



DPW Dip Switch Settings

Depending on the application of the DPW unit it may be necessary to alter the Dip Switch settings from the standard positions

The unit has 5 Dip Switches located on the Microprocessor

Dip Switch	Standard Setting	Controls
1	ON	Fuel Gas Type
2	OFF	Fuel Gas Type
3	OFF	Unit Options
4	OFF	Forced Maximum Firing rate
5	OFF	Forced Minimum Firing rate

Setting for Natural Gas Operation

Dip Switch	Setting for NG
1	ON
2	OFF

Setting for LP Gas Operation

Dip Switch	Setting for LP
1	OFF
2	ON

Unit Options

Switch Dip Switch #3 to ON

On DSR-100F press the Timers and Anti Freeze buttons simultaneously for 5 seconds. This will allow unit to enter the programming mode

Temperature display can be changed between DegF and DegC by pressing the Timer button 3 times until Lc is displayed in the top RH corner of the unit display, and f is displayed in the center of the screen

Press the Up temperature arrow and the f will change to a c

Hit the Power On/Off button to exit and switch Dip Switch #3 to OFF, the unit will now display in DegC

Cont

Zone Control

This can be also be set up using this control (see zone control wiring section for more detail)

Maximum Firing Rate

Setting Dip Switch #4 to ON will lock the unit into the maximum firing rate at all times. This is occasionally used for troubleshooting and gas pressure set up purposes. Move the switch back to OFF to allow the unit to modulate capacity

Minimum Firing Rate

Setting Dip Switch #5 to ON will lock the unit into the minimum firing rate at all times. This is occasionally used for troubleshooting and gas pressure set up purposes. Move the switch back to OFF to allow the unit to modulate capacity.

Specific requirements for installation in Massachusetts

In the Commonwealth of Massachusetts these units must be installed by a licensed gas fitter or plumber

Venting :

For the Quietside models DPW-099A, DPW-120A where the bottom of the vent termination and combustion air intake is installed at a height **BELOW** 4 ft above the grade level the following requirements must be satisfied

1. If there is not one presently installed, on each floor level where there is a bedroom(s), a Carbon Monoxide detector and alarm shall be installed in the living area outside the bedroom(s). The Carbon Monoxide detector shall comply with NFPA 720 (2005 Edition)
2. A Carbon Monoxide detector shall be installed in the room where the ODW unit is installed, the detector shall be :
 - a) Powered from the same power circuit that provides power for the ODW unit. A single electrical service switch shall be used to service both the unit and the detector
 - b) Have battery back up power
 - c) Meet ANSI/UL std 2034 and comply with NFPA 720 (2005 Edition)
 - d) Approved and listed by a NRTL recognized under 527 CMR
3. A Quietside approved vent termination must be used. Installation of the vent terminal must be in strict compliance with Quietside's written instructions, and a copy of these instructions must remain with the unit after the installation is completed.
4. A metal or plastic identification plate shall be mounted on the exterior of the building, 4ft above the vent termination. The plate shall read "**Gas Vent Directly Below**" with text size visible from a minimum of 8ft.

Cont

For the Quietside models listed above where the bottom of the vent termination and combustion air intake is installed at a height of 4ft **ABOVE** the grade level the following requirements must be satisfied

1. If there is not one presently installed, on each floor level where there is a bedroom(s), a Carbon Monoxide detector and alarm shall be installed in the living area outside the bedroom(s). The Carbon Monoxide detector shall comply with NFPA 720 (2005 Edition)
2. A Carbon Monoxide detector shall be installed in the room where the ODW unit is installed, the detector shall be :
 - a) Powered from the same power circuit that provides power for the ODW unit. A single electrical service switch shall be used to service both the unit and the detector
 - b) Have battery back up power
 - c) Meet ANSI/UL std 2034 and comply with NFPA 720 (2005 Edition)
 - d) Approved and listed by a NRTL recognized under 527 CMR
3. A Quietside approved vent termination must be used. Installation of the vent termination must be in strict compliance with Quietside's written instructions, and a copy of these instructions must remain with the unit after the installation is completed.

Vent Termination requirements As the DPW unit is a condensing product

The Vent for all Quietside DPW units shall not terminate

Over Public Walkways; or

Near soffit vents or crawl space vents or other area where condensate or vapor could create a nuisance or hazard or cause property damage; or

Where condensate or vapor could cause damage or could be detrimental to the operation of regulators, relief valves, or other equipment

Specific requirements for installation in Canada

The provinces of Ontario and Alberta have adopted standard ULC S636 requiring the following additional items to be noted.

1. Maximum flue temperature as tested is 136 DegF, allowing these units to be vented with Schedule 40 PVC under the regulation of ULC S636.
2. Under the new requirements of ULC S636 regarding vent connections to the unit, QuietSide requires the Schedule 40 Vent piping to be secured to the unit using approved PVC cement, following the cement manufacturers instructions regarding methodology and curing time. A bead of high temperature silicone should be also run around the joint to ensure no leaks can occur.



Combustion and Leak Testing of DPW units

As the front cover of the unit is mechanically attached and cannot be removed in operation without the use of a tool, it is not permissible to conduct combustion testing or leak testing of the unit with the front cover removed.

Combustion testing must be achieved by using a calibrated combustion tester, with the probe inserted either in the flue exhaust of the vent termination or it is permissible to take reading by accessing the flue pipe approximately 12” above the unit, providing adequate provisions are made for sealing any access after testing to ensure no leakage of flue gases into the occupied space.

Leak testing must take place with the end of the “sniffer probe” at least 1” from any surface of the unit to ensure that false readings cannot be obtained.

Auto Fill – Closed Loop System

The DPW unit is fitted with a MANUAL Auto Fill valve, supplied in the closed position.

The Fill Valve is not pressure regulated therefore care must be used when opening the valve to prevent overfilling of the closed loop system and opening of the pressure relief valve.

