

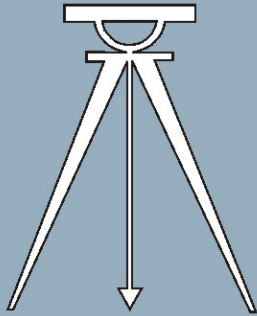
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Installation

76032 Tunnel Washers



**Read the
separate
safety
manual
before
installing,
operating,
or servicing**

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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.

BMP720097/19036

How to Get the Necessary Repair Components



This document uses Simplified Technical English.
Learn more at <http://www.asd-ste100.org>.

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: 504-467-2787
Fax: 504-469-9777
Email: parts@milnor.com

— End of BIUUUD19 —

Trademarks

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

Table 1 Trademarks

AutoSpot™	GreenTurn™	Milnor®	PulseFlow®
CBW®	GreenFlex™	MilMetrix®	PurePulse®
Drynet™	Hydro-cushion™	MilTouch™	Ram Command™
E-P Express®	Linear Costa Master™	MilTouch-EX™	RecircONE®
E-P OneTouch®	Linear Costo™	Miltrac™	RinSave®
E-P Plus®	Mentor®	MultiTrac™	SmoothCoil™
Gear Guardian®	Mildata®	PBW™	Staph Guard®

End of document: BNUUUU02

Safety—Continuous Batch Washer

1. General Safety Requirements—Vital Information for Management Personnel [Document BIUUUS04]

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 and CE in Europe) hold the owner/user ultimately responsible for maintaining a safe working environment. Therefore, the owner/user must do or ensure the following:

- recognize all foreseeable safety hazards within his facility and take actions to protect his personnel, equipment, and facility;
- work equipment is suitable, properly adapted, can be used without risks to health or safety, and is adequately maintained;
- where specific hazards are likely to be involved, access to the equipment is restricted to those employees given the task of using it;
- only specifically designated workers carry out repairs, modifications, maintenance, or servicing;
- information, instruction, and training is provided;
- workers and/or their representatives are consulted.

Work equipment must comply with the requirements listed below. The owner/user must verify that installation and maintenance of equipment is performed in such a way as to support these requirements:

- control devices must be visible, identifiable, and marked; be located outside dangerous zones; and not give rise to a hazard due to unintentional operation;
- control systems must be safe and breakdown/damage must not result in danger;
- work equipment is to be stabilized;
- protection against rupture or disintegration of work equipment;
- guarding, to prevent access to danger zones or to stop movements of dangerous parts before the danger zones are reached. Guards to be robust; not give rise to any additional hazards; not be easily removed or rendered inoperative; situated at a sufficient distance from the danger zone; not restrict view of operating cycle; allow fitting, replacing, or maintenance by restricting access to relevant area and without removal of guard/protection device;
- suitable lighting for working and maintenance areas;
- maintenance to be possible when work equipment is shut down. If not possible, then protection measures to be carried out outside danger zones;
- work equipment must be appropriate for preventing the risk of fire or overheating; discharges of gas, dust, liquid, vapor, other substances; explosion of the equipment or substances in it.

- 1.1. **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. 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.
- 1.2. **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 personnel understand and abide by the warnings on the machine and precautions in the instruction manuals.
- 1.3. **Safety Devices**—Ensure that no one eliminates or disables any safety device on the machine or in the facility. Do not allow machine to be used with any missing guard, cover, panel or door. Service any failing or malfunctioning device before operating the machine.
- 1.4. **Hazard Information**—Important information on hazards is provided on the machine safety placards, in the Safety Guide, and throughout the other machine manuals. **Placards must be kept clean so that the information is not obscured. They must be replaced immediately if lost or damaged. The Safety Guide and other machine manuals must be available at all times to the appropriate personnel.** See the machine service manual for safety placard part numbers. Contact the Milnor Parts department for replacement placards or manuals.
- 1.5. **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, bearings, etc., whining, grinding, smoking, or becoming abnormally hot; bending or cracking of cylinder, shell, frame, etc.; leaking seals, hoses, valves, etc.) Do not permit service or maintenance by unqualified personnel.

2. Safety Alert Messages—Internal Electrical and Mechanical Hazards [Document BIUUUS11]

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



WARNING 1: 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 [2]: 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. These may not stop certain devices such as pumps on some machines.



CAUTION [3]: Burn Hazards—Contact with hot goods or machine components can burn you.

- Do not remove guards, covers, or panels.
- Do not reach into the machine housing or frame.

3. Safety Alert Messages—External Mechanical Hazards [Document BIUUUS12]

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

4. Safety Alert Messages—Cylinder and Processing Hazards [Document BIUUUS13]

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



WARNING [4]: 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 [5]: 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.

5. Safety Alert Messages—Unsafe Conditions [Document BIUUUS14]

5.1. Damage and Malfunction Hazards

5.1.1. Hazards Resulting from Inoperative Safety Devices



WARNING [6]: 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 [7]: Electrocutation 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 [8]: 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.

5.1.2. Hazards Resulting from Damaged Mechanical Devices



WARNING [9]: 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.



CAUTION [10]: Machine Damage Hazards—Drive shaft and drive motors—Although the tunnel may operate with drive shafts disconnected between modules or units, or with a motor not functioning, the added stress on drive components will quickly damage the machine.

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

5.2. Careless Use Hazards

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



WARNING [11]: 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.



CAUTION [12]: Goods Damage and Wasted Resources—Entering incorrect cake data causes improper processing, routing, and accounting of batches.

- Understand the consequences of entering cake data.

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



WARNING [13]: Electrocutation 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 14: 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 15: 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.
- Abide by the confined space entry procedures in the reference manual.

— End of BIUUUS27 —

Proximity Safeguarding for Automatic Shuttle Conveyors

Proximity safeguarding—a means of preventing personnel from entering the path of a machine, such as an industrial robot, that moves within a large area.

1. Applicability

This document—

applies to Milnor® automated laundering systems with shuttle conveyors that move without operator intervention (automatic operation),

does not apply to shuttles that require operator input continually, such as directing all shuttle movements (manual operation).

2. References for Proximity Safeguarding

ANSI Z8.1-2016 “American National Standard for Commercial Laundry and Drycleaning Equipment and Operations - Safety Requirements”

OSHA Standard 29 CFR § 1910.212 “General Requirements for All Machines”

OSHA Directive STD 01-12-002 - Pub 8-1.3 “Guidelines for Robotic Safety”

ANSI/RIA R15.06-2012 “American National Standard for Industrial Robots and Robot Systems- Safety Requirements”

ANSI/ASME B15.1-2000 “Safety Standard for Mechanical Power Transmission Apparatus”

OSHA Publication 3067 “Concepts and Techniques of Machine Safeguarding”

ISO 10472-1 “Safety Requirements for Industrial Laundry Machinery”

3. Hazards To Personnel in Proximity to Shuttle Conveyors

Milnor automated laundering systems use automatic shuttle conveyors to transport goods among the processing machines in the system. Depending on model, an automatic shuttle conveyor may move in any of the following ways, in addition to running its conveyor belt(s):

- It may travel along (traverse) a line of machines (typically dryers).
- Its conveyor bed(s) may ascend and descend (elevate) within the machine frame.
- Its conveyor bed(s) may extend and retract within the machine frame.
- The conveyor bed and frame may pivot.
- Wet goods shuttles have a bucket that elevates and tilts.

These motions pose strike, crush, sever, and entrapment hazards to personnel in proximity to the shuttle. **For the safety of personnel, owner/users must provide proximity safeguarding that protects personnel from the moving shuttle.**

A common method of proximity safeguarding is safety fencing with interlocked gates that disable the shuttle when a gate is opened. When a shuttle is disabled, this will eventually cause other machines in the system to hold (wait for action from another machine), but it will not necessarily cause them to immediately stop moving. In the case of a tunnel system, the press or centrifugal extractor can pose additional hazards to personnel in proximity to the equipment. **Hence, the safeguards must also disable any presses or extractors.** Tunnels and dryers do not pose a significant hazard to personnel merely because they are in proximity to the equipment, and need not be automatically disabled.



WARNING 1: **Multiple Hazards**—Proximity safeguarding provides only partial protection and only against injury resulting from entering the shuttle path. It is not a substitute for proper

lockout/tagout procedures and good safety practices.

- Always lockout/tagout any individual machine (or follow the published maintenance procedures) when performing maintenance or clearing a fault on that machine.
- Ensure that all personnel understand the safeguards and do not attempt to defeat them.
- Inspect safeguards weekly to ensure that they are not mechanically or electrically circumvented.

4. How Milnor Accommodates Proximity Safeguarding

Milnor provides connection points on shuttles, presses and centrifugal extractors for interfacing with devices such as gate interlock switches. These connection points are tagged for easy identification. When Milnor provides equipment layout drawings for an automated laundering system, it indicates on the drawing, the perimeter of the shuttle movement area that must be guarded. The following hazard statement is displayed on connection point tags as well as equipment layout drawings prepared by Milnor:



WARNING [2]: Strike, Crush, Sever, and Entrapment Hazards—Serious bodily injury or death can result to personnel in proximity to machinery/systems that traverse, elevate, extend, pivot, and/or tilt. The following mandatory minimum safety requirements must be installed with the machinery system (local codes may require additional precautions):

- Safety fence enclosing machine movement areas,
- Lockable electrical interlocks on all gates, properly interfaced as shown on machine schematics, to disable machine movement when any gate is opened,
- Signs to alert personnel to these hazards, placed prominently around the fenced area.

Although the objectives of proximity safeguarding are the same anywhere, design requirements vary with local codes (which occasionally change) and with the plant layout. For this reason, Milnor does not provide detailed designs or materials for proximity safeguarding. If the necessary expertise does not exist within the owner/user's organization, consult appropriate sources such as local engineers or architects specializing in industrial facility design.

5. Examples of Safety Fencing With Interlocked Gates

Fencing with interlocked gates like that depicted in [Figure 1](#) and [Figure 2](#), may be used to meet the proximity safeguarding requirement. Should the owner/user choose this method, the following information may be useful. However, **this information may not satisfy current or local code requirements. The owner/user must determine its suitability for his particular facility.**

Figure 1: Example Fence Layout for Automated Laundering System Where One Tunnel Serves a Bank of Dryers

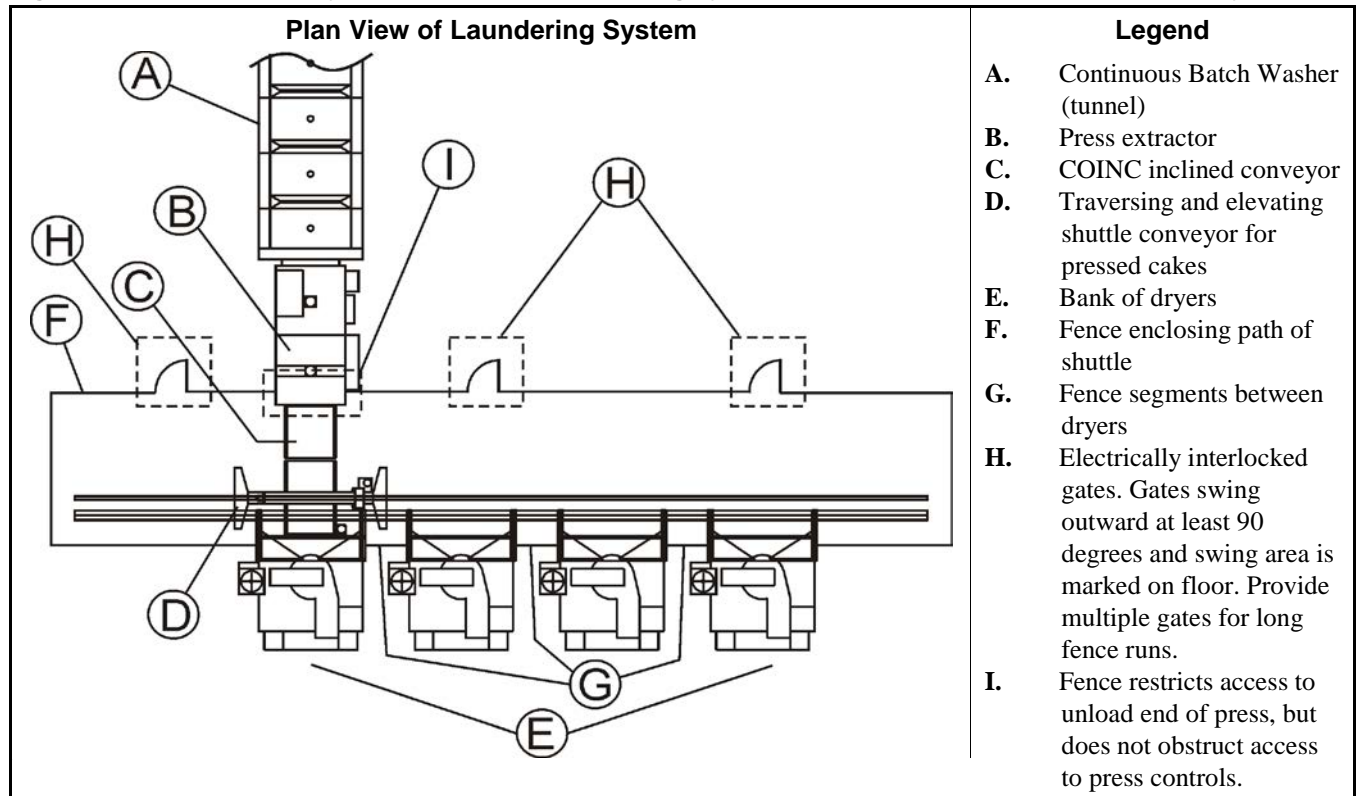
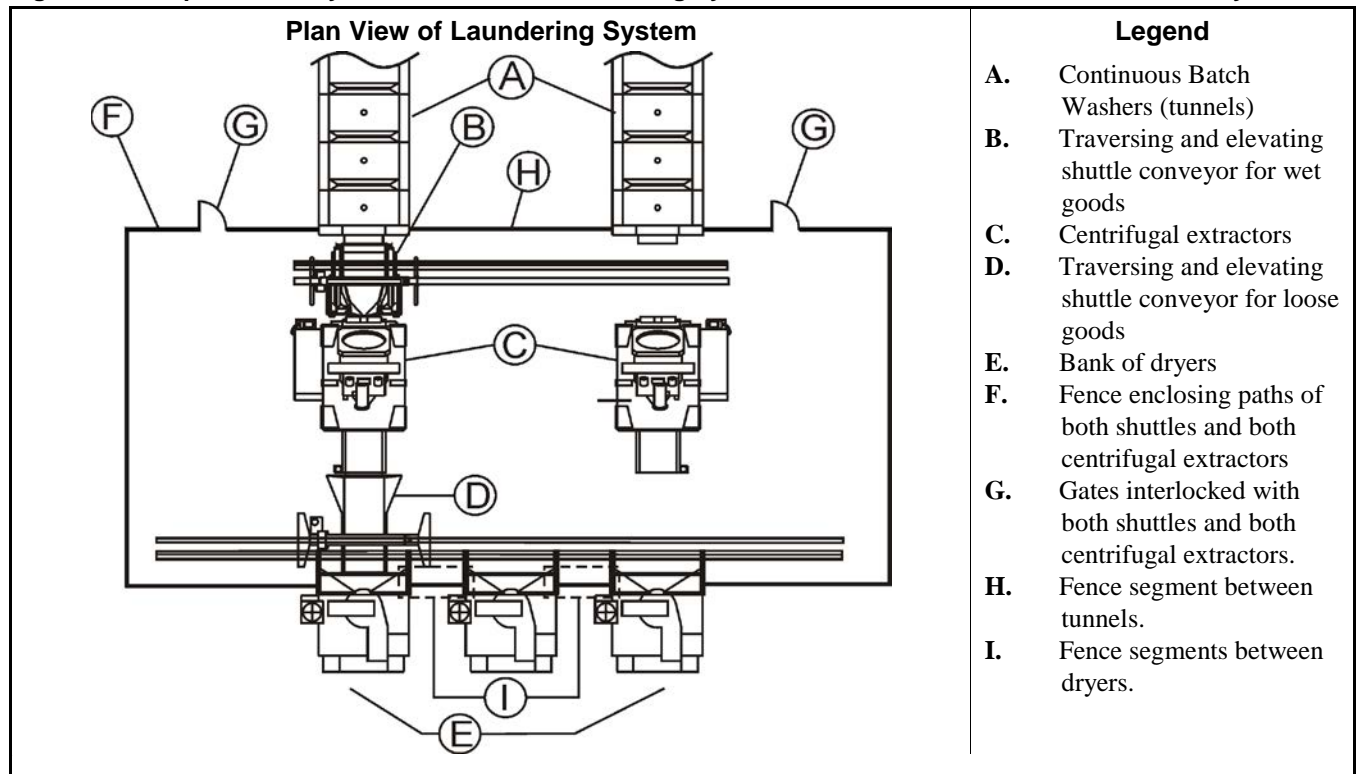


Figure 2: Example Fence Layout for Automated Laundering System Where Two Tunnels Serve a Bank of Dryers



- 5.1. Fence Dimensions**—The fence must discourage climbing over and prevent crawling under.
- 5.2. Fence Materials and Setback**—The fence must be constructed of materials and located so as to prevent personnel from reaching through gaps in the fence and contacting the enclosed machinery.
- 5.3. Gates**—Personnel gates must be held firmly closed but permit personnel to easily pass through when necessary. Gates must be equipped with a positive latching arrangement to prevent accidental opening. Adequate floor space must be provided to allow the gate to swing at least 90 degrees when fully open. Gates must open outward; that is, away from the fenced perimeter. The floor must be permanently marked to show the gate's swing area, to discourage obstructing its movement.
- 5.4. Control Circuitry**—All gates must be electrically interlocked with any shuttle conveyors within the fenced area and with any presses or centrifugal extractors that the fence either encloses or intersects. Opening any gate must have the following effects:
1. Shuttle(s), press(es), and/or centrifugal extractor(s) stop moving immediately.
 2. An audible alarm sounds.
 3. Shuttle(s), press(es), and/or centrifugal extractor(s) cannot be restarted merely by closing the gate(s), but must be restarted at the machine control panel once the gate(s) are closed.
- Milnor shuttles, presses and centrifugal extractors provide such functionality when properly interfaced with gate interlock switches.
- 5.5. System Emergency Stop Switches**—The laundry must establish rules and procedures that prohibit personnel from remaining within the fenced area with machine(s) enabled, except in accordance with published maintenance procedures. System emergency stop switches (panic buttons) should be provided inside and outside the fenced perimeter. Emergency stop switches should be located so that personnel anywhere inside the fenced perimeter are only a short distance from a switch, and they should be clearly marked as to their locations and function. Connect switches in series with the gate interlocks so that pressing an emergency stop switch performs the same control function as opening a gate.
- 5.6. Isolating Individual Machine Controls**—The interlock circuitry for each machine must be electrically isolated from that of the other machines. Hence, each gate interlock switch must provide as many pairs of dry contacts as there are machines to interface to. A pair of switch contacts must never be shared by two or more machines.
- 5.7. Recommended Signage**—Safety placards should be posted along the fence and at each gate, alerting personnel to the hazards within. At minimum, the size of lettering and distance between placards should be such that anyone contemplating entering the fenced area will likely see and read the placard first. Wording should be provided in each native language spoken by laundry personnel.

— End of BISUII01 —

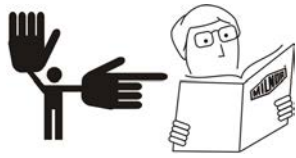
Understanding the Tag Guidelines for the Models Listed Below

76032C2F 76032T2F

Several installation guidelines and precautions are displayed symbolically, on tags placed at the appropriate locations on the machine. Some are tie-on and others are adhesive tags. Tie-on tags and white, adhesive tags may be removed after installation. Yellow adhesive tags must remain on the machine.

Most tags contain only symbols (no words). A few are worded. The explanations below, start with the tag part number (displayed on the tag). If a tag contains no words, the meaning of the tag is explained below. If the tag contains words, the explanation below simply repeats the wording.

Display or Action



Explanation

Read the manual before proceeding. This symbol appears on most tags. The machine ships with a complete set of manuals. The safety, installation, and electrical schematic manuals are particularly important to installers.



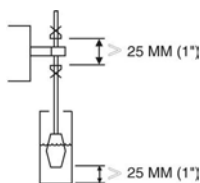
B2TAG88005: This carefully built product was tested and inspected to meet Milnor® performance and quality standards by



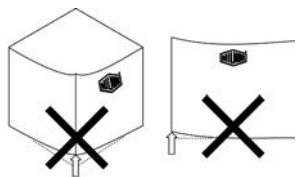
B2TAG94078: Do not forklift here; do not jack here; do not step here—whichever applies.



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.



B2TAG94082: Maintain a 25 millimeter (1") minimum clearance between level float clips. Set low level so that the bottom of the float is always at least 25 millimeters (1") above the bottom of the float tube.



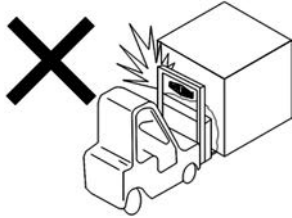
B2TAG94084: Do not lift from one corner of the machine, as this can cause the frame to rack, damaging it.

Display or Action

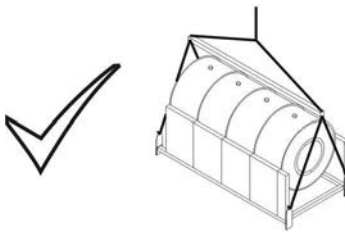
Explanation



B2TAG94102 shown—others similar: Match up the components with this number. These tags are used to pair up electrical or hose connections between major components of a machine shipped dis-assembled.



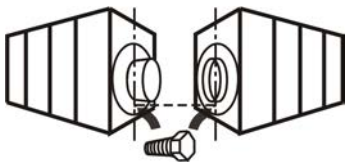
B2TAG94118: Do not strike shipping container during fork-lifting. Fragile components inside.



B2TAG94144: Lift tunnel units as shown, using the lifting eyes and spreader bar.



B2TAG94146: Fill with oil to this level.



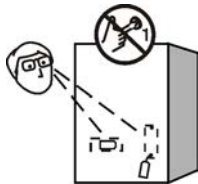
B2TAG98006: Align top dead center bolts when mating CBW tunnel washer units.



B2TAG99006: Do not loosen allen screws. Screws hold springs under tension which can fly out with great force.

Display or Action

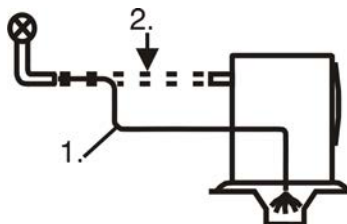
Explanation



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.



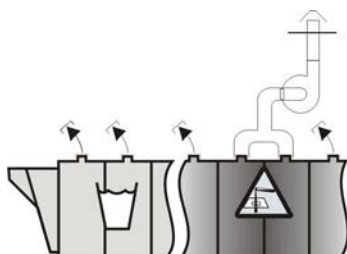
B2T2002032: Flush incoming water lines before making connections.



B2T2003014: Make sure that you use the specified hydraulic oil.



B2T2004027: Steam connection (optional)



B2T2008001: Read the installation instructions. Remove temporary vent covers. Install a powered vent unit on the oxidation zone modules and a separate powered vent unit on the finish zone module and adjacent press, if there is one.

Display or Action



Explanation

B2T2010023: Set the press frame in accordance with this instruction and the installation manual.

— End of BIUUUI02 —

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 AISI 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.**

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 1. Incorrect Configurations That Let the Chemical Supply Go In the Machine by a Siphon](#)). Some can let chemical supplies go in the machine by gravity ([Figure 2. Incorrect Configurations That Let the Chemical Supply Go In the Machine by Gravity](#)).

Figure 1. Incorrect Configurations That Let the Chemical Supply Go In the Machine by a Siphon

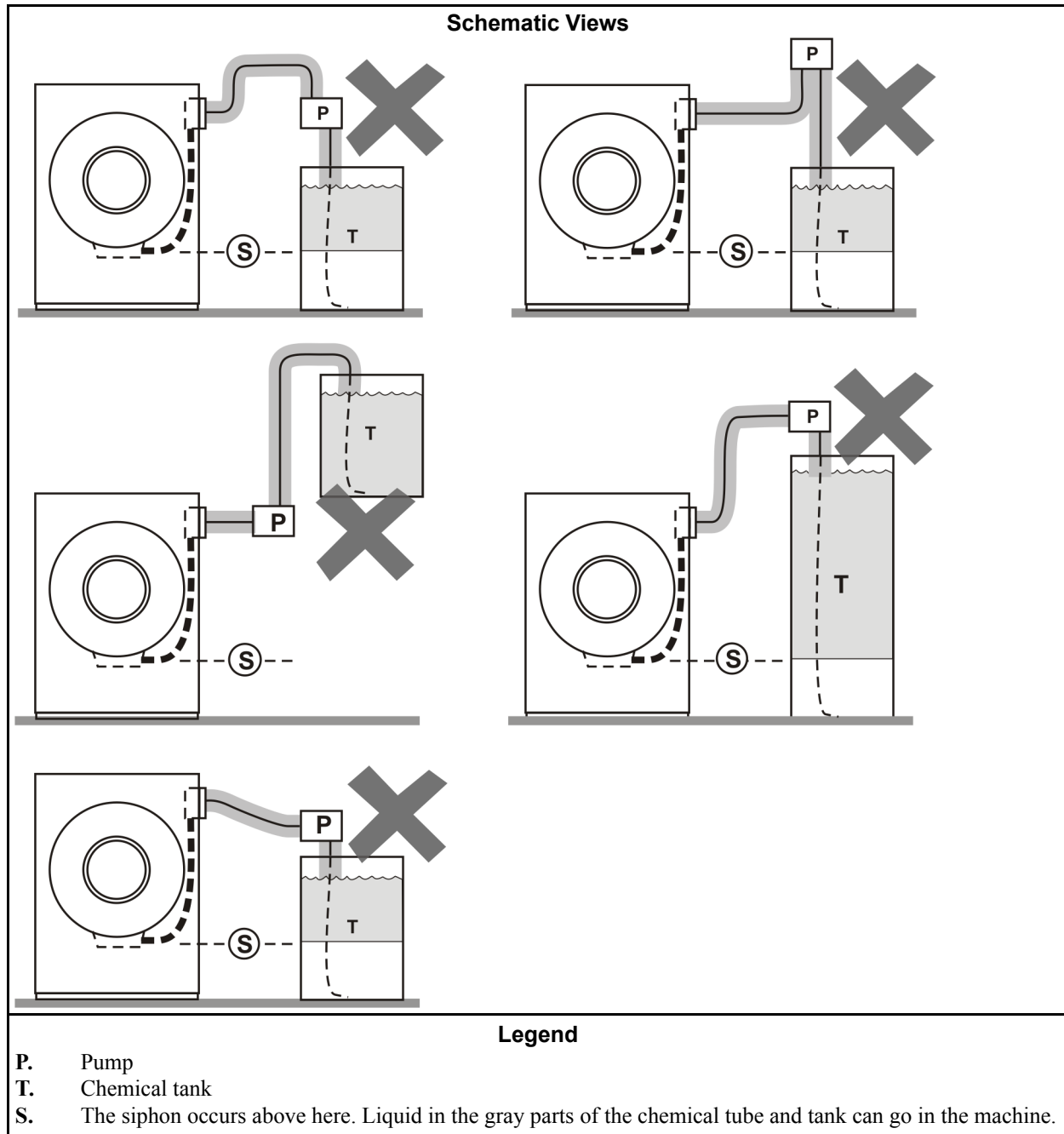
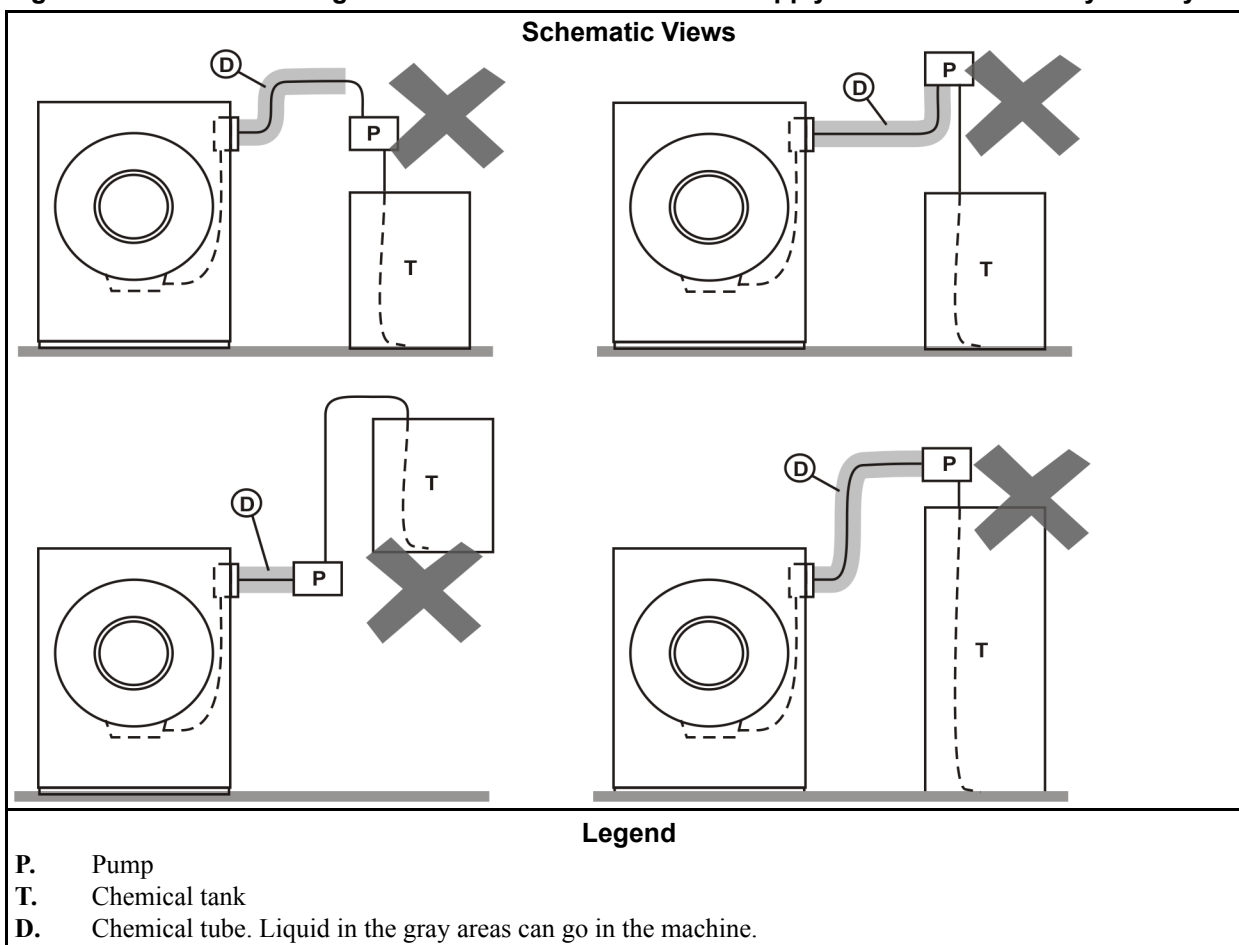


Figure 2. Incorrect Configurations That Let the Chemical Supply Go In the Machine by Gravity

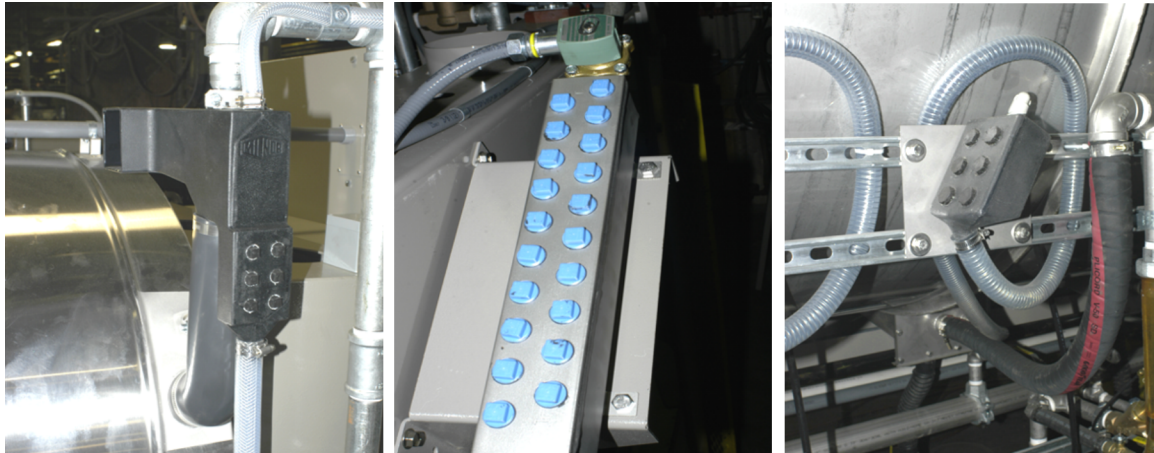
2. Equipment and Procedures That Can Prevent Damage

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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 3. 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.

