

### MULTI/PAK® 90, 93 & 95

2-piece fin-tube enclosure. Factory packaged. Prepainted. In

stock.

Application:

Style: Slope-top and flat-top. Aluminum

grille optional (90 & 95). Commercial heating.

Hot water or steam. Output: 373 to 3140 Btu/hr.

Elements: Choice of 12. Copper/aluminum

or steel.

Finish: Nu-White baked enamel or custom colors.

On your commercial heating jobs, select the product that installs faster, looks better, lasts longer and saves money --Multi/Pak 90. These 2-piece fin-tube enclosures are fully packaged and in stock at our factory and local Slant/Fin wholesale distributors.

Multi/Pak 90 provides what you need:

- · slope-top and flat-top styling
- · wide choice of elements for hot water or steam
- · precision built accessories



Multi/Pak 90 Series page 4-10

### **FS SERIES**

Free standing fin-tube enclosure.

Style: Pedestal mounted enclosure. Application: Commercial heating.

Hot water or steam. 581 to 3339 Btu/hr.

Output: Choice of 6. Copper/aluminum Elements:

or steel.

Finish: Galvanized or custom colors.



page 18-19

### **BG SERIES**

1-piece fin-tube enclosure.

Slope top and bottom. Application: Commercial heating. Hot water

or steam.

Ideal for upper wall installation. 540 to 2548 Btu/hr.

Output: Choice of 6. Copper/aluminum Elements:

or steel.

Finish: Galvanized or custom colors.



page 20-21 **TBG** 

### J SERIES

1-piece fin-tube enclosure.

Style: Slope-top

Commercial heating. Hot water Application:

or steam.

599 to 3854 Btu/hr. Output: Elements: Choice of 6. Copper/aluminum

or steel.

Finish: Galvanized or custom colors.



page 10-11

### MULTI/PAK® 80 SERIES

High output baseboard radiation.

Style: Low-profile baseboard. Application: Light commercial or deluxe

residential heating. Hot water or

steam.

420 to 1200 Btu/hr. Output:

Elements: Choice of 5. Copper/aluminum or steel.

Nu-White baked enamel. Finish:



page 22-23

80

### HD SERIES & LC SERIES

Heavy duty slope-top baseboard.

Style: Slope-top, louvered baseboard. Application: Rugged duty residential or light

commercial heating. Hot water or steam.

360 to 1660 Btu/hr. Output:

Elements: Choice of 5. Copper/aluminum

or steel.

Finish: Galvanized or custom colors.



page 12-13

### F&EM SERIES

1-piece element covers.

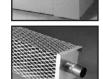
F-Series: Louvered top. Style: EM Series: Expanded metal Application: Industrial hot water or steam. Output:

F Series: 563 to 3497 Btu/hr. EM Series: 581 to 4158 Btu/hr.

Elements: Choice of 6. Copper/aluminum

or steel.

Finish: Galvanized or custom colors.



page 24-25 F/EM

### 350 SERIES

High output slope-top baseboard.

Style: Slope-top, louvered baseboard. Application: Light commercial heating. Hot

water or steam

460 to 2250 Btu/hr. Output:

Choice of 5. Copper/aluminum Elements:

or steel.

Application:

Nu-White baked enamel or galvanized. Finish:



page 14-15 350

### BARE ELEMENTS

Highest quality fin-tube for single or multi-tier installation.

Application: With Slant/Fin enclosures or as

bare element installation.

To 4316 Btu/hr. Elements: Choice of 12. Copper/aluminum

or steel.

Output:



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### SERIES

1-piece fin-tube enclosure.

Style: Flat-top. Aluminum grille optional.

(Top outlet only) (Front outlet optional 14" thru 28")

Commercial heating. Hot water or steam.

Output: 554 to 3770 Btu/hr.

Elements: Choice of 6. Copper/aluminum

or steel.

Finish: Galvanized or custom colors

RT= Top Outlet RF= Front Outlet





page 16-17 RF

### TH SERIES

Trough Heater is a floor recessed commercial finned tube heater.



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### ENGINEERING DATA

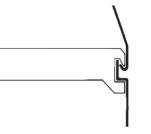
Ratings Data Specifications (Refer to pages 29-35)



page 29-35

### **Cover panels**

18 gauge top cover and front cover interlock in rigid support arm channel. Lateral bends in top and front cover, plus strength of support arm, give assembled enclosure exceptional rigidity.

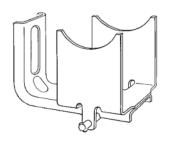




MULTI/PAK®
SERIES

### **Element support - SC Hanger**

- Electro-galvanized bracket has fastening slot that allows 1½" pitch adjustment.
- Electro-galvanized cradle supports finned or bare tubing at same height.
- Sliding guide rod provides full cradle width support. 15% " lateral movement permits smooth, noiseless expansion.

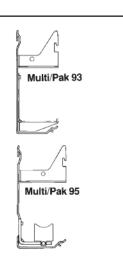


### **Pencil-proof louvers**

Minimize "see through."

# Multi/Pak 93 and 95 wall brackets

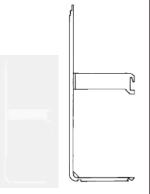
- Extra-heavy 11 gauge wall bracket and panel support arm are die formed with multiple bends that add strength.
- Multi/Pak 93 element hanger permits %6" pitch adjustment. Self-adjusting polypropylene expansion cradle on "H" and "E" elements allow silent lateral expansion movement
- Multi/Pak 95 SC hangers are identical to Multi/Pak 90





# Multi/Pak 90 wall brackets

- Heavy duty 14 gauge wall bracket is drawn die formed with multidirectional bends that add strength.
- Mounting slots provide ¾" height adjustment.
- Large recessed "flat" prevents bracket from crushing wall surface when back panel is not used.



# Hanging Strip Provides additional rear support and seal Tamper-proof lock Locks front cover to lower arm of bracket Wall Gasketing For dustproof seal between top of cover and wall

### **Internal Splice Plate**

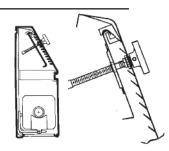
Cover sections butt to each other with a nearly seamless fit using the internal splice plate, optional for Multi/Pak 90 slope top enclosures. Eliminates need for an external splice plate.





### **Damper**

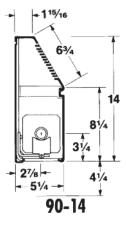
Knob operated damper (optional) is activated by precision lead screw and brass trunnion pitch block. Provides years of smooth operation. Damper for slope-top models is shown. Flat top models utilize a hinge type construction.

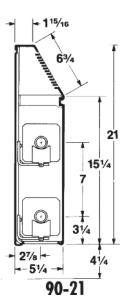






Aluminum grille optional.



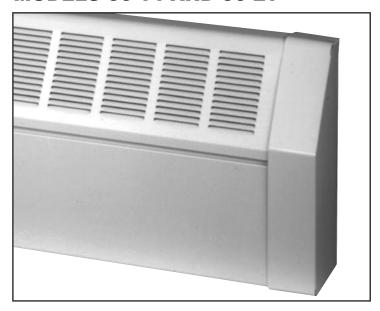


# MULTI/PAK® 90

SLOPE-TOP, TWO-PIECE ENCLOSURE

Pre-painted. Factory packaged.

### **MODELS 90-14 AND 90-21**



### ORDERING DATA

### Multi/Pak 90 Complete Enclosure Assembly

**PACKAGING**: Complete two-piece assembly factory packaged with necessary brackets and hangers.

**CONSTRUCTION**: Two-piece interlocking top cover/front cover mount on wall brackets. Lock in place to provide the same shape with better rigidity than one-piece covers.

**DEPTH**: 51/4"

HEIGHTS: 14" (one tier), 21" (one or two tier)

LENGTHS: 2', 3', 31/2', 4', 5', 6', 7', 8'.

**MATERIAL**: 18-gauge galvanized steel top and front cover. Stamped grille is standard.

Aluminum grille optional.

**FINISH**: Nu-White baked enamel (Standard) Galvanized or custom colors available on request.

WALL BRACKETS/HANGERS: Packaged with complete assembly. SC hanger has guide rod to provide 1 15% e" lateral expansion movement, 11%" vertical pitch adjustment. Brackets and hangers provided with complete assembly as follows:

|         | 90-      | 14      | 90       | -21     |
|---------|----------|---------|----------|---------|
| Length  | Brackets | Hangers | Brackets | Hangers |
| 2-5 ft. | 2        | 2       | 2        | 4       |
| 6-8 ft. | 3        | 3       | 3        | 6       |

**ELEMENTS**: Copper with aluminum fins: C-340, C-440, C-540. Steel with electro-galvanized steel fins: S-532, S-540, S-832. Lengths from 2 to 12 feet (Canada: 2 to 8 feet). See p. 30.

**JOINTS**: Cover section joints may be made with internal splice plates or telescopic external splice plates.

With the optional internal splice plate, cover sections but to each other with a nearly seamless fit.

Telescopic external splice plates, filler sleeves and other accessories make up odd inches and eliminate the need to perfectly butt one length of cover to the next. Critical linear and vertical tolerances are eliminated because telescopic assembly absorbs misalignment that might result from uneven floors and walls.

See pages 4-5 for description of features

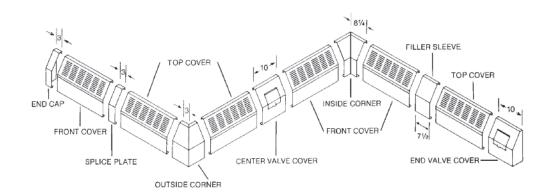


### With or without dampers

|                              | Enclo-         |  |  |  | Fins                             | Steam<br>1 PSI*<br>Btu/Hr.                   | BTU/HR./FT. (Flow Rate 3 Ft./Sec.)     |  |  |   |   |  |  |  |  |  |  |  |
|------------------------------|----------------|--|--|--|----------------------------------|--|--|--|--|---|---|--|--|--|--|--|--|--|
| Cover<br>Type                | sure<br>Height | Element<br>Type                                    | Tube Size<br>and Material  | Fin Size<br>& Material   | Per<br>Foot                      | Per<br>Foot                                  | 110°F                                  | 120°F                                  | 130°F                                  | 140°F                                     | 150°F                                       | 160°F  | 170°F  | 180°F  | 190°F  | 200°F  | 210°F  | 220°F  |
|                              |                | S-532<br>S-540                                     | 1¼" steel<br>1¼" steel   | 4½" steel<br>4½" steel   | 32<br>40                         | 1380<br>1550                                 | 276<br>310                             | 359<br>403                             | 455<br>512                             | 552<br>620                                | 621<br>698                                  | 731<br>822                                   | 842<br>946                                   | 952<br>1070                                  | 1076<br>1209                                 | 1187<br>1333                                 | 1311<br>1473                                 | 1449<br>1628                                 |
| 90-14                        | 14"            | S-832<br>C-340<br>C-440<br>C-540                   | 2" steel  ¾" copper  1" copper  1¼" copper                                 | 4½" steel<br>4½" alum.<br>4½" alum.<br>4½" alum.                           | 32<br>40<br>40<br>40             | 1400<br>1839<br>1950<br>1910                 | 280<br>368<br>390<br>382               | 364<br>478<br>507<br>497               | 462<br>607<br>644<br>630               | 560<br>736<br>780<br>764                  | 630<br>828<br>878<br>860                    | 742<br>975<br>1034<br>1012                   | 854<br>1122<br>1190<br>1165                  | 966<br>1269<br>1346<br>1318                  | 1092<br>1435<br>1521<br>1490                 | 1204<br>1582<br>1677<br>1643                 | 1330<br>1748<br>1853<br>1815                 | 1470<br>1932<br>2048<br>2006                 |
| 90-21<br>One-tier<br>element | 21"            | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1¼" steel 1¼" steel 2" steel ¾" copper 1" copper 1¼" copper                | 4¼" steel 4¼" steel 4¼" steel 4¼" alum. 4¼" alum. 4¼" alum.                | 32<br>40<br>32<br>40<br>40<br>40 | 1460<br>1680<br>1520<br>2013<br>2130<br>2090 | 292<br>336<br>304<br>399<br>426<br>418 | 380<br>437<br>395<br>519<br>554<br>544 | 482<br>554<br>502<br>658<br>703<br>690 | 584<br>672<br>608<br>798<br>852<br>836    | 657<br>756<br>684<br>906<br>959<br>941      | 774<br>890<br>806<br>1067<br>1129<br>1108    | 891<br>1025<br>927<br>1228<br>1299<br>1275   | 1007<br>1159<br>1049<br>1389<br>1470<br>1442 | 1139<br>1310<br>1186<br>1570<br>1661<br>1630 | 1256<br>1445<br>1307<br>1731<br>1832<br>1797 | 1387<br>1596<br>1444<br>1895<br>2024<br>1986 | 1533<br>1764<br>1596<br>2114<br>2237<br>2195 |
| 90-21<br>Two-tier<br>element | 21"            | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1¼" steel<br>1¼" steel<br>2" steel<br>¾" copper<br>1" copper<br>1¼" copper | 4¼" steel<br>4¼" steel<br>4¼" steel<br>4¼" alum.<br>4¼" alum.<br>4¼" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 2190<br>2380<br>2270<br>2822<br>2990<br>2930 | 438<br>476<br>454<br>564<br>598<br>586 | 570<br>619<br>590<br>734<br>778<br>762 | 723<br>785<br>749<br>931<br>987<br>967 | 876<br>952<br>908<br>1129<br>1196<br>1172 | 986<br>1071<br>1022<br>1270<br>1346<br>1319 | 1161<br>1261<br>1203<br>1496<br>1585<br>1553 | 1336<br>1452<br>1385<br>1721<br>1824<br>1787 | 1511<br>1642<br>1566<br>1947<br>2063<br>2022 | 1708<br>1856<br>1771<br>2200<br>2332<br>2285 | 1883<br>2047<br>1952<br>2427<br>2571<br>2520 | 2081<br>2261<br>2157<br>2681<br>2841<br>2784 | 2300<br>2499<br>2384<br>2963<br>3140<br>3077 |

<sup>\*</sup> Based on 65°F entering air temperature. Note: Ratings are based on active finned length (5-1/4" less than overall length).

### CCESSORIES



Fourteen accessories let you "fit" Multi/Pak 90 in virtually any space configuration - fast and easily. External cover accessories are all telescopic. They snap in place without screws or other fasteners. All accessories, unless noted, are finished in Nu-White baked enamel. Custom color available on special order.

### non-telescopic accessories

Column cover set Damper (electro galvanized, not available with aluminum grille)\* Damper, field installed Hanging strip\*

Back panel (electro galvanized) Tamper-proof lock\* Wall gasketing\*

#### telescopic accessories



\*See p.3 for details

End Cap-slotted (not shown)



Splice plate



Filler sleeve



Center valve cover †



# **Internal Splice Plate** for 90-14 and 90-21

Cover sections butt to each other with a nearly seamless fit using the internal splice plate, optional for Multi/Pak 90 slope top enclosures. Eliminates need for an external splice plate.



Inside corner, 90°



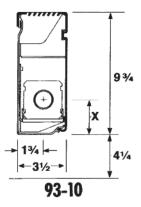
Outside corner, 90°

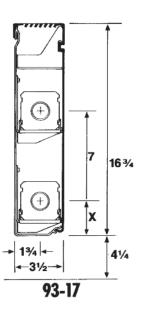


End valve cover, † slotted, 10" End valve cover, 10" (not shown)



#### **ELEMENT** X H1 33/16 213/16 213/16 H4 H5X 33/16 33/16 27/8



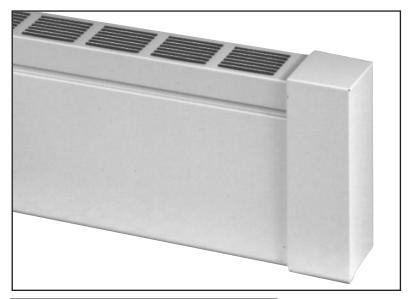


# **MULTI/PAK® 93**

FLAT-TOP, TWO-PIECE ENCLOSURE

Pre-painted. Factory packaged.

### MODELS 93-10 AND 93-17



### ORDERING DATA

### Multi/Pak 93 Complete **Enclosure Assembly**

PACKAGING: Complete two-piece assembly factory packaged with necessary brackets and hangers.

**CONSTRUCTION**: Two-piece interlocking top cover/front cover mount on wall brackets. Lock in place to provide the same shape with better rigidity than one-piece covers.

**DEPTH: 31/9"** 

HEIGHTS: 93/4" (one tier), 163/4" (one or two tier)

**LENGTHS**: 2', 3', 3½', 4', 5', 6', 7', 8'.

MATERIAL: 18-gauge galvanized steel top and

front cover. 11-gauge wall brackets.

FINISH: Nu-White baked enamel is standard. Custom color available on special order.

WALL BRACKET/HANGERS: Packaged with complete assembly. Element hangers permit vertical pitch adjustment. Self-adjusting polypropylene element expansion cradles allow silent lateral expansion movement. Brackets and hangers provided with complete assembly as follows:

|         | 93-      | 10      | 93-17    |         |  |  |  |  |  |
|---------|----------|---------|----------|---------|--|--|--|--|--|
| Length  | Brackets | Hangers | Brackets | Hangers |  |  |  |  |  |
| 2-5 ft. | 2        | 2       | 2        | 4       |  |  |  |  |  |
| 6-8 ft. | 3        | 3       | 3        | 6       |  |  |  |  |  |

**ELEMENTS**: Copper with aluminum fins: H-1, H-3, H-4, H-5X, E-75. Steel with electro-galvanized steel fins: H-6X. Lengths from 2 to 8 ft. See p.30.

JOINTS: Telescopic cover accessories eliminate the need to perfectly butt one length of cover to the next. Critical linear and vertical tolerances are eliminated because telescopic assembly absorbs misalignment that might result from uneven floors and walls.

See pages 4-5 for description of features.

ALUMINUM GRILLE IS NOT AVAILABLE.

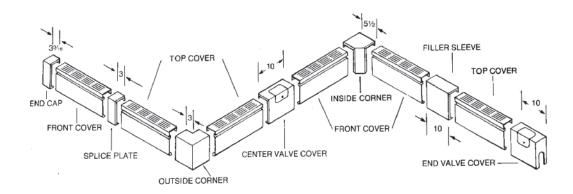


### With or without dampers

|               |                     |                 | Rows                |                         |  | Fins        | Steam<br>1 PSI*<br>Btu/Hr. |       |       | ı     | -     |       |       | R RAT<br>w Rat |       |       | .)    |       |       |
|---------------|---------------------|-----------------|---------------------|-------------------------|--|-------------|----------------------------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|-------|
| Cover<br>Type | Enclosure<br>Height | Element<br>Type | Heating<br>Elements | Tube Size<br>& Material | Fin Size and Material (Width x Height x Thickness) | Per<br>Foot | Per<br>Foot                | 110°F | 120°F | 130°F | 140°F | 150°F | 160°F | 170°F          | 180°F | 190°F | 200°F | 210°F | 220°F |
|               |                     | H-1             | 1                   | ¾" copper               | 3" x 31/4" x .024" aluminum                        | 48          | 1079                       | 216   | 281   | 356   | 432   | 486   | 572   | 658            | 745   | 848   | 928   | 1025  | 1133  |
| l             |                     | H-3             | 1                   | ¾" copper               | 2¾" x 2½" x .011" aluminum                         | 55          | 991                        | 198   | 258   | 327   | 396   | 446   | 525   | 605            | 684   | 773   | 852   | 1 -   | 1041  |
| 93-10         | 9¾"                 | H-4             | 1                   | 1" copper               | 3" x 2½" x .011" aluminum                          | 48          | 965                        | 193   | 251   | 319   | 386   | 434   | 511   | 589            | 666   | 753   | 830   |       | 1013  |
|               |                     | H-5X            | 1                   | 1¼" copper              | 3" x 3½" x .020" aluminum                          | 48          | 1030                       | 206   | 268   | 340   | 412   | 464   | 546   | 628            | 711   | 803   | 886   | 979   | 1082  |
|               |                     | H-6X            | 1                   | 1¼" IPS Steel           | 3" x 3½" x .028" aluminized steel                  | 48          | 883                        | 177   | 230   | 291   | 353   | 397   | 468   | 539            | 609   | 689   | 759   | 839   | 927   |
|               |                     | E-75            | 1                   | ¾" copper               | 2%" x 21/4" aluminum                               | 55          | 828                        | 166   | 215   | 273   | 331   | 373   | 439   | 505            | 571   | 646   | 712   | 787   | 869   |
|               |                     | H-1             | 1                   | ¾" copper               | 3" x 31/4" x .024" aluminum                        | 48          | 1182                       | 236   | 307   | 390   | 473   | 532   | 626   | 721            | 816   | 922   | 1017  | 1123  | 1241  |
| 93-17         |                     | H-3             | 1                   | ¾" copper               | 23/4" x 21/2" x .011" aluminum                     | 55          | 1086                       | 217   | 282   | 358   | 435   | 489   | 576   | 662            | 749   | 847   |       | 1032  | 1140  |
| One-tier      | 16¾"                | H-4             | 1                   | 1" copper               | 3" x 2½" x .011" aluminum                          | 48          | 1057                       | 211   | 275   | 349   | 423   | 476   | 560   | 645            | 729   | 824   | 909   | 1004  | 1110  |
| element       |                     | H-5X            | 1                   | 1¼" copper              | 3" x 3½" x .020" aluminum                          | 48          | 1128                       | 226   | 293   | 372   | 451   | 508   | 598   | 688            | 778   | 880   |       | 1072  | 1184  |
|               |                     | H-6X            | 1                   | 1¼" IPS Steel           | 3" x 3½" x .028" aluminized steel                  | 48          | 947                        | 189   | 246   | 313   | 379   | 426   | 502   | 578            | 653   | 739   | 814   | 900   | 994   |
|               |                     | E-75            |                     | ¾" copper               | 25/6" x 21/6" aluminum                             | 55          | 907                        | 181   | 236   | 299   | 363   | 408   | 481   | 553            | 626   | 707   | 780   | 862   | 952   |
| 93-17         |                     | H-1             |                     | ¾" copper               | 3" x 3¼" x .024" aluminum                          | 48          | 1679                       | 336   | 437   | 554   | 672   | 756   | 890   | 1024           | 1159  | 1310  | 1444  | 1595  | 1763  |
| 1 ** **       |                     | H-3             |                     | ¾" copper               | 2¾" x 2½" x .011" aluminum                         | 55          | 1543                       | 309   | 401   | 509   | 617   | 694   | 818   | 941            | 1065  | 1204  | 1327  | 1466  | 1620  |
| Two-tier      | 16¾"                | H-4             | 2                   | 1" copper               | 3" x 2½" x .011" aluminum                          | 48          | 1501                       | 300   | 390   | 495   | 600   | 675   | 796   |                |       |       |       | 1426  | 1576  |
| element       |                     | H-5X            | 2                   | 1¼" copper              | 3" x 3½" x .020" aluminum                          | 48          | 1602                       | 320   | 417   | 529   | 641   | 721   | 849   | 977            | 1105  | 1250  |       | 1522  | 1682  |
|               |                     | H-6X            | 2                   | 1¼"IPS Steel            | 3" x 3½" x .028" aluminized steel                  | 48          | 1435                       | 287   | 373   | 473   | 574   | 646   | 761   | 875            |       |       |       | 1363  | 1507  |
|               |                     | E-75            | 2                   | ¾" copper               | 25/16" x 21/8" aluminum                            | 55          | 1288                       | 258   | 335   | 425   | 515   | 580   | 683   | 786            | 889   | 1005  | 1108  | 1224  | 1352  |

<sup>\*</sup> Based on 65°F entering air temperature. Note: Ratings are based on active finned length (3" less than overall length).

