



Manual Number: MCWVUI01  
Edition (ECN): 2024366

# Installation

## 42044, 60044, 72044 SR2/SR3; WR2/WR3





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# 1 General Information

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## **PELLERIN MILNOR CORPORATION LIMITED STANDARD WARRANTY**

We warrant to the original purchaser that MILNOR machines including electronic hardware/software (hereafter referred to as "equipment"), will be free from defects in material and workmanship for a period of one year from the date of shipment (unless the time period is specifically extended for certain parts pursuant to a specific MILNOR published extended warranty) from our factory with no operating hour limitation. This warranty is contingent upon the equipment being installed, operated and serviced as specified in the operating manual supplied with the equipment, and operated under normal conditions by competent operators.

Providing we receive written notification of a warranted defect within 30 days of its discovery, we will—at our option—repair or replace the defective part or parts, EX Factory (labor and freight specifically NOT included). We retain the right to require inspection of the parts claimed defective in our factory prior to repairing or replacing same. We will not be responsible, or in any way liable, for unauthorized repairs or service to our equipment, and this warranty shall be void if the equipment is tampered with, modified, or abused, used for purposes not intended in the design and construction of the machine, or is repaired or altered in any way without MILNOR's written consent.

Parts damaged by exposure to weather, to aggressive water, or to chemical attack are not covered by this warranty. For parts which require routine replacement due to normal wear—such as gaskets, contact points, brake and clutch linings, belts, hoses, and similar parts—the warranty time period is 90 days.

We reserve the right to make changes in the design and/or construction of our equipment (including purchased components) without obligation to change any equipment previously supplied.

ANY SALE OR FURNISHING OF ANY EQUIPMENT BY MILNOR IS MADE ONLY UPON THE EXPRESS UNDERSTANDING THAT MILNOR MAKES NO EXPRESSED OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR USE OR PURPOSE OR ANY OTHER WARRANTY IMPLIED BY LAW INCLUDING BUT NOT LIMITED TO REDHIBITION. MILNOR WILL NOT BE RESPONSIBLE FOR ANY COSTS OR DAMAGES ACTUALLY INCURRED OR REQUIRED AS A RESULT OF: THE FAILURE OF ANY OTHER PERSON OR ENTITY TO PERFORM ITS RESPONSIBILITIES, FIRE OR OTHER HAZARD, ACCIDENT, IMPROPER STORAGE, MIS-USE, NEGLIGENCE, POWER OR ENVIRONMENTAL CONTROL MALFUNCTIONS, DAMAGE FROM LIQUIDS, OR ANY OTHER CAUSE BEYOND THE NORMAL RANGE OF USE. REGARDLESS OF HOW CAUSED, IN NO EVENT SHALL MILNOR BE LIABLE FOR SPECIAL, INDIRECT, PUNITIVE, LIQUIDATED, OR CONSEQUENTIAL COSTS OR DAMAGES, OR ANY COSTS OR DAMAGES WHATSOEVER WHICH EXCEED THE PRICE PAID TO MILNOR FOR THE EQUIPMENT IT SELLS OR FURNISHES.

THE PROVISIONS ON THIS PAGE REPRESENT THE ONLY WARRANTY FROM MILNOR AND NO OTHER WARRANTY OR CONDITIONS, STATUTORY OR OTHERWISE, SHALL BE IMPLIED.

WE NEITHER ASSUME, NOR AUTHORIZE ANY EMPLOYEE OR OTHER PERSON TO ASSUME FOR US, ANY OTHER RESPONSIBILITY AND/OR LIABILITY IN CONNECTION WITH THE SALE OR FURNISHING OF OUR EQUIPMENT TO ANY BUYER.

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## 1.1 How to Get the Necessary Repair Components

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You can get components to repair your machine from the approved supplier where you got this machine. Your supplier will usually have the necessary components in stock. You can also get components from the Milnor® factory.

Tell the supplier the machine model and serial number and this data for each necessary component:

- The component number from this manual
- The component name if known
- The necessary quantity
- The necessary transportation requirements
- If the component is an electrical component, give the schematic number if known.
- If the component is a motor or an electrical control, give the nameplate data from the used component.

To write to the Milnor® factory:

Pellerin Milnor Corporation  
Post Office Box 400  
Kenner, LA 70063-0400  
UNITED STATES

Telephone: 504-712-7775

Fax: 504-469-9777

Email: parts@milnor.com

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## 1.2 Trademarks

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These words are trademarks of Pellerin Milnor® Corporation and other entities:

**Table 1. Trademarks**

|               |                |              |              |
|---------------|----------------|--------------|--------------|
| AutoSpot™     | GreenFlex™     | MilMetrix®   | PulseFlow®   |
| CBW®          | GearTrace™     | MilTouch™    | RAM Command™ |
| Drynet™       | GreenTurn™     | MilTouch-EX™ | RecircONE®   |
| E-P Express®  | Hydro-cushion™ | MilRAIL®     | RinSave®     |
| E-P OneTouch® | Mentor®        | Miltrac™     | SmoothCoil™  |

**Table 1 Trademarks (cont'd.)**

|                |          |            |              |
|----------------|----------|------------|--------------|
| E-P Plus®      | Mildata® | MilVision™ | Staph Guard® |
| Gear Guardian® | Milnor®  | PBW™       |              |

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## 1.3 Safety — Divided Cylinder and Staph Guard® Washer-Extractors

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### 1.3.1 Safety Alert Messages—Internal Electrical and Mechanical Hazards

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The following are instructions about hazards inside the machine and in electrical enclosures.



**WARNING: Electrocution and Electrical Burn Hazards** — Contact with electric power can kill or seriously injure you. Electric power is present inside the cabinetry unless the main machine power disconnect is off.

- ▶ Do not unlock or open electric box doors.
- ▶ Do not remove guards, covers, or panels.
- ▶ Do not reach into the machine housing or frame.
- ▶ Keep yourself and others off of machine.
- ▶ Know the location of the main machine disconnect and use it in an emergency to remove all electric power from the machine.



**WARNING: Entangle and Crush Hazards** — Contact with moving components normally isolated by guards, covers, and panels, can entangle and crush your limbs. These components move automatically.

- ▶ Do not remove guards, covers, or panels.
- ▶ Do not reach into the machine housing or frame.
- ▶ Keep yourself and others off of machine.
- ▶ Know the location of all emergency stop switches, pull cords, and/or kick plates and use them in an emergency to stop machine motion.

### 1.3.2 Safety Alert Messages—External Mechanical Hazards

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The following are instructions about hazards around the front, sides, rear or top of the machine.





**WARNING: Crush Hazards** — Suspended machines only—Spaces between the shell and housing can close and crush or pinch your limbs. The shell moves within the housing during operation.

- ▶ Do not reach into the machine housing or frame.
- ▶ Keep yourself and others clear of movement areas and paths.

### 1.3.3 Safety Alert Messages—Cylinder and Processing Hazards

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The following are instructions about hazards related to the cylinder and laundering process.



**WARNING: Crush Hazards** — Contact with the turning cylinder can crush your limbs. The cylinder will repel any object you try to stop it with, possibly causing the object to strike or stab you. The turning cylinder is normally isolated by the locked cylinder door.

- ▶ Do not attempt to open the door or reach into the cylinder until the cylinder is stopped.
- ▶ Do not place any object in the turning cylinder.
- ▶ Do not operate the machine with a malfunctioning door interlock.
- ▶ Divided cylinder machines only—Keep yourself and others clear of cylinder and goods during inching or Autospot operation.
- ▶ Do not operate the machine with malfunctioning two-hand manual controls.



**WARNING: Confined Space Hazards** — Confinement in the cylinder can kill or injure you. Hazards include but are not limited to panic, burns, poisoning, suffocation, heat prostration, biological contamination, electrocution, and crushing.

- ▶ Do not attempt unauthorized servicing, repairs, or modification.



**WARNING: Explosion and Fire Hazards** — Flammable substances can explode or ignite in the cylinder, drain trough, or sewer. The machine is designed for washing with water, not any other solvent. Processing can cause solvent-containing goods to give off flammable vapors.

- ▶ Do not use flammable solvents in processing.
- ▶ Do not process goods containing flammable substances. Consult with your local fire department/public safety office and all insurance providers.

## 1.3.4 Safety Alert Messages—Unsafe Conditions

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### 1.3.4.1 Damage and Malfunction Hazards

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#### 1.3.4.1.1 Hazards Resulting from Inoperative Safety Devices

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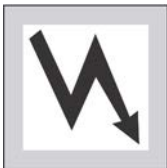
**DANGER: Entangle and Sever Hazards** — Cylinder door interlock—Operating the machine with a malfunctioning door interlock can permit opening the door when the cylinder is turning and/or starting the cycle with the door open, exposing the turning cylinder.

- ▶ Do not operate the machine with any evidence of damage or malfunction.



**WARNING: Multiple Hazards** — Operating the machine with an inoperative safety device can kill or injure personnel, damage or destroy the machine, damage property, and/or void the warranty.

- ▶ Do not tamper with or disable any safety device or operate the machine with a malfunctioning safety device. Request authorized service.



**WARNING: Electrocution and Electrical Burn Hazards** — Electric box doors—Operating the machine with any electric box door unlocked can expose high voltage conductors inside the box.

- ▶ Do not unlock or open electric box doors.



**WARNING: Entangle and Crush Hazards** — Guards, covers, and panels—Operating the machine with any guard, cover, or panel removed exposes moving components.

- ▶ Do not remove guards, covers, or panels.

#### 1.3.4.1.2 Hazards Resulting from Damaged Mechanical Devices

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**WARNING: Multiple Hazards** — Operating a damaged machine can kill or injure personnel, further damage or destroy the machine, damage property, and/or void the warranty.

- ▶ Do not operate a damaged or malfunctioning machine. Request authorized service.



**WARNING: Explosion Hazards — Cylinder**—A damaged cylinder can rip apart during extraction, puncturing the shell and discharging metal fragments at high speed.

- ▶ Do not operate the machine with any evidence of damage or malfunction.



**WARNING: Explosion Hazards — Inner door latches (divided cylinder machines)**—A damaged or improperly seated latch can cause the inner door to open during operation, damaging the cylinder and shell. A damaged cylinder can rip apart during extraction, puncturing the shell and discharging metal fragments at high speed.

- ▶ Ensure that the inner door is securely latched after loading and unloading.
- ▶ Do not operate the machine with any evidence of damage or malfunction.



**WARNING: Explosion Hazards — Clutch and speed switch (multiple motor machines)**—A damaged clutch or speed switch can permit the low speed motor to engage during extract. This will over-speed the motor and pulleys and can cause them to rip apart, discharging metal fragments at high speed.

- ▶ Stop the machine immediately if any of these conditions occur: • abnormal whining sound during extract • skidding sound as extract ends • clutches remain engaged or re-engage during extract

### 1.3.4.2 Careless Use Hazards

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#### 1.3.4.2.1 Careless Operation Hazards—Vital Information for Operator Personnel (see also operator hazards throughout manual)

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**WARNING: Multiple Hazards — Careless operator actions** can kill or injure personnel, damage or destroy the machine, damage property, and/or void the warranty.

- ▶ Do not tamper with or disable any safety device or operate the machine with a malfunctioning safety device. Request authorized service.
- ▶ Do not operate a damaged or malfunctioning machine. Request authorized service.
- ▶ Do not attempt unauthorized servicing, repairs, or modification.
- ▶ Do not use the machine in any manner contrary to the factory instructions.
- ▶ Use the machine only for its customary and intended purpose.
- ▶ Understand the consequences of operating manually.

### 1.3.4.2.2 Careless Servicing Hazards—Vital Information for Service Personnel (see also service hazards throughout manuals)

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**WARNING: Electrocution and Electrical Burn Hazards** — Contact with electric power can kill or seriously injure you. Electric power is present inside the cabinetry unless the main machine power disconnect is off.

- ▶ Do not service the machine unless qualified and authorized. You must clearly understand the hazards and how to avoid them.
- ▶ Abide by the current OSHA lockout/tagout standard when lockout/tagout is called for in the service instructions. Outside the USA, abide by the OSHA standard in the absence of any other overriding standard.



**WARNING: Entangle and Crush Hazards** — Contact with moving components normally isolated by guards, covers, and panels, can entangle and crush your limbs. These components move automatically.

- ▶ Do not service the machine unless qualified and authorized. You must clearly understand the hazards and how to avoid them.
- ▶ Abide by the current OSHA lockout/tagout standard when lockout/tagout is called for in the service instructions. Outside the USA, abide by the OSHA standard in the absence of any other overriding standard.



**WARNING: Confined Space Hazards** — Confinement in the cylinder can kill or injure you. Hazards include but are not limited to panic, burns, poisoning, suffocation, heat prostration, biological contamination, electrocution, and crushing.

- ▶ Do not enter the cylinder until it has been thoroughly purged, flushed, drained, cooled, and immobilized.

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## 1.4 Installation Tag Guidelines

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|          |          |          |          |
|----------|----------|----------|----------|
| 42044SR2 | 42044SR3 | 42044WR2 | 42044WR3 |
| 60044SR2 | 60044SR3 | 60044WR2 | 60044WR3 |
| 72044SR2 | 72044SR3 | 72044WR2 | 72044WR3 |



**NOTICE:** This information may apply to models in addition to those listed above. It applies to paper tags. It does not apply to the vinyl or metal safety placards, which must remain permanently affixed to the machine and replaced if no longer readable.

Paper tags on the machine provide installation guidelines and precautions. The tags can be tie-on or adhesive. You can remove tie-on tags and white, adhesive tags after installation. Yellow adhesive tags must remain on the machine.

The following entries explain the installation tags. Each entry includes: 1) the tag illustration, 2) the tag part number at the bottom of the tag, and 3) the meaning of the tag.

## Symbol

## Explanation



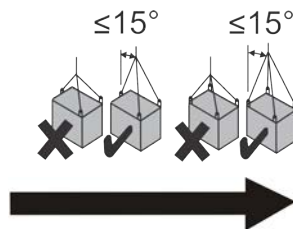
Read the manuals before proceeding. This symbol appears on most tags. The machine ships with safety, operator, and routine maintenance guides for customer use. Milnor dealer manuals for installing, commissioning, and servicing the machine are also available from the Milnor Parts department.



B2TAG88005: This carefully built product was tested and inspected to meet Milnor performance and quality standards by (identification mark of tester).

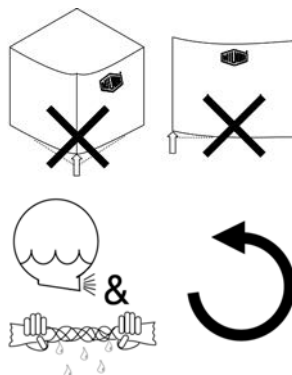


B2TAG94078: Do not forklift here; do not jack here; do not step here—whichever applies.



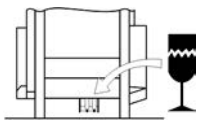
B2TAG94079: Rig for crane lifting (either 3-point or 4-point, depending on the number of lifting eyes provided) using a steep angle on the chains (closer to vertical than horizontal).

B2TAG94081: Motor must rotate in this direction. On single motor washer-extractors and centrifugal extractors, the drive motor must turn in this direction during draining and extraction. This tag is usually wrapped around a motor housing. If the motor turns in the opposite direction when the machine is first tested, the electrical hookup is incorrect and must be reversed as explained in the schematic manual.

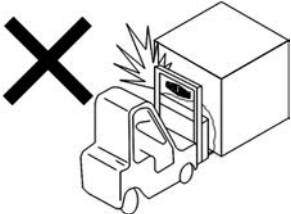


B2TAG94084: Do not lift from one corner of the machine, as this can cause the frame to rack, damaging it.

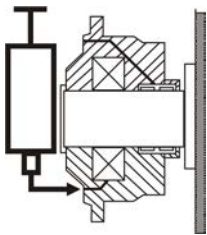
B2TAG94097: The cylinder must rotate **counterclockwise** during draining and extraction (spin) when viewed from here (rear of machine). Otherwise, reverse the electric power connections, as explained in the schematic manual.



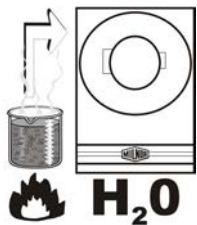
B2TAG94117: The brake assembly under the machine is fragile. Fork lift only under main structural supports.



B2TAG94118: Do not strike shipping container during fork-lifting. Fragile components inside.



B2TAG96007: Add grease here. Refer to the preventive maintenance schedule in the service manual.



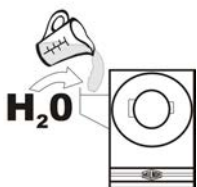
B2T2001013: Hot water connection.



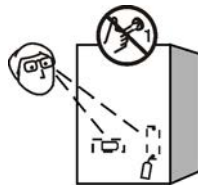
B2T2001014: Cold water connection.



B2T2001015: Reuse (third) water connection. (Optional)



B2T2001016: Flushing water connection. This is the water that goes into the supply compartment or pumped chemical manifold to flush chemicals into the machine.



B2T2001028: Look for tags inside the machine. These tags may identify shipping restraints to be removed or components to be installed. Do not start the machine until these actions are completed.



B2T2002013: Do not start the machine until shipping restraints are removed. This tag will appear on the outside of the machine to alert you to the presence of internal shipping restraints. A tag will also appear on the restraint to help identify it. Most, but not all shipping restraints display the color red. Some shipping restraints are also safety stands. Do not discard these.



B2T2004027: Steam connection.

# 2 Important Installation Precautions

## 2.1 External Fuse/Breaker, Wiring, and Disconnect Requirements

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An external fuse or circuit breaker and a disconnect switch must be provided in the facility for (and dedicated to) the machine. These may be in the same or separate, **permanently mounted** electric boxes. Electric power and ground connections will be made between the incoming power junction box on the machine and this external box (or one of the boxes).

### 2.1.1 Fuse or Circuit Breaker Size

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Refer to the “External Fuse and Wire Sizes...” document for your machine model. This document will be found in the machine's installation manual, available from the parts department. Choose the fuse or circuit breaker from the appropriate column of the table provided, as follows:

**If a fuse is used** — Match the fuse listed in the “Fuse” column for your machine's voltage. The specified fuse sizes are consistent with the USA National Electric Code (NEC), section 430-52, exception No. 2, Part B, which states: “The rating of a time-delay (dual-element) fuse shall be permitted to be increased, but shall in no case exceed 225 percent of the full-load current.”

**If a standard circuit breaker is used** — Match the amperage rating listed in the “Breaker” column for your machine's voltage.

**If an inverse time circuit breaker is used** — Match the characteristics (amperage rating) of the fuse listed in the “Fuse” column for your machine's voltage. When applied to an inverse time circuit breaker, the specified fuse sizes are consistent with the USA National Electric Code (NEC), section 430-52, exception No. 2, Part C, which states: “The rating of an inverse time circuit breaker shall be permitted to be increased, but shall in no case exceed 400 percent for full-load currents of 100 amperes or less.”

### 2.1.2 Wire Size

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Use wiring no smaller than that listed for your machine's voltage in the “Wire size...” column in the “External Fuse and Wire Sizes...” document. The table value applies to runs up to 50 feet (15 meters). Use the next larger size for runs 50 to 100 feet (15 to 30 meters). Use wire two sizes larger for runs greater than 100 feet (30 meters). If an inverse time circuit breaker is used and local codes require a larger wire size than that specified by Milnor, abide by the local code.





**NOTICE:** The specified wire size may appear too small for the fuse or circuit breaker shown. However, it is consistent with both the load imposed and with the USA National Electric Code.

### 2.1.3 Ground

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The ground wire and connections must ensure a reliable earth ground (zero potential). Use wiring of at least as large a gauge as that required for incoming power. Do not rely on conduit, machine anchorage, etc. Use the ground lug provided in the incoming power junction box on the machine.

### 2.1.4 Disconnect Switch for Lockout/Tagout

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The disconnect switch must permit personnel to disconnect and lockout/tagout electric power from the machine. In the USA, refer to OSHA standard 1910.147 “The control of hazardous energy (lockout/tagout)”. Refer to the USA National Electric Code for requirements on locating the switch. In other locales, abide by these standards if no other local codes apply.

### 2.1.5 Using GFCI (Ground Fault Circuit Interrupter) Device

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The AC Drive will most likely cause the GFCI protection device to trip. The reason the AC Drive will cause this tripping of the GFCI is the Common Mode Current or Common Mode Noise (CM Noise) that the VFD is producing.

Use a GFCI with a higher trip level.



**NOTE:** Choose a GFCI designed specifically for an AC drive. The operation time should be at least 0.1 s with sensitivity amperage of at least 200 mA per drive. The output waveform of the drive may cause an increase in leakage current. This may in turn cause the leakage breaker to malfunction. Increase the sensitivity amperage or lower the carrier frequency to correct the problem.

Use a type B GFCI according to IEC/EN 60755.

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## 2.2 Vital Information About the Forces Imparted to Supporting Structures by Laundering Machines

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This document replaces Milnor® document BIWUUI02.

All laundering machines impart static and dynamic forces to the supporting structures (foundation and soil, floor, and building). Static forces include the machine weight plus the weight of the goods and water. Dynamic forces are those imparted by various machine movements as explained in [Section 2.2.2 : Major Design Considerations, page 16](#). The dynamic forces imparted to supporting structures can cause vibration and noise outside of the laundry room if supporting structures are inadequate.

## 2.2.1 Disclaimer of Responsibility

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Pellerin Milnor Corporation accepts no responsibility for damage or loss as a result of:

- inadequate supporting structures
- interference with the use of the facility caused by machine operation

The facility owner/operator is solely responsible to ensure that:

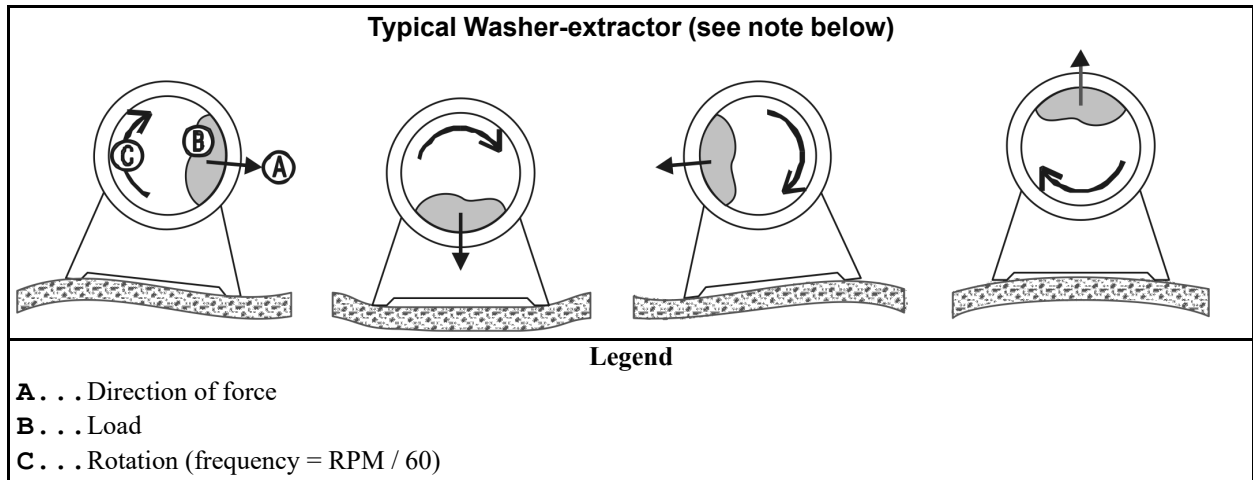
- supporting structures are strong enough, with a reasonable safety factor, to safely support the operating machine or group of machines
- supporting structures are rigid enough to isolate vibrations and noise to the laundry room

If the owner/operator does not possess the necessary expertise to ensure that the facility can safely and functionally accommodate the equipment, it will be necessary to consult the appropriate expert(s), such as a structural engineer, soils engineer, and/or architect.

## 2.2.2 Major Design Considerations

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- Vibration and/or noise can be felt or heard outside of the laundry room as a result of the following, if supporting structures are not sufficiently rigid:
  - Extraction (the spinning cylinder) in washer-extractors and centrifugal extractors, imparts sinusoidal forces to supporting structures as shown in [Figure 1: How Rotating Forces Act On the Foundation, page 17](#) . In rigid washer-extractors, these forces are up to 30 times that of suspended washer-extractors of the same capacity.
  - Extraction forces can be magnified many times if the rotation frequency matches the resonant frequency of supporting structures. To avoid this, supporting structures must have a natural resonant frequency many times greater than any possible rotation speed of the machine or combination of rotation speeds of all machines.
  - Each time goods fall in the rotating cylinder of a washer, washer-extractor, centrifugal extractor, or dryer, this can impart a force to the supporting structures.
  - The intermittent start and stop actions of large components inside the machine, particularly in a tilting washer-extractor, press-extractor, or centrifugal extractor, can impart intermittent forces to the supporting structures.
- The possibility of adverse consequences is significantly greater for upper floor installations than for installations at grade. Always consult a structural engineer for such an installation.
- The possibility of adverse consequences is significantly greater for installations at grade if subsidence causes a void between the foundation and the soil or if the soil itself does not provide adequate strength and rigidity. Some possible remedies are the addition of pilings or a deeper foundation, installed as to be monolithic with the existing foundation.
- Machine forces can cause damage to the machine or the floor without the correct anchorage.
- Applicable building codes, even when met, do not guarantee sufficient structural support and isolation of machine forces to the laundry room.

**Figure 1. How Rotating Forces Act On the Foundation**

**NOTE:** This figure applies to both rigid and suspended washer-extractors and to both at-grade and upper floor installations.

## 2.2.3 Primary Information Sources

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Milnor® provides, or can provide the following information of use to engineers and architects, for the given machine model:

- The machine dimensional drawing, found in the installation manual, specifies the machine's required anchorage.
- The Milnor® Service Department can provide static and dynamic load values and frequency (extract speed) values on request.



**NOTICE:** All data is subject to change without notice and may have changed since last printed. It is the responsibility of the potential owner/operator to obtain written confirmation that any data furnished by Milnor® applies for the model number(s) and serial number(s) of the purchased machine(s).

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## 2.3 Prevent Damage from Chemical Supplies and Chemical Systems

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All Milnor® washer-extractors and CBW® tunnel washers use stainless steel with the ANSI 304 specification. This material gives good performance when chemical supplies are correctly applied. If chemical supplies are incorrectly applied, this material can be damaged. The damage can be very bad and it can occur quickly.

