



BETTER ENGINEERING

PRODUCT SPECIFICATIONS BROCHURE

PURIFIER TURNTABLE SYSTEM

For Heavy Duty Cleaning Applications





PURIFIER SYSTEMS ARE HIGHLY FLEXIBLE AND CUSTOMIZABLE WASHERS

Purifier systems are the workhorse of our turntable washers, capable of cleaning the dirtiest parts of the three groups of turntable washers that Better Engineering offers. These heavy-duty turntable washers can incorporate multiple cleaning stages – recirculating rinse, fresh rinse, dry, or a combination thereof.

THE BE ADVANTAGE LIFETIME GUARANTEES



WELDS

Against any welds cracking or leaking.*



TURNTABLE

For the turntable itself and its sealed bearing assembly.



DOOR

Against the door and lid ever jamming.

* Warranty void if leaks caused by corrosion.

CHOOSE FROM THREE CABINET STYLES



“F” Models | Front Loading Hinged Door

- 55% of the turntable is exposed, allowing a hoist chain to be positioned over the center of the turntable
- Machine design keeps the turntable close to the ground
- Door is supported with a continuous hinge (full length of door)
- Door bottom is pitched to direct all residual water back to the tank
- Labyrinth seal prevents water from escaping
- Snap-on gasket seals in steam



“RD-W” and “RD” Models | Front Loading Rolling Door

- Allows center hoist loading: the center of the turntable is in front of the door axis (RD-W models only), allowing a chain hoist to be positioned over the center of the turntable
- Full turntable access: when the door is open, the entire turntable diameter is exposed
- Top bearing support: the weight of the door is supported by a top, center bearing that is outside the cleaning chamber. It requires minimal effort to open and close
- Machine design keeps the turntable close to the ground
- Labyrinth seal prevents water from escaping
- Snap-on gasket seals in steam (RD-W models only)



“PD” Models | Powered Vertical Doors

- Machines have either one or two powered vertical doors. If the unit has two doors, they are on opposite sides.
- Various loading scenarios: 1) baskets or racks can be rolled in or out, 2) a dolly can be rolled in or out, 3) supplied with or without external rails or roller conveyor sections, and 4) manual or robotic loading
- Doors are powered with pneumatic cylinders. Safety features include: 1) automatic brakes on the cylinders, 2) requires two-handed switch operation, and 3) in cycle, the doors are electrically interlocked and will not open
- Labyrinth seal prevents water from escaping; doors are inset for secondary containment

MORE FEATURES

Loading and Safety

- Parts are loaded directly on the turntable (basket does not have to be rolled in and out of cabinet) except for "PD" models.
- Turntable is mounted on structural beam tied to the ground (the door bears none of the load and the load is never suspended or cantilevered)

Turntable Drive System

- Center bearing spindle is completely sealed
- External grease cup for the bearing assembly
- Turntable rim and spokes have a minimum thickness of 3/16"
- Friction drive system... metal chain wraps around the circumference of the turntable; if the turntable ever jams, the chain simply slips
- TEFC drive motor
- Removable parts basket (smooth, welded wire, 1" open mesh)

Vertical Seal-less Pumps

- All pumps are vertical (seal-less) style units (designed to withstand abrasive particles up to 1/4" in diameter)
- There are no bearings or seals beneath the solution level
- Driven with TEFC motors
- Motors have extended shafts that connect directly to the impeller (no couplings)

Spray Manifolds

- Stainless steel "V" jet spray nozzles
- Manifolds positioned above, below, and on outside of turntable
- Front loading models have a mid-level, overhead spray manifold that pivots out of the way for tall parts
- On top loading models, overhead manifolds retract with the lid

Control System

NEMA-4x rating is standard on the control panel, with the option to upgrade to NEMA-12. The standard PLC is Allen Bradley's Micro850 with AB Compactlogix as an optional upgrade. Other PLC brands such as Siemens and Mitsubishi available upon request. Equipped with a 2-channel, 7-day/24-hour timer; controls water heaters and optional oil skimmer(s) (using the HMI). The central control panel comes with a main, rotary type disconnect integrated into the central panel.