### **CCESSORIES**



Fourteen accessories let you "fit" Multi/Pak 93 in virtually any space configuration - fast and easily. Cover accessories are all telescopic. They snap in place without screws or other fasteners. All accessories, unless noted, are finished in Nu-White baked enamel. Custom color available on special order.

### non-telescopic accessories

Column cover set Damper (electro galvanized)\* Hanging strip\*

Tamper-proof lock Wall gasketing\*

### telescopic accessories



End Cap End Cap-slotted (not shown)



Splice plate



Filler sleeve



Center valve cover †



Inside corner, 90°



Outside corner, 90°



End valve cover, † slotted, 10" End valve cover, 10"

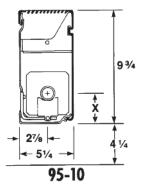
<sup>\*</sup>See p.3 for details

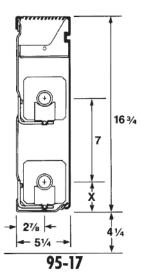




Aluminum grille optional.

| ELEMENT | Х    |
|---------|------|
| C-340   | 3    |
| C-440   | 31/8 |
| C-540   | 31/4 |
| S-532   | 3⅓   |
| S-540   | 33/s |



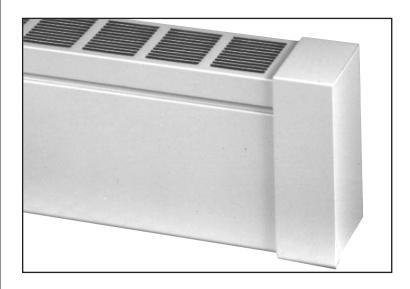


# MULTI/PAK® 95

FLAT-TOP, TWO-PIECE ENCLOSURE

Pre-painted. Factory packaged.

### **MODELS 95-10 AND 95-17**



### ORDERING DATA

### Multi/Pak 95 Complete Enclosure Assembly

**PACKAGING**: Complete two-piece assembly factory packaged with necessary brackets and hangers.

**CONSTRUCTION**: Two-piece interlocking top cover/front cover mount on wall brackets. Lock in place to provide the same shape with better rigidity than one-piece covers.

**DEPTH**: 51/4"

**HEIGHTS**:  $9\frac{3}{4}$ " (one tier),  $16\frac{3}{4}$ " (one or two tier)

**LENGTHS**: 2', 3', 3½', 4', 5', 6', 7', 8'. Elements

from 2 to 12 ft.

MATERIAL: 18-gauge galvanized steel top and

front cover. 11-gauge wall brackets.

**FINISH**: Nu-White baked enamel is standard. Custom color available on special order. Anodized architectural aluminum grille optional.

WALL BRACKETS/HANGERS: Packaged with complete assembly. SC-2 hanger has guide rod to provide 1<sup>15</sup>/<sub>16</sub>" lateral expansion movement, 1<sup>1</sup>/<sub>8</sub>" vertical pitch adjustment. Brackets and hangers provided with complete assembly as follows:

|         | 95-      | 10      | 95       | -17     |
|---------|----------|---------|----------|---------|
| Length  | Brackets | Hangers | Brackets | Hangers |
| 2-5 ft. | 2        | 2       | 2        | 4       |
| 6-8 ft. | 3        | 3       | 3        | 6       |

**ELEMENTS**: Copper with aluminum fins: C-340, C-440, C-540. Steel with electro-galvanized steel fins: S-532, S-540 & S-832. Lengths from 2 to 12 feet (Canada: 2 to 8 feet). See p. 30.

JOINTS: Telescopic cover accessories eliminate the need to perfectly butt one length of cover to the next. Critical linear and vertical tolerances are eliminated because telescopic assembly absorbs misalignment that might result from uneven floors and walls.

See pages 4-5 for description of features

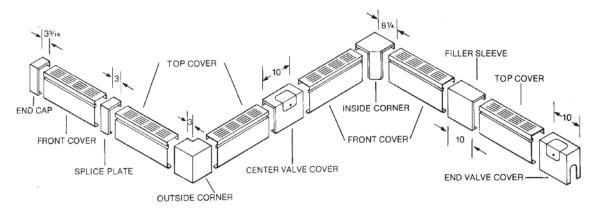


With or without dampers

| Cavar         | Enclosure | Element | Tube Size    | Fin Size   | Fins<br>Per | Steam<br>1 PSI*     |       |       |       | вти   |       | WATEI<br>T. (Flo |       |       | Sec.) |       |       |       |
|---------------|-----------|---------|--------------|------------|-------------|---------------------|-------|-------|-------|-------|-------|------------------|-------|-------|-------|-------|-------|-------|
| Cover<br>Type | Height    | Туре    | & Material   | & Material | Foot        | Btu/Hr.<br>Per Foot | 110°F | 120°F | 130°F | 140°F | 150°F | 160°F            | 170°F | 180°F | 190°F | 200°F | 210°F | 220°F |
|               |           | S-532   | 1¼" steel    | 4¼" steel  | 32          | 1254                | 251   | 326   | 414   | 501   | 564   | 665              | 765   | 865   | 978   | 1078  | 1191  | 1317  |
|               |           | S-540   | 1¼" steel    | 4¼" steel  | 40          | 1470                | 294   | 382   | 485   | 588   | 662   | 779              | 897   | 1014  | 1147  | 1264  | 1397  | 1544  |
| 95-10         | 9¾"       | S-832   | 2" steel     | 4¼" steel  | 32          | 1310                | 263   | 341   | 433   | 524   | 590   | 694              | 799   | 904   | 1022  | 1126  | 1244  | 1375  |
|               |           | C-340   | 3/" copper   | 4¼" alum.  | 40          | 1680                | 336   | 437   | 555   | 672   | 756   | 891              | 1025  | 1159  | 1311  | 1445  | 1597  | 1764  |
|               |           | C-440   | 1" copper    | 4¼" alum.  | 40          | 1780                | 356   | 463   | 587   | 712   | 801   | 943              | 1086  | 1228  | 1388  | 1531  | 1691  | 1869  |
|               |           | C-540   | 11/4" copper | 4¼" alum.  | 40          | 1745                | 349   | 454   | 576   | 698   | 785   | 925              | 1064  | 1204  | 1361  | 1501  | 1658  | 1832  |
|               |           | S-532   | 1¼" steel    | 4¼" steel  | 32          | 1351                | 270   | 351   | 446   | 540   | 608   | 716              | 824   | 932   | 1054  | 1162  | 1283  | 1419  |
|               |           | S-540   | 2" steel     | 4¼" steel  | 40          | 1577                | 315   | 410   | 520   | 631   | 710   | 836              | 962   | 1088  | 1230  | 1356  | 1498  | 1656  |
| 95-17         |           | S-832   | 2" steel     | 4¼" steel  | 32          | 1390                | 279   | 362   | 460   | 556   | 626   | 737              | 848   | 959   | 1089  | 1195  | 1320  | 1460  |
| One-tier      | 16¾"      | C-340   | 3/" copper   | 4¼" alum.  | 40          | 1840                | 368   | 478   | 607   | 736   | 828   | 976              | 1123  | 1270  | 1436  | 1582  | 1748  | 1933  |
| element       |           | C-440   | 1" copper    | 4¼" alum.  | 40          | 1950                | 390   | 507   | 644   | 780   | 878   | 1034             | 1190  | 1346  | 1521  | 1677  | 1853  | 2048  |
|               |           | C-540   | 1¼" copper   | 4¼" alum.  | 40          | 1911                | 382   | 497   | 630   | 764   | 860   | 1013             | 1166  | 1319  | 1491  | 1643  | 1815  | 2007  |
|               |           | S-532   | 1¼" steel    | 4¼" steel  | 32          | 2153                | 431   | 560   | 710   | 861   | 969   | 1141             | 1313  | 1486  | 1679  | 1852  | 2045  | 2261  |
| 95-17         |           | S-540   | 1¼" steel    | 4¼" steel  | 40          | 2390                | 478   | 622   | 789   | 956   | 1076  | 1267             | 1458  | 1649  | 1864  | 2055  | 2271  | 2510  |
| Two-tier      |           | S-832   | 2" steel     | 4¼" steel  | 32          | 2230                | 447   | 580   | 737   | 892   | 1004  | 1182             | 1360  | 1539  | 1740  | 1918  | 2118  | 2341  |
| element       | 16¾"      | C-340   | 3/" copper   | 4¼" alum.  | 40          | 2615                | 523   | 680   | 863   | 1046  | 1177  | 1386             | 1595  | 1804  | 2040  | 2249  | 2484  | 2746  |
|               |           | C-440   | 1" copper    | 4¼" alum.  | 40          | 2770                | 554   | 720   | 914   | 1108  | 1247  | 1468             | 1690  | 1911  | 2161  | 2382  | 2632  | 2909  |
|               |           | C-540   | 11/4" copper | 4¼" alum.  | 40          | 2715                | 543   | 706   | 896   | 1086  | 1222  | 1439             | 1656  | 1873  | 2118  | 2335  | 2579  | 2851  |

<sup>\*</sup> Based on 65°F entering air temperature. *Note:* Ratings are based on active finned length (5-1/4" less than overall length).

### CCESSORI



Fourteen accessories let you "fit" Multi/Pak 95 in virtually any space configuration - fast and easily. Cover accessories are all telescopic. They snap in place without screws or other fasteners. All accessories. unless noted, are finished in Nu-White baked enamel. Custom color available on special order.

### non-telescopic accessories

Column cover set Damper (electro galvanized, not available with aluminum grille)\* Hanging strip\*

\*See p.3 for details

Tamper-proof lock\* Wall gasketing\*

### telescopic accessories



End Cap End Cap-slotted (not shown)



Splice plate







Inside corner, 90°



Outside corner, 90°

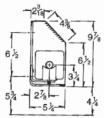


End valve cover, † slotted, 10" End valve cover, 10" (not shown)

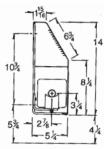


Custom Heights & Configurations Available

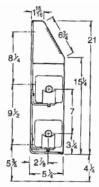
\*Details for optional J-Series damper shown on model JAD-28



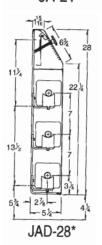
JL-10



JA-14



JA-21



# **J SERIES**

### SLOPE-TOP, ONE-PIECE ENCLOSURE

MODELS: JL-10, JA-14, JA-21, JA-28





### ORDERING DATA

**CONSTRUCTION**: Single-piece cover mounts on wall brackets

**DEPTH**: 51/4"

**HEIGHTS**: 97/8" and 14"(one tier), 21" (one or two tier), 28" (up to three tier)

tier), 26 (up to trifee tier)

**LENGTHS**: 2', 3', 3½', 4', 5', 6', 7', 8'. Other ½' lengths available to order.

**MATERIAL**: 18-gauge front cover. 16 and 14-gauge optional. Optional back panel: 20-gauge.

**FINISH**: Galvanized is standard. Baked enamel finishes in a variety of colors available on special order, all models.

WALL BRACKETS/HANGERS: Order separately, specify BKT (bracket only) or BKT ASSY (bracket complete with SC hangers) followed by cover stock number and quantity. Recommended bracket spacing is as follows:

| Length  | Copper<br>Elements | 11/4" Steel<br>Elements | 2" Steel<br>Elements |
|---------|--------------------|-------------------------|----------------------|
| 2-5 ft. | 2                  | 1 per 2½'               | 1 per 2'             |
| 6-8 ft. | 3                  | of cover                | of cover             |

**ELEMENTS**: Copper with aluminum fins: C-340, C-440, C-540. Steel with electro-galvanized steel fins: S-532, S-540, S-832. Lengths from 2 to 12 feet (Canada: 2 to 8 feet). See p. 30.

**JOINTS**: Internal splice plates (JA models only; see p.5) align cover sections which butt to one another, providing a near seamless joint. Use of telescopic

accessories with any J Series model eliminates the need to perfectly butt one length of cover to the next. Critical linear and vertical tolerances are eliminated because telescopic assembly absorbs misalignment that might result from uneven floors and walls. JL-10, JA-14, JA-21 and JA-28 models mount flush with the wall. For readily available prepackaged two-piece fin-tube radiation refer to Multi/Pak 90, pages 4-11. Electro-galvanized finish is standard. Optional baked enamel finish available.

### Built for easy installation, long life

J Series fin-tube enclosures are functional, durable units, popular for deluxe commercial installations: schools, offices, hospitals, churches and office buildings. J Series enclosures feature a graceful, sloping louvered top which minimizes apparent bulk, and discourages use of the enclosure as a shelf or window seat.

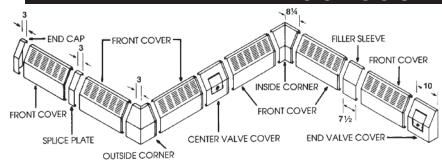
- · Pencil-proof louvers minimize "see through".
- Heavy duty 14-gauge wall bracket is drawn die formed.
   Secures cover in place with rigid spring lock action.
   Snap-in center brace supports middle of cover.
- Bracket mounting slots provide ¾" height adjustment.
   Large recessed "flat" prevents bracket from crushing wall surface when back panel is not used.
- Element hanger has sliding guide rod that provides full cradle width support. 15% lateral movement permits smooth, noiseless expansion. Cradle supports finned or bare tubing at same height. Fastening slot in bracket allows 1% pitch adjustment.
- Knob-operated damper (optional) modulates fully to control output. See page 5 for details.

With or without dampers

\* Based on 65°F entering air temperature. Note: Ratings are based on active finned length (5-1/4" less than overall length).

|                                |                      | Elamont  | Tub - Oin-  | Fin Size   | Fins<br>Per                      | Steam<br>1 PSI*<br>Btu/Hr.                   | PSI* BTU/HR./FT. (Flow Rate 3 Ft./Sec.) |  |   |  |  |  |  |  |  |  |  |  |
|--------------------------------|----------------------|--|---|--|----------------------------------|--|---|--|---|--|--|--|--|--|--|--|--|--|
| Cover<br>Type                  | Enclosur<br>e Height | Element<br>Type                                    | Tube Size<br>and Material   | and Material   | Foot                             | Per<br>Foot                                  | 110°F                                   | 120°F                                  | 130°F                                     | 140°F  | 150°F  | 160°F  | 170°F  | 180°F  | 190°F  | 200°F  | 210°F  | 220°F  |
| JL-10                          | 9 <sup>7</sup> ⁄8"   | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>¾" copper<br>1" copper<br>1½" copper  | 4½" steel<br>4½" steel<br>4½" steel<br>4½" alum.<br>4½" alum.<br>4½" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 1330<br>1430<br>1350<br>1753<br>1860<br>1820 | 266<br>286<br>270<br>351<br>372<br>364  | 346<br>372<br>351<br>456<br>484<br>473 | 439<br>472<br>446<br>578<br>614<br>601    | 532<br>572<br>540<br>701<br>744<br>728       | 599<br>644<br>608<br>789<br>837<br>819       | 705<br>758<br>716<br>929<br>986<br>965       | 811<br>872<br>824<br>1069<br>1135<br>1110    | 918<br>987<br>931<br>1210<br>1283<br>1256    | 1037<br>1115<br>1053<br>1367<br>1451<br>1420 | 1144<br>1230<br>1161<br>1507<br>1600<br>1565 | 1264<br>1359<br>1283<br>1665<br>1767<br>1729 | 1397<br>1502<br>1418<br>1840<br>1953<br>1911 |
| JA-14                          | 14"                  | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>¾" copper<br>1" copper<br>1½" copper  | 4½" steel<br>4½" steel<br>4½" steel<br>4½" alum.<br>4½" alum.<br>4½" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 1380<br>1550<br>1400<br>1839<br>1950<br>1910 | 276<br>310<br>280<br>368<br>390<br>382  | 359<br>403<br>364<br>478<br>507<br>497 | 455<br>512<br>462<br>607<br>644<br>630    | 552<br>620<br>560<br>736<br>780<br>764       | 621<br>698<br>630<br>828<br>878<br>860       | 731<br>822<br>742<br>975<br>1034<br>1012     | 842<br>946<br>854<br>1122<br>1190<br>1165    | 952<br>1070<br>966<br>1269<br>1346<br>1318   | 1076<br>1209<br>1092<br>1435<br>1521<br>1490 | 1187<br>1333<br>1204<br>1582<br>1677<br>1643 | 1311<br>1473<br>1330<br>1748<br>1853<br>1815 | 1449<br>1628<br>1470<br>1932<br>2048<br>2006 |
| JA-21<br>One-tier<br>element   | 21"                  | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1 <sup>1</sup> / <sub>4</sub> " steel<br>1 <sup>1</sup> / <sub>4</sub> " steel<br>2" steel<br><sup>3</sup> / <sub>4</sub> " copper<br>1" copper<br>1 <sup>1</sup> / <sub>4</sub> " copper | 4½" steel<br>4½" steel<br>4½" steel<br>4½" alum.<br>4½" alum.<br>4½" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 1460<br>1680<br>1520<br>2013<br>2130<br>2090 | 292<br>336<br>304<br>403<br>426<br>418  | 380<br>437<br>395<br>524<br>554<br>544 | 482<br>554<br>502<br>665<br>703<br>690    | 584<br>672<br>608<br>805<br>852<br>836       | 657<br>756<br>684<br>906<br>959<br>941       | 774<br>890<br>806<br>1067<br>1129<br>1108    | 891<br>1025<br>927<br>1228<br>1299<br>1275   | 1007<br>1159<br>1049<br>1389<br>1470<br>1442 | 1139<br>1310<br>1186<br>1570<br>1661<br>1630 | 1256<br>1445<br>1307<br>1731<br>1832<br>1797 | 1387<br>1596<br>1444<br>1913<br>2024<br>1986 | 1533<br>1764<br>1596<br>2114<br>2237<br>2195 |
| JA-21<br>Two-tier<br>element   | 21"                  | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>¾" copper<br>1" copper<br>1½" copper  | 4½" steel<br>4½" steel<br>4½" steel<br>4½" alum.<br>4½" alum.<br>4½" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 2190<br>2380<br>2270<br>2822<br>2990<br>2993 | 438<br>476<br>454<br>586<br>598<br>586  | 570<br>619<br>590<br>762<br>778<br>762 | 723<br>785<br>749<br>967<br>987<br>967    | 876<br>952<br>908<br>1172<br>1196<br>1172    | 986<br>1071<br>1022<br>1270<br>1346<br>1319  | 1161<br>1261<br>1203<br>1496<br>1585<br>1553 | 1336<br>1452<br>1385<br>1721<br>1824<br>1787 | 1511<br>1642<br>1566<br>1947<br>2063<br>2022 | 1708<br>1856<br>1771<br>2200<br>2332<br>2285 | 1883<br>2047<br>1952<br>2427<br>2571<br>2520 | 2081<br>2261<br>2157<br>2784<br>2841<br>2784 | 2300<br>2499<br>2384<br>2963<br>3140<br>3077 |
| JA-28<br>One-tier<br>element   | 28"                  | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>¾" copper<br>1" copper<br>1½" copper  | 4½" steel<br>4½" steel<br>4½" steel<br>4½" alum.<br>4½" alum.<br>4½" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 1480<br>1710<br>1550<br>2051<br>2170<br>2130 | 296<br>342<br>310<br>410<br>434<br>426  | 385<br>445<br>403<br>533<br>564<br>554 | 488<br>564<br>512<br>677<br>716<br>703    | 592<br>684<br>620<br>821<br>868<br>852       | 666<br>770<br>698<br>924<br>977<br>959       | 784<br>906<br>822<br>1087<br>1150<br>1129    | 903<br>1043<br>946<br>1251<br>1324<br>1299   | 1021<br>1180<br>1070<br>1416<br>1497<br>1470 | 1154<br>1334<br>1209<br>1600<br>1693<br>1661 | 1273<br>1471<br>1333<br>1764<br>1866<br>1832 | 1406<br>1625<br>1473<br>1949<br>2062<br>2024 | 1554<br>1796<br>1628<br>2154<br>2279<br>2237 |
| JA-28<br>Two-tier<br>element   | 28"                  | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1 <sup>1</sup> / <sub>4</sub> " steel<br>1 <sup>1</sup> / <sub>4</sub> " steel<br>2" steel<br><sup>3</sup> / <sub>4</sub> " copper<br>1" copper<br>1 <sup>1</sup> / <sub>4</sub> " copper | 4½" steel<br>4½" steel<br>4½" steel<br>4½" alum.<br>4½" alum.<br>4½" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 2290<br>2510<br>2430<br>2937<br>3110<br>3050 | 458<br>502<br>486<br>588<br>622<br>610  | 596<br>653<br>632<br>764<br>809<br>793 | 756<br>828<br>802<br>970<br>1026<br>1007  | 916<br>1004<br>972<br>1175<br>1244<br>1220   | 1031<br>1130<br>1094<br>1322<br>1400<br>1373 | 1214<br>1330<br>1288<br>1557<br>1648<br>1617 | 1397<br>1531<br>1482<br>1792<br>1897<br>1861 | 1580<br>1732<br>1677<br>2027<br>2146<br>2105 | 1786<br>1958<br>1895<br>2291<br>2426<br>2379 | 1969<br>2159<br>2090<br>2526<br>2675<br>2623 | 2176<br>2385<br>2309<br>2791<br>2955<br>2898 | 2405<br>2636<br>2552<br>3084<br>3266<br>3203 |
| JA-28<br>Three-tier<br>element | 28"                  | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>¾" copper<br>1" copper<br>1½" copper  | 4½" steel<br>4½" steel<br>4½" steel<br>4½" alum.<br>4½" alum.<br>4½" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 2830<br>2930<br>2880<br>3467<br>3670<br>3600 | 566<br>586<br>576<br>693<br>734<br>720  | 736<br>762<br>749<br>901<br>954<br>936 | 934<br>967<br>950<br>1144<br>1211<br>1188 | 1132<br>1172<br>1152<br>1387<br>1468<br>1440 | 1560<br>1652                                 | 1500<br>1553<br>1526<br>1837<br>1945<br>1908 | 1726<br>1787<br>1757<br>2115<br>2239<br>2196 | 1953<br>2022<br>1987<br>2392<br>2532<br>2484 | 2207<br>2285<br>2246<br>2704<br>2863<br>2808 | 2434<br>2520<br>2477<br>2981<br>3156<br>3096 | 2689<br>2784<br>2736<br>3293<br>3487<br>3420 | 2972<br>3077<br>3024<br>3640<br>3854<br>3780 |

### ACCESSORIES



A complete range of accessories lets you "fit" J-series in virtually any space configuration - fast and easily. Cover accessories are all telescopic. They snap in place without screws or other fasteners. All accessories have gray prime finish. Custom color available on special order.