Chemical supply companies usually:

- supply chemical pump systems that put the supplies in the machine,

- connect the chemical pump system to the machine,
- write wash formulas that control the chemical concentrations.

The company that does these procedures must make sure that these procedures do not cause damage. **Pellerin Milnor Corporation accepts no responsibility for chemical damage to the machines it makes or to the goods in a machine.**

### 2.3.1 How Chemical Supplies Can Cause Damage

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**Dangerous Chemical Supplies and Wash Formulas** — Some examples that can cause damage are:

- a very high concentration of chlorine bleach,
- a mixture of acid sour and hypo chlorite,
- chemical supplies (examples: chlorine bleach, hydrofluosilicic acid) that stay on the stainless steel because they are not quickly flushed with water.

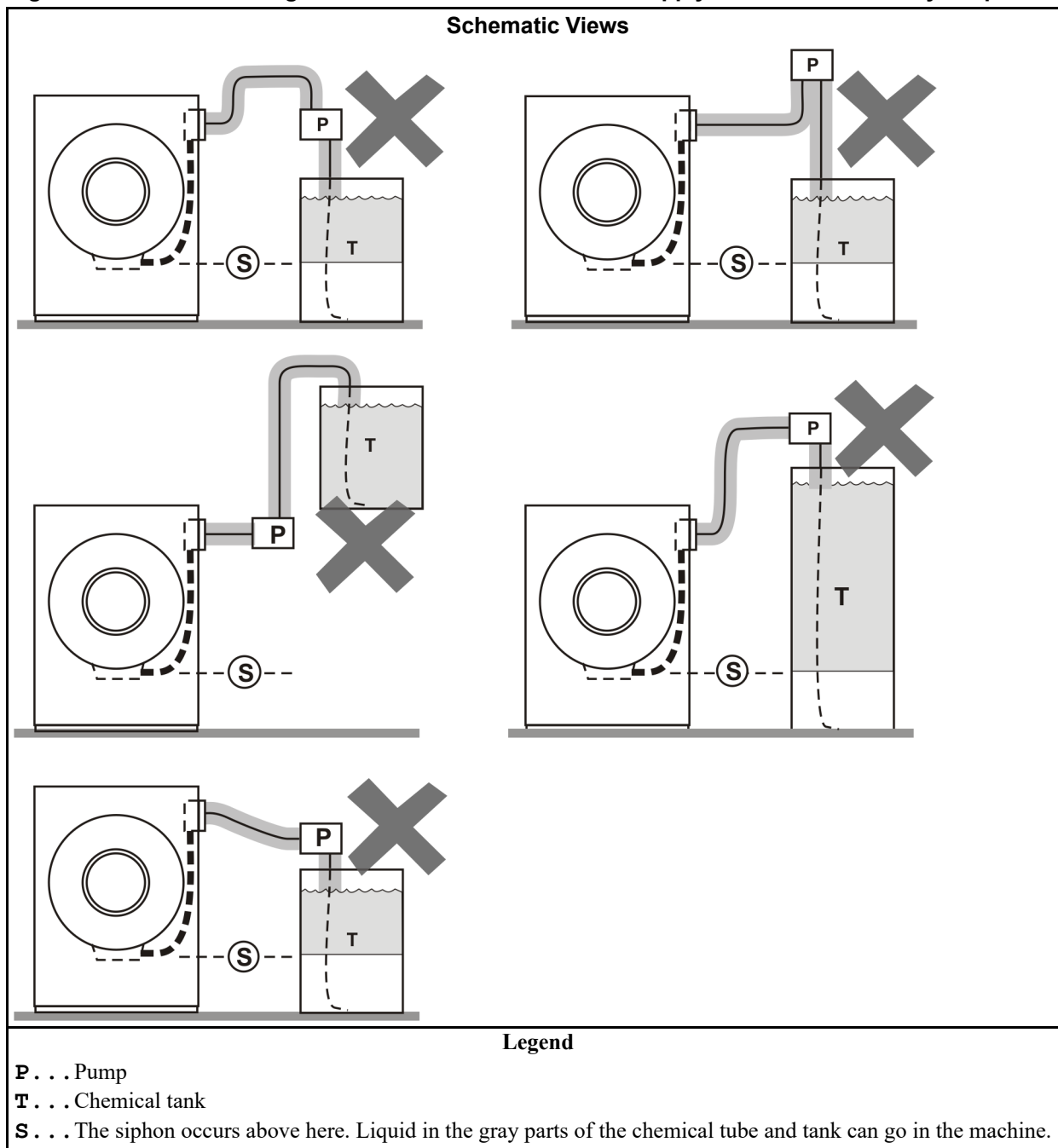
The book “Textile Laundering Technology” by Charles L. Riggs gives data about correct chemical supplies and formulas.

**Incorrect Configuration or Connection of Equipment** — Many chemical systems:

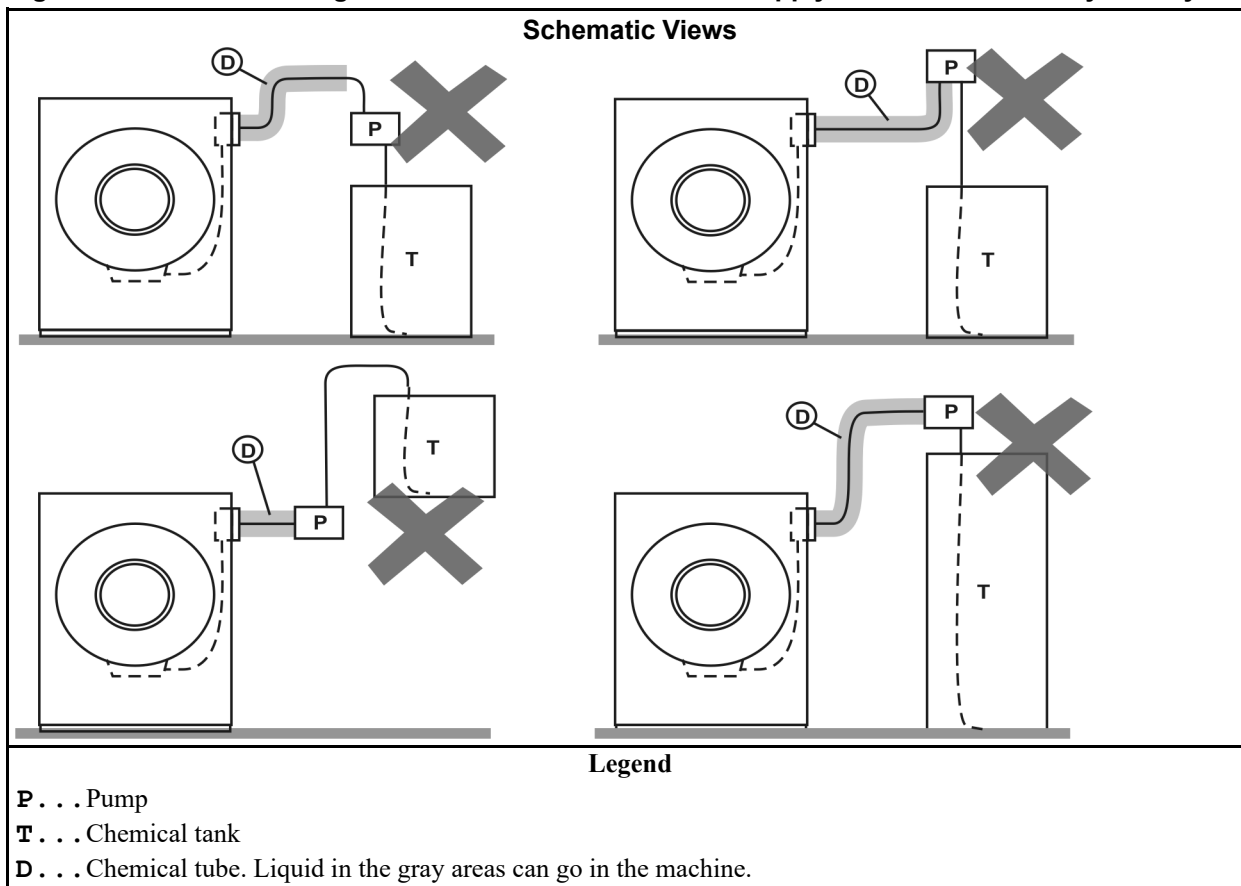
- do not prevent a vacuum in the chemical tube (for example, with a vacuum breaker) when the pump is off,
- do not prevent flow (for example, with a valve) where the chemical tube goes in the machine.

Damage will occur if a chemical supply can go in the machine when the chemical system is off. Some configurations of components can let the chemical supplies go in the machine by a siphon ([Figure 2, page 19](#)). Some can let chemical supplies go in the machine by gravity ([Figure 3, page 20](#)).

**Figure 2. Incorrect Configurations That Let the Chemical Supply Go In the Machine by a Siphon**



**Figure 3. Incorrect Configurations That Let the Chemical Supply Go In the Machine by Gravity**

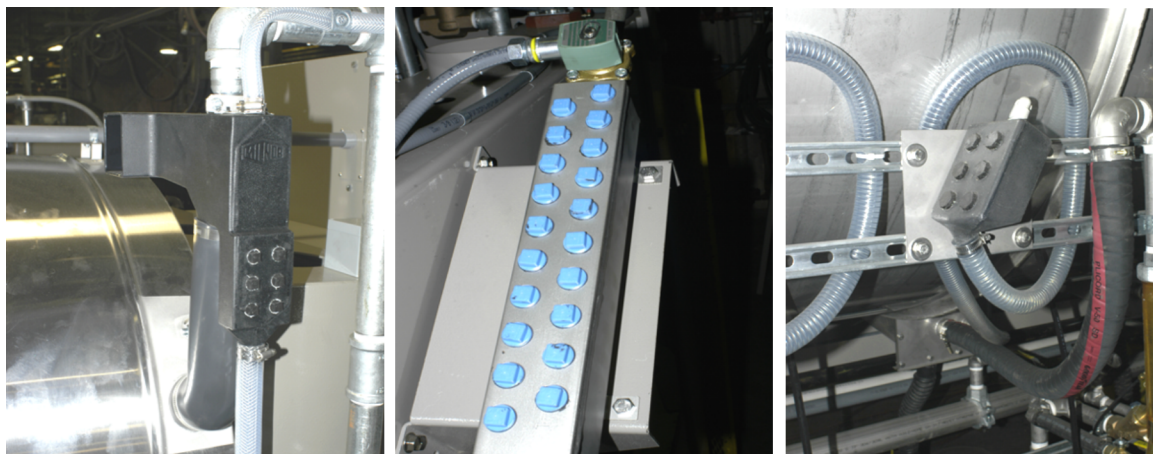


## 2.3.2 Equipment and Procedures That Can Prevent Damage

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**Use the chemical manifold supplied.** — There is a manifold on the machine to attach chemical tubes from a chemical pump system. The manifold has a source of water to flush the chemical supplies with water.

**Figure 4. Examples of Manifolds for Chemical Tubes. Your equipment can look different.**



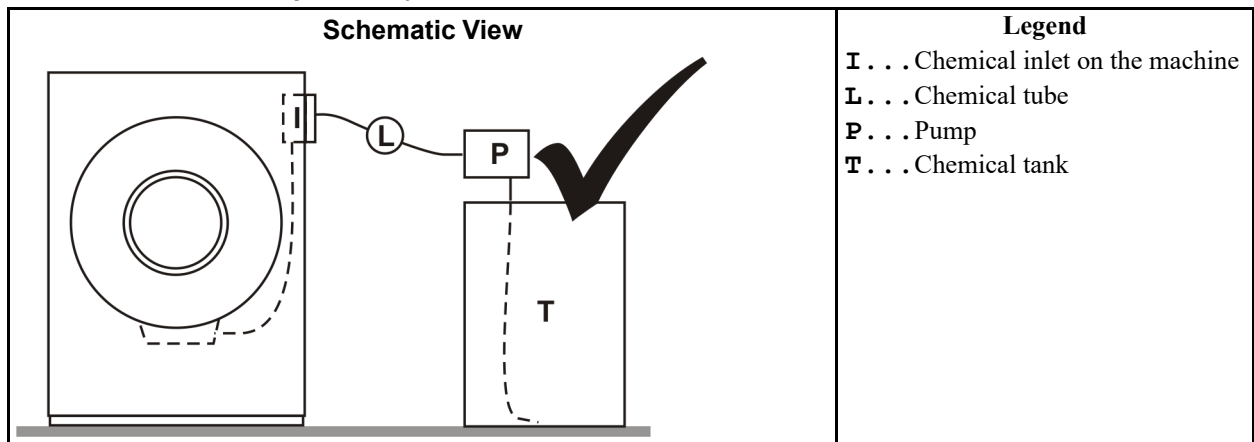
**Close the line.** — If the pump does not always close the line when it is off, use a shutoff valve to do this.

**Do not let a vacuum occur.** — Supply a vacuum breaker in the chemical line that is higher than the full level of the tank.

**Flush the chemical tube with water.** — If the liquid that stays in the tube between the pump and the machine can flow in the machine, flush the tube with water after the pump stops.

**Put the chemical tube fully below the inlet.** — It is also necessary that there is no pressure in the chemical tube or tank when the system is off.

**Figure 5. A Configuration that Prevents Flow in the Machine When the Pump is Off (if the chemical tube and tank have no pressure)**



**Prevent leaks.** — When you do maintenance on the chemical pump system:

- Use the correct components.
- Make sure that all connections are the correct fit.
- Make sure that all connections are tight.

# 3 Installation Procedures

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## 3.1 Handling a Washer-extractor from Delivery to Final Location

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This document supersedes documents BIIFLI01, BIRUUI01, MSIN0206AE, and MSIN0301AE as of October 1, 2019. It applies to all Milnor® washer-extractor models in production as of October 1, 2019.

**owner/management** the purchaser of the machine or their representative. Usually the consignee.

**transportation company** the person(s) or contractor(s) who transports the machine to the facility where it will be installed. The carrier.

**rigger** the person(s) or contractor(s) responsible to off-load the machine from the delivery vehicle, move it to its final location, and anchor it to the foundation. This can be the dealer but is often another company hired by the dealer.

**technician** a person trained in servicing Milnor® products and responsible to remove shipping restraints. This is usually a dealer employee.

### 3.1.1 Notices

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**Qualified Personnel Only** — Do not attempt to move, anchor, or remove restraints from the machine unless you are a rigger or technician, as defined above.

**Disclaimer** — Pellerin Milnor Corporation is not responsible for damage to the machine after it leaves the factory. Pellerin Milnor Corporation strongly recommends that the consignee (usually the owner/management) carefully inspect the machine in its protective wrapping before off-loading and inspect the uncovered machine after off-loading. If damage occurred in transit, ensure that the transportation company acknowledges the damage in writing. Submit a damage claim as soon as possible.

**Other Tasks** — This document addresses common tasks that the rigger and technician will perform. Other tasks, not explained here, can be needed. Information about other tasks is usually provided by the dealer, the Milnor® Applications Engineering department, or the Milnor® Service department. Examples are:

- Placement of the machine on a platform, such as for laundry cart clearance or to accommodate unusual drain conditions.
- Partial disassembly and reassembly, possible on some models, for movement through small spaces.



### 3.1.2 Facility Prerequisites

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| Required Condition                              | Supporting Information  |
|---|---|
| structural support                              | See document BNUUUI01 “Vital Information About the Forces Imparted to Supporting Structures by Laundering Machines” which can be found in the installation manual and also at <a href="https://milnor.sharefile.com/d-s8408ba617d244d98">https://milnor.sharefile.com/d-s8408ba617d244d98</a> . |
| protected storage                               | If the machine must be stored temporarily, it must be protected from dampness and excessive temperatures.   |
| access to the final location                    | See the machine dimensional drawing, which can be found at the end of the installation manual, for overall dimensions. Partial disassembly is sometimes possible. Contact the Milnor® Service department.   |
| clearances for machine movement and maintenance | See the dimensional drawing.  |
| operational clearances                          | Adequate clearance around controls and for movement of laundry equipment such as carts. See the dimensional drawing.  |
| available utilities                             | See the dimensional drawing and the external fuse and wire document.  |
| available drain(s)                              | See the dimensional drawing. The drain valve(s) must have unrestricted access to a drain trough of sufficient capacity in the foundation.   |
| laundry room ventilation                        | The machine will contribute heat and vapors to the laundry room, which must provide adequate ventilation.   |

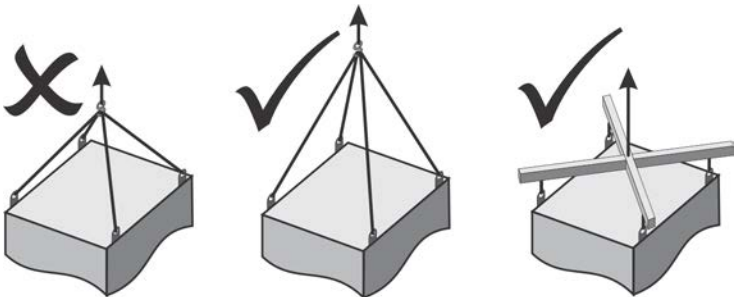
### 3.1.3 Rigger Precautions

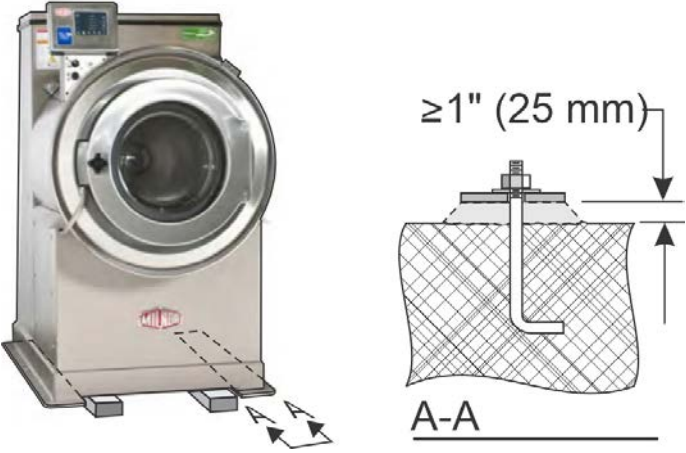
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**CAUTION: Incorrect rigging** — can cause mishaps and costly machine damage.

- ▶ Know and accommodate the machine shipping weight.
- ▶ Use only lifting eyes for crane lifting.
- ▶ Use long cables or a spreader bar for crane lifting.
- ▶ Leave the machine skidded as long as possible.
- ▶ Protect fragile or sensitive machine components.
- ▶ Prepare the foundation and install anchor bolts correctly.
- ▶ Set the machine at the correct height and level.
- ▶ Apply machinery grout evenly so that support is distributed.
- ▶ Tighten anchors alternately so that the hold-down force is distributed.

| Precaution   | Explanation  |
|--|--|
| Know and accommodate the machine shipping weight.          | Use lifting and moving equipment appropriate for the machine shipping weight, as shown on the Bill of Lading. To obtain the shipping weight in advance, contact the Milnor® Transportation department.   |
| Use only lifting eyes for crane lifting.                   | Machines designed for crane lifting are provided with lifting eyes either on the structural frame or on the shell, hidden behind cosmetic panels.  |
| Use long cables or a spreader bar for crane lifting.       |    |
| Leave the machine skidded as long as possible.             | If the machine is skidded, leave the machine on the skids until the machine is as close as possible to its final location. Use care to avoid contact between the fork lift forks and fragile machine components on the un-skidded machine.   |
| Protect fragile or sensitive machine components.           | After the machine is uncovered, carefully find and read all tags on the outside of the machine. White and manila paper tags are installation precautions. See the Installation Tag Guidelines in the installation manual for additional information.   |
| Prepare the foundation and install anchor bolts correctly. | Anchor bolt sizes and locations are shown on the dimensional drawing in the back of the installation manual. However, Milnor® recommends to use the actual machine as a template to accurately locate where the anchor bolts are to be installed in the foundation. See the anchor bolt detail on the dimensional drawing. It is not permissible to omit anchor bolts. |

| Precaution  | Explanation   |
|---|---|
| Set the machine at the correct height and level.                        | <p>Use blocking to get the machine base level and the base pads a minimum of 1" (25 mm) above the floor. Example:</p>             |
| Apply machinery grout evenly so that support is distributed.            | Fill all voids between the foundation and each base pad with industrial strength, non-shrinking grout. Allow the grout to fully cure per the grout instructions.  |
| Tighten anchors alternately so that the hold-down force is distributed. | Raise the machine slightly and remove the wood blocking. Install a flat washer and nut on each anchor bolt and tighten incrementally in an alternating pattern. After tightening, check each anchor at least twice. |

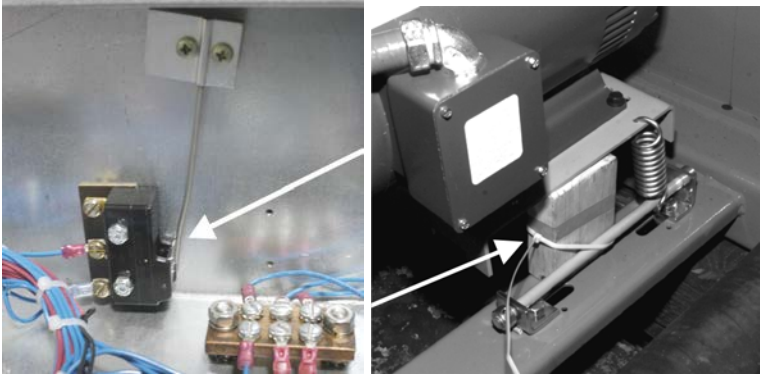
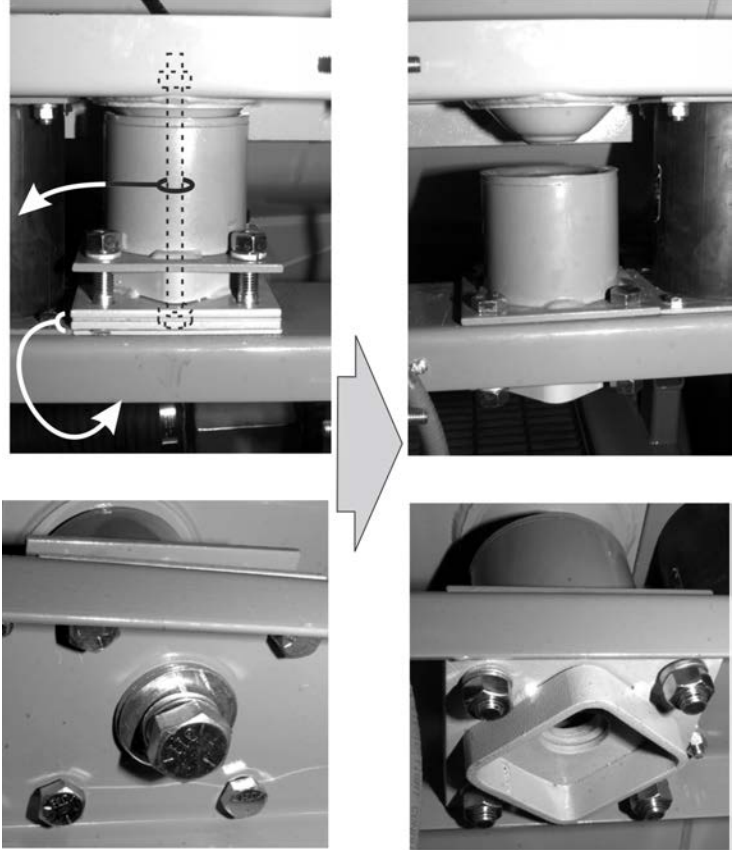
### 3.1.4 Technician Precautions

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**CAUTION: Overlooked or mishandled shipping restraints** — can cause costly machine damage.

- ▶ Leave all internal shipping restraints in place until the machine is anchored.
- ▶ Check for and remove shipping tie wraps.
- ▶ Check for and remove suspension hold-down hardware, if applicable.
- ▶ Check for and remove red shipping brackets, if applicable.
- ▶ See the “Cylinder inspection” warning and inspect the cylinder for smoothness.

| Precaution   | Explanation   |
|--|---|
| Leave all internal shipping restraints in place until the machine is anchored. | The machine can have one or more internal shipping restraints to help protect components from damage until the machine is anchored. These are located inside the housing or inside electric cabinets. |
| Check for and remove shipping tie wraps.                                       | <p>Examples (varies with machine model):</p>    |
| Check for and remove suspension hold-down hardware, if applicable.             | <p>See also the service manual. Example:</p>   |
| Check for and remove red shipping brackets, if applicable.                     | Shipping brackets are painted red. See the shipping brackets parts document in the service manual.  |

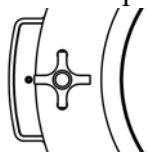

| Precaution   | Explanation  |
|--|--|
| See the “Cylinder inspection” warning and inspect the cylinder for smoothness. | Inspect the cylinder and perforations for smoothness. <b>Pellerin Milnor Corporation cannot accept cylinder finish damage claims after the machine has been placed in service.</b> Machines are shipped with the shell door(s) closed. See the section below for information on how to open the shell door(s). |



**WARNING: Cylinder inspection** — can trap you in the cylinder or seriously injure you.

- ▶ Never enter, or place body parts in the cylinder when power is supplied to the machine.
- ▶ If the machine is connected to power, lockout/tag-out power at the external disconnect switch.
- ▶ mechanically restrain the cylinder from turning.
- ▶ Have an assistant present in case of emergency.

**Can the Door(s) Be Opened Before Utilities are Connected?** — The shell doors on all Milnor® washer-extractors in current production, except for the side-loading, barrier models, have one of two types of door latch: electric-operated or air operated.

| Door Type   | How To Open   |
|---|---|
| Electric-operated:<br> | The machine leaves the factory with the door latched closed but not locked. Turn the door knob to open the door even when the machine does not have power. If the door will not open, the door lock mechanism moved to the locked position due to shaking in transit. In this event, wait until the machine is connected to electric power and use the controls to open the door. |
| Air-operated:<br>      | The machine leaves the factory with the door(s) closed and locked (with the door plunger extended). It is possible to temporarily replace the air line that retracts the door plunger with a source of compressed air to open the door when no other utilities are connected. Otherwise, wait until utilities are connected to the machine and use the controls to open the door. |

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## 3.2 Connection Precautions for Washer-extractors

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This document supersedes documents BNWBUI01, BNWBUI02, BNWBUI03, BNWBUI04, BIRQVI01, BIMUUI02, and BIIFUI01. It applies to all Milnor® washer-extractor models in production as of October 1, 2019.

