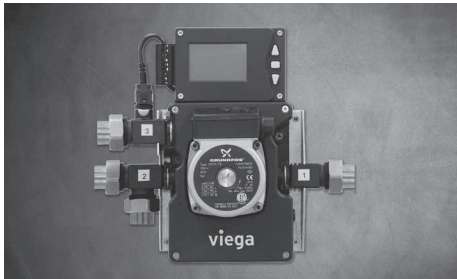


User Guide

Viega Hydronic Mixing Block



The Hydronic Mixing Block is a mixing device and boiler control with a built in circulator and microcontroller. The block can provide either a fixed or reset water temperature via start/stop or constant fluid circulation. The following pages outline step-by-step instructions for the installation, piping/wiring, and programming of the Hydronic Mixing Block.



This document is subject to updates. For the most current Viega technical literature please visit www.viega.us.



Viega products are designed to be installed by licensed and trained plumbing, mechanical, and electrical professionals who are familiar with Viega products and their installation. **Installation by non-professionals may void Viega LLC's warranty.**



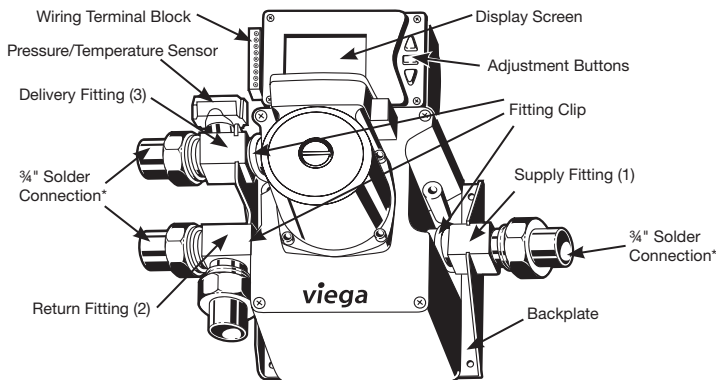
CAUTION!

Only suitably qualified individuals with formal training in electrical and HVAC controls should attempt the installation of this equipment. Incorrect wiring and installation will affect the warranty provided with this unit. Wiring must be completed in accordance with the codes and practices applicable to the jurisdiction for the actual installation.

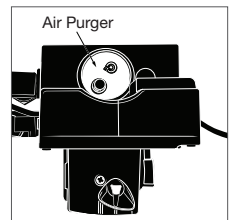


CAUTION!

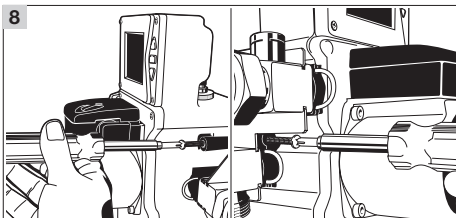
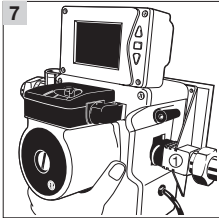
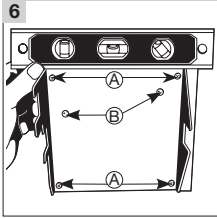
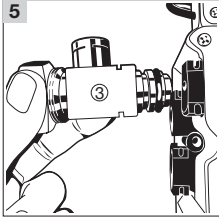
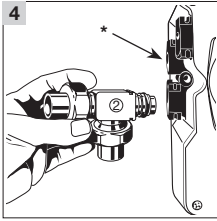
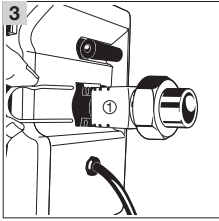
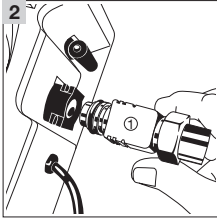
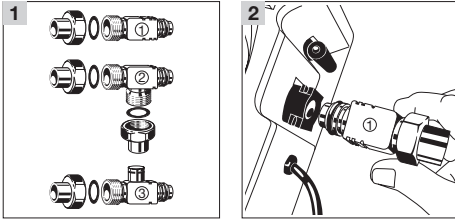
The Hydronic Mixing Block is a microprocessor based controller and as such is not to be regarded as a safety (limit) control. Please consult and install the heating or cooling appliance in accordance with the manufacturer's recommendations.



Part No 56160



**Viega tailpieces may be used in place of solder connections. Viega tailpieces are available for sale separately. See "Viega Tailpieces for Use with Hydronic Mixing Block" on page 3 for options.*



Installation

- 1 Assemble the Hydronic Mixing Block fittings.
- 2 Insert Supply Fitting (1) into port 1 on the lower right of the Hydronic Mixing Block. Firmly twist and press the fitting until fully seated.



Water can be used as a lubricant on the fitting o-rings and the pressure/temperature sensor o-ring.

- 3 Once a Hydronic Mixing Block fitting is fully seated, slide the fitting clip into the groove in the port, securing the fitting to the block.
- 4 Insert Return Fitting (2) into port 2 on the lower left of the Hydronic Mixing Block. Firmly twist and press the fitting until fully seated. Repeat step 3 to install fitting clip for the Return Fitting (2).



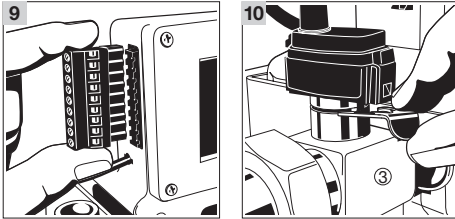
*This port is plugged internally and will not be used.