3 Way Diverter Valve

- A-The three-way diverter valve allows water to flow back to either the wash tank, rinse tank (recirculated rinsing), or to drain (fresh rinsing)

Water Level Controls and Auto Fill

- Includes sensor for three water levels: normal, emergency low, and emergency high
- Water is automatically added when water is not at a "normal" level
- Indicator lights for the high and low positions



OPTIONAL FEATURES (1 / 4)



Oil Skimming

For skimming oils from a given tank, BE offers two options:

1. The OSB motorized belt skimmer. This skimmer has a stainless steel belt and is controlled with a 7 day/ 24 hour timer
2. The OWC oil water coalescer. This stainless steel coalescing tank comes in two sizes, small or large, for “light” and “heavy” oil applications



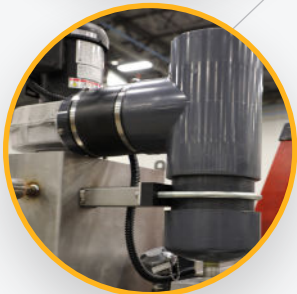
Filtration

- Bag filter (hinged top and eye bolts) is installed on the pressure side of a given pump to trap suspended particles before they can be redeposited on the parts. Pressure gauges indicate when the filter bag (specify micron rating) has to be changed



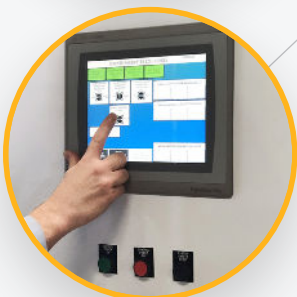
Beacon Lights

- A safety beacon light is mounted on the top of the main electrical enclosure. Pictured is a 3-color beacon light, part EBL-3



Steam Exhaust System

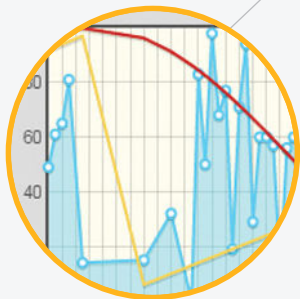
- Fan is mounted on the roof and ducted so as to create negative drafts on both ends of the system
- Customer provides duct work from discharge side of fan
- The vent port(s) on the top of the machine are connected to a central fan with a non-corrosive duct
- Steam exhaust systems come default with a drip leg
- Steam exhaust type differs depending on machine type and machine use



PLC HMI Upgrade

- The PLC is upgraded to Allen Bradley's Compactlogix
- The upgraded HMI is a Panelview Plus 7
- The system includes Ethernet capability

OPTIONAL FEATURES (2/4)



Complete Data Acquisition System

The Rotary Drum washer is equipped with all the necessary hardware and software to effortlessly acquire and analyze data, providing a reliable and efficient data acquisition system. Enhanced features include:

- PLC upgrade for OPC-UA compliance and Ethernet communications with an ethernet switch (Must also purchase the Compactlogix PLC upgrade, not included with this option.)
- "OAS" DAQ Software - includes Historian, Alarms, Trends & Reports
- Industrial PC mounted inside the main control panel. With this option, the user has access to all data via a web-based platform



Pressure Switch

- An electronic switch to detect low pressure
- Typically installed after a filter to indicate when a filter bag needs to be replaced
- A "low pressure" signal appears when the pressure falls below "X" value



Flow Switch

- An electronic switch to detect flow (does not quantify exact flow)
- Typically installed after an air blower or chemical pump to confirm proper operation
- A "no flow" signal will appear if flow is not detected



Sump Tank

- Used to pump out multiple tanks as well as diverted rinse water or overflow water
- Includes a stainless steel sump tank, an air operated diaphragm pump, water level controls, valves for each tank drain, and plumbing connections from the sump pump to all designated drains on the washer



Conductivity Meter

- This includes a sensor for a designated tank and a digital meter (mounted on the main panel)
- Can be used to detect dirty rinse water or low chemistry in a tank (check with a chemistry supplier for suitability)

OPTIONAL FEATURES (3 / 4)



Chemical Dosing Pump

- Automatically adds chemistry to a tank (from customer's chemical tote)
- Assumes the customer's chemical tote is within 5 feet of the pump
- Works in conjunction with conductivity meter, which also must be purchased



Chemical Siphon Valve

- This purely mechanical device siphons detergent into the water fill line
- Adds "X" GPM of detergent for a given flow of fresh water
- Assumes the customer's chemical tote is within 5 feet of the pump



Drying Modules

Better Engineering offers drying modules as well as simple blow-off sections. The drying modules have the following specifications:

1. Centrifugal blowers for high air velocity
2. Recirculation system to conserve heat and prevent "blow-out"
3. Optional air heater to boost the air temperatures up to 250 degrees F
4. Top and bottom air knives
5. Pitched floor directs most of the water back to the previous spray module
6. Full insulation to protect user from hot surfaces

"Purchased a tray washing machine from Better Engineering. The installation technician was efficient, helpful, and very professional. He was able to address problems in a timely manner and get our machine up and running. Would highly recommend using Better Engineering."

