

HI-MELT 5542 DRUM UNLOADER

4 ZONE & 8 ZONE SYSTEMS

MA900/MA901

MULTI-POINT DIGITAL CONTROLLER

USER MANUAL

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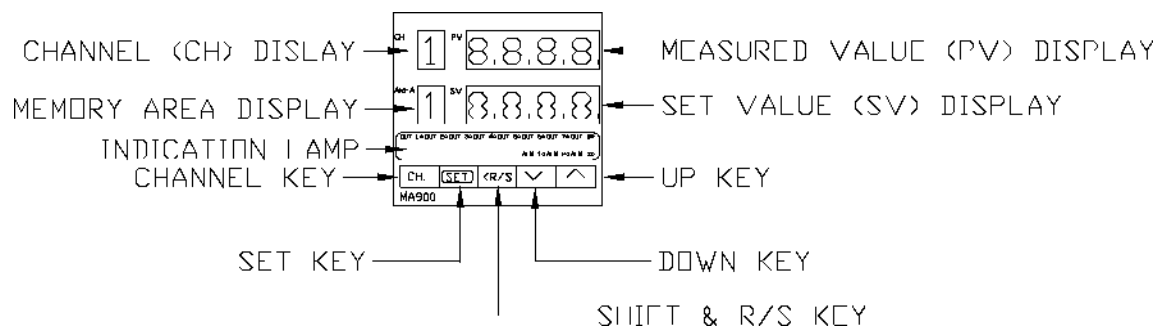
A-Service Manual-Chop Check Pump Assembly

MA900/MA901 CONTROLLER FEATURES

- Controls 4 or optional 8 heater zones
- Uses 100 ohm platinum RTD's
- Three operating modes: OFF, STANDBY, and ACTIVE
- Proportional, auto-tuning control of heaters
- Fahrenheit and Celsius temperature scales
- Standby temperature settings: user-settable for individual channels
- High limit (overtemp) setting: user-settable, default to (set point +25°F/1 5°C)
- Alarm output relay turns on at over-temperature, open or shorted RTD, and zone not heating
- Run-Ready output relay turns on when all zones reach a user-selectable threshold
- Display of a single zone's temperature, or scanning display of all zones at 2-second intervals
- Retains programmed setting after power-down
- Selectable sequential heating of zones.

DISPLAYS and CONTROLS

The following describes various display units and the key functions.



(The above picture is MA900; the MA901 is the same as the MA900)

Measured value (PV) display [Green]

Displays PV or various parameter symbols.

Set value (SV) display [Orange]

Displays SV or various parameter set value.

Channel (CH) display [Green]

- Displays channel number.
- Displays character "A" showing batch setting.

Memory area (AREA) display [Orange]

Displays memory area number: 1=Active Zones 2=Setback Zones

Indication lamps:

Auto tuning (AT) lamp [Green]

Flashes with the auto tuning activated in the displayed channel.

Output (OUT1 to OUT8) lamp [Green]

Lights when the output corresponding to each lamp is on.

Alarm lamp* (ALM1 to ALM3) [Red]

ALM1: Lights when alarm1 is turned on. (Over-temperature of any zone)

ALM2: Lights when alarm2 is turned on. (Unit is below set temperature)

ALM3: Lights when alarm3 is turned on. (Not used)

*Bright lighting:

Indicates that the display channel is alarm state.

Dim lighting:

Indicates that other channel except a display is alarm state.

Channel key

- Used when the channel number is changed.
- Used to display the character “A” showing batch setting.
- Used for start/stop of scan display. Hold down for 2 seconds to start/stop scan display.

Shift & R/S key

- Shift digits when settings are changed.
- Selects the RUN/STOP mode of operation of the controller.

Set key

Used for parameter calling up and set value registration.

Up key Increases numerals.

Down key Decreases numerals.

Note: to avoid damage to the control unit, never use a sharp object to press keys.

INITIAL SETUP INSTRUCTIONS

Stop/Run Mode:

The MA900/MA901 Multi-Point Digital Controller must be in **RUN** mode in order to perform the initial setup. If the unit is in **STOP** mode, the controller will read as in the picture below.



The <R/S key enables the user to change from the **STOP** mode to the **RUN** mode. Press the <R/S key to initiate this change of modes, the controller should now read as the picture below (The values will be different).



