



# COMMERCIAL FIN-TUBE

## Radiation Selection Guide

***Slant/Fin***<sup>®</sup>

*America's premier manufacturer of hydronic heating equipment.*

# FIN-TUBE

## RADIATION...

### Meeting the commercial heating needs of engineers, architects, builders and heating contractors.

Slant/Fin radiation products are widely recognized for their unmatched quality of design and performance. The wide range of Slant/Fin enclosures and elements described in this catalog meet most hot water or steam heating requirements for offices, schools, hospitals, stores, etc.

### Standard and custom designs.

When design schemes or retrofit constraints call for a uniquely shaped fin-tube enclosure, Slant/Fin's custom fabrication capabilities let imagination become reality. The designer may specify size and shape variations of standard Slant/Fin products, as well as totally customized shapes.

And every Slant/Fin model, from multi-tier custom enclosures to our low-profile high-output baseboard, is built to stand up to years of use and abuse.

### Faster Delivery.

Shortening the time between specifying fin-tube radiation and completing the installation has long been an industry goal. Now, through design innovations and advanced manufacturing technology, Slant/Fin has improved commercial radiation availability, helping to ensure that your projects are kept on schedule.

Many popular models of fin-tube enclosure and light commercial baseboard radiation are kept in stock at local distributors, so your radiation job can be specified, ordered and installed in just days instead of weeks or months. Multi/Pak 90 Series 2-piece pre-painted enclosures, for instance, knock down flat, and are neatly packaged in a compact box. They are stocked in pre-cut lengths with telescopic accessories, virtually eliminating cutting on the job.

For radiation orders to be shipped from the factory, lead times have been substantially reduced. The Slant/Fin factory has grown to be the most advanced in the industry, with all major metalworking operations under full computer control. Together with deep materials inventory, high production capacity and highly flexible custom painting facilities, Slant/Fin is able to produce long or short runs more economically and deliver commercial radiation products with greater speed and higher quality.



## MULTI/PAK®90 SERIES

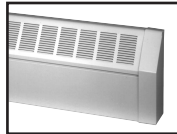
2-piece fin-tube enclosure. Factory packaged. Prepainted. In stock.

**Style:** Slope-top and flat-top. Aluminum grille optional (90 & 95).  
**Application:** 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 4-11

## J SERIES

1-piece fin-tube enclosure.

**Style:** Slope-top  
**Application:** Commercial heating. Hot water or steam.  
**Output:** 599 to 3854 Btu/hr.  
**Elements:** Choice of 6. Copper/aluminum or steel.  
**Finish:** Galvanized or custom colors.



page 12-13 J

## FS SERIES

Free standing fin-tube enclosure.

**Style:** Pedestal mounted enclosure.  
**Application:** Commercial heating. Hot water or steam.  
**Output:** 581 to 3339 Btu/hr.  
**Elements:** Choice of 6. Copper/aluminum or steel.  
**Finish:** Galvanized or custom colors.



page 14-15 FS

## TBG SERIES

1-piece fin-tube enclosure.

**Style:** Slope top and bottom.  
**Application:** Commercial heating. Hot water or steam. Ideal for upper wall installation.  
**Output:** 540 to 2548 Btu/hr.  
**Elements:** Choice of 6. Copper/aluminum or steel.  
**Finish:** Galvanized or custom colors.



page 16-17 TBG

## R SERIES

1-piece fin-tube enclosure.

**Style:** Flat-top. Aluminum grille optional.  
**Application:** 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.



page 18-19 R

## 350 SERIES

High output slope-top baseboard.

**Style:** Slope-top, louvered baseboard.  
**Application:** Light commercial heating. Hot water or steam.  
**Output:** 460 to 2250 Btu/hr.  
**Elements:** Choice of 6. Copper/aluminum or steel.  
**Finish:** Nu-White baked enamel or galvanized.



page 20-21 350

## HD SERIES

Heavy duty slope-top baseboard.

**Style:** Slope-top, louvered baseboard.  
**Application:** Rugged duty residential or light commercial heating. Hot water or steam.  
**Output:** 360 to 1660 Btu/hr.  
**Elements:** Choice of 6. Copper/aluminum or steel.  
**Finish:** Galvanized or custom colors.



page 22-23 HD

## MULTI/PAK® 80 SERIES

High output baseboard radiation.

**Style:** Low-profile baseboard.  
**Application:** Light commercial or deluxe residential heating. Hot water or steam.  
**Output:** 420 to 1200 Btu/hr.  
**Elements:** Choice of 6. Copper/aluminum or steel.  
**Finish:** Nu-White baked enamel.



page 24-25 80

## BASELINE 70 SERIES

High output baseboard radiation.

**Style:** Low-profile baseboard  
**Application:** Light commercial and high output residential hot water heating.  
**Output:** 410 to 1100 Btu/hr.  
**Elements:** Choice of 2 copper/aluminum.  
**Finish:** Nu-White baked enamel.

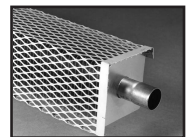


page 26-27 70

## F&M SERIES

1-piece element covers.

**Style:** F-Series: Louvered top.  
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.

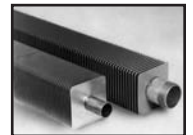


page 28-29 F/EM

## BARE ELEMENTS

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

**Application:** With Slant/Fin enclosures or as bare element installation.  
**Output:** To 4316 Btu/hr.  
**Elements:** Choice of 12. Copper/aluminum or steel.



page 30-31

## RHINO CAST

Cast-Iron Baseboard

**Style:** Modern low profile.  
**Application:** Rugged, heavy-duty hot water heating.  
**Output:** 360 to 840 Btu/hr.  
**Finish:** Gray prime. Enclosure accessories are zinc coated with gray prime finish.



page 32

## ENGINEERING DATA

Ratings data  
Specifications



page 33-35

Slant/Fin commercial radiation web site  
[www.slantfin.com/comfin/choose.html](http://www.slantfin.com/comfin/choose.html)



**In the best American manufacturing tradition, we've improved the quality of an established good product to make it even better.**

**Multi/Pak 90 Series**

- 2-piece design for convenience, accessibility, ease of cleaning
- Slope-top and flat-top models to meet most specifications
- The "fit and trim" that are the marks of quality craftsmanship
- Readily available from factory and Slant/Fin wholesale distributors
- Baked enamel finish, without premium cost, makes every job a "showcase" installation

It's never been easier to select, purchase and install fin-tube radiation. And you've never encountered better quality. The unique 2-piece design of our Multi-Pak 90 Series allows us to pack these enclosures in a compact 2½" deep protective carton and to ship and warehouse it -- just like residential baseboard! Multi/Pak 90 is available in a variety of slope-top and flat-top models in single-and multi-tier to meet most design and output requirements.

**Easy to order--it's available when you need it.**

Slant/fin has made a commitment, through the production, inventory and distribution of Multi/Pak 90, to meet your most demanding commercial radiator delivery requirements. Never before has fin-tube radiation been prepackaged like

this for "off-the-shelf" availability. Usually commercial enclosure must be ordered many weeks before it's scheduled for installation. It's generally shipped "loose", banded or crated and subject to scratching and damage. And if it turns out that a shipment is short or damaged, the job waits again.