### non-telescopic accessories

Column cover set
Damper (electro galvanized)\*
Hanging strip\*

Tamper-proof lock Wall gasketing\*

\*See p.3 for details

### telescopic accessories



End Cap End Cap-slotted (not shown)



Splice plate



Filler sleeve



Center valve cover †



Inside corner, 90°



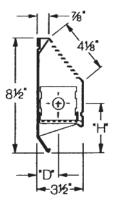
Outside corner, 90°



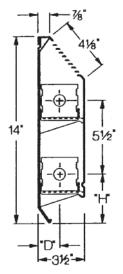
End valve cover, † slotted, 10" End valve cover, 10" (not shown)



### Custom Heights & Configurations Available



HD-850



HD-1400

| Element    | "H"    | "D" |
|------------|--------|-----|
| H-1        | 41/16" | 1¾" |
| H-3, H-4   | 35%"   | 1%" |
| H-5x, H-6x | 4"     | 1¾" |

# **HD SERIES**

HEAVY DUTY, 16 GAUGE SLOPE-TOP BASEBOARD



The extraordinary strength of HD Series baseboard makes it ideal for installation in sites where rugged treatment is anticipated. HD Series is especially recommended for rental properties, military housing, schools, institutions and public housing. Its compact size and high output make it suitable for a wide range of new and retrofit applications. In addition to heavy gauge enclosure and support brackets, HD Series baseboard cover is secured in place with square drive screws at each bracket location. Optional 1" and 1½" copper/aluminum elements permit higher flow rates, longer series-loop runs and lower pump loads where required. With the 1½" all-steel element, HD Series is perfect for use in one or two pipe steam systems. HD Series is shipped pre-assembled in individual cartons for rapid installations.

### ORDERING DATA

**PACKAGING**: Complete two-piece enclosure assembly factory packaged with necessary brackets and hangers. Elements ordered and packaged separately.

CONSTRUCTION: Full back panel with interlocking slope-top front panel. Bracket with element guide spot welded to back panel every 24 inches alternating with cabinet spacer welded to back panel every 24 inches giving rigid support to front every 12 inches. There are dimpled anchoring holes every 12 inches. For fastening front to brackets, use 8 x %" self tapping screws with countersunk head as supplied in carton. Pencil proof louvers. Damper optional.

**DEPTH**: 3½"

**HEIGHTS**: 8½" (one tier), 14" (one or two tier)

**LENGTHS**: 2', 3', 3½', 4', 5', 6', 7', 8'. Other ½' lengths

available to order

**MATERIAL**: 16-gauge steel front cover, 20-gauge back panel.

**FINISH**: Galvanized is standard. Custom color available on special order.

**ELEMENTS**: Choice of five elements. Copper with aluminum fins. Steel with electro-galvanized steel fins. Lengths from 2 to 8 feet. From 710 to 1340 Btu/hr/ft at 200° F water temperature. See p. 30.

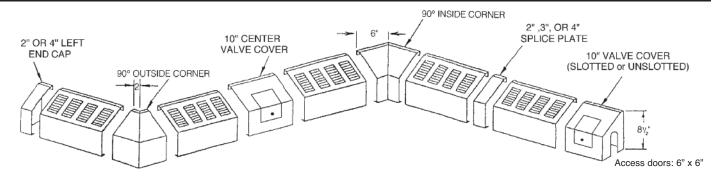
JOINTS: Telescopic cover accessories eliminate the need to perfectly butt one length of cover to the next. Critical linear and vertical tolerances are eliminated because telescopic assembly absorbs misalignment that might result from uneven floors and walls. Accessories are fastened to cover with pan-head sheet metal screws (supplied by others).

|                        |                 | Tiers of           | Tube                 | Fin Size and<br>Material               | Fins        | Steam 1 PSI* HOT WATER RATIN BTU/HR./FT. |                   |                     |            |            |            | <b>S</b> * |            |            |            |              |              |              |              |              |
|------------------------|-----------------|--------------------|----------------------|--|-------------|--|-------------------|---------------------|------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|
| Model<br>Number        | Element<br>Type | Heating<br>Element | Size and<br>Material | (Width x Height x Thickness)           | per<br>Foot | Water<br>Flow                            | Pressure<br>Drop† | Btu/Hr.<br>Per Foot | 110°F      | 120°F      | 130°F      | 140°F      | 150°F      | 160°F      | 170°F      | 180°F        | 190°F        | 200°F        | 210°F        | 220°F        |
| HD-850<br>Single-tier  | H-1             | 1                  | ¾"<br>copper         | 3" x 3½" x .024"<br>aluminum           | 48          | 1 GPM<br>4 GPM                           | 47<br>525         | _                   | 190<br>200 | 260<br>270 | 320<br>340 | 390<br>420 | 470<br>500 | 550<br>580 | 640<br>680 | 720<br>760   | 800<br>850   | 890<br>940   | 970<br>1030  | 1050<br>1110 |
| HD-850<br>Single-tier  | H-3             | 1                  | 3//"<br>copper       | 2¾" x 2½" x .011"<br>aluminum          | 55          | 1 GPM<br>4 GPM                           | 47<br>525         |                     | 170<br>180 | 230<br>240 | 290<br>300 | 350<br>370 | 420<br>440 | 490<br>520 | 570<br>600 | 640<br>680   | 720<br>760   | 790<br>840   | 870<br>920   | 940<br>990   |
| HD-850<br>Single-tier  | H-4             | 1                  | 1"<br>copper         | 3" x 2½" x .011"<br>aluminum           | 48          | 1 GPM<br>4 GPM                           | 13<br>145         |                     | 170<br>180 | 230<br>240 | 280<br>300 | 340<br>360 | 410<br>430 | 460<br>500 | 560<br>590 | 630<br>670   | 710<br>750   | 780<br>830   | 860<br>1000  | 1030<br>980  |
| HD-850<br>Single-tier  | H-5X            | 1                  | 1¼"<br>copper        | 3" x 3½" x .020"<br>aluminum           | 48          | 1 GPM<br>4 GPM                           | 6<br>63           | 1160                | 180<br>190 | 240<br>250 | 300<br>320 | 360<br>390 | 430<br>460 | 550<br>560 | 600<br>640 | 680<br>710   | 770<br>810   | 860<br>880   | 920<br>980   | 1010<br>1070 |
| HD-850<br>Single-tier  | H-6X            | 1                  | 1¼" IPS<br>steel     | 3" x 31/4" x .028"<br>aluminized steel | 48          | 1 GPM<br>4 GPM                           | 3<br>41           | 980                 | 150<br>150 | 200<br>200 | 250<br>260 | 300<br>310 | 360<br>370 | 440<br>450 | 510<br>540 | 570<br>600   | 640<br>680   | 710<br>750   | 780<br>830   | 850<br>900   |
| HD-1400<br>Single-tier | H-1             | 1                  | ¾"<br>copper         | 3" x 3½" x .024"<br>aluminum           | 48          | 1 GPM<br>4 GPM                           | 47<br>525         | _                   | 260<br>280 | 350<br>370 | 440<br>470 | 540<br>570 | 640<br>680 | 760<br>810 | 870<br>920 | 990<br>1050  | 1100<br>1170 | 1220<br>1300 | 1340<br>1420 | 1450<br>1540 |
| HD-1400<br>Single-tier | H-3             | 1                  | ¾"<br>copper         | 2¾" x 2½" x .011"<br>aluminum          | 55          | 1 GPM<br>4 GPM                           | 47<br>525         | _                   | 190<br>200 | 250<br>270 | 320<br>340 | 390<br>410 | 460<br>486 | 540<br>570 | 620<br>660 | 705<br>750   | 780<br>820   | 865<br>900   | 945<br>1000  | 1030<br>1090 |
| HD-1400<br>Single-tier | H-4             | 1                  | 1"<br>copper         | 3" x 2½" x .011"<br>aluminum           | 48          | 1 GPM<br>4 GPM                           | 13<br>145         | _                   | 180<br>200 | 250<br>260 | 310<br>330 | 380<br>400 | 450<br>480 | 504<br>530 | 613<br>650 | 690<br>730   | 777<br>820   | 854<br>900   | 942<br>1000  | 1129<br>1190 |
| HD-1400<br>Single-tier | H-5X            | 1                  | 1¼"<br>copper        | 3" x 3½" x .020"<br>aluminum           | 48          | 1 GPM<br>4 GPM                           | 6<br>63           | 1160                | 240<br>260 | 320<br>350 | 400<br>440 | 480<br>530 | 576<br>635 | 678<br>748 | 859<br>948 | 952<br>1051  | 1045<br>1154 | 1139<br>1257 | 1233<br>1361 | 1326<br>1464 |
| HD-1400<br>Single-tier | H-6X            | 1                  | 1¼" IPS<br>steel     | 3" x 31/4" x .028"<br>aluminized steel | 48          | 1 GPM<br>4 GPM                           | 3<br>41           | 980                 | 160<br>160 | 210<br>220 | 260<br>270 | 320<br>330 | 383<br>396 | 469<br>488 | 535<br>561 | 607<br>640   | 680<br>719   | 752<br>799   | 831<br>878   | 904<br>957   |
| HD-1400<br>Two-tier    | H-1             | 2                  | 3½"<br>copper        | 3" x 31/4" x .024"<br>aluminum         | 48          | 1 GPM<br>4 GPM                           | 47<br>525         |                     | 280<br>300 | 380<br>400 | 480<br>510 | 580<br>610 | 690<br>730 | 820<br>870 | 940<br>990 | 1070<br>1130 | 1190<br>1260 | 1320<br>1400 | 1450<br>1530 | 1570<br>1660 |
| HD-1400<br>Two-tier    | H-3             | 2                  | ¾"<br>copper         | 2¾" x 2½" x .011"<br>aluminum          | 55          | 1 GPM<br>4 GPM                           | 47<br>525         | _                   | 270<br>280 | 360<br>380 | 450<br>480 | 550<br>580 | 650<br>690 | 770<br>810 | 880<br>930 | 1000<br>1060 | 1110<br>1170 | 1230<br>1300 | 1340<br>1420 | 1460<br>1540 |
| HD-1400<br>Two-tier    | H-4             | 2                  | 1"<br>copper         | 3" x 2½" x .011"<br>aluminum           | 48          | 1 GPM<br>4 GPM                           | 13<br>145         | _                   | 260<br>280 | 350<br>370 | 440<br>470 | 540<br>570 | 640<br>680 | 740<br>790 | 870<br>920 | 990<br>1050  | 1100<br>1160 | 1220<br>1290 | 1330<br>1400 | 1440<br>1480 |
| HD-1400<br>Two-tier    | H-5X            | 2                  | 1¼"<br>copper        | 3" x 31/4" x .020"<br>aluminum         | 48          | 1 GPM<br>4 GPM                           | 6<br>63           | 1630                | 270<br>280 | 360<br>380 | 450<br>480 | 550<br>580 | 650<br>690 | 820<br>850 | 900<br>950 | 1030<br>1080 | 1160<br>1220 | 1290<br>1340 | 1400<br>1480 | 1530<br>1620 |
| HD-1400<br>Two-tier    | H-6X            | 2                  | 11/4" IPS<br>steel   | 3" x 31/4" x .028"<br>aluminized steel | 48          | 1 GPM<br>4 GPM                           | 3<br>41           | 1440                | 240<br>250 | 320<br>330 | 400<br>410 | 490<br>500 | 580<br>600 | 710<br>740 | 810<br>850 | 920<br>970   | 1030<br>1090 | 1140<br>1210 | 1260<br>1330 | 1370<br>1450 |

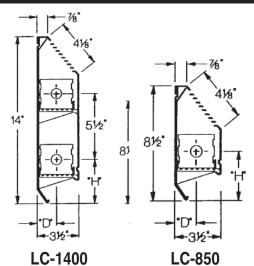
 $<sup>^{\</sup>star}$  Based on 65  $^{\circ}\text{F}$  entering air temperature. † Millinches per foot.

**Note:** Ratings are based on active finned length (3" less than overall length), and include 15% heating effect factor. Use 4 GPM rating only when flow is known to be equal to or greater than 4 GPM; otherwise 1 GPM ratings must be used.

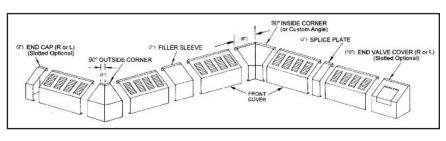
### ACCESSORIES



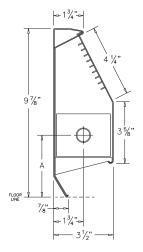
### LC SERIES 18 GAUGE SLOPE TOP BASEBOARD



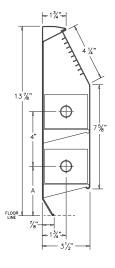
LC-850 and LC-1400 do not have a backpanel. One piece wall mounting bracket/element holder is ordered separately from cover, therefore bracket spacing is determined by system design and installation. LC cover hangs on top of the bracket and snaps on the bottom, similar to regular baseboard. LC series is ideal for use in replacement applications where you want to use the existing, installed element and just replace the cover. Output ratings are the same as HD series. Contact Slant/Fin for more detailed information.







350-10



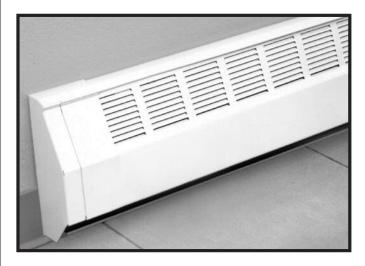
350-14

| Model | Element | "A"      |
|-------|---------|----------|
| 351   | H-1     | 3 15/16" |
| 353   | H-3     | 3 %"     |
| 354   | H-4     | 3 %"     |
| 355   | H-5x    | 3 15/16" |
| 356   | H-6x    | 3 15/16" |

# 350 SERIES

# HIGH-OUTPUT, SLOPE-TOP BASEBOARD

Pre-painted. Factory packaged.



350 Series baseboard combines, for the first time, the compactness and economy of baseboard with the high output and heavy-duty construction needed for "in-between" applications. Optional 1" and 1¼" copper/aluminum elements permit higher flow rates, longer series-loop runs and lower pump loads where required. With the 1¼" all-steel element, 350 Series is perfect for use in one or two pipe steam systems. 350 Series is factory assembled and shipped in individual cartons for rapid installations.

- Two heights for one or two heating element tiers
- · Nu-White enamel finish standard
- Choice of 5 copper or steel heating elements
- · Fully assembled and factory packaged
- · Room control damper optional
- · Extra backbone
- · Strong front panel resists kicks and dents
- · Optional 16-gauge front cover

HEAVY-DUTY CONSTRUCTION: 350 Series is engineered throughout for maximum strength. Super-strong enclosures. Extra-strength steel brackets. Heavy-duty copper and steel tubing with full mill rated bursting strength. Rock-solid interlocking-fin elements so strong you can stand on them. "CONTRACTOR-DESIGNED" for fast, economical installation. 350 Series goes straight from carton to wall without disassembling, sorting parts, wasting time. Factory pre-cut lengths of 2 to 8 feet combine with snap-on telescoping accessories to make wall-to-wall installations without cutting.

### ORDERING DATA

**PACKAGING**: Complete 350 Series baseboard enclosures are factory assembled and individually packaged. Cover and heating elements are packaged and sold separately. Cover includes brackets and expansion cradles. Cover may be ordered with optional fully modulating damper.

**CONSTRUCTION**: Back panel, front cover and optional damper fully assembled at factory, ready to fasten to the wall.

**DEPTH**: 3½"

**HEIGHT**: 9%" (one tier) and 13%" (one or two tier)

**LENGTHS**: 2', 3', 3½', 4', 5', 6', 7', 8'.

**MATERIAL**: 19-gauge steel or 16-gauge galvanized steel front cover. 24-gauge back cover. 17-gauge brackets.

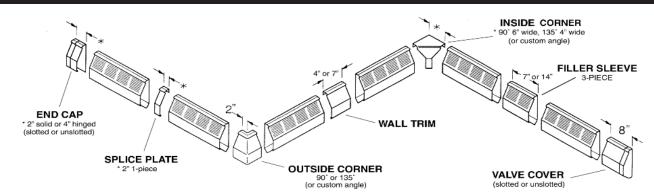
**FINISH**: 19-gauge model: Nu-White enamel finish. 16-gauge model: galvanized finish. Custom colors available.

**ELEMENT SUPPORT**: Self-adjusting, polypropylene expansion cradles are positioned over support brackets, allowing quiet expansion.

