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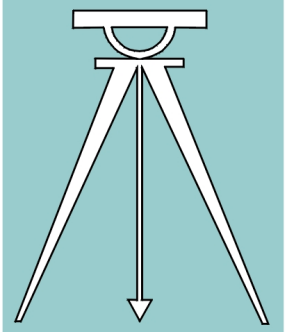
Installation—

Single Stage Press MP1540, MP1550, MP1603, MP1604, MP1A03 & MP1A50



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

PELLERIN MILNOR CORPORATION POST OFFICE BOX 400, KENNER, LOUISIANA 70063-0400, U.S.A.

Please Read

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

When communicating with the Milnor factory regarding this manual, please also provide the other identifying information shown on the cover, including the publishing system, access date, and whether the document ECN's are the latest available or exact.

Best Available Information—This manual contains the most accurate and complete information available when Milnor shipped your machine/software. Products are occasionally released with the best available documentation, even though the device identification (model numbers, etc.) on the documentation does not explicitly include the delivered model. In such cases, use the documentation provided.

Although unlikely, incorrect manuals may have been shipped with your machine. If you believe you received the wrong manuals, or if you need specific information about any aspect of your machine not addressed in the provided documentation, contact the Milnor Customer Service group.

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

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Single Stage Press MP1540, MP1550, MP1603, MP1604, MP1A03 & MP1A50

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, FOB our factory. We retain the right to require inspection of the parts claimed defective in our factory prior to repairing or replacing same. We will not be responsible, or in any way liable, for unauthorized repairs or service to our equipment, and this warranty shall be void if the equipment is 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.

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BIUUUD19 (Published) Book specs- Dates: 20081231 / 20081231 / 20081231 Lang: ENG01 Applic: UUU

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

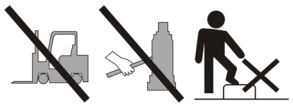
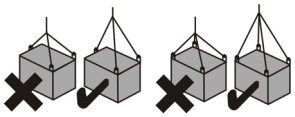
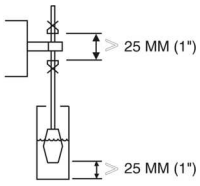
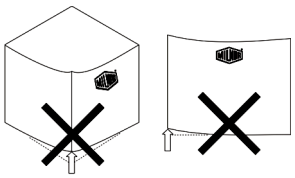
— End of BIUUUD19 —

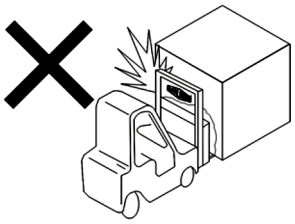
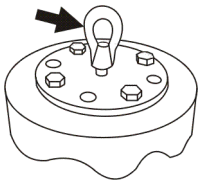
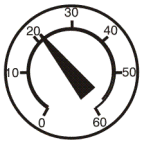
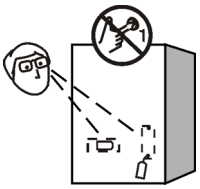
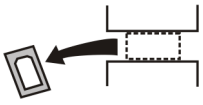
Understanding the Tag Guidelines for the Models Listed Below

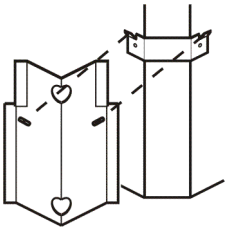
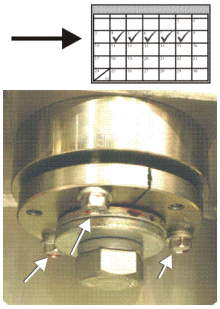
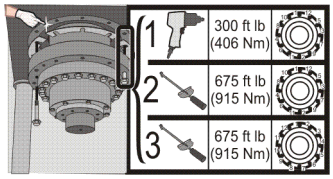
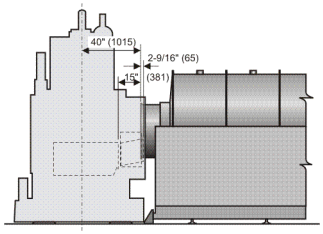
MP1540CL	**MP1540CR**	**MP1540L-**	**MP1540R-**	**MP1550CL**	**MP1550CR**	**MP1550L-**
MP1550R-	**MP1556CL**	**MP1556CR**	**MP1556L-**	**MP1556R-**	**MP1601CL**	**MP1601CR**
MP1601LF	**MP1601R-**	**MP1601RT**	**MP1602CL**	**MP1602CR**	**MP1602LF**	**MP1602RT**
MP1603CL	**MP1603CR**	**MP1603L-**	**MP1603R-**	**MP1604CL**	**MP1604CR**	**MP1604L-**
MP1604R-	**MP1640CL**	**MP1640CR**	**MP1640L-**	**MP1640R-**	**MP1656CL**	**MP1656CR**
MP1656L-	**MP1656R-**	**MP1A03CL**	**MP1A03CR**	**MP1A03L-**	**MP1A03R-**	**MP1A50CL**
MP1A50CR	**MP1A50L-**	**MP1A50R-**	**MP1A56CL**	**MP1A56CR**	**MP1A56L-**	**MP1A56R-**

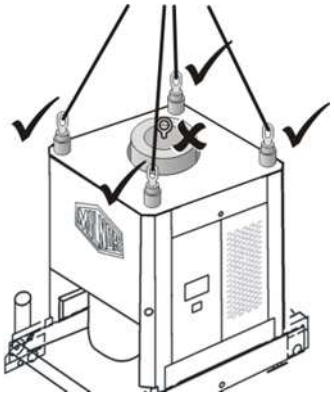
Several installation guidelines and precautions are displayed symbolically, on tags placed at the appropriate locations on the machine. Some are tie-on and others are adhesive tags. Tie-on tags and white, adhesive tags may be removed after installation. Yellow adhesive tags must remain on the machine.

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.
	B2TAG94079: Rig for crane lifting (either 3-point or 4-point, depending on the number of lifting eyes provided) using a steep angle on the chains (closer to vertical than horizontal).
	B2TAG94081: Motor must rotate in this direction. On single motor washer-extractors and centrifugal extractors, the drive motor must turn in this direction during draining and extraction. This tag is usually wrapped around a motor housing. If the motor turns in the opposite direction when the machine is first tested, the electrical hookup is incorrect and must be reversed as explained in the schematic manual.
	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.
	B2TAG98037: Read the installation instructions. Do not attempt to lift the machine with this component. Do not remove this component unless the ram cylinder is mounted to the top plate, the ram is raised fully **and the platen safety bars are installed**. Use this component to raise the ram cylinder for mounting, during installation.
22 - 25 psi **1.54 - 1.75 kg/cm²** 	B2TAG98039: Verify that discharge door pressure is within the range shown.
	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.

Display or Action	Explanation
	B2T2002016: Store safety stands as shown when not in use.
	B2T2003014: Make sure that you use the specified hydraulic oil.
	B2T2004028: Read the service instructions. Retighten the can bushing bolts to the torque shown after each of the first five days of operation following installation.
	B2T2007017: Read the installation instructions. Install the 4-piece gasket between ram the flange and the top plate. Torque the bolts three times as shown.
	B2T2008006: When installing a G3 CBW tunnel washer behind a 1-stage press, maintain the dimensions shown.

Display or Action	Explanation
	B2T2009017: Lift the press frame from the eye bolts on the four columns. Never attempt to lift the press from the eye bolt on top of the ram cylinder. This eye bolt is used to raise the ram into position.

— End of BIUUUI02 —

Section 1

Safety Information

BIUUUS27 (Published) Book specs- Dates: 20051111 / 20051111 / 20060323 Lang: ENG01 Applic: PPM

Safety—Single Stage Membrane Press

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.

CAUTION 3: Crush and Entrap Hazards—The bell will crush your body or limbs if it descends while you are under it. Bell can descend with power off or on.

- Do not reach into the machine housing or frame.
- Use the factory supplied gaff-hook to move objects inside the housing.

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.

CAUTION 4: Fall, Entangle, and Strike Hazards—Machine motion can cause you to fall or become entangled in or struck by nearby objects if you stand, walk, or ride on the machine. Shuttles and conveyor belts move automatically.

- Keep yourself and others off of machine.

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

4.1. Damage and Malfunction Hazards

4.1.1. Hazards Resulting from Inoperative Safety Devices

WARNING 5: 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 6: Electrocution and Electrical Burn Hazards—Electric box doors—Operating the machine with any electric box door unlocked can expose high voltage conductors inside the box.

- Do not unlock or open electric box doors.

WARNING 7: 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.

4.1.2. Hazards Resulting from Damaged Mechanical Devices

WARNING 8: 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.

4.2. Careless Use Hazards

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

WARNING 9: 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 10: Goods Damage and Wasted Resources—Entering incorrect cake data causes improper processing, routing, and accounting of batches.

- Understand the consequences of entering cake data.

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

WARNING 11: Electrocution and Electrical Burn Hazards—Contact with electric power can kill or seriously injure you. Electric power is present inside the cabinetry unless the main machine power disconnect is off.

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

WARNING 12: 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.

CAUTION 13: Crush Hazards—The bell will crush your body or limbs if it descends while you are under it. Bell can descend with power off or on.

- Secure both red safety stands in accordance with the instructions furnished, then lock out and tag out power at the main machine disconnect before working under the bell.

— End of BIUUUS27 —

Section 2

Installation

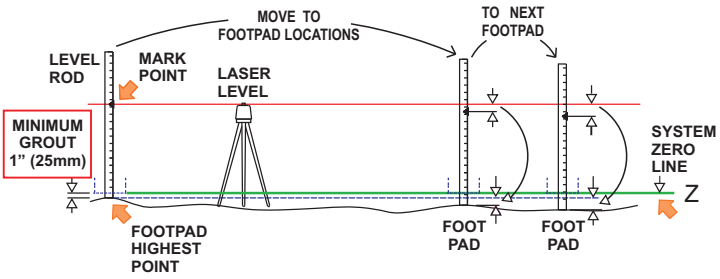
ATTENTION INSTALLERS!

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

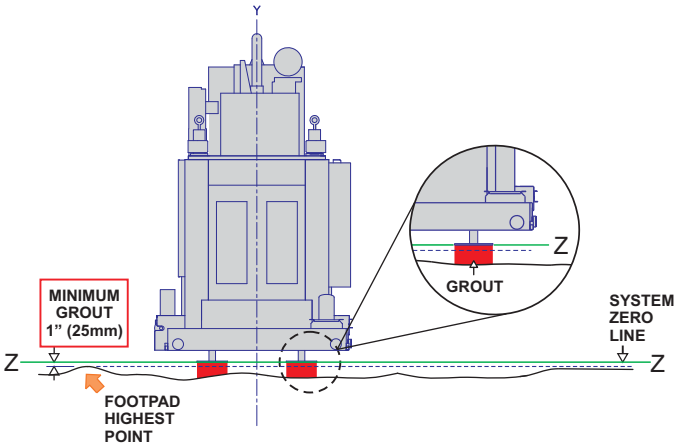
- Establish the System Zero Line or Z.
- Refer to the dimensional drawings of the various machines for required heights.

FLOOR IS UNEVEN



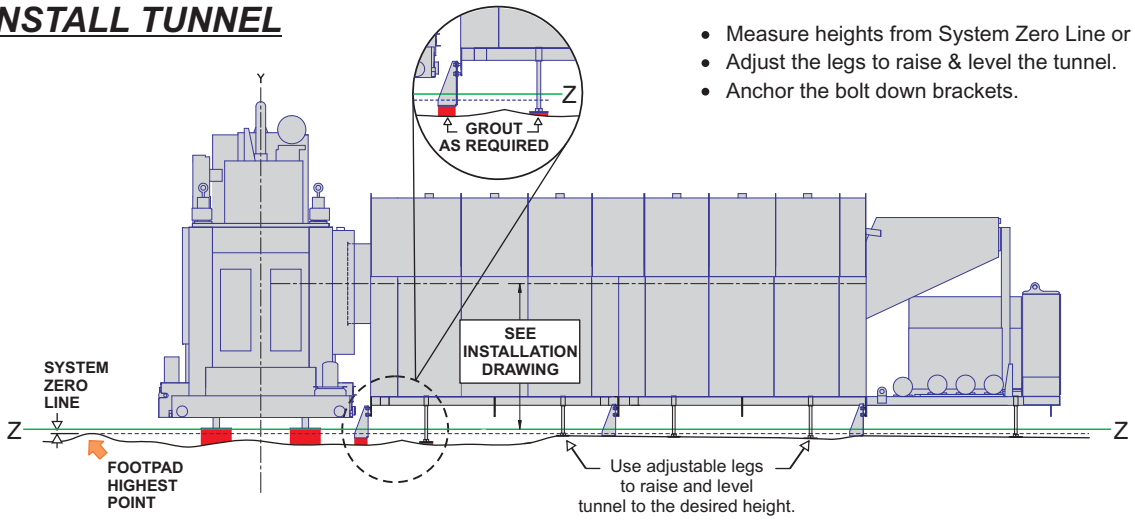
- Establish System Zero Line or Z.
- Find highest point in factory floor where footpads will be located.
- System Zero Line or Z is 1" above highest point.

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.

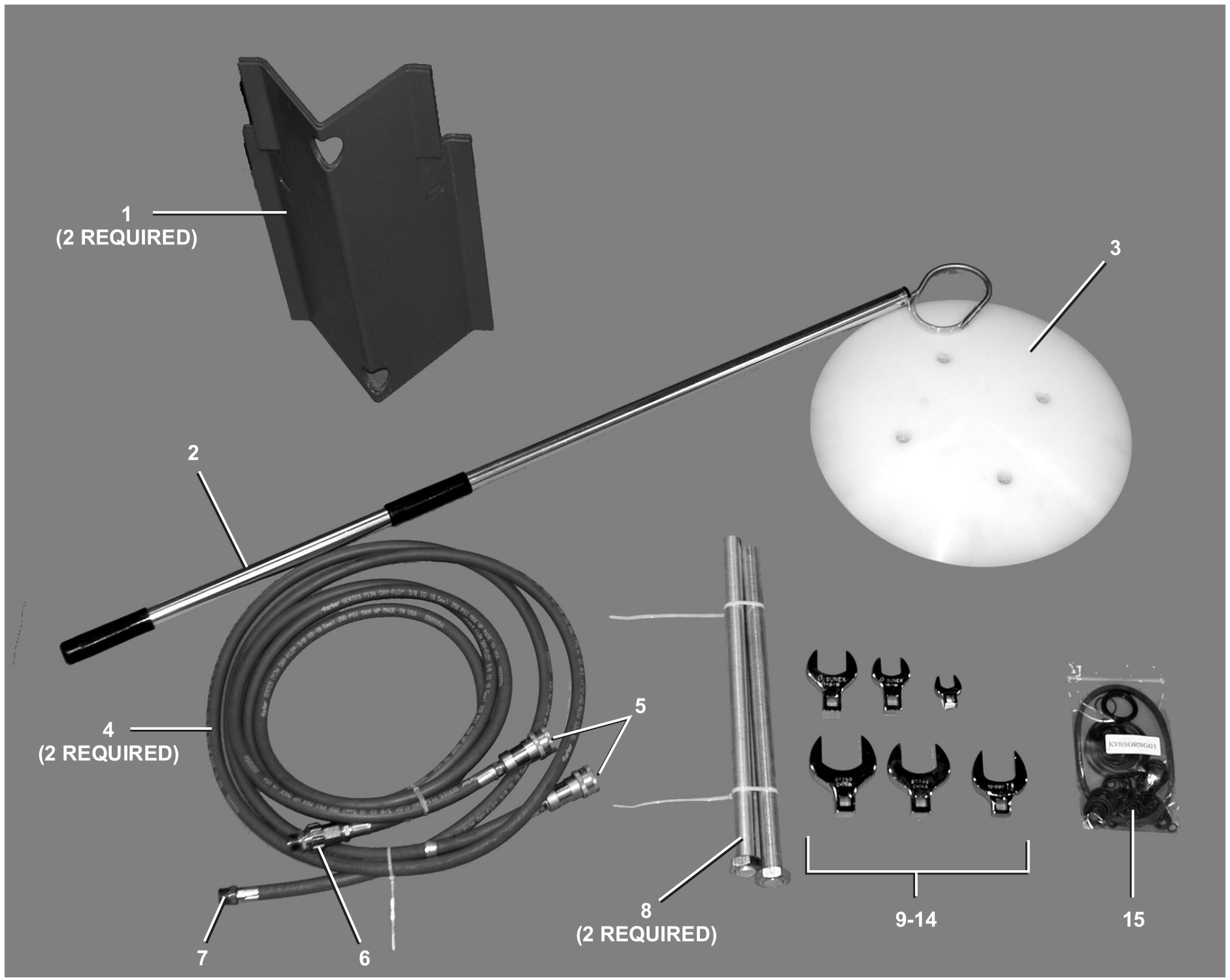
B2T2010023/2010523A

Ship With

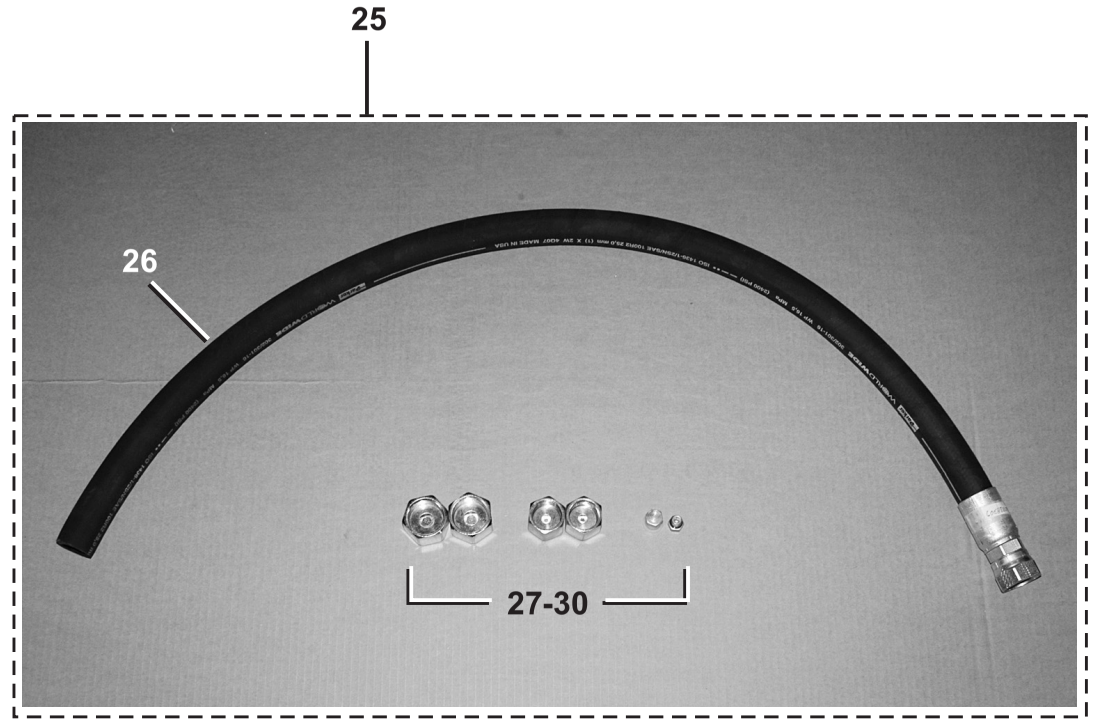
MP1603, MP1604, MP1A03CL,CR,L,R

Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.



PLUGS
ITEMS 16-24
(NOT SHOWN)
SEE PARTS LIST



Pellerin Milnor Corporation
P. O. Box 400, Kenner, LA 70063-0400

Litho in U.S.A.

Parts List—Ship With

Find the correct assembly first, then find the needed components. The item letters (A, B, C, etc.) assigned to assemblies are referred to in the "Used In" column to identify which components belong to an assembly. The item numbers (1, 2, 3, etc.) assigned to components relate the parts list to the illustration.

Used In	Item	Part Number	Description	Comments
			----------ASSEMBLIES----------	
	A	AHT10031	SHIP WITH MACHINE-SSPRESS	MP1603, MP1604
	B	AHT10036	SHIP WITH MACHINE-MP1A03	MP1A03
	C	A80DF002	DIAPHRAM FILL ASSY SHIPWITH	MP1603, MP1604, MP1A03
			----------COMPONENTS----------	
A	1	07 30093	SAFETY SUPPORT-BELL TF60	
B	1	07 10385	SAFETY STAND-48"CAN MP1A03	
all	2	27A900	ALUM. GAFF 5/16"DIAX48"L W/3"	
A	3	X7 10055	MEMBRANE SUPPORT DOME-UHMW	
B	3	X7 10055A	MEMBRANE UHMW DOME-MP1A03	
C	4	60E077B120	DIA FILLHOSE 120 LG+ENDS	
C	5	52XY0GP00X	3/8"QUICK DISCONN.FEM#H3-62	
C	6	51E513	3/4HX1/2FP-SWIVEL AND#5AS-12D	
C	7	51E508A	GARDEN HOSE-BRASS 1/2MP X 3/4H	
All	8	17R036A18A	THRD ROD 1-14X18" ZINC	
all	9	97G006C	11/16" X 3/8"DR CROWSFOOT	
all	10	97G010C	15/16" X 1/2"DR CROWSFOOT	
all	11	97G014C	1-3/8"X 1/2"DR CROWSFOOT	
all	12	97G021A	1+1/2" X 1/2" DR CROWSFOOT	
all	13	97G022C	1-5/8" X 1/2"DR CROWSFOOT	
all	14	97G023C	1-7/8" X 1/2"DR CROWSFOOT	
all	15	KYSSORNG01	SS PRESS HYD ORING ASST KIT	
all	16	51P081	PLUG TAPERED 5.7"CAPLUG#T1092	
all	17	51P082	PLUGCAPNOTHD 1.437"CAPLUG#EC23	
all	18	51P083	PLUGCAPNOTHD 1.187"CAPLUG#EC19	
all	19	51P084	PLUGTHD.3/4"O.R.CAPLUG#PDF-120	
all	20	51P085	PLUGTHD.1/4"JIC CAPLUG#PD40	
all	21	51P086	PLUGTHD.1"O.R.CAPLUG#PDF160	
all	22	51P087	PLUGTHD.1"JIC CAPLUG#PD-160	
all	23	51P088	PLUGCAPSLV 13/16 #SC-13/16	
all	24	52PY0LR001	HEXPLUG 1/4"ORING#4-P50N-S	
all	25	KYSSTRBLSH	TROUBLE SHOOTING KIT SSPRESS	

Parts List, cont.— Ship With

Used In	Item	Part Number	Description	Comments
all	26	60EH80C48B	ASSY=HYDHOSE+ONE END 1"X48"LG	(PART ITEM 25)
all	27	52ZN1AS003	TUBEFIT NUT+CAP #16-FNL-S	(PART ITEM 25)
all	28	52ZN0PS003	TUBEFIT NUT+CAP 3/4" 12 FNL-S	(PART ITEM 25)
all	29	52ZP0ES001	TUBEFITPLUG 1/4" #4-PNLO-S	(PART ITEM 25)
all	30	52PY0LR001	HEXPLUG 1/4"ORING#4-P50N-S	(PART ITEM 25)

BIPPMI06 (Published) Book specs- Dates: 20091214 / 20091214 / 20091214 Lang: ENG01 Applic: PPM

Installation of Assemblies Removed for Shipment

After the body of the press is set (and not before), install the assemblies that were removed for shipment. Follow these tasks in the sequence shown:

1. Lift the ram and the diaphragm assembly.
2. Attach the ratchet mechinism to turn the diaphragm.
3. Install the hydraulic power unit and the oil recirculation/cooler.
4. Set the Pre-fill valve in position.
5. Install the Pre-fill pipe (Gooseneck).
6. Connect the Bypass valve manifold, hydraulic hoses and tubing.
7. Charge the muffler, if supplied.
8. Fill the hydraulic tank with oil and fill the pump.
9. Install the diaphragm guide rod, the mounting post, and the proximity switches.
10. Install the electric control box.
11. Install the reuse tanks.
12. Install the level float assembly on the reuse tank.

The procedures change with the press model and flow.

Supplement 1

How to determine your press model and flow

1. Press type
   - Read the model number on the machine nameplate.
   - Your press type is the first six characters of the model number (MP1603, MP1604, or MP1A03).
2. Flow
   - Press type MP1A03 and MP1604 are always high flow. If not, refer to Figure 10, item L4b and Figure 11, item L4b.
   - If your MP1603 press has a hose connected to L4b, as shown in Figure 18 (top figure), it is high flow. If it has steel tubing like Figure 18 (bottom figure), it is standard flow.

1. Lift the ram and the diaphragm assembly

Two alternatives are available for lifting the ram assembly:

- Pull the ram assembly up with a crane, come-along or fork lift and chain. See Section 1.1 .
- Use the Milnor hydraulic pump kit to lift the ram assembly. See Section 1.2. MP1A03 models require this procedure.

WARNING 1: Crush and Machine Damage Hazards—The lifting eye is attached to a screw that holds up in the cylinder. If the eye bolt is removed before the diaphragm safety bars are installed, the platen will fall and kill personnel under it.

- Do not remove the lifting eye until the diaphragm safety bars (Figure 4) are installed.
- Install diaphragm safety bars immediately after you lift the cylinder into position (step 5).

1.1. Crane come-along or fork lift procedure to lift the ram

Figure 1: Cylinder Assembly (Ram) Lowered for Shipment

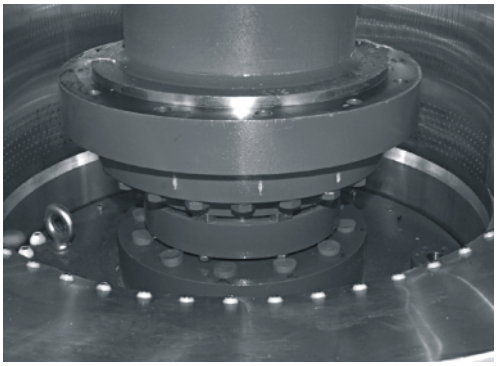
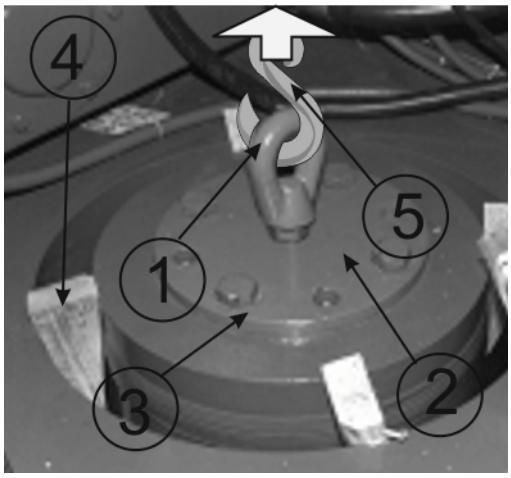


Figure 2: Top of Cylinder Assembly (Ram) held with wood wedges for Shipment.

Lifting eye, protective cover and cylinder



Legend

1. Lifting eye
2. Protective cover
3. Cylinder (Ram)
4. Wood wedges
5. Hook

The ram cylinder assembly is sent unattached and lowered within the frame into the bottom of the can. The diaphragm is down to the bed, as shown in Figure 1. Attach the cylinder assembly as follows:

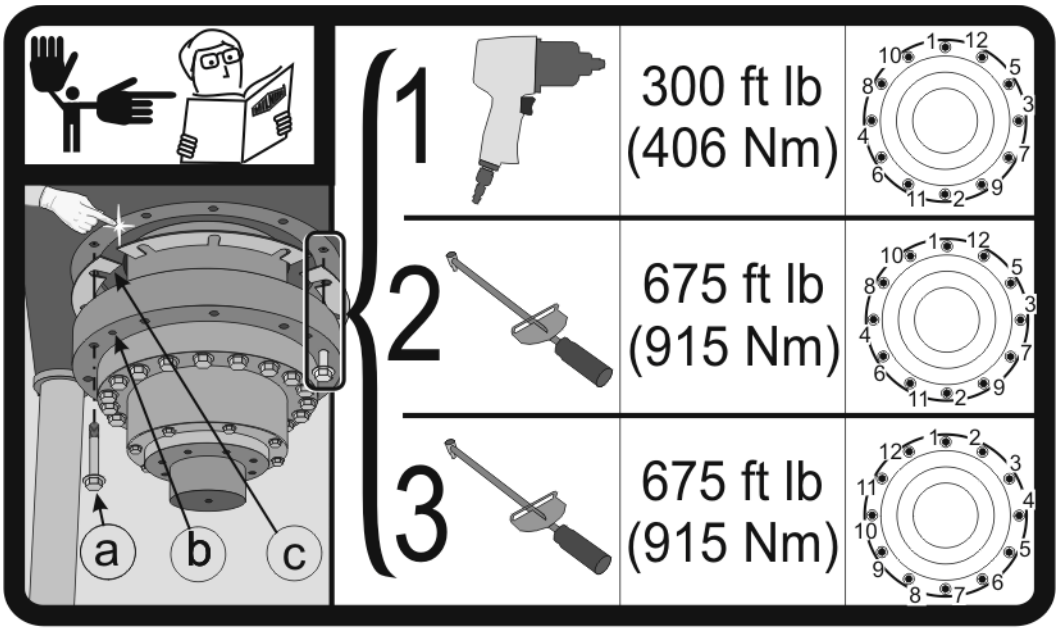
1. Locate the ram cylinder bolts and washers, the four-piece gasket, and the tube of silicon sealant, in the shipping crate. It is not necessary to chase and lubricate the threads of these bolts. This was done at the factory.
2. Make sure the mating surfaces of the ram flange (Figure 1) and the top plate are clean and free of paint, contamination, scores, dents, and burrs.
3. Remove wood wedges holding cylinder top in position (Figure 2, item 4).
4. Set a crane, come-along, or fork lift and chain directly above the cylinder. Lift the ram. Use the lifting eye shown in Figure 2, item 1. The lifting device must have sufficient capacity as shown in Table 1.

