

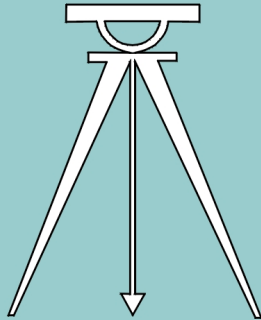
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Installation—

36026V5J, 36026V7J/V7W, 42026V6J/V6W Washer-Extractors



 **Read the
Safety Manual**

Please Read

About the Manual Identifying Information on the Cover

The front cover displays pertinent identifying information for this manual. Most important, are the published manual number (part number) /ECN (date code). Generally, when a replacement manual is furnished, it will have the same published manual number, but the latest available ECN. This provides the user with the latest information applicable to his machine. Similarly all documents comprising the manual will be the latest available as of the date the manual was printed, **even though older ECN dates for those documents may be listed in the table of contents.**

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References to Yellow Troubleshooting Pages

This manual may contain references to "yellow pages." Although the pages containing troubleshooting procedures are no longer printed on yellow paper, troubleshooting instructions, if any, will be contained in the easily located "Troubleshooting" chapter or section. See the table of contents.

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ABOUT THIS MANUAL

Scope—This instruction manual is intended to provide facility requirements and machine installation procedures for all Milnor 36021, 36026, and 42026 model rigid mount washer-extractors.

See the safety manual for safety instructions before installing, servicing, or operating this machine. See the service manual for preventive maintenance, service procedures, and mechanical parts identification. See the operator guide for operator instructions. See the reference manual for programming, operating, and troubleshooting instructions.

Manual Number/Date Code (When To Discard or Save)—The manual number/date code is located on the inside front cover, upper right corner just above the manual name. Whenever the manual is reprinted with new information, part of this number changes. **If the *date code* after the “/” changes, the new version applies to all machines covered by the old version, but is improved— thus the old version can be discarded. If the *manual number* before the “/” changes, the new manual covers only new machines.** Example: Discard MATMODELAE/8739CV when MATMODELAE/8739DV is received (minor improvements). Also, discard MATMODELAE/8739DV when MATMODELAE/8746AV is received (major improvements). But keep MATMODELAE/8746FV when MATMODELBE/8815AV is received, since the new manual no longer applies to machines originally shipped with the old manual.

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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, FOB our factory. 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 repaired or altered in any way without MILNOR's written consent.

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BMP720097
92732A

How to order repair parts

Repair parts may be ordered either from the authorized dealer who sold you this machine, or directly from the MILNOR factory. In most cases, your dealer will have these parts in stock.

When ordering parts, please be sure to give us the following information:

1. Model and serial number of the machine for which the parts are required
2. Part number
3. Name of the part
4. Quantity needed
5. Method of shipment desired
6. In correspondence regarding motors or electrical controls, please include all nameplate data, including wiring diagram number and the make or manufacturer of the motor or controls.

All parts will be shipped C.O.D. transportation charges collect only.

Please read this manual

It is strongly recommended that you read the installation and operating manual before attempting to install or operate your machine. We suggest that this manual be kept in your business office so that it will not become lost.

PELLERIN MILNOR CORPORATION

P.O. BOX 400, KENNER, LA., 70063-0400, U.S.A.

FAX: Administration 504/468-9307, Engineering 504/469-1849, Service 504/469-9777

BMP720097R
72332A

RIGID MOUNT WASHER-EXTRACTOR INSTALLATION AND SERVICE SAFETY

General Safety Requirements (specific warnings, next page and throughout manual)

Incorrect installation, neglected preventive maintenance, abuse, and/or improper repairs or changes to the machine can cause unsafe operation and personal injuries, such as *multiple fractures, amputations, or death*. The owner or his selected representative (*owner/user*) is responsible for understanding and ensuring the proper operation and maintenance of the machine. The *owner/user* must familiarize himself with the contents of all machine instruction manuals. The *owner/user* should direct any questions about these instructions to a Milnor[®] dealer or the Milnor[®] Service department.

Most regulatory authorities (including OSHA in the USA) hold the *owner/user* ultimately responsible for maintaining a safe working environment. Therefore, the *owner/user* must do the following:

- recognize all foreseeable safety hazards within his facility and take actions to protect his personnel, equipment, and facility
- require that personnel are familiar with all functional and safety aspects of the machine
- ensure safety devices installed on the machine are in place and properly maintained
- ensure all machine parts and assemblies are properly maintained.

Laundry Facility—Provide a supporting floor that is strong and rigid enough to support--*with a reasonable safety factor and without undue or objectionable deflection*--the weight of the fully loaded machine and the forces transmitted by it during operation. (For washer-extractors, see “ABOUT THE FORCES TRANSMITTED BY MILNOR[®] WASHER-EXTRACTORS.”) Provide sufficient clearance for machine movement. Provide any safety guards, fences, restraints, devices, and verbal and/or posted restrictions necessary to prevent personnel, machines, or other moving machinery from accessing the machine or its path. Provide adequate ventilation to carry away heat and vapors. Ensure service connections to installed machines meet local and national safety standards, especially regarding the electrical disconnect (see the National Electric Code). Prominently post safety information, including signs showing the source of electrical disconnect.

Personnel—Inform personnel about hazard avoidance and the importance of care and common sense. Provide personnel with the safety and operating instructions that apply to them. Verify that personnel use proper safety and operating procedures. Verify that that personnel understand and abide by point-of-hazard tags on the machine and procedure-specific precautions in the instruction manuals.

Safety Devices—Ensure that no one eliminates or disables any safety device on the machine or in this facility. Do not allow machine to be used with any missing guard or cover. Service any failing or malfunctioning device before operating the machine.

Maintenance—Ensure the machine is inspected and serviced in accordance with the norms of good practice and with the preventive maintenance schedule. Replace belts, pulleys, brake shoes/disks, clutch plates/tires, rollers, seals, alignment guides, etc. before they are severely worn. Immediately investigate any evidence of impending failure and make needed repairs (e.g., cylinder, shell, or frame cracks; drive components such as motors, gear boxes,

Hazards During Assembly

⚠ DANGER ⚠



ELECTROCUTION HAZARD—Contact with high voltage can kill or seriously injure you.

☞ All electrical connections must be made by a competent electrician.

Hazards During Servicing and Maintenance

⚠ DANGER ⚠



ELECTROCUTION HAZARD—High voltage is present inside electric boxes, motors and many other components. Power switches on machine control panels disable only control circuit power in certain boxes. You can be killed or seriously injured on contact with high voltage.

☞ Lock OFF and tag out power at the wall disconnect before servicing, except where specifically instructed otherwise in this manual.

⚠ WARNING ⚠



ENTANGLE AND CRUSH HAZARD—Belts and pulleys can entangle and crush body parts.

☞ Lock OFF and tag out power at the wall disconnect before servicing, except where specifically instructed otherwise in this manual.

☞ Insure belt guards are in place during service procedures.

Hazards Requiring Immediate Service

⚠ DANGER ⚠

MULTIPLE HAZARDS—Failure to maintain machine in proper working order can result in fatal or serious injury to operators and/or damage to property. **DO NOT** permit operation under any of the following circumstances:

- ☞ **Malfunctioning door interlock mechanism.**
- ☞ **Malfunctioning limit switches.**
- ☞ **Malfunctioning two hand inching.**
- ☞ **Any evidence of cylinder damage.**
- ☞ **Missing or removed guards, covers, or side panels.**
- ☞ **Malfunctioning tilting components, including but not limited to safety limit switches, electrical interlocks, and operator controls.**
- ☞ **If any of these conditions occur:**
 - **The machine makes a sound like skidding automobile tires as it comes out of extract.**
 - **The wash or drain clutch does not disengage or it reengages during extract.**
 - **V-belts jump off at the start of, during, or at the end of extract.**
 - **A strange whining sound occurs at any time during extract.**

About the Forces Transmitted by Milnor® Washer-extractors

Document BIWUUI02
Specified Date 20001108
As-of Date 20001108
Access Date 20001108

Applicability.....WUU

During washing and extracting, all washer-extractors transmit both static and dynamic (cyclic) forces to the floor, foundation, or any other supporting structure. During washing, the impact of the goods as they drop imparts forces which are quite difficult to quantify. Size for size, both rigid and flexibly-mounted machines transmit approximately the same forces during washing. During extracting, rigid machines transmit forces up to 30 times greater than equivalent flexibly-mounted models. The actual magnitude of these forces vary according to several factors:

- machine size,
- final extraction speed,
- amount, condition, and type of goods being processed,
- the liquor level and chemical conditions in the bath preceding extraction, and
- other miscellaneous factors.

Estimates of the maximum force normally encountered are available for each Milnor® model and size upon request. Floor or foundation sizes shown on any Milnor® document are only for on-grade situations based only on previous experience without implying any warranty, obligation, or responsibility on our part.

1. Rigid Machines

Size for size, rigid washer-extractors naturally require a stronger, more rigid floor, foundation, or other supporting structure than flexibly-mounted models. If the supporting soil under the slab is itself strong and rigid enough and has not subsided to leave the floor slab suspended without support, on grade installations can often be made directly to an existing floor slab if it has enough strength and rigidity to safely withstand our published forces without transmitting undue vibration. If the subsoil has subsided, or if the floor slab itself has insufficient strength and rigidity, a deeper foundation, poured as to become monolithic with the floor slab, may be required. Support pilings may even be required if the subsoil itself is “springy” (i.e., if its resonant frequency is near the operating speed of the machine). Above-grade installations of rigid machines also require a sufficiently strong and rigid floor or other supporting structure as described below.

2. Flexibly-mounted Machines

Size for size, flexibly-mounted machines generally do not require as strong a floor, foundation, or other supporting structure as do rigid machines. However, a floor or other supporting structure having sufficient strength and rigidity, as described in section 3, is nonetheless vitally important for these models as well.

3. How Strong and Rigid?

Many building codes in the U.S.A. specify that laundry floors must have a minimum live load capacity of 150 pounds per square foot (732 kilograms per square meter). However, even compliance with this or any other standard does not necessarily guarantee sufficient rigidity. In any event, it is the sole responsibility of the owner/user to assure that the floor and/or any other supporting structure exceeds not only all applicable building codes, but also that the floor and/or any other supporting structure for each washer-extractor or group of washer-extractors actually

has sufficient strength and rigidity, plus a reasonable factor of safety for both, to support the weight of all the fully loaded machine(s) including the weight of the water and goods, and including the published 360° rotating sinusoidal RMS forces that are transmitted by the machine(s). Moreover, the floor, foundation, or other supporting structure must have sufficient rigidity (i.e., a natural or resonant frequency many times greater than the machine speed with a reasonable factor of safety); otherwise, the mentioned 360° rotating sinusoidal RMS forces can be multiplied and magnified many times. It is especially important to consider all potential vibration problems that might occur due to all possible combinations of forcing frequencies (rotating speeds) of the machine(s) compared to the natural frequencies of the floor and/or any other supporting structure(s). A qualified soil and/or structural engineer must be engaged for this purpose.

Figure 1: How Rotating Forces Act on the Foundation

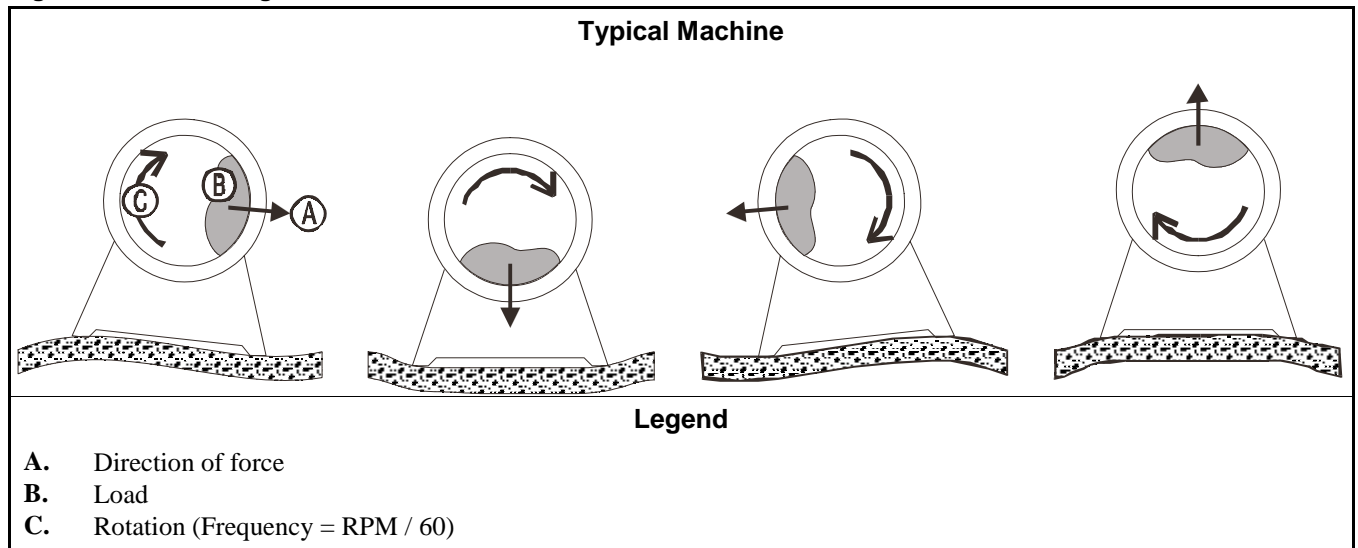
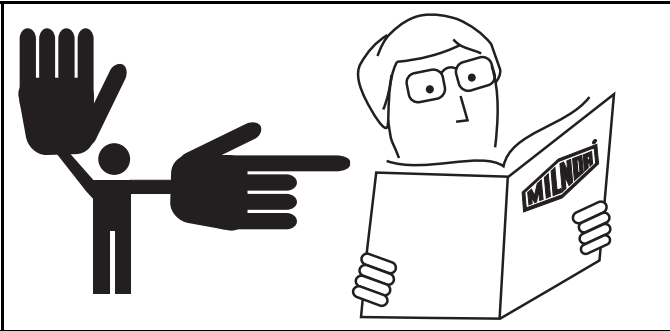
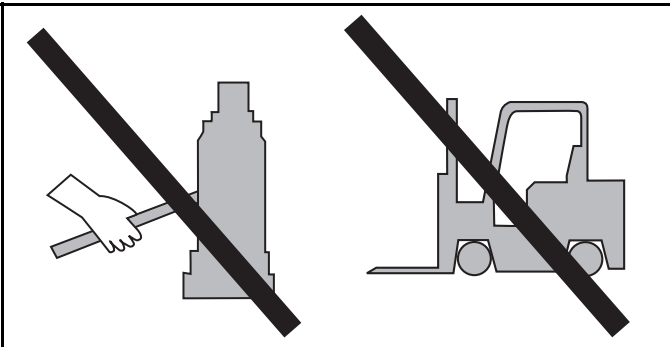
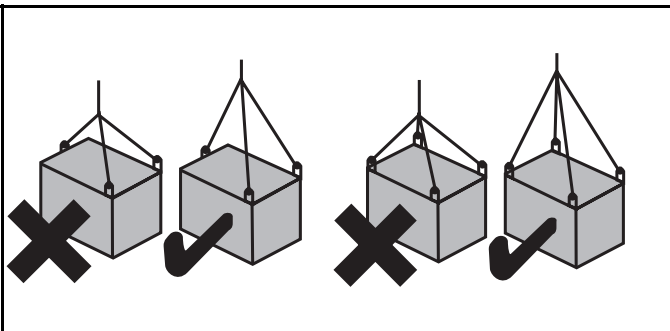
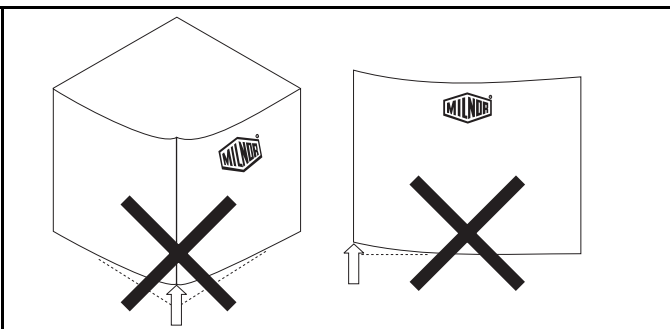


Figure 1 above is intended to depict both on-grade and above-grade installations and is equally applicable to flexibly-mounted washer-extractors, as well as to rigid models installed either directly on a floor slab or on a foundation poured integrally with the slab. Current machine data is available from Milnor® upon request. All data is subject to change without notice and may have changed since last printed. It is the sole responsibility of every potential owner to obtain written confirmation that any data furnished by Milnor® applies for the model(s) and serial number(s) of the specific machines.

