



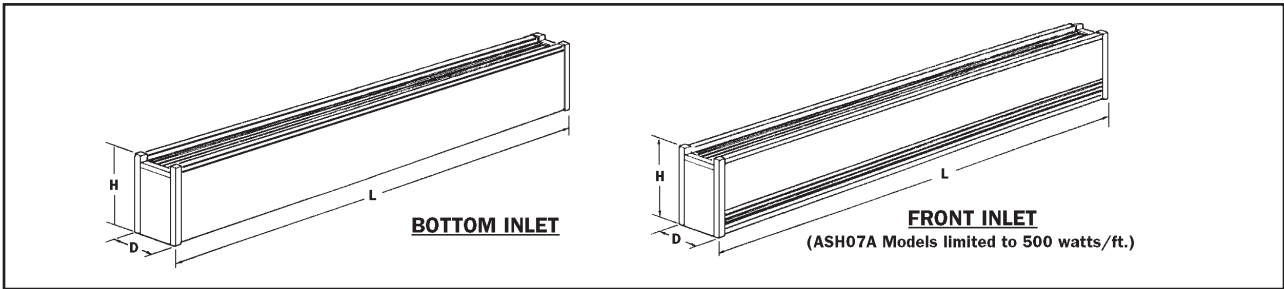
**Types ADB05A,
ASH07A, ASH14A,
CSH, and DSH**

Installation & Maintenance Instructions

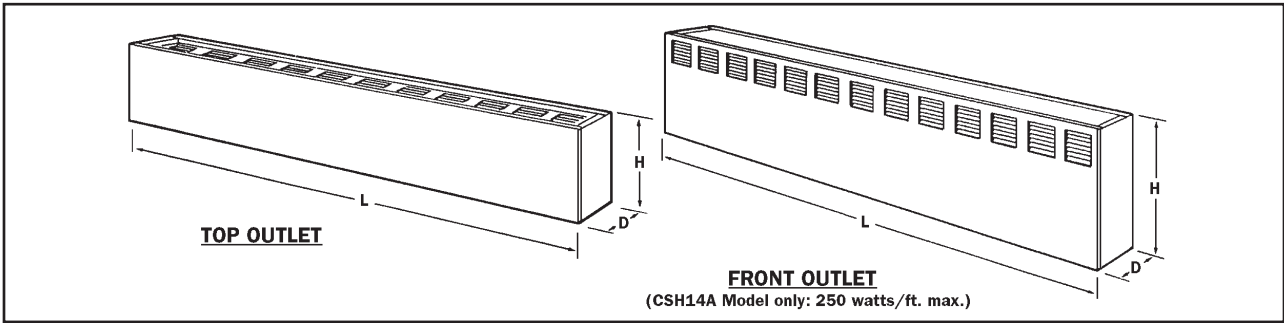
Dear Owner,
 Congratulations! Thank you for purchasing this new heater manufactured by a division of Marley Engineered Products. You have made a wise investment selecting the highest quality product in the heating industry. Please carefully read the installation and maintenance directions shown in this manual. You should enjoy years of efficient heating comfort with this product from Marley Engineered Products . . . the industry's leader in design, manufacturing, quality, and service.

. . . The Employees of
 Marley Engineered Products

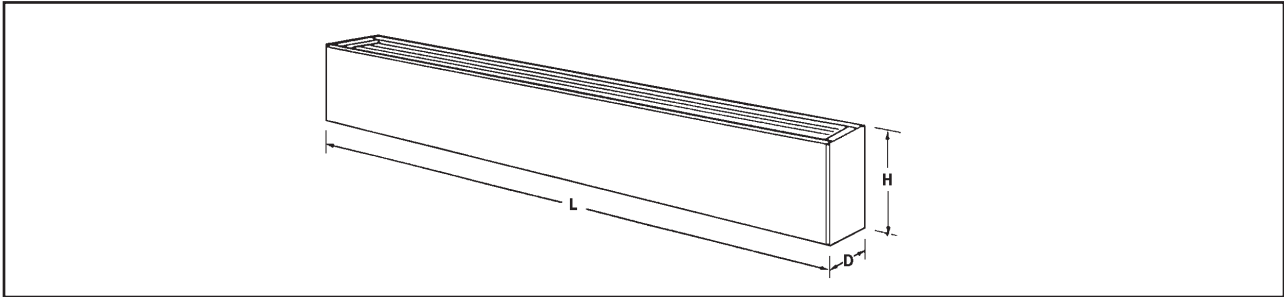
**Architectural Draft Barrier Heater (Type ADB05A)
 and Architectural Sill-Height Convection Heater**



Commercial Sill-Height Convection Heaters (Type CSH)



Decorative Sill-Height Convection Heaters (Type DSH)



SAVE THESE INSTRUCTIONS

Table A Specifications

Model CSH05A, DSH05A (H=5 1/2"; D=3") Model ADB-05A (H=5 3/4"; D=3")							
Catalog Number*	Length "L"	Watts/Ft.	Total Watts	Amperage			
				120V	208V	240V	277V
-2125	28"	125	250	2.4	1.2	1.0	0.9
-2188		188	375	3.1	1.8	1.6	1.4
-2250		250	500	4.2	2.4	2.1	1.8
-3125	3'	125	375	3.1	1.8	1.6	1.4
-3188		188	564	4.7	2.7	2.4	2.0
-3250		250	750	6.2	3.6	3.1	2.7
-4125	4	125	500	4.2	2.4	2.1	1.8
-4188		188	750	6.2	3.6	3.1	2.7
-4250		250	1000	8.3	4.8	4.2	3.6
-5125	5	125	625	5.2	3.0	2.6	2.2
-5188		188	940	7.8	4.5	3.9	3.4
-5250		250	1250	10.4	6.0	5.2	4.5
-6125	6	125	750	6.2	3.6	3.1	2.7
-6188		188	1125	9.4	5.4	4.7	4.1
-6250		250	1500	12.5	7.2	6.2	5.4
-8125	8'	125	1000	-	4.8	4.2	3.6
-8188		188	1500	-	7.2	6.2	5.4
-8250		250	2000	-	9.6	8.3	7.2
-10125	10'	125	1250	-	6.0	5.2	4.5
-10188		188	1875	-	9.0	7.8	6.7
-10250		250	2500	-	12.0	10.4	9.0

* Prefix with: ADB05A (5 3/4" height heaters)
CSH05A (5 1/2" height heaters)
DSH05A (5 1/2" height heaters)

Model CSH07A, DSH07A (H=7"; D=5") Model CSH14A, DSH14A (H=14"; D=5") Model ASH-07A (H=7 1/4"; D=5") Model ASH-14A (H=14 1/4"; D=5")								
Catalog Number**	Length "L"	Watts/Ft.	Total Watts	Amperage				
				208V		240V		277V
				1Ø	3Ø	1Ø	3Ø	1Ø
-2125	28"	125	250	1.2	-	1.0	-	0.9
-2188		188	375	1.8	-	1.6	-	1.4
-2250		250	500	2.4	-	2.1	-	1.8
-2375		375	750	3.6	-	3.1	-	2.7
-2500		500	1000	4.8	-	4.2	-	3.6
-2564		564	1125	5.4	3.1	4.7	2.7	4.0
-2625		625	1250	6.0	3.5	5.2	3.0	4.5
-2750	750	1500	7.2	4.2	6.2	3.6	5.4	
-3125	3'	125	375	1.8	-	1.6	-	1.4
-3188		188	564	2.7	-	2.4	-	2.0
-3250		250	750	3.6	-	3.1	-	2.7
-3375		375	1125	5.4	-	4.7	-	4.0
-3500		500	1500	7.2	-	6.2	-	5.4
-3564		564	1690	8.1	4.7	7.4	4.3	6.1
-3625		625	1875	9.0	5.2	7.8	4.5	6.7
-3750	750	2250	11.0	6.5	9.4	5.4	8.1	
-4125	4'	125	500	2.4	-	2.1	-	1.8
-4188		188	750	3.6	-	3.1	-	2.7
-4250		250	1000	4.8	-	4.2	-	3.6
-4375		375	1500	7.2	-	6.2	-	5.4
-4500		500	2000	9.6	-	8.3	-	7.2
-4564		564	2250	10.8	6.2	9.4	5.4	8.0
-4625		625	2500	12.0	6.9	10.4	6.0	9.0
-4750	750	3000	14.4	8.3	12.5	7.2	10.8	
-5125	5'	125	625	3.0	-	2.6	-	2.2
-5188		188	940	4.5	-	3.9	-	3.4
-5250		250	1250	6.0	-	5.2	-	4.5
-5375		375	1875	9.0	-	7.8	-	6.7
-5500		500	2500	12.0	-	10.4	-	9.0
-5564		564	2820	13.5	7.8	11.8	6.8	10.2
-5625		625	3125	15.0	8.7	13.0	7.5	11.3
-5750	750	3750	18.0	10.4	15.6	9.0	13.5	
-6125	6'	125	750	3.6	-	3.1	-	2.7
-6188		188	1125	5.4	-	4.7	-	4.0
-6250		250	1500	7.2	-	6.2	-	5.4
-6375		375	2250	10.8	-	9.4	-	8.1
-6500		500	3000	14.4	-	12.5	-	10.8
-6564		564	3380	16.2	9.4	14.1	8.1	12.2
-6625		625	3750	18.0	10.4	15.6	9.0	13.5
-6750	750	4500	21.6	12.5	18.7	10.8	16.2	
-8125	8'	125	1000	4.8	-	4.2	-	3.6
-8188		188	1500	7.2	-	6.2	-	5.4
-8250		250	2000	9.6	-	8.3	-	7.2
-8375		375	3000	14.4	-	12.5	-	10.8
-8500		500	4000	19.2	-	16.7	-	14.4
-8564		564	4500	21.6	12.5	18.7	10.8	16.2
-8625		625	5000	24.0	13.9	20.8	12.0	18.0
-8750	750	6000	28.8	16.5	24.0	14.4	21.6	
-10125	10'	125	1250	6.0	-	5.2	-	4.5
-10188		188	1875	9.0	-	7.8	-	6.7
-10250		250	2500	12.0	-	10.4	-	9.0
-10375		375	3750	18.0	-	15.6	-	13.5
-10500		500	5000	24.0	-	20.8	-	18.0
-10564		564	5640	27.2	15.7	23.5	13.6	20.4
-10625		625	6250	30.0	17.3	26.0	15.0	22.6
-10750	750	7500	36.0	20.8	31.3	18.1	27.0	

