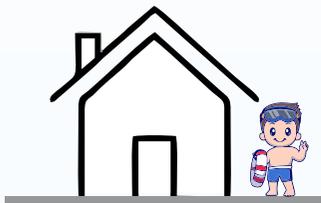
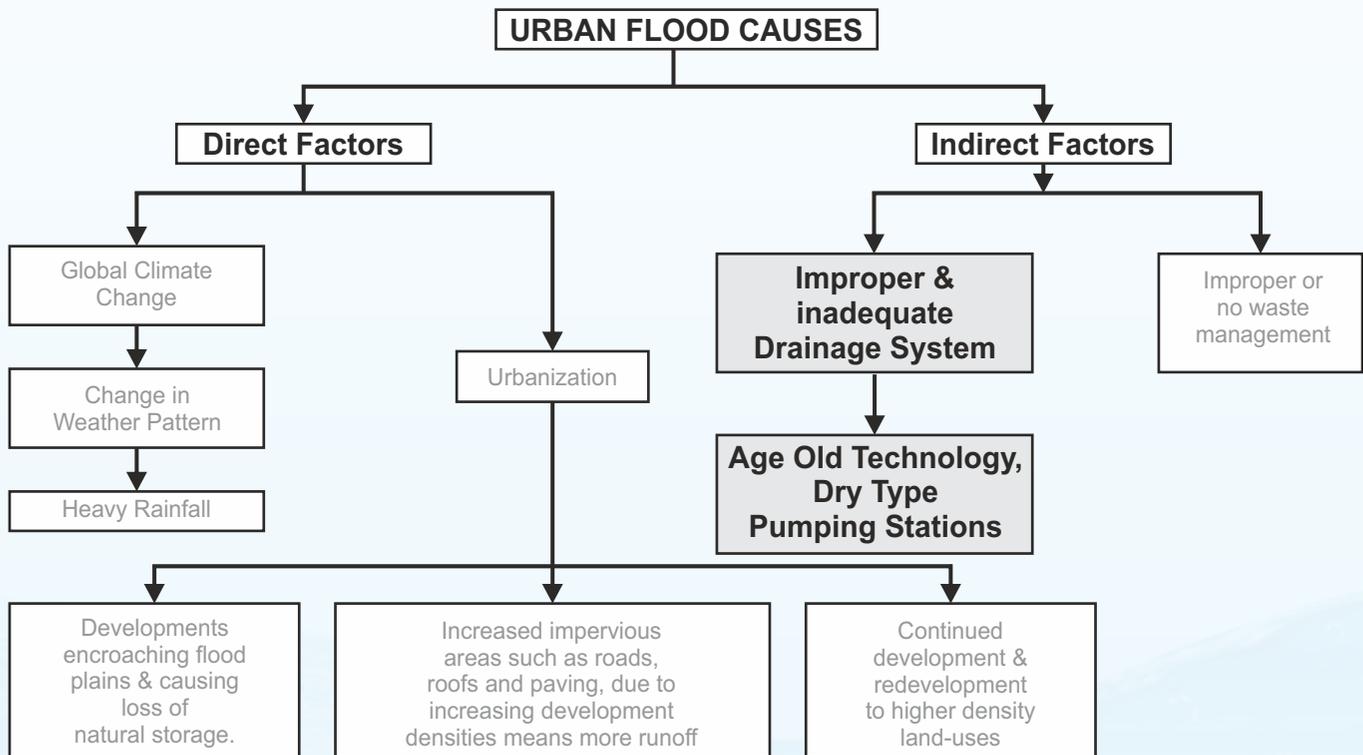


Flood Proof your Pumping Stations



Flood Proof Insurance
for Your Water Pumping Stations



Global Warming & Rising Flooding:

More Heavy Rains in Fewer Days

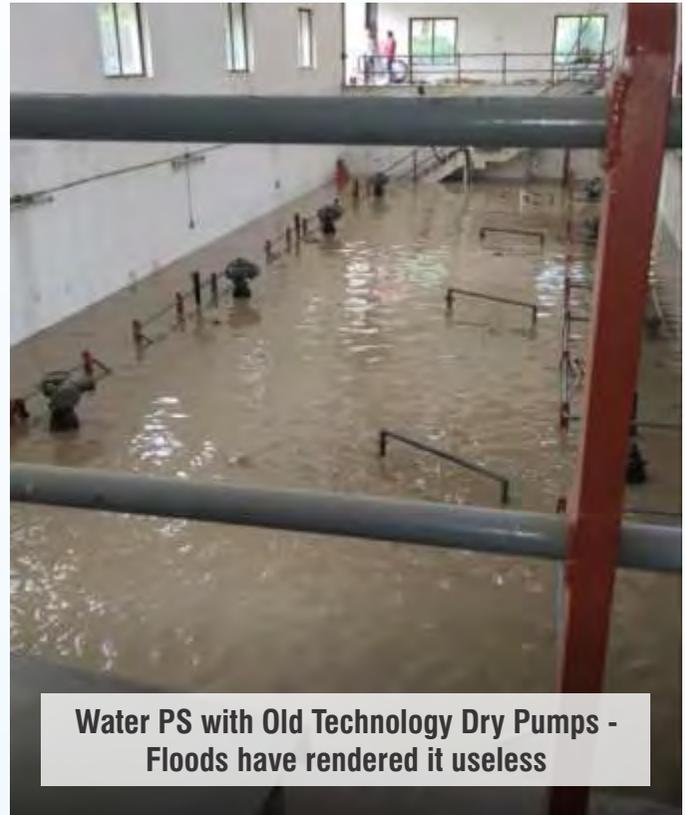
Climate change has had severe consequences in India. The rise in average global temperatures has resulted in a concerning trend of long periods of no rain followed by a sudden bout of excessive rainfall, resulting in floods which inundate existing pumping stations for water supply & sewage disposal.