- 5 Insert Delivery Fitting (3) into port 3 on the upper left. Firmly twist and press the fitting until fully seated. Repeat step 3 to install fitting clip for the Delivery Fitting (3).
- 6 Attach the backplate to the wall using the four screw mounting holes. Level the backplate.
 - A. Hydronic Mixing Block mounting holes
 - B. Backplate mounting holes

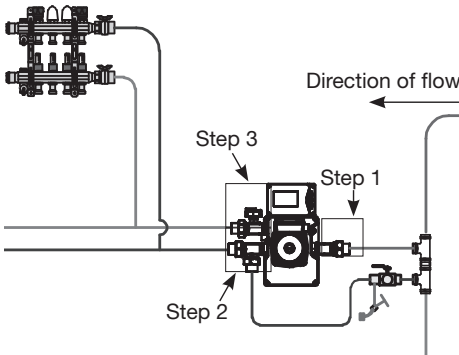


The backplate should be secured to a solid backing surface such as plywood or directly through drywall into wall studs. Drywall anchors or hollow wall anchors should not be used. Use flat head screws or #6 or smaller pan head screws for mounting the backplate. If mounting directly into wood backing, use 1" screws. If mounting through sheet rock, use 1½" screws (screws not included).

- 7 Slide the Hydronic Mixing Block into the backplate. The backplate will slide into the grooves in the Supply Fitting (1), Return Fitting (2), and Delivery Fitting (3).
- 8 Once the Hydronic Mixing Block has been fully inserted into the backplate, secure it to the wall using the two screws provided. The backplate has two mounting points, one on each side of the block.



- 9 Insert the wiring terminal block into the left side of the display screen. Firmly push inwards until fully seated.
- 10 To install the pressure/temperature sensor into the Delivery Fitting (3), firmly push down until seated, then secure with the stainless steel sensor clip. Install clip with the lip facing down.

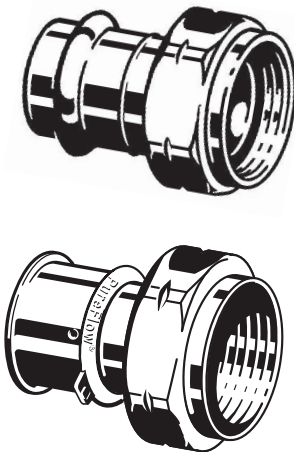


Connecting the Hydronic Mixing Block to the Primary Loop

- 1 Connect the Supply Fitting (1) on the Hydronic Mixing Block to the supply tee on the primary loop.
- 2 Connect the Return Fitting (2) to the return piping from the manifold. The branch connection on the Return Fitting (2) should connect to the return tee on the primary loop.
- 3 Connect the Delivery Fitting (3) to the supply piping for the manifold.

Viega Tailpieces for Use with Hydronic Mixing Block

The following tailpieces may be used when connecting piping to the Hydronic Mixing Block. Press tailpieces are sold separately.



Model 2957ZL and Model 2893ZL

Part No.	Dimension (in)	Connection
79800	1/2 x 1	ProPress x F BSP
79805	3/4 x 1	ProPress x F BSP
79810	1 x 1	ProPress x F BSP
96140	3/4 x 1	PureFlow x F BSP
96160	1 x 1	PureFlow x F BSP
Included	3/4 x 1	Solder Cup x F BSP

i When using the included solder connections, be sure to disassemble them before soldering. The solder cup should not be attached to the gasket or Hydronic Mixing Block when soldering. Allow soldered fittings to cool to room temperature before re-assembly.