** Prefix with: ASH07A (7-1/4" height heaters)
CSH07A (7" height heaters)
DSH07A (7" height heaters)
ASH14A (14-1/4" height heaters)
CSH14A (14" height heaters)
DSH14A (14" height heaters)

INSTALLATION INSTRUCTIONS

Read Carefully – These instructions are written to help you prevent difficulties that might arise during installation of Draft Barrier and Sill-Height Heaters. Studying the instructions first may save you considerable time and money later. QMark Draft Barrier and Sill-Height Heaters are designed for easy and economical installation. When properly assembled, they make a beautiful heating installation. Observe the following procedures, and cut your mounting time to a minimum.

CAUTION

TO AVOID POSSIBLE ELECTRICAL SHOCK, BE SURE ELECTRICITY IS TURNED OFF AT MAIN SWITCH FIRST BEFORE WIRING. ALL WIRING MUST BE IN ACCORDANCE WITH LOCAL ELECTRICAL CODES AND THE ENTIRE HEATER INSTALLATION MUST BE GROUNDED AS A PRECAUTION AGAINST POSSIBLE ELECTRICAL SHOCK.

DO NOT INSTALL THE HEATER IN AN EXPLOSIVE OR CORROSIVE ENVIRONMENT, OR UPSIDE DOWN, OR WHERE WATER IS PRESENT.

DO NOT LOCATE THE HEATER BELOW AN ELECTRICAL CONVENIENCE RECEPTACLE.

HIGH TEMPERATURE– KEEP ELECTRICAL CORDS, FURNITURE, DRAPERIES, OR ANY OTHER BLOCKING MATERIAL AT LEAST FOUR INCHES AWAY FROM TOP OR FRONT OF HEATER.

THE ENDS OF THE HEATER MUST BE FULLY CLOSED BY THE USE OF ADJOINING HEATERS, END CAPS, OR OTHER ACCESSORIES.

DO NOT INSTALL HEATERS AGAINST PAPERBOARD OR LOW-DENSITY FIBERBOARD SURFACES.

DO NOT INSTALL AGAINST VINYL OR SIMILAR WALL COVERINGS. USE STANDOFF KITS, CAT. NO. SO1 OR SO2, TO LOCATE HEATER AWAY FROM SURFACE OF WALL COVERINGS.

CHECK THE SUPPLY VOLTAGE TO MAKE SURE IT IS THE SAME AS INDICATED ON THE HEATER NAMEPLATE.

DISCARD THE FOAM PACKING PADS BETWEEN THE HEATER GRILLE AND THE ELEMENT ASSEMBLY BEFORE THE HEATER IS USED.

WARNING

TO REDUCE THE RISK OF FIRE, DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS HEATER.

STEP ONE – Receiving Instructions

1. Material when shipped was in good order and Marley Engineered Products holds clear bill of lading, therefore any concealed damage must be reported at once to the carrier for inspection and settlement.

NOTE: It is advisable to store cartons in a central area to be drawn upon as needed per room requirements. If called for on order, the cartons will have been tagged with proper room number.

STEP TWO – Rough-in Wiring

1. Run branch circuit of proper voltage and wire size to location of left or right junction box as indicated on heater wiring diagram. Basic heaters are prewired and can be connected to branch circuit at either end. Heaters with controls are prewired for connection to branch circuit at one end only (refer to heater wiring diagram), however, heater can be wired from opposite end by running wire through heater wireway.
2. If it is necessary to run wires through the heater wireway, use Table B to size the field installed wiring.

3. The factory installed wires in the heater wireway can be loaded up to 35 amps in ADB05, CSH05 and DSH05 units, and up to 45 amps in ASH07, ASH14, CSH05, CSH14, DSH07 and DSH14 units. Refer to Table C and D for maximum length of heater run when the heaters are connected in parallel.

CAUTION

IF THE FACTORY INSTALLED WIRES IN THE WIREWAY ARE USED TO CONNECT THE BUILT-IN CONTROLS, LIMIT THE MAXIMUM CURRENT TO THE FOLLOWING VALUES:

Thermostat 24 amps @ 120-240 VAC
 22 amps @ 277 VAC
 Pilot duty– 125 VAC (all voltages)

Transformer relay
 05A units: 22 amps @ 120-240 VAC
 19 amps @ 277 VAC
 07A-14A Units: 25 AMPS @ 120-240 VAC
 22 AMPS @ 277 VAC

Power relay 25 amps @ 120-277 VAC- see wiring diagram on heater

Disconnect switch 20 amps @ 120-277 VAC

Table B. Sizing Field Installed Wiring

Copper wire size 75° C	Maximum no. of wires that may be installed in wireway	Maximum allowable current		
		Up to 3 Conductors	4 to 6 Conductors	7 thru 9 Conductors
No. 12 AWG	9	11.5 amps	9.3 amps	8.1 amps
No. 10 AWG	8	17.4 amps	14.0 amps	12.1 amps
No. 8 AWG	4	24.0 amps	21.0 amps	–

Table C. Maximum Length of Heater Run (ADB05-1Ø; CSH05-1Ø; DSH05-1Ø)

Watts/Ft. of the heaters	Maximum allowable length of heater run (feet)			
	120 Volts	208 Volts	240 Volts	277 Volts
125	33	58	67	77
188	22	38	44	51
250	16	29	33	38

Note: For mix of watt densities, calculate amp draw. Do not exceed values indicated in step 3 above.

Table D. Maximum Length of Heater Run (ASH07, ASH14, CSH07, CSH14, DSH07 and DSH14-1Ø and 3Ø)

Watts/Ft. of the heaters	Maximum allowable length of heater run (feet)				
	208 Volts 1Ø	208 Volts 3Ø	240 Volts 1Ø	240 Volts 3Ø	277 Volts 1Ø
125	74	-	86	-	99
188	49	-	57	-	66
250	37	-	43	-	49
376	24	-	28	-	33
500	18	-	21	-	24
564	16	27	19	32	22
625	14	24	17	29	19
750	12	20	14	24	16

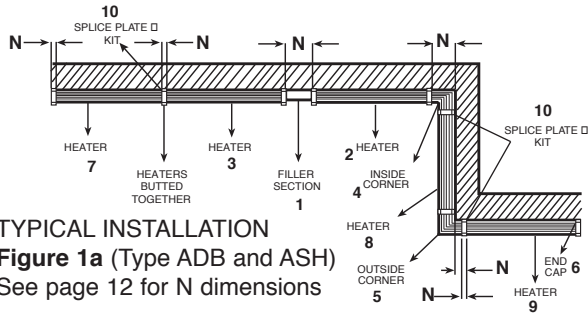
Note: For mix of watt densities, calculate amp draw. Do not exceed values indicated in step 3 above.

4. Standard 75°C wiring must be used in junction boxes, wireways, blank sections, filler sections, and corner sections.

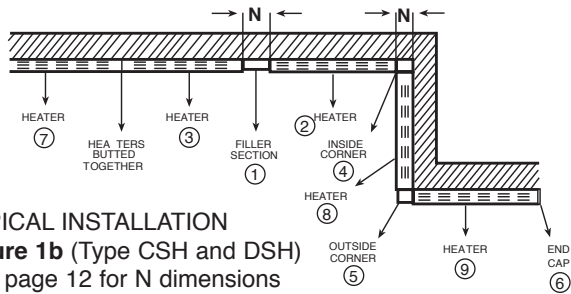
STEP THREE – Room Layout

Refer to heating plans for exact room arrangements of heaters (with or without thermostat and/or relays and/or switches and accessories.)