Floods have been recurrent phenomenon in many parts of India, causing loss of lives and public property and bringing untold misery to the people - despite the various steps undertaken over the last five decades, the trend of increasing damage and devastation brought by floods has posed a challenge to the Water Supply, Sewage Disposal & Storm Water Management Pumping Stations.

Speedy & reliable storm water disposal, with high / very high capacity & low / medium head storm water pumps would form an essential & integral part of all such envisaged Urban Flood Management Schemes.

On space requirements, cost, operational convenience & safety considerations together with unpredictable flood levels, Submersible mono block pumps have emerged as the preferred pump choice for Storm Water Management.



Water PS with Old Technology Dry Pumps - Floods have rendered it useless

Main advantages of Submersible & Flood Proof pumps

- Construction - Simple & Compact mono block construction without multiple shafts / intermediate bearing & bearing supports.
- Installation - Quick & Easy
- Maintenance - Less maintenance due to minimum wear parts.
- Down time - Minimum down time due to quick removal / installation because of compact mono block construction.
- Sump depth - Smaller sump depths possible due to non applicable HFL consideration.
- Operational flexibility - Quick shifting to emergency locations possible.



Flood Proof Insurance
for Dry Well Pumping Stations

Flood Proof your Pumping Stations



Storm Water Disposal

Pump Models : **ANS, ATBP, AGP, AES**



Sewage Pumping

Pump Models : **ANS, ATBP, ATBN, ANFP, AES, AM**



Water Supply

Pump Models : **ARS, AVT, ARFP, AILFP, ATBM**

Ahmedabad

relies on approximately 225+ Aqua Submersible Non Clog pumpsets

(cumulating to rated discharge capacity of approx 2,25,000 m³/hr)

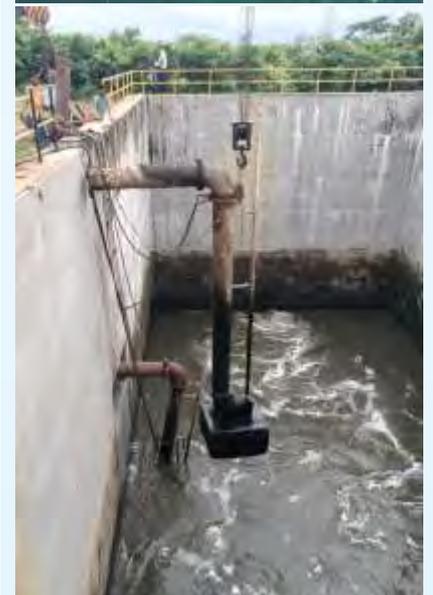


Situation:



Storm Water Pumping Station

Viratnagar SWD Pumping Station



Vasna TSPS, Ahmedabad

Augmenting a Waste Water Pumping Stations's
Capacity by 2.38X (from 285mld to 681mld) in just 15days....!

Pumpset Model	Motor Rating (hp)	Discharge (m ³ /hr)	Head (m)	Qty. (Nos.)
ANS.._V_AC._1st_VoG_6081_TQ_8P_270hpN_ER_4_NJ.	270	3500	12	2
ANS.._V_AC._1st_VoG_6284_MW_8P_400hpN_ER_4_NJ.	400	4500	12	1
ANS.._V_AC._1st_VoG_5064_M._6P_450hpN_ER_4_NJ.	450	5000	12	1

Aqua's Client:
End User:



Ahmedabad Municipal Corporation (AMC)

Some major SW PS with Aqua's pumpsets

AMC North, East & South Zone Storm Water Drain Pumping Stations

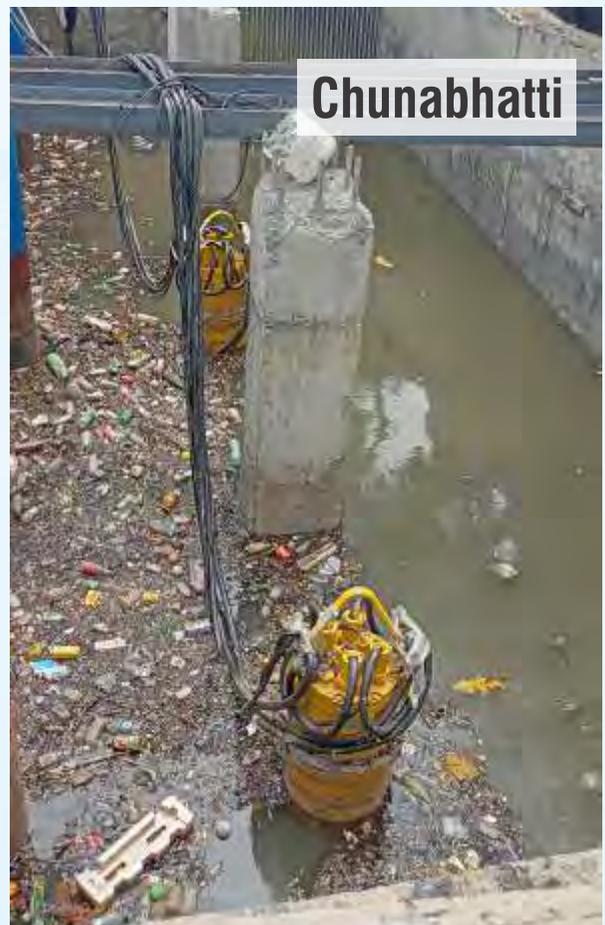
No.	Zone	Name of Pumping Station	Discharge (m ³ /hr)	Head (m)	Qty (Nos.)	Motor Rating	
						(hp)	(kW)
1	EZ-1	Harivilla	1800	10	1	100	75
2		Jay Chemical	1800	10	2	100	75
3		Odhav Fire Station	2400	10	3	125	93
4		Arbudanagar	1800	10	2	100	75
5		Viratnagar	2400	15	2	215	160
6		Nikol	2400	15	3	215	160
7		Vastral	3500	14	4	285	213
8		Maleksaban	300	20	3	40	30
9	NZ-1	Odhav Ambicanagar	2400	15	3	215	160
10		Dehgam Road	1800	10	2	100	75
11		Navyug	2400	10	3	125	93
12		Pushpkunj	1800	10	1	100	75
13		Rajivpark	1800	10	1	100	75
14		Sitaram Madhuli	2400	10	1	100	75
15		Kubernagar	2400	10	2	125	93

