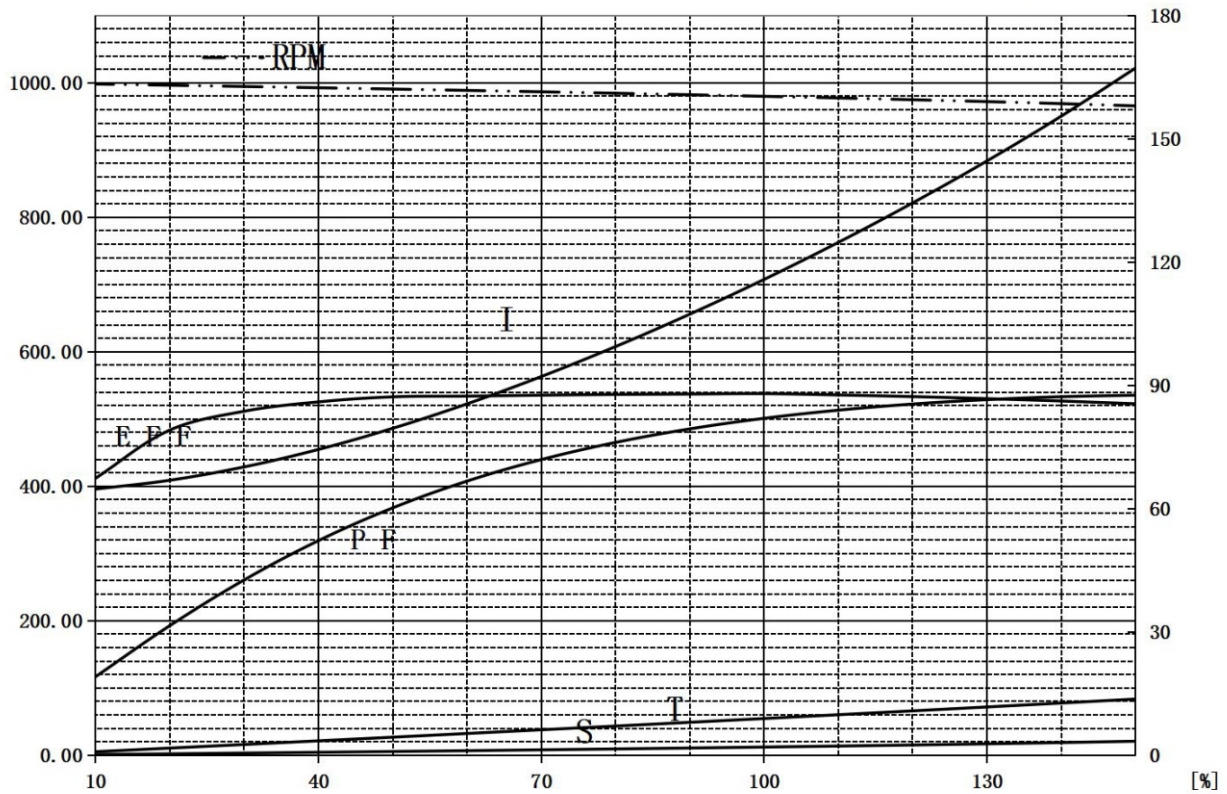
Motor Type	:	Totally Enclosed, Submerged Type (IP 68)					
Motor Output	:	55	[kW]	Voltage	:	380	[V]
Revolution	:	980	[rpm]	No. of Poles	:	6	[P]
Frequency	:	50	[Hz]	Rate Current	:	116	[A]
Efficiency	:	88.0	[%]	Power Factor	:	82.0	[%]
Rotor Type	:	Squirrel Cage			Ins. of Class:	H	
Cooling Method	:	Water			Liquid Temp.	:	AMB
Starting Method:	VFD			Rating	:	CONT.	