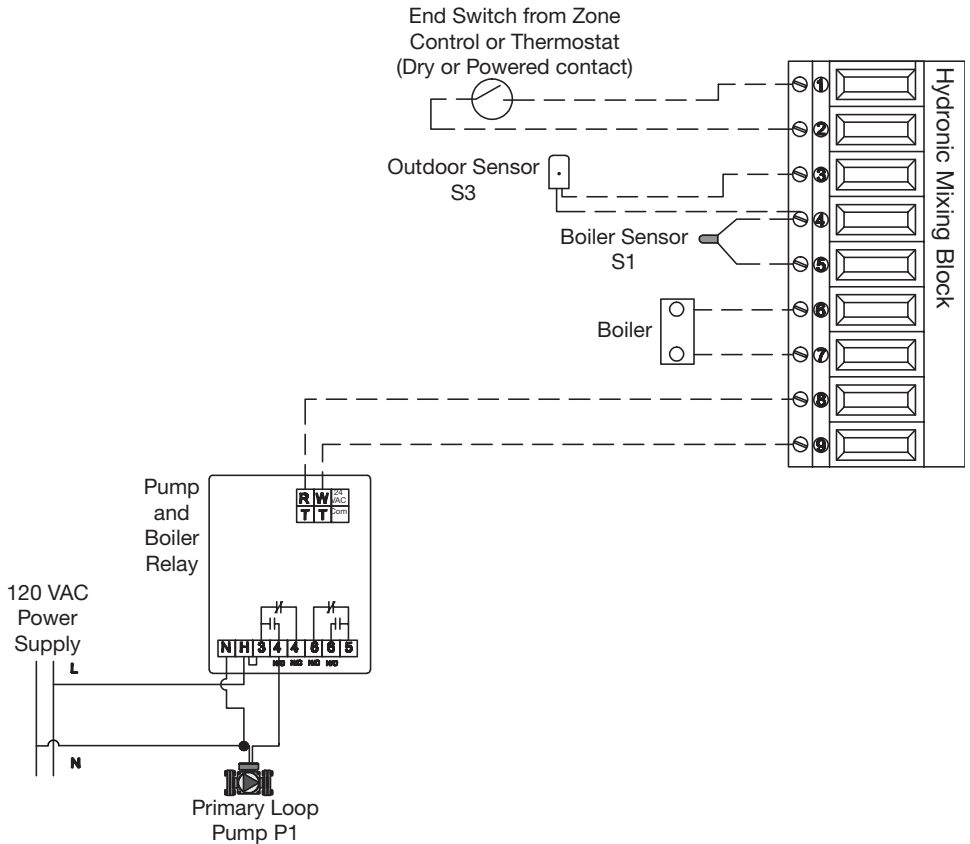
Wiring

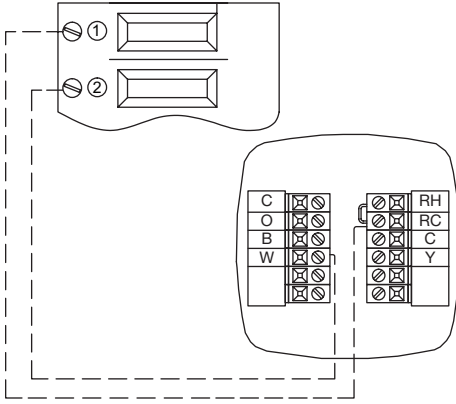
Connecting to the Wiring Terminal Block

All wiring shall be done through the wiring terminal block. The wiring terminal block has 9 terminals and should be connected as follows:

- Terminal 1,2 - Thermostat or end switch from Zone Control (terminal 1 and 2 can accept a dry contact or 24V powered contact).
- Terminal 3,4 - Outdoor Sensor.
- Terminal 4,5 - Boiler Sensor.
- Terminal 6,7 - Boiler Contact (TT) relay rated for 24V AC 1.0 Max AMPS.
- Terminal 8,9 - Internal relay rated for 24V AC 1.0 Max Amps. With the addition of a pump and boiler relay this contact can be used for low head primary loop pump control.

Plug cord into 120V AC - standard wall outlet (altering the cord will void the warranty).



Hydronic Mixing Block
Terminal 1 & 2


Connecting a Thermostat

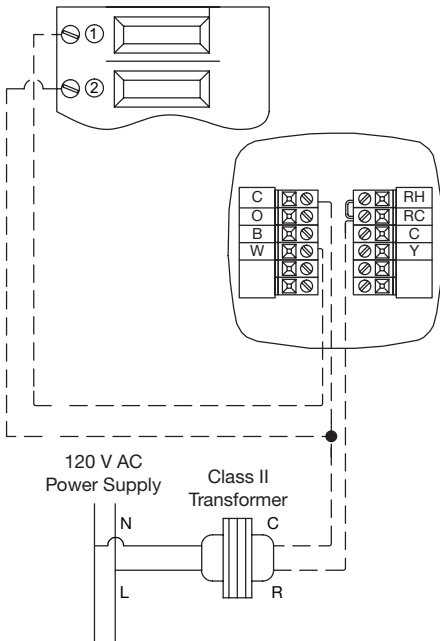
Two-Wire with Battery Thermostat

Wiring schematic for part numbers 15116, 15117, and 15118.

- 1 Connect RC terminal on thermostat to terminal 1 on the Hydronic Mixing Block.
- 2 Connect W terminal on thermostat to terminal 2 on the Hydronic Mixing Block.



Thermostat batteries must be installed and working for this configuration.

 Hydronic Mixing Block
Terminal 1 & 2


Three Wire Thermostat

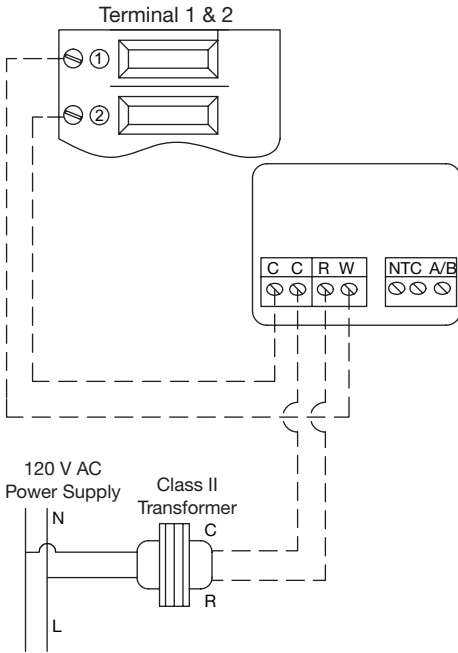
Wiring schematic for part numbers 15116, 15117, and 15118.

- 1 Connect R from the transformer to the RC terminal on the thermostat.
- 2 Connect the C from the transformer to the C terminal on the thermostat.
- 3 Connect the W terminal on thermostat to terminal 1 on the Hydronic Mixing Block (part number 15118 W terminal is labeled W/E).
- 4 Connect terminal 2 from the Hydronic Mixing Block to the C terminal on the thermostat/transformer.

Legend: Thermostat

--- Low Voltage

— Line Voltage



Three Wire Thermostat

Wiring schematic for part number 18050:

- 1** Connect R from the transformer to the R terminal on the thermostat.
- 2** Connect C from the transformer to C terminal on the thermostat.
- 3** Connect W terminal on the thermostat to terminal 1 on the Hydronic Mixing Block.
- 4** Connect C terminal on the thermostat to terminal 2 on the Hydronic Mixing Block.

