

SPECIFICATIONS

GIRTON INDEXING TUNNEL WASHER MODEL GCWH-BT

GENERAL

Girton Model GCWH-BT Washer to wash and rinse plastic or metal bins, as large as 48" x 48" x 48" deep, at the variable rate of 20-30 bins per hour.

CONSTRUCTION

The tank, hull, in-feed and discharge sections are fabricated of 14 gauge, type 304 stainless steel with 2B finish. All seams are welded and cleaned. Guide rails, conveyor channels, piping, and headers with jet sprays are stainless steel.

CONVEYOR

The conveyor consists of two conveyor chains and is designed to convey the bins through the washer in an upside-down position for proper cleaning action.

Automatic conveyor stop switch, activated by the bin, shuts off the drive motor in case the operator is not present to remove the bin as it discharges from the washer.

VARIABLE SPEED DRIVE

1/2 Hp Wash down duty gearmotor, arranged to carry the conveyor through the washer at an advancing speed of 15.5 feet per minute.

The conveyor will extend 5' from the infeed and 5' from the discharge ends of the washer, to facilitate loading and unloading the bins.

Heavy duty stainless steel guide rails will support and guide the bins through the washer.

SCREENS

Drawer type stainless steel tray screens shall be used, with perforations smaller than the jet openings, to trap debris and protect the pump and spray orifices.

VENT

Two 6" x 24" exhaust connections are provided on top of the washer, to be connected to customer's exhaust system.

WASH PUMP

The 20 Hp wash pump is stainless steel, horizontal type, with a close-coupled motor, wash down duty, and is rated at 440 gallons per minute at 125 ft. hd.

FRESH RINSE

Fresh rinse consists of a single loop, spraying city water at house temperature and pressure, controlled by an automatic solenoid valve wired in conjunction with the conveyor drive. The fresh rinse shall operate only when the conveyor is moving. Minimum pressure to be 40 PSI.

WIRING

The Girton Model GCWH-BT will include two position selector manual switches and contactors to separately control individual pumps, and motors. All systems come pre-wired. The stainless steel control box, shall include the following: control transformer, solid state overload relays, time delay fuses, emergency stop switch and illuminated status beacon with audible alarm.

A safety disconnect, provided by the customer, should be mounted on an adjacent wall, and customer will provide wiring from this switch to the washer's main control panel. (See optional Safety Disconnect at end of specification.)

In addition to the above, the following control system shall be included:

Allen Bradley MicroLogic 1200 Series PLC, and Microview operator interface.

PLC control – The heart of the control system will be an Allen Bradley Micrologix 1200 series PLC. The PLC shall be able to meet various voltage needs as well as I/O capabilities. As a standard, the input modules will be based on the 120 VAC-control voltage. The output modules will be isolated relays.

PLC control adds many features that standard relay logic cannot provide (or cannot provide without a large expense). These features include low level pump protection; low level heating protection; staggered start up of large motors; diagnostic ability of heating, pump overloads, and instruments, advanced conveyor control; as well as other features involving time delays and complex functions.

Equipment diagnostics and alarms help prevent down time by finding equipment failures quickly rather than waiting for operating personnel to recognize a failure.

The PLC software shall insure the highest level of safety for personnel, as well as the machinery, by providing alarms and control features that prevent potentially dangerous situations.

Operator interface – A Microview two line LCD data display shall be provided as an operator interface. This display shall be equipped with a keypad for input of critical parameters that the PLC controls. The display shall show status or alarm messages when required, informing the operator of any abnormal situations.

HEATING

Temperature of the recirculated wash solution is controlled by an automatic temperature controller, steam solenoid valve, and steam coil for indirect heating.

JETS

The headers are equipped with straight through orifices and stainless steel spray deflectors, and are directly related to pump specifications.

This unit is also supplied with Bin Washing Nozzles located between the two conveyor chains to effectively wash and rinse the interior of the bins.

OPERATION AND TREATMENTS

1. Load - The operator inverts the bin and places it onto the 60" in-feed extension. The bins then indexes at the pre-determined speed through the following treatments:
2. Wash - Wash solution, as determined by the customer, is recirculated and sprayed onto all surfaces of the bin. Bin shall receive a one to three minute exposure to the wash solution.
3. Fresh Rinse - Rinse solution, as determined by the customer's house supply, is sprayed onto all surfaces of the bin. A sanitizing agent may be introduced into the final rinse water supply. Fresh rinse shall only spray when conveyor moves.
4. Discharge and Unload - The operator removes the washed and rinsed bin from the 60" discharge extension of the conveyor.

STANDARD FEATURES

The machine is equipped with push button starters for individual motor control.

The washer will be wired and tested before leaving the factory.

- Fresh Rinse Solenoid Valve - consists of solenoid valve to control fresh rinse water from plant supply, and solenoid stop switch mounted on conveyor.
- Steam Coil Heating – A stainless steel steam coil, complete with condensate trap, shall be supplied to heat up and maintain wash solution.
- Indicating Thermometer – An indicating thermometer shall be mounted near the main control box and shall display the wash solution temperature.

SERVICE REQUIREMENTS

3/60/480 volts, 70 amp minimum required

1 – 1-1/2" steam connection, 40 PSI, 600 lbs. per hour consumption, at 140°F wash temperature.

1- 3/4" condensate return

1 - 1" water line, 30-40 PSI, 4-6 gpm consumption.

1 - 2" gravity drain connection.

2 - 6" x 24" vent connections, 5900 CFM total required.

OPTIONS

- ◆ **Air Knife** – An air knife shall be mounted across the top discharge opening of the washer to remove the majority of water laying on the top of the containers. Air shall come from plant supply. (20 – 25 CFM at 50 to 60 PSI)
- ◆ **Automatic Bin Loading** – This system will add approximately 6'-6" to the infeed end of the washer. Operator shall place bin on loader and push start button. Loader will lift and invert bin placing it on the infeed section of the washer.
- ◆ **Automatic Bin Unloading** – This system will add approximately 8'-0" to the unload end of the washer. Unloader shall receive bin, turn it over, and place it in position to be removed by the operator.
- ◆ **Detergent Port** – The washer will be provided with a coupling for automatic detergent dispensing near the center of the tank.
- ◆ **Exhaust Duct With Dampers** – Stainless steel ducting shall be supplied to tie both exhaust connectors on top of the washer together. The ducting will have one exhaust port, to be connected to existing ventilation system, or for mounting an exhaust fan.
- ◆ **Exhaust Fan** – Shall be provided an interwired with the automatic control system to exhaust residual vapors from within the wash compartment. The fan is supplied complete with 3 phase, 60 cycle motor, and starters for overloaded protection.
- ◆ **Pre-Wash Treatment** – shall be used to remove gross soil and send it directly to the drain. The 20 Hp wash pump would increase to a 25 Hp pump to satisfy the 4 barrel jets positioned under the bin in the infeed area.
- ◆ **Pump Pressure Gauge** – To monitor performance of pump. The gauge shall indicate recirculated water pressure.
- ◆ **Safety Disconnect Switch** – The disconnect will be mounted in the control panel for added safety while working on the washer.
- ◆ **Training of customers personnel in accordance to Girton Manufacturing Co., Inc. standard testing and demonstration policy.** Equipment shall be demonstrated to all operators and maintenance personnel, training period shall be limited to a maximum of two days on sight.

Bin Washer