MOTOR CIRCLE DIAGRAM

(L- CIRCLE, 55 [kW])

Torque[Kg·m]/Current[A]/Revolution[RPM]

EFF[%]/PF[%]/Slip[%]POWER[KW]





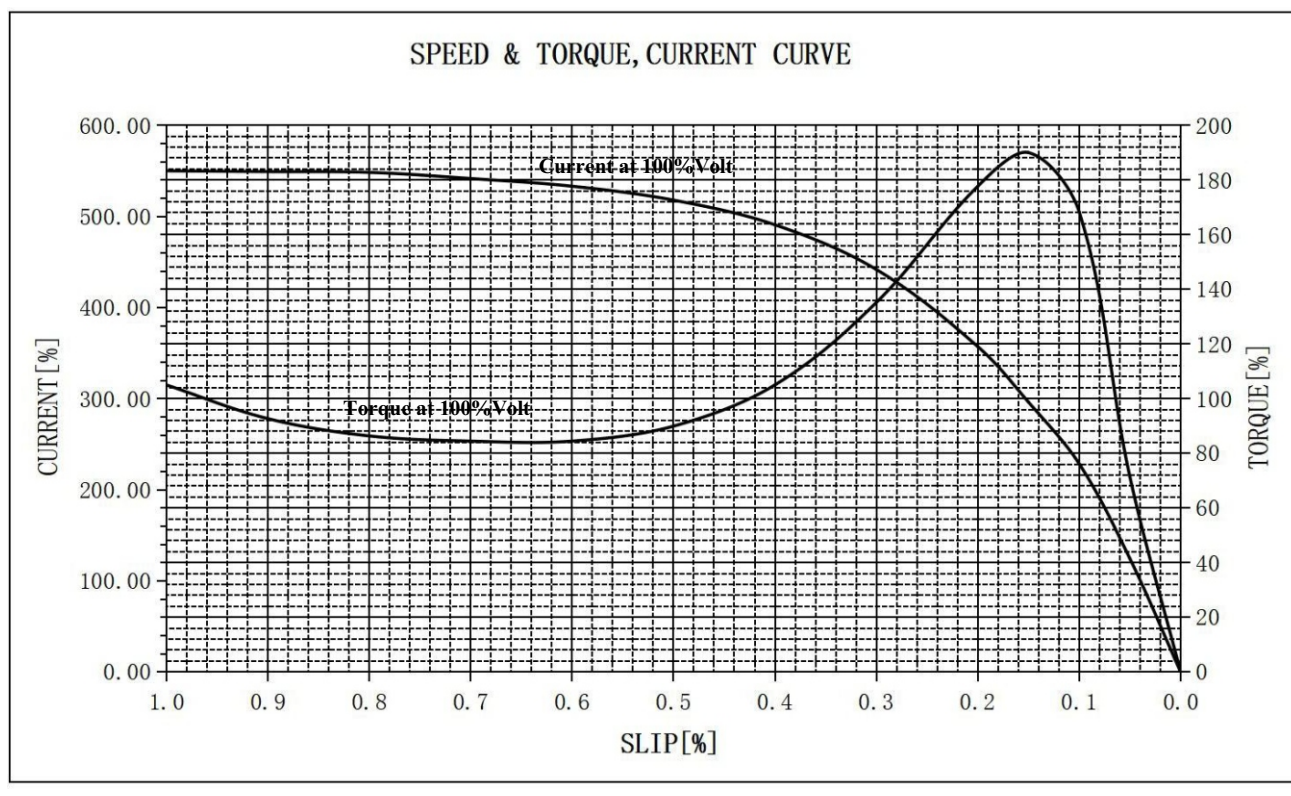
SUBMERSIBLE MOTOR PUMPS

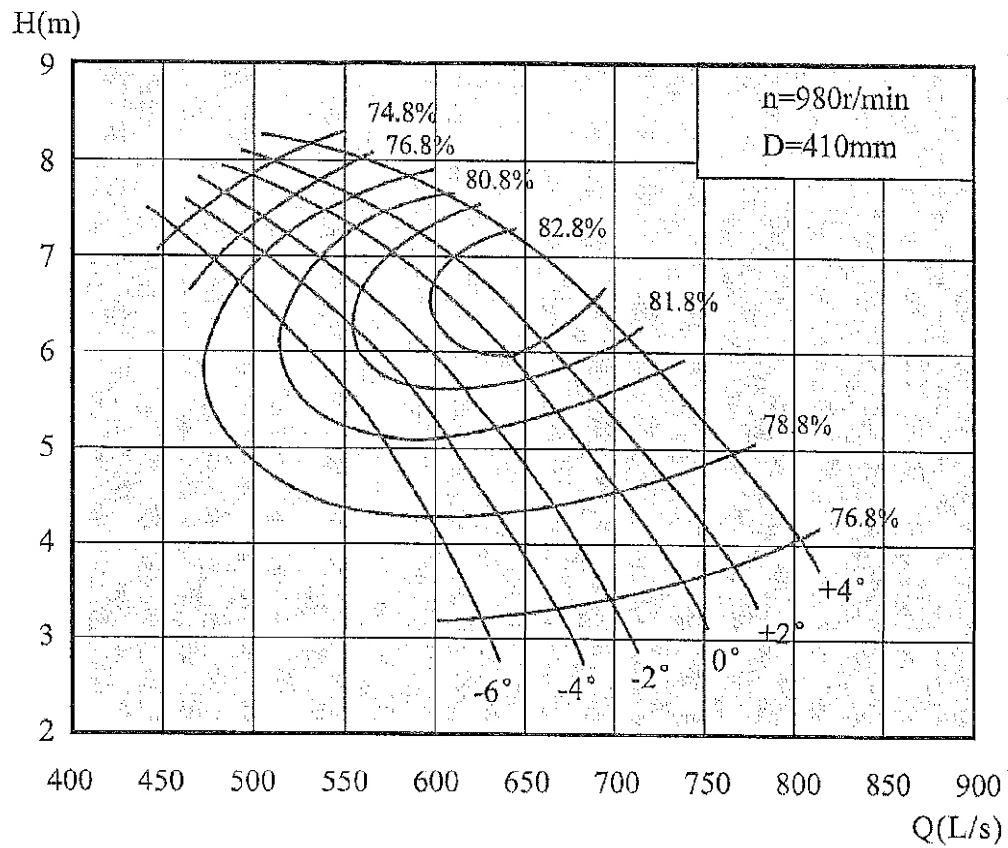
SPEED & TORQUE & CURRENT CURVE

MOTOR SPECIFICATION

Motor Type	:	Totally Enclosed, Submerged Type (IP 68)					
Motor Output	:	55	[kW]	Voltage	:	380	[V]
Revolution	:	980	[rpm]	No. of Poles	:	6	[P]
Frequency	:	50	[Hz]	Rate Current	:	116	[A]
Torque	:	54.7	[%]	Starting Current	:	406	[A]
Starting Torque:		150	[%]	Ins. of Class	:	H	
Starting Method:		VFD		Liquid Temp.	:	AMB	
				Rating	:	CONT.	

