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## Microcontroller based Furnace Oil Tank Level Control System

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*Bunker fuel (Furnace oil) is a fraction obtained from petroleum distillation. It is highly viscous oil, but generally used as fuel for furnaces after preheating to 77-104 °C. At this temperature, its viscosity will be reduced and possible to pump to furnace. Optimum combustion control of furnace is possible if fuel flow is maintained constant. A system has been designed which can supply constant flow of furnace oil to combustion control system of furnace. A microcontroller (Arduino Uno) is used to control the process. The designed system consists of two tanks. The preheating of furnace oil is done in tank-1 and constant level is maintained in tank-2. Since constant level of oil is maintained in tank-2, output from this tank has a constant flow and can be fed to Furnace as fuel. Oil temperature in tank-1 is maintained at 85±3 °C by the ON-OFF control. When oil temperature reached to 82 °C, microcontroller switches on a pump. The pump starts pumping the oil to the second tank through a pneumatic valve. With the help of a level switch, level is monitored and microcontroller controls the level of tank-2 using a pneumatic valve.*