

SPECIFICATIONS

GIRTON MODEL GC20HP HORIZONTAL PALLET WASHER

GENERAL

Girton Model GC20HP Horizontal Pallet Washer, designed to wash and rinse Plastic or Fiberglass Pallets at the variable rate of 60-120 per hour.

PALLET DIMENSIONS

Up to: 48" long x 48" wide x 7 1/2" high

CONSTRUCTION

The washer will be fabricated of all-welded stainless steel, including tank, hood, structural members, all internal piping, spray deflectors, track and conveyor returns. All seams are welded and cleaned in a thorough manner. Guide rails, conveyor channels, piping, header, and jet spray deflectors are stainless steel.

The inside of the washer shall have all surfaces readily accessible or removable for cleaning. All surfaces shall be non-toxic, non-absorbent, and corrosion resistant materials. All surfaces or cavities where contaminations can collect shall be avoided.

Pump is a 15 Hp cast iron, stainless steel fitted, close-coupled, motor-mounted type. This gives greatest efficiency with the minimum maintenance possible from centrifugal pumps of the horizontal type. Pump motor shall be wash down duty and is rated at 340 gpm at 85 ft of head.

CONVEYOR

The conveyor consists of a stainless steel conveyor belt and is designed to convey the pallets through the washer in a horizontal position. Conveyor speed can be increased from 4 to 12 feet per minute. The conveyor will extend 4 feet from the infeed and 4 feet from the discharge end of the pallet washer. This will facilitate loading and unloading the pallets. (Additional infeed and discharge conveyor is available as an option.) The self-contained conveyor drive system includes a 1/2 Hp drive motor, stainless steel take-up, shafts, sprockets, etc.

HEADERS

The headers are provided to give most effective coverage of all internal and external surfaces of the pallets. They are provided with straight through jets and stainless steel deflectors. The straight through jet greatly reduces the tendency of the jets to plug, as there is no protrusion of the jet into the headers. The stainless steel deflector insures a high intensity, properly spread stream for most effective cleaning.

The headers are arranged above, on both sides and below the pallets. The headers are installed so that one end of each header pipe protrudes from the washer, making it easy to brush the inside of the pipes and then by starting the pumps to flush them clean. This is the simplest and most effective header system on any washer.

SCREENS

Screens are tray type units located under the bottom area of the spray compartment. The tray screens are removable from either side of the washer. The screens are supported above the solution level so all water must fall through the screens to get into the solution tank. Openings in the screens are 1/16" to trap all debris. The superior screening in conjunction with the Girton jet design virtually eliminates clogging.

VENTS

The washer is supplied with two (2) 6" x 36" vent openings in the hood or top of the unit, to be connected by the customer to the outside, or to his ventilation system. A ventilating fan may need to be incorporated in the stack to insure proper ventilation 3050 CFM required. 1525 CFM each connection.

MOTORS

3/60/460, meeting NEMA standards. Other specification available. Motors shall be wash down duty.

WIRING

The Girton Model GC20HP will include two position selector manual switches and contactors to separately control each pump. 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.

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.

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

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.

PLUMBING

One water connection, one steam connection, and one drain connection are provided. All piping shall be stainless steel.

HEATING

Direct steam injection heating is standard.

See various heating options, electric or gas.

DETERGENT PORT

The washer will be provided with a coupling for automatic detergent dispensing.

FRESH RINSE

The fresh rinse consists of a single spray loop spraying all outside surfaces at house temperature and pressure, controlled by a hand-operated valve.

AUTOMATIC TEMPERATURE CONTROL

The tank temperature is controlled by an automatic controller, which is adjustable to the most efficient temperature for the job. The controller operates a solenoid valve, which permits steam to enter the tank to heat the wash solution. The temperature in the tank is maintained by direct steam injection.

WATER LEVEL CONTROL

The water level control in the recirculated wash tank shall be maintained by a sanitary switch.

GUIDE RAILS

Adjustable guide rails shall be supplied to hold the pallets in proper position for washing.

PUMP PRESSURE GAUGE

To monitor performance of pump. The pump shall indicate recirculation water pressure.

TREATMENTS

1. LOAD - The pallets are delivered to the washer by customer's conveyor, or destacking equipment.
2. DRAIN POSITION - To prevent wash solution from discharging at the infeed opening of the washer.
3. PUMP WASH - Detergent wash solution is re-circulated and sprayed through strategically placed, properly designed jets at high velocity and volume under pressure by 1-15 HP pump. Circulation is at the proper gallons per minute and heated to properly clean the items to be washed. Soaking action of the re-circulated hot detergent solution chemically softens the soil and contamination, which is continually scrubbed and flushed away by mechanical force of the spray.
4. FRESH FINAL RINSE/SANITIZING LOOP - Utilizes fresh water from the house supply, at house pressure and temperature. (6 GPM consumption at 40 PSI.) A sanitizing drying agent may be introduced into the final rinse water supply.
5. DRAIN POSITION - To prevent wash solution from being discharged from the machine.
6. DISCHARGE - The pallets continue on customer's conveyor, or stacking equipment.

SERVICE REQUIREMENTS

3/60/460 volts (state voltage available when ordering.)

1 – 1 1/2" steam connection

1 - 1" hot water connection.

1 - 2" drain connection, gravity.

2 - 6" x 36" rect. vent connections, 3050 CFM required. 1525 CFM each connection.

OPTIONS

1. Air Blow-Off Section, to remove excess moisture from the surface of the pallets. A 15 Hp blower is used to distribute air through stainless steel plena onto all surfaces of the pallets. This option adds 80" to the overall length of the washer.
2. All Stainless Steel Pump, in lieu of cast iron, stainless steel fitted pump.
3. Automatic Detergent Dispenser for use with liquid detergent.
4. Automatic Sanitizing and Rinse Injector Dispensing System.
5. Conveyor Stop Switch to stop conveyor when pallets reach the end of the conveyor.
6. Electric Heat 3/60/480 volt 216 KW for 180°F wash. Uses 4-54 KW heat elements with 6" flange connections.
7. Final Rinse Conservation Switch. Consists of solenoid valve to control final rinse water from plant supply, thereby conserving fresh water when no pallets are moving through the washer.
8. Natural Gas Heating, 510,000 BTU/Hr complete with stainless steel burner coil.
9. Pallet Dispensing System, See attached specification.
10. Pallet Stacking System, See attached specification.

11. Safety Disconnect Switch – The disconnect switch will be mounted in the control panel for added safety while working on the washer. A disconnect switch should either be in the control box or within easy reach of the washer.
12. Stainless Steel Coil, complete with condensate trap.
13. Stainless Steel Exhaust Fan.
14. Stainless Steel Plenum, to interconnect both exhaust ducts.
15. Traveling Hold Down Belt, to hold slop sheets and spacers in place.