Table 1: Required lifting capacities

Press	Lifting Capacity
MP1603xx	6000 lbs
MP1604xx	8500 lbs
MP1A03xx	11000 lbs

5. As the cylinder moves, the shaft, platen, and diaphragm moves up with it. (Figure 4)

Figure 3: Cylinder Assembly (Ram) showing the Mounting Bolts and the Bolt Torque Pattern



B2T2007017/2008033A

6. When the ram flange is less than one inch (25 mm) of touching the top plate, loosely install the mounting bolts on the cylinder (Figure 3, item a), leaving space for the gasket (Figure 3, item c).
7. Put the four-piece gasket into the gap between the cylinder flange and the top plate. Besides the holes for the mounting bolts, there are four threaded holes (Figure 3, item b) in the ram flange used to push it off. Position each of the four gasket pieces between these holes. The outer edge of the gasket must not extend from the space.
8. Attach the ram to the top plate. Use the three steps shown in installation tag B2T2007017/2008033A Figure 3 which are as follows:

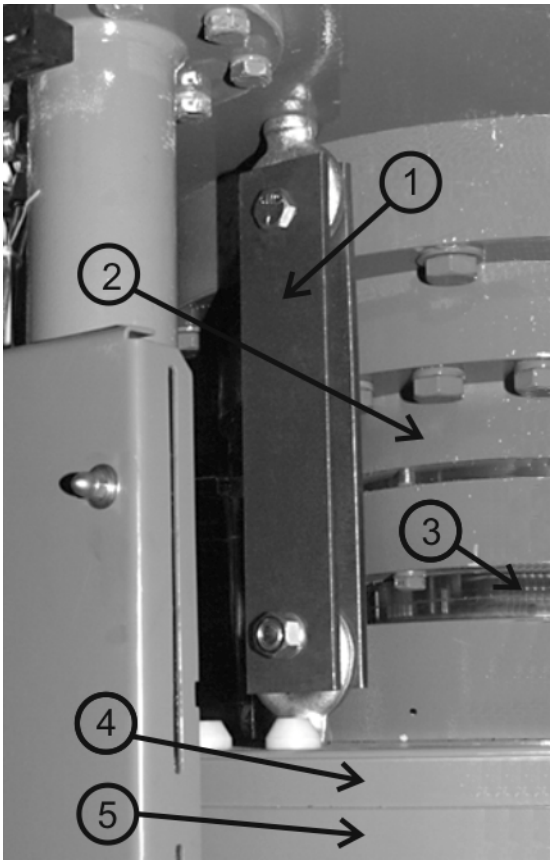
   Step 1: Tighten all bolts with an impact wrench to 300 ft-lbs (406 N-m) using the cross-torquing pattern shown.

   Step 2: Tighten all bolts with the torque wrench to 675 foot-pounds (915 newton-meters) using the cross-torque pattern shown.

   Step 3: Verify proper tightness by rechecking with a torque wrench, using the cross-torquing pattern shown.
9. Install the diaphragm safety bars once the cylinder flange is mounted (Figure 4).
10. Run a bead of silicon sealant around the ram cylinder flange at the top plate to seal between the flange and the plate. The bead of sealant will cover the edge of the gasket.

Figure 4: Diaphragm Safety Bar

Ram and associated components



Legend

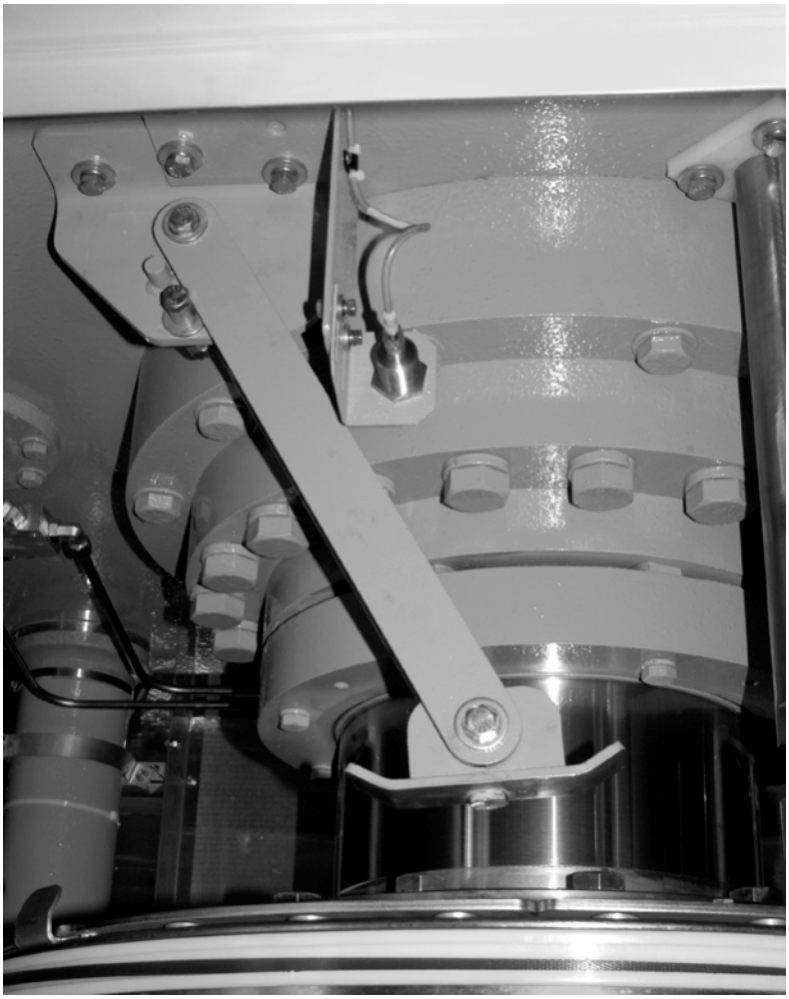
1. Diaphragm safety bar
2. Hydraulic ram
3. Shaft
4. Platten
5. Diaphragm

1.2. Hydraulic pump procedure to raise the ram —Milnor offers voltage-appropriate installation kits KYSSNYPP01 and KYSSNYPP02 for raising the ram using hydraulic power when other procedures are not practical. This procedure must be used with MP1A03 models. Follow the steps recorded in section 1.1 except for step 4. Instruction BIPPMI05, provided with the kits explains the use of the pump.

2. Attach the ratchet mechinism to turn the diaphragm

The ratchet mechanism (see Figure 5) was removed for shipment. Attach the mechanism to the underside of the top plate with three bolts, flat washers and lock washers provided. Apply Loctite 272 to each bolt and torque to 15 ft-lbs. The ratchet mechanism was adjusted at the factory before removal for shipment and should maintain this adjustment after reinstallation. The adjustment procedure is described in the ratchet mechanism parts document provided in the service manual.

Figure 5: Ratchet Mechanism Installed



3. Install the hydraulic power unit and the oil recirculation cooler

Note 1: If the ceiling height is very low, put the pre-fill pipe (gooseneck) into the hydraulic tank before lifting the unit into position on top of the press. See Section 4

CAUTION 2: Risk of Damage or Malfunction—Contamination in the hydraulic system can cause damage to the hydraulic pump, the ram, valves and other components. The factory removed the oil, and put caps on all the hydraulic lines.

- During installation of the hydraulic system, do not remove hose caps before until you connect them. Apply tape or caps immediately after disconnecting.
- Before installing the hydraulic tank, ram, or pre-fill valve, examine for objects possibly left inside.
- Do not operate the machine without an oil filter.
- Maintain hydraulic oil and filter per the preventive maintenance schedule.

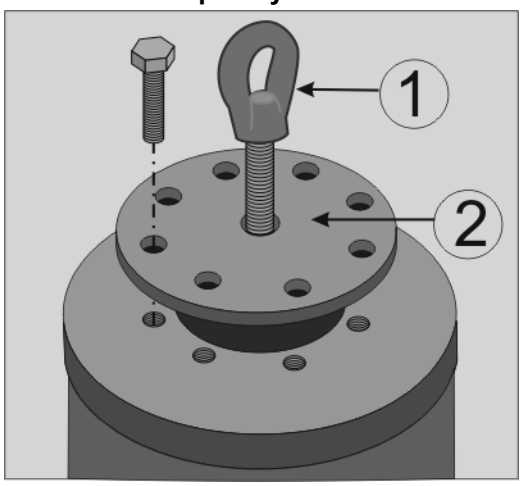
The hydraulic power unit (top figure of Figure 11), oil recirculation/cooler assembly (bottom figure of Figure 15), and portions of the system pipe were removed from the press. Use slings to lift the hydraulic power unit and the oil recirculation/cooler assembly into their position on top of the press. Use the bolts, blocks, and washers supplied on the mounting rails. Do not fully tighten

the mounting bolts at this time. These assemblies possibly will be moved while connecting system pipe.

4. Set the pre-fill valve in position

1. Making certain that the diaphragm safety bars are installed (see Figure 4 and warning statement **1**), remove the ram lifting eye (Figure 6, Item 1), (Figure 2, Item 1) and cylinder protective cover (Figure 2, Item 2), (Figure 6, Item 2). Take care not to permit contamination from entering the cylinder (Figure 2, Item 3).
2. Using the data determined in Supplement 1, position the pre-fill valve over the cylinder opening allignging it as shown in Figure 7.

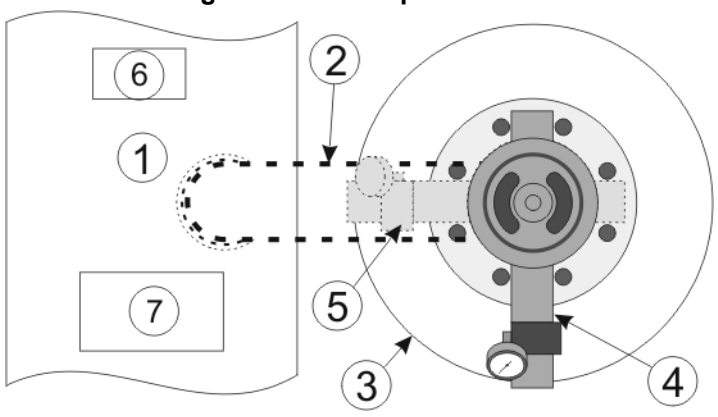
Figure 6: Removing lifting eye and protective cover



Legend

1. Lifting eye
2. Protective cover

Figure 7: Installation of the Pre-fill valve



Legend

1. Hydraulic tank
2. Where Pre-fill pipe (gooseneck) will be located
3. Cylinder
4. Pre-fill valve allignmentation for MP1603 standard flow and all MP1A03 models
5. Pre-fill valve allignmentation for MP1603 high flow and all MP1604 models
6. Hydraulic manifold
7. Hydraulic pump

5. Install the pre-fill pipe (gooseneck)

1. Raise the pre-fill pipe (gooseneck) (Figure 8, item 4) with a crane, come along or chain.

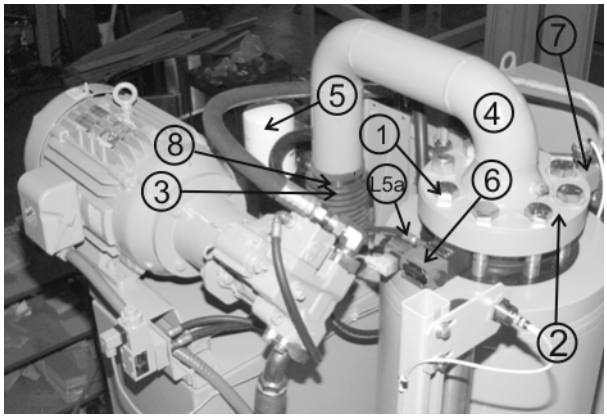
2. Install the rubber boot (Figure 8, item 3; Figure 19, item 9) and two hose clamps (Figure 8, item 8) (Figure 19, item 10) on the pre-fill pipe.
3. Position the long leg of the gooseneck over the opening in the hydraulic tank (see Figure 11, item 1; Figure 19, item 9) and Put the pipe into the tank.
4. Rotate the flange (Figure 8, item 2) into position over the pre-fill valve.
5. Install the back-up plates (Figure 8, item 2) and flange bolts (Figure 8, item 1), after lightly coating the bolt threads with hydraulic fluid.
6. Torque the bolts to 750 ft·lb (1017 N·m). Use the sequence in Figure 8.
7. Tighten both hose clamps on the rubber boot (Figure 8, item 3).

CAUTION 3: Malfunction Hazard—A loose or incorrectly seated gooseneck pre-fill pipe flange or loose hose clamps on the rubber boot could result in sucking air into hydraulic fluid leading to oil leakage, reduced pump life, or loud noises as the ram lifts.

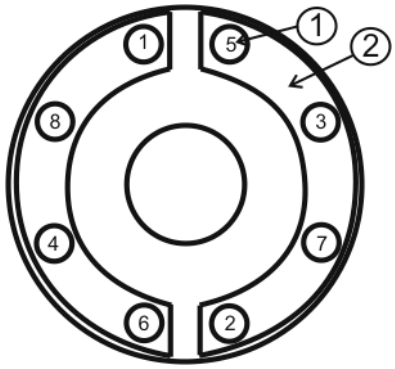
- Strictly follow the above procedure.

Figure 8: Installing the Pre-fill pipe (gooseneck)

Pre-fill pipe (gooseneck) installed



Gooseneck flange bolt torque sequence



Legend

1. Flange bolts
2. Back-up plates on Pre-fill pipe (gooseneck)
3. Rubber boot on Pre-fill pipe
4. Pre-fill pipe (gooseneck)
5. Filter on hydraulic tank
6. Pre-fill pilot valve
7. Bypass valve
8. Upper hose clamp on the rubber boot
L5a. The small hose connection at pre-fill valve pilot goes to bottom of the hydraulic manifold (See Figure 11, item L5b)

6. Connect the bypass valve, hydraulic fittings, hoses and tubing

Several hydraulic components were disconnected for shipment. This section describes how to attach the Bypass valve manifold to the Prefill valve. Depending on your press model, you will also need to:

- install three or four steel tubes (attach both ends), and
- reattach one end of each of four or five hoses. (See Figure 11)

CAUTION 4: Malfunction Hazard—Faulty connections will leak under high pressure.

- Use only new O-rings and install as explained herein.
- Mate fittings as explained herein.
- Tighten to torque values as specified herein.

CAUTION 5: Malfunction Hazard—Uncovered oil passages risk fluid contamination.

- Leave protective covers on until ready to make a connection.

6.1. How to reconnect hydraulic components—These are the procedures to be repeated for all hydraulic connections described in section Section 6.2

6.1.1. How to match up connections—The following procedures are provided:

- numbered match-up tags attached to the components,
- Table 2, which lists the names of and refers to figures of each connection. You possibly need to study all referenced figures to distinguish between different connections that are similar in appearance or description.

6.1.2. How to make a leak free connection —To obtain adequate connection integrity, you will need to replace the O-ring, align the fittings and torque the connection as follows:

Note 2: For more data on hydraulic connections, see Parker Bulletin 4300, which can be accessed www.parker.com/tfd/cat/pdffiles/T-Assembly%20Installation.pdf .

6.1.2.1. Install O-rings—Replace the O-ring that remains on the fitting from the factory test, with a new one from the bag of O-rings provided (in the parts box attached to the fan assembly):

1. Remove old O-ring with a razor knife.
2. Select a new O-ring of the same size from bag.
3. Lubricate new O-ring, with clean hydraulic oil.
4. Put and seat O-ring into groove on fitting by hand.
5. Check that no part of O-ring is protruding from groove.

6.1.2.2. Mate and align fittings—Hold the fittings in alignment while hand-threading.

CAUTION 6: Malfunction Hazard—improperly connected fittings will cause leaks.

- Do not cross-thread.
- The surface of connecting fittings must seat flat and straight against O-ring.

1. Leave the plastic covering on the hose or tube until ready to connect.
2. Bring the flange surfaces together until they press flatly, all around the O-ring.
3. Thread and tighten the nut by hand.

6.1.2.3. Tightening connections to correct torque value (Table 2).—A torque wrench is

preferred. Use the F.F.W.R. procedure if a torque wrench is not practical.

- If using a torque wrench, tighten to the ft·lb or N·m value shown in Table 2.
- F.F.W.R. means flats from wrench resistance. A flat refers to one of the six sides on a hex fitting. Three flats would be ½ of a full circle. A typical value of ¼ flats is 1/24 of a full circle (15 degrees). If using this procedure, tighten the fitting until you encounter light wrench resistance. Then, while observing the flats, continue to tighten until the component being turned rotates the number of flats specified.

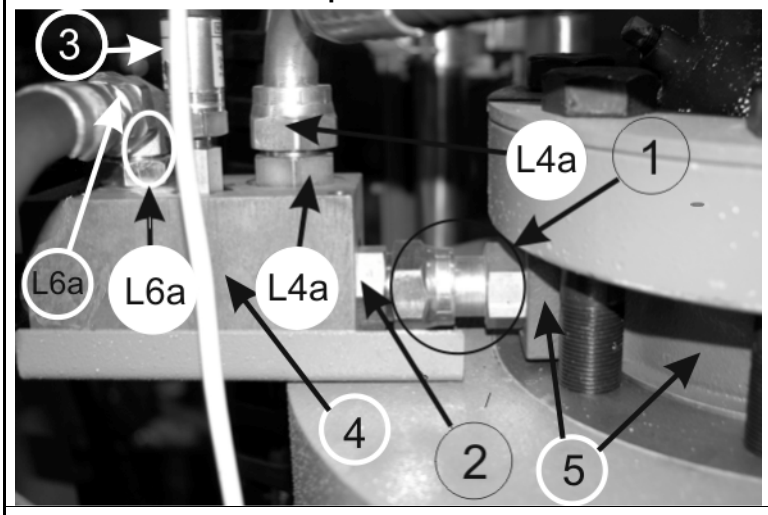
6.2. Connections to be made

6.2.1. Connect the bypass valve manifold to the pre-fill valve —Referring to Figure 9:

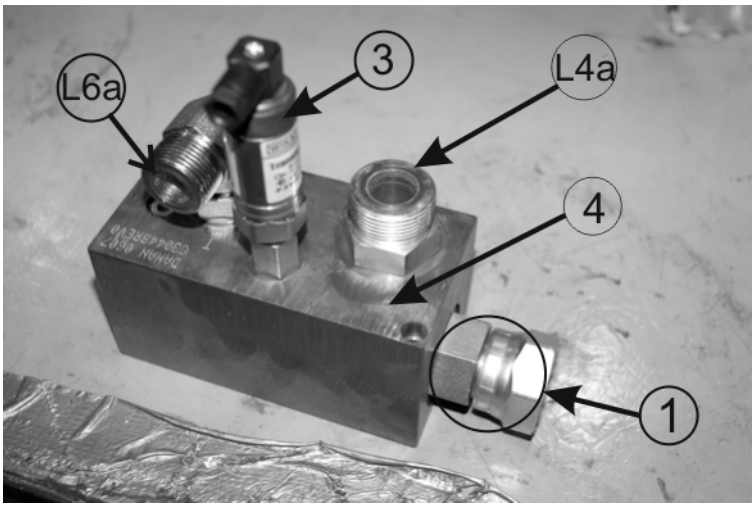
1. Lubricate and replace the O-ring (item 7) in the straight connector (item 2).
2. Align the Bypass valve manifold so the swivel (item 1) lines up with the threads of the straight connector (item 2).
3. Tighten the swivel fitting. The torque value is 110 ft·lb (150 N·m. The flats from Wrench resistance value is 1/3 - 1/2.

Figure 9: Connecting Bypass valve manifold to Pre-fill valve

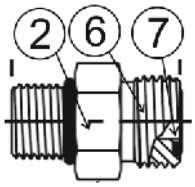
MP1603, MP1604 high flow, bypass valve manifold connected to pre-fill valve and hoses



Bypass valve manifold with attached fittings before making connections



Straight connector



Legend

1. Swivel connector. Items 1 and 2 can be reversed, but the connections remain the same.
2. Straight connector
3. Pressure Transducer
4. Bypass valve manifold
5. Prefill valve
6. Threads that mate with swivel connector (item 1)
7. O-ring to be replaced with a new lubricated O-ring
L4a. "Ram down" Port "P" of the Bypass Valve (goes to top left port on left side of hydraulic manifold). Connection is either a hose or tubing assembly and varies with press model.
L6a. port "T" of the Bypass valve manifold (Hose connection). If model MP1A03, goes to "T" fitting on top of manifold. For all other models, goes to filter on tank.

6.2.2. Connect the Tubing and Hoses shown in Table 2

CAUTION 7: Malfunction Hazard—Some connections can be mismatched.

- Positively identify connections using the data herein.
- Contact the Milnor factory if you are unsure about any connections.

Use Table 2 as follows:

- Use only the rows applicable to your press model and flow option.
- The labels in the left most column (e.g. L1) designate a hydraulic line which can be a hose or metal tube. This label can also appear as an item number in a referenced figure.

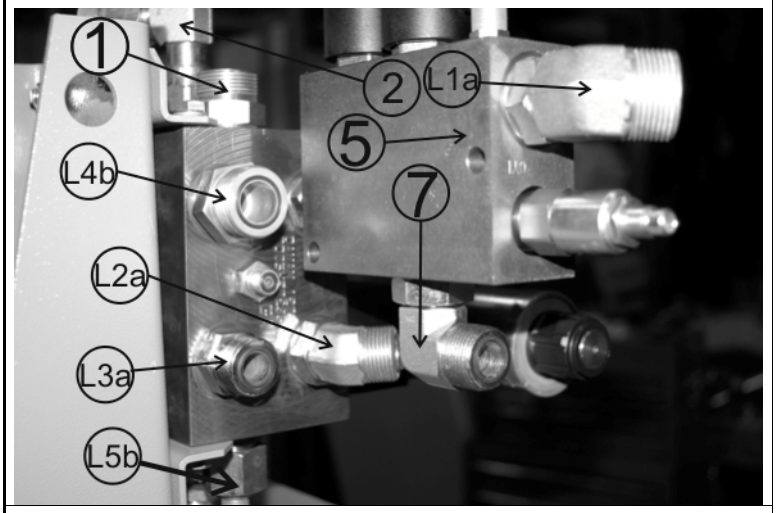
- "Connection" columns "a" and "b" identify where each tube or hose should start and end. Labels such as L1a and L2b designate the connections on each end of the line. These labels can also appear as item numbers in the referenced figures.
- You can match up connections by matching the numbered tags on the components or by identifying connection points on each end of a hydraulic line in the referenced figures herein.

Table 2: Hose and Tube Connections

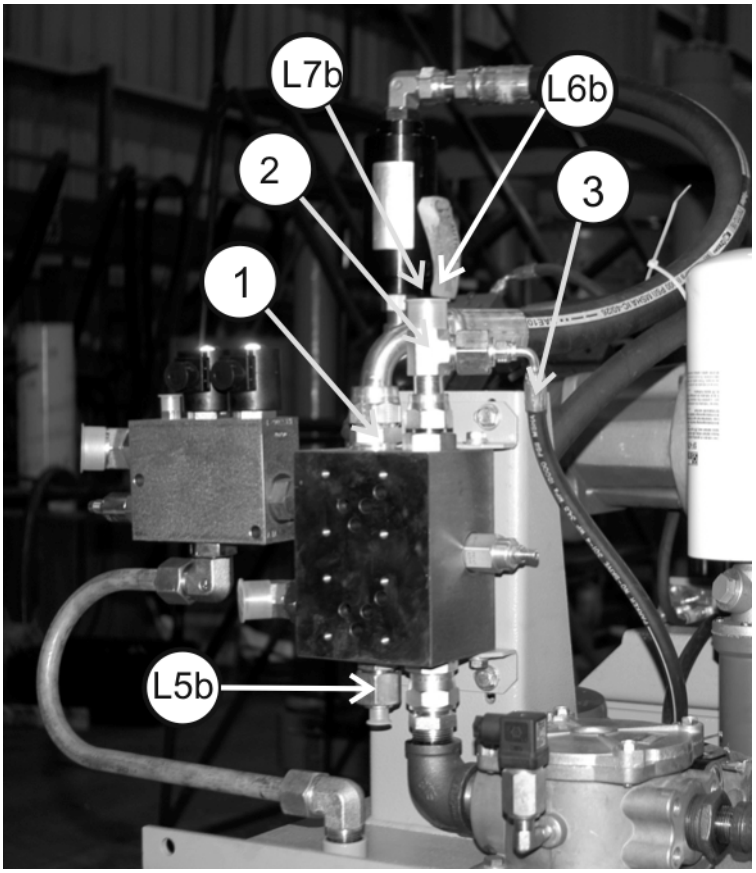
↓	Hydraulic line	Type	Tube O.D. or hose label	Connection a		Connection b		Torque (both fittings)		
	Applicable Model			What	See	What	See	ft·lb	N·m	ffwr
Tubing Connections										
L1	All	tube	1" (25)	"Ram up" at poppet valve	Figure 10, Figure 11, Figure 12	"Ram up" below top plate	Figure 15, Figure 16	110	150	1/4-1/2
L2	All	tube	3/4" (20)	"Can down" at manifold	Figure 10, Figure 11, Figure 12	"Can down" below top plate	Figure 15, Figure 16	85	115	1/4-1/2
L3	All	tube	3/4" (20)	"Can up" at manifold	Figure 10, Figure 11, Figure 12	"Can up" below top plate	Figure 15, Figure 16	85	115	1/4-1/2
L4	MP1603 std. flow	tube	3/4" (20)	Bypass manifold, port "P"	Figure 9, Figure 18	"ram down" at hydraulic manifold	Figure 18, Figure 10	85	115	1/4-1/2
	Hose Connections									
	MP1603 high flow	hose	1"	Bypass manifold, port "P"	Figure 9, Figure 12	"ram down" at hydraulic manifold	Figure 18, Figure 11, Figure 10	120	163	1/3-1/2
	MP1604 high flow	hose	1"	Bypass manifold, port "P"	Figure 9, Figure 12	"ram down" at hydraulic manifold	Figure 18, Figure 10	120	163	1/3-1/2
	MP1A03	hose	1.25"	Bypass manifold, port "P"	Figure 9, Figure 13, Figure 12	"ram down" at hydraulic manifold	Figure 10, Figure 13, Figure 12	140	190	1/3-1/2
L5	All	hose	1/4"	Pre-fill pilot valve	Figure 8	Bottom of hydraulic manifold	Figure 11, Figure 10	18	25	1/2 - 3/4
L6	All except MP1A03	hose	3/4"	Bypass valve manifold, port "T"	Figure 9, Figure 12, Figure 13	Filter on tank	Figure 17, Figure 13	90	122	1/3-1/2
	MP1A03					"T" fitting on top of manifold	Figure 12			
L7	All except MP1A03	hose	3/4"	radiator	Figure 15, Figure 19	"T" fitting on top of manifold	Figure 18, Figure 10	90	122	1/3-1/2
	MP1A03					Filter on tank	Figure 14			
L8	All	hose	1"	Bottom of hydraulic tank	Figure 15	Recirc. pump suction	Figure 15	120	163	1/3-1/2

Figure 10: Connection ports at hydraulic manifold and poppet valve manifold (all models)

Close-up figure identifying connection ports for tubing and hoses



Top of Hydraulic manifold



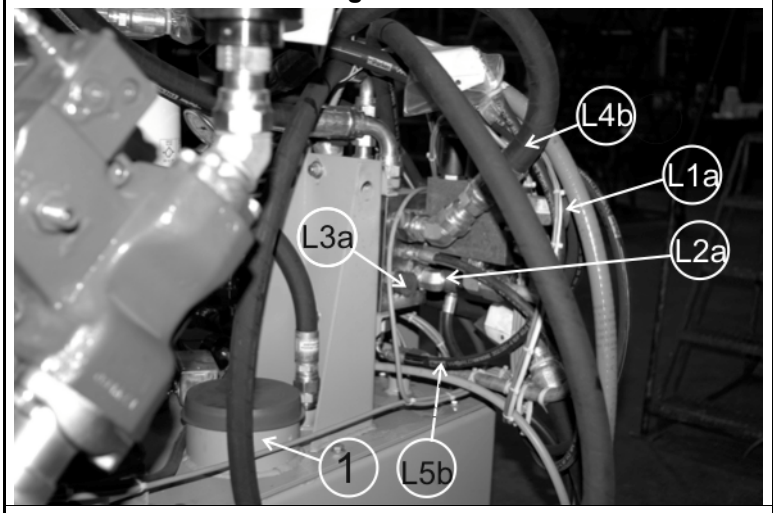
Legend

1. Connection at top of hydraulic manifold (goes to hose assembly to muffler (Figure 20) or to hydraulic pump)
2. "T" fitting on top of hydraulic manifold (see bottom figure)
5. Poppet valve manifold
7. Connection at bottom of poppet valve manifold (goes to U-shaped tubing to top of hydraulic tank)
L1a. "Ram up" tubing connection at poppet valve (goes to elbow fitting below top plate)
L2a. "Can down" connection at bottom of left side of hydraulic manifold (goes to "T" fitting below top plate)
L3a. "Can up" connection at bottom of left side of hydraulic manifold (goes to "T" fitting below top plate)
L4b. "Ram down" hose connection at the top left port on left side of the hydraulic manifold (goes to port "P" of the Bypass valve manifold),
L5b. Small hose connection at bottom of hydraulic manifold (goes to Pre-fill valve pilot)

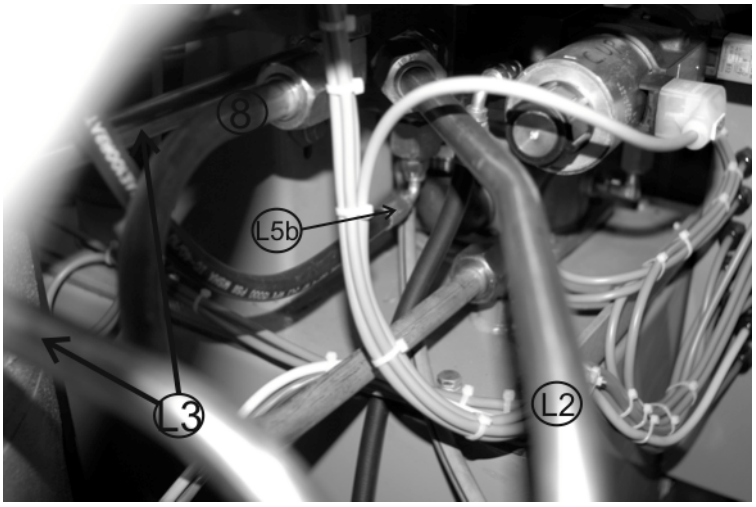
BOTTOM figure
2. "T" fitting on top of hydraulic manifold
3. Small hose between "T" fitting and proportional valve (already installed)
L6b. MP1A03 only: Hose connection at top of "T" fitting on hydraulic manifold (goes to port "T" of the Bypass valve manifold, (L6a))
L7b. For all models except MP1A03 : Hose connection at top of "T" fitting on hydraulic manifold (goes to radiator (L7a))

Figure 11: MP1603 and MP1604 hydraulic manifold

High flow option dissasembled for delivery before can and ram tubing are connected



Bottom of hydraulic manifold after can tubing is connected (high and standard flow)



Legend

TOP figure

1. Opening in hydraulic tank where Pre-fill pipe (gooseneck) connects

8. U-shaped tube from bottom of left side hydraulic manifold to top of hydraulic tank

L1a. "Ram up" connection port on poppet valve (goes to elbow fitting below top plate).

L2a. "Can down" connection at bottom left side of hydraulic manifold (goes to "T" fitting under top plate).

L3a. "Can up" tubing connection at hydraulic manifold (goes to "T" fitting under hole in top plate).