Check the heater section dimensions and the additional wall length required for telescoping accessories (Figure 1a for Type ADB and ASH; Figure 1b for Type CSH and DSH) before starting wall-to-wall type installation. Be certain all heaters and accessories needed are at hand and are of correct finish.



TYPICAL INSTALLATION
Figure 1a (Type ADB and ASH)
 See page 12 for N dimensions



TYPICAL INSTALLATION
Figure 1b (Type CSH and DSH)
 See page 12 for N dimensions

STEP FOUR – Mounting Height

At correct height, draw a pencil line on the wall, level and/or parallel with the window sill. Minimum mounting heights above the floor shall be as follows:

Minimum Mounting Height

Watts/Ft. Heater Length	Above Floor	
	Bottom Inlet	Front Inlet
125, 188 and 250 Watts/Ft.	1-3/4"	0"
376, 500, 625, and 750 Watts/Ft.	3"	0"

NOTE: Up to 3/4" thick floor covering, such as carpet, tiles, linoleum, etc., may be installed around and under the heater without adversely affecting the performance of the heaters.

CAUTION

IF HEATER IS INTENDED TO BE MOUNTED AGAINST VINYL WALL COVERINGS, STANDOFF KITS, CAT. NO. SO1 OR SO2 MUST BE USED. SEE INSTRUCTIONS SUPPLIED WITH KIT.

STEP FIVE – Installation (Single Unit)

Note: For ease of installation, it is important that the sequence of operations indicated below be followed in order.

1. Remove front cover by removing mounting screws (Figure 2a for Type ADB and ASH; Figure 2b for Type CSH and DSH).
2. Remove appropriate electrical knockout from either junction box. See Figure 3 for location of knockouts.

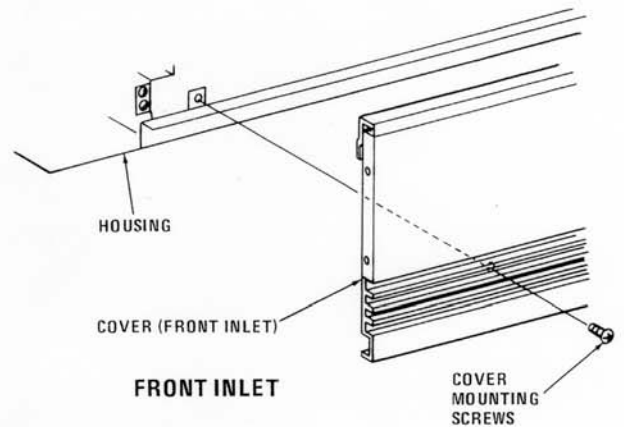
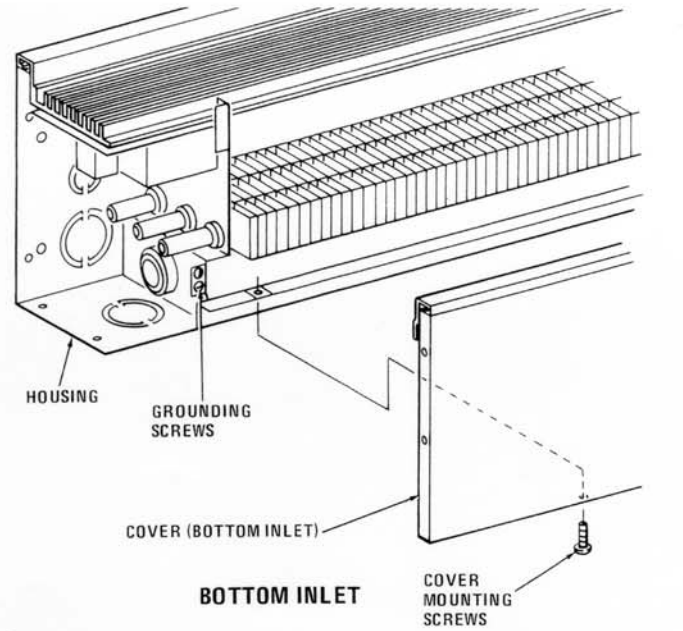


Figure 2a. (Type ADB and ASH)

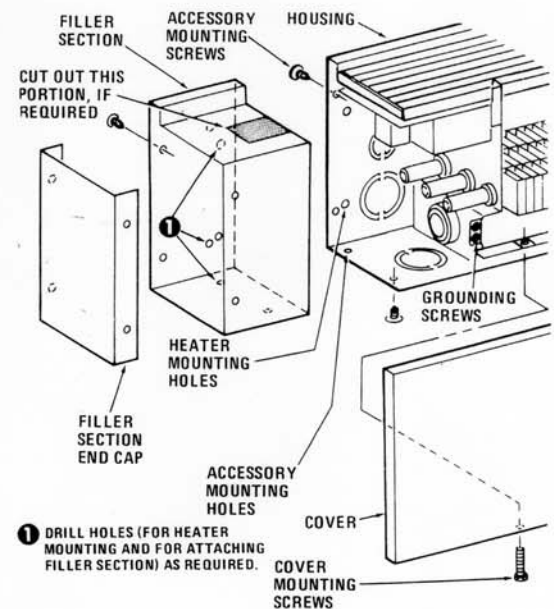
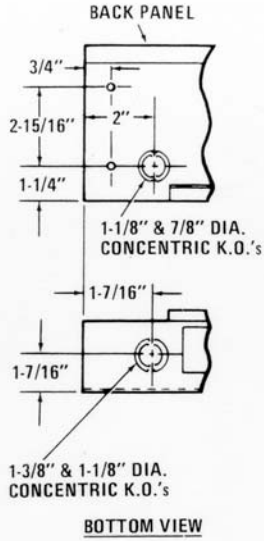
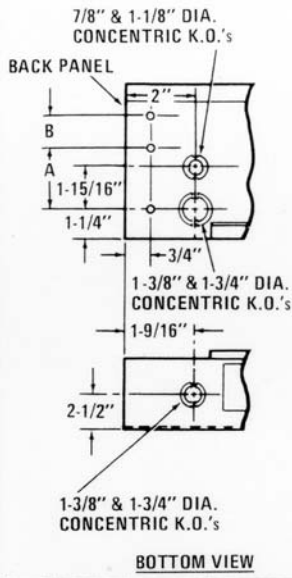


Figure 2b. (Type CSH and DSH)

05A Units
(TYPICAL BOTH ENDS)



07A and 14A Units
(TYPICAL BOTH ENDS)



	07A	14A
A	4"	5"
B	N/A	5"

Figure 3.

3. Install end caps (must be purchased separately) on both ends of the heater housing. Refer to Figure 4a (for Type CSH and DSH) or Figure 4b (for Type ADB and ASH) for details of end cap installation.
4. **Type ADB and ASH Only.** If filler section is desired to terminate the heater, first install filler section trim pieces on heater (Figure 5). Then install the filler section in the end of the heater and extend to the desired length. Mark the mounting hole locations, remove the filler section and drill the required mounting holes. Install the filler section as shown in Figure 5. (If necessary, cut away a portion of the filler section to allow access to optional controls.)
5. **Type CSH and DSH Only.** If filler section is desired to terminate the heater, install the filler section in the end of the heater and extend to desired length. Mark the mounting hole locations, remove the filler section and drill the required mounting holes. Install the filler section in the heater and the end cap on the filler section as shown in Figure 2b.

NOTE: If a thermostat and/or disconnect switch are installed in the heater left junction box, it may be necessary to cut away a portion of the filler section to allow access to these controls (Figure 2b).