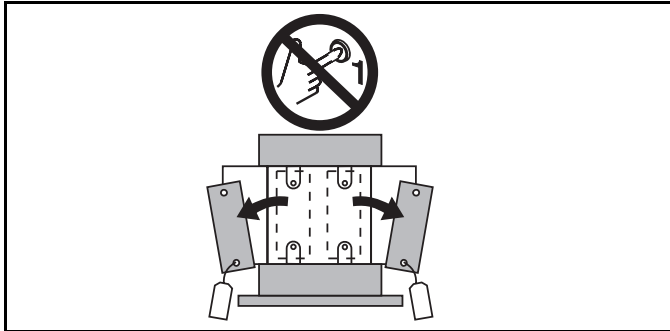
Glossary of Tag Illustrations— F-Style, Q-Style, 36" & 42" V-Style, and X-Style Washer-Extractors

MSIUUQTGAE/2003045V

Illustration	Explanation
	Stop! Read the manual first for complete instructions before continuing.
	Do not jack the machine here. Do not lift the machine here.
	Use three point or four point lifting as determined by the lifting eyes furnished. Rig the load using lifting cables of sufficient size and length to ensure cables are not over-stressed.
	Do not lift the machine from one corner or one side edge.

Illustration

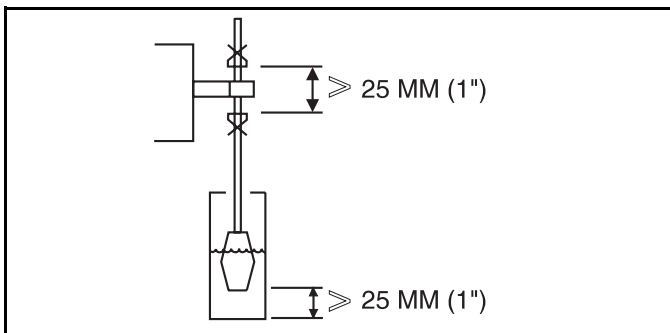
Explanation



Do not start this machine until the packing materials, lifting brackets, etc. with this tag attached or behind this panel are removed. These materials are painted red. Safety stands or brackets (also painted red) may be provided with this machine. Do not discard safety stands or brackets



Do not step or stand on this machine part.



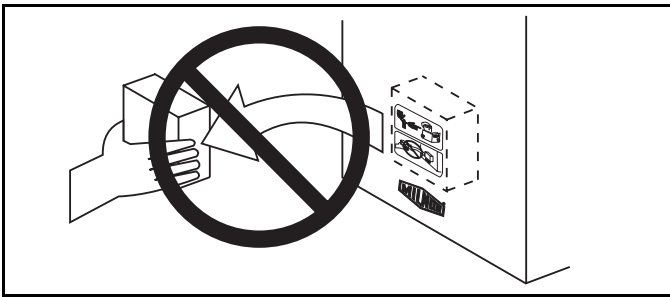
Maintain a 25 mm. (1") minimum clearance between float clips. Set "low level" so that the bottom of the float is always at least 25mm (1") above the bottom of the float tube.



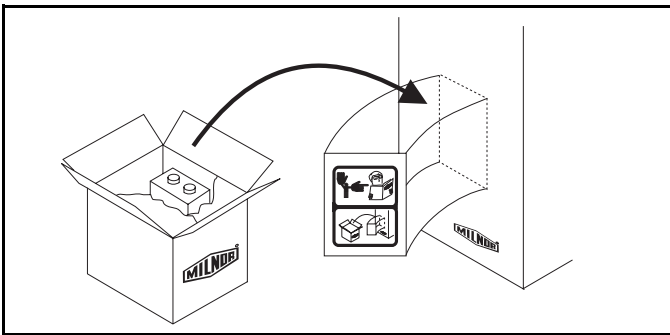
This motor or pump should rotate in the direction of the arrow.



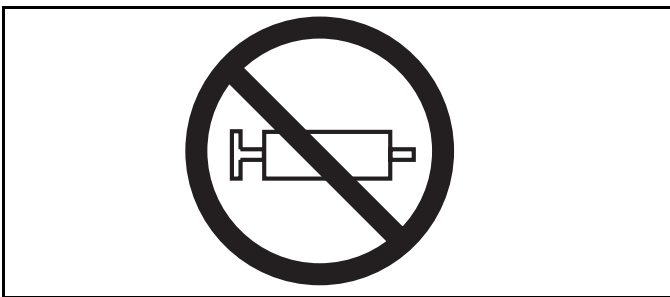
Do not start this machine until the part with this tag is installed on the machine.



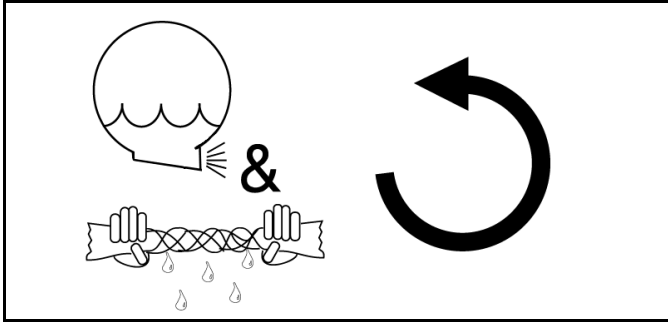
Do not remove this component from the machine.



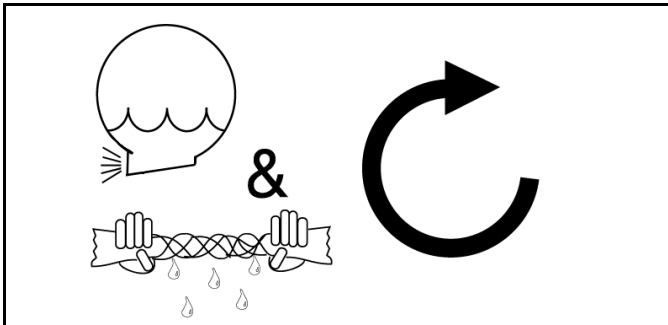
Install the appropriate part here before operating the machine.



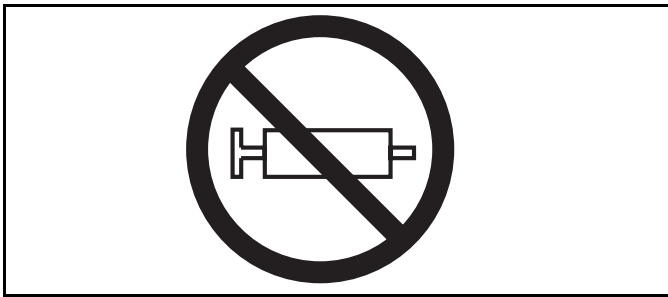
Do not pump grease here.



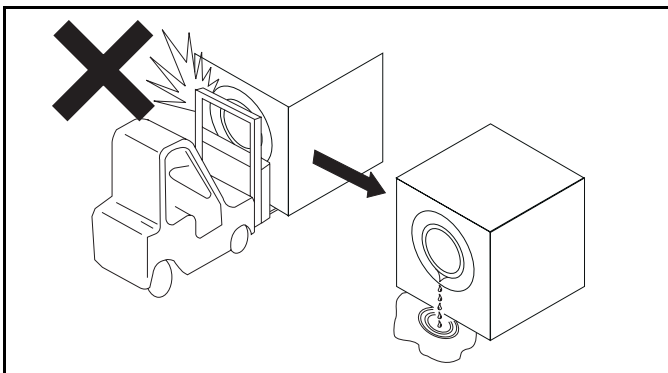
During drain and extract, the cylinder must rotate counterclockwise when viewed from here (rear of machine).



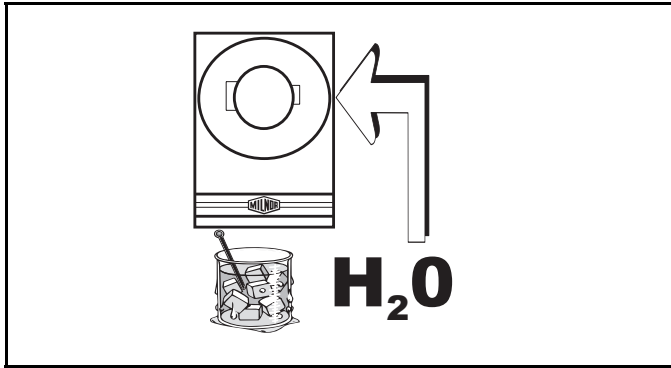
During drain and extract, the cylinder must rotate clockwise when viewed from here (front of machine).



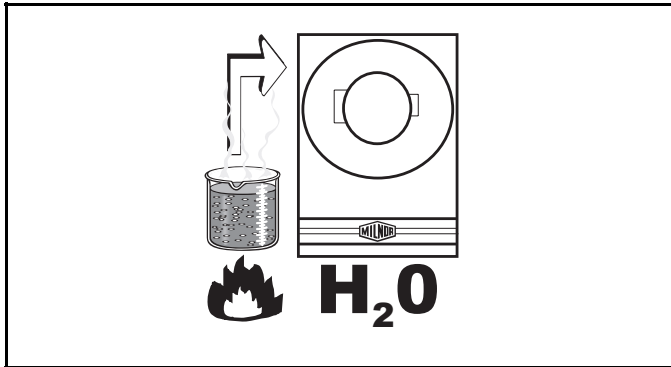
Do not pump grease here.



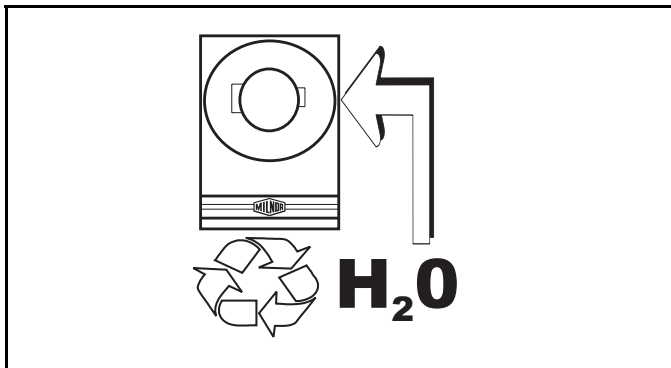
Do not strike shell front of washer-extractors during fork lifting. Striking shell front will cause door to leak.



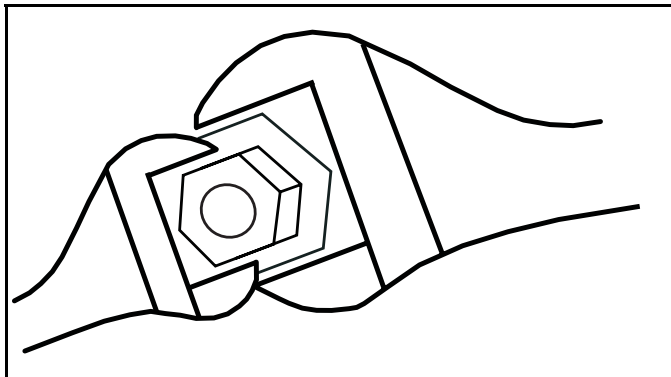
Make cold water connection here.



Make hot water connection here.



Make third (reuse) water connection here.



Hold the connection side of the valve with a wrench when connecting plumbing.

Avoiding Damage From Allied Remote Chemical Delivery Systems

Milnor® does not manufacture or supply remote chemical delivery systems and this document is meant only to illustrate some of the possible problems that can be minimized during installation of such systems by the chemical supply company. Milnor washer-extractors and CBW® batch washers (tunnels) are available with convenient inlets for such systems (see Figure 1). Most common of the types of systems currently used in commercial laundering operations are pumped chemical systems. Other types, such as constant pressure, re-circulating ring main systems have also been, and may continue to be used with Milnor equipment.

This document warns about some of the possible hazards posed by chemical systems and lists certain requirements needed to minimize those hazards. The procedures for interfacing with allied chemical systems and information pertinent to chemical use in general are provided elsewhere in the product manuals (see Note 1).

Figure 1: Pumped Chemical Inlets on CBW Batch Washer



Note 1: Misuse of laundering chemicals (such as injecting excessive concentrations of chlorine bleach or permitting acid sours to react with hypo chlorite) due to incorrect formulation can also be hazardous. Information pertinent to chemical use is provided elsewhere in the product manuals.

1. How a Chemical System Can Damage the Machine It Serves

Milnor has manufactured washer-extractors and tunnel washers with the same stainless steel specification since its founding. Every batch of steel used is certified and documented by the steel mill. Testing of samples damaged by corrosion have, in every case, proven the steel to be well within the AISI 304 specification.

Chemical products commonly found in the laundry industry, when used in **established** dosages and proper operating parameters, under the auspices of an experienced chemical specialist, should produce satisfactory results, with no consequential detrimental effects. The industry has published

standards in Riggs and Sherrill, “Textile Laundering Technology”. However, the stainless steel can be damaged and even destroyed by **abnormal** contact with chlorine bleach, hydrofluosilicic acid and other commonly used chemicals, as will occur if chemicals are unintentionally leaked into the machine, particularly when it is no longer in use and especially when machine surfaces are dry.

Some chemical systems have been found to permit chemicals to dribble from the supply lines, or worse, to siphon from the supply tank into the machine, during operation and long after the system is shut down—as after working hours and during weekends. If this occurs, **deterioration (rusting) of the stainless steel and damage to any textiles therein will inevitably result. If this condition goes undetected, machine damage is likely to be catastrophic.** No machine is immune to such damage.



