

ELECTRO-BOILER

TS Series

INSTALLATION INSTRUCTIONS

Model EB-S-KIT

APPLICATION:

This Electro-Boiler kit is designed for conversion of the EB-R-** or EB-E-** boilers. This could also apply to earlier EB-** or EB-L-**, only exception is that the steps and photos in the next pages may be slightly different. This conversion kit is equipped with outlet temperature sensing and a smart controller which automatically stages the various elements to operate at the field preset outlet temperature.

Note: For convenience this kit supplies all relays and wires for the maximum size, 27 kW (6 elements). For smaller size units simply ignore or drop off the higher relay numbers. The relays **not** used:

- 23 kW – K5 and E5
- 18 kW – K5 and E5, K6 and E6
- 13 kW – K5 and E5, K6 and E6, K4 and E4

For reference purposes, this package also includes the complete factory assembly wiring diagram for model EB-S-27. The circuit breakers, hi-limits, elements and position of elements, the vessel shape and details are all identical. The EB-S-27 boiler cabinet simply has the components within this kit in a slightly different physical arrangement but it should be quite easy for the installer to relate to the older style cabinet and the enclosed components.

Drawings **BW501**

:



ELECTRO INDUSTRIES, INC.

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INSTALLATION INSTRUCTIONS

1. Disconnect power 240 and pump 120.
2. Remove boiler vessel covers – top, bottom, and surround
3. Remove middle and bottom control box covers (middle cover can be discarded).

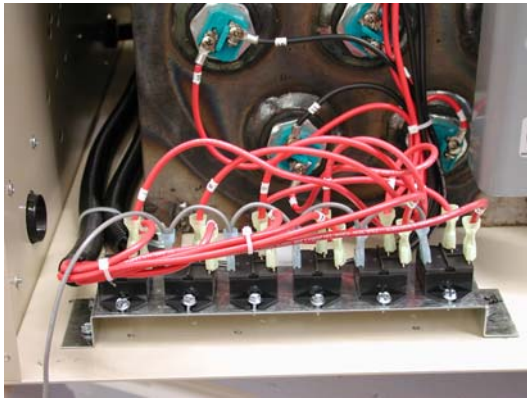


4. Remove and discard pump relay board and main control board.
5. Remove entire control wiring harness including red/white wires to 160° hi-limit and orange wires to aquastat (aquastat is no longer used but can be left in place).

6. Remove contactors.
7. Cut existing fork lugs off the red 12 gauge power wires that were connected to the contactors. Replace with yellow terminals supplied with kit.

Note: Do not cut off the wire number markers.





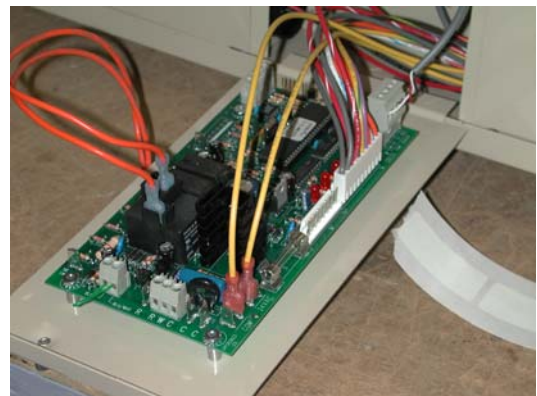
8. Mount relay bracket and align with existing holes (no drilling should be necessary).
9. Install wires on relays and install new wiring harness (see page 3 for details).

