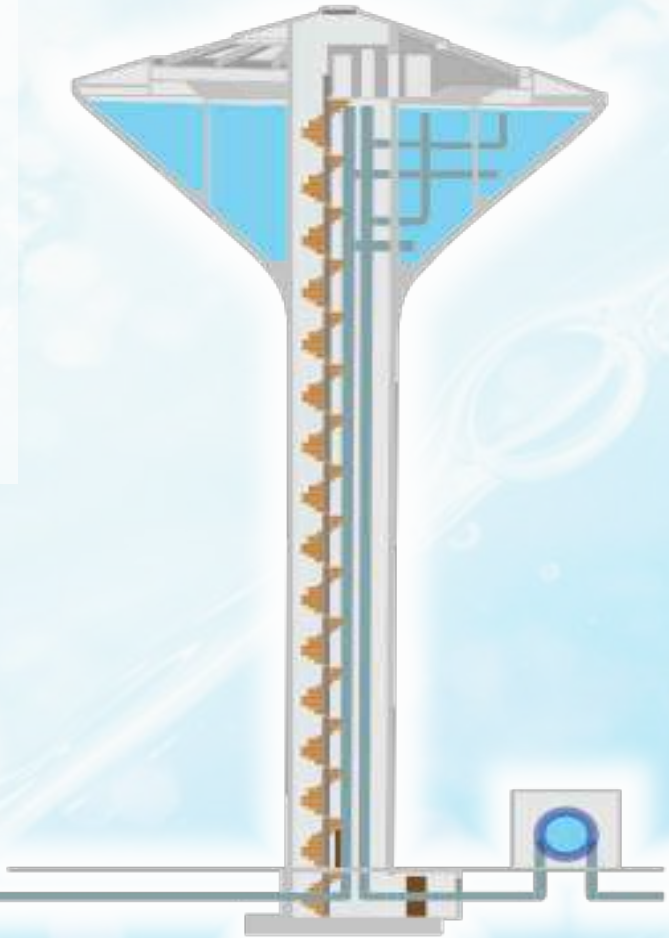
Vadodara

City Water Supply

Vadodara *(Baroda)* is the **3rd largest city** in the Western Indian State of Gujarat & is also considered as the State's **Industrial, Cultural & Educational hub**.

It is situated at an average altitude of **35-40m** above **MSL**, at Latitude of 22.300 N & Longitude of 73.180 E on the banks of **Vishwamitri River**.



The city is known for the **Lakshmi Vilas Palace** *(the residence of Baroda State's Maratha royal family, the Gaekwads)*; the World Famous **Maharaja Sayajirao University**, etc.

Some of it's major industries include Petrochemicals, Engineering, Chemicals, Pharmaceuticals, Plastics & IT.

Water Supply

વડોદરા મહાનગર પાલિકા
Vadodara Municipal Corporation

Vadodara city is managed & governed by **Vadodara Municipal Corporation *(VMC)*** which is responsible City Water Supply to cater to a population of over **24.85 lakh souls** spread over approximate area of **216 sq. km**

The present WS Source is given in the table.

VMC has developed an approximately **1837km** long water distribution network consisting of **30**nos **ESR**, **69**nos Under Ground Reservoirs & **9**nos WDS *(Water Distribution PS)*.

Sr. No.	Source of Water	Designed Drawl *(MLD)*
1	Ajwa Sarovar	145
2	Fajalpur French Well	65
3	Poicha French Well	65
4	Raika French Well	56
5	Dodka French Well	42
6	Dodka WTP	50
7	Sherkhi Intake	75
8	Singhrot Intake	70
9	Tube Wells	15
	Total	**583**