Quietside recommends that the valve be left in the closed position and an external Boiler Feed Valve e.g. Taco 335/329 be installed in the piping system to maintain an even pressure in the closed loop system



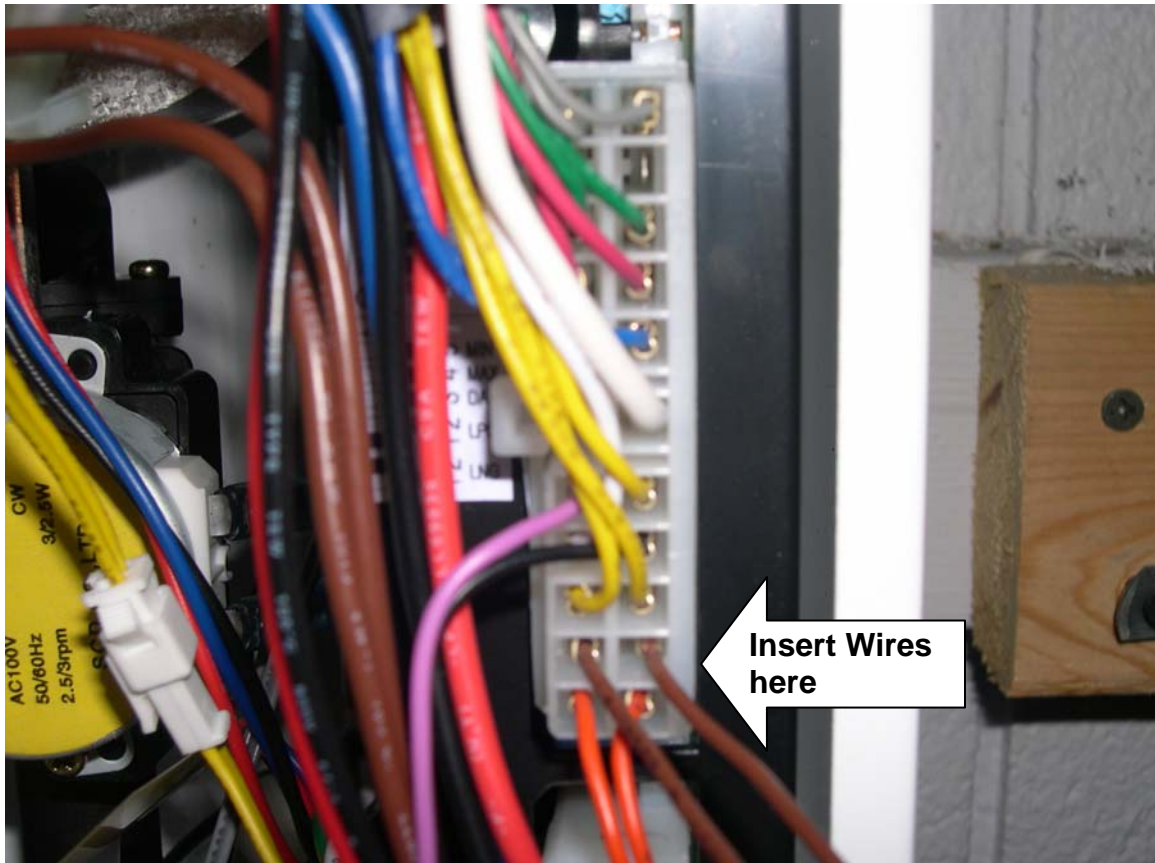
Manual Auto Fill Valve located on base of cabinet

Zone control of DPW unit

Zone control of the DPW unit is performed by a zero voltage or X-X contact from a relay or zone control panel closing when unit operation is required.

The DPW unit should have two Brown low voltage wires connected into the microprocessor to facilitate this. It is possible depending on the production date of the unit, that these wires are supplied loose for field installation. If this is the case the following procedure should be followed to allow the units to be zoned.

1. Take wires provided and located the center electrical plug connection to the microprocessor.
2. Insert wires into the empty slots located second from the bottom (above connections with Yellow wires – see photo). Insert wire (electrical connector end) into the empty slots, a click should be heard and the wire should not pull loose.



Cont

3. With the two wires inserted into the microprocessor, switch Dip Switch # 3 to the ON position.
4. Turn on the 115V power to the unit.
5. **DO NOT TURN THE DSR-100F CONTROLLER ON.** The display should show **ONLY** the room temperature, if the display shows the Closed Loop and DHW set temperatures, turn the controller off using the center button.
6. Simultaneously press both the Timer (Clock face) and Anti Freeze (Snowflake) buttons on the controller for approximately 5 seconds
7. The control will now enter the option set up mode, the display will show a flashing P0 in the top Right hand corner
8. Press the Timer button 18 times, the flashing display will scroll through from LE, Ld, Lc, Lb, LA, L9, L8, L7, L6, L5, L4, L3, L2, L1, L0, C8, C7 until the display in the top RH corner of the unit reads **C6**.
9. Press the Up Temperature key, to change the display from 2n to 3n
10. Press the unit On/Off button to turn off the control
11. Switch Dip Switch # 3 back to the OFF position
12. When the 2 x Brown Zone Control wires are closed the unit will now operate and provide closed loop heating water at the temperature set on the DSR-100F controller.

Anti Freeze & Freeze Protection

For Anti Freeze protection in the Quieside units the following products are recommended

“No Burst”

“Fernox Alphi”

The maximum concentration allowed is 30% by volume which will protect the unit down to approximately 5 DegF or -11 DegC

Pump Curves & Primary – Secondary Piping

The DPW units include a pump assembly that is used to provide the flow through the unit heat exchangers, and has a nominal flow of heating water for external piping arrangements.

This pump is not designed to be the system pump providing flow to radiant loops or baseboard.

Therefore Quieside insists on using a Primary – Secondary pumping arrangement, the recommended method uses the traditional large diameter Primary loop

The main circulation pump or the zone pumps will then provide circulation into the zones or the heating system

The only exception to this Primary – Secondary rule is for Air Handling units with a hot water coil where the Air Handling unit is located less than 10ft from the DPW unit.

Unit Controls & Zoning

A DSR-100F Controller is provided with the unit.

This is not used as a thermostat, but is a unit controller and should be mounted adjacent to the DPW unit. It is connected to the DPW via the 2 Yellow wires and is powered by 20V DC.

The DSR controller allows both the heating loop and DHW water temperatures to be set

When the unit is started using the X – X or dry contacts on the microprocessor it will operate and provide heating loop water at the set temperature until the zone(s) are satisfied. If a DHW call is experienced during heating operation the unit will automatically switch over to provide DHW.

**DO NOT APPLY 24V AC OR LINE VOLTAGE TO THE X – X CONTACTS
UNIT MICROPROCESSOR WILL FAIL IF IT RECEIVES 24V AC OR LINE
VOLTAGE ON THESE CONTACTS**

It is not permissible to power the secondary loop pump from the Primary loop pump installed in the unit.