Once the controller is in the **RUN** mode, initial setup of the **ACTIVE** and **SETBACK** temperatures for each of the heated zones in their respective **AREAS** can be programmed.

HEATING ZONE CHANNEL DESIGNATIONS

The MA900/901 Multi-Point Digital Controller can control temperatures in up to 4 zones with the MA900 controller and up to 8 zones with the MA901 controller. The channel designations for each of the zones, is as follows:

CHANNEL	ZONE
CH-1	Platen
CH-2	Pump
CH-3	Hose 1
CH-4	Gun 1
CH-5*	Hose 2
CH-6*	Gun 2
CH-7*	Hose 3
CH-8*	Gun 3

*Represents the additional channels when the MA901 controller is used.

SETTING ACTIVE MODE TEMPERATURES

The temperatures in each of the zones that the user sets in the **ACTIVE** mode should be the recommended operating temperature of the adhesive/sealant being used in the drum unloader. The temperature settings in any of the zones in the **ACTIVE** mode should never exceed 400°F.

To select the **ACTIVE** mode to begin setting the temperature in each of the zones, turn the selector switch on the control cabinet as shown below.



Press the set button so that the user will be able to enter numerical values, as shown below.



Use the **<R/S** button to shift and highlight the digit that you would like to change. Use the **▲ ▼** buttons to increase or decrease the temperature values.

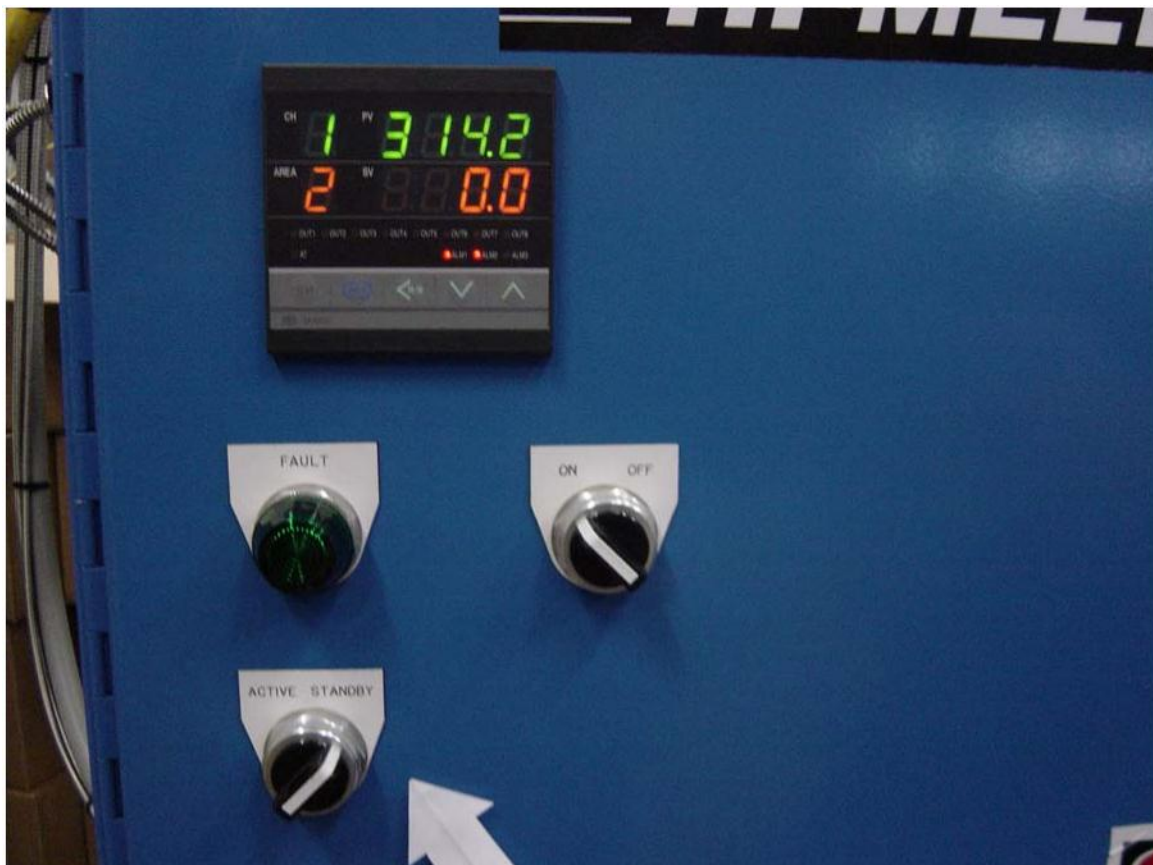
Use the **CH** button to set the temperature values for each of the channels that you are using (Each of the heated zones, i.e. pump, platen, hose, gun). Refer to page 8 for each channel corresponding to each of the heated zones. Once all of the temperatures have been set in each channel, press the **SET** button, as shown in the picture below.



