ELECTRIC HEATER KIT INSTALLATION INSTRUCTIONS FOR BHTR SERIES HEATERS FOR RHEEM AND RUUD UNITS HLA,HLL,HSA,HSL,HPL,HKA,HKL

INSTALLATION INSTRUCTION

1. SHUT OFF all electric power to air handler from disconnect switch or service panel before performing any electrical work. All work must be performed by a qualified service technician.

2. Remove blower access door of air handler from front of air handler unit.

3. Remove heater element cover plate in air handler. Keep four screws for heater installation later.

4. Insert the heater element assembly into blower outlet opening. Secure heater with 4 screws retained in step 3. Make sure heater airflow arrow is in the correct direction after heater is installed. Use the two screws provided in the kit to mount the top flange of the heater breaker bracket to the top of the air handler.

WIRING INSTRUCTIONS

5. Connect high voltage power and control wiring as indicated. Field high voltage wiring must be 75 C grade minimum copper conductors only.
6.

A. **Single Point Wiring**:
Connect proper size field power leads to breaker(s). If you have multiple breakers, a single point accessory kit will be needed. (RXBJ-A21 2 pole or RXBJ-A31 3 pole purchased from a Rheem/Ruud distributor) Connect red and black leads from heater kit to air handler terminal block located on blower section bulkhead.
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B. **Multi-Circuit wiring**: Connect proper size field power leads to breakers. Connect red and black power leads from heater kit to air handler terminal block located on blower section bulkhead.

C. Permanently ground electric heater from supply circuit to ground lug on the bulkhead or heater ground lug.

If breaker(s) are not supplied with heater kit, connect proper field power leads to heater terminal block. Heaters over 48 total amps without breaker or circuit fusing must have separate over current protective device (by others)

D. **Control Wiring**:

Connect four-pin control plug from heater kit to mating four-pin plug just above the air handler control box located inside on blower housing. If no plug is there, remove control box cover and plug onto control board, replace control box cover.

See Air handler installation instruction for high and control voltage wiring instructions.

7. Remove necessary knockouts on blower door to accommodate breaker (s) on heater kits. Cut out any insulation that might be in the way of the breaker opening.

   The **circuit breaker cover seal** must be applied to the blower access panel. Peel off the release paper on the back of circuit breaker cover. Center the breaker cover in relation to the knockout. Align the top of the cover to the access door. Firmly press the breaker cover onto the access door. (The surface to which the cover is to be applied must be clean, dry and free of grease and oil).

8. Apply wiring diagram from heater kit to blower housing inside air handler. Replace the blower access door making sure that the circuit breaker (s) is aligned up evenly with the knockout on the access door.

9. See Air Handler installation instructions for rotating circuit breaker to comply with National Electric Codes and certification agencies. Circuit breaker must be installed with switch “on” position and marking is up and “off” position and marking is down. See Air Handler installation and operating guide for details.

10. Start up air handler and heater section, verify the proper amp draw based on KW rating.

11. Maximum KW application chart:

    18-24 BTU/H **10KW**, 30-36 BTU/H **15KW**, 42-60 BTU/H **20KW**

Installer **MUST** place heater information label on outside air handler cover and mark the correct KW / VOLTAGE / PHASE rating. Failure to follow these instructions will result being turned down by local inspection.

ELECTRIC HEATER DATA/PHASE
HLA/HLL/HSA/HSL/HKA/HKL/HPL UNITS

BTU MODEL NUMBER	HEATER KW 208/240	PH/HZ	HEATER AMPS 208/240	MOTOR AMPS HLA/HLL/ HKA/HKL	MINIMUM CIRCUIT	MAXIMUM CIRCUIT PROTECTION
BHTR-3-1 @240V	2.25/3	1/60	10.8/12.5	2.8	17/19	20/20
				4.1	19/21	20/25
				6	21/23	25/25
				HSA/HSL/ HPL		
				1.7	16/18	20/20
				2.5	17/19	20/20
				5.2	29/32	30/35
BHTR-4.2-1 @240V	3.15/4.2	1/60	15.1/17.5	2.8	23/26	25/30
				4.1	24/27	25/30
				6	27/30	30/30
				HSA/HSL/ HPL		
				1.7	21/24	25/25
				2.5	22/25	25/25
				5.2	26/29	30/30
BHTR-5-1 @240V	3.75/5	1/60	18/20.8	2.8	26/30	30/30
				4.1	28/32	30/35
				6	30/34	30/35
				HSA/HSL/ HPL		
				1.7	25/29	25/30
				2.5	26/30	30/30
				5.2	29/33	30/35
BHTR-6.25-1 @240V	4.7/6.25	1/60	22.6/26.	2.8	32/36	35/40
				4.1	34/38	35/40
				6	36/40	40/40
				HSA/HSL /HPL		
				1.7	31/35	35/35
				2.5	32/36	35/40
				5.2	35/39	35/40
BHTR-7.5-1 @240V	5.6/7.5	1/60	27/31.3	2.8	38/43	40/45
				4.1	39/45	40/45
				6	42/47	45/50
				HSA/HSL/ HPL		
				1.7	36/42	40/45
				2.5	37/43	40/45
				5.2	41/46	45/50
BHTR-8.2-1 @240V	6.2/8.2	1/60	29.8/34.	2.8	41/46	45/50
				4.1	43/48	45/50
				6	45/50	45/50
				HSA/HSL/ HPL		
				1.7	40/45	40/45
				2.5	41/46	45/50
				5.2	44/49	45/50
BHTR-10-1 @240V	7.5/10	1/60	36/41.6	2.8	49/56	50/60
				4.1	51/58	55/60
				6	53/60	55/60
				HSA/HSL/ HPL		
				1.7	48/55	50/60
				2.5	49/56	50/60
				5.2	52/59	55/60

