# CWWS India Private Limited

***Formerly known as "Complete Water Solution"***

ISO 9001:2015(Q mccia 14001:2015(EMS)

Gate No. 1403 opp. Mahalaxmi Estate, Sonawane Vasti, Talwade PCMC, Pune.

Email:-project.cws@rediffmail.com/contact@completewatersolution.in

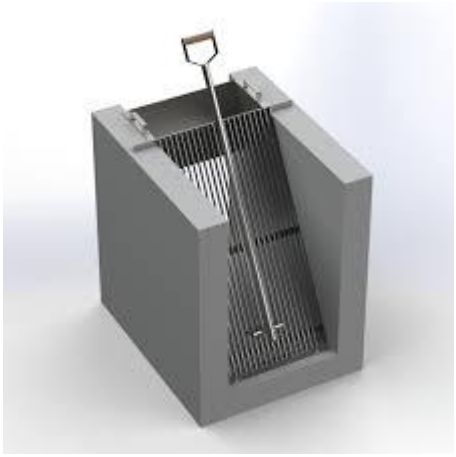
Website: - www.completewatersolution.in

Contact No.: - 8484844295, 8087294294.


## SEWAGE TREATMENT PLANT (STP) TRADING PRODUCT LIST: -

1. Primary Treatment

- **Mechanical Bar Screen:** -



| Model | Bar Spacing (mm) | Material | Operation Type | Flow Range (m³/hr) |
|---|---|---|---|---|
| BS-MAN | 25–50 | MS Epoxy Coated | Manual | 5–50 |
| BS-AUTO | 15–30 | SS304 | Mechanical | 50–250 |

- Oil Skimmer: -

| Model | Belt Width (mm) | Oil Removal Capacity (LPH) | Material | Mounting Type | Power (HP) |
|---|---|---|---|---|---|
| OS-100 | 100 | 5–10 | SS304 / MS-FRP | Wall Mounted | 0.25 |
| OS-200 | 200 | 15–30 | SS304 / MS-FRP | Tank Mounted | 0.5 |
| OS-500 | 500 | 50–75 | SS304 | Custom Frame | 1.0 |

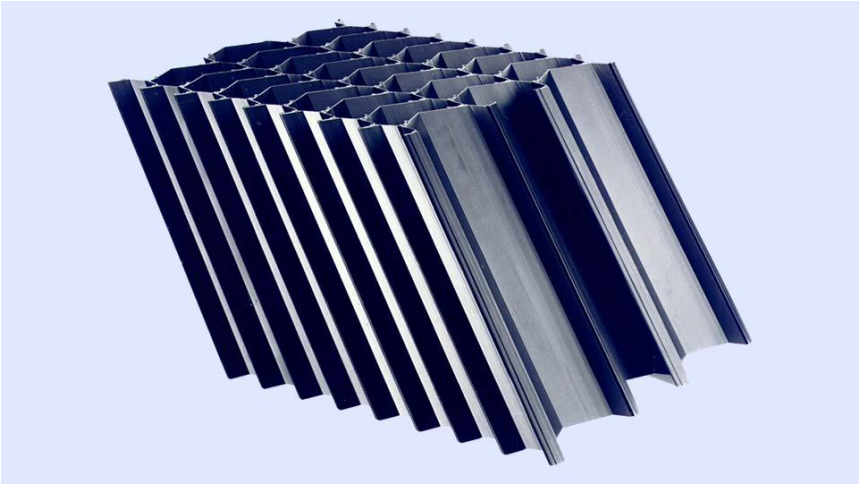
- **Flow Meter: -**

| Type | Electromagnetic Flow Meter | Ultrasonic Flow Meter |
|---|---|---|
| **Measurement Method** | Conductive liquid via magnetic induction | Non-contact via transit-time or Doppler ultrasound |
| **Pipe Size Range** | 25 mm to 600 mm | 15 mm to 2000 mm |
| **Accuracy** | ±0.5% of reading | ±1% of reading |
| **Mounting** | Flanged, inline | Clamp-on (external) |
| **Conductivity Required** | Yes (≥ 5 µS/cm) | No (any clean or dirty liquid) |
| **Output** | 4–20 mA, Pulse, RS485 (MODBUS) | 4–20 mA, Pulse, RS485 (MODBUS) |
| **Display** | Local LCD (Totalizer & Instant Flow) | LCD with keypad display |
| **Power Supply** | 230 VAC / 24 VDC | 230 VAC / 24 VDC |
| **Enclosure Rating** | IP65 / IP67 / IP68 | IP65 standard |
| **Applications** | STP inlet/outlet flow, chemical dosing, treated water | Treated water, retrofit pipelines, chemical lines |