STANDBY MODE TEMPERATURE SETTINGS

Standby mode (Temperature setback) allows the user to reduce the temperature of all heating zones without having to change individual setpoints or without shutting the unit off. The adhesive/sealant is kept at a lower temperature, thereby reducing adhesive degradation and char formation.

To set the standby temperatures for each of the channels (heated zones), begin by switching the selector switch to **STANDBY**, as shown in the picture below.



Once again, press the **SET** button so that you can enter the temperature values for each of the channels.



Use the **<R/S** button to shift and highlight the digit that you would like to change. Use the **▲ ▼** buttons to increase or decrease the temperature values. Use the **CH** button to set the temperature values for each of the channels that you are using (Each of the heated zones, i.e. pump, platen, hose, gun). Refer to page 8 for each channel corresponding to each of the heated zones. Once all of the temperatures have been set in each channel, press the **SET** button, as shown in the picture below.



The Standby temperatures for each of the channels (heated zones) are now set.

ALARMS

Alarm 1-if the red LED is on there is an over-temperature condition in one of the heated zones. By scanning through the channels you can determine which heated zone is causing the alarm. The picture below shows that Alarm 1 is activated, indicating an over-temperature condition.



Alarm 2- if the red LED is on the drum unloader is not up to operating temperatures. This condition will occur each time the unit is turn on, until the unit heats up to the temperature set values in **ACTIVE MODE**. The picture below shows that alarm 2 is activated, indicating that the unit is not up to temperature.



FAULT CLEAR LIGHT

When the Green Fault Clear light is ON there are no faults. If the Green Fault Clear Light is OFF, there is a fault. Check the Alarm LED's to determine which alarm has been activated. The picture below shows the Green Fault Light ON, indicating that there are no faults.



CHANNELS-TURNING ON/OFF

If there are channels (heated zones) that are not used, the channel must be turned off so that the unused channel does not create an unnecessary fault.

To turn off a channel hold the **SET** button for 2 seconds, as shown below.



Press the **SET** button until the CH E is displayed, as shown in the picture below.



By using the ▲ ▼ arrows you can change the channel to ON, as pictured below.



The above picture shows that channel 4 is turned ON.

