

pune

Metropolitan Region

the cultural capital of Maharashtra...

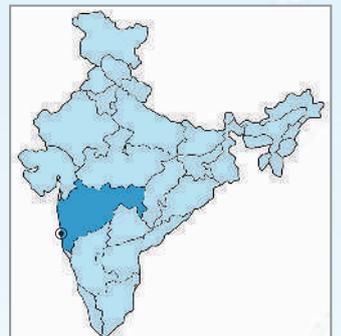


Greater Pune Metropolitan region is a sprawling urban conglomerate in the western Indian state of Maharashtra - it was once the base of the Peshwas (*Prime Ministers*) of the **Maratha Empire** (1674 to 1818).



Greater Pune Metropolitan Region is the **largest in Maharashtra** with a geographical area of **7,256 sq km** & its **population** (as per 2011 census) was **75,41,946**. It has been ranked "**the most liveable city in India**" several times.

It is also considered to be the **Cultural Capital** of Maharashtra and **Educational Capital of India**. The nightlife of the city is amongst the most beautiful consisting of lavish local & global resorts, clubs & pubs.



Situation

Pune Metropolitan Region is highly industrialized & is home to **4 major pump manufacturers** (competitors of Aqua) - obviously, the Municipal Clients are spoiled for choice.



It comprises of **2 Municipal Corporations** of Pune MC & Pimpri Chinchwad MC & **3 Cantonment Boards** (Townships) of Camp, Khadki & Dehu Road.



To get into a hotly competed market having 4 local manufacturers, Aqua took a different route - we studied the real life field performance of Sub pumps working in the region.

The competing **1st Generation** submersible non clog pumps used in Pune were clones of European Designs - however the operating conditions in field are drastically different (*much harsher on pumps*), hence their performance was below the mark.

| Condition | Effect of Pump | Result |
|---|---|---|
| Poor Electrical Supply | Motor Insulation Stressing | <i>Premature motor burnout</i> |
| Higher Ambient Temperature | | |
| Poor liquid level sensing & operation by often unskilled staff leading to frequent Dry Running | Excessive heating leading to motor insulation burn out, bearings grease leakage & possibly seizure; mechanical seal overheating | <i>Immediate motor, bearing & mechanical seal failure</i> |
| Poor or defunct Solid Screening leading to high concentration of solids, especially fibrous ones. | Dangerous cocktail of large solids & fibrous waste plait up & choke conventional non clog impellers leading to motor stall | <i>Immediate Motor Insulation burnout</i> |
| Higher content of sand, silt & ash in sewage | Accelerated Erosive wear of impeller Leakage Clearance | <i>Drop of pressure & efficiency</i> |

Aqua's engineers were amongst the first to realize this mismatch between design & operating conditions - hence the robust ANS Pumps were offered to the discerning clients.

