**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 :-** |  |
| |  | | --- | | * Spray system with Nozzles to be provided for DI water | | * 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 | |
| * Neatly marked engraved labels on PVC Top Plate with clear indication of all functions. | |
| * 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 | |
| * Cable Extension of 5 mtrs provided from Control Panel to Machine. | |
| * Only Manual Mode of Operating Machines with relay logic. | |

**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** | |