DOUGLAS MACHINES CORP.

Effective: May 17, 2010

SPECIFICATIONS
"DOUGLAS" MODEL HD-20
POT, PAN, AND UTENSIL WASHER

DESIGN AND OPERATION

Designed for batch type operation where the wash rack is loaded with items to be cleaned. After the door is closed, the short, medium or long wash cycle is selected then which initiates a 150° F. recirculating detergent wash followed by a 180° F. final fresh water sanitizing rinse. The final sanitizing rinse water flows into the recirculated wash tank for reuse and freshening causing excess water to overflow to drain. A buzzer and unload light indicates cycle completion. The door is then reopened for unloading and reloading for the next cycle. Booster heaters maintain proper operating temperatures.

CABINET

50 3/4" wide x 40" deep x 70" high (97 1/2" overall clearance, 101" with gas heated rinse tank). Door Opening: 36" wide x 42" high. Wash Chamber: 34" wide x 28" deep x 40" high. Constructed of #14 gauge, 300 Series STAINLESS STEEL with a #3 finish. All seams are tig welded. Seams, where needed for watertight construction, 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.

DOOR

Front loading, hinged door design for easy loading and unloading. Door is double skinned for extra strength and interlocked with limit switch to prevent machine operation while door is open. Constructed of #16 and #18 gauge, 300 Series STAINLESS STEEL with a #3 finish.

RECIRCULATING WASH TANK

Constructed of #14 gauge, 300 Series STAINLESS STEEL, heated by 12 KW electric immersion heaters (infrared gas, live steam or steam coil options are available). Complete with low water protection, automatic fill, 1 1/4" NPT overflow connection, 1 1/4" gate drain valve, thermometer, pressure gauge and is thermostatically controlled. 45 gallon tank capacity (36 if gas heated), sloped to drain.

WASH PUMP

Closed coupled centrifugal wash pump, bronze fitted with cast iron casing. Complete with 7 1/2 H.P. ODP motor (optional TEFC or wash down duty motors available). 208/240/480 or optional 575 volt, 1 or 3 phase, 60 cycle. Rated for 120 gallons per minute at 35 to 45 PSI. Optional STAINLESS STEEL wet end available with 10 H.P. motor.

ROTATING WASH HUB ASSEMBLY

Water driven, STAINLESS STEEL spray arm assembly with STAINLESS STEEL jets, removable end caps and hand operated quick release mechanism for easy cleaning and reassembly.

FILTRATION

Two (2) perforated STAINLESS STEEL baskets mounted below water line for easy removal and cleaning without emptying tank.

SANITIZING RINSE TANK	Constructed of #14 gauge, 300 Series STAINLESS STEEL, heated by 12 KW electric immersion heaters (infrared gas or steam coil options are available). Complete with thermometer, pressure gauge and is thermostatically controlled. Uses 5.6 gallons per 30 second cycle and has a 10 gallon capacity.
FINAL RINSE PIPING	300 Series STAINLESS STEEL tubing with brass compression fittings and full cone rinse jets. Optional STAINLESS STEEL fitting and jets are available .
CONTROL AND INFORMATION CENTER	Electrical control panel is NEMA 12 STAINLESS STEEL or optional NEMA 4X STAINLESS STEEL with Square "D" components. 120 volt control circuit with push pad operation of "POWER ON", "STOP", and "SHORT, MEDIUM, or LONG WASH CYCLES". A digital display indicates "TIME REMAINING" for each cycle. LEDs indicate wash, rinse, and unload functions. A buzzer is also included to provide an audible indication of time to unload. A pre-programmed circuit board allows the push pad to be used as a "DIAGNOSTIC CENTER" by displaying "ERROR CODES" for ease of troubleshooting. Moisture resistant gauges measure temperature and pressure for recirculated wash and final rinse. NOTE: Optional NEMA 4X STAINLESS STEEL panel with push button control and internal adjustable timers is available in lieu of digital push pad operation.
EXTERNAL RINSE HOSE	Externally mounted rinse hose with spray gun for easy cleaning and maintenance of machine.
STEAM EXHAUST VENT	Steam exhaust vent 6 3/4" I.D. consisting of #16 gauge rolled collar, for PVC pipe connection, welded to the top of the machine. Machine pre-wired with control timer for the addition of a fan.
OPTIONAL EXHAUST FAN	Draft inducer fan side mounted on exhaust duct to extract excess steam after final rinse cycle. 1/10 H.P. ODP motor, 110 volt, 1 phase, 1550 RPM, rated for 300 CFM at .05" static pressure.
RACKS	Customized to hold your specific items. Constructed of STAINLESS STEEL rod and square tubing, mig welded. Dollies come complete with self locking and hand release for upper racks, docking locks to mate with machine, STAINLESS STEEL swivel casters and shock absorbing thermoplastic wheels.
CONNECTIONS	Water Inlet: 3/4" NPT, 120° F. Drain: 1 1/4" NPT Overflow: 1 1/4" NPT Steam Option: 1/2" NPT or (2) 1/2" NPT with optional steam heated rinse tank Steam Condensate: 1/2" NPT or (2) 1/2" NPT with optional steam heated rinse tank Gas Option: 1/2" NPT or (2) 1/2" NPT with optional gas heated rinse tank Electrical: Two-point connection, except for 575 volt, which is a single-point.
UTILITIES	See attached Utilities Chart for service requirements specific to various combinations of wash and rinse tank heating.