Mumbai Mini Pumping Stations, Maharashtra.

Situation: 41,000m³/hr Storm Water Pumping Capacity added in just 2 months..!



Lack of Space is a major bottleneck & Chunabhatti, Milan Subway (Santacruz) & Mahalaxmi are densely populated. All these get severely affected on account of flooding. Aqua did the Site Survey, assessed the demand & engineered pumping solution & also delivered all the 16 pumpsets within just 1 month.



Aqua's Sub pumpsets can be immersed directly in to Wet Pit hence eliminating the need of Dry Pump Room resulting in upto 55% saving in Land required*.





Sparkling Diamonds Sparklingly Clean City - Surat

Surat decided to go in for Aqua's Flood Proof solutions :

- **Submersible** Sewage pumps for their **New** projects (as they require much Lesser Cost as well as Lesser Land to construct) &
- Dry Installed **Flood Proof Submersible** NC pumpsets for their **Existing** Dry Pit - Wet Pit type PS prone to flooding (to improve their reliability).

Solution for Existing PS : Dry Installed Flood Proof Non Clog pumpsets

To tackle Maintenance problems & abrupt stoppage of Vertical Bare shaft VNC + TEFC motor pumpsets; they can be replaced by Flood Proof Submersible pumpsets which fit into the same suction & discharge piping but **can be operated even if the Dry well is Flooded...!**



Flood Proof Insurance

for Old Dry Well
Type Pumping Stations

Patna, Bihar, India.



To alleviate the problem and address the challenge of drainage, **m/s BUIDCo** undertook multipronged strategy of creating more drainage networks & augmenting the Existing DPS (*Drainage Pumping Stations*).

m/s Aqua played a major proactive role in this Augmentation process by doing the Site Visit & suggesting ways to increase the pumping capacities in existing sump and civil structures.



DPS	Pumpset Model	Capacity (m ³ /hr)	Head (m)	Qty. (Nos.)
Saidpur	ATBP_V_Tu_1st_Bo_ES_8052_M_6P_315N_415_NJ	5400	9	2
Yogipur	ANS_V_AC_1st_VoG_ES_3552_D_6P_150N_415_NJ	1800	15	2
Sandalpur	ANS_V_AC_1st_VoG_ES_3552_TY_6P_150N_415_NJ	2160	12	1



Buddh International Circuit (Formula One F1 Grand Prix) NOIDA.



Situation:

Buddh International Race Circuit is located near Greater Noida is a World class township spread over 2500 acres wherein Jaypee Sports International Ltd. is managing the Storm Water through 7 different Pumping Stations using AQUA's Submersible Pumpsets.

Head	Discharge	Qty.	hp
9m	1800 m³/hr	31	90
9m	720 m³/hr	5	40

Consultant :
SANELAC CONSULTANTS PVT. LTD.



Aqua's Sub pumps commutating upto 54,180m³/hr keep the City dry despite a swollen Mahanadi River, Sambalpur, Odisha



Designing, Supply, Installation, Testing & Commissioning of Non-Clog Pumping Machineries with Mechanical, Electrical & Other Accessories complete for Storm Water Pumping Stations.

Name of Pumping Station	Pumpset Model	Qty (Nos.)	Discharge (m ³ /hr)	Head (m)	hp
Binakhandi	ANS 6081 TQ LL 150	10	3600	7	150
Balibandha	ANS 6081 TQ LL 150	8	3600	7	150
Tanga Nallah	ANS 2542 TQ LL 022	2	540	7	22.5

Ahmedabad Municipal Corp., Ahmedabad, Gujarat.

Aqua's Solution :



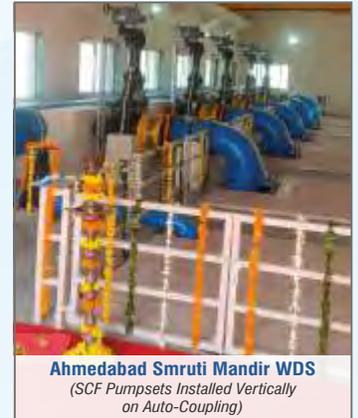
**Aqua's
Submerged
Centrifugal pumpsets**



**Flood Proof
Insurance**
*for Water
Pumping Stations*



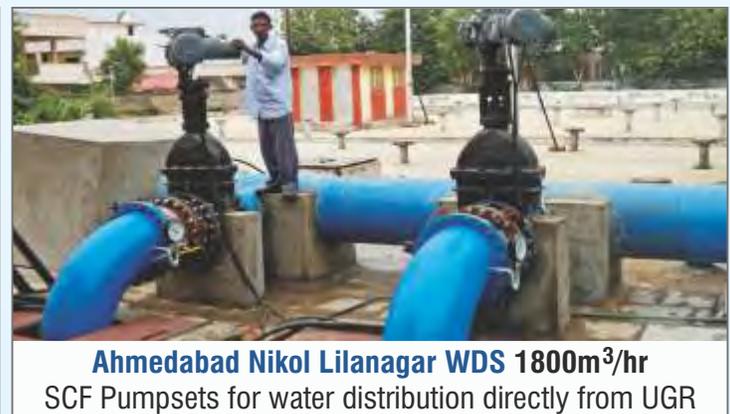
Ahmedabad 864mld Intake (each SCF of 4500m³/hr)