L4b. "Ram down" hose connection at top left port on left side of hydraulic manifold (goes to port "P" of the Bypass valve manifold,)

BOTTOM figure

L2. "Can down" tubing at bottom left side of hydraulic manifold (goes to "T" fitting under top plate) "Can down" tubing has a slight bend but does not have a 90 degree horizontal bend like the "can up" tubing (L3) .

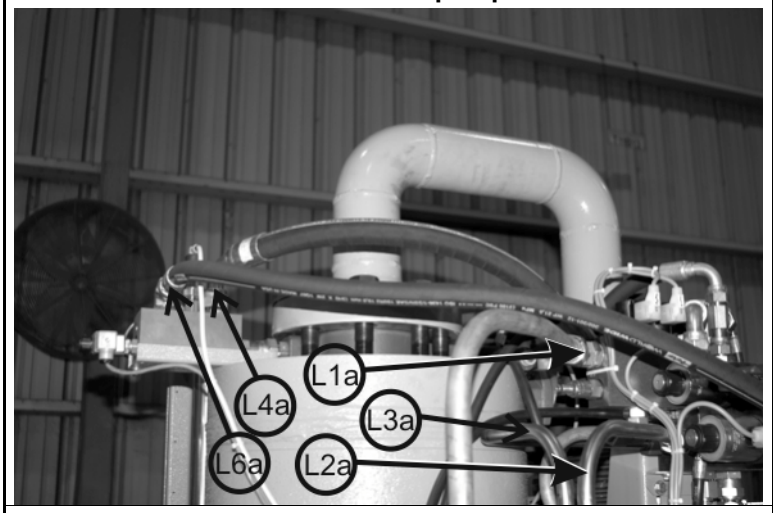
L3. "Can up" tubing at bottom left side of hydraulic manifold (goes to "T" fitting under top plate) "Can up" tubing has a 90 degree horizontal bend in addition to a 90 degree vertical bend.

BOTH figures

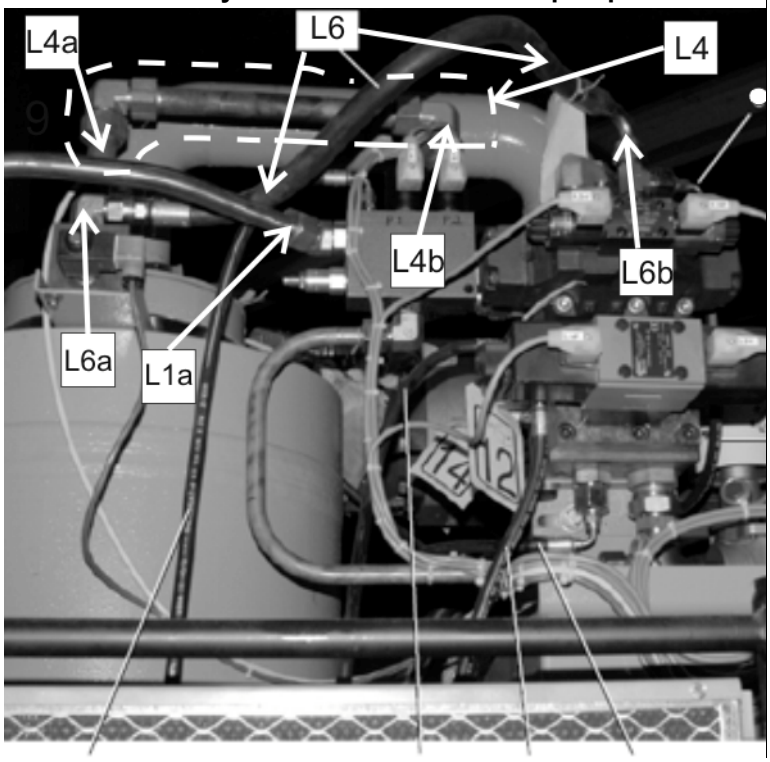
L5b. Hose connection on bottom of hydraulic manifold (goes to Pre-fill valve pilot;Figure 8, item L5a)

Figure 12: Hydraulic connections at top of press

Model MP1603 and MP1604 (high flow only) hydraulic connections at top of press



MP1A03 hydraulic connections at top of press



Legend

UPPER figure: Model MP1603 and MP1604 (high flow only)

L2a. "Can down" tubing connection at manifold (goes through top plate to "T" fitting).

L3a. "Can up" tubing connection at bottom of left side of hydraulic manifold (goes through top plate to "T" fitting).

L4a. "Ram down" hose connection at port "P" of the bypass valve manifold, (goes to top left port on left side of hydraulic manifold)

L6a. Hose connection at port "T" of the Bypass valve manifold, (goes to filter on tank)

LOWER figure: MP1A03 only (Figure 13 shows another view)

L4. "Ram down " tubing in dotted lines replaced by hose in April 2007 (goes from item L4a to L4b)

L4a. Tubing connection at port "P" of the Bypass valve manifold, replaced by hose assembly in April 2007, goes to L4b.

L4b. Tubing connection at top left port on left side of hydraulic manifold, replaced by hose assembly in April 2007, goes to L4a.

L6. Hose assembly between port "T" of the Bypass manifold valve (item 10) and "T" fitting on top of hydraulic manifold

L6a. Hose connection at port "T" of the Bypass valve manifold, (goes to "T" fitting on top of hydraulic manifold) .

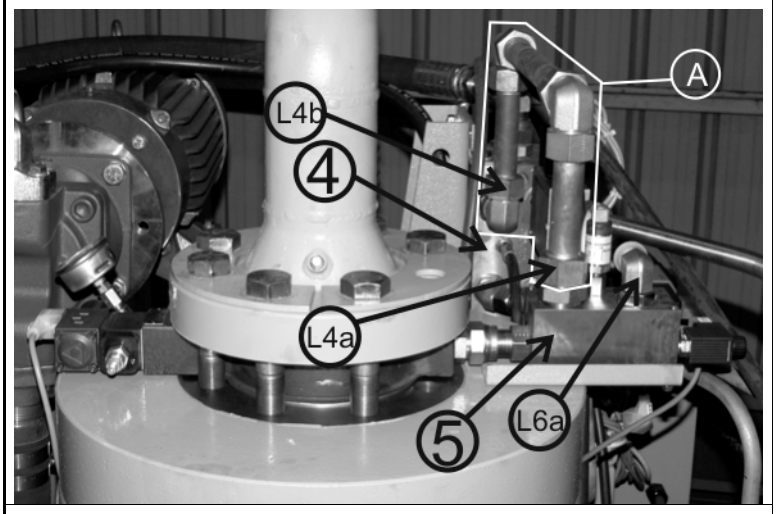
L6b. Hose connection at "T" fitting on top of hydraulic manifold (goes to port "T" of the Bypass valve manifold,).

BOTH figures:

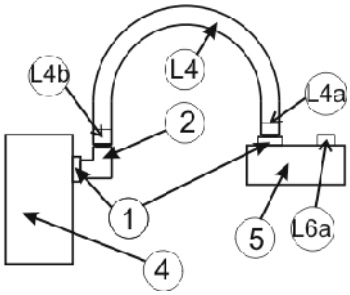
L1a. "Ram up" tubing at poppet valve. Tubing goes through hole in top plate.

Figure 13: MP1A03 Pre-fill valve to Bypass Valve Connection

Tubing used prior to April, 2007



Detail A in figure: Hose arrangement used in April 2007 and later



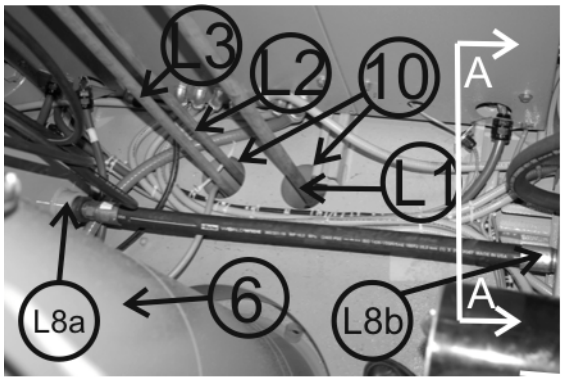
Legend

1. Straight fitting
(See Figure 12 for alternate view)
2. Swivel elbow fitting
4. Hydraulic Manifold
5. Bypass Valve manifold
L4. "Ram down " tubing in dotted lines replaced by hose assembly in April 2007 (goes from item L4a to L4b)
L4a. Tubing connection at port "P" of the Bypass valve manifold, replaced by hose assembly in April 2007 (goes to L4b).
L4b. Tubing connection at top left port on left side of hydraulic manifold, replaced by hose assembly in April 2007 (goes to L4a).
L6a. Hose connection at port "T" of the Bypass valve manifold,

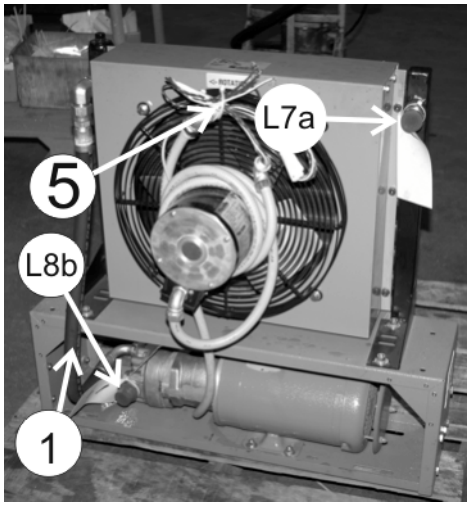
Figure 14: MP1A03 hose connection (L7b) at hydraulic tank filter

Figure 15: Tubing L1, L2, L3 and Hose connections L8a and L8b

View looking down on Top Plate



View AA of recirc pump looking at back of radiator



Legend

TOP figure

6. Ram cylinder

10. Holes in top plate

L1. "Ram up" tubing from hydraulic manifold (Figure 10, L1A) to elbow fitting below plate (Figure 16, L1B)

L2. "Can down" tubing from hydraulic manifold (Figure 10, item L1a) to "T" fitting below plate (Figure 16, item L2b)

L3. "Can up" tubing from hydraulic manifold (Figure 10, item L3A) to "T" fitting below the plate (Figure 16, item L3B).

L8a. Hose connection at hydraulic tank (goes to recirculating pump suction (item L8b in bottom figure.)

BOTTOM figure:

1. Recirc Pump Discharge to Radiator

5. Radiator fan electrical cables

L7a. Hose connection on left side of radiator (For all models except MP1A03, goes to top connection on "T" fitting on top of hydraulic manifold; Figure 10, item L7b) (For model MP1A03, goes to small filter on hydraulic tank; Figure 14)

BOTH figureS:

L8b. Hose connection at recirc pump suction (goes to hydraulic tank (item L8a))

Figure 16: Ram and can hydraulic tubes through holes in top plate

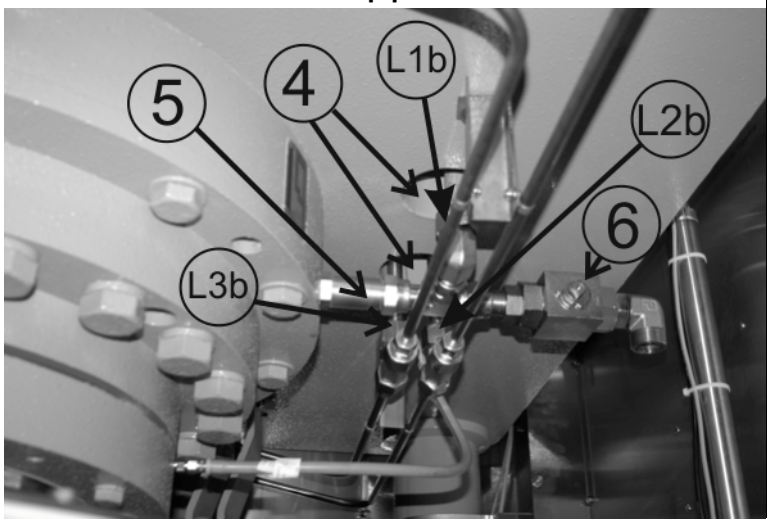
"Can up", "can down" and "ram up" tubing through holes in top plate	Legend
	**L1b.** "Ram up" tube connection at elbow (goes to rod end of ram (item 5); comes from poppet valve) **L3b.** "Can up" connection at "T" fitting (comes from bottom of left side of hydraulic manifold) **L2b.** "Can down" connection at "T" fitting under hole in top plate (comes from bottom of left side of hydraulic manifold) **4.** Holes in top plate **5.** "Ram up" connection to rod side of ram (connected before delivery) **6.** Ram drain valve (for factory use only; disconnected before delivery)

Figure 17: MP1603, MP1604 Hydraulic tank and filter

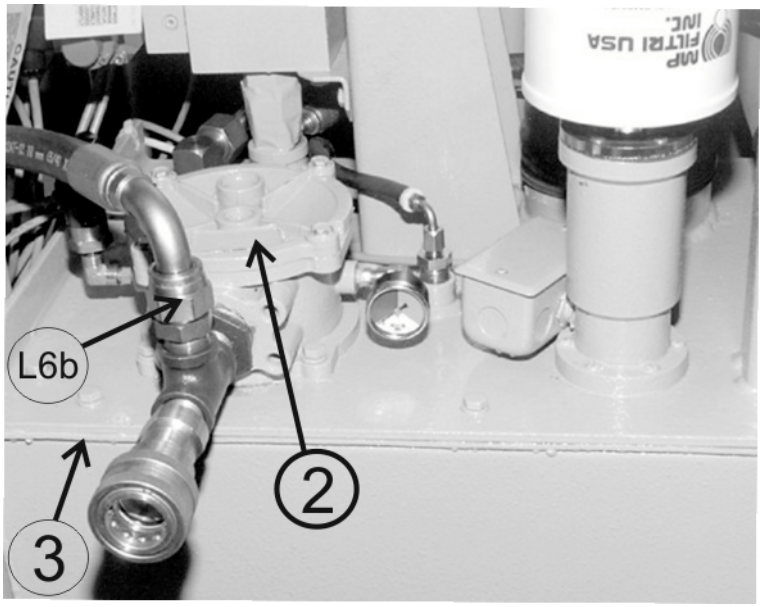
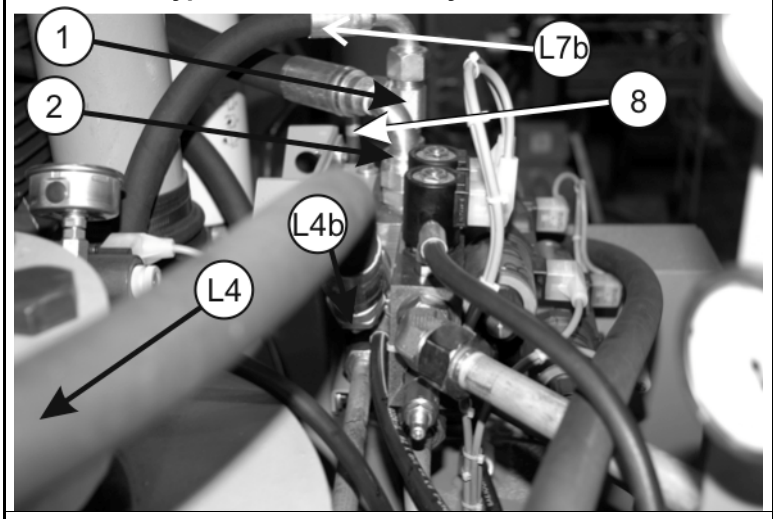
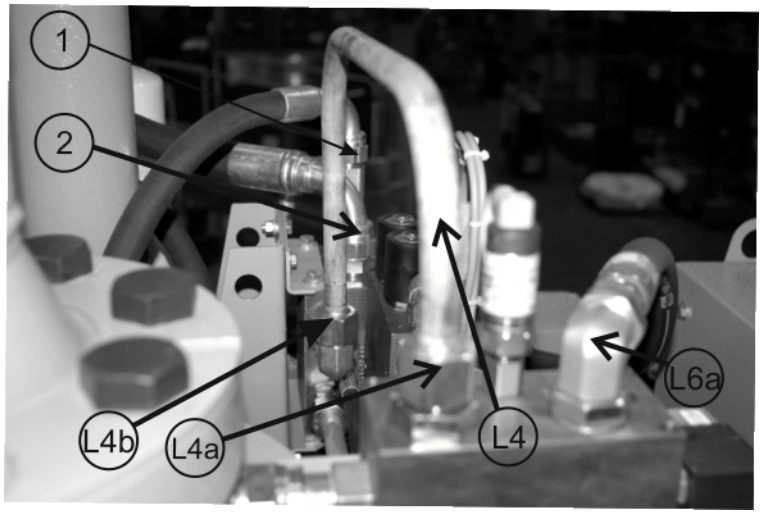
Hose connection from filter on tank to port "T" of the bypass valve	Legend
	**L6b.** Hose connection at filter on tank (goes to port "T" of the Bypass valve manifold) **2.** Filter on hydraulic tank **3.** Hydraulic tank

Figure 18: High flow vs standard flow connection differences

MP1603 and MP1604 high flow model has a hose between the bypass valve and the hydraulic manifold



MP1603 Standard Flow models with steel tubing between Bypass valve and Hydraulic manifold



Legend

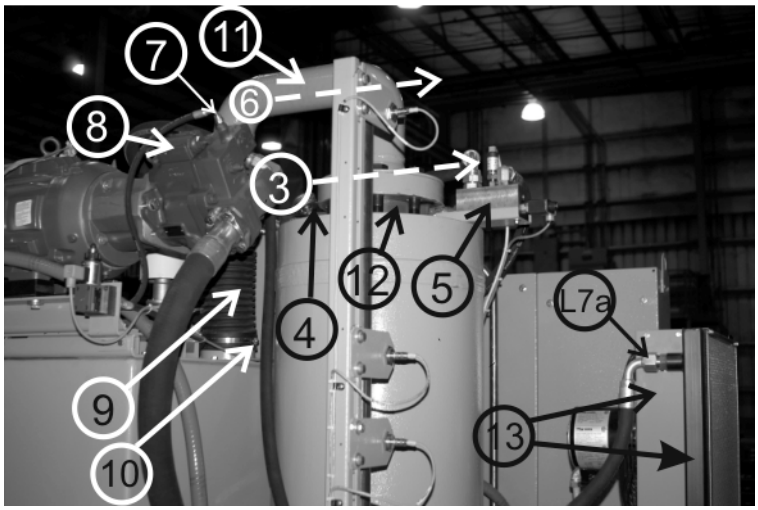
1. "T" fitting at top of hydraulic manifold (Figure 10, bottom figure, item 2)
2. Large hose connection at top of manifold (goes to hydraulic pump discharge)
8. Small hose between "T" fitting (item 1) on hydraulic manifold and proportional valve

UPPER figure ONLY:
L4b. "Ram down" hose connection at top left port on left side of hydraulic manifold (goes to port "P" of the Bypass valve manifold)
L4. Hose between port "P" of the Bypass valve manifold, (Figure 11, item L4a) and "ram down" connection at hydraulic manifold (L4b)
L7b. Hose connection at "T" fitting on top of hydraulic manifold (goes to left side of cooler radiator) (Figure 19, L7a)

LOWER figure ONLY: MP1603 standard flow only
L4. Tubing instead of a hose connects "P" of the Bypass valve manifold, (L4a) to the hydraulic manifold (L4b) (MP1603 standard flow only)
L4a. "Ram down" tubing connection at port "P" of the Bypass valve manifold, (goes to top left port on left side of hydraulic manifold) (Figure 11, item L4b)
L4b. "Ram down" tubing connection at top left port on left side of hydraulic manifold (goes to port "P" of the bypass valve manifold) (Figure 9, item L4a)
L6a. Hose connection at port "T" of bypass valve manifold, goes to filter on tank (Figure 17, L6b)

Figure 19: MP1603 and MP1604 (High flow) hydraulics and other components installed

View of various components



Legend

L7a. Hose connection on left side of radiator (goes to "T" fitting on top of hydraulic manifold)
3. Line of direction between pre-fill pilot and bypass valve (MP1603 and MP1604 high flow only)
4. Pre-fill pilot valve
5. Bypass valve manifold
6. Horizontal direction of pre-fill pipe (gooseneck)
7. Control hose on hydraulic pump (connected to proportional valve)
8. Block with allen screws on hydraulic pump
9. Rubber boot on pre-fill pipe
10. Lower hose clamp on pre-fill pipe (upper hose clamp not visible)
11. Pre-fill pipe (gooseneck)
12. Pre-fill valve
13. Oil recirculation cooler - radiator

7. Charge the muffler, if furnshed

The optional muffler uses a nitrogen-filled canister that must be discharged when the machine is sent via certain modes of transportation, then recharged on site. If the muffler needs recharging, a tag on the assembly will so indicate. The equipment needed to recharge the muffler is sent with the machine. This includes a Schrader-type block. Bottled nitrogen is available from local welding or hydraulic shops and industrial gas suppliers. The muffler uses approximately 6 cubic inches of nitrogen gas for Wilkes and Mclean model WM 5081 and 128 cubic inches for model WM 5138.

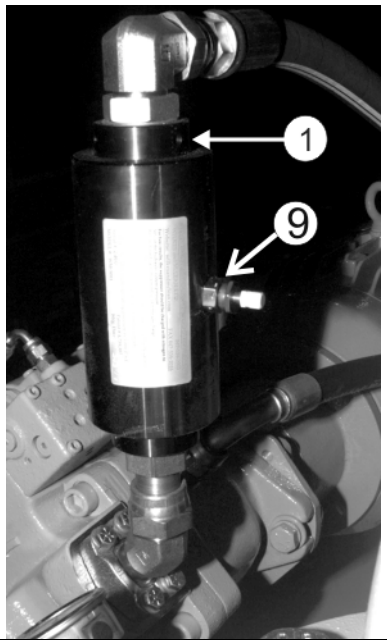
Recharge the muffler as follows:

1. Locate muffler charging valve (Figure 20, item 9).
2. Remove the valve cover from the valve (Figure 20, item 3).
3. Turn the swivel hex nut (item 2) counterclockwise approximately three turns. This opens the internal poppet valve.
4. Connect the Schrader-type valve block to the muffler charging valve (Figure 20, item 9). The “T” handle is no longer used.
5. Connect one end of the charging hose (item 5) to the valve block and the other end to the nitrogen bottle.
6. Open the nitrogen bottle valve slowly. Allow the pressure to reach approximately half of maximum system pressure :
   a. Close the valve on the nitrogen bottle after gauge indicates the following pressures:
   b. 2300 psi (159 bar) for models MP1603 and MP1A03
   c. 2175 psi (150 bar) for model MP1604.
   d. Do not exceed maximum pressure on label.
7. Turn the swivel hex nut (item 2) clockwise approximately three turns to close the internal poppet valve.

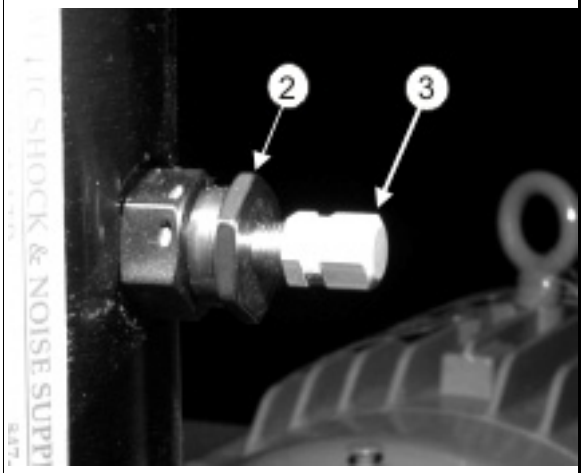
8. Lock the swivel hex nut (approximately 50-70 inch/pounds or 5.7-7.9 Newton/meters).
9. Open the bleeder valve to vent gas trapped in the charging hose.
10. Remove the Schrader-type block and re-install valve cover (item 3).

Figure 20: muffler

Muffler Assembly



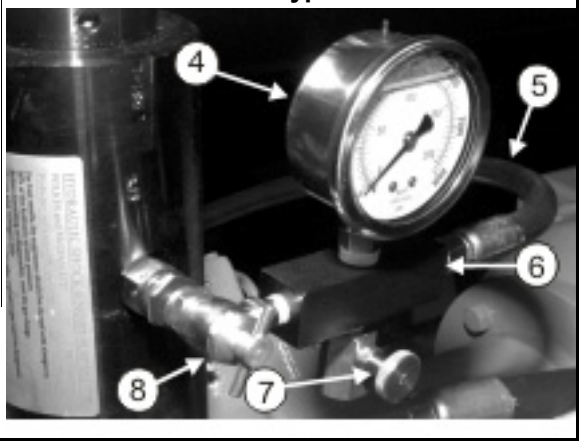
Pressurization valve (item 9)



Legend

1. Muffler
2. Swivel hex nut
3. Valve cover
4. Pressure guage
5. Charging hose
6. Schrader-type block
7. Bleeder valve
8. “T handle” - no longer used
9. Supressor charging valve

Schrader-type block



8. Fill the hydraulic tank with oil and prime the pump

CAUTION 8: Machine damage hazard—The hydraulic pump is drained before shipping. Starting up machine with a dry pump will damage pump. This damage is not covered by the machine warranty.

- Do not start the machine until the pump is primed.

1. Fill the hydraulic tank. Use the tank level guage as shown in Figure 21.
2. Prime the pump. Remove the hose from the pump. See (Figure 22 Completely fill the pump. Use Tellus 68 hydraulic oil (or the equivalent).

3. Allow several minutes for the oil to drain into the pump cavities then refill as needed.
4. Replace the O-ring on the hose fitting and reinstall the hose (Figure 22).
5. Make sure all connections are made. Tighten the mounting bolts on the hydraulic power unit and on the oil recirculation/cooler assembly after

Figure 21: Fill the Hydraulic Tank

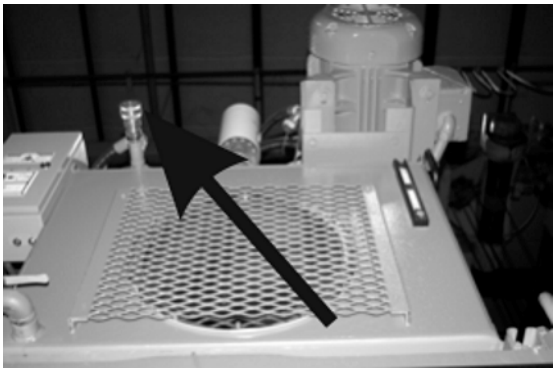
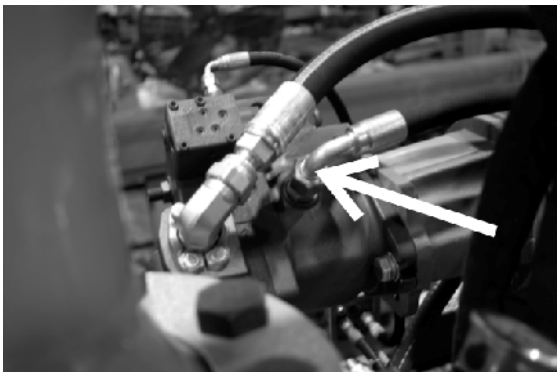


Figure 22: Hose connection for priming hydraulic pump



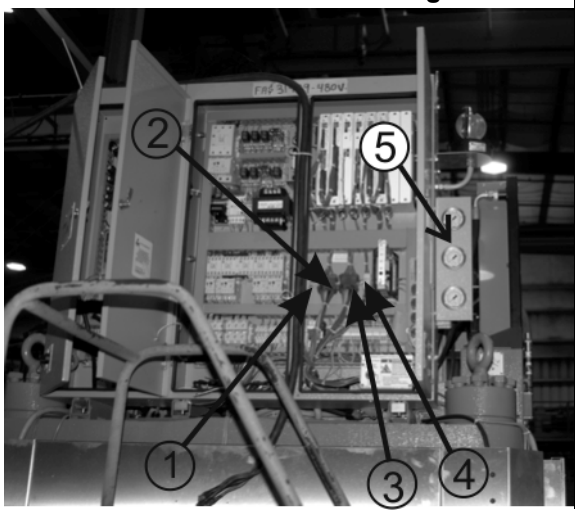
9. Install the diaphragm guide rod, the mounting post, the proximity switch and the sensors

As the ram travels up and down, its guide rod actuates proximity switches on an adjacent post. Refer to document BIPPMM02 "About the Ram Proximity switches, Mounting Post and Guide Rod" in the service manual for instructions on installing these components.

10. Install the electric control box

Using slings, position the electric control box on the mounting rails on top of the press. Use supplied bolts, blocks, and washers. Install tagged electrical connections at the rear of the box. Make sure all sensor electrical connections are made, such as the pressure transducer on the bypass manifold (Figure 9, item 3), the fan cables (Figure 15, item 5),and connectors such as those in Figure 23. Refer to the electric schematics in the electrical manual and the tag inside the electric box to identify each connector.

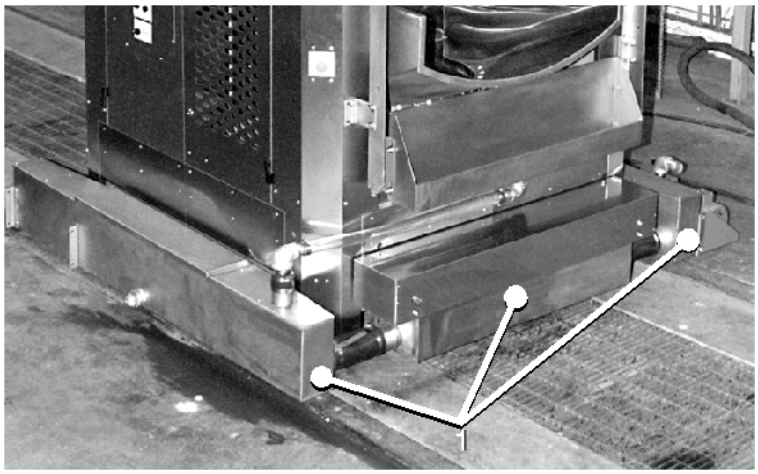
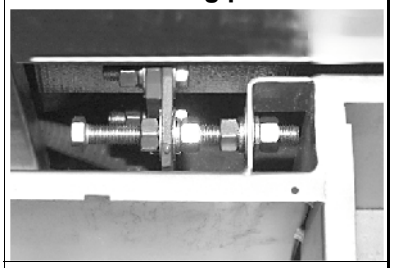
Figure 23: Electric control Box

Electrical Connectors and Guage Panel	Legend
	**1.** Approximate location of connector WCV **2.** Approximate location of connector WCA **3.** Approximate location of connector WCJ **4.** Approximate location of connector WCC **5.** Guage Panel

11. Install the reuse tanks

Install the side and front reuse tanks as shown in Figure 24. Connect the pump inlet to the closest 1-1/2" NPT male connection on side reuse water tank. This pump sends reuse water from the press water tank to the CBW® flush tank. Pipe and power cables are not supplied because the pump location and distance to the CBW® flush tank can vary. When adjusting the system, it is sometimes helpful to reduce the flow into the pump, therefore, an in-line valve is recommended. Refer to “Connect Utilities” elsewhere in this document for the pump-to-CBW® flush tank connection.