10. Route new harness in center compartment of control box. Splice extension wires on transformer.

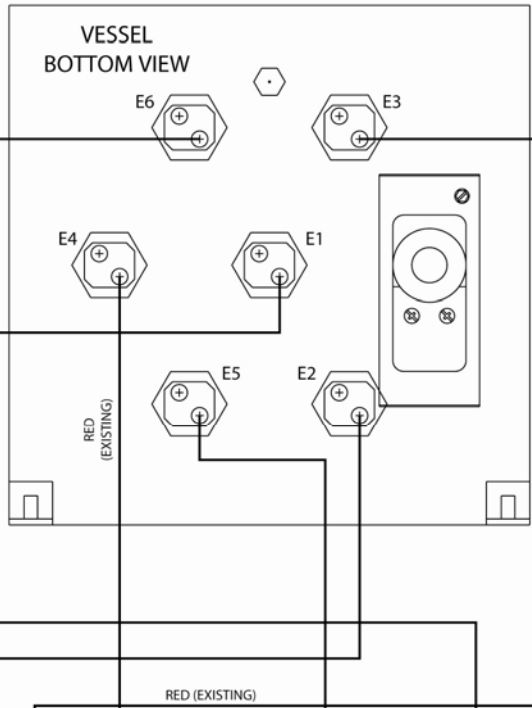
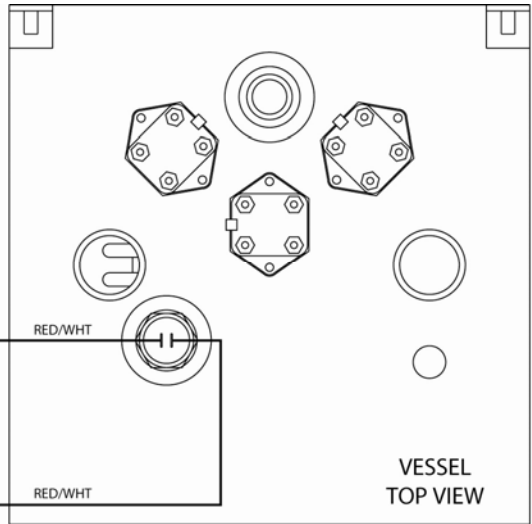


11. Install the supplied pipe tee with temperature sensor fitting at the outlet side of the boiler. Install the temperature sensor (see BD705). Route the cable to the center control box compartment.