**plumber** the person(s) or contractor licensed or otherwise accepted by the local jurisdiction to perform the plumbing work described herein, and qualified to do so.

**electrician** the person(s) or contractor licensed or otherwise accepted by the local jurisdiction to perform the electrical work described herein, and qualified to do so.

**chemical supplier** the person(s) or contractor with detailed knowledge of 1) the machine controller configuration and operation, and 2) the pumped chemical delivery system, if such a system is to be used.

### 3.2.1 Notices

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**Qualified Personnel Only** — Do not attempt to connect utilities to the machine unless you are a plumber, electrician, or chemical supplier, as defined above.

**Machine Must Be Anchored** — Utility connections are to be made only after the machine has been anchored. See BNWUUI03 “Handling a Washer-extractor from Delivery to Final Location.”

**Other Tasks** — This document and the documents it references address common tasks that the plumber, electrician, and chemical supplier will perform. Other tasks, not explained here, can be needed. Information about these tasks is usually provided by the dealer, the Milnor® Applications Engineering department, or the Milnor® Service department. An example is electrical interfacing with a remote Mildata® data collection system.

### 3.2.2 Utility Requirements and Related Information

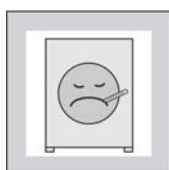
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| Type of Information                                     | Value or Where to Find  |
|---|---|
| equipment list showing model and options purchased      | For the dealer, see the order acknowledgement.  |
| plumbing connection fitting types, sizes, and locations | See the standard and options dimensional drawings for your model located at the back of the installation manual.  |
| water pressure range                                    | 10 – 75 psi (69 – 531 kPa) required   |
| Cv value  | See the specification sheet for your model available online at: <a href="https://www.milnor.com/specification-sheets/">https://www.milnor.com/specification-sheets/</a> . The Cv value assists the piping designer in determining flow rates and pressures. |
| steam pressure range                                    | 30 – 115 psi (207 – 793 kPa) required, if applicable  |
| compressed air pressure range                           | 85 – 110 psi (586 – 758 kPa) required, if applicable  |
| specified voltage                                       | See the machine nameplate or the order acknowledgement.   |

| Type of Information  | Value or Where to Find   |
|--|--|
| available voltages for this model  | See the specification sheet for your model available online at: <a href="https://www.milnor.com/specification-sheets/">https://www.milnor.com/specification-sheets/</a> .  |
| multi-machine conditions that can interrupt utility service to a given machine | See dealer publication B22SL94011 “Sizing and Planning a Laundry” found online at: <a href="https://www.milnor.com/wp-content/uploads/2016/01/Sizing-and-Planning-a-Laundry_18323.pdf">https://www.milnor.com/wp-content/uploads/2016/01/Sizing-and-Planning-a-Laundry_18323.pdf</a>   |
| approved plumbing materials  | Plumbing materials must comply with applicable codes. The Milnor® factory makes no recommendations for inlet connection materials due to the many variables such as water conditions, materials cost and availability, and ongoing advances in materials technology. When drains must be piped, as apposed to a simple air drop to a sump, rubber hose and PVC are often used. |

### 3.2.3 Plumber Precautions

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**CAUTION: Machine damage and code violations** — can occur as a result of incorrect plumbing.

- ▶ Confirm the reliability of the piped utilities.
- ▶ Maintain connection point diameter.
- ▶ Flush fluid lines.
- ▶ Do not twist valve bodies.
- ▶ Never interchange water valve electrical connections.
- ▶ Install any vacuum breaker(s) provided or required.
- ▶ Install any water strainer(s) provided or required.
- ▶ Install a union and a shutoff valve at each hard piped connection.
- ▶ Connect a dry supply injector flush inlet to hot water and regulate it.

| Precaution                                      | Explanation   |
|---|---|
| Confirm the reliability of the piped utilities. | Water and any other piped fluids (steam, compressed air) needed by the machine must be within the specified pressure range and not prone to frequent interruptions when the machine operates. See <a href="#">Section 3.2.2 : Utility Requirements and Related Information, page 28</a> . |
| Maintain connection point diameter.             | The piping between the utility tap and the fitting on the machine must be as large or larger than the fitting. Drain piping or tubing, if any, must provide an unrestricted flow to the sump.   |
| Flush fluid lines.                              | Foreign material such as debris in air lines, trapped air in water lines, and condensate in steam lines can damage machine components.  |
| Do not twist valve bodies.                      | Hold a wrench on the valve side of a pipe connection to prevent the valve from twisting when you tighten the connection.  |



| Precaution  | Explanation   |
|---|---|
| Never interchange water valve electrical connections.                   | On machines with air-operated water valves, it is permissible to exchange the pneumatic control lines, if the cold and hot connections were accidentally plumbed in reverse.  |
| Install any vacuum breaker(s) provided or required.                     | If vacuum (siphon) breaker(s) are provided for fresh water connection(s), but not already installed, install them as shown on the options dimensional drawing. If vacuum breakers are required by code, but not provided, obtain and install the required hardware.   |
| Install any water strainers provided or required.                       | If water strainer(s) are provided for fresh water connections, install them between the machine and incoming water. For machines with garden hose type water inlets, use 40-mesh strainers.   |
| Install a union and a shutoff valve at each hard-piped connection.      | Obtain and install the necessary hardware to permit hard-piped connections to be shut off and disconnected at the machine for maintenance. For the valve, use a ball valve, not, for example, a globe valve.  |
| Connect a dry supply injector flush inlet to hot water and regulate it. | If the machine has a dry supply injector with an external flush water connection and hot water is available, provide hot water to this inlet. The machine will be supplied with a pressure regulator. Install this hardware at the flush water connection and confirm that the regulator is set to 28 psi (193 kPa). Steam in the hot water line will cause the supply injector to malfunction. |

### 3.2.4 Electrician Precautions

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**CAUTION: Machine damage, machine malfunctions, and code violations** — can occur as a result of incorrect electrical connections.

- ▶ Know the machine electrical specifications.
- ▶ Comply with the published external fuse and wire requirements.
- ▶ Confirm the reliability of the electric service.
- ▶ Confirm the machine is phased in correctly.
- ▶ Confirm the correct line voltage setting on a selectable 240/208 volt machine.
- ▶ Attach the stinger leg, if any, only to L3.



| Precaution   | Explanation  |
|--|--|
| Know the machine electrical specifications.                                    | Refer to the nameplate affixed to the machine.   |
| Comply with the published external fuse and wire requirements.                 | These requirements are given in document BGUUUF01 “External Fuse/Breaker, Wiring, and Disconnect Requirements” and the external fuse and wire document for your machine. These documents are found at the back of the installation manual. BGUUUF01 is also available at:<br><a href="https://milnor.sharefile.com/d-s5e1bad2885a447e8">https://milnor.sharefile.com/d-s5e1bad2885a447e8</a> |
| Confirm the reliability of the electric service.                               | Voltage fluctuations of more than 10% above or below the specified voltage can damage electrical components, especially motors. The Milnor® factory strongly recommends that unreliable electric service is improved before the machine is put in use.   |
| Confirm the machine is phased in correctly.                                    | An installation tag on the machine shows the correct cylinder rotation at distribution (drain) or extract speed. If the cylinder turns in the wrong direction, reverse the wires connected to L1 and L2. Never move L3. Individual motors were phased in at the factory. Never reconnect individual motors or motor control devices.   |
| Confirm the correct line voltage setting on a selectable 240/208 volt machine. | This precaution applies only if the nameplate voltage says 208/240V. It does not, for example, apply if the nameplate says 208V <b>or</b> 240V. The switch is near the incoming power transformer and must be in the position that matches the service voltage: 240 VAC or 208 VAC.  |
| Attach the stinger leg, if any, only to terminal L3.                           | Never attach a stinger leg to terminal L1 or terminal L2.  |

### 3.2.5 Chemical Supplier Precautions

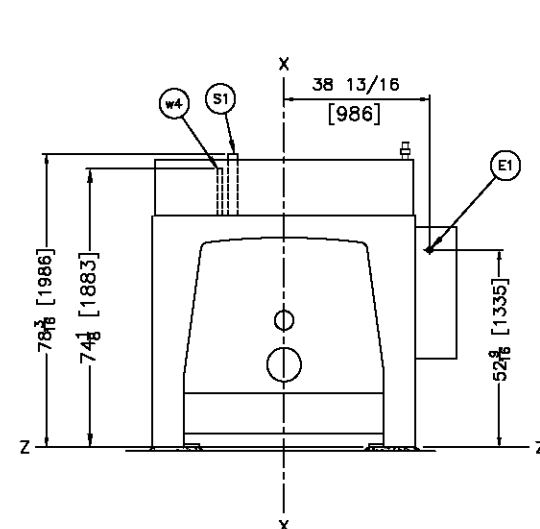
BNWUUI04.R04 0000255482 C.2 A.5 1/2/20, 2:19 PM Released

**Injury and severe machine damage** can occur as a result of incorrect chemical system installation.

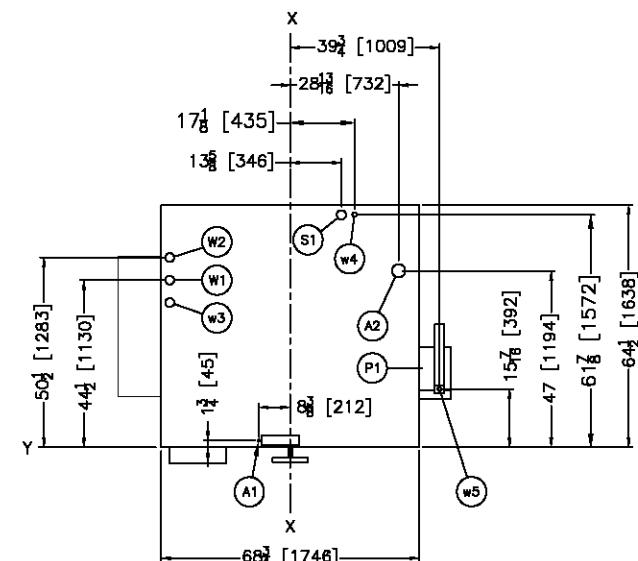
- Understand and comply with the published connection precautions.
- Understand the machine controller.

| Precaution   | Explanation  |
|--|--|
| Understand and comply with the published connection precautions. | The connection precautions are given in document BIWUUI03 “Prevent Damage from Chemical Supplies and Chemical Systems” in the installation manual. BIWUUI03 is also available at:<br><a href="https://milnor.sharefile.com/d-s79f12e8f11f42a9b">https://milnor.sharefile.com/d-s79f12e8f11f42a9b</a> |
| Understand the machine controller.                               | The machine controller is explained in detail in the reference manual for your machine, which is available from the Milnor® Parts department.  |

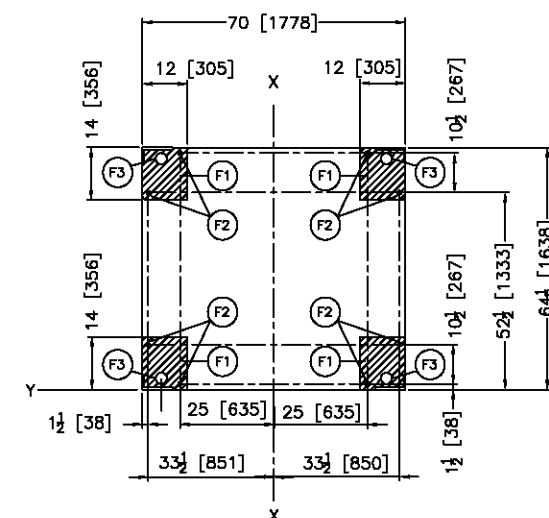
# 4 Dimensional Drawings



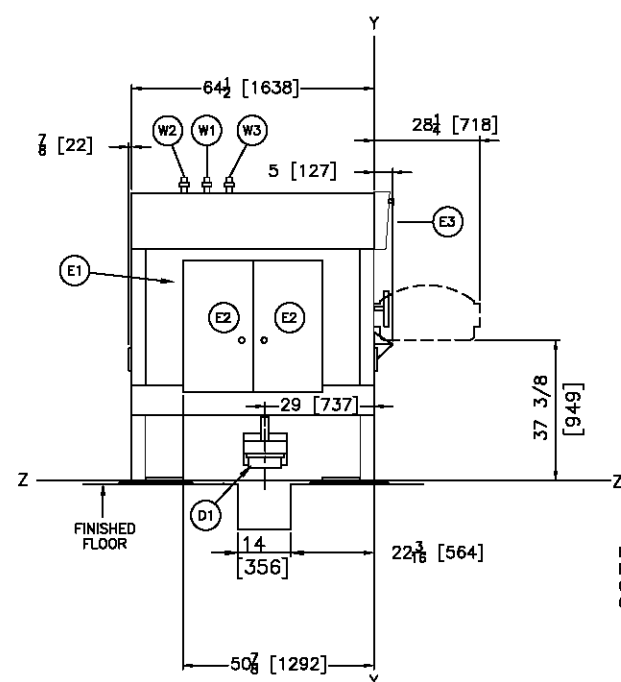
REAR VIEW



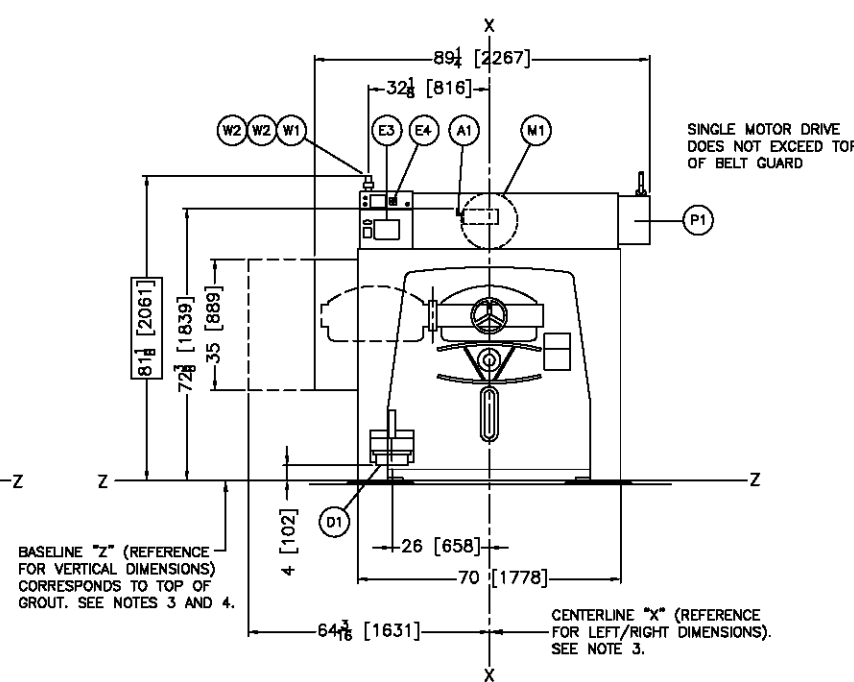
PLAN VIEW



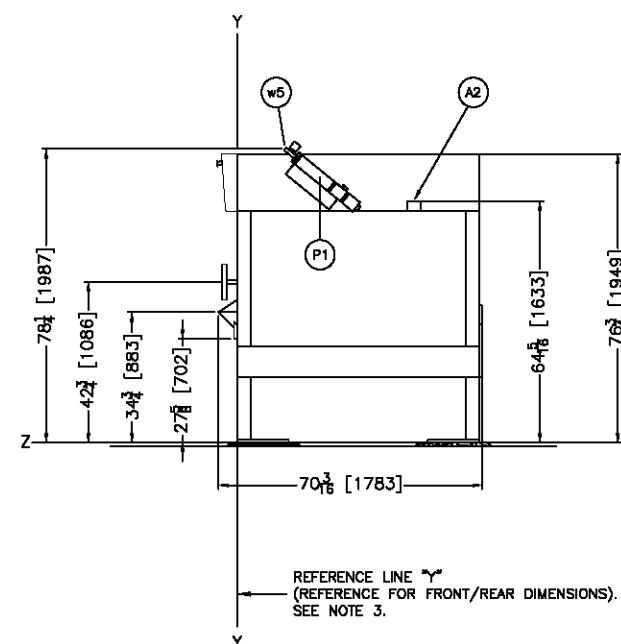
FOUNDATION PLAN VIEW



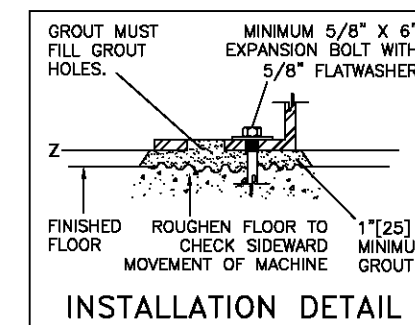
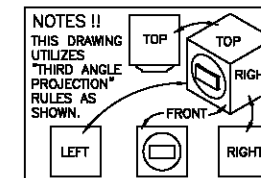
LEFT VIEW



FRONT VIEW



RIGHT VIEW



|      |  |
|------|--|
| W5   | HOT WATER FOR FLUSHING PERISTALTIC, 1/2" NPT.  |
| W4   | INDEPENDANT COOLDOWN WATER INLET, 3/4" NPT   |
| W3   | OPTIONAL THIRD WATER INLET CONNECTION, 1 1/2" NPT.   |
| W2   | COLD WATER INLET CONNECTION, 1 1/2" NPT.   |
| W1   | HOT WATER INLET CONNECTION, 1 1/2" NPT.  |
| S1   | STEAM INLET CONNECTION, 1 1/4" NPT   |
| M1   | SINGLE MOTOR DRIVE   |
| P1   | PERISTALTIC SUPPLY CONNECTION, MAXIMUM 15 PORTS, 1/2" NPT CONNECTIONS                              |
| F3   | GROUT HOLES, 3" DIAMETER, 1 PER PAD.   |
| F2   | (8) 1-1/16" DIAMETER ANCHOR BOLTS HOLES, ANCHOR (1) BOLT PER PAD MINIMUM. 5/8" X 6" BOLTS MINIMUM. |
| F1   | FOUNDATION BASE PADS, 4 PLACES.  |
| E4   | EMERGENCY STOP   |
| E3   | MITouch-EX™ TOUCH SCREEN CONTROLLER  |
| E2   | HIGH VOLTAGE CONTROL BOXES   |
| E1   | MAIN ELECTRICAL CONNECTION   |
| D1   | DRAIN VALVE, 8" DIAMETER.  |
| A2   | VENT, 3 1/2" DIAMETER.   |
| A1   | COMPRESSED AIR INLET CONNECTION, 1/4" NPT.   |
| ITEM | LEGEND   |

**NOTES**

10 SHIM TO LEVEL THE MACHINE AND ALLOW FOR 1" [25] MINIMUM GROUT. ANCHOR WITH ONE ANCHOR BOLT PER PAD, MINIMUM. USE 5/8" X 6" BOLTS, MINIMUM. SEE INSTALLATION MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.

9 "STEAM HAMMER", CAUSED BY WET STEAM OR CONDENSATION, MAY BE PREVENTED BY INSTALLING A TRAP IMMEDIATELY BEFORE THE STEAM VALVE.

8 DO NOT PRE-PIPE ANY CLOSER THAN 60 [1524].

7 DRAIN VALVE MAY MOVE ± 1 1/2 [38] IN ANY DIRECTION DURING OPERATION AND MUST NOT BE RIGIDLY CONNECTED TO DRAIN.

6 AS OF THIS WRITING, THE MINIMUM CLEARANCE REQUIRED BY U.S. NATIONAL ELECTRIC CODES, FROM ELECTRIC BOX TO ANY OBJECT IS:  
 36 [914] IF OBJECT IS AN UNGROUNDED (INSULATED) WALL.  
 42 [1067] IF OBJECT IS A GROUNDED WALL (e.g. BARE CONCRETE, BRICK, ETC.).  
 48 [1219] IF OBJECT IS ANY LIVE PART.  
 CHECK LOCAL ELECTRIC CODES FOR FURTHER RESTRICTIONS.

5 CUSTOMER TO SUPPLY CIRCUIT BREAKER OR FUSED BRANCH CIRCUIT DISCONNECT (SAFETY) SWITCHES WITH LAG TYPE FUSES FROM POWER SOURCE TO MACHINE. A SEPARATE GROUND WIRE MUST BE CONNECTED FROM DISCONNECT TO EQUIPMENT.

4 BASELINE "Z" IS THE SAME FOR ALL MILNOR MACHINES AND IS SHOWN ON ALL DIMENSIONAL DRAWINGS. THE DISTANCE BETWEEN BASELINE "Z" AND THE FINISHED FLOOR MAY VARY (WITH CHANGES IN FLOOR HEIGHT) AS REQUIRED TO INSURE THAT BASELINE "Z" IS HORIZONTAL AND ALL COMPONENTS REQUIRING GROUT ARE SET ON A MINIMUM 1" [25] THICK GROUT BED.

3 USE REFERENCE LINES "X", "Y", AND "Z" TO LOCATE ALL SERVICE CONNECTIONS.

2 NUMBERS IN BRACKETS [ ] DENOTE DIMENSIONS IN MILLIMETERS.

1 ALL DIMENSIONS SHOWN ARE APPROXIMATE, SUBJECT TO NORMAL MANUFACTURING TOLERANCES, AND TO OCCASIONAL CHANGES WITHOUT NOTICE THROUGH REDESIGN AND/OR RELOCATION OF COMPONENTS, ETC. DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED, AND IN NO EVENT PRE-PIPE CLOSER THAN FIVE FEET FROM MACHINE. FACTORY MUST BE CONSULTED FOR DIMENSIONS IF MACHINE IS TO BE MOVED THROUGH NARROW OR LOW CORRIDORS OR OPENINGS.

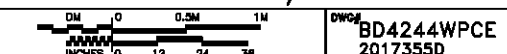
**ATTENTION**

MOST REGULATORY AUTHORITIES (INCLUDING OSHA IN THE USA) HOLD THE OWNER/USER ULTIMATELY RESPONSIBLE TO MAINTAIN A SAFE WORKING ENVIRONMENT. ACCORDINGLY, THE OWNER/USER MUST RECOGNIZE ALL FORESEEABLE SAFETY HAZARDS, FURNISH SAFETY INSTRUCTIONS AND GUIDANCE TO ALL PERSONNEL WHO MAY COME IN CONTACT WITH THE INSTALLATION, AND PROVIDE ALL NECESSARY ADDITIONAL SAFETY GUARDS, FENCES, RESTRAINTS, DEVICES, ETC., NOT FURNISHED BY THE EQUIPMENT MANUFACTURER OR VENDOR.