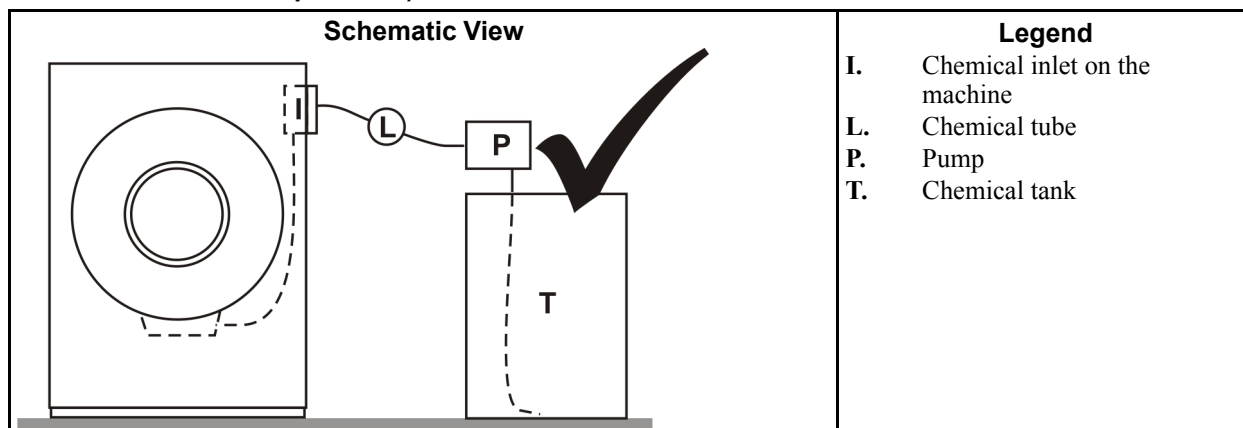
Flush the chemical tube with water.

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 4. 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.

End of document: BNUUUR02

Installation

1

ATTENTION INSTALLERS!

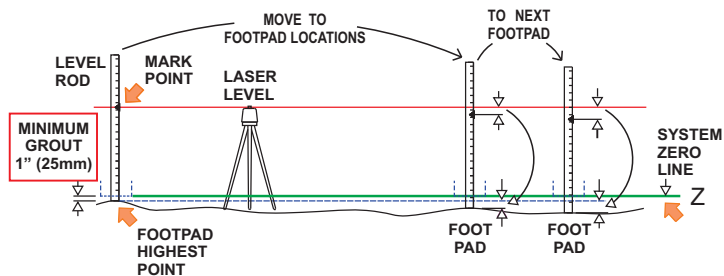


PRESS MUST BE HIGH ENOUGH

If you set the press at a low area of the floor, you may not have sufficient clearance for the tunnel. It will be necessary to reinstall the press higher.

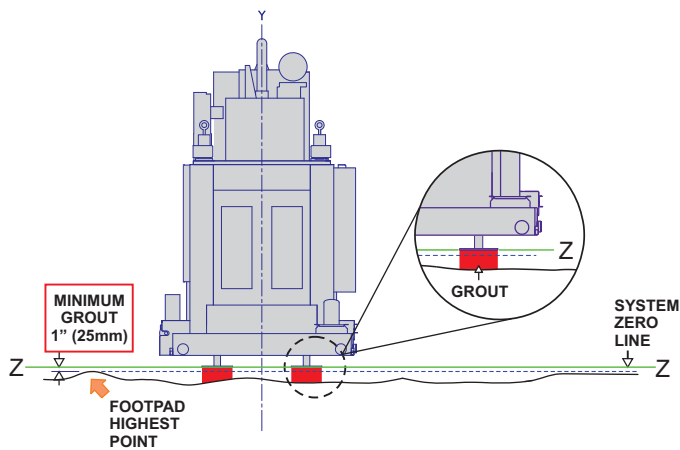
- Establish the System Zero Line or Z.
- Refer to the dimensional drawings of the various machines for required heights.

FLOOR IS UNEVEN



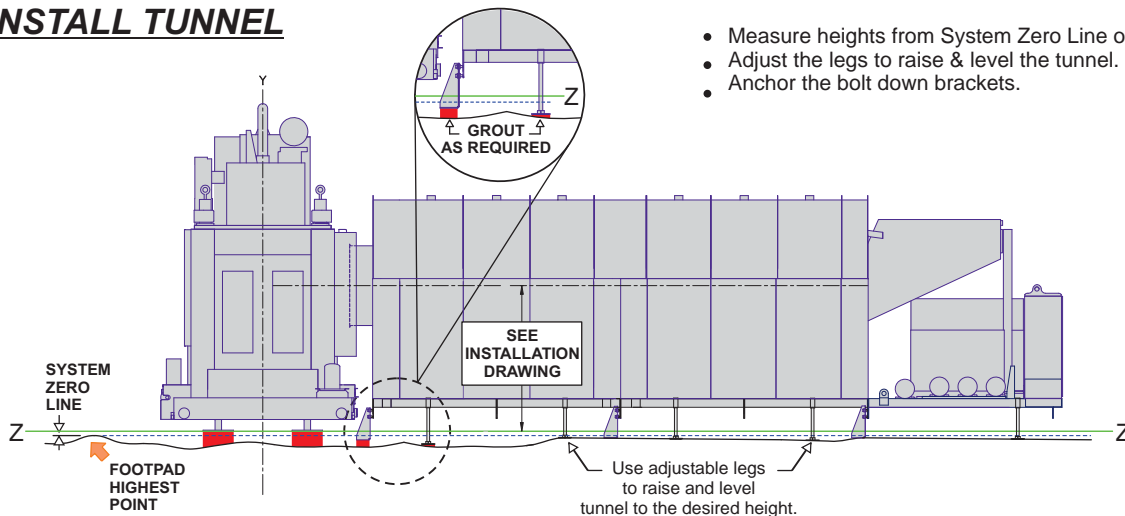
- Establish System Zero Line or Z.
- Find highest point in factory floor where footpads will be located.
- System Zero Line or Z is 1" above highest point.

INSTALL PRESS FIRST



- Shim & level to System Zero Line or Z.
- Grout & anchor all footpads.

INSTALL TUNNEL



- Measure heights from System Zero Line or Z.
- Adjust the legs to raise & level the tunnel.
- Anchor the bolt down brackets.

Torque Requirements for Fasteners



This document uses Simplified Technical English. Learn more at <http://www.asd-ste100.org>.

The document about the assembly gives the torque requirements for other fasteners. **If fastener torque specifications or threadlocker requirements in an assembly document are different from this document, use the assembly document.**

Figure 1: The Bolts in Milnor® Equipment

The Marks on Bolt Heads	Legend
	<p>A. SAE Grades 1 and 2, ASTM A307, and stainless steel</p> <p>B. Grade BC, ASTM A354</p> <p>C. SAE Grade 5, ASTM A449</p> <p>D. SAE Grade 8 and ASTM A354 BD</p>

1. Torque Values

These tables give the standard dimension, grade, threadlocker, and torque requirements for fasteners frequently used on Milnor® equipment.

Note 1: Data from the Pellerin Milnor® Corporation “Bolt Torque Specification” (bolt_torque_milnor.xls/2002096).

1.1. Fasteners Made of Carbon Steel

1.1.1. Without a Threadlocker

Table 1: Torque Values for Standard Fasteners with Maximum 5/16-inch Diameters and No Lubricant

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m
1/4 x 20	66	7	101	11	143	16	126	14
1/4 x 28	76	9	116	13	163	18	--	--
5/16 x 18	136	15	209	24	295	33	258	29
5/16 x 24	150	17	232	26	325	37	--	--

Torque Requirements for Fasteners

Table 2: Torque Values for Standard Fasteners Larger Than 5/16-inch Diameters and No Lubricant

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
3/8 x 16	20	27	31	42	44	59	38	52
3/8 x 24	23	31	35	47	50	68	--	--
7/16 x 14	32	43	49	66	70	95	61	83
7/16 x 20	36	49	55	75	78	105	--	--
1/2 x 13	49	66	75	102	107	145	93	126
1/2 x 20	55	75	85	115	120	163	--	--
9/16 x 12	70	95	109	148	154	209	134	182
9/16 x 18	78	106	121	164	171	232	--	--
5/8 x 11	97	131	150	203	212	287	186	252
5/8 x 18	110	149	170	231	240	325	--	--
3/4 x 10	172	233	266	361	376	510	329	446
3/4 x 16	192	261	297	403	420	569	--	--
7/8 x 9	167	226	429	582	606	821	531	719
7/8 x 14	184	249	473	641	668	906	--	--
1 x 8	250	339	644	873	909	1232	796	1079
1 x 12	274	371	704	954	994	1348	--	--
1 x 14	281	381	723	980	1020	1383	--	--
1 1/8 x 7	354	480	794	1077	1287	1745	1126	1527
1 1/8 x 12	397	538	891	1208	1444	1958	--	--
1 1/4 x 7	500	678	1120	1519	1817	2464	1590	2155
1 1/4 x 12	553	750	1241	1682	2012	2728	--	--
1 3/8 x 6	655	888	1469	1992	2382	3230	2085	2827
1 3/8 x 12	746	1011	1672	2267	2712	3677	--	--
1 1/2 x 6	869	1178	1949	2642	3161	4286	2767	3751
1 1/2 x 12	979	1327	2194	2974	3557	4822	--	--

Table 3: Torque Values for Plated Fasteners with Maximum 5/16-inch Diameters and No Lubricant

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m
1/4 x 20	49	6	76	9	107	12	95	11
1/4 x 28	56	6	88	10	122	14	--	--
5/16 x 18	102	12	156	18	222	25	193	22
5/16 x 24	113	13	174	20	245	28	--	--

Table 4: Torque Values for Plated Fasteners Larger Than 5/16-inch Diameters and No Lubricant

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
3/8 x 16	15	20	23	31	33	44	29	38
3/8 x 24	17	23	26	35	37	49	--	--
7/16 x 14	24	32	37	50	52	71	46	61
7/16 x 20	27	36	41	55	58	78	--	--
1/2 x 13	37	49	56	76	80	106	70	93
1/2 x 20	41	55	64	85	90	120	--	--
9/16 x 12	53	70	81	110	115	153	101	134
9/16 x 18	59	79	91	122	128	174	--	--
5/8 x 11	73	97	113	150	159	212	139	186
5/8 x 18	83	110	127	172	180	240	--	--
3/4 x 10	129	173	200	266	282	376	246	329
3/4 x 16	144	192	223	297	315	420	--	--
7/8 x 9	125	166	322	430	455	606	398	531
7/8 x 14	138	184	355	474	501	668	--	--
1 x 8	188	250	483	644	682	909	597	796
1 x 12	205	274	528	716	746	995	--	--
1 x 14	210	280	542	735	765	1037	--	--
1 1/8 x 7	266	354	595	807	966	1288	845	1126
1 1/8 x 12	298	404	668	890	1083	1444	--	--
1 1/4 x 7	375	500	840	1120	1363	1817	1192	1590
1 1/4 x 12	415	553	930	1261	1509	2013	--	--
1 3/8 x 6	491	655	1102	1470	1787	2382	1564	2085
1 3/8 x 12	559	758	1254	1672	2034	2712	--	--
1 1/2 x 6	652	870	1462	1982	2371	3161	2075	2767
1 1/2 x 12	733	994	1645	2194	2668	3557	--	--

1.1.2. With a Threadlocker

Table 5: Threadlocker by the Diameter of the Bolt (see Note 2)

LocTite Product	Dimension			
	1/4-inch	1/4- to 5/8-inch	5/8- to 7/8-inch	1-inch +
LocTite 222	OK			
LocTite 242		OK		
LocTite 262			OK	
LocTite 272			High temperature	
LocTite 277				OK

Note 2: The acceptable bolt size ranges for various LocTite® threadlocking products is the LocTite manufacturer's **general** recommendation. Specific applications sometime require that a LocTite product is applied to a bolt size outside the ranges shown here. For example, Milnor specifies LocTite 242 for use on certain 1" bolt applications and has confirmed this usage with the LocTite manufacturer. You may see variances such as this in the documentation for specific machine assemblies.

Torque Requirements for Fasteners

Table 6: Torque Values if You Apply LocTite 222

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-inches	N-m	Pound-inches	N-m	Pound-inches	N-m	Pound-inches	N-m
1/4 x 20	60	7	96	11	132	15	108	12
1/4 x 28	72	8	108	12	144	16	--	--

Table 7: Torque Values if You Apply LocTite 242

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
5/16 x 18	11	15	17	23	25	34	22	30
5/16 x 24	13	18	19	26	27	37	27	37
3/8 x 16	20	27	31	42	44	60	38	52
3/8 x 24	23	31	35	47	50	68	--	--
7/16 x 14	32	43	49	66	70	95	61	83
7/16 x 20	36	49	55	75	78	106	--	--
1/2 x 13	49	66	75	102	107	145	93	126
1/2 x 20	55	75	85	115	120	163	--	--
9/16 x 12	70	95	109	148	154	209	134	182
9/16 x 18	78	106	121	164	171	232	--	--
5/8 x 11	97	132	150	203	212	287	186	252
5/8 x 18	110	149	170	230	240	325	--	--

Table 8: Torque Values if You Apply LocTite 262

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
3/4 x 10	155	210	240	325	338	458	296	401
3/4 x 16	173	235	267	362	378	512	--	--
7/8 x 9	150	203	386	523	546	740	477	647
7/8 x 14	165	224	426	578	601	815	--	--

Table 9: Torque Values if You Apply LocTite 272 (High-Temperature)

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
1 x 8	350	475	901	1222	1272	1725	1114	1510
1 x 12	383	519	986	1337	1392	1887	--	--
1 x 14	393	533	1012	1372	1428	1936	--	--
1-1/8 x 7	496	672	1111	1506	1802	2443	1577	2138
1-1/8 x 12	556	754	1247	1691	2022	2741	--	--
1-1/4 x 7	700	949	1568	2126	2544	3449	2226	3018
1-1/4 x 12	774	1049	1737	2355	2816	3818	--	--
1-3/8 x 6	917	1243	2056	2788	3335	4522	2919	3958
1-3/8 x 12	1044	1415	2341	3174	3797	5148	--	--
1-1/2 x 6	1217	1650	2729	3700	4426	6001	3873	5251
1-1/2 x 12	1369	1856	3071	4164	4980	6752	--	--

Table 10: Torque Values if You Apply LocTite 277

Dimension	The Grade of the Bolt							
	Grade 2		Grade 5		Grade 8		Grade BC	
	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
1 x 8	325	441	837	1135	1181	1601	1034	1402
1 x 12	356	483	916	1242	1293	1753	--	--
1 x 14	365	495	939	1273	1326	1798	--	--
1-1/8 x 7	461	625	1032	1399	1674	2270	1464	1985
1-1/8 x 12	516	700	1158	1570	1877	2545	--	--
1-1/4 x 7	650	881	1456	1974	2362	3202	2067	2802
1-1/4 x 12	719	975	1613	2187	2615	3545	--	--
1-3/8 x 6	851	1154	1909	2588	3097	4199	2710	3674
1-3/8 x 12	970	1315	2174	2948	3526	4781	--	--
1-1/2 x 6	1130	1532	2534	3436	4110	5572	3597	4877
1-1/2 x 12	1271	1723	2852	3867	4624	6269	--	--

1.2. Stainless Steel Fasteners

Table 11: Torque Values for Stainless Steel Fasteners 5/16-inch and Smaller

Dimension	316 Stainless		18-8 Stainless		18-8 Stainless with Loctite 767	
	Pound-Inches	N-m	Pound-Inches	N-m	Pound-Inches	N-m
1/4 x 20	79	9	76	9	45	5
1/4 x 28	100	11	94	11	56	6
5/16 x 18	138	16	132	15	79	9
5/16 x 24	148	17	142	16	85	10

Table 12: Torque Values for Stainless Steel Fasteners Larger Than 5/16-inch

Dimension	316 Stainless		18-8 Stainless		18-8 Stainless with Loctite 767	
	Pound-feet	N-m	Pound-feet	N-m	Pound-feet	N-m
3/8 x 16	21	28	20	27	12	16
3/8 x 24	23	31	22	29	13	18
7/16 x 14	33	44	31	42	19	25
7/16 x 20	35	47	33	45	20	27
1/2 x 13	45	61	43	58	26	35
1/2 x 20	47	64	45	61	27	37
9/16 x 12	59	81	57	77	34	46
9/16 x 18	66	89	63	85	38	51
5/8 x 11	97	131	93	125	56	75
5/8 x 18	108	150	104	141	62	84
3/4 x 10	132	179	128	173	77	104
3/4 x 16	130	176	124	168	75	101
7/8 x 9	203	275	194	263	116	158
7/8 x 14	202	273	193	262	116	157
1 x 8	300	406	287	389	172	233
1 x 14	271	367	259	351	156	211
1-1/8 x 7	432	586	413	560	248	336
1-1/8 x 12	408	553	390	529	234	317
1-1/4 x 7	546	740	523	709	314	425
1-1/4 x 12	504	683	480	651	288	390
1-1/2 x 6	930	1261	888	1204	533	722
1-1/2 x 12	732	992	703	953	422	572

2. Preparation



WARNING [2]: Fire Hazard—Some solvents and primers are flammable.

- Use threadlocker and primers with sufficient airflow.
 - Do not use flammable material near ignition sources.
1. Clean all threads with a wire brush or a different tool.
 2. Remove the grease from the fasteners and the mating threads with solvent. Make the parts dry.

Note 3: Loctite 7649 Primer™ or standard solvents will remove grease from parts.

3. Apply a spray of Loctite 7649 Primer™ or equal on the fasteners and the mating threads. Let the primer dry for one minute minimum.

3. How to Apply a Threadlocker

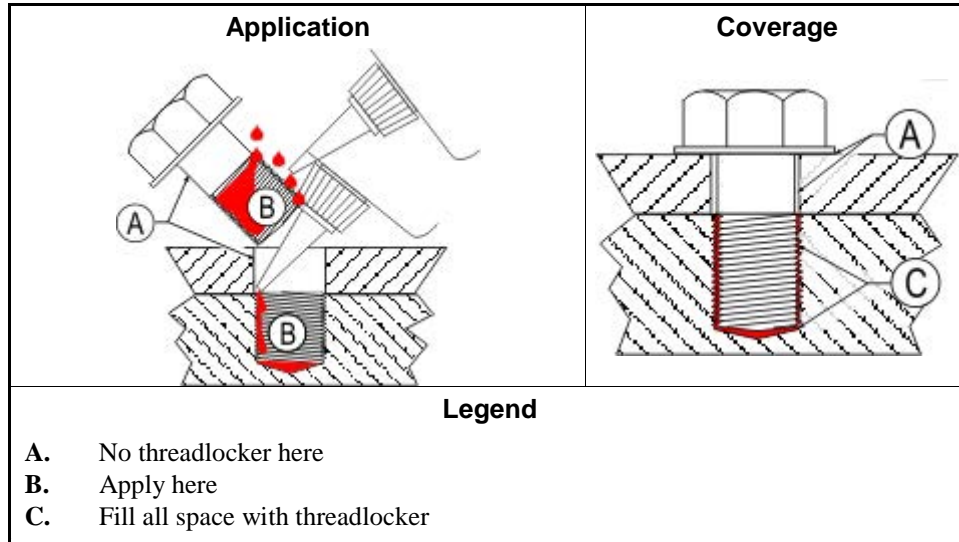


CAUTION [3]: Malfunction Hazard—Heat, vibration, or mechanical shocks can let the fasteners loosen if you do not apply the threadlocker correctly. Loose fasteners can cause malfunctions of the equipment.

- Read the threadlocker manufacturer's instructions and warnings. Obey these instructions.

Apply the threadlocker only to the areas where the fastener threads and the mating threads engage.

Figure 2: Blind Hole



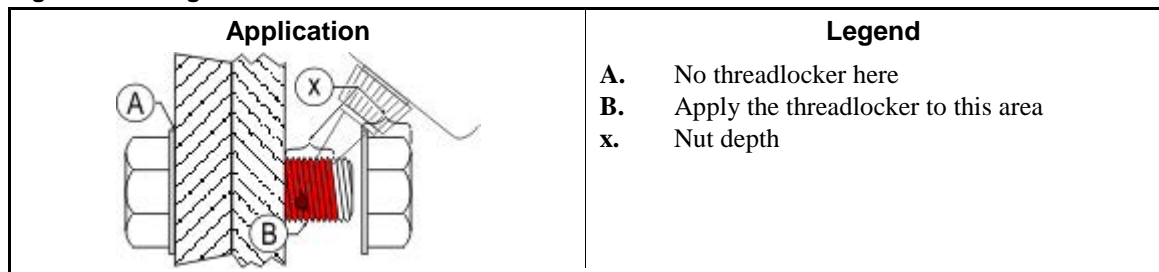
3.1. Blind Holes

1. Apply the threadlocker down the threads to the bottom of the hole.
2. Apply the threadlocker to the bolt.
3. Tighten the bolt to the value shown in the correct table ([Table 5](#) to [Table 11](#)).

3.2. Through Holes

1. Put the bolt through the assembly.
2. Apply the threadlocker only to the bolt thread area that will engage the nut.
3. Tighten the bolt to the value shown in the correct table ([Table 5](#) to [Table 11](#)).

Figure 3: Through Hole

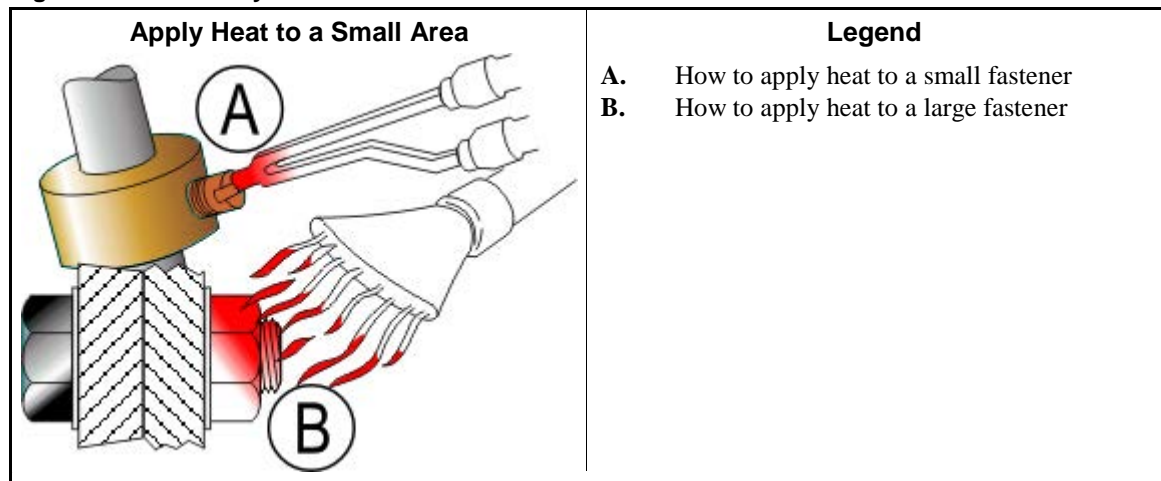


3.3. Disassembly

—For high-strength threadlocker, apply heat for five minutes. Disassemble with hand tools while the parts are hot.

For low-strength and moderate-strength threadlocker, disassemble with hand tools.

Figure 4: Disassembly



— End of BIUUUM04 —

FOUNDATION AND SPACE REQUIREMENTS

The MILNOR Continuous Batch Washer (CBW) is designed for installation directly on an existing floor and does not require additional foundations providing the floor is adequate to support the dead weight of the machine plus its load with a reasonable factor of safety. The CBW Dimensional Drawing contains a load table for CBW's of various sizes.

The space required to accommodate a MILNOR Continuous Batch washing system depends upon the specific configuration of the system. Some considerations are:

1. The number of CBW modules (See the CBW dimensional drawing).
2. The configuration of ancillary equipment, such as pumps, tanks, etc. (See installation and dimensional drawings.)
3. The type and configuration of load system. (If MILNOR Load Conveyor is used, see load conveyor dimensional drawing.)
4. The type and configuration of extraction system. (Consult manufacturer of system to be used for dimensional data.)
5. The type and configuration of extractor to dryer conveyance system. (If MILNOR conveyors are used, see COELL, COSTO and COSHU dimensional drawings.)

Consideration should also be given to positioning the MILTRON for ease of operation. Depending upon the type of loading device used, the normal operator location may be either at the loading device or at the MILTRON. When a loading conveyor is used, it is usually preferable to locate the MILTRON adjacent to the first storage compartment, so that the MILTRON, conveyor controls, and the goods being loaded are all within reach from one position. When a sling loading system is being used, the function of releasing bags into the load scoop is usually automatic, therefore, location of the MILTRON is of lesser importance in this instance.

The dimensional information referred to above may be used to determine the approximate space requirements.

EQUIPMENT HANDLING PRECAUTIONS

Offloading Precautions

1. Pad eyes are provided for lifting the Continuous Batch Washer (CBW) from a transportation trailer (see FIGURE 1).
2. Regardless of the number of pre-assembled modules to be lifted, the crane should always be attached to the four pad eyes provided. Before attempting to lift the CBW, be sure all pad eyes are secure. Note that the drive side of the CBW is heavier than the non-drive side.
3. Care should be taken when lifting the CBW to insure that the machine is not subjected to severe bending stresses. A properly sized crane spreader bar should be used.
4. Leave X-brace banding material in place during the entire unloading and installation procedures (see FIGURE 1).
5. The use of fork lifts to offload the CBW is not advised. Consult the MILNOR factory if fork lifts must be used. (Crane cannot be used because of special circumstances).
6. CBW is tagged to show the following:
 - a) Location of crane lifting points (pad eyes) at top of machine.
 - b) Use of spreader bar on bridle.
 - c) Location of fork lifting points under leg weldments (for moving modules only after they have been off loaded).

