

Item No. : 1	Project:
Quantity : 1 set	Application : Water
Description	Consultant pump specification
<u>General Specification</u> Mark Name 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> Monitoring system, Std.	OLYMPIA 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 500L/S (1800m3/hr) 5 m 80.3% 70.7% Dia. 110mm 450 mm 36.2 kW 735 rpm D/N 600mm D/N 850mm - 1x20 m Submersible power cable - 1x20 m Submersible auxiliary control cable Cast Iron HT250 with Zinc Anode Cast Iron HT250 with Zinc Anode Cast Iron HT250 Cast Iron HT250 Cast Iron HT250 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 45KW / 8P Squirrel-cage, induction motor IP68 Class H 380v, 3 pH, 50 Hz. 45KW 735rpm 88.0% 1.2 VFD 100A - Overheat sensor PT100 (for stator winding) - Overheat sensor PT100 (for upper & lower bearings) - Upper float switch/leakage electrode (for motor junction box/chamber) - Lower float switch/leakage electrode (for motor chamber) - Moisture sensor HM1500 (detecting the humidity in motor junction box/chamber) - Vibration Sensor in top bearing housing - WLC type float switch for LWL and HWL (GY-A1)

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

Hz	Poles	Phaes	Output(kW)	Voltage(V)	Remarks
50	8	3	45	380	

Name Plate Rating	Output	kW	45
		Hp	60
	Phase		3
	Poles		8
	Voltage (V)		380
	Amperes (A)		100
	Speed (RPM)		735
	Rating		Continuous
	Rotor Type		Squirrel Cage
Insulation Class			H
Capacitor	Start		-
Size - μ F	Run		-
No Load Amperes			35
100% Load	Current (Amperes)		100
	Efficiency (%)		88.0
	Power Factor (%)		77.5
	Speed (RPM)		735
Start Current (A)			350
Full Load Torque (Kg-m)			59.63
Locked Rotor Torque (%)			120
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]	25.6	38.4	51.1
POWER OUTPUT[kW]	22.5	33.75	45
CURRENT[A]	68.9	75.2	100.2
POWER FACTOR[%]	56.9	69.9	77.5
EFFICIENCY[%]	87.2	87.7	88
SPEED[RPM]	743	739	735



SUBMERSIBLE MOTOR PUMPS

CIRCLE DIAGRAM

MOTOR SPECIFICATION

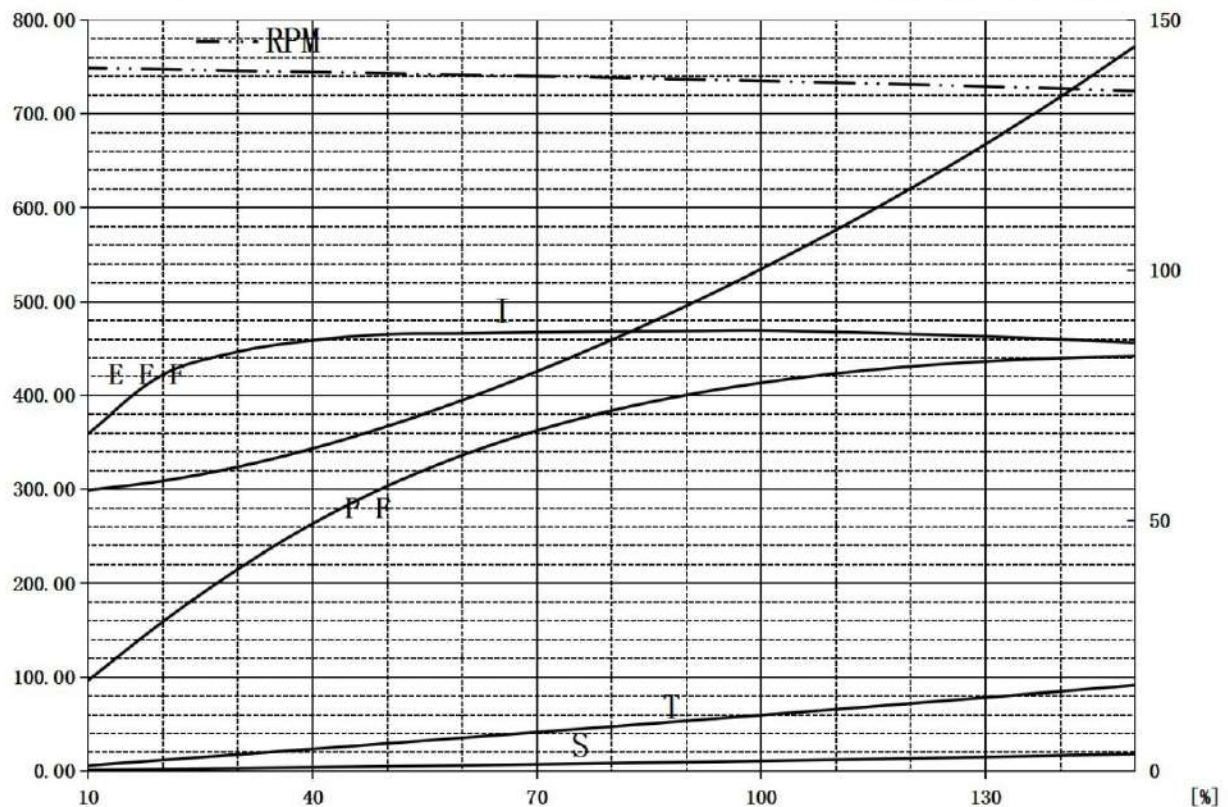
Motor Type	:	Totally Enclosed, Submerged Type (IP 68)				
Motor Output	:	45	[kW]	Voltage	:	380 [V]
Revolution	:	735	[rpm]	No. of Poles	:	8 [P]
Frequency	:	50	[Hz]	Rate Current	:	100 [A]
Efficiency	:	88.0	[%]	Power Factor	:	77.5 [%]
Rotor Type	:	Squirrel Cage			Ins. of Class:	H
Cooling Method	:	Water			Liquid Temp.	: AMB
Starting Method:	:	VFD			Rating	: CONT.