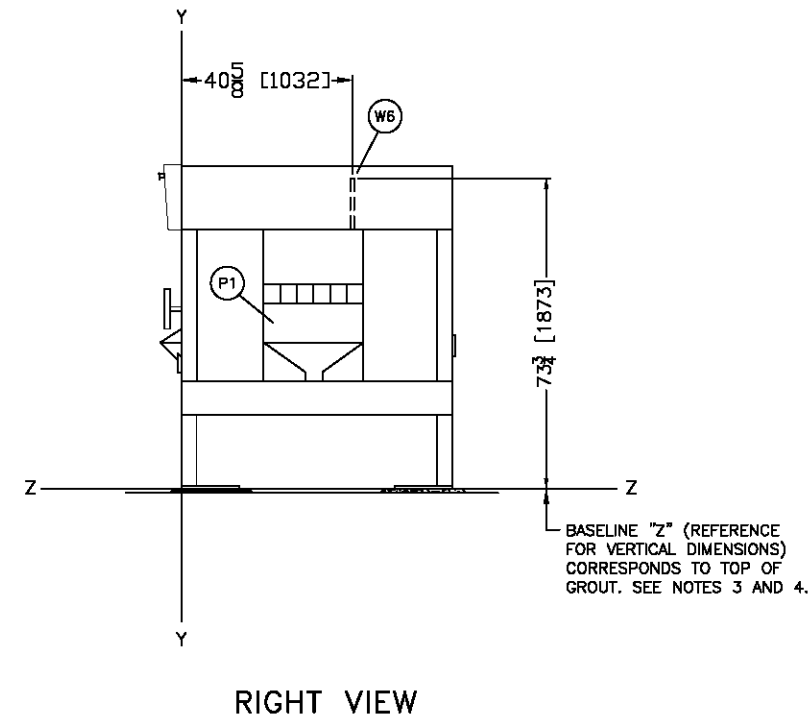
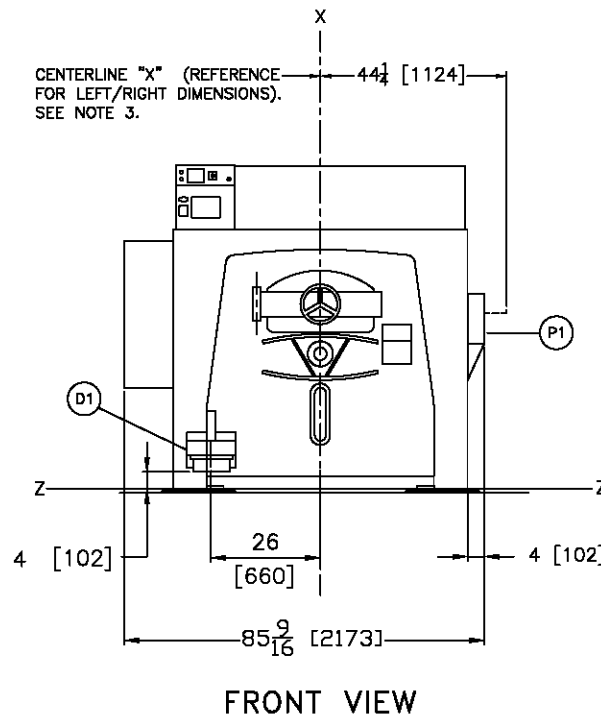
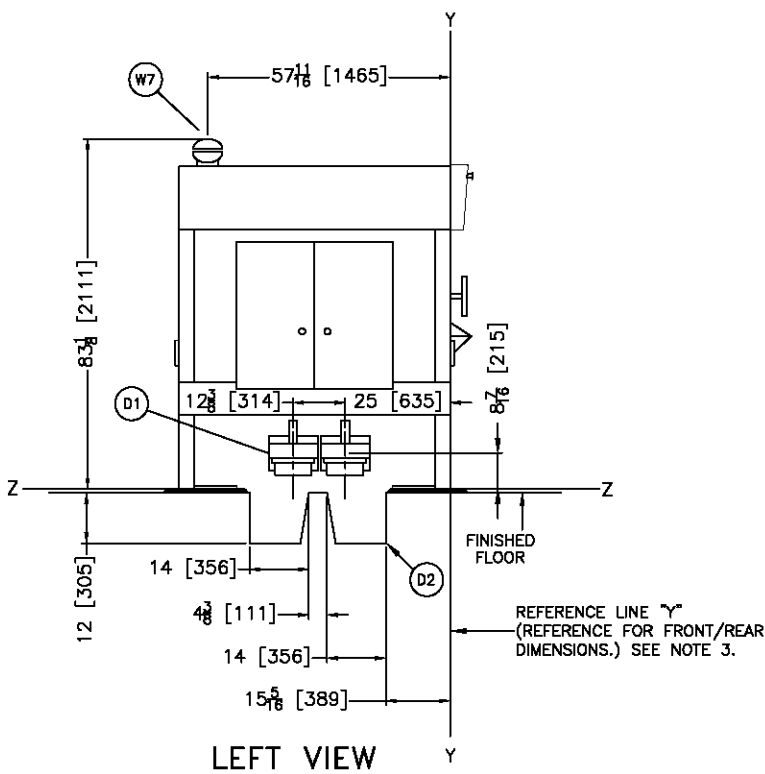
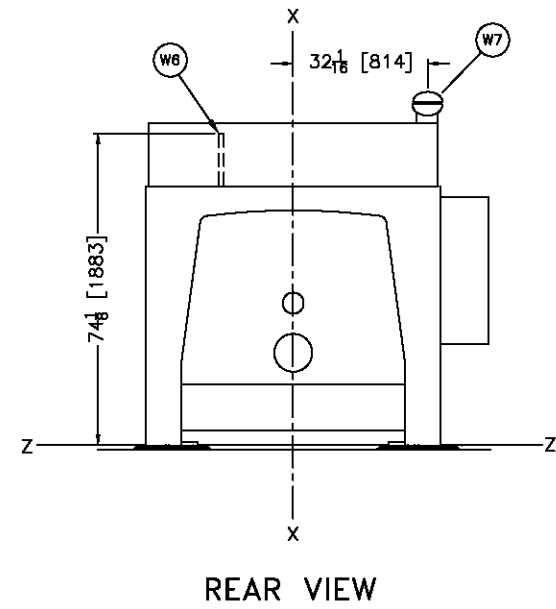
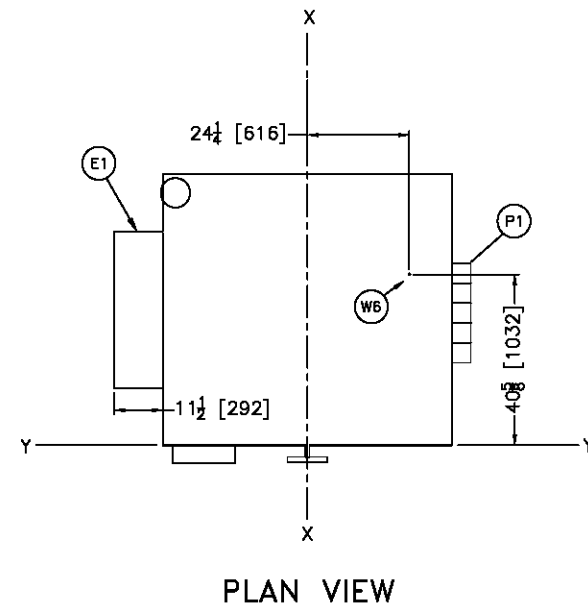
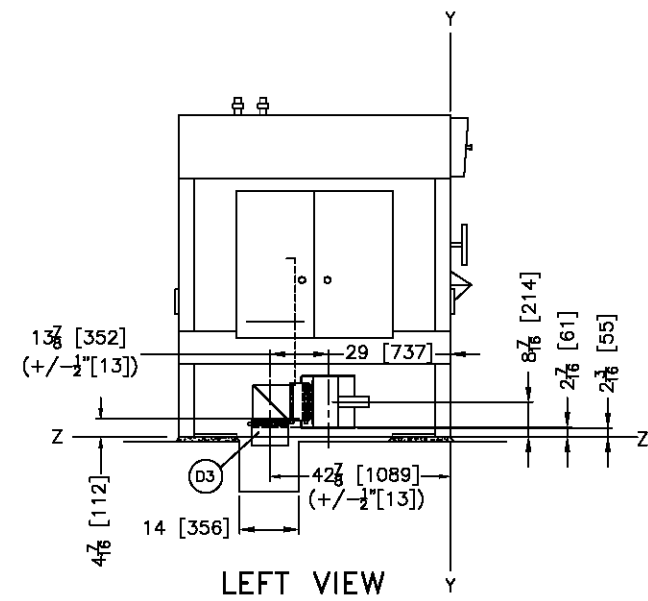
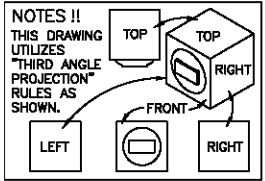
**ATTENTION**

THE FLOOR AND/OR OTHER SUPPORT COMPONENTS MUST HAVE SUFFICIENT STRENGTH (AND RIGIDITY WITH DUE CONSIDERATION FOR NATURAL OR RESONANT FREQUENCY THEREOF) TO WITHSTAND THE FULLY LOADED WEIGHT OF THE MACHINE INCLUDING THE GOODS, THE WATER, AND ANY REPEATED SINUSOIDAL (ROTATING) FORCES GENERATED DURING ITS OPERATION. WRITE THE FACTORY FOR ADDITIONAL MACHINE DATA FOR USE BY A COMPETENT SOIL AND/OR STRUCTURAL ENGINEER.

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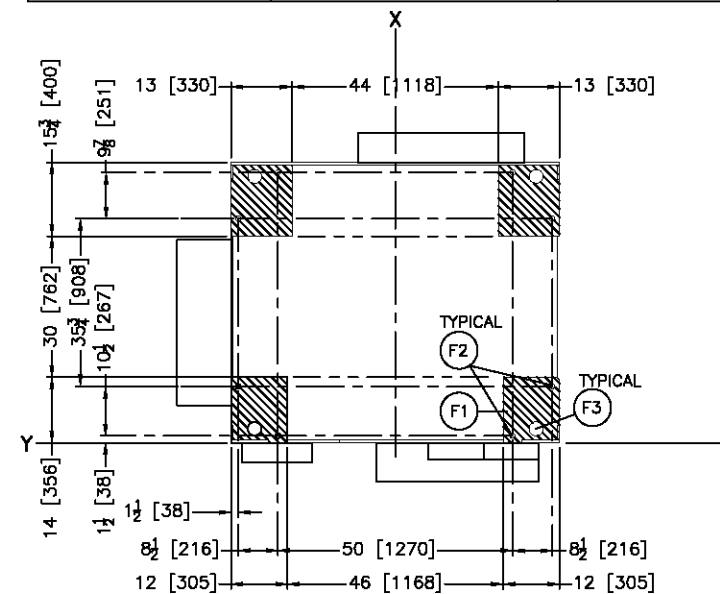
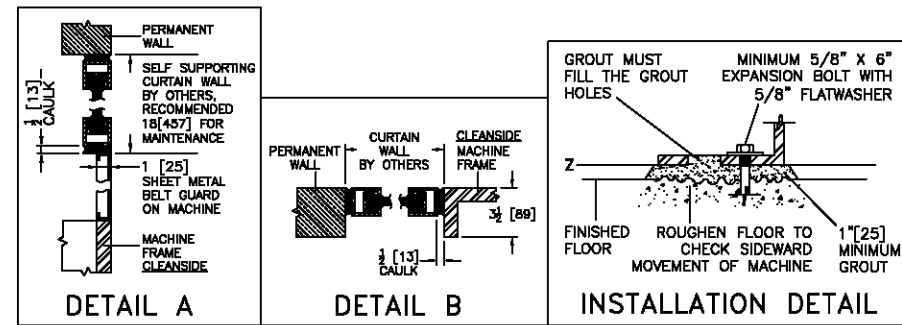
**MILNOR** PELLERIN MILNOR CORPORATION  
 P.O. Box 400 Kenner, LA 70063, USA, Phone 504/487-9581,  
 FAX 504/489-1849, Email: milnorinfo@milnor.com



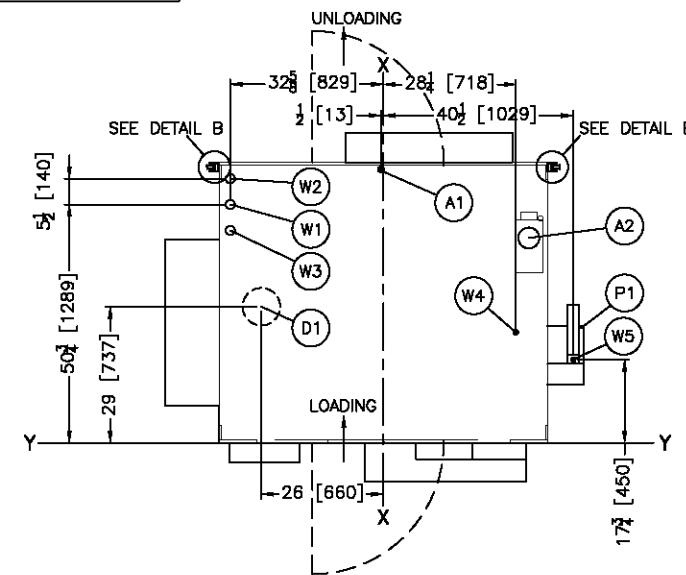
|      |   |
|------|---|
| W7   | OPTIONAL SIPHON BREAKER   |
| W6   | HOT WATER FOR FLUSHING OPTIONAL SUPPLY INJECTOR   |
|      | 1/2"NPT   |
| P1   | OPTIONAL 5 COMPARTMENT SUPPLY   |
| D3   | SINGLE DRAIN ROTATED 90 DEGREES TO REAR, 8" DIAMETER (6" LENGTH OF 8" DIAMETER HOSE SUPPLIED) |
| D2   | DUAL DRAIN TROUGH   |
| D1   | DUAL DRAIN VALVES, 8" DIAMETER.   |
| ITEM | LEGEND  |

|  |  |
|--|--|
| <b>NOTES</b>   |  |
| 8  | DO NOT PRE-PIPE ANY CLOSER THAN 60 [1524].   |
| 7  | DRAIN VALVE MAY MOVE ± 1 1/2 [38] IN ANY DIRECTION DURING OPERATION AND MUST NOT BE RIGIDLY CONNECTED TO DRAIN.  |
| 6  | AS OF THIS WRITING, THE MINIMUM CLEARANCE REQUIRED BY U.S. NATIONAL ELECTRIC CODES, FROM ELECTRIC BOX TO ANY OBJECT IS:<br>36 [914] IF OBJECT IS AN UNGROUNDED (INSULATED) WALL.<br>42 [1067] IF OBJECT IS A GROUNDED WALL (e.g. BARE CONCRETE, BRICK, ETC.).<br>48 [1219] IF OBJECT IS ANY LIVE PART.<br>CHECK LOCAL ELECTRIC CODES FOR FURTHER RESTRICTIONS.   |
| 5  | CUSTOMER TO SUPPLY CIRCUIT BREAKER OR FUSED BRANCH CIRCUIT DISCONNECT (SAFETY) SWITCHES WITH LAG TYPE FUSES FROM POWER SOURCE TO MACHINE. A SEPARATE GROUND WIRE MUST BE CONNECTED FROM DISCONNECT TO EQUIPMENT.   |
| 4  | BASELINE "Z" IS THE SAME FOR ALL MILNOR MACHINES AND IS SHOWN ON ALL DIMENSIONAL DRAWINGS. THE DISTANCE BETWEEN BASELINE "Z" AND THE FINISHED FLOOR MAY VARY (WITH CHANGES IN FLOOR HEIGHT) AS REQUIRED TO INSURE THAT BASELINE "Z" IS HORIZONTAL AND ALL COMPONENTS REQUIRING GROUT ARE SET ON A MINIMUM 1" [25] THICK GROUT BED.   |
| 3  | USE REFERENCE LINES "X", "Y", AND "Z" TO LOCATE ALL SERVICE CONNECTIONS.   |
| 2  | NUMBERS IN BRACKETS [ ] DENOTE DIMENSIONS IN MILLIMETERS.  |
| 1  | ALL DIMENSIONS SHOWN ARE APPROXIMATE, SUBJECT TO NORMAL MANUFACTURING TOLERANCES, AND TO OCCASIONAL CHANGES WITHOUT NOTICE THROUGH REDESIGN AND/OR RELOCATION OF COMPONENTS, ETC. DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED, AND IN NO EVENT PRE-PIPE CLOSER THAN FIVE FEET FROM MACHINE. FACTORY MUST BE CONSULTED FOR DIMENSIONS IF MACHINE IS TO BE MOVED THROUGH NARROW OR LOW CORRIDORS OR OPENINGS. |
| <b>ATTENTION</b>   |  |
| MOST REGULATORY AUTHORITIES (INCLUDING OSHA IN THE USA) HOLD THE OWNER/USER ULTIMATELY RESPONSIBLE TO MAINTAIN A SAFE WORKING ENVIRONMENT. ACCORDINGLY, THE OWNER/USER MUST RECOGNIZE ALL FORESEEABLE SAFETY HAZARDS, FURNISH SAFETY INSTRUCTIONS AND GUIDANCE TO ALL PERSONNEL WHO MAY COME IN CONTACT WITH THE INSTALLATION, AND PROVIDE ALL NECESSARY ADDITIONAL SAFETY GUARDS, FENCES, RESTRAINTS, DEVICES, ETC., NOT FURNISHED BY THE EQUIPMENT MANUFACTURER OR VENDOR. |  |
| <b>ATTENTION</b>   |  |
| THE FLOOR AND/OR OTHER SUPPORT COMPONENTS MUST HAVE SUFFICIENT STRENGTH (AND RIGIDITY WITH DUE CONSIDERATION FOR NATURAL OR RESONANT FREQUENCY THEREOF) TO WITHSTAND THE FULLY LOADED WEIGHT OF THE MACHINE INCLUDING THE GOODS, THE WATER, AND ANY REPEATED SINUSOIDAL (ROTATING) FORCES GENERATED DURING ITS OPERATION. WRITE THE FACTORY FOR ADDITIONAL MACHINE DATA FOR USE BY A COMPETENT SOIL AND/OR STRUCTURAL ENGINEER.  |  |

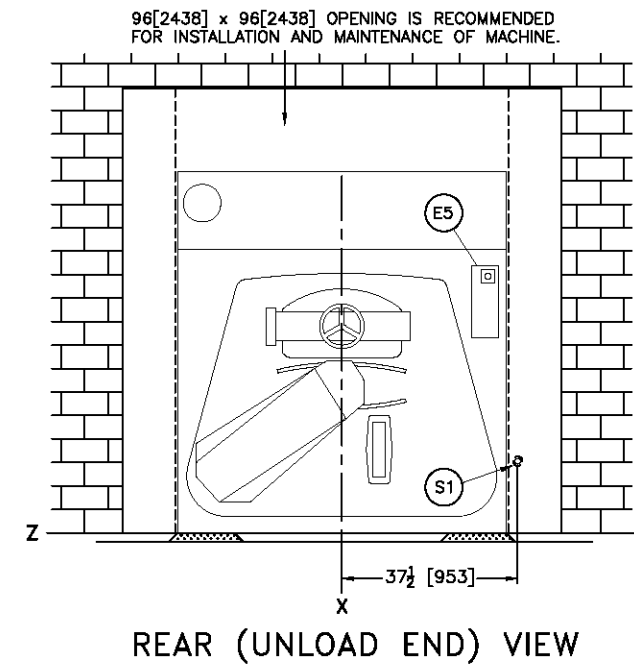
42044WR2/3 SM OPTIONS



FOUNDATION PLAN

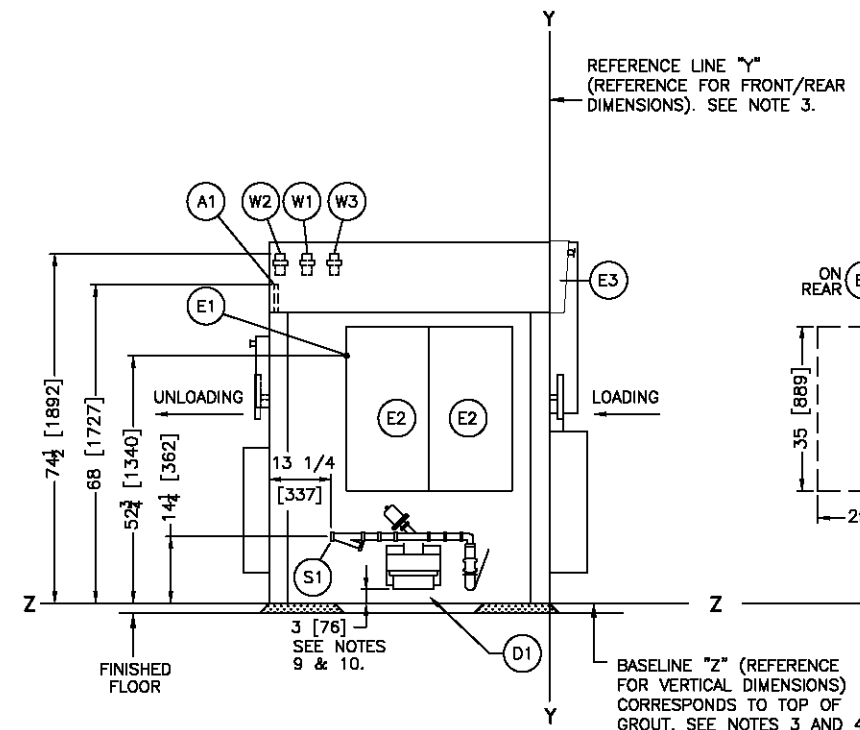


PLAN VIEW

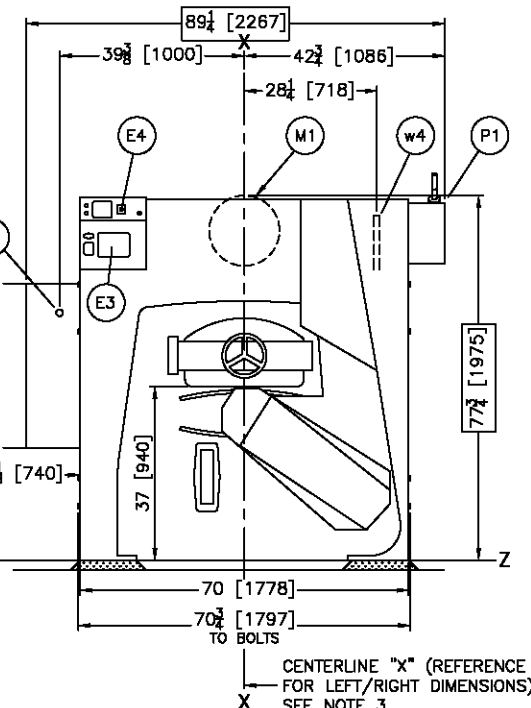


|      |  |
|------|--|
| W5   | HOT WATER FOR FLUSHING PERISTALTIC, 1/2" NPT.  |
| W4   | INDEPENDANT COOLDOWN CONNECTION, 3/4" NPT.   |
| W3   | OPTIONAL THIRD WATER INLET CONNECTION, 1 1/2" NPT.   |
| W2   | COLD WATER INLET CONNECTION, 1 1/2" NPT.   |
| W1   | HOT WATER INLET CONNECTION, 1 1/2" NPT.  |
| S1   | STEAM INLET CONNECTION, 1 1/4" NPT.  |
| P2   | SOAP CHUTE   |
| P1   | PERISTALTIC SUPPLY CONNECTION  |
| M1   | SINGLE MOTOR DRIVE   |
| F3   | GROUT HOLES, 3" DIAMETER, 1 PER PAD.   |
| F2   | (8) 1-1/16" DIAMETER ANCHOR BOLTS HOLES, ANCHOR (1) BOLT PER PAD MINIMUM. 5/8" X 6" BOLTS MINIMUM. |
| F1   | FOUNDATION BASE PADS, 4 PLACES.  |
| E5   | REAR CONTROLS  |
| E4   | EMERGENCY STOP   |
| E3   | MITouch-EX™ TOUCH SCREEN CONTROLLER  |
| E2   | HIGH VOLTAGE CONTROL BOXES   |
| E1   | MAIN ELECTRICAL CONNECTION   |
| D1   | DRAIN VALVE, 8" DIAMETER. SHOWN IN PUSHED DOWN POSITION. ALSO, SEE NOTES 9 & 10.                   |
| A2   | STAPHAIRITROL  |
| A1   | COMPRESSED AIR INLET CONNECTION, 1/4" NPT.   |
| ITEM | LEGEND   |

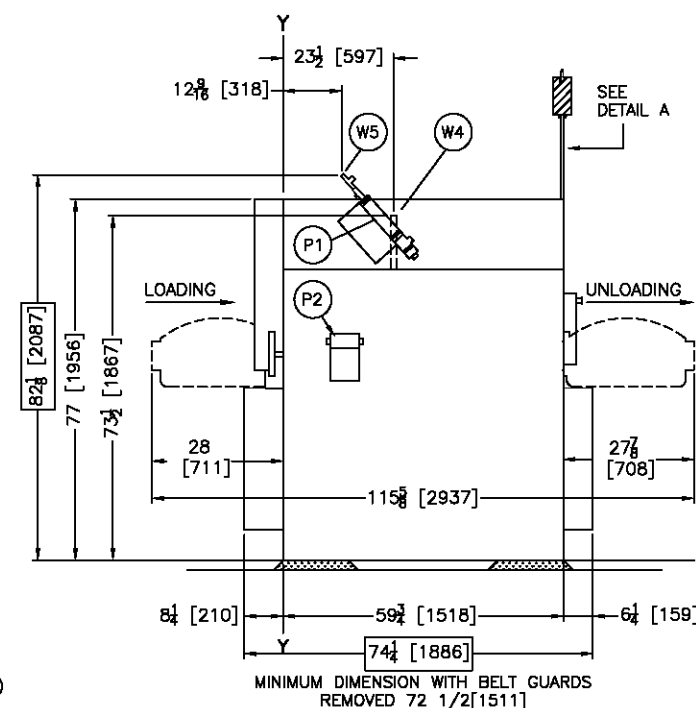
|  |  |
|--|--|
| NOTES  |  |
| 15   | SHIM TO LEVEL THE MACHINE AND ALLOW FOR 1" [25] MINIMUM GROUT. ANCHOR WITH ONE ANCHOR BOLT PER PAD, MINIMUM. USE 5/8" X 6" BOLTS, MINIMUM. SEE INSTALLATION MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.   |
| 14   | ITEMS SHOWN ON THIS PAGE ARE STANDARD OF THIS MACHINE. FOR OPTIONS SEE BD4244SPBB.   |
| 13   | DO NOT PRE-PIPE ANY CLOSER THAN 80 [1524].   |
| 12   | "STEAM HAMMER", CAUSED BY WET STEAM OR CONDENSATION, MAY BE PREVENTED BY INSTALLING A TRAP IMMEDIATELY BEFORE THE STEAM VALVE.   |
| 11   | DRAIN VALVE TO GUTTER PIPING ARRANGEMENT CAN BE REVERSED BY REVERSING DRAIN VALVE AIR CONNECTION. DO NOT CHANGE ANY ELECTRICAL CONNECTIONS.  |
| 10   | THIS DIMENSION IS WITH CYLINDER IN "PUSHED DOWN" POSITION. PUSH DOWN TRAVEL IS APPROXIMATELY 2 1/2 [64].   |
| 9  | DRAIN VALVE MAY MOVE ± 1 1/2 [38] IN ANY DIRECTION DURING OPERATION AND MUST NOT BE RIGIDLY CONNECTED TO DRAIN.  |
| 8  | SHADED AREAS DENOTE BASE PLATES WHICH SHOULD BE CONTINUOUSLY SUPPORTED.  |
| 7  | IT IS NECESSARY TO PUT A 1 [25] THICK BED OF GROUT BENEATH THIS MACHINE TO INSURE THE STAPH-GUARD BRACKET ASSEMBLY WILL NOT HIT THE FLOOR.   |
| 6  | AS OF THIS WRITING, THE MINIMUM CLEARANCE REQUIRED BY U.S. NATIONAL ELECTRIC CODES FROM ELECTRIC BOX TO ANY OBJECT IS:<br>36 [914] IF OBJECT IS AN UNGROUNDED (INSULATED) WALL.<br>42 [1067] IF OBJECT IS A GROUNDED WALL (e.g. BARE CONCRETE, BRICK, ETC.)<br>48 [1219] IF OBJECT IS ANY LIVE PART.<br>CHECK LOCAL ELECTRIC CODES FOR FURTHER RESTRICTIONS.   |
| 5  | CUSTOMER TO SUPPLY CIRCUIT BREAKER OR FUSED BRANCH CIRCUIT DISCONNECT (SAFETY) SWITCHES WITH LAG TYPE FUSES FROM POWER SOURCE TO MACHINE. A SEPARATE GROUND WIRE MUST BE CONNECTED FROM DISCONNECT TO EQUIPMENT.   |
| 4  | BASILINE "Z" IS THE SAME FOR ALL MILNOR MACHINES AND IS SHOWN ON ALL DIMENSIONAL DRAWINGS. THE DISTANCE BETWEEN BASILINE "Z" AND THE FINISHED FLOOR MAY VARY (WITH CHANGES IN FLOOR HEIGHT) AS REQUIRED TO INSURE THAT BASILINE "Z" IS HORIZONTAL AND ALL COMPONENTS REQUIRING GROUT ARE SET ON A MINIMUM 1" [25] THICK GROUT BED.   |
| 3  | USE REFERENCE LINES "X", "Y", AND "Z" TO LOCATE ALL SERVICE CONNECTIONS.   |
| 2  | NUMBERS IN BRACKETS [ ] DENOTE DIMENSIONS IN MILLIMETERS.  |
| 1  | ALL DIMENSIONS SHOWN ARE APPROXIMATE, SUBJECT TO NORMAL MANUFACTURING TOLERANCES, AND TO OCCASIONAL CHANGES WITHOUT NOTICE THROUGH REDESIGN AND/OR RELOCATION OF COMPONENTS, ETC. DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED, AND IN NO EVENT PRE-PIPE CLOSER THAN FIVE FEET FROM MACHINE. FACTORY MUST BE CONSULTED FOR DIMENSIONS IF MACHINE IS TO BE MOVED THROUGH NARROW OR LOW CORRIDORS OR OPENINGS. |
| ATTENTION  |  |
| MOST REGULATORY AUTHORITIES (INCLUDING OSHA IN THE USA) HOLD THE OWNER/USER ULTIMATELY RESPONSIBLE TO MAINTAIN A SAFE WORKING ENVIRONMENT. ACCORDINGLY, THE OWNER/USER MUST RECOGNIZE ALL FORESEEABLE SAFETY HAZARDS, FURNISH SAFETY INSTRUCTIONS AND GUIDANCE TO ALL PERSONNEL WHO MAY COME IN CONTACT WITH THE INSTALLATION, AND PROVIDE ALL NECESSARY ADDITIONAL SAFETY GUARDS, FENCES, RESTRAINTS, DEVICES, ETC., NOT FURNISHED BY THE EQUIPMENT MANUFACTURER OR VENDOR. |  |
| ATTENTION  |  |
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LEFT VIEW