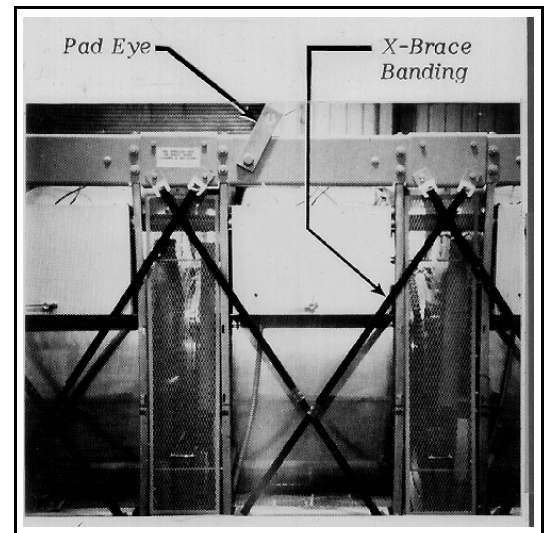


FIGURE 1 (MSIND410AE)
X Banding in Place

Precautions When Moving the CBW into Position

1. Avoiding twisting and bending. The unit may be lifted a few inches on one end at a time in order to place dollies or other moving equipment under the unit. Be sure, however, that the opposite end is supported by the leg weldment at all times. Lift with uniform force across the end of the unit, not on one corner only.

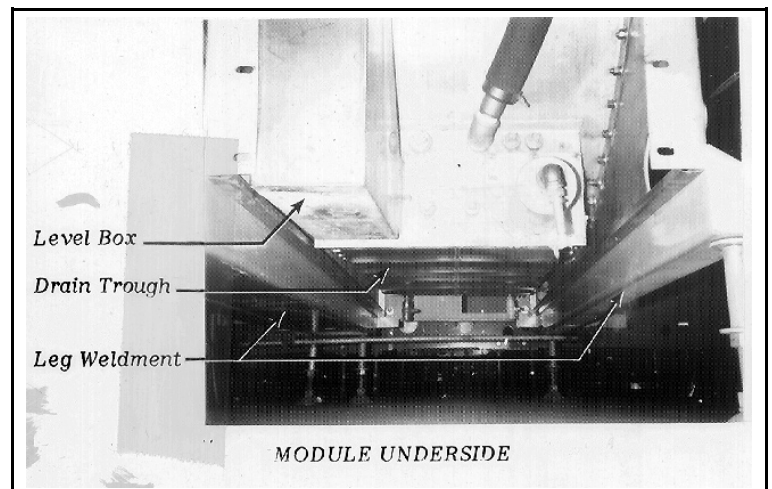


FIGURE 2 (MSIND410AE)
Module Underside

2. Always place dollies, jacks, etc. under the leg weldments, never under the level box or module drain trough, (see FIGURE 2, "Module Underside"). It is always preferable to locate the moving equipment as close to the quarter points as possible.
3. Never attempt to push or pull the CBW by exerting force on a module shell. Use the weldments or the lower interconnecting frame (painted blue).
4. If the CBW is to be disassembled at the site, each location where modules are separated will have an unsupported cylinder on the load end of the module (end without support rollers). Brace each such unsupported cylinder with the appropriate bracing materials. Bracing materials may be ordered from the MILNOR factory.

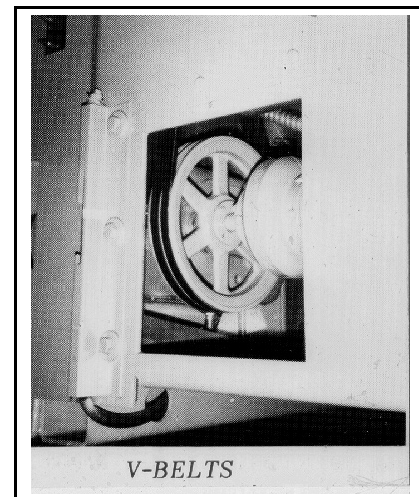


FIGURE 3 (MSIND410AE)
V - Belts

Precautions When Connecting Modules

1. Be sure that the cylinders are timed together. This is accomplished by observing the position of each cylinder within the shell and if necessary, adjusting it to insure that it is in the top dead center (TDC) position. The cylinder TDC point is identified by a 3/8" - 24 cap screw, which protrudes from the large sprocket gear. This is the only cap screw on the large sprocket gear that protrudes and is done so for a timing reference only (it does not secure anything). Line this bolt up with the center of the shell face strut at the 12 o'clock position (see FIGURE 4, "Module Interconnections"). Be sure it is directly in the center of the shell face strut. If adjustment is required, the cylinder(s) may be turned by pulling the v-belts (see FIGURE 3) by hand. More detailed instructions may be found in "PREVENTIVE MAINTENANCE - TIMING AND CHAIN" elsewhere.

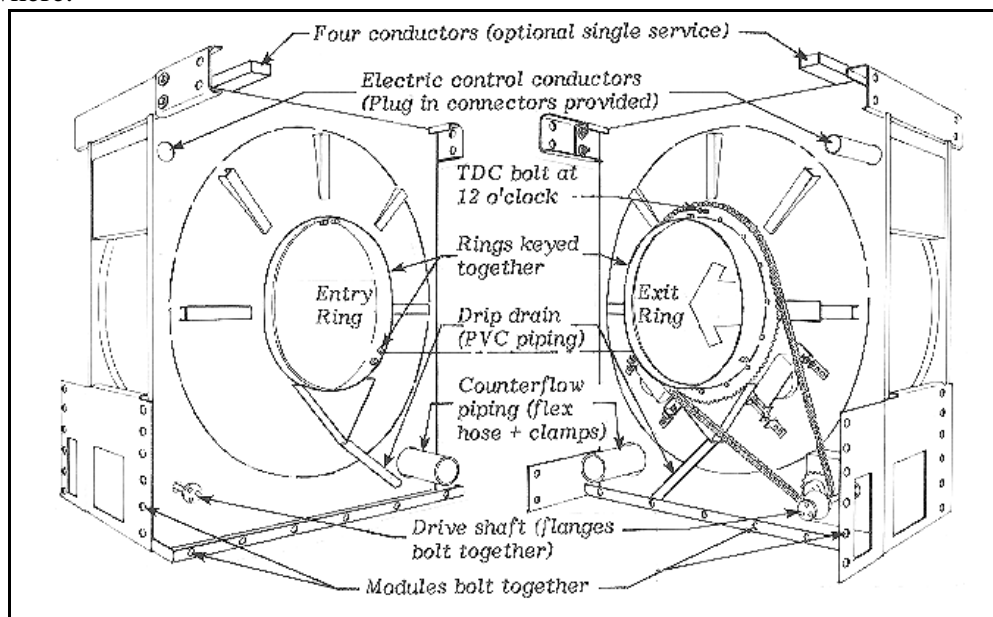


FIGURE 4 (MSIND410AE)
Module Interconnections

2. Before the modules are mated together, the white plastic support ring must be installed on the inside of the exit ring in the cavity shown in FIGURE 5, “Module Cross Section” and FIGURE 6 “Detail A”. When installed, the ends of the support ring must press against each other to insure a tight fit.
3. Continually check the radial and lateral alignment of the cylinders as the units are being mated (see leveling and alignment procedures elsewhere). Adjust the leveling feet as required to assure proper alignment. The modules should be moved together slowly (i.e., by alternately pulling with a come-along and tapping each leveling foot with a mallet in the direction of movement). Avoid any procedures which cause the modules to impact with each other or with the press on the discharge end.
4. Check and adjust chain tension. Refer to “PREVENTIVE MAINTENANCE: TIMING AND CHAIN TENSION” elsewhere.
5. Make all required service connections between modules as shown in the FIGURE 4, “Module Interconnections”.

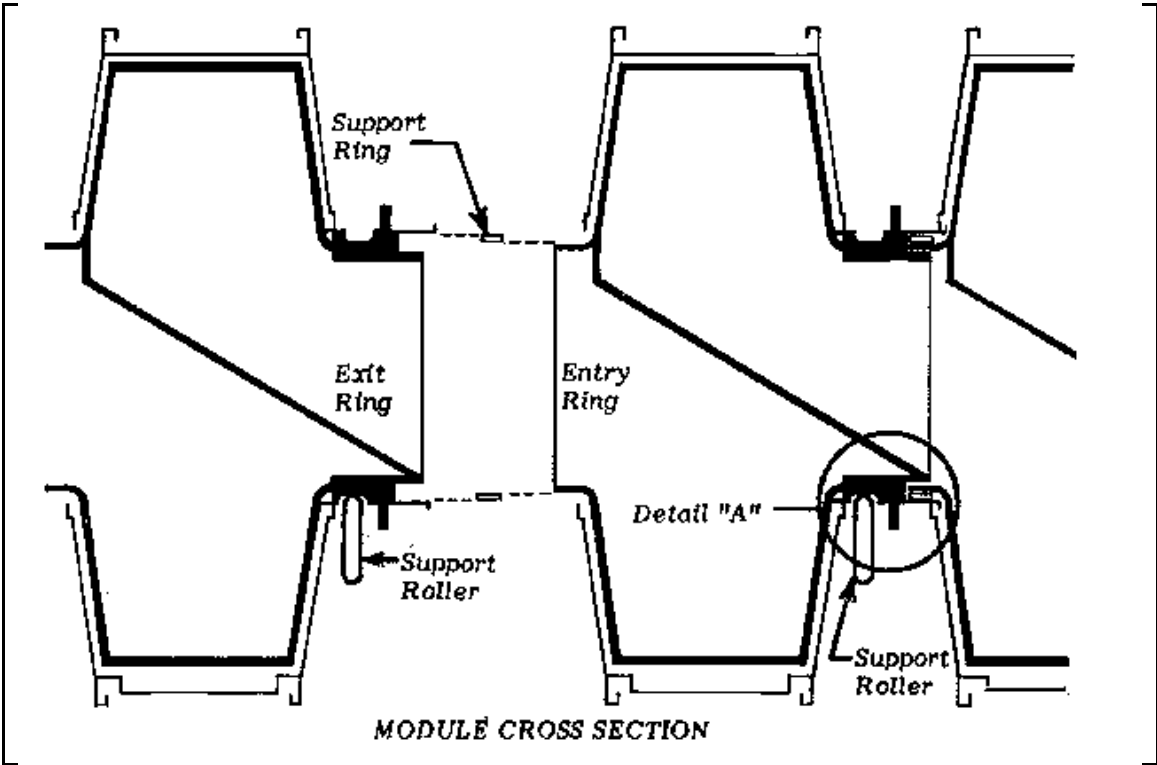


FIGURE 5 (MSIND410AE)
Module Cross Section

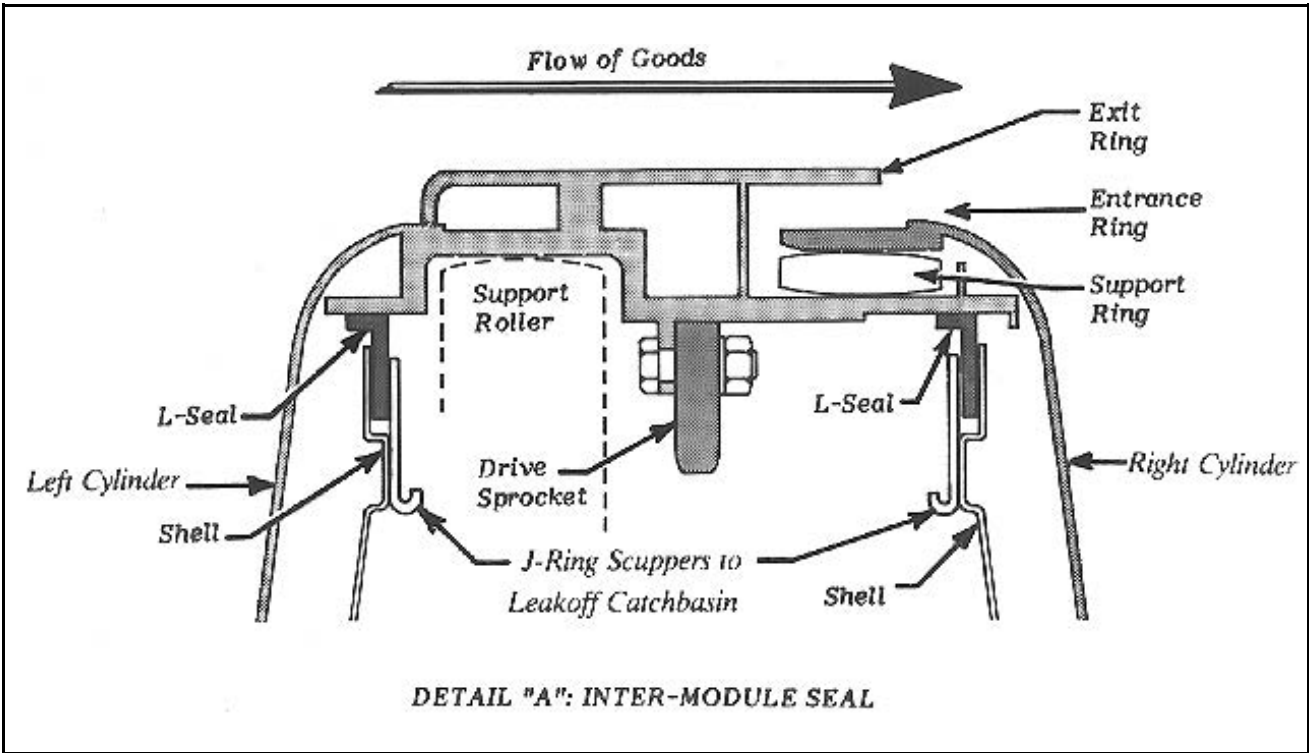


FIGURE 6 (MSIND410AE)
Detail "A": Intermodule Seal

ALIGNMENT, LEVELING AND ANCHORING REQUIREMENTS

Alignment and Level Requirements

General—Alignment lines (piano wire) are provided for both sides and top of the machine. Before adjusting deflection/alignment it will be necessary to properly connect the piano as shown in FIGURE 1. The same wires were used at the factory to scribe the alignment marks on the edge of each shell front. These wires along with plumb lines indicate the correct alignment of the CBW.

Alignment Requirements—There are three conditions of misalignment to check for and correct if necessary, to obtain proper alignment of the CBW. Refer to Figure 2, “CBW Misalignment Conditions” depicting, 1) horizontal deflection (longitudinal axis) 2) vertical deflection (longitudinal axis) and 3) deflection about the longitudinal axis.

Level Requirements—The machine must be level both longitudinally and laterally as illustrated in FIGURE 3, “CBW Leveling”.

1) **Lateral Leveling**—Lateral leveling is determined by placing a carpenter’s level across the level marks (screws) on the upper left corner of any exit shell, as shown in the figure.

2) **Longitudinal Leveling**—Longitudinal leveling is determined by placing a carpenter’s level across the two side leveling marks of any module. Please note that as long as the conditions have been met for proper align-

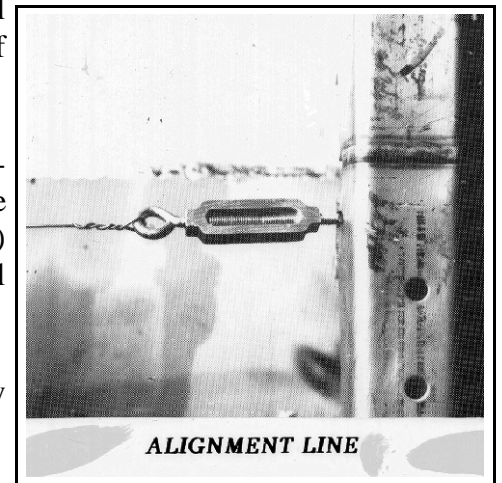


FIGURE 1 (MSIND411AE)
Alignment Line

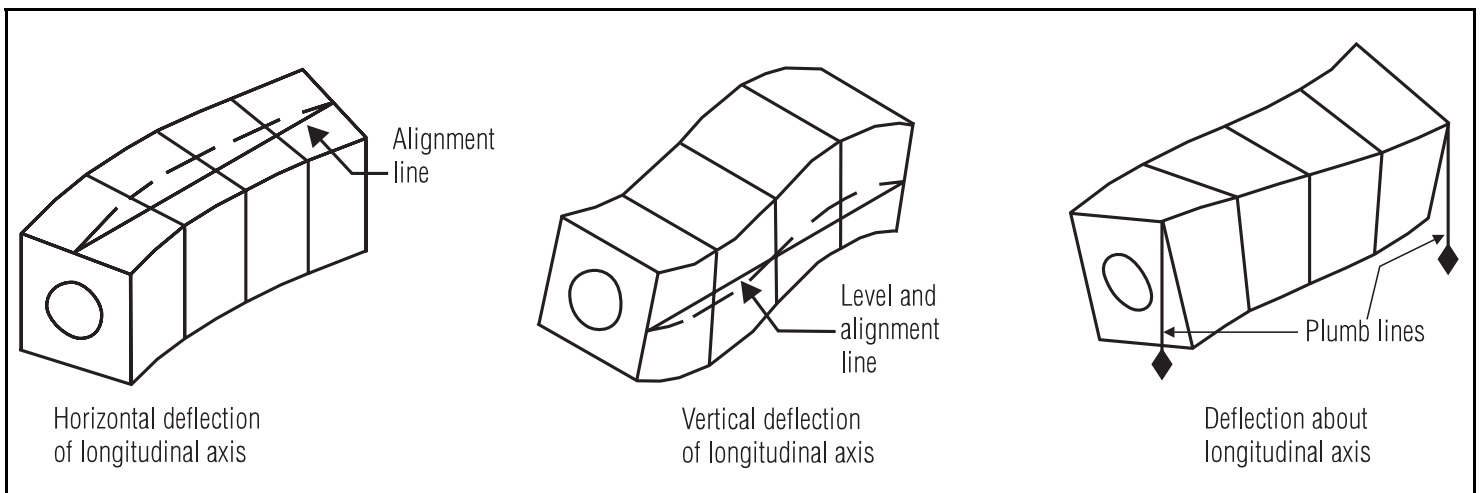


FIGURE 2 (MSIND411AE)
CBW Misalignment Conditions

ment, the longitudinal leveling determined in a single module will determine the longitudinal level for the entire machine.

Anchoring—Milnor[®] recommends anchoring the last module at the rear two feet, preventing the machine from “walking”, and damaging a following press or extractor. Drill through each foot on the side furthest away from the press or extractor and install a wedge style anchor.

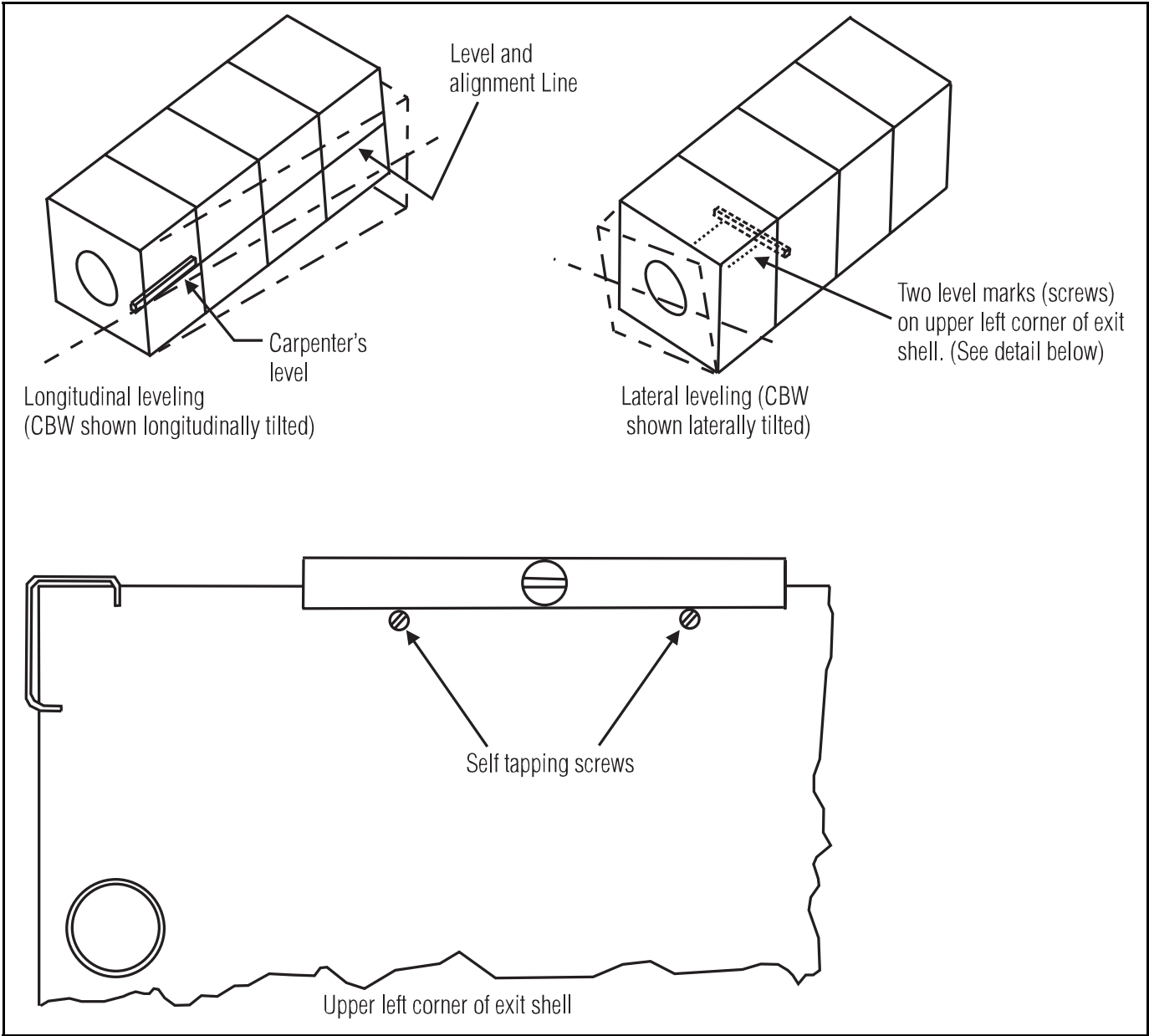


FIGURE 3 (MSIND411AE)
CBW Leveling

Connecting Ancillary Equipment and Services

1. Placement of Ancillary Components

Ancillary components not mounted to the tunnel must be installed close to the tunnel washer. The locations for your system should be shown on the system layout drawings. Recommended locations are also shown on the standard dimensional drawings for the tunnel and related equipment.

Set the Mentor console on a flat surface. Bolt the console to the floor if desired. The following ancillary components apply to conventional tunnels only, not PulseFlow tunnels: Install the reuse, flow-splitter, and flow lifter tanks on grout so that they are level, cannot move, and sealed against dirt and grime where the tank meets the floor. The top edge of the dam for the wire filter must be level so that water is evenly distributed over the surface of the wire filter. Additionally the flow-splitter and flow-lifter tanks must be low enough that the tank inlet is at or below the level of the weir box outlet. Set all pumps flat on the slab so that they are as low as possible.

2. Plumbing Connections

The sizes and locations of utility connections vary with machine configuration. Those for your system should be shown on the system layout drawings. The following general instructions apply to all systems.

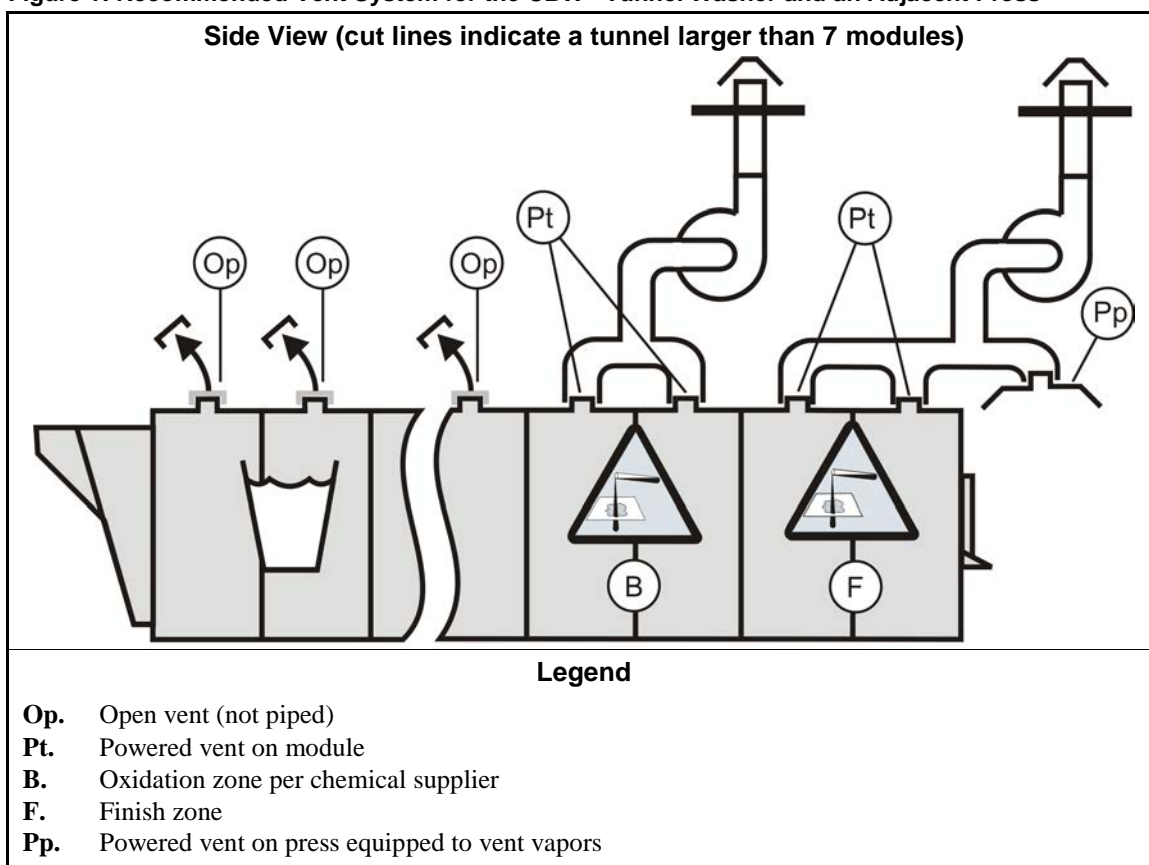
- 2.1. **Fresh Water**—Incoming fresh water connects to the fresh water header which connects to each fresh water inlet. The following applies to 76032_ (G1) tunnels only: Although the ball valve actuators are fitted with needle valves to adjust the rate at which the valves close, there is some possibility that water hammer will be experienced if the incoming water pressure is above 50 PSI (345 Kpa) - especially if the water piping is small and/or not fastened securely. For severe conditions it may be necessary to install pressure regulators and/or shock absorbers on the water lines.
- 2.2. **Reuse Water**—On-site connections are necessary for some reuse water (example: water returned to the reuse or pulse flow tank from the extraction system). This piping is shown on the layout drawings for your system.
- 2.3. **Steam**—Connect main steam (at the steam strainer) to the tunnel washer steam header. Install a manual steam shutoff valve so the steam valves can be repaired. Discharge condensate into the tunnel drain trough. Do not return condensate to the boiler.
- 2.4. **Compressed Air**—Estimated compressed air consumption is approximately 5 SCFM per minute at a minimum of 85 PSI.
- 2.5. **Drains for Discharged Water**—Consult local codes for equipment that can be necessary (example: traps) when you connect to a sanitary sewer. In addition to the module outlets to the sewer, the machine also has drain-off connections for water that drips between modules or units.
- 2.6. **Vents for Discharged Vapors**—Vapors generated in the oxidation zone and the finish zone of the tunnel can mix together, produce noxious gasses, and corrode equipment. Without adequate ventilation, these vapors will exit the tunnel discharge ring or concentrate in the discharge end of the tunnel and adjacent press enclosure. The severity varies with chemical composition and usage, but corrosion can be rapid and severe.

Each tunnel module is provided with a vent at the top of the shell. These vents are capped at the factory for shipping. **Uncap all vents at installation.** The best practice is to provide two separate, powered ventilation units that meet the following conditions:

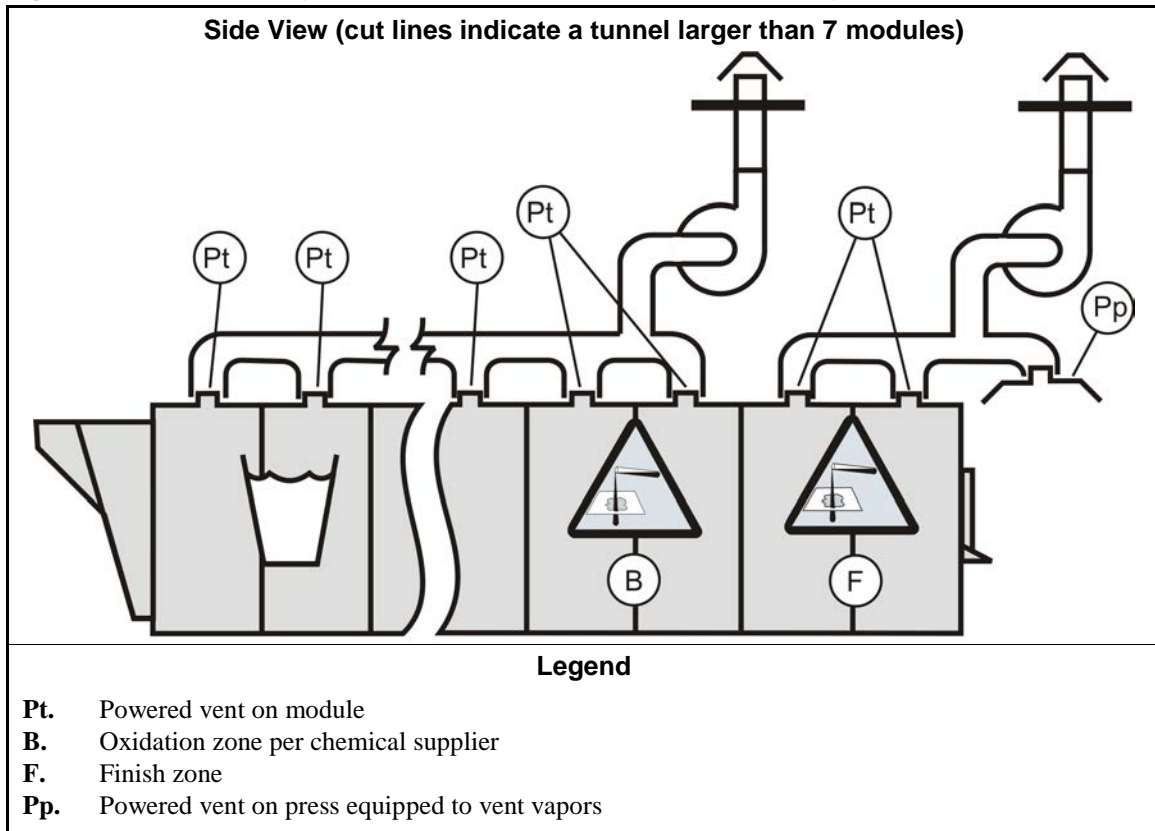
- The two units are isolated from each other to avoid harmful chemical reactions.
- Ventilation fans have sufficient power to draw vapors away from the equipment. Milnor recommends 600 to 750 SCFM for the oxidation zone (300 to 375 per connection point, if two modules) and 600 to 750 SCFM for the finish zone plus the press enclosure (200 to 250 SCFM per connection point, if two modules plus the press). The SCFM values are based on an ambient air temperature of 68°F (20°C) and a minimal relative humidity.
- Fan motors are equipped with an alarm (example: indicator light) to alert personnel if a motor fails.

