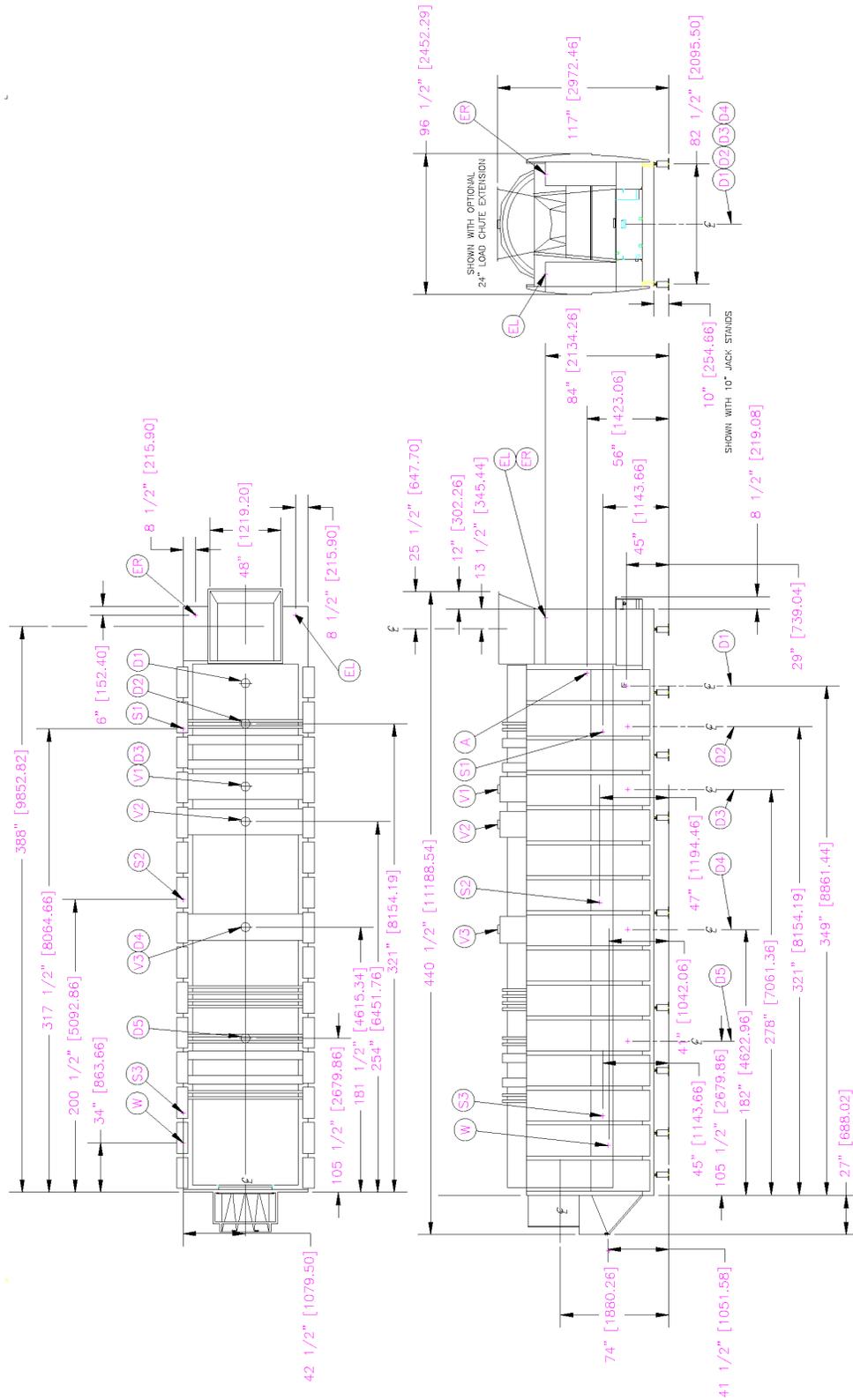




BRAUN BATCH TUNNEL WASHER SPECIFICATIONS
-----130 BTW-13 INDUSTRIAL RHC & LHC-----
G.A. BRAUN, INC., P.O. BOX 70, SYRACUSE, NY 13205, 315-475-3123





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CAPACITY

Dry Weight: 130 Lbs [59 kg] per chamber; 1690 Lbs [768 kg] entire machine
 Depending on type of goods processed.