Figure 24: Reuse Tanks

Reuse tanks in position	Reuse tank to frame mounting point
	
	Legend **1.** Reuse tanks

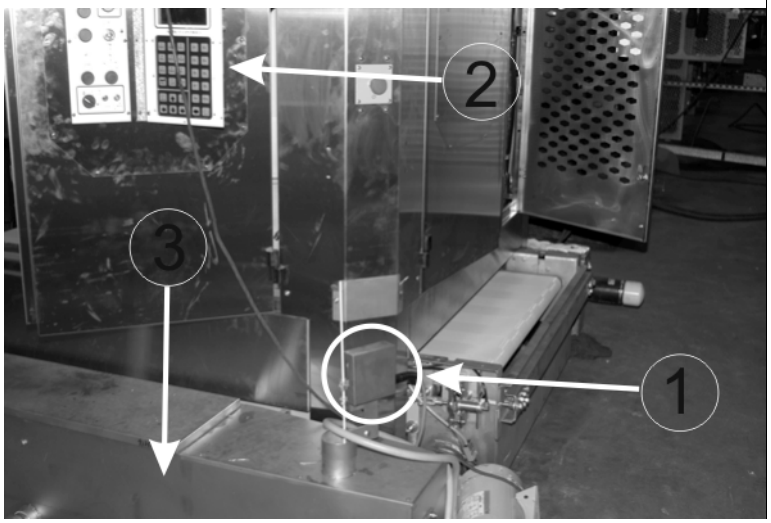
12. Install the level float assembly on the reuse tank

This assembly, shown in (Figure 25), turns the press water return pump on when the press water tank level rises above high and off when the level falls below low. Install the level float and set

levels as explained in document BIPPMM15 "Understanding and Setting Press Water Levels" in the service manual.

Figure 25: Level Float Assembly

Level Float Switch on Reuse Tank



Legend

1. Level Float Assembly
2. Control Panel
3. Reuse Tank

— End of BIPPMI06 —

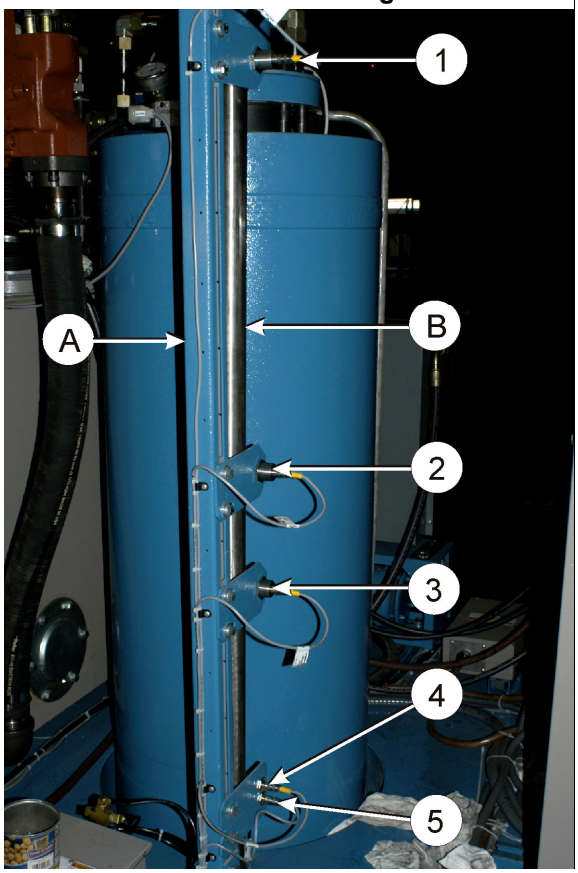
About the Ram Proximity Switches, Mounting Post, and Guide Rod

Milnor® single stage press models use several proximity switches to detect and report to the microprocessor controller, the position of moving components such as the can and ram. The switch positions are set at the factory and, with the exception of the five proximity switches that detect ram position, do not normally need to be field checked. The ram proximity switches are located on a mounting post on top of the machine next to the ram guide rod, which serves as the switch target (see Figure 1). Both the switch mounting post and the guide rod are removed for shipment and must be re-installed on site. These components must be properly positioned and the switches tested to ensure proper function.

In Figure 1, the ram proximity switches (items 1 through 5) are identified by their functional labels (see "Inputs" in the schematic manual) and the operational conditions they are associated with.

Figure 1: Ram Proximity Switches, Related Components and Switch Functions

Switches on Mounting Post



Legend

A. Proximity switch mounting post

B. Ram guide rod (serves as switch target)

1. PXST "Ram full up"—The ram is approximately at its upper mechanical limit of travel.

2. PXSM "Ram inside can"—The descending diaphragm has started to enter the full circle of the receiving chute where the free-falling ram must now begin to apply pressing pressure.

3. PXSU "Ram at unload"—The diaphragm is just completely inside the full circle of the receiving chute. At discharge, the ram parks at this position so that the discharging cake has clearance, but if the cake is stuck in the can, the ram will push it out when the can rises.

4. PXSL "Ram at low"—The ram has descended farther than it could have if the press had a full load. Hence, the controller assumes a partial load and reduces pressing pressure.

5. PXSB "Ram full down"—The diaphragm is approximately one inch above the bed; the lowest position the ram can travel in automatic operation without risking component damage.

This procedure uses the *Manual* mode (manual operation) as explained in the reference manual. It requires two technicians—one to check and adjust the switch positions and the other to operate the press controls. Both technicians must understand press safety and be able to clearly communicate with each other.

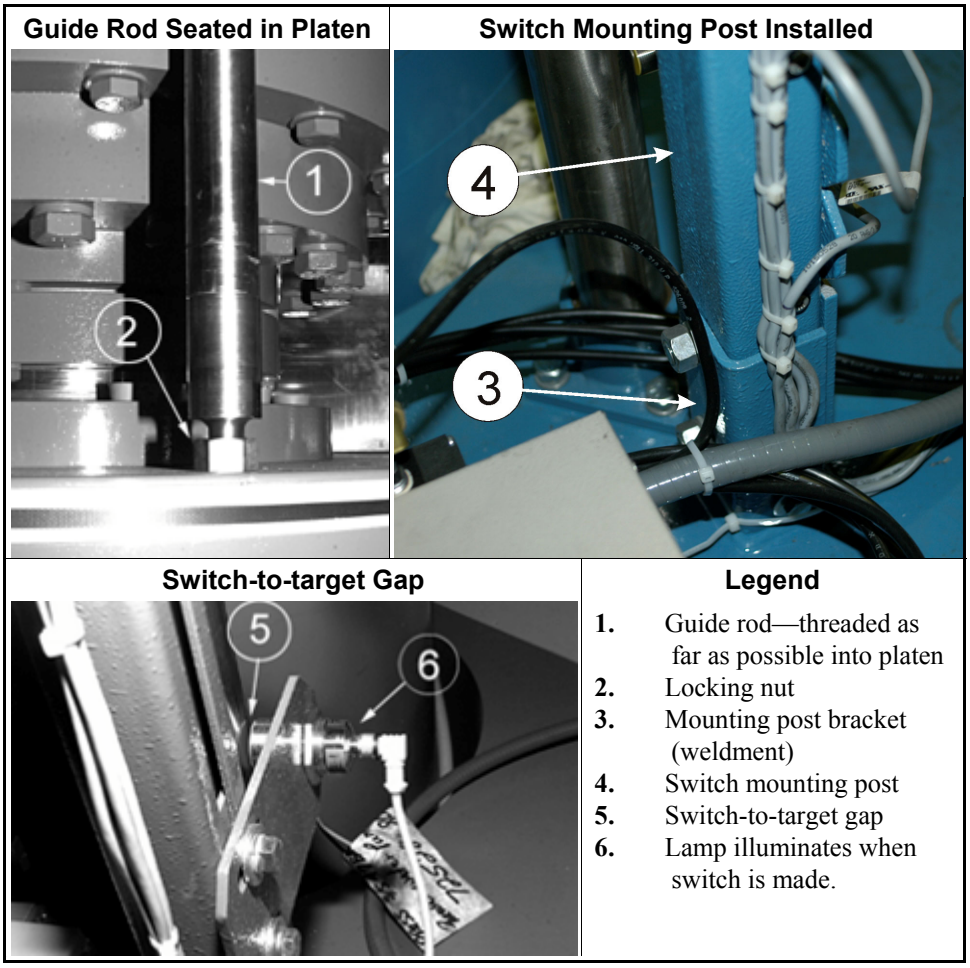
1. Installing the Guide Rod and Switch Mounting Post and Setting the Switch-to-target Gap

When the guide rod is installed at the factory for testing, it is threaded as far as possible into the platen. Repeat this on site, as shown in Figure 2, to avoid any change in switch actuation resulting from the rod protruding slightly farther.

Install the switch mounting post in its bracket (weldment) as shown in Figure 2 and tighten down. The post has fairly negligible play within the bracket. However, make sure that each switch horizontally aligns with the target (guide rod) and the switch-to-target gap is approximately:

PXST, PXSM, and PXSU (larger switches) = 0.2" (5 mm)
PXSL and PXSB (smaller switches) = 0.13" (3 mm)

Figure 2: Installing the Guide Rod and Switch Mounting Post



2. Checking and Setting the Switch Vertical Positions

Whether the press is newly installed or has been in operation, the press must be functional and have a properly filled diaphragm (see Note 1) before the proximity switch vertical positions can be checked. These checks and adjustments require two technicians: one works on top of the machine to make the adjustments and the other operates the controls in *Manual* mode.

Note 1: Refer to documents BIPPMM03, "Installing the Milnor Diaphragm in the Single Stage Press" and BIPPMM10 "How to Fill and Maintain the Diaphragm" for diaphragm instructions.

WARNING 1: Crush and Sever Hazards—The can and ram move independently. During operation these components move without warning. These components can also drift down with power off. Any of several closing gaps will crush or sever body parts.

- Proceed only if a qualified service technician, knowledgeable in press manual operation.
- Use the door interlock bypass key switch in strict compliance with the instructions.
- Install the safety supports and lockout/tagout power before reaching into, or working under the can or ram.
- Ensure that personnel and obstructing equipment are clear of the press before operating it or returning to manual operation.
- Ensure that personnel and equipment are clear before operating the machine.
- Be prepared to use emergency stop switches.

CAUTION 2: Multiple Hazards—Various components above the press top plate move or become hot or energized. Hydraulic piping may leak. Working area is tight and may be slippery. When maintenance work necessitates getting on top of the press:

- Ensure only qualified service personnel perform top-of-press work.
- Identify and stand clear of components that move (such as the diaphragm rod) or become hot (such as the pump and motor).
- Use safe, appropriate equipment for getting on and off of the machine.
- Ensure solid footing and guard against slippery surfaces. Wash surfaces with detergent.

Notice 3: Risk of Damage and Misalignment—Moving the ram through the bottom of the can will cause the diaphragm to forcefully rub against the can, possibly causing damage. This does not occur in automatic operation.

- If the maintenance work necessitates placing the can up and the ram down: 1) lower the can onto the press bed, 2) lower the diaphragm onto the press bed, 3) raise the can.
- If goods become jammed between the ram and can, withdraw the ram through the top of the can. Attempting to push the ram through the bottom will only jam the goods tighter.

3. PXST "Ram full up"

This is the only ram proximity switch that is functional in *Manual* mode; that is, the switch stops ram travel even if commanded up manually. The switch is properly set if it stops ram movement just as the ram reaches it's upper mechanical limit. If this occurs before the upper mechanical limit is reached, you cannot tell by sound or movement, how far away the ram is from it's mechanical limit. However, assuming the switch bracket is near the top of the post, it is sufficient to verify that the ram does not reach its upper mechanical limit without actuating the switch.

Start with the can down and the ram up.

1. Lower the ram a few inches.
2. While one technician observes PXST, the other slowly raises the ram.
3. If the switch lamp illuminates, the switch is properly set. If the ram mechanically stops without actuating the switch:
   a. Move the switch as far up the switch post as possible.
   b. While one technician commands the ram up to hold it against its mechanical stop, the other slowly moves PXST down just until the switch lamp illuminates.

c. Secure the switch at this position.

4. PXSM "Ram inside can" and PXSU "Ram at unload"

These two switches are checked and set is similar fashion. Start with the can down and the ram up. To adjust PXSM:

1. One technician observes PXSM and signals the other technician when the switch lamp extinguishes. The other technician slowly lowers the ram and stops when signaled.
2. Observe the diaphragm position. If the bottom edge of the diaphragm is one to two inches (25 to 51 mm) inside the full circle of the receiving chute, as shown in Figure 3, the switch is properly set. If not:
   a. Move the ram to the position shown in Figure 3.
   b. Move the switch up on the post then slowly lower it just until the switch lamp extinguishes.
   c. Secure the switch at this position.

Figure 3: Where Ram Should Begin to Apply Power (PXSM)

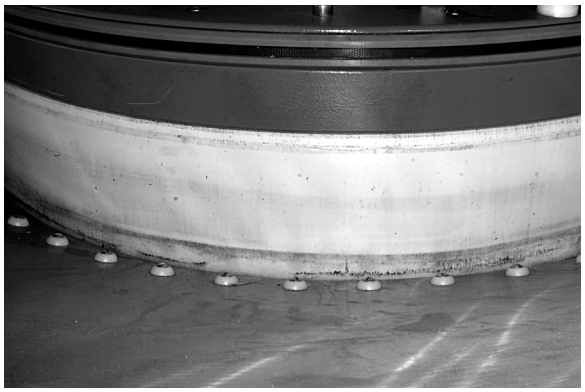
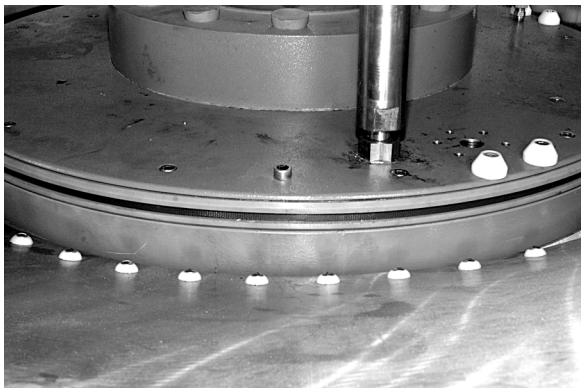


Figure 4: Where Ram Should Park for Unload (PXSU)



Use the same technique to check and set PXSU. The proper diaphragm position is when the diaphragm is just fully inside the full circle of the receiving chute, as shown in Figure 4.

5. PXSL "Ram at low" and PXSB "Ram full down"

PXSL and PXSB are set at the same time because their mounting brackets abut each other, as shown in Figure 5. PXSB is set first, then PXSL is simply placed above PXSB, with their brackets touching.

PXSB is properly set if, when the ram descends, this switch de-actuates (switch lamp extinguishes) when the diaphragm is one inch (25 mm) above the press bed, as shown in Figure 6.

CAUTION 4: Risk of diaphragm damage and poor extraction—The PXSB ("Ram full down") setting and the diaphragm water level, together, greatly affect both diaphragm life and machine performance. PXSB set too low and/or an overfilled diaphragm is likely to severely shorten diaphragm life. PXSB set too high and/or an under-filled diaphragm will impede extraction, especially with partial loads.

- Maintain the specified diaphragm-to-bed clearance.
- Maintain a properly filled diaphragm (see Note 1).

Start with the can up (safety stands installed) and the ram down.

1. Raise the ram about six inches (about 150 mm).
2. One technician observes PXSB and signals when the switch lamp extinguishes. The other technician slowly nudges the ram down and stops when signaled.
3. Lockout/tagout power and measure the diaphragm-to-bed gap. If this measures one inch (25 mm) as shown in Figure 6, the switch is properly set. If not:
   a. Lower the diaphragm onto the press bed and release the controls.
   b. Move PXSL out of the way by raising it about six inches (about 150 mm).
   c. Move PXSB to a position exactly one inch (25 mm) above where the top of the guide rod is currently.
   d. Secure the switch at this position.
   e. Test this position by repeating Item 1 through Item 3 several times. Adjust the switch position if necessary.
   f. Once PXSB is secured, move PXSL down until the PXSB and PXSL brackets are touching and secure it in this position.

Figure 5: PXSL and PXSB With Abutting Brackets

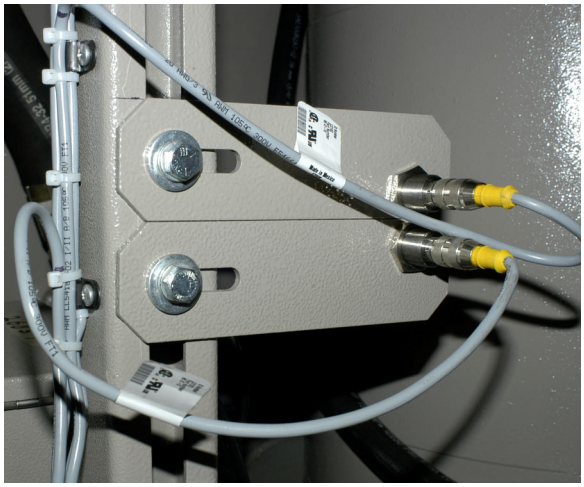
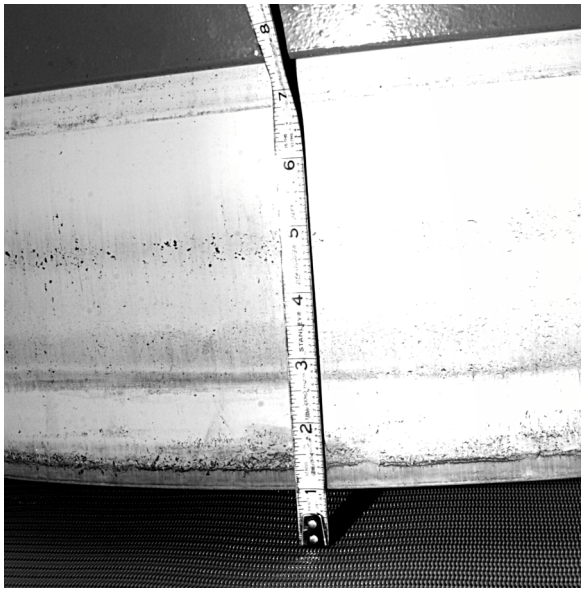


Figure 6: PXSB Diaphragm-to-Bed Clearance



— End of BIPPMM02 —

Instructions for Raising the Single Stage Press Cylinder Using a Portable Pump: Installation Kits KYSSHYPP01 or KYSSHYPP02

Document..... BIPPMI05
Specified Date..... 20010314
As-of Date..... 20010314
Access Date..... 20010314

Applicability..... PPM
Language Code..... ENG01

This installation kit is intended for use when low ceilings or roof construction methods at the installation site prohibit the use of a crane or a come-along to raise the cylinder into position. Use kit KYSSHYPP01 for 200-240V, 346-380V and 400-480V or kit KYSSHYPP02 for 600V installations. These kits require three phase power of the correct voltage at or near the machine installation site. The hydraulic pumps included in the kits draw approximately 6 amps at 220VAC. This procedure requires two technicians to lift the pump into place, handle the cylinder covers and operate the remote pump while observing the hydraulic lines and connections for leaks or breaks.

Table 1: Kit Component Weight

Component	Pounds	Kilograms
Pump	105	47.7
Cylinder cover	15	6.8
Cylinder pump plate	45	20.5

1. At The Pump

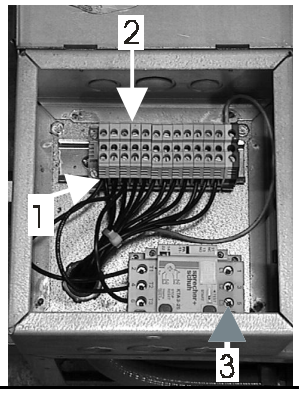
1. Position two drums of Shell TELLUS 68 hydraulic oil (or equivalent) next to the single stage press.
2. Set pump on oil drum as shown in Figure 2. Two technicians (or a suitable lifting device) are required to lift the pump.
3. Remove both bungs from drum top.

   Danger 1: Electrocution Hazard—Contact with high voltage can kill or seriously injure you.

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

4. Consult the motor connection plate (mounted on the inside cover of the electrical connection box) and jumper the pump motor terminal strip correctly for the available three phase power (Figure 1). Note that terminal connection 1 of the pump motor terminal strip is easily identified, as it is the only end connection with two wires.

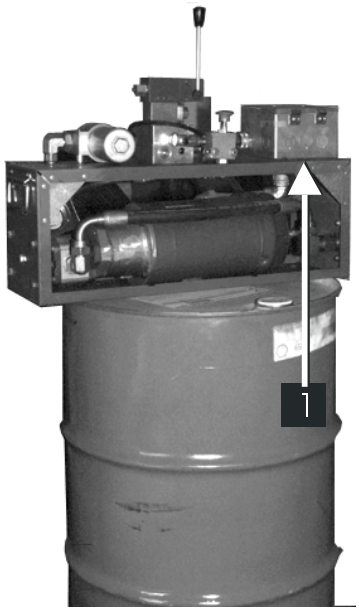
Figure 1: Electrical Connection Box Terminals

Pump motor and three phase power terminal	Legend
	**1.** Position 1 on motor terminal **2.** Insert jumper wires on this side **3.** Three phase power connections

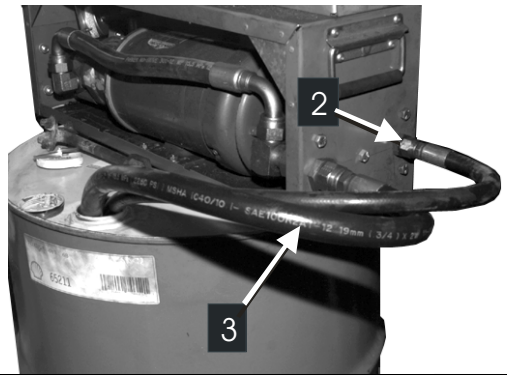
5. Make three phase power connections from the pump relay connections (Figure 1) to the wall disconnect box.
6. Energize power and verify that the pump is rotating in the clockwise direction (as viewed from the motor fan end).
7. Connect the 3/4" suction and 1/2" bypass hose to the pump as shown in Figure 2. Put suction and bypass hoses into oil drum.
8. Verify that the two position red button release knob is in the down position. The red button release functions as follows:
   - When the red button is in the up position, and the pump actuation lever is moved, oil drawn from the drum by the pump is returned directly to the drum via the bypass hose.
   - When the red button is in the down position, and the actuation lever is moved, oil drawn from the drum by the pump is sent to the device being filled.

Figure 2: Pump Connections and Controls

Pump on top of oil drum



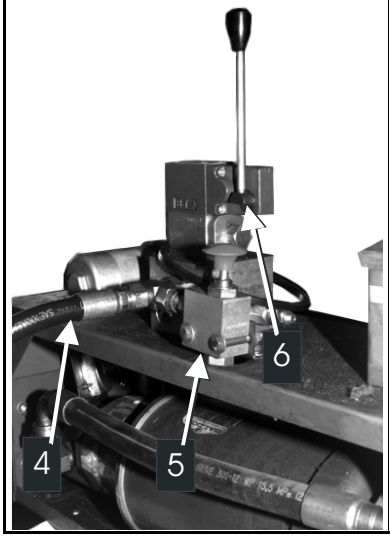
Pump by-pass and fill hose connections and destinations



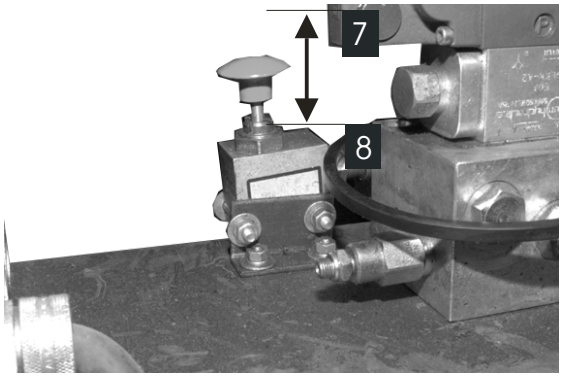
Legend

1. Electrical connection box
2. By-pass hose
3. Suction hose
4. Fill hose
5. Red button release knob
6. Pump actuation lever
7. Red button release knob up - oil is bypassed to drum
8. Red button release knob down - oil is pumped to cylinder tube or rod

Pump fill hose connection and pump controls



Red button release knob operation details



2. At the Cylinder Tube

1. Carefully working on top of the press, completely unscrew the eyebolt and remove the cylinder cover (Figure 3). Lay a clean rag on top of the exposed cylinder to prevent debris from falling in. Retain the eyebolt, cylinder cover and bolts for later use.

2. Remove the cover rag and install the kit pump plate fitted with the hydraulic hose connection (Figure 4).
3. Connect the 1/2" fill hose to the plate fitting (Figure 5) and the fill hose connection on the pump (Figure 2).
4. Remove the ram drain plug from the cylinder flange (Figure 6). A small amount of oil may drip from hole after plug is removed. This oil is left over from the testing process.
5. Remove the shipping material from around cylinder (Figure 7).
6. Install the provided all-thread guide rods into three equidistant cylinder flange mounting holes (Figure 8).

Figure 3: Unscrew Lifting Eye and Remove Cylinder Cover

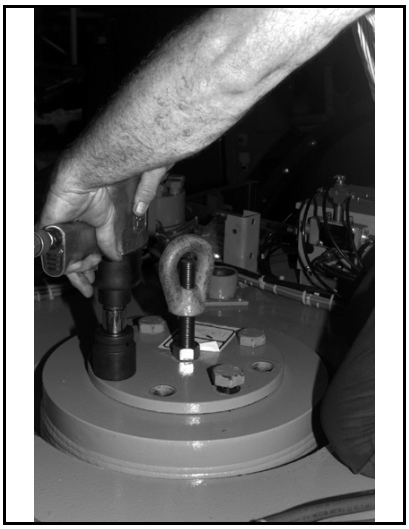


Figure 4: Install Hydraulic Fitting Equipped Cylinder Cover

Figure 5: Installing Fill Hose from Pump

Figure 6: Remove Ram Drain Plug

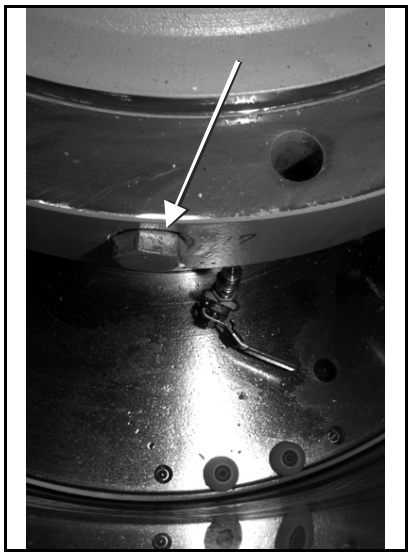
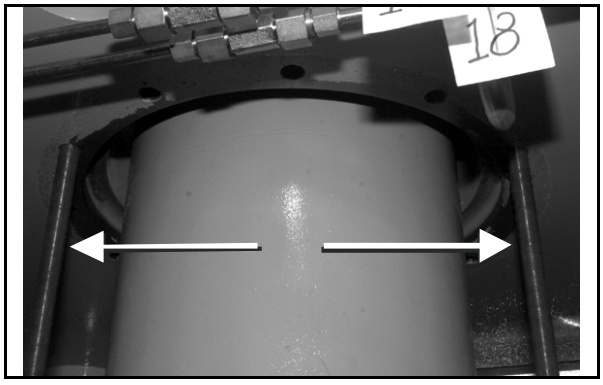


Figure 7: Remove the Cylinder Shipping Material

Figure 8: Install the All-thread in Cylinder Flange Mounting Holes



3. Raising the Cylinder Tube

1. Turn on pump and actuate the pump. Please note that it takes 10-15 minutes for the pump to raise cylinder into position to be bolted up. Observe the slowly rising cylinder (Figure 9) to ensure that the all-thread guide rods smoothly enter the cylinder flange (Figure 10).
2. Once the ends of the guide rods have sucessfully passed through the flange, continue actuating the pump, while watching the rising cylinder and checking the oil lines for leaks.
3. Secure the cylinder with mounting bolts once cylinder is fully seated (See “Single Stage Press Installation” for additional information and torque specifications).
4. Pull red button release knob up to drain the oil from the cylinder fill line back into the oil drum. Disconnect fill line after cylinder is completely bolted in place.

Figure 9: Rising Cylinder Engaging the All-thread Guide Rods

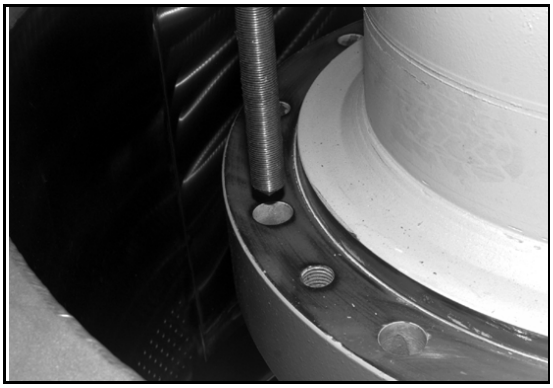
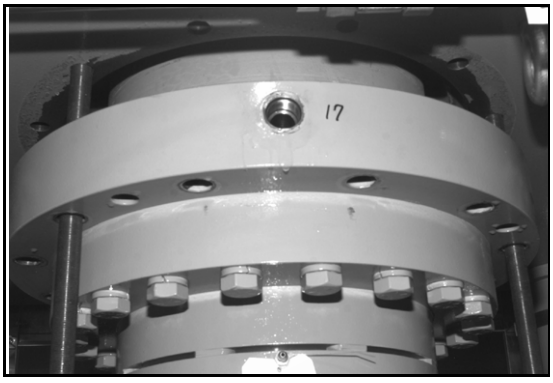


Figure 10: Raising Cylinder into Mounting Position

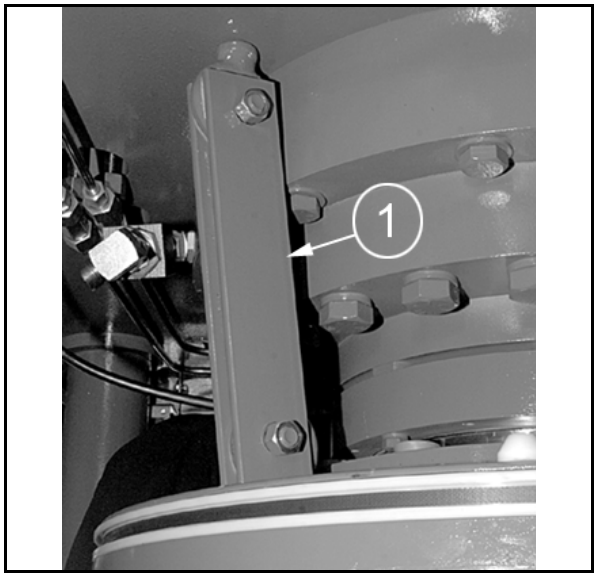


4. Raising the Cylinder Rod

1. Set pump on second oil drum. Two technicians (or a suitable lifting device) are required to lift the pump off of the first drum.