BTU MODEL NUMBER	HEATER KW 208/240	PH/HZ	HEATER AMPS 208/240	MOTOR AMPS HLA/HLL/ HKA/HKL	MINIMUM CIRCUIT	MAXIMUM CIRCUIT PROTECTION
BHTR-12.6-1 @240V	9.5/12.6	1/60	45.7/52.5*	4.1	63/71	65/75
				6	65/74	65/75
				HSA/HSL/ HPL		
				2.5	61/69	65/70
				5.2	64/73	65/75
BHTR-15-1 @240V	11.25/15	1/60	55/62.5*	4.1	74/84	75/85
				6	77/86	80/90
				HSA/HSL/ HPL		
				2.5	72/82	75/85
				5.2	76/85	80/90
BHTR-17-1 @240V	12.7/17	1/60	61/70.8*	6	84/95	85/95
				HSA/HSL/ HPL		
				5.2	83/95	85/95
BHTR-20-1 @240V	15/20	1/60	72/83.3*	6	98/112	100/120
				HSA/HSL/ HPL		
				5.2	97/111	100/120
BHTR-3-3 @240V	2.25/3	3/60	6.3/7.2	2.8	12/13	15/15
				4.1	13/15	15/15
				6	16/17	20/20
				HSA/HSL/ HPL		
				1.7	12/12	15/15
				2.5	11/13	15/15
				5.2	15/16	15/20
BHTR-5-3 @240V	3.75/5	3/60	10.2/12	2.8	17/19	20/20
				4.1	19/21	20/25
				6	21/25	25/25
				HSA/HSL/ HPL		
				1.7	16/18	20/20
				2.5	17/19	20/20
				5.2	20/22	20/25
BHTR-10-3 @240V	7.5/10	3/60	20.8/24	2.8	30/34	30/35
				4.1	32/36	35/40
				6	34/38	35/40
				HSA/HSL/ HPL		
				1.7	29/33	30/35
				2.5	24/34	25/35
				5.2	33/37	35/40
BHTR-15-3 @240V	11.25/15	3/60	32/36	4.1	46/51	50/55
				6	48/53	50/60
				HSA/HSL /HPL		
				2.5	44/49	45/50
				5.2	47/52	50/55
BHTR-17-3 @240V	12.7/17	3/60	35.2/40.8	4.1	50/57	50/60
				6	52/59	55/60
				HSA/HSL/ HPL		
				2.5	48/55	50/60
				5.2	51/58	55/60
BHTR-20-3 @240V	15/20	3/60	41.6/48	4.1	58/66	60/70
				6	60/68	60/70
				HSA/HSL/ HPL		
				2.5	56/64	60/65
				5.2	59/67	60/70

BTU MODEL NUMBER	HEATER KW 480V	PH/HZ	HEATER AMPS 480V	MOTOR AMPS HLA/HLL /HKA/HKL	MINIMUM CIRCUIT	MAXIMUM CIRCUIT PROTECTION
				HSA/HSL/ HPL		
BHTR-3-3 @480V	3	3/60	3.6	1.4	7	15
				2.2	8	15
				HSA/HSL/ HPL		
BTHR-5-3 @480V	5	3/60		1.5	10	15
				2.2	11	15
				HSA/HLL/ HPL		
BTHR-10-3 @480V	10	3/60	12	1.4	17	20
				2.2	18	20
				HSA/HSL/ HPL		
BHTR-15-3 @480V	15	3/60	18	1.4	2.5	25
				2.2	26	30
				HSA/HSL/ HPL		
BTHR-17-3 @480V	17	3/60	20.4	2.2	29	30
				HSA/HSL/ HPL		
BTHR-20-3 @480V	20	3/60	24	2.2	33	35