**ELEMENTS**: Choice of five. Copper with aluminum fins: H-1, H-3, H-4 and H-5X; steel with electro-galvanized steel fins: H-6X. See page 30.

|                           |                 | Tions of                       |                         | Fin Size and<br>Material               | Fins        |                |                    | Steam<br>1 PSI*        |            |            |            | H          | _          |              | R RAT        |              | 6*           |              |              |              |
|---------------------------|-----------------|--------------------------------|-------------------------|--|-------------|----------------|--------------------|------------------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Model<br>Number           | Element<br>Type | Tiers of<br>Heating<br>Element | Tube Size<br>& Material | (Width x Height x Thickness)           | Per<br>Foot | Water<br>Flow  | Pressure<br>Drop † | Btu/Hr.<br>Per<br>Foot | 110°F      | 120°F      | 130°F      | 140°F      | 150°F      | 160°F        | 170°F        | 180°F        | 190°F        | 200°F        | 210°F        | 220°F        |
| 351-10<br>Single-tier     | H-1             | 1                              | 3/4<br>copper           | "3" x 3¼" x .024"<br>aluminum          | 48          | 1 GPM<br>4 GPM | 47<br>525          |                        | 230<br>250 | 310<br>330 | 390<br>410 | 480<br>500 | 570<br>600 | 670<br>700   | 770<br>810   | 870<br>920   | 980<br>1040  | 1080<br>1140 |              | 1320<br>1400 |
| 353-10<br>Single-tier     | H-3             | 1                              | 3/4"<br>copper          | 2¾" x 2½" x .011"<br>aluminum          | 55          | 1 GPM<br>4 GPM | 47<br>525          | _                      | 210<br>230 | 290<br>300 | 360<br>380 | 440<br>460 | 520<br>550 | 610<br>650   | 710<br>750   | 800<br>850   | 900<br>960   | 1000<br>1060 | 1100<br>1170 | 1220<br>1290 |
| 354-10<br>Single-tier     | H-4             | 1                              | 1"<br>copper            | 3" x 2½" x .011"<br>aluminum           | 48          | 1 GPM<br>4 GPM | 13<br>145          | _                      | 210<br>230 | 290<br>310 | 360<br>380 | 440<br>460 | 520<br>550 | 610<br>650   | 710<br>750   | 800<br>850   | 900<br>960   | 1000<br>1060 |              | 1220<br>1290 |
| 355-10<br>Single-tier     | H-5X            | 1                              | 1-1/4"<br>copper        | 3" x 3½" x .020"<br>aluminum           | 48          | 1 GPM<br>4 GPM | 6<br>63            | 1160                   | 220<br>230 | 300<br>310 | 370<br>390 | 450<br>480 | 540<br>570 | 640<br>670   | 730<br>780   | 830<br>880   | 940<br>990   | 1040<br>1100 |              | 1260<br>1340 |
| 356-10<br>Single-tier     | H-6X            | 1                              | 1-1/4" IPS<br>steel     | 3" x 31/4" x .028"<br>aluminized steel | 48          | 1 GPM<br>4 GPM | 3<br>41            | 980                    | 190<br>200 | 250<br>270 | 320<br>340 | 390<br>410 | 460<br>490 | 550<br>580   | 630<br>670   | 710<br>750   | 810<br>850   | 890<br>940   |              | 1080<br>1150 |
| 350-14<br>Single-tier     | H-1             | 1                              | 3/4"<br>copper          | 3" x 3½" x .024"<br>aluminum           | 48          | 1 GPM<br>4 GPM | 47<br>525          |                        | 245<br>259 | 328<br>347 | 412<br>435 | 501<br>530 | 597<br>631 | 704<br>744   | 892<br>984   | 989<br>1091  | 1085<br>1198 | 1182<br>1305 |              | 1376<br>1519 |
| 353-14<br>Single-tier     | H-3             | 1                              | 3/4"<br>copper          | 2¾" x 2½" x .011"<br>aluminum          | 55          | 1 GPM<br>4 GPM | 47<br>525          |                        | 230<br>243 | 309<br>327 | 388<br>410 | 472<br>499 | 562<br>594 | 661<br>699   | 838<br>925   | 929<br>1025  | 1020<br>1126 | 1111<br>1226 | 1202<br>1308 | 1293<br>1428 |
| <b>354-14</b> Single-tier | H-4             | 1                              | 1"<br>copper            | 3" x 2½" x .011"<br>aluminum           | 48          | 1 GPM<br>4 GPM | 13<br>145          |                        | 230<br>243 | 309<br>327 | 388<br>410 | 472<br>499 | 562<br>594 | 661<br>699   | 838<br>925   | 929<br>1025  | 1020<br>1126 | 1111<br>1226 | 1202<br>1308 | 1293<br>1428 |
| 355-14<br>Single-tier     | H-5x            | 1                              | 1-1/4"<br>copper        | 3" x 31/4" x .020"<br>aluminum         | 48          | 1 GPM<br>4 GPM | 6<br>63            | 1280                   | 236<br>249 | 317<br>335 | 397<br>420 | 484<br>512 | 576<br>609 | 678<br>717   | 859<br>948   |              | 1045<br>1154 | 1139<br>1257 |              | 1326<br>1464 |
| 356-14<br>Single-tier     | H-6x            | 1                              | 1-1/4" IPS<br>steel     | 3" x 31/4" x .028"<br>aluminized steel | 48          | 1 GPM<br>4 GPM | 3<br>41            | 1105                   | 204<br>216 | 273<br>289 | 343<br>363 | 417<br>441 | 497<br>525 | 585<br>618   | 742<br>819   | 822<br>907   | 903<br>997   | 984<br>1085  |              | 1145<br>1265 |
| <b>351-14</b> Two-tier    | H-1             | 2                              | 3/4"<br>copper          | 3" x 3¼" x .024"<br>aluminum           | 48          | 1 GPM<br>4 GPM | 47<br>525          |                        | 360<br>380 | 480<br>510 | 610<br>640 | 740<br>780 | 880<br>970 | 1040<br>1150 | 1290<br>1420 | 1440<br>1590 | 1590<br>1750 | 1740<br>1920 |              | 2030<br>2250 |
| <b>353-14</b> Two-tier    | H-3             | 2                              | 3/4"<br>copper          | 2¾" x 2½" x .011"<br>aluminum          | 55          | 1 GPM<br>4 GPM | 47<br>525          |                        | 340<br>360 | 460<br>490 | 570<br>600 | 700<br>740 | 830<br>910 | 980<br>1080  | 1210<br>1340 | 1350<br>1490 | 1490<br>1650 | 1630<br>1800 |              | 1910<br>2110 |
| <b>354-14</b> Two-tier    | H-4             | 2                              | 1"<br>copper            | 3" x 2½" x .011"<br>aluminum           | 48          | 1 GPM<br>4 GPM | 13<br>145          |                        | 340<br>360 | 460<br>490 | 570<br>600 | 700<br>740 | 830<br>910 | 980<br>1080  | 1210<br>1340 | 1350<br>1490 | 1490<br>1650 | 1630<br>1800 |              | 1910<br>2110 |
| <b>355-14</b> Two-tier    | H-5x            | 2                              | 1-1/4"<br>copper        | 3" x 3¼" x .020"<br>aluminum           | 48          | 1 GPM<br>4 GPM | 6<br>63            | 1890                   | 350<br>370 | 470<br>500 | 590<br>620 | 710<br>750 |            | 1000<br>1100 | 1240<br>1370 | 1390<br>1530 | 1530<br>1690 | 1670<br>1850 |              | 1960<br>2160 |
| <b>356-14</b> Two-tier    | H-6x            | 2                              | 1-1/4" IPS<br>steel     | 3" x 31/4" x .028"<br>aluminized steel | 48          | 1 GPM<br>4 GPM | 3<br>41            | 1630                   | 300<br>320 | 400<br>420 | 500<br>530 | 610<br>640 | 730<br>810 | 860<br>950   | 1070<br>1190 | 1200<br>1320 | 1320<br>1460 | 1450<br>1600 |              | 1690<br>1870 |

<sup>\*</sup> Based on 65°F entering air temperature



Matching snap-on accessories let you speed through virtually any job condition without custom cutting and fitting. Piano hinged accessories permit easy access with flush or recessed installations.

### telescopic accessories

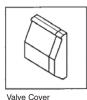


End Cap















Wall Trim

4" Hinged End Cap slotted or unslotted

All accessories are available for 10" and 14" high cabinets.

Filler Sleeve

<sup>†</sup> Millinches per foot.

Note: Ratings are based on active finned length (3" less than overall length), and include 15% heating effect factor.

Use 4 GPM ratings only when flow is known to be equal to or greater than 4 GPM; otherwise 1 GPM ratings must be used.



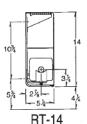
Aluminum grille optional.



\*Details for optional R-Series Damper shown on model RTD-28

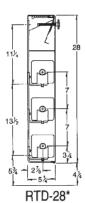


RI -10



91/2 7

RT-21



# R SERIES

### FLAT-TOP ENCLOSURE

### MODELS RL-10, RT-14, RT-21, RT-28



### ORDERING DATA

**CONSTRUCTION**: Single piece cover mounts on wall brackets.

**DEPTH**: 51/4"

lengths available to order.

**HEIGHTS**: 97/4", 14" (one tier), 21" (one or two tier), 28" (up to three tier).

**LENGTHS**: 2', 3',3½', 4', 5', 6', 7', 8'. Other ½'

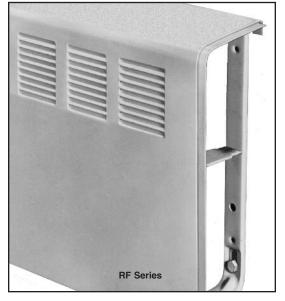
MATERIAL: 18-gauge cover, 16 and 14-ga optional.

**FINISH**: Galvanized standard. Custom color baked enamel available on special order. Anodized architectural aluminum grille optional.

**WALL BRACKETS/HANGERS**: Order separately, specify BKT (bracket only) or BKT ASSY (bracket complete with SC hangers) followed by cover stock number and quantity.

|         |         | ded number of bir<br>given length. | rackets |
|---------|---------|------------------------------------|---------|
| Element | 2       | 3                                  | 4       |
| S-532   | 2-4 ft. | 5-7 ft.                            | 8 ft.   |
| S-540   | 2-4 ft. | 5-7 ft.                            | 8 ft.   |
| S-832   | 2-4 ft. | 5-6 ft.                            | 7-8 ft. |
| C-340   | 2-5 ft. | 6-8 ft.                            | _       |
| C-440   | 2-5 ft. | 6-8 ft.                            | -       |
| C-540   | 2-5 ft. | 6-8 ft.                            | _       |

NOTE: When using end brackets on short run supply and return pipes, additional bracket(s) may be required.



**ELEMENTS**: Copper with aluminum fins: C-340, C-440, C-540. Steel with electro-galvanized steel fins: S-532, S-540, S-832. Lengths from 2 to 12 feet (Canada: 2 to 8 feet). See p. 30.

JOINTS: Slip joint connectors align cover sections which butt to one another, providing a near seamless joint. Use of telescopic accessories eliminates the need to perfectly butt one length of cover to the next. Critical linear and vertical tolerances are eliminated because telescopic assembly absorbs misalignment that might result from uneven floors and walls.

### OPTIONS

### **Louver locations**

R-Series enclosures may be ordered with these alternate louver locations:

Model RF: Louvered front (N/A on RL-10). Aluminum grille not available for front outlet.

### OTHER OPTIONS

Damper, field installed (not available with aluminum grille)

Back panel.

16 and 14-gauge cover.

Access door, field installed.

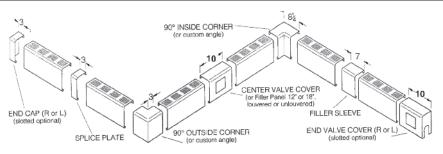
Inlet grille.

Architectural aluminum grille.

Custom color.

|                                |                     |  |  |   | Fins                             | Steam<br>1 PSI*                              |  |  |   | BTU  | _  |  | R RAT<br>w Rate                              |  | Sec.)  |  |  |  |
|--------------------------------|---------------------|--|--|---|----------------------------------|--|--|--|---|--|--|--|--|--|--|--|--|--|
| Cover<br>Type                  | Enclosure<br>Height | Element<br>Type                                    | Tube Size and Material   | Fin Size<br>and Material                                    | Per<br>Foot                      | Btu/Hr.<br>Per Foot                          | 110°F                                  | 120°F                                  | 130°F                                     | 140°F  | 150°F  | 160°F  | 170°F  | 180°F  | 190°F  | 200°F  | 210°F  | 220°F  |
| RL-10                          | 9 %"                | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>¾" copper<br>1" copper<br>1½" copper | 4½" steel 4½" steel 4½" steel 4½" alum. 4½" alum. 4½" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 1230<br>1330<br>1270<br>1647<br>1740<br>1710 | 246<br>266<br>254<br>329<br>348<br>342 | 320<br>346<br>330<br>428<br>452<br>445 | 406<br>439<br>419<br>544<br>574<br>564    | 492<br>532<br>508<br>659<br>696<br>684       | 554<br>599<br>572<br>742<br>783<br>770       | 652<br>705<br>673<br>872<br>922<br>906       | 750<br>811<br>755<br>1004<br>1061<br>1043    | 849<br>918<br>876<br>1136<br>1201<br>1180    |  | 1058<br>1144<br>1092<br>1417<br>1496<br>1471 | 1169<br>1264<br>1207<br>1565<br>1653<br>1625 | 1292<br>1397<br>1334<br>1730<br>1827<br>1796 |
| RT-14                          | 14"                 | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>¾" copper<br>1" copper<br>1½" copper | 4¼" steel 4¼" steel 4¼" steel 4¼" alum. 4¼" alum. 4¼" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 1280<br>1500<br>1320<br>1714<br>1820<br>1780 | 256<br>300<br>264<br>343<br>364<br>356 | 333<br>390<br>343<br>446<br>473<br>463 | 422<br>495<br>436<br>566<br>601<br>587    | 512<br>600<br>528<br>685<br>728<br>712       | 576<br>675<br>594<br>771<br>819<br>801       | 678<br>795<br>700<br>908<br>965<br>943       | 781<br>915<br>805<br>1046<br>1110<br>1086    | 883<br>1035<br>911<br>1183<br>1256<br>1228   | 1337   | 1101<br>1290<br>1135<br>1474<br>1565<br>1531 | 1216<br>1425<br>1254<br>1628<br>1729<br>1691 | 1344<br>1575<br>1386<br>1800<br>1911<br>1869 |
| RT-21<br>One-tier<br>element   | 21"                 | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>½" copper<br>1" copper<br>1½" copper | 4¼" steel 4¼" steel 4¼" steel 4¼" alum. 4¼" alum. 4¼" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 1380<br>1610<br>1460<br>1878<br>1990<br>1950 | 276<br>322<br>292<br>376<br>398<br>390 | 359<br>419<br>380<br>488<br>518<br>507 | 455<br>531<br>482<br>620<br>657<br>644    | 552<br>644<br>584<br>751<br>796<br>780       | 621<br>725<br>657<br>846<br>896<br>878       | 731<br>853<br>774<br>996<br>1055<br>1034     | 842<br>982<br>891<br>1146<br>1214<br>1190    | 952<br>1111<br>1007<br>1296<br>1373<br>1346  | 1139<br>1465<br>1552                         | 1187<br>1385<br>1256<br>1615<br>1711<br>1677 | 1311<br>1530<br>1387<br>1784<br>1891<br>1853 | 1449<br>1691<br>1533<br>1972<br>2090<br>2048 |
| RT-21<br>Two-tier<br>element   | 21"                 | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>¾" copper<br>1" copper<br>1½" copper | 4½" steel 4½" steel 4½" steel 4½" alum. 4½" alum. 4½" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 2200<br>2440<br>2230<br>2668<br>2830<br>2770 | 440<br>488<br>446<br>534<br>566<br>554 | 572<br>634<br>580<br>694<br>736<br>720 | 726<br>805<br>736<br>881<br>934<br>914    | 880<br>976<br>892<br>1067<br>1132<br>1108    | 990<br>1098<br>1004<br>1201<br>1274<br>1247  | 1166<br>1293<br>1182<br>1414<br>1500<br>1468 | 1342<br>1488<br>1360<br>1627<br>1726<br>1690 | 1518<br>1684<br>1539<br>1840<br>1953<br>1911 | 1716<br>1903<br>1739<br>2081<br>2207<br>2161 |  | 2090<br>2318<br>2119<br>2535<br>2689<br>2632 | 2310<br>2562<br>2342<br>2801<br>2972<br>2909 |
| RT-28<br>One-tier<br>element   | 28"                 | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>½" copper<br>1" copper<br>1½" copper | 4¼" steel 4¼" steel 4¼" steel 4¼" alum. 4¼" alum. 4¼" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 1400<br>1680<br>1480<br>1907<br>2020<br>1980 | 280<br>336<br>296<br>381<br>404<br>396 | 364<br>437<br>385<br>496<br>525<br>515 | 462<br>554<br>488<br>629<br>667<br>653    | 560<br>672<br>592<br>763<br>808<br>792       | 630<br>756<br>666<br>858<br>909<br>891       | 742<br>890<br>784<br>1010<br>1071<br>1049    | 854<br>1025<br>903<br>1163<br>1232<br>1208   | 956<br>1159<br>1021<br>1315<br>1394<br>1366  | 1092<br>1310<br>1154<br>1487<br>1576<br>1544 | 1445<br>1273<br>1640<br>1737                 | 1330<br>1596<br>1406<br>1811<br>1919<br>1881 | 1470<br>1764<br>1554<br>2002<br>2121<br>2079 |
| RT-28<br>Two-tier<br>element   | 28"                 | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>¾" copper<br>1" copper<br>1½" copper | 4¼" steel 4¼" steel 4¼" steel 4¼" alum. 4¼" alum. 4¼" alum. | 32<br>40<br>32<br>40<br>40<br>40 | 2260<br>2460<br>2270<br>2860<br>3030<br>2970 | 452<br>492<br>454<br>572<br>606<br>594 | 588<br>640<br>590<br>744<br>788<br>772 | 746<br>812<br>749<br>944<br>1000<br>980   | 904<br>984<br>908<br>1144<br>1212<br>1188    | 1017<br>1107<br>1022<br>1288<br>1364<br>1337 | 1198<br>1304<br>1203<br>1516<br>1606<br>1574 | 1379<br>1501<br>1385<br>1745<br>1848<br>1812 | 1559<br>1697<br>1566<br>1973<br>2091<br>2049 | 1771<br>2231                                 | 1944<br>2116<br>1952<br>2460<br>2606<br>2554 | 2147<br>2337<br>2157<br>2718<br>2879<br>2822 | 2373<br>2583<br>2384<br>3004<br>3182<br>3119 |
| RT-28<br>Three-tier<br>element | 28"                 | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" steel<br>1½" steel<br>2" steel<br>½" copper<br>1" copper<br>1½" copper | 4½" steel 4½" steel 4½" steel 4½" alum. 4½" alum.           | 32<br>40<br>32<br>40<br>40<br>40 | 2580<br>2800<br>2660<br>3390<br>3590<br>3520 | 516<br>560<br>532<br>678<br>718<br>704 | 671<br>728<br>692<br>881<br>934<br>915 | 851<br>924<br>878<br>1119<br>1185<br>1162 | 1032<br>1120<br>1064<br>1356<br>1436<br>1408 | 1161<br>1260<br>1197<br>1525<br>1616<br>1584 | 1367<br>1484<br>1410<br>1797<br>1903<br>1866 | 1574<br>1708<br>1623<br>2068<br>2190<br>2147 | 2339<br>2477                                 | 2012<br>2184<br>2075<br>2644<br>2800<br>2746 | 2408<br>2288<br>2915<br>3087                 | 2451<br>2660<br>2527<br>3220<br>3411<br>3344 | 2709<br>2940<br>2793<br>3559<br>3770<br>3696 |

\*Based on 65°F entering air temperature. Note: Ratings are based on active finned length (5-1/4" less than overall length.)

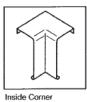


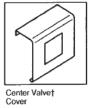
#### telescopic accessories











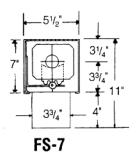


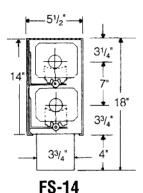


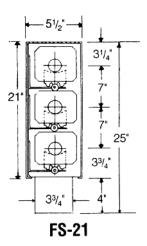


Slotted End Cap





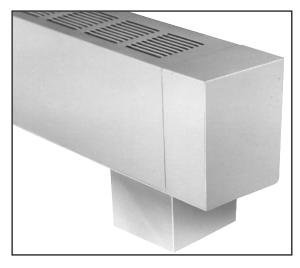




# **FS SERIES**

# FREE STANDING ENCLOSURE

### MODELS FS-21, FS-14 AND FS-7





### ORDERING DATA

**CONSTRUCTION**: Single piece cover mounts on floor pedestals.

**DEPTH**: 5½"

INSTALLED HEIGHTS: 11" (one tier), 18" (one or

two tier), 25" (up to three tier)

**LENGTHS**: 2', 3', 31/2', 4', 5', 6', 7', 8'. Other 1/2'

lengths available to order.

MATERIAL: FS-7: 16-ga std., 14-ga optional. FS-14 and FS-21: 16-ga std., 14-ga optional.

**FINISH**: Galvanized standard. Custom color baked enamel available on special order. Anodized architectural aluminum grille optional. Stainless steel

escutcheon for pedestals standard.

PEDESTAL BRACKETS/HANGERS: Order separately. Adjustable height floor pedestal supports the elements and enclosure. Uses standard SC hangers. Large hole in base to bring supply and return piping into cover without showing. Stainless steel escutcheon around base for neat finish.

**ELEMENTS**: Copper with aluminum fins: C-340, C-440, C-540. Steel with electro-galvanized steel fins: S-532, S-540. Lengths from 2 to12 feet (Canada: 2 to 8 feet). See p. 30.

JOINTS: Slip joint connectors align cover sections which butt to one another, providing a near seamless joint. Use of telescopic accessories eliminates the need to perfectly butt one length of cover to the next. Critical linear and vertical tolerances are eliminated because telescopic assembly absorbs misalignment that might result from uneven floors and walls.

**NOTE**: Pedestals used as a pipe chase for individual vertical supply or return pipes (max 1-1/4" pipe) must be dedicated for pipe chase use and will not be able to support element or horizontal piping. SC hangers will not fit into pedestals used for this function.

|         |         | nded number of for given length. |       |
|---------|---------|----------------------------------|-------|
| Element | 2       | 3                                | 4     |
| S-532   | 2-5 ft. | 6-7 ft.                          | 8 ft. |
| S-540   | 2-5 ft. | 6-7 ft.                          | 8 ft. |
| C-340   | 2-5 ft. | 6-7 ft.                          | 8 ft. |
| C-440   | 2-5 ft. | 6-7 ft.                          | 8 ft. |
| C-540   | 2-5 ft. | 6-7 ft.                          | 8 ft. |

NOTE: When using end brackets on short run supply and return pipes, additional bracket(s) may be required.