FRONT (LOAD END) VIEW



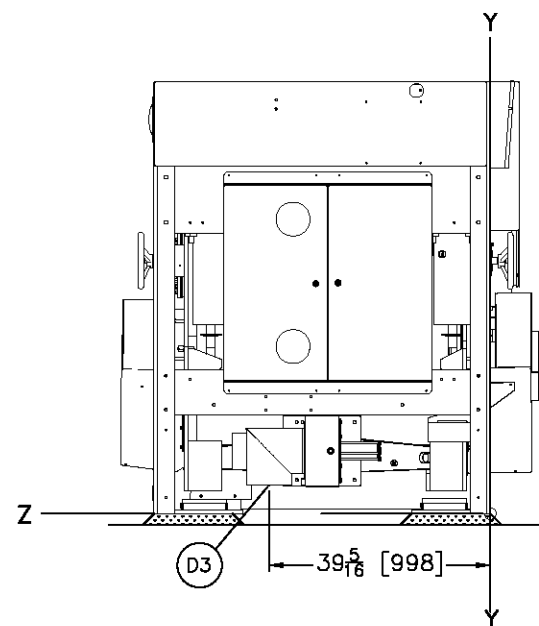
RIGHT VIEW

42044SR2/SR3 SM

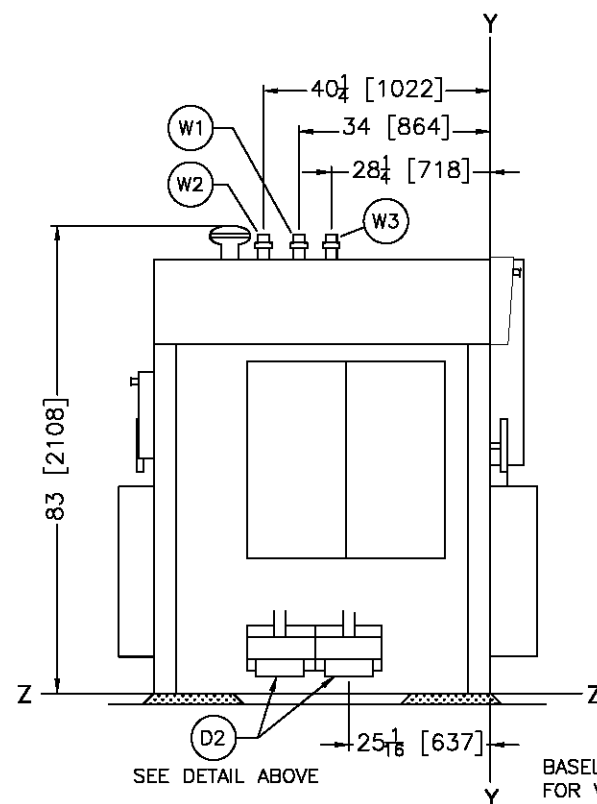
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MILNOR PELLERIN MILNOR CORPORATION  
P.O. Box 400 Kenner, LA 70083, USA, Phone 504/487-9581,  
FAX 504/488-3084, Email: milnorinfo@milnor.com

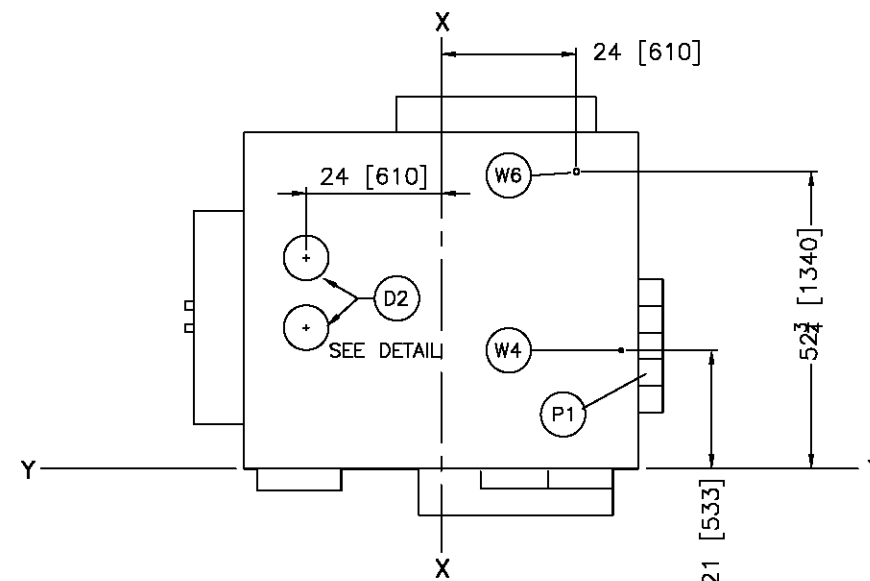


LEFT VIEW

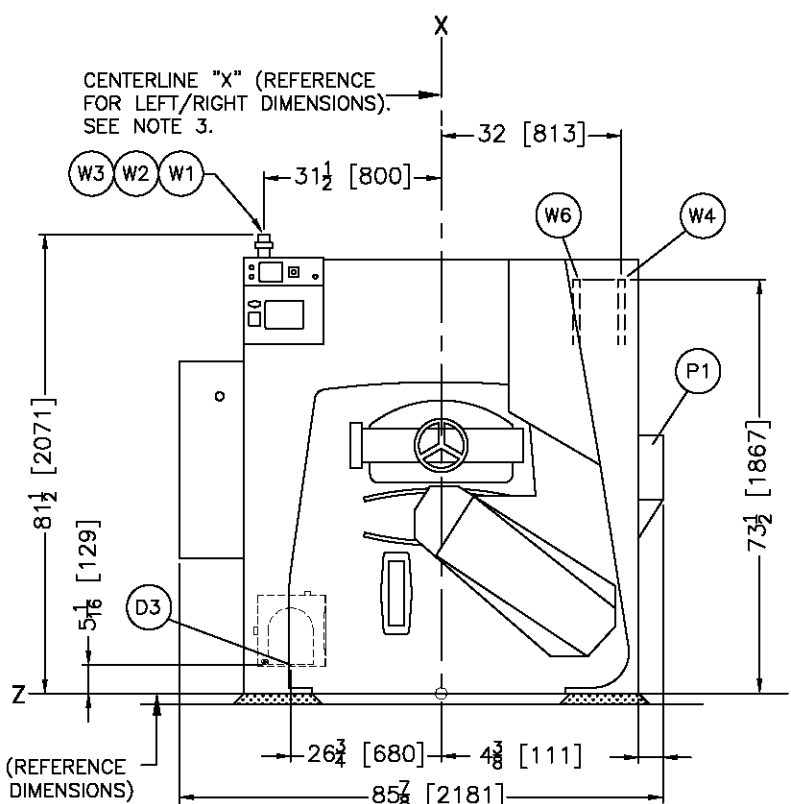


LEFT VIEW

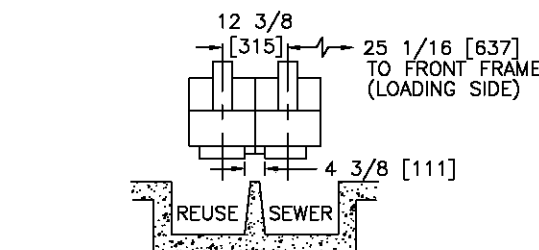
BASELINE "Z" (REFERENCE FOR VERTICAL DIMENSIONS) CORRESPONDS TO TOP OF GROUT. SEE NOTE 3 AND 4.



PLAN VIEW

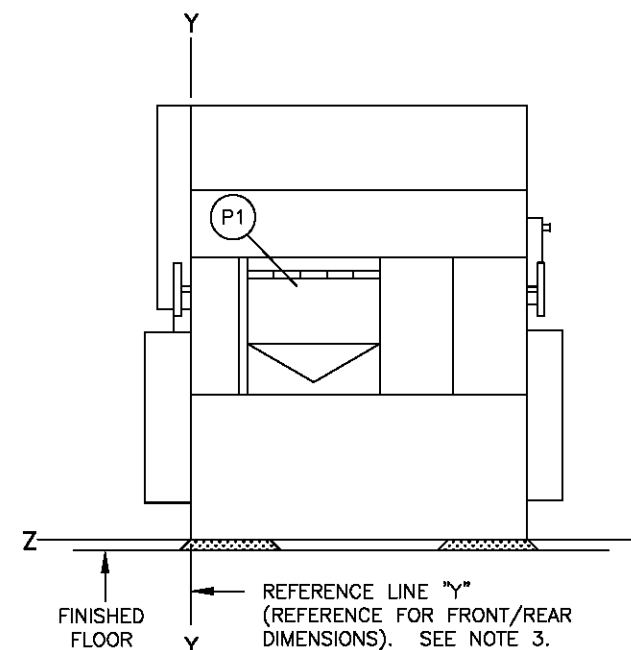


FRONT (LOAD END) VIEW



OPTIONAL WATER REUSE DUAL DRAIN VALVE

(SEE NOTES 8 & 9)  
NOT TO SCALE

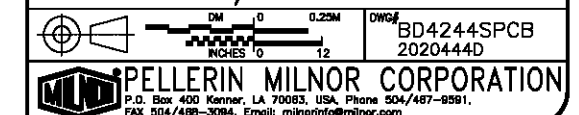


RIGHT VIEW

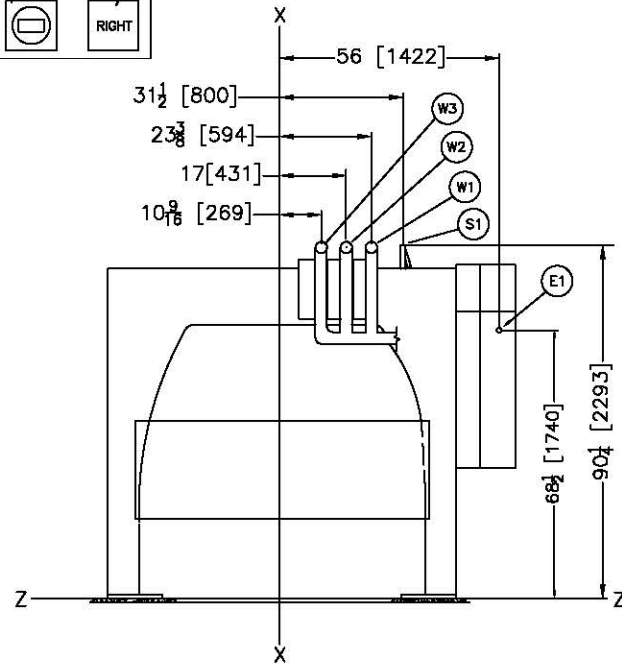
| ITEM | LEGEND   |
|------|--|
| W6   | HOT WATER FOR FLUSHING OPTIONAL 5 COMPARTMENT        |
|      | SUPPLY 1/2"NPT CONNECTION                            |
| W4   | INDEPENDANT COOLDOWN WITH OPTIONAL VACUUM BREAKER    |
|      | CONNECTION, 3/4" NPT.                                |
| W3   | OPTIONAL THIRD WATER INLET CONNECTION WITH OPTIONAL  |
|      | VACUUM BREAKER. 1 1/2" NPT.                          |
| W2   | COLD WATER INLET CONNECTION WITH VACUUM BREAKER,     |
|      | 1 1/2" NPT.  |
| W1   | HOT WATER INLET CONNECTION WITH VACUUM BREAKER,      |
|      | 1 1/2" NPT.  |
| P1   | OPTIONAL 5 COMPARTMENT SUPPLY                        |
| D3   | ROTATE DRAIN TO REAR 90 DEGRESS (offsets singe drain |
|      | down) 8" DIAMETER                                    |
| D2   | DUAL DRAIN VALVE, TWO, 8" DIAMETER. SEE DETAIL.      |

| NOTES  |
|--|
| 12 THE LOCATION OF CERTAIN OPTIONAL COMPONENTS WILL VARY WITH THE COMBINATIONS OF OPTIONS ORDERED. THESE OPTION COMBINATIONS ARE NOT SHOWN. CONSULT FACTORY FOR MORE INFORMATION.  |
| 11 DO NOT PRE-PIPE ANY CLOSER THAN 60 [1524].  |
| 10 "STEAM HAMMER", CAUSED BY WET STEAM OR CONDENSATION, MAY BE PREVENTED BY INSTALLING A TRAP IMMEDIATELY BEFORE THE STEAM VALVE.  |
| 9 DRAIN VALVE TO GUTTER PIPING ARRANGEMENT CAN BE REVERSED BY REVERSING DRAIN VALVE AIR CONNECTION. DO NOT CHANGE ANY ELECTRICAL CONNECTIONS.  |
| 8 DRAIN VALVE MAY MOVE $\pm 1\frac{1}{2}$ [38] IN ANY DIRECTION DURING OPERATION AND MUST NOT BE RIGIDLY CONNECTED TO DRAIN.   |
| 7 IT IS NECESSARY TO PUT A 1 [25] THICK BED OF GROUT BENEATH THIS MACHINE TO INSURE THE STAFF-GUARD BRACE ASSEMBLY WILL NOT HIT THE FLOOR.   |
| 6 AS OF THIS WRITING, THE MINIMUM CLEARANCE REQUIRED BY U.S. NATIONAL ELECTRIC CODES, FROM ELECTRIC BOX TO ANY OBJECT IS:<br>36 [914] IF OBJECT IS AN UNGROUNDED (INSULATED) WALL.<br>42 [1067] IF OBJECT IS A GROUNDED WALL (e.g. BARE CONCRETE, BRICK, ETC.)<br>48 [1219] IF OBJECT IS ANY LIVE PART.<br>CHECK LOCAL ELECTRIC CODES FOR FURTHER RESTRICTIONS.  |
| 5 CUSTOMER TO SUPPLY CIRCUIT BREAKER OR FUSED BRANCH CIRCUIT DISCONNECT (SAFETY) SWITCHES WITH LAG TYPE FUSES FROM POWER SOURCE TO MACHINE. A SEPARATE GROUND WIRE MUST BE CONNECTED FROM DISCONNECT TO EQUIPMENT.   |
| 4 BASELINE "Z" IS THE SAME FOR ALL MILNOR MACHINES AND IS SHOWN ON ALL DIMENSIONAL DRAWINGS. THE DISTANCE BETWEEN BASELINE "Z" AND THE FINISHED FLOOR MAY VARY (WITH CHANGES IN FLOOR HEIGHT) AS REQUIRED TO INSURE THAT BASELINE "Z" IS HORIZONTAL AND ALL COMPONENTS REQUIRING GROUT ARE SET ON A MINIMUM 1" [25] THICK GROUT BED.   |
| 3 USE REFERENCE LINES "X", "Y", AND "Z" TO LOCATE ALL SERVICE CONNECTIONS.   |
| 2 NUMBERS IN BRACKETS [ ] DENOTE DIMENSIONS IN MILLIMETERS.  |
| 1 ALL DIMENSIONS SHOWN ARE APPROXIMATE, SUBJECT TO NORMAL MANUFACTURING TOLERANCES, AND TO OCCASIONAL CHANGES WITHOUT NOTICE THROUGH REDESIGN AND/OR RELOCATION OF COMPONENTS, ETC. DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED, AND IN NO EVENT PRE-PIPE CLOSER THAN FIVE FEET FROM MACHINE. FACTORY MUST BE CONSULTED FOR DIMENSIONS IF MACHINE IS TO BE MOVED THROUGH NARROW OR LOW CORRIDORS OR OPENINGS.   |
| <b>ATTENTION</b><br>MOST REGULATORY AUTHORITIES (INCLUDING OSHA IN THE USA) HOLD THE OWNER/USER ULTIMATELY RESPONSIBLE TO MAINTAIN A SAFE WORKING ENVIRONMENT. ACCORDINGLY, THE OWNER/USER MUST RECOGNIZE ALL FORESEEABLE SAFETY HAZARDS, FURNISH SAFETY INSTRUCTIONS AND GUIDANCE TO ALL PERSONNEL WHO MAY COME IN CONTACT WITH THE INSTALLATION, AND PROVIDE ALL NECESSARY ADDITIONAL SAFETY GUARDS, FENCES, RESTRAINTS, DEVICES, ETC., NOT FURNISHED BY THE EQUIPMENT MANUFACTURER OR VENDOR. |
| <b>ATTENTION</b><br>THE FLOOR AND/OR OTHER SUPPORT COMPONENTS MUST HAVE SUFFICIENT STRENGTH (AND RIGIDITY WITH DUE CONSIDERATION FOR NATURAL OR RESONANT FREQUENCY THEREOF) TO WITHSTAND THE FULLY LOADED WEIGHT OF THE MACHINE INCLUDING THE GOODS, THE WATER, AND ANY REPEATED SINUSOIDAL (ROTATING) FORCES GENERATED DURING ITS OPERATION. WRITE THE FACTORY FOR ADDITIONAL MACHINE DATA FOR USE BY A COMPETENT SOIL AND/OR STRUCTURAL ENGINEER.  |

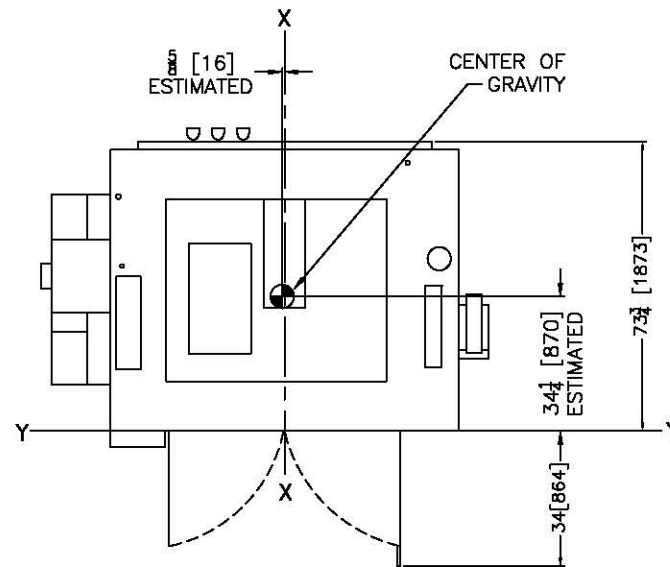
42044SR2/SR3 SM OPTIONS



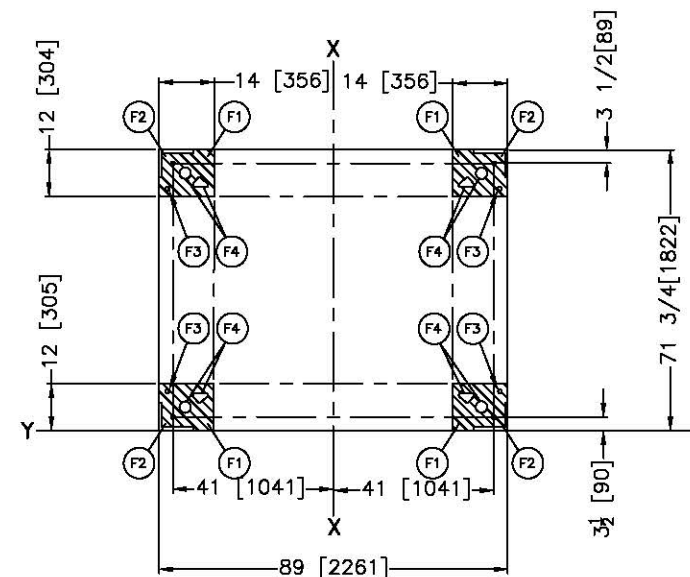
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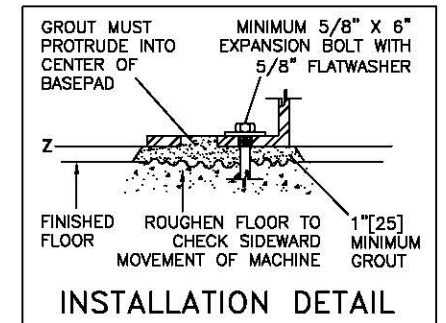
REAR VIEW



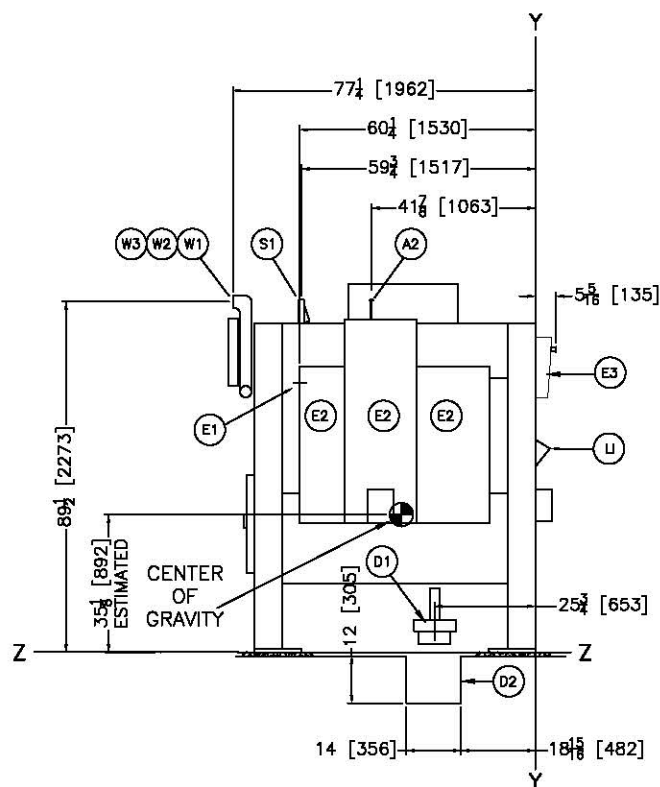
PLAN VIEW



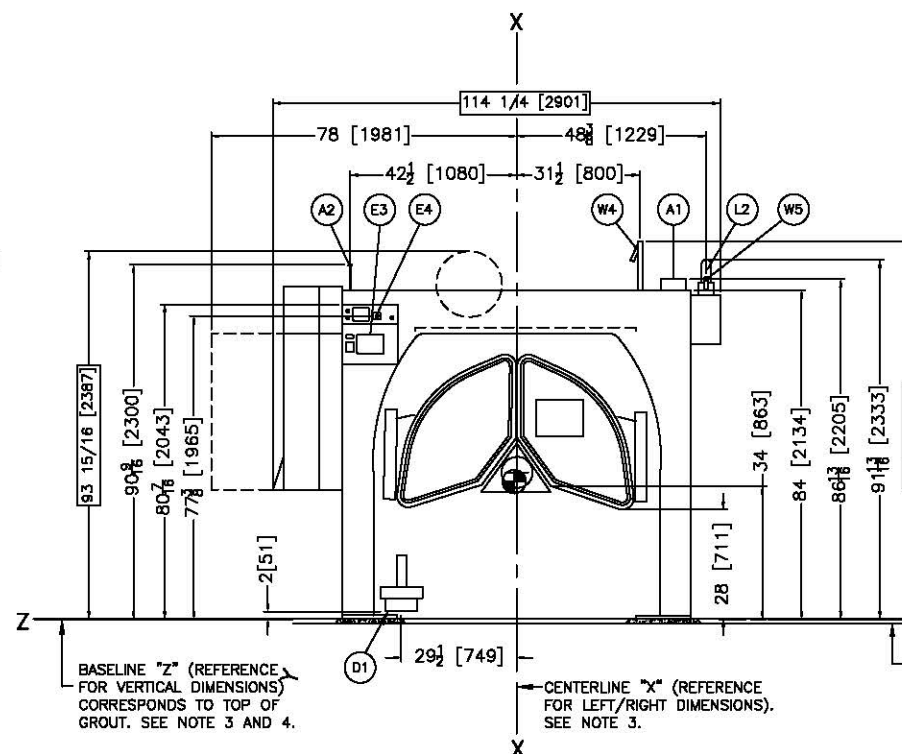
FOUNDATION PLAN VIEW



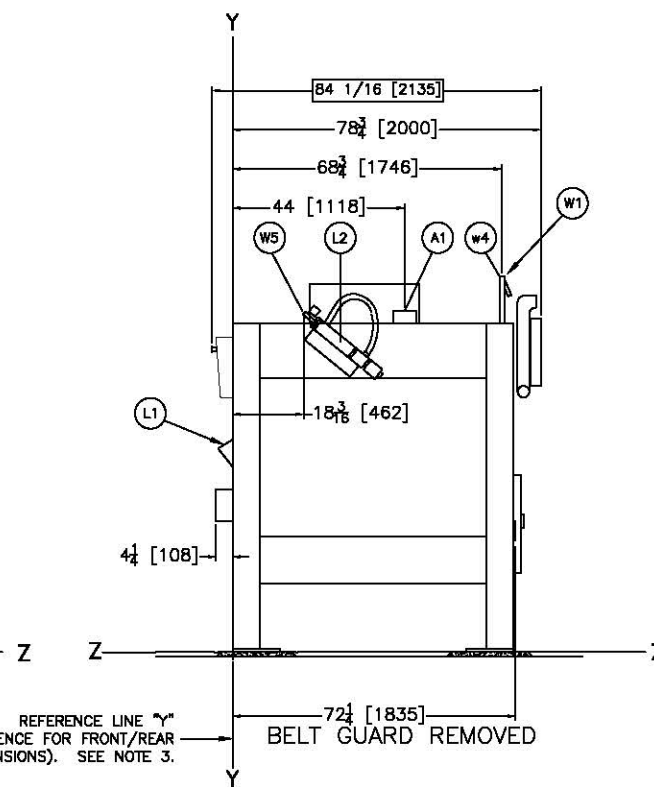
|      |  |
|------|--|
| W5   | 1/2" NPT HOT WATER INLET FOR PERISTALTIC   |
| W4   | INDEPENDANT COOLDOWN INLET 1 1/4" NPT  |
| W3   | OPTIONAL THIRD WATER INLET CONNECTION 2" NPT   |
| W2   | COLD WATER INLET CONNECTION 2" NPT   |
| W1   | HOT WATER INLET CONNECTION 2" NPT  |
| S1   | 1 1/4" NPT STEAM CONNECTION  |
| L2   | OPTIONAL PERISTALTIC SUPPLY CONNECTION   |
| L1   | SOAP CHUTE   |
| F4   | GROUT HOLES  |
| F3   | 1 1/16" DIAMETER ALTERNATE ANCHOR BOLT HOLES, IF (F2) IS INACCESSIBLE                              |
| F2   | 1 1/16" DIAMETER ANCHOR BOLT HOLES, USE MINIMUM 5/8" X 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM. |
| F1   | FOUNDATION BASE PADS, 4 PLACES   |
| E4   | EMERGENCY STOP   |
| E3   | MITouch-EX™ TOUCH SCREEN CONTROLLER  |
| E2   | HIGH VOLTAGE CONTROL BOXES   |
| E1   | MAIN ELECTRICAL CONNECTION   |
| D2   | SINGLE DRAIN TROUGH  |
| D1   | DRAIN 8" DIAMETER DRAIN VALVE  |
| A2   | COMPRESSED AIR INLET 1/4" NPT  |
| A1   | VENT 6" DIAMETER   |
| ITEM | LEGEND   |



LEFT VIEW



FRONT VIEW



RIGHT VIEW

**NOTES**

12 SHIM TO LEVEL THE MACHINE AND ALLOW FOR 1" [25] MINIMUM GROUT. ANCHOR WITH ONE ANCHOR BOLT PER PAD, MINIMUM. USE 5/8" X 6" BOLTS, MINIMUM. SEE INSTALLATION MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.

