

tional means, such as a manually operable keypad 1219. An illuminated digital readout 800 may also be employed which will provide a visual indication of the information manually fed in by keypad 1219. This readout unit 800 can also be used to provide information about certain malfunction states present in the system.

Lines 1214 and 1215 are connected to electromagnet 332 of FIG. 3, and are energized in either one polarity or the other, depending upon whether the extension 311 of the selector valve rotor arm is to be raised or lowered.

Lines 1207 and 1208 supply inputs to respective relay devices 1218 for energizing the reversible pump motor 125 to run in the selected direction. Switch 333 prevents energization of motor 125 except when the selector valve arm is in engagement with one of the second ports.

Line 1206 controls fluid bath agitator motor 124 by way of a relay device 1218. Line 1205 is similarly arranged to control processing tank lamp 717.

Temperature sensor 121 is shown as a conventional thermistor bridge circuit providing an input to digital device 1201. A desired set-point temperature may be entered by keypad 1219. Output lines 1220 and 1221 energize Peltier device 120 in one polarity for cooling and in the opposite polarity for heating the temperature control bath. Line 1217 operates a complex wave form generator 1222 driving the ultrasonic wave transducer 716 for agitating the contents of the processing tank of FIG. 9. The control module might also operate transducer 716 directly, via line 1217. Line 1216 energizes an alarm device 1223 when a process is completed or some condition occurs requiring the attention of an operator. The alarm condition can also be indicated on the digital readout device 800.

It is understood that the foregoing is presented by way of illustration only and is not intended to limit the scope of the present invention, except as set forth in the appended claims. For example, when using a rotary vane pump, which is capable of pumping both fluids and gases, one of the secondary ports in the valve may be connected to a source of air for drying the material in the processing tank. In this manner the pump which is used for fluid transfer is also used to pump in drying air.

What is claimed is:

1. Apparatus, comprising

- (a) a plurality of material storage tanks, each adapted to contain a supply of a respective material,
- (b) selector valve means having a first port and a plurality of second ports and means for establishing a connection between said first port and any one of said second ports,
- (c) drive means connected to said selector valve means for actuating said valve to connect said first port to any one of said second ports,
- (d) conduit means connecting said storage tanks to respective ones of said second ports,
- (e) further conduit means connected to carry materials to a processing container,
- (f) a material conveyance means connected between said first port and said further conduit means,
- (g) means connected to said drive means for selecting one of said second ports for connection to said first port,
- (h) temperature control bath containing at least one of said material storage tanks, and
- (i) means for preventing operation of said material conveyance means except when said selector valve

has established a connection between said first port and a selected one of said second ports.

2. The apparatus of claim 1, wherein said processing container comprises a processing tank connected to said further conduit means and provided with a gas-tight, light-tight, removable cover.

3. The apparatus of claim 2, wherein said cover is provided with a vent for releasing gas from said processing tank, and a check valve comprising a hinged cover over said vent which, when closed, prevents ambient air from entering said processing tank but, when lifted by an increase in pressure within said processing tank, provides a passage for releasing gas from said processing tank.

4. The apparatus of claim 3, further including a light baffle adjacent said vent disposed to prevent entry of light through said vent to said processing tank.

5. The apparatus of claim 2, wherein said processing tank is provided with an opening near its top, further including a source of gas under pressure and means for conducting gas from said source to said processing tank through said opening.

6. The apparatus of claim 5, wherein said gas is air and said source of gas under pressure is a blower.

7. The apparatus of claim 5, wherein said source is connected to a container of desiccant.

8. The apparatus of claim 5, further including means for heating the gas supplied by said source.

9. The apparatus of claim 6, wherein said blower is connected in series to a container of desiccant and to a heater means to provide air which has been dried and heated.

10. The apparatus of claim 7, wherein said desiccant is particulate silica gel.

11. The apparatus of claim 7, wherein said desiccant is a zeolite.

12. The apparatus of claim 2, further including means for illuminating the interior of said processing tank.

13. Apparatus, comprising;

- (a) a plurality of material storage tanks, each adapted to contain a supply of a respective material, and wherein at least one of said storage tanks is constructed with one point in the bottom lower than any other point of the tank, and said tank if provided with a material conduit extending generally vertically outside the tank and communicating at its lower end with the interior of said tank at said point,
- (b) selector valve means having a first port and a plurality of second ports and including means for establishing a connection between said first ports and a selected one of said second ports,
- (c) drive means connected to said selector valve means for actuating said valve to connect said first port to any one of said second ports,
- (d) conduit means connecting said storage tanks to respective ones of said second ports,
- (e) further conduit means connected to carry materials to a processing container,
- (f) a material conveyance means connected between said first port and said further conduit means,
- (g) means connected to said drive means for selecting one of said second ports for connection to said first port,
- (h) means for preventing operation of said material conveyance means except when said selector valve has established a connection between said first port and a selected one of said second ports.