Wait no more. Multi/Pak 90 is stocked at many Slant/Fin wholesalers so you can get it when you need it. Or, it can be promptly shipped direct to your job site from the factory. You also avoid troublesome on-the-job cutting since Multi-Pak 90 comes in lengths of 2, 3, 3½, 4, 5, 6, 7 and 8 feet with telescopic accessories that make up odd inches.



**Convenient to handle.**

Individually boxed Multi/Pak 90 is easier to transport and easier to handle at the job site than unpackaged commercial cover. We've put an end to bent corners and dented panels. Every foot of cover you buy is protected until you're ready to hang it on the wall.



**Packed with brackets and hangers. A snap to install.**

All the components you need for quick installation--brackets, element hangers, top cover and front cover--are packed in each carton of Multi/Pak 90. Installation is simple. Secure the brackets and hangers to the wall and run your heating elements, the same as you would with ordinary fin-tube radiation. With Multi/Pak 90 you simply snap on the top cover, and then the front cover. To finish the job, there's a full range of easy-to-install, individually cartoned accessories. Most are telescopic for a quick, snug fit. In a snap, you have a distinctive, fully finished installation that is well designed and well-made.

**A finished job with a designer finish.**

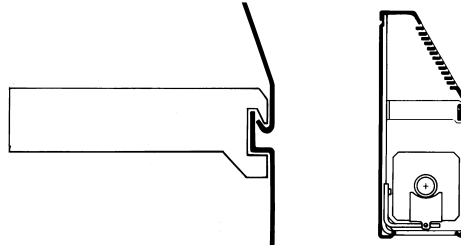
Multi/Pak 90 Series enclosures and accessories are pre-painted in a Nu-White baked enamel at no extra cost. Your finished job harmonizes beautifully with any decor. Or, if painting is preferred, the Nu-White finish is an excellent prime base. Multi/Pak 90 may also be ordered with a custom color finish.



Multi/Pak 90 Series enclosures add exceptional beauty and distinction to any area: office suites, lobbies, show-rooms, restaurants, conference rooms, etc.

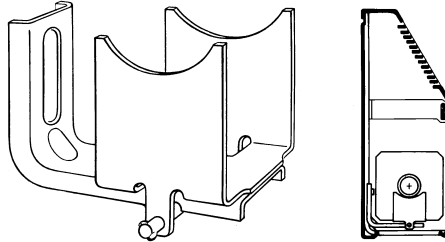
## Cover panels

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.



## Element support

- Electro-galvanized bracket has fastening slot that allows 1/8" pitch adjustment.
- Electro-galvanized cradle supports finned or bare tubing at same height.
- Sliding guide rod provides full cradle width support. 1/16" lateral movement permits smooth, noiseless expansion.



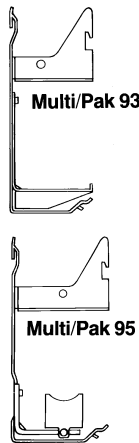
## Pencil-proof louvers

Minimize "see through."



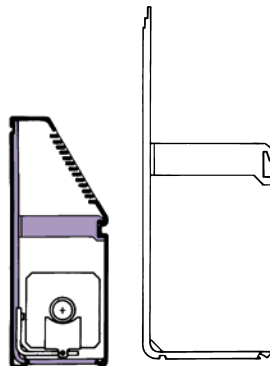
## Multi/Pak 93 and 95 wall brackets


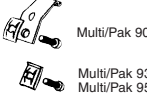

- Extra-heavy 11 gauge wall bracket and panel support arm are die formed with multiple bends that add strength.
- Multi/Pak 93 element hanger permits 7/8" pitch adjustment. Self-adjusting polypropylene expansion cradle on "H" and "E" elements allow silent lateral expansion movement
- Multi/Pak 95 element support and cradle are identical to Multi/Pak 90



## Multi/Pak 90 wall brackets

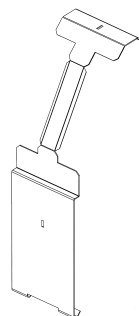
- Heavy duty 14 gauge wall bracket is drawn die formed with multi-directional bends that add strength.
- Mounting slots provide 3/4" height adjustment.
- Large recessed "flat" prevents bracket from crushing wall surface when back panel is not used.



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

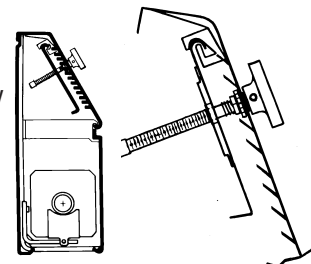
## Internal Splice Plate

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.



**Slant/Fin**

# MULTI/PAK<sup>®</sup> 90

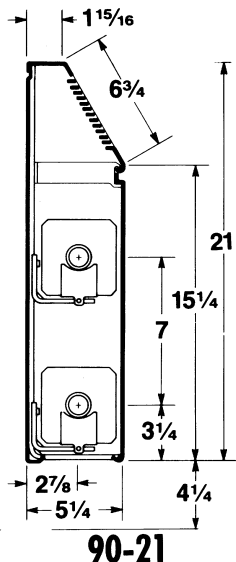
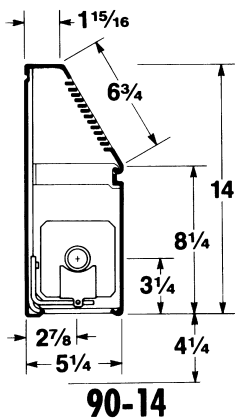
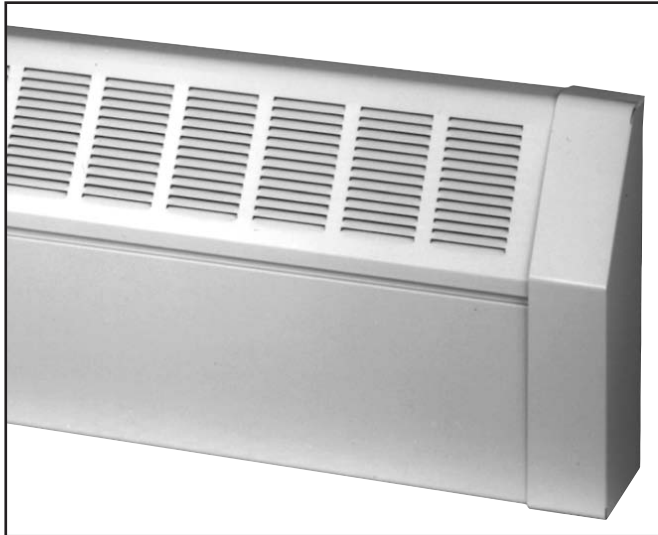
## SLOPE-TOP, TWO-PIECE ENCLOSURE

*Pre-painted. Factory packaged.*



Aluminum grille optional.

### 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:** 5 1/4"

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

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

**MATERIAL:** 18-gauge galvanized steel top and front cover.

**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 hanger has guide rod to provide 1 15/16" lateral expansion movement, 1 1/8" vertical pitch adjustment. Brackets and hangers provided with complete assembly as follows:

Length	90-14		90-21	
	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. 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 butt 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

### Multi/Pak 90 Series two-piece fin-tube enclosure. The modern choice in commercial radiation.

- Available as a "stock item".
- Precut lengths, telescopic accessories, speed installations.
- Easy to install. Easy to service.
- Nu-White baked enamel finish.



