Pump Startup Procedure

Important!

Always make sure that the pump is at operating temperature for the material and has soaked at that temperature for long enough for the material inside of the pump to be molten and ready to process. Some materials will degrade if held at operating temperature for long periods of time. It is important to heat soak for the proper amount of time for the specific process. For a recommended heat soak time for the pump model in operation please refer to the manual provided with the equipment.

Start-Up – No polymer in pump

Note: This is a priming procedure for filling an empty pump. This is for a new/rebuilt pump installation or when the pump shuts down on low suction pressure due to loss of material. If the pump runs for a long time (greater than 60 seconds) during a low suction pressure shutdown this priming procedure is required for re-starting the pump in these situations. This assures that the pump has plenty of lubricating polymer in the bearings and gear teeth prior to starting up.

1. Start the pump with the pump speed control set to zero.

2. Start the extruder and raise the speed to 5-10% of normal operation speed. Observe the speed indicator to prevent excess speed.

3. Observe the pressure readout on the suction pressure controller until it indicates 750 to 1000 psi. Be careful not to over pressurize the pump! Stop the extruder when it reaches this point. If the pressure will not rise over 750 PSI the extruder speed can be increased.

   Note: If the pump begins to slowly rotate and self-relieve the pressure on the inlet side this is OK. Simply let this happen and let the extruder run for approximately 2 minutes and skip to step 5.

4. Stop the extruder and let the pressure bleed down to less than 500 PSI without energizing the pump motor.

5. Once the pressure on the inlet (suction side) of the pump is less than 500 PSI repeat steps 2 through 4 at least 2 more times.

6. Reset the extruder speed to zero and start the extruder.

7. Set the pump speed control to approximately 10% and the extruder speed control to approximately 10%.

8. Adjust the extruder speed and the pump speed slightly until the suction pressure is stable around 200-300 PSI. Do not spin the pump faster than 5 RPM during this time.

9. Allow the system to run until the downstream equipment is full and the discharge pressure rises above 500 PSI.

10. Bring the suction pressure up to the normal suction pressure set point by increasing the extruder speed slightly.

11. Put the pressure loop controller into automatic operation mode.

12. Clear the low suction pressure alarm if it exists.

13. Slowly increase the pump speed to the desired operating level with a maximum of 10 to 15 RPM/minute. The extruder speed will adjust automatically.

Start-Up – Polymer in pump

Note: This is a procedure for starting a pump that has been run with the material that is currently being processed or with a material that is equal to or slightly greater in viscosity and that has similar shear thinning characteristics as the material that is going to be processed. The important thing is that there is molten material in the pump and inside of the bearings/seals to protect against galling at start up.

1. Start the pump with the pump speed control set to zero.

2. Set the pump speed control to approximately 10% and the extruder speed control to approximately 10%.

3. Adjust the extruder speed and the pump speed slightly until the suction pressure is stable around 200-300 PSI. Do not spin the pump faster than 5 RPM during this time.

4. Allow the system to run until the downstream equipment is full and the discharge pressure rises above 500 PSI.

5. Bring the suction pressure up to the normal suction pressure set point by increasing the extruder speed slightly.

6. Put the pressure loop controller into automatic operation mode.

7. Clear the low suction pressure alarm if it exists.

8. Slowly increase the pump speed to the desired operating level with a maximum of 10 to 15 RPM/minute. The extruder speed will adjust automatically.