CAUTION [1]: Equipment and Textile Damage Hazards—Chemicals leaked into the machine, particularly when it is idle can destroy machine components and textiles left in the machine. **Pellerin Milnor Corporation accepts absolutely no responsibility for damage to its equipment or to textiles therein from abnormal contact with chemicals.**

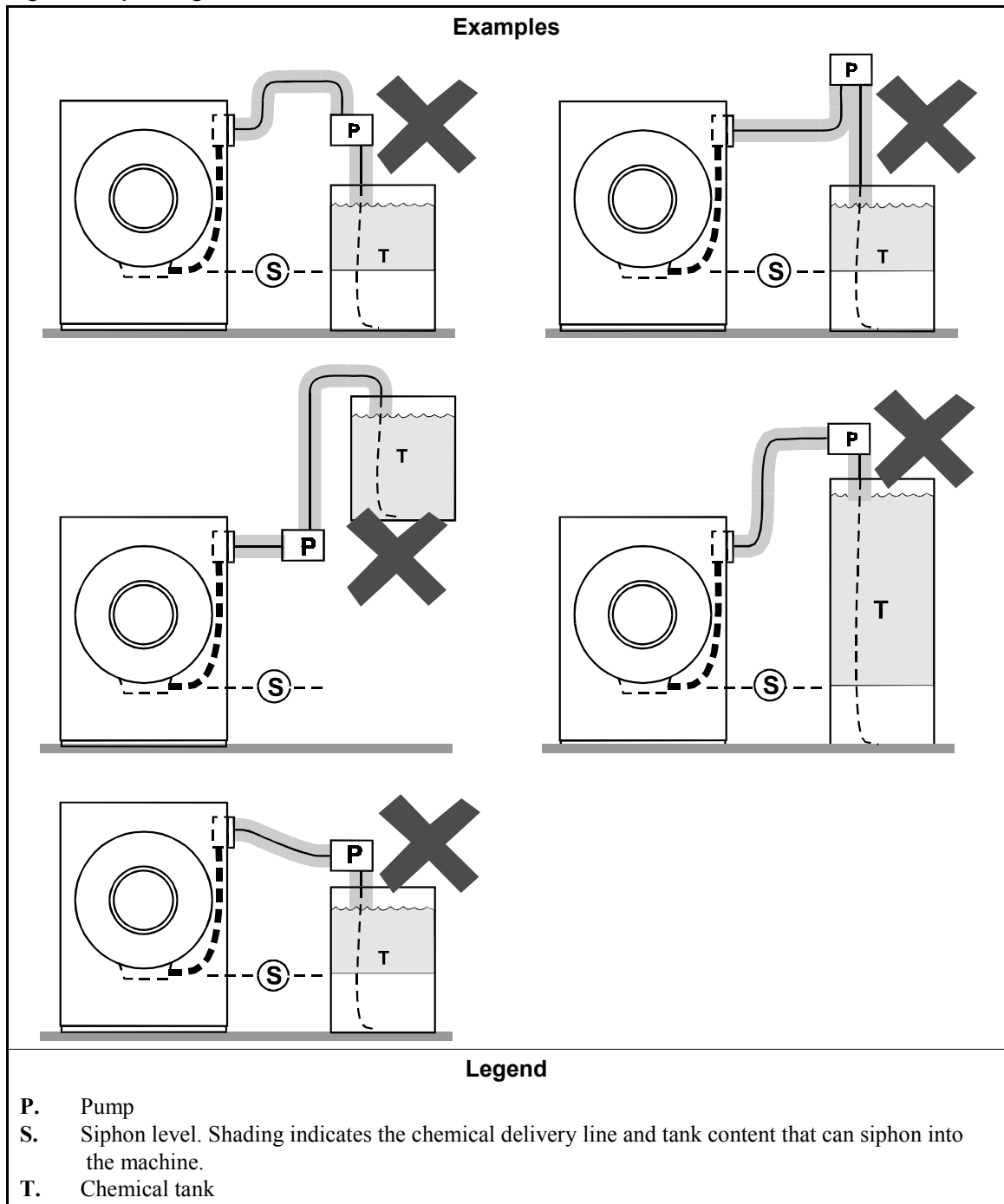
- Ensure that the chemical system prevents unintentional release of chemicals.
- Inspect regularly for proper operation and evidence of damage.

2. Requirements for Chemical Systems Used With Milnor Machines

It is the responsibility of the chemical system manufacturer and supplier to ensure that their system is safe for personnel and equipment. Some important points are described below.

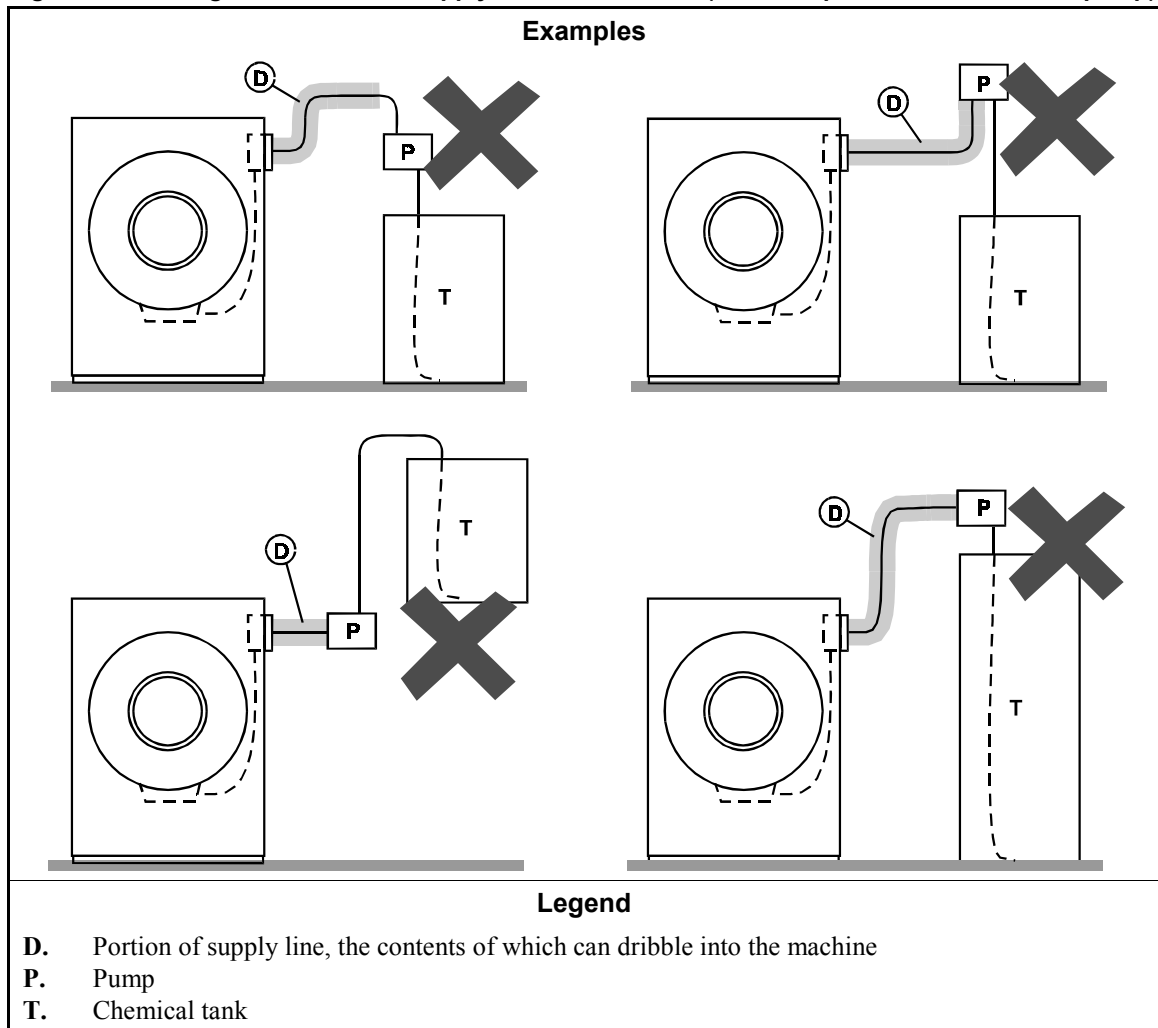
- 2.1. **Ensure the System Cannot Siphon.**—The supply system must be designed to counteract any siphoning that could occur as a result of having a sealed supply line between the bottom of the chemical tank and the internal machine connection at the drain trough. As shown in the Figure 2 examples, if the pump (P) and/or the valving does not provide positive closure and there is no vacuum breaker protection, siphoning is likely to occur. In each of the Figure 2 illustrations, the volume of chemical in the tank above the siphon level (S), and indicated by shading, will flow into the machine.

Figure 2: Siphoning From the Chemical Tank into the Machine



2.2. **Ensure the Chemical Lines Cannot Dribble**—The pumped chemical system may provide a means of positively closing the chemical line at the pump location, but not at the injection site. Hence, any concentrated chemical that remains in the injection line between the pump and the machine is free to flow into the machine. Some examples of this are shown in Figure 3.

Figure 3: Dribbling From Chemical Supply Line Into Machine (assumes positive closure at the pump)



3. Design and Installation Recommendations

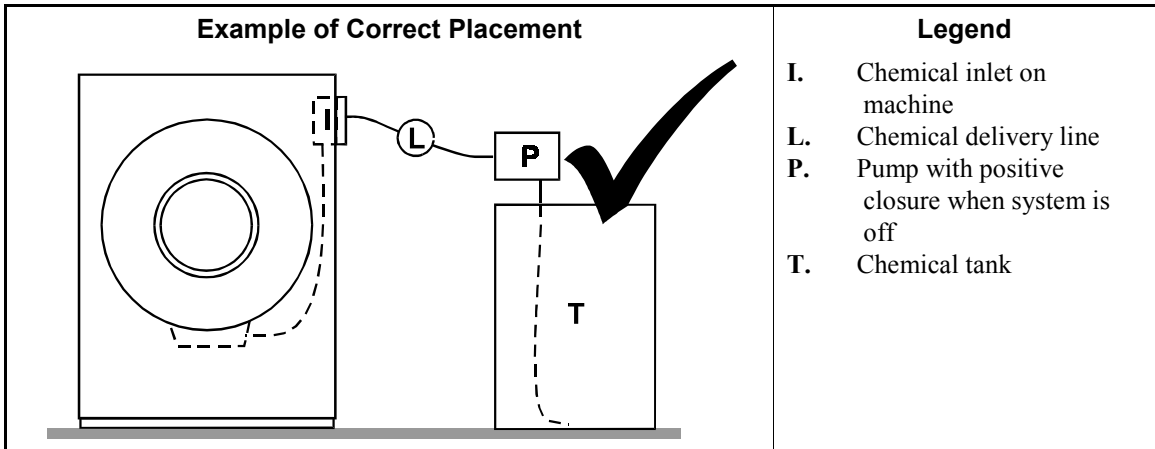
It is the responsibility of the chemical system manufacturer and supplier to use whatever measures are necessary to ensure that their system is safe for personnel and equipment. The following are some of the possible methods the manufacturer or supplier may wish to use, as appropriate.

- 3.1. **Siphoning: Positively close the line.**—If the pump does not provide positive closure when the system is off, employ a shutoff valve in the line to serve this purpose.
- 3.2. **Siphoning: Break the siphon.**—Provide an air gap or vacuum breaker in the chemical delivery line. This must be located above the “full” line of the tank.
- 3.3. **Dribbling: Flush the entire chemical delivery line.**—If any concentrated chemical that remains in the injection line between the pump and the machine is free to flow into the machine, employ a system that flushes the entire line between the pump and the injection point with fresh water after each injection.

3.4. **Dribbling: Locate the entire chemical line below the machine inlet.—**

Assuming the chemical system does not retain any line pressure and that the pump provides positive closure when the system is off, locate the entire chemical delivery line below the level of the chemical inlet. An example of this is shown in Figure 4.

Figure 4: Locating a Pumped Chemical System With Positive Closure To Protect Against Machine Damage



4. **Guarding Against Leaks**

All personnel who may work with the chemical system (e.g., chemical system manufacturer, chemical system supplier, chemical supplier, operator, maintenance personnel) should be vigilant in observing for leaks in the system. When connecting, or reconnecting chemical lines, whether at installation, after taking samples, or when replacing components, at a minimum ensure that:

1. the proper components are used,
2. all connections are the proper fit, and
3. all components are securely connected.



CAUTION [2]: Injury and Damage Hazards—Chemicals leaking from a chemical system may be corrosive or toxic. Such chemicals can injure personnel and damage equipment.

- Use care when connecting chemical lines.
- Inspect regularly for leaks.

— End of BIWUUI03 —

Section
Installation

1

HANDLING AND SETTING PROCEDURES FOR CPE, NPE, Qxx and Vxx WASHER-EXTRACTORS

Handling Precautions

1. Remove the protective coverings (leaving the machine on shipping skids) and carefully examine for possible shipping damage. **If machine is damaged, notify the transportation company immediately.**

NOTE: Once the machine is given to the carrier for delivery, it is the sole responsibility of the carrier to ensure that no damage occurs in transit. In addition to readily apparent damage, carriers are liable for concealed damage. **Do not hesitate to file a claim with the carrier if the machine is damaged in any way during shipment.** Milnor[®] will be glad to assist you in filing your claim, but is not responsible for any shipping damage to the machine once it has been delivered to the carrier in good condition.

2. Permanent lifting rings are provided on some rigid mount machines. Always use these rings for crane lifting. For machines without permanent lifting rings, consult Milnor[®] for instructions if crane lifting is required.
3. Use skids with the forklift. If possible, leave the machine on the shipping skids until it is about to be placed in its final position. Once the skids are removed, take care in placing forks under the machine. **Do not allow the forks to come in contact with valves, piping, motors, etc., located under the machine.**
4. Never push, pull, or exert pressure on any components which protrude from the machine frame (shell front, door, supply injector, electric boxes, controls, belt guards, conduits, inlet piping, etc.).
5. Ensure that the shell door is closed and secured.
6. After installation and before operation, remove the tie wrap that secures the *vibration safety switch* (located in the electric control box).

Site Requirements

Space Requirements

1. All openings and corridors through which equipment must pass during installation must be large enough to accommodate the width and the height of the machine (as shown on the dimensional drawing). It is occasionally possible to reduce the overall dimensions by removing piping or other special modifications. Consult Milnor[®] for additional information.
2. Sufficient clearance must be provided for normal operation and maintenance procedures.

Operational Requirements

1. Allow sufficient ventilation for heat and vapors of normal operation to dissipate.
2. Provide easy access to controls. Operators must be able to reach and view all status lights, machine controls, and any additional controls associated with the machine (e.g., electrical power connections, water and steam shut-offs, etc.).

Foundation Requirements—The machine must be anchored in accordance with the dimensional drawing. The floor and/or all other support components must have sufficient strength (and rigidity with due consideration for the natural or resonant frequency thereof) to withstand the fully loaded weight of the machine, including the wet goods and any repeated sinusoidal (rotating) forces generated during its operation. Determining the suitability of floors, foundations, and other supporting structures normally requires analysis by a qualified structural engineer. See “ABOUT THE FORCES TRANSMITTED BY MILNOR[®] WASHER-EXTRACTORS” (see Table of Contents) for more information.