MOTOR CIRCLE DIAGRAM

(L- CIRCLE, 45 [kW])

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

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





SUBMERSIBLE MOTOR PUMPS

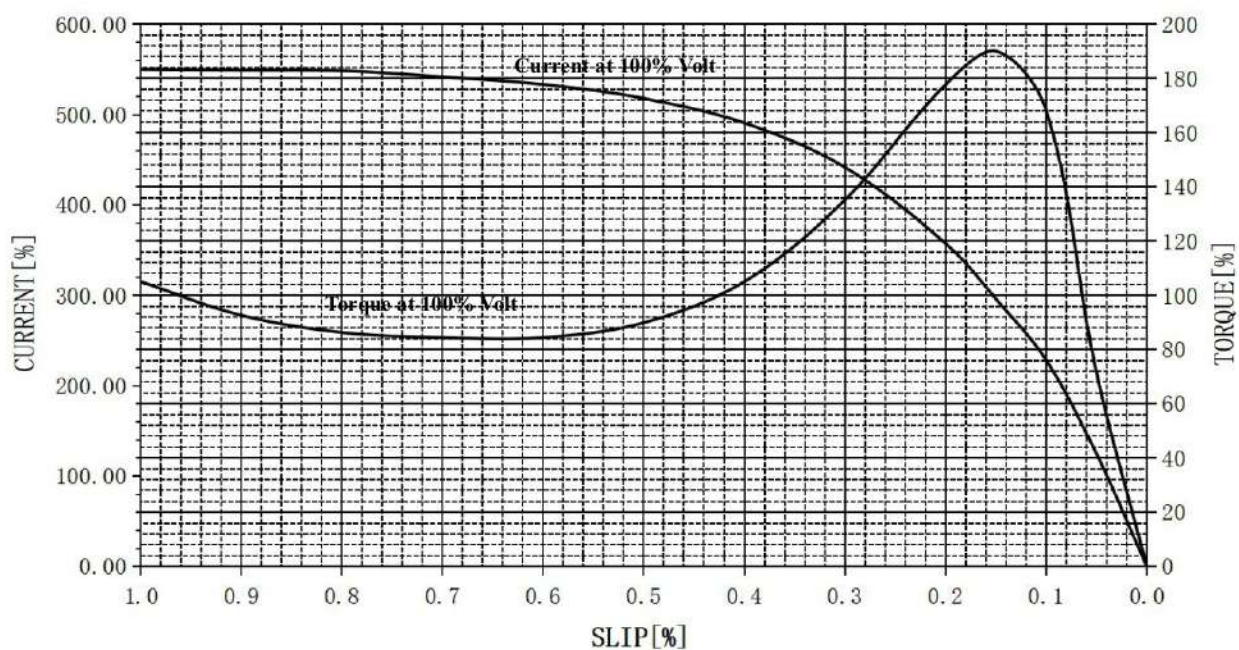
SPEED & TORQUE & CURRENT CURVE

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Revolution	:	735	[rpm]	No. of Poles	:	8	[P]
Frequency	:	50	[Hz]	Rate Current	:	100	[A]
Torque	:	59.6	[%]	Starting Current	:	350	[A]
Starting Torque:		120	[%]	Ins. of Class	:	H	
Starting Method:		VFD		Liquid Temp.	:	AMB	
				Rating	:	CONT.	

