max 370 Vapor Eliminator Level Controller Instruction Manual

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Max 370 Vapor Eliminator Level Controller

Product Information: Vapor Eliminator Level Controller

General Description

The Vapor Eliminator is an in-line self-venting chamber which is used in both portable and stationary Max fuel-mea-surement systems. It is placed directly upstream of the flowmeter- separating gases resulting from the “boiling” of low vapor pressure fuels, and removing air bubbles resulting from aeration of the fuel tank, or leaks on the suction side of the pump. It ensures that the flowmeter measures liquids only.

Specifications

- Materials of construction:
  - Body: 303 Stainless
  - Valve Orifice: 303 Stainless
  - Valve Seal: Special Nitrile
  - Float: 304 Stainless
  - Miscellaneous Levers: 304 Stainless
  - Screens: 304 Stainless
- Volume (approximately): 202 cc’s
- Maximum Inlet Flow rate (liquid plus entrained gases)*:
  - Gasoline: 5250 cc/min
  - Alcohol: 4375 cc/min
  - Diesel: 3500 cc/min
- Maximum Operating Pressure: 100 psi
- Supply Line Size: 1/4 or 3/8 tubing
- Maximum Temperature of Fuel:
  - Gasoline: N/A

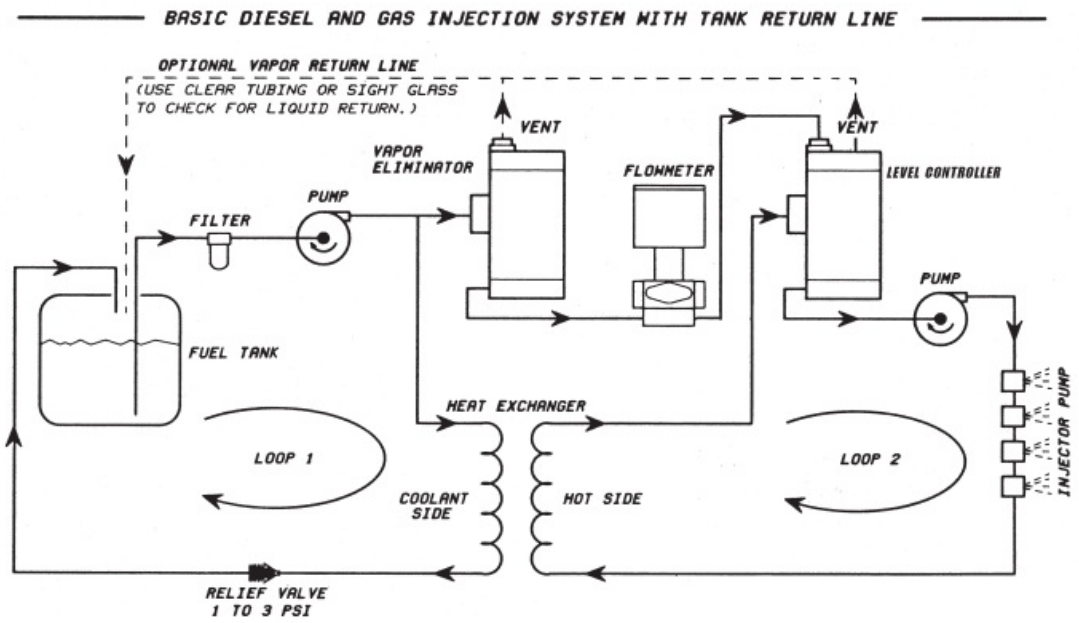
- Alcohol: N/A
- Diesel: N/A

NOTE: Flow rates approaching the maximum of the Inlet Port will reduce the vapor elimination capabilities.