Anchoring Requirements

Machines must be securely anchored to an adequate foundation. Anchor bolt locations and foundation specifications are provided on the dimensional drawing (see Table of Contents). **However, never install anchor bolts firmly in the foundation using only the dimensional drawing or template.** Approximate anchor bolt locations may be determined from a foundation template (standard equipment on some machines, optional on others). Recommended anchor bolt installation (see dimensional drawing) calls for each anchor bolt to be set in a pipe sleeve. The foundation template or dimensional drawing will only locate the foundation bolts accurately enough that the play of the bolt within the pipe sleeve permits the machine to fit anchor bolts. **If another bolt installation procedure is used, do not install the anchor bolts until the machine is on site and bolt locations can be determined.** Consult Milnor[®] if any obstruction prevents the installation of any anchor bolt. **Anchor bolts cannot be indiscriminately omitted.**

▲ CAUTION ▲



ranty.

STRIKE AND MACHINE DAMAGE HAZARDS—A machine can “rip” away from position on foundation if the machine is not anchored and grouted in strict accordance with the dimensional drawing and setting instructions provided in this manual. Damage resulting from improper installation is not covered by war-

- ☞ **Strictly follow setting instructions and dimensional drawing guidelines when anchoring and setting this machine.**
- ☞ **Properly install anchor bolts at ALL anchor bolt holes on the machine.**

Setting Procedures

See FIGURE 1 during the following procedures:

1. With the machine near the final location, unbolt the shipping skids. Observing all precautions, lift the machine off its skids and apply a light coat of grease to the underside of the right and left side base plates (so machine can be lifted off of the grout to remove temporary blocking). Lower machine onto temporary blocking as shown in FIGURE 1. Install anchor bolts, taking care to align the bolts with the base plates to avoid bolt thread damage.
2. **Determine that the minimum clearance between each base plate and floor is as specified (see dimensional drawing).** Use a carpenter's level to determine if the machine is level. If necessary, level the machine from right to left and front to back by shimming at temporary blocking.

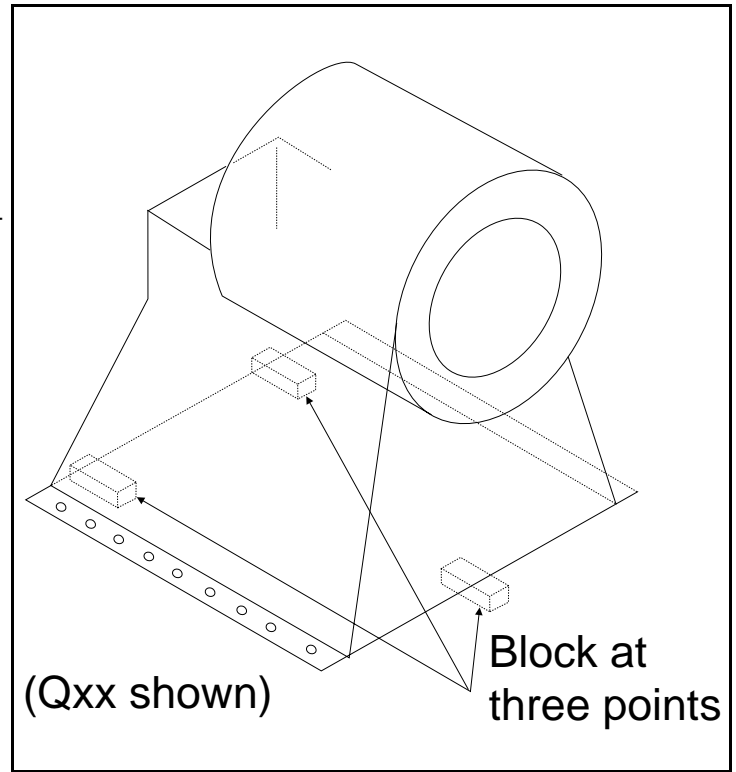


FIGURE 1 (MSIN0206AE)
Blocking Up Rigid Mount Washer-Extractors

▲ CAUTION ▲

MACHINE DAMAGE AND MALFUNCTION HAZARDS—Never tighten anchor bolt fasteners before grouting.

- ☞ Place temporary blocking at the three locations shown in FIGURE 1, not at four locations to avoid a “teeter-totter” condition.
- ☞ Tightening anchor bolt fasteners onto spacers (without grout) twists the machine frame and causes cylinder misalignment.

Preparing to Grout

All machines are designed to be grouted under the full length of the right and left side base plates (except the portion that falls over the drain sump). Grout prevents the anchor bolts from distorting the frame when the fasteners are tightened. Total area under each base plate must be completely filled with grout. Voids under base plates can magnify vibration, causing unsatisfactory operation. Use only industrial strength non-shrinking grout. Permanently install the foundation template (if supplied) under the machine as a vapor barrier if the machine is installed over a drain trough (see the dimensional drawing for additional information). After determining the final position of the machine, apply grout between the existing foundation floor and base plates, (if utilizing template, see dimensional drawing for details) while observing the following considerations:

▲ CAUTION ▲

Grout must displace total clearance between base plates and existing foundation floor.

☞ **VOIDS must not exist!**

☞ **If the grout (after mixing) is too thin (causing it to flow from under the base plates) install temporary cardboard framing around the plates to retain the grout until it cures.**

☞ **If the grout (after mixing) is of proper consistency, pack or trowel it in by hand.**

- 1.** After the grout has cured completely, raise the machine sufficiently to remove all temporary blocking and shims. **Be careful to avoid disturbing or damaging grout.**
- 2.** Tighten all fasteners until they contact the top of the base plate.
- 3.** Tighten all fasteners evenly, using only one-quarter turn on each fastener before moving to the next one. While tightening, frequently skip from front to back and right to left to insure uniform tension. After tightening all fasteners, check each fastener at least twice.

Service Connections

1. General

Required service connections, (depending on machine model and optional features) are as follows:

1. Piped inlets and outlets (cold water, hot water, flush water, third water, direct steam, compressed air, liquid supply, and drain to sewer). The sizes and locations of piped inlets and outlets are shown on the dimensional drawing for your machine.
2. Electrical power connections.

2. Requirements for Piped Connections

Notice 1: Machine Damage—Valve bodies will be ruined if twisted and distorted.

- Hold the connection side of the valve with a wrench when connecting plumbing.
1. Inlet pressures must be within the minimum/maximum range specified. Pressure outside of the specified range may cause the machine to operate inefficiently or malfunction and may damage machine components.
 2. Thoroughly flush all water lines before making connections.
 3. When connecting water and steam inlets, always install unions and shut off valves at the point of connection to permit removal of the machine components for servicing, when necessary.



CAUTION 2: Machine Damage Hazards—Pumped chemical systems, if not properly installed, can cause corrosion damage.

- See the reference manual for precautions and additional information before making any chemical connections.

3. Piped Inlet Specifications

Table 1: Piped Inlets

Connection Description	Source Requirements	Piping Specifications, Comments
Water valves	36026VxJ - 3/4" NPT @ 10 - 75 psi	Pipe material per plumbing code
	42026V6J - 1-1/4" NPT @ 10 - 75 psi	
Compressed air (optional)	42026V6J only - 1/4" NPT @ 80 - 110 psi	Pipe material per plumbing code
Steam inlet	36026V6J - 3/4" NPT @ 30 - 115 psi	Pipe material per plumbing code
Steam inlet	1/4" NPT (optional) @ 30 - 115 psi	Pipe material per plumbing code
Liquid supply inlets	3/8" - 1/2" @ 10 - 75 psi	Flexible tubing as specified by the chemical supplier

4. Piped Outlet Specifications

Piped outlet requirements are as follows (see dimensional drawing for connection sizes and locations):

Table 2: Outlets

Connection Description	Destination	Piping Specifications
36026VxJ and 42026V6J Drain	3" pipe socket joint, drain to sewer	Rubber hose, PVC or other approved material per plumbing code

5. Power Connections and Precautions



WARNING 3: Electrocution and Electrical Burn Hazards—Contact with high voltage will electrocute or burn you. Power switches on the machine and the control box do not eliminate these hazards. High voltage is present at the machine unless the main machine power disconnect is off.

- Do not service machine unless qualified and authorized.

Notice 4: Machine Damage—Voltage fluctuations of more than 10% above or below the specified voltage for your machine can damage electrical components, especially motors.

- Any such conditions should be corrected prior to commissioning your machine.

The customer must furnish a remotely mounted disconnect switch with lag type fuses or circuit breakers, and wiring between the electrical service box and the junction box on the machine. The sizes of these fuses and wires, along with the motor fuses supplied with the machine, depend on the machine voltage. See the fuse and wire sizing information in the schematic manual and on the machine nameplate. See dimensional drawings in this manual for electrical connection locations.

1. Electrical connections must be made by a competent electrician.
2. See fuse and wire sizing information in the schematic manual and on the machine nameplate. If the wire runs more than 50 feet, increase by one wire size for each additional 50 feet.
3. Only use Bussman Fusatron FRN (up to 250V), FRS (up to 600V) or similar lag fuses, the nameplate fuse sizes must not be applied to standard fuses.
4. Stinger leg, if any, must be connected to terminal L3, never to terminals L1 or L2.
5. Make power and liquid supply electrical connections within junction boxes on the rear of the machine.
6. Verify motor rotation (Figure 1). See the operating and trouble shooting manual for more information. If the cylinder turns in the wrong direction, interchange the wires connected to L1 and L2. Never move L3 under any circumstances. All motors are phased for proper rotation. Never attempt to reconnect motors or the motor control devices.
7. Machine is shipped set for 240 volt operation from the factory (Figure 2). If the supply voltage is 208 volts, then open the electrical enclosure, and place the line voltage switch in the 208 volt position.

Figure 1: Correct Rotation During Drain and Extract (when viewing front of machine)

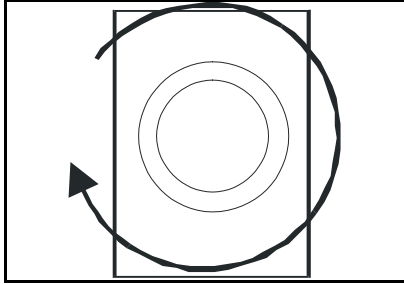
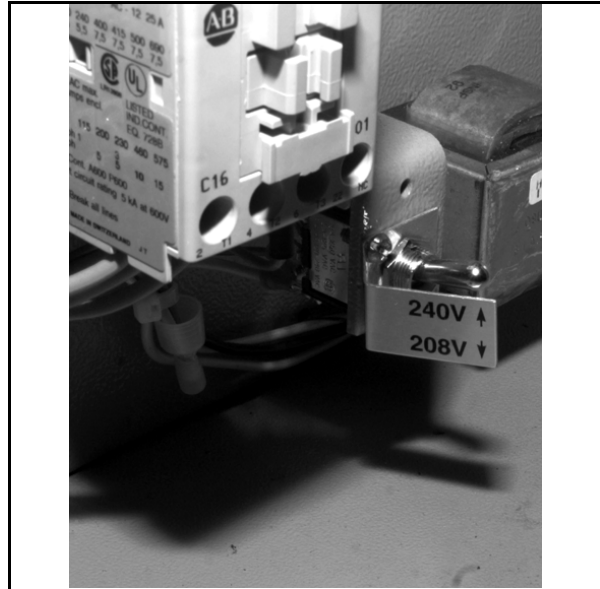


Figure 2: Line Voltage Switch Set for 240 Volt Operation



6. Remove Shipping Restraints

Remove all shipping restraints (usually marked in red). Restraints may be located behind access panels. Restraints may include vibration switch and motor restraints.

Figure 3: Motor Restraint

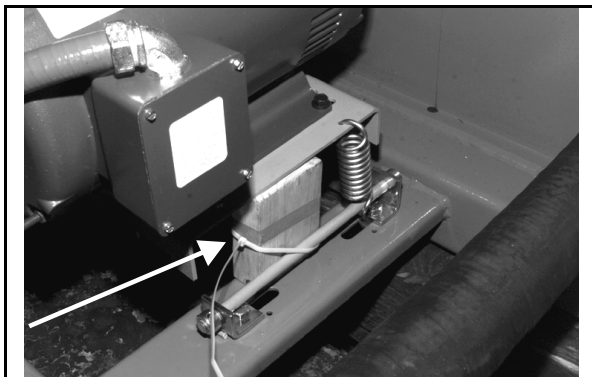
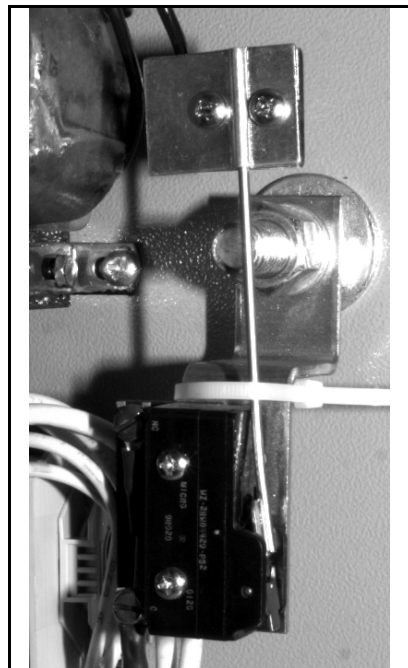


Figure 4: Typical Vibration Switch showing restraint in place



Service Connections

7. **Check Cylinder Surface**

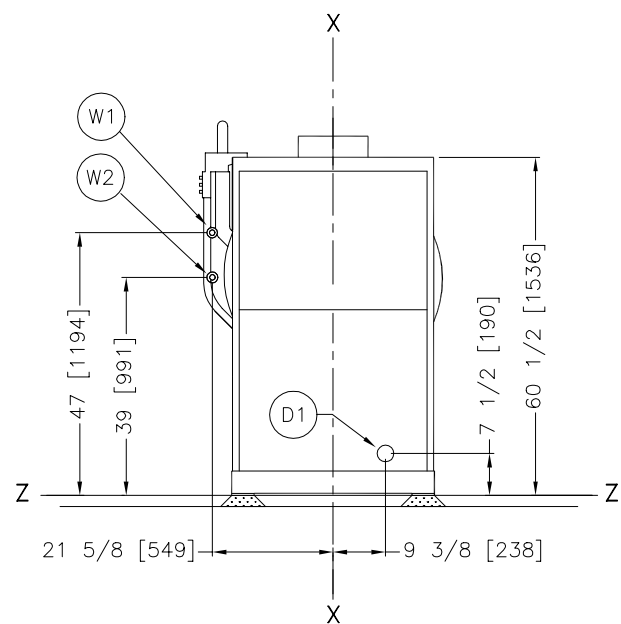
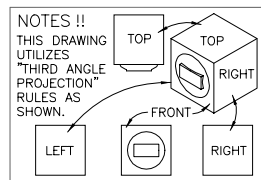
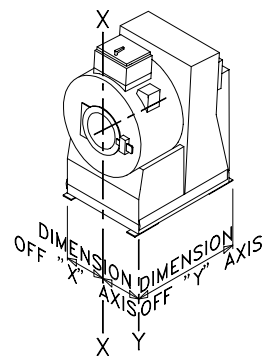
Check the perforated cylinder for smoothness. Milnor will not accept responsibility for the cylinder finish after the machine is placed in service.