- MBBR Media: -

| Parameter | Specification |
|---|---|
| **Size** | 12 x 25 mm |
| **No. of Holes** | 19 |
| **Surface Area** | >500 $m^2/m^3$ |
| **Density** | 0.94 – 0.96 $gm/cm^3$ |
| **Porosity** | >90% |
| **Dosing Ratio** | 15 – 65% |
| **Membrane Forming Time** | 3 – 15 Days |
| **BOD Oxidation Efficiency** | 2000 – 10000 $gm/m^3$ |
| **COD Oxidation Efficiency** | 2000 – 15000 $gm/m^3$ |
| **Applicable Temperature Range** | 5°C – 60°C |
| **Life Span** | >10 Years |
| **Material of Construction (MOC)** | Virgin HDPE |

- **Tube Settler: -**



| Parameter | Specification |
|---|---|
| **Plan Settling Area** | 60° Slope: 11 $m^2/m^3$ 55° Slope: 13 $m^2/m^3$ |
| **Hydraulic Radius** | 15 mm |
| **Cross Sectional Area** | 120 mm x 44 mm |
| **Color** | Black |
| **Material of Construction (MOC)** | PVC |
| **Thickness** | 1 mm Approx. |
| **Fitting Arrangement** | Tongue & Groove |
| **Max. Continuous Operating Temp.** | 55° C |

- Chemicals for STP – Trading Catalogue

| Chemical Name | Purpose / Application | Form | Typical Dosage Range |
|---|---|---|---|
| **Alum (Aluminum Sulphate)** | Coagulant for suspended solids & turbidity removal | Powder / Lumps | 10 – 50 mg/L |
| **TCCA-90 (Trichloroisocyanuric Acid)** | Disinfection of treated sewage / water (chlorine source) | Tablets / Granules | 1 – 3 ppm (mg/L) in outlet water |
| **Bacta Culture (Bio Culture)** | Enhances microbial population for BOD/COD degradation | Powder / Liquid | 2 – 5 ppm (start-up), then 1 ppm/day |
| **Food for Bacteria (Urea + DAP mix)** | Nutrient for sustaining bacteria in biological treatment | Granules | Urea:DAP = 2:1 ratio, 3 – 5 ppm |

| Chemical Name | Image |
|---|---|
| **Alum (Aluminum Sulphate)** |  |
| **TCCA-90 (Trichloroisocyanuric Acid)** |  |
| **Bacta Culture (Bio Culture)** |  |

## 2. AIR BLOWER TECHNICAL SPECIFICATION: -

- Model: AB-305 & AB-315 – Direct Drive with 0.75 HP Motor



| Model | Inlet/Outlet (mm) | Motor (HP) | RPM | M³/HR at 1000 mmWG | M³/HR at 2000 mmWG | M³/HR at 3000 mmWG | M³/HR at 4000 mmWG | M³/HR at 5000 mmWG |
|---|---|---|---|---|---|---|---|---|
| **AB-305** | 25 | 0.75 | 940 | 19 | 17 | 15 | — | — |
| **AB-315** | 40 | 0.75 | 1440 | 24 (0.60 BHP) | 22 (0.69 BHP) | 19 (0.81 BHP) | 16 (0.95 BHP) | — |

- **Aqua Culture Blowers: -**


| Model | Capacity ($M^3$/HR) | Pressure (mmWG) | Recommended Motor (HP) | Line Size (mm) |
|---|---|---|---|---|
| **AQUA-325** | 75 | 2000 | 1.5 | 40 |
| **AQUA-42** | 100 | 2000 | 2 | 40 |
| **AQUA-4130** | 175 | 2000 | 3 | 80 |
| **AQUA-47** | 250 | 2000 | 5 | 80 |
| **AQUA-59** | 550 | 2000 | 7.5 | 100 |
| **AQUA-5305** | 800 | 2000 | 10 | 125 |
| **AQUA-615** | 1050 | 2000 | 12.5 | 150 |
| **AQUA-717** | 2200 | 2000 | 25 | 200 |