Ahmedabad Smruti Mandir WDS
(SCF Pumpsets Installed Vertically on Auto-Coupling)



GIDC Saykha WDS
(Total installed Motor Rating 1000hp)



Ahmedabad Nikol Lilanagar WDS 1800m³/hr
SCF Pumpsets for water distribution directly from UGR

Vadodara Municipal Corp., Ahmedabad, Gujarat.

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



Aqua's Submerged Centrifugal pumpsets



Flood Proof Insurance for Water Pumping Stations

Pumpset Model : ARS. V AC 1st VoG .3563. MX .6P .280N . .415 OJ.			
Head (m)	Qty. (Nos.)	Discharge (m ³ /hr)	Motor Rating (hp)
32.5	3	1705	280

Clear Water Distribution Center

Khodiyar Nagar Booster P.S.:



Pumpset Model : ARS. H PS 1st VoG 3042 M. M. 0270 00415 NJ.			
Head (m)	Qty. (Nos.)	Discharge (m ³ /hr)	Motor Rating (hp)
40	4	1320	270

Nalanda Booster P.S.



Pumpset Model : ARS. V AC 1st VoG ES 2542 M. 4P .200N 1R 415 OJ.			
Head (m)	Qty. (Nos.)	Discharge (m ³ /hr)	Motor Rating (hp)
42	3	900	200



ANS series of Heavy duty Non Clog Sewage Submersible Pumps

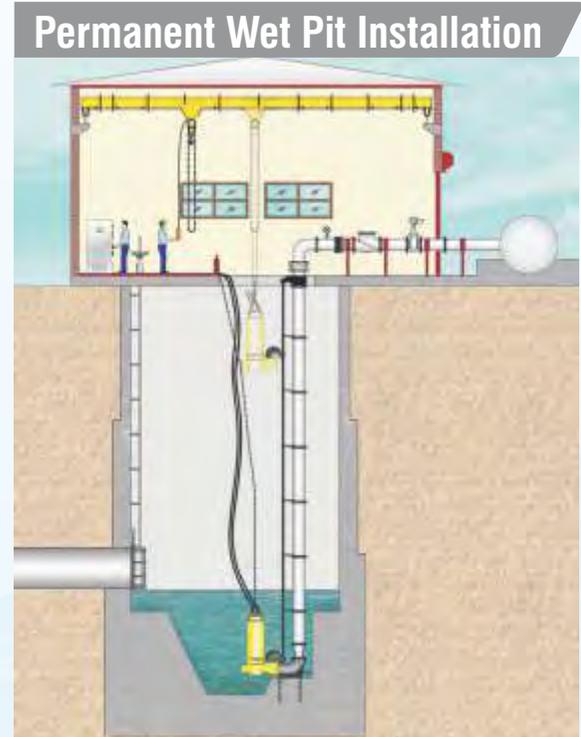
ANS pumps are specifically designed (as an upgrade over the 1st generation of submersible non clog pumps) to withstand the harsh operating conditions (encountered in sewage pumping) in developing countries.



DN 350mm discharge size ANS pump (weighing 2.5T) is being lowered for emergency dewatering of a flooded SPS. This pump was run for non stop 300hours in suspended mode without valves.

Submerged Portable Vertical installation

Certain applications like sewer pipe line construction / maintenance works, salvaging flooded dry pits in pumping stations, replacing aged dry installed pumps (by mounting the ANS pump directly in the wet pit), drainage of open sewer drains; require submersible pumps to be installed on transportable portable stands. ANS pumps can be factory fitted with portable skirt base stands enabling quick & versatile they can be fitted either installation — Vertically or Horizontally