— End of BIRQVI01 —

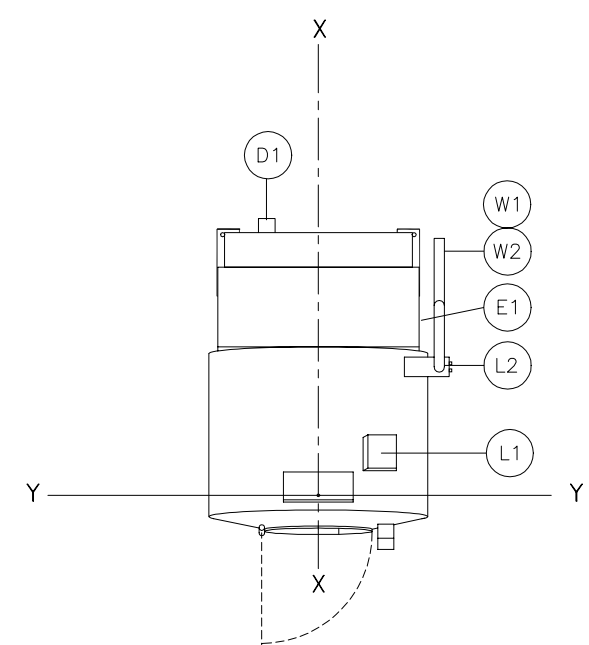
Section

2

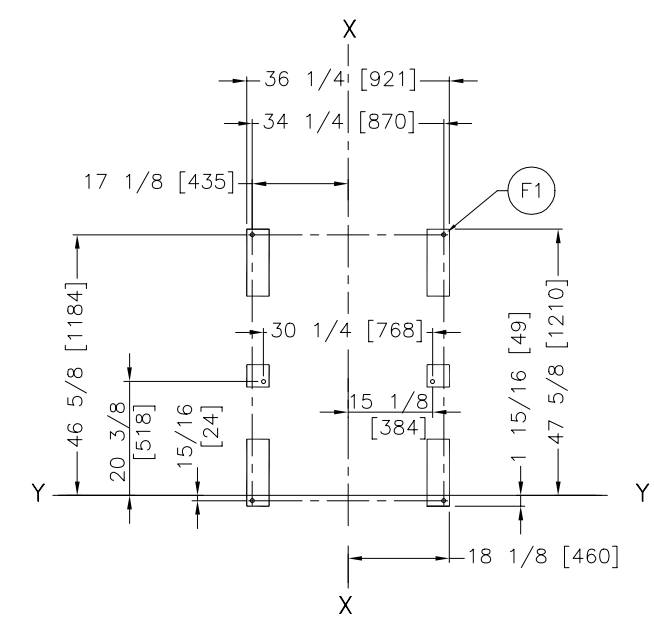
Dimensional Drawings



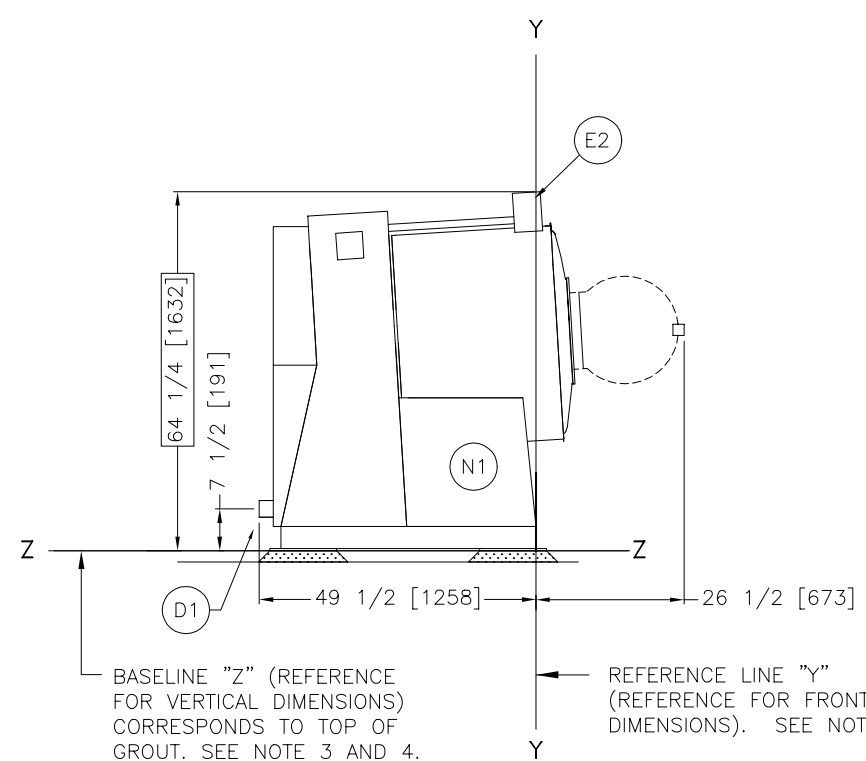
REAR VIEW



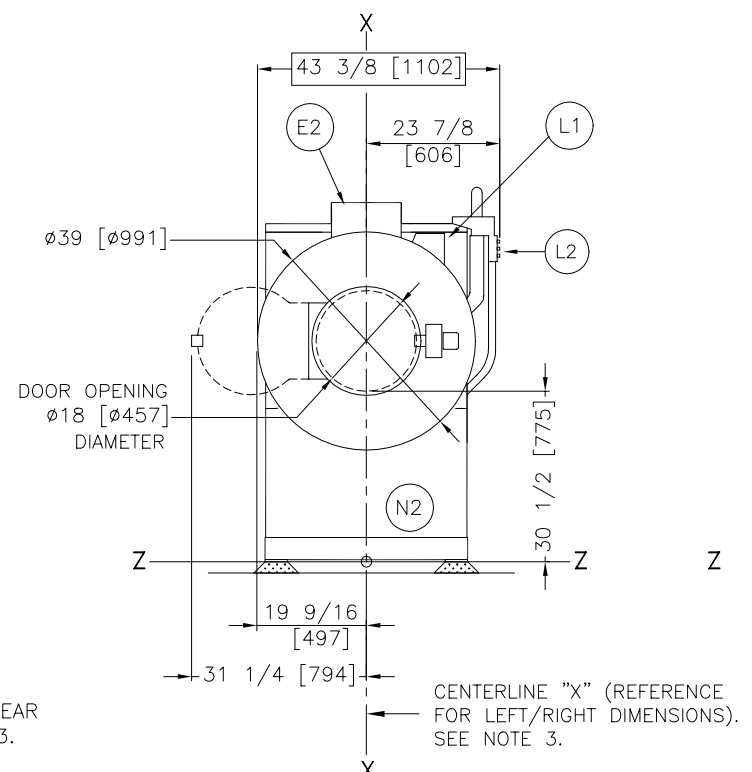
PLAN VIEW



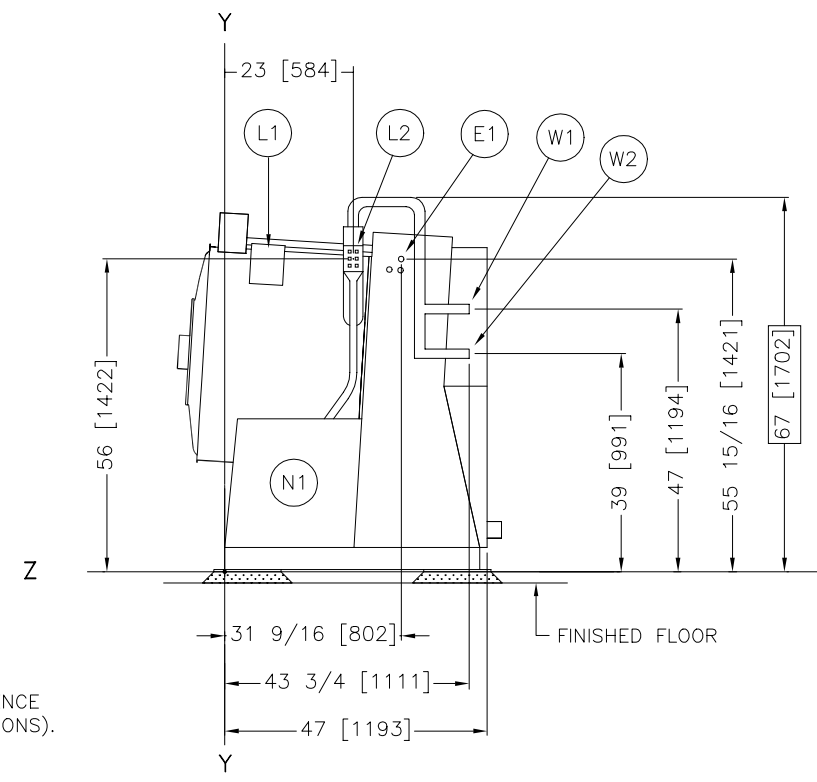
FOUNDATION PLAN VIEW



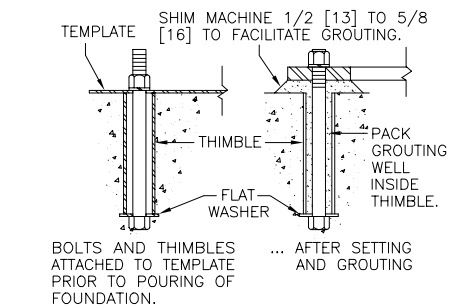
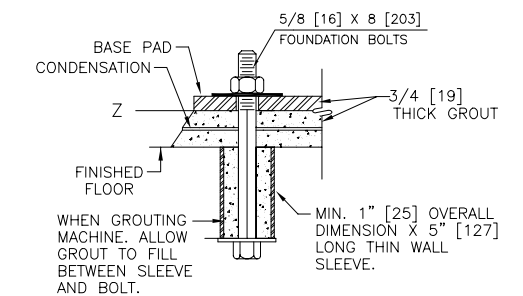
LEFT VIEW



FRONT VIEW



RIGHT VIEW



FASTENING DETAILS

ITEM	LEGEND
W2	ELECTRIC COLD WATER INLET, 3/4" NPT CONNECTION
W1	ELECTRIC HOT WATER INLET, 3/4" NPT CONNECTION
N2	REMOVABLE FRONT PANELS
N1	REMOVABLE SIDE PANELS
L2	LIQUID SUPPLY INLETS, SEE NOTE 11.
L1	SOAP CHUTE
F1	SIX ANCHOR BOLTS, 3/4 [19] DIAMETER FOR 5/8" DIAMETER ANCHOR BOLTS. SEE NOTE 9 AND FASTENING DETAILS.
E2	MICROPROCESSOR CONTROL PANEL AND BOX
E1	MAIN ELECTRICAL CONNECTION
D1	DRAIN, 3" PIPE SOCKET JOINT

- NOTES**
- STANDARD LIQUID SUPPLY INLETS COMES WITH THREE SETS OF SIX FITTINGS. ONE SET OF 3/8" FITTINGS, ONE SET OF 1/2" FITTINGS, AND ONE SET OF PLUGS WHICH ARE SHIPPED ON MACHINE.
 - DO NOT PRE-PIPE ANY CLOSER THAN 60 [1524].
 - WHEN INSTALLING ANCHOR BOLTS IN THE SLAB IT IS RECOMMENDED TO USE THE DETAIL SHOWN TO PROVIDE SOME LATERAL PLAY IN ANCHOR BOLT UNTIL MACHINE IS INSTALLED. A SHEET METAL BASE TEMPLATE FOR ANCHOR BOLT POSITIONING IS AVAILABLE FROM THE MILNOR FACTORY.
 - WATER INLET PIPING AND BRACKETRY CAN BE EASILY REMOVED TEMPORARILY TO REDUCE OVERALL MACHINE WIDTH FOR PASSAGE THROUGH DOOR WAYS.
 - NEVER REDUCE DRAIN PIPING BELOW NPT SIZE OF CONNECTION.
 - 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 (i.e. BARE CONCRETE, BRICK, ETC.)
 48 [1219] IF OBJECT IS ANY LIVE PART.
 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 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.
 - 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
 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.

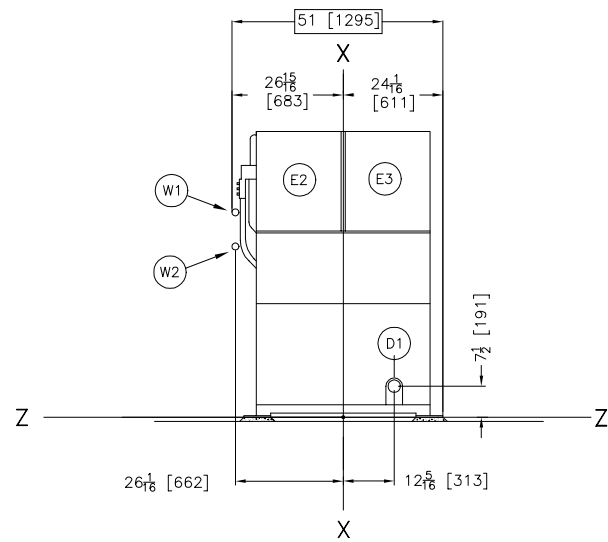
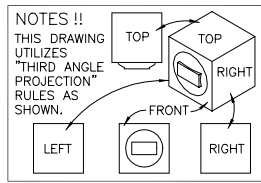
ATTENTION
 THE FLOOR AND/OR OTHER SUPPORT COMPONENTS MUST HAVE SUFFICIENT STRENGTH (AND RIGIDITY) WITH DUE CONSIDERATION FOR NATURAL OR RESONANT FREQUENCY THEREOF TO WITHSTAND THE FULLY LOADED WEIGHT OF THE MACHINE INCLUDING THE GOODS, THE WATER, AND ANY REPEATED SINUSOIDAL (ROTATING) FORCES GENERATED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

36026V5J

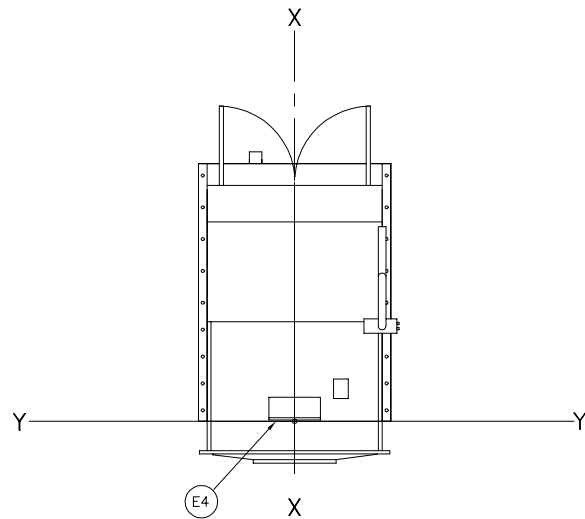
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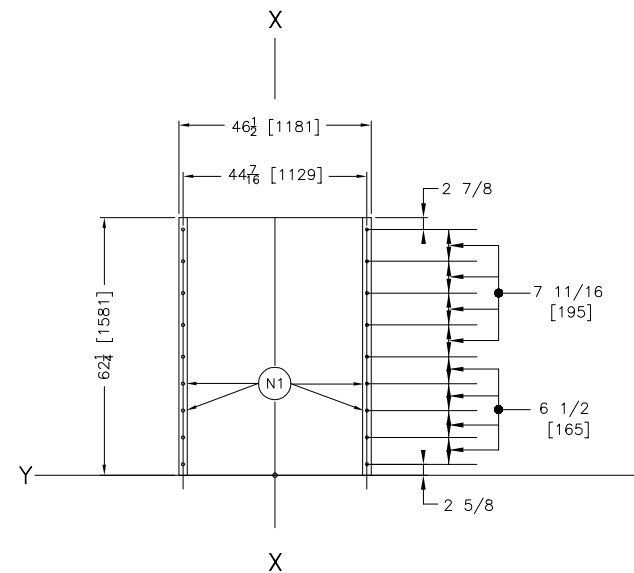
P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467-9591, FAX 504/469-1849, Telex IIT 460124/PELM UI, Cable PELMILNOR