Power for the Secondary loop pump should come from a switching relay e.g Taco SR501

Cold Water Supply from House to 1/2" male connection on DPW
Use 1/2" Unions

Shut Off Valves to isolate both Inlet and Supply of DHW system from DPW

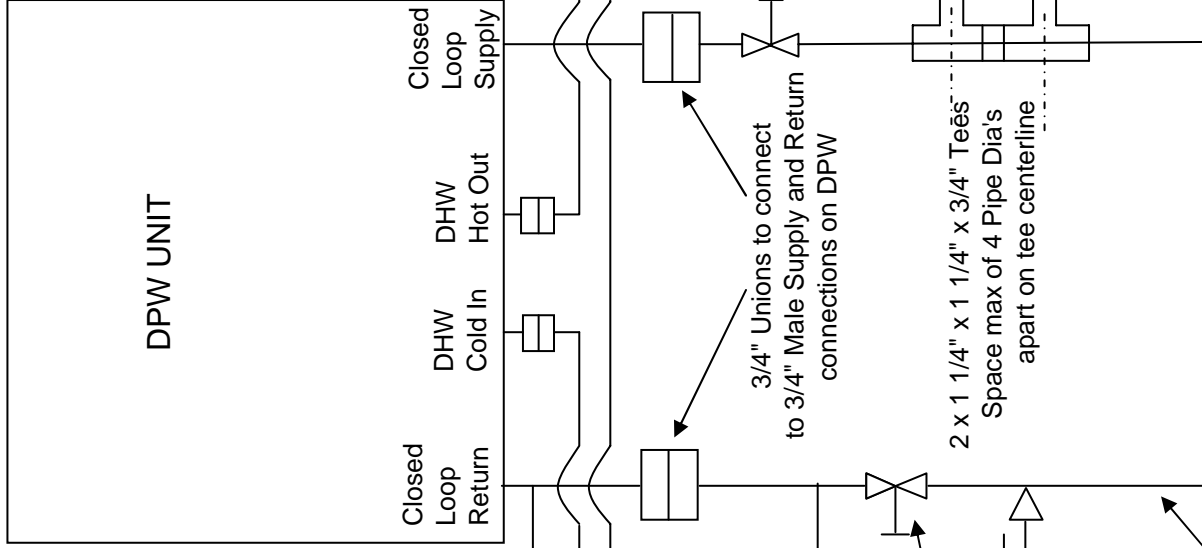
"Boiler Drains" to allow maintenance of the DHW Plate Heat Exchanger
Pressure Relief Valve (Factory Supplied) Pipe to building drain (See local codes)

Boiler Feed Valve with Backflow prevention See local codes

Shut Off Valves to isolate both Supply & Return

"Boiler Drain" - see notes

Use 1 1/4" pipe diameter for heating primary loop



Notes :

When brazing always wrap valves, drains etc with a wet rag to prevent damage

Check system design for requirement for additional expansion tank on closed loop system

Boiler drain installed on Primary Loop should be below DPW Isolation valve to allow closed loop system to be filled with DPW isolated from the closed loop to protect unit

A Drain can also be installed on return piping above shut off valve to drain the unit or Pressure Relief valve on the unit can be used provide a drain

Anti Scald Valve
MANDATORY
Set for Maximum of 120DegF

Air Vent at highest point

Supply to Heating zones
(No detail shown)
Return from Heating zones
(No detail shown)

System Circulation Pump
Field Installed

2 x 1 1/4" x 1 1/4" x 3/4" Tees
Space max of 4 Pipe Dia's
apart on tee centerline

Closed Loop Return
DHW Cold In
DHW Hot Out
Closed Loop Supply

DPW UNIT



8750 Pioneer Blvd, Santa Fe Springs CA 90670

Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW Recommended Piping Layout, Heating & DHW

Drng # : QUI-DPWP-001 Drawn : JLM 8/26/2008 Rev : 001

Cold Water Supply from House to 1/2" male connection on DPW
Use 1/2" Unions

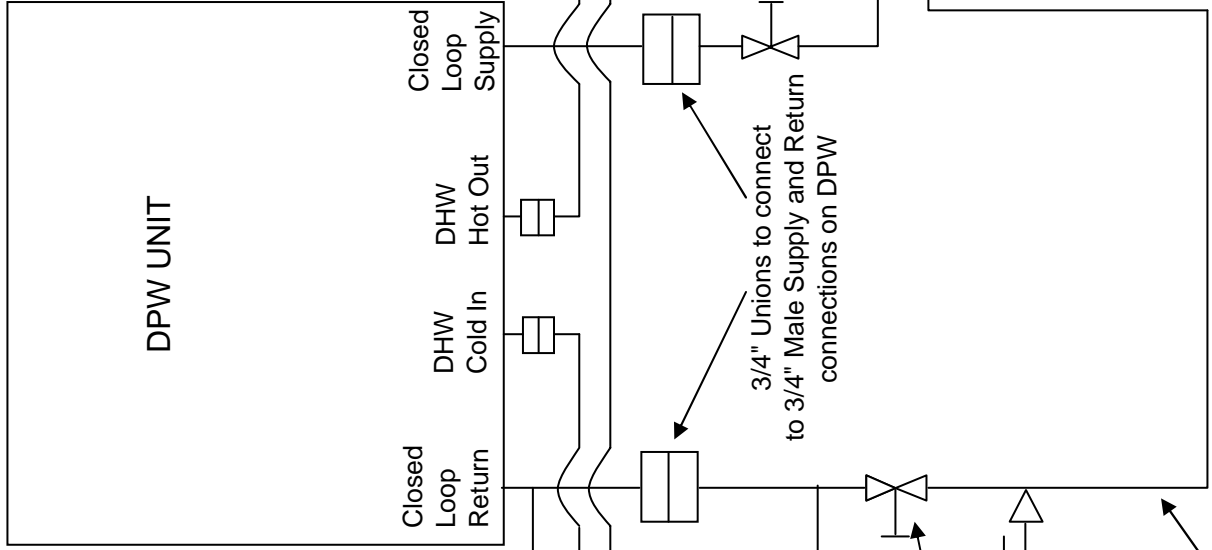
Shut Off Valves to isolate both Inlet and Supply of DHW system from DPW