Raw Water Intake

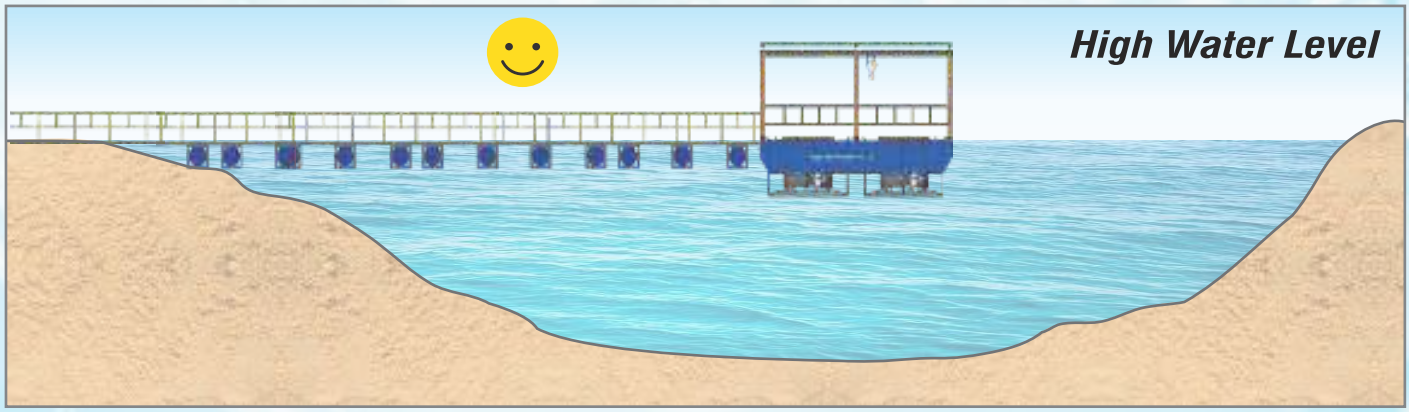
Ajwa Sarovar (30mld) Floating Pumping Station : *Assured WS despite Low Water Levels*

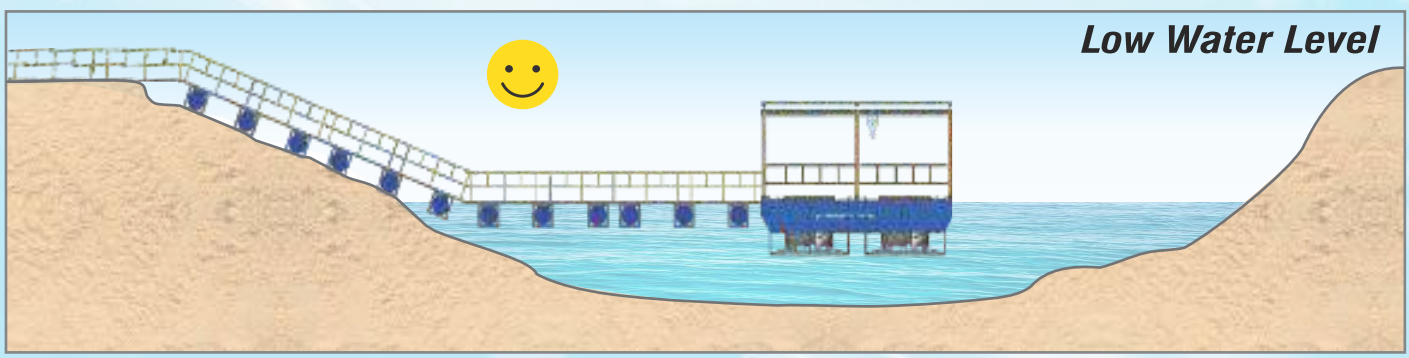
⚠ Frequent dip in Water Level during Summer causes Shortage of Raw Water Supply in existing Gravity Mains.


VADODARA MUNICIPAL CORPORATION

Pump Model : **ARS._H_PS_1st_Vo_G 2037_M_.M_.0120N_00415 NJ.**			
Head	Discharge	Quantity	HP
30m	750m³/hr	3nos	120hp

Uniform Water Supply is ASSURED Irrespective of Rise & Fall of Water Level.