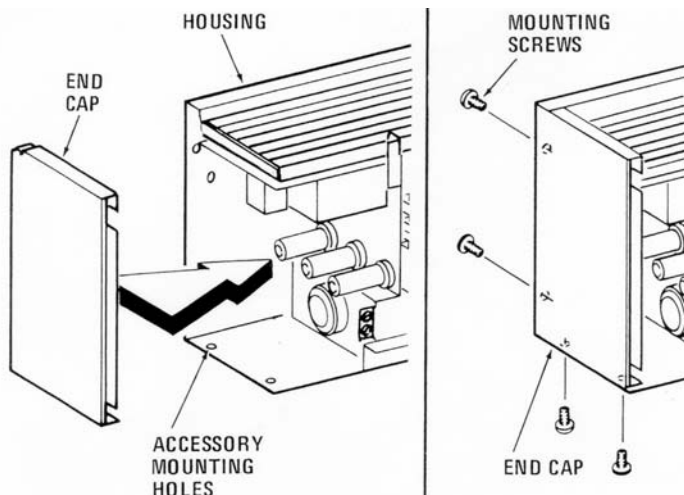


Figure 4a. (Type CSH and DSH)

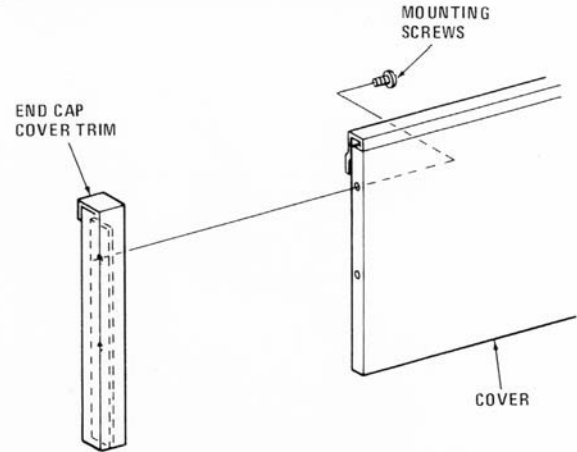
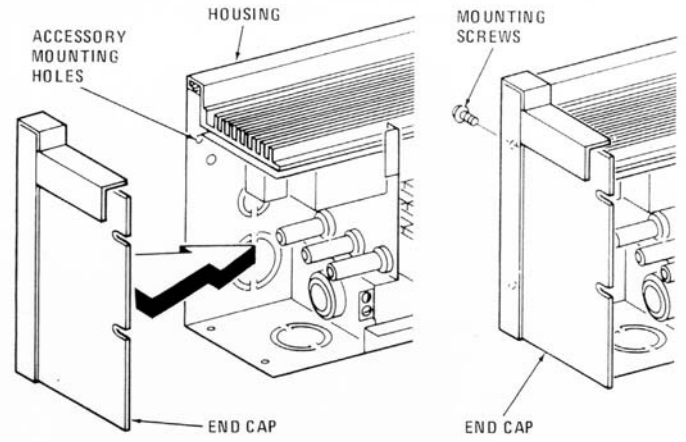
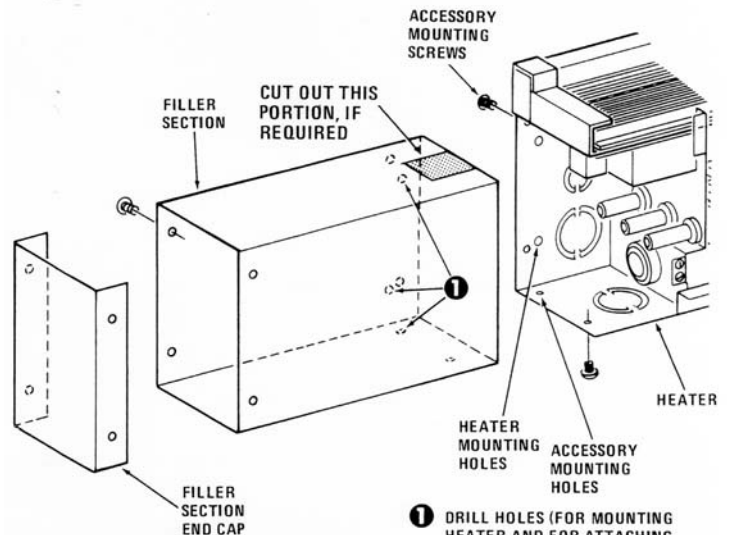
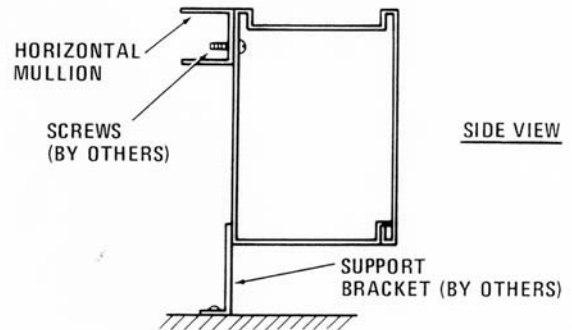


Figure 4b. (Type ADB and ASH)



① DRILL HOLES (FOR MOUNTING HEATER AND FOR ATTACHING FILLER SECTION) AS REQUIRED.

Figure 5. (Type ADB and ASH)

5. Position heater housing on wall to check for evenness of wall. do not draw the heater against an uneven wall surface. If an uneven wall is encountered, use shims to keep the heater housing straight.
6. Run proper size branch circuit to the junction box through the selected knockout.
7. Drill the required size mounting holes in the back of the heater housing and install the housing on the wall using screws, bolts or anchors (by installer) to suit the wall construction.

NOTE: Predrilled 1/4" diameter mounting holes are provided in each junction box. Additional mounting holes will have to be drilled in the housing to support the weight of long length heaters (6' and longer). Do not drill any additional holes in the junction boxes.

8. Tighten mounting screws and back off 1/2 turn to allow for expansion and contraction of the heater.
9. Following the wiring diagram secured to the heater, make electrical connections. Ground the heater using the ground screws provided (Figure 2a or 2b).
10. Replace front cover and secure with mounting screws. (See Figure 2a or 2b).
11. If the heater is equipped with a built-in thermostat, adjust the shaft to the mid-range and let the heater run for a few hours. If the room temperature is too hot, rotate the shaft counterclockwise; if too cool, rotate the shaft clockwise until a comfortable temperature is obtained. Let room temperature stabilize after each setting change.

NOTE: The thermostat adjustment shaft and the disconnect switch are accessible through the grille openings at the left end of the heater.

STEP SIX - Installation (Multiple Wall-to-Wall Units) (Type ADB and ASH Only)

Note: For ease of installation, it is important that the sequence of operations indicated below be followed in order.

1. Remove all the front covers from the heaters by removing mounting screws (Figure 2a).
2. Refer to wiring diagram for power supply entry and remove appropriate electrical knockout (Figure 3) from the heater in which power supply connections are to be made. The power supply may be brought in to the end of only one heater and the remaining heaters may be connected in parallel using the wireway. Use Table B to size the field installed wiring in the wireway.
3. If required by plan, install filler section kit (1, Figure 1a) to either heater (2) or (3). Refer to Figure 6 for installation details. (Discard filler section kit end cap in this application).

NOTE: Heaters may be butted against each other by using splice plate kit, thus eliminating the filler section kit, if so desired. (See Figure 7.) When installing a run of butted heaters using splice plates, install a back / grille splice plate on the end of the first heater and attach to wall. Then attach back / grille splice plates to same end of remaining heaters in the run and attach to wall. Install left and right cover splice plates on every other heater cover in the run.

NOTE: If a heater has a disconnect switch and / or thermostat and is to have a filler section at the left end, the section must be mounted to the heater since the thermostat or disconnect switch will prevent the section from telescoping into the heater.

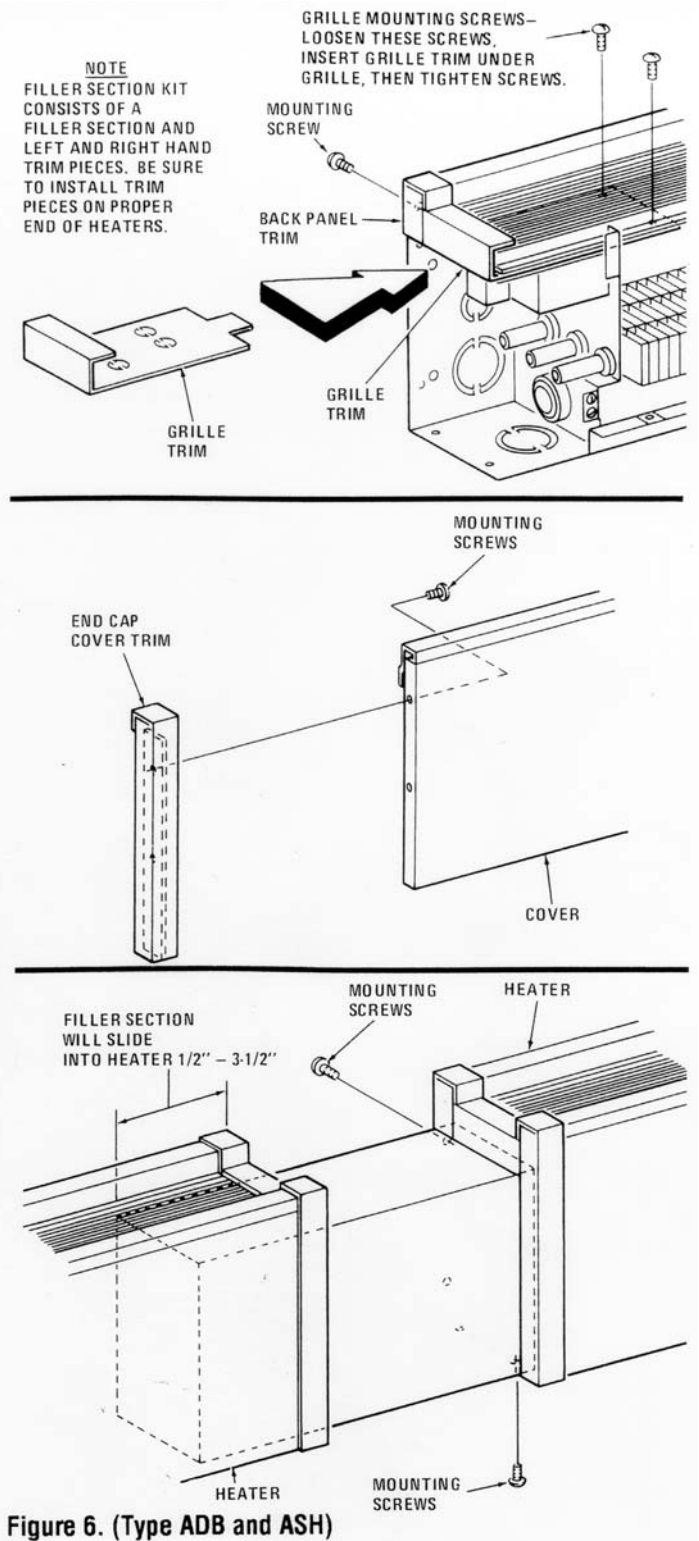


Figure 6. (Type ADB and ASH)

