

*The City of Pearls ....*

# Hyderabad

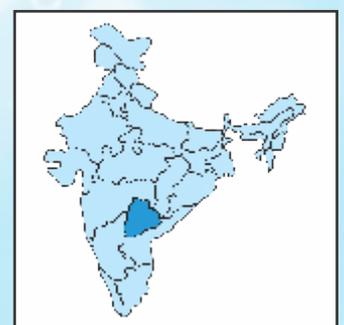


**HYDERABAD** is the financial capital of the Indian states of Telangana & AP. Spread over 650 km<sup>2</sup> on the Deccan Plateau along the banks of the Musi River, it is located at an average altitude of 542 m.

Much of Hyderabad is situated on hilly terrain around artificial lakes (*including the Hussain Sagar lake*) - it lies on predominantly sloping terrain of grey & pink granite, dotted with small hills (*the highest being Banjara Hills at 672 m*).

It is the 6<sup>th</sup> most populous metropolitan area in India with a population of 9.7 million souls. With an output of US\$74 billion, Hyderabad has the 5<sup>th</sup> largest urban economy in India.

Since the 1990s, the city has emerged as an Indian hub of Pharmaceuticals & Biotechnology. The formation of the special economic zones of Hardware Park and HITEC City, dedicated to information technology, has encouraged leading multinationals to set up operations in Hyderabad.



## Some of Aqua's Submerged Pumpsets in Hyderabad Metropolitan Water Supply & Sewerage Board ( HMWSSB )

| Project                     | Location                               | Duty   | Capacity ( m <sup>3</sup> /hr) | Head (m) | Pump Type                  | HP  | Qty. (nos.) | Aqua's Client                                  |
|-----------------------------|--|--|--------------------------------|----------|----------------------------|-----|-------------|--|
| Serilingampally Package III | Ayyapa Society                         | Clear Water (Distribution) Supply  | <b>334</b>                     | 26       | Submerged Centrifugal      | 50  | 2           | M/S Sree Sai Chitra Traders                    |
| Serilingampally Package III | Kondapur Masidbanda                    | Clear Water (Distribution) Supply  | <b>334</b>                     | 28       | Submerged Centrifugal      | 60  | 2           | M/S Sree Sai Chitra Traders                    |
| Serilingampally Package III | Kondapur Golden Tulip                  | Clear Water (Distribution) Supply  | <b>334</b>                     | 28       | Submerged Centrifugal      | 60  | 2           | M/S Sree Sai Chitra Traders                    |
| Serilingampally Package III | Lingampally-                           | Clear Water (Distribution) Supply  | <b>500</b>                     | 23       | Submerged Centrifugal      | 70  | 2           | M/S Sree Sai Chitra Traders                    |
| Nagarjunsagar Krishna WSS   | Nagarjunsagar Reservoir at Puttamgundi | Summer (Dead) Raw Water Lifting (feed) for Elimineti Madhava Reddy Lift PS | <b>12,240</b>                  | 9        | Submerged Tubular pumpsets | 600 | 5           | M/S Power Solution                             |
| Godawari WSS Water Scheme   | MURMUR                                 | Emergency (Dead) Raw Water Lift  | <b>2,000</b>                   | 12       | Submerged Centrifugal      | 125 | 12          | M/S Megha Engineering & Infra Structure (MEIL) |
| Godawari WSS Water Scheme   | MURMUR                                 | Emergency (Dead) Raw Water Lift  | <b>1,200</b>                   | 12       | Submerged Centrifugal      | 100 | 2           | M/S Megha Engineering & Infra Structure (MEIL) |
| Hydernagar                  | Lingampally                            | Clear Water (Distribution) Supply  | <b>1,512</b>                   | 20       | Submerged Centrifugal      | 160 | 1           | M/S Power Solution                             |
| Gandipet                    | Osmangar                               | Raw Water -Intake  | <b>324</b>                     | 15       | Submerged Centrifugal      | 40  | 1           | M/S Shiva Enterprise                           |
| Godawari WSS Water Scheme   | MURMUR                                 | Emergency (Dead) Raw Water Lift  | <b>166</b>                     | 36       | Submerged Centrifugal      | 45  | 2           | M/S Storm Energy Solution PVT LTD.             |
| WS NetWork in GHMC Area     | Balshetty Reservoir                    | Clear Water (Distribution) Supply  | <b>250</b>                     | 24       | Submerged Centrifugal      | 40  | 2           | M/S Sri Adieshwar Engineering CO               |
| Godawari WSS Water Scheme   | MURMUR                                 | Emergency (Dead) Raw Water Lift  | <b>2,400</b>                   | 10       | Submerged Centrifugal      | 125 | 6           | M/S SS Construction                            |