-Nathan P., Project Engineer

OPTIONAL FEATURES (4 / 4)



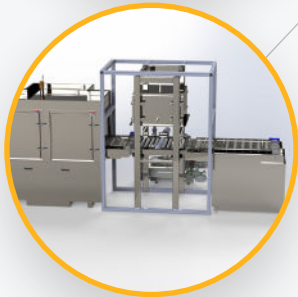
Robotic Integration

- Better Engineering is a certified integrator for robots and uses robots in multiple ways to bring automation to the highest level
challenging applications, the customer can add a 3rd or 4th high capacity working tank



Additional Rinse Stages

- There are two additional rinse stages that can be ordered. For especially challenging applications, the customer can add a 3rd or 4th high capacity working tank



Vacuum Dryer

- Vacuum Dryers are a key solution for industries looking to thoroughly dry parts with recesses, save energy, and increase dry time speeds. Vacuum drying is a complementary technology that, when combined with traditional blow-off methods, offers 100% part dryness, regardless of part intricacies

Additional Options

- With over 64 years of experience in the industry, Better Engineering is the go-to solution for industrial cleaning systems. We offer additional optional add-ons and can customize our machines to clean even the most challenging parts and materials. Our team of experts takes pride in delivering top-notch solutions to our client's unique cleaning needs. Feel free to contact one of our sales associates to learn how we can assist you.

AQUEOUS DETERGENTS

Better Engineering Aqueous Detergents

At BE, we take pride in being your trusted partner for cleaning needs. We understand the importance of environmental and sustainability goals and have taken steps to ensure that our products align with these objectives. Since the 1980s, we formulated solvent-free technology chemistry to wash our client's products. BE's custom-formulated detergents are designed to provide superior cleaning performance while safeguarding your equipment's lifespan. Our skilled chemistry department and factory test center ensure that our detergents are of the highest quality. We offer full-service cleaning solutions to our customers, backed by our expertise and experience.



BE'S ECO-FRIENDLY, SOLVENT-FREE CHEMISTRY HELPS MEET SUSTAINABILITY GOALS



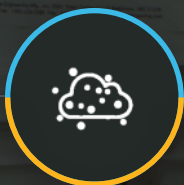
Biodegradable – No VOC'S, non-flammable, and generally non-hazardous



Lower pH's – Generally safe on all metals



Forces oils to the surface for easy skimming



Low foaming – Designed for powerful spray washers and agitation



Excellent rust inhibition



Free-rinsing



Engineering Test Lab & Machine Demonstration Center

Better Engineering provides advanced laboratory testing services that showcase the efficiency of our cleaning systems. BE invites you to send us your most challenging parts for a thorough cleaning test and experience the BE advantages of our cleaning processes. After performing the cleaning test, a comprehensive report on our findings, results, and recommended machinery will give you the confidence to trust Better Engineering with all your part cleaning machine needs. Don't hesitate to contact us to schedule your FREE parts cleaning test and learn more about our services.

AUTOMATED INDUSTRIAL PARTS WASHERS AND CLEANING SYSTEMS

At Better Engineering, we offer an impressive range of industrial parts washers and cleaning lines designed to meet your business needs. Our range includes turntable-style cleaning systems, conveyor washers, immersion and ultrasonic cleaning units, heavy-duty degreasers, and cellular parts cleaning units. Our cleaning systems are powered by environmentally safe aqueous detergents that are water soluble and biodegradable, ensuring safety for both the user and the environment while meeting sustainable practice goals. Our industrial parts washers are built to last and are fully customizable, modular, and designed to meet the highest standards of quality and performance. You can trust Better Engineering to deliver the best possible cleaning solutions for your industrial washing needs.



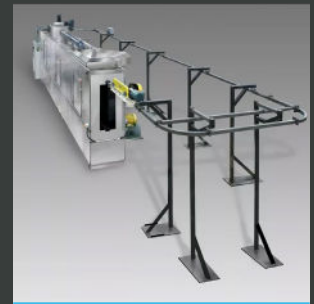
Conveyor Washer



Rotary Drum Washer



Immersion Washer



Monorail Washer



Carousel Washer



Turntable Washer



Rotary Basket Washer



Return-to-Operator