Legend: Thermostat

--- Low Voltage

— Line Voltage

Sensor Wiring

Installing the Outdoor Sensor

The Viega Hydronic Mixing Block includes an Outdoor Sensor which provides an accurate measurement of the outdoor temperature. The Outdoor Sensor is protected by a white, UV-resistant, ABS plastic enclosure that contains a 10 k Ω thermistor.

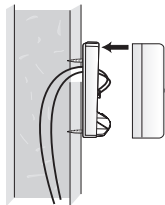
Mounting the Sensor



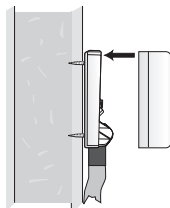
The temperature sensor (10 k Ω thermistor) is built into the Outdoor Sensor enclosure.

- 1 Remove the screw and pull the front cover off the sensor enclosure.
- 2 Mount the Outdoor Sensor to a wall, with the wiring entering either through the back or bottom of the enclosure. Do not mount the Outdoor Sensor with the conduit knockout facing upwards as rain could enter the enclosure and damage the sensor.
- 3 The Outdoor Sensor should be mounted on a wall which best represents the heat load on the building (a northern wall for most buildings and a southern facing wall for buildings with large south facing glass areas). The Outdoor Sensor should not be exposed to heat sources such as ventilation or window openings.
- 4 The Outdoor Sensor should be installed at an elevation above the ground that will prevent accidental damage, tampering, or snow/ice build up.

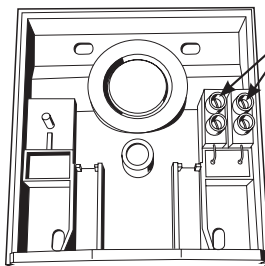
Sensor with Rear Entry Wiring



Sensor with Bottom Entry Wiring



Connect the Wiring



Wiring connection for Outdoor Sensor wires (terminal 3 and 4)

- 1 Connect 18 AWG or similar wire to the two terminals provided in the enclosure and run the wires from the Outdoor Sensor to terminal 3 and 4 on the wiring terminal block. Do not run the wires parallel to telephone or power cables. If the sensor wires are located in an area with strong sources of electromagnetic interference (EMI), shielded cable or twisted pair should be used or the wires can be run in a grounded metal conduit. If using shielded cable, the shield wire should be connected to the Com terminal (terminal 4) on the Hydronic Mixing Block and not to earth ground.
- 2 Replace the front cover of the sensor enclosure.



Maximum wire length from the Hydronic Mixing Block to the Outdoor Sensor is 500 ft.

Installing the Boiler Sensor



- 1 Attach wires to terminal 4, 5 on wiring terminal block.
- 2 Run the sensor back to the supply side of the primary loop. Attach to the supply piping before the closely spaced tees with the included zip tie. Cover the sensor with insulation for accurate reading.

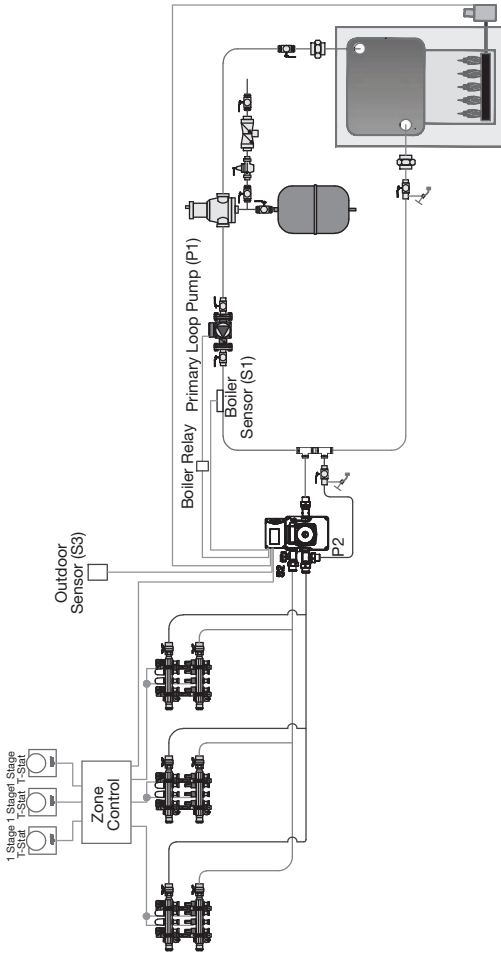


If used in AQUASTAT mode, the Boiler Sensor can be placed on (and programmed for) the SUPPLY or the RETURN. RESET or CONDENSING boiler modes require the Boiler Sensor to be installed on the supply.



When extending sensor wires, use 18 gauge wire and do not extend over 500 feet.