OPENING REQUIREMENTS TO RECEIVE UNIT

Height: 110" [2,794 mm] Width: 100" [2,540 mm]

OVERALL DIMENSIONS (including load chute ext. and unload chute)

Height: 113" [2.87 m] on 6" [152 mm] Jack-Stands
 Width: 96.5" [2.45 m]
 Length: 437" [11.09 m]
 Load chute extension 24" high. **Optional.** Shown for reference only.
 A different height may be required to suit local conditions.

WATER CONNECTION (W)

2" NPT Connection. Pre-connected service shut off valve is mounted vertically

WATER SPECS

Operating Pressure Range: 40-80 PSIG [2.8 – 5.5 bar]
 (Consult inside sales for other pressures)
 Consumption: 0.7 – 1.2 Gallons/pound dry weight, depending on application and customer requirements

FLOOR LOADING

Shipping Weight	16,560 lbs [7,527 kg]
Operating Weight (maximum)	29,000 lbs . [13,181 kg]
Machine Weight	16,560 lbs . [7,527 kg]

STEAM CONNECTIONS (S1) (S2) (S3)

(S2) 2" NPT Connection; (S1, S3) 1-1/4" NPT Connection
 Pre-connected service shut-off valves mounted vertically

STEAM SPECS

Operating Pressure Range: 50-75 PSIG [3.4 – 5.2 bar]
 Pressure reducing valve to design pressure & capacity to be furnished by customer. Actual size determined by hourly production capacity.
 Consumption: 0.4 – 0.8 pounds steam per pound dry weight based on customer heating requirements

AIR CONNECTION/SPECS (A)

Compressed air 1/4" NPT, 80-100 PSIG [5.5 – 6.9 BAR], 0.1 CFM required

VENT CONNECTIONS/SPECS (V1) (V2) (V3) (V4)

6" OD vents (V1-V4) to atmosphere if needed

DRAIN CONNECTIONS/SPECS (D1) (D2) (D3) (D4)

6" [152 mm] OD drain.
 D1-D4 Hose provided by G.A. Braun, Inc.
 A trench beneath the entire length of machine is recommended;

Customer is responsible to meet all Local, State and Federal Code requirements to include obtaining any applicable permits to install or operate the equipment.

ELECTRICAL SERVICE CONNECTION: Specify Control Location Right or Left (ER) or (EL)

3-PHASE SUPPLY VOLTAGE/FREQUENCY	208/3/60	240/3/60	480/3/60	600/3/60
Disconnect Switch (Amps)	150	150	100	60
Machine Full Load Amps	125 FLA	114 FLA	57 FLA	47 FLA
PROCESS PUMP MOTORS 1.5 HP (each)(5 total)	4.5 FLA	4.2 FLA	2.1 FLA	1.6 FLA
PROCESS PUMP MOTORS 0.75 HP (each)(4 total)	2.6 FLA	2.4 FLA	1.2 FLA	0.9 FLA
DRIVE MOTORS 7.5 HP (each)(4 total)	21.9 FLA	19.8 FLA	9.9 FLA	8.3 FLA
MINIMUM BRANCH CIRCUIT REQUIREMENTS				
Fuse or Circuit Breaker (Amps) [See Notes Below]	150	150	100	60

- **Grounding:** Ground machine to an earth ground (zero potential) per National Electric Code (NEC) section 250 and any applicable local codes. Use a ground wire sized in accordance with NEC Table 250.122. Do not rely on conduit, machine anchorage, etc. Connect the ground wire between the ground lug on the incoming power junction box on the machine and the external disconnect box or other location as required to assure a reliable earth ground.
- **Branch Circuit Protection:** Size external fuses or circuit breakers per the recommended minimum branch circuit requirements listed above. Installation of this branch circuit must be in accordance with the National Electric Code (NEC) and any applicable local codes.
 - o The extract motor is a NEMA Code K and may take up to two minutes to accelerate the cylinder to full speed, during which time the motor draws nearly locked rotor current.
 - o Use only Dual Element (Time-Delay) fuses FRN (up to 250V), FRS (250 to 600V).
 - o If an inverse time circuit breaker is to be used instead of fuses, it should have the same characteristics as FRN/FRS type fuses.

Wire Sizing: Wire shall be sized in accordance with the National Electric Code and any applicable local codes. The required wire size will vary with the length of the wire run as well as any specific local codes. The use of THHN type copper supply conductors with a minimum of 90 deg C insulation is strongly recommended.