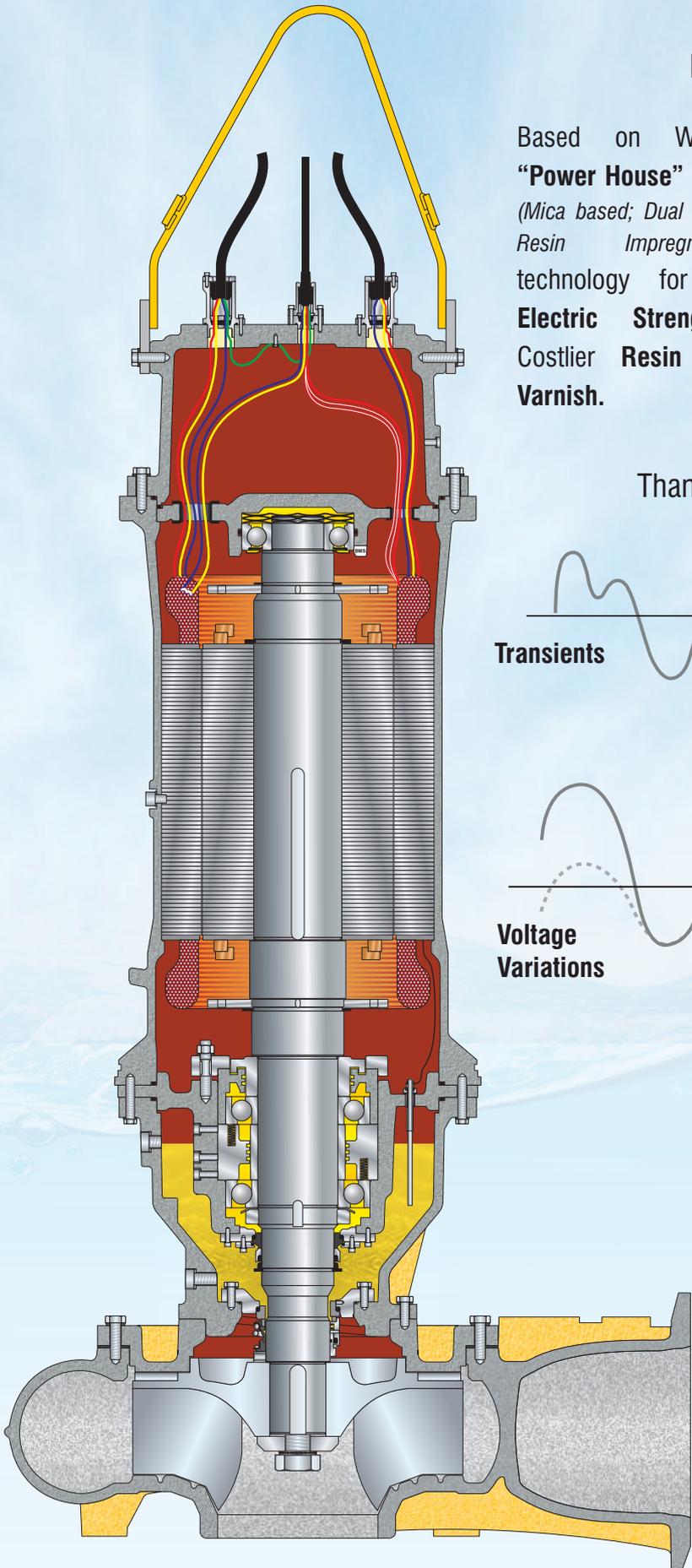
Aqua's ANS : The First 2nd generation of Submersible Sewage pumps

"Aqua's ANS is the First 2nd generation of Submersible Sewage pump specifically upgraded for real life Indian operating conditions. . ."

S. R. Tidke
Sr. Manager, AMPL



Unique Advantages of Aqua's ANS

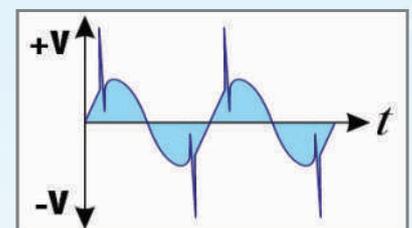
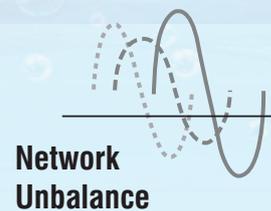
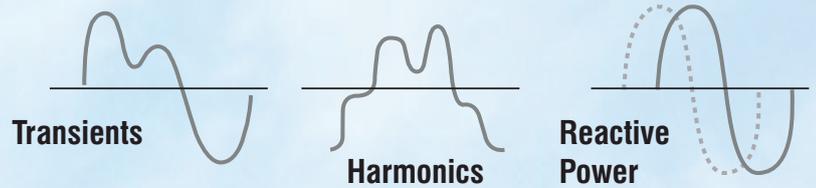


Motor Insulation

Based on World Leading "Power House" type treatment (Mica based; Dual Vacuum Pressure Resin Impregnation (VPI)) technology for Superb Di-Electric Strength due to Costlier Resin v/s Cheaper Varnish.