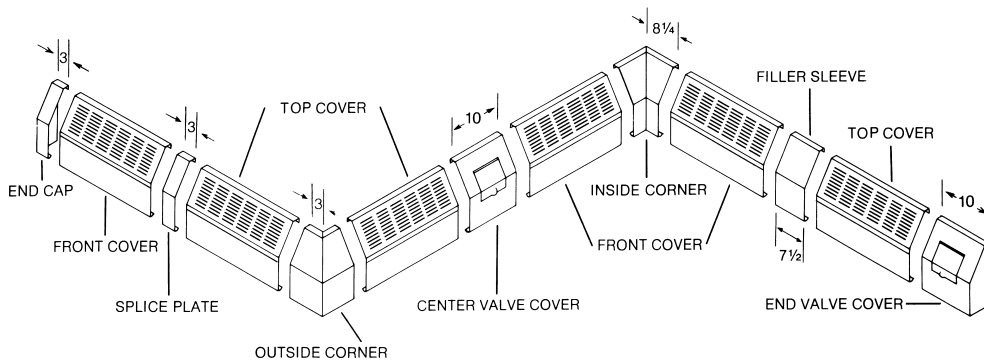
# RATINGS

with or without dampers

Cover Type	Enclosure Height	Element Type	Tube Size and Material	Fin Size and Material	Fins Per Foot	Steam 1 PSI * Btu/Hr. Per Foot	HOT WATER RATINGS* BTU/HR./FT. (Flow Rate 3 Ft./Sec.)							
							150° F	160° F	170° F	180° F	190° F	200° F	210° F	220° F
90-14	14"	S-532	1¼" steel	4¼" steel	32	1380	621	731	842	952	1076	1187	1311	1449
		S-540	1¼" steel	4¼" steel	40	1550	698	822	946	1070	1209	1333	1473	1628
		S-832	2" steel	4¼" steel	32	1400	630	742	854	966	1092	1204	1330	1470
		C-340	¾" copper	4¼" alum.	40	1839	828	975	1122	1269	1435	1582	1748	1932
		C-440	1" copper	4¼" alum.	40	1950	878	1034	1190	1346	1521	1677	1853	2048
		C-540	1¼" copper	4¼" alum.	40	1910	860	1012	1165	1318	1490	1643	1815	2006
90-21	21"	S-532	1¼" steel	4¼" steel	32	1460	657	774	891	1007	1139	1256	1387	1533
		S-540	1¼" steel	4¼" steel	40	1680	756	890	1025	1159	1310	1445	1596	1764
		S-832	2" steel	4¼" steel	32	1520	684	806	927	1049	1186	1307	1444	1596
		C-340	¾" copper	4¼" alum.	40	2013	906	1067	1228	1389	1570	1731	1895	2114
		C-440	1" copper	4¼" alum.	40	2130	959	1129	1299	1470	1661	1832	2024	2237
		C-540	1¼" copper	4¼" alum.	40	2090	941	1108	1275	1442	1630	1797	1986	2195
90-21 Two-tier element	21"	S-532	1¼" steel	4¼" steel	32	2190	986	1161	1336	1511	1708	1883	2081	2300
		S-540	1¼" steel	4¼" steel	40	2380	1071	1261	1452	1642	1856	2047	2261	2499
		S-832	2" steel	4¼" steel	32	2270	1022	1203	1385	1566	1771	1952	2157	2384
		C-340	¾" copper	4¼" alum.	40	2822	1270	1496	1721	1947	2200	2427	2681	2963
		C-440	1" copper	4¼" alum.	40	2990	1346	1585	1824	2063	2332	2571	2841	3140
		C-540	1¼" copper	4¼" alum.	40	2930	1319	1553	1787	2022	2285	2520	2784	3077

\*Based on 65° F entering air temperature.  
For ratings at lower water temperatures, refer to conversion table on page 33

# ACCESSORIES



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\*

\*See p.5 for details

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



## 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.

## 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)

Access doors: 6" x 6"

**Slant/Fin**

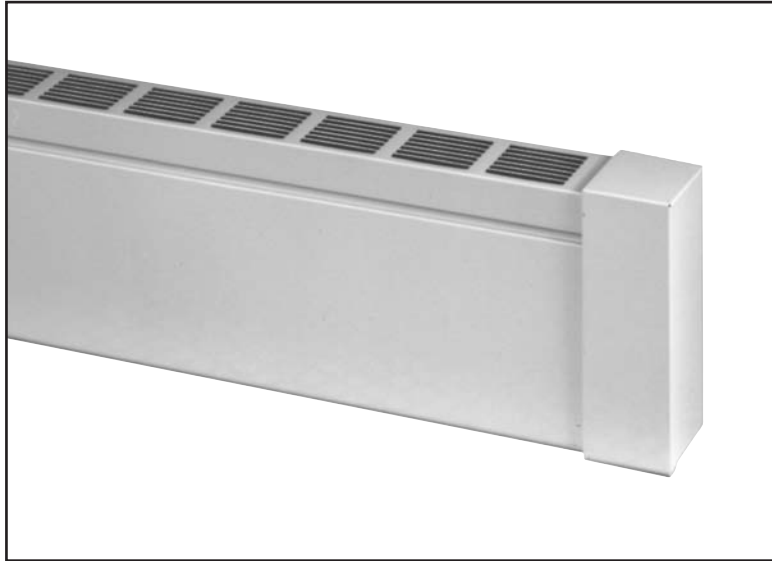


# MULTI/PAK<sup>®</sup> 93

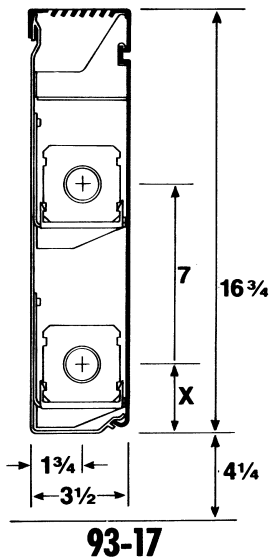
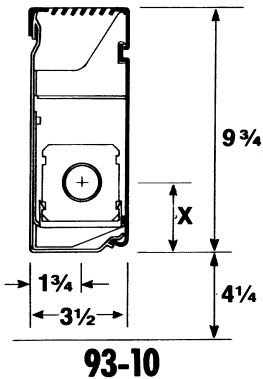
## FLAT-TOP, TWO-PIECE ENCLOSURE

*Pre-painted. Factory packaged.*

### MODELS 93-10 AND 93-17



ELEMENT	X
H1	3 <sup>3</sup> / <sub>16</sub>
H3	2 <sup>13</sup> / <sub>16</sub>
H4	2 <sup>13</sup> / <sub>16</sub>
H5X	3 <sup>3</sup> / <sub>16</sub>
H6X	3 <sup>3</sup> / <sub>16</sub>
E-75	2 <sup>7</sup> / <sub>8</sub>



## 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:** 3<sup>1</sup>/<sub>2</sub>"

**HEIGHTS:** 9<sup>3</sup>/<sub>4</sub>" (one tier), 16<sup>3</sup>/<sub>4</sub>" (one or two tier)

**LENGTHS:** 2', 3', 3<sup>1</sup>/<sub>2</sub>', 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:

Length	93-10		93-17	
	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.