2. Remove both bungs from drum top.
3. Put by-pass and suction hoses into oil drum.
4. Connect the 1/2" fill hose (previously used to raise the tube) to the ram drain (Figure 6).
5. Connect a 1" line to the fitting plate on top of the cylinder. Put the other end of this hose into the other oil drum.
6. Verify that the red button release knob is down.
7. Turn on pump and actuate the lever.
8. Attach the diaphragm safety bars (Figure 11) as soon as the platen is high enough to do so. If the mounting eyes do not align, push on the rising platen with a long wooden board until the eyes align.
9. After the diaphragm safety bars are installed, pull the red knob release knob up to drain the oil from the rod fill line back into the oil drum.
10. Remove the fill plate and drain all the oil lines into the drum.
11. Continue installation process as per “Single Stage Press Installation.”

Figure 11: Diaphragm Safety Bars (Item 1)



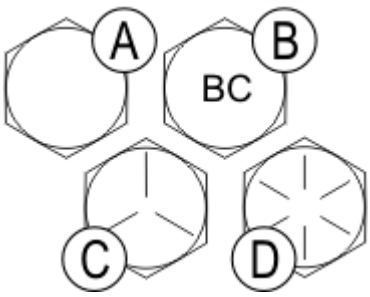
— End of BIPPMI05 —

BIUUUM04 (Published) Book specs- Dates: 20080506 / 20080506 / 20080506 Lang: ENG01 Applic: UUU

Fastener Torque Requirements

Torque requirements for other fasteners are specified in the specific document which describes the assembly. **If fastener torque specifications or threadlocking compound requirements in an assembly document vary from the specifications in this document, use the assembly document.**

Figure 1: Common Bolts Used in Milnor Equipment

Bolt Head Identifying Marks	Legend
	**A.** SAE Grades 1 and 2, ASTM A307, and stainless steel **B.** ASTM A354 Grade BC **C.** SAE Grade 5, ASTM A449 **D.** SAE Grade 8 and ASTM A354 BD

1. Torque Values

The tables below list the standard size, grade, threadlocking compound, and torque requirements for fasteners commonly used on Milnor® equipment.

Note 1: Data derived from Pellerin Milnor® Corporation "Bolt Torque Specification" (bolt_torque_milnor.xls/2002096).

1.1. Carbon Steel Fasteners

1.1.1. Without Threadlocking Compound

Table 1: Torque Values for Dry Fasteners 5/16-inch and Smaller

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	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	--	--

Table 2: Torque Values for Dry Fasteners Larger Than 5/16-inch

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	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
3/14 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 5/16-inch and Smaller

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	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

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	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
3/14 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 Threadlocking Compound

Table 5: Threadlocking Compound Selection by Bolt Size

	Bolt Size			
LocTite Product	1/4"	1/4" – 5/8"	5/8" – 7/8"	1" +
LocTite 222	OK			
LocTite 242		OK		
LocTite 262			OK	
LocTite 272			High temperature	
LocTite 277				OK

Table 6: Torque Values for Applications of LocTite 222

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	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 for Applications of LocTite 242

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	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 for Applications of LocTite 262

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	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 for Applications of LocTite 272 (High Temperature)

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	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 for Applications of LocTite 277

	Bolt Grade							
	Grade 2		Grade 5		Grade 8		Grade BC	
Bolt Size	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

	316 Stainless		18-8 Stainless		18-8 Stainless with Loctite 767	
Nominal Bolt Size	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

Bolt Size	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 1: Fire Hazard—Some solvents and primer products are flammable.

- Use in a well ventilated area.
- Do not use flammable products near ignition sources.

1. Clean all threads with a wire brush, a tap, or a die.
2. Degrease the fasteners and the mating threads with a cleaning solvent. Wipe the parts dry.

   Note 2: LocTite 7649 Primer N™ will remove grease from parts, but it costs more than a standard organic or petroleum solvent.

3. Prime the fasteners and the mating threads with LocTite 7649 Primer N™ or equal. Allow the primer to dry for at least one minute.

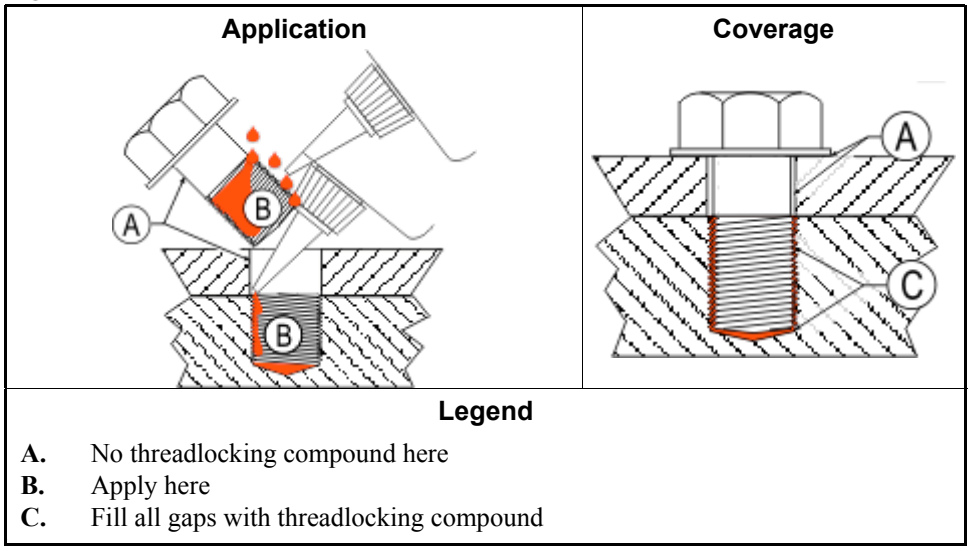
3. Application of Threadlocking Compound

CAUTION 2: Malfunction Hazard—Improper application of threadlocking compounds may result in fasteners becoming loose from impact, heat, or vibration. Loose fasteners can cause the equipment to malfunction.

- Read and follow the threadlocking compound manufacturer's instructions and warnings.

Apply threadlocking compound to the thread engagement areas of fasteners and mating threads only.

Figure 2: Blind Hole



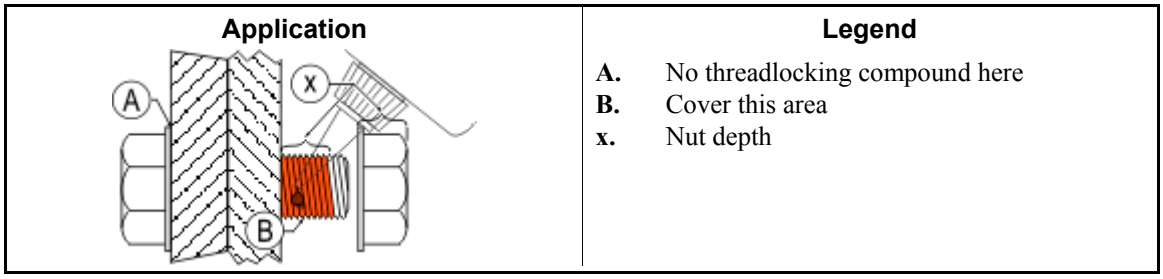
3.1. Blind Holes

1. Apply several drops of threadlocking compound down the female threads to the bottom of the hole.
2. Apply several drops of threadlocking compound to the bolt.
3. Tighten bolt to value shown in the appropriate table (Table 5 through Table 11).

3.2. Through Holes

1. Insert bolt through assembly.
2. Apply several drops of threadlocking compound to the bolt thread area that will engage the nut.
3. Tighten bolt to value shown in the appropriate table (Table 5 through Table 11).

Figure 3: Through Hole

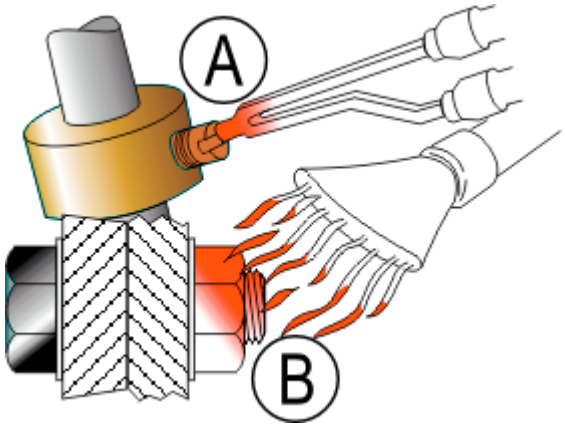


3.3. Disassembly—For low-strength and medium-strength products, disassemble with hand tools.

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

Figure 4: Disassembly

Use Localized Heat



Legend

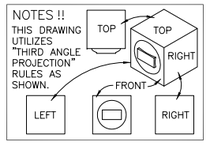
A. Soldering gun heating small fastener
B. Torch heating large fastener

— End of BIUUUM04 —

Section 3

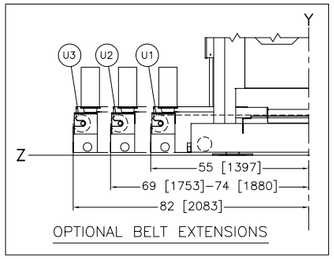
Dimensional Drawings

NOTES !!
THIS DRAWING UTILIZES "THIRD ANGLE PROJECTION" RULES AS SHOWN.



DIMENSIONS THAT VARY WITH PRESS FOOT SPECIFIED:

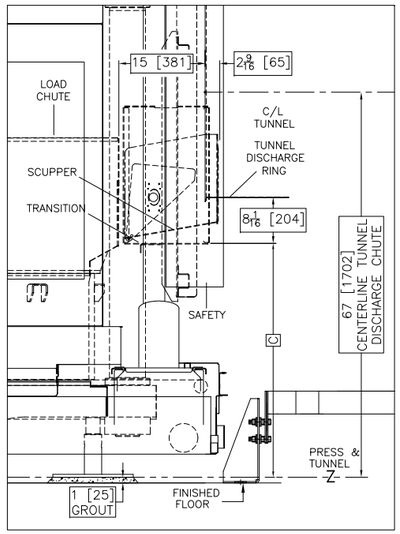
	A		B		C		D	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
4-1/2" FOOT	14	355	64	1625	37 11/16	958	147 7/16	3746
7-1/2" FOOT	17	432	67	1701	40 11/16	1034	150 7/16	3822



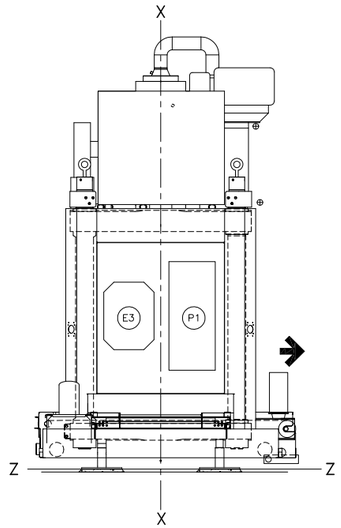
OPTIONAL BELT EXTENSIONS

DRAWING FOR:
MP1550CR,CL WITH 11 CUBIC FOOT CAN.
CAN HEIGHT 18.50"[470MM]

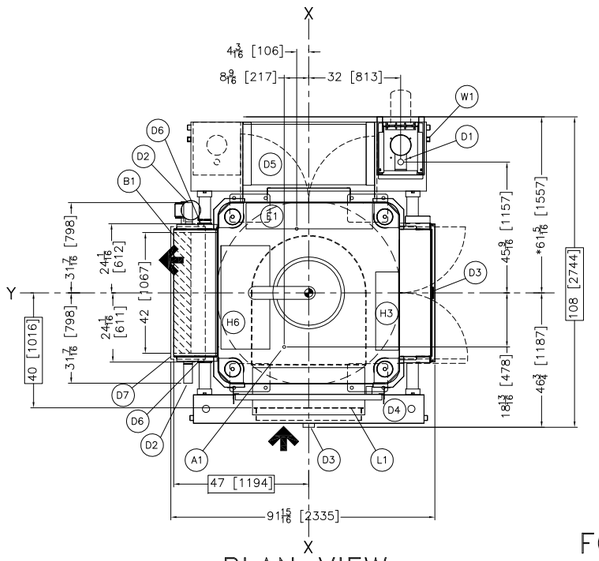
CAPACITY OF DRY LINEN	110LB/50KG
DIAMETER OF CAKE	36"[914MM]
MAXIMUM PRESSURE	725 PSI (50 BAR)



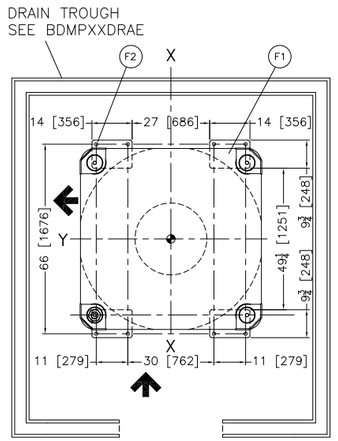
INSTALLATION DETAIL



REAR VIEW

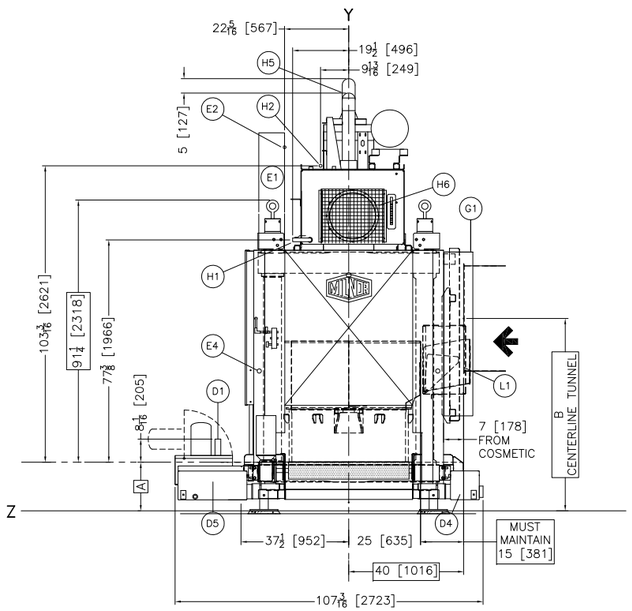


PLAN VIEW

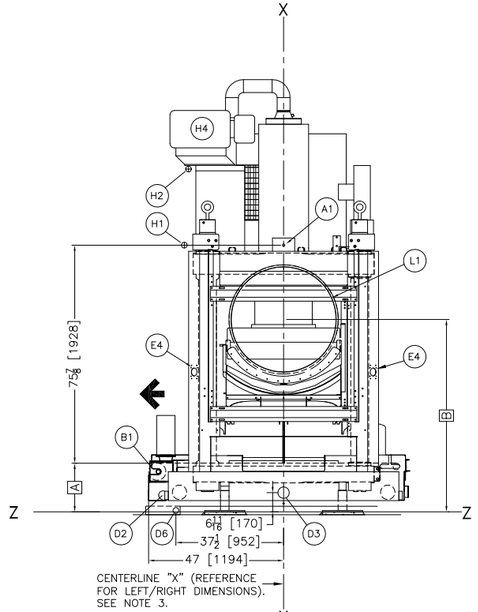


FOUNDATION PLAN VIEW

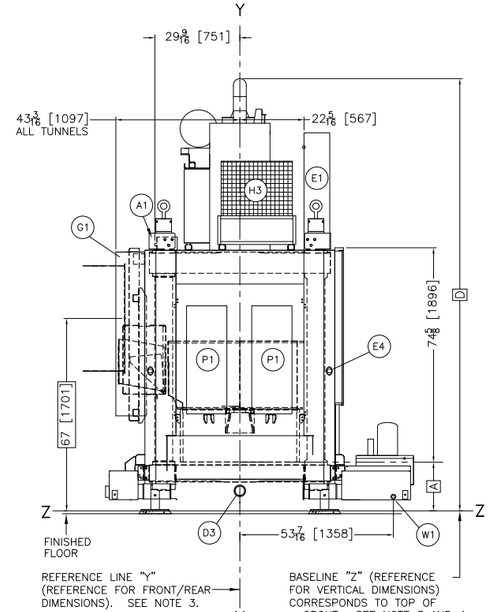
W1	WATER FROM LAST MODULE OF TUNNEL, 1" NPT, PIPING
	SUPPLIED BY PMC.
U3	OPTIONAL 35"[889] CONVEYOR EXTENSION [DISCHARGE END].
U2	OPTIONAL 24"[610] CONVEYOR EXTENSION [DISCHARGE END].
U1	OPTIONAL 8"[203] CONVEYOR EXTENSION [DISCHARGE END].
P1	HINGED ACCESS DOOR.
L1	TUNNEL DISCHARGE RING
H6	HYDRAULIC TANK
H5	OPTIONAL LOWER PREFILL PIPE
H4	HYDRAULIC PUMP MOTOR
H3	HYDRAULIC COOLING UNIT
H2	HYDRAULIC TANK MANUAL FILL, 3/4" FEMALE QUICK CONNECT
H1	HYDRAULIC TANK MANUAL DRAIN, 3/4" MALE QUICK CONNECT
F2	1 1/8"[29] DIAMETER ANCHOR BOLT HOLES, USE MINIMUM
	5/8" X 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM.
F1	FOOTPAD, TYPICAL 4 PLACES.
G1	LOAD CHUTE SAFETY GUARD
E4	EMERGENCY STOP BUTTONS, (ONE AT EACH CORNER.)
E3	MICROPROCESSOR CONTROLS
E2	MAIN ELECTRICAL CONNECTION, INTO MAIN ELECTRICAL BOX
	PER SPECIFICATIONS
E1	ELECTRICAL CONTROL BOXES
D7	DRIP PAN
D6	2" FNPT PIPE TO DRAIN, 2 AVAILABLE CONNECTIONS,
	1 PLUGGED
D5	24" WIDE REUSE TANK, SEE NOTE 9.
D4	10" WIDE REUSE TANK, SEE NOTE 9.
D3	REUSE TANK OVERFLOW, 3" PVC PIPE SOCKET JOINT, SEE
	NOTE 11.
D2	OVERFLOW CONNECTION, 3" PIPE SOCKET JOINT, CAPPED
	ONE SIDE.
D1	REUSE PUMP, 24" TANK ONLY, IN ONE OF THE TWO
	LOCATIONS SHOWN, 1-1/2" NPT DISCHARGE
B1	DISCHARGE ROLLER
A1	MAIN AIR CONNECTION, 1/4" NPT
ITEM	LEGEND



LEFT VIEW



FRONT VIEW



RIGHT VIEW

REFERENCE LINE "Y" (REFERENCE FOR FRONT/REAR DIMENSIONS). SEE NOTE 3.

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

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

NOTES

11 EACH OVERFLOW MUST BE INDIVIDUALLY DRAINED TO SEWER.

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

9 THE PRESS USES 1 -24" WIDE AND 1 - 10" WIDE REUSE TANK. (*) THE 24" WIDE TANK MAY BE SPECIFIED ON THE LEFT OR THE RIGHT.

8 NON-STANDARD 11 DEGREE LOADING FOR BOTTOM TRANSFER TUNNELS ONLY.

7 ELECTRICS MAY BE LOCATED ON LEFT SIDE, RIGHT SIDE OR BACK SIDE. THE ELECTRICS LOCATION DEPENDS UPON THE FLOW DIRECTION OF GOODS.

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

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

2 NUMBERS IN BRACKETS [] DENOTE DIMENSIONS IN MILLIMETERS.

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

ATTENTION

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

ATTENTION

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

MP1550L/MP1540L

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMP15LFCE 2010226D

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

NOTES !!
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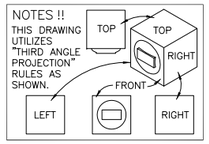

DIMENSIONS THAT VARY WITH PRESS FOOT SPECIFIED:

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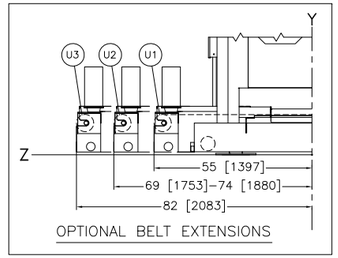
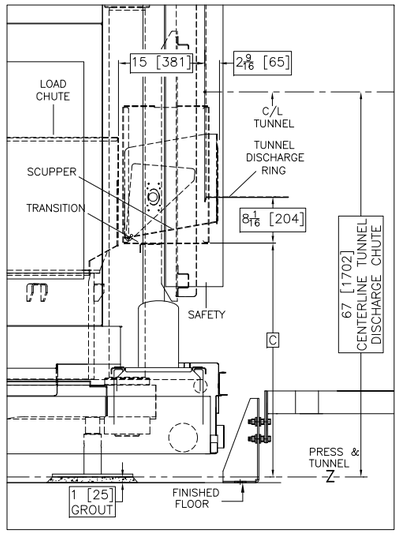


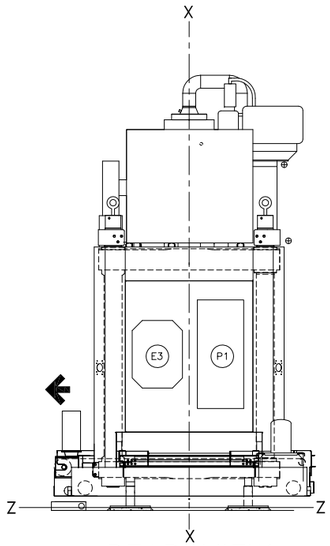
OPTIONAL BELT EXTENSIONS

DRAWING FOR:
MP1550CR,CL WITH 11 CUBIC FOOT CAN.
CAN HEIGHT 18.50"[470MM]

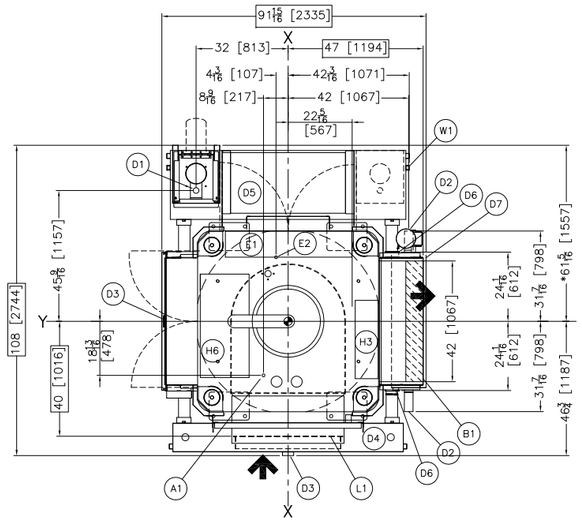
CAPACITY OF DRY LINEN	110LB/50KG
DIAMETER OF CAKE	36"[914MM]
MAXIMUM PRESSURE	725 PSI (50 BAR)



INSTALLATION DETAIL

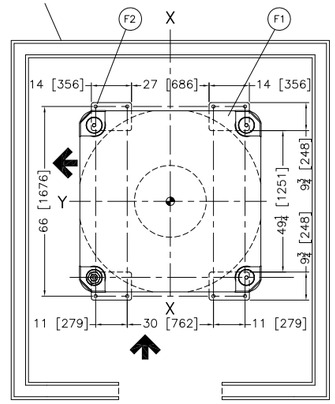


REAR VIEW



PLAN VIEW

DRAIN TROUGH
SEE BDMPXXDRAE



FOUNDATION PLAN VIEW

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H6	HYDRAULIC TANK
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H1	HYDRAULIC TANK MANUAL DRAIN, 3/4" MALE QUICK CONNECT
F2	1 1/8"[29] DIAMETER ANCHOR BOLT HOLES, USE MINIMUM 5/8" X 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM.
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E4	EMERGENCY STOP BUTTONS, (ONE AT EACH CORNER.)
E3	MICROPROCESSOR CONTROLS
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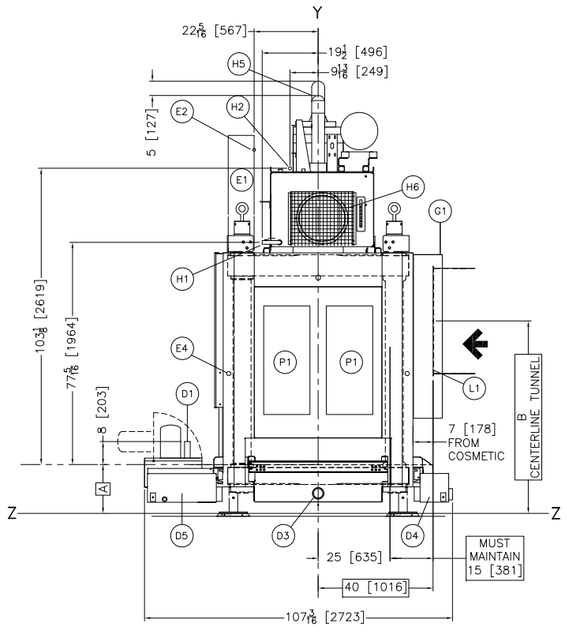
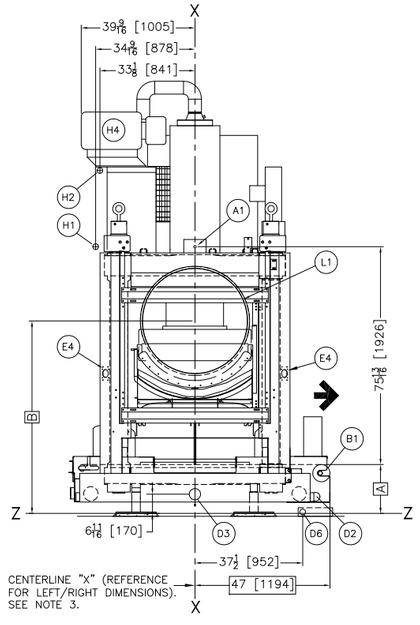
E1	ELECTRICAL CONTROL BOXES
D7	DRIP PAN
D6	2" FNPT PIPE TO DRAIN, 2 AVAILABLE CONNECTIONS, 1 PLUGGED
D5	24" WIDE REUSE TANK, SEE NOTE 9.
D4	10" WIDE REUSE TANK, SEE NOTE 9.
D3	REUSE TANK OVERFLOW, 3" PVC PIPE SOCKET JOINT, SEE NOTE 11.
D2	OVERFLOW CONNECTION, 3" PIPE SOCKET JOINT, CAPPED ONE SIDE.
D1	REUSE PUMP, 24" TANK ONLY, IN ONE OF THE TWO LOCATIONS SHOWN, 1–1/2" NPT DISCHARGE
B1	DISCHARGE ROLLER
A1	MAIN AIR CONNECTION, 1/4" NPT
ITEM	LEGEND

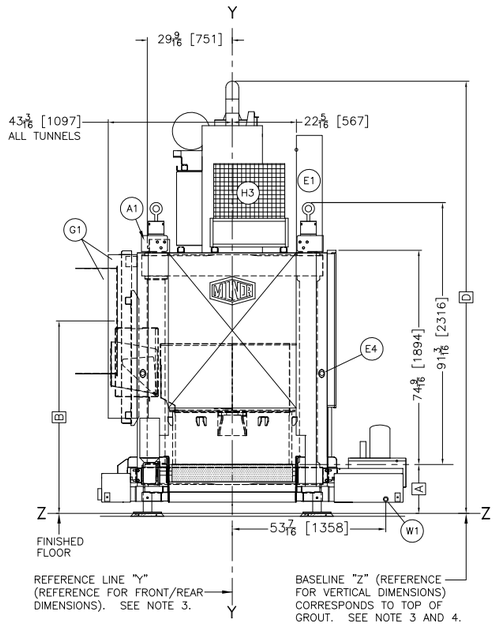


LEFT VIEW



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

FRONT VIEW



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RIGHT VIEW

NOTES

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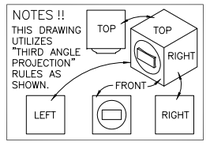
MP1550R/MP1540R

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMP15RTCE 2010226D

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

NOTES !!
THIS DRAWING UTILIZES "THIRD ANGLE PROJECTION" RULES AS SHOWN.



