

# VISION<sup>3</sup>

**The first totally integrated multiple boiler management control.**

***Vision III is an advanced multiple boiler control that is easy to install and operate.***

- ***Only factory trained contractors are allowed to install the Vision III System. This gives you the assurance that the Vision III has been installed properly.***

## **SYSTEM MONITORING**

- ***Software is available to monitor system history, parameters, fault history and run time of the Munchkin Boiler.***
- ***LED Lights provide a visual system displaying:  
Heat Operation, Extra Boiler Output, Primary Circulator Function and Auxiliary Fan.***

## **SYSTEM FEATURES**

- ***The Vision III can be connected to a building Management system that supplies a 0-10 volt Signal to control the operational set point of the connected boilers.***
- ***The Vision III system has the ability of using an existing conventional boiler as an additional heat source, should the connected Munchkin Boilers exceed 95% of their operation***
- ***Automatic boiler rotation***
- ***Central Heating Indirect Limit Setting***
- ***Temperature set point and differential adjustment For both central heating and indirect heating.***
- ***Indirect Priority Functions***
- ***Post Purge Circulator Functions***
- ***Personalized Outdoor Reset Curve***
- ***Two Circuit Temperature Capability***
- ***High Temperature for the indirect or fan coil***
- ***Low temperature for Radiant Heat***
- ***Warm weather shut down***
- ***The Vision III has four boiler and eight boiler capability***

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# HOW THE VISION III WORKS

The Vision III is the first totally integrated multiple boiler management control that can actually communicate with anywhere from one to eight modulating Munchkin Boilers. Vision contractors can now take Multiple Munchkin Boilers and seamlessly operate them as if they were one large boiler. The Vision III is very simple to install and operate. Only Vision Contractors can install the Vision III with the use of a Vision Pass Code. This gives you the assurance that your Vision System was installed properly and professionally.

The Vision III control uses a three wire bus communication system to control the operation of each Munchkin Boiler. The Vision III control will regulate the modulation of each Munchkin unit connected through the two wire bus communication system based the total heat demand. The heat demand for central heating is generated by either a thermostat, Outdoor Sensor or 0-10 volt external input Energy Management System. The Vision III will regulate the modulation of each boiler based on the target set point value. Regulation of the connected boilers is achieved by dividing the load between the boilers connected to the Vision III controller.

The Vision III sends a Data ID to each boiler. The boiler should respond within 5 seconds. If the response fails the first time, the Vision III control continues to send the same data ID to that boiler again. If the boiler continues to not respond, the Vision III removes this particular boiler from the system and the other boilers take over. The "non present" boiler can be made active again as soon as it sends a proper response to the Vision III controller. The Vision III will request every "non present" boiler to respond every 10 - 15 seconds. During the first 48 hours of operation, the cycling of each boiler is completed every hour. After the initial period, the system will then rotate the boilers every 24 hrs. of operation. The Primary Pipe Sensor will assure accurate temperature control of the supply water temperature to the system. The Vision III display allows the user to monitor the system operation. It also allows the user to program the system parameters. This display will also help trouble shoot any boiler or system service problems.

The Vision III also has the ability to work in conjunction with an existing conventional boiler that can be used as a back up if the Vision III senses a demand that exceeds 95% of the total calculated load of the connected Munchkin Boilers. If the calculated load value becomes higher than 95% of the available power of the connected Munchkin, then the extra boiler output switch is activated. If the calculated load value drops below 85% then the extra boiler output is switched off.

The Vision III determines how the load is divided between the connected boilers. To make this determination the following information is included in the database:

**Actual Load** – This is determined by the Vision III control algorithm on the basis of a room thermostat, outdoor sensor or 0-10 volt signal.

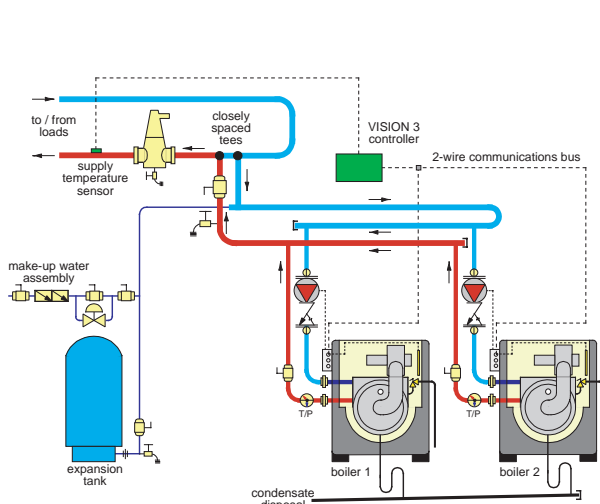
**Possible Maximum Load** – (100%) This value indicates the maximum load a boiler can modulate up to.

**Possible Minimum Load** – (30%) This value indicates the minimum load demand a boiler can modulate down to.

**Switch On Load** – (80%) When the control calculates a load demand higher than the programmed value, the next boiler is switched on and the load is again, shared between the two "on" boilers, if applicable.

**Switch off load** – (60%) When the divider calculates a load lower than the programmed value, the last boiler fired is switched off.

## Munchkin VISION 3 system boiler configurations (2 boilers in horizontal bank)



## Munchkin VISION 3 system boiler configurations (3 boilers in vertical bank with DHW application)