FOUNDATION

Jack Stands (18 each) supplied by G.A. Braun, Inc.; adjustable from for Batch Tunnel Washer height alignment with BPE Press
 Floor must be able to support operating weight of machine of the machine

CONTAINMENT REQUIREMENTS

Install one of the following to insure adequate process fluid containment:
 1-Install a trench around the perimeter of the machine
 2-Install a curb around the perimeter of the machine, just inside the footprint
 3-Install a tapered swale to the trench that lies below the machine, starting just inside of the positioning legs of the machine



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BRAUN 13 CHAMBER BATCH TUNNEL WASHER, LEFT, RIGHT HAND CONTROL

Cylinder dimensions _____	72" [1,829 mm] diameter 349.75" [8,884 mm] long
Cylinder wall thickness _____	0.1054" (12 gauge) (2.677mm)
Number compartments _____	13
Compartment length _____	24" [610 mm] (First compartment is 38" [965 mm] long)
Maximum Capacity _____	130 Lbs per chamber. Depending on type of goods processed.
Bath Exchange _____	(3) bath exchange systems to provide quick drain and refill capability to pre-wash, post wash; and quick drain capability to post rinse
Cycle Time _____	60 -240 seconds programmable range; typical 150-180 seconds depending on type of goods processed and soil content
Steam heating _____	(4) total zones: Wet-out, Wash recirculation, Wash flow, Final rinse reclaim; steam heating via in-line or in-tank steam injectors with PID temperature control
Drive Motors _____	(4) 7.5 hp motors
Pump Motors _____	(5) 1.5 hp motors; (4) 0.75 hp motors
Water Inlet Size _____	2" [51 mm]
Steam Inlet Size _____	1@2" NPT; 2@1-1/4" NPT
Compressed Air Inlet Size _____	1/4" NPT
Overall Dimensions _____	96.5" [2.45 m] Wide x 437" [11.19 m] Long x 113" [2.87 m] High

ADDITIONAL DETAILS:

1. Materials Used:

- All metal parts in contact with the goods to be of Type 304SS
- Process tanks to be of Type 304SS
- Process piping to be of Type 304SS, PVC, or chemical hose

2. Computer Control: Washnet provides capability for fully programmable monitoring and control of Batch Tunnel Washer operations. Up to 99 programmable formulas can be pre-set in the program to cover numerous soil and goods types based on Customer needs and demands. Additionally, a general setup screen is provided for non-formula specific settings for the Batch Tunnel Washer. Computer control will allow minimal operator interface and notify via alarm when parameters move to levels that require attention (low tank level, low pump pressure, high temperature for example). An overall process flow diagram and an active status screen of all I/O signals provides excellent visible feedback for process monitoring and adjustments. Programming and monitoring capabilities include (but are not limited to):

- cycle time
- temperature set points for all heating zones
- drain and refill rates for bath exchange chambers
- pre-wash water time (wet-out)
- chemical injection setup and injection times

3. Chemical Inlets: Stainless steel injection spades will have chemical injection fittings (1/2" NPT) for chemical supply connections to pre-wash, wash, rinse, and finishing zones. Chemical injection capability in up to 7 chambers if desired.

4. Counterflow: Adjustable direct injection counterflow for both wash and rinse zones. Flow meters provided for precision control and monitoring to meet customer needs

5. Cylinder:

- Cylinder will be one piece welded construction with all internal and external members integral to unit
- Internal, precision contoured dividers will be solid for zone separation and perforated within zone for direct counterflow. Dividers designed for positive, bottom transfer of all chamber contents to subsequent chamber. Perforations will be electropolished for snag free surface

-Chambers dedicated as follows:

- 2 pre-wash chamber (one with bath exchange)
- 5 wash chambers
- 1 post-wash bath exchange chamber
- 3 rinse chambers
- 2 finishing chamber (one with bath exchange)

-Ribs placed throughout cylinder to provide mechanical agitation of goods

6. Drive: Friction drive with no chains, sprockets, or belts for ease of operation and maintenance; no grease fittings for lubrication

7. Interlocks & Safety Devices:

- Guards shall be provided to cover all moving parts accessible from the floor level.
- OSHA Unit shall conform to all requirements

Specifications subject to change without notice.

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