"Boiler Drains" to allow maintenance of the DHW Plate Heat Exchanger
Pressure Relief Valve (Factory Supplied) Pipe to building drain (See local codes)
Boiler Feed Valve with Backflow prevention (See local codes)

Shut Off Valves to isolate both Supply & Return

"Boiler Drain" - see notes

Use max ϕ 1" pipe for Supply & Return to AHU. Max total pipe length (Supply & Return) 20ft



Notes :

When brazing always wrap valves, drains etc with a wet rag to prevent damage

Boiler drain installed on piping should be below DPW Isolation valve to allow closed loop system to be filled with DPW isolated from the closed loop to protect unit

A Drain can also be installed on return piping above shut off valve to drain the unit or Pressure Relief valve on the unit can be used provide a drain

Anti Scald Valve **MANDATORY** Set for Maximum of 120DegF

System is designed for the Air Handler to be located no more than 10ft from the DPW and no more than 5ft above or below the DPW

Air Handler should not have it's own circulator installed Disconnect pump if installed



8750 Pioneer Blvd, Santa Fe Springs CA 90670
Tel : 562 699 6066, Fax : 562 699 4351, Web : www.QuietSide.com

Title : DPW Recommended Piping Layout, AHU (No Pump) & DHW

Drawn : JLM 8/26/2008 Rev : 001

Closed Loop Heating System Notes :

When brazing always wrap valves, drains etc with a wet rag to prevent damage

Check system design for requirement for additional expansion tank on closed loop system

Boiler drain installed on Supply to closed loop should be below DPW Isolation valve to allow closed loop system to be filled with DPW isolated from the closed loop to protect unit
 A Drain can also be installed on return piping above shut off valve to drain the unit or Pressure Relief valve on the unit can be used provide a drain

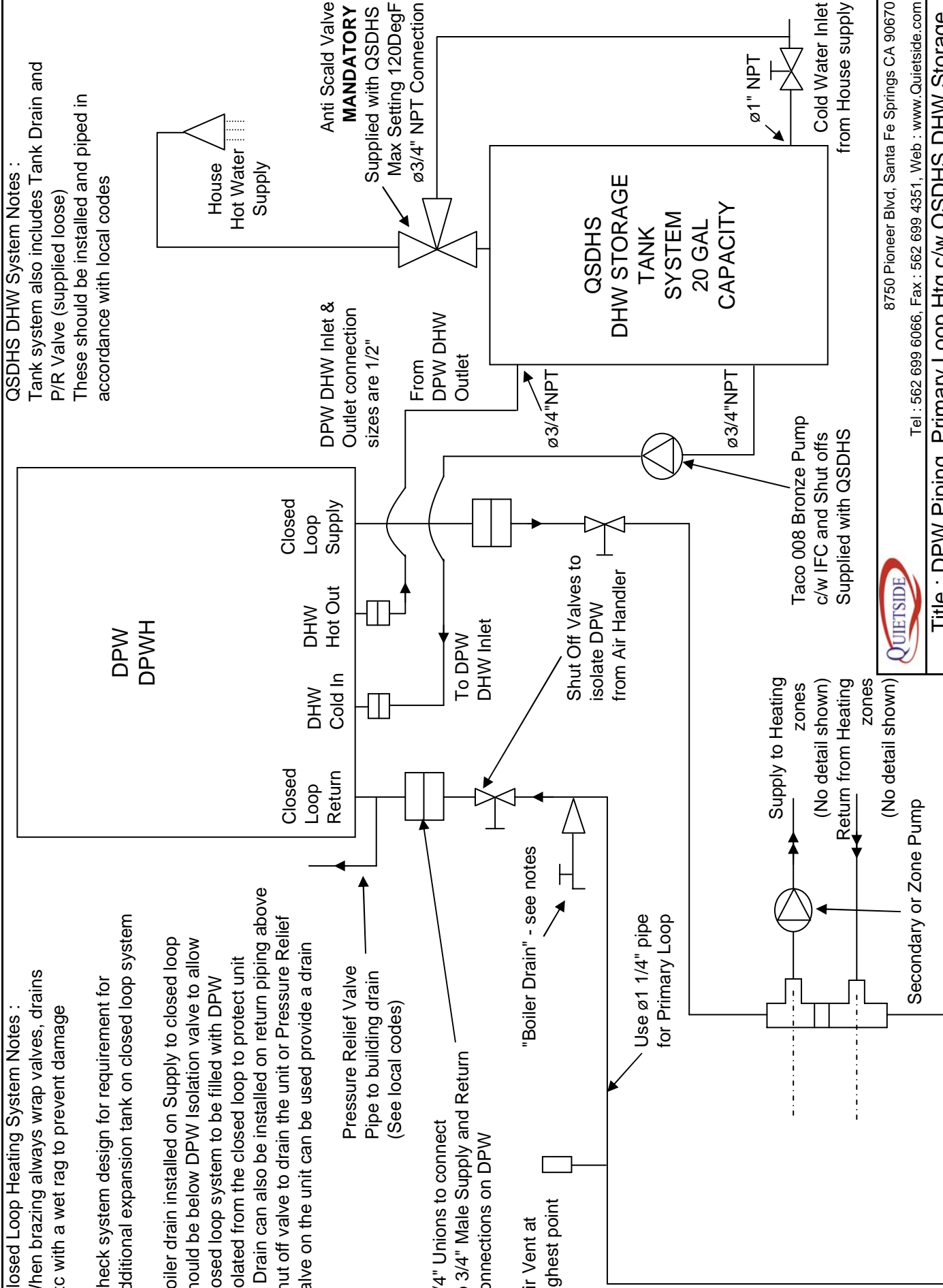
Pressure Relief Valve
 Pipe to building drain
 (See local codes)

3/4" Unions to connect to 3/4" Male Supply and Return connections on DPW

Air Vent at highest point
 "Boiler Drain" - see notes

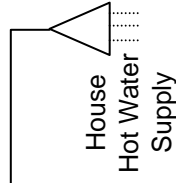
Use $\varnothing 1 \frac{1}{4}$ " pipe for Primary Loop

Supply to Heating zones
 (No detail shown)
 Return from Heating zones
 (No detail shown)
 Secondary or Zone Pump



QSDHS DHW System Notes :