Conceptual Piping Diagram



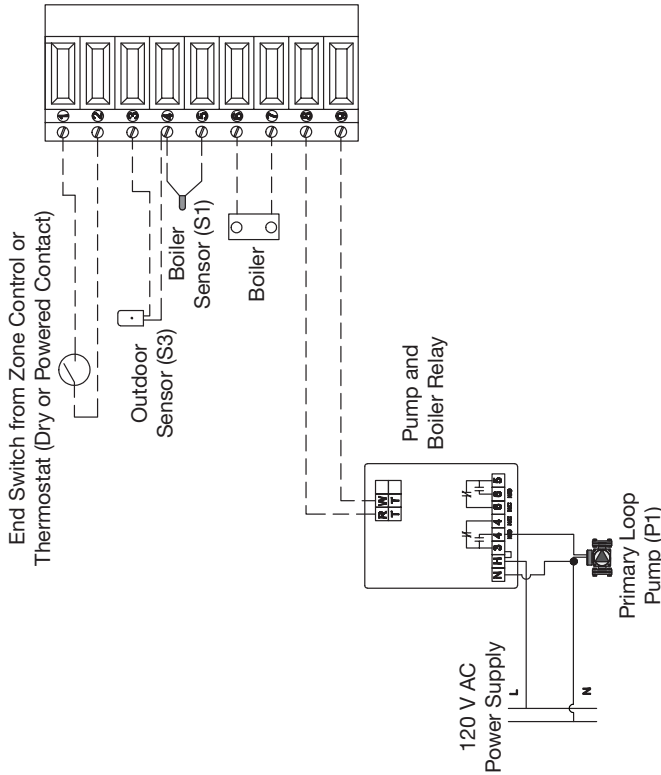
Piping

- This drawing shows system piping concept only. Installer is responsible for all equipment and detailing required by local codes.
- Size header piping for maximum flow velocity of 2 ft./sec.
- All other piping should be sized for a maximum flow velocity of 4 ft./sec.
- Install a minimum of 12 diameters of straight pipe upstream of all circulators and check valves.
- Install isolating flanges or isolating valves on all circulators.
- Install purging valve(s) on all circuits.
- All closely spaced tees shall be within 4 pipe diameter center-to-center spacing.
- Install minimum of 6 pipe diameters of straight pipe upstream and downstream of all closely spaced tees.
- Differential pressure bypass valve prevents flow noise under partial load conditions (some zone valves closed).
- Set differential pressure bypass valve to delta P of distribution system with all zones open + 1 psi
- Not all components may be required depending on control strategy (i.e. constant circulation).

Legend: 4-Way Mixing Valve and Motor

		Pressure Differential Bypass Valve
		Stainless Manifold with Flow Gauges
		Baseboard Zone(s)
		Diaphragm-Type Expansion Tank
		Zone Valve

Conceptual Electrical Schematic



Wiring

- This drawing shows system wiring concept only. Installer is responsible for all equipment and detailing required by local codes.
- All wiring shall be in conformance with the latest edition of the National Electrical Code.
- Maximum current rating of the Hydronic Mixing Block is 1 AMP.
- Consult with control / boiler manufacturer for limitations and installation instructions.
- Use 18 AWG copper wiring for all sensor wiring. Sensors should be located before the closely spaced tees.

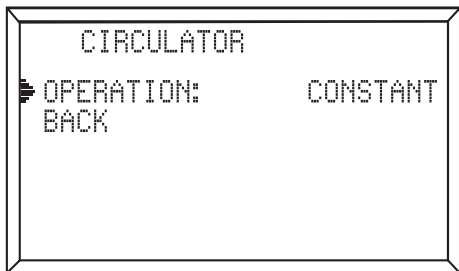
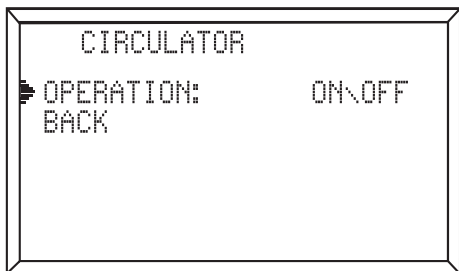
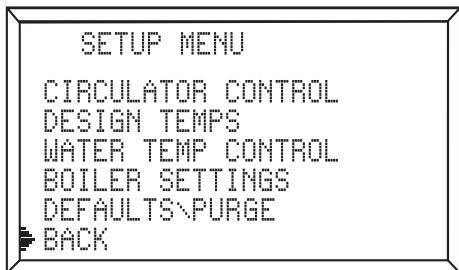
Power On Sequence

When the Hydronic Mixing Block is plugged in, it will go through a power on sequence:

- The display will show the current firmware version and then verify the valve function by ramping up to 100% (full open) and back down to 0% (closed). Please note the firmware version here: _____.
- After the Valve Check is complete, the display will then cycle through the different display colors in the following order:
 - Red
 - Dark Blue
 - Yellow/Green
 - Light Blue/Gray
 - Purple
- After the display color sequence is complete, the display will change to the Dark Blue color and show the STATUS Screen (see "Status Screen" on page 15). After another moment, it will display the current data and update to the color that reflects the current status. The user can navigate the menus after the power on sequence is complete.

STATUS		
HEATING		TARGET
BOIL SUP	68°F	155°F
SYSTEM	72°F	103°F
OUTDOOR	30°F	
PRESSURE	17.6 PSI	
VALVE POSITION		
BOILER	40%	PROTECT

Screen Color Indicator	Status
Light Blue/Gray	No Heat Demand
Solid Red	Heat demand, boiler running
Yellow/Green	Heat demand, boiler running but in boiler protection mode
Dark Blue	Heat demand, boiler satisfied
Blinking Red	Failed boiler sensor or broken/shorted wire. Under this condition the block will supply 80°F fluid to the floor/emitter to keep the system from freezing
Blinking Purple	PURGE MODE will open valve for 30 min duration to allow for purging