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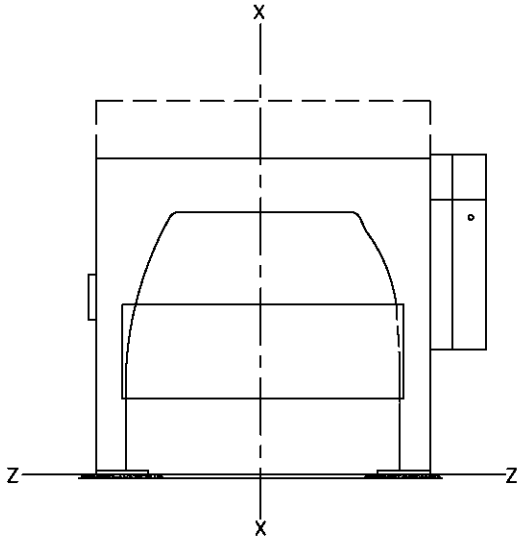
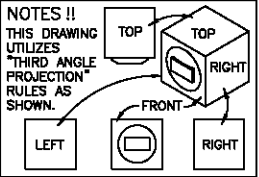
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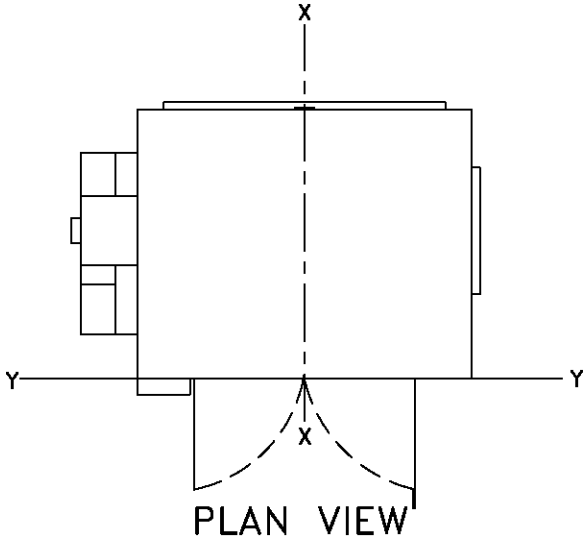
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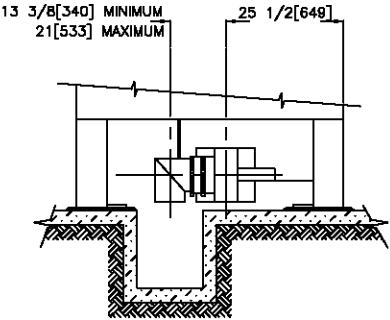
**MILNOR** PELLERIN MILNOR CORPORATION  
P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467-9581,  
Fax 504/469-1849, Email: milnorinfo@milnor.com



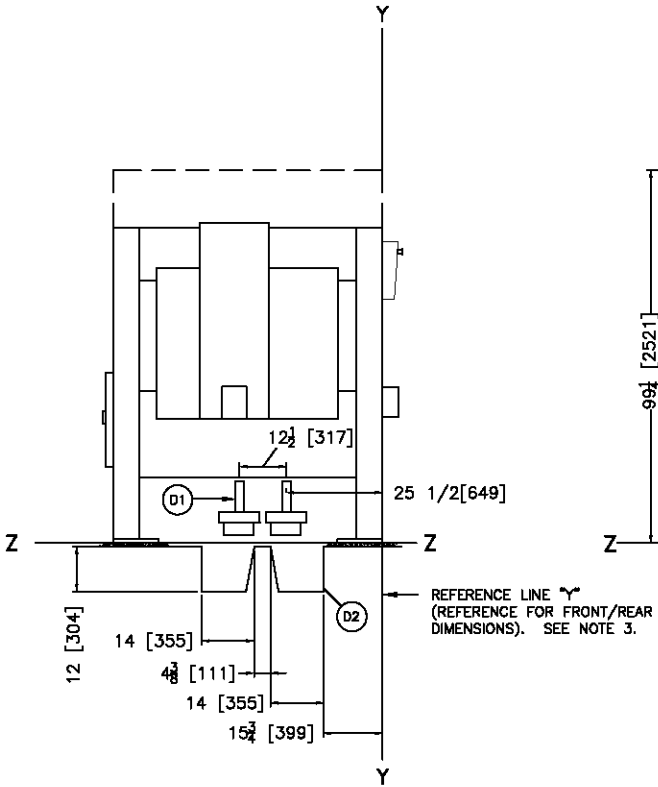
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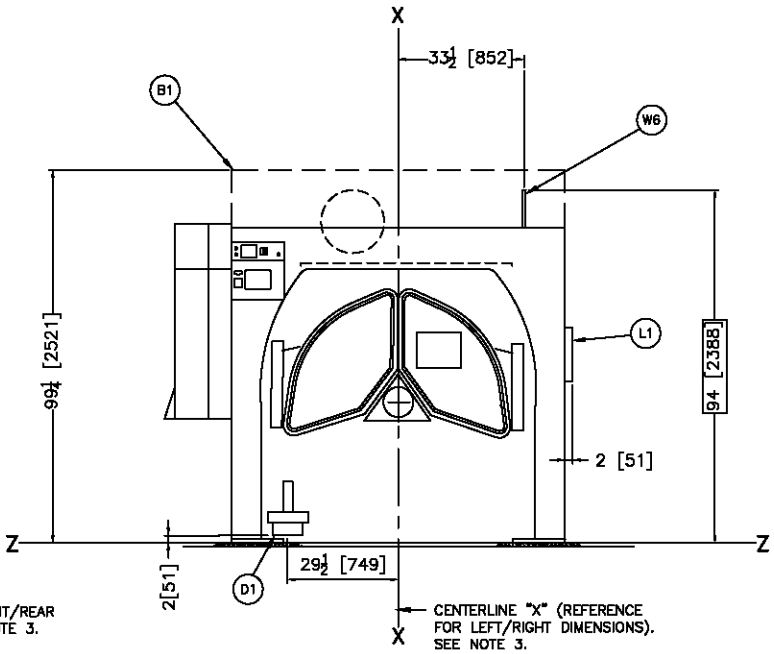
PLAN VIEW



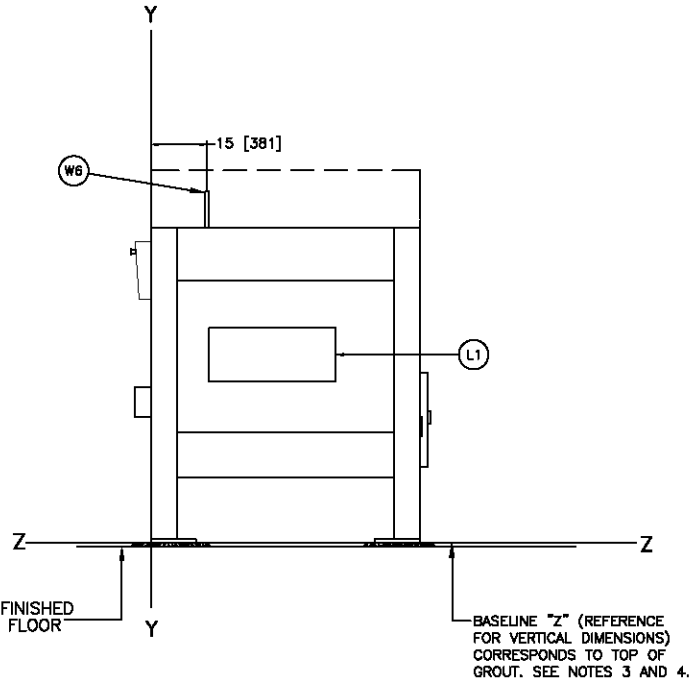
DRAIN VALVE ALTERNATE  
90 DEGREE POSITION



LEFT VIEW



FRONT VIEW



RIGHT VIEW

|      |   |
|------|---|
| W6   | HOT WATER CONNECTION FOR OPTIONAL SUPPLY INJECTOR |
|      | 1" NPT  |
| L1   | FIVE COMPARTMENT SUPPLY                           |
| D2   | DUAL DRAIN TROUGH                                 |
| D1   | DUAL DRAIN (2) - 8" DIAMETER DRAIN VALVES         |
| B1   | OPTIONAL UPPER BELT GUARD                         |
| ITEM | LEGEND  |

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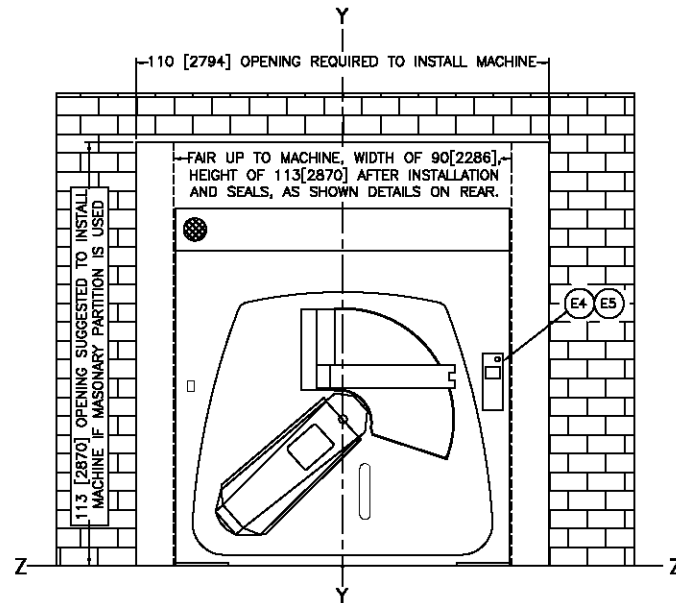
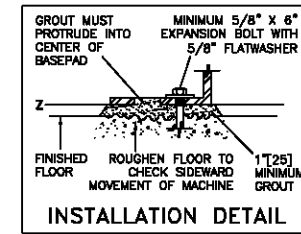
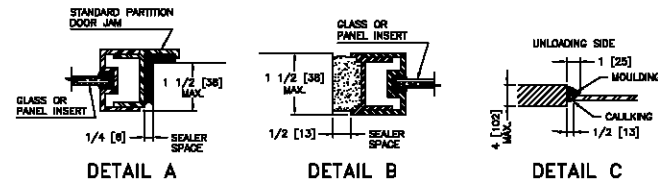
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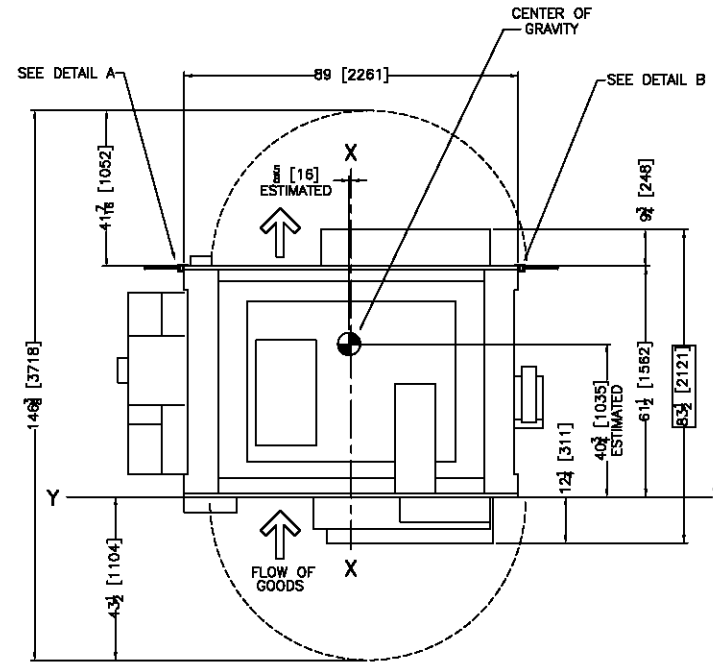
MILNOR PELLERIN MILNOR CORPORATION  
P.O. Box 400 Kenner, LA 70083, USA, Phone 504/487-9581,  
Fax 504/489-1848, Email: milnorinfo@milnor.com



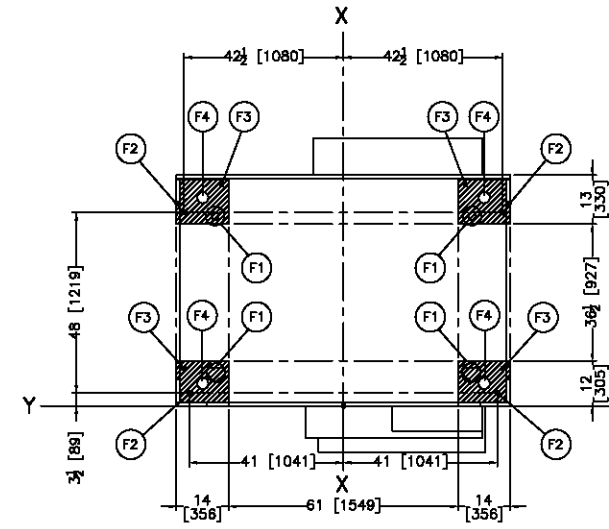
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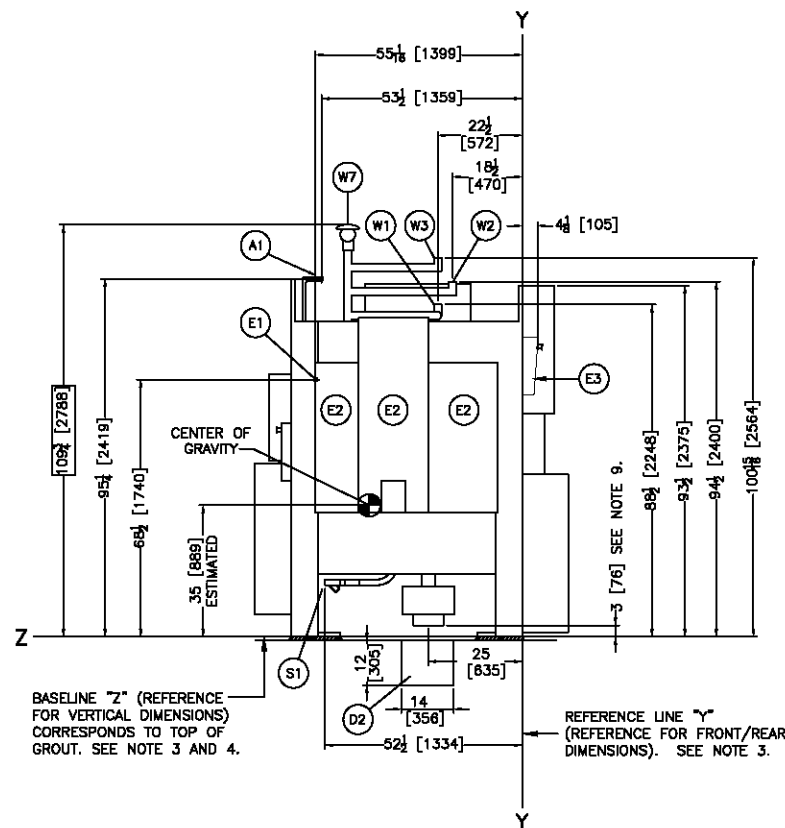
REAR VIEW  
CLEAN SIDE



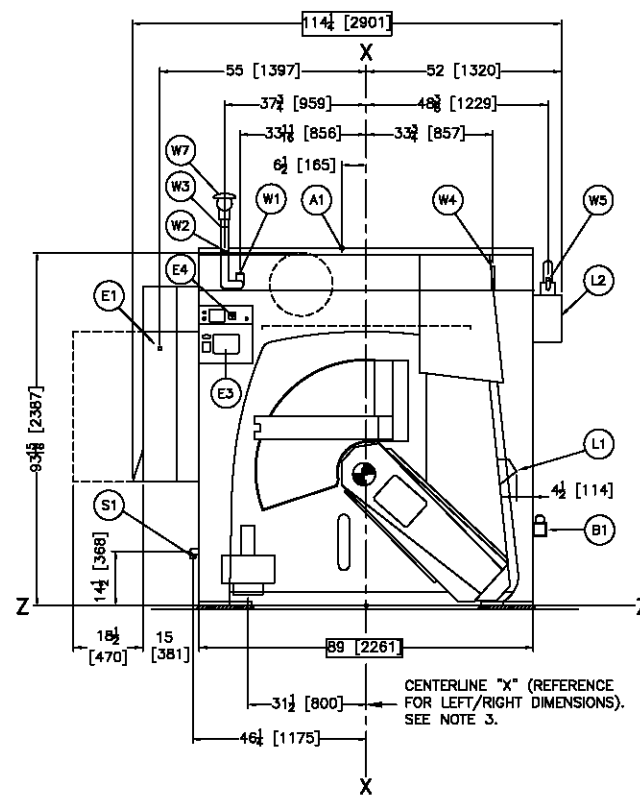
PLAN VIEW



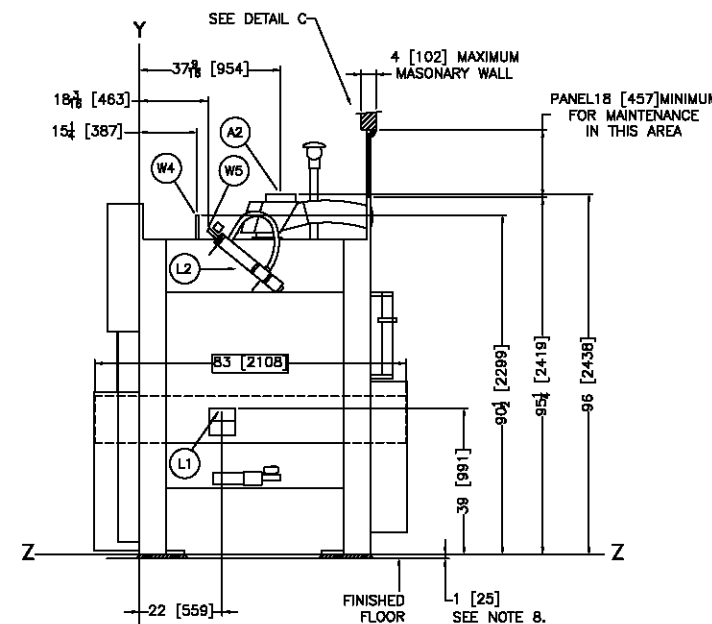
FOUNDATION PLAN



LEFT VIEW



FRONT VIEW  
SOIL SIDE



RIGHT VIEW

|      |  |
|------|--|
| W7   | OPTIONAL VACUUM BREAKER  |
| W5   | HOT WATER INLET FOR PERISTALTIC 1/2" NPT   |
| W4   | COOL DOWN INLET 1 1/4" NPT   |
| W3   | OPTIONAL THIRD WATER INLET CONNECTION 2" NPT   |
| W2   | COLD WATER INLET CONNECTION 2" NPT   |
| W1   | HOT WATER INLET CONNECTION 2" NPT  |
| S1   | 1 1/4" NPT STEAM CONNECTION  |
| L2   | PERISTALTIC SUPPLY   |
| L1   | SOAP CHUTE   |
| F4   | GROUT HOLES  |
| F3   | 1 1/16" DIAMETER ALTERNATE ANCHOR BOLT HOLES, IF (F2) IS INACCESSIBLE                              |
| F2   | 1 1/16" DIAMETER ANCHOR BOLT HOLES, USE MINIMUM 5/8" X 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM. |
| F1   | FOUNDATION BASE PADS, 4 PLACES   |
| E5   | REAR CONTROLS  |
| E4   | EMERGENCY STOP   |
| E3   | MITouch-EX™ TOUCH SCREEN CONTROLLER  |
| E2   | HIGH VOLTAGE CONTROL BOXES   |
| E1   | MAIN ELECTRICAL CONNECTION   |
| D2   | SINGLE DRAIN TROUGH  |
| D1   | DRAIN 8" DIAMETER DRAIN VALVE  |
| B1   | BRAKE AIR CYLINDER   |
| A2   | STAPHAIRTROL   |
| A1   | COMPRESSED AIR INLET 1/4" NPT  |
| ITEM | LEGEND   |

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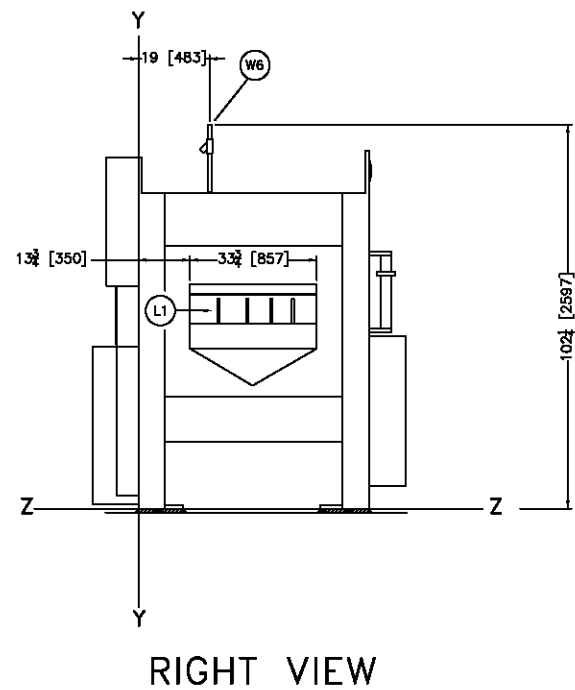
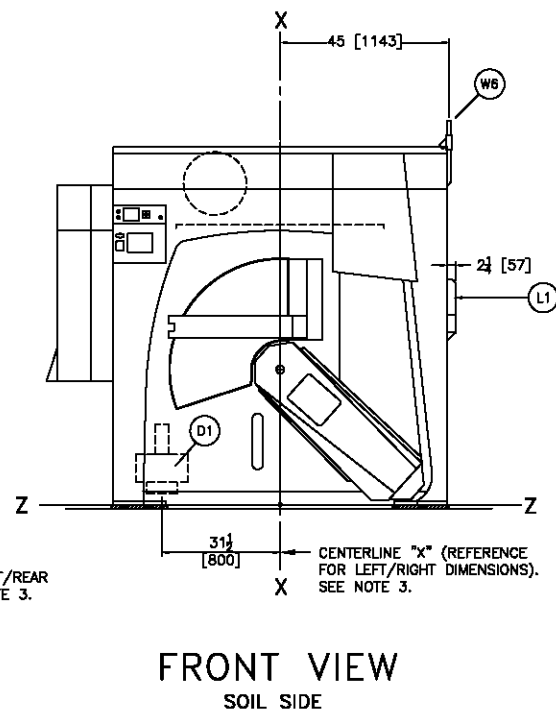
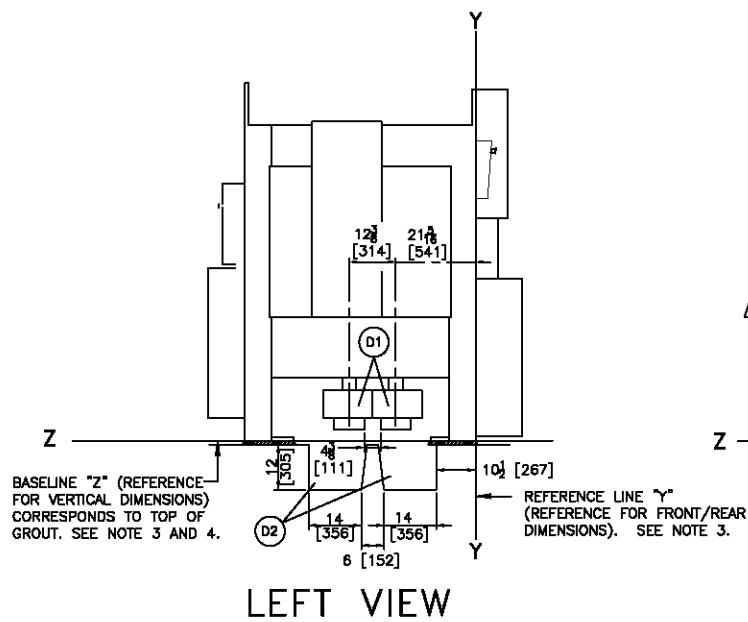
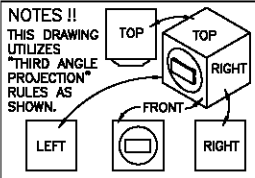
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60044SR2/SR3



|      |  |
|------|--|
| W6   | 1" NPT HOT WATER INLET FOR OPTIONAL 5 COMPARTMENT SUPPLY |
| L1   | OPTIONAL 5 COMPARTMENT SUPPLY                            |
| D2   | DUAL DRAIN TROUGH  |
| D1   | DUAL DRAIN VALVES 8" DIAMETER                            |
| ITEM | LEGEND   |

- NOTES**
- THE FRONTMOST DRAIN VALVE IS TO SEWER, THE REARWARD VALVE IS TO REUSE. THIS CAN BE REVERSED BY SWITCHING DRAIN VALVE AIR CONNECTIONS. DO NOT CHANGE THE ELECTRICAL CONNECTIONS.
  - AS OF THIS WRITING, THE MINIMUM CLEARANCE REQUIRED BY U.S. NATIONAL ELECTRIC CODES, FROM ELECTRIC BOX TO ANY OBJECT IS:  
36 [914] IF OBJECT IS AN UNGROUNDED (INSULATED) WALL  
42 [1067] IF OBJECT IS A GROUNDED WALL (e.g. BARE CONCRETE, BRICK, ETC.)  
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CHECK LOCAL ELECTRIC CODES FOR FURTHER RESTRICTIONS.
  - CUSTOMER TO SUPPLY CIRCUIT BREAKER OR FUSED BRANCH CIRCUIT DISCONNECT (SAFETY) SWITCHES WITH LAG TYPE FUSES FROM POWER SOURCE TO MACHINE. A SEPARATE GROUND WIRE MUST BE CONNECTED FROM DISCONNECT TO EQUIPMENT.
  - BASELINE "Z" IS THE REFERENCE FOR ALL VERTICAL DIMENSIONS. ON MACHINES WITH FIXED BASE PADS, BASELINE "Z" CORRESPONDS TO THE BOTTOM OF THE BASE PAD. ON MACHINES WITH ADJUSTABLE FEET, BASELINE "Z" CORRESPONDS TO THE BOTTOM OF THE FEET WHEN ADJUSTED SO THAT THE MACHINE IS AT ITS MINIMUM ACCEPTABLE HEIGHT. ON TRAVELING SHUTTLES, BASELINE "Z" CORRESPONDS TO THE BOTTOM OF THE BOTTOM RAIL. THE DISTANCE BETWEEN BASELINE "Z" AND THE FINISHED FLOOR WILL VARY AS REQUIRED TO ENSURE BASELINE "Z" IS HORIZONTAL AND ANY INTERFACING MACHINES REQUIRING GROUT ARE SET ON A MINIMUM 1" [25] THICK GROUT BED.
  - USE REFERENCE LINES "X", "Y", AND "Z" TO LOCATE ALL SERVICE CONNECTIONS.
  - NUMBERS IN BRACKETS [ ] DENOTE DIMENSIONS IN MILLIMETERS.
  - ALL DIMENSIONS SHOWN ARE APPROXIMATE, SUBJECT TO NORMAL MANUFACTURING TOLERANCES, AND TO OCCASIONAL CHANGES WITHOUT NOTICE THROUGH REDESIGN AND/OR RELOCATION OF COMPONENTS, ETC. DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED, AND IN NO EVENT PRE-PIPE CLOSER THAN FIVE FEET FROM MACHINE. FACTORY MUST BE CONSULTED FOR DIMENSIONS IF MACHINE IS TO BE MOVED THROUGH NARROW OR LOW CORRIDORS OR OPENINGS.