Figure 1 shows the recommended configuration for a tunnel with more than seven modules. Smaller tunnels are similar, but consult the Milnor factory.

Figure 1: Recommended Vent System for the CBW® Tunnel Washer and an Adjacent Press



It is not recommended to connect modules ahead of the oxidation zone to a powered vent system. However, if conditions warrant this, Milnor recommends the configuration shown in **Figure 2**. If this configuration is needed, add 200 to 250 SCFM of powered ventilation per additional module vented.

Figure 2: Alternate Vent System for the CBW® Tunnel Washer and an Adjacent Press

- 2.7. Connections For Chemical Injection**—Make sure that the piping or tubing used to deliver the chemicals to chemical injection points has correct characteristics (working pressure, burst pressure, temperature resistance, chemical resistance, etc.) for the purpose intended. Remember that momentary pressures two or three times the normal chemical pressure can occur as a chemical valve closes.

Be sure the chemical lines are routed such that they are not subject to damage from external heat sources, or abrasion, or any other source of mechanical damage. Inspect all chemical delivery piping daily for leaks, loose connections, frayed or abraded areas, soft or weak places.



CAUTION 1: Machine Damage Hazards—Pumped chemical systems, if not properly installed, can cause corrosion damage.

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

3. Power Connections

A junction box is available at either end of the tunnel washer to supply power to the entire tunnel washer, each of the pumps (up to 5 pumps), the motor for the Conlo (or Conwa) and the power for the Mentor.

A single terminal in the inverter enclosure supplies power to the entire tunnel washer, each of the pumps (up to 5 pumps), the motor for the Conlo (or Conwa) and the power for the Mentor.

The Mentor power cable connects to terminals within the standard output box on the first module. Connect one side of the ground wire (in the Mentor power cable) to the ground terminal inside

the standard output box. Connect the other side of the ground wire to the ground terminal inside the mentor enclosure.

4. Ground (earth) Connections

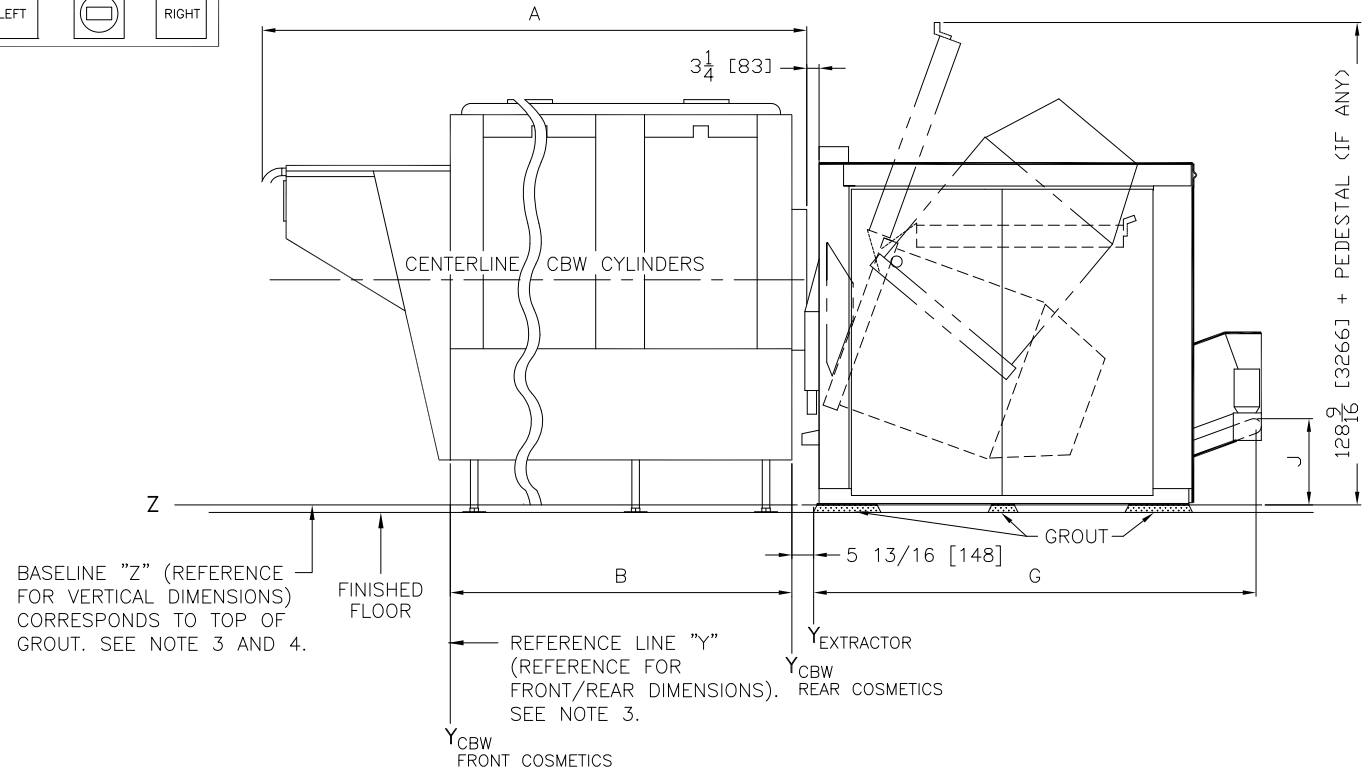
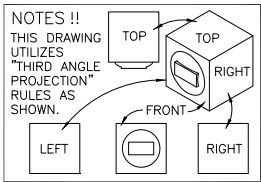
A very reliable, secure, and substantial ground (earth) connection is necessary for the proper functioning of any solid state controller. If practical, the ground connection should be via means of a metal rod driven securely at least 3 feet into the earth, and connected to the MENTOR by a copper wire no less than No. 10 AWG (.05 square Millimeter cross section area). The run of copper should not be longer than 10 feet (3 meters).

When it is impossible to provide such a ground connection, the next best is a firm connection to a metal water pipe which is known to be continuous and known to go into the earth a substantial distance.

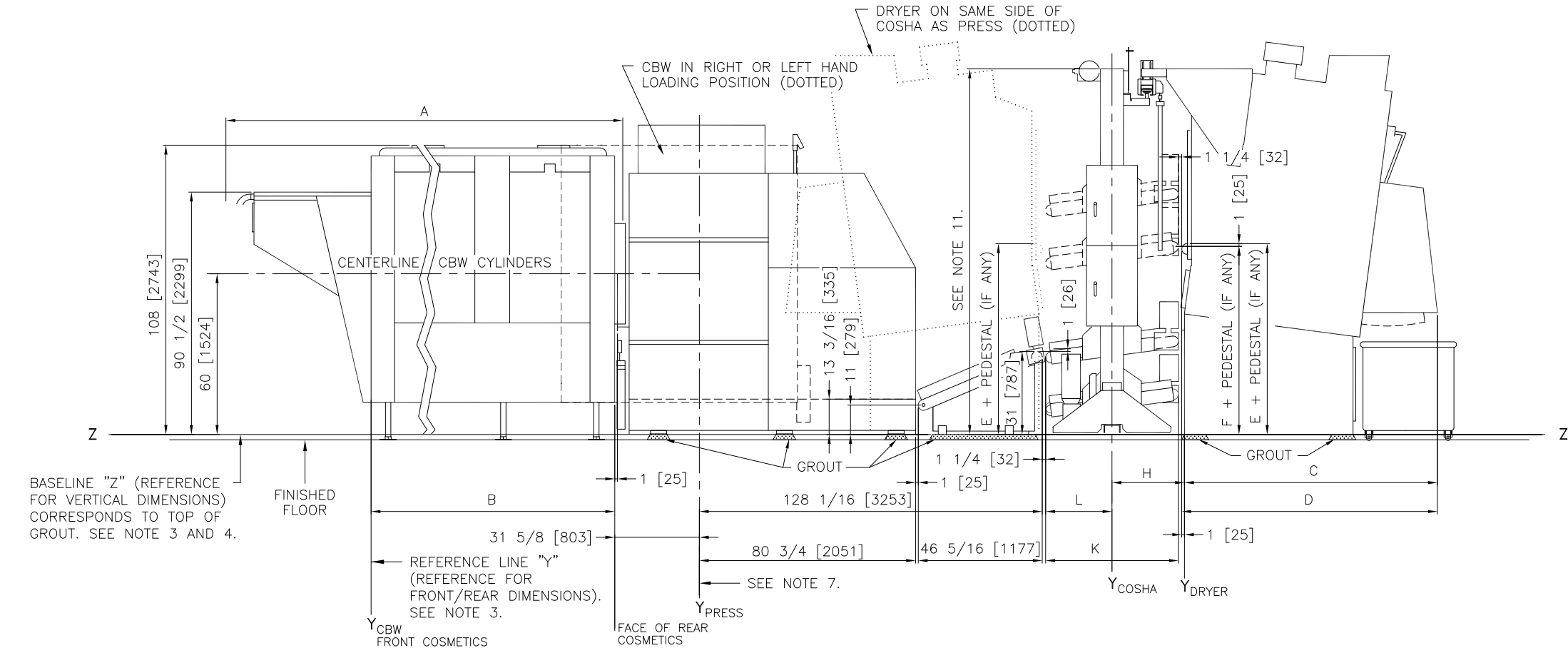
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Dimensional Drawings

2



RIGHT VIEW (76032 TUNNEL & M7E/MMV/MXV/M9V4232 CENTRIFUGAL EXTRACTOR)



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.

Y_{CBW} FRONT COSMETICS

FACE OF REAR COSMETICS PANELS OF CBW

SEE NOTE 7.

SEE NOTE 11.

Y_{COSHA} Y_{DRYER}

DRYER ON SAME SIDE OF COSHA AS PRESS (DOTTED)

CBW IN RIGHT OR LEFT HAND LOADING POSITION (DOTTED)

TUNNEL DIMENSIONS THAT VARY				
MODULE NUMBER	DIMENSION "A"		DIMENSION "B"	
	INCHES	mm	INCHES	mm
1	102 1/4	2597	48	1219
2	145 1/4	3689	91	2311
3	188 1/4	4782	134	3404
4	231 1/4	5874	177	4496
5	274 1/4	6966	220	5588
6	317 1/4	8058	263	6680
7	360 1/4	9150	306	7772
8	403 1/4	10243	349	8865
9	446 1/4	11335	392	9957
10	489 1/4	12427	435	11049
11	532 1/4	13519	478	12141
12	575 1/4	14611	521	13233
13	618 1/4	15704	564	14326
14	661 1/4	16796	607	15418
15	704 1/4	17888	650	16510
16	747 1/4	18980	693	17602
17	790 1/4	20072	736	18694
18	833 1/4	21165	779	19787
19	876 1/4	22257	822	20879
20	919 1/4	23349	865	21971

DRYER MODEL NO.	DIMENSION "H"	
	INCHES	mm
50040	28 13/16	732
58040	27	686
58058	27	686
58080	27 9/16	700

COSHA DIMENSIONS THAT VARY				
MODEL NUMBER	DIMENSION "L"		DIMENSION "K"	
	INCHES	mm	INCHES	mm
111, 112, 113, 11X	24 13/16	630	49 5/8	1260
121	100 1/4	2546	125 1/16	3176

FOR ALL OTHER SHUTTLES SEE INDIVIDUAL DIMENSIONAL DRAWING.

DRYER DIMENSIONS THAT VARY						
MODULE NUMBER	DIMENSION "C"		DIMENSION "D"		DIMENSION "E"	
	INCHES	mm	INCHES	mm	INCHES	mm
58040	76 1/2	1943	77 1/2	1969	57	1448
58058	94 1/2	2400	95 1/2	2426	71	1803
58080	114 1/2	2908	115 1/2	2934	78	1981

EXTRACTOR DIMENSIONS THAT VARY						
	LOW (20')			HIGH (30')		
	DIMENSION "G"	DIMENSION "J"	DIMENSION "G"	DIMENSION "J"	DIMENSION "G"	DIMENSION "J"
	INCHES	mm	INCHES	mm	INCHES	mm
STANDARD	117 7/8	2994	23	584	128 5/8	3267
24" EXTENSION	140 3/8	3566	31 3/16	792	149 7/16	3796
48" EXTENSION	163	4140	39 7/16	1002	170 3/16	4323

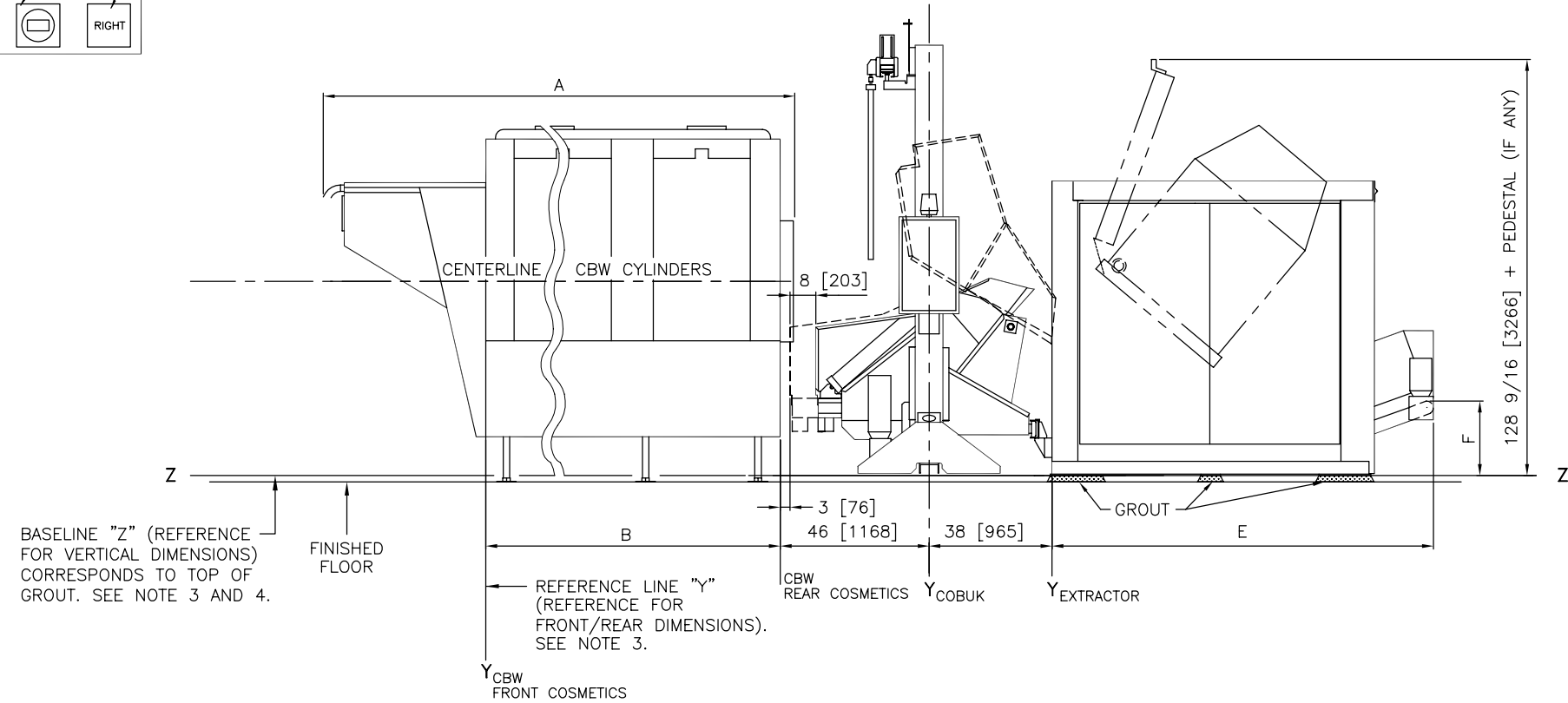
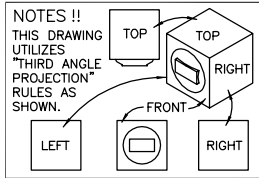
- NOTES**
- 11 DIMENSION VARIES DUE TO TYPE OF SHUTTLE AND DRYER USING. SEE INDIVIDUAL DIMENSIONAL DRAWING FOR PROPER DIMENSION.
 - 10 SEE INDIVIDUAL DIMENSIONAL DRAWINGS FOR ADDITIONAL DIMENSIONS ON ALL MACHINES INCLUDING OVERALL HEIGHT. SEE BDTRAILBE FOR RAIL AND SUPPORT DIMENSIONS.
 - 9 WHEN COSHA IS LOADED DIRECTLY FROM PRESS, EDGE OF CONVEYOR MUST BE 2 1/4 [57] MINIMUM FROM FACE OF PRESS. THIS ALLOWS CLEARANCE FOR WATER CATCHER AND PRESS SLED WHEN EXTENDED (SEE DIMENSIONAL DRAWING). NOTE: TWO HIGH COSHA MODELS MAY NOT BE LOADED DIRECTLY FROM PRESS.
 - 8 REFERENCE LINE "Y" FOR EACH COMPONENT IS THE REFERENCE FOR ALL FRONT/REAR DIMENSIONS. (SEE INDIVIDUAL DIMENSIONAL DRAWINGS)
 - 7 WHEN SETTING CBW SYSTEM COMPONENTS IN PLACE, ALWAYS START WITH THE PRESS. REFERENCE LINE "Y" OF THE PRESS IS THE PRE-PRESS CENTERLINE.
 - 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 (ie. 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 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.
 - 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.

76032 TUNNEL INTERFACE DRAWING

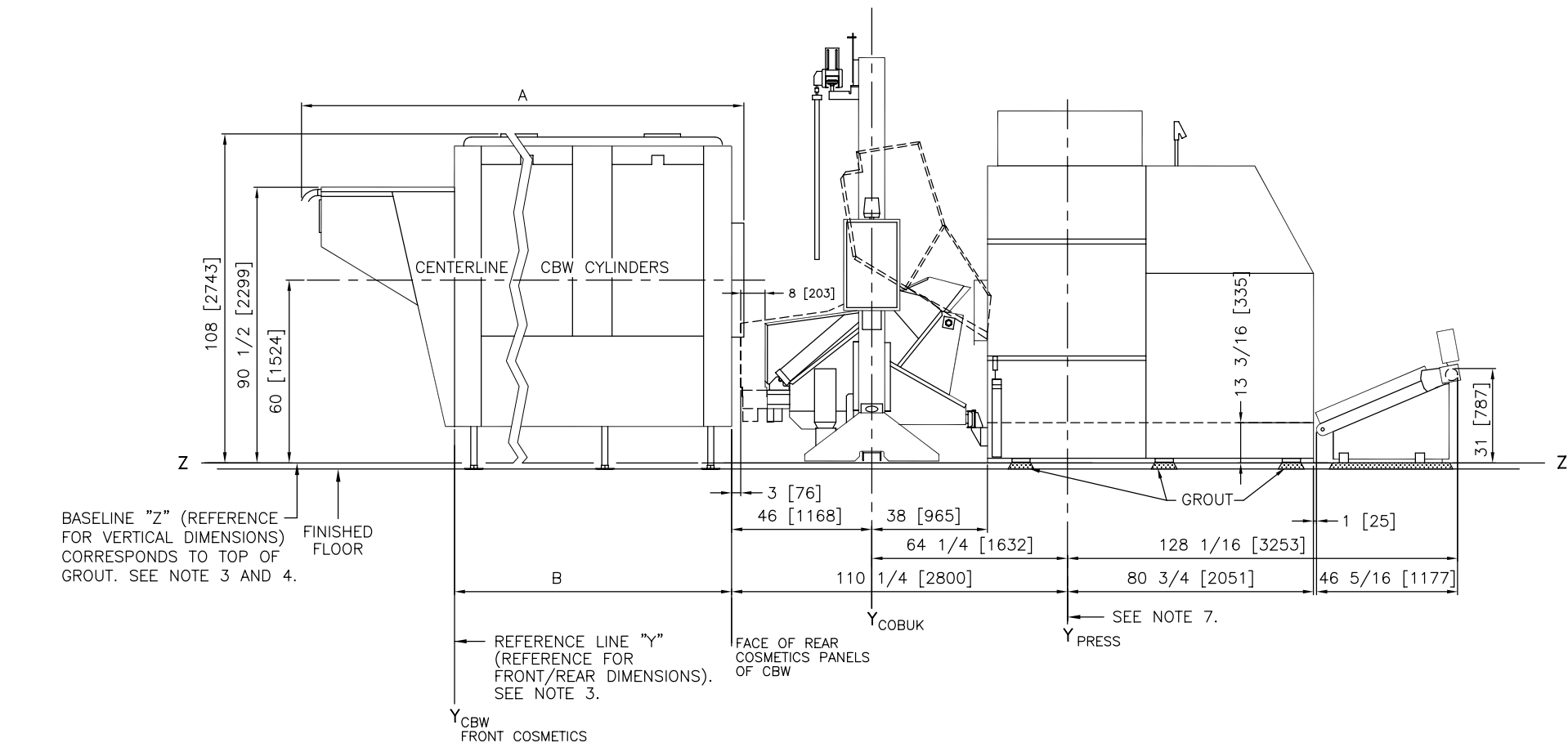
DWG# BD7632INBE 2016205D

MILNOR PELLERIN MILNOR CORPORATION

P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467-9591, FAX 504/469-1849, Email: mktg@milnor.com



RIGHT VIEW (76032 TUNNEL, COBUK, & M7E42 CENTRIFUGAL EXTRACTOR)



RIGHT VIEW (76032 TUNNEL, COBUK, MP2501, & COINC)

TUNNEL DIMENSIONS THAT VARY

MODULE NUMBER	DIMENSION "A"		DIMENSION "B"	
	INCHES	mm	INCHES	mm
1	207 1/16	5259	146 15/16	3732
2	237 13/16	6040	177 11/16	4513
3	207 1/16	5259	146 15/16	3732
4	207 1/16	5259	146 15/16	3732
5	237 13/16	6040	177 11/16	4513
5	207 1/16	5259	146 15/16	3732
7	237 13/16	6040	177 11/16	4513
8	351 9/16	8930	291 7/16	7403
9	382 5/16	9711	322 3/16	8184
10	413 1/16	10492	352 15/16	8965
11	496 5/16	12606	436 3/16	11079
12	496 5/16	12606	436 3/16	11079
13	527 1/16	13387	466 15/16	11860
14	557 13/16	14169	497 11/16	12641
15	588 9/16	14950	528 7/16	13422
16	641 1/16	16283	580 15/16	14756
17	671 13/16	17064	611 11/16	15537
18	702 9/16	17845	642 7/16	16318
19	733 5/16	18626	673 3/16	17099
20	764 1/16	19407	703 15/16	17880

EXTRACTOR DIMENSIONS THAT VARY

	LOW (20')				HIGH (30')			
	DIMENSION "E"	DIMENSION "F"	DIMENSION "E"	DIMENSION "F"	DIMENSION "E"	DIMENSION "F"	DIMENSION "E"	DIMENSION "F"
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
STANDARD	117 7/8	2994	23	584	128 5/8	3267	36 13/16	935
24" EXTENSION	140 3/8	3566	31 3/16	792	149 7/16	3796	48 13/16	1240
48" EXTENSION	163	4140	39 7/16	1002	170 3/16	4323	60 13/16	1545

- NOTES**
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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.
 - BASLINE "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.
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- ATTENTION**
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- ATTENTION**
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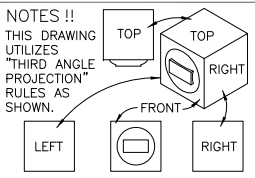
76032 TUNNEL/COBUK INTERFACE

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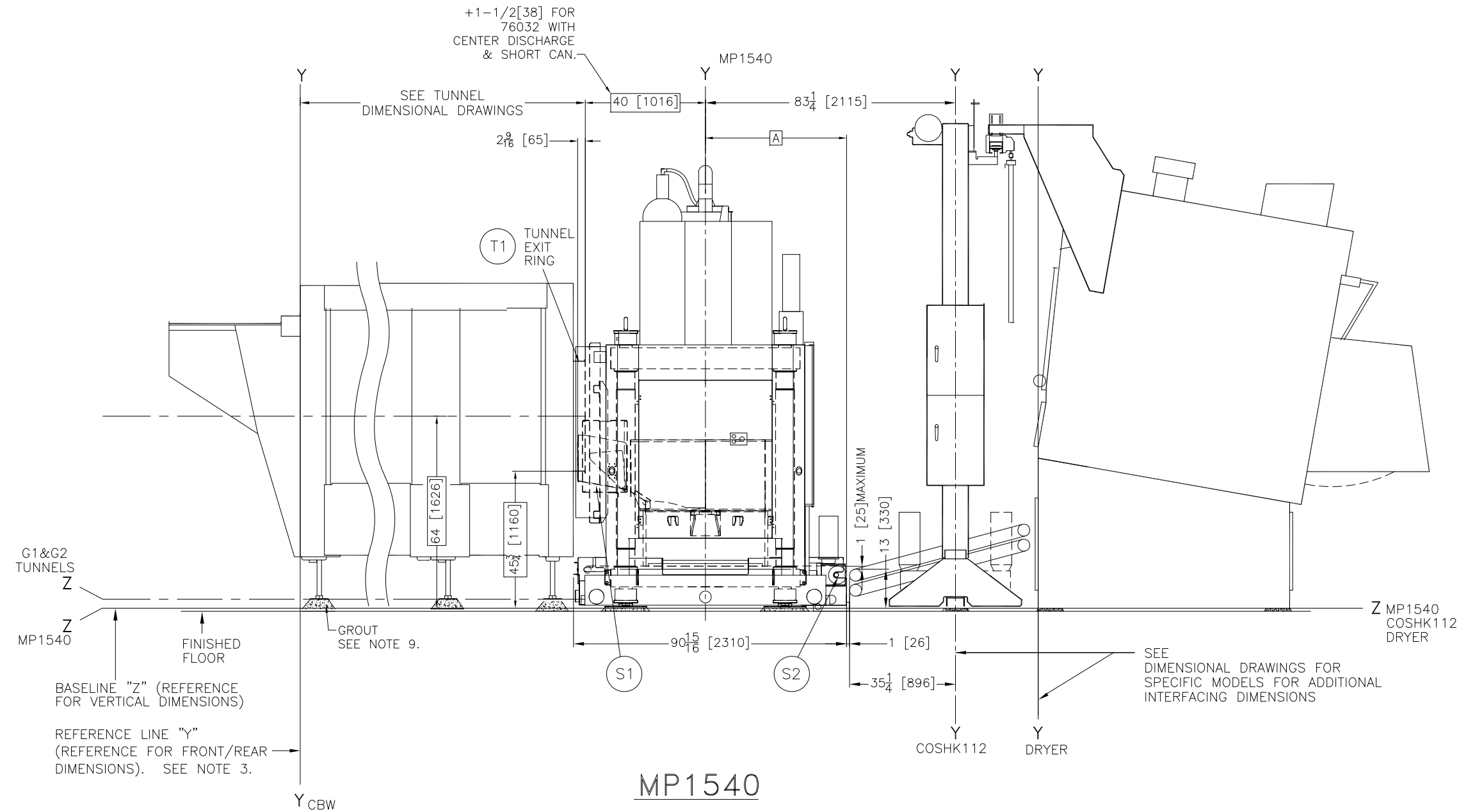
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TUNNEL TO SINGLE STAGE PRESS INTERFACE				
MINIMUM HEIGHT TUNNEL			TUNNEL/TO MP1550	
TUNNEL MODEL	(MINIMUM) CENTERLINE TUNNEL		RECOMMENDED VERTICAL ADJUSTMENT	
	INCHES	mm	(INSTALLED ADJUSTED) CENTERLINE TUNNEL	
			INCHES	mm
76032 G1-CBW 76028 G2-CBW 76039 G2-CBW	60	1524	(+) 4"[102mm] BY ADJUSTING TUNNEL FEET OR GROUT, SEE NOTES 8 & 9.	
			64	1626

PRESS CONVEYOR OPTIONS		
LENGTHS:	DIMEN. A	
	INCHES	mm
STANDARD	47	1524
+ 8" [203]	55	1397
+ 24" [610] (ADJUSTABLE)	69	1753
	74	1880
+ 35" [889]	82	2083