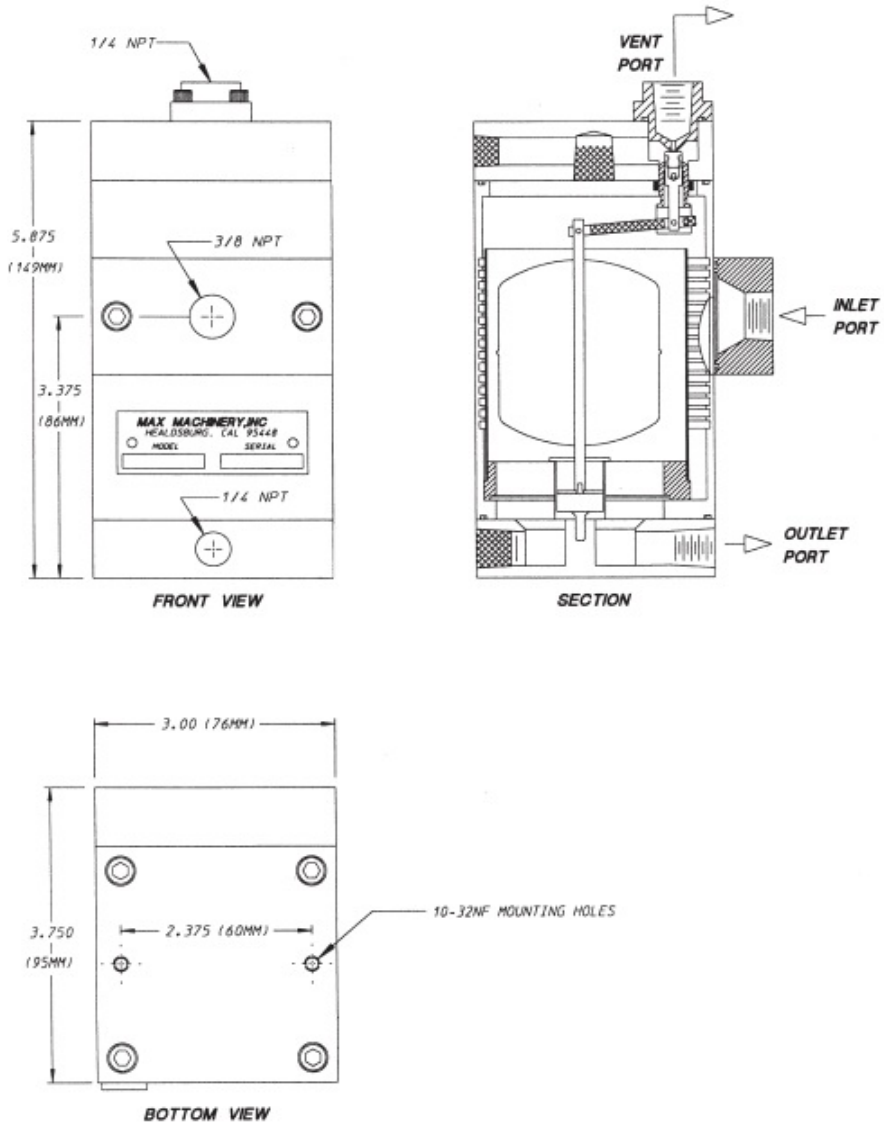
Application Description

The diagram below shows the arrangement of components in a typical fuel-measurement system. Note the proximity of the vapor eliminator to the flowmeter. Note that the vapor vent line returns to the fuel tank; merging with the vent line of the level control tank is an acceptable practice.
The Level Controller stores return fuel from the engine's fuel injectors or carburetor and are replenished by fuel passing through the flowmeter. The controller operates at atmospheric pressure and will present no back pressure to the return fuel line. Vapor elimination of this fuel is also accomplished by the controller's internal screens.

Drawings



Performance Curves



Product Usage Instructions

Section 1: Vapor Eliminator

The Vapor Eliminator is an in-line self-venting chamber used in both portable and stationary Max fuel-measurement systems. It is placed directly upstream of the flowmeter to separate gases resulting from the boiling of low vapor pressure fuels and remove air bubbles resulting from aeration of the fuel tank or leaks on the suction side of the pump. The Vapor Eliminator ensures that the flowmeter measures liquids only.

Installation

1. Identify the suitable location for installing the Vapor Eliminator in the fuel line.
2. Ensure that the fuel line matches the required supply line size of 1/4 or 3/8 tubing.
3. Connect the Vapor Eliminator in-line, upstream of the flowmeter.

