**ANNEXURE -1**

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| **Technical Specification for Glass Washer with Manual Control.** |
| **Technical Data : -**  |  |
| Conveyor Effective | : | 350mm  |
| Conveyor Speed  | : | 0.5 to 2 mtrs / min |
| Glass Thickness  | :  | 1 mm to 6mm |
| Maximum Glass Size  | :  | 305mm x 305 mm  |
| Overall Machine Size | :  | 2500mm(L) X 1200mm (W) X 1300mm(H) |
| Machine Output  | :  | 20 Panels / Hour  |
| Power Requirement  | :  | 415V/ 50 Hz/ 3 Phase + Neutral + Earthing  |
| Total Power Required  | :  | 10 Kw  |
|  **Modules**  |  |
| * **Loading**
 |  |  |
| * **Brush Cleaning with Detergent**
 |  |  |
| * **Dragout**
 |  |  |
| * **Brush Cleaning with DI water**
 |  |  |
| * **DI Water Rinsing**
 |  |  |
| * **Drying**
 |  |  |
| * **Inspection/Unloading**
 |  |  |
|  **Total Machine Length : ~2500mm**  |  |  |

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| **Material of Construction :**Suitable Material of construction such as PP ( Polypropylene ) to be used for the Cleaning ,Rinsing & Drying Chambers.Metal Parts inside the Wet chambers to be SS316.Suitable Brush to be used for Scratch free operation.  |  |
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| **Conveyor System :-** |  |
| * AC Drive & AC Geared motor for Conveyor
 |
| * Conveyor Rollers with Materials & Rubber suitable for handling Clean Glass
* Bevel Gear Conveyor System
 |
| * Digital Speed Indicator & Controller
 |
| * Alloy Bearing Cups & Stainless Steel Fasteners.
* THE CONVEYOR MUST BE JERK FREE AND ENSURE NO DAMAGE,BREAKAGE/SCRATCHES ON THE TOP/BOTTOM GLASS SURFACES.
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| **Brush Cleaning with Detergent :-**  |  |
| * Suitable Double sided Brushing Mechanism to be provided
 |
| * Spray system with Nozzles to be provided for detergent.
 |
| * Monoblock Pump for Detergent Spray.
 |
| * PP Tank for Detergent with PP Mesh Filter, PP Level Switch, Drain Valve ,Overflow & Water Inlet valve.
 |
| * Tank Capacity 100 Litres.
 |
| * Detergent / Galvex can be used .
 |
| **Dragout**  |  |
| * Suitable Efficient Dragout rollers to be provided to prevent carryover of detergent
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| **Brush Cleaning with DI water :-**  |  |
| * Suitable Double sided Brushing Mechanism to be provided
 |
| * Spray system with Nozzles to be provided for DI water
 |
| * Monoblock Pump for DI water Spray.
 |
| * PP Tank for DI water with PP Mesh Filter, PP Level Switch, Drain Valve ,Overflow & Water Inlet valve.
 |
| * Tank Capacity 100 Litres.
 |
| * DI Water / Fresh Filtered Water can be used for this chamber
 |
| * On line Filter to provide filtered water upto 5 microns.
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| **Di Water Rinsing :-**  |  |
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| * Spray system with Nozzles to be provided for DI water
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| * Mid Pressure Monoblock Multistage Pump for DI water Spray.
 |
| * PP Tank for DI water with PP Mesh Filter, PP Level Switch, Drain Valve ,Overflow & Water Inlet valve.
 |
| * Tank Capacity 100 Litres.
 |
| * DI Water / Fresh Filtered Water can be used for this chamber
 |
| * On line Filter to provide filtered water upto 5 microns.
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| **Drying : -**  |  |
| * The Drying section must have 3 sections Squeezing ,Cold Blowing & Hot Drying
 |
| * Suitable pairs of squeezing rollers to be provided with wetting facility.These rollers will absorb the excess water
 |
| * Online Filter provided before Spray bars to ensure fresh water inlet provided is filtered to a level of 25 Microns Rating.
 |
| * 1 Pair of SHD Airknives in Cold Air Blowing Chamber
 |
| * PVC Flexible Hose will be provided for Cold Air Blowing
* High Pressure Turbo Blower for Effective Water Removal
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|  |  |
| * 3 Pairs of SHD AirKnives in Hot Air Blowing Chamber.
 |
| * High Temperature Resistance Hose will be provided for Hot Air Blowing( Temp Max 70Dg).
 |  |
| * High Volume Centrifugal Blower for effective Drying Effect.
 |
| * Suitable Heating System with Digital Temperature Controller & K – Type Sensor.
* Drying Temperature Range 0 - 70˚C.
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| **Control Panel : ( Manual )-** |  |
| * PP Control Panel
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| * Neatly marked engraved labels on PVC Top Plate with clear indication of all functions.
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| * CE Certified Electrical such as Push Buttons, Contactors, Relays, MCB’s.
 |
| * Faults Indication Lamps, Alarm with Flasher & Emergency Stop Switches are provided.
 |
| * Tower Lamp provided on machine
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| * Cable Extension of 5 mtrs provided from Control Panel to Machine.
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| * Only Manual Mode of Operating Machines with relay logic.
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**Accessories:**

**PP Rack for Storage of 20 Glass Panels**

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| **Terms**  | 1. **The Machine has to be installed at the predetermined location at CENS Bangalore.**
2. **Installation ,Commissioning, Successful Trials & Operator Training is in the scope of the vendor.The Charges for the same may be indicated separately.**
3. **The Prices must be FOR SITE – CENS Bangalore and all local Handling,Transport and positioning is in the scope of the vendor.**
4. **Detailed CAD drawings of the Machine must accompany the quotation .**
5. **The Vendor must provide 3 sets of Machine Operating Manual in English with operating procedure,electrical drawing,OEM Parts List & trouble shooting Instructings**
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| **Spares**  | 1. **Free Spares kit will be provided with machine for preventive maintenance during 12 months warranty period.All spares will be chargeable after completion of Warranty period.**
2. **Chargeable Spares List must be provided along with the Quote of the Machine**
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