### OPTIONS

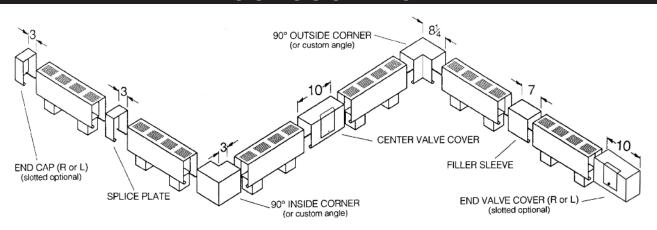
Heavier gauge cover.
Access door, field installed.
Architectural aluminum grille.
Custom color.

|               |                     |                 |                           |                        | Fins        | Steam<br>1 PSI*     |            |            |              |              |              | _            | ATER<br>(Flow |              | GS*<br>Ft./Se | c.)          |              |              |
|---------------|---------------------|-----------------|---------------------------|------------------------|-------------|---------------------|------------|------------|--------------|--------------|--------------|--------------|---------------|--------------|---------------|--------------|--------------|--------------|
| Cover<br>Type | Enclosure<br>Height | Element<br>Type | Tube Size<br>& Material   | Fin Size<br>& Material | Per<br>Foot | Btu/Hr.<br>Per Foot | 110°F      | 120°F      | 130°F        | 140°F        | 150°F        | 160°F        | 170°F         | 180°F        | 190°F         | 200°F        | 210°F        | 220°F        |
|               |                     | S-532           | 1¼" steel                 | 4¼" steel              | 32          | 1290                | 258        | 336        | 426          | 516          | 581          | 684          | 787           | 890          | 1006          | 1109         | 1226         | 1355         |
|               |                     | S-540           | 1¼" steel                 | 4¼" steel              | 40          | 1390                | 278        | 362        | 459          | 556          | 626          | 737          | 848           | 959          | 1084          | 1195         | 1321         | 1460         |
| FS-7          | 7"                  | C-340           | ¾" copper                 | 4¼" alum.              | 40          | 1579                | 316        | 411        | 521          | 632          | 711          | 837          | 963           | 1090         | 1232          | 1358         | 1500         | 1658         |
|               |                     | C-440           | 1" copper                 | 4¼" alum.              | 40          | 1670                | 334        | 434        | 551          | 668          | 752          | 885          | 1019          | 1152         | 1303          | 1436         | 1587         | 1754         |
|               |                     | C-540           | 1½" copper                | 4¼" alum.              | 40          | 1640                | 328        | 426        | 541          | 656          | 738          | 869          | 1000          | 1132         | 1279          | 1410         | 1558         | 1722         |
|               |                     | S-532           | 1¼" steel                 | 4¼" steel              | 32          | 1330                | 266        | 346        | 439          | 532          | 599          | 705          | 811           | 918          | 1037          | 1144         | 1264         | 1397         |
| FS-14         |                     | S-540           | 1¼" steel                 | 4¼" steel              | 40          | 1540                | 308        | 400        | 508          | 616          | 693          | 816          | 939           | 1063         | 1201          | 1324         | 1463         | 1617         |
| One-tier      | 14"                 | C-340           | ¾" copper                 | 4¼" alum.              | 40          | 1782                | 356        | 463        | 588          | 713          | 802          | 945          | 1087          | 1230         | 1390          | 1532         | 1693         | 1871         |
| element       |                     | C-440           | 1" copper                 | 4¼" alum.              | 40          | 1890                | 378        | 492        | 624          | 756          | 851          | 1002         | 1153          | 1304         | 1474          | 1625         | 1796         | 1985         |
| 0.0           |                     | C-540           | 11/4" copper              | 4¼" alum.              | 40          | 1850                | 370        | 481        | 611          | 740          | 833          | 981          | 1129          | 1277         | 1443          | 1591         | 1758         | 1943         |
|               |                     | S-532           | 1¼" steel                 | 4¼" steel              | 32          | 1850                | 370        | 481        | 611          | 740          | 833          | 981          | 1129          | 1277         | 1443          | 1591         | 1758         | 1943         |
| FS-14         |                     | S-540           | 1¼" steel                 | 4¼" steel              | 40          | 1955                | 391        | 508        | 645          | 782          | 880          | 1036         | 1193          | 1349         | 1525          | 1681         | 1857         | 2053         |
| Two-tier      | 14"                 | C-340           | ¾" copper                 | 4¼" alum.              | 40          | 2311                | 462        | 601        | 763          | 925          | 1040         | 1225         | 1410          | 1595         | 1803          | 1988         | 2196         | 2427         |
| element       |                     | C-440           | 1" copper                 | 4¼" alum.              | 40          | 2450                | 490        | 637        | 809          | 980          | 1103         | 1299         | 1495          | 1690         | 1911          | 2107         | 2328         | 2573         |
|               |                     | C-540           | 11/4" copper              | 4¼" alum.              | 40          | 2400                | 480        | 624        | 792          | 960          | 1080         | 1272         | 1464          | 1656         | 1872          | 2064         | 2280         | 2520         |
|               |                     | S-532           | 1¼" steel                 | 4¼" steel              | 32          | 1610                | 322        | 419        | 531          | 644          | 725          | 853          | 982           | 1111         | 1256          | 1385         | 1530         | 1691         |
| FS-21         |                     | S-540           | 1¼" steel                 | 4¼" steel              | 40          | 1675                | 335        | 435        | 553          | 670          | 754          | 888          | 1022          | 1156         | 1307          | 1441         | 1591         | 1759         |
| One-tier      | 21"                 | C-340           | ¾" copper                 | 4¼" alum.              | 40          | 2008                | 402        | 522        | 663          | 803          | 903          | 1064         | 1225          | 1386         | 1566          | 1727         | 1908         | 2108         |
| element       |                     | C-440           | 1" copper                 | 4¼" alum.              | 40          | 2130                | 426        | 554        | 703          | 852          | 959          | 1129         | 1299          | 1470         | 1661          | 1832         | 2024         | 2237         |
|               |                     | C-540           | 1¼" copper                | 4¼" alum.              | 40          | 2085                | 417        | 542        | 688          | 832          | 938          | 1105         | 1272          | 1439         | 1626          | 1793         | 1981         | 2189         |
|               |                     | S-532           | 1¼" steel                 | 4¼" steel              | 32          | 2140                | 428        | 556        | 706          | 856          | 963          | 1134         | 1305          | 1477         | 1669          | 1840         | 2033         | 2247         |
| FS-21         |                     | S-540           | 1¼" steel                 | 4¼" steel              | 40          | 2245                | 449        | 584        | 741          | 898          | 1010         | 1190         | 1369          | 1549         | 1751          | 1931         | 2133         | 2357         |
| Two-tier      | 21"                 | C-340           | ¾" copper                 | 4¼" alum.              | 40          | 2648                | 528        | 686        | 871          | 1056         | 1192         | 1404         | 1616          | 1827         | 2066          | 2277         | 2516         | 2781         |
| element       |                     | C-440           | 1" copper                 | 4¼" alum.              | 40          | 2810                | 562        | 731        | 927          | 1124         | 1265         | 1489         | 1714          | 1939         | 2192          | 2417         | 2670         | 2951         |
|               |                     | C-540           | 1¼" copper                | 4¼" alum.              | 40          | 2750                | 550        | 715        | 908          | 1100         | 1238         | 1458         | 1678          | 1897         | 2145          | 2365         | 2613         | 2888         |
| FS-21         |                     | S-532<br>S-540  | 1¼" steel<br>1¼" steel    | 4¼" steel              | 32<br>40    | 2380                | 476        | 619        | 785<br>838   | 952          | 1071         | 1261         | 1452          | 1642         | 1856          | 2047         | 2261         | 2499<br>2667 |
|               | 21"                 |                 |                           | 4¼" steel              |             | 2540                | 508        | 660        |              | 1016         | 1143         | 1346         | 1549          | 1753         | 1981          | 2184         | 2413         |              |
| Three-tier    | 21"                 | C-340           | ¾" copper                 | 4¼" alum.              | 40          | 3005                | 601        | 781        | 991          | 1202         | 1352         | 1593         | 1833          | 2073         | 2344          | 2584         | 2854         | 3155         |
| element       |                     | C-440<br>C-540  | 1" copper<br>11/4" copper | 4¼" alum.<br>4¼" alum. | 40<br>40    | 3180<br>3120        | 636<br>624 | 827<br>811 | 1049<br>1030 | 1272<br>1248 | 1431<br>1404 | 1685<br>1654 | 1940<br>1903  | 2194<br>2153 | 2480<br>2434  | 2735<br>2683 | 3021<br>2964 | 3339<br>3276 |

\*Based on 65°F entering air temperature.

Note: Ratings are based on active finned length (5-1/4" less than overall length.)

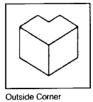
### **CCESSORIES**

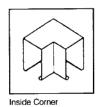


### telescopic accessories

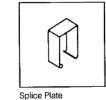


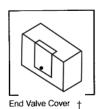










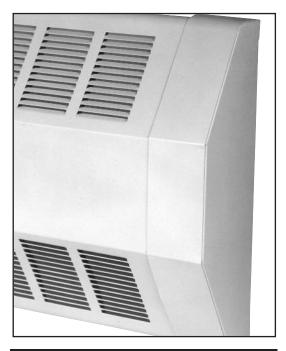


† Access doors: 6" x 6". Door location depends on model.



# **TBG SERIES**

# SLOPE-TOP/BOTTOM ENCLOSURES





ORDERING DATA

**CONSTRUCTION**: Single piece cover mounts on wall brackets.

**DEPTH**: 51/4"

HEIGHTS: 17" (one tier), 24" (one or two tier)

**LENGTHS**: 2', 3', 3½', 4', 5', 6', 7', 8'. Other ½'

lengths available to order

MATERIAL: 16-ga cover standard, 14-ga optional.

**FINISH**: Galvanized standard. Custom color baked enamel available on special order. Anodized architectural aluminum grille optional.

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**WALL BRACKET/HANGERS**: Order separately, specify BKT (bracket only) or BKT ASSY (bracket complete with SC hangers) followed by cover stock number and quantity.

|         |         | nded number of or given length. | brackets |
|---------|---------|---------------------------------|----------|
| Element | 2       | 3                               | 4        |
| S-532   | 2-5 ft. | 6-7 ft.                         | 8 ft.    |
| S-540   | 2-5 ft. | 6-7 ft.                         | 8 ft.    |
| S-832   | 2-5 ft. | 6 ft.                           | 7-8 ft.  |
| C-340   | 2-5 ft. | 6-7 ft.                         | 8 ft.    |
| C-440   | 2-5 ft. | 6-7 ft.                         | 8 ft.    |
| C-540   | 2-5 ft. | 6-7 ft.                         | 8 ft.    |

NOTE: When using end brackets on short run supply and return pipes, additional bracket(s) may be required.

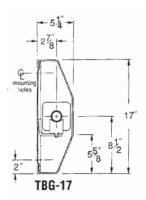
**ELEMENTS**: Copper with aluminum fins: C-340, C-440, C-540. Steel with electro-galvanized steel fins: S-532, S-540, S-832. Lengths from 2 to 12 feet (Canada: 2 to 8 feet). See p. 30.

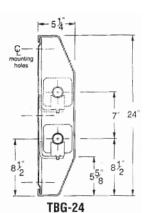
JOINTS: Slip joint connectors align cover sections which butt to one another, providing a near seamless joint. Use of telescopic accessories eliminates the need to perfectly butt one length of cover to the next. Critical linear and vertical tolerances are eliminated because telescopic assembly absorbs misalignment that might result from uneven floors and walls.

### OPTIONS

14-gauge cover.
Access door, field installed.
Architectural aluminum grille.
Damper, field installed
(not available with aluminum grille)
Custom color.





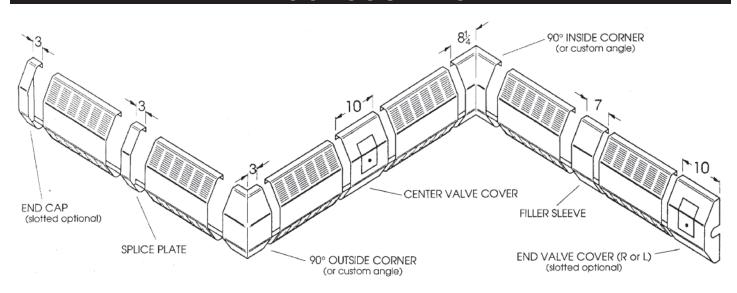


|                               |                     |   |  |  | Fins                                   | Steam<br>1 PSI*<br>Btu/Hr.                           |   |  |   | BTU                                    |   | WATEI<br>T. (Flo                               |   |   | Sec.)  |  |  |  |
|-------------------------------|---------------------|---|--|--|--|--|---|--|---|--|---|--|---|---|--|--|--|--|
| Cover<br>Type                 | Enclosure<br>Height | Element<br>Type   | Tube Size<br>& Material  | Fin Size<br>& Material   | Per<br>Foot                            | Per<br>Foot  | 110°F   | 120°F                                  | 130°F   | 140°F                                  | 150°F   | 160°F  | 170°F   | 180°F   | 190°F  | 200°F  | 210°F  | 220°F  |
| TBG-17                        | 17"                 | S-532<br>S-540<br>S-832<br>C-340<br>C-440                   | 1½" steel<br>1½" steel<br>2" steel<br>¾" copper<br>1" copper                             | 4¼" steel<br>4¼" steel<br>4¼" steel<br>4¼" alum.<br>4¼" alum.              | 32<br>40<br>32<br>40<br>40             | 1250<br>1344<br>1201<br>1595<br>1690                 | 250<br>269<br>240<br>319<br>338               | 325<br>349<br>312<br>415<br>440        | 413<br>444<br>396<br>526<br>558               | 500<br>538<br>480<br>638<br>676        | 563<br>605<br>540<br>717<br>761               | 663<br>712<br>637<br>846<br>896                | 763<br>820<br>733<br>973<br>1031                  | 862<br>927<br>829<br>1101<br>1166                   | 975<br>1048<br>937<br>1244<br>1318                   | 1075<br>1156<br>1033<br>1371<br>1453                 | 1188<br>1277<br>1141<br>1515<br>1606                 | 1775   |
| TBG-24<br>One-tier<br>element | 24"                 | C-540<br>S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540 | 1½" copper<br>1½" steel<br>1½" steel<br>2" steel<br>½" copper<br>1" copper<br>1½" copper | 4½" steel 4½" steel 4½" steel 4½" steel 4½" alum. 4½" alum. 4½" alum.      | 40<br>32<br>40<br>32<br>40<br>40<br>40 | 1656<br>1460<br>1505<br>1345<br>1798<br>1910<br>1868 | 331<br>292<br>301<br>269<br>360<br>382<br>374 | 380<br>391<br>350<br>468<br>497<br>486 | 546<br>482<br>497<br>444<br>594<br>630<br>617 | 584<br>602<br>538<br>720<br>764<br>747 | 745<br>657<br>677<br>605<br>810<br>860<br>841 | 878<br>774<br>798<br>713<br>953<br>1012<br>990 | 1010<br>891<br>918<br>820<br>1097<br>1165<br>1139 | 1143<br>1007<br>1038<br>928<br>1241<br>1318<br>1289 | 1292<br>1139<br>1174<br>1049<br>1403<br>1490<br>1457 | 1424<br>1256<br>1294<br>1157<br>1547<br>1643<br>1606 | 1573<br>1387<br>1430<br>1278<br>1709<br>1815<br>1775 | 1533<br>1580<br>1412<br>1888                 |
| TBG-24<br>Two-tier<br>element | 24"                 | S-532<br>S-540<br>S-832<br>C-340<br>C-440<br>C-540          | 1½" steel<br>1½" steel<br>2" steel<br>¾" copper<br>1" copper<br>1½" copper               | 4¼" steel<br>4¼" steel<br>4¼" steel<br>4¼" alum.<br>4¼" alum.<br>4¼" alum. | 32<br>40<br>32<br>40<br>40<br>40       | 1980<br>2102<br>1890<br>2337<br>2480<br>2427         | 396<br>420<br>378<br>468<br>496<br>485        | 515<br>547<br>492<br>608<br>645<br>631 | 653<br>694<br>624<br>772<br>818<br>801        | 792<br>841<br>756<br>935<br>992<br>971 | 891<br>946<br>851<br>1052<br>1116<br>1092     | 1049<br>1114<br>1002<br>1238<br>1314<br>1286   | 1208<br>1282<br>1153<br>1425<br>1513<br>1480      | 1613  | 1544<br>1640<br>1474<br>1823<br>1934<br>1893         | 1703<br>1808<br>1625<br>2010<br>2133<br>2087         | 1881<br>1997<br>1796<br>2221<br>2356<br>2306         | 2079<br>2207<br>1985<br>2454<br>2604<br>2548 |

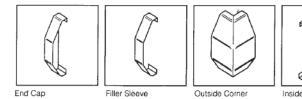
<sup>\*</sup>Based on 65°F entering air temperature.

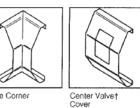
Note: Ratings are based on active finned length (5-1/4" less than overall length.)

### ACCESSORIES



### TELESCOPIC ACCESSORIES







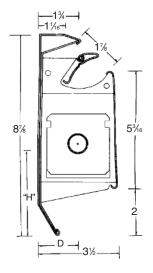




End Valve† Slotted Cover End Cap

† Access doors: 6" x 6". Door location depends on model.





| ELEMENT | "H"   | "D"            |
|---------|-------|----------------|
| H-1     | 37/8" | 13/4"          |
| H-3     | 31/2" | <b>1</b> 9/16" |
| H-4     | 31/2" | <b>1</b> 9⁄16″ |
| H-5x    | 37/8" | 13/4"          |
| H-6x    | 37/8" | 13/4"          |

# **MULTI/PAK® 80**

# HIGH-OUTPUT, LOW-PROFILE BASEBOARD



Nu-White is standard color. Eight additional colors are available.

Made with Rust-Resistant Galvanized Steel.

The industry standard for heavy-duty, high-output baseboard heating, Multi/Pak 80 is trusted by contractors and engineers for its performance and durability. Multi/Pak 80 combines the compactness, economy, and ease of installation of baseboard with the high capacity, rugged construction and design versatility needed for industrial and commercial use. Multi/Pak 80 is engineered for maximum strength throughout. Dent-proof 18-gauge front panels. Massive steel brackets. Heavy wall tubing with full mill-rated bursting strength. For fast, economical installation, Multi/Pak 80 enclosures are factory preassembled in "Zip Strip" cartons. Factory pre-cut lengths of 2 to 14 feet combine with snap-on telescoping accessories to produce wall-to-wall installations without cutting.

- Galvanized steel cover resists rust
- Engineered for maximum strength and good looks
- 18-gauge front panel resists damage
- · Massive steel brackets
- · Fully modulating damper
- Choice of 5 interchangeable heating elements
- · Packaged in individual Zip-Strip cartons
- Modern replacement for hot water or steam radiators

### **INTERCHANGEABLE HEATING ELEMENTS:**

Available with a choice of five heating elements, Multi/Pak 80 meets a wide variety of heating requirements. With the optional *high-output* 3/4" copper/aluminum element, it is the perfect alternative to costly, bulky commercial enclosures in "problem areas" of high heat loss. Optional 1" and 1½" copper/aluminum elements permit higher flow rates, longer series-loop runs and lower pump loads. The 1½" elements are suitable for use in one or two pipe steam systems.

### ORDERING DATA

**PACKAGING**: Complete assembly - Model 83A2: Factory assembled, packaged in individual Zip-Strip cartons. Includes H-3 element, enclosure, brackets, plastic expansion cradles and damper. Model 81A, 84A3, 85A and 86A: Cover and element packaged and shipped separately.

**CONSTRUCTION**: Back panel, front cover and damper fully assembled at factory, ready to fasten to the wall.

**DEPTH**: 3½" **HEIGHT**: 8%"

**LENGTHS**: 2', 3', 3½', 4', 5', 6', 7', 8', 10', 12', 14'

(Canada: 2 to 8 feet).

**MATERIAL**: 18-gauge galvanized steel front cover. 21-gauge galvanized steel back cover. 16-gauge brackets.

FINISH: Nu-White baked enamel.

**ELEMENT SUPPORT**: Self-adjusting, polypropylene expansion cradles are positioned over support brackets, allowing quiet expansion.

**ELEMENTS**: Choice of five. Copper with aluminum fins: H-1, H-3, H-4 and H-5X; steel with electro-galvanized steel fins: H-6X. See page 30.

| ВВ              |      | Tube                 | Fin Size and<br>Material             | Fins        |                |                   | Steam<br>1 PSI ±    |              |              |              | ı            |            |            | R RAT      |            | ‡          |             |              |              |
|-----------------|------|----------------------|--------------------------------------|-------------|----------------|-------------------|---------------------|--------------|--------------|--------------|--------------|------------|------------|------------|------------|------------|-------------|--------------|--------------|
| Model<br>Number |      | Size and<br>Material | (Width x Height x Thickness)         | per<br>Foot | Water<br>Flow  | Pressure<br>Drop† | Btu/Hr.<br>Per Foot | 110°F        | 120°F        | 130°F        | 140°F        | 150°F      | 160°F      | 170°F      | 180°F      | 190°F      | 200°F       | 210°F        | 220°F        |
| 80-D            | H-1  | ¾"<br>copper         | 3 x 3½" x .024"<br>aluminum          | 48          | 1 GPM<br>4 GPM | 47<br>525         |                     | 210*<br>220* | 290*<br>310* | 360*<br>380* | 440*<br>470* | 520<br>550 | 610<br>640 | 700<br>740 | 790<br>840 | 880<br>930 | 970<br>1030 | 1060<br>1120 | - 1          |
| 83-A            | H-3  | ¾"<br>copper         | 2¾" x 2½" x .011"<br>aluminum        | 55          | 1 GPM<br>4 GPM | 47<br>525         |                     | 200*<br>210* | 270*<br>290* | 340*<br>360* | 410*<br>430* | 490<br>520 | 570<br>600 | 650<br>690 | 730<br>770 | 810<br>860 | 890<br>940  | 970<br>1030  | 1050<br>1110 |
| 80-D            | H-4  | 1"<br>copper         | 3" x 2½" x .011"<br>aluminum         | 48          | 1 GPM<br>4 GPM | 13<br>145         |                     | 200*<br>210* | 260*<br>270* | 330*<br>350* | 400*<br>420* | 480<br>510 | 560<br>610 | 640<br>680 | 720<br>760 | 800<br>850 | 880<br>930  |              | 1040<br>1100 |
| 80-D            | H-5X | 1½"<br>copper        | 3" x 3½" x .020"<br>aluminum         | 48          | 1 GPM<br>4 GPM | 6<br>63           | 1130                | 190*<br>200* | 260*<br>270* | 320*<br>340* | 390*<br>410* | 470<br>500 | 560<br>590 | 650<br>690 | 740<br>780 | 830<br>890 | 920<br>970  |              | 1100<br>1160 |
| 80-D            | H-6X | 1¼" IPS<br>steel     | 3" x 3½" x .028"<br>aluminized steel | 48          | 1 GPM<br>4 GPM | 3<br>41           | 990                 |              |              | _            |              | 410<br>430 | 490<br>520 | 560<br>590 | 640<br>680 | 710<br>750 | 790<br>840  | 860<br>910   | 940<br>990   |

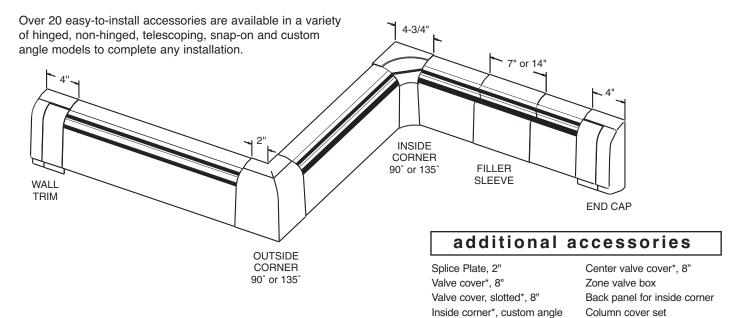
<sup>†</sup> Millinches per foot. \*Ratings at 140°F and lower temperatures determined by multiplying 150°F rating by the applicable factor specified in Table E in the I=B=R Testing and Rating Standard for Baseboard radiation.

