

“DOUGLAS” MODEL BW-1000-E ECONOMY BIN WASHER WASH AND SANITIZE SYSTEM

DESIGN AND OPERATION

Designed for batch type operation where one (1) bin is loaded into a heavy duty carriage mounted on the door. The door, activated by holding the open/close switch, is lifted and closed by two (2) hydraulic cylinders. The cycle start button is then pushed which initiates a 160° F. recirculated detergent wash and then a 180° F. final sanitizing rinse. The final sanitizing rinse water is directed back into the the recirculated wash tank to freshen it. The excess water then overflows to drain. The door is then reopened for unloading by holding the open/close door switch. Booster heaters maintain proper operating temperatures.

OPTIONAL SAFETY CAGE

The safety cage prevents machine door operation when the cage doors are not in the closed position. Also with this feature, after the bin has been loaded and the cage doors have been closed, the start button is pushed which activates the complete cycle. This includes the machine door closing, wash, sanitizing rinse and the door returning to the open position for unloading. A separate open/close machine door switch is also provided for manual override, operational only when the cage doors are in the closed position.

GENERAL CONSTRUCTION

Upper housing will be constructed of #12 and #16 gauge, 300 Series STAINLESS STEEL with a #3 finish. Wash tank to be constructed of #12 gauge, 300 Series STAINLESS STEEL also with a #3 finish. Door is doubled skin constructed of #14 and #12 gauge, 300 Series STAINLESS STEEL with internal and external bracing for maximum strength. Manually opened and closed with a switch and protected from any cycle operating when not in the closed position. Base frame constructed of 3” x 3” x 1/4” structural STAINLESS STEEL angle. All seams are mig or tig welded. Seams, where needed for watertight construction, and door are continuously welded. All other seams are stitch welded for strength. All welds are cleaned inside, cleaned and buffed outside. Optional continuous welds in lieu of stitch welds available.

RECIRCULATING WASH TANK

Recirculating wash tank heated by electric, gas, live steam, or steam coil, thermostatically controlled, low water protected, complete with 1” NPT automatic fill system, 1 1/2” NPT overflow connection, 2” brass gate drain valve, thermometers, and liquid filled pressure gauges. Wash tank capacity, 350 gallons, sloped to drain.

WASH PUMP

Closed coupled centrifugal pump, bronze fitted, and cast iron casing with 25 H.P. TEFC or optional wash down duty motor, 208/230/460 or optional 575 volt, 3 phase, 60 cycle. Rated for 325 gallons per minute at 80 PSI. Optional STAINLESS STEEL wet end available.

FINAL SANITIZING RINSE

Fresh sanitizing rinse delivers 12 gallons per 30 second cycle at 20 PSI flow. 180° F. sanitizing rinse water supplied to unit by customer or optional 36 gallon pumped rinse tank heated by electric, gas or steam coil with 3/4 H.P. wash down duty motor. 208/230/460 or optional 575 volt, 3 phase, 60 cycle. If booster heater is required, the water supply temperature is 120° F. minimum.

SPRAY PIPING SYSTEM

One (1) rotating hub with extended arm to wash the inside of the bin driven by a 1/2 H.P. TENV gear motor and four (4) compressed air piston driven oscillating spray arms for coverage on the outside. Wash and final rinse constructed of STAINLESS STEEL piping, brass fittings, brass high velocity “V” wash jets, and full cone rinse jets. Optional STAINLESS STEEL fittings and nozzles available.

FILTRATION

Soil filter diverter is located above the water line and is sloped to direct solids to an outside filter tank, accessed through a removable lid on the side of the machine.

STEAM EXHAUST VENT	Steam exhaust vent 12 7/8" inside diameter consisting of #14 gauge, rolled STAINLESS STEEL collar bolted to the top of the machine. Machine pre-wired with control timer for the addition of the fan.
OPTIONAL EXHAUST FAN	12" diameter exhaust fan mounted on washer to extract steam after rinse cycle. 1/4 H.P. TEFC or optional wash down duty motor, 120 volt, 1 phase, 60 cycle, 1725 RPM, rated 500 CFM @ 3/4" static pressure. Optional all STAINLESS STEEL fan available.
ELECTRICAL PANEL AND CONTROLS	Electrical control panel is UL listed, NEMA 4X STAINLESS STEEL with Square "D" components. Optional panel disconnect switch with lockout feature also available. 120 volt control circuit with lighted "POWER ON" switch, "START", and "STOP" buttons. "RUN" indicator light, "OPEN/CLOSE" door switch, and short, medium, and long "WASH CYCLE SELECTOR" switch. Complete recirculating wash, final sanitizing rinse and dwell/fan cycles initiated by pushing the "START" button. Wash and final rinse cycle times are adjustable.
OTHER FEATURES	Adjustable STAINLESS STEEL legs for leveling machine. Complete hydraulic system with 20 gallon tank reservoir and 20 H.P. TEFC or optional wash down duty motor, 208/230/460 or optional 575 volt, 3 phase, 60 cycle.
CONTAINER SPECIFICATIONS	Designed for bins or similar size containers 48" x 48" x 45" high. Other design variations available for different container sizes.
DIMENSIONS	Washer Cabinet Dimensions: 75" wide x 60" deep x 120" high Overall Dimensions: 108" wide x 97 1/2" deep x 123" high
CONNECTIONS	Electrical: Single-point connection Wash Tank Water Inlet: (1) 1" NPT, 120° F. Final Rinse Water Inlet: (1) 1" NPT, 180° F. Drain: (1) 2" NPT Overflow: (1) 1 1/2" NPT Steam Option: (1) 3/4" NPT Steam Condensate: (1) 3/4" NPT Gas Option: (1) 3/4" NPT Compressed Air: (1) 1/4" NPT, 20 CFM @ 100 PSI
SERVICES	Gas or Steam Heated: 208 Volt, 3 Phase, 60 Cycle, 123 Running Amps, 175 Amp Service Breaker 240 Volt, 3 Phase, 60 Cycle, 112 Running Amps, 150 Amp Service Breaker 480 Volt, 3 Phase, 60 Cycle, 57 Running Amps, 80 Amp Service Breaker 575 Volt, 3 Phase, 60 Cycle, 46 Running Amps, 60 Amp Service Breaker Electric Heated: 208 Volt, 3 Phase, 60 Cycle, 273 Running Amps, 350 Amp Service Breaker 240 Volt, 3 Phase, 60 Cycle, 249 Running Amps, 350 Amp Service Breaker 480 Volt, 3 Phase, 60 Cycle, 126 Running Amps, 175 Amp Service Breaker 575 Volt, 3 Phase, 60 Cycle, 100 Running Amps, 125 Amp Service Breaker Gas Firing Rate: 180,000 BTU per hour for recirculating wash tank 60,000 BTU per hour for optional final rinse booster Steam Consumption: 175 lbs. per hour for recirculating wash tank 90 lbs. per hour for optional final rinse booster heater Please add the following running amps to those notes above for an optional pumped rinse system heated by gas or steam (3 at 208 volt, 2.4 at 240 volt, 1.2 at 480 volt, and .75 at 575 volt), or heated by electric (69.6 at 208 volt, 62.6 at 240 volt, 31.3 at 480 volt, and 24.8 at 575 volt) and recalculate service breaker size, which should be at least 125% of total running amps.