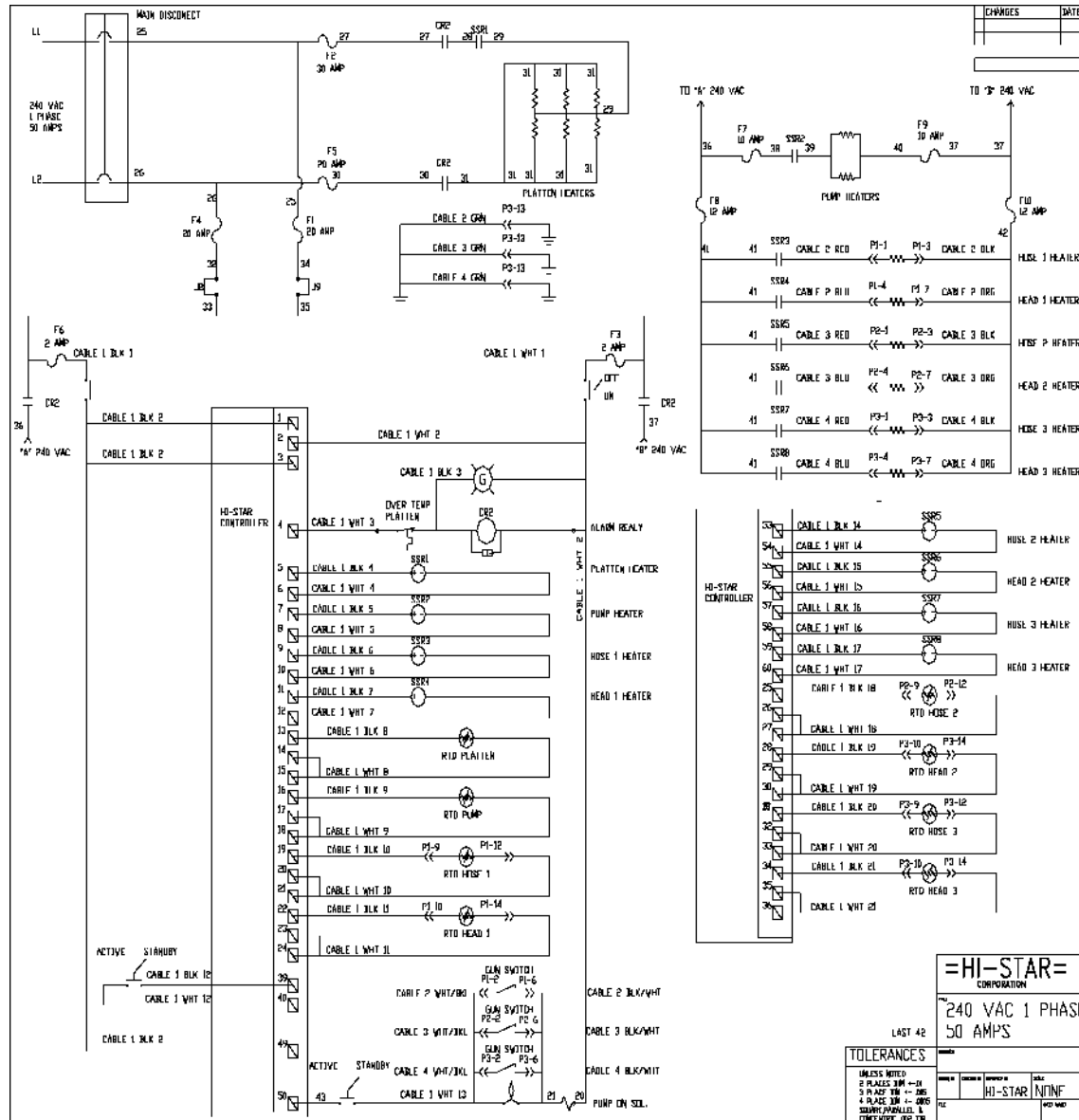
Use the ▲ ▼ arrows to change the channel from the ON position to the Off position, as pictured below.



The above picture shows that channel 4 is now turned OFF.