4. If the wall run has inside or outside corners, first install back /grille splice plates (10, Figure 1a) on the ends of the corner sections (See Figure 7). Then install corner (4) on the wall using screws, bolts or anchors (by installer) through the four mounting holes provided in the corner.
5. Install end caps(6) on the outer end o the last heater(7) and (9). (Refer to Figure 4b for details of end cap installation.)
6. Drill the required size mounting holes in all the heater housings.

NOTE: Predrilled 1/4" diameter mounting holes are provided in each junction box. These holes may be used only when no slip-in accessory is to be installed in that end of the heater (such as when heaters (3 and 7) are butted together as shown in Figure 1a). Additional mounting holes will have to be drilled in the housing to support the weight of long length heaters(6' and longer). Do not drill any additional holes in junction boxes.

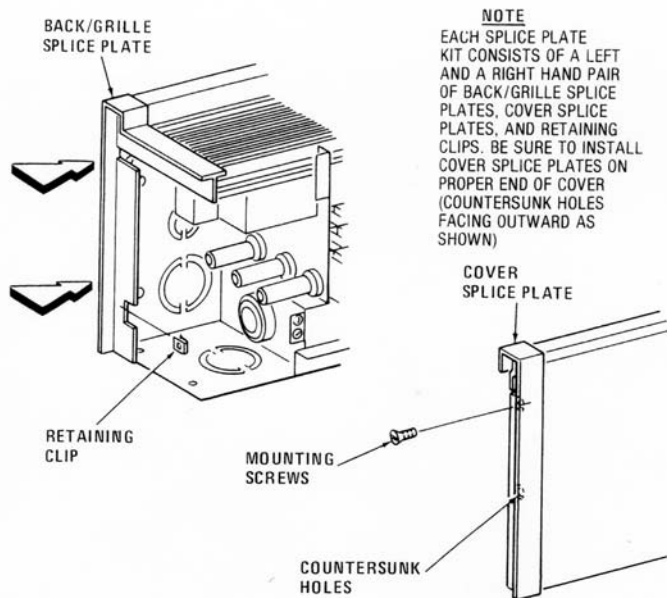


Figure 7. (Type ADB and ASH)

7. check for evenness of wall. Do not draw the heaters against an uneven wall surface. If an uneven wall is encountered, use shims to keep the heater housing straight.
8. Run proper size branch circuit to the junction box through the selected knockout.
9. Mount the heater (2, Figure1a) on the wall butted against splice plate (10), using screws, bolts or anchors (by installer) to suit the wall construction.
10. Telescope the heater housing (3) over the filler section (1) by the desired amount and mount the housing to the wall.
11. Install heater (8) next to corner section (4).
12. Mount outside corner (5) and the remaining heaters as described above, making sure that the heaters with end caps are installed at the end of the run.

NOTE: Mount the remaining heaters as described above, making sure that the heaters with end caps are installed at the end of the run.

CAUTION

DO NOT OPERATE THE HEATER UNLESS THE OUTER END OF THE LAST HEATERS OF THE RUN ARE CLOSED WITH END CAPS.

13. Blank sections, if any are installed in the same manner as the heaters.
14. Control sections, if any, are installed in the same manner as heaters. Refer to wiring diagram on control sections for connecting the wiring to the heaters.

NOTE: 75°C field wiring may be run through the blank sections, filler sections and corner sections.

15. Following the wiring diagram secure to the heater, make the electrical connections. Refer to Figure 11 to connect the other heaters in parallel. Grounding of the other heaters is accomplished by connecting a jumper wire (not supplied) between the two adjacent heaters.

16. Replace front covers, and secure with mounting screws. (Figure 1).
17. If the heaters are equipped with built-in thermostat, adjust the shaft to the mid-range and let the heaters run for a few hours. If the room temperature is too hot, rotate the shaft counterclockwise; if too cool, rotate the shaft clockwise until a comfortable temperature is obtained. Let room temperature stabilize after each setting change.

NOTE: The thermostat adjustment shaft and the disconnect switch are accessible through the grill openings at the end of the heater.

STEP SIX- installation (Multiple Wall- to Wall Units) (Type CSH and DSH Only)

NOTE: For ease of installation, it is important that the sequence of operations indicated below be followed in order.

1. Remove all the front covers from the heaters by removing mounting screws (Figure 2b).
2. Refer to wiring diagram for power supply entry and remove appropriate electrical knockout (Figure3) from the heater in which power supply connections are to be made. The power supply may be brought in to the end of only one heater and the remaining heaters may be connected in parallel using the wireway. Use Table B to size the field installed wiring in the wireway.
3. If conduit cover (must be purchased separately) is desired, cut off the appropriate length and install to the wall.
4. If required by plan, install filler section (1, Figure 1b) to either heater (2) or (3) by means of four #6 screws supplied with filler section. (Refer to Figure 8.) Discard filler section end cap in this application.

NOTE: Heaters may butt against each other, thus eliminating the filler piece, if so desired.

NOTE: If a heater has a disconnect switch and / or thermostat and is to have a filler section or a corner section at the left end, the section must be mounted to the heater since the thermostat or disconnect switch will prevent the section from telescoping into the heater.

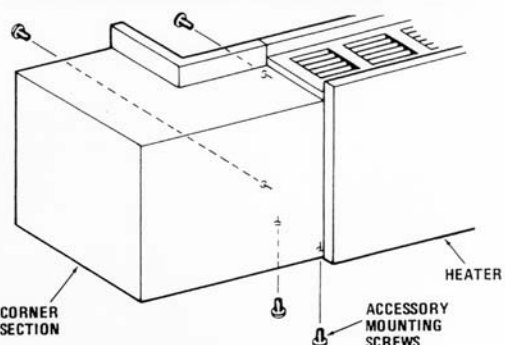
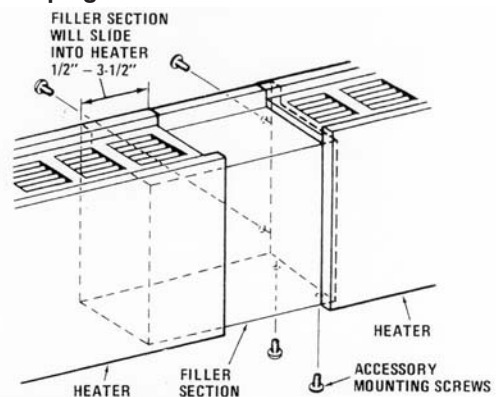


Figure 8. (Type CSH and DSH)

5. If the wall run has inside or outside corners, install corner (4 and 5) to the heater (2 and 9) by means of four #6 screws supplied with corner section. (Refer to Figure 8).
6. Install end caps (6) on the outer end of the last heater(7) and (9) using four #6 screws supplied with end caps. (Refer to Figure 4a for details of end cap installation.)
7. Drill the required size mounting holes in all the heater housings.

NOTE: Predrilled 1/4" diameter mounting holes are provided in each junction box. These holes may be used only when no slip-in accessory is to be installed in that end of the heater (such as when heater(3 and 7) are butted together as shown in Figure 1b). Additional mounting holes will have to be drilled in the housing to support the weight of long-length heaters (6' and longer). Do not drill any additional holes in junction boxes.

8. Check for evenness of wall. Do not draw the heaters against an uneven wall surface. If an uneven wall is encountered, use shims to keep the heater housing straight.
9. Run proper size branch circuit to the junction box through the selected knockout.
10. Mount the heater (2, Figure 1b) on the wall using screws, bolt or anchors (by installer) to suit the wall construction.
11. Telescope the heater housing (3) over the filler section (1) by the desired amount and mount the housing to the wall.
12. Telescope the heater housing (8) over the corner section (4) by the desired amount and mount the housing to the wall.
13. Mount the remaining heaters as described above, making sure that the heaters with end caps are installed at the end of the run.

CAUTION

DO NOT OPERATE THE HEATER UNLESS THE OUTER END OF THE LAST HEATERS OF THE RUN ARE CLOSED WITH END CAPS.