Programming

Setup Menu

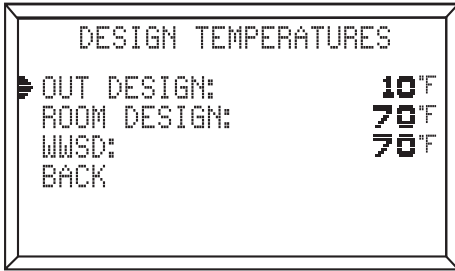
- The SETUP MENU is used for entering the design values, as well as assigning different control options to the circulator and boiler. To access the SETUP MENU, push the middle rectangular button on the STATUS screen. Use the up and down arrow keys followed by the rectangular button to select a sub-menu.
- Align the cursor arrow with the parameter you wish to select and press the rectangular button . The arrow will become solid, which indicates that an item has been selected. Then use the up and down arrow keys to scroll through the setting options and/or parameter's range.
- Once adjustment is complete, push the rectangular button . This will de-select the item.
- To go to the previous screen, select BACK and press the rectangular button .
- If the SETUP MENU is left idle for more than 90 seconds, the display will change to the STATUS screen and the Hydronic Mixing Block will begin operating.

Circulator Settings

- OPERATION: ON/OFF — The circulator is turned on/off as demand requires. Default is set to ON/OFF.
- OPERATION: CONSTANT — The circulator is constantly on and will only be shut off with warm weather shut down (WWSD). Usually used with RESET mode.

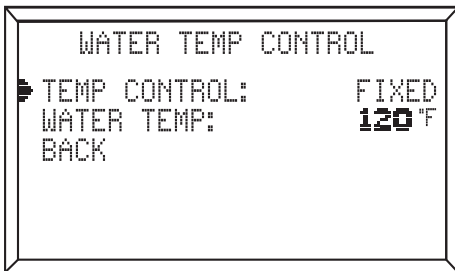


This function is not available when the boiler TYPE is AQUASTAT.

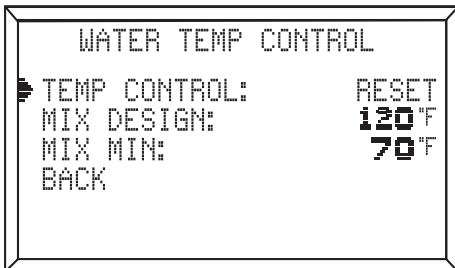


Design Temperature Settings

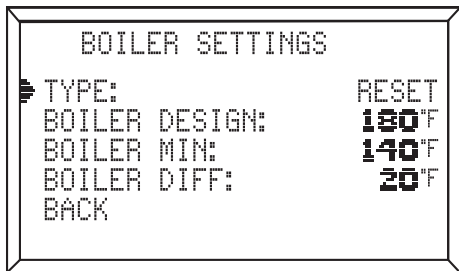
- **OUT DESIGN** — Outdoor design day temperature used to calculate heat loss. This temperature is based on location and can be obtained from outdoor design charts.
Range: -40°F to 70°F
Default: 10°F
- **ROOM DESIGN** — Desired room temperature used in heat loss calculation.
Range: 35°F to 120°F
Default: 70°F
- **WWSD** — Temperature at which the building does not need heat and the control will no longer activate the circulator.
Range: 35°F to 120°F
Default: 70°F



- **TEMP CONTROL: FIXED** — The control will maintain a constant (FIXED) water temperature.
- **WATER TEMP** — The fixed water temperature.
Range: 50°F to 180°F
Default: 120°F

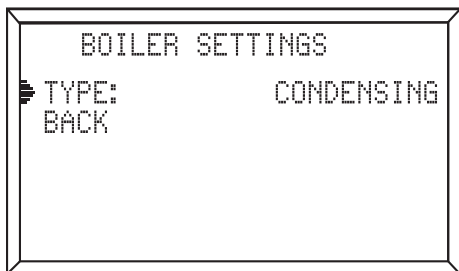


- **TEMP CONTROL: RESET** — Water temperature will adjust based on outdoor temperature; as the outdoor temperature increases, the water temperature will decrease, and vice versa. By using this type of control strategy the output of the radiant system will meet the load of the structure, resulting in an energy savings for the building owner. Default is set to: RESET.
- **MIX DESIGN** — The design water temperature specified by the radiant design. This is the maximum water temperature that will be supplied.
Range: 50°F to 180°F
Default: 120°F
- **MIX MIN** — The minimum supply temperature for the mixing system.
Range: 50°F to 180°F
Default: 70°F

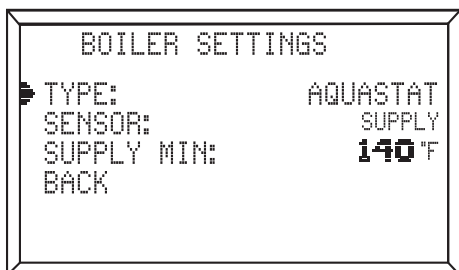


Boiler Settings

- **TYPE: RESET** — This setting allows for the boiler to change supply water temperature based on outdoor temperatures. Default is set to: RESET.
- **BOILER DESIGN** — The water temperature needed on design day.
Range: 70°F to 200°F
Default: 180°F
- **BOILER MIN** — Lowest temperature the boiler is allowed to supply. This temperature needs to be set high enough for the boiler to be able to maintain mixed water temperatures.
Range: 70°F to 200°F
Default: 140°F
- **BOILER DIFF** — This setting determines the shut off and turn on temperatures for the boiler. It allows the boiler to shut off or turn on when half of this number is above or below the boiler target temperature. Example: if the BOILER DIFF is set at 20°F, the boiler will run until the temperature is 10°F above the boiler target setting and turn on when the temperature is 10° below the boiler target temp.
Range: 10°F to 50°F
Default: 20°F

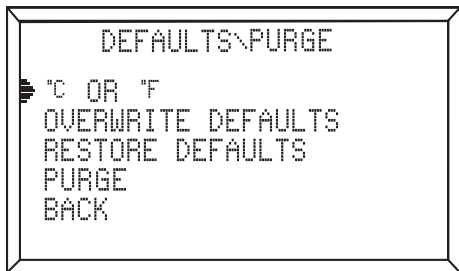


- **TYPE: CONDENSING** — Used when the boiler is a condensing boiler that maintains its own temperature settings.