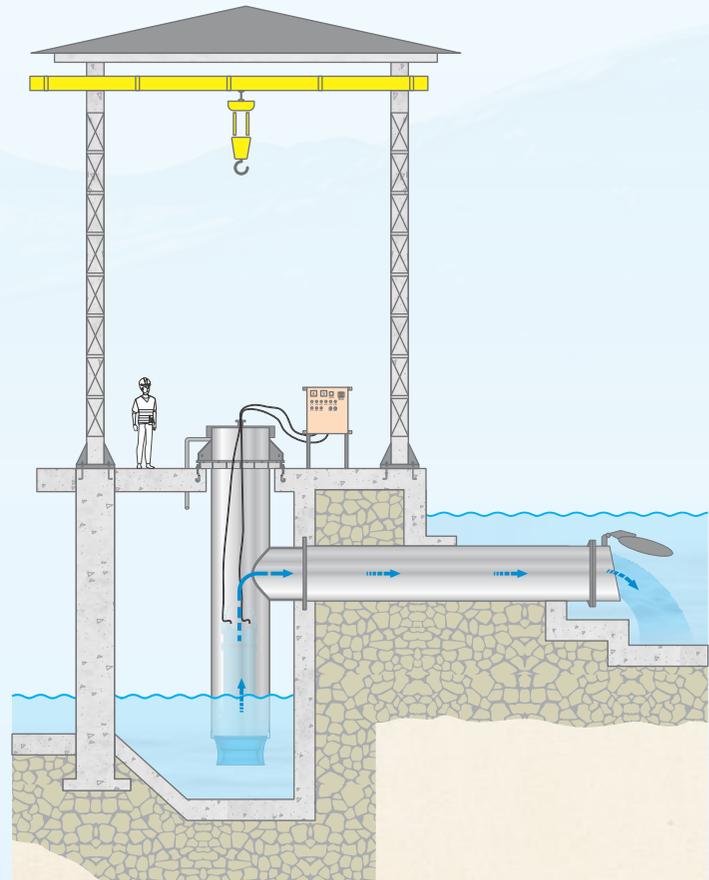
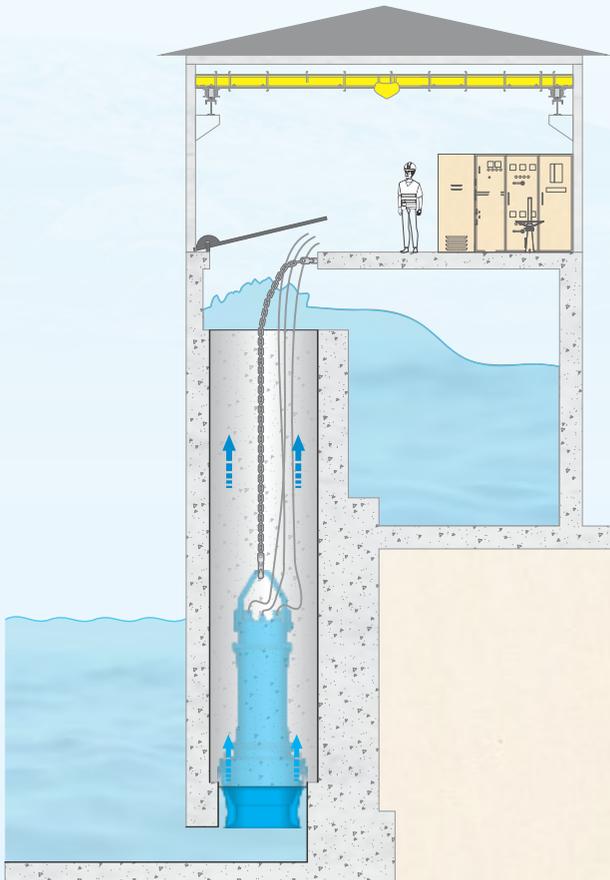
Standard Technical Specifications

Pump	Discharge Sizes	DN 40 to 800mm
	Flow Rate	upto 9,000 m ³ /hr
	Head	upto 90m
	Temperature	Standard upto 50°C (Options for 60°C & 70°C are available)
	Depth of Submergence	Standard upto 50m (Options for >60m is available)
Motor	Ratings	2500kW
	Speeds	3000, 1500, 1000, 750, 600, 500, 375 rpm (synchronous)
	Duty & Enclosure	S1 & Exceeding IP 68
	Supply Options	3Ø; 415V, 550V, 690V, 3300V, 6600V, 11000 V

Submerged Tubular Column Pumpsets ...ATBP, ATBN



Standard Technical Specifications		
Pump	Discharge Sizes	DN 600 to 2,100mm
	Flow Rate	Upto 27,000 m ³ /hr
	Head	Up to 40m
	Temperature	Standard upto 50°C <i>(Options for 60°C & 70°C are available)</i>
	Depth of Submergence	Standard upto 50m <i>(Options for >60m is available)</i>
Motor	Ratings	15kW to 2500kW
	Speeds	1500, 1000, 750, 600, 500 & 375 rpm <i>(synchronous)</i>
	Duty & Enclosure	S1 & Exceeding IP 68
	Supply Options	3Ø; 415V, 550V, 690V, 3300V, 6600V, 11000 V



A Variety of Design Options enable Simple & Space Effective layouts in any Terrain, Site & Space Constraints...