DRAWING FOR:
MP1540CR,CL WITH 11 CUBIC FOOT CAN.
CAN HEIGHT 18.50"[470MM]



T1	TUNNEL DISCHARGE RING
S2	DISCHARGE ROLLER
S1	LOAD CHUTE SCUPPER
ITEM	LEGEND

- NOTES**
- 9 FOR THE 76032 (G1), 76028 & 76039 (G2) TUNNELS TO ACHIEVE THE DESIRED DISCHARGE HEIGHT, THE TUNNEL'S FEET MAY BE ADJUSTED TO RAISE THE MACHINE A MAXIMUM OF 1"[25]. GROUT MACHINE AS REQUIRED.
- 8 FOR (ALL) TUNNELS TO ACHIEVE THE DESIRED DISCHARGE HEIGHT, THE TUNNEL FEET MUST BE ADJUSTED AND/OR GROUTED TO RAISE THE MACHINE THE RECOMMENDED VERTICAL ADJUSTMENT.
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42 [1067] IF OBJECT IS A GROUNDED WALL (ie. 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 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.
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RIGHT VIEW (G1&G2 TUNNELS/MP1540/ COSHK OR COSHM/ & DRYER)

MP1540 INTERFACE

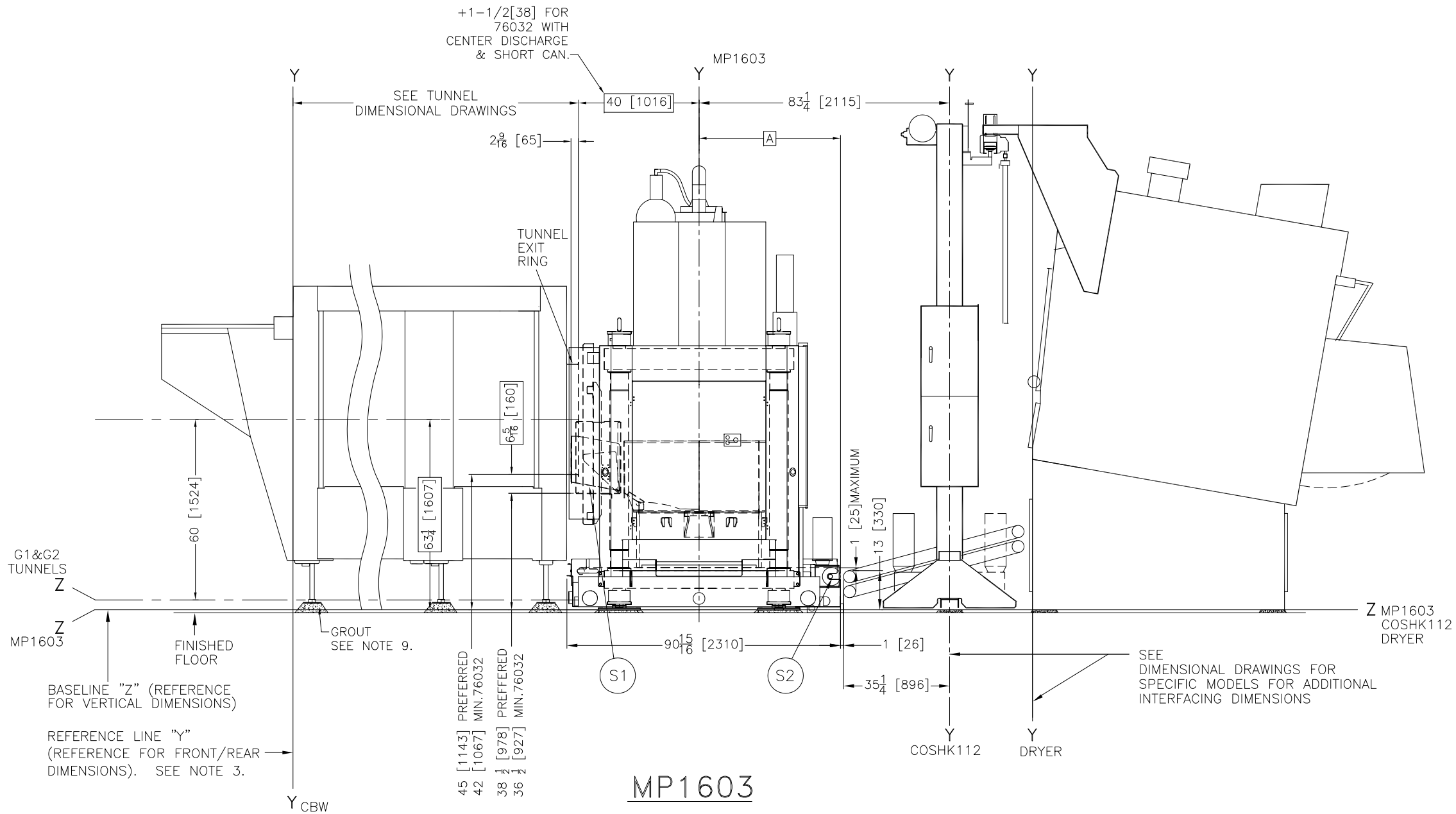
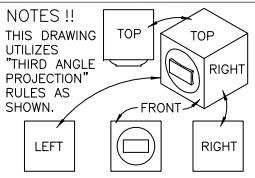
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INCHES 0 12 24 36

DWG# BDMP15INBE
2010464D

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TUNNEL TO SINGLE STAGE PRESS INTERFACE				
MINIMUM HEIGHT TUNNEL			TUNNEL/TO MP1603	
TUNNEL MODEL	(MINIMUM) CENTERLINE TUNNEL		RECOMMENDED VERTICAL ADJUSTMENT	
	INCHES	mm	(INSTALLED ADJUSTED) CENTERLINE TUNNEL	
			INCHES	mm
76032 G1-CBW 76028 G2-CBW 76039 G2-CBW	60	1524	(+) 3 1/4"[83mm] BY ADJUSTING TUNNEL FEET OR GROUT, SEE NOTES 8 & 9.	
			63 1/4	1607

PRESS CONVEYOR OPTIONS		
LENGTHS:	DIMEN. A	
	INCHES	mm
STANDARD	47	1524
+ 8" [203]	55	1397
+ 24" [610]	69	1753
(ADJUSTABLE)	74	1880
+ 35" [889]	82	2083



DRAWING FOR:
MP1603CR,CL WITH 15 CUBIC FOOT CAN.
CAN HEIGHT 21.05"[535MM]

T1	TUNNEL DISCHARGE RING
S2	DISCHARGE ROLLER
S1	LOAD CHUTE SCUPPER
ITEM	LEGEND

- NOTES**
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RIGHT VIEW (G1&G2 TUNNELS/ MP1603/ COSHK OR COSHM/ & DRYER)

MP1603 (35 BAR) INTERFACE

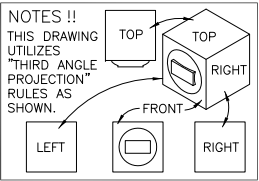
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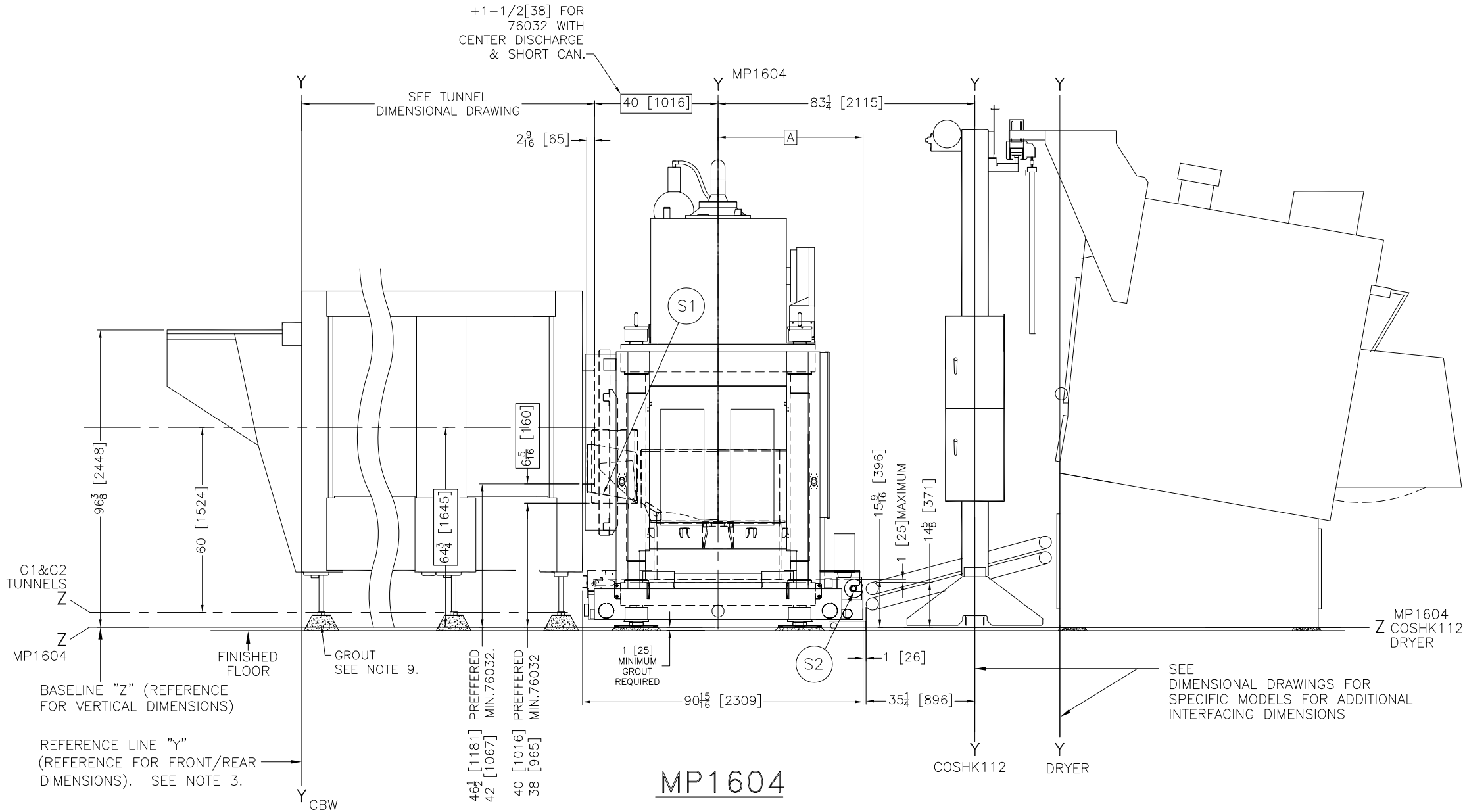
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FAX 504/469-1849, Telex ITT 460124/PELM UI, Cable PELMILNOR

TUNNEL TO SINGLE STAGE PRESS INTERFACE				
MINIMUM HEIGHT TUNNEL			TUNNEL WITH MP1604	
TUNNEL MODEL	(MINIMUM) CENTERLINE TUNNEL		RECOMMENDED VERTICAL ADJUSTMENT	
	INCHES	mm	(INSTALLED ADJUSTED) CENTERLINE TUNNEL	
			INCHES	mm
76032 G1-CBW 76028 G2-CBW 76039 G2-CBW	60	1524	(+) 4 3/4" [121mm] BY ADJUSTING TUNNEL FEET OR GROUT, SEE NOTES 8 & 9.	
			64 3/4	1645

PRESS CONVEYOR OPTIONS		
LENGTHS:	DIMEN. A	
	INCHES	mm
STANDARD	47	1524
+ 8" [203]	55	1397
+ 24" [610]	69	1753
(ADJUSTABLE)	74	1880
+ 35" [889]	82	2083



DRAWING FOR:
MP1604CR,CL WITH 15 CUBIC FOOT CAN.
CAN HEIGHT 21.05"[535MM]



RIGHT VIEW (G1&G2 TUNNELS/MP1604/COSHK OR COSHM/& DRYER)

ITEM	LEGEND
T1	TUNNEL DISCHARGE RING
S2	DISCHARGE ROLLER
S1	LOAD CHUTE SCUPPER

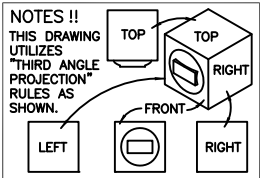
- NOTES
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- 8 THIS DRAWING REPRESENTS THE MP1604 (50 BAR) SINGLE STAGE PRESS. FOR INTERFACE DIMENSIONS FOR THE MP1602 (35 BAR) SINGLE STAGE PRESS, SEE BDMP55INDE.
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MP1604 (50 BAR) INTERFACE

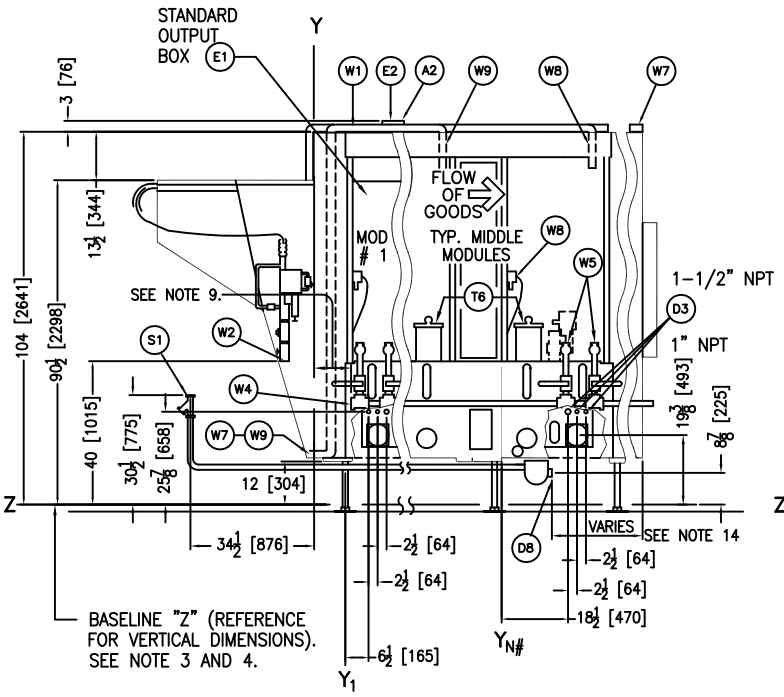
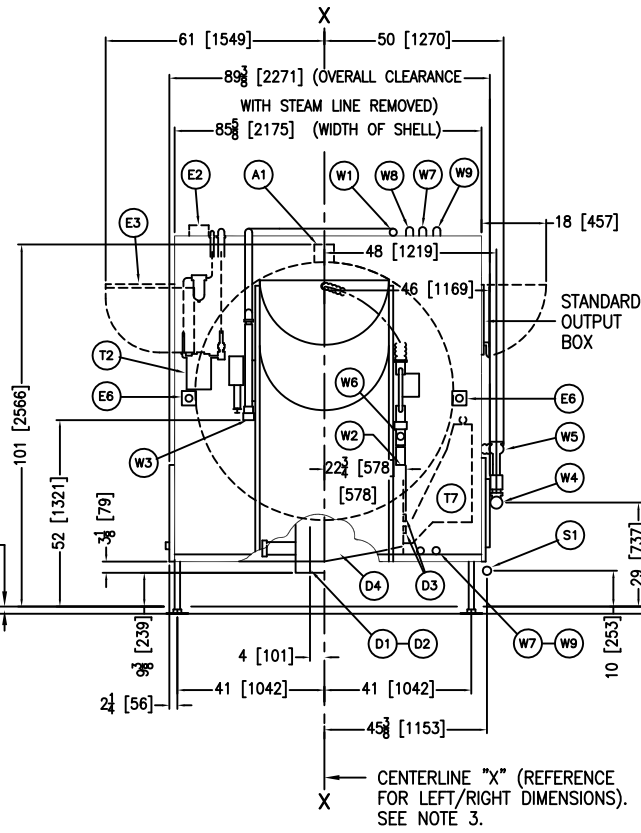
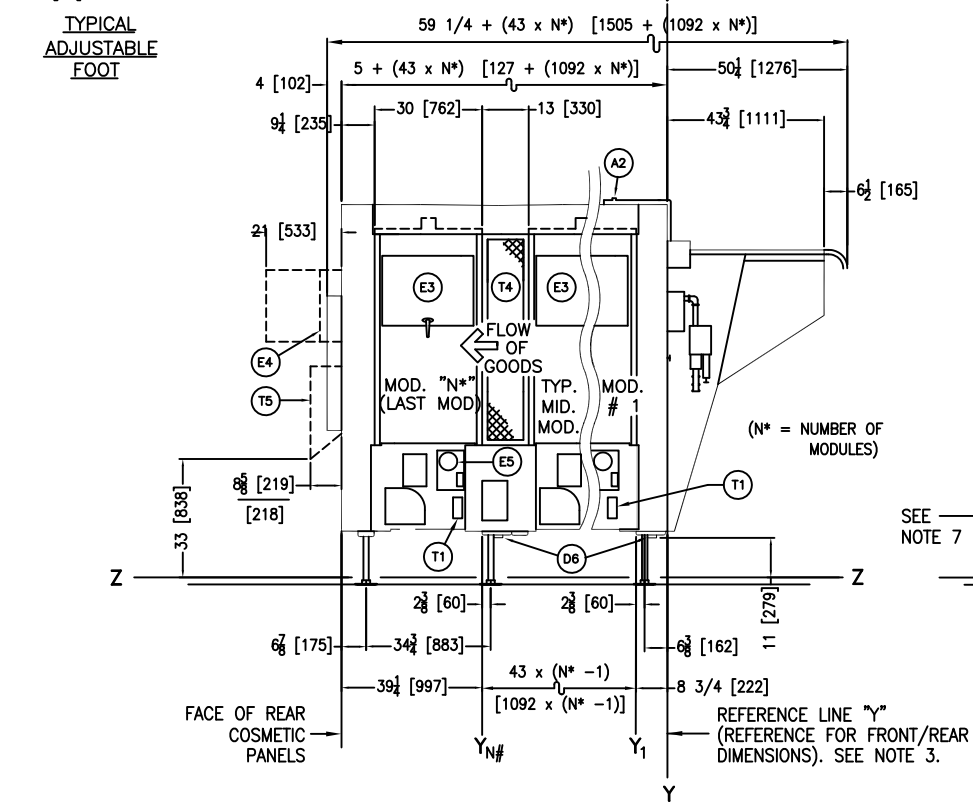
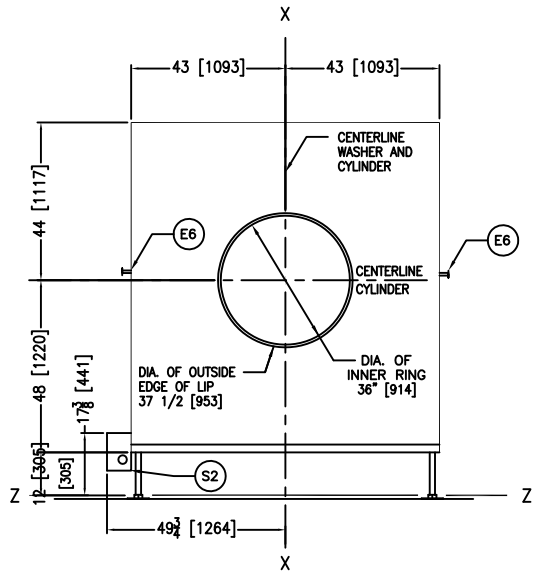
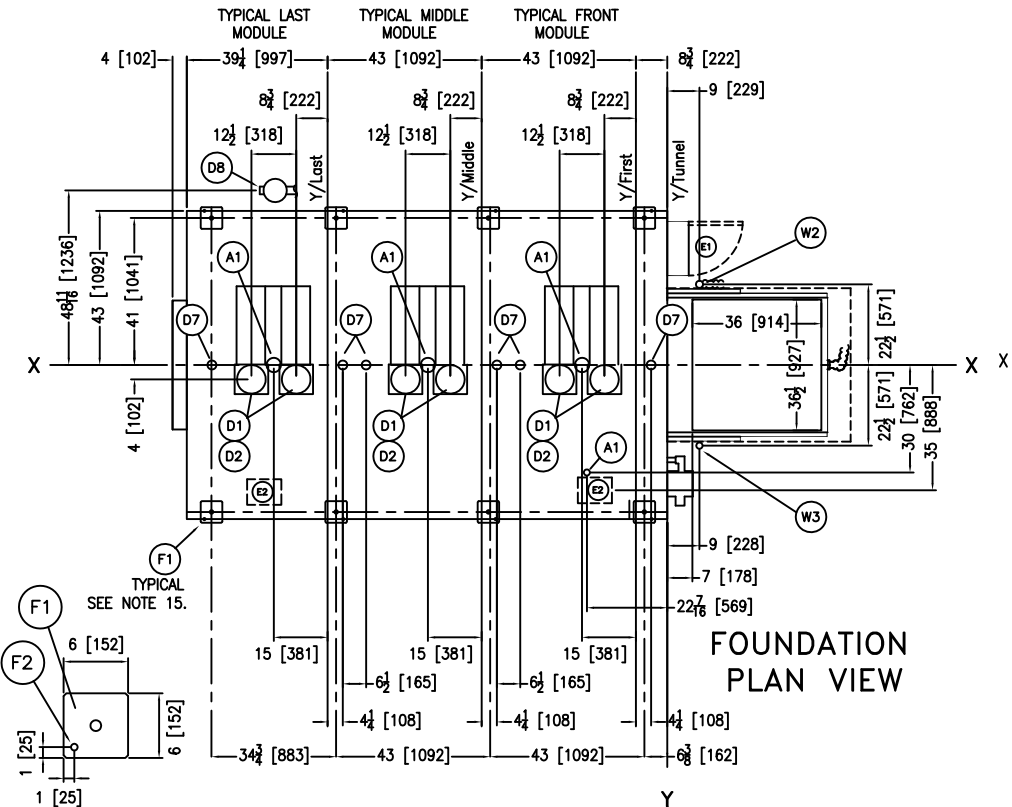
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DWG# BDMP50INDE
2009494D

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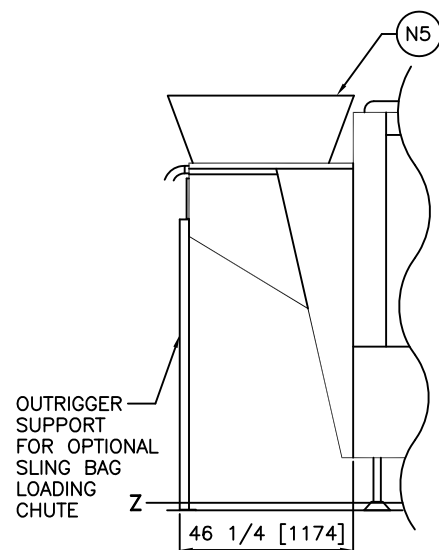
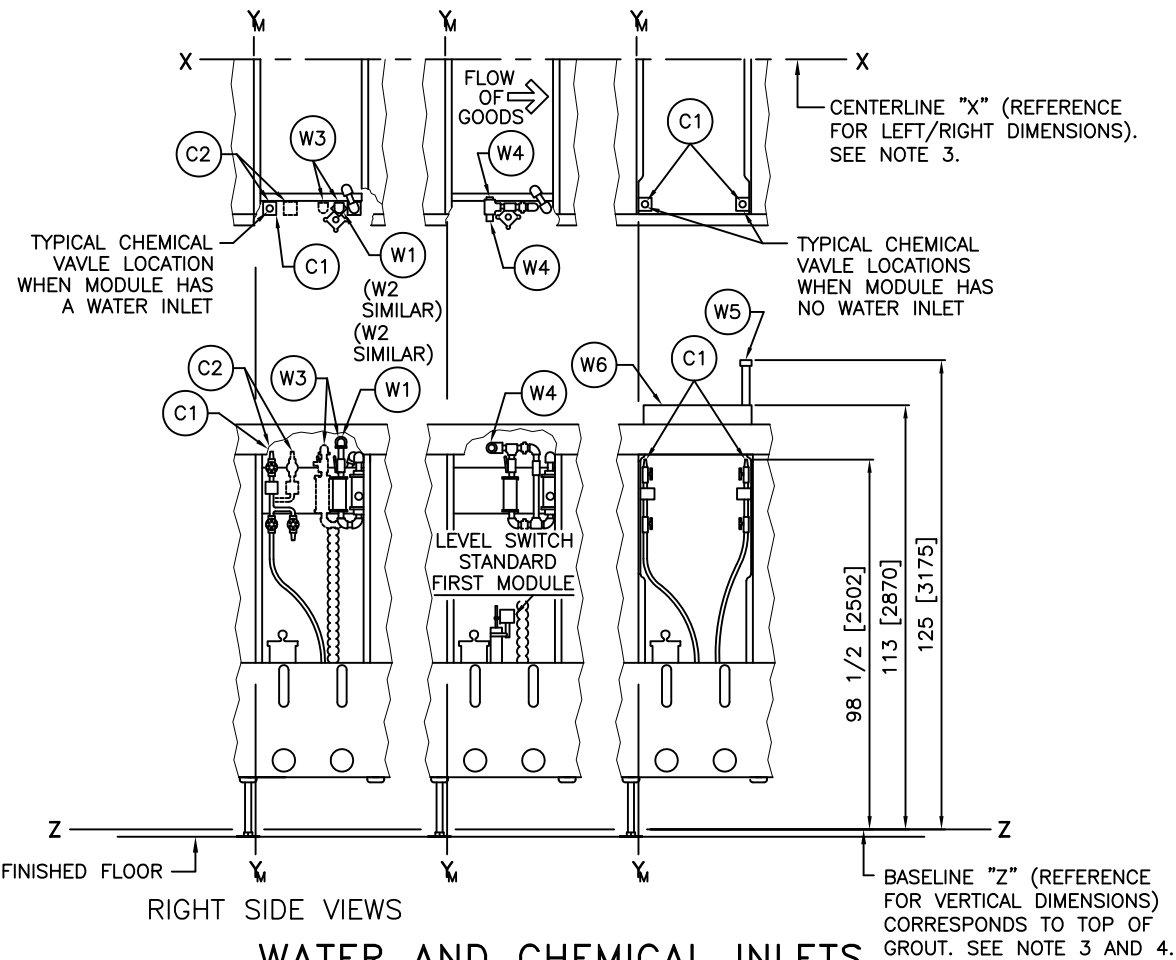
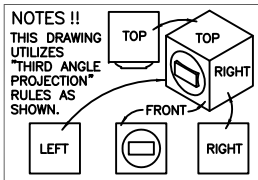


W9	REUSE WATER FROM FLOW SPLITTER TO REUSE TANK, PIPING SUPPLIED BY PMC.	T2	CHAIN OILER RESERVOIR
W8	RETURN WATER FROM FLOW SPLITTER TO WASH ZONE, PIPING SUPPLIED BY PMC.	T1	TYPICAL MODULE GREASE FITTINGS
W7	REUSE WATER FROM PRESS TO REUSE TANK, PIPING SUPPLIED BY PMC.	S2	STEAM COVER ARE REQUIRED ON ALL TUNNELS WITH STEAM.
W6	OPTIONAL FRESH WATER INLET TO LOAD CHUTE, HOSE CONNECTION SUPPLIED BY PMC.	S1	DIRECT STEAM INLET, 2" NPT TO ALL MODULES WITH STEAM.
*W5	TWO, 1 1/4" ID, MANUAL FLUSHING WATER VALVES.	F2	5/8"[16] DIAMETER ANCHOR BOLT HOLE FOR 1/2" BOLT
*W4	FLUSHING WATER INLET CONNECTION, 1 1/4" NPT.	F1	TYPICAL, ADJUSTABLE FEET SUPPORTS, MUST ANCHOR 4 PER 76032 TUNNEL. (SEE NOTE 15.)
W3	FRESH WATER OUTLET TO REUSE TANK, HOSE SUPPLIED BY PMC.	E6	EMERGENCY STOP BUTTON
W2	REUSE WATER INLET ON LOAD CHUTE FROM REUSE TANK, HOSE CONNECTION SUPPLIED BY PMC. SEE NOTE 13.	E5	TEMPERATURE CONTROLLER (MODULES WITHOUT STEAM INJECT) OR TEMPERATURE GAUGE (MODULES WITHOUT TEMPERATURE STEAM INJECT) AND MOTOR STATUS LIGHTS.
W1	SINGLE POINT FRESH WATER CONNECTION, 3" NPT. MAY BE LOCATED ANYWHERE ALONG LENGTH OF CBW. STANDARD MANIFOLDS MAY BE ORDERED.	E4	LOCATION OF PRESS INTERFACE BOX IF USED WITH A NON-MILNOR PRESS.
T7	SELF-SLUICING (CLEANING) WEIR BOX.	E3	TYPICAL MODULE ELECTRIC BOX FOR MOTOR CONTACTORS, RELAY, ETC. (ELECTRICAL POWER CONNECTION IF NO SINGLE SERVICE).
T6	WEIR BOX, ALWAYS ON DOWN STREAM SIDE OF MODULE.	E2	OPTIONAL JUNCTION BOX FOR SINGLE SERVICE POWER CONNECTION.
T5	OPTIONAL, UNLOAD CHUTE WHEN NO PRESS IS USED.	E1	CONTROL CABLE CONNECTION TO MILTRON/MENTOR
T4	TYPICAL SAFETY SCREEN	D8	STEAM CONDENSATE OUTLET 3/4" NPT, SEE NOTE 14.

