



EQUIPMENT START-UP & SHUT DOWN PROCEDURE

START-UP PROCEDURE

Connect the power supply to the proportioner per the manufacturer's recommendations.

- If using a generator, turn on and let warm at idle speed for approximately 10 minutes.
- If using shore power, connect to an approved breaker with the recommended electrical wire.

Inspect the condition of the DOP/TSL in the iso wet-cup.

- Change the pump lube before it becomes a gel, or when it becomes the same color as the isocyanate.

Inspect the inlet strainer screens for contaminants.

- Always check the screens before the start-up of the equipment.
- Check the screens daily for the first week, and then if there are no sign of contaminants check them periodically as a routine maintenance.

Turn on the refrigerated air dryer and set the automatic drain.

Turn on the air compressor and let pressurize to the manufacturer's set recommendation.

- Connect air lines to both 2:1 transfer pumps. Set the pressure regulator per the manufacturer's recommendations.
- Connect an air line to the air purge gun per the equipment manufacturer's recommendations. Set the pressure regulator per the manufacturer's recommendations.
- Connect additional airlines to any other auxiliary equipment that may be being used.

Turn on the proportioner.

- Reactor – Turn on the main power switch, located on the right side of the bottom electrical counsel. The temperature and motor display should light up at this point.
- Hydraulic Proportioner – Turn on the main power switch, located on the front left side of the electrical counsel. The control power switch should light up.

Open the supply ball valves located on either side of the proportioner.

Turn on the heaters.

- Set the desired target temperature prior to turning on the heater circuits. NOTE: Never set the hose heater temperature higher than the primary heater temperature. The hose heater is designed to maintain the heat from the primary and not to add heat above the primary settings.
- Turn on the hose heater by pushing the hose heater key located on the temperature control display. Let warm approximately ten degrees above ambient temperature.
- Turn on the B-side primary heater by pushing the B primary heater key located on the temperature control display. NOTE: If a generator is being used it may be necessary to let the generator idle down before proceeding to the A heater.
- Turn on the A-side primary heater by pushing the A primary heater key located on the temperature control display.

RE-CIRCULATION IS FOR OPEN CELL, WATER BLOWN FOAMS ONLY.

Connect fluid manifold/side blocks to the re-circulation block.

- Fusion Gun – Remove the fluid manifold and attach to the Fusion re-circulation block.
- Gap Gun – Remove the screen screws and insert the re-circulation screen screws. Attach the gun to the re-circulation block. NOTE: Insure the A and B-side re-circulation hoses are installed into the proper drums before proceeding.

Open both re-circulation ball valves.

Using the 5/16 spin-tight wrench, open the fluid manual valves to start re-circulating.

Reactor – Use JOG mode to aid in re-circulation.

- On the motor control display, press the top arrow. You will see J1 appear in the digital pressure display.
- Press the motor ON/Off key. The displacement pumps should be moving up and down very slow.
- Adjust the JOG mode speed by pressing the up and down arrow (J1-J10). NOTE: JOG mode operates at 3-30% of motor power, but will not operate over 700psi for either A or B.

Hydraulic Proportioner – Use the hydraulic motor to aid in re-circulation.

- On the control board, turn the hydraulic motor switch ON.
- Back the hydraulic pressure control knob down. The hydraulic pressure gauge should read 300 psi.

Raise the temperature of the chemical inside the 55 gallon drums to the necessary temperature.

- Check the drum temperature either with an infrared digital thermometer or an inline temperature gauge.
- If using an infrared digital thermometer, scan the entire drum from top to bottom to get an average temperature of the chemical inside the drum.
- If using an inline temperature gauge, it must be installed between the supply line and the proportioner. This method will show the most accurate temperature. NOTE: The process of re-circulating a complete set of chemical may take in excess of 45 minutes.



While still re-circulating and provided the spray gun is in proper working order, rebuild the flat mixing chamber and attach it to the air purge gun.