SUBMERGED CENTRIFUGAL PUMPSETS ...ARS & ARSDS

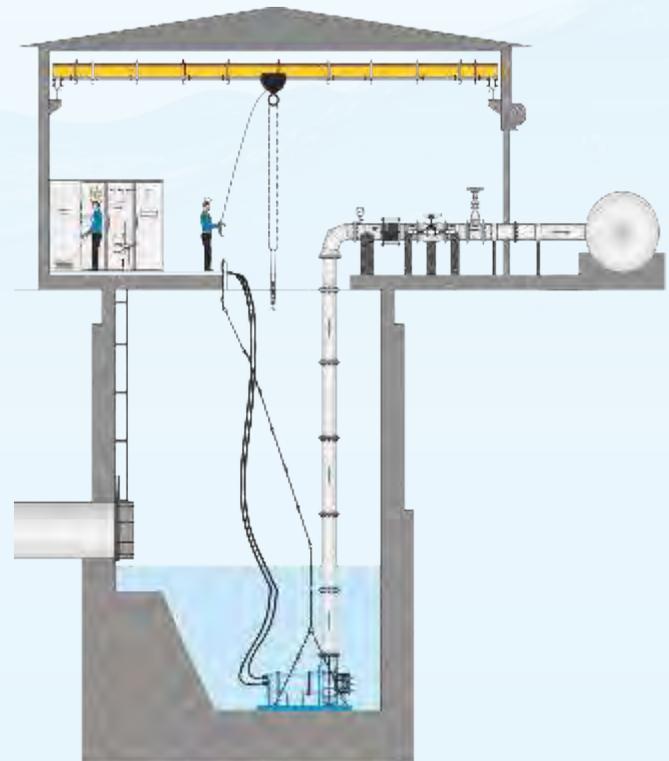
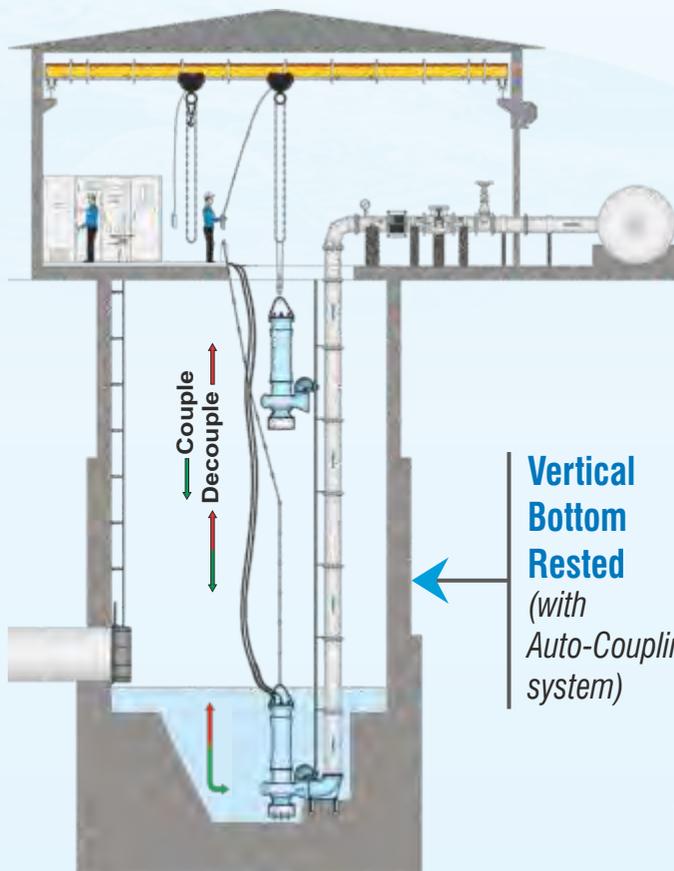


**Flood Proof
Insurance
for Water
Pumping Stations**



Standard Technical Specification		
Pump	Discharge Sizes	DN 40 to 800mm
	Flow Rate	Upto 9000 m ³ /hr
	Head	Up to 130m
Motor	Ratings	2kW to 2500kW
	Speeds	3000, 1500, 1000, 750, 600, 500 & 400 rpm (<i>synchronous</i>)
	Duty & Enclosure	S1 & Exceeding IP 68
	Supply Options	3Ø; 415V, 550V, 690V, 3300V, 6600V, 11000 V

Installations



Horizontal Bottom Rested with Portable Base Frame
(For Shallow, Clear Water Sumps)

Flood Proof your Existing Pumping Stations...

*enabled by
Aqua's Submerged
Centrifugal Pumpsets*

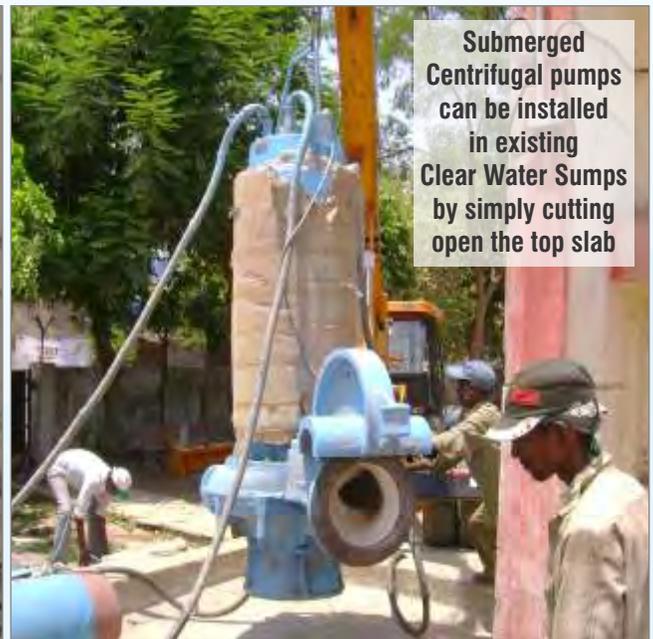


**Flood Proof
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for Water
Pumping Stations**

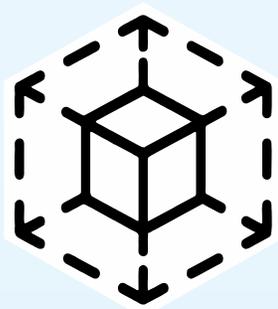
Land, Energy & Cost Saving, Ultra Low Maintenance & Least Life Cycle Cost (LCC); Water Pumping Stations