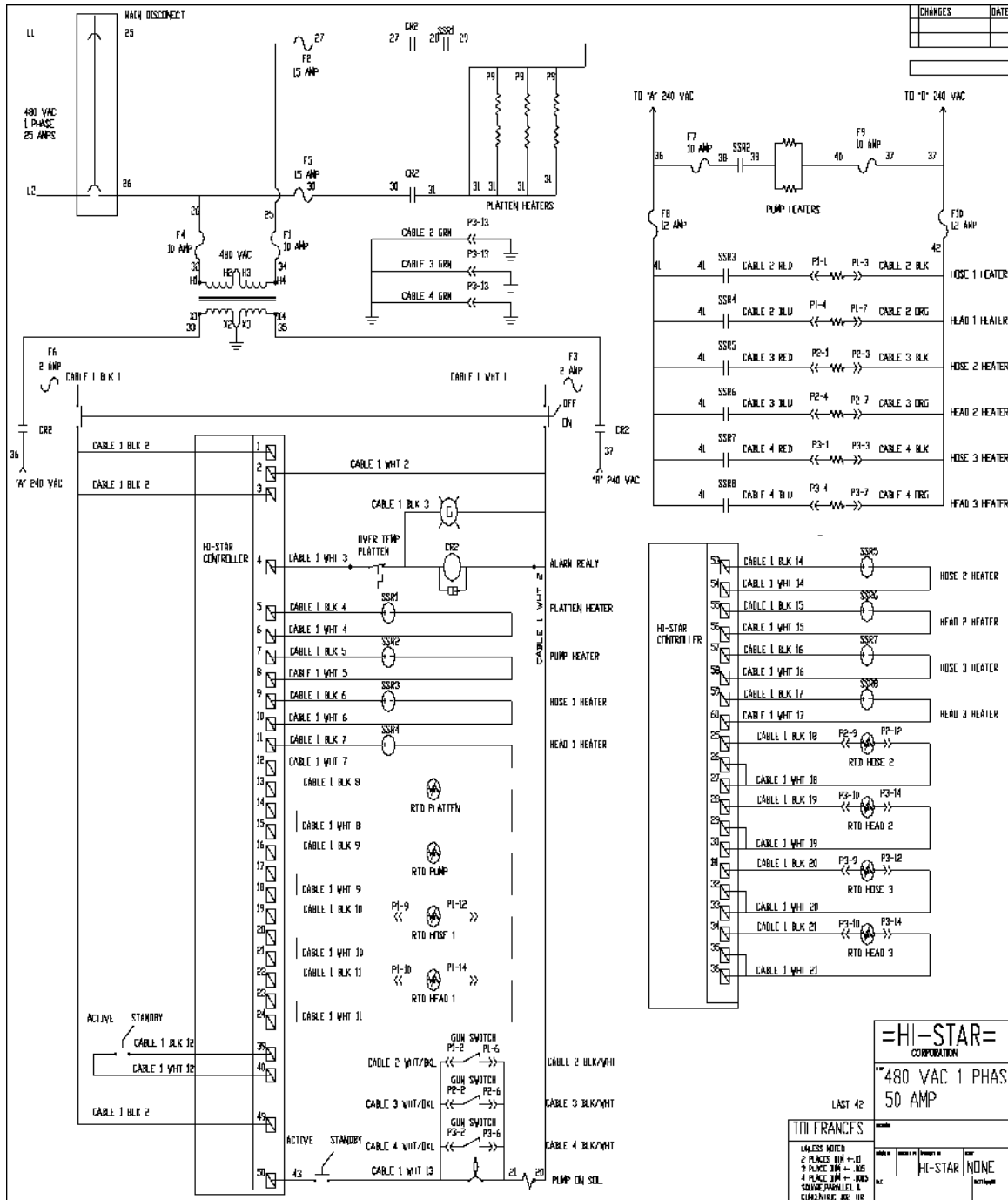
After the controller has been programmed for all of the required channels (heated zones) in both the Active Mode and Standby Mode, the unit will be ready for **Start-Up Procedure**, please see next section.