DIMENSIONS THAT VARY WITH PRESS FOOT SPECIFIED:

	A		B		C		D	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
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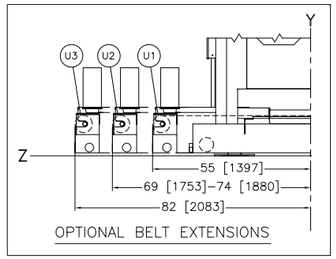
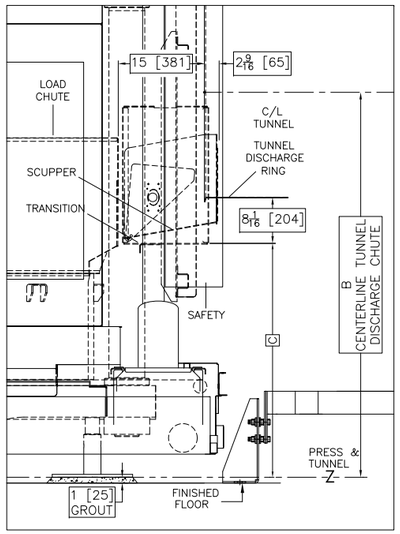


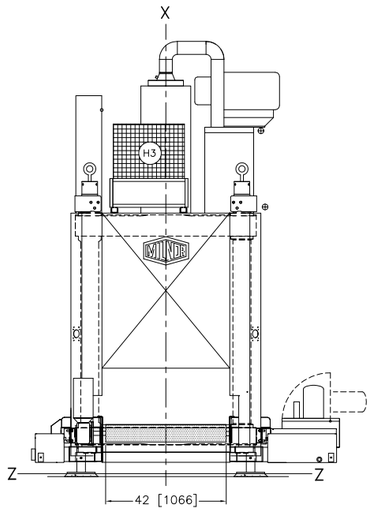
OPTIONAL BELT EXTENSIONS

DRAWING FOR:
MP1550CR,CL WITH 11 CUBIC FOOT CAN.
CAN HEIGHT 18.50"[470MM]

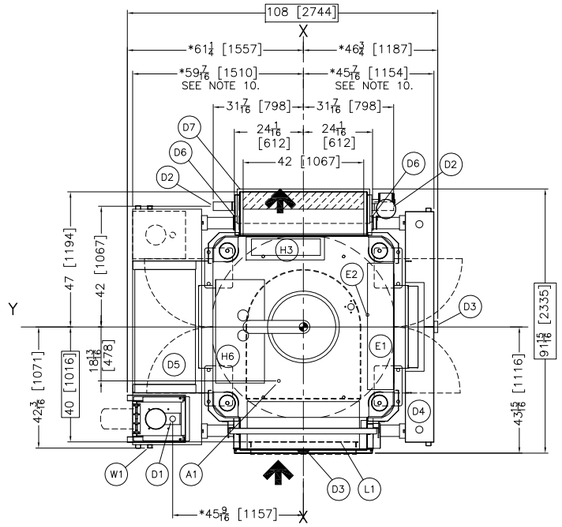
CAPACITY OF DRY LINEN	110LB/50KG
DIAMETER OF CAKE	36"[914MM]
MAXIMUM PRESSURE	725 PSI (50 BAR)



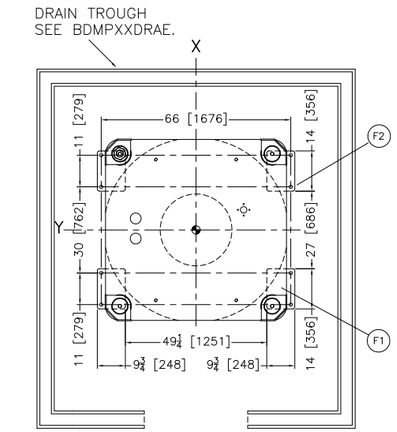
INSTALLATION DETAIL



REAR VIEW

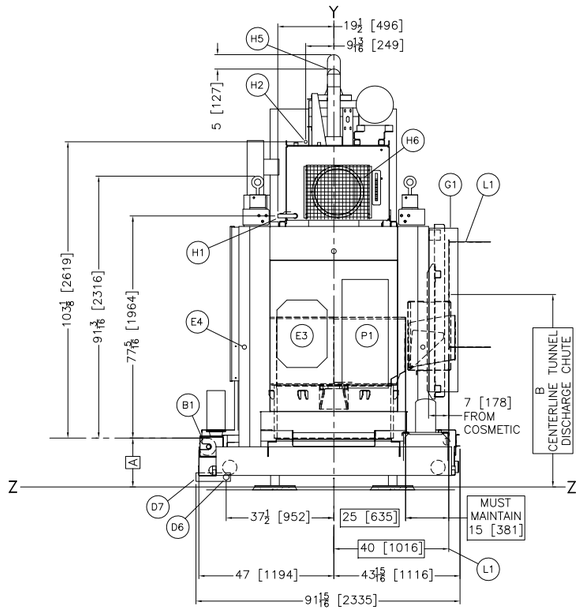


PLAN VIEW

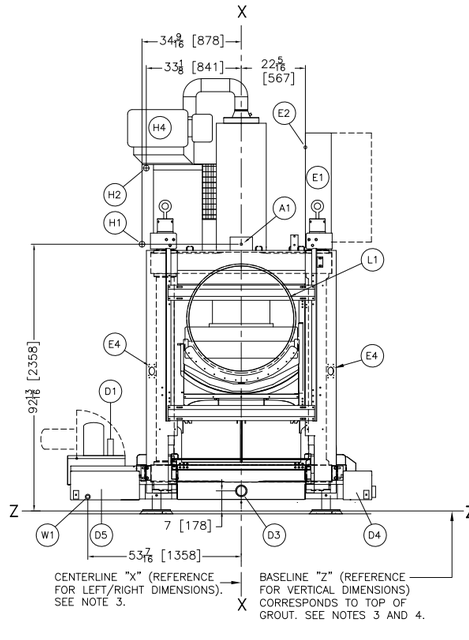


FOUNDATION PLAN VIEW

ITEM	LEGEND
W1	WATER FROM LAST MODULE OF TUNNEL, 1" NPT, PIPING
	SUPPLIED BY PMC.
U3	OPTIONAL 35"[889] CONVEYOR EXTENSION [DISCHARGE END].
U2	OPTIONAL 24"[610] CONVEYOR EXTENSION [DISCHARGE END].
U1	OPTIONAL 8"[203] CONVEYOR EXTENSION [DISCHARGE END].
P1	HINGED ACCESS DOOR.
L1	TUNNEL DISCHARGE RING
H6	HYDRAULIC TANK
H5	OPTIONAL LOWER PREFILL PIPE
H4	HYDRAULIC PUMP MOTOR
H3	HYDRAULIC COOLING UNIT
H2	HYDRAULIC TANK MANUAL FILL, 3/4" FEMALE QUICK CONNECT
H1	HYDRAULIC TANK MANUAL DRAIN, 3/4" MALE QUICK CONNECT
F2	1 1/8"[29] DIAMETER ANCHOR BOLT HOLES, USE MINIMUM
	5/8" X 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM.
F1	FOOTPAD, TYPICAL 4 PLACES.
G1	LOAD CHUTE SAFETY GUARD
E4	EMERGENCY STOP BUTTONS, (ONE AT EACH CORNER.)
E3	MICROPROCESSOR CONTROLS
E2	MAIN ELECTRICAL CONNECTION, INTO MAIN ELECTRICAL BOX
	PER SPECIFICATIONS
E1	ELECTRICAL CONTROL BOXES
D7	DRIP PAN
D6	2" FNPT PIPE TO DRAIN, 2 AVAILABLE CONNECTIONS,
	1 PLUGGED
D5	24" WIDE REUSE TANK, SEE NOTE 9.
D4	10" WIDE REUSE TANK, SEE NOTE 9.
D3	REUSE TANK OVERFLOW, 3" PVC PIPE SOCKET JOINT, SEE
	NOTE 11.
D2	OVERFLOW CONNECTION, 3" PIPE SOCKET JOINT, CAPPED
	ONE SIDE.
D1	REUSE PUMP, 24" TANK ONLY, IN ONE OF THE TWO
	LOCATIONS SHOWN, 1-1/2" NPT DISCHARGE
B1	DISCHARGE ROLLER
A1	MAIN AIR CONNECTION, 1/4" NPT



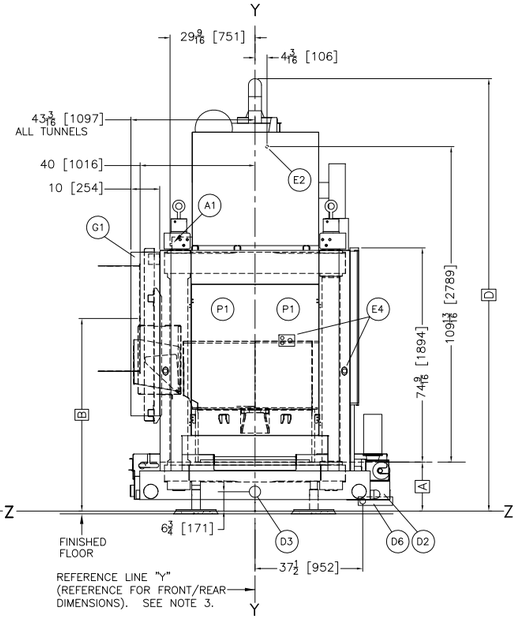
LEFT VIEW



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

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

FRONT VIEW



REFERENCE LINE "Y" (REFERENCE FOR FRONT/REAR DIMENSIONS). SEE NOTE 3.

RIGHT VIEW

NOTES

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MP1550CR,CL/MP1540CR,CL

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMP15CLCE 2010226D

PELLERIN MILNOR CORPORATION
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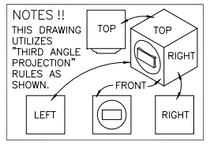

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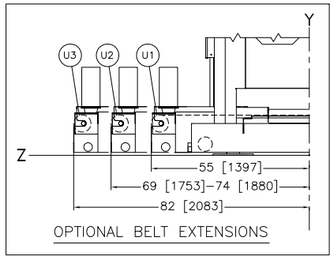
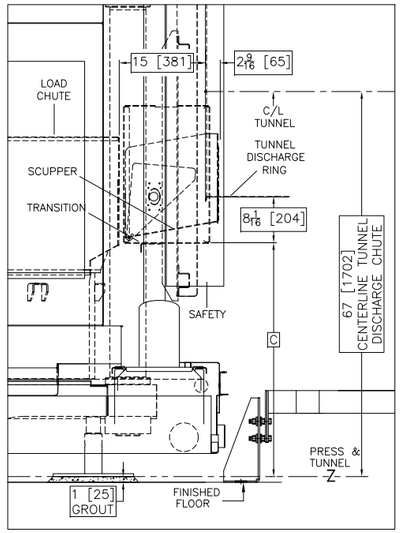


OPTIONAL BELT EXTENSIONS

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

CAPACITY OF DRY LINEN	110–150LB/50–68KG
DIAMETER OF CAKE	39 3/8"[1000MM]
MAXIMUM PRESSURE	508 PSI (35 BAR)



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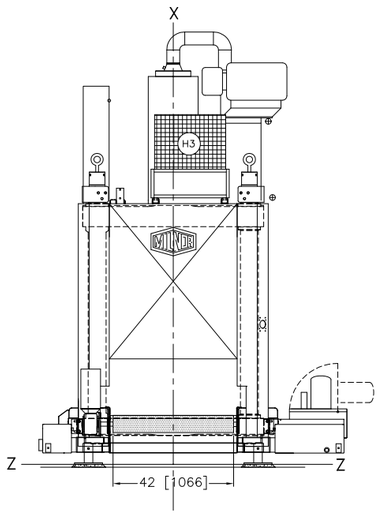

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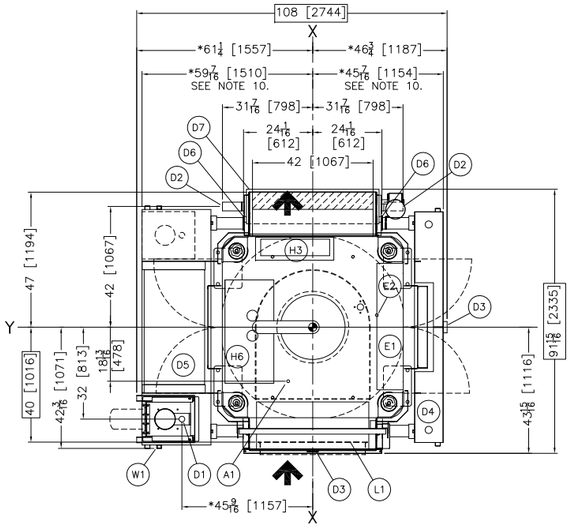

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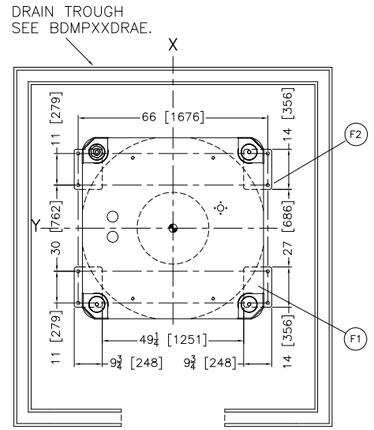
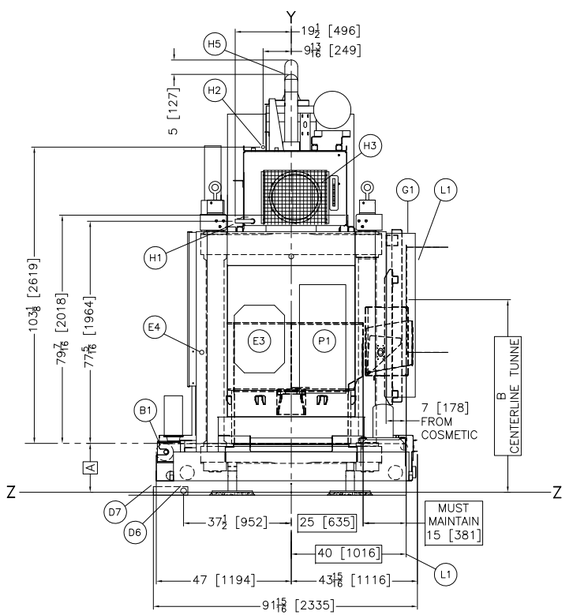


FOUNDATION PLAN VIEW



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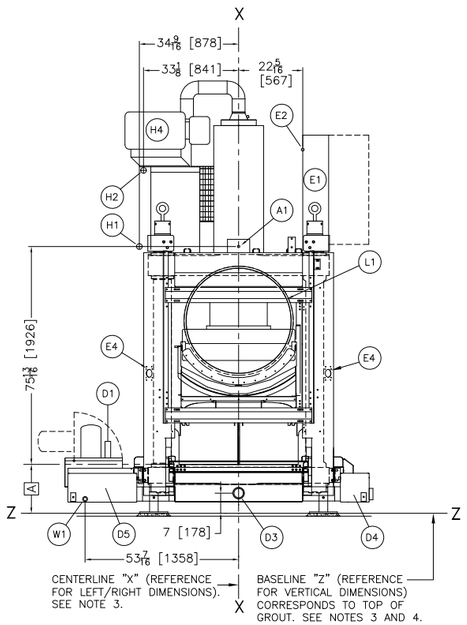
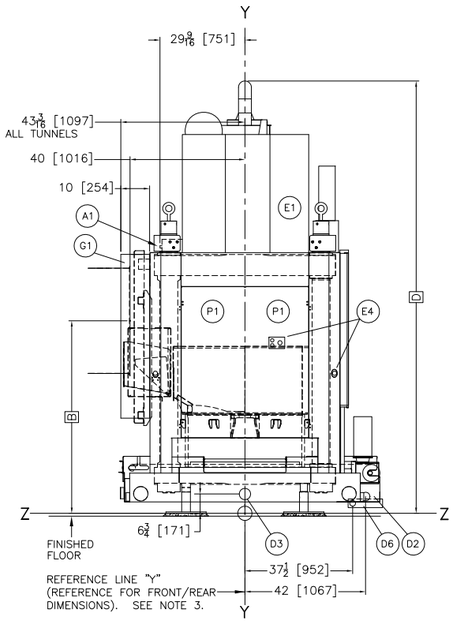


FRONT VIEW



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B1	DISCHARGE ROLLER
A1	MAIN AIR CONNECTION, 1/4" NPT

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MP1603CR,CL SINGLE STAGE PRESS

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMP35SSEE 2010226D

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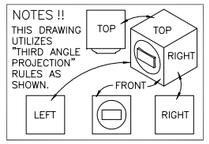

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CAPACITY OF DRY LINEN	110–150LB/50–68KG
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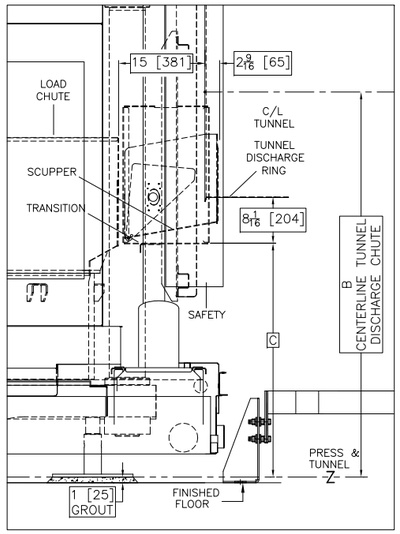
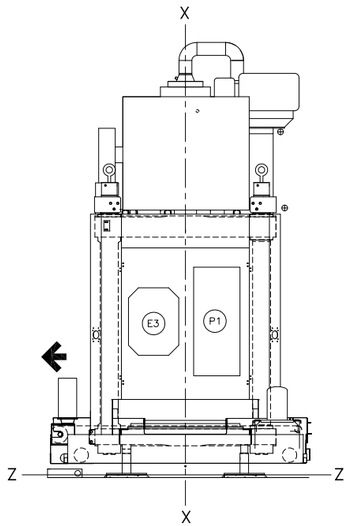


INSTALLATION DETAIL



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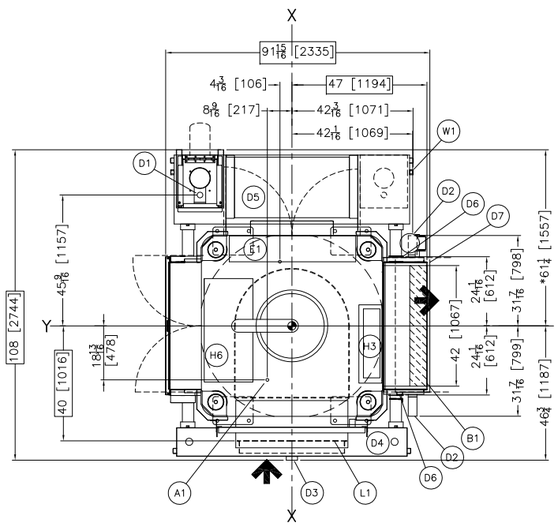

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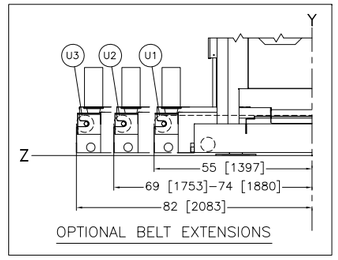
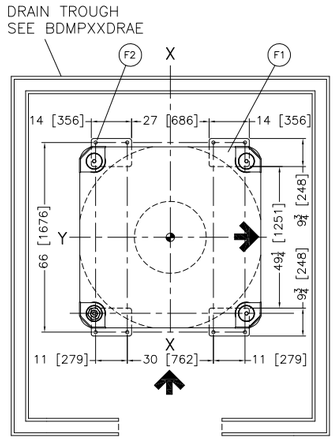
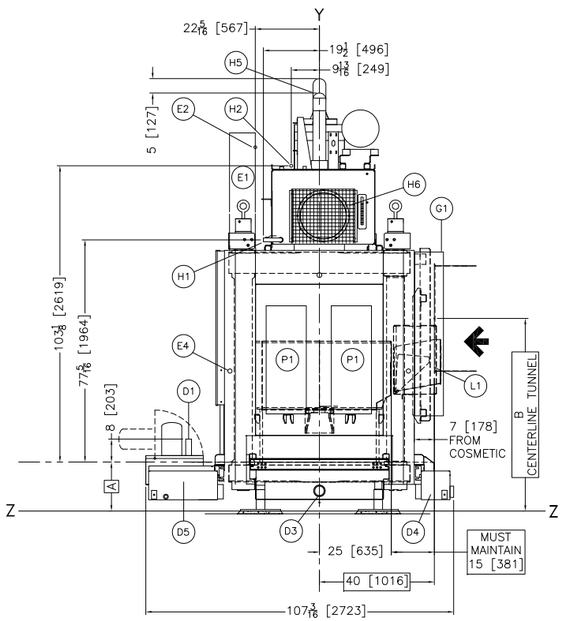


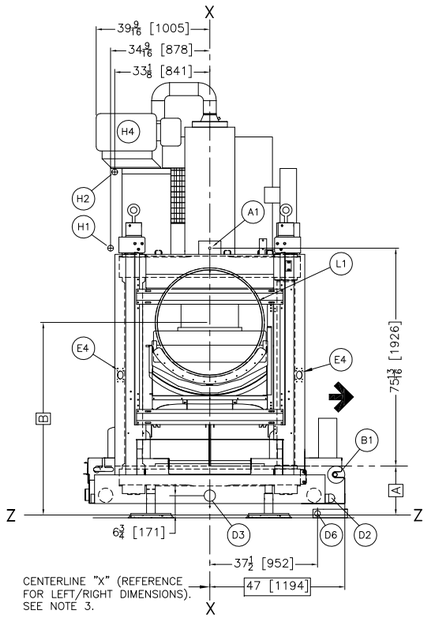
OPTIONAL BELT EXTENSIONS



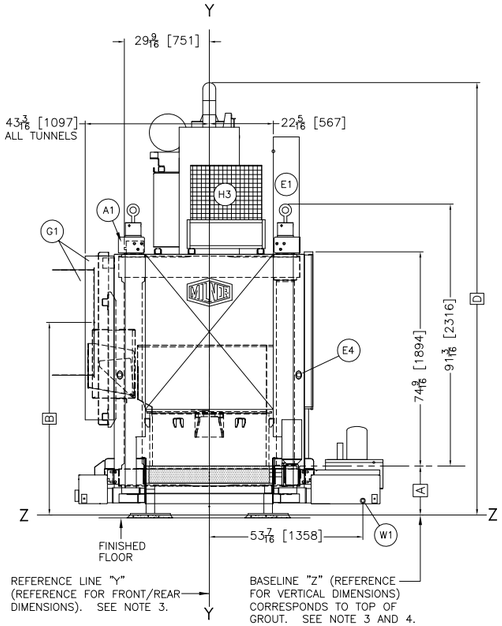
FOUNDATION PLAN VIEW



LEFT VIEW



FRONT VIEW



RIGHT VIEW

ITEM	LEGEND
W1	WATER FROM LAST MODULE OF TUNNEL, 1" NPT, PIPING SUPPLIED BY PMC.
U3	OPTIONAL 35"[889] CONVEYOR EXTENSION [DISCHARGE END].
U2	OPTIONAL 24"[610] CONVEYOR EXTENSION [DISCHARGE END].
U1	OPTIONAL 8"[203] CONVEYOR EXTENSION [DISCHARGE END].
P1	HINGED ACCESS DOOR.
L1	TUNNEL DISCHARGE RING
H6	HYDRAULIC TANK
H5	OPTIONAL LOWER PREFILL PIPE
H4	HYDRAULIC PUMP MOTOR
H3	HYDRAULIC COOLING UNIT
H2	HYDRAULIC TANK MANUAL FILL, 3/4" FEMALE QUICK CONNECT
H1	HYDRAULIC TANK MANUAL DRAIN, 3/4" MALE QUICK CONNECT
F2	1 1/8"[29] DIAMETER ANCHOR BOLT HOLES, USE MINIMUM 5/8" X 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM.
F1	FOOTPAD, TYPICAL 4 PLACES.
G1	LOAD CHUTE SAFETY GUARD
E4	EMERGENCY STOP BUTTONS, (ONE AT EACH CORNER.)
E3	MICROPROCESSOR CONTROLS
E2	MAIN ELECTRICAL CONNECTION, INTO MAIN ELECTRICAL BOX PER SPECIFICATIONS
E1	ELECTRICAL CONTROL BOXES
D7	DRIP PAN
D6	2" FNPT PIPE TO DRAIN, 2 AVAILABLE CONNECTIONS, 1 PLUGGED
D5	24" WIDE REUSE TANK, SEE NOTE 9.
D4	10" WIDE REUSE TANK, SEE NOTE 9.
D3	REUSE TANK OVERFLOW, 3" PVC PIPE SOCKET JOINT, SEE NOTE 11.
D2	OVERFLOW CONNECTION, 3" PIPE SOCKET JOINT, CAPPED ONE SIDE.
D1	REUSE PUMP, 24" TANK ONLY, IN ONE OF THE TWO LOCATIONS SHOWN, 1–1/2" NPT DISCHARGE
B1	DISCHARGE ROLLER
A1	MAIN AIR CONNECTION, 1/4" NPT

NOTES

11 EACH OVERFLOW MUST BE INDIVIDUALLY DRAINED TO SEWER.

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CHECK LOCAL ELECTRIC CODES FOR FURTHER RESTRICTIONS.

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ATTENTION

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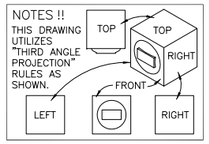
MP1603R SINGLE STAGE PRESS

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMP35RTEE 2010226D

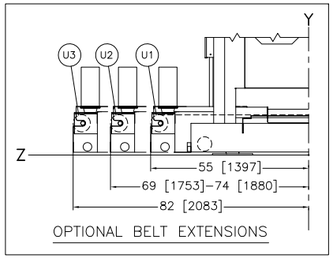
PELLERIN MILNOR CORPORATION
P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467–9591,
FAX 504/469–1849, Telex ITT 460124/PELM UI, Cable PELMILNOR

NOTES !!
THIS DRAWING UTILIZES "THIRD ANGLE PROJECTION" RULES AS SHOWN.



DIMENSIONS THAT VARY WITH PRESS FOOT SPECIFIED:

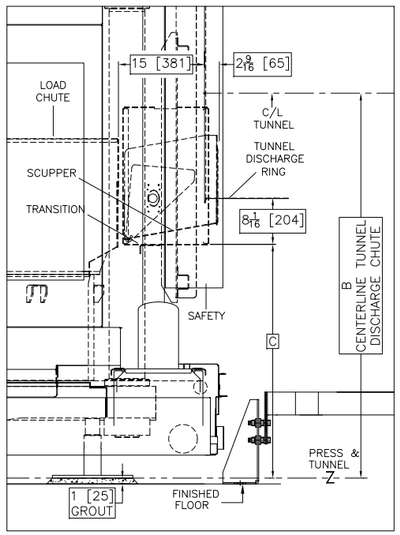
	A		B		C		D	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
4–1/2" FOOT	14	355	64	1625	37 11/16	958	147 7/16	3746
7–1/2" FOOT	17	432	67	1701	40 11/16	1034	150 7/16	3822



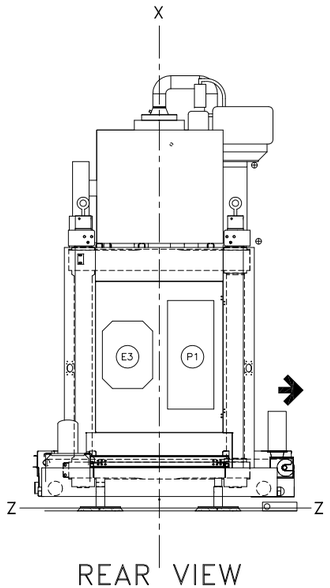
OPTIONAL BELT EXTENSIONS

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

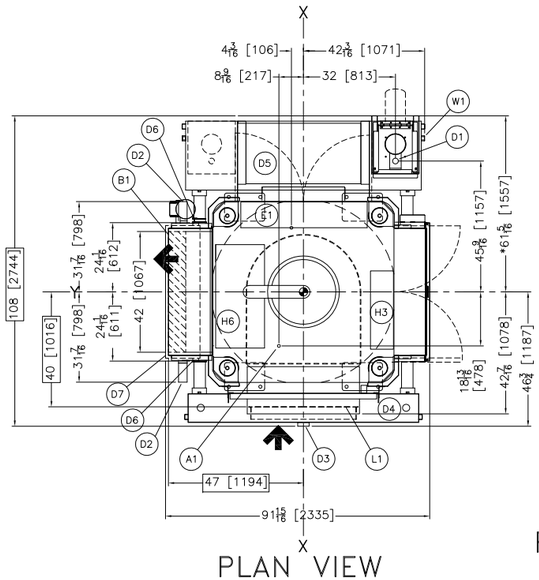
CAPACITY OF DRY LINEN	110–150LB/50–68KG
DIAMETER OF CAKE	39 3/8"[1000MM]
MAXIMUM PRESSURE	508 PSI (35 BAR)



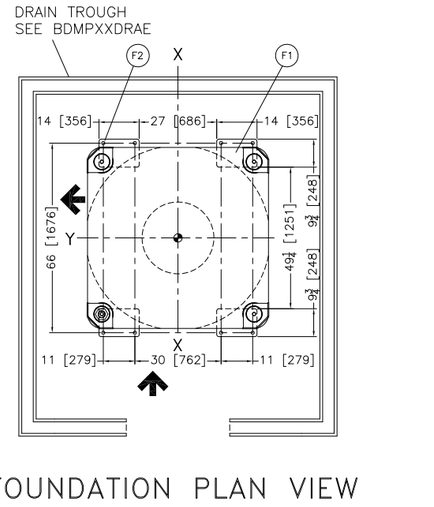
INSTALLATION DETAIL



REAR VIEW



PLAN VIEW



FOUNDATION PLAN VIEW

W1	WATER FROM LAST MODULE OF TUNNEL, 1" NPT, PIPING SUPPLIED BY PMC.
U3	OPTIONAL 35"[889] CONVEYOR EXTENSION [DISCHARGE END].
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P1	HINGED ACCESS DOOR.
L1	TUNNEL DISCHARGE RING
H6	HYDRAULIC TANK
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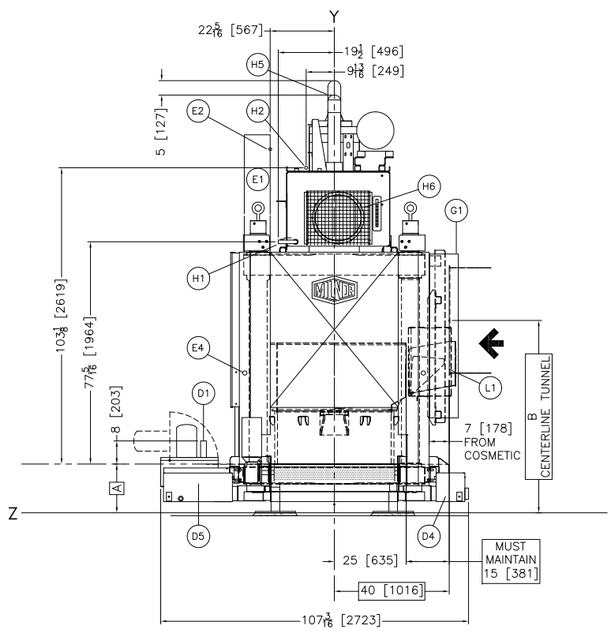
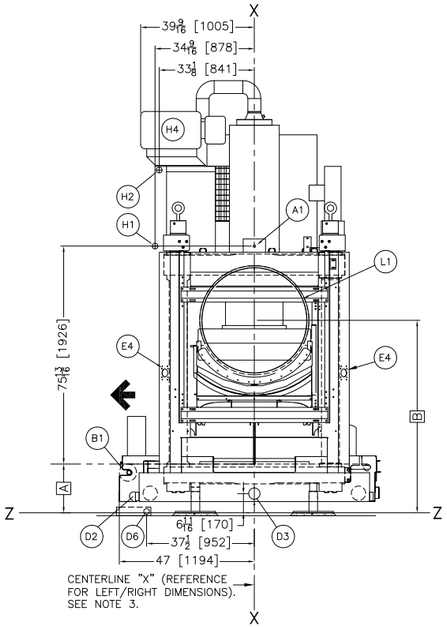
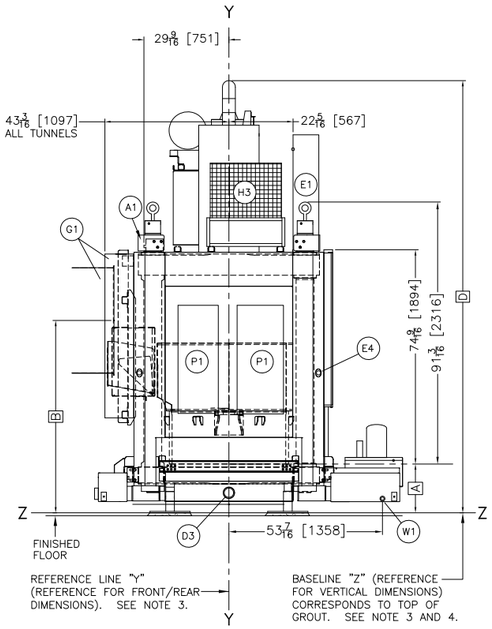
ITEM	LEGEND