Air Cooled Motor Pumpsets require Costly & Spacious Pump Rooms

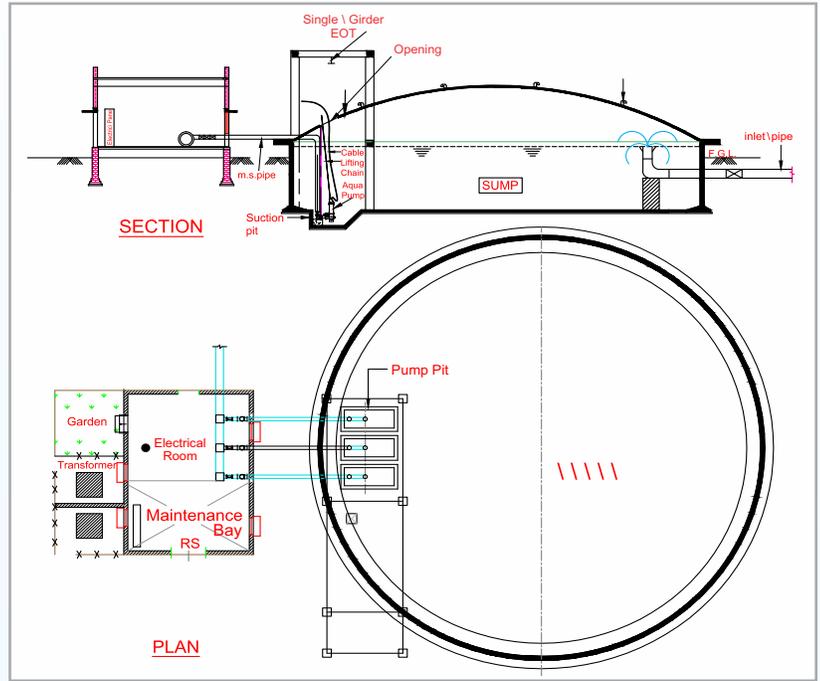


Submerged Centrifugal pumps can be installed in existing Clear Water Sumps by simply cutting open the top slab



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*.





**Suction Pipe of HS Centrifugal
solidly grouted in RCC partition wall**

**Larger Capacity Submerged Centrifugal successfully
replaces HS Centrifugal by utilizing it's Suction Piping
(as the New Delivery pipeline)**

Dry Installed, Flood Proof (fully immersible); Back Pull Out Volute Pumpsets

ANFP for Sewage



ARFP for Water

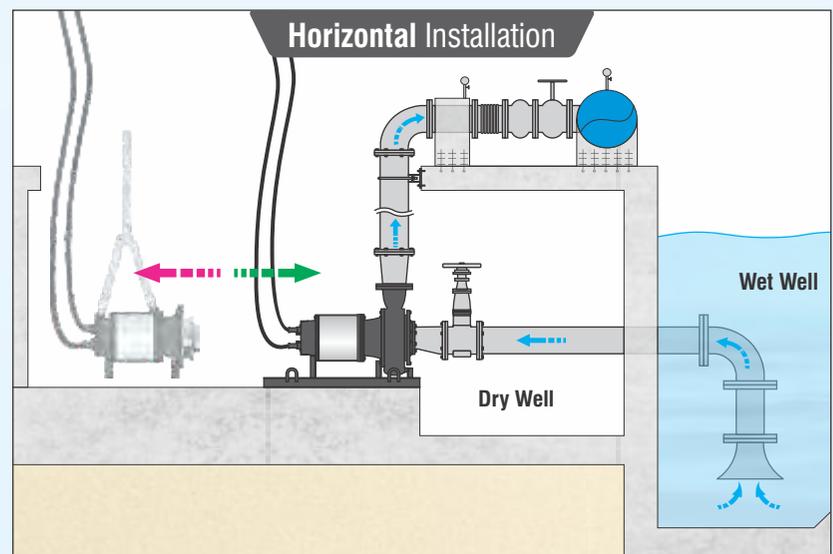
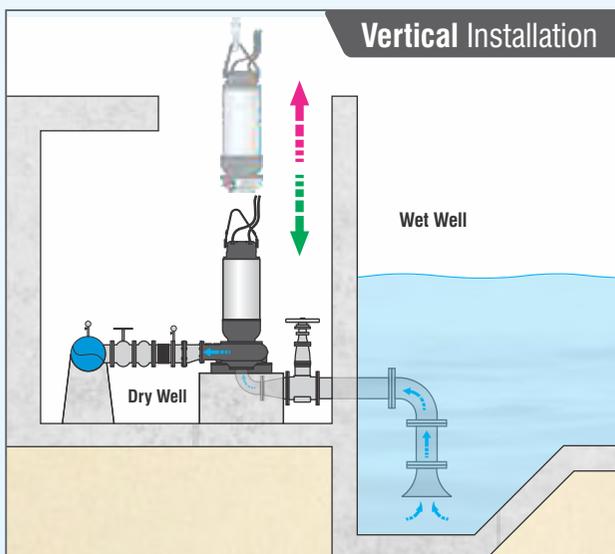


Flood Proof Insurance

*for Old Dry Well
Type Pumping Stations*



Standard Technical Specifications		
Pump	Discharge Sizes	DN 250 to 800mm
	Flow Rate	Upto 9,500 m ³ /hr
	Head	Up to 85m
Motor	Ratings	22.5kW to 1000 kW
	Speeds	1500, 1000, 750, 600 & 500rpm (<i>synchronous</i>)
	Duty & Enclosure	S1 & Exceeding IP 68
	Supply Options	3Ø; 415V, 3300V, 6600V, 11000V



Saves (upto 55%) Land Requirement*

Saves (upto 45%) Capital Cost of Entire Pumping Stations*

Saves (upto 66%) O&M Staff*

Saves (upto 75%) Spare Parts & Consumables*

User Friendly

- No risk of Cavitations.
- No damage due to Flood or Rains.

Low Life Cycle Costs (LCC)*

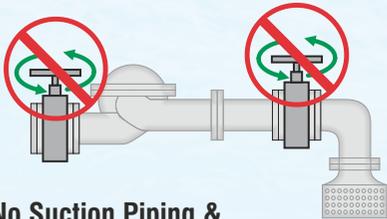
Requires No Special Pre – Post / Ancillary-Auxillary Operations; like :

- Operating & Maintaining the Forced Water Lubrication systems operation,
- Operating the De-watering Pump to water leakage from Seepage / Gland Piping Leakage, etc.

Minimal Noise, Vibration & Heat Emission; due to **elimination** of Auxiliary & Ancillary systems (like Forced Water Lubrication, Thrust Bearing Cooling system, Motor Heat Exchanger).