**Outstanding Features:**

- 100% Oil-Free Air
- Low Noise Level (internal silencer)
- Less Vibration
- Extended Life with External Bearings
- Suitable for Pressure & Vacuum Applications
- Fully Copper Winding
- Easy to Install and Maintain

- Pulsation-Free Air
- Powder Coated Panels with Glass Wool Insulation
- Space-Saving Compact Design
- Direct Drive Motor
- Low Power Consumption

**Tri-Lobe Roots Blowers**


- Employs **two Tri-Lobe impellers** rotating in opposite directions inside a closed casing
- Precision-machined **alloy steel, hardened and ground timing gears**
- Ensures **perfect clearance** and smooth rotation
- Delivers **100% Oil-Free Air**
- Highly reliable for continuous STP/ETP operations

**Ring Blower: -**

- Type: Regenerative Side Channel Blower
- 100% Oil-Free, Pulsation-Free Air
- Suitable for both Vacuum and Pressure applications
- Low noise and vibration
- Compact, light-weight, and energy-efficient design
- Available in single-stage and double-stage models
- Ideal for: Aeration, pneumatic conveying, and STP/ETP systems

**Acoustic Enclosure for Blowers**


- Purpose: Soundproofing for blower units
- Reduces noise by 10–20 dB(A)
- Modular design – easy to dismantle and assemble

- MOC: Powder-coated CRCA/MS sheets
- Interior insulated with electrostatically charged glass wool sandwich panels
- Proper air ventilation system for blower cooling
- Provides safe, quiet, and compact housing for outdoor or indoor installations.

**SLUDGE DEWATERING SYSTEM: -**

**FILTER PRESS**


- **Type**: Mechanical pressure dewatering system
- **Application**: Ideal for high-solid content sludge
- **Operation**: Uses hydraulic or manual plate-and-frame system
- **Advantages**:
    - Produces high solids cake (20–40% dry solids)
    - Efficient and low operating cost
    - Reusable filter cloths
- **Material**: MS/PP/SS304/SS316 as per application

**SLUDGE BAG SYSTEM: -**

- Type: Passive dewatering using permeable bags
- Material: High-strength polypropylene geotextile
- Capacity: Varies (modular size from 1 $m^3$ to 100 $m^3$)
- Advantages:
- Low investment cost
- Simple setup, no mechanical parts
- No electricity required
- Applications: Small STPs, remote sites, emergency use

**DECANTER CENTRIFUGE: -**

- **Type**: High-speed rotating equipment
- **Operation**: Uses centrifugal force to separate water from solids
- **Output**: ~20–30% dry solids
- **Capacity**: 0.5–30 $m^3$/hr. (depends on model)
- **Advantages**:
    - Compact footprint
    - Continuous operation
    - Minimal manpower required
- **Common Use**: Industrial ETPs, Municipal STPs

**SLUDGE DRYING BED**

- **Type**: Natural solar drying system
- **Design**: Sand gravel bed with perforated drainage system
- **Area Requirement**: Large (approx. 1.5–2 $m^2$ per $m^3$ of sludge/day)
- **Drying Time**: 5–10 days depending on weather
- **Advantages**:

- Very low cost
- No power requirement
- Easy to construct and maintain

- **Use Case**: Rural/low-budget plants, polishing step after dewatering

**PUMPS REQUIRED IN STP: -**

| Pump Type | Flow Range ($m^3/hr$) | Head Range (m) | Motor Power Range (HP) | Remarks |
|---|---|---|---|---|
| **Sewage Transfer Pump** | 2 – 50 | 5 – 25 | 0.5 – 5 | Submersible / Non-clog; handles solids |
| **Sludge Recirculation Pump** | 1 – 30 | 5 – 20 | 0.5 – 3 | Low head, continuous duty |
| **Filter Feed Pump** | 3 – 50 | 10 – 60 (or more) | 1 – 10 | Requires higher head; usually multistage centrifugal |
| **Sludge Bag Feed Pump** | 1 – 20 | 5 – 25 | 0.5 – 3 | For geotube or bag feeding; non-clogging preferred |