**NOTE:** Ratings are for element installed as per drawing shown in "Dimensional Data" window (open "Dimensional Data" window to view) with damper open, with expansion cradles. Ratings are based on active finned length (5" to 6" less than overall length) and include 15% heating effect factor. Ratings are also based on:

- 81-A: 3/4" nominal copper tubing with 3" x 3-1/4' x .024" aluminum fins spaced 48 per linear foot (unpainted);
- 83-A2: 3/4" nominal copper tubing with 2-3/4" x 2-1/2" x .011" aluminum fins spaced 55 per linear foot (unpainted);
- 84-A3: 1" nominal copper tubing with 3" x 2-1/2" x .011" aluminum fins spaced 48 per linear foot (unpainted);
- 85-AX: 1-1/4" nominal copper tubing with 3" x 3-1/4" x .020" aluminum fins spaced 48 per linear foot (unpainted);
- 86-AX: 1-1/4" IPS steel with 3" x 3-1/4" x .028" aluminized steel fins spaced 48 per linear foot (unpainted);

Use 4 gpm ratings only when flow is known to be equal to or greater than 4 gpm; otherwise, 1 gpm ratings must be used.

### ACCESSORIES



### TELESCOPIC ACCESSORIES



Filler Sleeve



Hinged End Cap



Hinged Wall Trim



Hinged Valve Cover



Outside corner\*, custom angle

Hinged Inside Corner

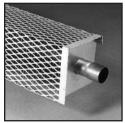


Outside Corner

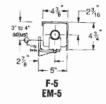
\*Telescopic accessories

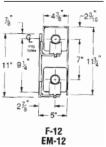
<sup>‡</sup> With 65°F entering air.

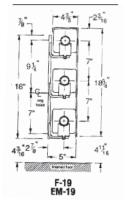












Element positions shown maximize output of enclosure. Single or double rows of elements may be placed in any of the two or three positions. Element position is adjustable vertically by 11/8" and horizontally by

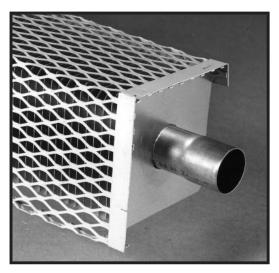
# F & EM SERIES

### LOUVERED AND EXPANDED METAL ELEMENT COVERS

F and EM Series are industrial covers where the cover hangs directly on the 4-1/4" by 4-1/4" finned tube element. Available from the factory in a protective galvanized finish or baked enamel over the protective galvanized finish.







**EM SERIES** 

### ORDERING DAT

**CONSTRUCTION**: Single piece cover attaches directly to element.

**DEPTH: 4%"** 

**HEIGHTS**: 4<sup>3</sup>/<sub>4</sub>" (one tier), 11<sup>3</sup>/<sub>4</sub>" (two tier), 18<sup>3</sup>/<sub>4</sub>" (three tier)

**LENGTHS**: 2', 3', 3½', 4', 5', 6', 7', 8'. Other ½' lengths available to order.

MATERIAL: F: 18-ga cover. EM: 16-ga cover.

FINISH: Galvanized standard. Available in baked enamel.

WALL BRACKETS/HANGERS: Order separately, specify BKT (bracket only) or BKT ASSY (bracket complete with SC hangers) followed by cover stock number and quantity.

**ELEMENTS**: Copper with aluminum fins: C-340, C-440, C-540. Steel with electro-galvanized steel fins: S-532, S-540, S-832. Lengths from 2 to 12 feet (Canada: 2 to 8 feet). See p. 26.

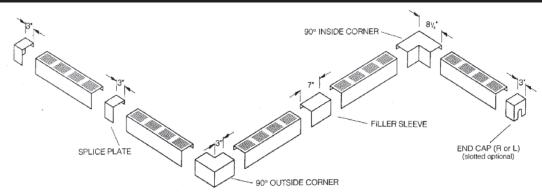
JOINTS: Telescopic accessories eliminate the need to perfectly butt one length of cover to the next. Critical linear and vertical tolerances are eliminated because telescopic assembly absorbs misalignment that might result from uneven floors and walls.

|         | (       | mended in the street of bracket given length | S       |
|---------|---------|--|---------|
| Element | 2       | 3  | 4       |
| S-532   | 2-4 ft. | 5-7 ft.                                      | 8 ft.   |
| S-540   | 2-4 ft. | 5-7 ft.                                      | 8 ft.   |
| S-832   | 2-4 ft. | 5-6 ft.                                      | 7-8 ft. |
| C-340   | 2-5 ft. | 6-8 ft.                                      | _       |
| C-440   | 2-5 ft. | 6-8 ft.                                      | _       |
| C-540   | 2-5 ft. | 6-8 ft.                                      | _       |

|                 |                      |                 |                           |                          | Fins        | Steam<br>1 PSI*        |       |       |       | BTU   | _     | WATEI |       | NGS*<br>3 Ft./ | Sec.) |       |       |       |
|-----------------|----------------------|-----------------|---------------------------|--------------------------|-------------|------------------------|-------|-------|-------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Model<br>Number | Enclosur<br>e Height | Element<br>Type | Tube Size<br>and Material | Fin Size<br>and Material | Per<br>Foot | Btu/Hr.<br>Per<br>Foot | 110°F | 120°F | 130°F | 140°F | 150°F | 160°F | 170°F | 180°F          | 190°F | 200°F | 210°F | 220°F |
|                 |                      | S-532           | 1¼" steel                 | 4¼" steel                | 32          | 1250                   | 250   | 325   | 413   | 500   | 563   | 663   | 763   | 862            | 975   | 1075  | 1188  | 1313  |
|                 |                      | S-540           | 1¼" steel                 | 4¼" steel                | 40          | 1340                   | 268   | 348   | 442   | 536   | 603   | 710   | 817   | 925            | 1045  | 1152  | 1273  | 1407  |
|                 |                      | S-832           | 2" steel                  | 4¼" steel                | 32          | 1280                   | 256   | 333   | 422   | 512   | 576   | 678   | 781   | 883            |       | 1101  |       | 1344  |
| F-5             | 4¾"                  | C-340           | ¾" copper                 | 4¼" alum.                | 40          | 1560                   | 312   | 406   | 515   | 624   | 702   | 827   | 951   | 1077           | 1217  | 1341  | _     | 1638  |
|                 |                      | C-440           | 1" copper                 | 4¼" alum.                | 40          | 1650                   | 330   | 429   | 545   | 660   | 743   | 875   | 1007  | 1139           | 1287  | 1419  |       | 1733  |
|                 |                      | C-540           | 1¼" copper                | 4¼" alum.                | 40          | 1620                   | 324   | 421   | 535   | 648   | 729   | 859   | 988   | 1118           | 1264  | 1393  | 1539  | 1701  |
|                 |                      | S-532           | 1¼" steel                 | 4¼" steel                | 32          | 2070                   | 414   | 538   | 683   | 828   | 932   | 1097  | 1263  | 1428           | 1615  | 1780  | 1967  | 2174  |
|                 |                      | S-540           | 1¼" steel                 | 4¼" steel                | 40          | 2160                   | 432   | 562   | 713   | 864   | 972   | 1145  | 1318  | 1490           | 1685  | 1858  | 2052  | 2268  |
| F-12            |                      | S-832           | 2" steel                  | 4¼" steel                | 32          | 2090                   | 418   | 544   | 690   | 836   | 941   | 1108  | 1275  | 1442           | 1630  | 1797  | 1986  | 2195  |
| Two-tier        | 11¾"                 | C-340           | ¾" copper                 | 4¼" alum.                | 40          | 2600                   | 520   | 676   | 858   | 1040  | 1170  | 1378  | 1586  | 1794           | 2028  | 2236  | 2470  | 2730  |
| element         |                      | C-440           | 1" copper                 | 4¼" alum.                | 40          | 2750                   | 550   | 715   | 908   | 1100  | 1238  | 1458  | 1678  | 1897           | 2145  | 2365  | 2613  | 2888  |
|                 |                      | C-540           | 11/4" copper              | 4¼" alum.                | 40          | 2700                   | 540   | 702   | 891   | 1080  | 1215  | 1431  | 1647  | 1863           | 2106  | 2322  | 2565  | 2835  |
|                 |                      | S-532           | 1¼" steel                 | 4¼" steel                | 32          | 2580                   | 516   | 671   | 851   | 1032  | 1161  | 1367  | 1574  | 1780           | 2012  | 2219  | 2451  | 2709  |
|                 |                      | S-540           | 1¼" steel                 | 4¼" steel                | 40          | 2690                   | 538   | 700   | 888   | 1076  | 1211  | 1426  | 1641  | 1856           | 2098  |       | 2556  | 2825  |
| F-19            |                      | S-832           | 2" steel                  | 4¼" steel                | 32          | 2610                   | 522   | 679   | 861   | 1044  | 1175  | 1383  | 1592  | 1801           | 2036  | 2245  | 2480  | 2741  |
| Three-tier      | 18¾"                 | C-340           | 34" copper                | 4¼" alum.                | 40          | 3139                   | 628   | 816   | 1036  | 1256  | 1413  | 1664  | 1915  | 2166           | 2449  | 2700  | 2982  | 3296  |
| element         |                      | C-440           | 1" copper                 | 41/4" alum.              | 40          | 3330                   | 666   | 866   | 1099  | 1332  | 1499  | 1765  | 2031  | 2298           |       | 2864  | 3164  |       |
|                 |                      | C-540           | 1¼" copper                | 4¼" alum.                | 40          | 3260                   | 652   | 848   | 1076  | 1304  | 1467  | 1728  | 1989  | 2249           | 2543  | 2804  | 3097  | 3423  |
|                 |                      | S-532           | 1¼" steel                 | 4¼" steel                | 32          | 1290                   | 258   | 336   | 426   | 516   | 581   | 684   | 787   | 890            | 1006  | 1109  | 1226  | 1355  |
|                 |                      | S-540           | 1¼" steel                 | 4¼" steel                | 40          | 1370                   | 274   | 356   | 452   | 548   | 617   | 726   | 836   | 945            | 1069  |       | 1302  |       |
|                 |                      | S-832           | 2" steel                  | 4¼" steel                | 32          | 1310                   | 262   | 341   | 432   | 524   | 590   | 694   | 799   | 904            | 1022  | 1127  | 1245  |       |
| EM-5            | 4¾"                  | C-340           | 34" copper                | 4¼" alum.                | 40          | 1656                   | 331   | 431   | 547   | 663   | 745   | 878   | 1010  | 1143           | 1292  | 1424  | 1574  | 1739  |
|                 | .,.                  | C-440           | 1" copper                 | 4¼" alum.                | 40          | 1750                   | 350   | 455   | 578   | 700   | 788   | 928   | 1068  | 1208           | 1365  |       | -     | 1838  |
|                 |                      | C-540           | 1½" copper                | 4¼" alum.                | 40          | 1720                   | 344   | 447   | 568   | 688   | 774   | 912   | 1049  | 1187           | 1342  | 1479  |       |       |
|                 |                      | S-532           | 1¼" steel                 | 4¼" steel                | 32          | 2270                   | 454   | 590   | 749   | 908   | 1022  | 1203  | 1385  | 1566           | 1771  | 1952  |       | 2384  |
|                 |                      | S-540           | 11/4" steel               | 4¼" steel                | 40          | 2390                   | 478   | 622   | 789   | 956   | 1076  | 1267  | 1458  | 1649           | 1864  | 2055  |       | 2510  |
|                 |                      | S-832           | 2" steel                  | 4¼" steel                | 32          | 2290                   | 458   | 596   | 756   | 916   | 1031  | 1214  | 1397  | 1580           | 1786  |       | 2176  |       |
| EM-12           | 11¾"                 | C-340           | 3/" copper                | 4¼" alum.                | 40          | 2918                   | 584   | 759   | 963   | 1167  | 1314  | 1547  | 1780  | 2014           | 2276  |       | 2772  |       |
| Two-tier        | 1174                 | C-440           | 1" copper                 | 4¼" alum.                | 40          | 3090                   | 618   | 804   | 1020  | 1236  | 1391  | 1638  | 1885  | 2132           |       | 2657  |       | 3245  |
| element         |                      | C-540           | 1½" copper                | 4¼" alum.                | 40          | 3030                   | 606   | 788   | 1000  | 1212  | 1364  | 1606  | 1848  | 2091           |       | 2606  |       | 3182  |
|                 |                      | S-532           | 1½" steel                 | 4¼" steel                | 32          | 3060                   | 612   | 796   | 1010  | 1224  | 1377  | 1622  | 1867  | 2111           | 2387  | 2632  |       | 3213  |
|                 |                      | S-532           | 11/4" steel               | 4¼" steel                | 40          | 3140                   | 628   | 816   | 1036  | 1256  | 1413  | 1664  | 1915  | 2167           |       | 2700  |       | 3297  |
|                 |                      | S-832           | 2" steel                  | 4¼" steel                | 32          | 3080                   | 616   | 801   | 1016  | 1232  | _     | 1632  | 1879  | 2125           | 2402  |       |       | 3234  |
| EM-19           | 18¾"                 | C-340           | 3/" copper                | 41/4" alum.              | 40          | 3736                   | 747   | 972   | 1233  | 1495  | 1681  | 1980  | 2279  | 2578           | 2914  |       |       | 3923  |
| Three-tier      | 10/4                 | C-440           | 1" copper                 | 41/4" alum.              | 40          | 3960                   | 792   | 1030  | 1307  | 1584  | 1782  | 2099  | 2416  | 2732           | I -   | 3406  | 3762  | 4158  |
| element         |                      | C-540           | 1½" copper                | 41/4" alum.              | 40          | 3880                   | 776   | 1009  | 1280  | 1552  |       | 2056  |       |                | 3026  |       |       | 4074  |
| CICITICIT       |                      | 0 0-0           | 1 /4 copper               | -7/4 aluill.             | 70          | 0000                   | 110   | 1.003 | 1.200 | 1002  | 11770 | 1-000 | 2007  | 1-011          | 10020 | 10007 | 10000 | 7074  |

<sup>\*</sup> Based on 65°F entering air temperature. Note: Ratings are based on active finned length (5-1/4" less than overall length).

### ACCESSORIES

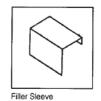


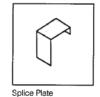
### TELESCOPIC ACCESSORIES



End Cap









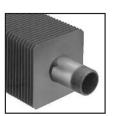


Outside Corner Inside Corner

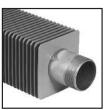
25



S-532



S-540



S-832



C-340



C-440



C-540

# **BARE ELEMENTS**

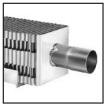
# STEEL ELEMENTS COPPER/ALUMINUM ELEMENTS



H-1



H-3



H-4



H-5X



H-6X



### STRONGER, EASY TO JOIN ELEMENTS

Slant/Fin makes 12 types of fin-tube which may be used with the various enclosures shown in this catalog. Instead of light-wall tubing, Slant/Fin uses only copper seamless-drawn tubing or Schedule 40 steel pipe. Each fin has a tongue-and-groove collar which interlocks with the next fin for accurate and uniform spacing and prevents fins from twisting loose. This full wall thickness and strength of copper tubing and IPS steel pipe are maintained by forcing tubing through undersized fin holes under high hydraulic pressure. A force-fit mechanical bond is attained which maintains maximum heat transfer indefinitely.

Compact models (E-75, H-3 and H-4) feature double bent aluminum fins, providing extra heating surface in a slimmer profile. Edges of each fin are wedged against the next. Fins reinforce each other - won't be crushed, bent or twisted. End fins are of plated steel for extra ruggedness.

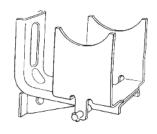
Expanded copper tubing ends eliminate couplings, reduce soldering. Steel elements are factory threaded at both ends.

### ORDERING DATA

**PACKAGING**: Factory packaged in individual cartons (except E-75 which is packaged 3 elements to a carton). "E" and "H" elements include plastic expansion cradles.

LENGTHS: Precut standard lengths
S and C Series: 2, 3, 3½, 4, 5, 6, 7, 8, 9, 10, 11,
12 feet. (Canada: 2 to 8 feet) (C-340 up to 10 ft.)
E and H Series: 2, 3, 3½, 4, 5, 6, 7, 8 feet.
FINISH: Copper/aluminum elements - natural finis

**FINISH**: Copper/aluminum elements - natural finish. Steel elements - natural finish.



M-1 Expansion Hanger:
Specify for bare element installations.

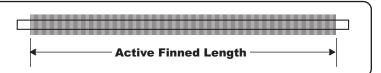
### BARE ELEMENT RATINGS

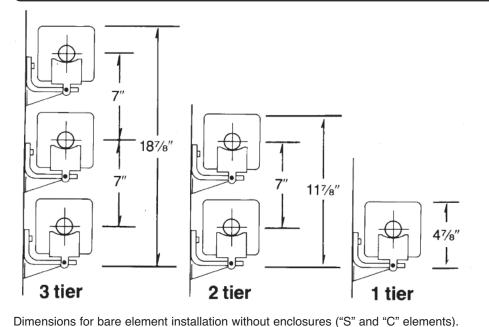
|                 |                           | Fin Size and<br>Material                    | Fins        | No.of          | Pressu       | Steam<br>1 PSI*                               |                   |                   |                    |                     | _                   |                     | R RAT               |                      |                      |                      |                      |                      |
|-----------------|---------------------------|---|-------------|----------------|--------------|---|-------------------|-------------------|--------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Model<br>Number | Tube<br>Size and Material | (Width x Height x Thickness)                | per<br>Foot | Tiers<br>7" cl | re<br>Drop † | Btu/Hr.<br>Per Foot                           | 110°F             | 120°F             | 130°F              | 140°F               | 150°F               | 160°F               | 170°F               | 180°F                | 190°F                | 200°F                | 210°F                | 220°F                |
| S-532           | 1¼"IPS steel              | 41/4" x 41/4" x .024"<br>electro-gal. steel | 32          | 1<br>2<br>3    | 420          | 1080<br>1950<br>2560                          | 216<br>390<br>512 | 281<br>507<br>666 | 356<br>644<br>845  | 432<br>780<br>1024  | 486<br>878<br>1152  | 572<br>1034<br>1357 | 659<br>1190<br>1562 | 745<br>1346<br>1766  | -                    | 929<br>1677<br>2202  | 1853                 |                      |
| S-540           | 1¼"IPS steel              | 4¼" x 4½" x .024"<br>electro-gal. steel     | 40          | 1<br>2<br>3    | 420          | 1200<br>2210<br>2810                          | 230<br>442<br>562 | 300<br>575<br>731 | 370<br>729<br>927  | 460<br>884<br>1124  | 540<br>995<br>1265  | 640<br>1171<br>1489 | 730<br>1348<br>1714 | 830<br>1525<br>1939  |                      | 1030<br>1901<br>2417 | 1140<br>2100<br>2670 |                      |
| S-832           | 2"IPS steel               | 4¼" x 4½" x .024"<br>electro-gal. steel     | 32          | 1<br>2<br>3    | 252          | 1130<br>2010<br>2650                          | 226<br>402<br>530 | 294<br>523<br>689 | 373<br>663<br>875  | 452<br>804<br>1060  | 509<br>905<br>1193  | 599<br>1065<br>1405 | 689<br>1226<br>1617 | 780<br>1387<br>1829  |                      | 972<br>1729<br>2279  | 1074<br>1910<br>2518 |                      |
| C-340           | ¾"copper                  | 41/4" x 41/4" x .020"<br>aluminum           | 40          | 1<br>2<br>3    | 708          | 1610<br>2830<br>3620                          | 322<br>566<br>724 | 419<br>736<br>941 | 531<br>934<br>1195 | 644<br>1132<br>1448 | 725<br>1274<br>1629 | 853<br>1500<br>1919 |                     | 1111<br>1953<br>2498 |                      | 1385<br>2434<br>3113 | 1530<br>2689<br>3439 |                      |
| C-440           | 1" copper                 | 4¼" x 4½" x .020"<br>aluminum               | 40          | 1<br>2<br>3    | 504          | 1600<br>2710<br>3490                          | 300<br>542<br>698 | 400<br>705<br>907 | 500<br>894<br>1152 | 610<br>1084<br>1396 | 720<br>1220<br>1571 | 850<br>1436<br>1850 | 980<br>1653<br>2129 | 1870                 | 2114                 | 1380<br>2331<br>3001 |                      | 2846                 |
| C-540           | 1¼" copper                | 4¼" x 4½" x .020"<br>aluminum               | 40          | 1<br>2<br>3    | 396          | 1600<br>2810<br>3600                          | 300<br>562<br>720 | 400<br>731<br>936 | 500<br>927<br>1188 | 610<br>1124<br>1440 | 720<br>1265<br>1620 | 850<br>1489<br>1908 | 980<br>1714<br>2196 | 1939                 | 1250<br>2192<br>2808 | 2417                 | 2670                 |                      |
| H-1             | ¾" copper                 | 3" x 3½" x .024"<br>aluminum                | 48          | 1<br>2<br>3    | 708          |   | 218<br>392<br>640 | 283<br>510<br>832 | 360<br>647<br>1056 | 436<br>784<br>1280  | 491<br>882<br>1440  | 578<br>1039<br>1696 | 665<br>1196<br>1952 | 752<br>1352<br>2208  |                      | 937<br>1686<br>2752  | 1036<br>1862<br>3040 | 1145<br>2058<br>3360 |
| H-5X            | 1½" copper                | 3" x 3¼" x .020"<br>aluminum                | 48          | 1<br>2<br>3    | 396          | 940<br>13 <del>3</del> 0<br>2 <del>11</del> 0 | 188<br>266<br>422 | 244<br>346<br>549 | 310<br>439<br>696  | 376<br>532<br>844   | 423<br>599<br>950   | 498<br>705<br>1118  | 573<br>811<br>1287  | 649<br>918<br>1456   | 733<br>1037<br>1646  | 808<br>1144<br>1815  | 893<br>1264<br>2005  | 987<br>1397<br>2216  |
| H-6X            | 1¼" IPS steel             | 3" x 3¼" x .028"<br>aluminized steel        | 48          | 1<br>2<br>3    | 420          | 850<br>1290<br>1840                           | 170<br>258<br>368 | 221<br>335<br>478 | 281<br>426<br>607  | 340<br>516<br>736   | 383<br>581<br>828   | 451<br>684<br>975   | 519<br>787<br>1122  | 587<br>890<br>1270   | 663<br>1006<br>1435  | 731<br>1109<br>1582  | 808<br>1226<br>1748  | 893<br>1355<br>1932  |

\* Based on 65°F entering air temperature. † Millinches per foot, based on flow rate of 3FPS; according to ASHRAE fundamentals handbook, 2001 NOTE: H-3, H-4 and E-3 elements are not recommended for bare-element installation. H-1 is not recommended for steam applications.