Tank system also includes Tank Drain and P/R Valve (supplied loose)
 These should be installed and piped in accordance with local codes



DPW DHW Inlet & Outlet connection sizes are 1/2"

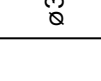
Anti Scald Valve
MANDATORY
 Supplied with QSDHS
 Max Setting 120DegF
 $\varnothing 3/4$ " NPT Connection

From DPW DHW Outlet

$\varnothing 3/4$ "NPT

To DPW DHW Inlet

$\varnothing 3/4$ "NPT



Taco 008 Bronze Pump
 c/w IFC and Shut offs
 Supplied with QSDHS

$\varnothing 3/4$ "NPT

Cold Water Inlet
 from House supply

$\varnothing 1$ " NPT

QSDHS
 DHW STORAGE
 TANK
 SYSTEM
 20 GAL
 CAPACITY



8750 Pioneer Blvd, Santa Fe Springs CA 90670

Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW Piping, Primary Loop Htg c/w QSDHS DHW Storage

Drg # : QUI-DPWP-003 Drawn : JLM 9/18/2008 Rev : 001

Closed Loop Heating System Notes :

When brazing always wrap valves, drains etc with a wet rag to prevent damage

System is designed for the Air Handler to be located no more than 10ft from the DPW and no more than 5ft above or below the DPW

Boiler drain installed on Supply to closed loop should be below DPW Isolation valve to allow closed loop system to be filled with DPW isolated from the closed loop to protect unit
 A Drain can also be installed on return piping above shut off valve to drain the unit or Pressure Relief valve on the unit can be used provide a drain

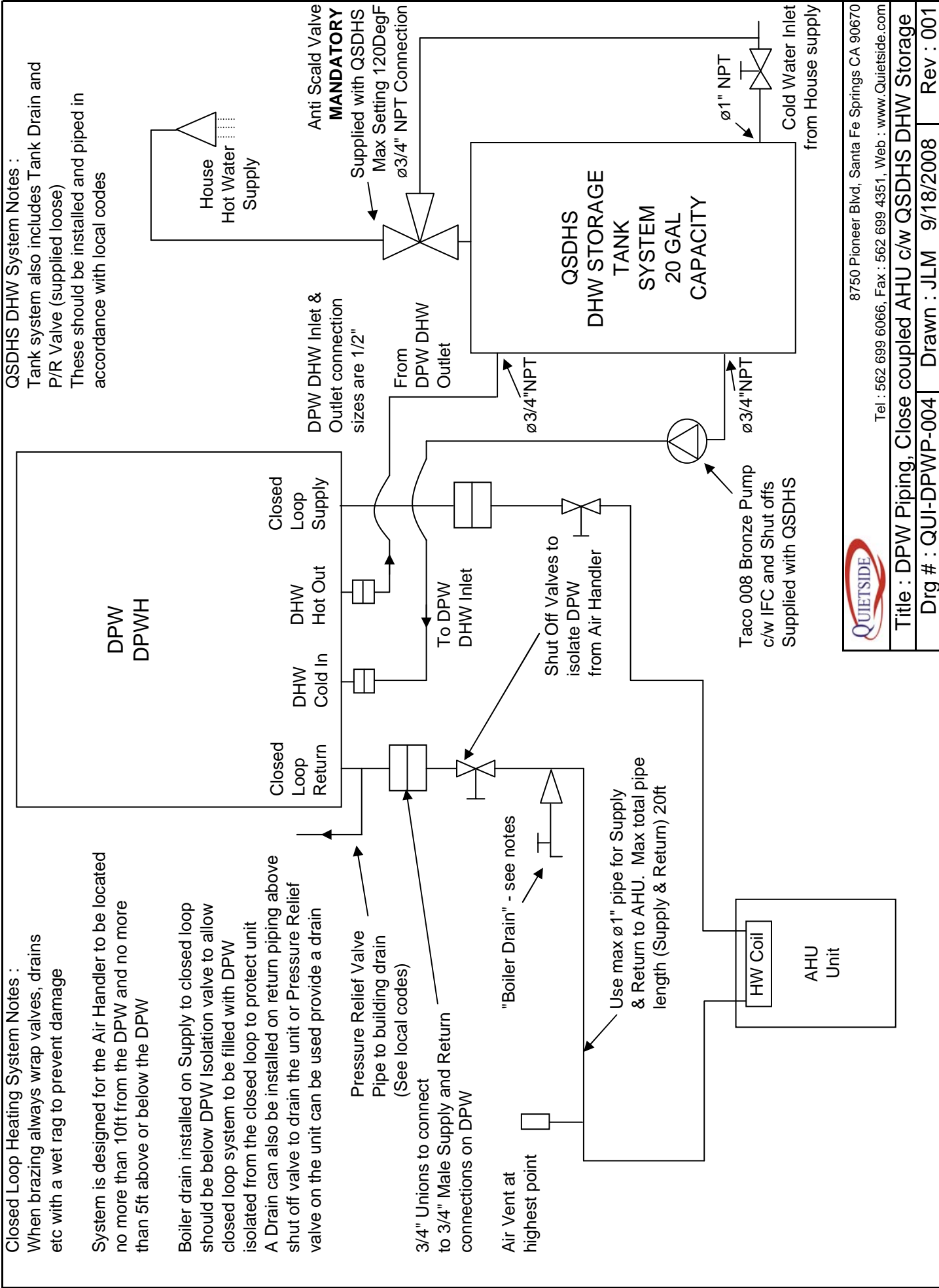
Pressure Relief Valve
 Pipe to building drain
 (See local codes)

3/4" Unions to connect
 to 3/4" Male Supply and Return
 connections on DPW

Air Vent at
 highest point

"Boiler Drain" - see notes

Use max $\phi 1"$ pipe for Supply
 & Return to AHU. Max total pipe
 length (Supply & Return) 20ft



QSDHS DHW System Notes :

Tank system also includes Tank Drain and P/R Valve (supplied loose)
 These should be installed and piped in accordance with local codes