- Fusion Gun – Remove the stud wall adapter, PCD (pattern control disk), and air cap from solvent.
- Clean the flat tip adapter. Using the #51 (.067”) drill bit clean the four air passages. Apply a thin layer of lubricant to the exterior surfaces and thread onto the mixing chamber. Tighten lightly until the adapter bottoms out.
- Clean the teflon packing. If needed, use the 3/32” drill bit to clean the interior of the teflon packing. Insert the packing through the center of the adapter leaving the domed end facing out. Make sure the packing seats into the mixing chamber. NOTE: If using a drill bit to clean the interior of the packing, insure not to use excessive force as it could show a distorted pattern of the foam.
- Clean the PCD. Using a non-abrasive tool, insure to remove all foam on the internal dome and exterior off the PCD. Apply a thin layer of lubricant to the front and back domed surfaces and place the PCD onto the packing. NOTE: By not cleaning the PCD thoroughly it could show a distorted pattern of the foam.
- Clean the air cap. Clean the surface of the air cap lightly with a non-abrasive tool. Clean the twelve air passages by using a .0465” drill bit. Apply a thin layer of lubricant to the exterior surfaces and hand-tighten the air cap onto the adapter.
- Gap Gun – Remove the TP100 adapter, PCD, and PCD retainer from solvent.
- Clean the TP100 adapter. Using the #51 (.067”) drill bit clean the center of the TP100 adapter. Apply a thin layer of lubricant to the exterior surfaces and thread onto the mixing chamber. Tighten lightly until the adapter bottoms out.
- Clean the PCD. Using a non-abrasive tool, insure to remove all foam on the internal dome and exterior off the PCD. Apply a thin layer of lubricant to the front and back domed surfaces and place the PCD onto the packing. NOTE: By not cleaning the PCD thoroughly it could show distorted pattern of the foam.
- Clean the retaining nut. Clean the surface of the retaining nut lightly with a non-abrasive tool. Apply a thin layer of lubricant to the exterior surfaces and tighten onto the TP100 adapter.
- Clean the teflon seal. If needed, use the # 51 (.067”) drill bit to clean the interior of the teflon seal. Insert the seal into the back of the PCD leaving the domed end facing out toward the retaining nut. Making sure the PCD seats into the retaining nut, firmly tighten the retaining nut onto the TP100 adapter. NOTE: If using a drill bit to clean the interior of the seal insure not to use excessive force as it could show a distorted pattern of the foam.

Once proper drum temperatures are met turn of displacement pumps.

- Reactor – To exit JOG mode press the bottom arrow until dashes appear on the digital pressure display.
- Hydraulic Proportioner – Turn off the hydraulic motor.

Close both re-circulation ball valves.

Using the 5/16 spin-tight wrench close the fluid manual valves.

Disconnect fluid manifold/side blocks to the recirculation clock.

- Fusion Gun – Remove the fluid manifold from the re-circulation block and attach to the Fusion gun.
- Gap Gun – Remove the recirculation screen screws and insert the gun screen screws.

Adjust the A and B primary heater and the hose heat.

- After re-circulating the chemical check your A and B primary heaters as well as the hose heat for proper processing temperatures. Make any necessary adjustments if needed.

Set the pressure on the proportioner.

- Reactor – To pressurize the proportioner, push the motor ON/OFF key. Press the up and down arrows to set the desired processing pressure.
- Hydraulic Proportioner – Turn the pump switch to spray. Adjust the hydraulic pressure control knob up or down to set the desired processing pressure. NOTE: Before spraying any chemical always make sure the pressure on the analog gauges are equal.

Setting the air purge gun to spray.

- Ensure the spray gun safety lock is engaged.
- Connect the air line to the spray gun.
- Disengage the safety and trigger the gun ten to twelve times with the fluid manifold valves closed. This will ensure that the spool (trigger) is working, that the piston along with the mixing chamber are moving back and forth with no obstruction, and that the side seals and the mixing chamber are aligned to make a proper seal.
- Engage the safety lock.
- Open the B-side fluid manifold manual valve and check for chemical blow-by coming out of the mixing chamber. Once you find there is no chemical blow-by, close the B-side.
- Open the A-side fluid manifold manual valve and check for chemical blow-by coming out of the mixing chamber. Once you find there is no chemical blow-by, open the A-side.
- Disengage the safety lock and test spray onto cardboard for a few seconds. Check the status of your heaters and pressure.
- Equipment is ready to spray. NOTE: Always remember that when the spool (trigger) is not being pulled, engage the safety lock.

SHUT DOWN PROCEDURE

Shut down the proportioning pumps.

- Push the Park key. Disengage the safety lock and trigger the air purge spray gun until the pump shuts off. NOTE: When the A/B displacement pistons are at the bottom of the stroke the electrical circuit will shut off. The reactor is only parked when the ON/OFF and PARK indicator lights are not illuminated.

Turn off the heaters.

- Turn off the hose heater by pushing the hose heater key located on the temperature control display.
- Turn off the B-side primary heater by pushing the B primary heater key located on the temperature control display.
- Turn off the A-side primary heater by pushing the A primary heater key located on the temperature control display.



Turn off the proportioner.

- Reactor – Turn off the main power switch, located on the right side of the bottom electrical console. The temperature and motor display should light up at this point.
- Hydraulic Proportioner – Turn off the main power switch, located on the front left hand side of the electrical console. The control power switch should light up.

Close the supply valves located on either side of the proportioner.

Disconnect airlines from the 2:1 transfer pumps.

Turn off mixer; turn off air compressor, and drain.

Disconnect the power supply to the proportioner per the manufacturer's recommendations.

- If using a generator, let idle for approximately 10 minutes before turning off.
- If using shore power, turn off the breakers before disconnecting the main power wires.

Shut down air purge gun.

- Close the B-side fluid manifold manual valve.
- Close the A-side fluid manifold manual valve.
- Disengage the safety and trigger the gun until there is no more mist coming through the mixing chamber. This will ensure that the A and B chemical passages are free and clear.
- Engage the safety lock.
- Remove grease fitting cap. Using the grease gun, dispense grease into the grease fitting until a mist of grease is noticed from the mixing chamber.
- Disconnect the air line from the spray gun. NOTE: Always remember that when the spool (trigger) is not being pulled, engage the safety lock.