SPEED & TORQUE & CURRENT CURVE

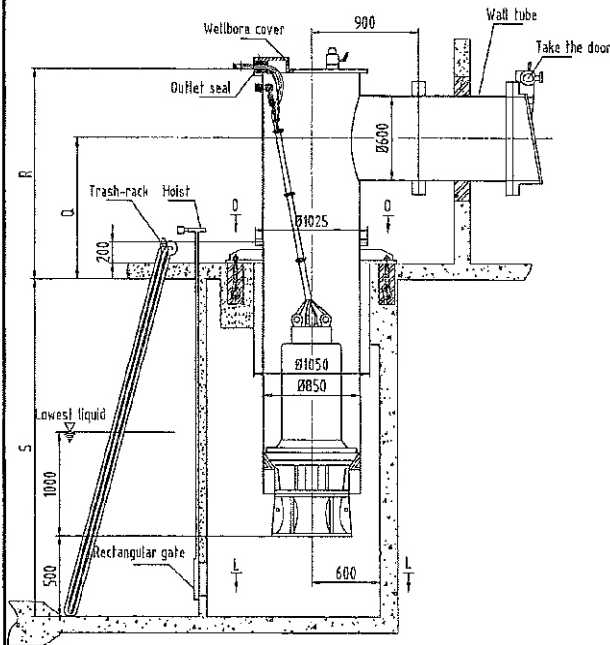




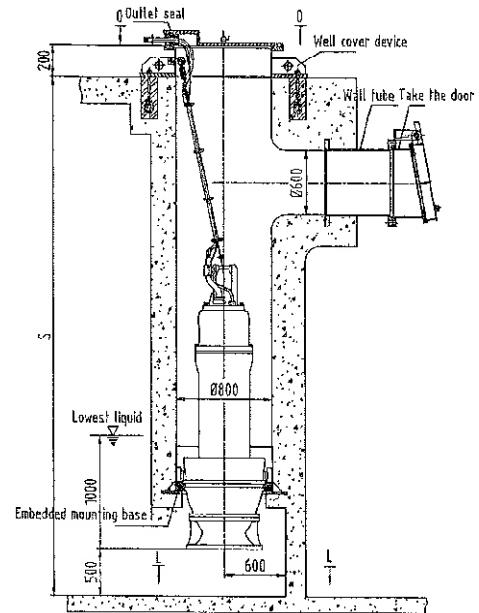
Angle	Flow		Head (m)	Speed (r/min)	Shaft power (kW)	Motor power (kW)	Eff. (%)
	(m³/h)	(L/s)					
-4°	2391.1	664.2	3.28	980	27.8	55	76.8
	2037.2	565.9	5.97		40.4		82
	1707.8	474.4	7.58		47.2		74.8



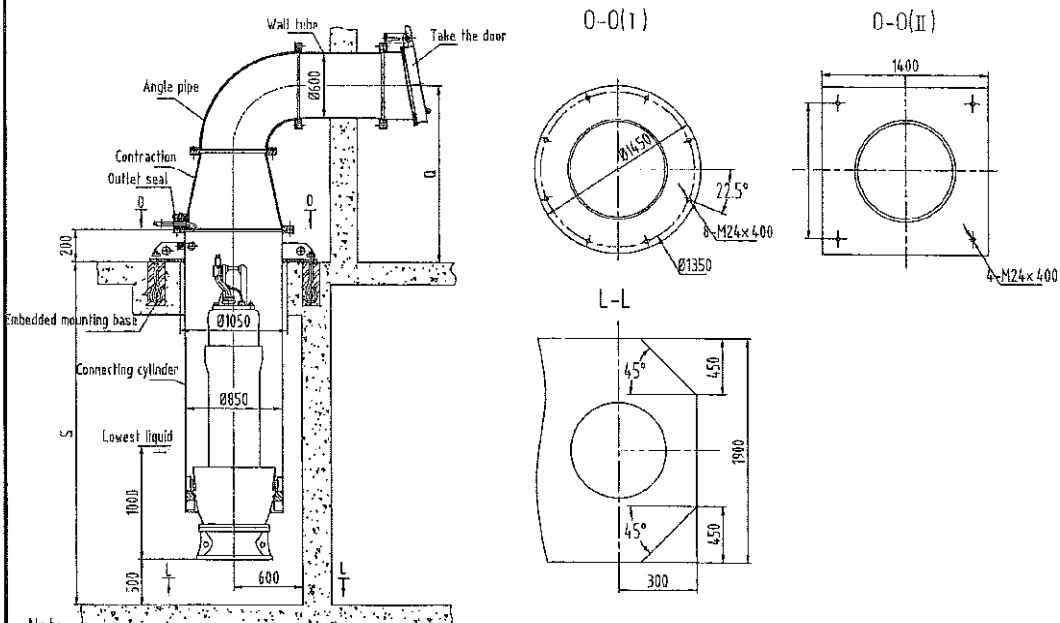
1, Wellbore suspension installation



2, Precast concrete shaft installation



3, Elbow suspension installation



Note:

1. The dimensions in the drawing are the installation dimension of the pump and the hydraulic control dimension of the pump station design, in which the hydraulic dimension of the pump station design is the reference value;
2. The size A is determined according to the pump flow rate, so as to control the flow rate and reduce the hydraulic loss. The table is a reference value, which can be increased appropriately if necessary; Dimensions S, Q and R are determined according to the field dimensions of the pumping station. The above dimensions are determined according to user's requirements.
3. The distance between the center of the pump and the rear pool wall is not greater than the dimension L.
4. The center distance between two pumps in the same pool shall not be less than dimension Z.