### Multi/Pak 90 Series two-piece fin-tube enclosure. The modern choice in commercial radiation.

- Available as a "stock item".
- Factory packaging protects the cover until ready to install.
- Easy to install. Easy to service.
- Precut lengths, telescopic accessories, speed installations.
- Nu-White baked enamel finish.





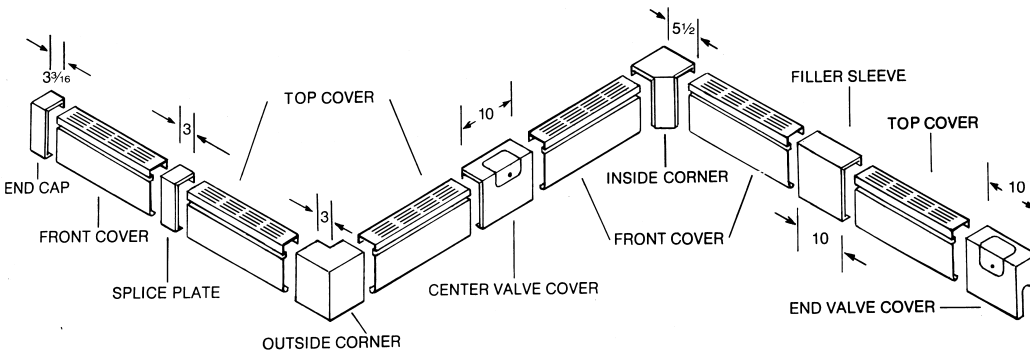
# RATINGS

with or without dampers

Cover Type	Enclosure Height	Element Type	Rows of Heating Elements	Tube Size and Material	Fin Size and Material	Fins Per Foot	Steam 1 PSI* Btu/Hr. Per Foot	HOT WATER RATINGS* BTU/HR./FT. (Flow Rate 3 Ft./Sec.)							
								150° F	160° F	170° F	180° F	190° F	200° F	210° F	220° F
93-10	9 3/4"	H-1	1	3/4" copper	3" x 3 3/4" x .024" aluminum	48	1079	486	572	658	745	848	928	1025	1133
		H-3	1	3/4" copper	2 3/4" x 2 1/2" x .011" aluminum	55	991	446	525	605	684	773	852	941	1041
		H-4	1	1" copper	3" x 2 1/2" x .011" aluminum	48	965	434	511	589	666	753	830	917	1013
		H-5X	1	1 1/4" copper	3" x 3 3/4" x .020" aluminum	48	1030	464	546	628	711	803	886	979	1082
		H-6X	1	1 1/4" IPS Steel	3" x 3 3/4" x .028" aluminized steel	48	883	397	468	539	609	689	759	839	927
		E-75	1	3/4" copper	2 5/8" x 2 1/8" aluminum	55	828	373	439	505	571	646	712	787	869
93-17	16 3/4"	H-1	1	3/4" copper	3" x 3 3/4" x .024" aluminum	48	1182	532	626	721	816	922	1017	1123	1241
		H-3	1	3/4" copper	2 3/4" x 2 1/2" x .011" aluminum	55	1086	489	576	662	749	847	934	1032	1140
		H-4	1	1" copper	3" x 2 1/2" x .011" aluminum	48	1057	476	560	645	729	824	909	1004	1110
		H-5X	1	1 1/4" copper	3" x 3 3/4" x .020" aluminum	48	1128	508	598	688	778	880	970	1072	1184
		H-6X	1	1 1/4" IPS Steel	3" x 3 3/4" x .028" aluminized steel	48	947	426	502	578	653	739	814	900	994
		E-75	1	3/4" copper	2 5/8" x 2 1/8" aluminum	55	907	408	481	553	626	707	780	862	952
93-17 Two-tier element	16 3/4"	H-1	2	3/4" copper	3" x 3 3/4" x .024" aluminum	48	1679	756	890	1024	1159	1310	1444	1595	1763
		H-3	2	3/4" copper	2 3/4" x 2 1/2" x .011" aluminum	55	1543	694	818	941	1065	1204	1327	1466	1620
		H-4	2	1" copper	3" x 2 1/2" x .011" aluminum	48	1501	675	796	916	1036	1171	1291	1426	1576
		H-5X	2	1 1/4" copper	3" x 3 3/4" x .020" aluminum	48	1602	721	849	977	1105	1250	1378	1522	1682
		H-6X	2	1 1/4" IPS Steel	3" x 3 3/4" x .028" aluminized steel	48	1435	646	761	875	990	1119	1234	1363	1507
		E-75	2	3/4" copper	2 5/8" x 2 1/8" aluminum	55	1288	580	683	786	889	1005	1108	1224	1352

For ratings at lower water temperatures, refer to conversion table on page 33.  
\*Based on 65° F entering air temperature.

# ACCESSORIES



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\*

\*See p.5 for details

## telescopic accessories



End Cap  
End Cap-slotted  
(not shown)



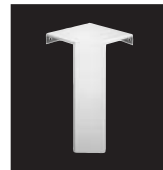
Splice plate



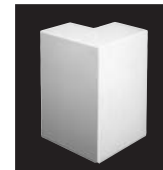
Filler sleeve



Center valve cover



Inside corner, 90°



Outside corner, 90°



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

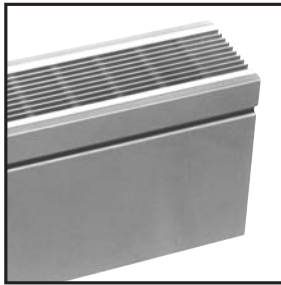
**Slant/Fin**

# MULTI/PAK<sup>®</sup> 95

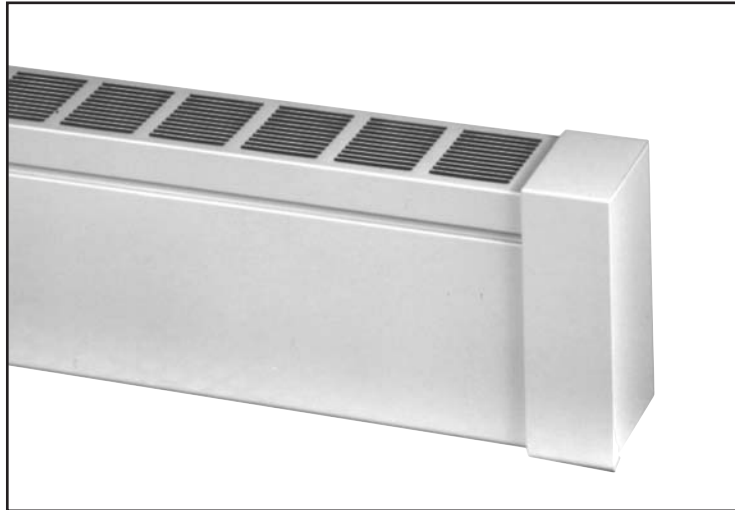
## FLAT-TOP, TWO-PIECE ENCLOSURE

*Pre-painted. Factory packaged.*

### MODELS 95-10 AND 95-17



Aluminum grille optional.