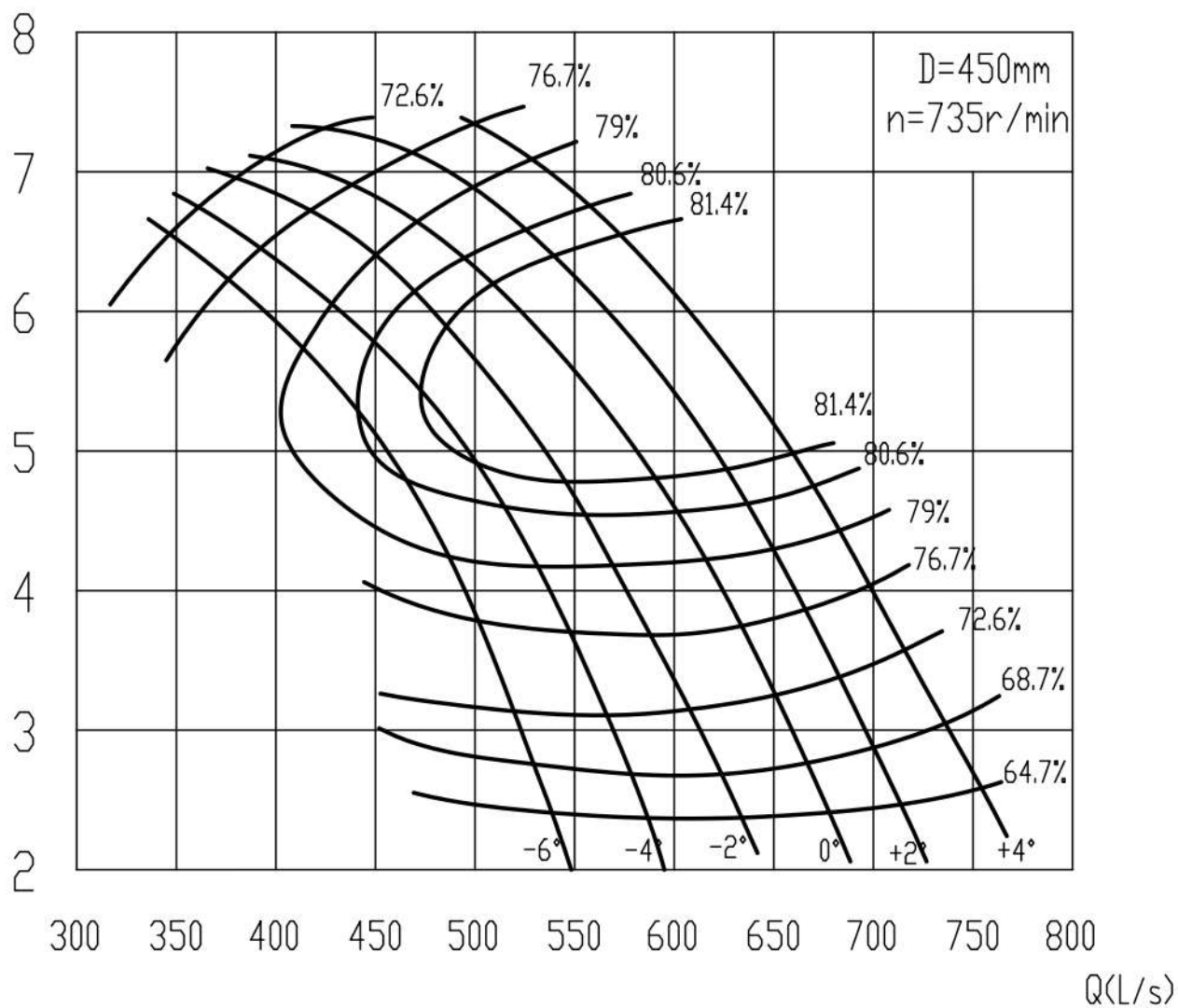
SPEED & TORQUE & CURRENT CURVE

SPEED & TORQUE, CURRENT CURVE

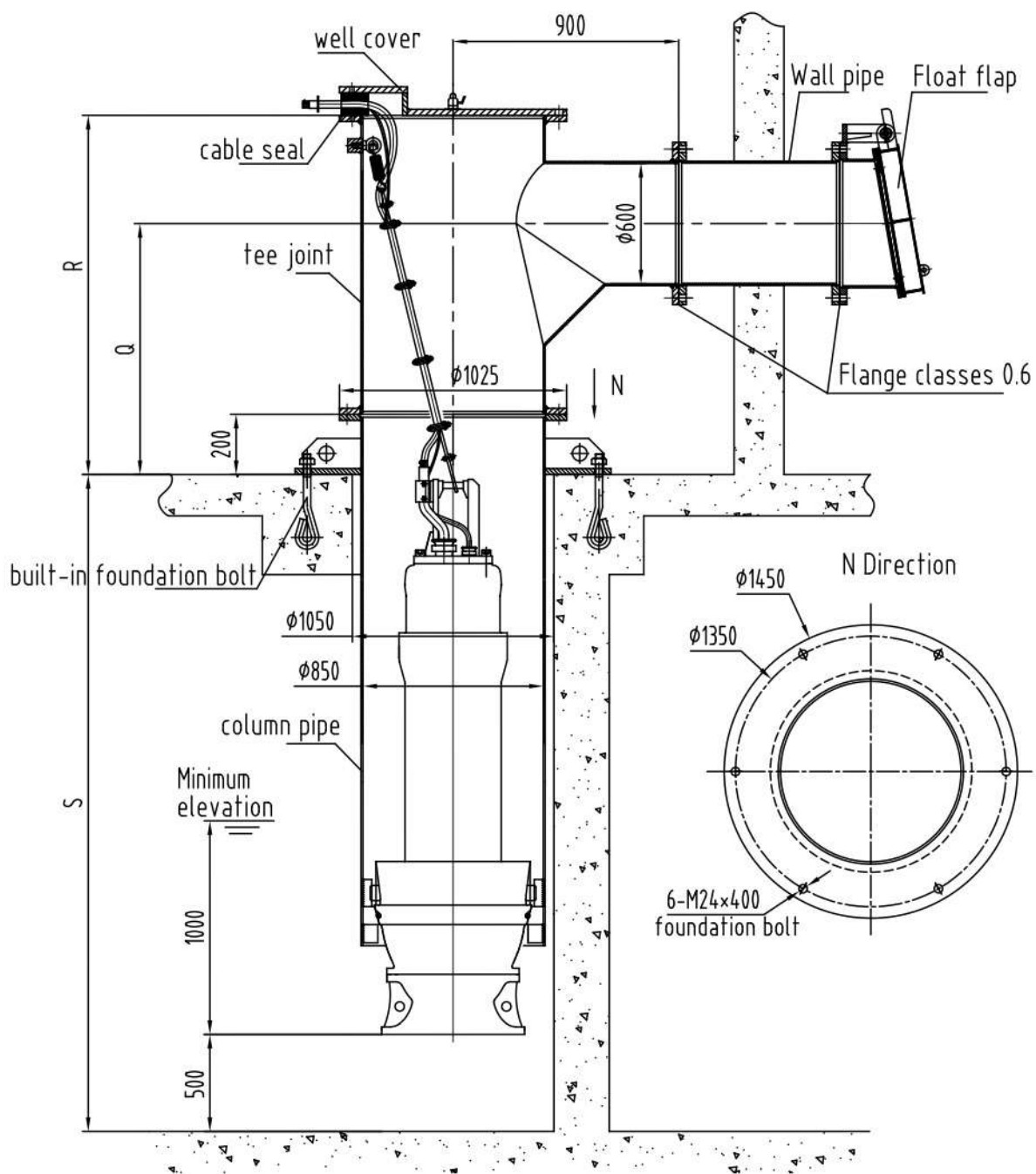




H(m)



Angle	Capacity		Head (m)	Speed (r/min)	Power (kW)		Eff. (%)	Outer diameter of impeller (mm)
	(m ³ /h)	(l /s)			Shaft power	Motor power		
0°	2383.9	662.2	2.77	735	26.6	45	67.6	450
	1976.8	549.1	5.26		34.9		81.2	
	1578.6	438.5	6.59		37.5		75.6	



Model:	O-SAP 500-70A	Speed:	735 r/min
Angle:	0	Pump weight:	750kg
Power:	45 KW	The axial water thrust:	12900N