Ratings are based on active finned length (S & C series 5" less than overall length.) (H series–4" less than overall length.)

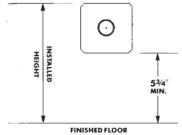
Active length of each element is as follows: For copper tube H and C elements -4" less than total length. For steel pipe H and S elements -5" less than total length.



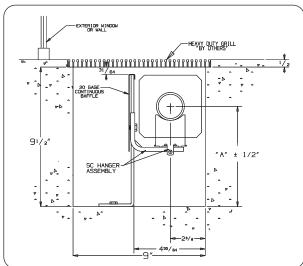


to the top of the fin. The minimum mounting height on all elements without enclosures is 53/4" from finished floor to bottom of fins of lowest element.

The installed height for elements is defined as the distance from the finished floor







# **TH SERIES**

### TROUGH HEATER

Slant/Fin Trough Heater is a floor recessed commercial finned tube heater. It is ideal for applications with windows coming to the floor, installation by doors or just applications where the building owner does not want visible finned tube. For installations by windows, the cold convective air generated by the window is caught and heated in the natural convective air currents created by the Trough Heater. Cold drafts will be minimized or eliminated. No noise and no electricity.

Heat output ratings are published from 110°F to 200°F water and low pressure steam (215°F) 1 P.S.I. steam ratings. It is ideal for use with high efficiency boiler, standard efficiency boiler and district steam applications. Your choice of 34" 1", 1 14" copper tube and 1 14" & 2" schedule 40 steel pipe elements with 4 14" x 4 14" square fins.

With finned tube heating buildings as far south as the South Pole and as far north as Prudhoe Bay- Alaska, Slant/Fin should be your choice for quality and high performance heating products.

| Model<br># | Tube<br>Size & Material | Fins<br>Size & Material                     |       |         |      |       | Hot Water Ratings<br>BTU/HR./FT. (Flow Rate 3 Ft/Sec.) |       |       |       |       |       |       |       | "A"   |          |
|------------|-------------------------|---|-------|---------|------|-------|--|-------|-------|-------|-------|-------|-------|-------|-------|----------|
|            |                         |   | 1 001 | Temp. 1 |      | 110°F | 120°F  | 130°F | 140°F | 150°F | 160°F | 170°F | 180°F | 190°F | 200°F |          |
| S-532      | 1-1/4" IPS Steel        | 4-1/4" x 4-1/4" x .024<br>Electro-gal steel | 32    | 47      | 900  | 180   | 230  | 300   | 360   | 410   | 480   | 550   | 620   | 700   | 770   | 6-11/16" |
| S-540      | 1-1/4" IPS Steel        | 4-1/4" x 4-1/4" x .024<br>Electro-gal steel | 40    | 47      | 1000 | 200   | 260  | 330   | 400   | 450   | 530   | 610   | 690   | 780   | 860   | 6-11/16" |
| S-832      | 2" IPS Steel            | 4-1/4" x 4-1/4" x .024<br>Electro-gal steel | 32    | 47      | 940  | 190   | 240  | 310   | 380   | 420   | 500   | 570   | 650   | 730   | 810   | 7-1/16"  |
| C-340      | 3/4" IPS Copper         | 4-1/4" x 4-1/4" x .020<br>Aluminum          | 40    | 47      | 1340 | 270   | 350  | 440   | 540   | 600   | 710   | 820   | 920   | 1050  | 1150  | 6-5/16"  |
| C-440      | 1" IPS Copper           | 4-1/4" x 4-1/4" x .020<br>Aluminum          | 40    | 47      | 1290 | 260   | 340  | 430   | 520   | 580   | 680   | 790   | 890   | 1010  | 1110  | 6-1/2"   |
| C-540      | 1-1/4" IPS<br>Copper    | 4-1/4" x 4-1/4" x .020<br>Aluminum          | 40    | 47      | 1330 | 270   | 350  | 440   | 530   | 600   | 700   | 810   | 920   | 1040  | 1140  | 6-5/8"   |

Notes:

- 1. Ratings based on 24 square inches for free open air per linear foot of grille for air inlet and also outlet.
- For 65°F entering air temperature divide above ratings by 1.2 to arrive at output.

### <u>Model</u>

### How to order Trough Heater- TR is ordered by individual component.

TRL

Liner- the standard liner is 20 gauge galvanized steel. 18 and 16 gauge steel is optional available in 2,3,4,5,6,7, and 8 foot lengths.

**TRB** 

TR Baffle- optimizes heat output by separating heated supply air with cool return air. Installed between element and air intake and ends just below the Grille. The baffle is 20 gauge galvanized steel. Available in same lengths of Liner and should be matched up to every foot of active finned element.

LBS t Liner Brackets Supports- made from 3/16" thick hot rolled steel. TR Brackets support he heating element and the TR Baffle.

|                     | Recommende | d number of brackets for | or given length |
|---------------------|------------|--------------------------|-----------------|
| Element             | 2          | 3                        | 4               |
| S-532, S-540        | 2-4 ft.    | 5-7 ft.                  | 8 ft.           |
| S-832               | 2-4 ft.    | 5-6 ft.                  | 7-8 ft.         |
| C-340, C-440, C-540 | 2-5 ft.    | 6-8 ft.                  | 1               |

SC Hanger

Slide Cradle that mounts on Liner Bracket to hold element or bare pipe. SC Hangers prevent expansion noise do to expansion/contraction of heating elements and bare pipe. Use one for every Liner Bracket.

Elements

Select from 6 element models. Three models with steel pipe and steel fines and three models with copper pipes and aluminum fins.

Grille

The floor grille is supplied by others. There are several grille manufacturers who manufacture and supply custom grilles designed to match the rooms décor.



### SPECIFICATIONS

Ratings are based on active (finned) length. Active length of "S" and "C" elements is 51/4" less than total length. Fin size of "S" and "C" elements is 41/4" x 41/4". Active length of "H" and "E" elements is 3" less than total length. See p. 26-27 for the specifications of individual "H" and "E" elements.

### **Water Ratings And Flow Rates**

The hot water ratings shown in this catalog are based on the following

Water velocity: 3 or more feet per second

Entering air temp: 65° Steam temperature: 215°

Proceed as follows to determine output under conditions

different than above:

Water velocity less than 3 feet per second: multiply the hot water ratings by the factors shown in Table 1.

### TABLE 1

FACTORS FOR DETERMINING BTUH OUTPUTS AT WATER FLOW RATES OF LESS THAN 3 FEET PER SECOND. AHRI RECOMMENDS THAT A MINIMUM VELOCITY OF 0.25 ft/s BE USED IN SYSTEM DESIGN TO PREVENT A LAMINAR FLOW CONDITION.

| Flow Rate Ft./Sec. | Factor | Flow Rate Ft./Sec. | Factor |
|--------------------|--------|--------------------|--------|
| 3.0                | _ 1.00 | 1.5                | .973   |
| 2.75               | 996    | 1.25               | .966   |
| 2.5                | 992    | 1.0                | .957   |
| 2.25               | 988    | .75                | .946   |
| 2.0                | 984    | .5                 | .931   |
| 1.75               | 979    | .25                | .905   |

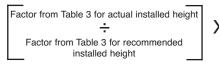
### Steam Ratings

Steam ratings are expressed in BTU per hour per lineal foot of activelength, based on steam or 215° F, 1 PSI, (101.5° C) and 65° F (18.3° C) entering air.

### **Recommended Installed Height**

(Does not apply to units with horizontal outlet)

Ratings include the factor shown in Table 3 for the recommended installed height. If the unit is to be installed at a height other than that recommended, the rating must be adjusted as follows:



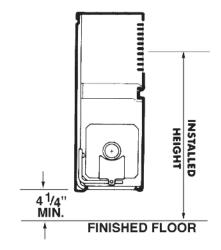
Rating shown on pages 5, 11, 13, 15, 21 & 27

Example for installed heights other than recommended (example based on Multi/Pak 95-10):

Given:

Installed height 36"  $[1.00 \div 1.15] \times 1500 = 1304 \text{ Btu/Hr./Ft.}$ Recommended height 14" Water Temperature 200°F Cover type 95-10 C-540 Element

† Use the values in Table 3 below for both the "RECOMMENDED HEIGHT" factors and for the "ACTUAL HEIGHT" factors.



The installed height for enclosures is defined as the distance from the finished floor to the center of the outlet. Recommended height is based on a minimum mounting height for all covers and enclosures of 41/4" from finished floor to bottom of front panel.

| TABLE 2           |        |             |        |
|-------------------|--------|-------------|--------|
| Height †          | Factor | Height †    | Factor |
| 36" or more       | 1.00   | 25"         | 1.08   |
| 34"<br>32"        | 1.01   | 24"         | 1.09   |
| 32"               | 1.02   | 24"<br>23"  | 1.10   |
| 30"<br>29"<br>28" | 1.03   | 22"         | 1.11   |
| 29"               | 1.04   | 21"         | 1.12   |
| 28"               | 1.05   | 20"         | 1.13   |
| 27"               | 1.06   | 19"         | 1.14   |
| 26"               | 1.07   | 18" or less | 1.15   |

### **Dampers**

Dampers are available as options on most enclosures, and are shown in diagrams wherever applicable. Ratings are for enclosures without dampers, or with dampers in fully open position.

### **Water Content**

| Slant/Fin commercial radiation elements conta           | ain the following |
|---|-------------------|
| volume of water: 3/4" copper tube                       | 0.023 gal./ft.    |
| Model C440, 1" copper tube                              | 0.040 gal./ft.    |
| Model C540, 1 <sup>1</sup> / <sub>4</sub> " copper tube | 0.063 gal./ft.    |
| Model S532, S540, 11/4" steel pipe                      | 0.077 gal./ft.    |
| Model S832, 2" steel pipe                               | 0.174 gal./ft.    |

All ratings have been determined in the Slant/Fin Environmental Laboratory in conformance with accepted industry practice concerning testing and rating procedures for finned tube (commercial) radiation. Fin-tube must be installed in accordance with installation diagrams on Form CP-10 and 90-40 to obtain the ratings indicated. Use of material or installation methods other than those specified by Slant/Fin may result in a change in the ratings.

\* Engineering data pertains to all products in this publication except Multi/Pak 80 and H and E Series hare elements

### SPECIFICATIONS - CONTINUED

**TABLE 3**CORRECTION FACTORS FOR WATER TEMPERATURES† AND AIR TEMPERATURES OTHER THAN STANDARD

| AVG. WATER TEMP.     |      |      |      |      |      | Е    | NTER | ING A | IR TE | MPER | ATUF | RE  |     |     |     |     |     |
|----------------------|------|------|------|------|------|------|------|-------|-------|------|------|-----|-----|-----|-----|-----|-----|
| °F                   | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80    | 85    | 90   | 95   | 100 | 110 | 120 | 130 | 140 | 150 |
| 90                   | .19  | .16  | .13  | .12  | .11  | .06  |      |       |       |      |      |     |     |     |     |     |     |
| 100                  | .25  | .22  | .19  | .17  | .15  | .11  | .08  | .06   |       |      |      |     |     |     |     |     |     |
| 110                  | .31  | .28  | .25  | .22  | .20  | .16  | .13  | .11   | .08   | .06  |      |     |     |     |     |     |     |
| 120                  | .38  | .34  | .31  | .28  | .26  | .22  | .19  | .16   | .13   | .11  | .08  | .06 |     |     |     |     |     |
| 130                  | .45  | .42  | .38  | .35  | .33  | .28  | .25  | .22   | .19   | .16  | .13  | .11 | .06 |     |     |     |     |
| 140                  | .53  | .49  | .45  | .42  | .40  | .34  | .31  | .28   | .25   | .21  | .19  | .16 | .11 | .06 |     |     |     |
| 150                  | .61  | .57  | .53  | .49  | .45  | .42  | .38  | .34   | .31   | .28  | .24  | .21 | .16 | .11 | .06 |     |     |
| 155                  | .65  | .61  | .57  | .53  | .49  | .45  | .42  | .38   | .34   | .31  | .29  | .25 | .19 | .14 | .09 |     |     |
| 160                  | .69  | .65  | .61  | .57  | .53  | .49  | .45  | .42   | .38   | .34  | .31  | .28 | .21 | .16 | .11 | .06 |     |
| 165                  | .73  | .69  | .65  | .61  | .57  | .53  | .49  | .45   | .42   | .38  | .34  | .31 | .25 | .19 | .14 | .09 |     |
| 170                  | .78  | .73  | .69  | .65  | .61  | .57  | .53  | .49   | .45   | .42  | .38  | .34 | .28 | .21 | .16 | .11 | .06 |
| 175                  | .82  | .78  | .73  | .69  | .65  | .61  | .57  | .53   | .49   | .45  | .42  | .38 | .31 | .25 | .19 | .14 | .09 |
| 180                  | .86  | .82  | .78  | .73  | .69  | .65  | .61  | .57   | .53   | .49  | .45  | .42 | .34 | .28 | .21 | .16 | .11 |
| 185                  | .91  | .86  | .82  | .78  | .73  | .69  | .65  | .61   | .57   | .53  | .49  | .45 | .38 | .31 | .25 | .19 | .14 |
| 190                  | .95  | .91  | .86  | .82  | .78  | .73  | .69  | .65   | .61   | .57  | .53  | .49 | .42 | .34 | .28 | .21 | .16 |
| 195                  | 1.00 | .95  | .91  | .86  | .82  | .78  | .73  | .69   | .65   | .61  | .57  | .53 | .45 | .38 | .31 | .25 | .19 |
| 200                  | 1.05 | 1.00 | .95  | .91  | .86  | .82  | .78  | .73   | .69   | .65  | .61  | .57 | .49 | .42 | .34 | .28 | .21 |
| 205                  | 1.09 | 1.05 | 1.00 | .95  | .91  | .86  | .82  | .78   | .73   | .69  | .65  | .61 | .53 | .45 | .38 | .31 | .25 |
| 210                  | 1.14 | 1.09 | 1.05 | 1.00 | .95  | .91  | .86  | .82   | .78   | .73  | .69  | .65 | .57 | .49 | .42 | .34 | .28 |
| 215 (Standard Temp.) | 1.20 | 1.14 | 1.09 | 1.05 | 1.00 | .95  | .91  | .86   | .82   | .78  | .73  | .69 | .61 | .53 | .45 | .38 | .31 |
| 220                  | 1.25 | 1.20 | 1.14 | 1.09 | 1.05 | 1.00 | .95  | .91   | .86   | .82  | .78  | .73 | .65 | .57 | .49 | .42 | .34 |
| 225                  | 1.32 | 1.25 | 1.20 | 1.14 | 1.09 | 1.05 | 1.00 | .95   | .91   | .86  | .82  | .78 | .69 | .61 | .53 | .45 | .38 |
| 230                  | 1.39 | 1.32 | 1.25 | 1.20 | 1.14 | 1.09 | 1.05 | 1.00  | .95   | .91  | .86  | .82 | .73 | .65 | .57 | .49 | .42 |
| 235                  | 1.41 | 1.39 | 1.32 | 1.25 | 1.20 | 1.14 | 1.09 | 1.05  | 1.00  | .95  | .91  | .86 | .78 | .69 | .61 | .53 | .45 |
| 240                  | 1.44 | 1.41 | 1.39 | 1.32 | 1.25 | 1.20 | 1.14 | 1.09  | 1.05  | 1.00 | .95  | .91 | .82 | .73 | .65 | .57 | .49 |

<sup>†</sup> Also applies to equivalent saturated steam temperatures.

Entering air temperature other than 65°F: multiply the catalog steam rating by the factors shown in Table 2. Water temperature other than 215°F: multiply the catalog steam rating by the factors shown in Table 2.

### NOTE:

All ratings have been determined in the Slant/Fin Environmental Laboratory in conformance with accepted industry practice concerning testing and rating procedures for finned tube (commercial) radiation. Fin-tube must be installed in accordance with installation diagrams on Form CP-10 and 90-40 to obtain the ratings indicated. Use of material or installation methods other than those specified by Slant/Fin may result in a change in the ratings.

### **Handy Formulas for Water BTUH**

BTUH = GPM x 500 x  $\Delta T^{\circ}F$ 

$$\begin{array}{ccc} \mathsf{GPM} = (\mathsf{BTUH} \div 500) & \Delta\mathsf{T}^{\circ}\mathsf{F} = (\mathsf{BTUH} \div 500) \\ \Delta\mathsf{T}^{\circ}\mathsf{F} & \mathsf{GPM} \end{array}$$

BTU = GPM x 500 x Temp. Drop for Water °F

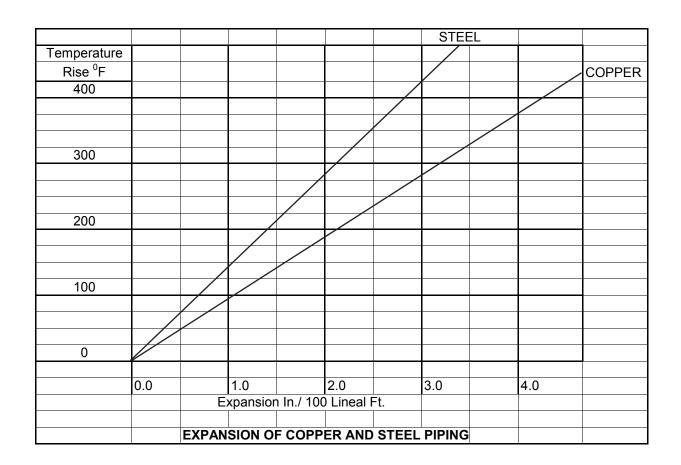
<sup>\*</sup> Engineering data pertains to all products in this publication except Multi/Pak 80 and H and E Series bare elements.

### SPECIFICATIONS - CONTINUED

| TUBE/PIPE WATER CAPACITIES AND QUANTITIES    |            |               |               |  |  |  |  |  |  |
|--|------------|---------------|---------------|--|--|--|--|--|--|
| CIRCULATED AT VELOCITY OF 3* FEET PER SECOND |            |               |               |  |  |  |  |  |  |
| Tube/Pipe Gals. Per Gals./Min. @ Lbs./Hr. @  |            |               |               |  |  |  |  |  |  |
| Size   | Linear Ft. | 3'/Sec. Vel.* | 3'/Sec. Vel.* |  |  |  |  |  |  |
| 3/4" Copper Tube                             | 0.023      | 4.14          | 2,070         |  |  |  |  |  |  |
| 1" Copper Tube                               | 0.040      | 7.20          | 3,600         |  |  |  |  |  |  |
| 1-1/4" Copper Tube                           | 0.063      | 11.34         | 5,670         |  |  |  |  |  |  |
| 1-1/4"NPT Steel Pipe                         | 0.077      | 13.86         | 6,930         |  |  |  |  |  |  |
| 2" NPT Steel Pipe 0.174 31.32 15,660         |            |               |               |  |  |  |  |  |  |

<sup>\*3&#</sup>x27;/Sec. Velocity is Basis for Hot Water Rating Factors.

