

***Pontoon Mounted
Submerged CF pumpset based Water Supply Scheme
are Economical;***

require Low Maintenance & result in 365 day Water Intake irrespective of Meandering water course / Depleting water levels even in the worst summers



Vadodara City



Also known as Baroda, is the third largest city of Gujarat. The city is also known as SanskariNagari (*The Cultural City*) and Kala Nagari (*The City of Art*) – it got its name because of the copious amount of Banyan (*Vad*) trees found in the city.

The city was founded by the Maratha Gaekwads & is home to the world famous Maharaja Sayajirao University.

An average of **240mld** (or 190 litres/soul per day) is provided to the city daily to meet its water requirement by Vadodara Municipal Corporation (VMC).



Submerged CF Pump based Pontton Pumping Station for Vadodara city from AJWA SAROVAR

For years, the British Officers were in search of a clean source of drinking water for the city - the solution to this problem was finally provided by Maharaja Sayajirao Gaekwad III after which the construction of the Ajwa Sarovar began in 1890. It was the main source of water to the erstwhile State of Vadodara & now the City.

The dam is about 5.5km long and 15 feet wide with 62 gates built on the Surya rivulet and the VaghaliNala at a distance of about 20km from Baroda.

At full level, the reservoir is supposed to have a catchment area of something close to 195sq km - the excess water in event of floods is dispatched to the Vishwamitri river.

Situation :

Due to Frequent low rainfall in Gujarat, the water level in Ajwa Sarovar depletes & it could not drive sufficient water by gravity to the city to cater the need of drinking water of the Vadodara (2/3 population of the city was dependent on this reservoir). A means had to be evolved to force (pump) dead water from the existing reservoir via the existing (gravity) pipeline to sustain water supply to the city.



Aqua's Solution :



Name of Work :

The work of Hydrological Survey, SITC of SCF Pumpsets on floating Pontoon, Panel Room and all Electro Mechanical Accessories including 3 months of Comprehensive O & M at "VMC AJWA SAROVAR".

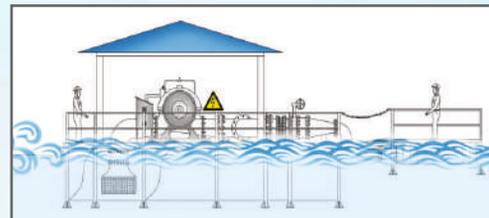
Contractor : Aqua Machineries Pvt. Ltd.

Client : Vadodara Municipal Corporation,
Vadodara.

The entire electro mechanical work of the project was entrusted to Aqua had completed this critical project in just 3 months (& later on its O & M was also carried out by Aqua)

"The project ensured capability to extract dead water round the year."

- Project Engineer



Unlike HSCF pumps, there is no need of Operator to Prime the pump, to Operate the Valves & no hence no need to go upto the Pontoon frequently.

Benefits :

Ultra Low ManPower Requirement

Requires No Special Pre – Post / Ancillary-Auxillary Operations; like :



- Suction Priming during Pump StartUp,
- Valve Opening- Closing during pump Starting- Stopping
- Operating & Maintaining the Forced Water Lubrication systems operation,
- Operating the Dewatering Pump to water leakage from Seepage / Gland Piping Leakage, etc.

Requires No Periodic Consumables; like :

- Oil,
- Grease,
- Gland Rope Packing,
- Coupling Rubber/ Pins,
- Sleeves, etc



Requires No Routine Maintenance; like :

- Frequent Oiling,
- Re-Greasing,
- Gland Leakage Rate Checking, Tightening & Gland Rope replacement,
- Checking (& Correcting) Shaft Alignment, etc.



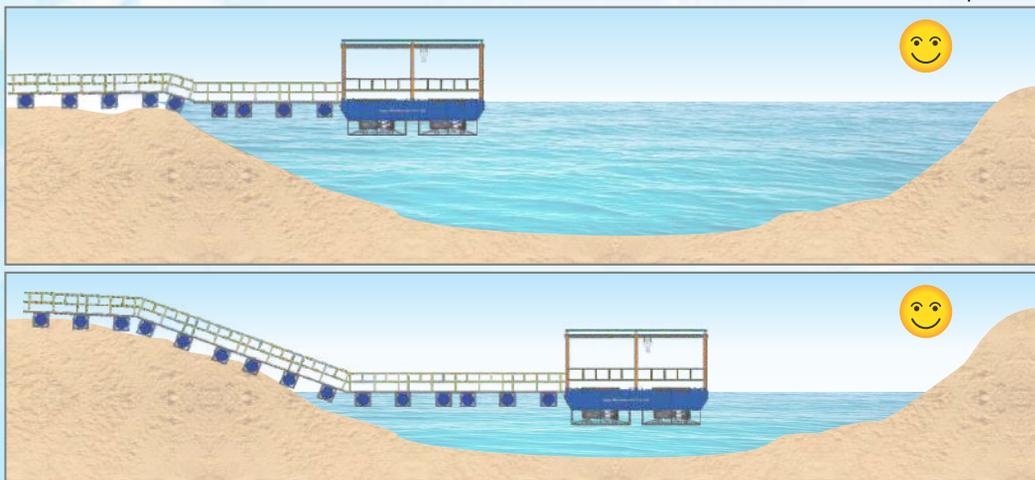
Intelligent InBuilt Monitoring

Easy Monitoring (& Remote Control[#]) of your pumpset's health



- **LSLD** detects Pressurized Water leakage from Mechanical Seals
- **CCWLD** detects Accidental Water leakage from Cable Sheath's Cuts &/or Nicks into the Motor
- **SBWLD** detect Accidental Water leakage in to Motor's Stator Chamber
- **BTDs** in the form of Bi-metallic Switches &/or PT100 monitor Bearing Temperature
- **WTDs** in the form of Bi-metallic Switches &/or PT100 monitor Stator Winding temperature

[#]requires additional communication hardware



Pontoon Mounted Submerged CF pumpset based Water Supply Schemes are **result in Water Extraction irrespective of Meandering water course / Depleting water levels ...**



WATER SUPPLY



Plug & Pump

No base Plate or Coupling to align;
No priming to startup



Low Life Cycle Costs (LCC)
Minimal Maintenance & Good Wire
to Water Efficiency.