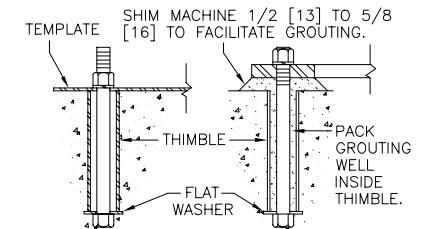
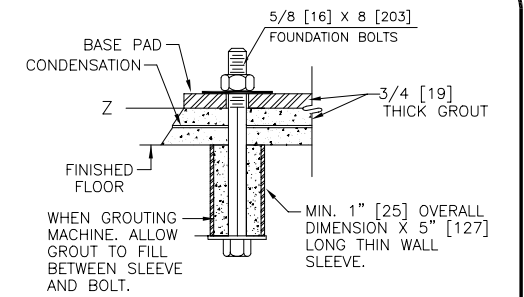
REAR VIEW



PLAN VIEW



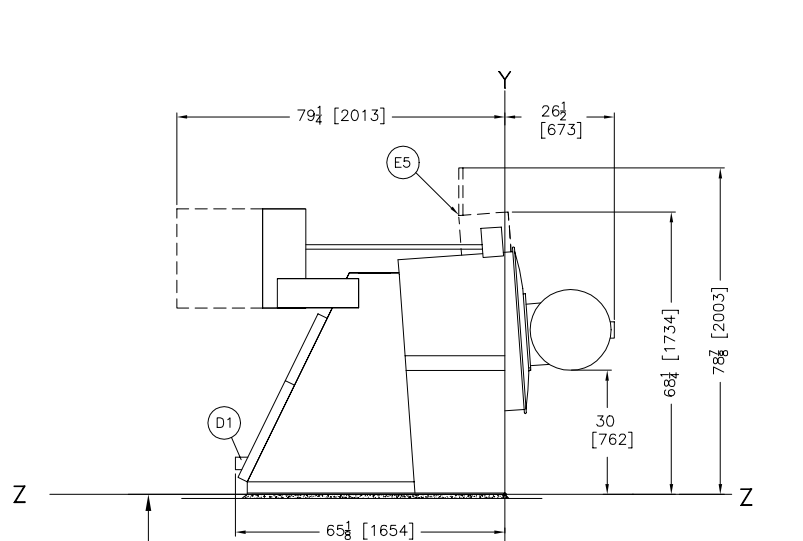
FOUNDATION VIEW



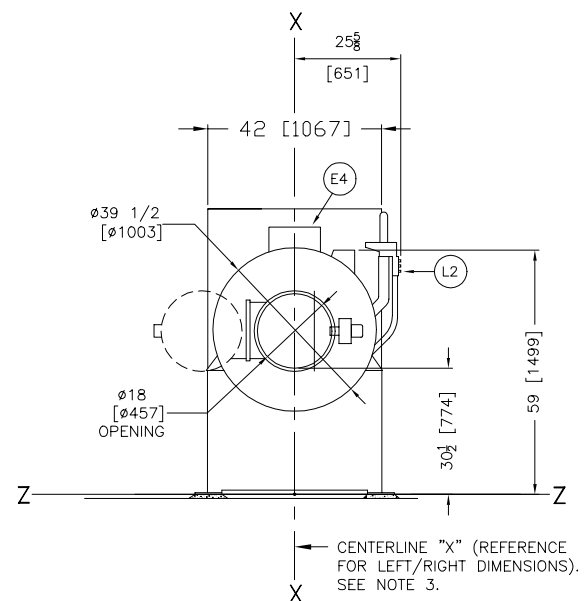
BOLTS AND THIMBLES ATTACHED TO TEMPLATE PRIOR TO POURING OF FOUNDATION.
... AFTER SETTING AND GROUTING

FASTENING DETAILS

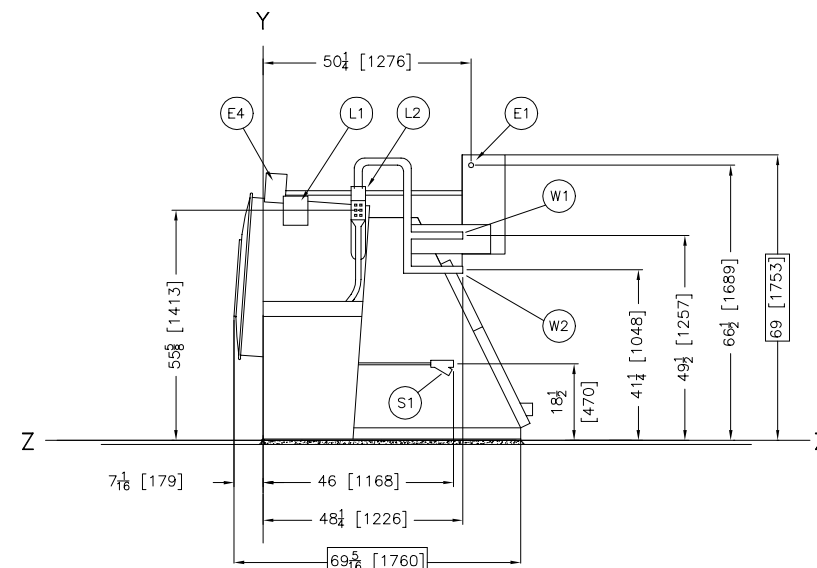
W2	ELECTRIC COLD WATER INLET, 3/4" NPT
W1	ELECTRIC HOT WATER INLET, 3/4" NPT
S1	OPTIONAL STEAM INLET, 3/4" NPT
N1	SEE NOTE 9.
L2	LIQUID SUPPLY INLETS
L1	STANDARD SOAP CHUTE
E5	MICROPROCESSOR BOX & CONTROLS, V7W ONLY
E4	MICROPROCESSOR CONTROL PANEL, V7J ONLY
E3	LOW VOLTAGE CONTROL BOX
E2	HIGH VOLTAGE CONTROL BOX
E1	MAIN ELECTRICAL CONNECTION
D1	DRAIN, 3" PIPE SOCKET JOINT
ITEM	LEGEND



LEFT VIEW



FRONT VIEW



RIGHT VIEW

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

CENTERLINE "X" (REFERENCE FOR LEFT/RIGHT DIMENSIONS). SEE NOTE 3.

NOTES

- WATER INLET PIPING AND BRACKETRY CAN BE EASILY REMOVED TEMPORARILY TO REDUCE OVERALL MACHINE WIDTH FOR PASSAGE THROUGH DOORWAYS.
- IF ABSOLUTELY NECESSARY, THE MACHINE MAY SPAN A DRAIN TROUGH UP TO 15" [381] WIDE (THUS ELIMINATING UP TO 2 ANCHOR BOLTS PER SIDE, BUT ONLY THOSE IDENTIFIED (N1).) FOR WIDER DRAIN TROUGHS, A 6" [152] I-BEAM MUST BE EMBEDDED IN THE SLAB AND THE MACHINE ANCHORED TO IT AS PER GOOD ENGINEERING PRACTICE.
- ENTIRE BASE OF MACHINE MUST BE CONTINUOUSLY SUPPORTED. IF MACHINE IS TO BE INSTALLED OVER A DRAIN TROUGH, THE MACHINE MUST BE MOUNTED TO A PEDESTAL BASE - NOT SUPPLIED BY P.M.C.
- NEVER REDUCE DRAIN PIPING BELOW NPT SIZE OF CONNECTIONS.
- AS OF THIS WRITING, THE MINIMUM CLEARANCE REQUIRED BY U.S. NATIONAL ELECTRIC CODES, FROM ELECTRIC BOX TO ANY OBJECT IS:
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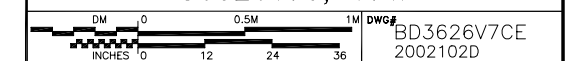
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ATTENTION

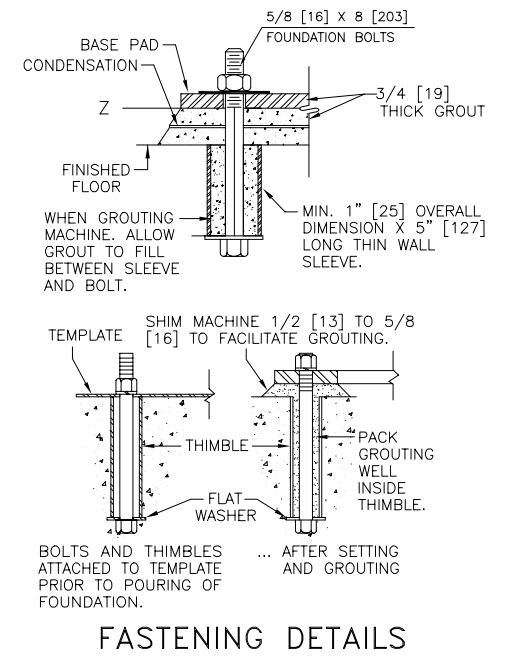
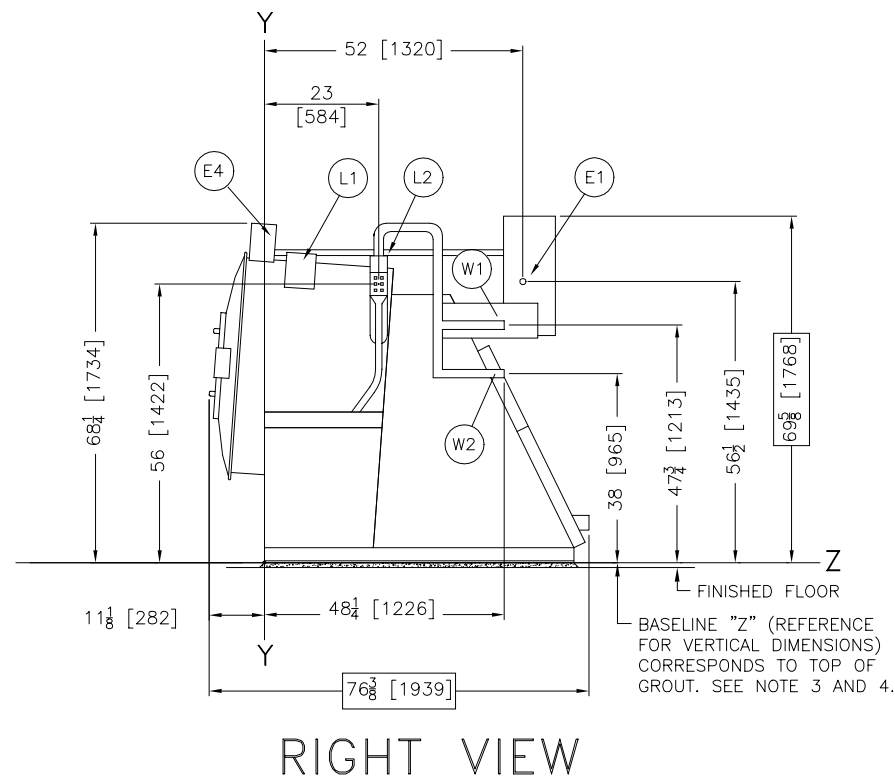
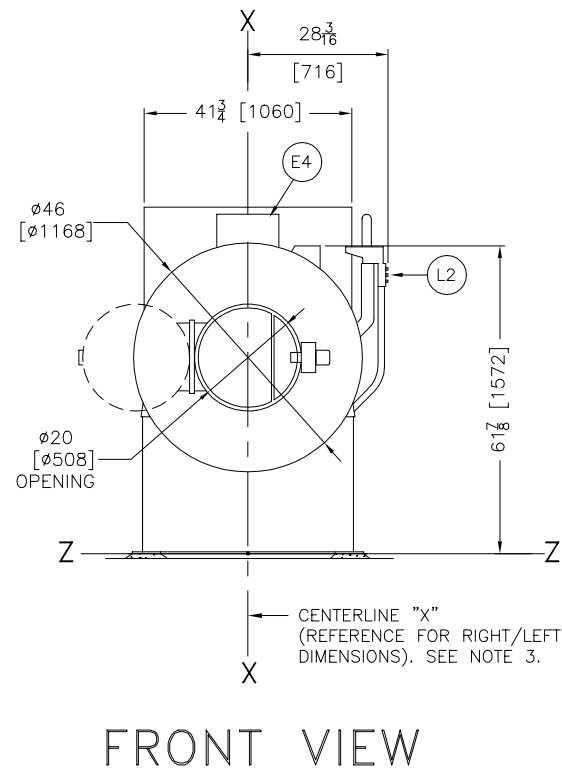
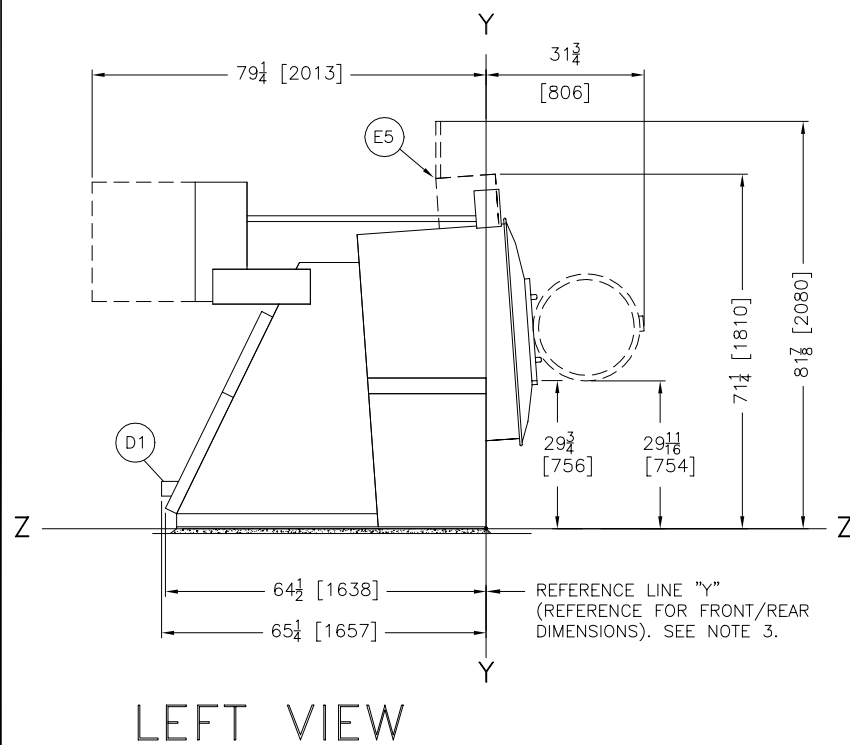
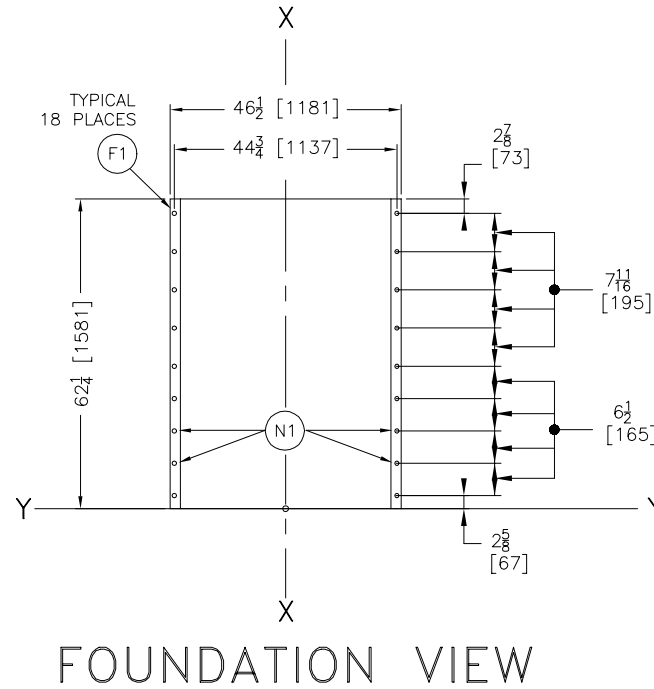
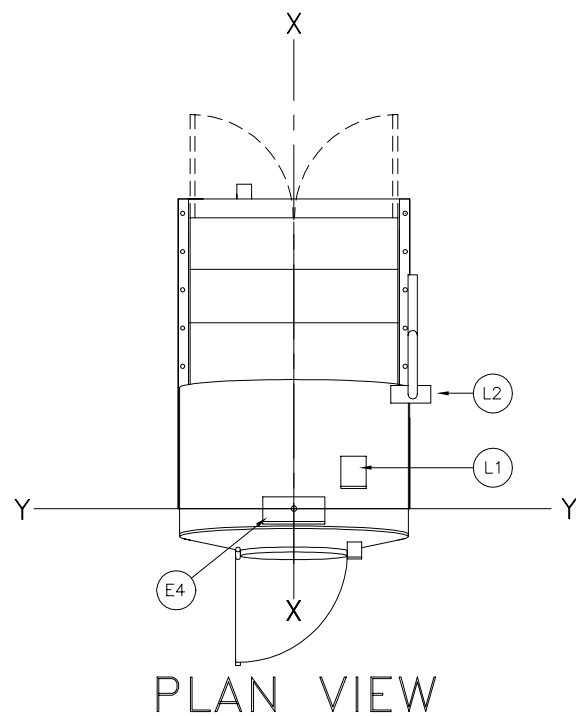
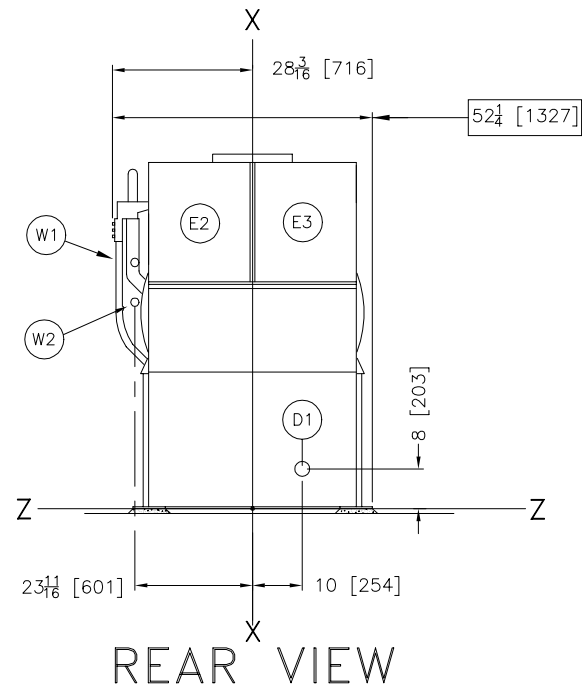
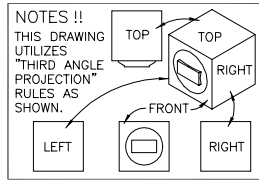
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36026V7J, V7W