ELECTRICAL SCHEMATICS-5542 DRUM UNLOADER-480 VOLT

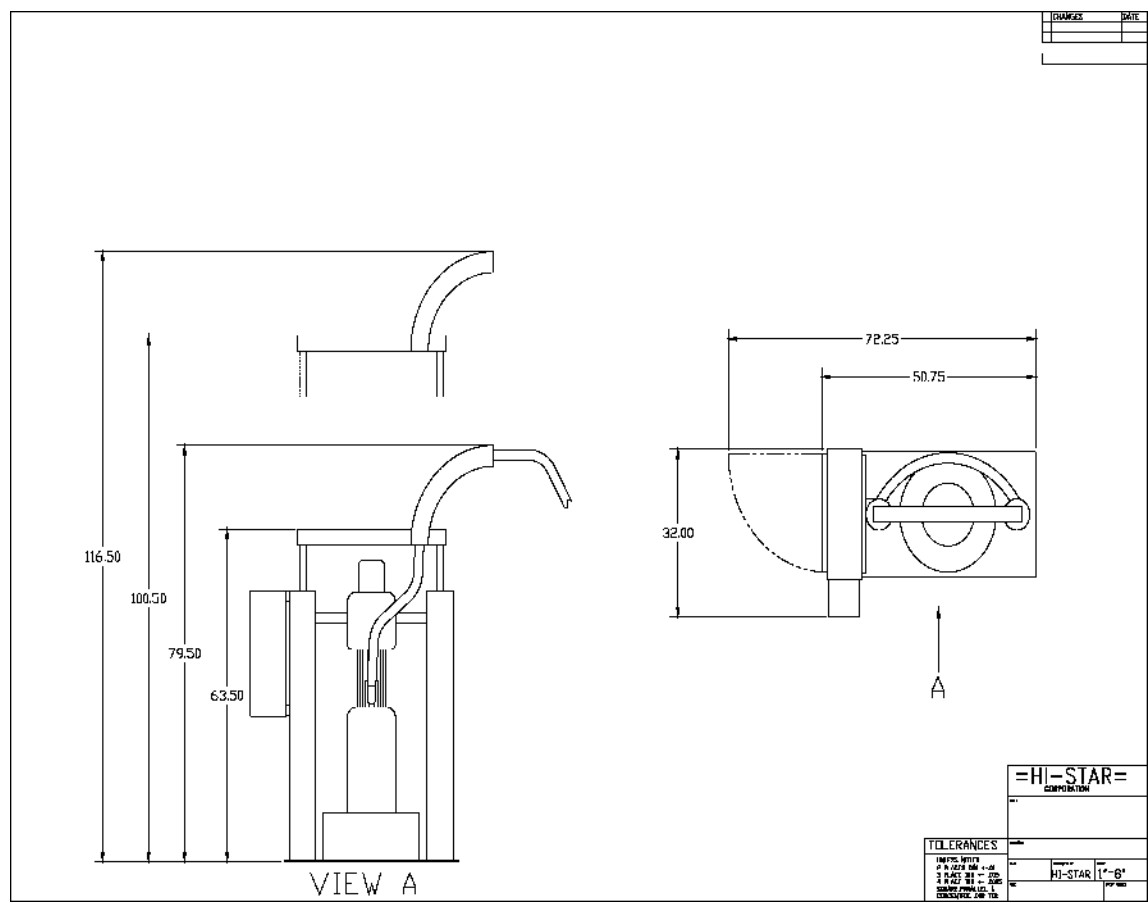


MA900/MA24 Multi-Point Digital Controller

ELECTRICAL SCHEMATICS-5542 DRUM UNLOADER-480 VOLT

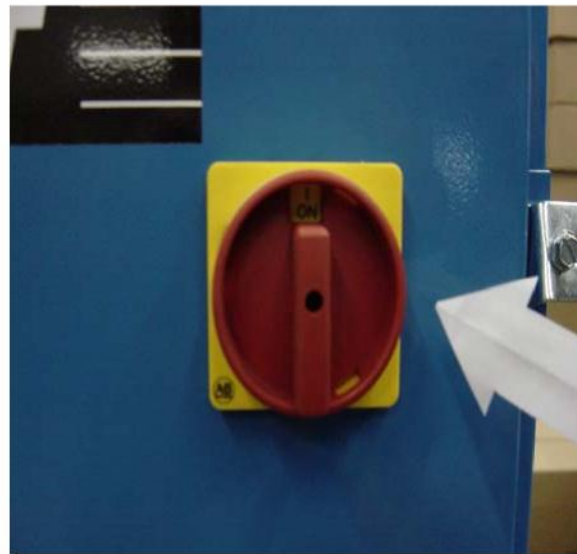


DIMENSIONAL LAYOUT



START-UP PROCEDURE

Warning: Read manual completely before using machine.
Wear gloves, face shield (safety glasses), protect skin (no exposed skin).



1. Make sure air supply to pump is turned off (zero pressure)

2. Turn on main disconnect.



3. Switch to ON position

4. Turn on air to pump.

SHUTDOWN PROCEDURE

Warning: Read manual completely before using machine.
Wear gloves, face shield (safety glasses), protect skin (no exposed skin).



1. Turn pump air off



2. Disconnect air supply (zero



pressure)
3. Trigger gun, release pressure



4. Press stop button

D

RUM CHANGE

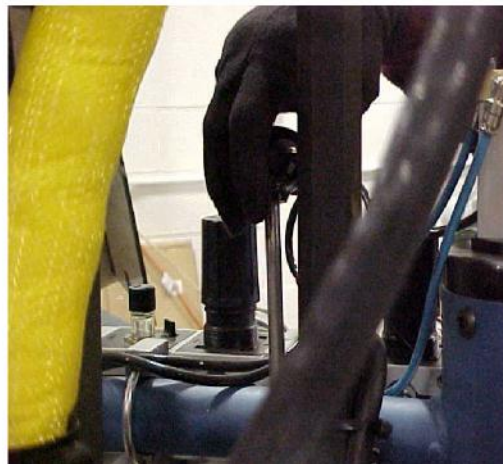
Warning: Read manual completely before using machine.
Wear gloves, face shield (safety glasses), protect skin (no exposed skin).