Maximum Flow Rates

The Vapor Eliminator can handle the following maximum flow rates:

- Gasoline: 5250 cc/min

- Alcohol: 4375 cc/min
- Diesel: 3500 cc/min

Maximum Operating Pressure

The Vapor Eliminator can operate at a maximum pressure of 100 psi.

Section 2: Level Controller

The level control function automatically feeds measured make-up fuel into the recirculation tank to replenish the fuel consumed by the engine. A float-activated valve is used to maintain a consistent tank level. The valve opening is varied to regulate the flow of pressurized fuel into the tank, typically through a flow meter.

Installation

1. Identify the suitable location for installing the Level Controller in the fuel line.
2. Connect the Level Controller in-line, typically after the flow meter and before the recirculation tank.

Maximum Flow Rates

The Level Controller can handle the following maximum flow rates:

- Inlet Port (no vapor):
  - Gasoline: 2200 cc/min
  - Alcohol: 2000 cc/min
  - Diesel: 1500 cc/min
- Return Port (< 1000 cc/minute vapor):
  - Gas: 3000 cc/min
  - Alcohol: 2500 cc/min
  - Diesel: 2000 cc/min

Maximum Inlet Fuel Pressure

The Level Controller can handle a maximum inlet fuel pressure of 20 psi.

Model 370 Level Controller

General Description/Specification

- Materials of Construction: Body 303 Stainless
  - Valve orifice 303 Stainless
  - Valve Seal Special Nitrile
  - Float 304 Stainless
  - Miscellaneous Levers 304 Stainless
  - Screens 304 Stainless
- Maximum Fuel Flow Rate

    - Inlet Port (no vapor)*
    - Gasoline 2200 cc/min
    - Alcohol 2000 cc/min
    - Diesel 1500 cc/min
    - Return Port (< 1000 cc/minute vapor)*
    - Gas 3000 cc/min
    - Alcohol 2500 cc/min
    - Diesel 2000 cc/min
    - Supply Port

      This is the tank outlet. The fuel drawn from the tank must not exceed the sum of the inlet port flow, and return port flow.*
- Maximum Inlet Fuel Pressure 20 psi
    - Volume (w/10 psi supply) 202.1 cc
- Maximum Temperature of Fuel
    - Gasoline 130°F
    - Alcohol 140°F
    - Diesel 200°F

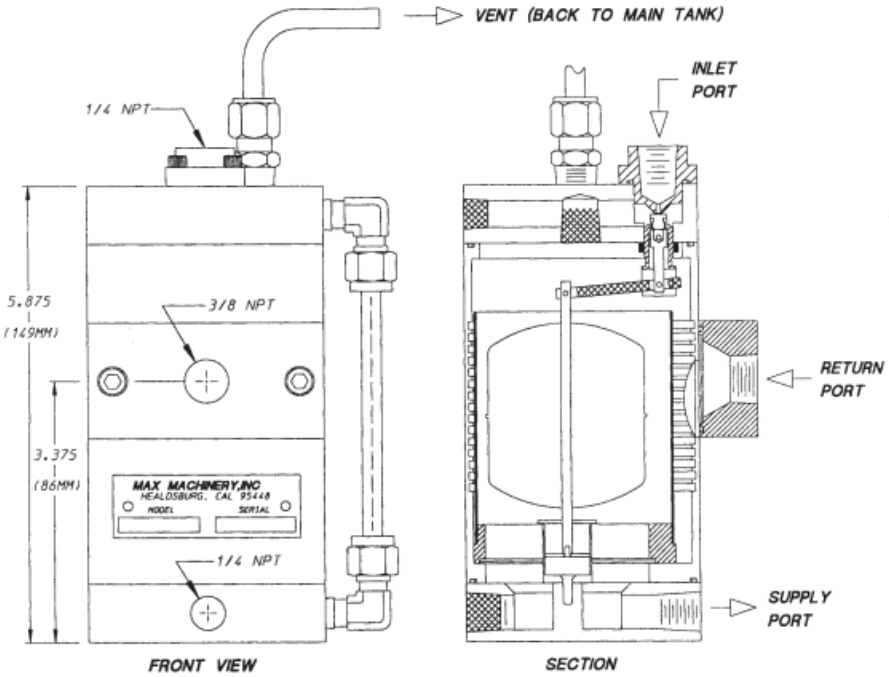
NOTE: Flow rates approaching the maximum of either the Inlet Port or the Return Port will reduce the vapor elimination capabilities.