## Raw Water Intake

# “Arguably the Largest Capacity Drinking Water Pumpsets in India (294mld each)” ...

### Situation : Puttamangandi Krishna WSS

Due to frequent Low Water Level in the Nagarjuna Sagar Project (up to 497' as opposed to FRL of 590'); gravity flow to the **BHEL ICAD PS** is hampered thereby jeopardizing 1400+MLD water supply to Greater Hyderabad & adjoining districts.

The State Govt entrusted m/s HMWSSB to take up a challenging task of setting up a 1488.8 MLD Lifting PS within 1 month on the foreshore of NSP to maintain suction water level to BHEL CAD PS.

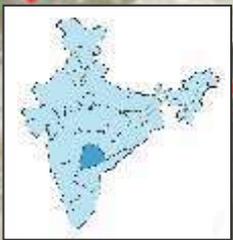
The challenges were many

- 1) The Old PS was set up 12 years ago with MS structure which had corroded severely & would not be able to sustain Thrusts of such high-flow pumpsets;
- 2) The sump was designed for suction water level of 500' but this time it would have to be used up to 495'

Being Pioneers in Submerged pumpset technology; Aqua was chosen to design, manufacture, supply the huge 12,240m<sup>3</sup>/hr pumpsets with 1300mm column pipe diameter each & with Special Portable Canister Bottom which could allow the bulky pumpsets & pipes to be Free Bottom Rested on sump bottom (thereby not imposing any Thrusts onto the fragile MS pump room structure).

Due to need to go below the original designed level; the pumpsets are installed without any Bottom Suction Strainers - this coupled with absence of Trash Rack at Sump inlet exposes the pumpsets to huge amount of Silt & even sucking up MS Corrugated Sheets, fishing nets, etc.

These Free Standing monstrous 294mld pumpsets are working exceptionally trouble free even in such arduous conditions.



# Raw Water Intake

Model Code : **ATB\_V\_TU\_1st\_Bo\_1371\_M\_LLL\_0600\_00415\_NJ.**

Flow Rate : **12240 m<sup>3</sup>/hr (3.4 m<sup>3</sup>/s & 293.76mld)**

Project Name : **Puttamgandi LPS (Nagarjunsagar Krishna WSS)**



Uniquely designed Free standing Bottom Canister stand rested on the sump bottom without any fasteners to avoid imposing thrusts on the fragile MS floor of existing pump room.



  
**HYDERABAD METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD**  
 Lr.No.GM(E)/Dn-XI/DB/HMWS&SB/2019-20/1606 Dated: 27/03/2020

**PERFORMANCE CERTIFICATE**

|                   |  |
|-------------------|--|
| Name work:-       | Manufacture, supply, delivery, installation, testing & commissioning of submerged pump sets with total discharge of 600 cusecs with accessories and allied equipments for emergency pumping station at foreshore of Nagarjunasagar reservoir at Puttamgandi under EAM section, O&M Div.No.XI, Saheb Nagar. |
| Agency:           | M/s Power Solutions JV with Aqua Machineries Pvt Limited.  |
| Experience .Lr No | Lr.No.GM(E)/DB/HMWS&SB/2017-18/1069 Dated:21/09/2017   |
| Agt No. & Date:-  | 11 /CGM(E)/Trans.Circle/T3/LS/Submersible Pump sets/ Puttamgandi/ 2017-2018 Date: 17-04-2017.  |