14. Blank sections, if any are installed in the same manner as the heaters.

NOTE: 75°C field wiring may be run through the blank sections, filler sections and corner sections.

15. Control sections, if any are installed in the same manner as heaters. Refer to wiring diagram on control sections for connecting the wiring to the heaters

STEP SEVEN - Installation (Mullion-to-Mullion Units)

The back of the heater housing contains no mounting holes (other than those at the ends) and therefore is ideal for installation in front of glass curtain walls. The housing back presents an attractive appearance when viewed from the outside through the glass wall.

Installation procedures are similar to those for wall-to-wall installation (Step Six) except for the following differences.

1. Attach the housing to the mullion using the mounting holes provided in the junction boxes as shown in Figure 9.
2. On horizontal mullion installation, install support brackets as shown in Figure 10.

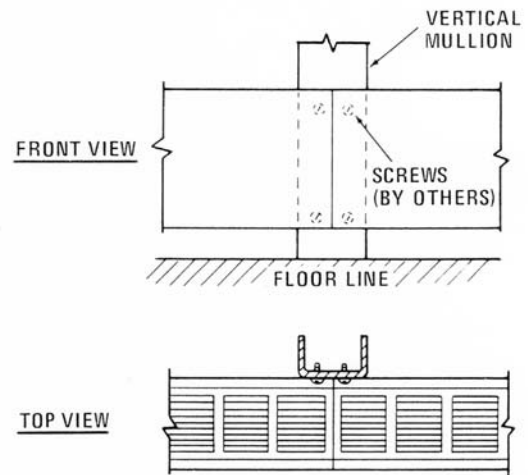


Figure 9.

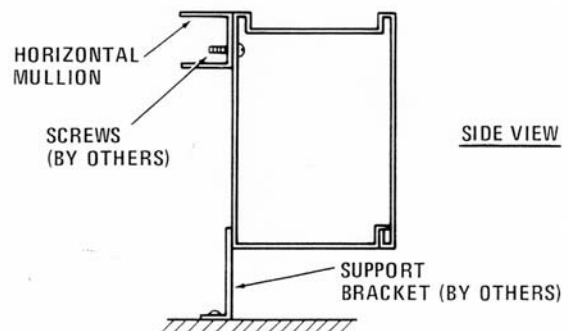


Figure 10.

TYPICAL WIRING OF MULTIPLE HEATERS (WITHOUT CONTROLS)

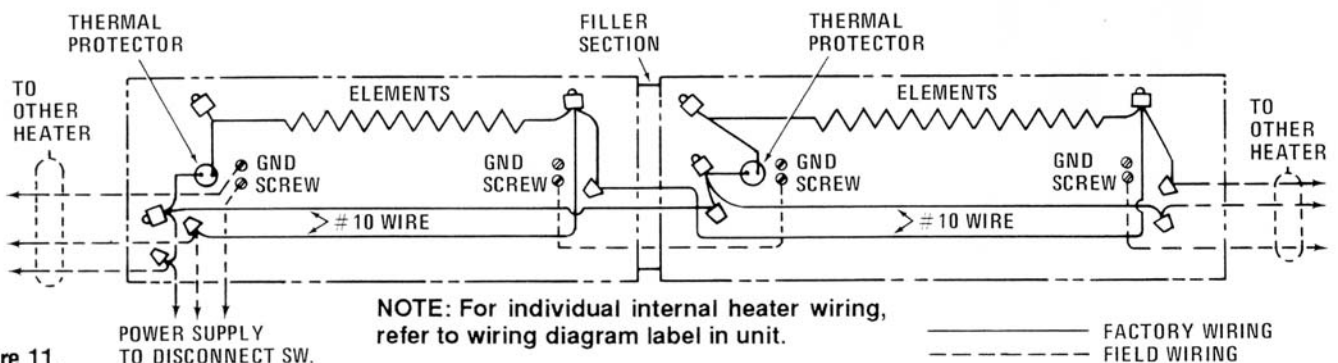
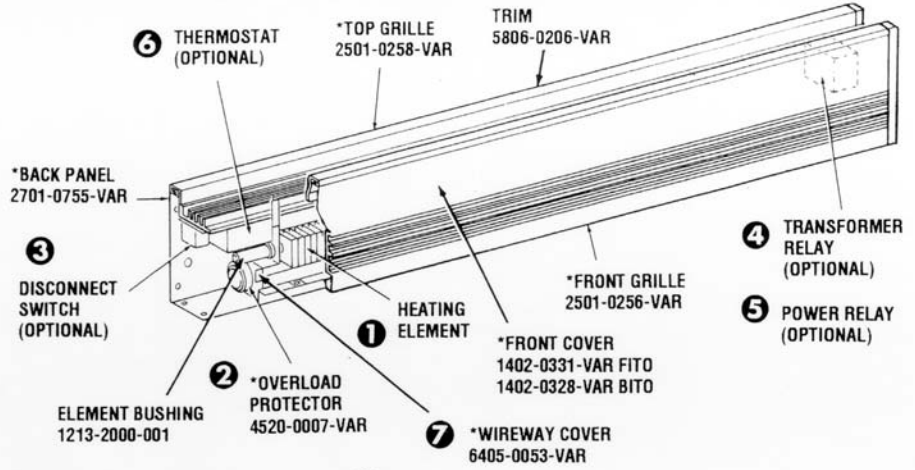
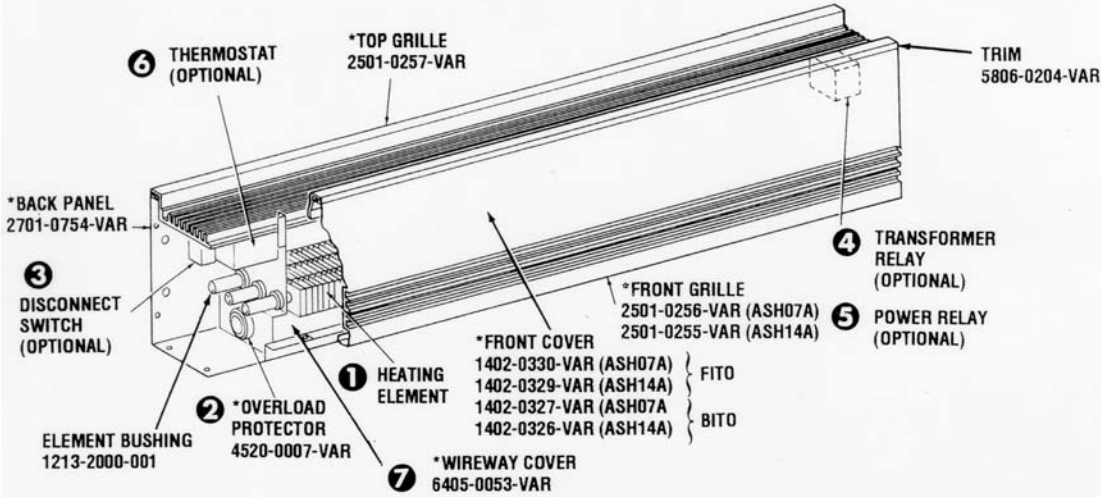


Figure 11.