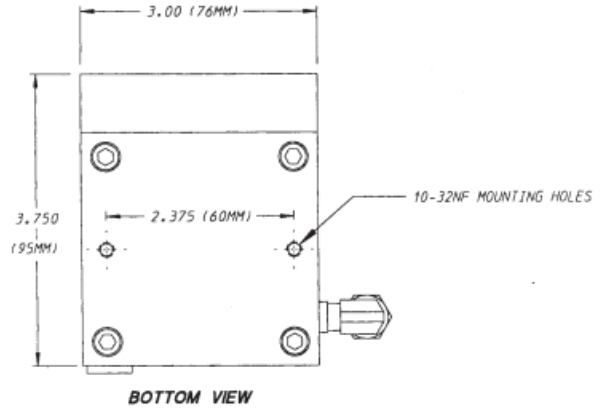
Application Description

The Max Level Controlled recirculation tank performs two basic functions: The recirculation tank function provides the engine with a source of fuel and allows unburned return fuel to flow back to a tank that is at atmospheric pressure. The tank is open to the atmosphere to eliminate back pressure on the engine's fuel system as well as to vent bubbles removed from the fuel. The tank is outfitted with a series of screens to collect the entrained vapor that often results from the mechanical action of the injector and/or heating of the fuel. These bubbles rise to the surface, while the engine is supplied with bubble-free fuel from the lowest port.

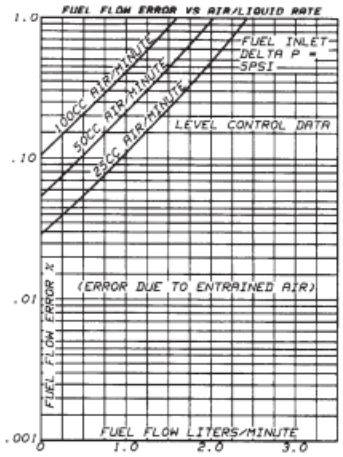
The level control function automatically feeds measured make-up fuel into the recirculation tank to replenish the fuel consumed by the engine. A float-activated valve is used to maintain a consistent tank level. The valve opening is varied to regulate the flow of pressurized fuel into the tank typically through a flow meter (see page 4).