This is to certify that the M/s Power Solutions JV with Aqua Machineries Pvt Limited, has successfully completed & commissioned above work in which 5 No. of Vertical Canister Tube Installed Axial flow Propeller type Submerged Centrifugal Pump sets to draw Raw Water having Discharge Capacity (Q)12240 m<sup>3</sup>/hr @ 9m Head (H) @ 50 Hz each, Approx. 450 KW (600 HP), 415 V, 580 RPM (Syn.) with 82% minimum pump efficiency of make: M/s Aqua Machineries Pvt Limited were erected and commissioned satisfactorily and are working satisfactorily since last 3 seasons of emergency requirements at Puttamgandi under contingency arrangements of Krishna Drinking Water supply Project of HMWSSB. This certificate is issued for specific request of agency for participation of Tenders.

  
 General Manager (Engg),  
 O&M Division XI,  
 HMWS & SB  
 27/3/2020

ATB pump has been lowered to the Canister Tube, which would be rested on the canister ring which is in turn rested simply by bottom resting on sump without any foundation/ holding bolts/ fasteners.

# Raw Water Intake



**Emergency (dead) Raw Water Lifting (Godavari WSS)**  
 2000 m<sup>3</sup>/hr @ 12m - 125hp (12nos)



# Clear Water Distribution



**Ayyapa Society CW PS : 334 m<sup>3</sup>/hr @ 26m - 50hp**

**HYDERABAD METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD**  
**EXPERIENCE CERTIFICATE**

This is to certify that M/s Sree Sai Chitra Traders, H No B2-23, HUDA Colony, Chanda Nagar, Hyderabad-500029, have been completed the following work in stipulated time

|                         |   |
|-------------------------|---|
| Name of work            | Supply, delivery, erection, testing and commissioning of 2nos. of horizontal submersed centrifugal pump sets having discharge of 334Cum/hr each against rated head of 26Mts with suitable panel board, cables, valves with MS pipe line from pump to suitable delivery header with two 300mm delivery piping connecting to the 2nd ELSR suction DI piping at 'Ayyapa Society - Ayyappa Society - HMWS&S 40ML G/S R Phandee, under Sewerage circles of Sree Sai Chitra Traders, Hyderabad-500029 |
| Agency                  | M/s Sree Sai Chitra Traders, Hyderabad-500029   |
| Period                  | 50 Months   |
| Ag. No. & Date          | 36/0(M&E)/PCC-18/MWS-Parishad circles/Pig-II-Pumps & Motors Ayyappa society/ELSR/Sarilingampally circle/2017-18, date: 14-03-2018   |
| Estimate value          | Rs. 33,70,000+00  |
| Estimate contract value | Rs. 17,80,389+05  |
| Value of Work Done      | Rs. 17,80,389+05 Plus GST   |
| Date of work start      | 14-03-2018  |
| Date of completion      | 11-05-2018  |

This is to certify that the above agency has successfully completed & commissioned the scheme and the details of major item of work executed by the agency are as follows

| Description of Work  | QTY | Unit |
|--|-----|------|
| 1) Supply, delivery, installation and commissioning of Submersed Centrifugal pump set of 334Cum/hr into steel bulwerhead, Voltage casing with suitable engine on common shaft for pump and motor and 81.48 protection conforming to IS 325 or latest standards. The water discharge capacity of 334Cum/hr against head of 26 mts. Approx 50 HP. Spares 1000 RPM, minimum pump efficiency 70%, with 25 mm main power cable and control cables of Make of Asea | 2   | Nos  |

The overall performance of the agency in the executed work was found satisfactorily

Chief General Manager  
 Project Construction Circle  
 HMWS & S.S. Khanabadi  
 Hyderabad - 500 023

# Clear Water Distribution



**HYDERABAD METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD**  
**EXPERIENCE CERTIFICATE**

This is to certify that M/s. Sree Sai Chitra Traders, H No B2-22, HUDA Colony, Chanda Nagar, Hyderabad-500050, have been completed the following work in stipulated time:

Name work: Supply, delivery, erection, testing and commissioning of 2Nos of Horizontal submersed centrifugal pump sets having discharge of 334Cum/hr, each against rated head of 28mtrs with suitable board, cables, valves with MS pipe line five joints to suitable delivery header with two 300mm delivery piping connecting to the 2nd ELSR station. Under Peripheral circles of Saringerpetally TML, G.SSR Stations under Peripheral circles of Saringerpetally Package-II

Agency: M/s Sree Sai Chitra Traders, Hyderabad-500050

Period: 02 Months

Ag. No. & Date: 17C/GM/CPCC/HWS-Peripheral circles/Pkg-II/Pumps & Motors/Golden Tulip/ELSR/Saringerpetally order/2017-18, date: 14-03-2018

Estimate value: Rs. 34,00,000-00

Estimate contract value: Rs. 18,02,350-70 Plus GST

Value of work Done: Rs. 17,67,804+11 Plus GST

Date of work Start: 14-03-2018

Date of completion: 11-05-2018

This is to certify that the above agency has successfully completed & commissioned the scheme and the details of major item of work executed by the agency are as follows:

| Description of Work  | QTY | Unit |
|--|-----|------|
| 1) Supply, delivery, installation and commissioning of Submersed Centrifugal pump set of Concord Utility mono-block Submerged, Volute type casing with suitable impellers on common shaft for pump and motor and IP-68 protection conforming to IS 325 or latest standards. The pump discharge capacity of 334Cum/hr against head of 28 mtrs. Approx. 60 HP, Speed 1500 RPM, minimum pump efficiency 70%, with 25 meters power cable and control cables of Make of Aqua. | 2   | No.  |

The overall performance of the agency in the executed work was found satisfactorily.

*(Signature)*  
 Chief General Manager (E)  
 Project Co-ordinator (Civil & E)  
 HMWS & S.B. Kharatnagar  
 Hyderabad - 500 054

**Kondapur Masidbanda CW PS : 334 m<sup>3</sup>/hr @ 28m - 60hp**



**HYDERABAD METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD**  
**EXPERIENCE CERTIFICATE**

This is to certify that M/s. Sree Sai Chitra Traders, H No B2-22, HUDA Colony, Chanda Nagar, Hyderabad-500050, have been completed the following work in stipulated time:

Name work: Supply, delivery, erection, testing and commissioning of 2Nos of Horizontal submersed centrifugal pump sets having discharge of 334Cum/hr, each against rated head of 28mtrs with suitable board, cables, valves with MS pipe line from pump to suitable delivery header with two 300mm delivery piping connecting to the 2nd ELSR station. Under Peripheral circles of Saringerpetally TML, G.SSR Stations under Peripheral circles of Saringerpetally Package-II

Agency: M/s Sree Sai Chitra Traders, Hyderabad-500050

Period: 02 Months

Ag. No. & Date: 17C/GM/CPCC/HWS-Peripheral circles/Pkg-II/Pumps & Motors/Golden Tulip/ELSR/Saringerpetally order/2017-18, date: 14-03-2018

Estimate value: Rs. 34,00,000-00

Estimate contract value: Rs. 18,02,350-70 Plus GST

Value of work Done: Rs. 17,67,804+11 Plus GST

Date of work Start: 14-03-2018

Date of completion: 11-05-2018

This is to certify that the above agency has successfully completed & commissioned the scheme and the details of major item of work executed by the agency are as follows:

| Description of Work  | QTY | Unit |
|--|-----|------|
| 1) Supply, delivery, installation and commissioning of Submersed Centrifugal pump set of Concord Utility mono-block Submerged, Volute type casing with suitable impellers on common shaft for pump and motor and IP-68 protection conforming to IS 325 or latest standards. The pump discharge capacity of 334Cum/hr against head of 28 mtrs. Approx. 60 HP, Speed 1500 RPM, minimum pump efficiency 70%, with 25 meters power cable and control cables of Make of Aqua. | 2   | No.  |

The overall performance of the agency in the executed work was found satisfactorily.