- **TYPE: AQUASTAT** — Used when the boiler is a non-condensing boiler that maintains its own temperature settings.
- **SENSOR** — Installed on either SUPPLY or RETURN. Installation location must be properly identified in this setting.
- **SUPPLY MIN/RETURN MIN** — Minimum supply/return temperature.
Range: 70°F to 200°F
Default: 140°F

i AQUASTAT is not available when the circulator OPERATION is set to CONSTANT.



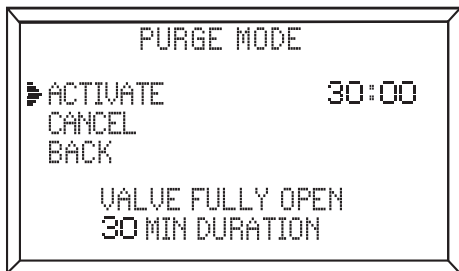
Defaults \ Purge

- °C OR °F — Select between °C or °F.
Default: °F
- OVERWRITE DEFAULTS — Allows the end user to overwrite the factory default settings with the design settings. Viega LLC recommends performing this procedure after selecting all of the design settings and noting them in the “Settings Template for Design Inputs” on page 16.



If a power loss occurs, the Hydronic Mixing Block will return to the factory default settings unless they are overwritten.

- RESTORE DEFAULTS — Restores the current settings stored in memory. If the factory default settings were overwritten, the design settings selected during the OVERWRITE DEFAULTS will be restored.
- PURGE — Selecting this feature will bring you to PURGE MODE.




Purge Mode

- ACTIVATE — Will open the internal valve for 30 minutes to allow for purging.
- CANCEL — Will end the PURGE MODE, end the timer, and close the internal valve.



Setup Menu

- To view the STATUS screen, select BACK in the SETUP MENU and push the rectangular button .

STATUS		
HEATING		TARGET
BOIL SUP	68°F	166°F
SYSTEM	72°F	103°F
OUTDOOR	30°F	
PRESSURE	17.6 PSI	
VALVE POSITION		
BOILER	40%	PROTECT

Status Screen

The STATUS screen shows the sensor temperatures and the target temperatures the control is trying to obtain.

- **HEATING** — If the display screen is solid red and heating is displayed on the upper left corner of the STATUS screen, the control is in heating mode and there is a boiler demand. If the display screen is dark blue, it means there is a heating demand but the boiler is off. If the screen is light blue/gray, there is no heating demand.
- **BOIL SUP/RET** — The temperature of the boiler supply/return. This will be dictated by the sensor location. If on the supply this will read BOIL SUP. If on the return it will read BOIL RET. When the boiler sensor is bad or there is a broken/shorted wire, it will be represented by 5 dashes ----- in the BOIL SUP/BOIL RET field and the display will blink red. The control will supply 80°F to the floor/emitter to keep the system from freezing.
- **SYSTEM** — The mixed water temperature that the Hydronic Mixing Block supplies. If 5 dashes ----- are in the field, it means the pressure/temperature sensor is bad or the wire is broken or shorted.
- **OUTDOOR** — The outdoor temperature as read by the outdoor sensor.
- **PRESSURE** — The system pressure is read by the pressure/temperature sensor located on the Delivery Fitting (3). If the words LOW are present in the PRESSURE field for one minute, the control will shut off to prevent damage. If 5 dashes ----- are present, it indicates the pressure/temperature sensor is bad or the wire is broken or shorted.
- **VALVE POSITION** — Identifies the position of the internal valve.
- **BOILER PROTECT** — If the display screen is yellowish/green and BOILER PROTECT is present in the lower left and lower right of the screen, the boiler is in protection mode.



The default boiler TYPE is CONDENSING. If you are using a non-condensing boiler, and do not overwrite the factory default settings as suggested in “Boiler Settings” on page 13, then you are likely to experience this event during heating season after a power loss event.



Settings Template for Design Inputs

Viiega recommends using this Settings Template to record the desired Design Inputs in the far right column before inputting and/or overwriting factory default settings. If a power

loss occurs, the Hydronic Mixing Block will return to the Factory Default Settings unless they are overwritten.