**(refer marketing@aquapumps.com for additional white papers)*

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



No Suction Piping & it's associated Friction Head losses



No need for Frequent Periodic....



Shafts/Sleeves &/or Coupling



Gland Packing



Oil &/or Grease

Intelligent InBuilt Monitoring

Easy Monitoring (& Remote Control[#]) of your Pumpset's Health.



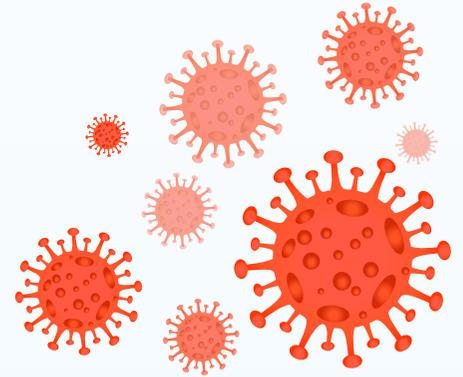
- **PSLD** detects Pressurized Water Leakage from Mechanical Seals.
- **CCWLD** detects Accidental Water Leakage from Cable Sheath's Cuts &/or Nicks into the Motor.
- **SBWLD** detect Accidental Water Leakage in to Motor's Stator Chamber.
- **BTDs** in the form of Bi-metallic Switches (for All Pumpsets) & **RTD's** (PT100 - 3 Wire Simplex type - from Size > 150kW) to Monitor Bearing Temperature (without any Additional Cost)[#].
- **WTDs** in the form of Bi-metallic Switches (for All Pumpsets) & **RTD's** (PT100 - 3 Wire Simplex type - 1 per each Phase - from Size > 150kW) to Monitor Winding Temperature (without any Additional Cost)[#].

#requires additional communication hardware

Lower Maintenance & Reduced O&M Costs Aqua's Submerged pumpsets don't require Periodic Maintenance & Minimal Operational ManPower so that you can...



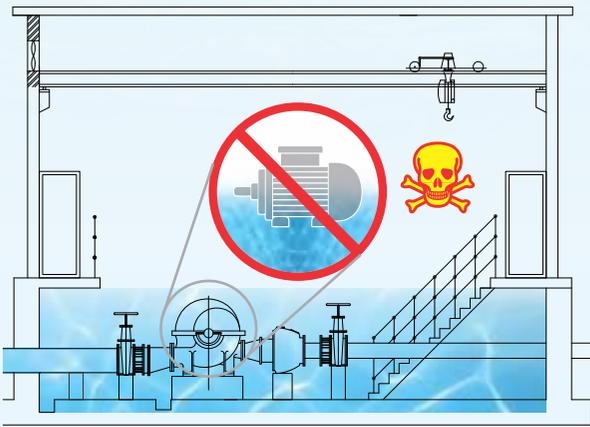
**STAY HOME...
...STAY SAFE**



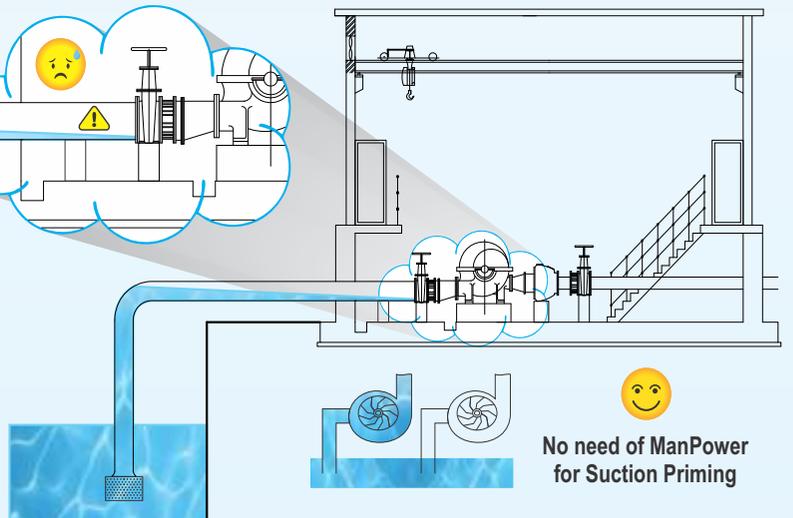
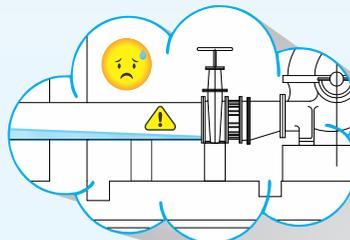
Flood Proof Insurance
for your Pumping Stations

Flood Proof Upgrade
for Old Dry Well Type Pumping Stations

Minimum Operational Hassles.....



No Risk of Motor Burnout under Water Accumulated from Leakage of Piping &/or pump's Gland &/or pump's Gasket &/or Seepage from Wall (even after Lack of Frequent DeWatering) due to Operator's Absenteeism &/or Failure of DeWatering System.



World's 2nd Largest Plant (dedicated to Sub pumps)
in terms of Area & Capacity

Globally Un-Matched Range (of Sub pumps)
upto 25,000m³/hr, 450m, 3,350hp, 11KV & DN 2100mm

The Largest & Fastest Growing (of Sub pumps)
Manufacturer of India...

Aqua has been awarded the Prestigious
Best Quality Pump Vendor
by



A Pan India Support set up



We have successfully executed Two **1468mld**
Green Field Raw Water Pumping Stations
(Civil + E&M) in just **65days**

Global Technologies...
...Locally Sustainable Pumps



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(+91-80001 53324)

After Sales & Services :
service@aquapumps.com
(+91-90167 53328)
(+91-98259 51116)

Feedback :
ajp@aquapumps.com



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.