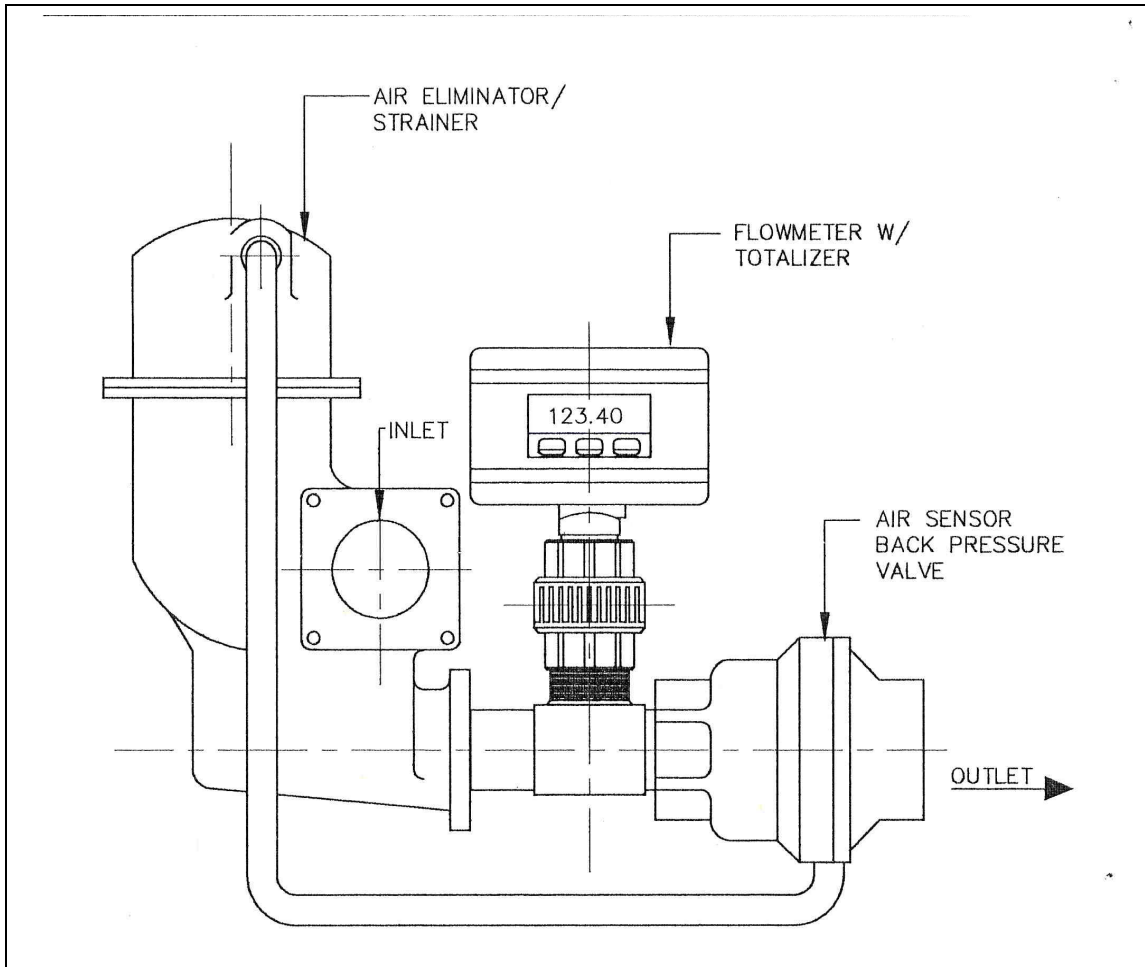




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## HEATING OIL RECEIPT SYSTEM



### **PRINCIPLE OF OPERATION:**

The air sense back pressure valve is a spring loaded piston valve, used to stop flow when air is detected in the metering system. The valve is piped to an air eliminator which has a liquid level float mechanism connected to a rocker band (RB) type air release head with dual air exhaust slots. Air entering the metering system will accumulate in the A.E. float chamber, causing the float to drop, thereby opening the air exhaust slots in the RB head. Accumulated air exhausts to one slot to the atmospheric sump. Through the other slot it pressurizes the back pressure (BP) piston chamber to system pressure. With equal pressure on both sides of the piston, the spring in this chamber closes the valve, stopping flow until all air is vented.

After the accumulated air in the air eliminator has been discharged to atmosphere, the float rises closing the two air exhaust slots. Since the BP piston is seated, the air in the BP piston chamber cannot bleed downstream. Instead it vents to the atmospheric sump through a small bleed orifice in the dividing web of the RB air eliminator head. As the BP piston chamber pressure approaches atmospheric pressure, the higher upstream pressure automatically reopens the valve, re-establishing liquid flow through the system.