Water Velocity Ft./Sec. = <u>Lbs. per Hour</u> (Gals. per Ft.)(3600)(8.3)



### **ELEMENT APPLICATION FOR STEAM**

### Maximum Runs. Lineal Feet of Fin-Pipe:

The following table indicates maximum normal runs of fin-pipe for steam systems. These runs in lineal feet are based on conservative velocities and the rapid removal of condensate. Pressure drops in column headings are per hundred equivalent feet of pipe.

|      |             | O Et                      | Savere Et may One                               |        | Two Pipe |        |         |  |  |  |  |  |
|------|-------------|---------------------------|---|--------|----------|--------|---------|--|--|--|--|--|
| Туре | Size        | Square Ft. per Linear Ft. | One<br>Pipe                                     | Low Pr | essure   | 30 psi | 150 psi |  |  |  |  |  |
| туре | Size        | @ 1 psi                   | i ipe   | 1 oz.  | 2 oz.    | 8 oz.  | 16 oz.  |  |  |  |  |  |
|      |             | © 1 poi                   | Maximum Length of Individual Run in Lineal Feet |        |          |        |         |  |  |  |  |  |
| S540 | 1-1/4" ips  | 6.30                      | 10  | 18     | 25       | 52     | 90      |  |  |  |  |  |
| S832 | 2" ips      | 5.70                      | 30  | 60     | 85       | 190    | 300     |  |  |  |  |  |
| C540 | 1-1/4" cop. | 7.50                      | 8   | 16     | 22       | 45     | _       |  |  |  |  |  |
| H5X  | 1-1/4" cop. | 4.70                      | 8   | 16     | 22       | 45     | _       |  |  |  |  |  |
| H6X  | 1-1/4" ips  | 4.10                      | 10  | 18     | 25       | 52     | _       |  |  |  |  |  |

<sup>\*</sup> Made of schedule 40 seamed pipe

### STEAM CAPACITIES OF PIPING (Low Pressure, 1psig) "Square Feet, EDR"

| Pipe   | Horizo                   | ontal Supply        | and Return          | Mains            |                                | Two-Pipe   | One-Pipe             |                  |                     |  |  |
|--------|--------------------------|---------------------|---------------------|------------------|--------------------------------|------------|----------------------|------------------|---------------------|--|--|
| Size   |                          | 1 oz.               | 2 oz.               | 3 oz.            | Risers                         |            | Undripped<br>Runouts | Supply<br>Risers | Runouts<br>& Valves |  |  |
|        | Supply                   | 56                  | 79                  | 111              | Upfeed                         | 56         | 34                   |                  |                     |  |  |
| 1"     | Wet Return<br>Dry Return | 700<br>320          | 1000<br>412         | 1400<br>460      | Return                         | Return 450 |                      | 45               | 28                  |  |  |
|        | Supply                   | 122                 | 173                 | 245              | Upfeed                         | 122        |                      |                  |                     |  |  |
| 1-1/4" | Wet Return<br>Dry Return | 1200<br>670         | 1700<br>868         | 2400<br>962      | Return                         | 990        | 75                   | 98               | 62                  |  |  |
|        | Supply                   | 190                 | 269                 | 380              | Upfeed                         | 190        |                      |                  |                     |  |  |
| 1-1/2" | Wet Return<br>Dry Return | 1900<br>1060        | 2700<br>1360        | 3800<br>1510     | Return                         | 1500       | 108                  | 152              | 93                  |  |  |
|        | Supply                   | 386                 | 546                 | 771              | Upfeed                         | 386        |                      |                  |                     |  |  |
| 2"     | Wet Return<br>Dry Return | 4000<br>2300        | 5600<br>2960        | 8000<br>3300     | Return                         | 3000       | 195                  | 288              | 169                 |  |  |
|        | Supply                   | 635                 | 898                 | 1270             | Upfeed                         | 635        |                      |                  |                     |  |  |
| 2-1/2" | Wet Return<br>Dry Return | 6700<br>3800        | 9400<br>4900        | 13,400<br>5450   | Return                         | -          | 395                  | 464              | 260                 |  |  |
|        | Supply                   | 1160                | 1650                | 2330             | Upfeed                         | 1130       |                      |                  |                     |  |  |
| 3"     | Wet Return<br>Dry Return | 10,700<br>7000      | 15,000<br>9000      | 21,400<br>10,000 | Return                         | _          | 700                  | 800              | 475                 |  |  |
|        | Supply                   | 1740                | 2460                | 3470             | Upfeed                         | 1550       |                      |                  |                     |  |  |
| 3-1/2" | Wet Return<br>Dry Return | 16,000<br>10,000    | 22,000<br>12,900    | 32,000<br>14,300 | Return                         | ı          | 1150                 | 1140             | 745                 |  |  |
|        | Supply                   | 2460                | 3480                | 4910             | Upfeed                         | 2040       |                      |                  |                     |  |  |
| 4"     | Wet Return<br>Dry Return | 22,000<br>15,000    | 31,000<br>19,000    | 44,000<br>21,500 | Return                         |            | 1700                 | 1520             | 1110                |  |  |
| 5"     | Supply                   | 4550                | 6430                | 9090             | Adapted from the ASHRAE Guide. |            |                      |                  |                     |  |  |
| 6"     | Supply                   | 7460                | 10,550              | 14,900           |                                |            |                      |                  |                     |  |  |
|        | For downfeed supp        | ly risers, use "Sup | oply" figures above | ).               |                                |            |                      |                  |                     |  |  |

Pressure drop columns are in ounces per 100 feet, equivalent length of run. Equivalent length of run can be approximated as double the actual length of pipe.

Total pressure drop for the entire system should not exceed one-half the normal boiler-guage pressure. Supply and return mains must be sized for a uniform pressure drop for each system.

To convert to pounds, divide above figure by 4. To convert to Btu's, multiply above figures by 240.

Pipe capacities are based on a normal pitch of 1/4" in 10 feet for two-pipe steam, and 1/2" pitch in 10 feet for one-pipe steam. If pitch is increased to 2" in 10", the runout capacities above may be increased by 20%.

The maximum lengths of fin-pipe listed above may also be increased by 20% if 2" pitch is used.

| Notes: |   |
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# ENGINEERING DATA

### **SPECIFICATIONS**

### Multi/Pak 90

Furnish and install as shown on the plans Multi/Pak®90—slope-top fin-tube enclosures with elements, required mounting components and all accessories as manufactured by Slant/Fin. Cover shall be of two interlocking sections: a top cover and front cover. Top cover will be common to one-tier (90-14) and two-tier (90-21) models. (Optional: A knob-actuated damper shall be provided). Top cover shall consist of stamped grille with pencil-proof air discharge louvers. Front cover shall interlock with top cover to form lateral decorative panel. Front cover shall be removable without removal of the top cover.

Interlocking top cover and front cover shall both be fabricated from 18-gauge galvanized steel in pre-painted Nu-White baked enamel finish or color as per specification. Brackets and hangers shall have a galvanized finish

Provide and install Slant/Fin's internal splice plate. The internal splice plate shall provide an internal slip connection without creating unsightly weld marks on the front of the cover. The resultant joint will be a neat butt joint; the need for an external splice plate is eliminated.

Fin-tube element(s) shall be Model\_\_\_\_.
Provide lengths and capacities as scheduled on plans.
Furnish required channeled bracket-hanger assemblies
with heavy flag brace for rigid front panel and element
support. Provide all required accessories for complete
installation. Cover accessories shall be telescopic and
shall match enclosure color.

### Multi/Pak 93

Furnish and install as shown on the plans Multi/Pak\*93—flat-top fin-tube enclosures with elements, required mounting components and all accessories as manufactured by Slant/Fin.

Cover shall be of two interlocking sections: a top cover and front cover. Top cover will be common to one-tier (93-10) and two-tier (93-17) models. (Optional: A knob-actuated damper shall be provided.) Top of enclosure shall consist of stamped grille pre-painted and with pencil-proof air discharge louvers. Front skirt shall interlock with top panel to form lateral decorative panel. Front skirt shall be removable.

Interlocking top cover and front cover shall both be fabricated from 18-gauge steel in Nu-White baked enamel or as custom matched as per specification. Brackets and hangers have electro-galvanized finish.

Fin-tube element(s) shall be Model\_\_\_.
Provide lengths and capacities as scheduled on plans.
Furnish required channeled bracket-hanger assemblies
with heavy flag brace for rigid front skirt and element
support. Provide all required accessories for complete
installation. Cover accessories shall be telescopic and
shall match enclosure color.

### Multi/Pak 95

Furnish and install as shown on the plans Multi/Pak® 95—flat-top fin-tube enclosures with elements, required mounting components and all accessories as manufactured by Slant/Fin.

Cover shall be of two interlocking sections: a top cover and front cover. Top cover will be common to one-tier and two-tier models. (Optional: A knob-actuated damper shall be provided.) Top of enclosure shall consist of stamped grille pre-painted and with pencil-proof air discharge louvers. Front skirt shall interlock with top panel to form lateral decorative panel. Front skirt shall be removable.

Interlocking top cover and front cover shall both be fabricated from 18-gauge steel in Nu-White baked enamel or as custom matched as per specification. Brackets and hangers have electro-galvanized finish.

Fin-tube element(s) shall be Model\_\_\_\_.
Provide lengths and capacities as scheduled on plans.
Furnish required channeled bracket-hanger assemblies
with heavy flag brace for rigid front skirt and element
support. Provide all required accessories for complete
installation. Cover accessories shall be telescopic and
shall match enclosure color.

### JA-14, JA-21 or JA-28 Series

Furnish and install as shown on the plans JA slope-top fin-tube enclosures with elements, required mounting components and all accessories as manufactured by Slant/Fin. Cover shall be of one-piece construction. Top part of enclosure shall consist of stamped grille with pencil-proof air discharge louvers. (Optional: A knob-actuated damper shall be provided.)

Cover shall be fabricated from 18 (16 or 14) gauge galvanized steel. Cover finish shall be galvanized or powder coated to a color as per specification. Brackets and hangers shall have a galvanized finish. Cover panels to join using Internal Splice Plates, resultant joint has covers butting to one another resulting in a clean joint without unsightly weld marks on front of cover.

(Optional: Cover with anodized aluminum grill in place of pencil-proof louvers. Cover shall be fabricated from 18 (16 or 14) gauge galvanized steel. Cover finish shall be galvanized or powder coated to a color as per specification. Brackets and hangers shall have a galvanized finish. Covers panels shall join using slip joint resulting in a clean joint.)Please note that knob-actuated damper is not available on aluminum grill cover.

(Optional: A full height back panel shall be provided of 20 gauge galvanized steel.)

Provide all required accessories for complete installation. Cover accessories shall be telescopic and shall match enclosure color.

Fin-tube element(s) shall be Model\_\_\_.
Provide lengths and capacities as scheduled on plans.
Furnish required channeled bracket-hanger assemblies with heavy flag brace for rigid front panel and element support.

### JL-10 Series

Furnish and install as shown on the plans JL-10 slopetop fin-tube enclosures with elements, required mounting components and all accessories as manufactured by Slant/Fin.

Cover shall be of one-piece construction. Top part of enclosure shall consist of stamped grille with pencil-proof air discharge louvers. (Optional: A knob-actuated damper shall be provided.)

Cover shall be fabricated from 18 (16 or 14) gauge galvanized steel finish or powder coated to a color as per specification. Brackets and hangers shall have a galvanized finish.

(Optional: Cover with anodized aluminum grill in place of pencil proof louvers. Cover shall be fabricated from 18 (16 or 14)-gauge galvanized steel. Cover finish shall be galvanized or powder coated to a color as per specification. Brackets and hangers shall have a galvanized finish. Cover panels shall join using slip joint resulting in a clean joint.) Please note that damper is not available on aluminum grill cover.

(Optional: A full height back panel shall be provided of 20-gauge galvanized steel.)

Provide all required accessories for complete installation. Cover accessories shall be telescopic and shall match enclosure color.

Fin-tube element(s) shall be Model\_\_\_.
Provide lengths and capacities as scheduled on plans.
Furnish required channeled bracket-hanger assemblies
with heavy flag brace for rigid front panel and element
support.

### FS Series

Furnish and install as shown on the plans "FS" Series free standing enclosures with elements, required mounting components and all accessories as manufactured by Slant/Fin.

Cover shall be of one piece construction. Enclosure shall be (FS-7, FS-14, FS-21) and shall have (1,2 or 3) tier element. Top part of enclosure electro galvanized shall consist of stamped grille with pencil-proof air discharge louvers. All enclosures shall have female-to-female slip joint connection with interlocking internal splice. The internal splice provides additional strength with a nearly invisible joint.

Cover shall be fabricated in 16 gauge (14 gauge optional) galvanized steel or as custom color matched as per specification.

Brackets and hangers shall be channeled steel in hot dipped wiped coat galvanized finish. Fin-Tube element(s) shall be Model\_\_\_\_\_\_. Provide lengths and capacities as scheduled on plans.

Furnish required channeled bracket-hanger assemblies with heavy floor mounting flange for rigid front skirt and element support.

Provide all required accessories for a complete installation. Enclosure accessories in electro galvanized steel shall be telescopic and match enclosure color.

#### **TRG Series**

Furnish and install as shown on the plans "TBG" Series top & bottom slope enclosures with elements, required mounting components and all accessories as manufactured by Slant/Fin. Cover shall be of one piece construction. Enclosure shall be (TBG-17, TBG-24) and shall have (1 or 2) tier element. (Optional: A knob-actuated damper shall be provided.) Top and bottom slope of enclosure shall consist of stamped grille with pencil-proof air discharge louvers. All enclosures shall have female-to-female slip joint connection with interlocking internal splice. The internal splice provides additional strength with a nearly invisible joint. (Optional: A full height back panel shall be provided of 20-gauge steel in hot dipped wiped coat galvanized finish.)

Cover shall be fabricated from 16 gauge (14 gauge option) steel in galvanized finish or as custom matched as per specification.

Brackets and hangers shall be channeled steel in hot dipped wiped coat galvanized finish. Fin-tube element(s) shall be Model\_\_\_\_\_\_. Provide lengths and capacities as scheduled on plans.

Furnish required channeled bracket-hanger assemblies with heavy channeled bracket for rigid front skirt and element support.

Provide all required accessories for a complete installation. Enclosure accessories in electro-galvanized steel shall be telescopic and match enclosure color.

### R Series

Furnish and install as shown on the plans "R" Series round top enclosures with elements, required mounting components and all accessories as manufactured by Slant/Fin.

Cover shall be of one piece construction. Enclosure shall be (RL-10, RT-14, RT-21 or RT-28) and shall have (1, 2 or 3) tier element. (Optional: A knobactuated damper shall be provided.) Top part of enclosure shall consist of stamped grille with pencil-proof air discharge louvers. All enclosures shall have female-to-female slip joint connection with interlocking internal splice. The internal splice provides additional strength with a nearly invisible joint. (Optional: A full height back panel shall be provided of 20-gauge electro galvanized steel finish.)

Cover shall be fabricated from 18 (16 or14) gauge steel in hot dipped wiped coat galvanized finish or as custom color matched as per specification.

Brackets and hangers shall be channeled steel in hot dipped wiped coat galvanized finish. Fin-tube element(s) shall be Model\_\_\_\_\_\_. Provide lengths and capacities as scheduled on plans.

Furnish required channeled bracket-hanger assemblies with heavy flag brace for rigid front skirt and element support.

Provide all required accessories for a complete installation. Enclosure accessories in electro galvanized steel shall be telescopic and match enclosure color.

#### 350 Series

Furnish and install 350 Series Model\_\_\_\_baseboard cover assembly as manufactured by Slant/Fin, consisting of one-piece bottom, back and top panel, and one-piece 19 (16) gauge front panel, formed of cold rolled steel. Bottom and top edges of back panel shall be formed to provide channels along entire length, to receive full-height support brackets.

Brackets shall be die formed of electro-galvanized cold rolled steel, for rigid bracing and spring locking. Slide-action expansion cradles, formed of polypropylene, shall be inserted between heating element and support bracket. Cradles shall protect element bottom and sides from contact with brackets or cover, confining element to free lateral expansion for noiseless operation.

Provide all required accessories for a complete installation. Cover accessories shall be telescopic and shall match enclosure color.

All cover components shall be painted in Nu-White, oven baked melamine cross-linked polyester enamel.

#### **HD Series**

Furnish and install as shown on the plans model HD-850, HD-1400\_\_\_\_\_\_HD Series slope-top baseboard with element, required mounting components and accessories as manufactured by Slant/Fin. Complete two-piece enclosure assembly shall consist of full back panel with interlocking slope top front panel, factory packaged with necessary brackets.

Front cover shall be fabricated from 16-gauge galvanized steel, back panel from 20-gauge galvanized steel. The front panel & accessories shall be finished in galvanized finish or as custom color matched as per specifications. Fin-tube element(s) shall be Model \_\_\_\_\_. Provide lengths, heights and capacities as scheduled on plans.

Bracket with element hanger shall be spot welded to back panel every 12 inches. There shall be dimpled anchoring holes every 12 inches on front cover. Use 8 x 3/8" self-tapping screws with countersunk heads to fasten front cover to brackets. Screws recess into dimpled anchoring holes on front cover. Screws are supplied in carton with cover.

Provide all required accessories for a complete installation. Cover accessories shall be telescopic to eliminate the need to perfectly but one length of cover to the next. Accessories to be fastened with screws (pan-head) supplied by others.

### LC Series

Furnish and install as shown on the plans model (LC-850, LC-1400) LC Series-slope top baseboard with element, required brackets and accessories as manufactured by Slant/Fin.

Front Cover shall be fabricated from 18-gauge galvanized steel. Top horizontal lip of cover shall be no wider than 7/8 inch, this is to prevent standing on the cover. Outlet louvers shall be located on the front sloped face of the cover, louvers located on the top of the cover are not acceptable. Cover finish shall be galvanized finish or custom color matched as per specification.

Front cover to be mounted on the wall with one piece wall brackets. Brackets shall be spaced no further than 2 feet apart with bracket secured to wall studs and not to the wall board. Slide-action expansion cradles shall be inserted between heating element and cover brackets. Slide-action expansion cradles are supplied with heating element. Installer shall secure front cover to mounting brackets by drilling hole into vertical flange on lower front cover and screwing front cover to each wall bracket. Screws are field supplied.

Finned tube heating element shall be Model \_\_\_\_\_. (One, Two) tiers of element to be installed within cover. Provide lengths, heights and capacities as scheduled on plans. (Add specification for model of element being specified)

Provide all required accessories for a complete installation. Accessories shall be telescopic to eliminate the need to perfectly butt one length of cover to the next. Accessories to be fastened with pan head screws to front cover, screws are field supplied.

#### Multi/Pak 80

Furnish and install Multi/Pak® 80 baseboard cover assembly as manufactured by Slant/Fin, consisting of one-piece 21-gauge back and top panel, and one-piece 18-gauge front panel, formed of cold rolled galvanized steel. Bottom and top edges of back panel shall be formed to provide channels along entire length, to receive full-height support brackets.

Brackets shall be die formed of zinc-bonded 16gauge quarter-hard cold rolled steel, for rigid bracing and spring locking. Slide-action expansion cradles, formed of polypropylene, shall be inserted between heating element and support bracket. Cradles shall protect element bottom and sides from contact with brackets or cover, confining element to free lateral expansion for noiseless operation. Room-control damper vane, of quarter-hard cold rolled steel, shall be provided for each length of enclosure, and shall modulate fully and freely, yet retain any setting through its arc without protruding knobs or other devices. Support bracket shall be formed to retain and support damper vane without use of additional pivots. All cover components shall be painted in Nu-White, oven baked melamine cross-linked polyester enamel.

#### F & EM Series

Furnish and install as shown on the plans "F" or "EM" Series flat-top enclosures with elements, required mounting components and all accessories as manufactured by Slant/Fin. Cover shall be of one piece construction. Enclosure shall be EM-5, EM-12, EM-19, F-5, F-12 or F-19 and shall have (1,2 or 3) tier element. EM enclosure shall be made of expanded steel. F enclosure shall consist of stamped top grille with pencil-proof air discharge louvers.

Covers shall be fabricated from 18-gauge (16-gauge for EM) steel in electro galvanized finish or as custom color matched as per specification.

Furnish required channeled bracket-hanger assemblies for rigid element support.

Provide all required accessories for complete installation. Enclosure accessories in bonded zinc steel shall be telescopic and match enclosure color.

### C-540, C-440 and C-340 Element

Furnish and install C-540, C-440 and C-340 fin-tube heating elements as manufactured by Slant/Fin, consisting of 1½" nominal\* copper seamless-drawn tubing\* with 4½" x 4½"x .020" aluminum fins spaced 40 per linear foot. Fins shall be mechanically bonded to the tubing to increase thermal contact and to space and lock the fins uniformly in place. A flange with four teeth shall be formed on each fin to increase thermal contact and to space and lock the fins uniformly in place. One end of each element shall be expanded to receive the expanded end of another, without couplings.

\* C-440 is 1" copper pipe. C-340 is ¾" copper pipe.

### S-540, S-532 and S-832 Element

Furnish and install S-540 and S-532 fin-tube heating element as manufactured by Slant/Fin, consisting of 1½" IPS steel pipe\* (Schedule 40), with 4½" x 4½"x .024"steel fins spaced 40 per linear foot for S-540 and 32 per linear foot for S-532 and S-832. The pipe shall be forced through undersized fin holes to obtain a force-fit mechanical bond. A flange with four teeth shall be formed on each fin to increase thermal contact and to space and lock the fins uniformly in place. Both ends of each element pipe shall be threaded with IPS standard threads.

\* S-832 is 2" IPS steel pipe.