Thanks to VPI, Motor Tolerates:



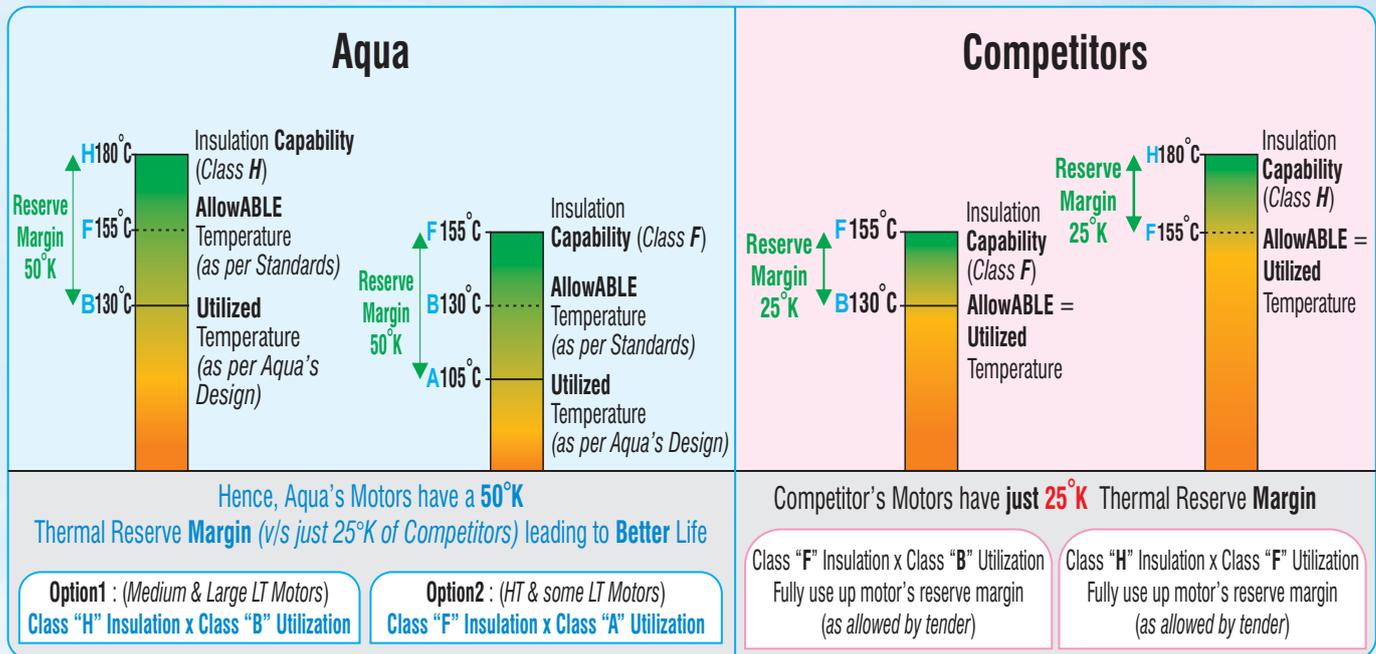
Tolerates Power Spikes & Surges

Unique Advantages of Aqua's ANS

Higher Motor STATOR Thermal Reserve Margin

As a rule of thumb in Motor Industry (based on Arrhenius Equation); for every 10°C (or more precisely 10°K) Drop in Temperature, the useful Life of Insulation is Doubled. Hence with a 50°K Reserve Margin (v/s just 25°K of Competitors); Aqua's (Motor {Stator}) Insulation will have a **6 times** Higher Life (than competitors)

Thanks to generous Reserve Margins & Optimized Design; Aqua's Motor Condition.



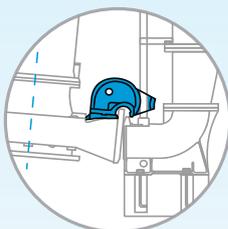
Oversized Robust Shaft

Pump Clogging though undesirable, is often unavoidable - it will cause Severe Stress on Shaft (possibly causing its Shearing) & Motor (possibly causing BurnOut due to Lock Rotor).