ELEMENT	X
C-340	3
C-440	3 <sup>1</sup> / <sub>8</sub>
C-540	3 <sup>1</sup> / <sub>4</sub>
S-532	3 <sup>3</sup> / <sub>8</sub>
S-540	3 <sup>3</sup> / <sub>8</sub>

## 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:** 5<sup>1</sup>/<sub>4</sub>"

**HEIGHTS:** 9<sup>3</sup>/<sub>4</sub>" (one tier), 16<sup>3</sup>/<sub>4</sub>" (one or two tier)

**LENGTHS:** 2', 3', 3<sup>1</sup>/<sub>2</sub>', 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.

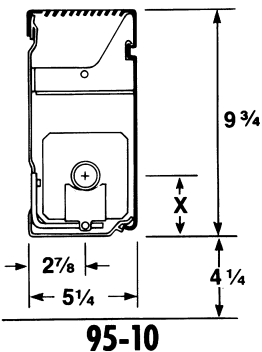
**WALL BRACKETS/HANGERS:** Packaged with complete assembly. SC-2 hanger has guide rod to provide 1<sup>5</sup>/<sub>16</sub>" lateral expansion movement, 1<sup>1</sup>/<sub>8</sub>" vertical pitch adjustment. Brackets and hangers provided with complete assembly as follows:

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

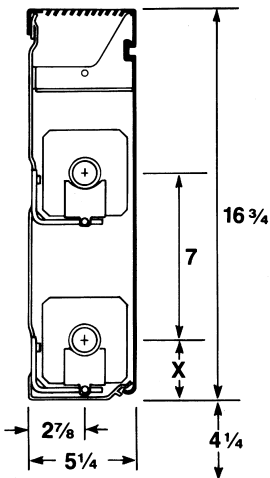
**ELEMENTS:** Copper with aluminum fins: C-340, C-440, C-540. Steel with electro-galvanized steel fins: S-532, S-540. Lengths from 2 to 12 feet. See p. 30.

**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



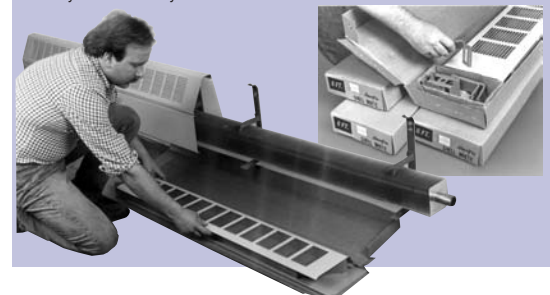
95-10



95-17

### Multi/Pak 90 Series two-piece fin-tube enclosure. The modern choice in commercial radiation.

- Available as a "stock item".
- Factory packaging protects the cover until ready to install.
- Easy to install. Easy to service.
- Precut lengths, telescopic accessories, speed installations.
- Nu-White baked enamel finish.



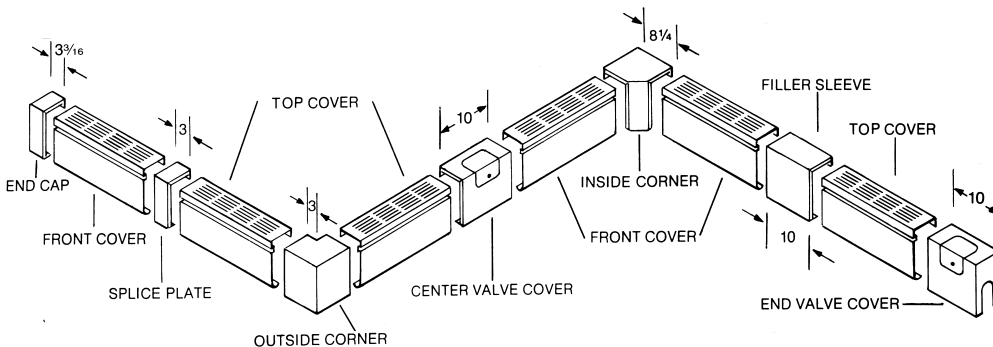
# RATINGS

with or without dampers

Cover Type	Enclosure Height	Element Type	Tube Size and Material	Fin Size and Material	Fins Per Foot	Steam 1 PSI * Btu/Hr. Per Foot	HOT WATER RATINGS* BTU/HR./FT. (Flow Rate 3 Ft./Sec.)							
							150° F	160° F	170° F	180° F	190° F	200° F	210° F	220° F
95-10	9 3/4"	S-532	1 1/4" steel	4 1/4" steel	32	1254	564	665	765	865	978	1078	1191	1317
		S-540	1 1/4" steel	4 1/4" steel	40	1470	662	779	897	1014	1147	1264	1397	1544
		C-340	3/4" copper	4 1/4" alum.	40	1680	756	891	1025	1159	1311	1445	1597	1764
		C-440	1" copper	4 1/4" alum.	40	1780	801	943	1086	1228	1388	1531	1691	1869
		C-540	1 1/4" copper	4 1/4" alum.	40	1745	785	925	1064	1204	1361	1501	1658	1832
95-17	16 3/4"	S-532	1 1/4" steel	4 1/4" steel	32	1351	608	716	824	932	1054	1162	1283	1419
		S-540	1 1/4" steel	4 1/4" steel	40	1577	710	836	962	1088	1230	1356	1498	1656
		C-340	3/4" copper	4 1/4" alum.	40	1840	828	976	1123	1270	1436	1582	1748	1933
		C-440	1" copper	4 1/4" alum.	40	1950	878	1034	1190	1346	1521	1677	1853	2048
		C-540	1 1/4" copper	4 1/4" alum.	40	1911	860	1013	1166	1319	1491	1643	1815	2007
95-17 Two-tier element	16 3/4"	S-532	1 1/4" steel	4 1/4" steel	32	2153	969	1141	1313	1486	1679	1852	2045	2261
		S-540	1 1/4" steel	4 1/4" steel	40	2390	1076	1267	1458	1649	1864	2055	2271	2510
		C-340	3/4" copper	4 1/4" alum.	40	2615	1177	1386	1595	1804	2040	2249	2484	2746
		C-440	1" copper	4 1/4" alum.	40	2770	1247	1468	1690	1911	2161	2382	2632	2909
		C-540	1 1/4" copper	4 1/4" alum.	40	2715	1222	1439	1656	1873	2118	2335	2579	2851

For ratings at lower water temperatures, refer to conversion table on page 33.  
\*Based on 65°F entering air temperature.

# ACCESSORIES



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\*

Tamper-proof lock\*  
Wall gasketing\*

\*See p.5 for details

## telescopic accessories



End Cap  
End Cap-slotted  
(not shown)



Splice plate



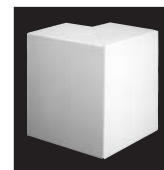
Filler sleeve



Center valve cover



Inside corner, 90°



Outside corner, 90°



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

Access doors: 6" x 6" 11

# J SERIES

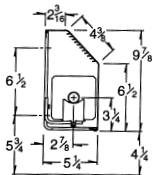
## SLOPE-TOP, ONE-PIECE ENCLOSURE

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

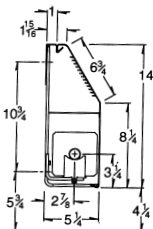


Custom Heights & Configurations Available

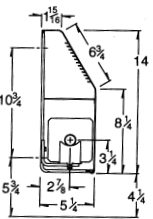
\*Details for optional J-Series damper shown on model JAD-28