12. Connect all control wiring to the new control board. The orange wires represent a relay contact closure for pump.

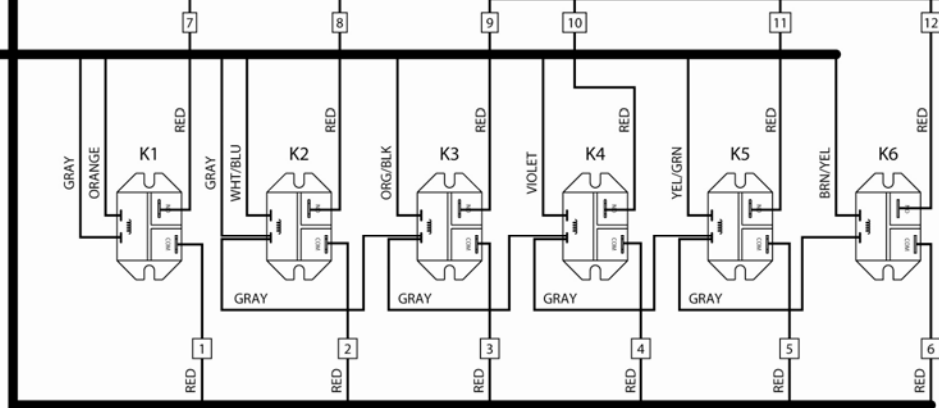


EXISTING WIRES FROM
CIRCUIT BREAKER
COMPARTMENT



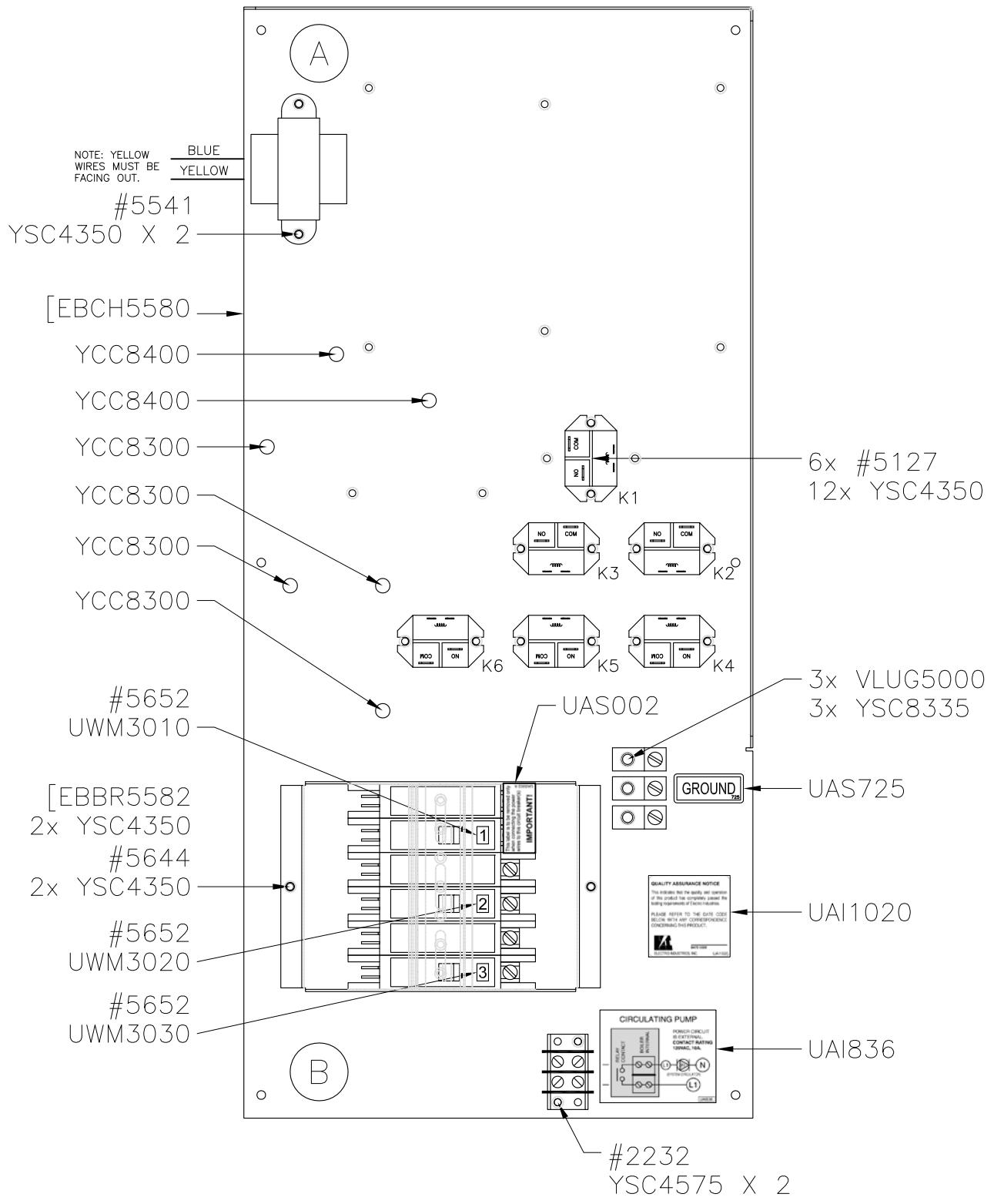
UCONN6648

- TO J4
ON @EBSSA5623
- 1 ORANGE
 - 2 WHT/BLU
 - 3 ORG/BLK
 - 4 VIOLET
 - 5 YEL/GRN
 - 6 BRN/YEL
 - 7 RED/WHT
 - 8 RED/WHT
 - 9 GRAY
 - 10 GRAY