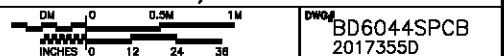
**ATTENTION**

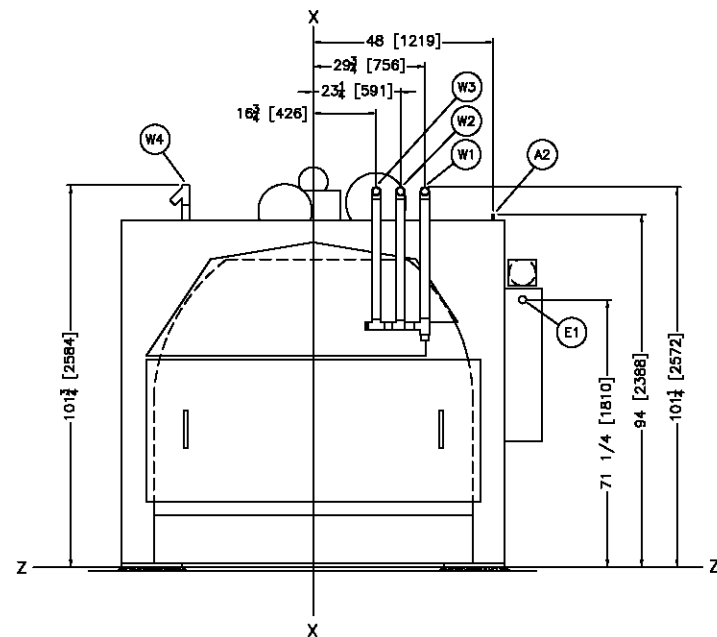
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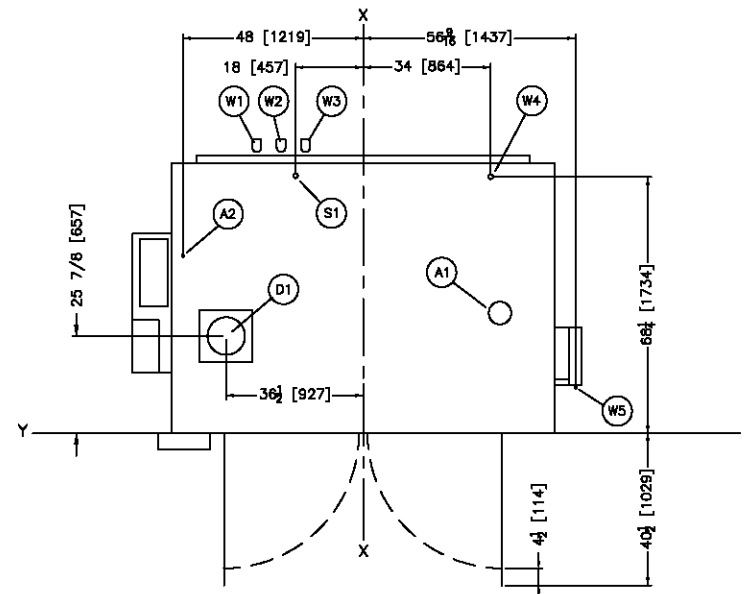
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60044SR2/SR3 OPTIONS

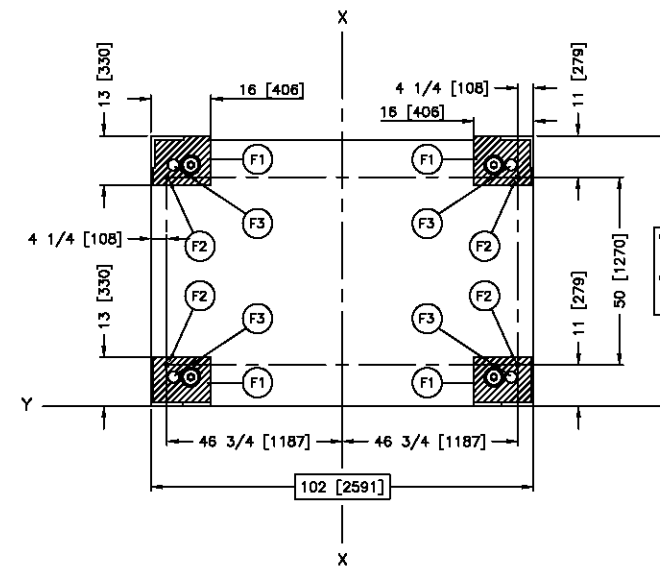




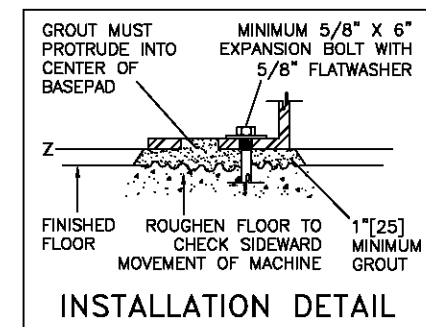
REAR VIEW



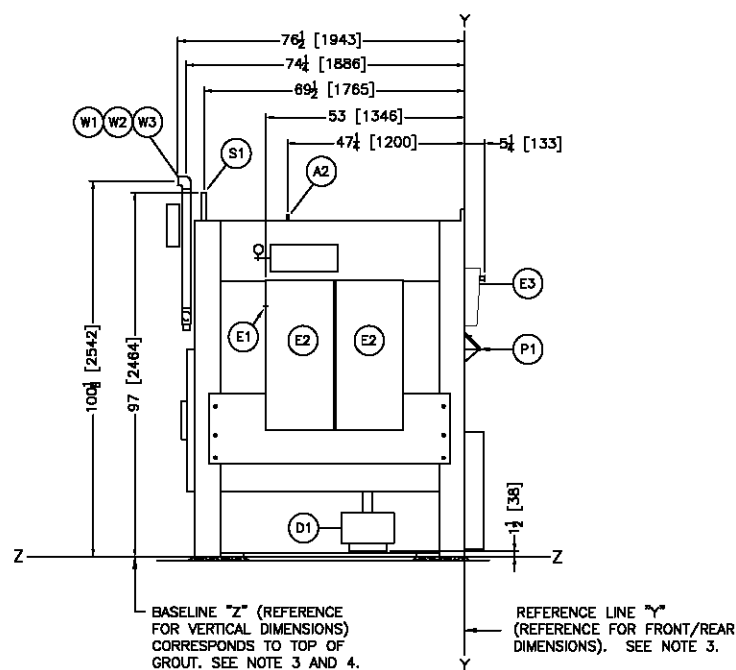
PLAN VIEW



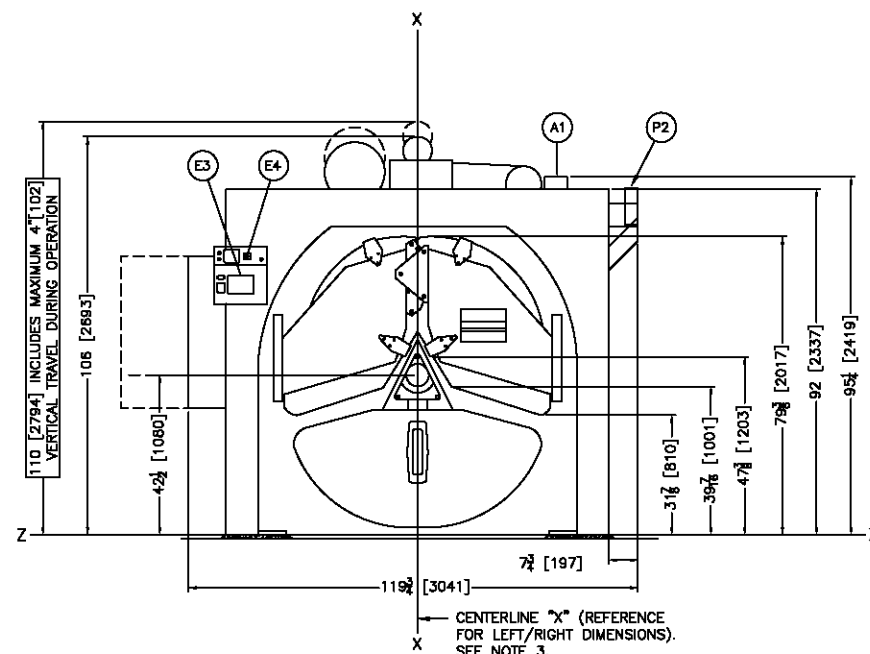
FOUNDATION PLAN VIEW



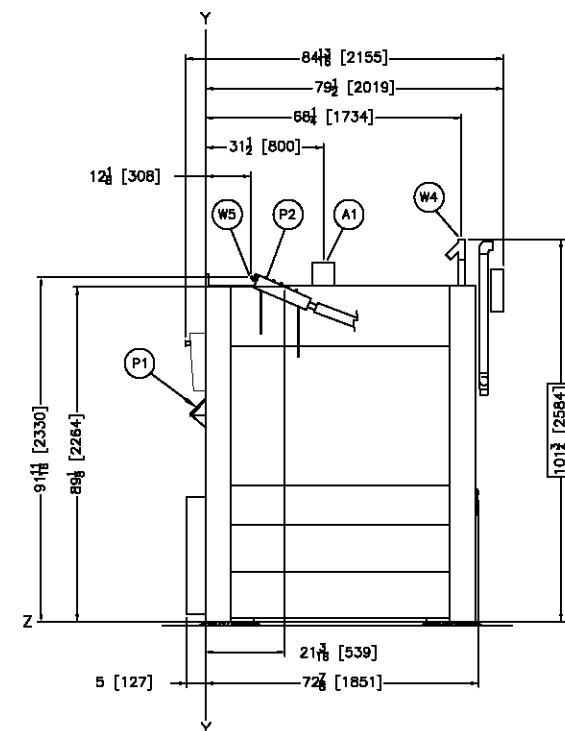
|      |  |
|------|--|
| W5   | HOT WATER FOR PERISTALTIC SUPPLY 1/2" NPT  |
| W4   | INDEPENDANT COOLDOWN INLET 1-1/4" NPT  |
| W3   | THIRD WATER INLET CONNECTION 2" NPT  |
| W2   | COLD WATER INLET CONNECTION 2" NPT   |
| W1   | HOT WATER INLET CONNECTION 2" NPT  |
| S1   | 1-1/4" NPT STEAM SUPPLY CONNECTION   |
| P2   | PERISTALTIC SUPPLY MANIFOLD  |
| P1   | SOAP CHUTE   |
| F3   | GROUT HOLES  |
| F2   | (4) 1 1/16" DIAMETER ANCHOR BOLT HOLES, USE MINIMUM 5/8" X 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM. |
| F1   | FOUNDATION BASE PADS, 4 PLACES   |
| E4   | EMERGENCY STOP BUTTON  |
| E3   | MITouch-EX™ TOUCH SCREEN CONTROLLER  |
| E2   | HIGH VOLTAGE CONTROL BOXES   |
| E1   | MAIN ELECTRICAL CONNECTION   |
| D2   | SINGLE DRAIN TROUGH  |
| D1   | DRAIN 10" DIAMETER DRAIN VALVE   |
| A2   | COMPRESSED AIR INLET 1/4" NPT  |
| A1   | VENT 6" DIAMETER   |
| ITEM | LEGEND   |



LEFT VIEW



FRONT VIEW



RIGHT VIEW

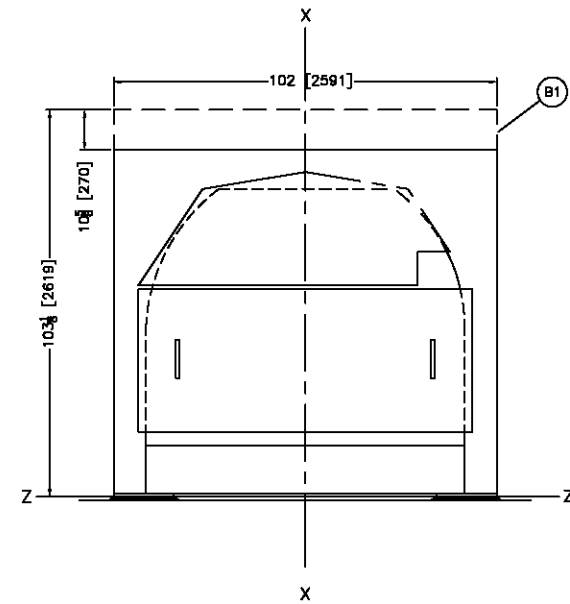
|  |  |
|--|--|
| NOTES  |  |
| 11   | "STEAM HAMMER", CAUSED BY WET STEAM OR CONDENSATION, MAY BE PREVENTED BY INSTALLING A TRAP IMMEDIATELY BEFORE THE STEAM VALVE.   |
| 10   | DO NOT PRE PIPE CLOSER THAN 60" [1524]   |
| 9  | DRAIN VALVE MAY MOVE ± 3 (76) IN ANY DIRECTION DURING OPERATION AND MUST NOT BE RIGIDLY CONNECTED TO DRAIN.  |
| 8  | SHADED AREAS ARE BASE PLATES WHICH MUST BE CONTINUOUSLY SUPPORTED ON 1" THICK GROUT.   |
| 7  | SHIM TO LEVEL THE MACHINE AND ALLOW FOR 1" [25] MINIMUM GROUT. ANCHOR WITH ONE ANCHOR BOLT PER PAD, MINIMUM, USE 5/8" X 6" BOLTS, MINIMUM. SEE INSTALLATION MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.   |
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| 4  | BASELINE "Z" IS THE SAME FOR ALL MILNOR MACHINES AND IS SHOWN ON ALL DIMENSIONAL DRAWINGS. THE DISTANCE BETWEEN BASELINE "Z" AND THE FINISHED FLOOR MAY VARY (WITH CHANGES IN FLOOR HEIGHT) AS REQUIRED TO INSURE THAT BASELINE "Z" IS HORIZONTAL AND ALL COMPONENTS REQUIRING GROUT ARE SET ON A MINIMUM 1" [25] THICK GROUT BED.   |
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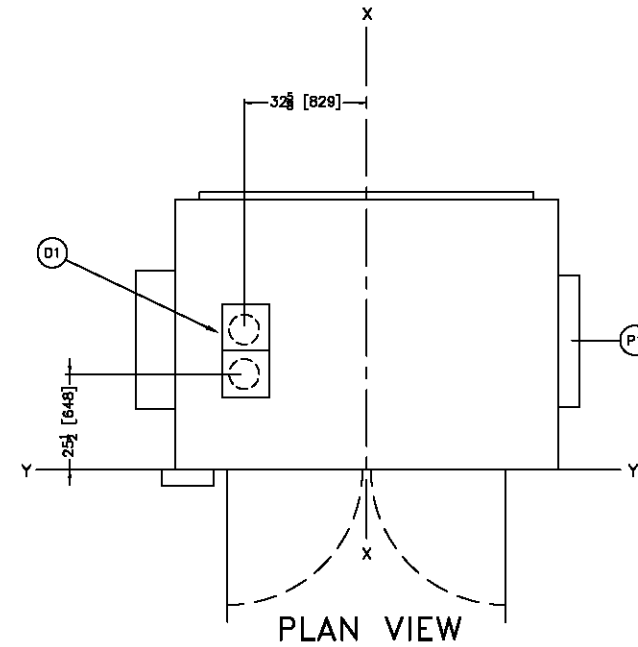
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PELLERIN MILNOR CORPORATION

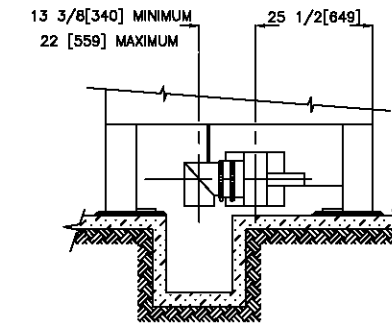
P.O. Box 400 Kenner, LA 70063, USA, Phone 504/487-9591, FAX 504/488-3084, Email: milnorinfo@milnor.com



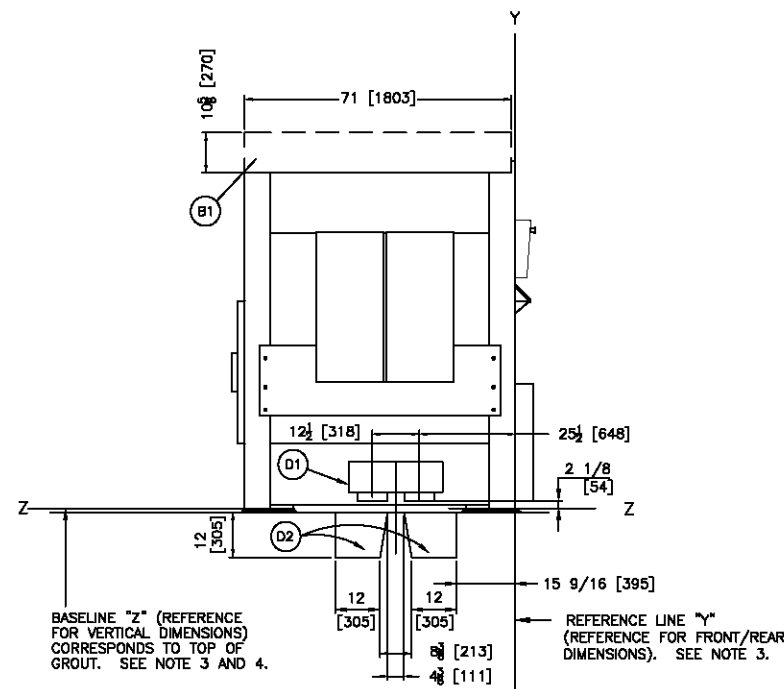
REAR VIEW



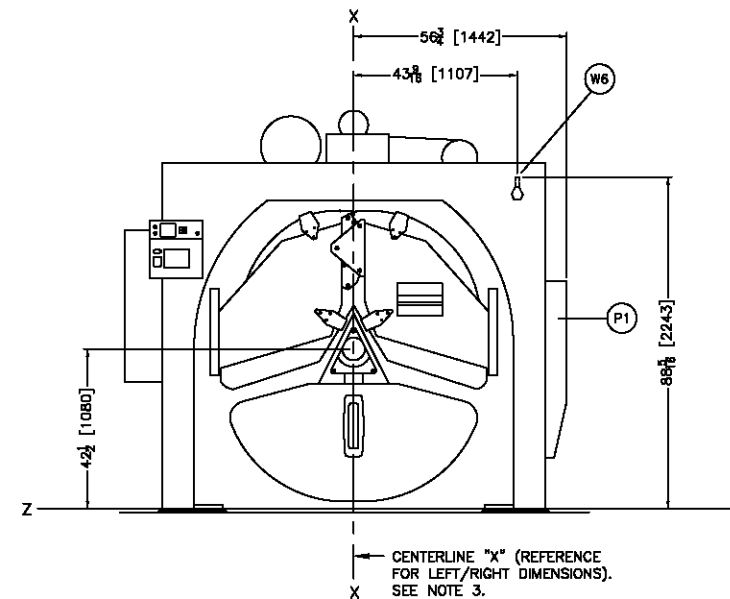
PLAN VIEW



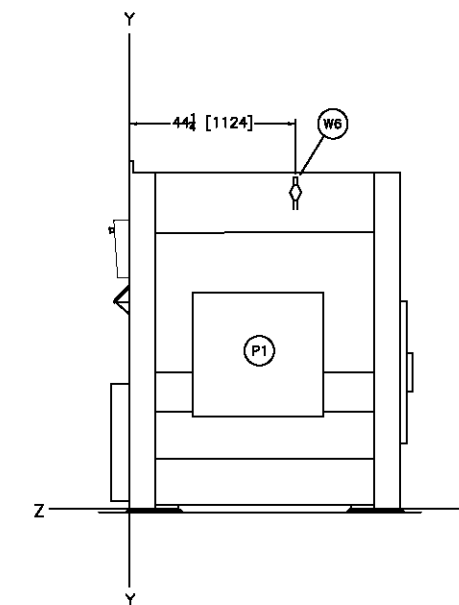
DRAIN VALVE ALTERNATE  
90 DEGREE POSITION



LEFT VIEW



FRONT VIEW

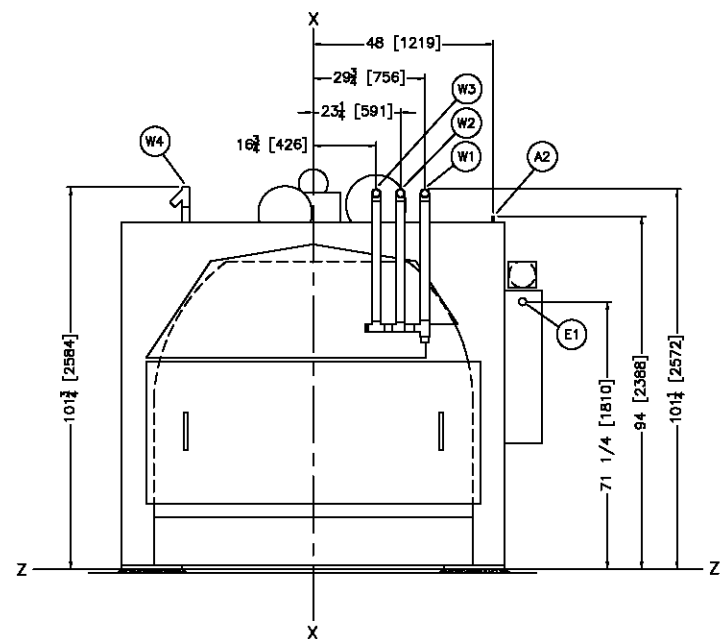


RIGHT VIEW

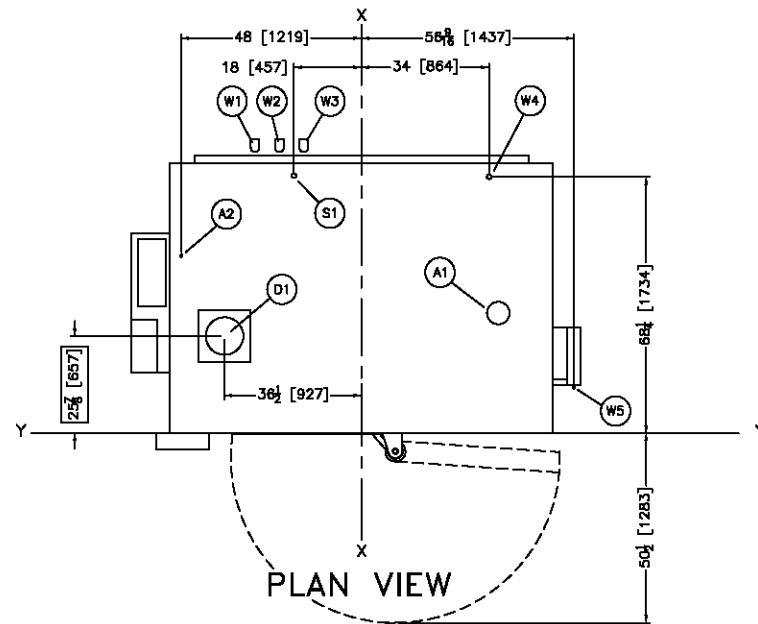
|      |   |
|------|---|
| W6   | HOT WATER FOR OPTIONAL 5 COMPARTMENT SUPPLY |
|      | 3/4" NPT                                    |
| P1   | 5 COMPARTMENT SUPPLY                        |
| D2   | DUAL DRAIN TROUGH                           |
| D1   | DUAL DRAIN (2)-8" DIAMETER DRAIN VALVES     |
| B1   | OPTIONAL UPPER BELT GUARD                   |
| ITEM | LEGEND                                      |

|  |  |
|--|--|
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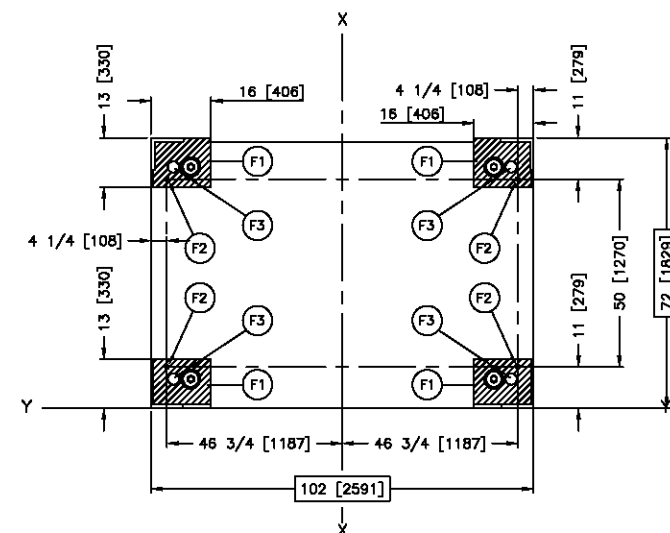
72044WR2 OPTIONS