LEFT VIEW



FRONT VIEW



RIGHT VIEW

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MP1603L SINGLE STAGE PRESS

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMP35LFEE 2010226D

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

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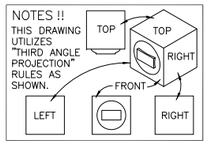
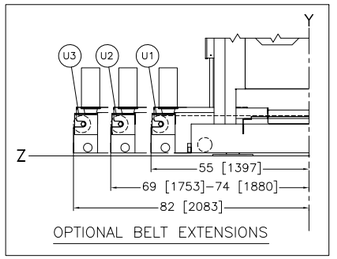


DIMENSIONS THAT VARY WITH PRESS FOOT SPECIFIED:

	A		B		C		D	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
4–1/2" FOOT	15 9/16	395	64	1625	39	991	151 7/16	3847
7–1/2" FOOT	18 9/16	471	67	1702	42	1067	154 7/16	3923

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

CAPACITY OF DRY LINEN	110–150LB/50–68KG
DIAMETER OF CAKE	39 3/8"[1000MM]
MAXIMUM PRESSURE	725 PSI (50 BAR)



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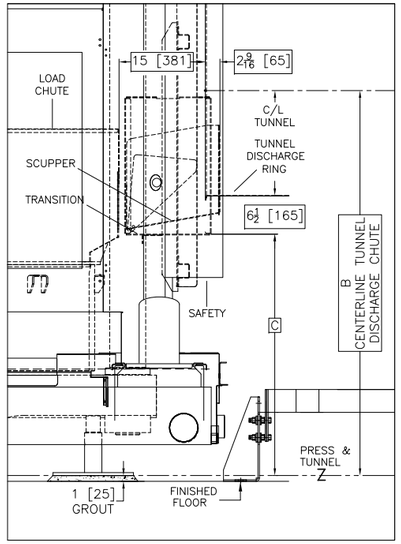
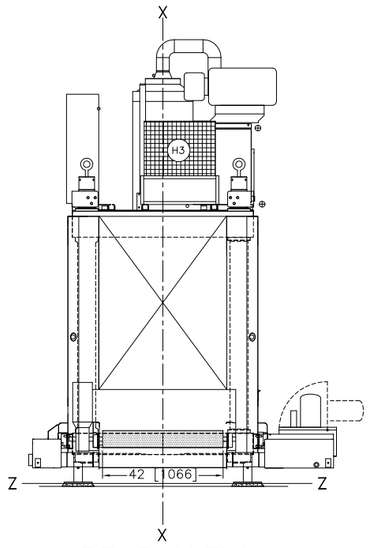
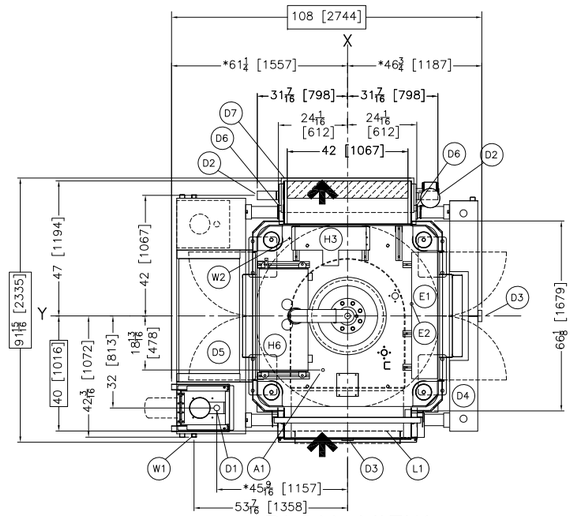


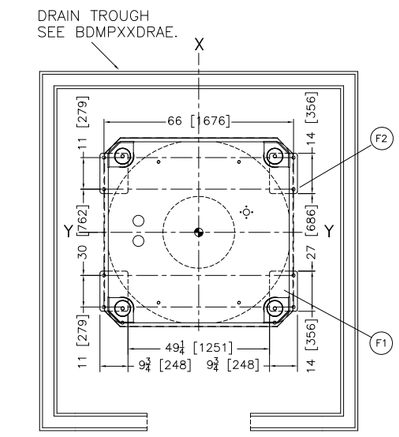
INSTALLATION DETAIL



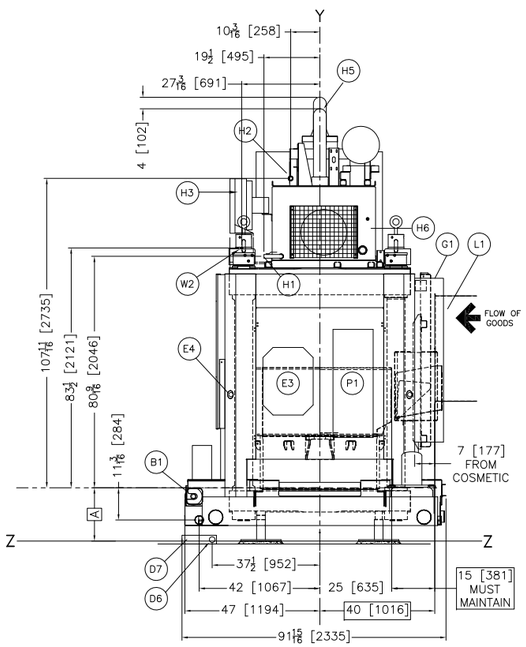
REAR VIEW



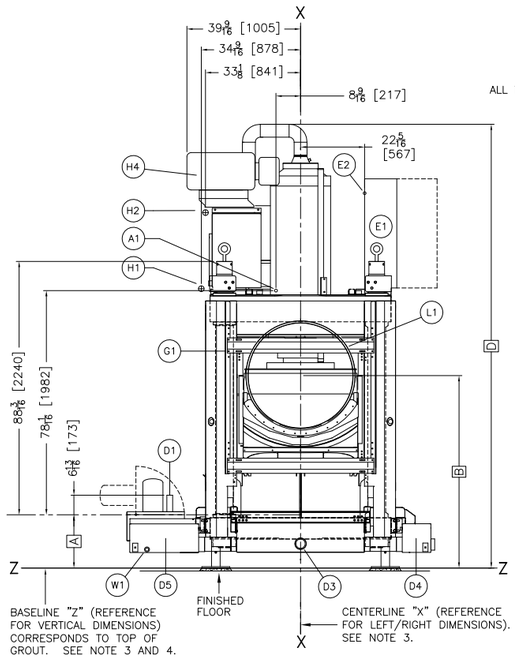
PLAN VIEW



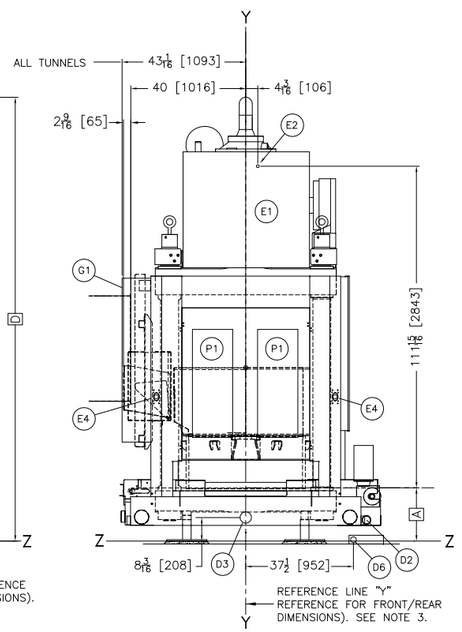
FOUNDATION PLAN VIEW



LEFT VIEW



FRONT VIEW



RIGHT VIEW

ITEM	LEGEND
W2	OPTIONAL WATER COOLED PRESS, 1/2" NPT CONNECTION
W1	WATER FROM LAST MODULE OF TUNNEL, 1" NPT, PIPING
	SUPPLIED BY PMC.
U3	OPTIONAL 35"[889] CONVEYOR EXTENSION [DISCHARGE END].
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L1	TUNNEL DISCHARGE RING
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G1	LOAD CHUTE SAFETY GUARD
E4	EMERGENCY STOP BUTTONS, (ONE AT EACH CORNER.)
E3	MICROPROCESSOR CONTROLS
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	PER SPECIFICATIONS
E1	ELECTRICAL CONTROL BOXES
D7	DRIP PAN
D6	2" FNPT PIPE TO DRAIN, 2 AVAILABLE CONNECTIONS,
	1 PLUGGED
D5	24" WIDE REUSE TANK, SEE NOTE 9.
D4	10" WIDE REUSE TANK, SEE NOTE 9.
D3	REUSE TANK OVERFLOW, 3" PVC PIPE SOCKET JOINT, SEE
	NOTE 11.
D2	OVERFLOW CONNECTION, 3" PIPE SOCKET JOINT, CAPPED
	ONE SIDE.
D1	REUSE PUMP, 24" TANK ONLY, IN ONE OF THE TWO
	LOCATIONS SHOWN, 1–1/2" NPT DISCHARGE
B1	DISCHARGE ROLLER
A1	MAIN AIR CONNECTION, 1/4" NPT

NOTES

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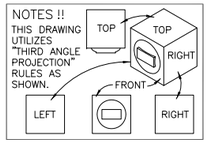
MP1604CL,CR SINGLE STAGE PRESS

DM 0 0.5M 1M
INCHES 0 12 24 36

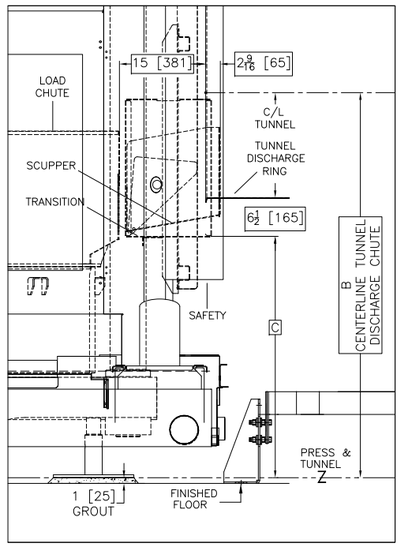
DWG# BDMP50SSEE 2010415D

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

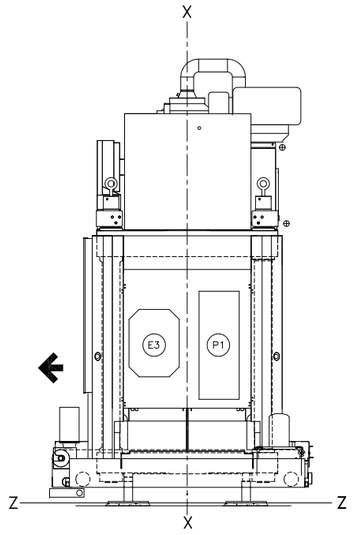
NOTES !!
THIS DRAWING UTILIZES "THIRD ANGLE PROJECTION" RULES AS SHOWN.



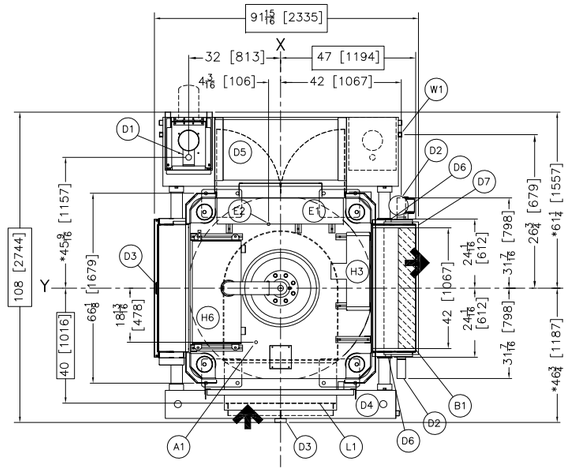
DIMENSIONS THAT VARY WITH PRESS FOOT SPECIFIED:								
	A		B		C		D	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
4-1/2" FOOT	15 9/16	395	64	1625	39	991	151 7/16	3847
7-1/2" FOOT	18 9/16	471	67	1702	42	1067	154 7/16	3923



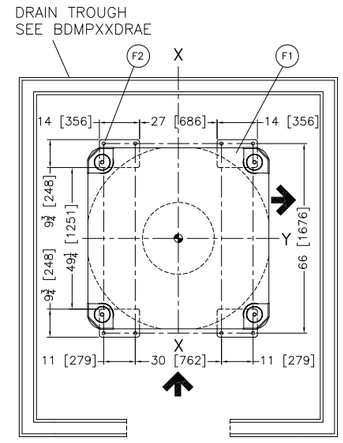
INSTALLATION DETAIL



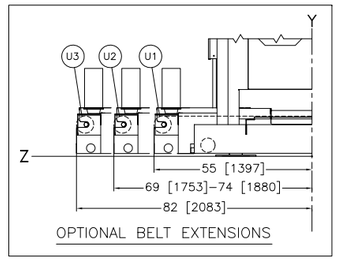
REAR VIEW



PLAN VIEW



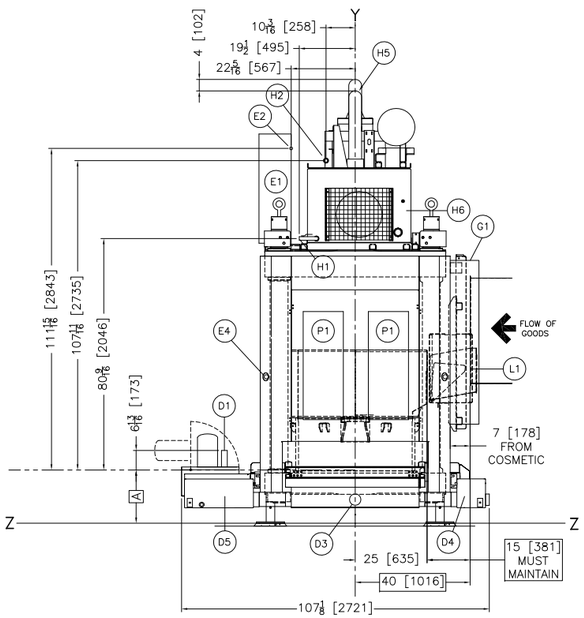
FOUNDATION PLAN



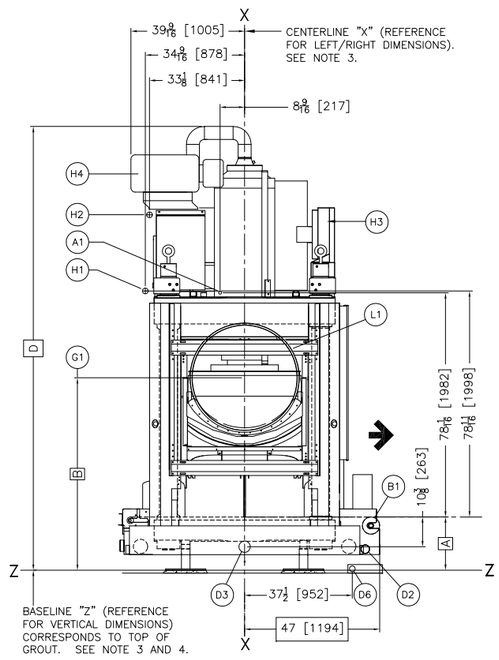
OPTIONAL BELT EXTENSIONS

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

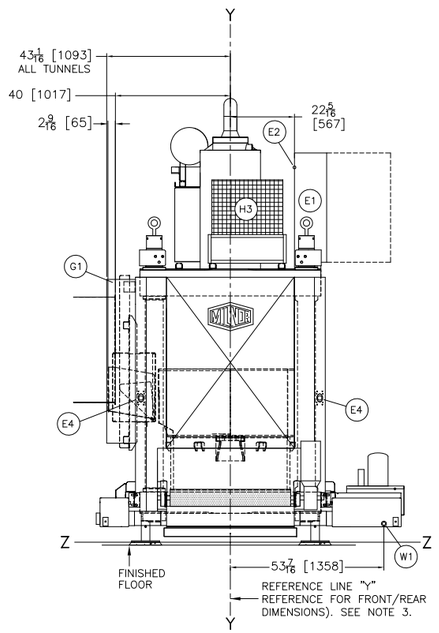
CAPACITY OF DRY LINEN	110-150LB/50-68KG
DIAMETER OF CAKE	39 3/8"[1000MM]
MAXIMUM PRESSURE	725 PSI (50 BAR)



LEFT VIEW



FRONT VIEW



RIGHT VIEW

ITEM	LEGEND
W1	WATER FROM LAST MODULE OF TUNNEL, 1" NPT, PIPING
	SUPPLIED BY PMC.
U3	OPTIONAL 35"[889] CONVEYOR EXTENSION [DISCHARGE END].
U2	OPTIONAL 24"[610] CONVEYOR EXTENSION [DISCHARGE END].
U1	OPTIONAL 8"[203] CONVEYOR EXTENSION [DISCHARGE END].
P1	HINGED ACCESS DOOR.
L1	TUNNEL DISCHARGE RING
H6	HYDRAULIC TANK
H5	OPTIONAL LOWER PREFILL PUMP
H4	HYDRAULIC PUMP MOTOR
H3	HYDRAULIC COOLING UNIT
H2	HYDRAULIC TANK MANUAL FILL, 3/4" FEMALE QUICK CONNECT
H1	HYDRAULIC TANK MANUAL DRAIN, 3/4" MALE QUICK CONNECT
F2	1 1/8"[29] DIAMETER ANCHOR BOLT HOLES, USE MINIMUM
	5/8" X 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM.
F1	FOOTPAD, TYPICAL 4 PLACES.
G1	LOAD CHUTE SAFETY GUARD
E4	EMERGENCY STOP BUTTONS, (ONE AT EACH CORNER.)
E3	MICROPROCESSOR CONTROLS
E2	MAIN ELECTRICAL CONNECTION, INTO MAIN ELECTRICAL BOX
	PER SPECIFICATIONS
E1	ELECTRICAL CONTROL BOXES
D7	DRIP PAN
D6	2" FNPT PIPE TO DRAIN, 2 AVAILABLE CONNECTIONS,
	1 PLUGGED
D5	24" WIDE REUSE TANK, SEE NOTE 9.
D4	10" WIDE REUSE TANK, SEE NOTE 9.
D3	REUSE TANK OVERFLOW, 3" PVC PIPE SOCKET JOINT, SEE
	NOTE 11.
D2	OVERFLOW CONNECTION, 3" PIPE SOCKET JOINT, CAPPED
	ONE SIDE.
D1	REUSE PUMP, 24" TANK ONLY, IN ONE OF THE TWO
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B1	DISCHARGE ROLLER
A1	MAIN AIR CONNECTION, 1/4" NPT

NOTES

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MP1604R SINGLE STAGE PRESS

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMP50RTEE 2010226D

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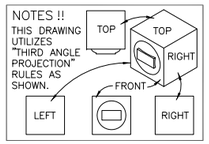

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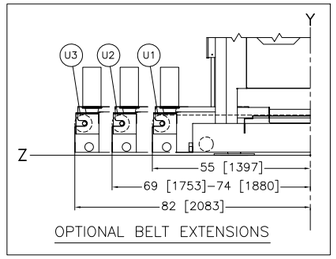

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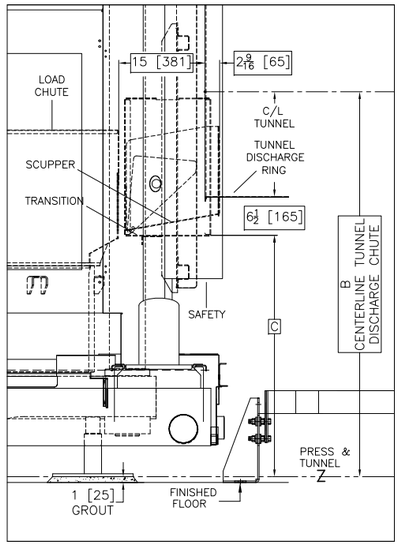

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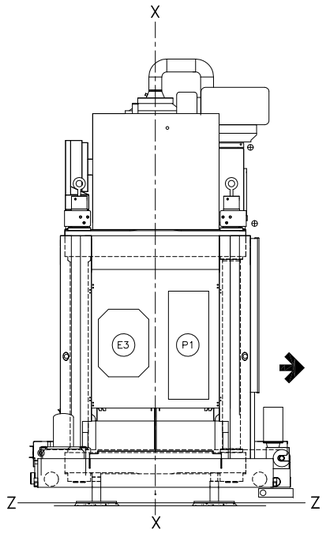

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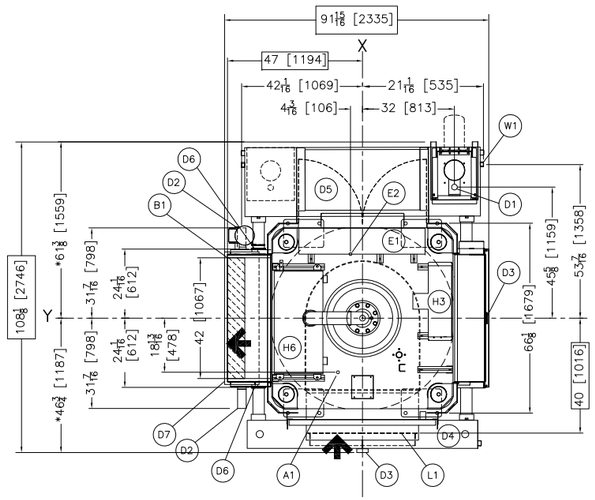
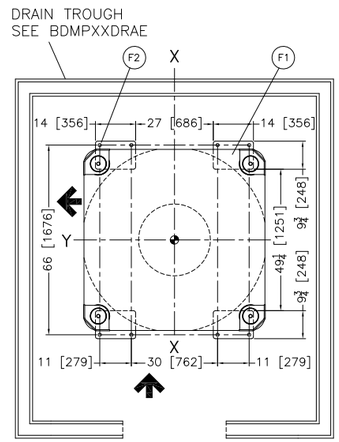
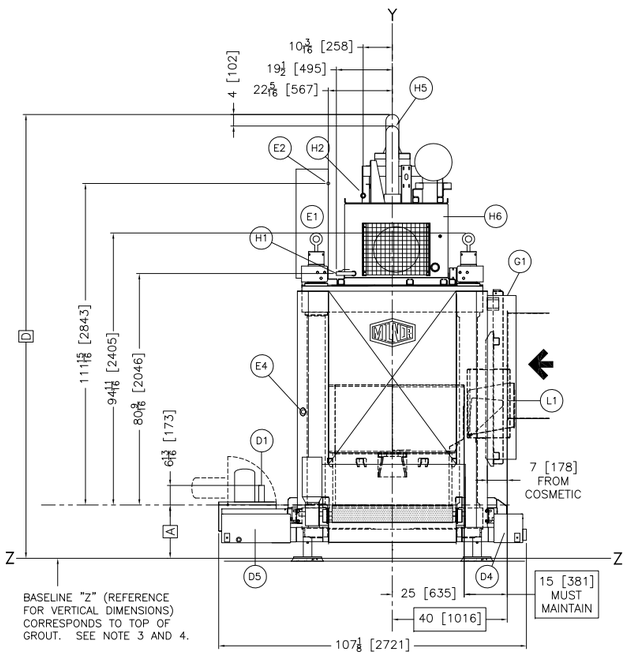


PLAN VIEW



FOUNDATION PLAN



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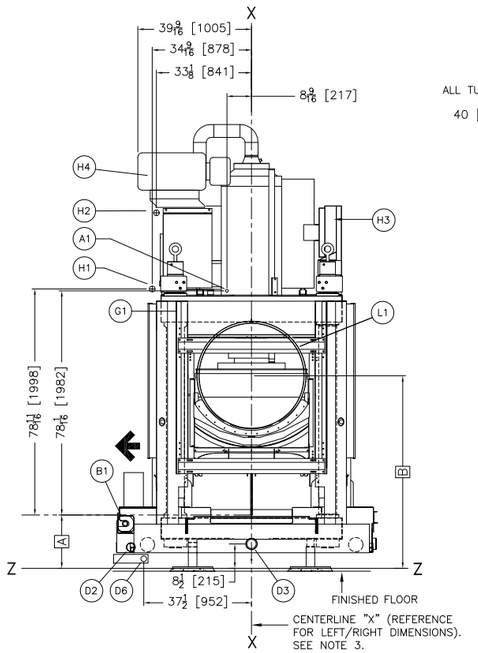

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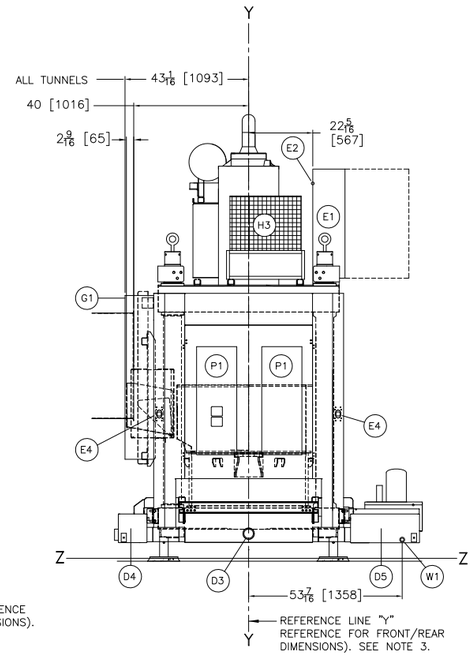

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ITEM	LEGEND

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MP1604L SINGLE STAGE PRESS

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMP50LFEE 2010226D

PELLERIN MILNOR CORPORATION
P.O. Box 400 Kenner, LA 70063, USA, Phone 504/467–9591,
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CAPACITY OF DRY LINEN	250LB/115 KG
DIAMETER OF CAKE	48 [1219]

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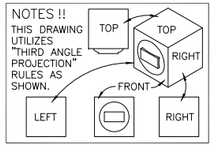
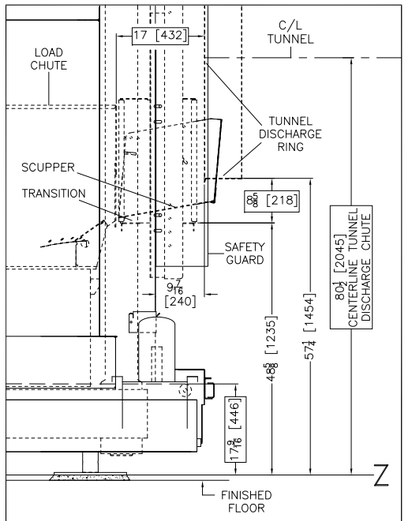
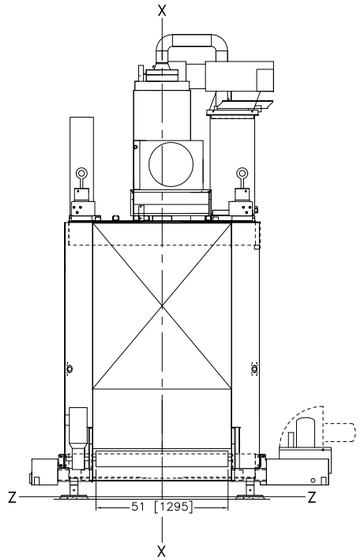




INSTALLATION DETAIL



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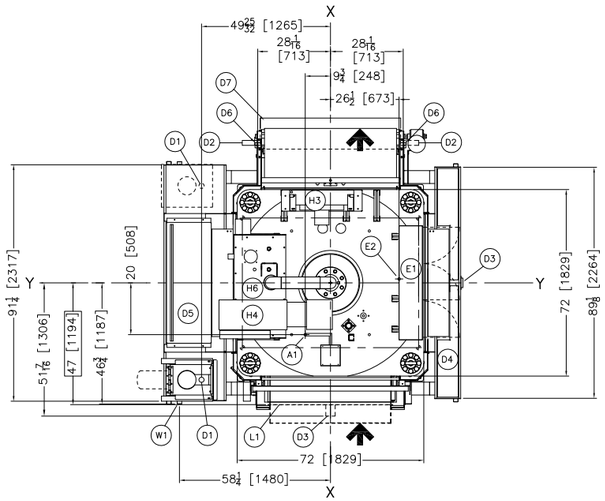

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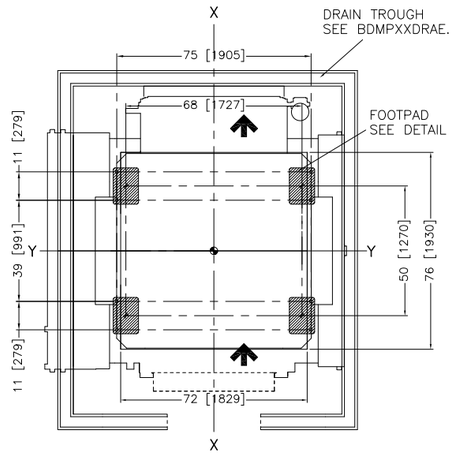

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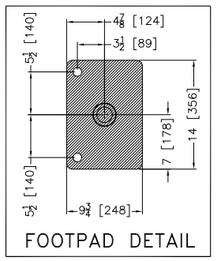
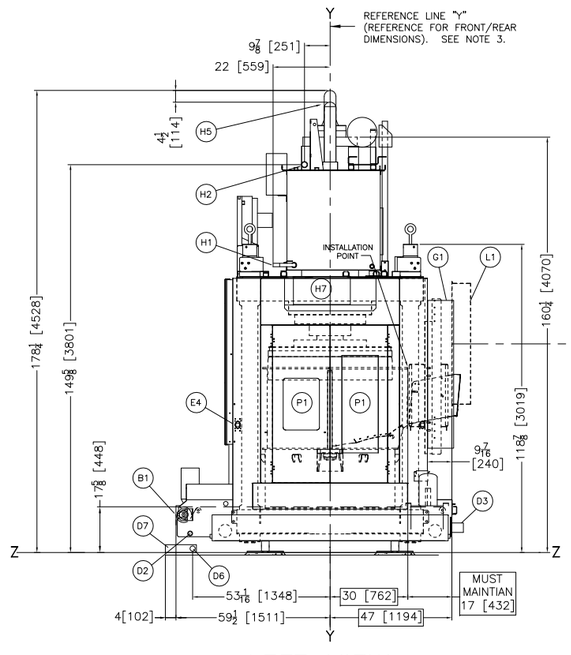
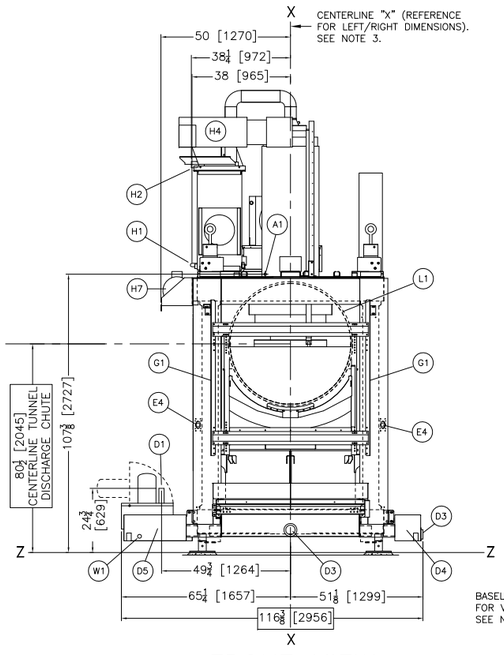
H6	HYDRAULIC TANK
H5	OPTIONAL LOWER PREFILL PIPE
H4	HYDRAULIC PUMP MOTOR
H3	HYDRAULIC COOLING UNIT
H2	HYDRAULIC TANK MANUAL FILL, 1" FEMALE QUICK CONNECT
H1	HYDRAULIC TANK MANUAL DRAIN, 1" MALE QUICK CONNECT
G1	LOAD CHUTE SAFETY GUARD
F2	1 1/8"[29] DIAMETER ANCHOR BOLT HOLES, USE MINIMUM
	5/8" X 6" BOLTS MINIMUM. (1) BOLT PER PAD MINIMUM.
F1	FOOTPAD, TYPICAL 4 PLACES.
E4	EMERGENCY STOP BUTTONS, (ONE AT EACH CORNER.)
E3	MICROPROCESSOR CONTROLS
E2	MAIN ELECTRICAL CONNECTION, INTO MAIN ELECTRICAL BOX
	PER SPECIFICATIONS
E1	ELECTRICAL CONTROL BOXES
D7	DRIP PAN
D6	2" FNPT PIPE TO DRAIN, 2 AVAILABLE CONNECTIONS,
	1 PLUGGED
D5	24" WIDE REUSE TANK, SEE NOTE 8.
D4	10" WIDE REUSE TANK, SEE NOTE 8.
D3	REUSE TANK OVERFLOW, 3" PVC PIPE SOCKET JOINT, SEE
	NOTE 10.
D2	OVERFLOW CONNECTION, 3" PIPE SOCKET JOINT, CAPPED
	ONE SIDE.
D1	REUSE PUMP, 24" TANK ONLY, IN ONE OF THE TWO
	LOCATIONS SHOWN, 1-1/2" NPT DISCHARGE
B1	DISCHARGE ROLLER
A1	MAIN AIR CONNECTION, 1/4" NPT
ITEM	LEGEND



FOOTPAD DETAIL

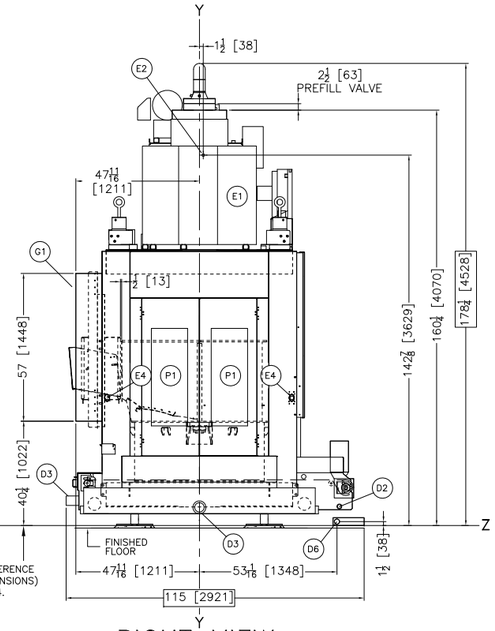


LEFT VIEW



FRONT VIEW

BASELINE "Z" (REFERENCE FOR VERTICAL DIMENSIONS) SEE NOTE 3 AND 4.