8750 Pioneer Blvd, Santa Fe Springs CA 90670

Tel : 562 699 6066, Fax : 562 699 4351, Web : www.QuietSide.com

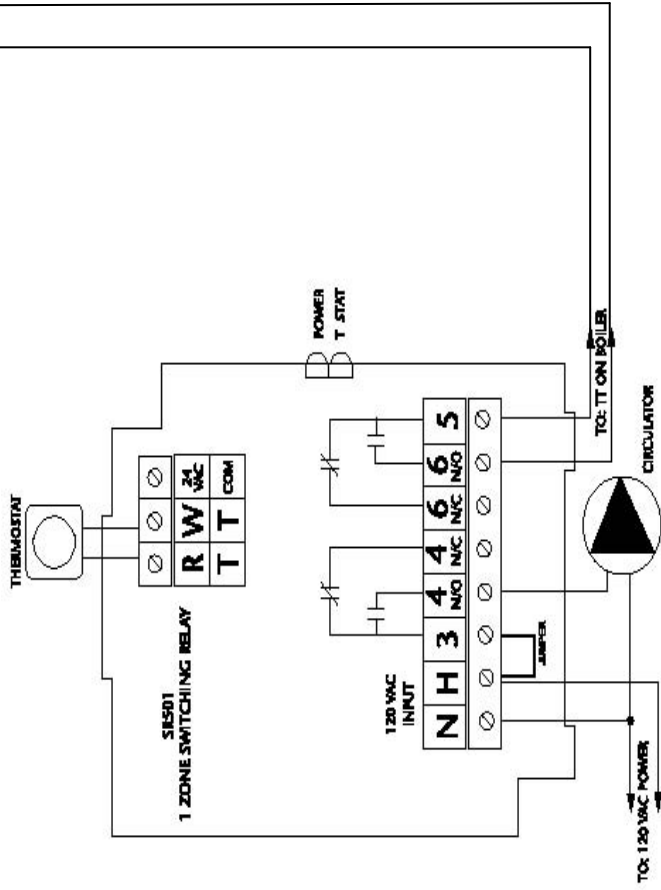
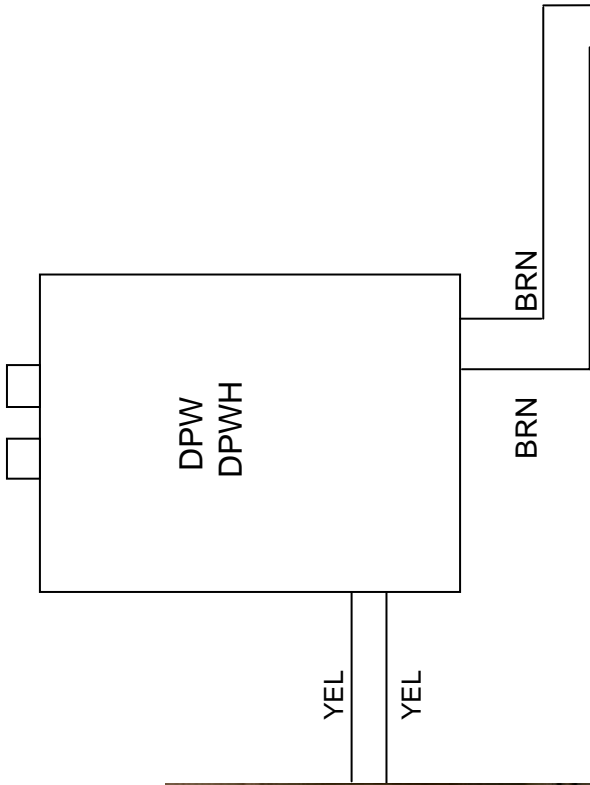
Title : DPW Piping, Close coupled AHU c/w QSDHS DHW Storage

Drwg # : QUI-DPWP-004 Drawn : JLM 9/18/2008 Rev : 001

**NOTES
TO SET DSR-100F**

- 1 PRESS UNIT ON/OFF BUTTON
 - 2 PRESS HEATING SET TEMPERATURE BUTTON
 - 3 USE UP AND DOWN ARROWS TO SELECT DESIRED HEATING WATER TEMPERATURE RANGE 122-176 DEGF
 - 4 PRESS DHW SET TEMPERATURE BUTTON
 - 5 USE UP AND DOWN ARROWS TO SELECT DESIRED DHW WATER TEMPERATURE 98-114 DEGF, 120, 130, 140 DEGF
- WHEN X-X CONTACT IS CLOSED UNIT WILL START AND PROVIDE CLOSED LOOP HEATING WATER AT THE TEMPERATURE SELECTED
- DHW PRIORITY WILL BE MAINTAINED
- WHEN THE ZONE(S) SATISFY THE UNIT WILL SHUT DOWN, DSR WILL REMAIN LIT AT ALL TIMES
- THIS IS THE PREFERRED METHOD TO CONTROL THE SECONDARY LOOP PUMP REQUIRED IN ALL NON CLOSE COUPLED AHU & HW COIL APPLICATIONS

DSR-100F



8750 Pioneer Blvd, Santa Fe Springs CA 90670
Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW & TACO SR501 ZONE CONTROL PANEL WIRING
Drg # : QUI-ZCW-003 Drawn : JLM 9/24/2008 Rev : 001

**NOTES
TO SET DSR-100F**

- 1 PRESS UNIT ON/OFF BUTTON
- 2 PRESS HEATING SET TEMPERATURE BUTTON
- 3 USE UP AND DOWN ARROWS TO SELECT DESIRED HEATING WATER TEMPERATURE RANGE 122-176 DEGF
- 4 PRESS DHW SET TEMPERATURE BUTTON
- 5 USE UP AND DOWN ARROWS TO SELECT DESIRED DHW WATER TEMPERATURE 98-114 DEGF, 120, 130, 140 DEGF