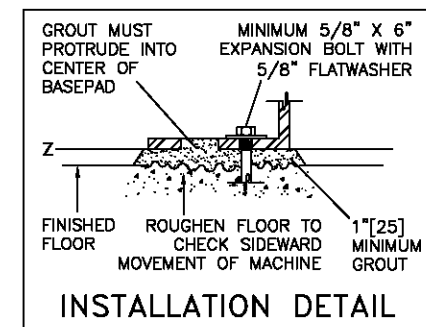
REAR VIEW



PLAN VIEW

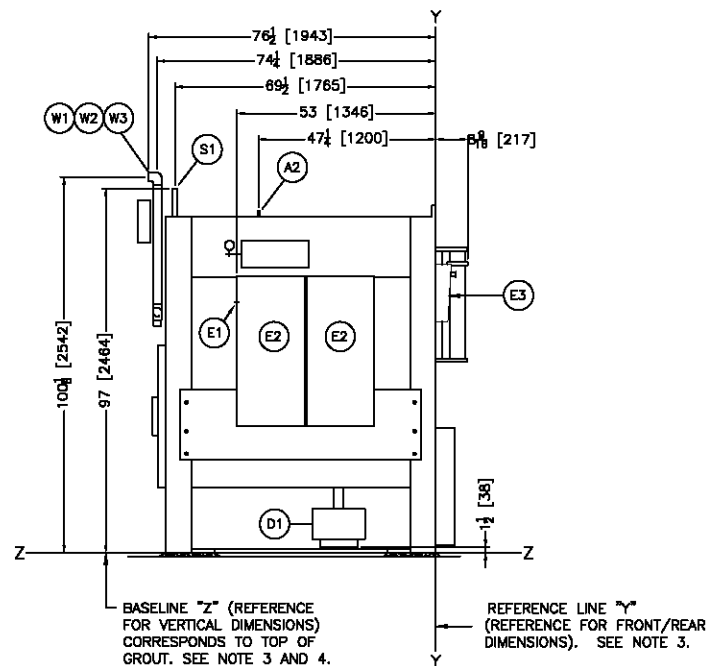


FOUNDATION PLAN VIEW

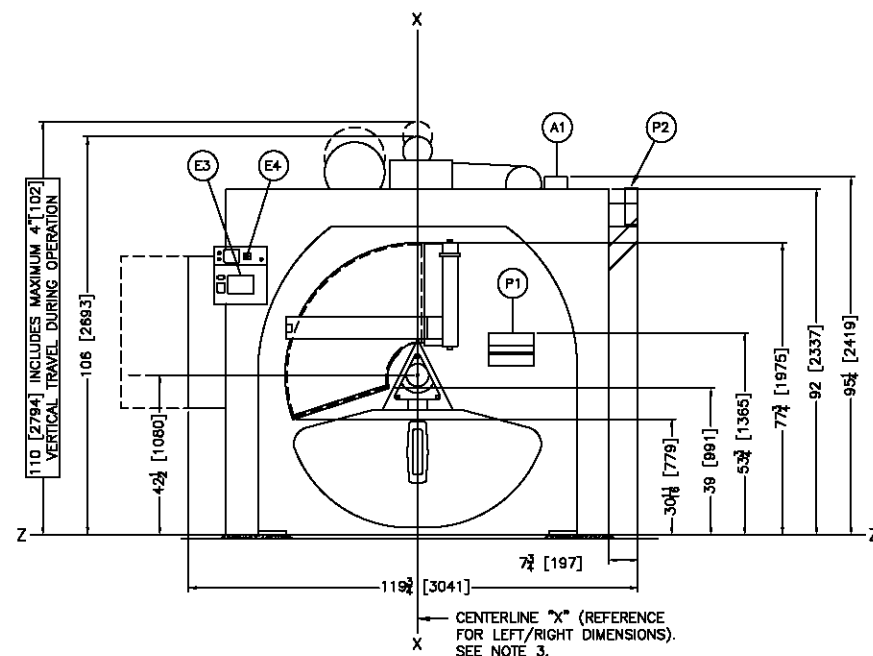


|    |  |
|----|--|
| W5 | HOT WATER FOR PERISTALTIC SUPPLY 1/2" NPT  |
| W4 | INDEPENDANT COOLDOWN INLET 1-1/4" NPT  |
| W3 | THIRD WATER INLET CONNECTION 2" NPT  |
| W2 | COLD WATER INLET CONNECTION 2" NPT   |
| W1 | HOT WATER INLET CONNECTION 2" NPT  |
| S1 | 1-1/4" NPT STEAM SUPPLY CONNECTION   |
| P2 | PERISTALTIC SUPPLY MANIFOLD  |
| P1 | SOAP CHUTE   |
| F3 | GROUT HOLES  |
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| D1 | DRAIN 10" DIAMETER DRAIN VALVE   |
| A2 | COMPRESSED AIR INLET 1/4" NPT  |
| A1 | VENT 6" DIAMETER   |

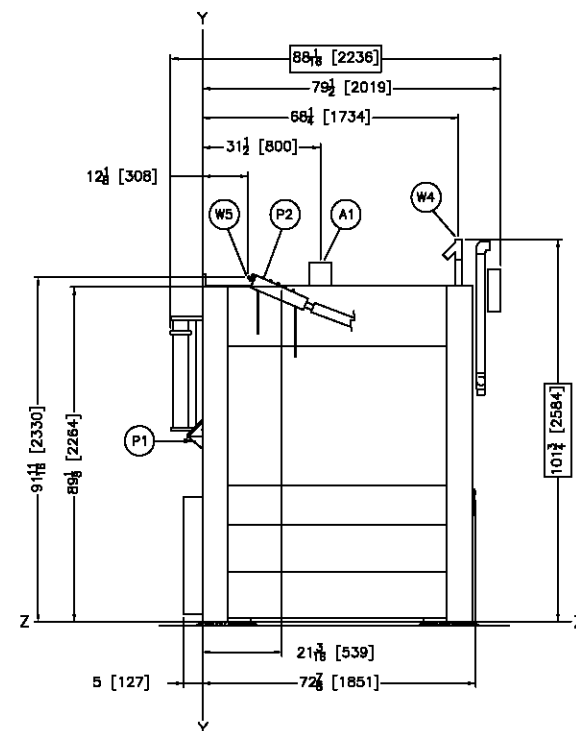
ITEM LEGEND



LEFT VIEW



FRONT VIEW



RIGHT VIEW

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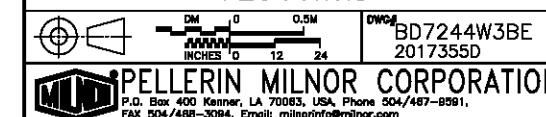
#### ATTENTION

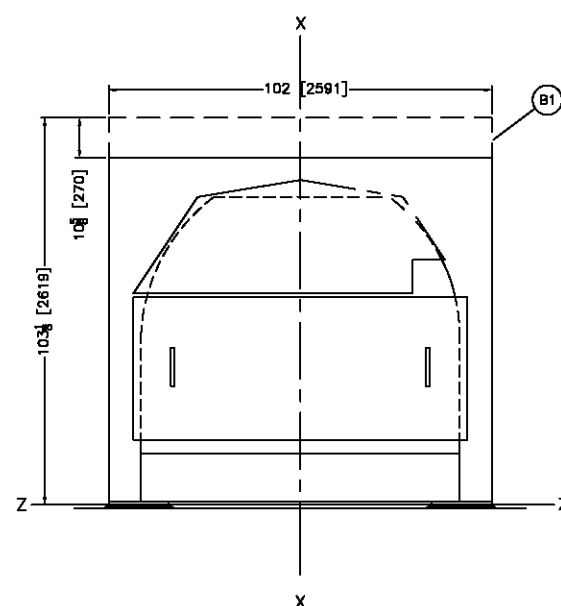
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72044WR3



[illegible]

Technical drawing of the front view of a machine, showing dimensions and callouts. The machine has a large circular component with a central vertical axis. Dimensions include a total width of 56 1/2 [1442] and a distance of 43 1/8 [1107] from the centerline to the top of the circular component. A vertical dimension of 42 1/2 [1080] is shown on the left. On the right, a vertical dimension of 88 1/8 [2243] is shown, and a total height of 106 [2693] is indicated. Callouts include M1, W6, and P1. A note at the bottom indicates the centerline 'X' is the reference for left/right dimensions.

|      |   |
|------|---|
| W6   | HOT WATER FOR OPTIONAL 5 COMPARTMENT SUPPLY |
|      | 3/4" NPT                                    |
| P1   | 5 COMPARTMENT SUPPLY                        |
| M1   | OPTIONAL AUTOSPOT MOTOR                     |
| D2   | DUAL DRAIN TROUGH                           |
| D1   | DUAL DRAIN (2)-8" DIAMETER DRAIN VALVES     |
| B1   | OPTIONAL UPPER BELT GUARD                   |
| ITEM | LEGEND                                      |

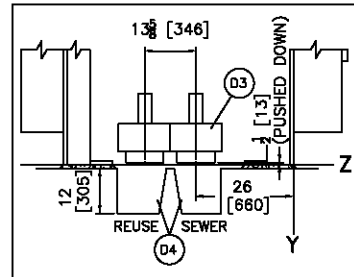
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- 5 CUSTOMER TO SUPPLY CIRCUIT BREAKER OR FUSED BRANCH CIRCUIT DISCONNECT (SAFETY) SWITCHES WITH LAG TYPE FUSES FROM POWER SOURCE TO MACHINE. A SEPARATE GROUND WIRE MUST BE CONNECTED FROM DISCONNECT TO EQUIPMENT.
- 4 BASELINE "Z" IS THE SAME FOR ALL MILLNOR MACHINES AND IS SHOWN ON ALL DIMENSIONAL DRAWINGS. THE DISTANCE BETWEEN BASELINE "Z" AND THE FINISHED FLOOR MAY VARY WITH CHANGE IN FLOOR HEIGHT AS REQUIRED TO INSURE THAT BASELINE "Z" IS HORIZONTAL AND ALL COMPONENTS REQUIRING GROUT ARE SET ON A MINIMUM 1" [25] THICK GROUT BED.
- 3 USE REFERENCE LINES "X", "Y", AND "Z" TO LOCATE ALL SERVICE CONNECTIONS.
- 2 NUMBERS IN BRACKETS [ ] DENOTE DIMENSIONS IN MILLIMETERS.
- 1 ALL DIMENSIONS SHOWN ARE APPROXIMATE, SUBJECT TO NORMAL MANUFACTURING TOLERANCES, AND TO OCCASIONAL CHANGES WITHOUT NOTICE THROUGH REDESIGN AND/OR RELOCATION OF COMPONENTS, ETC. DO NOT USE FOR CONSTRUCTION UNLESS CERTIFIED, AND IN NO EVENT PRE-PRIE CLOSER THAN FIVE FEET FROM MACHINE FACTORY SET OR CHANGING THE DIMENSIONS IF MACHINE IS TO BE MOVED THROUGH NARROW OR LOW CORRIDORS OR OPENINGS.

**ATTENTION**

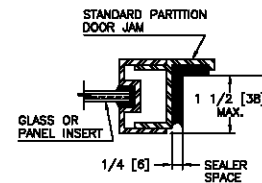
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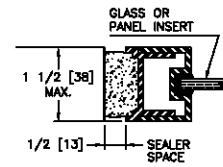




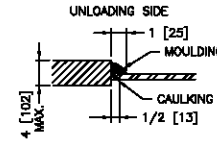
OPTIONAL DUAL DRAIN



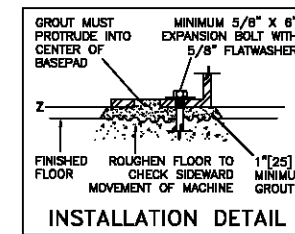
DETAIL A



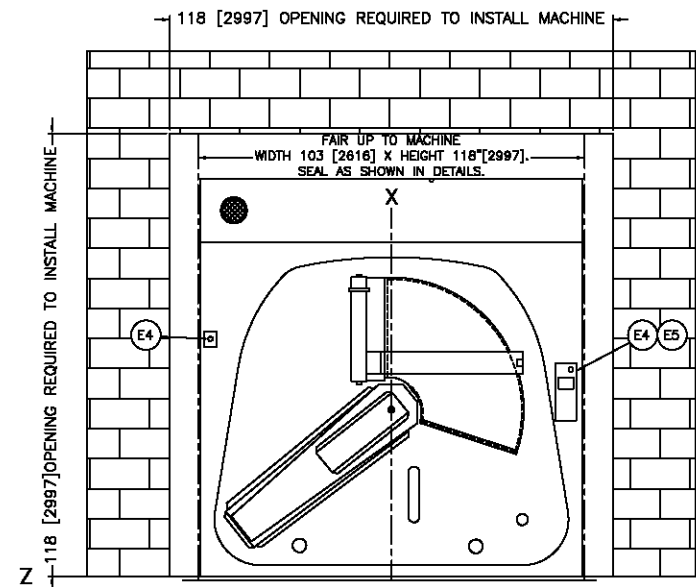
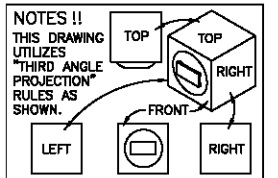
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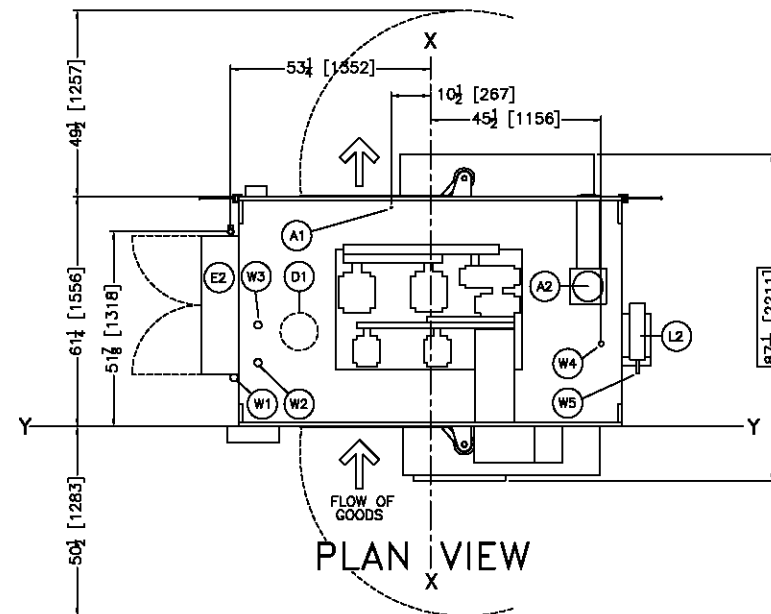
DETAIL C



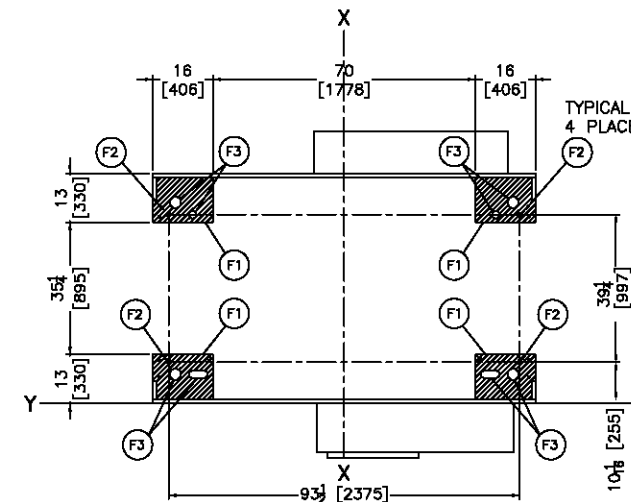
INSTALLATION DETAIL



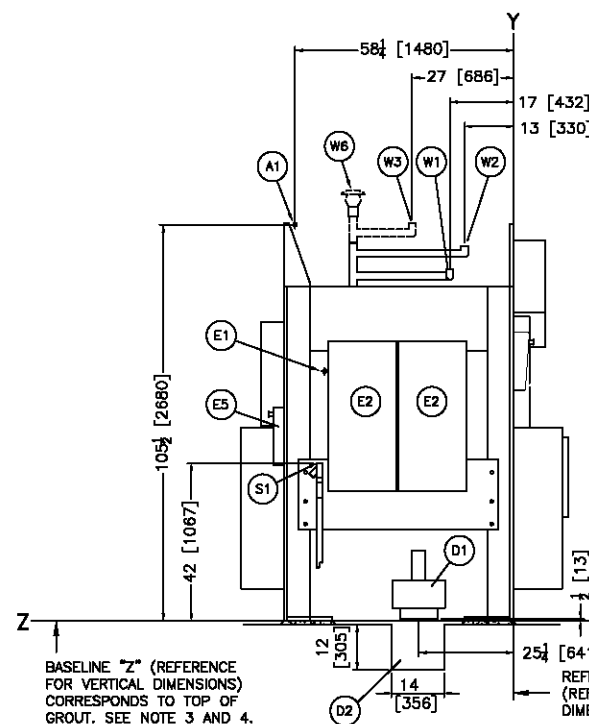
REAR VIEW  
CLEAN SIDE



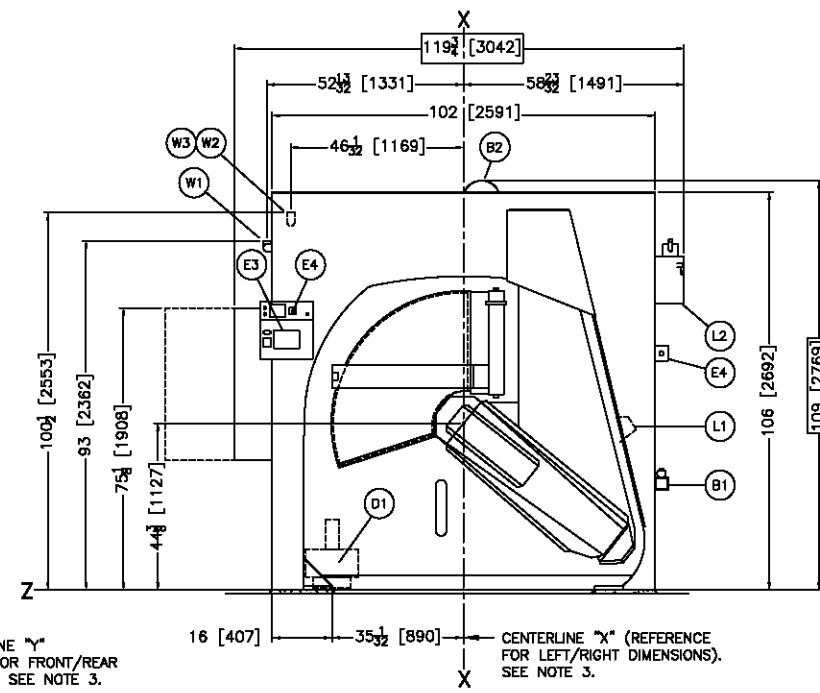
PLAN VIEW



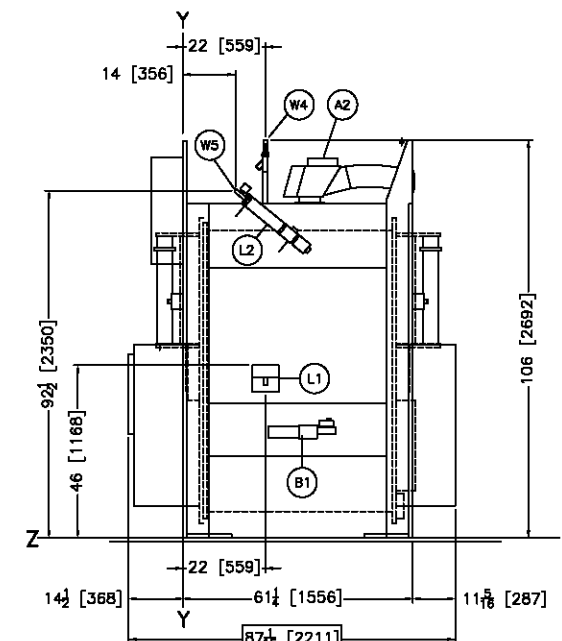
FOUNDATION  
PLAN VIEW



LEFT VIEW Y



FRONT VIEW  
SOIL SIDE



RIGHT VIEW

|      |  |
|------|--|
| W6   | OPTIONAL VACUUM BREAKER  |
| W5   | HOT WATER INLET FOR PERISTALTIC 1/2" NPT   |
| W4   | COOLDOWN INLET 1" NPT CONNECTION   |
| W3   | THIRD WATER INLET CONNECTION 2" NPT, OPTIONAL  |
| W2   | COLD WATER INLET CONNECTION 2" NPT   |
| W1   | HOT WATER INLET CONNECTION 2" NPT  |
| S1   | STEAM CONNECTION 1 1/4" NPT  |
| L2   | PERISTALTIC SUPPLY   |
| L1   | SOAP CHUTE   |
| F3   | GROUT HOLES  |
| F2   | 1 1/16" DIAMETER ANCHOR BOLT HOLES, USE 5/8" x 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM. |
| F1   | FOUNDATION BASE PADS, 4 PLACES   |
| E5   | REAR CONTROLS  |
| E4   | EMERGENCY STOP   |
| E3   | MITouch-EX™ TOUCH SCREEN CONTROLLER  |
| E2   | HIGH VOLTAGE CONTROL BOXES   |
| E1   | MAIN ELECTRICAL CONNECTION   |
| D2   | OPTIONAL DUAL DRAIN TROUGHS  |
| D3   | OPTIONAL DUAL DRAINS, 10" DIAMETER   |
| D2   | SINGLE DRAIN TROUGH  |
| D1   | STANDARD DRAIN, 10" DIAMETER   |
| B2   | AUTOSPOT MOTOR   |
| B1   | BRAKE AIR CYLINDER   |
| A2   | STAPHAIRTROL, VENT 8" [203]  |
| A1   | COMPRESSED AIR INLET 1/4" NPT  |
| ITEM | LEGEND   |

|  |  |
|--|--|
| <b>NOTES</b>   |  |
| 10   | SHIM TO LEVEL THE MACHINE AND ALLOW FOR 1" [25] MINIMUM GROUT. ANCHOR WITH ONE ANCHOR BOLT PER PAD, MINIMUM USE 5/8" x 6" BOLTS, MINIMUM. SEE INSTALLATION MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.  |
| 9  | "STEAM HAMMER", CAUSED BY WET STEAM OR CONDENSATION, MAY BE PREVENTED BY INSTALLING A TRAP IMMEDIATELY BEFORE THE STEAM VALVE.   |
| 8  | DRAIN VALVE MAY MOVE ± 1-1/2 [38] IN ANY DIRECTION DURING OPERATION AND MUST NOT BE RIGIDLY CONNECTED TO DRAIN.  |
| 7  | SHADED AREA ARE BASE PLATES WHICH MUST BE CONTINUOUSLY SUPPORTED ON 1" [25] THICK GROUT. ALSO, THIS 1" [25] OF GROUT IS NECESSARY TO INSURE THE STAPH GUARD BRAKE WILL NOT HIT THE FLOOR.  |
| 6  | AS OF THIS WRITING, THE MINIMUM CLEARANCE REQUIRED BY U.S. NATIONAL ELECTRIC CODES, FROM ELECTRIC BOX TO ANY OBJECT IS:<br>36 [914] IF OBJECT IS AN UNGROUNDED (INSULATED) WALL.<br>42 [1067] IF OBJECT IS A GROUNDED WALL (i.e. BARE CONCRETE, BRICK, ETC.).<br>48 [1219] IF OBJECT IS ANY LIVE PART.<br>CHECK LOCAL ELECTRIC CODES FOR FURTHER RESTRICTIONS.   |
| 5  | CUSTOMER TO SUPPLY CIRCUIT BREAKER OR FUSED BRANCH CIRCUIT DISCONNECT (SAFETY) SWITCHES WITH LAG TYPE FUSES FROM POWER SOURCE TO MACHINE. A SEPARATE GROUND WIRE MUST BE CONNECTED FROM DISCONNECT TO EQUIPMENT.   |
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