



AMMETER: scaled in amperes, calibrated in CFM

SURGE LIGHT: indicates low air demand

ELAPSED TIME METERS: enables pump usage to be balanced

RUN/FAIL LIGHTS: indicates status of blowers

ON/OFF SWITCHES: controls operation of the blowers

VIBRATION: excessive blower vibration

ALARM RESET

### OPERATION

The Aeration Control Panel works in conjunction with the Blower motor starters and transformers located in a (MCC) Motor Control Center.

The task of these Blowers is to charge the sewage water with air to promote the oxygenation of the sewage. Any Blower can be started by pushing its start button. The ammeters indicate the amount of current being drawn by the Blower motors, this instrument is also calibrated to indicate the cubic feet of air (CFM) moved per minute. When the water level drops (no restriction of air flow), the Blower current increases to the surge level, a panel surge light comes on indicating this condition.

Each Blower has its own running light and a fail light for indicating these conditions.

Each Blower is equipped with a vibration sensor. Excessive vibration will turn off the Blower and a vibration light will signal the condition. Reset buttons are provided to restart the Blower which has been shutdown due to excessive vibration.

The elapsed time meters keep a perpetual record of Blower usage, this enables operating personnel to monitor the maintenance and wear of the blowers.



# **ENGINEERS SPECIFICATIONS**

**FOR**

## **AERATION BLOWER CONTROL PANELS**

The Aeration Blower Control Panel shall be built by TLC Controls Inc., Mt. Prospect, IL 60056, and shall include the following:

It is assumed that the Blower motor starters as well as the control transformer are installed in the Motor Control Center (MCC).

The task to be performed shall be to aerate sewage using four Blowers; the operation of each component shall be as follows:

The controls shall be enclosed in a NEMA 12 Cabinet and shall operate at 110 Volts AC.

Each Blower shall be activated by its own start/stop button. Individual Blower ammeters indicate the amount of current being drawn by the individual Blower motors; this instrument shall also be calibrated to indicate the cubic feet of air (CFM) being moved by that particular Blower.

Each Blower shall be provided with surge shutdown and time delays for restart. A running light shall indicate which Blowers are in operation, also a fail light and timer shall be provided to show that a fault condition exists. Reset buttons shall be provided to reset the Blower which has been shutdown due to excessive current. Protection controls shall be designed so that when volumetric demand of the Blower is increased to the surge volume, the Blower shall shutdown. Each Blower shall have a vibration sensor to monitor the operating condition; excessive vibration shuts down the Blower. A vibration light signals when this condition exists.

Elapsed time meters for each Blower shall keep a perpetual record of Blower usage for monitoring maintenance and provide equal wear.

A terminal strip shall be provided for all external wiring connections in the control panel for monitoring the following:

- Low oil pressure for each blower
- Power failure
- Motor running
- Monitor pressure switches
- Surge shutdown
- Vibration shutdown
- Starter failure (motor)
- Overload signal indicated

Note: The above specifications are offered as a guide. They are not all-inclusive and other methods and options could be specified and incorporated into the control wiring.