1. Make sure system is at operating temperature
2. Turn pump off(air)
(Green Fault Clear Light should be ON)



3. Move cylinder control to neutral
air under platen



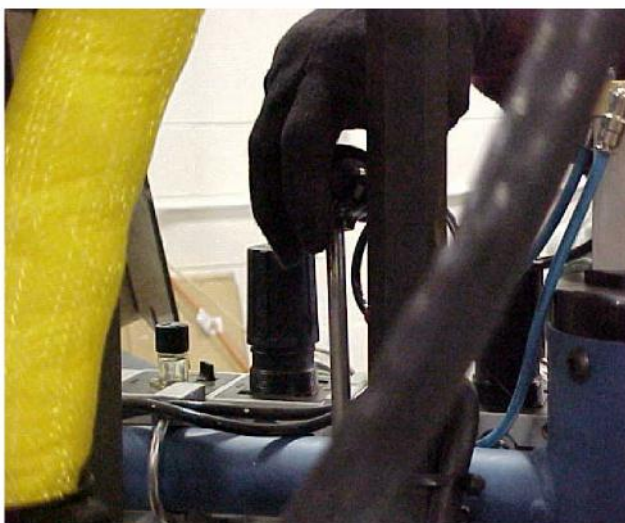
4. Pull black knob to send
air under the platen



5. Make sure seal clears top of drum position



6. Move handle to up



7. Push black handle down to turn off bleed air.



8. Remove drum



9. Grease seals (use proper grease)



10. Slide in drum



11. Open bleed valve (threaded handle)

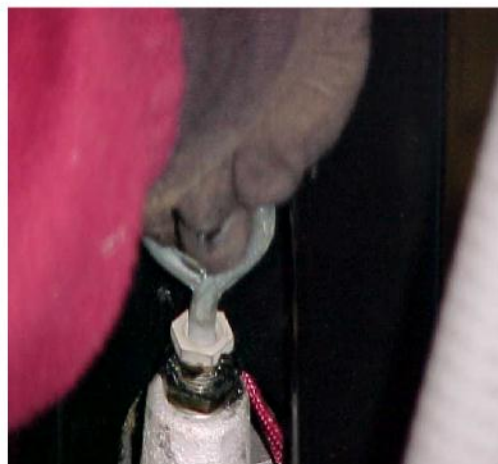


12. Align drum



WARNING: Keep clear of drum and platen

13. Move cylinder control handle to the down position.



14. When material comes out of the bleed tube, tighten threaded handle.



15. Start pump (air on)

PREVENTATIVE MAINTENANCE

Warning: Read manual completely before using machine.



Wear gloves, face shield (safety glasses), protect skin (no exposed skin).

Make sure there are no dents in the drum



Oil cup should be filled to within 1" of top with



Check oiler (lightweight air tool oil)



synthetic oil

Drain any water from dryer cup

START-UP PROCEDURE

Warning: Read manual completely before using machine. Wear gloves, face shield, (safety glasses), protect skin.

1. Make sure air supply to pump is turned off (zero pressure).
2. Turn on main disconnect.
3. Switch to ON position (Green Fault Clear Light should be off).
4. Turn on air to pump.

SHUTDOWN PROCEDURE

1. Turn air off.
2. Disconnect air supply (zero pressure).
3. Trigger gun, release pressure.
4. Switch to off position.
5. Turn off main disconnect.

DRUM CHANGE

1. Make sure system is at operating temperature.
2. Turn pump off.
3. Move cylinder control to neutral.
4. Pull black knob to send air under platen.
5. Make sure seals clear top of drum.
6. Move handle to up position.
7. Push black knob down to turn off bleed air.
8. Remove drum.
9. Grease seals (use proper grease).
10. Slide in drum.
11. Open bleed valve (threaded handle).
12. Align drum (make sure drum is clear, platen will move in next step).
13. Move cylinder control handle to the down position.
14. When material comes out of the bleed tube, tighten threaded handle.
15. Start pump.

PREVENTATIVE MAINTENANCE

1. Check fittings.
2. Make sure there are no dents in the drum.
3. Oil cup should be filled to within 1" of top with synthetic oil.

4. Check oil in air lubricator.
5. Drain any water from water cup.