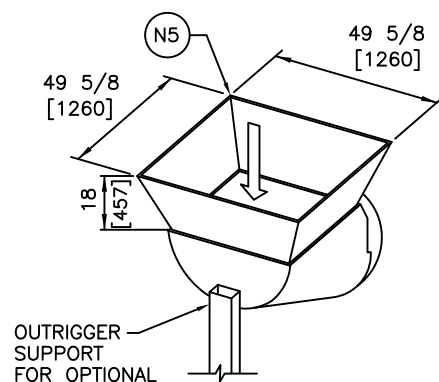


ITEM	LEGEND
D5	MANUAL DRAIN CONTROL AIR VALVES, ONE PER MODULE.
D4	SLANTED BOTTOM DRAIN TROUGH
D3	TYPICAL PLUGGED OPENINGS IN DRAIN TROUGH FOR CHEMICAL INLET IF CHEMICAL NOT PROVIDED BY PMC (SIDE OPPOSITE OF WEIR BOX ONLY).
*D2	WORKWEAR, TWO 4 1/2" x 8" AIR OPERATED DRAIN VALVES PER MODULE (WITH 8" DIAMETER CONNECTIONS).
D1	MARK II, OPTIONAL 1 OR OPTIONAL, 4 1/2" x 8" AIR OPERATED DRAIN VALVES PER MODULE (WITH 8" DIAMETER CONNECTION).
A2	COMPRESSED AIR INLET, 1/2" NPT.
A1	TYPICAL EXHAUST AIR VENT, 4" DIAMETER.

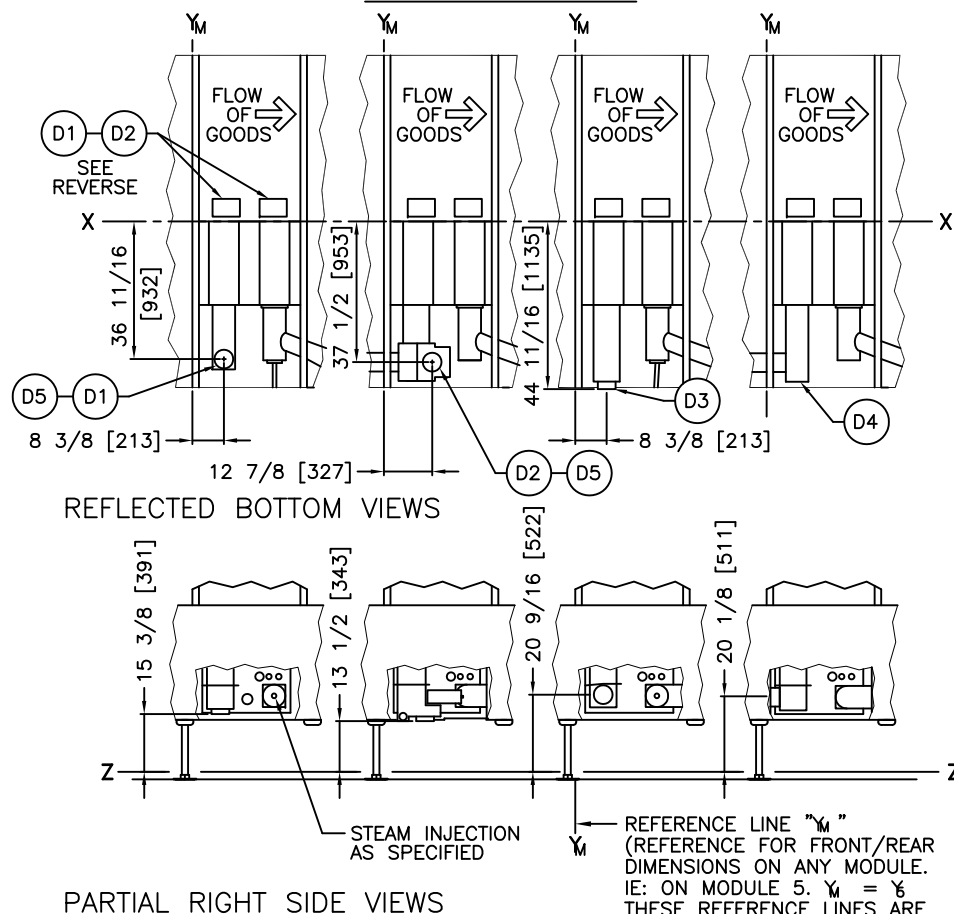
NOTES
15 THE FOUR ADJUSTABLE SUPPORT FEET LOCATED NEAREST TO THE CORNERS OF THE TUNNEL MUST BE ANCHORED. ROTATE THE FEET SO THAT THE ANCHOR BOLT HOLES ARE SET TO THE OUTSIDE, AND ANCHOR WITH 1/2" ANCHOR BOLTS.
14 DIRECT STEAM CONDENSATE TO THE DRAIN TROUGH. DO NOT RETURN CONDENSATE TO THE BOILER BECAUSE OF POSSIBLE CONTAMINATION FROM CHEMICALS IN THE WASH WATER. STEAM TRAP IS LOCATED NEXT TO THE LAST STEAM MODULE.
13 WHEN ALTERNATE WATER SOURCE FOR MODULE 1 IS REQUIRED THE ORIFICE OF W2 WILL BE 12 [305] TO 14 [356] LOWER THAN SHOWN.
12 DO NOT PRE-PIPE ANY CLOSER THAN 60 [1524].
11 ITEMS MARKED WITH AN ASTERISK (*) ON THE LEGEND ARE STANDARD EQUIPMENT FOR THE WORKWEAR CBW AND DO NOT APPLY TO THE MARK II CBW.
10 DRAIN VALVES AND FLUSHING SYSTEM IN DRAIN TROUGHS ARE ONLY STANDARD ON WORKWEAR MODULES. SEE NOTE 9.
9 DEPENDING ON SPECIFICATIONS FOR YOUR MACHINE, THIS INLET MAY BE IN ONE OF TWO LOCATIONS. IF WEIR BOX FOR MODULE ONE IS ON THE DISCHARGE SIDE OF MODULE, THIS DIMENSION = 11 1/4 [286]. IF WEIR BOX FOR MODULE ONE IS ON THE LOAD SIDE OF MODULE, THIS DIMENSION = 24 1/4 [616].
8 CBW MAY CONSIST OF 5 TO 16 MODULES. ITEMS SHOWN ON THIS PAGE ARE TYPICAL OF ALL MACHINES, REGARDLESS OF LENGTH. ITEMS WHICH VARY FROM ONE MACHINE TO ANOTHER SUCH AS, WATER INLETS (OTHER THAN THOSE ON MODULE 1), CHEMICAL INLETS, QUICK DRAINS, ETC., ARE SHOWN ELSEWHERE.
7 SEE INTERFACING DIMENSIONAL DRAWING FOR RELATIVE POSITIONS OF MACHINES, GROUT THICKNESS AND HEIGHT OFF OF FLOOR.
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 (i.e. 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 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 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.
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.



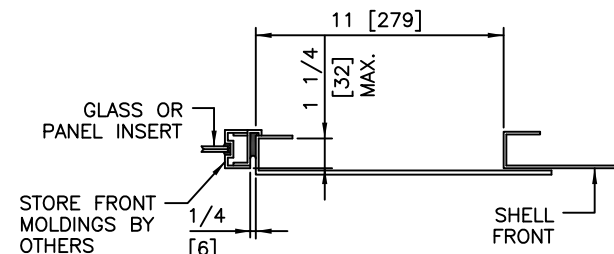
OUTRIGGER SUPPORT FOR SLING BAG LOADING



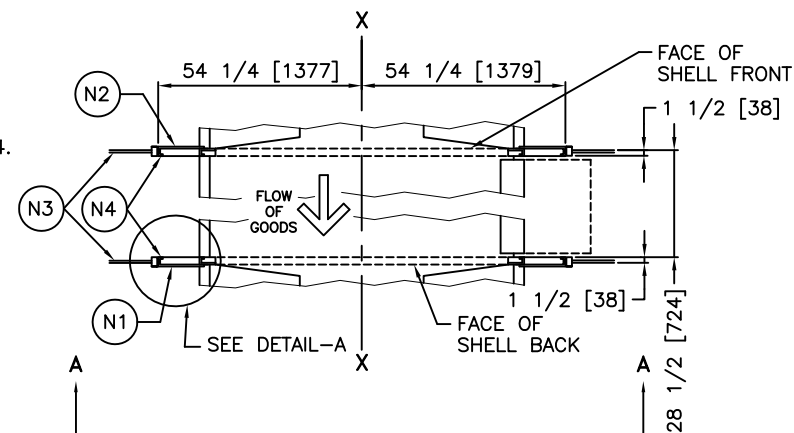
OPTIONAL LOAD CHUTE FOR SLING LOADING
NOT TO SCALE



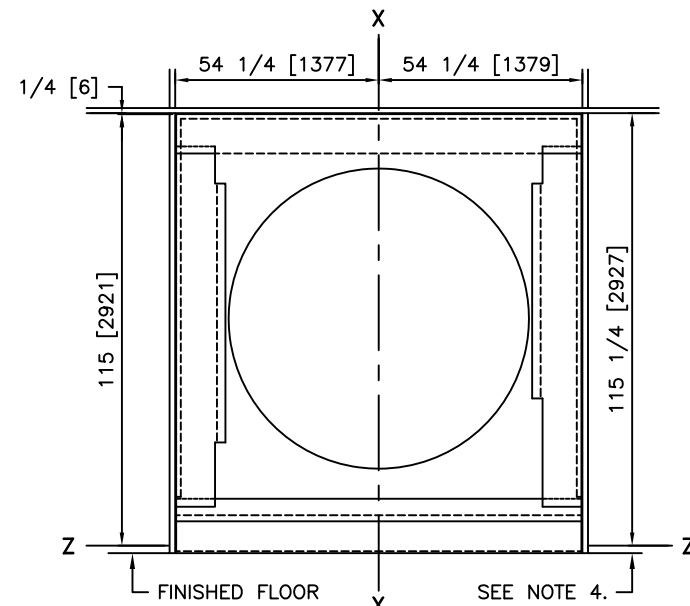
DRAINS AS SPECIFIED



DETAIL-A
NOT TO SCALE



PARTIAL PLAN VIEW



SECTION A-A

STAPH GUARD PANELS

W6	OPTIONAL FAST FILL TANK, FRESH WATER FROM MANIFOLD (PIPING SUPPLIED BY PMC).
W5	OPTIONAL SIPHON BREAKER FAST FILL TANK.
W4	#2 WASHZONE WITH ENHANCE. REUSE WATER INLET, 1 1/2" PIPE NIPPLE FOR HOSE CONNECTION (FROM FLOW SPLITTER TANK). ALSO 1 1/2" PLUGGED TEE FOR FRESH WATER IF DESIRED. SEE NOTES 9 AND 11.
W3	#1 AUTO INLET WITH ENHANCE. TWO, FRESH WATER INLETS, NORMALLY COLD, 1 1/4" NPT. SEE NOTES 9 AND 11.
	#3 AUTO INLET WITH ENHANCE. TWO, FRESH WATER INLETS, NORMALLY COLD, 1 1/2" NPT. SEE NOTES 9 AND 11.
W2	#1, #2, #3 MANUAL INLETS. REUSE WATER INLETS, 1 1/4" NPT. SEE NOTE 11.
W1	#1 AUTO INLET. FRESH WATER INLET, NORMALLY COLD, 1 1/4" NPT. SEE NOTES 9 AND 11.
	#2 AUTO INLET. FRESH WATER INLET, NORMALLY COLD, 1 1/4" NPT. SEE NOTES 9 AND 11.
	#3 AUTO INLET. FRESH WATER INLET, NORMALLY COLD, 1 1/2" NPT. SEE NOTES 9 AND 11.
N5	LOAD CHUTE FOR SLING/BAG LOADING.
N4	APPROXIMATELY 1" FILL BY OTHERS.
N3	GLASS OR PANEL INSERTS BY OTHERS.
N2	STAPH GUARD PANEL-INLET END. OPTIONAL STAPH GUARD PANEL, ATTACHED IN FIELD TO INLET SHELL.
N1	STAPH GUARD PANEL-OUTLET END. OPTIONAL STAPH GUARD PANEL, ATTACHED IN FIELD TO OUTLET SHELL.
L1	LOAD CHUTE FOR SLING/BAG LOADING. SEE DETAIL.
D5	DISCHARGE FROM FINISH ZONE MODULE(S) TO SEWER. 2" HOSE CONNECTION ON WEIR.
D4	FLOW TO LOAD. 5" OVERFLOW DRAIN PIPED TO NEXT MODULE.
D3	FLOW TO FLOW SPLITTER. 5" OVERFLOW DRAIN (NO VALVE) HOSE CONNECTION TO FLOW SPLITTER.
D2	FLOW TO FLOW-TO, FLOW TO SEWER. 5" OVERFLOW DRAIN PIPED TO NEXT MODULE BY AIR OPERATED VALVE AND 5" DRAIN TO SEWER, AIR DROP TO SUMP. SEE NOTE 8.
D1	FLOW TO SEWER - LOAD END. 5" OVERFLOW DRAIN (NO VALVE) AIR DROP TO SUMP. SEE NOTE 8.
C2	LIQUID SUPPLY VALVE WITH PURGE. CHEMICAL INLET VALVE AND WATER INLET VALVE, 5/8" HOSE ADAPTERS.
C1	LIQUID SUPPLY VALVE-TFE. CHEMICAL INLET VALVE, 5/8" HOSE ADAPTER (HOSE FROM PRESSURIZED LINE).

ITEM	LEGEND
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- NOTES**
- DO NOT PRE-PIPE ANY CLOSER THAN 60 [1524].
 - ITEMS MARKED WITH AN ASTERISK (*) ON THE LEGEND ARE STANDARD EQUIPMENT FOR THE WORKMAN CSM AND DO NOT APPLY TO THE MARK CSM.
 - NOW FACTORY PIPED TO ONE SINGLE FRESH WATER CONNECTION POINT AS SPECIFIED.
 - THESE DIMENSIONS VARY WITH THE COMBINATION OF INLETS PLACED ON THE MODULE ON THE MIDDLE.
 - VACUUM BREAKERS MAY BE SPECIFIED FOR THESE INLETS.
 - THESE DRAINS MAY BE PIPED IF REQUIRED. CONSULT FACTORY.
 - SEE INTERFACING DIMENSIONAL DRAWING FOR RELATIVE POSITIONS OF MACHINES, GROUT THICKNESS AND HEIGHT OFF OF FLOOR.
 - 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.
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 - 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.
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 - 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, AND PROVIDE ALL NECESSARY ADDITIONAL SAFETY GUARDS, FENCES, RESTRAINTS, DEVICES, ETC., NOT FURNISHED BY THE EQUIPMENT MANUFACTURER OR VENDOR.

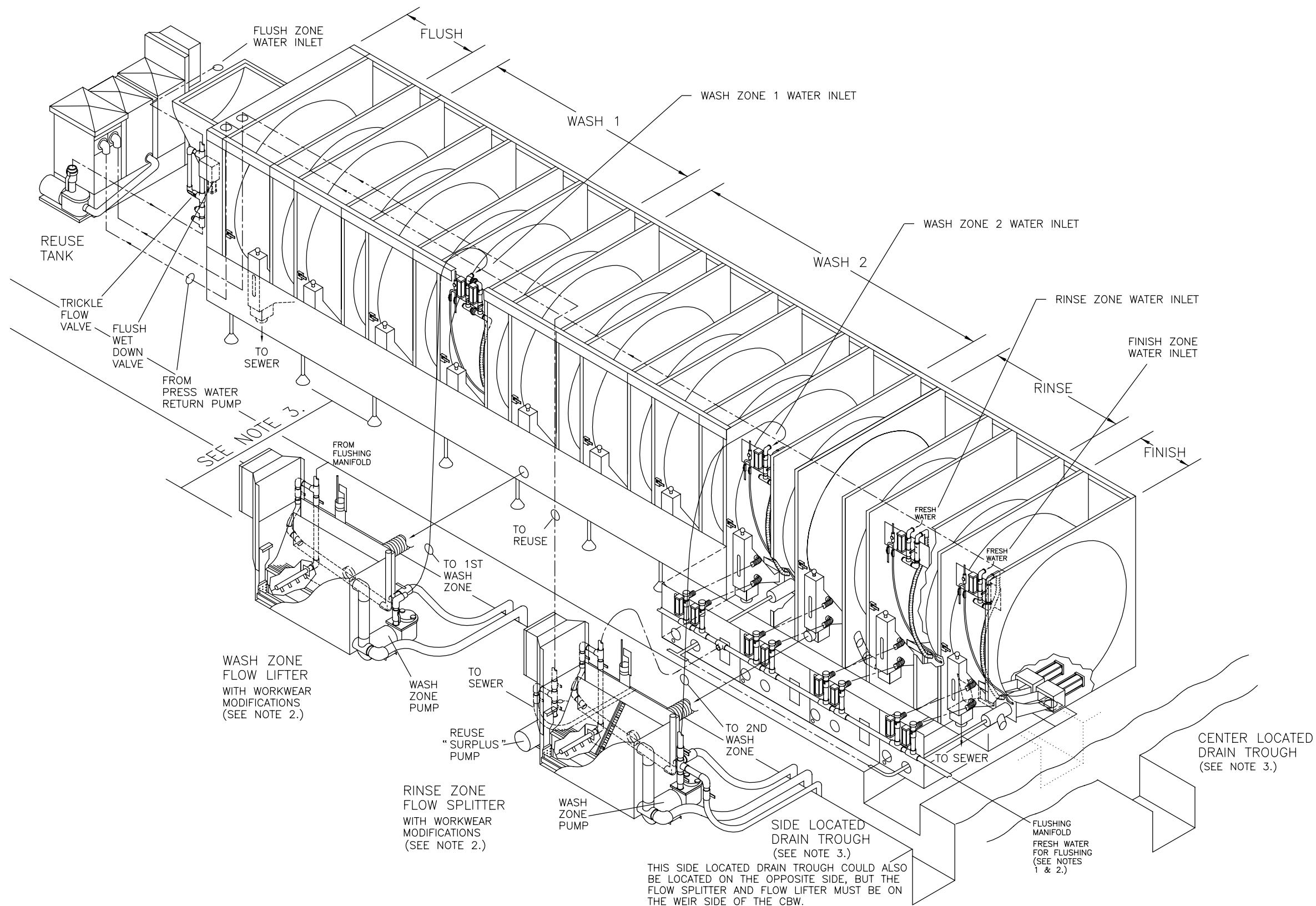
ATTENTION

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.

76032 TUNNEL OPTIONS

DM	0	0.5M	1M	DWG#	BD7632CBBB
INCHES	0	12	24	36	2010313D

P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467-9591, FAX 504/469-1849, Email: mktg@milnor.com



- NOTES**
- 6 RINSE ZONE FLOW SPLITTER, WASH ZONE FLOW LIFTER AND REUSE TANK HAVE INTERNALLY MOUNTED PUMPS COMPLETE WITH ALL NECESSARY PIPING, ELECTRICAL CONTROLS AND WIRING.
 - 5 PRESS WATER TO REUSE OVERHEAD PIPING AND SINGLE POINT WATER CONNECTION FOR ALL COLD FRESH WATER VALVES ARE PROVIDED BY PMC (NOT SHOWN - SEE BDCBWAC1CB).
 - 4 ALL VACUUM BREAKERS SHOWN ARE OPTIONAL EQUIPMENT.
 - 3 DISTANCE BETWEEN CBW AND LINT FILTER AND REUSE TANKS HAS BEEN GREATLY EXAGGERATED FOR ILLUSTRATION PURPOSES. FOR RECOMMENDED LOCATION AND DIMENSIONS OF DRAIN TROUGHS, SEE BD7632DTAE. FOR PROPER POSITIONING OF COMPONENTS, SEE BDCBWAC1CB.
 - 2 WORKWEAR TUNNEL, FLOW LIFTER AND FLOW SPLITTER SHOWN. MARK II TUNNEL ALSO REPRESENTED HERE. DRAIN VALVES AND FLUSHING SYSTEMS IN FLOW SPLITTER, FLOW LIFTER AND DRAIN TROUGHS ARE STANDARD ONLY FOR WORKWEAR MODELS.
 - 1 TUNNEL GOES INTO HOLD AUTOMATICALLY WHENEVER ANY MODULE ON ANY FLOWSPLITTER/LIFTER IS FLUSHED MANUALLY.
- 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.

76032 TUNNEL WATER PIPING

NOT TO SCALE

DWG# BD7632WPBE
92747D



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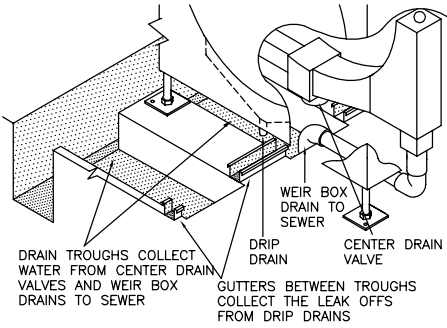


FIGURE 3: LEFT OR RIGHT DRAIN TROUGHS
TYPICAL WORKWEAR TUNNELS
(LEFT DRAIN TROUGH SHOWN)
SEE NOTES 11 & 12.

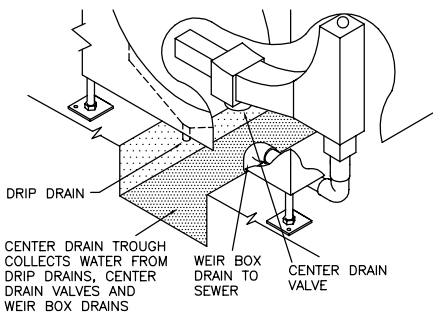


FIGURE 2: CENTER DRAIN TROUGH
TUNNELS WITH DRAIN VALVES
SEE NOTES 9 & 10.

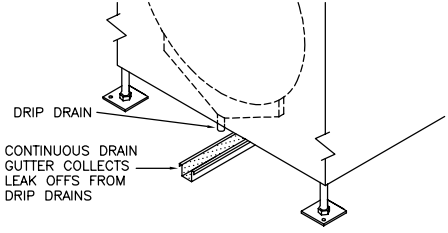


FIGURE 1: GUTTER FOR DRIP DRAINS
TUNNELS WITH NO DRAIN VALVES
SEE NOTE 8.

* SLOPE 1/4" PER FOOT (1 IN 50) TOWARD END
OF TROUGH (MINIMUM). USE 8" DIAMETER PIPE FOR
DRAIN (MINIMUM).

**TUNNEL DRAINS WHICH
MUST BE ACCOMMODATED:**

- DRIP DRAINS —
(TWO PER MODULE, ALL MODULES, ALL TUNNELS)
- CENTER DRAIN VALVES —
(OPTIONAL 1-2 DRAIN VALVES PER MODULE)
- WEIR BOX DRAINS TO SEWER —
(OPTIONAL)

- NOTES**
- 12 WHEN LEFT OR RIGHT DRAIN TROUGHS ARE USED TO TAKE AWAY THE WATER FROM THE CENTER DRAIN VALVES, A STAINLESS STEEL, COPPER OR PLASTIC OPEN TOP GUTTER WITH A SLOPE OF 1 IN 50 IS NEEDED BETWEEN THE TROUGHS TO COLLECT THE LEAK OFFS FROM THE DRIP DRAINS. THESE DRIP DRAINS ABSOLUTELY MUST NOT BE PIPED WITH CLOSED PIPING WHICH WILL COLLECT LINT AND BLOCK.
- 11 RECOMMENDED LEFT AND RIGHT DRAIN TROUGHS ARE FOR MACHINES WASHING GOODS HEAVILY LADENED WITH INSOLUBLE PARTICLES LIKE SAND, METAL CHIPS ETC., TYPICAL OF WORKWEAR MACHINES. THE SIDE LOCATION OF THE DRAIN TROUGH ALLOWS FOR EASIER REMOVAL OF HEAVY NON-SOLUBLES WHICH COLLECT IN THE BOTTOM OF THE DRAIN TROUGH.
- 10 WEIR BOX DRAIN PIPING TO SEWER SUPPLIED BY PMC.
- 9 A CENTER DRAIN TROUGH OR ITS EQUIVALENT IS NECESSARY TO COLLECT THE LEAK OFFS FROM THE DRIP DRAINS AND THE WATER FROM MODULES WITH A CENTER DRAIN VALVE.
- 8 WHEN THERE ARE NO CENTER DRAIN VALVES OR WEIR BOX DRAINS, A CONTINUOUS OPEN DRAIN GUTTER FABRICATED OF STAINLESS STEEL, COPPER OR PLASTIC IS REQUIRED TO COLLECT THE LEAK OFFS FROM THE DRIP DRAINS. THESE DRIP DRAINS ABSOLUTELY MUST NOT BE PIPED WITH CLOSED PIPING WHICH WILL COLLECT LINT AND BLOCK.
- 7 NOTE THIS DRAWING SHOWS THE RECOMMENDED DRAIN TROUGH DESIGN FOR THE 76032T2W AND 76032C2W MACHINES. DRAIN TROUGH CONSTRUCTION IS THE RESPONSIBILITY OF OTHERS. THIS DRAWING CONVEYS NO EXPRESS OR IMPLIED WARRANTY WITH REGARD TO THE CONSTRUCTION AND/OR SUITABILITY OF THESE DESIGNS FOR YOUR SPECIFIC INSTALLATION.
- 6 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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- 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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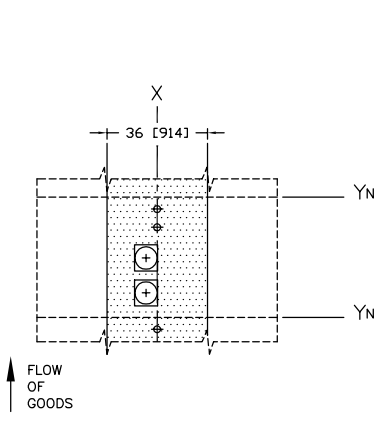
ATTENTION
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DRAIN TROUGH 76032 TUNNEL

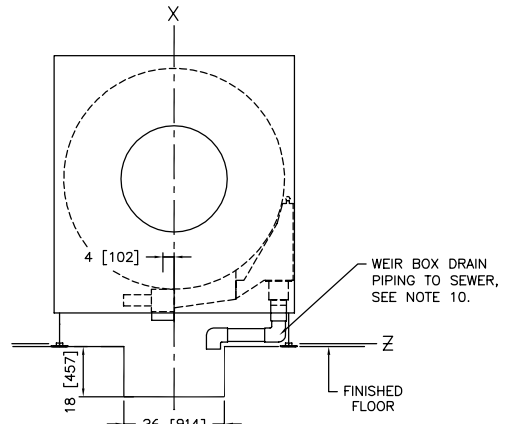
DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BD7632DTAE
2006514D

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FAX 504/469-1849, Email: mktg@milnor.com

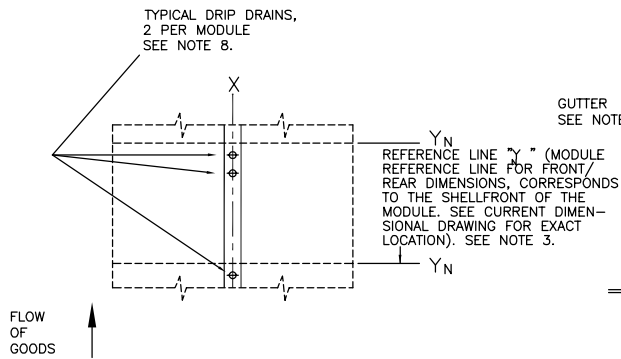


PLAN VIEW

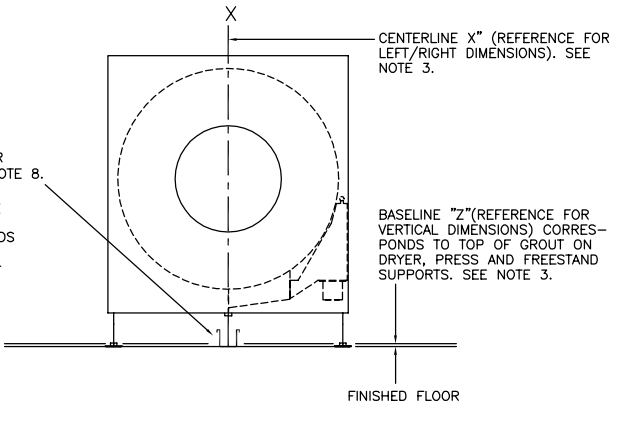


FRONT VIEW

CENTER DRAIN TROUGH
(SEE NOTES 9 & 10. SEE FIGURE 2.)

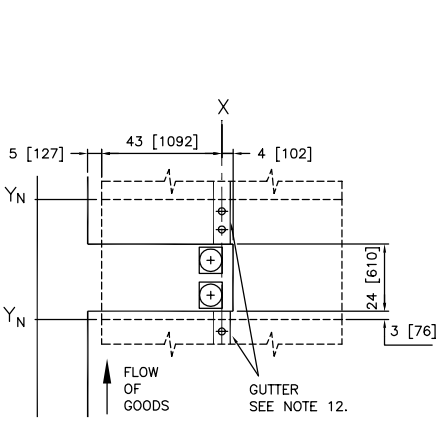


PLAN VIEW

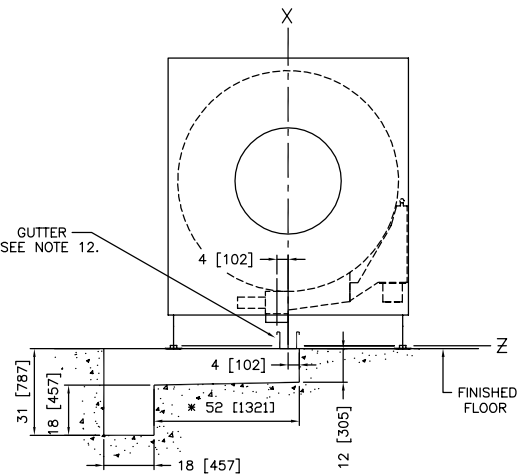


FRONT VIEW

GUTTER FOR DRIP DRAINS
(SEE NOTE 8. SEE FIGURE 1.)