BD3626V7CE
2002102D

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W2	ELECTRIC COLD WATER INLET, 1-1/4" NPT
W1	ELECTRIC HOT WATER INLET, 1-1/4" NPT
N1	SEE NOTE 9.
L2	LIQUID SUPPLY INLETS.
L1	STANDARD SOAP CHUTE.
F1	FOUNDATION ANCHOR BOLT HOLES 7/8"Ø, 18 PLACES
E5	MICROPROCESSOR BOX & CONTROLS, V6W ONLY
E4	MICROPROCESSOR CONTROL PANEL, V6J ONLY
E3	LOW VOLTAGE CONTROL BOX.
E2	HIGH VOLTAGE CONTROL BOX.
E1	MAIN ELECTRICAL CONNECTION.
D1	DRAIN TO REAR, 3" PIPE SOCKET JOINT.
ITEM	LEGEND

NOTES

- WATER INLET PIPING AND BRACKETRY CAN BE EASILY REMOVED TEMPORARILY TO REDUCE OVERALL MACHINE WIDTH FOR PASSAGE THROUGH DOOR WAYS.
- IF ABSOLUTELY NECESSARY, THE MACHINE MAY SPAN A DRAIN TROUGH UP TO 15" [381] WIDE (THUS ELIMINATING UP TO 2 ANCHOR BOLTS PER SIDE, BUT ONLY THOSE IDENTIFIED (N1)). FOR WIDER DRAIN TROUGHS, A 6" [152] I-BEAM MUST BE EMBEDDED IN THE SLAB AND THE MACHINE ANCHORED TO IT AS PER GOOD ENGINEERING PRACTICE.
- ENTIRE BASE OF MACHINE MUST BE CONTINUOUSLY SUPPORTED. IF MACHINE IS TO BE INSTALLED OVER A DRAIN TROUGH, THE MACHINE MUST BE MOUNTED TO A PEDESTAL BASE - NOT SUPPLIED BY P.M.C.
- NEVER REDUCE DRAIN PIPING BELOW NPT SIZE OF 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 (i.e. BARE CONCRETE, BRICK, ETC.)
48 [1219] IF OBJECT IS ANY LIVE PART.
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 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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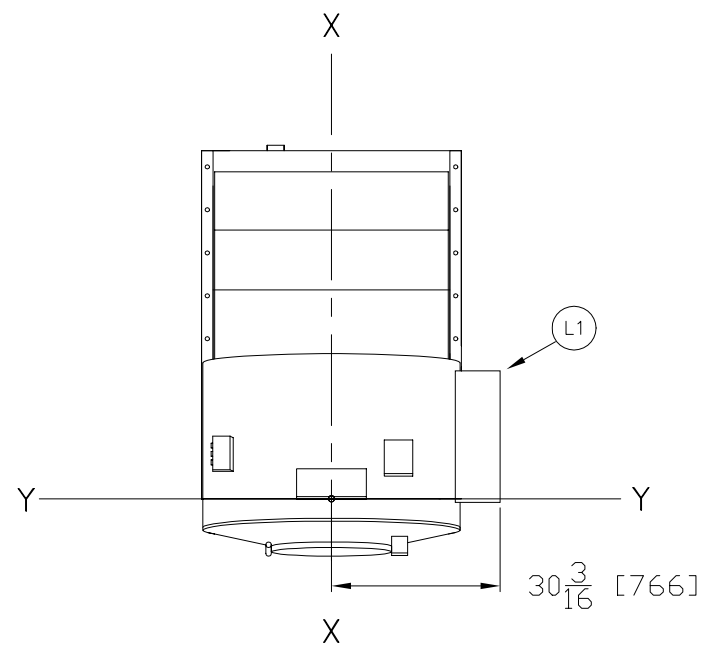
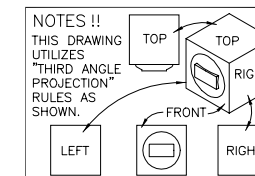
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42026V6J, V6W

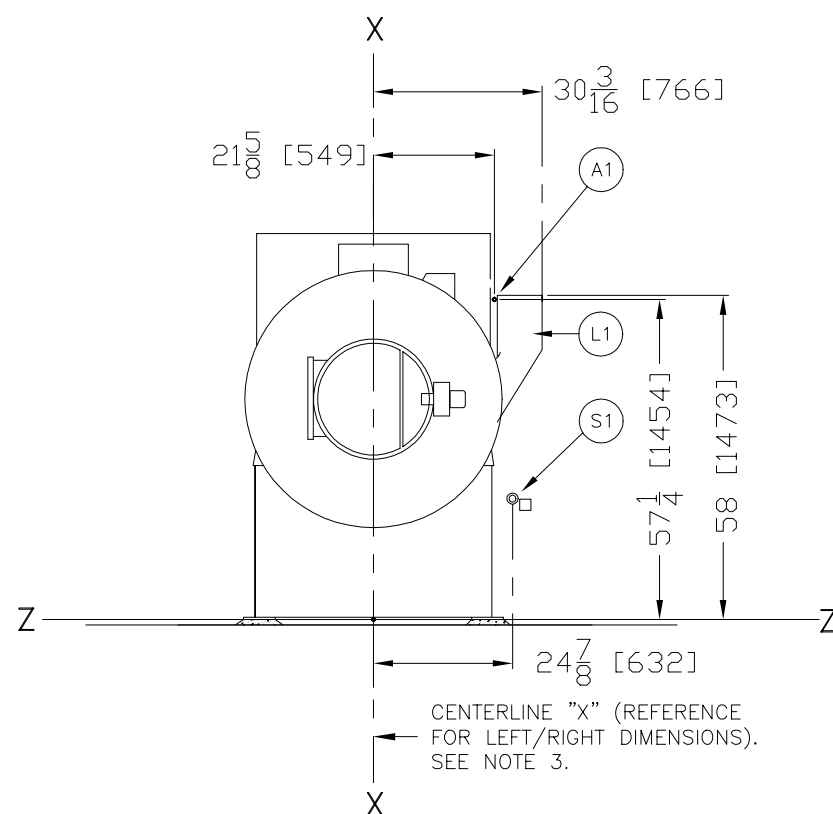
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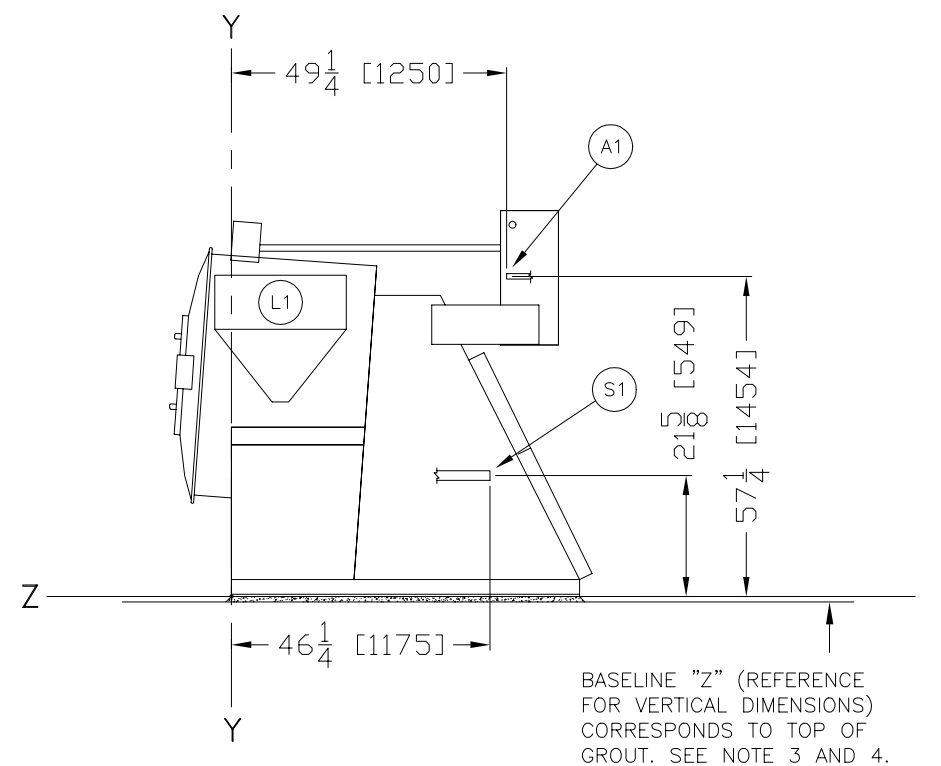
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PLAN VIEW