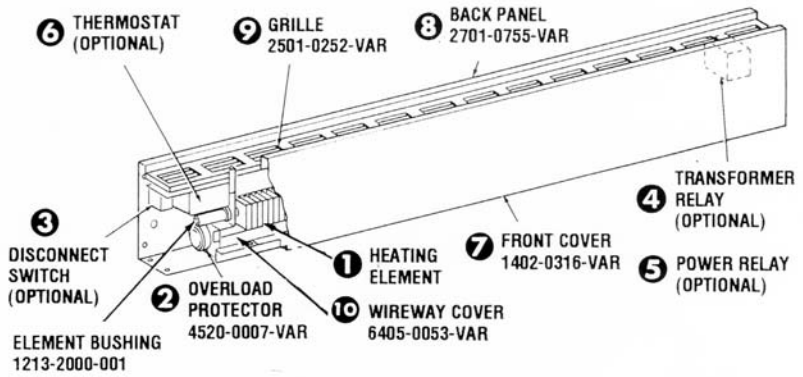
ADB05A



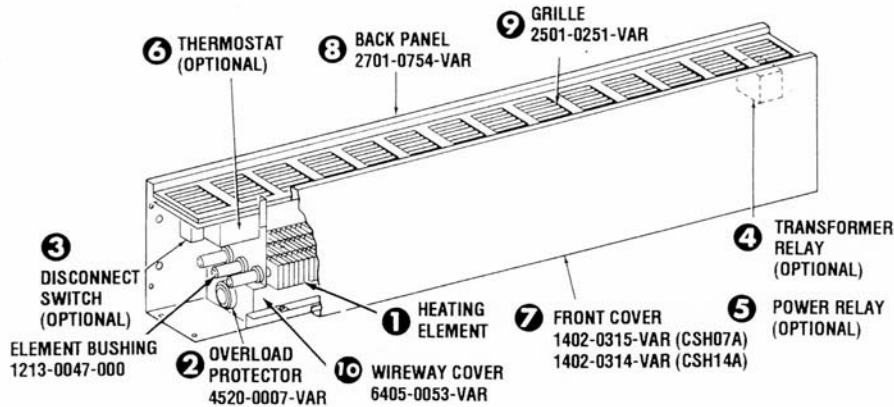
ASH07A ASH14A



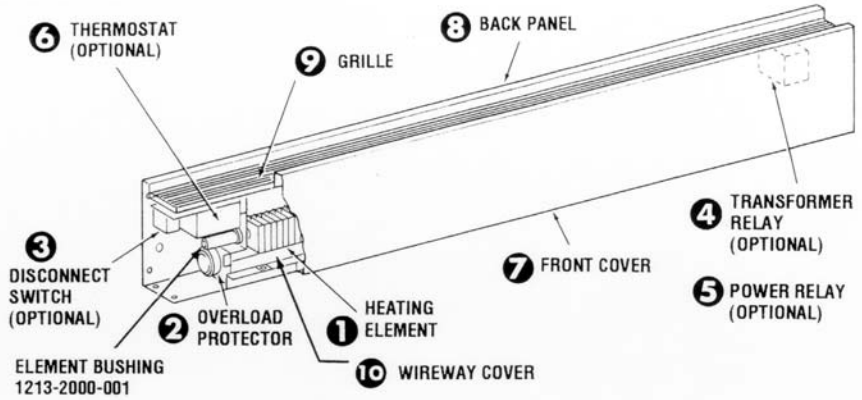
CSH05A



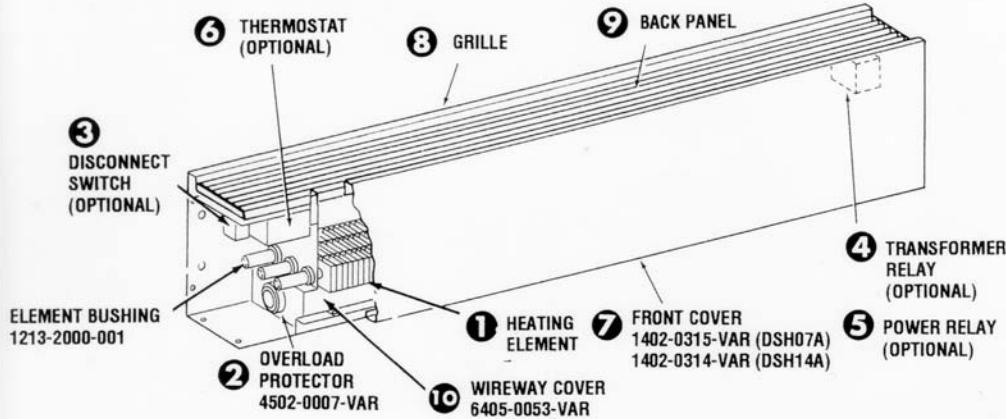
CSH07A CSH14A



DSH05A



DSH07A DSH14A



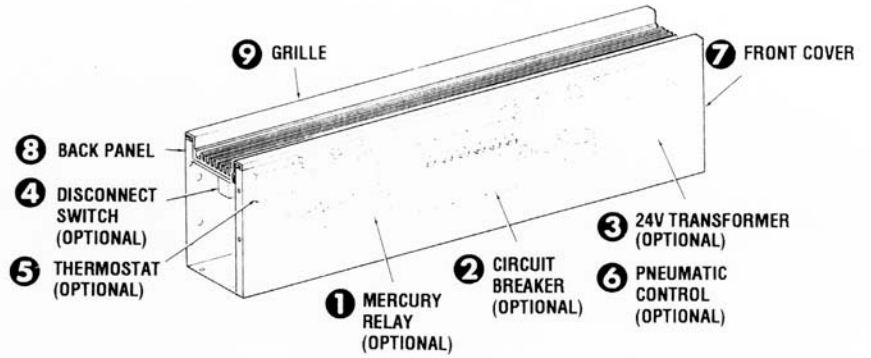
① Heating Element (Part No. Prefix 1802-2001)

Description		Heater Length						
		28"	3'	4'	5'	6'	8'	10'
125 W/Ft. per Element	120 volts	085	087	089	091	093	-	-
	208 volts	086	088	090	092	094	095	096
	240 volts	048	054	060	066	072	077	081
	277 volts	049	055	061	067	073	078	082
188 W/Ft. per Element	120 volts	005	011	017	023	029	-	-
	208 volts	002	008	014	020	026	032	036
	240 volts	001	007	013	019	025	031	035
250 W/Ft. per Element	277 volts	000	006	012	018	024	030	034
	120 volts	004	010	016	022	028	-	-
	208 volts	003	009	015	021	027	033	037
	240 volts	002	008	014	020	026	032	036
	277 volts	001	007	013	019	025	031	035

Built-in Controls (Optional)

Description		Part Number	
		07A and 14A Units	05A Units
③ Disconnect Switch		5216-0124-000	5216-0124-000
④ Transformer Relay	120 Volt	R13700002B001	410043001
	208 Volt	R13700002B002	410043002
	240 Volt	R13700002B003	410043003
	277 Volt	R13700002B004	410043004
⑤ Power Relay	24 Volt	5018-2006-000	5018-2006-000
	120 Volt	5018-2006-001	5018-2006-001
	208/240 Volt	5018-2006-002	5018-2006-002
	277 Volt	5018-2006-003	5018-2006-003
⑥ Thermostat	1 Pole	5813-0024-000	5813-0024-000
	2 Pole	5813-0023-000	5813-0023-000

RENEWAL PARTS IDENTIFICATION ASHCRA, CSHCRA, DSHCRA



Optional Controls

Description	Part Number
Mercury relay, 1-pole, 30 amps, 24-volt coil	5018-7050-001
Mercury relay, 1-pole, 60 amps, 24-volt coil	5018-7049-001
Mercury relay, 1-pole, 30 amps, 120-volt coil	5018-7050-002
Mercury relay, 1-pole, 60 amps, 120-volt coil	5018-7049-002
Mercury relay, 1-pole, 30 amps, 208-volt coil	5018-7050-003
Mercury relay, 1-pole, 60 amps, 208-volt coil	5018-7049-003
Mercury relay, 1-pole, 30 amps, 240-volt coil	5018-7050-004
Mercury relay, 1-pole, 60 amps, 240-volt coil	5018-7049-004
Mercury relay, 1-pole, 30 amps, 227-volt coil	5018-7050-005
Mercury relay, 1-pole, 60 amps, 227-volt coil	5018-7050-005

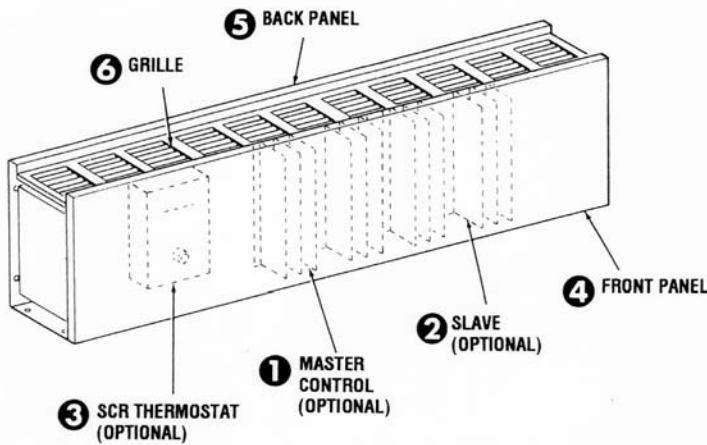
Optional Controls (con't)

Description	Part Number
Circuit breaker, 2-pole, 30 amps	1226-7009-013
Circuit breaker, 2-pole, 60 amps	1226-7009-010
Circuit breaker, 3-pole, 30 amps	1226-7009-005
Circuit breaker, 3-pole, 60 amps	1226-7009-002
24V Transformer, 120-volt primary	5814-7017-007
24V Transformer, 208-volt primary	5814-7017-002
24V Transformer, 240-volt primary	5814-7017-007
24V Transformer, 227-volt primary	5814-7017-001
Disconnect switch	5216-0124-000
Thermostat, 1-pole	5813-0024-000
Thermostat, 2-stage	5813-0023-000
Pneumatic Control	5216-7027-001

- 1 MERCURY RELAY (OPTIONAL)
- 2 CIRCUIT BREAKER (OPTIONAL)
- 3 24V TRANSFORMER (OPTIONAL)
- 4 DISCONNECT SWITCH (OPTIONAL)
- 5 THERMOSTAT (OPTIONAL)
- 6 PNEUMATIC CONTROL (OPTIONAL)
- 7 FRONT COVER
- 8 BACK PANEL
- 9 GRILLE

For part numbers, refer to the Renewal Parts Identification covering the appropriate height heater (7" or 14"), and then select the front, back panel, or grille listed under the 28" length.