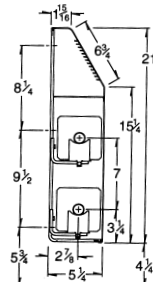
JL-10



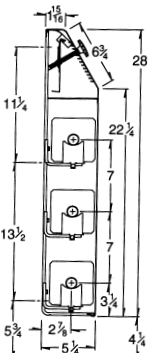
JR-14



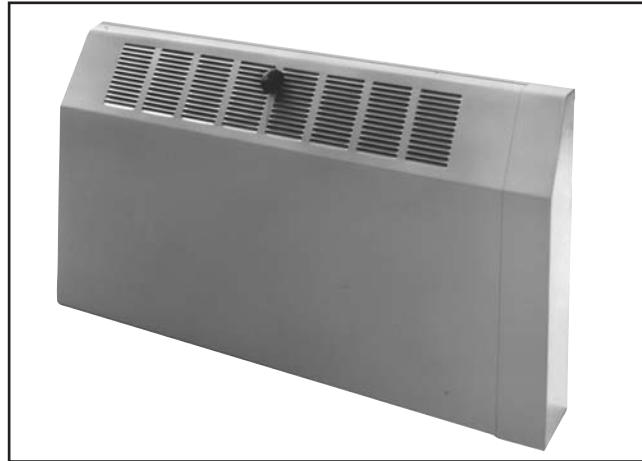
JA-14



JA-21



JAD-28\*



### ORDERING DATA

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

**DEPTH:** 5 1/4"

**HEIGHTS:** 9 7/8" and 14" (one tier), 21" (one or two tier), 28" (up to three tier)

**LENGTHS:** 2', 3', 3 1/2', 4', 5', 6', 7', 8'. Other 1/2' 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 Elements	1 1/4" Steel Elements	2" Steel Elements
2-5 ft.	2	1 per 2 1/2' of cover	1 per 2' of cover
6-8 ft.	3		

**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. See p. 30.

**JOINTS:** Slip joint connectors (JR models only) and 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 and JA-21** models mount flush with the wall. For readily available prepackaged two-piece fin-tube radiation refer to Multi/Pak 90, pages 4-11.

**JR-10, JR-14, JR-21 and JR-28** models utilize a full or 4 inch back panel. Allows for 3/4" recess into wall and protects wall covering in case removing of enclosure is necessary. 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 3/4" 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. 1 5/16" lateral movement permits smooth, noiseless expansion. Cradle supports finned or bare tubing at same height. Fastening slot in bracket allows 1 1/8" pitch adjustment.
- Knob-operated damper (optional) modulates fully to control output. See page 5 for details.

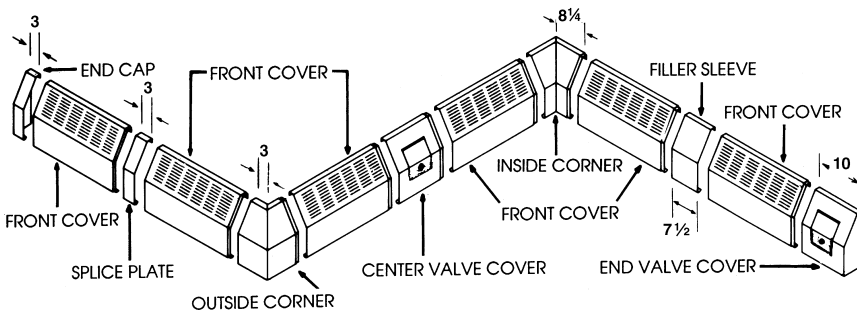
# RATINGS

with or without dampers

Cover Type	Enclosure Height	Element Type	Tube Size and Material	Fin Size and Material	Fins Per Foot	Steam 1 PSI * Btu/Hr. Per Foot	HOT WATER RATINGS*							
							BTU/HR./FT. (Flow Rate 3 Ft./Sec.)							
							150°F	160°F	170°F	180°F	190°F	200°F	210°F	220°F
JL-10 JR-10	9 7/8"	S-532	1 1/4" steel	4 3/4" steel	32	1330	599	705	811	918	1037	1144	1264	1397
		S-540	1 1/4" steel	4 3/4" steel	40	1430	644	758	872	987	1115	1230	1359	1502
		S-832	2" steel	4 3/4" steel	32	1350	608	716	824	931	1053	1161	1283	1418
		C-340	3/4" copper	4 3/4" alum.	40	1753	789	929	1069	1210	1367	1507	1665	1840
		C-440	1" copper	4 3/4" alum.	40	1860	837	986	1135	1283	1451	1600	1767	1953
		C-540	1 1/4" copper	4 3/4" alum.	40	1820	819	965	1110	1256	1420	1565	1729	1911
JA-14 JR-14	14"	S-532	1 1/4" steel	4 3/4" steel	32	1380	621	731	842	952	1076	1187	1311	1449
		S-540	1 1/4" steel	4 3/4" steel	40	1550	698	822	946	1070	1209	1333	1473	1628
		S-832	2" steel	4 3/4" steel	32	1400	630	742	854	966	1092	1204	1330	1470
		C-340	3/4" copper	4 3/4" alum.	40	1839	828	975	1122	1269	1435	1582	1748	1932
		C-440	1" copper	4 3/4" alum.	40	1950	878	1034	1190	1346	1521	1677	1853	2048
		C-540	1 1/4" copper	4 3/4" alum.	40	1910	860	1012	1165	1318	1490	1643	1815	2006
JA-21 JR-21	21"	S-532	1 1/4" steel	4 3/4" steel	32	1460	657	774	891	1007	1139	1256	1387	1533
		S-540	1 1/4" steel	4 3/4" steel	40	1680	756	890	1025	1159	1310	1445	1596	1764
		S-832	2" steel	4 3/4" steel	32	1520	684	806	927	1049	1186	1307	1444	1596
		C-340	3/4" copper	4 3/4" alum.	40	2013	906	1067	1228	1389	1570	1731	1913	2114
		C-440	1" copper	4 3/4" alum.	40	2130	959	1129	1299	1470	1661	1832	2024	2237
		C-540	1 1/4" copper	4 3/4" alum.	40	2090	941	1108	1275	1442	1630	1797	1986	2195
JA-21 JR-21 Two-tier element	21"	S-532	1 1/4" steel	4 3/4" steel	32	2190	986	1161	1336	1511	1708	1883	2081	2300
		S-540	1 1/4" steel	4 3/4" steel	40	2380	1071	1261	1452	1642	1856	2047	2261	2499
		S-832	2" steel	4 3/4" steel	32	2270	1022	1203	1385	1566	1771	1952	2157	2384
		C-340	3/4" copper	4 3/4" alum.	40	2822	1270	1496	1721	1947	2200	2427	2784	2963
		C-440	1" copper	4 3/4" alum.	40	2990	1346	1585	1824	2063	2332	2571	2841	3140
		C-540	1 1/4" copper	4 3/4" alum.	40	2930	1319	1553	1787	2022	2285	2520	2784	3077
JA-28 JR-28	28"	S-532	1 1/4" steel	4 3/4" steel	32	1480	666	784	903	1021	1154	1273	1406	1554
		S-540	1 1/4" steel	4 3/4" steel	40	1710	770	906	1043	1180	1334	1471	1625	1796
		S-832	2" steel	4 3/4" steel	32	1550	698	822	946	1070	1209	1333	1473	1628
		C-340	3/4" copper	4 3/4" alum.	40	2051	924	1087	1251	1416	1600	1764	1949	2154
		C-440	1" copper	4 3/4" alum.	40	2170	977	1150	1324	1497	1693	1866	2062	2279
		C-540	1 1/4" copper	4 3/4" alum.	40	2130	959	1129	1299	1470	1661	1832	2024	2237
JA-28 JR-28 Two-tier element	28"	S-532	1 1/4" steel	4 3/4" steel	32	2290	1031	1214	1397	1580	1786	1969	2176	2405
		S-540	1 1/4" steel	4 3/4" steel	40	2510	1130	1330	1531	1732	1958	2159	2385	2636
		S-832	2" steel	4 3/4" steel	32	2430	1094	1288	1482	1677	1895	2090	2309	2552
		C-340	3/4" copper	4 3/4" alum.	40	2937	1322	1557	1792	2027	2291	2526	2791	3084
		C-440	1" copper	4 3/4" alum.	40	3110	1400	1648	1897	2146	2426	2675	2955	3266
		C-540	1 1/4" copper	4 3/4" alum.	40	3050	1373	1617	1861	2105	2379	2623	2898	3203
JA-28 JR-28 Three-tier element	28"	S-532	1 1/4" steel	4 3/4" steel	32	2830	1274	1500	1726	1953	2207	2434	2689	2972
		S-540	1 1/4" steel	4 3/4" steel	40	2930	1319	1553	1787	2022	2285	2520	2784	3077
		S-832	2" steel	4 3/4" steel	32	2880	1296	1526	1757	1987	2246	2477	2736	3024
		C-340	3/4" copper	4 3/4" alum.	40	3467	1560	1837	2115	2392	2704	2981	3293	3640
		C-440	1" copper	4 3/4" alum.	40	3670	1652	1945	2239	2532	2863	3156	3487	3854
		C-540	1 1/4" copper	4 3/4" alum.	40	3600	1620	1908	2196	2484	2808	3096	3420	3780