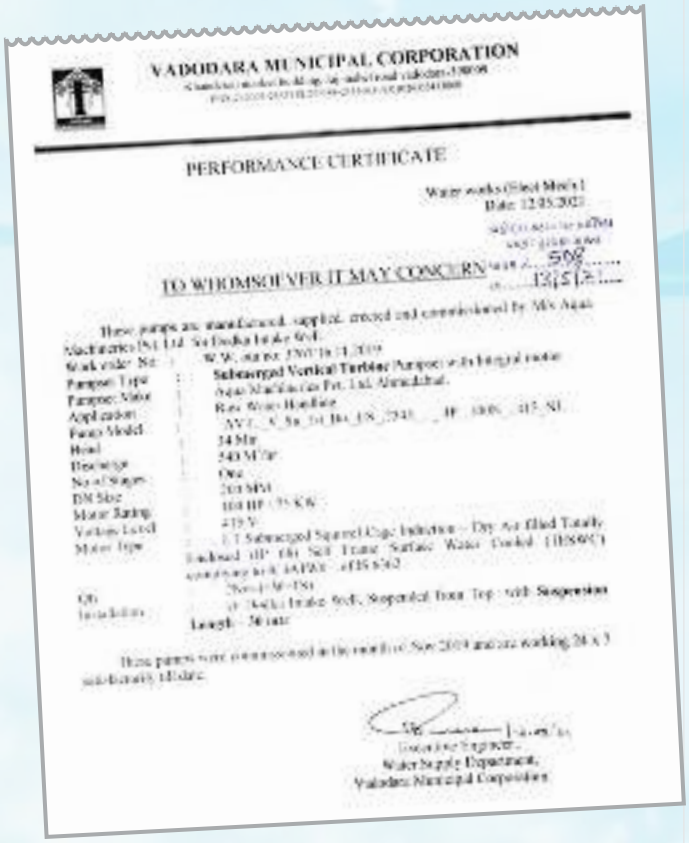




Raw Water Intake

Dodka French Well : *Aqua's SubVT pumps sustain Intake where VT pumps fail frequently*

⚠ Frequent failure of Long Shaft Conventional VTs causes disruption in Raw Water Supply



VADODARA MUNICIPAL CORPORATION

PERFORMANCE CERTIFICATE

TO WHOMSOEVER IT MAY CONCERN

Submerged Vertical Turbine Pumpset

Pump Model : **AVT.._ V _Su_ 1st Bo. ES .2543 . . .4P .100N .. 415 NJ**			
Head	Discharge	Quantity	HP
34m	540m³/hr	2nos	100hp

Aqua's SubVT Pumpset

Robust & Reliable

- Minimum breakdown even in High Silt levels
- No breakdown for Deeper Column Lengths even upto 120m due to the Elimination of Couplings, Fragile Line Shafts & its Water Lubricated Line Shaft Bearings, Spiders, etc.
- Over-safe Design & Smart Protection Systems result in high Reliability

Ultra Low Maintenance

Requires neither Consumables nor Routine Maintenance *(like Priming, Oiling, Greasing, Gland Tightening, Shaft Alignment, Dry Run prevention, Forced Water Lubrication systems, etc.)*

Simple & Quick to Commission

Due to mono block design; No need to align shafts, couplings, thrust bearing, spiders; set up forced water lubrication, oiling, thrust bearing cooling system; etc.

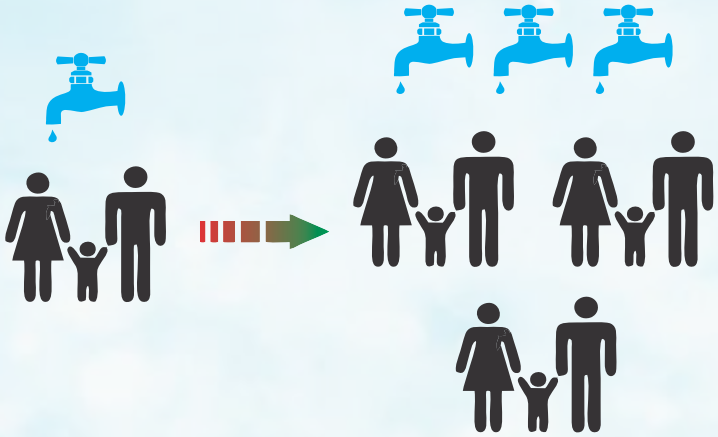
As the Bearings, Mechanical Seals, Impeller Securing Keys, etc are **Bi-directional**; there are no major mechanical problems arising out of accidental Reverse Rotation & hence **Non Reverse Ratchet** is not required eliminating its huge maintenance as well

Clear Water Distribution Stations

Space Availability within the Existing WDS campus is becoming bottle neck for new PS.