RENEWAL PARTS IDENTIFICATION ASHCSA, CSHCSA, DSHCSA



Optional Controls

Description	Part Number
Master Control 208/240 Volts	1414-0038-000
Master Control 277 Volts	1414-0038-001
Slave 208/240 Volts	1414-0039-000
Slave 277 Volts	1414-0039-001
SCR thermostat	5813-0017-000

- 1 MASTER CONTROL (OPTIONAL)
- 2 SLAVE (OPTIONAL)
- 3 SCR THERMOSTAT (OPTIONAL)
- 4 FRONT PANEL
- 5 BACK PANEL
- 6 GRILLE

For part numbers, refer to the Renewal Parts Identification covering the appropriate height heater (7" or 14"), and then select the front, back panel, or grille listed under the 28" length.

ACCESSORIES DATA

CSH05A, CSH07A and CSH14A

Description	Catalog Number			Length Addition "N"	
	CSH05A	CSH07A	CSH14A		
End Cap-Left	CSH05-ECL(R)	CSH07-ECL(R)	CSH14-ECL(R)	1/8"	
End Cap-Right	CSH05-ECR(R)	CSH07-ECR(R)	CSH14-ECR(R)	1/8"	
Filler Section	CSH05-FL3(R)	CSH07-FL3(R)	CSH14-FL3(R)	0" 3"	
	CSH05-FL6(R)	CSH07-FL6(R)	CSH14-FL6(R)	3" 6"	
	CSH05-FL9(R)	CSH07-FL9(R)	CSH14-FL9(R)	6" 9"	
	CSH05-FL12(R)	CSH07-FL12(R)	CSH14-FL12(R)	9" 12"	
	CSH05-FL18(R)	CSH07-FL18(R)	CSH14-FL18(R)	15" 18"	
Inside Corner	CSH05-IC1	—	—	3-12"	
	—	CSH07-IC1	CSH14-IC-1	5-1/2"	
Outside Corner	CSH05-OC-1	CSH07-OC-1	CSH14-OC-1	1/2"	
	CSH05-BL2-1	CSH07-BL2-1	CSH14-BL2-*	28"	
Blank Section	CSH05-BL3-1	CSH07-BL3-1	CSH14-BL3-*	3'	
	CSH05-BL4-1	CSH07-BL4-1	CSH14-BL4-*	4'	
	CSH05-BL5-1	CSH07-BL5-1	CSH14-BL5-*	5'	
	CSH05-BL6-1	CSH07-BL6-1	CSH14-BL6-*	6'	
	CSH05-BL8-1	CSH07-BL8-1	CSH14-BL8-*	8'	
	CSH05-BL10-1	CSH07-BL10-1	CSH14-BL10-*	10'	
	Blank Control Section	—	CSH07-BCS-1	CSH14-BCS-*	28"
	Conduit Cover	SHCC-05	SHCC-07-14	SHCC-07-14	—

* Add suffix "1" for bottom inlet top outlet.
 Add suffix "3" for bottom inlet front outlet.
 † Intended for the installation of components.
 (R) Suffix on catalog number refers to accessories with 120 VAC receptacle.

DSH05A, DSH07A and DSH14A

Description	Catalog Number			Length Addition "N"	
	DSH05A	DSH07A	DSH14A		
End Cap-Left	DSH05-ECL(R)	DSH07-ECL(R)	DSH14-ECL(R)	1/8"	
End Cap-Right	DSH05-ECR(R)	DSH07-ECR(R)	DSH14-ECR(R)	1/8"	
Filler Section	DSH05-FL3(R)	DSH07-FL3(R)	DSH14-FL3(R)	0" 3"	
	DSH05-FL6(R)	DSH07-FL6(R)	DSH14-FL6(R)	3" 6"	
	DSH05-FL9(R)	DSH07-FL9(R)	DSH14-FL9(R)	6" 9"	
	DSH05-FL12(R)	DSH07-FL12(R)	DSH14-FL12(R)	9" 12"	
	DSH05-FL18(R)	DSH07-FL18(R)	DSH14-FL18(R)	15" 18"	
Inside Corner	DSH05-IC1	—	—	3-12"	
	—	DSH07-IC1	DSH14-IC1	5-1/2"	
Outside Corner	DSH05-OC-1	DSH07-OC-1	DSH14-OC-1	1/2"	
	DSH05-BL2-1	DSH07-BL2-1	DSH14-BL2-1	28"	
Blank Section	DSH05-BL3-1	DSH07-BL3-1	DSH14-BL3-1	3'	
	DSH05-BL4-1	DSH07-BL4-1	DSH14-BL4-1	4'	
	DSH05-BL5-1	DSH07-BL5-1	DSH14-BL5-1	5'	
	DSH05-BL6-1	DSH07-BL6-1	DSH14-BL6-1	6'	
	DSH05-BL8-1	DSH07-BL8-1	DSH14-BL8-1	8'	
	DSH05-BL10-1	DSH07-BL10-1	DSH14-BL10-1	10'	
	Blank Control Section	—	DSH07-BCS-1	DSH14-BCS-1	28"
	Conduit Cover	SHCC-05	SHCC-07-14	SHCC-07-14	—

† Intended for the installation of components.
 (R) Suffix on catalog number refers to accessories with 120 VAC receptacle.

ADB05A, ASH07A and ASH14A

Description	Catalog Number			Length Addition "N"
	ADB05A	ASH07A	ASH14A	
End Cap-Left	ADB05-ECL (R)	ASH07-ECL(R)	ASH14-ECL(R)	1/4"
End Cap-Right	ADB05-ECR(R)	ASH07-ECR(R)	ASH14-ECR(R)	1/4"
Filler Section Kit	ADB05-FL3(R)	ASH07-FL3(R)	ASH14-FL3(R)	0" 3"
	ADB05-FL6(R)	ASH07-FL6(R)	ASH14-FL6(R)	3" 6"
	ADB05-FL9(R)	ASH07-FL9(R)	ASH14-FL9(R)	6" 9"
	ADB05-FL12(R)	ASH07-FL12(R)	ASH14-FL12(R)	9" 12"
Inside Corner (Bottom Inlet)	ADB05-IC-1	ASH07-IC-1	ASH14-IC-1	6"
Inside Corner (Front Inlet)	ADB05-IC-2	ASH07-IC-2	ASH14-IC-2	6"
Outside Corner (Bottom Inlet)	ADB05-OC-1	ASH07-OC-1	ASH14-OC-1	3"
Outside Corner (Front Inlet)	ADB05-OC-2	ASH07-OC-2	ASH14-OC-2	3"
Blank Section	ADB05-BL2*	ASH07-BL2*	ASH14-BL2-*	28"
	ADB05-BL3*	ASH07-BL3*	ASH14-BL3-*	3'
	ADB05-BL4*	ASH07-BL4*	ASH14-BL4-*	4'
	ADB05-BL5*	ASH07-BL5*	ASH14-BL5-*	5'
	ADB05-BL6*	ASH07-BL6*	ASH14-BL6-*	6'
	ADB05-BL8*	ASH07-BL8*	ASH14-BL8-*	8'
	ADB05-BL10*	ASH07-BL10*	ASH14-BL10-*	10'
	Blank Control Section	N/A	ASH07-BSC*	ASH14-BSC-*
Splice Plate Kit (Left and right Pair)	ADB05-SP	ASH07-SP	ASH14-SP	1/16"

* Add suffix "1" for bottom inlet, top outlet, add suffix "2" for front inlet, top outlet.
 † Not intended for the installation of components.
 (R) Suffix on catalog number refers to accessories with 120VAC receptacle.

LIMITED WARRANTY

All products manufactured by Marley Engineered Products are warranted against defects in workmanship and materials for one year from date of installation, except heating elements which are warranted against defects in workmanship and materials for five years from date of installation. This warranty does not apply to damage from accident, misuse, or alteration; nor where the connected voltage is more than 5% above the nameplate voltage; nor to equipment improperly installed or wired or maintained in violation of the product's installation instructions. All claims for warranty work must be accompanied by proof of the date of installation.

The customer shall be responsible for all costs incurred in the removal or reinstallation of products, including labor costs, and shipping costs incurred to return products to Marley Engineered Products Service Center. Within the limitations of this warranty, inoperative units should be returned to the nearest Marley authorized service center or the Marley Engineered Products Center, and we will repair or replace, at our option, at no charge to you with return freight paid by Marley. It is agreed that such repair or replacement is the exclusive remedy available from Marley Engineered Products.

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HOW TO OBTAIN WARRANTY SERVICE AND WARRANTY PARTS PLUS GENERAL INFORMATION

1. Warranty Service or Parts **1-800-642-4328**
2. Purchase Replacement Parts **1-800-654-3545**
3. General Product Information **www.marleymep.com**

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Note: When obtaining service always have the following:

1. Model number of the product
2. Date of manufacture
3. Part number or description

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