For ratings at lower water temperatures, refer to conversion table on page 33.  
\*Based on 65°F entering air temperature.

# 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.5 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)

# FS SERIES

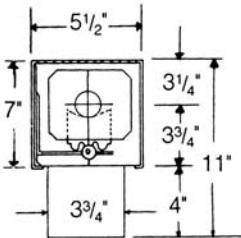
## FREE STANDING ENCLOSURE

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

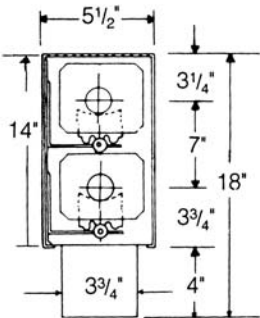


Aluminum grille optional.

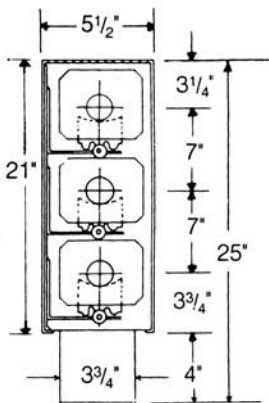
Custom Heights & Configurations Available



**FS-7**



**FS-14**



**FS-21**



## ORDERING DATA

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

**DEPTH:** 5 1/2"

**INSTALLED HEIGHTS:** 11" (one tier), 18" (one or two tier), 25" (up to three tier)

**LENGTHS:** 2', 3', 3 1/2', 4', 5', 6', 7', 8'. Other 1/2' lengths available to order.

**MATERIAL:** FS-7: 18-ga std., 16-ga and 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.

Element	Recommended number of brackets and hangers for given length.		
	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.

**ELEMENTS:** Copper with aluminum fins: C-340, C-440, C-540. Steel with electro-galvanized steel fins: S-532, S-540. Lengths from 2 to 12 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.

## OPTIONS

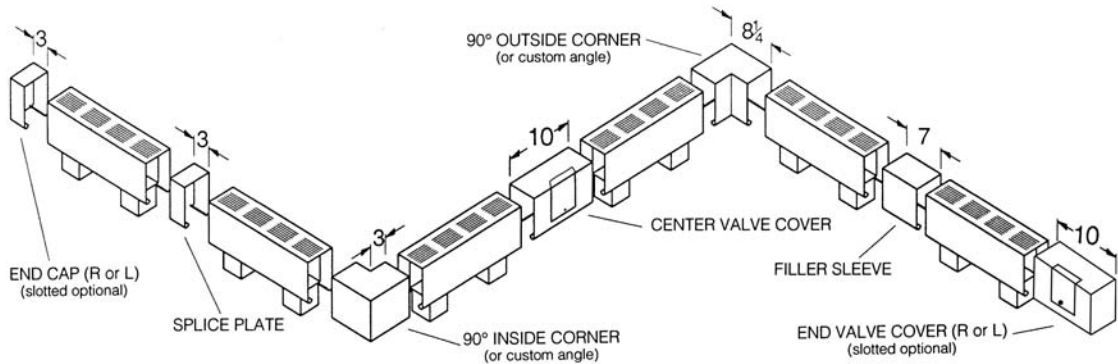
- Heavier gauge cover.
- Access door, field installed.
- Architectural aluminum grille.
- Custom color.