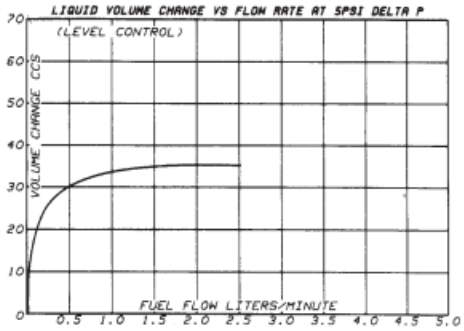
Drawings

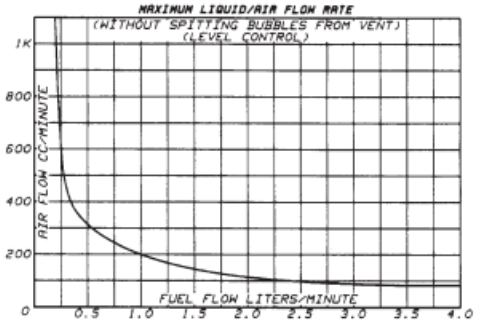


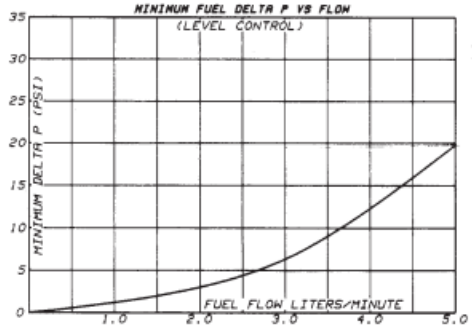


Performance Curves









Model 372 Vapor Eliminator & Level Controller

General Description/Specifications

- Materials of Construction:
  - Body 303 Stainless
  - Valve Orifice 303 Stainless
  - Valve Seal Nitrile (Tan)
  - Float, Valve Stem & Screens 304 Stainless
- Operational Limits:
  - Vapor Eliminator:
    - Max Float Bowl Pressure 75 psi (5 bar)
    - Max Air Eliminator Rate (Rate for gasoline equal to or greater than for Diesel)
      - Diesel @ 500 cc/min 2100 cc/min
      - Diesel @ 1000 cc/min 1500 cc/min
      - Diesel @ 2000 cc/min 300 cc/min

      See Graph, page 12

- Level Controller:
  - Max Return Rate (300 cc/min or less air) 2000 cc/min
  - Max Make-Up Flow Rate See Graph, page 13
- Maximum Temperature of Fuel
  - Gasoline 130°F (55°C)
  - Alcohol 140°F (60°C)
  - Diesel 200°F (93°C)