Parameter	Sub-Menu	Sub-Menu Option #1	Sub-Menu Option #2	Sub-Menu Option #3	Design Inputs
CIRCULATOR CONTROL	OPERATION Default: ON/OFF	ON/OFF	CONSTANT Often used w/ RESET mode	CONSTANT **Not available when AQUASTAT is the boiler type.	_____
DESIGN TEMPS	OUT DESIGN	Range: -40°F to 120°F Default: 10°F	NA	NA	_____
	ROOM DESIGN	Range: 35°F to 120°F Default: 70°F	NA	NA	_____
	WWSD	Range: 35°F to 120°F Default: 70°F	NA	NA	_____
WATER TEMP CONTROL	TEMP CONTROL Default: RESET	FIXED	RESET	NA	_____
	If Fixed: WATER TEMP	Range: 50°F to 180°F Default: 120°F	NA	NA	_____
	If Reset: MIX DESIGN	NA	Range: 50°F to 180°F Default: 120°F	NA	_____
	If Reset: MIX MIN	NA	Range: 50°F to 180°F Default: 70°F	NA	_____
BOILER SETTINGS	TYPE Default: RESET	RESET	CONDENSING	AQUASTAT **Not available when OPERATION is CONSTANT.	_____
	BOILER DESIGN	Range: 70°F to 200°F Default: 180°F	NA	NA	_____
	BOILER MIN	Range: 70°F to 200°F Default: 140°F	NA	NA	_____
	BOILER DIFF	Range: 10°F to 50°F Default: 20°F	NA	NA	_____
	SENSOR Default: SUPPLY	RESET (not shown): SUPPLY	CONDENSING (not shown): SUPPLY	AQUASTAT: SUPPLY vs. RETURN	_____
	SUPPLY/RETURN MIN	NA	NA	Range: 70°F to 200°F Default: 140°F	_____
DEFAULTS/ PURGE	°C vs. °F Default: °F	NA	NA	NA	NA
	OVERWRITE DEFAULTS	NA	NA	NA	NA
	RESTORE DEFAULTS	NA	NA	NA	NA
	PURGE	NA	NA	NA	NA
BACK	NA	NA	NA	NA	NA


Testing the Hydronic Mixing Block

When piping is complete, test the Hydronic Mixing Block and system piping.

- 1 Ensure air vent cap is tight before testing.
- 2 Pressurize the system to a maximum of 100 psi for one hour.
- 3 Once the system maintains 100 psi for one hour, carefully remove air pressure from the system and fill with fluid.

Purging

When testing is complete, purge the Hydronic Mixing Block (see the “Conceptual Piping Diagram” on page 8 for reference).

- 1 Shut the power off to the boiler.
- 2 Purge with cool water only. If the boiler is hot it should be cooled down prior to purging in order to protect the floor coverings from surface temperatures above 85°F.
- 3 Plug in the Hydronic Mixing Block. Allow it to run through its power on sequence and bring you to the STATUS screen.
- 4 From the STATUS screen, push the rectangular button .
- 5 Select DEFAULTS/PURGE.
- 6 Select PURGE.
- 7 Select ACTIVATE.
 - Selecting ACTIVATE will cause the screen to turn purple, at which time the internal valve will open. Once the valve is open, the screen will blink purple and start a 30 minute timer to allow for purging.
 - If more time is needed, ACTIVATE may be selected as many times as necessary to complete system purging.
 - If less time is needed, purge can be cancelled by selecting CANCEL.
- 8 Allow the Hydronic Mixing Block to be filled with fluid from the supply side piping.

- 9 Close the valve on the return piping to the boiler.
- 10 Open the draw off (purge valve) to allow trapped air to be eliminated.
- 11 Continue to allow fluid to run into the block and out the draw off (purge valve) until all air is removed from the system.
- 12 Once purging is complete, return all valves to normal operating position.
- 13 Allow air to escape under normal operation by loosening the air vent cap (note the small hole in the air vent cap will allow air to escape without removing the cap).
- 14 Once the Hydronic Mixing Block, boiler, and piping have been purged and properly pressurized, restart the boiler.

Testing the Sensors



Do not apply voltage to the sensors as this will damage them.

Outdoor Sensor / Boiler Sensor

- 1a Outdoor Sensor
 - Use a thermometer to read the outdoor temperature.
- 1b Boiler Sensor
 - Use an infrared or digital thermometer to read the temperature where the boiler sensor attaches.
- 2 Using an ohm meter capable of measuring 10kΩ, measure the resistance present at the sensor.
- 3 Using the “Sensor Resistance Chart” on page 18, compare the measured temperature/ohm reading to what is in the chart. If reading is off by $\pm 5\%$, the sensor is bad.

Sensor Resistance Chart

Temperature		Resistance	Temperature		Resistance
°F	°C	Ω	°F	°C	Ω
-50	-46	490,813	90	32	7,334
-45	-43	405,710	95	35	6,532
-40	-40	336,606	100	38	5,828
-35	-37	280,279	105	41	5,210
-30	-34	234,196	110	43	4,665
-25	-32	196,358	115	46	4,184
-20	-29	165,180	120	49	3,760
-15	-26	139,402	125	52	3,383
-10	-23	118,018	130	54	3,050
-5	-21	100,221	135	57	2,754
0	-18	85,362	140	60	2,490
5	-15	72,918	145	63	2,255
10	-12	62,465	150	66	2,045
15	-9	53,658	155	68	1,857
20	-7	46,218	160	71	1,689
25	-4	39,913	165	74	1,538
30	-1	34,558	170	77	1,403
35	2	29,996	175	79	1,281
40	4	26,099	180	82	1,172
45	7	22,763	185	85	1,073
50	10	19,900	190	88	983
55	13	17,436	195	91	903
60	16	15,311	200	93	829
65	18	13,474	205	96	763
70	21	11,883	210	99	703
75	24	10,501	215	102	648
80	27	9,299	220	104	598
85	29	8,250	225	107	553





> Viega LLC

585 Interlocken Blvd.
Broomfield, CO 80021

Phone (800) 976-9819
www.viega.us

UG-HC 566234 1020 Hydronic Mixing Block (EN)