FORM NO. 3(A)
(Referred to in Rule No. 5 B (ii))

WORK WISE DETAILS OF WORK COMPLETED OR PROGRESS BY THE CONTRACTOR	
1 Name of Contractor	: Aqua Machineries Pvt. Ltd. Plot No. 3821, Phase-IV, G.I.D.C. Vatva, Ahmadabad
2 Lol / Work Order No. & Date	: PO reference /OutwardNo:11175 Dtd 06/03/2019.
3 Name of Work	: The work of Hydrological Survey, SITC of SCF Pump Sets on floating Pontoon, Panel Room and all Electro Mechanical Accessories Including 3 months of Comprehensive O & M at VMC AJWA SAROVAR
4 Estimated Cost of Work put to Tender	: Rs. 50324000.00
5 Tender Amount	: Rs. 57800000.00 (SITC + O&M)
6 Date of Starting the Work	: 07.03.2019
7 Stipulated Date of Completion of Work	: 04.06.2019
8 Actual Date of Completion of work	: 18.06.2019
9 Amount of Work done up to Date 18.06.2019	: Rs. 57798839.00

Signature of the Contractor

10 State whether the details as above given by the contractor are correct, if not state as to what is correct information	: Yes
11 State whether the contractor has Executed the work in progress satisfactorily as per specifications. If not give the correct position of the work.	: SITC works of the project were completed on 18.06.2019. Operation & Maintenance work was removed from scope of work
12 Above works consisting one of the followings: 1. 750m ³ /hr, 30m head cusecs, 90 kW X 3 Nos SCF pumpsets installed on 3 nos floating pontoons with necessary 120 mtr floating walkway. 2. 11KV /415V, 315 KVA transformer - 1 Nos. 3. Panel room having area 100 sqm - 1 Nos. 4. D.G. set with panel - 400 KVA - 1 nos. 5. MS Pipes dia 300 mm, 400 mm and 700 mm with BFV, DPCV, EB - 1 lot 6. S.S. Double braided Flexible piping system 300 mm dia - 1 lot (6 m long - 72 nos) 7. Pipe Floaters - 1 lot 8. HT & LT Cable - 1 lot 9. 700 mm dia Electro magnetic Flow meter - 1 nos	

Place: Vadodara
Ref:
Date:

Executive Engineer
Water Supply Dept.

VADODARA MUNICIPAL CORPORATION
Khanderao Market Building, Rajmahal Road, Vadodara - 390 209. PBX :: 2433116, 2433118 2433388, 2433666 Fax No: (0265) 2433060

Water Works (Elect./Mech.) Department
Date: 22/06/2019

TO WHOM SO EVER IT MAY CONCERN

Ajwa Sarovar is one of the major source of drinking water to Vadodara city - but in many Summers, we were facing shortage of water supply due to seasonal depletion of water level - this Floating Pumping Station enables us to lift & pressurize pump the raw water to Vadodara (even in case of low water level of the reservoir) ensuring regular water supply throughout the year.

These "Aqua" make Pumps, Floating Pontoons/Jetty along with walkways are Designed, Manufactured, Tested, Supplied, Erected & Commissioned by M/s Aqua Machineries Pvt. Ltd. for VMC at Ajwa Sarovar.

Pump set Type : Submerged Centrifugal Pumpset with Integral motor.
Pump Model : ARS_H_PS_1st_VoG_2037_M_M_0120N_00415_NJ.
Application : Raw Water Intake
Discharge & Head : 750 M³/hr @ 30m head
Dischare Nozzle Size : DN 200mm
Motor Rating : 120hp / 90kW
Voltage Level : 415 V
Motor Type : LT Submerged Squirrel Cage Induction - Dry Air filled Totally Enclosed (IP 68) Self Frame Surface Water Cooled (TESWC) complying to IC4A1W0 of IS 6362

Qty : 3 Nos (2W+1S)
Jetty / Pontoon : 5m long x 3m wide - 3 nos, MOC : IS 2062 Gr.Br.
Walkway : 40m long x 1m wide - 3 nos, MOC : IS 2062 Gr.Br.
Installation : @ Ajwa Sarovar, approx 45-50m deep inside reservoir

The Entire Floating Pumping Station was commissioned in June 2019 & is working satisfactorily till date.

Executive Engineer
Water Works



Robust & Reliable
No breakdown even in high silt levels &
rust proof bearings.



Weather Proof
No Damage due to rain

Aqua Machineries Private Limited

www.aquapumps.com

Registered Office & Manufacturing Plant

Survey No. 504/1-2, 442/2, Near Haridarshan Estate, Near Express Highway, Ramol, Ahmedabad-382 445. Gujarat, India.

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