*(Signature)*  
 Chief General Manager (E)  
 Project Co-ordinator (Civil & E)  
 HMWS & S.B. Kharatnagar  
 Hyderabad - 500 054

**Kondapur Golden Tulip CW PS : 334 m<sup>3</sup>/hr @ 28m - 60hp**

# Clear Water Distribution



**Lingampally CW PS : 500m<sup>3</sup>/hr @ 23m - 70hp**

**HYDERABAD METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD**

**EXPERIENCE CERTIFICATE**

This is to certify that M/s Sree Sai Chitra Traders, H No 82-22, HUDA Colony, Chanda Nagar, Hyderabad-500050, have been completed the following work as stipulated time

|                         |  |
|-------------------------|--|
| Name of work            | Supply, delivery, erection, testing and commissioning of 2nos of Horizontal submersed centrifugal pump sets having discharge of 500 Cum/hr, each against rated head of 23mtrs with suitable board, Cables, valves with MS pipe line from pump to suitable delivery header with two 300mm delivery piping connecting to the 2nd, 3rd, 4th suction DI piping at Lingampally, HMWS&S Board, Chanda Nagar, under Peripheral circles of Serilingampally, Package-II Premises, under Peripheral circles of Serilingampally, Package-II |
| Agency                  | M/s Sree Sai Chitra Traders, Hyderabad 500050  |
| Period                  | 02 Months  |
| Ag. No & Date           | 35/C/OW/E/PCC/HWS-Peripheral circles/Phyll Pump & Access/Lingampally/ELSR/Serilingampally circle/2017-18, date 14.03.2018  |
| Estimate value          | Rs 47,00,000-00  |
| Estimate contract value | Rs 29,63,974-84 Plus GST   |
| Value of Work Done      | Rs 29,59,309-31 Plus GST   |
| Date of work start      | 14-03-2018   |
| Date of completion      | 14-05-2018   |

This is to certify that the above agency has successfully completed & commissioned the scheme and the details of major item of work executed by the agency are as follows:

| Description of Work   | QTY | Unit |
|---|-----|------|
| 1) Supply, delivery, installation and commissioning of Submersed Centrifugal pump set of Corusall Utility mono-block Submersed, Volute type casing with pump set of Corusall Utility mono-block Submersed, Volute type casing with suitable impellers on common shaft for pump and motor and in-48 protection containing up to 325 of liter standards. The pump discharge capacity of 500Cum/hr against head of 23 mtrs. Approx 70hp. Speed 1500 RPM, minimum pump efficiency 78%, with 25 meters power cable and control cables of Make of Agate | 2   | No.  |

The overall performance of the agency in the executed work was found satisfactorily.

Chief General Manager (C)
   
 Project Construction Circle-II
   
 HMWS & S, Hyderabad,
   
 Hyderabad - 500 004.



**Lingampally (Hydernagar) CW PS**  
**1512m<sup>3</sup>/hr @ 20m - 160hp**

**HYDERABAD METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD**

**EXPERIENCE CERTIFICATE**

This is to certify that M/s Sree Sai Chitra Traders, H No 82-22, HUDA Colony, Chanda Nagar, Hyderabad-500050, have been completed the following work as stipulated time

|                         |  |
|-------------------------|--|
| Name of work            | Supply, delivery, erection, testing and commissioning of 2nos of Horizontal submersed centrifugal pump sets having discharge of 500 Cum/hr, each against rated head of 23mtrs with suitable board, Cables, valves with MS pipe line from pump to suitable delivery header with two 300mm delivery piping connecting to the 2nd, 3rd, 4th suction DI piping at Lingampally, HMWS&S Board, Chanda Nagar, under Peripheral circles of Serilingampally, Package-II Premises, under Peripheral circles of Serilingampally, Package-II |
| Agency                  | M/s Sree Sai Chitra Traders, Hyderabad 500050  |
| Period                  | 02 Months  |
| Ag. No & Date           | 35/C/OW/E/PCC/HWS-Peripheral circles/Phyll Pump & Access/Lingampally/ELSR/Serilingampally circle/2017-18, date 14.03.2018  |
| Estimate value          | Rs 47,00,000-00  |
| Estimate contract value | Rs 29,63,974-84 Plus GST   |
| Value of Work Done      | Rs 29,59,309-31 Plus GST   |
| Date of work start      | 14-03-2018   |
| Date of completion      | 14-05-2018   |