A Strong, Single Shaft for Fail Safe Operation

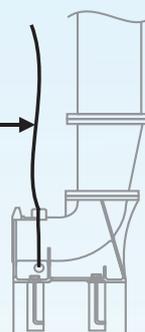
Shaft is designed with very high Factor of Safety (FoS) for failsafe performance even during the worst blockages/clogging- Shaft Shearing is virtually unheard of in Aqua's ANS pumps.



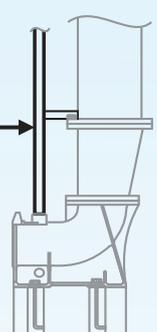
Auto-Coupling's **Bracket** withstand heavy Cantilever loads & hence always built with **Ductile Iron** (for added toughness & resistance to cracking).

Auto Coupling Guide Pipe v/s Guide Wires

Competitor's Cheap & Flimsy Guide Wires



Aqua's Robust Guide Pipes



Bopodi 18 MLD SPS & STP



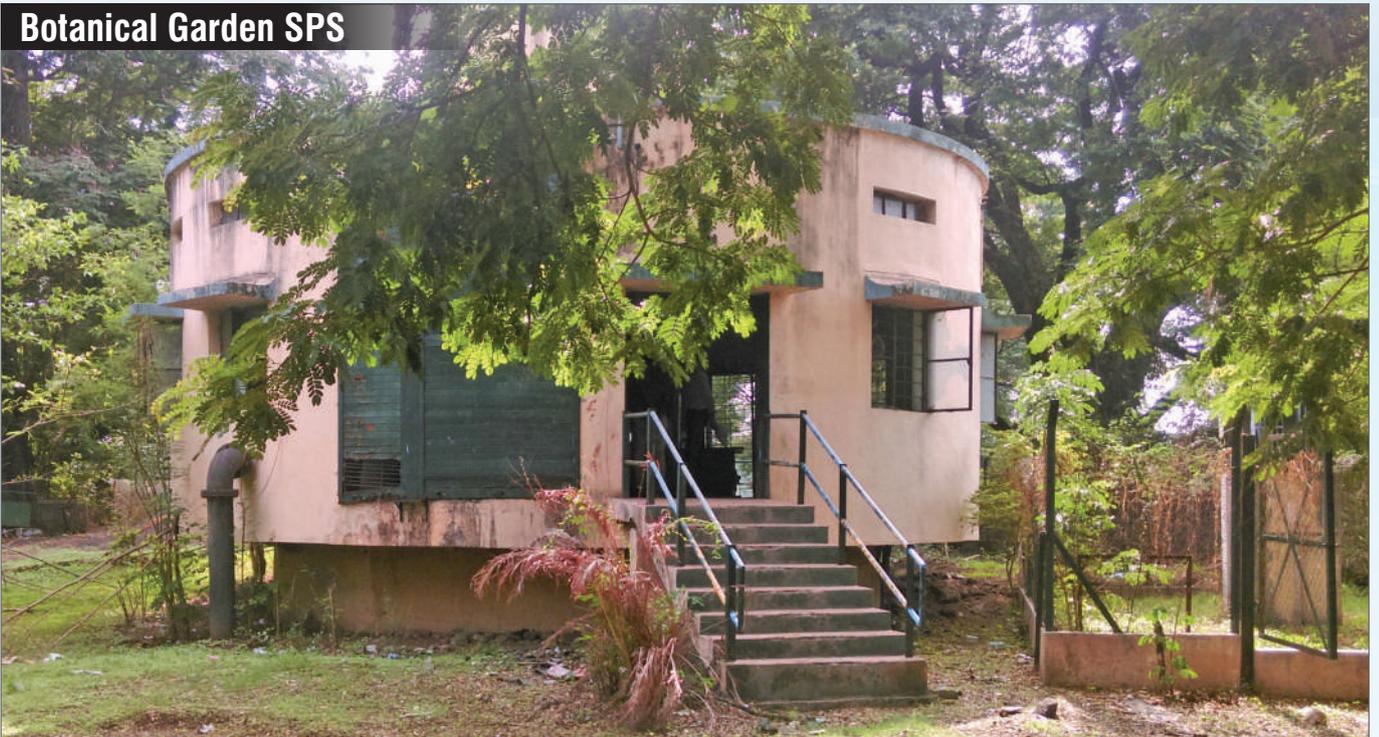
Bopodi 18 MLD SPS & STP



Kalyani Nagar SPS



Botanical Garden SPS



Brief Reference list of Aqua Sub Pumps in Pune Metropolitan Region (upto March 2023)

| Aqua's Customer | Project Name | HP | Flow (m ³ /hr) | Head (m) | Qty. |
|--------------------------------|---------------------------|-------|------------------------------|-------------|------|