(6) EXISTING RED WIRES

01-09-2013
ART-403

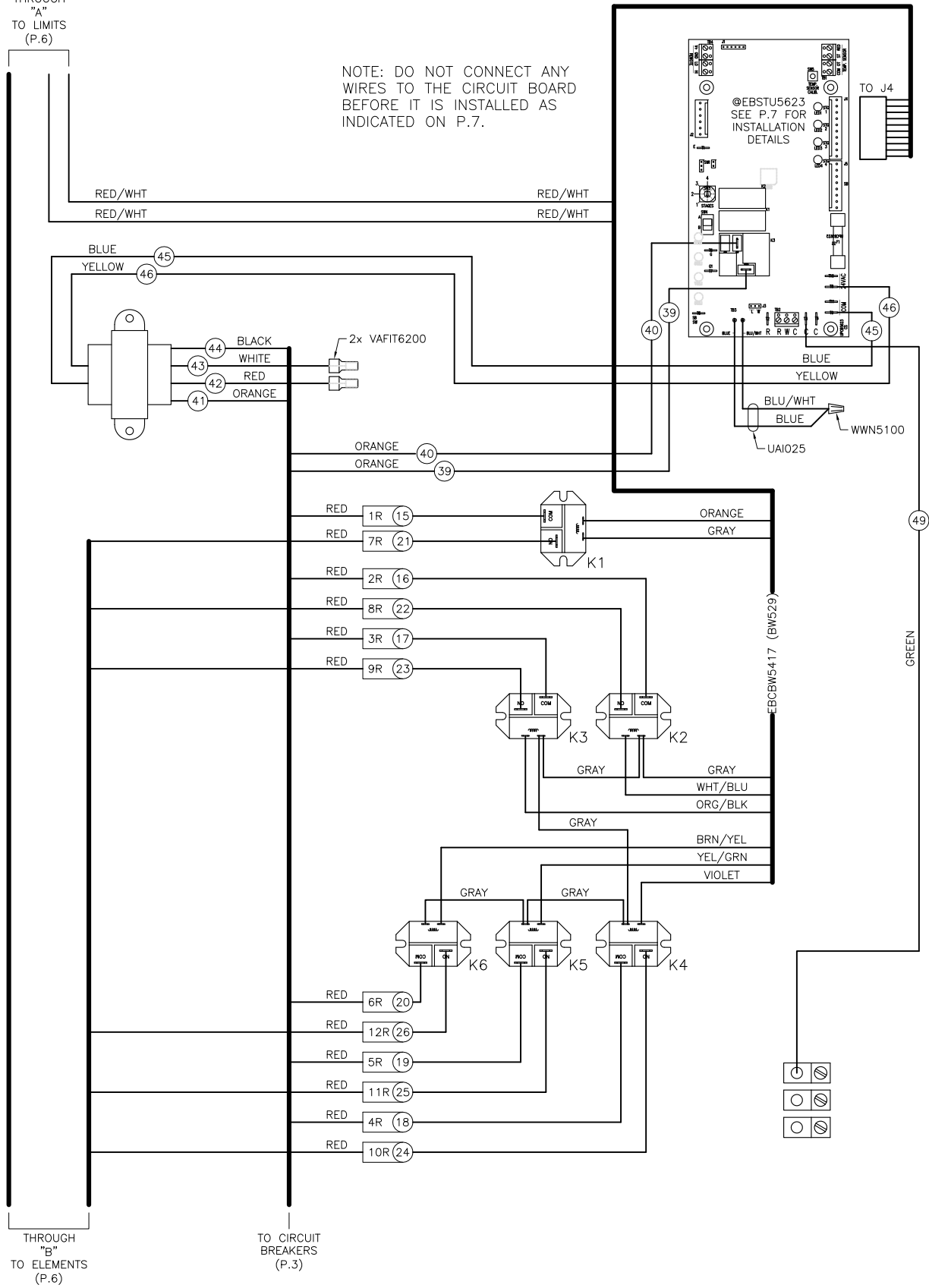


Rev.J 07-01-09: Wire #15 End2 Changed From VAFIT6000 To VANIT2500 Per Production Markup.
 Rev.I 10-30-08: Changes Per IECO# 18-0550.
 Rev.H 10-30-07: Updated all large boiler drawings per production markups.

PROPRIETARY AND CONFIDENTIAL NOTE: THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ELECTRO INDUSTRIES INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ELECTRO INDUSTRIES INC. IS PROHIBITED.	DESCRIPTION	ELECTRO INDUSTRIES, INC. MONTICELLO, MN 55362	SHEET	SCALE	PART/MODEL NUMBER	
	EB-S-27 ASSEMBLY		1/8	NTS	EB-S-27	
	DRAWN	CHECKED	APPROVED	DATE	REV/STATUS	DOCUMENT NUMBER
	JAD	JAD		07-01-09	J	BW501

THROUGH
"A"
TO LIMITS
(P.6)

NOTE: DO NOT CONNECT ANY
WIRES TO THE CIRCUIT BOARD
BEFORE IT IS INSTALLED AS
INDICATED ON P.7.