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UTILITY CHART
"DOUGLAS" MODEL HD-20
POT, PAN, AND UTENSIL WASHER

120 Volt - 1 Phase, 5 Running Amps, 15 Amp Service Breaker plus one of the following (except for 575 volt, which is a single point connection):

ELECTRIC HEATED WASH TANK, ELECTRIC HEATED RINSE TANK

240 Volt - 1 Phase, 129 Running Amps, 175 Amp Minimum Service Breaker
208 Volt - 3 Phase, 86 Running Amps, 110 Amp Minimum Service Breaker
240 Volt - 3 Phase, 79 Running Amps, 100 Amp Minimum Service Breaker
480 Volt - 3 Phase, 40 Running Amps, 50 Amp Minimum Service Breaker
575 Volt - 3 Phase, 33 Running Amps, 45 Amp Minimum Service Breaker

INFRARED GAS HEATED WASH TANK, ELECTRIC HEATED RINSE TANK

240 Volt - 1 Phase, 79 Running Amps, 100 Amp Minimum Service Breaker
208 Volt - 3 Phase, 53 Running Amps, 70 Amp Minimum Service Breaker
240 Volt - 3 Phase, 48 Running Amps, 70 Amp Minimum Service Breaker
480 Volt - 3 Phase, 24 Running Amps, 35 Amp Minimum Service Breaker
575 Volt - 3 Phase, 21 Running Amps, 30 Amp Minimum Service Breaker

Gas Consumption: 60,000 BTUs per hour. Supply Pressure: Minimum 7" w.c. for natural, 11" w.c. for propane and 14" w.c. maximum.

INFRARED GAS HEATED WASH TANK, INFRARED GAS HEATED RINSE TANK

240 Volt - 1 Phase, 29 Running Amps, 40 Amp Minimum Service Breaker
208 Volt - 3 Phase, 19 Running Amps, 25 Amp Minimum Service Breaker
240 Volt - 3 Phase, 18 Running Amps, 25 Amp Minimum Service Breaker
480 Volt - 3 Phase, 9 Running Amps, 15 Amp Minimum Service Breaker
575 Volt - 3 Phase, 9 Running Amps, 15 Amp Minimum Service Breaker

Gas Consumption: 105,000 BTUs per hour. Supply Pressure: Minimum 7" w.c. for natural, 11" w.c. for propane and 14" w.c. maximum.

STEAM HEATED WASH TANK, ELECTRIC HEATED RINSE TANK

240 Volt - 1 Phase, 79 Running Amps, 100 Amp Minimum Service Breaker
208 Volt - 3 Phase, 53 Running Amps, 70 Amp Minimum Service Breaker
240 Volt - 3 Phase, 48 Running Amps, 70 Amp Minimum Service Breaker
480 Volt - 3 Phase, 24 Running Amps, 35 Amp Minimum Service Breaker
575 Volt - 3 Phase, 21 Running Amps, 30 Amp Minimum Service Breaker

Steam Consumption: 42 lbs. per hour at 15 PSI minimum.

STEAM HEATED WASH TANK, STEAM HEATED RINSE TANK

240 Volt - 1 Phase, 29 Running Amps, 40 Amp Minimum Service Breaker
208 Volt - 3 Phase, 19 Running Amps, 25 Amp Minimum Service Breaker
240 Volt - 3 Phase, 18 Running Amps, 25 Amp Minimum Service Breaker
480 Volt - 3 Phase, 9 Running Amps, 15 Amp Minimum Service Breaker
575 Volt - 3 Phase, 9 Running Amps, 15 Amp Minimum Service Breaker

Steam Consumption: 87 lbs. per hour at 15 PSI minimum.

For single-point connection option for 208, 240, or 480 volt, add 2 running amps to total and recalculate service breaker size, which should be at least 125% of total running amps.

Please add the following amps to those above for optional STAINLESS STEEL pump with 10 H.P. motor (8 at 208 volt, 7 at 240 volt, 3.5 at 480 volt, or 2.8 at 575 volt) and recalculate service breaker size, which should be 125% of total running amps.