This is where Aqua's Submerged Centrifugal pumps were a natural choice - being directly immersed into the Clear Water Sump; they don't need spacious & expensive pump rooms.

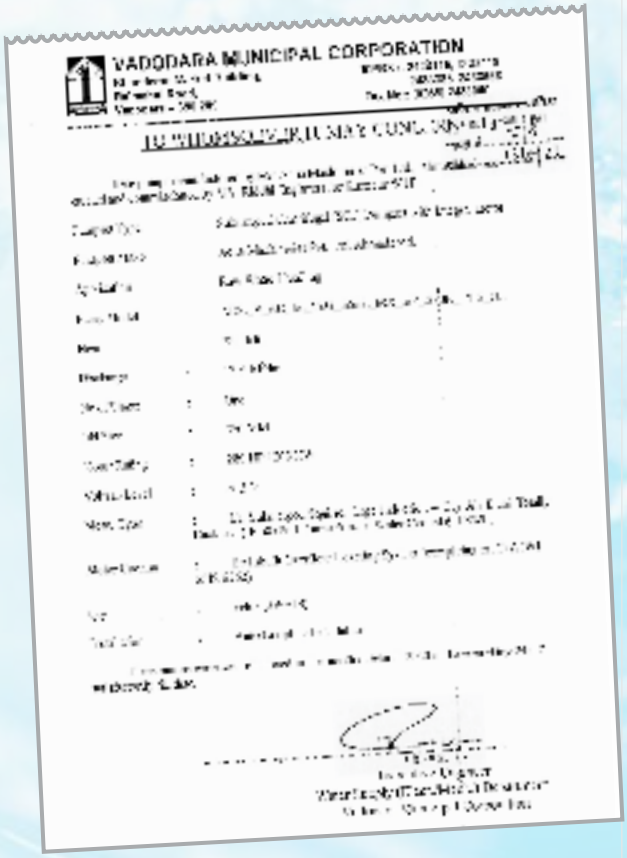
SubCF pumpsets can be immersed directly in to Wet Pit *(CWR)*; hence **eliminating** the need of Dry Pump Room resulting in **upto 55% saving** in **Land** required *.



The use of SubCF pumps saves a Lot of Land which can be **better utilized** to make a **Larger Clear Water Reservoir** *(CWR)* thereby **serving a Larger Population** *(in same available land)* for **additional years** to come.

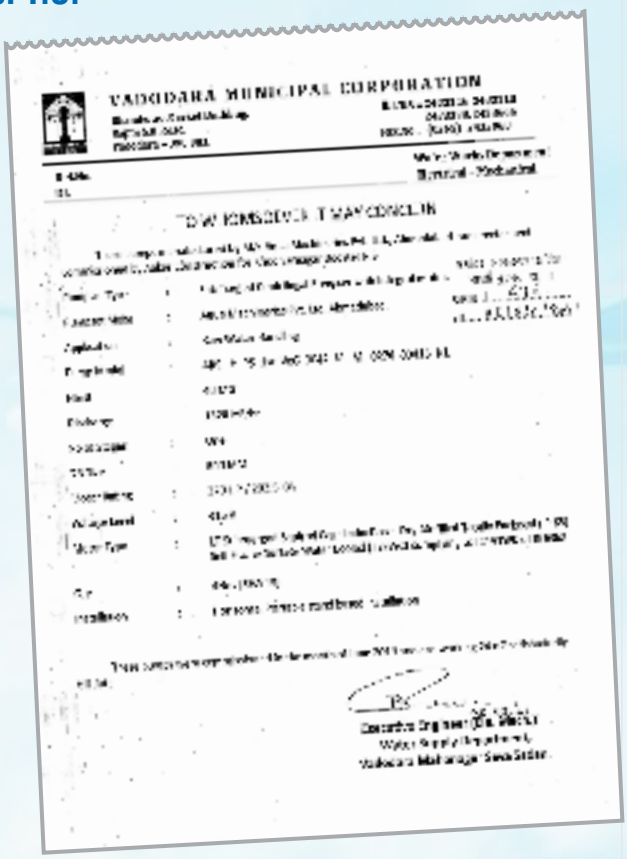
Khanpur WTP

Pump Model : **ARS. V AC 1st VoG .3563. MX .6P .280N . .415 OJ.**			
Head	Discharge	Quantity	HP
32.5m	1705m^3/hr	3nos	280hp