RIGHT VIEW

NOTES	
10	EACH OVERFLOW MUST BE INDIVIDUALLY DRAINED TO SEWER.
9	ADJUST TO LEVEL THE MACHINE AND ALLOW FOR 1" [25] MINIMUM GROUT. ANCHOR WITH ONE ANCHOR BOLT PER PAD, MINIMUM. USE 5/8" X 6" BOLTS, MINIMUM. SEE INSTALLATION MAINTENANCE MANUAL FOR FURTHER INSTRUCTIONS.
8	THE PRESS USES 1 –24" WIDE AND 1 – 10" WIDE REUSE TANK. (*) THE 24" WIDE TANK MAY BE SPECIFIED ON THE LEFT OR THE RIGHT.
7	CONTROLS MAY BE LOCATED ON LEFT OR RIGHT SIDE.
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 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 TRAVERSING 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

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ATTENTION

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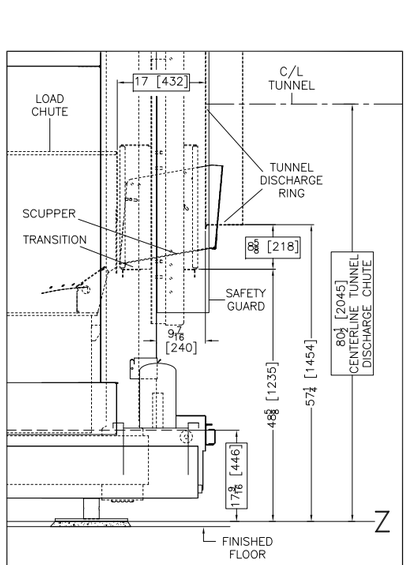
MP1A03CL, MP1A50CL

DM 0 0.5M 1M
INCHES 0 12 24 36

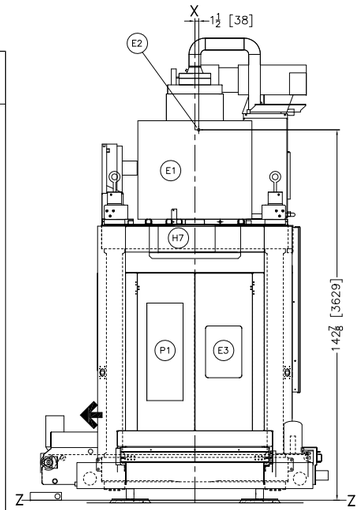
DWG# BDMP1ACLDE 2010226D

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

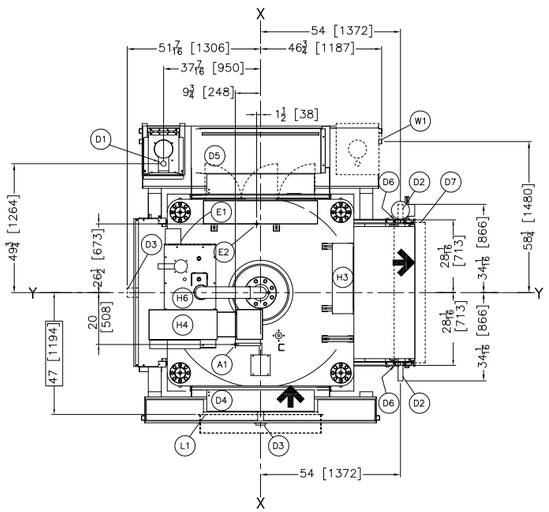
CAPACITY OF DRY LINEN	250LB/115 KG
DIAMETER OF CAKE	48 [1219]



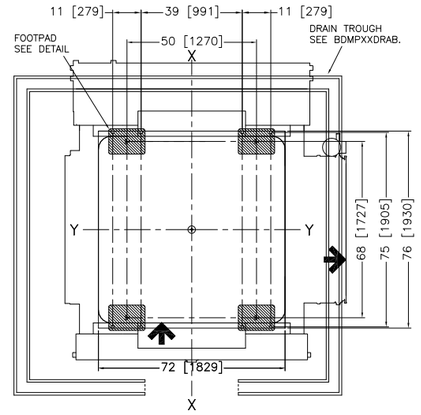
INSTALLATION DETAIL



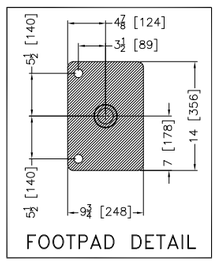
REAR VIEW



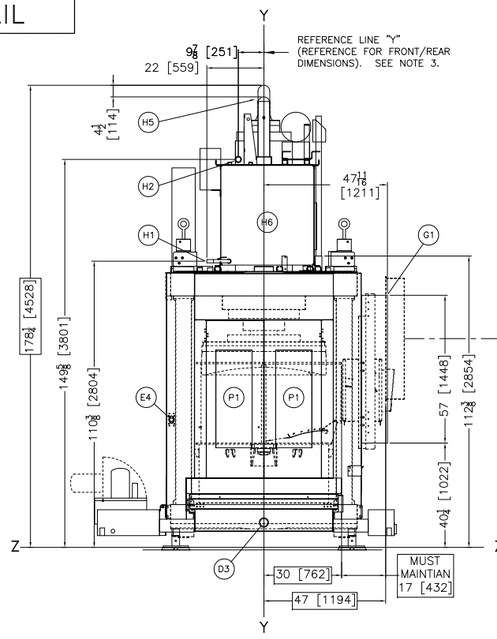
PLAN VIEW



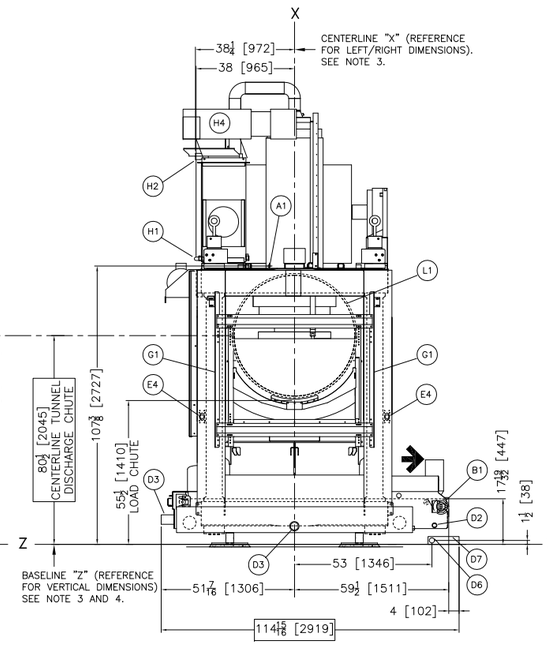
FOUNDATION PLAN VIEW



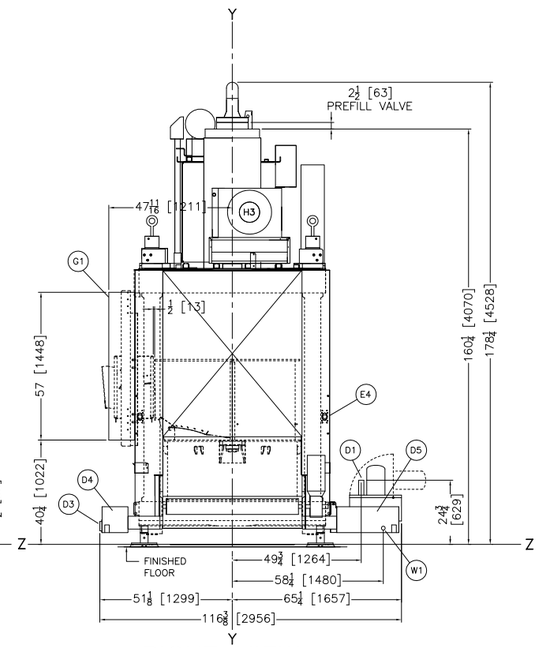
FOOTPAD DETAIL



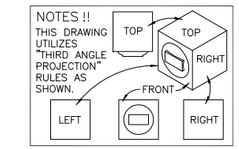
LEFT VIEW



FRONT VIEW



RIGHT VIEW



ITEM	LEGEND
W1	WATER FROM LAST MODULE OF TUNNEL, 1" NPT, PIPING
	SUPPLIED BY PMC.
P1	HINGED ACCESS DOOR.
L1	TUNNEL DISCHARGE RING
H7	BOOSTER PUMP, MP1A50 ONLY
H6	HYDRAULIC TANK
H5	OPTIONAL LOWER PREFILL PIPE
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D3	REUSE TANK OVERFLOW, 3" PVC PIPE SOCKET JOINT, SEE
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D2	OVERFLOW CONNECTION, 3" PIPE SOCKET JOINT, CAPPED
	ONE SIDE.
D1	REUSE PUMP, 24" TANK ONLY, IN ONE OF THE TWO
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B1	DISCHARGE ROLLER
A1	MAIN AIR CONNECTION, 1/4" NPT

NOTES

10. EACH OVERFLOW MUST BE INDIVIDUALLY DRAINED TO SEWER.
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MP1A03R, MP1A50R

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMP1ARTDE 2010226D

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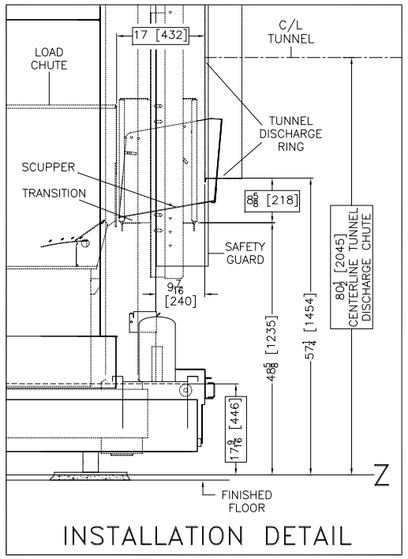
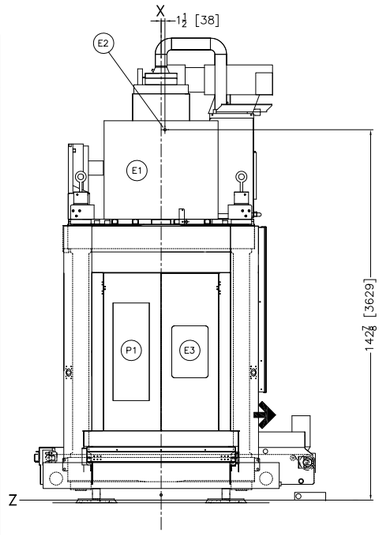
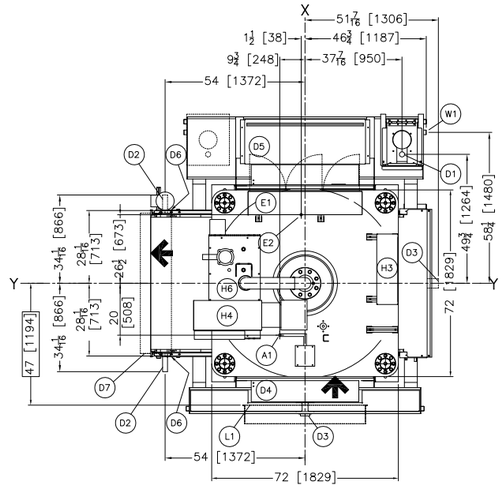
FAX 504/469-1849, Email: mktg@milnor.com



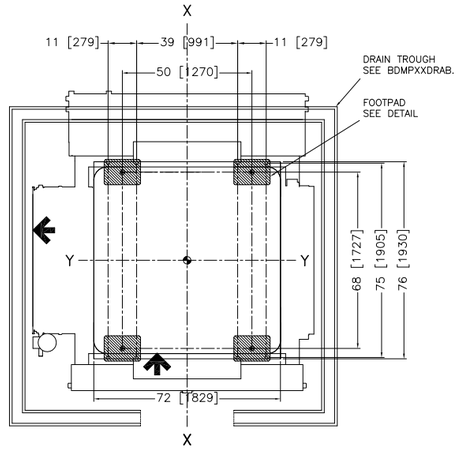
INSTALLATION DETAIL



REAR VIEW

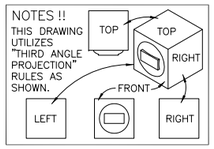


PLAN VIEW



FOUNDATION PLAN VIEW

CAPACITY OF DRY LINEN	250LB/115 KG
DIAMETER OF CAKE	48 [1219]



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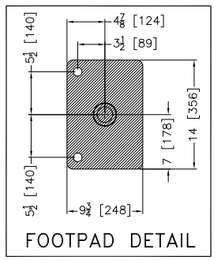
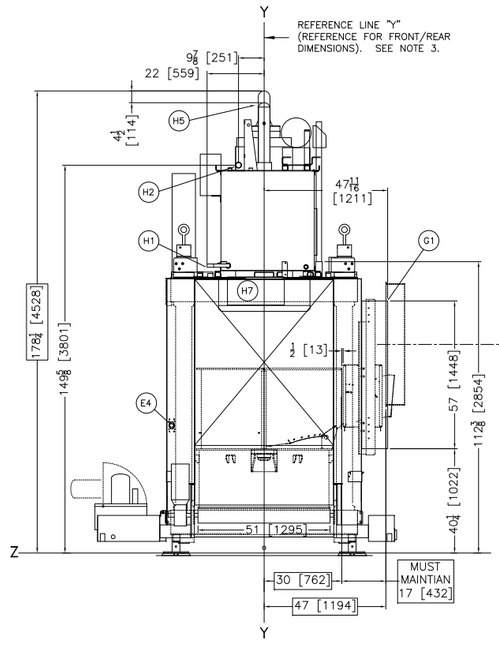
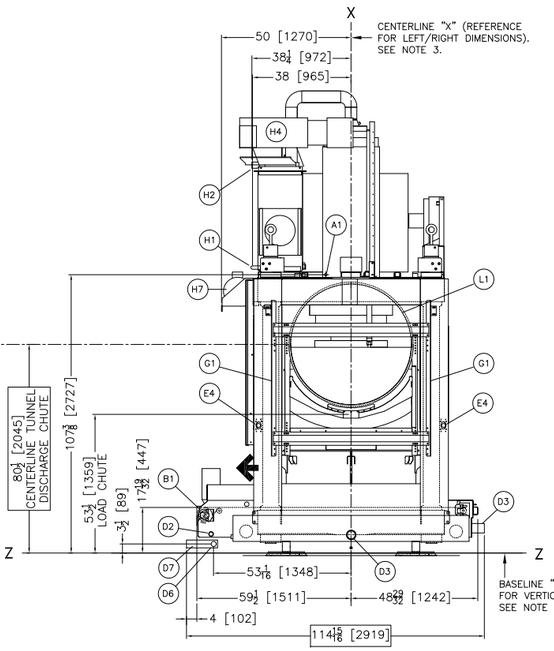


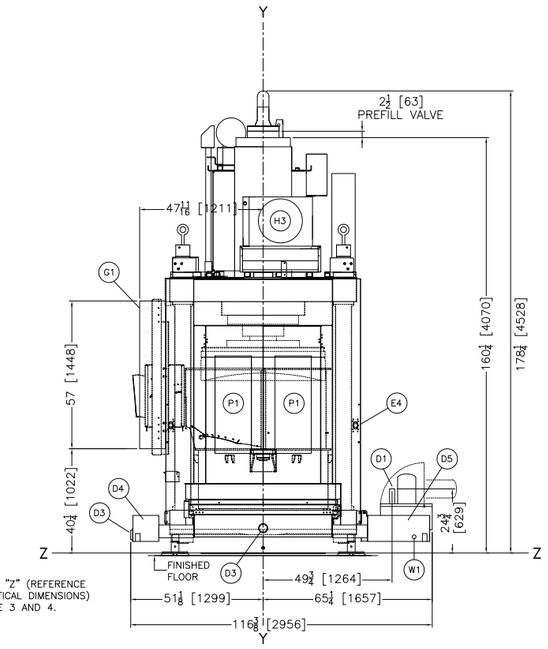
FOOTPAD DETAIL



LEFT VIEW



FRONT VIEW



RIGHT VIEW

NOTES

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ATTENTION

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MP1A03L, MP1A50L

DM 0 0.5M 1M
INCHES 0 12 24 36

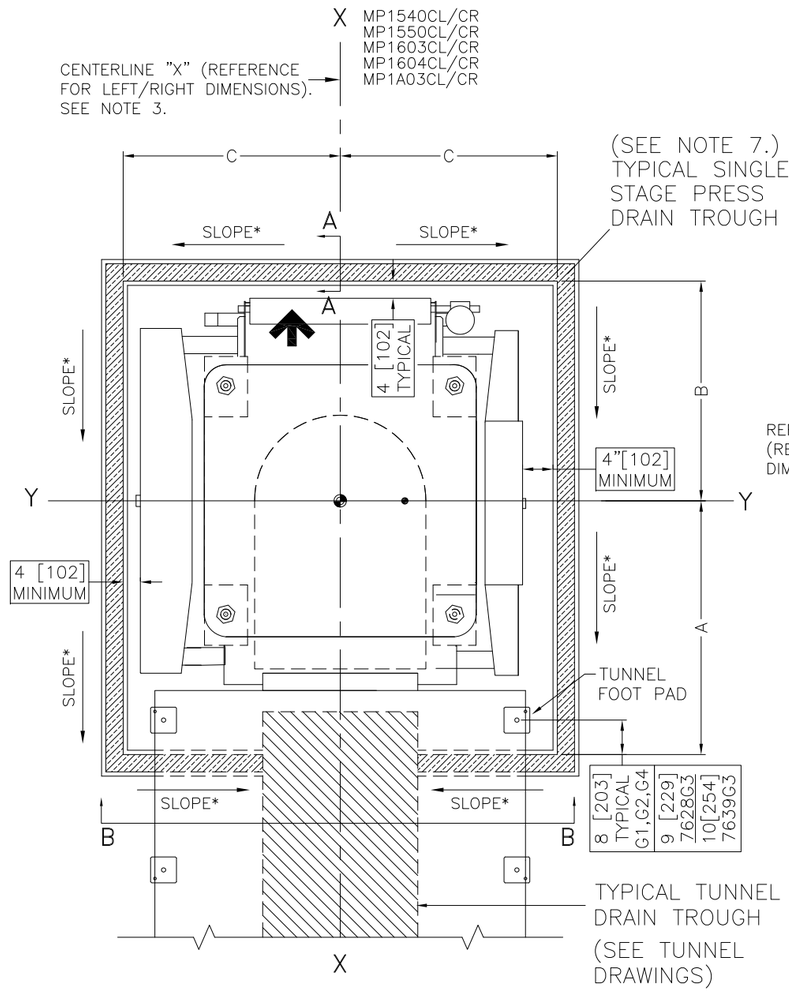
DWG# BDMP1ALFDE
2010226D

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

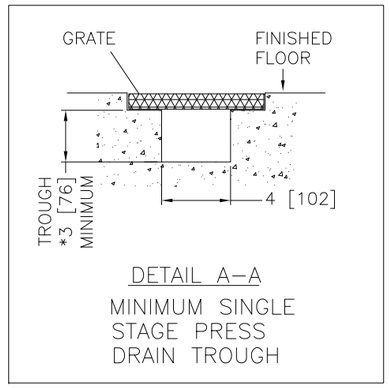
PRESS MODELS	DIMENSION A												DIMENSION B								DIMENSION C	
	G1 76032		G2 76028		G2 76039		G3 76028		G3 76039		G4 92048		0 EXTENTION		8" EXTENTION		24" EXTENTION		35" EXTENTION			
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
MP1540, MP1550, MP1603	60	1524	69	1753	69	1753	64	1625	63	1600	–	–	51	1295	59	1499	75	1905	86	2184	51	1295
MP1604	60	1524	69	1753	69	1753	64	1625	63	1600	–	–	51	1295	59	1499	75	1905	86	2184	51	1295
MP1A03	–	–	–	–	–	–	–	–	–	–	62	1575	64	1626	–	–	–	–	–	–	55	1397

(CENTER DISCHARGE)

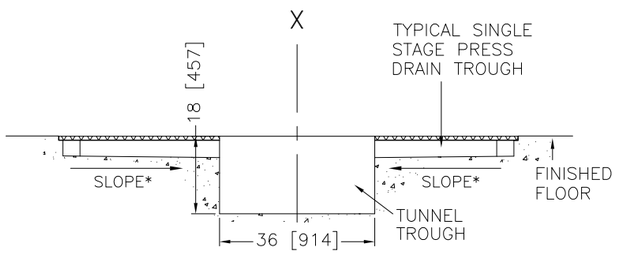
SLOPE*=1/8"/FT.[10mm/M]



PLAN VIEW



DETAIL A–A
MINIMUM SINGLE STAGE PRESS DRAIN TROUGH



VIEW B–B:
SINGLE STAGE PRESS & TUNNEL DRAIN TROUGHS

NOTES

7 NOTE THIS DRAWING SHOWS THE RECOMMENDED DRAIN TROUGH DESIGN FOR THE MP1603, MP1604, MP1A03 PRESSES. 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:
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.

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

2 NUMBERS IN BRACKETS [] DENOTE DIMENSIONS IN MILLIMETERS.

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SSPRESS DRAIN TROUGH–CTR DIS

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMPXXDRAE 2010022D

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

PRESS MODELS	DIMENSION A												DIMENSION B		DIMENSION C		DIMENSION D							
	G1 76032		G2 76028		G2 76039		G3 76028		G3 76039		G4 92048						0 EXTENTION		8" EXTENTION		24" EXTENTION		35" EXTENTION	
	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm	INCHES	mm
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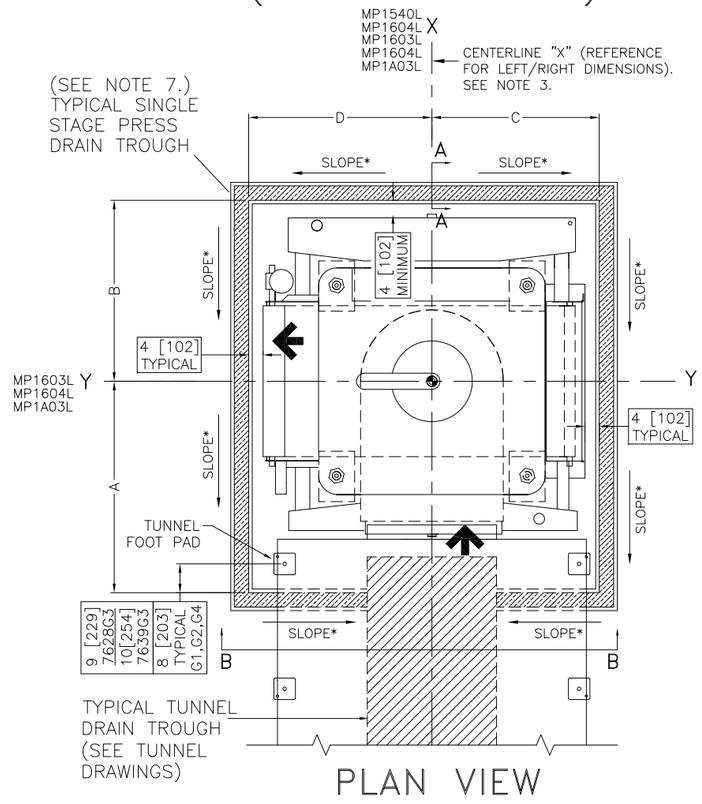
MP1A03	–	–	–	–	–	–	–	–	–	–	62	1575	55	1397	53	1346	64	1626	–	–	–	–	–	–

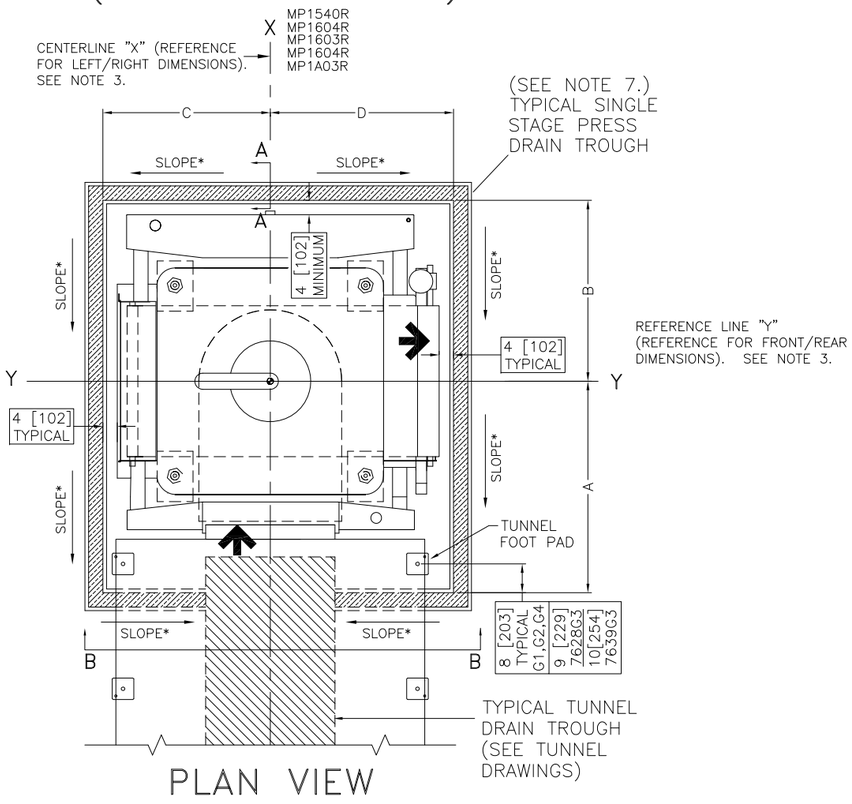
SLOPE*=1/8"/FT.[10mm/M]

(LEFT DISCHARGE)

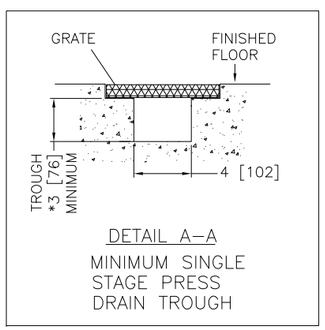


PLAN VIEW

(RIGHT DISCHARGE)

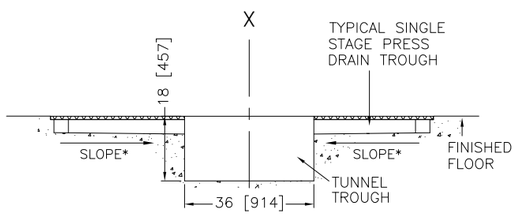


PLAN VIEW



DETAIL A–A

MINIMUM SINGLE STAGE PRESS DRAIN TROUGH



VIEW B–B:

SINGLE STAGE PRESS & TUNNEL DRAIN TROUGHS

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SSPRESS DRAIN TROUGH-L/R DIS

DM 0 0.5M 1M
INCHES 0 12 24 36

DWG# BDMPXXDRAB 2010022D

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