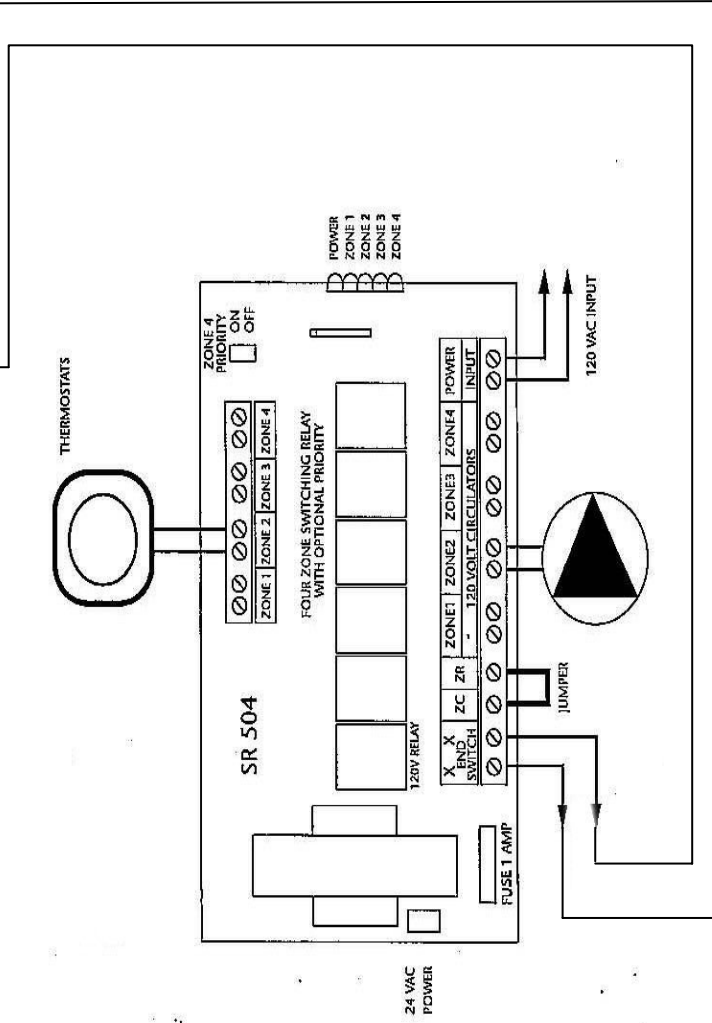
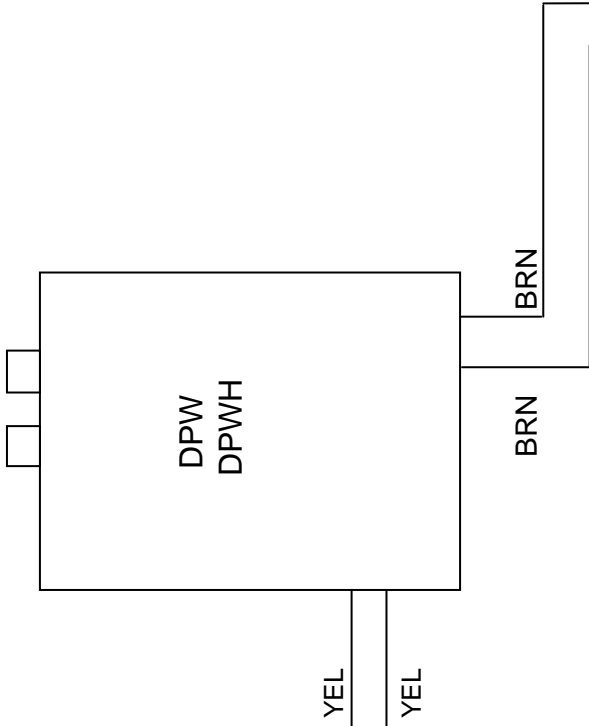
WHEN X-X CONTACT IS CLOSED UNIT WILL START AND PROVIDE CLOSED LOOP HEATING WATER AT THE TEMPERATURE TEMPERATURE SELECTED

DHW PRIORITY WILL BE MAINTAINED

WHEN THE ZONE(S) SATISFY THE UNIT WILL SHUT DOWN, DSR WILL REMAIN LIT AT ALL TIMES

DIAGRAM SHOWS AN SR504, HOWEVER DIAGRAM CAN BE USED WITH ALL ZONE CONTROL PANELS (SR, ZV, ETC) WITH AN X - X OR 0V CONTACT

DSR-100F



8750 Pioneer Blvd, Santa Fe Springs CA 90670
Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW & TACO SR504 ZONE CONTROL PANEL WIRING

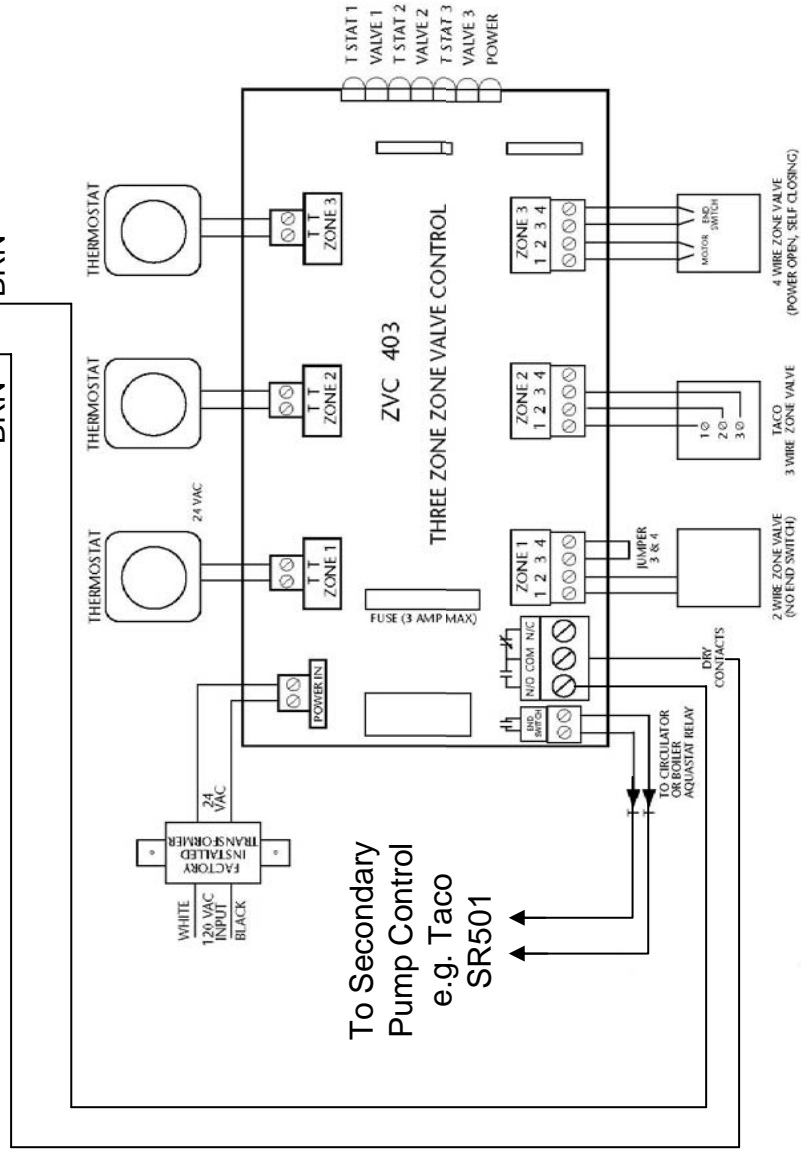
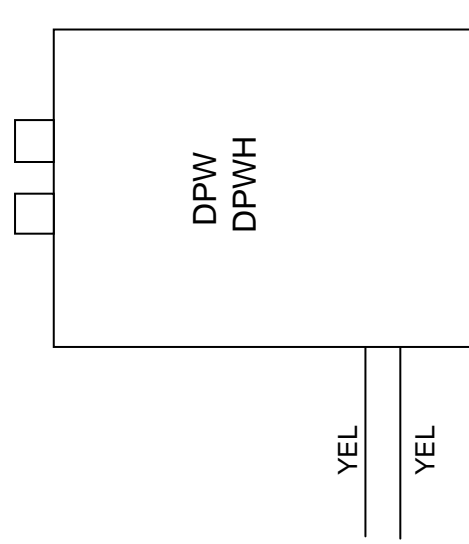
Drawn : JLM 9/24/2006 Rev : 001