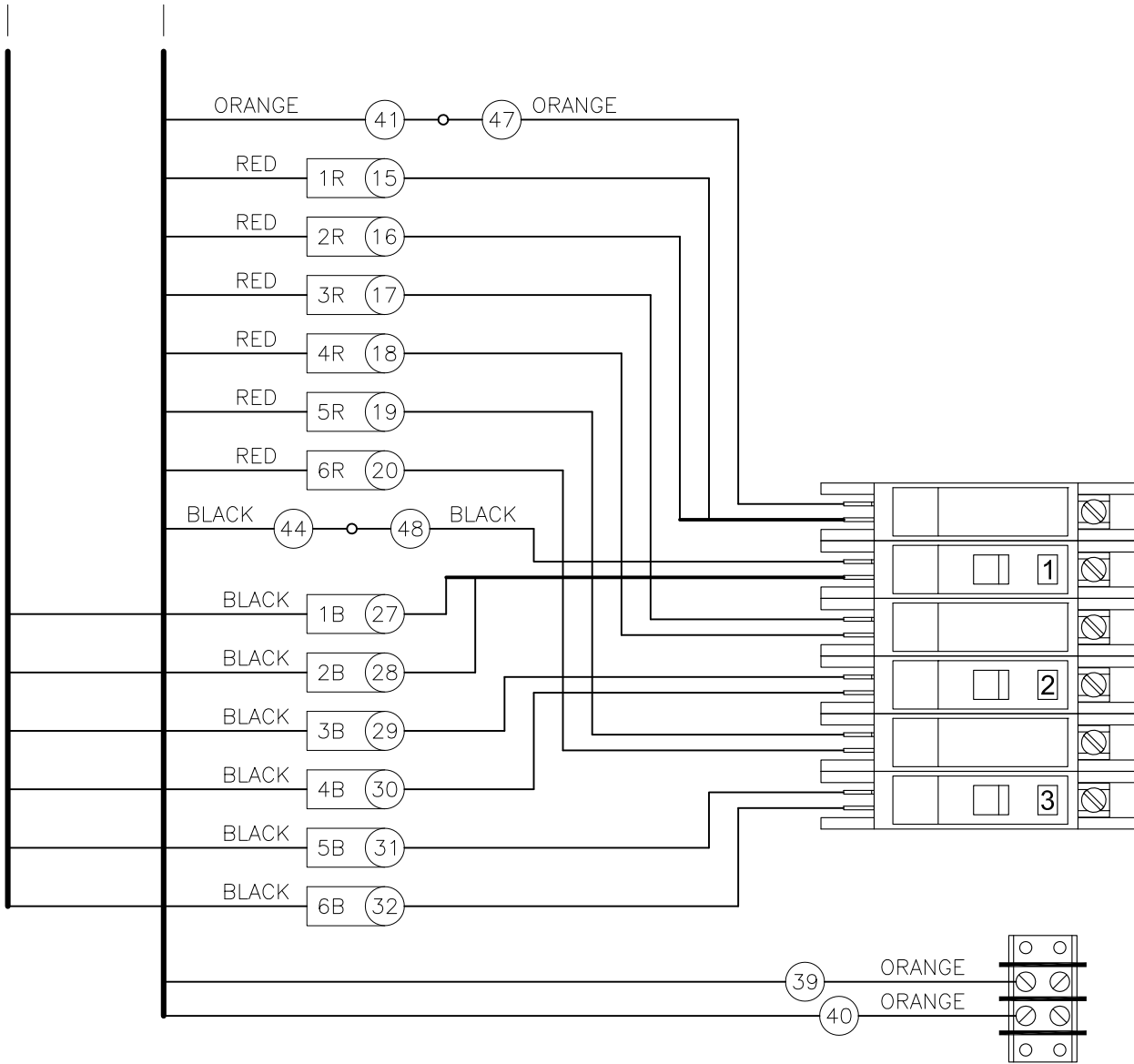


THROUGH
"B"
TO ELEMENTS
(P.6)

TO CIRCUIT
BREAKERS
(P.3)

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		DRAWN JAD	CHECKED JAD	APPROVED	DATE 07-01-09

THROUGH "A" TO LIMITS (P.2) | TO RELAYS, TRANSFORMER AND PCB (P.2)



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	EB-S-27 ASSEMBLY		3/8	NTS	EB-S-27	
	DRAWN	CHECKED	APPROVED	DATE	REV/STATUS	DOCUMENT NUMBER
	JAD	JAD		07-01-09	J	BW501

3x #5535
6x YNT2030

ADJUST POSITION OF VESSEL TO FIT THE GAUGE PROPERLY INTO THE SHEET METAL OPENING.