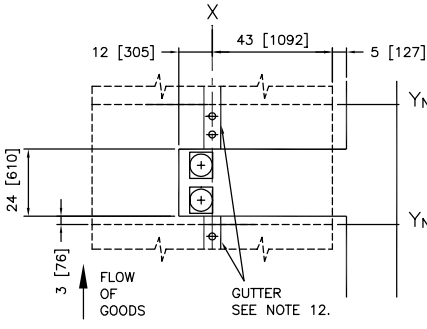


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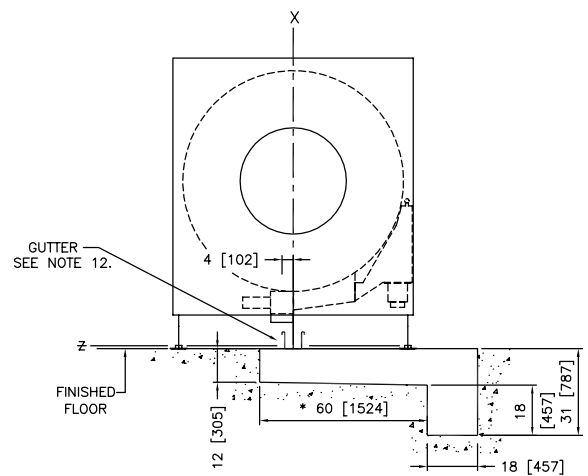


FRONT VIEW

LEFT DRAIN TROUGH
(SEE NOTES 11 & 12. SEE FIGURE 3.)

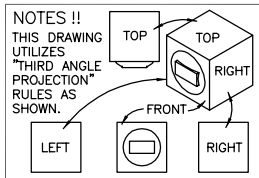


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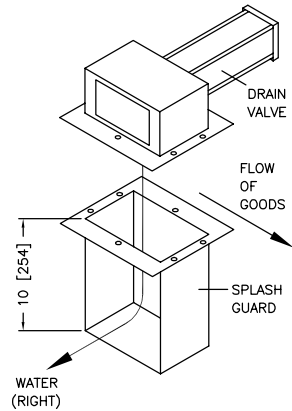
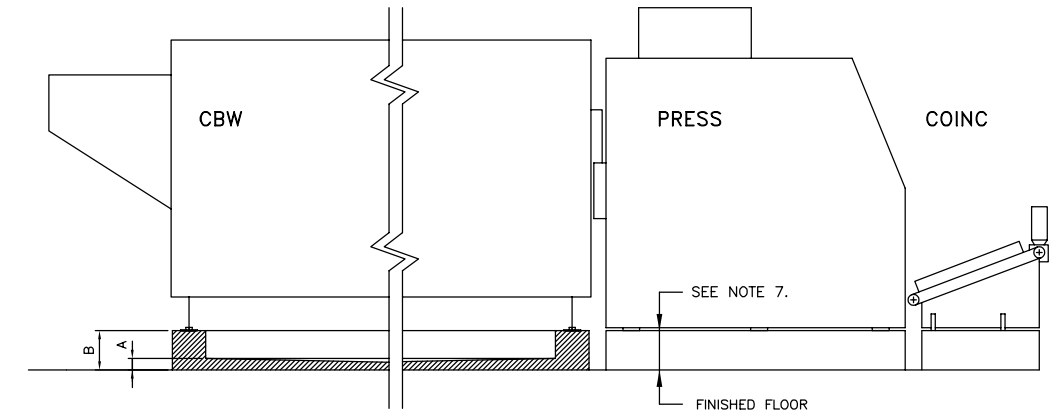


FRONT VIEW

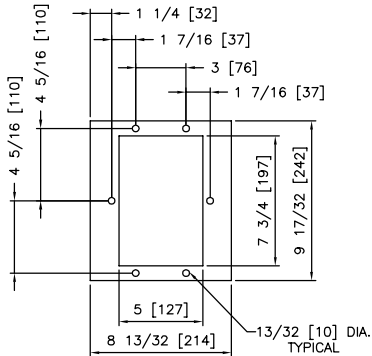
RIGHT DRAIN TROUGH
(SEE NOTES 11 & 12. SEE FIGURE 3.)



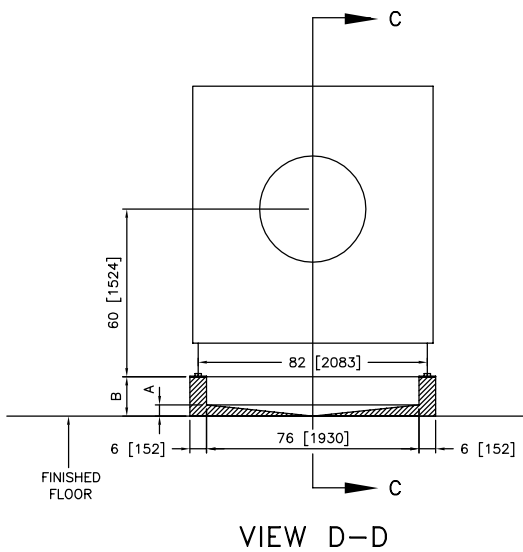
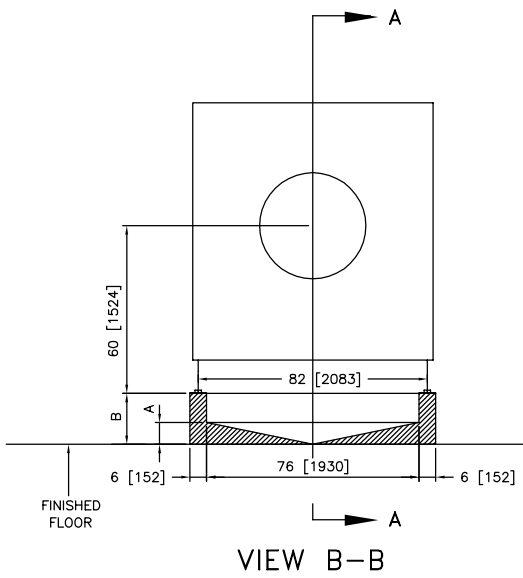
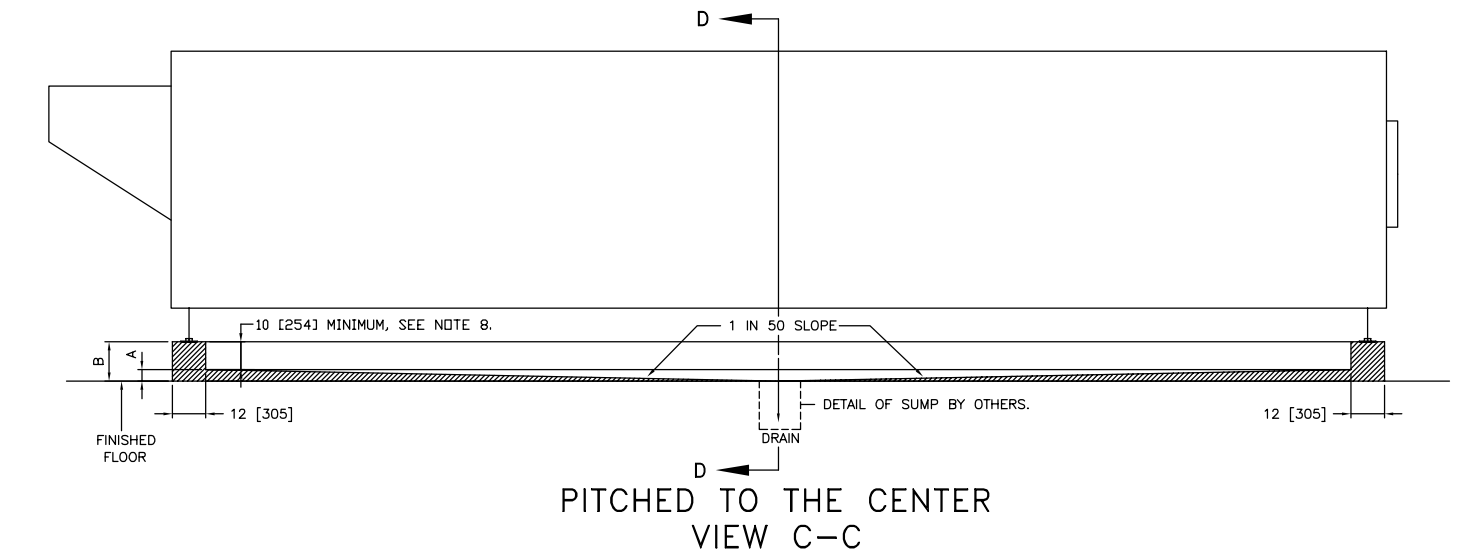
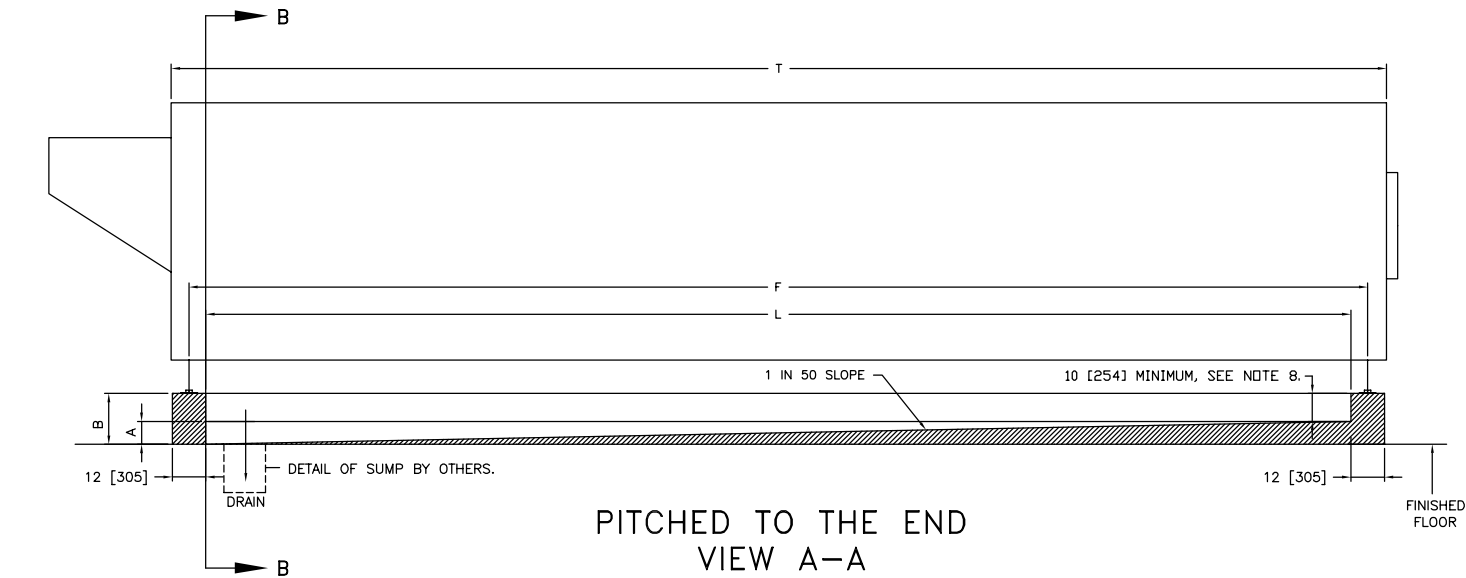
ONLY FOR 76032 TUNNELS (76032T2W-WORKWEAR & 76032C2W-MARK II)



RECOMMENDED DRAIN VALVE ELBOWS (SPLASH GUARDS) CONNECT TO THE BOTTOM OF DRAINS AND DIRECT THE WATER TO THE LEFT OR TO THE RIGHT, AWAY FROM SIDE OF TROUGHS. WHEN THERE ARE TWO DRAINS PER MODULE, ONE MAY POINT TO THE LEFT AND ONE TO THE RIGHT.



DETAIL: OPTIONAL DRAIN VALVE ELBOW (SPLASH GUARDS)
NOT TO SCALE



A = RISE REQUIRED TO OBTAIN A 1 IN 50 SLOPE
B = 10 [254] MINIMUM + "A"
T = TOTAL LENGTH OF TUNNEL FROM "Y" OF CBW TO FACE OF REAR COSMETIC PANEL
= 8 3/4 [222] + [43 [1092] X (N# - 1)] + 39 1/4 [997]
F = DISTANCE BETWEEN FIRST MODULE FEET AND LAST MODULE FEET
= "T" - 6 3/8 [162] - 6 7/8 [175]
L = INSIDE LENGTH OF DRAIN TROUGH
= "F" - 12 [305]
* N# = NUMBER OF MODULES

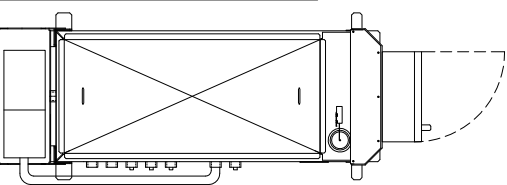
- NOTES**
- THIS DRAWING REPRESENTS RECOMMENDED DESIGNS FOR ABOVE GRADE DRAIN TROUGHS FOR USE WITH THE 76032T2W AND 76032C2W MACHINES. DRAIN TROUGH CONSTRUCTION IS THE RESPONSIBILITY OF OTHERS. THIS DRAWING CONVEYS NO EXPRESS OR IMPLIED WARRANTY WITH THE REGARDS TO THE CONSTRUCTION AND/OR SUITABILITY OF THESE DESIGNS FOR YOUR SPECIFIC INSTALLATION.
 - THE 10 [254] MINIMUM HIGH WALL OF THE DRAIN TROUGH IS SIZED SO THE DRAIN TROUGH CAN ACCEPT ALL OF THE WATER FROM THE CBW IF ALL DRAIN VALVES ARE OPENED AT THE SAME TIME.
 - IF CBW IS RAISED DIMENSION "B" TO ACCOMMODATE AN ABOVE GROUND DRAIN TROUGH, THE LOADING CONVEYOR, PRESS AND COINC MUST BE RAISED "B" DIMENSION AS WELL.
 - 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.
 - 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.
 - BASILINE "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.
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ABOVE GRADE DRAIN TROUGH 76032 TUNNEL

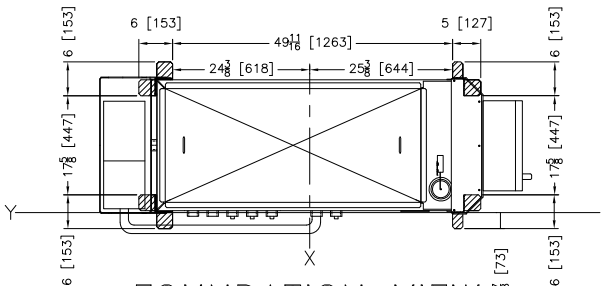
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2006514D

MILLER PELLERIN MILNOR CORPORATION
P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467-9591,
FAX 504/469-1849, Email: mktg@millnor.com

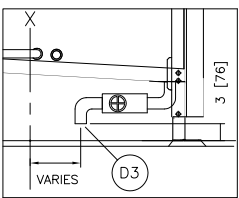
REUSE TANK G1 & G2 TUNNELS



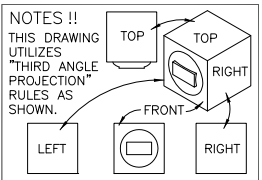
PLAN VIEW



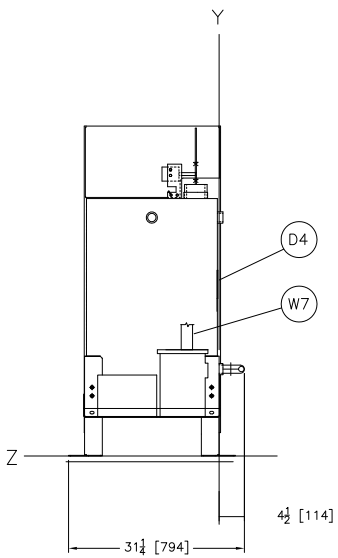
FOUNDATION VIEW



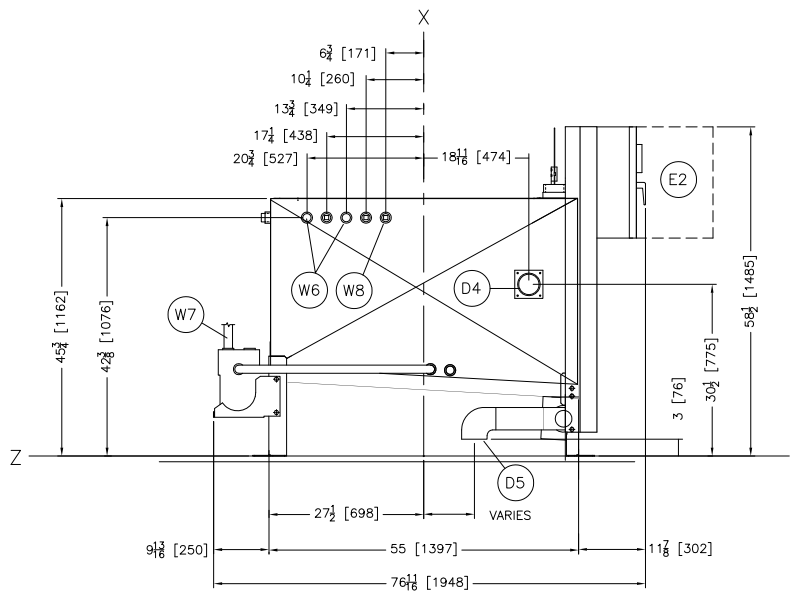
DETAIL



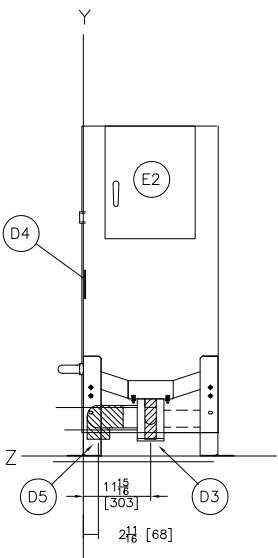
TUNNEL INTERFACE DIMENSION		
TUNNEL MODEL NO.	DIMENSION "A" INCHES	mm
76028	18 9/16	471
76032	18 5/16	465
76039 - M7E42C	18 1/8	460
76039 - 60K PRESS	27 1/2	699



LEFT VIEW



FRONT VIEW

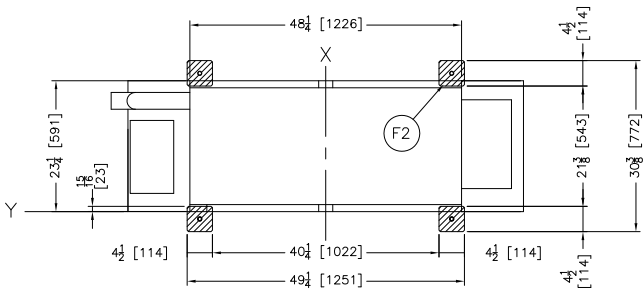


RIGHT VIEW

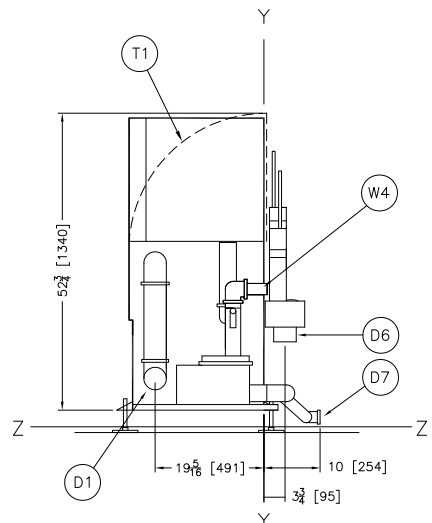
2-WIDE LINT FILTER TANK

WASH ZONE FLOW LIFTER & RINSE ZONE FLOW SPLITTER

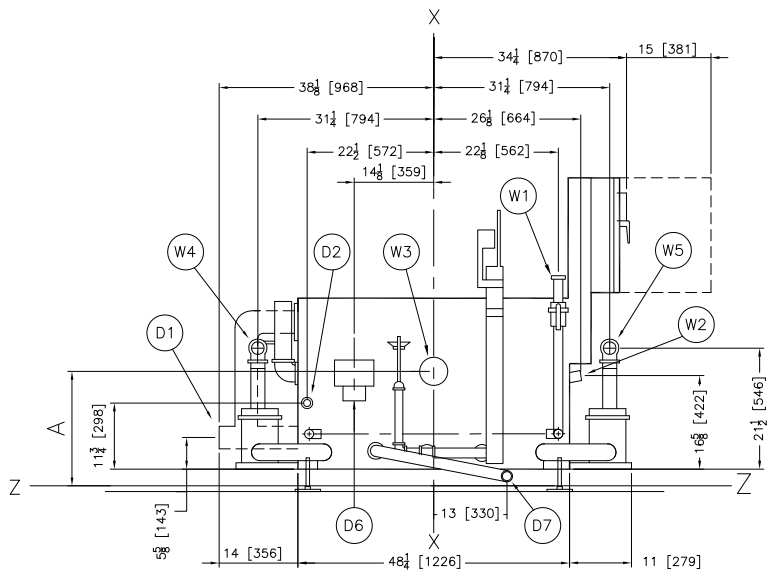
STANDARD OR WORKWEAR



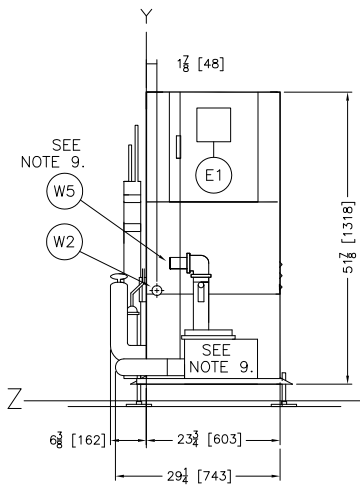
FOUNDATION VIEW



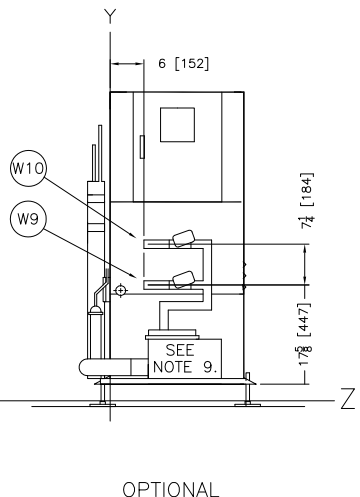
LEFT VIEW



FRONT VIEW



RIGHT VIEW



OPTIONAL
LONG DISTANCE
INCOMPATIBILITY

ITEM	LEGEND
W10	OPTIONAL LDI VALVES, TO REUSE TANK, 1-1/2" HOSE CONNECTION
W9	OPTIONAL LDI VALVES, TO SEWER, 1-1/2"HOSE CONNECTION
W8	FRESH WATER MAKE-UP INLET, 2" HOSE CONNECTION. PIPING SUPPLIED BY PMC.
W7	REUSE WATER TO LOAD CHUTE, 2" HOSE CONNECTION SUPPLIED BY PMC.
W6	REUSE WATER INLET, 2" HOSE CONNECTION SUPPLIED BY PMC.
W5	WATER TO REUSE MANIFOLD, 1 1/2" HOSE CONNECTION
W4	WATER TO CBW MODULE, 1 1/2" HOSE CONNECTION
W3	WATER FROM MODULE, 5" HOSE CONNECTION SUPPLIED BY PMC.
W2	WORKWEAR UPPER FLUSHING INLET, 1 1/4" NPT. FRESH WATER CONNECTION FROM FLUSHING MANIFOLD, PIPING SUPPLIED BY PMC.
W1	WORKWEAR BOTTOM FLUSHING INLET, 1 1/4" NPT. PIPING SUPPLIED BY PMC.
T1	DOOR SWING FOR LINT FILTER COVER
F2	TYPICAL, ADJUSTABLE FEET SUPPORT, FOUR PER FILTER.
E2	LOAD INTERFACE BOX
E1	WASH ZONE INTERFACE BOX (CONTROL BOX FOR WASH ZONE PUMP, SURPLUS WATER PUMP, WASH ZONE FILTER).
D7	OPTIONAL, DRAIN TO SEWER, 2" DIAMETER. HOSE TO SEWER SUPPLIED BY PMC.
D6	OPTIONAL, DRAIN TO SEWER, 4" OD. HOSE TO SEWER SUPPLIED BY PMC.
D5	OPTIONAL, AUTOMATIC 4" DRAIN TO SEWER, PIPING TO SEWER SUPPLIED BY PMC.
D4	OVERFLOW TO SEWER, 3" HOSE CONNECTION. PIPING SUPPLIED BY PMC.
D3	MANUAL DRAIN TO SEWER, 2-1/2" HOSE TO SEWER SUPPLIED BY PMC.
D2	WORKWEAR UPPER FLUSH OUTLET TO SEWER, 2" NPT. PIPING TO SEWER SUPPLIED BY PMC.
D1	DRAIN TO SEWER, 3" NPT.