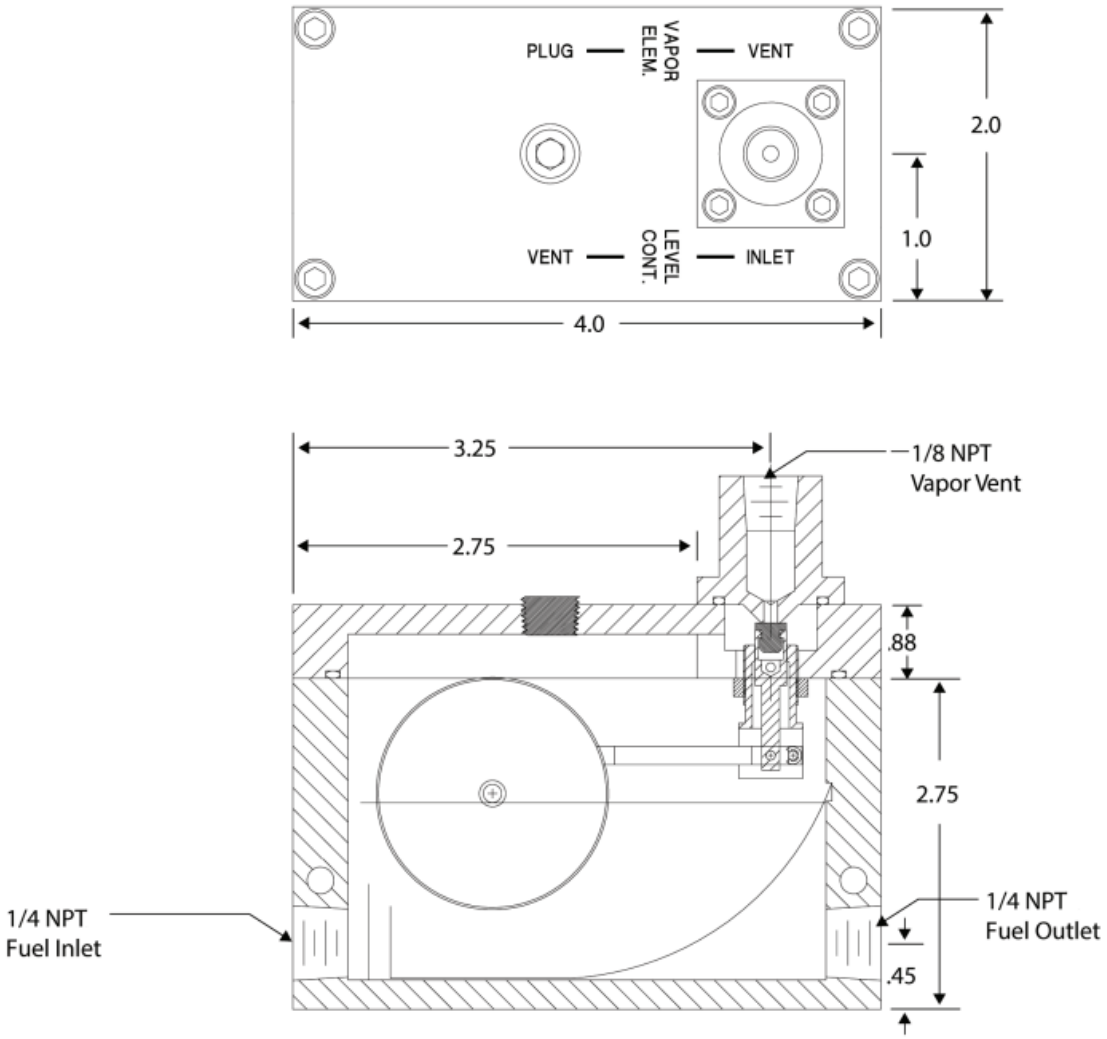
Application Description

The Max Model 372 may be used as either a Vapor Eliminator or Level Controller depending on how it is installed in your fuel measurement system.

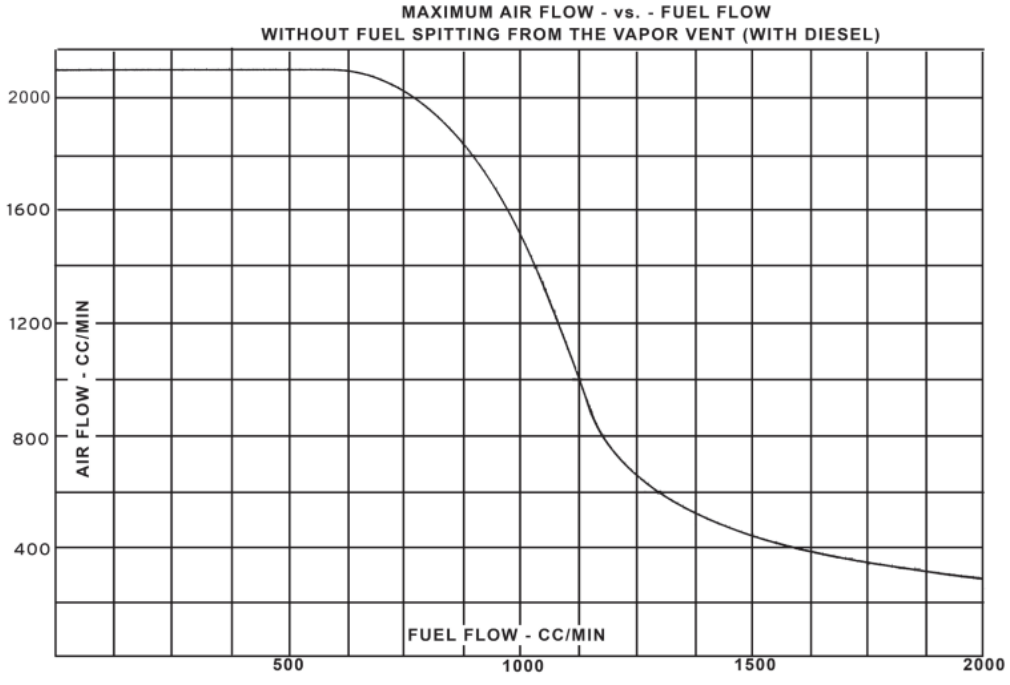
When plumbed in the Vapor Eliminator configuration, the unit removes bubbles from the fuel which would otherwise cause measurement errors as they pass through the flow meter. Bubbles may be caused by the low boiling point components in gasoline or by hot vehicle fuel lines. A design featuring a series of screens and a float mechanism effectively separates the vapors from the fuel.