This is to certify that the above agency has successfully completed & commissioned the scheme and the details of major item of work executed by the agency are as follows:

| Description of Work   | QTY | Unit |
|---|-----|------|
| 1) Supply, delivery, installation and commissioning of Submersed Centrifugal pump set of Corusall Utility mono-block Submersed, Volute type casing with pump set of Corusall Utility mono-block Submersed, Volute type casing with suitable impellers on common shaft for pump and motor and in-48 protection containing up to 325 of liter standards. The pump discharge capacity of 500Cum/hr against head of 23 mtrs. Approx 70hp. Speed 1500 RPM, minimum pump efficiency 78%, with 25 meters power cable and control cables of Make of Agate | 2   | No.  |

The overall performance of the agency in the executed work was found satisfactorily.

Chief General Manager (C)
   
 Project Construction Circle-II
   
 HMWS & S, Hyderabad,
   
 Hyderabad - 500 004.

## Design : Pumpset

A Strong, Mono Shaft for Fail Safe Operation



Single, Robust & oversized Shaft is Common between the motor & pump. It is (upto 1550kW 4P, 1200kW 6P, 900kW 8P) made from Stainless Steel & designed without any Sleeves (below the Mechanical Seals) thereby reducing maintenance problems & eliminating need of Costly Spare Parts.



## Smart Set Hydraulics

For Restoration of Efficiency (after prolonged usage), most models have **Replaceable** Wearing Rings / Wear Plates Liners.

**Shaft Sealing** is by means of **Two**, Independent, high quality Bi-Directional; **Mechanical Seals** permitting reverse running due to accidental back-flow. The Primary seal is always of **Silicon Carbide** faces to withstand Erosion incase of increased silt content in water.



Seals are rated for at least 16 bar pressure capability for **10x** life in excess of 50,000 hours &/or 10 years.

**Superb Bearing Life** thanks to Heavy Duty Designs (upto Quadruplex arrangements are offered)



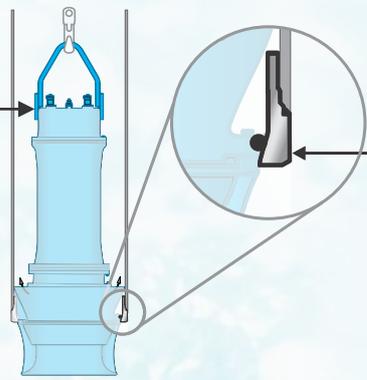
All Thrusts are absorbed by **Grease Lubricated, Anti Friction Bearings** located deep inside the motor & inherently **isolated from the pumped media** - this makes the **bearings Fail Proof** even in case of increased Silt / Abrasive levels in Pumped Liquid.



**Anti Drip, Fully Synthetic; Super Premium Synthetic Grease** ensures a minimum **Regreasing Interval (10x)** of 75,000h (for Pumpsets rated upto 650kW) & 45,000h (for larger kW)

## Smart Lifting Handle

- **Simple** hoisting
- **Quick** Installation / Removal in One **continuous** action
- Allows '**Fishing**' of Pumpsets (even when Pumpset is Submerged under water & invisible to operator)



**Self Centering Auto Coupling Ring** Can be Welded (on to Metallic Riser) or Grouted (on RCC Floor) or Flange to Flange Bolted is always built of **Stainless Steel**.

## Intelligent InBuilt Monitoring



**Easy Monitoring (& Remote Control<sup>#</sup>) 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)<sup>#</sup>.
- **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)<sup>#</sup>.

<sup>#</sup>requires additional communication hardware

# Aqua Machineries Private Limited

[www.aquapumps.com](http://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](mailto:marketing@aquapumps.com)