| HNB Engineers, Pune | 30 MLD STP @ Akurdi | 90 | 625 | 24 | 6 |
| | | 90 | 625 | 24 | 1 |
| | | 6 | 100 | 9 | 2 |
| | | 12.50 | 165 | 9 | 2 |
| | 40 MLD STP @ Kasarwadi | 120 | 834 | 24 | 6 |
| | | 5 | 72 | 9 | 4 |
| | | 7.5 | 120 | 9 | 4 |
| | | 120 | 834 | 24 | 2 |
| | 20 MLD STP @ Sangavi | 60 | 417 | 24 | 2 |
| | | 5 | 72 | 9 | 2 |
| | | 7.5 | 120 | 9 | 2 |
| | | 30 | 210 | 20 | 3 |
| | 5 MLD PS @ Sector 11 | 75 | 625 | 20 | 3 |
| | 15 MLD PS @ Kiwale | 120 | 875 | 24 | 3 |
| | 21 MLD STP @ Charholi | 12.50 | 70 | 20 | 2 |
| | | 7.5 | 125 | 9 | 2 |
| 75 | | 417 | 26 | 2 | |
| 20 MLD STP @ Pimple Nilakah | 20 | 210 | 15 | 2 | |
| | 120 | 834 | 26 | 2 | |
| | 150 | 507 | 46 | 3 | |
| Shailaraj Enterprises, Pune | Newale Wasti PS | 235 | 1800 | 22 | 1 |
| | | 75 | 528.26 | 22.53 | 2 |
| | | 75 | 1200 | 10 | 1 |
| | | 75 | 800 | 15 | 1 |

Kalyani Nagar SPS


Brief Reference list of Aqua Sub Pumps in Pune Metropolitan Region (upto March 2023)