*Sewage Transfer Pump*

*Sludge Recirculation Pump*

*Filter Feed Pump*

*Filter Press Feed Pump*

**DIFFUSERS USED IN STP:-**

**FINE BUBBLE TUBULAR DIFFUSERS**

| Model | Size (mm) | Air Flow ($m^3$/hr) | Bubble Size | Membrane | Connection |
|---|---|---|---|---|---|
| **VPFBD 600** | 63 × 620 | 2 – 7.5 | 0.8 – 1.9 mm | EPDM / Silicone | ¾" BSP |
| **VPFBD 1000** | 63 × 1020 | 2 – 10 | 0.8 – 1.9 mm | EPDM / Silicone | ¾" BSP |
| **VPFBD 1090** | 90 × 1020 | 3 – 15 | 0.8 – 1.9 mm | EPDM / Silicone | 1" BSP |

| Model | Size (inch) | Air Flow (m³/hr.) | Bubble Size | Membrane | Connection |
|---|---|---|---|---|---|
| **VPDD 9** | 9″ | 0 – 12 | 0.8 – 1.9 mm | EPDM / Silicone | ¾" BSP Male Thread |
| **VPDD 12** | 12″ | 0 – 20 | 0.8 – 1.9 mm | EPDM / Silicone | ¾" BSP Male Thread |

**COARSE BUBBLE DIFFUSERS**

| Model | Dia (mm) | Air Flow (m³/hr) | Bubble Size | Membrane | Thread Size |
|---|---|---|---|---|---|
| **VPCBD 80** | 80 | 1 – 5 | 4 – 5 mm | EPDM / Silicone | ¾" BSP |
| **VPCBD 150** | 150 | 4 – 10 | 6 – 8 mm | EPDM / Silicone | 1" BSP |

**FINE BUBBLE DISC DIFFUSERS**

**TERTIARY TREATMENT: -**

Average Technical specification for PSF and ACF:

| Type | Vessel Size (Dia x H) | Flow rate ($m^3$/hr.) | Media Volume (kg) | Operating Pressure |
|---|---|---|---|---|
| **Pressure sand filter** | 600 mm × 1500 mm<br>1400 mm × 2000 mm | 3 – 5<br>20 – 25 | ~200 – 250<br>~1100 – 1200 | 2.5 – 4.0 kg/$cm^2$<br>2.5 – 4.0 kg/$cm^2$ |
| **Activated Carbon Filter** | 600 mm × 1500 mm<br>1400 mm × 2000 mm | 3 – 5<br>20 – 25 | ~100 – 150<br>~700 – 800 | 2.5 – 4.0 kg/$cm^2$<br>2.5 – 4.0 kg/$cm^2$ |

*Pressure Sand Filter*

*Activated Carbon Filter*

**DISC FILTER:**

*Disc Filter*

| Type | Filter Element | Filtration Degree | Flow rate per unit | Disc Material | Body Material | Operating Pressure |
|---|---|---|---|---|---|---|
| Modular, automatic backwash disc filtration | Stacked grooved plastic/polymer discs | 20, 50, 100, 130, 200 microns (selectable) | 5 – 50 $m^3$/hr. (depends on model & micron rating) | PP (Polypropylene) or PA (Polyamide), UV stabilized | Glass-filled nylon, PP, or coated MS | 2.0 – 6.0 bar ($kg/cm^2$) |

**Ozonator with Oxygen Generator**

| | |
|---|---|
| Capacity | 10-400 grams |
| Type | Corona Discharge |
| Cell MOC | SS 316 Jacketed Air Cooled |
| Ozone Tube | Silicon/Teflon |
| Oxygen Generator | |
| Oxygen Purity | 95% |
| **Ozonator Image** |  |

**UV Disinfection System**

| Type | Flow Rate Capacity | UV Intensity | Disinfection Efficiency | Power Supply | Installation | Cleaning System |
|---|---|---|---|---|---|---|
| Low-pressure High-output (LPHO) UV system | 1 – 500 $m^3$/hr. (model dependent) | ≥ 30,000 $\mu W \cdot sec/cm^2$ (typically up to 60,000) | 99.99% removal of bacteria, viruses & protozoa | 230V AC / 415V AC, single/three-phase | Vertical or horizontal inline | Manual or automatic quartz wiper |

**Electric Panel and Cable:**

| | |
|---|---|
| Type | Semi – Auto with timer basis, interlock system |
| MCCB | 4 Pole |
| Timer | Star/ Delta |
| Cable | Armoured / Flexible |
| Quantity | 1 Lot |
| Panel Junction Box | 800 mm X 800 mm X 260 mm |
| **Electrical Panel & Cable Photo** |   |