DETAIL A
SCALE 4:1

[EBFR5587

EBVS27
4x YSC8325

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	EB-S-27 ASSEMBLY		4/8	NTS	EB-S-27
			DATE	REV/STATUS	DOCUMENT NUMBER
			07-01-09	J	BW501

XGMT4120
(INTO [EBBR5581])

[EBPN5585
2X YSC4355

[EBPN5586
2X YSC4355

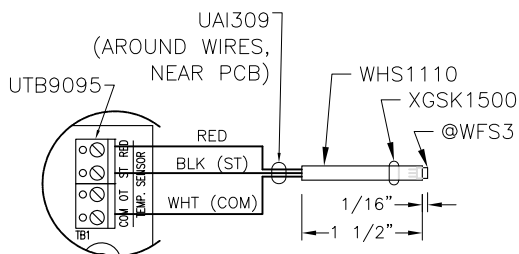
@WFS3

TO PCB
SEE DETAIL A
FOR HOOKUP

CHASSIS ASSEMBLY FROM P.1
INSTALL WITH YSC4350 X 6

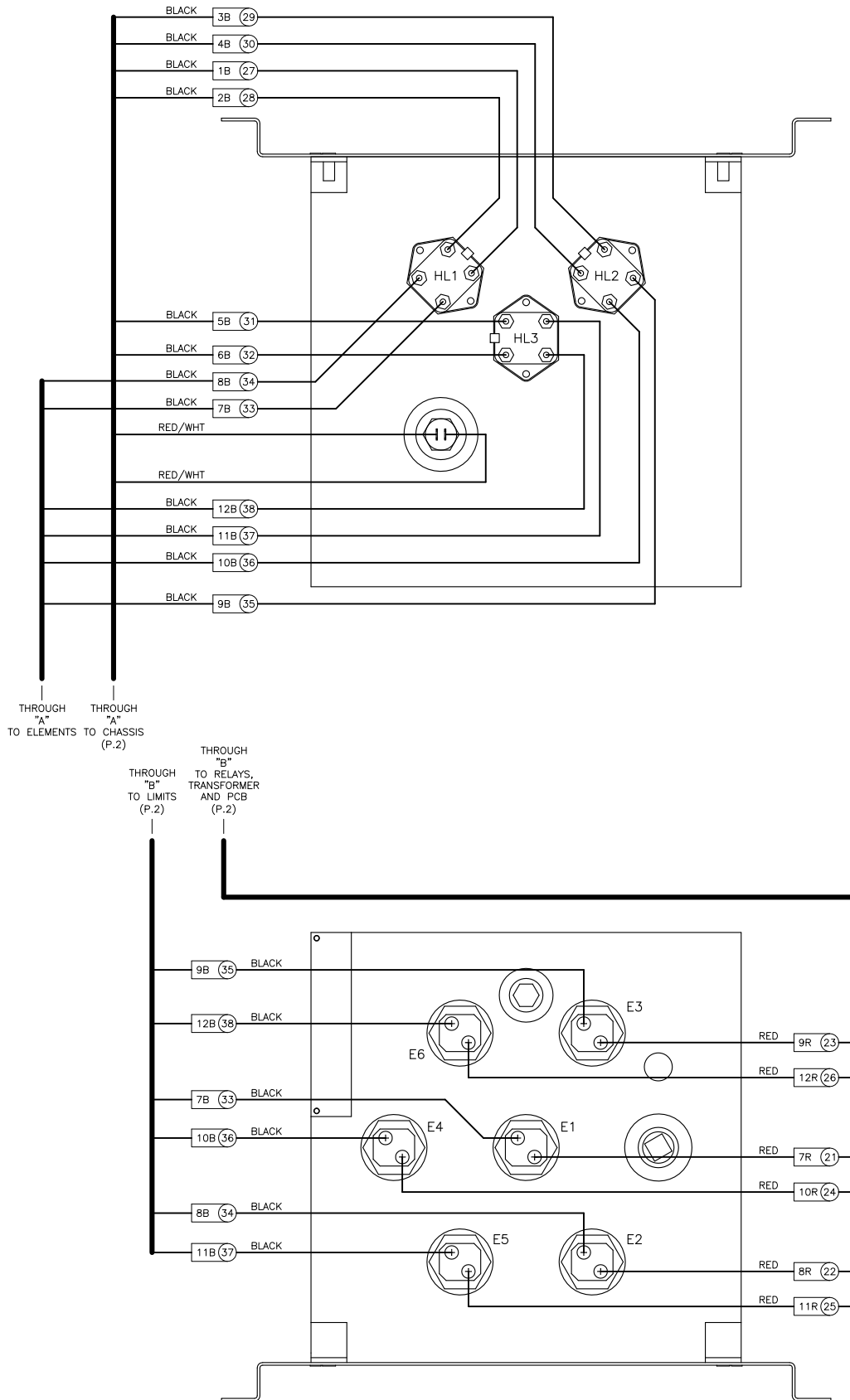
[EBBR5581
3X YSC4360

[EBBR5581
3X YSC4360

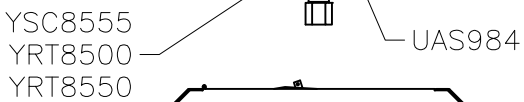
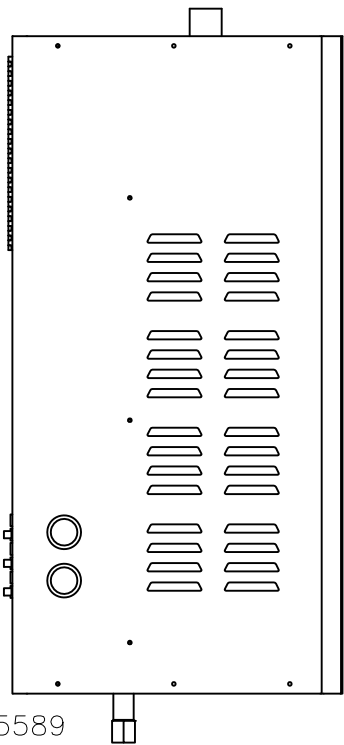
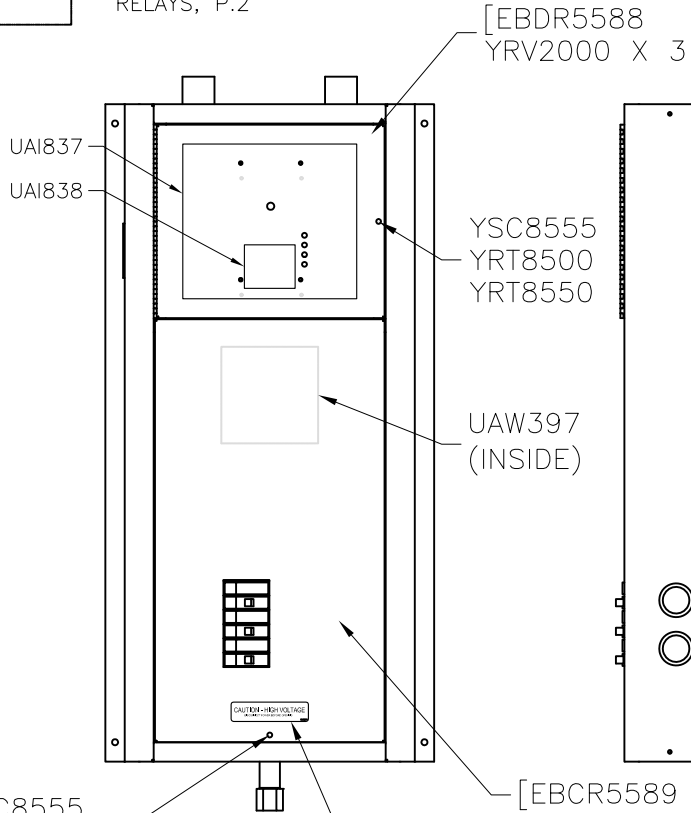
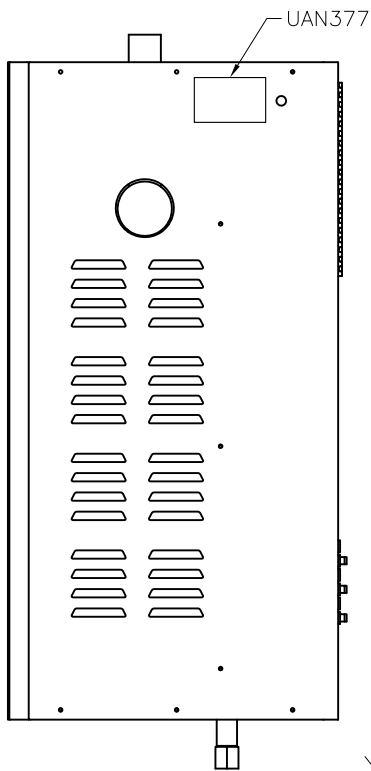
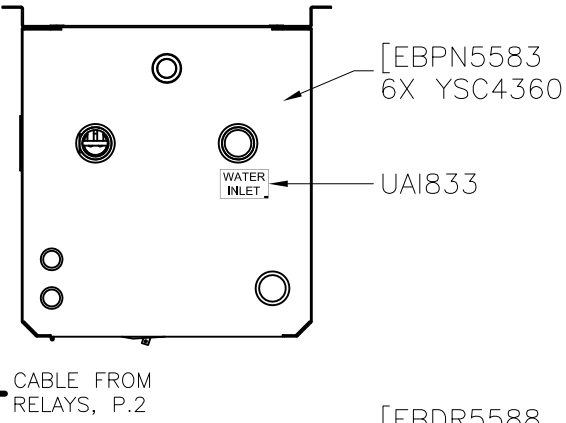
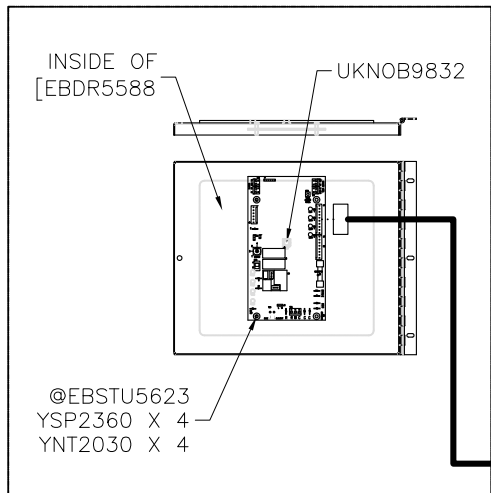


@EBSTU5623
DETAIL A
SCALE 3:1

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		DRAWN JAD	CHECKED JAD	APPROVED	DATE 07-01-09

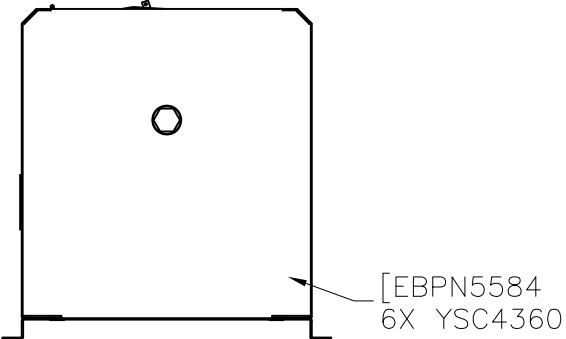


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		DRAWN JAD	CHECKED JAD	APPROVED	DATE 07-01-09



COMPONENTS SHIPPED
LOOSE WITH BOILER:

#5453
XEL7800 X 2
XNPL7775 X 2



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		DRAWN JAD	CHECKED JAD	APPROVED	DATE 07-01-09