| Aqua's Customer | Project Name | HP | Flow (m ³ /hr) | Head (m) | Qty. |
|--|---------------------------|------|------------------------------|-------------|------------|
| Flowmac Engg. Corp, Pune | Bhosari - PS 1 Landewadi | 20 | 1250 | 15 | 1 |
| | Walhekarwadi | 35 | 160 | 29 | 1 |
| | Bhosari - 231 | 55 | 625 | 15 | 1 |
| | Bhosari PS2 | 90 | 1189.09 | 12.54 | 1 |
| | Bhosari - 217 | 55 | 386 | 22 | 2 |
| | Bhatnagar PS | 130 | 1152 | 17.5 | 3 |
| | Gokhale Park SPS | 180 | 1543 | 20 | 1 |
| | Gokhale Park SPS | 130 | 1056 | 20 | 1 |
| | Dapodi SPS | 50 | 300 | 26 | 2 |
| | Kalewadi SPS | 75 | 625 | 20 | 1 |
| | Pimple Saudagar | 130 | 1056 | 22.53 | 1 |
| | Gokhale Park SPS | 130 | 1056 | 22.53 | 1 |
| | Wakad SPS | 50 | 400 | 20 | 1 |
| | Kalewadi SPS | 75 | 625 | 20 | 1 |
| | Keshavnagar SPS | 50 | 300 | 24 | 1 |
| | Sangavi SPS | 75 | 625 | 20 | 1 |
| | Wakad Pump House | | 625 | 20 | 1 |
| Pimpri Main SPS | 75 | 417 | 20 | 3 | |
| NCY Enterprises, Pune | Pimpri Wagere Pump House | 40 | 291.66 | 22.91 | 2 |
| Electro Mechanics, Pune | Pimple Saudagar | 235 | 1800 | 18 | 1 |
| Gondwana Engineers, Nagpur | 100 MLD WTP @ Chikhali | 50 | 700 | 12 | 4 |
| | | 10 | 83.33 | 12 | 3 |
| | | 3 | 20.83 | 8 | 2 |
| Flowmac Engg. Corp, Pune | Parvati Water Works | 20 | 300 | 10 | 2 |
| | Bhairoba Nallaha STP | 7.5 | 25 | 20 | 2 |
| | | 6 | 50 | 10 | 2 |
| | Holkar Cantonment Board | 25 | 300 | 10 to 20 | 1 |
| Geomiller, Delhi | 200 MLD WTP @ Warje | 35 | 375 | 15 | 2 |
| | | 50 | 375 | 21 | 4 |
| | | 17.5 | 125 | 18 | 6 |
| Mather & Platt, Pune | Pune Cantonment Board | 200 | 2288 | 13 | 4 |
| SBM Projects & Engineers, Pune | Pune Cantonment Board | 200 | 2288 | 13 | 2 |
| Aadesh Electricals & Contractors, Pune | Kalyani Nagar SPS | 130 | 1250 | 20 | 3 |
| | Bopodi STP | 22 | 288 | 12 | 2 |
| | Botanical Garden SPS | 30 | 220 | 20 | 3 |
| | Tanajiwadi STP | 30 | 350 | 14 | 2 |
| | Vidyanagar Raw water PS | 200 | 500 | 60 | 1 |
| Total | | | | | 132 |



Water Supply Waste Water



Pimpri Chinchwad Municipal Corporation Pimpri
Pune-411 018
Phone: 020 2742551/2/3
Fax: 020 2742560
E-mail: pccmc@pcmc.gov.in
Website: www.pccmc.gov.in
No. 131/10/2023
Date: 13/03/2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that 1 No. 235 HP "Aqua" make Submersible Non Clog Sewage Pump for 1800 m3/hr capacity at 22 mtr head was supplied through M/s Excel Electricals, Pimpri to PCMC for our Pimple Saudagar site and commissioned in Dec 2012.

The performance of this pump is satisfactory.



Executive Engineer (Elect)
Pimpri Chinchwad Municipal Corporation.
Pimpri -411018



Pimpri Chinchwad Municipal Corporation Pimpri
Pune-411 018
Phone: 020 2742551/2/3
Fax: 020 2742560
E-mail: pccmc@pcmc.gov.in
Website: www.pccmc.gov.in
No. 131/10/2023
Date: 13/03/2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s. Flowmac Engineering Corporation, Pune -30 has executed the supply of sewage submersible pump set for various SPS. Following submersible pump sets are Designed, Manufactured and Supplied by M/s. Aqua Machineries Pvt. Ltd. Ahmedabad (Gujarat).

End Client : Pimpri Chinchwad Municipal Corporation, Pimpri - 411018.