**ONLINE MONITORING SYSTEM**


continuously tracks key parameters to ensure efficient and compliant wastewater treatment.

| Display Panel | Power Supply | Data Logging | Communication | Enclosure | Calibration |
|---|---|---|---|---|---|
| 7” / 10” TFT HMI with touch screen | 230V AC ±10%, 50 Hz | Onboard SD card / cloud storage (optional) | RS485/RS232, Modbus RTU, Ethernet (for SCADA) | IP65/67 Weatherproof cabinet | Manual or automatic (2-point/3-point) |

**MS BLOWER HEADER**

| PARAMETER | SPECIFICATION |
|---|---|
| Application | Air distribution from blower to diffusers in STP |
| Material of Construction | MS (IS: 1239 / IS:3589 Grade), heavy duty |
| Coating / Lining | Internal epoxy coated / painted with anti-corrosive paint |
| Size Range | 2” to 8” NB (customizable as per blower capacity) |
| Design Pressure | 4 – 6 kg/cm² (typically) |
| End Connections | Flanged (Table D/E) or threaded (as required) |

MSEP TANK:

AVAILABLE IN ALL SIZES AS PER THE PLANT REQUIREMENTS.

## WATER TREATMENT PLANT (WTP) – TRADING PRODUCT LIST

### 1. PRE-TREATMENT STAGE

| Product | Description |
|---|---|
| **Raw Water Pump** | Pumps used to transfer water from source to plant |
| Dual Media Filter **(DMF)** | Combines filtration layers for turbidity reduction |
| **Dosing Pumps** | For chlorine, alum, Antiscalant, etc. |
| **Chlorine Dosing System** | For disinfection |

| | |
|---|---|
| **Raw Water Pump** |  |
| **Dual Media Filter (DMF)** |  |

| | |
|---|---|
| **Dosing Pumps** |  |
| **Chlorine Dosing System** |  |

## 2. SOFTENING / FILTRATION / DEMINERALIZATION

| Product | Description |
|---|---|
| **Water Softener Unit** | Ion-exchange system to remove hardness (Ca & Mg) |
| **Resins (Cation/Anion)** | Used in softeners and DM plants |
| **Mixed Bed Unit** | Polishing unit for high purity water |
| **Filter Media (Sand, Gravel, Carbon)** | For PSF, ACF, MGF |
| **Cartridge Filter Housing & Elements** | For fine filtration |
| **Bag Filters** | Pre-filtration for membrane units |

| | |
|---|---|
| **Water Softener Unit** |  |
| **Resins (Cation/Anion)** |  |
| **Filter Media: Sand, Gravel** |  |

| | |
|---|---|
| **Filter Media: Carbon** |  |
| **Cartridge Filter Housing & Elements** |  |
| **Bag Filters** |  |

### 3. MEMBRANE TREATMENT

| Product | Description |
|---|---|
| **RO Membranes (4040, 8040)** | Used in Reverse Osmosis systems |
| **RO Antiscalant Chemicals** | Prevent scaling in membranes |
| **RO Skid & High-Pressure Pump** | RO system frame and pressure boosting |
| **Membrane Housing (FRP/SS)** | Holds the RO membranes |
| **UF Membranes & Modules** | Ultrafiltration for fine solids and organics |

| | |
|---|---|
| **RO Membranes (4040, 8040)** |  |
| **RO Antiscalant Chemicals** |  |
| **RO Skid & High-Pressure Pump** |  |

| | |
|---|---|
| **Membrane Housing (FRP/SS)** |  |
| **UF Membranes & Modules** |  |

**CHEMICAL PRODUCTS:**

| PRODUCT | APPLICATION | IMAGE |
|---|---|---|
| **Antiscalant & Biocides** | For RO/UF systems |  |

| | | |
|---|---|---|
| **pH Adjusters (Acid/Alkali)** | For neutralization |  |
| **Disinfectants (Sodium Hypo, $ClO_2$)** | For sterilization |  |

**PIPING, VALVES & FITTINGS**

| PRODUCT | DESCRIPTION | IMAGE |
|---|---|---|
| **UPVC/CPVC/HDPE/SS Pipes & Fittings** | Used for piping network |  |

| | | |
|---|---|---|
| **NRV, Ball, Butterfly, Globe Valves** | Flow control valves |  |
| **Flow Meters (Electromagnetic/Ultrasonic)** | For measuring flowrate |  |