DSR-100F



**NOTES
TO SET DSR-100F**

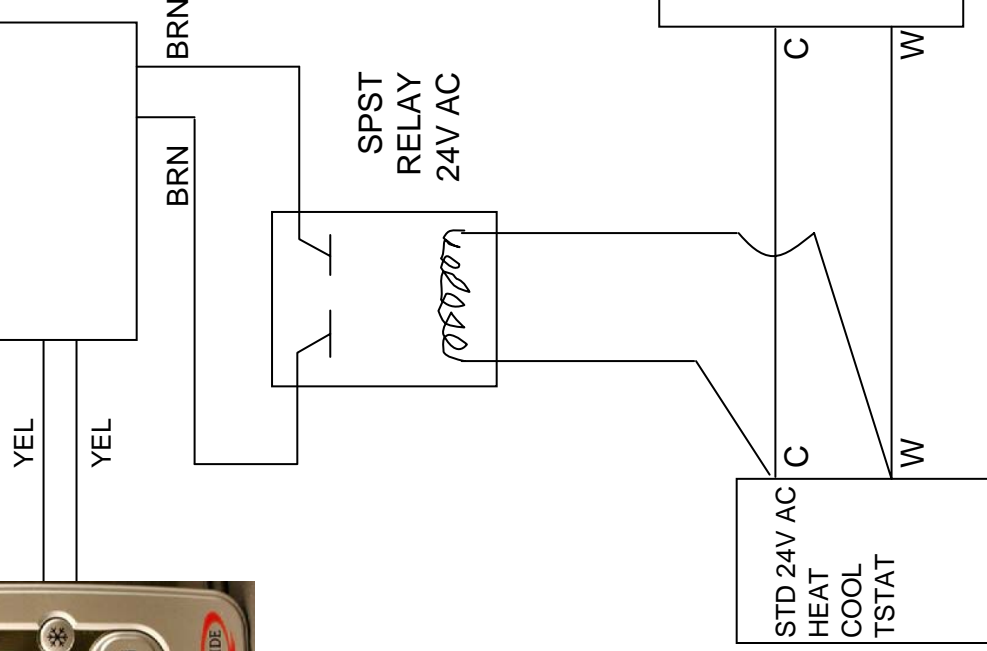
- 1 PRESS UNIT ON/OFF BUTTON
 - 2 PRESS HEATING SET TEMP BUTTON (LHS OF ON/OFF BUTTON)
 - 3 USE UP AND DOWN ARROWS TO SELECT DESIRED HEATING WATER TEMPERATURE RANGE 122-176 DEGF
 - 4 PRESS DHW SET TEMP BUTTON (RHS OF ON/OFF BUTTON)
 - 5 USE UP AND DOWN ARROWS TO SELECT DESIRED DHW WATER TEMPERATURE 98-114 DEGF, 120, 130, 140 DEGF
- WHEN DRY CONTACT IS CLOSED UNIT WILL START AND PROVIDE CLOSED LOOP HEATING WATER AT THE TEMPERATURE SELECTED
- DHW PRIORITY WILL BE MAINTAINED
- WHEN THE ZONE(S) SATISFY THE UNIT WILL SHUT DOWN, DSR WILL REMAIN LIT AT ALL TIMES
- THIS IS THE PREFERRED METHOD TO INTEGRATE ZONE VALVES AND THE SECONDARY LOOP PUMP



NOTES
 WIRING DIAGRAM FOR CONTROL OF A
 AIR HANDLER & HW COIL, WHERE
 PRIMARY PUMP IN DPWH IS CAPABLE
 OF PROVIDING FLOW TO FAN COIL



DSR-100F



TO SET DSR-100F CONTROLLER

- 1 PRESS UNIT ON/OFF BUTTON
 - 2 PRESS HEATING SET TEMPERATURE BUTTON
 - 3 USE UP AND DOWN ARROWS TO SELECT DESIRED HEATING WATER TEMPERATURE RANGE 122-176 DEGF
 - 4 PRESS DHW SET TEMPERATURE BUTTON
 - 5 USE UP AND DOWN ARROWS TO SELECT DESIRED DHW WATER TEMPERATURE 98-114 DEGF, 120, 130, 140 DEGF
 - 6 INSTALL AN AQUA STAT IN THE HTG COIL OF THE AIR HANDLER - WIRE TO FAN MOTOR TO STOP FAN OPERATION IF COIL TEMPERATURE FALLS e.g. DHW PRIORITY OR INITIAL START UP
- WHEN T-STAT CALLS FOR HEAT, RELAY WILL CLOSE AND DPW UNIT WILL START
 WHEN T-STAT IS SATISFIED RELAY WILL OPEN AND UNIT WILL STOP
 DSR CONTROL WILL REMAIN LIT AT ALL TIMES



8750 Pioneer Blvd, Santa Fe Springs CA 90670

Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW & SPST RELAY CONTROL WIRING

Drg # : QUI-DPW-ZW-001 | Drawn : JLM 9/6/2006 | Rev : 001