NOTES

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

9 REUSE PUMP NOT USED ON WASH ZONE FLOW LIFTER.

8 ALL COMPONENTS SHOWN RECEIVE ELECTRICAL POWER FROM THE CBW. NO EXTERNAL POWER IS REQUIRED FOR ANCILLARY COMPONENTS.

7 SEE INSTALLATION DRAWING ON REVERSE FOR RELATIVE POSITION OF MACHINES, GROUT THICKNESS AND HEIGHT OFF FLOOR.

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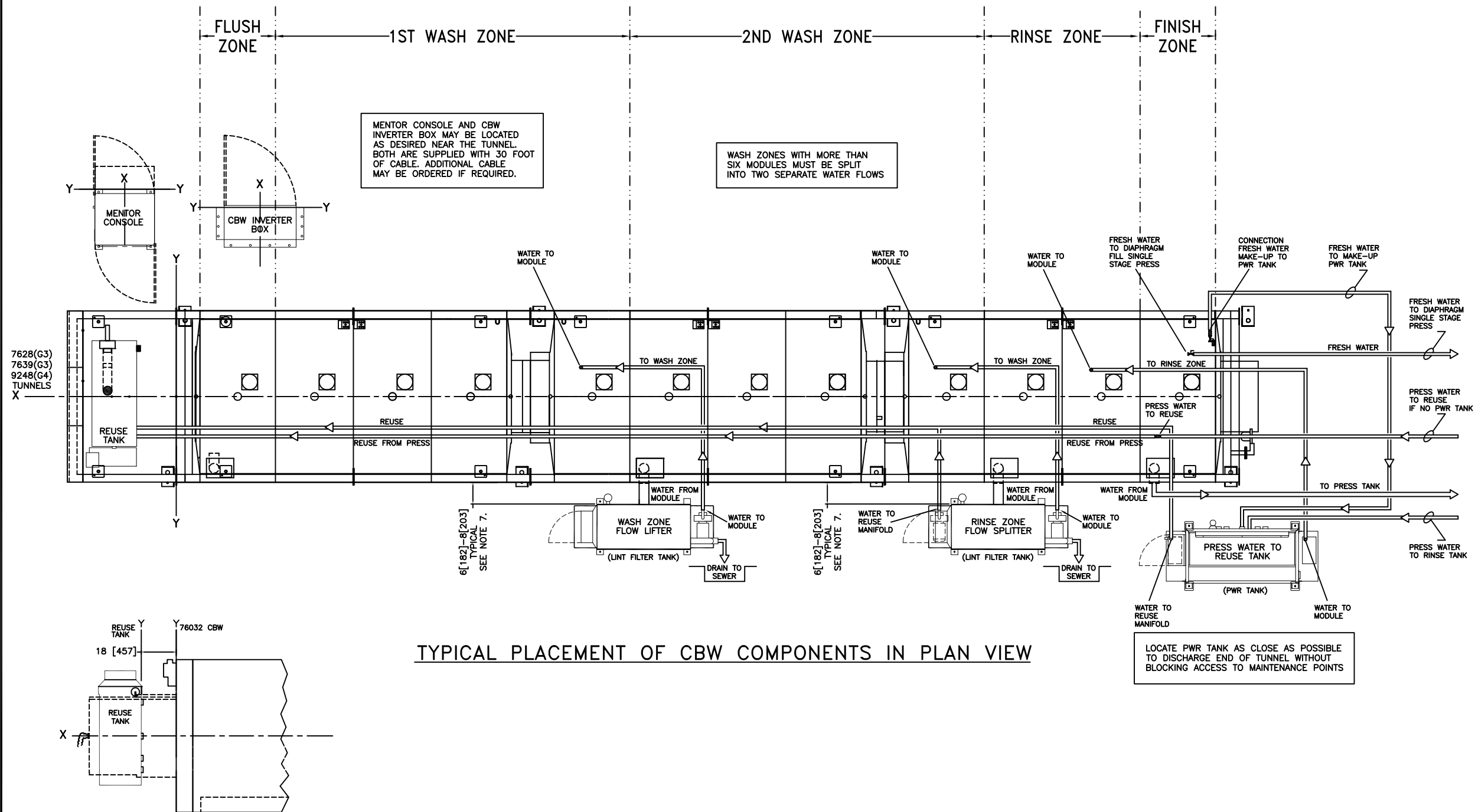
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CBW ANCILLARY COMPONENTS

DM 0 0.5M 1M DWG# BDCBWAC1CE 2006514D

MILNOR PELLERIN MILNOR CORPORATION

P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467-9591, FAX 504/469-1849, Email: mktg@milnor.com



TYPICAL PLACEMENT OF CBW COMPONENTS IN PLAN VIEW

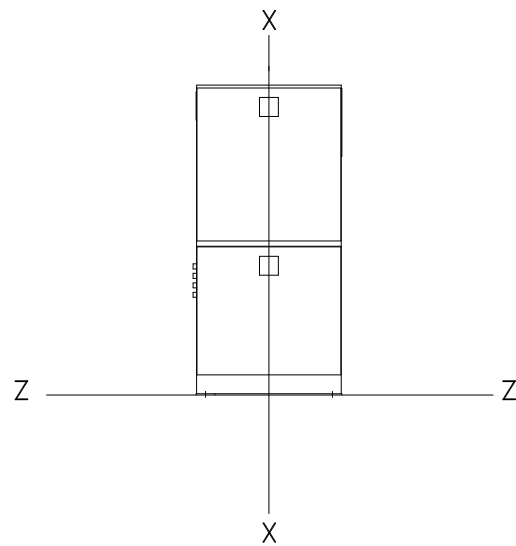
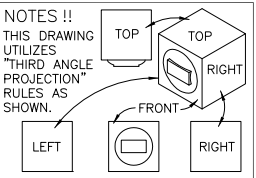
- NOTES**
- FOR SIZE AND LOCATION OF INLETS AND OUTLETS, SEE INDIVIDUAL DIMENSIONAL DRAWINGS OF TUNNEL, TANKS, AND ELECTRICAL CONTROL CABINETS.
 - DO NOT PRE-PIPE ANY CLOSER THAN 60 [1524].
 - THIS DRAWING GOOD FOR BOTH STANDARD LINEN AND WORKWEAR CBW MODELS.
 - WASH ZONES WITH SIX OR MORE MODULES MUST BE SPLIT INTO TWO SEPARATE WATER FLOWS.
 - RAISE THE FLOW SPLITTER/FLOW LIFTER IF REQUIRED TO AVOID CRIMPING OF THE MODULE TO TANK HOSE. HOWEVER, PROVIDE A MINIMUM 1 TO 12 SLOPE OF THE HOSE TO INSURE IT DRAINS TO THE TANK. ALSO, THE TANK WEIR HEIGHT MUST BE 1 [25] MINIMUM BELOW THE MODULE HEIGHTS.
 - THE MENTOR CONSOLE, INVERTER BOX, REUSE TANK, LINTER FILTER AND PWR TANKS MAY BE GROUDED AS SHOWN BUT THIS IS NOT REQUIRED, AS LONG AS THEY ARE INSTALLED ON A FLAT SURFACE. BASELINE "Z" OF THESE COMPONENTS NOT COINCIDE WITH BASELINE "Z" OF THE CBW.
 - ALL COMPONENTS SHOWN RECEIVE ELECTRICAL POWER FROM THE CBW. NO EXTERNAL POWER IS REQUIRED FOR THESE ANCILLARY COMPONENTS.
 - PIPING TO TUNNEL'S MAIN WATER, STEAM AND AIR CONNECTIONS IS NOT SUPPLIED. ALL PIPING UNDER THE TUNNEL, TO AND FROM THE LINT FILTER, PWR AND REUSE TANKS, TO AND FROM THE PRESS TO THE TUNNEL OR TANKS, IS SUPPLIED BY PMC.
 - DRAWING DEPICTS THE PREFERRED PLACEMENT OF EQUIPMENT. IF THE SITE DICTATES THAT THE EQUIPMENT PLACEMENT MUST VARY GREATLY FROM THAT SHOWN HERE, CONSULT THE MILNOR FACTORY.
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INSTALLATION CBW COMPONENTS

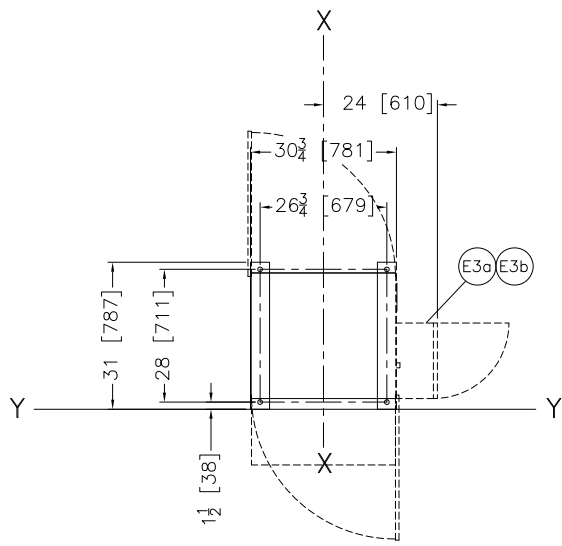
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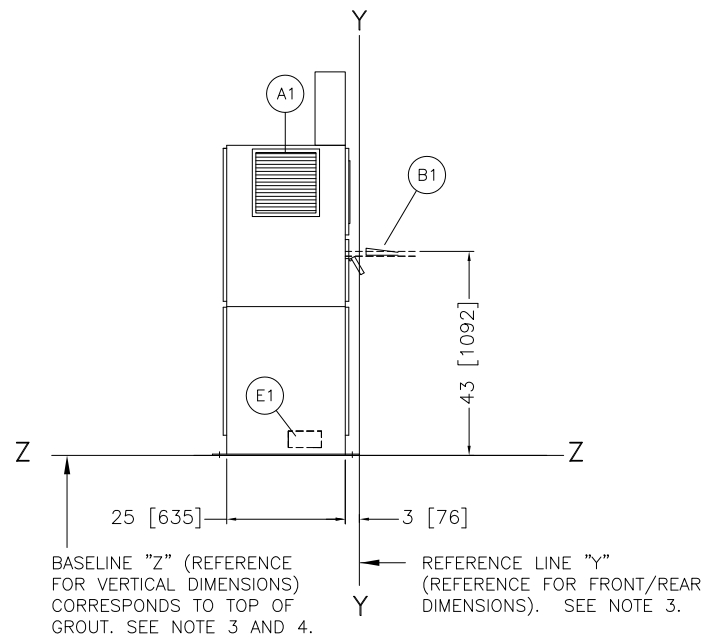
MILNOR
PELLERIN MILNOR CORPORATION
P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467-9591,
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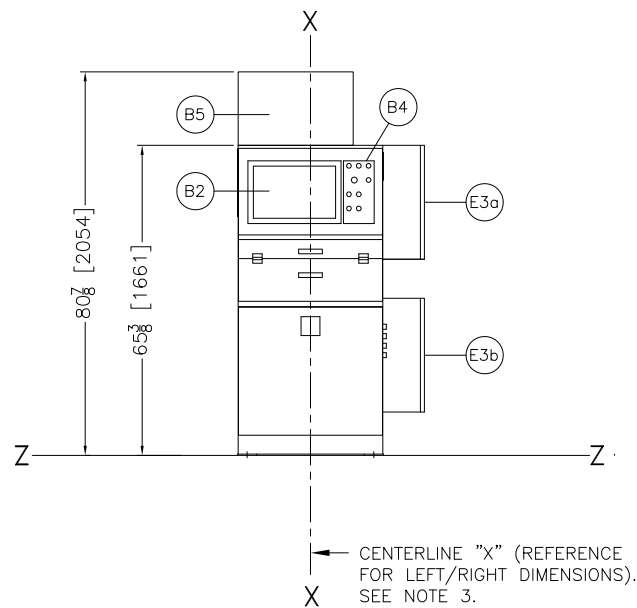
REAR VIEW



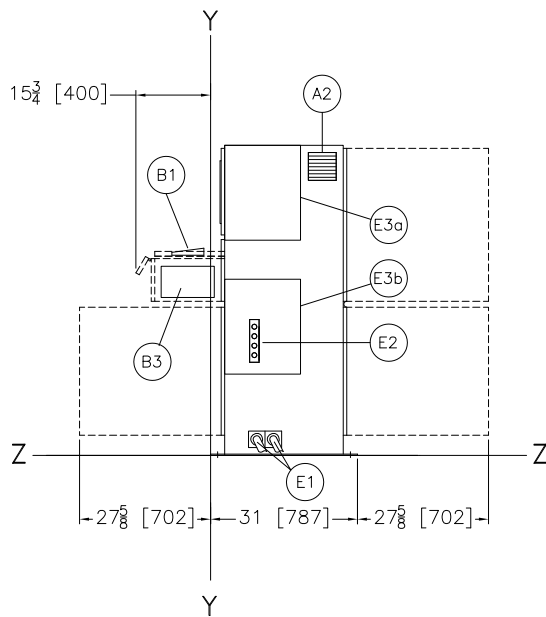
FOUNDATION
PLAN VIEW



LEFT VIEW



FRONT VIEW

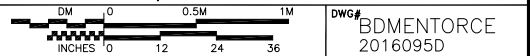


RIGHT VIEW

E3a	MultiTrac BOX (ONLY WHEN DRYER SHUTTLE SOFTWARE IS SPECIFIED)
E3b	ADDITIONAL MultiTrac BOX, REQUIRED IF MORE THAN NINE DEVICES.
E2	CONWA LOAD CELL CONNECTION (MENTOR ONLY)
E1	POWER & CONTROL WIRING TO TUNNEL, CONNECTION ON THE RIGHT OR LEFT(SHOWN DASHED)
B5	FIRE EYE DISPLAYS, STANDARD WITH RATIO AIR/THERMJET BURNER DRYERS
B4	CONTROL PANEL
B3	PRINTER COMPARTMENT
B2	MONITOR
B1	KEYBOARD COMPARTMENT
A2	EXHAUST VENT
A1	FRESH AIR SUPPLY VENT
ITEM	LEGEND

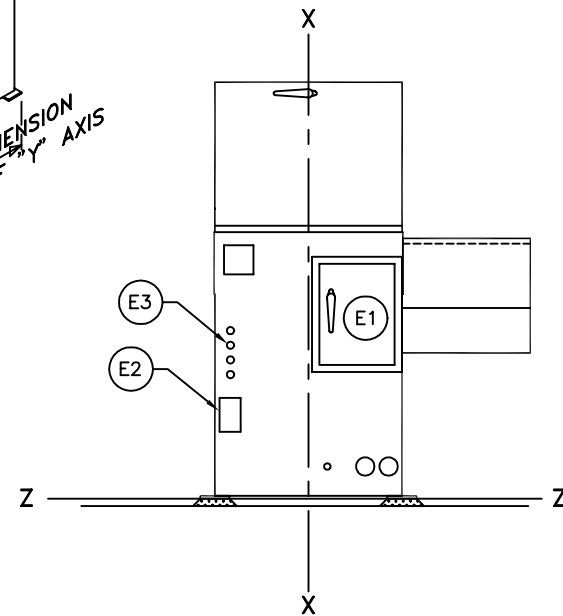
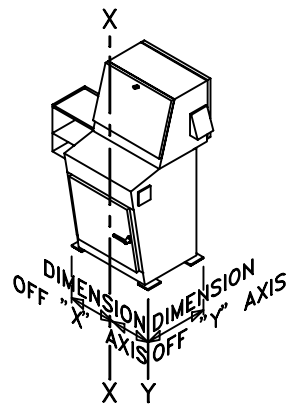
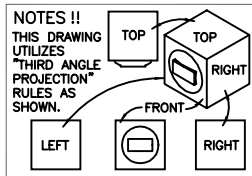
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4	BASELINE "Z" IS THE SAME FOR ALL MILNOR MACHINES AND IS SHOWN ON ALL DIMENSIONAL DRAWINGS. THE DISTANCE BETWEEN BASELINE "Z" AND THE FINISHED FLOOR MAY VARY (WITH CHANGES IN FLOOR HEIGHT) AS REQUIRED TO INSURE THAT BASELINE "Z" IS HORIZONTAL AND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

MENTOR / MultiTrac CONSOLE

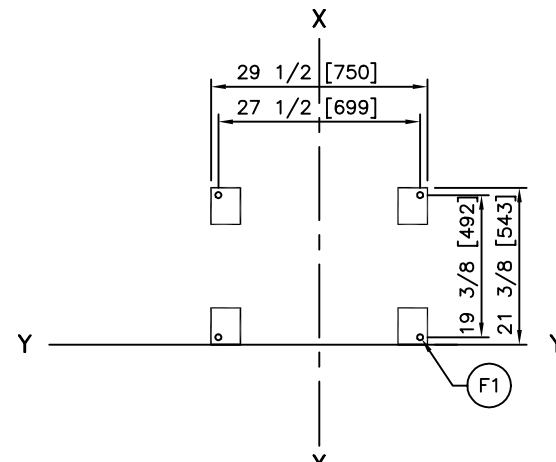


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2016095D

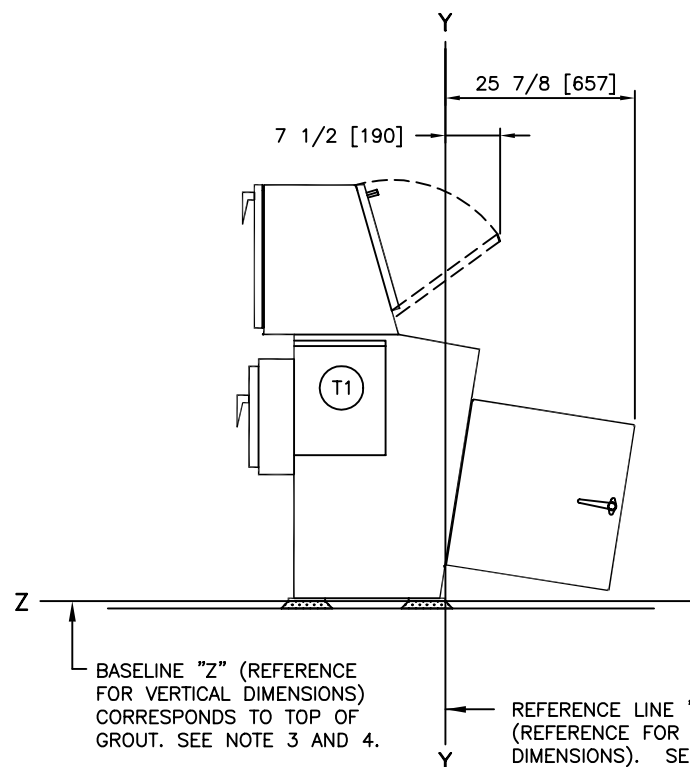
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P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467-9591,
FAX 504/469-1849, Telex ITT 460124/PELM UI, Cable PELMILNOR



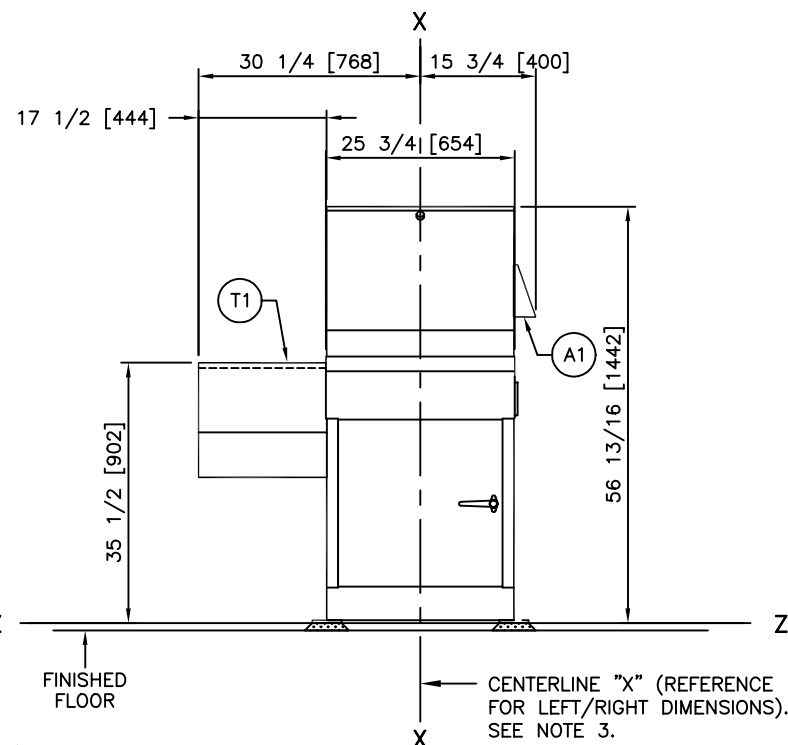
REAR VIEW



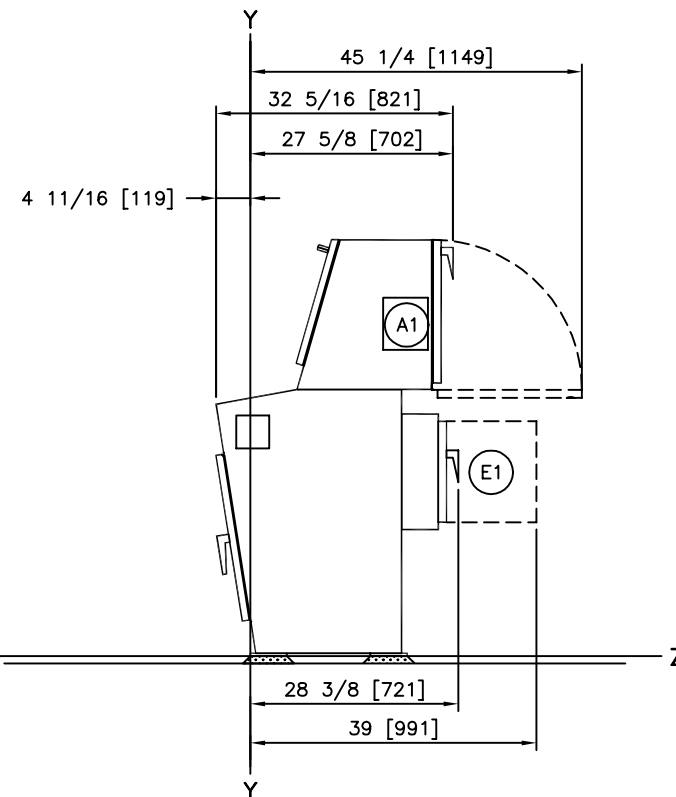
FOUNDATION PLAN VIEW



LEFT VIEW



FRONT VIEW

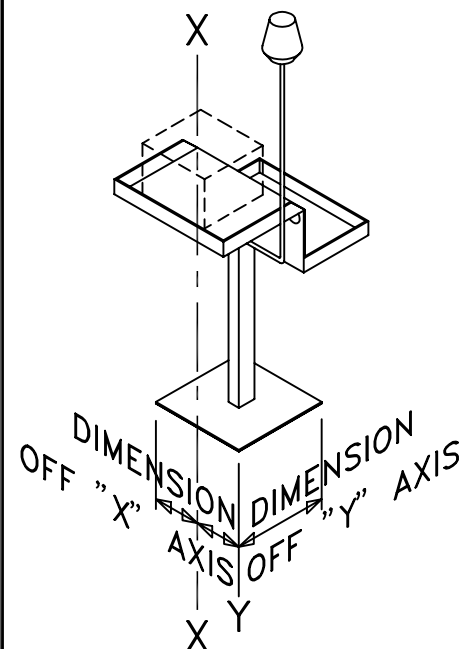


RIGHT VIEW

ITEM	LEGEND
T1	PRINTER TABLE
F1	ANCHOR BOLT HOLES FOR 3/4" DIAMETER ANCHOR BOLTS.
E3	MILDATA CONNECTION
E2	110/120VAC RECEPTICAL 2 AMP MAXIMUM.
E1	ELECTRICAL POWER ENABLE BOX, MILTRON MODELS ONLY.
A1	AIR VENT

ITEM	LEGEND
9	DO NOT PRE-PIPE ANY CLOSER THAN 60" [1524].
8	ALL COMPONENTS SHOWN RECEIVE ELECTRICAL POWER FROM THE CBW, NO EXTERNAL POWER IS REQUIRED FOR ANCILLARY COMPONENTS.
7	SEE INSTALLATION DRAWING, BDCBWACIAB, FOR RELATIVE POSITION OF MACHINES, GROUT THICKNESS AND HEIGHT OFF FLOOR.
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 MILTRON 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.
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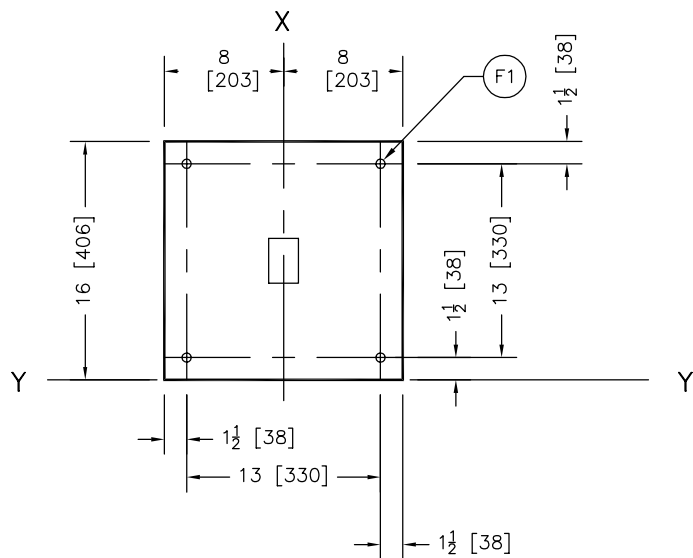
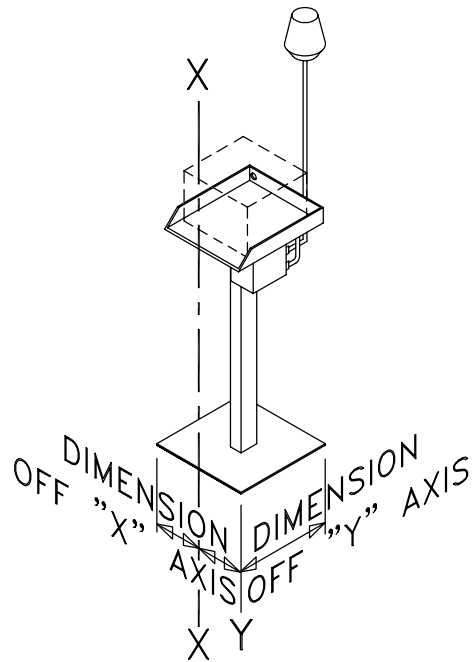
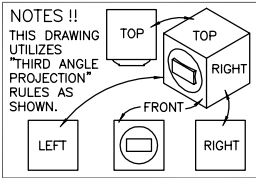
MILTRON/MILTRAC CONSOLE	
SCALE 1" = 1'-0"	DWG# BDMILCABBE 94521D
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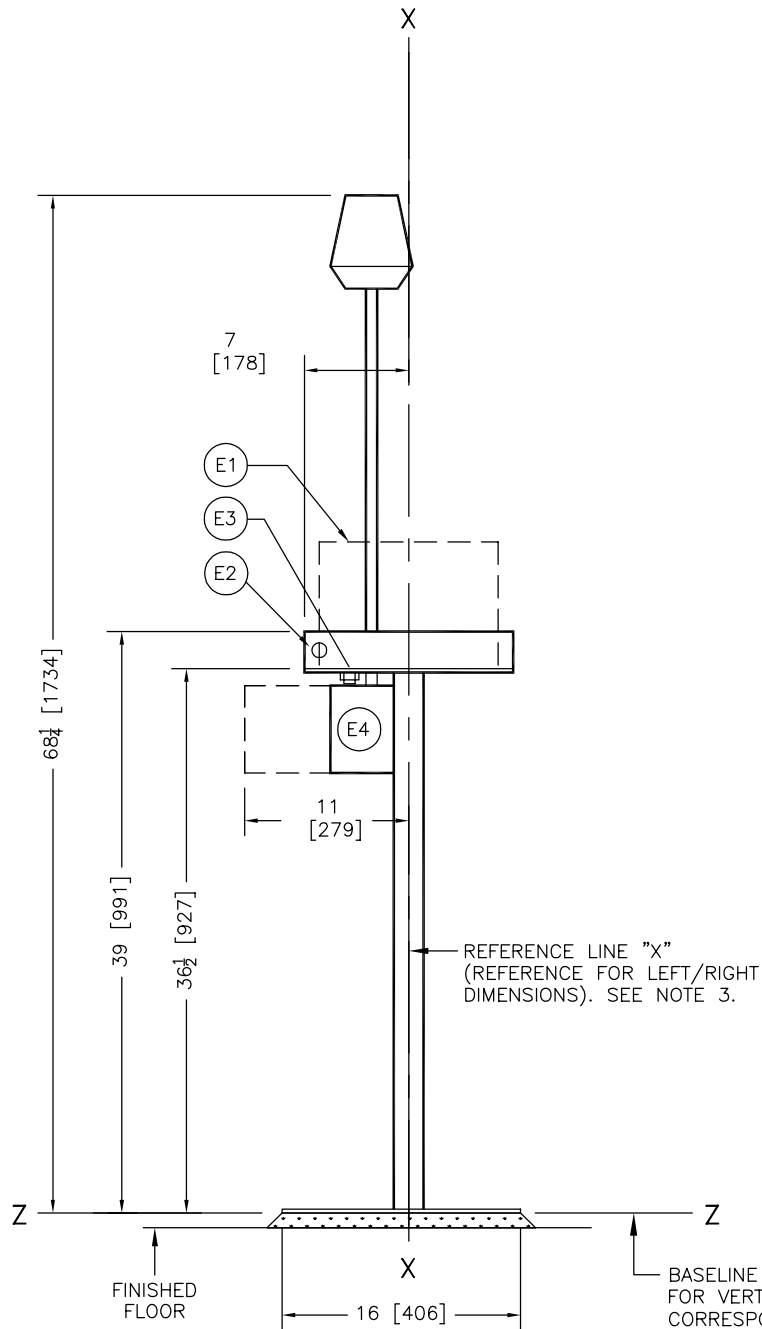
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94521D



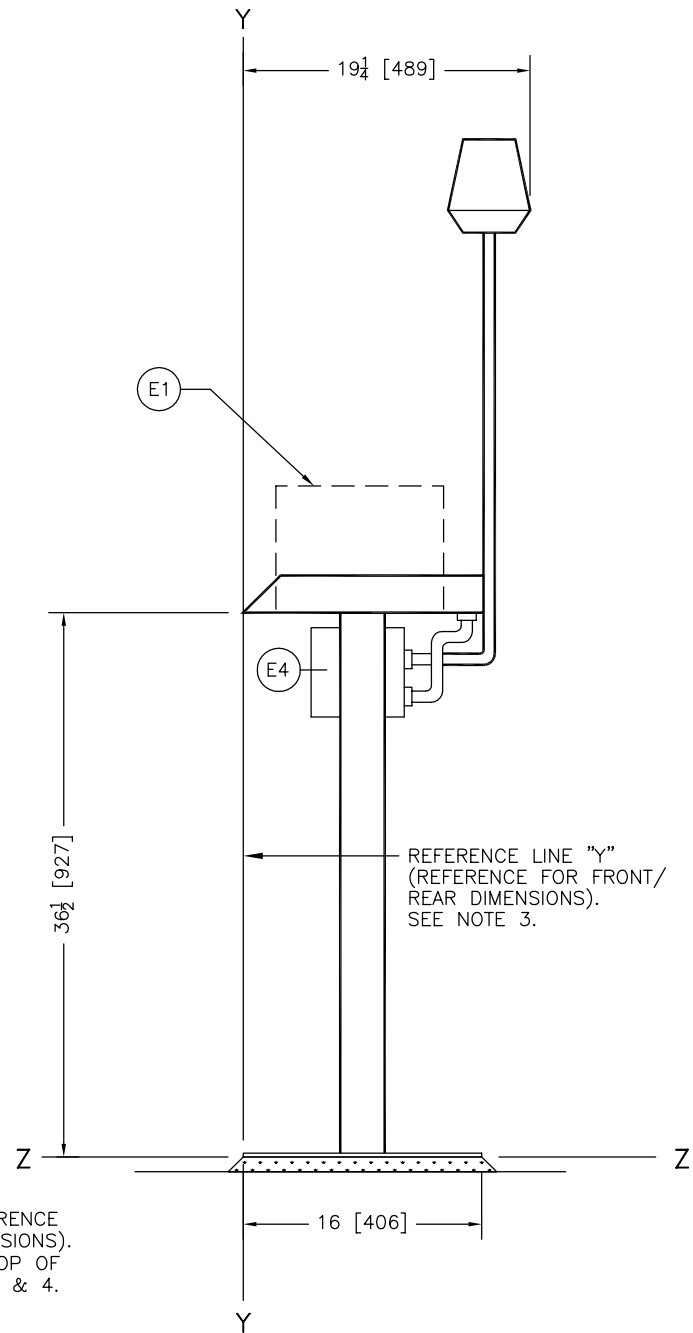
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FOUNDATION VIEW



FRONT VIEW



RIGHT VIEW

F1	FOUR, 5/8" [16] DIAMETER ANCHOR BOLT HOLES. ANCHOR BOLTS NOT SUPPLIED BY PMC.
E4	JUNCTION BOX
E3	CABLE CONNECTION. CONNECTS TO E4.
E2	ACCESS HOLE FOR ROLL TICKET PRINTER ELECTRICAL
	110/120VAC POWER CABLE.
E1	TICKET PRINTER (DASHED)

LEGEND

- NOTES
- MINIMUM 1" [25] THICK BED OF GROUT RECOMMENDED BUT NOT REQUIRED.
 - 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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 - NUMBERS IN BRACKETS [] DENOTE DIMENSIONS IN MILLIMETERS.
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TICKET PRINTER STAND

SCALE 1" = 6"

DWG# BDTICKETAE
2005525D

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