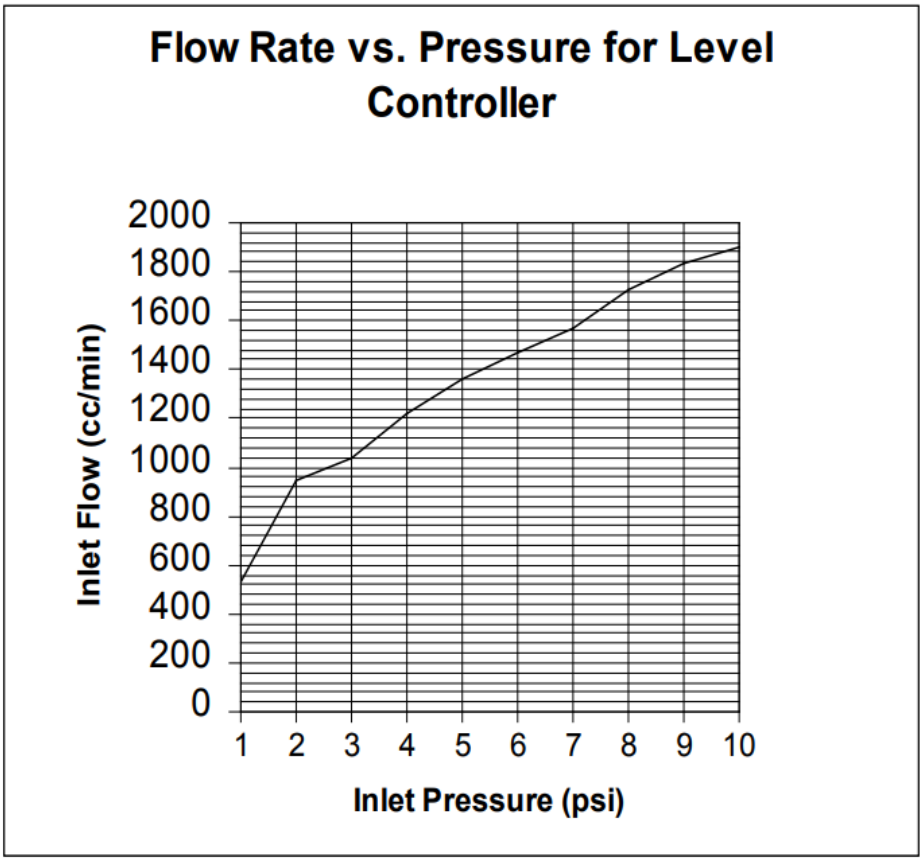
When plumbed in the Level Controller configuration, the Model 372 serves as a vented, recirculation tank to collect return fuel and route it back to the supply side of the engine, while maintaining its level through a float valve that controls the fuel flow through the flow meter.

Drawings



Vapor Eliminator Mode





FAQ (Frequently Asked Questions)

Q: What is the purpose of the Vapor Eliminator?

The Vapor Eliminator is used to separate gases and remove air bubbles from the fuel, ensuring that the flowmeter measures only liquids.

Q: What are the maximum flow rates the Vapor Eliminator can handle?

The Vapor Eliminator can handle a maximum flow rate of 5250 cc/min for gasoline, 4375 cc/min for alcohol, and 3500 cc/min for diesel.

Q: What is the maximum operating pressure of the Vapor Eliminator?

The Vapor Eliminator can operate at a maximum pressure of 100 psi.

Q: What is the purpose of the Level Controller?

The Level Controller automatically feeds measured make-up fuel into the recirculation tank to replenish the fuel consumed by the engine.

Q: What are the maximum flow rates the Level Controller can handle?

The Level Controller can handle a maximum flow rate of 2200 cc/min for gasoline, 2000 cc/min for alcohol, and 1500 cc/min for diesel at the inlet port. At the return port, it can handle a maximum flow rate of 3000 cc/min for gas, 2500 cc/min for alcohol, and 2000 cc/min for diesel.

Q: What is the maximum inlet fuel pressure the Level Controller can handle?

The Level Controller can handle a maximum inlet fuel pressure of 20 psi.

Documents / Resources

	max 370 Vapor Eliminator Level Controller [pdf] Instruction Manual 370 Vapor Eliminator Level Controller, 370, Vapor Eliminator Level Controller, Eliminator Level Controller, Level Controller, Controller

References

- Manual-Hub.com - Free PDF manuals!
- User Manual