VADODARA MUNICIPAL CORPORATION

Clear Water Distribution Stations

Khodiyar Nagar Booster P.S.


VADODARA MUNICIPAL CORPORATION

Pump Model : **ARS._H_PS_Ist VoG 3042_M._M._0270_00415_NJ.**			
Head	Discharge	Quantity	HP
40m	1320m³/hr	4nos	270hp

Nalanda Booster P.S.

Pump Model : **ARS.._V_AC._1st_VoG_ES__2542__M.__4P_.200N_1R___415_OJ.**			
Head	Discharge	Quantity	HP
42m	900m³/hr	3nos	200hp

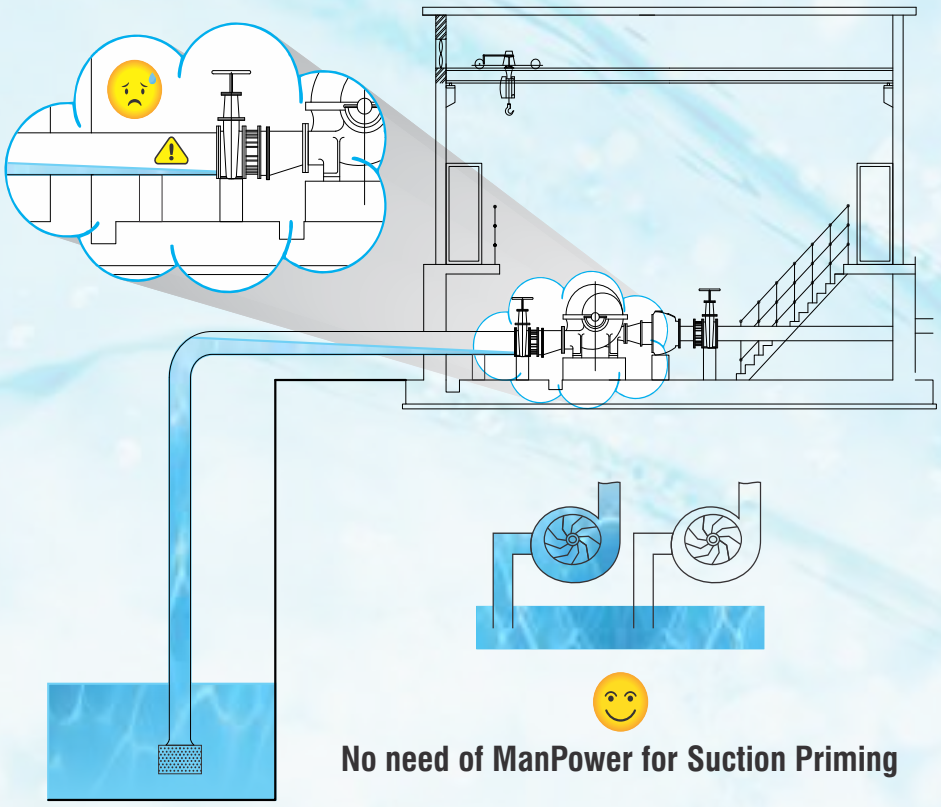
Concept Benefits

No need to Periodically...