FRONT VIEW



RIGHT VIEW

S1	STEAM 3/4" NPT, OPTIONAL
L1	FIVE COMPARTMENT SUPPLY INJECTOR, OPTIONAL
A1	AIR 1/4" NPT, OPTIONAL
ITEM	LEGEND

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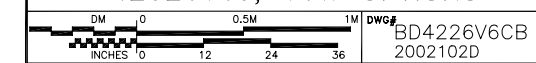
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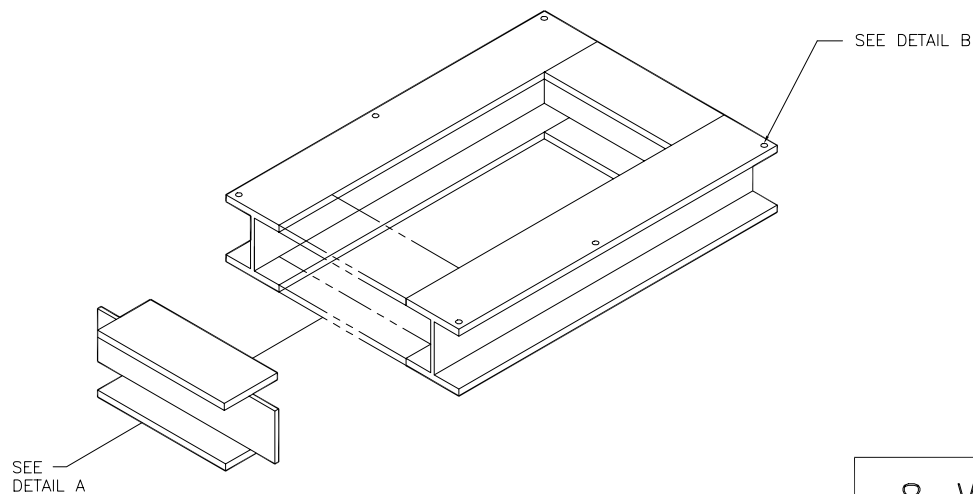
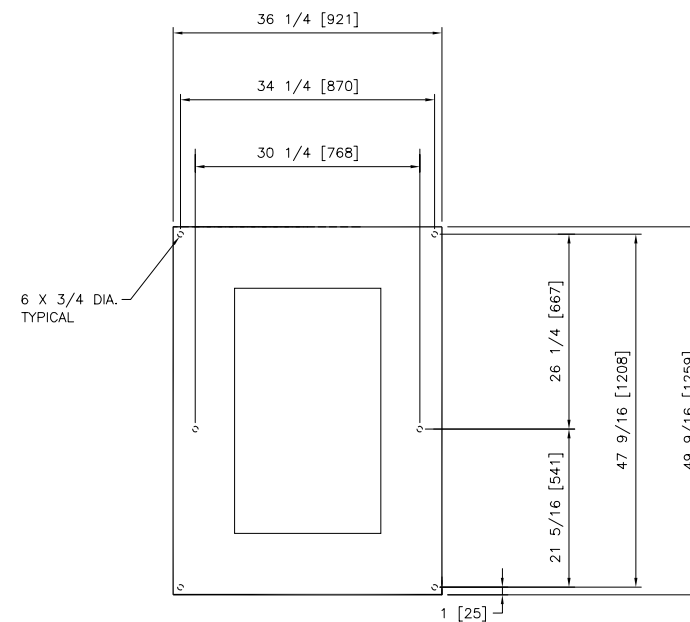
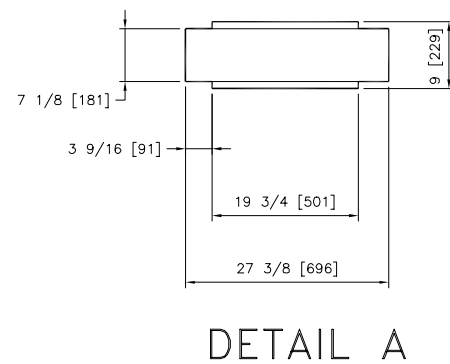
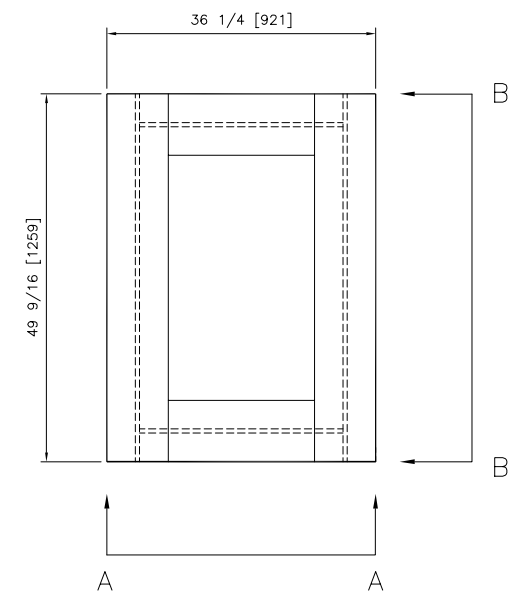
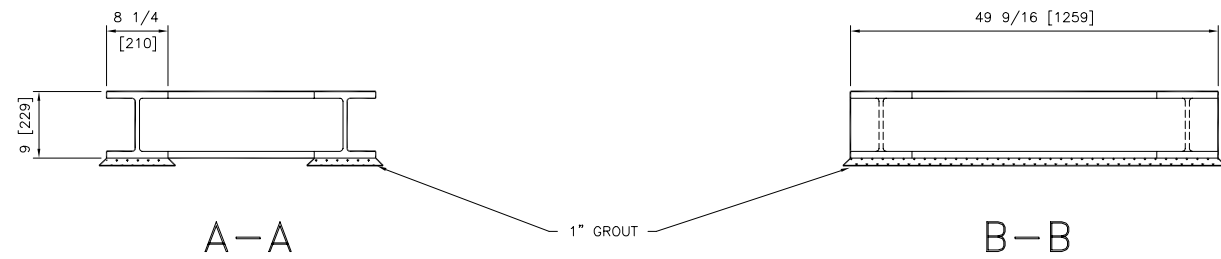
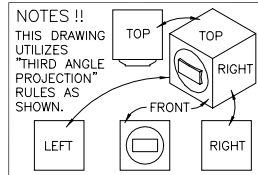
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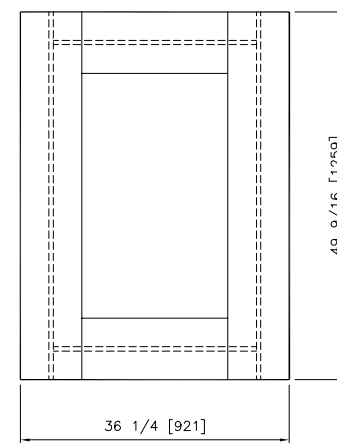
42026V6J, V6W OPTIONS



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8 WF 67 RECOMMENDED



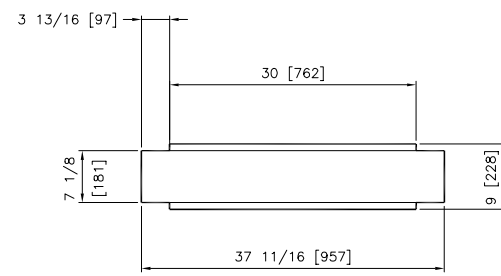
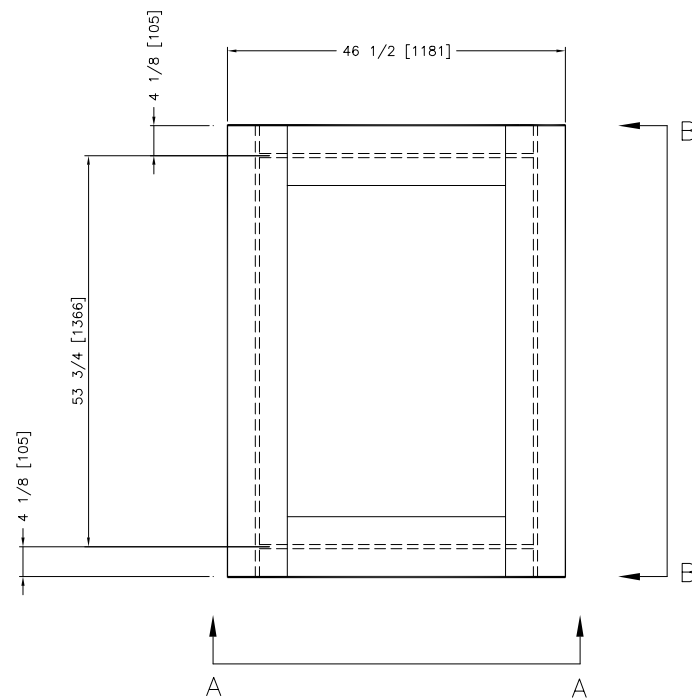
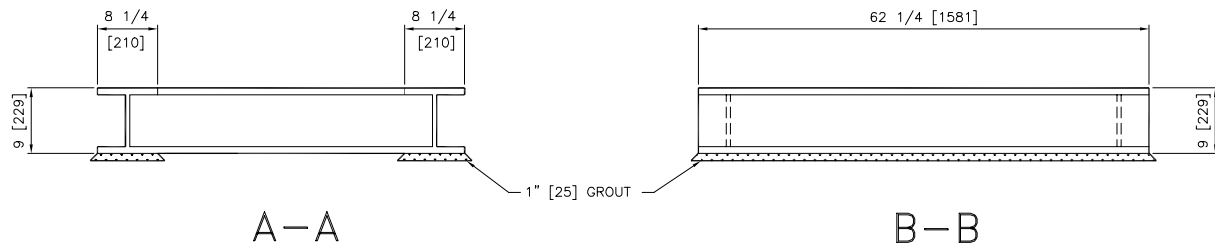
DETAIL C

- NOTES**
- WHEN INSTALLING MACHINE AND PEDESTAL BASE, IT IS RECOMMENDED TO LAY THE PEDESTAL ON A MINIMUM 1 [25] THICK GROUT BED AND BOLT THE MACHINE TO IT. ALTERNATELY, THE MACHINE MAY BE WELDED TO THE BASE, PROVIDED IT IS SHIMMED AS REQUIRED TO INSURE THERE IS NO DISTORTION OF THE MACHINE BASE PLATES OR FRAME.
 - THIS BASE MUST BE FABRICATED LOCALLY AND SHOULD BE MADE SQUARE AND LEVEL. IT IS NOT SUPPLIED BY PELLERIN MILNOR CORP. THIS DRAWING CONVEYS NO EXPRESS OR IMPLIED WARRANTY WITH REGARD TO THE CONSTRUCTION AND/OR SUITABILITY OF THIS ASSEMBLY.
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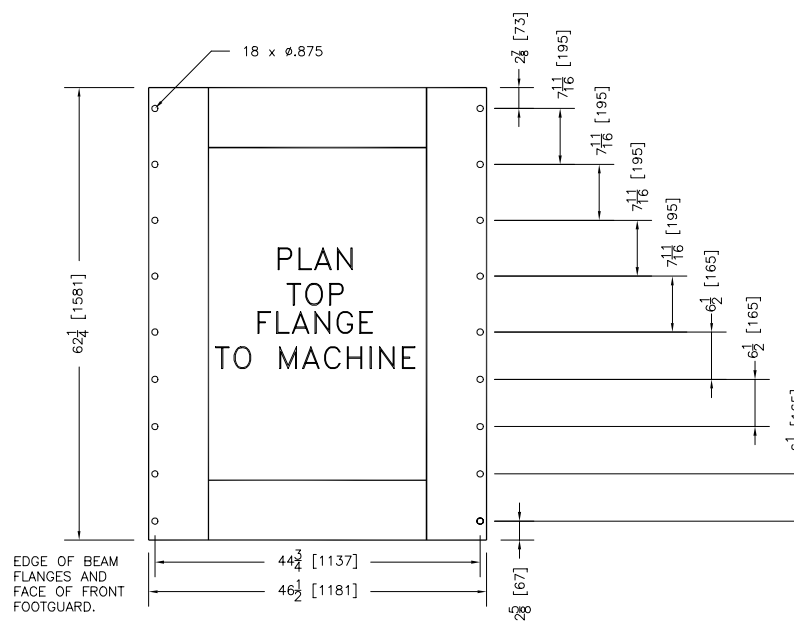
PEDESTAL BASE FOR 36026V5J

SCALE: 1" = 1'0" DWG# BD36V5BSAE 2000455D

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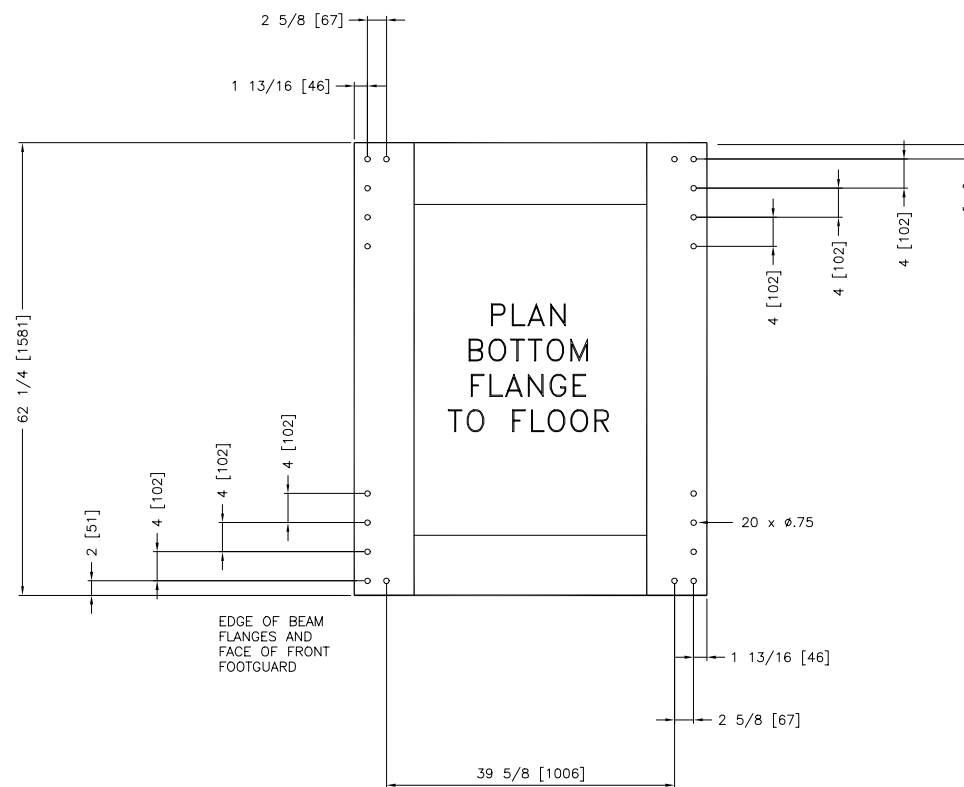
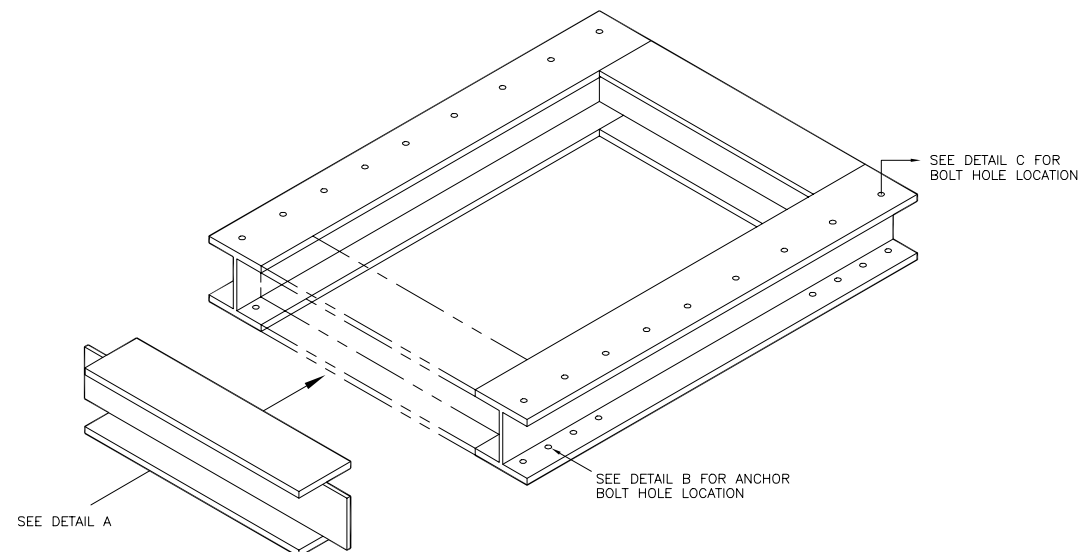


DETAIL A



DETAIL C

8 WF 67 RECOMMENDED



DETAIL B

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PEDESTAL BASE 36026V7J, 42026V6J

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