- 1. 180HP Non clog Sewage Submersible Pump Set - 1 No. for Gokhale park SPS
Model - ANS_V.AC_1st_VoG_ES_3542_TX_4P_180W_415_NJ
Discharge - 1543 Cu.M/HR. Head - 20 Mtr. Sr.No - 38108
2. 130 HP Non clog Sewage Submersible Pump Set - 3 Nos. for Gokhale park SPS and Pimple Saudagar SPS.
Model - ANS_V.AC_1st_VoG_ES_3052_D_6P_130N_415_NJ
Discharge - 1058 Cu.M/HR. Head - 23.53 Mtr. Sr.No - 36422, 36423, 38105
3. 75 HP Non clog Sewage Submersible Pump Set - 4 Nos for Sangavi SPS, Wakad SPS and Kalewadi SPS
Model - ANS_V.AC_1st_VoG_ES_2552_D_6P_75N_415_NJ
Discharge - 625 Cu.M/HR. Head - 20 Mtr. Sr.No - 35424, 34446, 34447, 34448
4. 75 HP Non clog Sewage Submersible Pump Set - 1 No for Pimpri Main SPS
Model - ANS_V.AC_1st_VoG_ES_1542_D_4P_75N_415_NJ
Discharge - 417 Cu.M/HR. Head - 30 Mtr. Sr.No - 34444
5. 50 HP Non clog Sewage Submersible Pump Set - 2 Nos. for Dapodi SPS
Model - ANS_V.AC_1st_VoG_ES_1242_D_4P_50N_415_NJ
Discharge - 300 Cu.M/HR. Head - 26 Mtr. Sr.No - 36419, 36420
6. 50 HP Non clog Sewage Submersible Pump Set - 1 No. for Wakad SPS
Model - ANS_V.AC_1st_VoG_ES_1542_D_4P_50N_415_NJ
Discharge - 400 Cu.M/HR. Head - 20 Mtr. Sr.No - 36421
7. 50 HP Non clog Sewage Submersible Pump Set - 1 No. for Keshav Nagar SPS
Model - ANS_V.AC_1st_VoG_ES_1542_D_4P_50N_415_NJ
Discharge - 300 Cu.M/HR. Head - 24 Mtr. Sr.No - 34445

The "Aqua" make Non Clog Submersible Sewage Pump sets are working satisfactorily from last one year. The certificate is issued as requested by the agency



Executive Engineer (Elect)
Pimpri Chinchwad Municipal Corporation.
Pimpri - 411018.



Pimpri Chinchwad Municipal Corporation Pimpri
Pune-411 018
Phone: 020 2742551/2/3
Fax: 020 2742560
E-mail: pccmc@pcmc.gov.in
Website: www.pccmc.gov.in
No. 131/10/2023
Date: 13/03/2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that 1 no. 235 HP "Aqua" make Submersible Non Clog Sewage Pump for 1800 m3/hr capacity at 18 m head was supplied through M/s Electro Mechanics, Pimpri to PCMC for our Pimple Saudagar site and commissioned in July 2019.

The performance of this pump is satisfactory.



Executive Engineer (Elect)
Pimpri Chinchwad Municipal Corporation.
Pimpri -411018



Office of Executive Engineer (Electrical)
Cantonment Water Works
Pune Municipal Corporation
Outward No:- 2755 -
Date:- 28/3/14

CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN

This is to certify that M/s Aqua Machineries Pvt. Ltd., Ahmedabad have supplied 04 Nos. 200 HP rating Dry Motor (IP68 enclosure) Submersible Pumps installed on Auto-Coupling system (having 2288 M3/hr Capacity at 13.0 Mtr. Head) for Raw Water Handling application through M/s. Mather and Platt Pumps Ltd., Pune and have been installed at our New Cantonment Water Works (Raw Water Pumping Station) site.

These pumps were commissioned on January-2009 and have been working satisfactorily till date - the hydro-mechanical performance of the pumps is found to be very smooth.

Executive Engineer (Electrical)
Cantonment Water Works
Pune Municipal Corporation

Note: The certificate is issued to the Manufacturer as per their request letter bearing inward No.4748, Dated 28.03.2014

"The fact that we have 130+ pumps running successfully in Pune Metropolitan Region (which is home to 4 (competing) Pump Manufacturers) is a testimonial to the robustness of our pumps."
J.M Kulkarni, Sr. Manager AMPL

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.

marketing@aquapumps.com

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CS Pune Pimpri Chinchwad SPS_r0 : 08