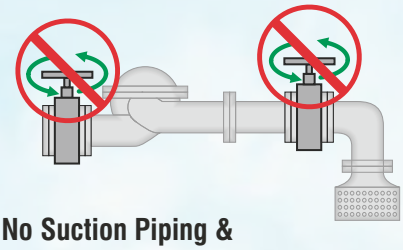
...Check / Align Shaft Coupling

...Check / Change Gland Packing

...ReGrease / Refill Oil

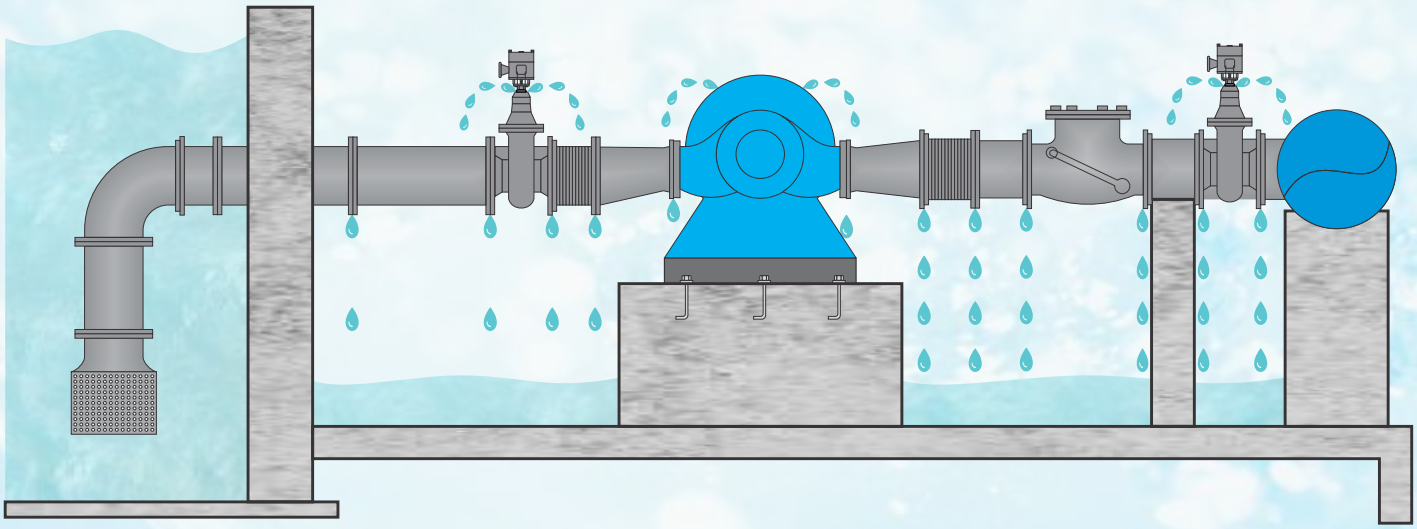


No need of Valve Opening / Closing
(during Pumpset Start / Stop)



**No Suction Piping &
it's associated Friction Head losses**

No need of ManPower for Suction Priming



No Nuisance Leakage *(from Piping Flanges &/or Pump &/or Valve Glands)* **to be Regularly DeWatered**

No Under Ground Pump Room **prone to collection of Leaked Water....**

....**No Breeding** ground for **Mosquitoes**

Minimal Noise, Vibration & Heat Emission; due to **elimination** of Auxiliary & Ancillary systems *(like Forced Water Lubrication, Thrust Bearing Cooling system, Motor Hear Exchanger)*.
**(refermarketing@aquapumps.com for additional white papers)*

AQuA®©

Water Supply

Aqua's Benefits

Low Life Cycle Costs *(LCC)**

Saves *(upto 75%)* **Spare Parts & Consumables***

Saves *(upto 66%)* **O&M Staff***

Low Energy Cost : Due to Elimination of Suction Losses, Ancillary & Auxiliaries; **Wire to Water Power Consumption** of SCF based Pumping Station **is slightly Lower** *(compared to Conventional HSCF / VT Pumpset based Pumping Stations)**

Anti Drip, Fully Synthetic; **Super Premium Synthetic Grease** ensures a minimum Regreasing Interval ***(F_{10H})*** of **75,000h** *(for Pumpsets rated upto 650kW)*.

Seals are rated for at least **16 / 25 bar** pressure capability for **L_{10H}** life in excess of **50,000** hours &/or **5** years.

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