# RATINGS

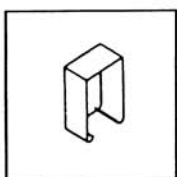
Cover Type	Enclosure Height	Element Type	Tube Size and Material	Fin Size and Material	Fins Per Foot	Steam 1 PSI * Btu/Hr. Per Foot	HOT WATER RATINGS* BTU/HR./FT. (Flow Rate 3 Ft./Sec.)							
							150° F	160° F	170° F	180° F	190° F	200° F	210° F	220° F
FS-7	7"	S-532	1 1/4" steel	4 1/4" steel	32	1290	581	684	787	890	1006	1109	1226	1355
		S-540	1 1/4" steel	4 1/4" steel	40	1390	626	737	848	959	1084	1195	1321	1460
		C-340	3/4" copper	4 1/4" alum.	40	1579	711	837	963	1090	1232	1358	1500	1658
		C-440	1" copper	4 1/4" alum.	40	1670	752	885	1019	1152	1303	1436	1587	1754
		C-540	1 1/4" copper	4 1/4" alum.	40	1640	738	869	1000	1132	1279	1410	1558	1722
FS-14	14"	S-532	1 1/4" steel	4 1/4" steel	32	1330	599	705	811	918	1037	1144	1264	1397
		S-540	1 1/4" steel	4 1/4" steel	40	1540	693	816	939	1063	1201	1324	1463	1617
		C-340	3/4" copper	4 1/4" alum.	40	1782	802	945	1087	1230	1390	1532	1693	1871
		C-440	1" copper	4 1/4" alum.	40	1890	851	1002	1153	1304	1474	1625	1796	1985
		C-540	1 1/4" copper	4 1/4" alum.	40	1850	833	981	1129	1277	1443	1591	1758	1943
FS-14 Two-tier element/	14"	S-532	1 1/4" steel	4 1/4" steel	32	1850	833	981	1129	1277	1443	1591	1758	1943
		S-540	1 1/4" steel	4 1/4" steel	40	1955	880	1036	1193	1349	1525	1681	1857	2053
		C-340	3/4" copper	4 1/4" alum.	40	2311	1040	1225	1410	1595	1803	1988	2196	2427
		C-440	1" copper	4 1/4" alum.	40	2450	1103	1299	1495	1690	1911	2107	2328	2573
		C-540	1 1/4" copper	4 1/4" alum.	40	2400	1080	1272	1464	1656	1872	2064	2280	2520
FS-21	21"	S-532	1 1/4" steel	4 1/4" steel	32	1610	725	853	982	1111	1256	1385	1530	1691
		S-540	1 1/4" steel	4 1/4" steel	40	1675	754	888	1022	1156	1307	1441	1591	1759
		C-340	3/4" copper	4 1/4" alum.	40	2008	903	1064	1225	1386	1566	1727	1908	2108
		C-440	1" copper	4 1/4" alum.	40	2130	959	1129	1299	1470	1661	1832	2024	2237
		C-540	1 1/4" copper	4 1/4" alum.	40	2085	938	1105	1272	1439	1626	1793	1981	2189
FS-21 Two-tier element/	21"	S-532	1 1/4" steel	4 1/4" steel	32	2140	963	1134	1305	1477	1669	1840	2033	2247
		S-540	1 1/4" steel	4 1/4" steel	40	2245	1010	1190	1369	1549	1751	1931	2133	2357
		C-340	3/4" copper	4 1/4" alum.	40	2648	1192	1404	1616	1827	2066	2277	2507	2781
		C-440	1" copper	4 1/4" alum.	40	2810	1265	1489	1714	1939	2192	2417	2670	2951
		C-540	1 1/4" copper	4 1/4" alum.	40	2750	1238	1458	1678	1897	2145	2365	2613	2888
FS-21 Three-tier element/	21"	S-532	1 1/4" steel	4 1/4" steel	32	2380	1071	1261	1452	1642	1856	2047	2261	2499
		S-540	1 1/4" steel	4 1/4" steel	40	2540	1143	1346	1549	1753	1981	2184	2413	2667
		C-340	3/4" copper	4 1/4" alum.	40	3005	1352	1593	1833	2073	2344	2584	2854	3155
		C-440	1" copper	4 1/4" alum.	40	3180	1431	1685	1940	2194	2480	2735	3021	3339
		C-540	1 1/4" copper	4 1/4" alum.	40	3120	1404	1654	1903	2153	2434	2683	2964	3276

For ratings at lower water temperatures, refer to conversion table on page 33.  
\*Based on 65°F entering air temperature.

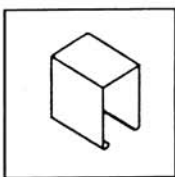
# ACCESSORIES



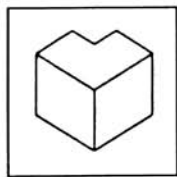
## telescopic accessories



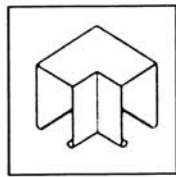
End Cap



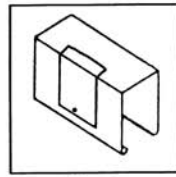
Filler Sleeve



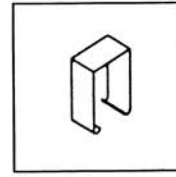
Outside Corner



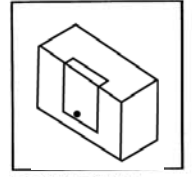
Inside Corner



Center Valve Cover



Splice Plate



End Valve Cover  
Access doors: 6" x 6"

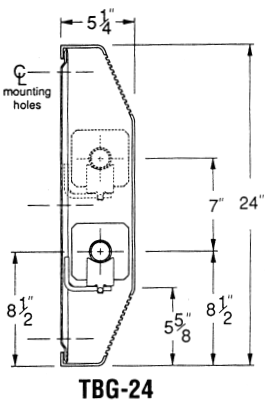
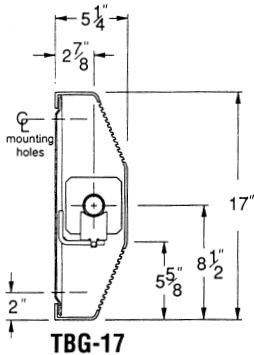


# TBG SERIES

## SLOPE-TOP/BOTTOM ENCLOSURES



Custom Heights  
& Configurations  
Available



### ORDERING DATA

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

**DEPTH:** 5 1/4"

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

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

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

Element	Recommended number of brackets and hangers for given length.		
	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. 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.

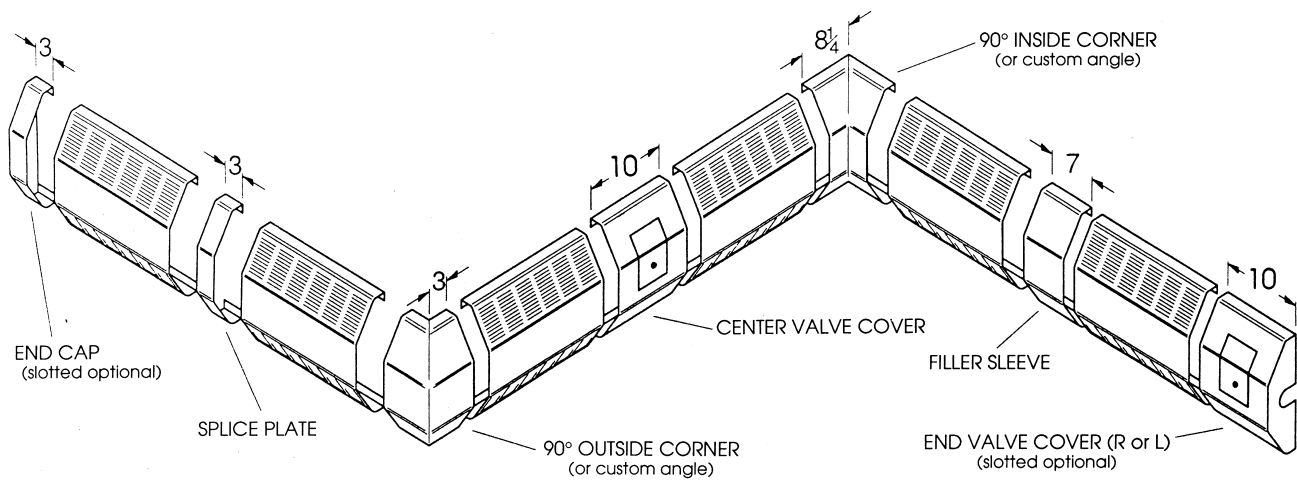


# RATINGS

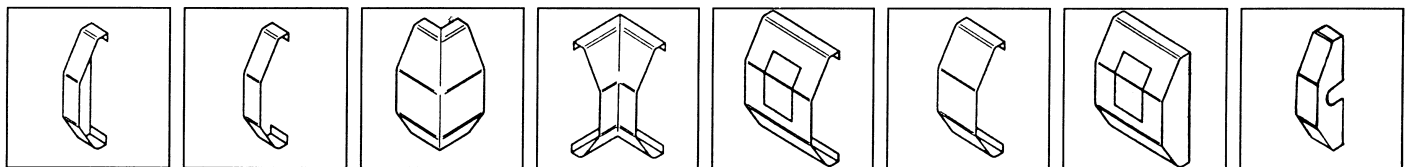
Cover Type	Enclosure Height	Element Type	Tube Size and Material	Fin Size and Material	Fins Per Foot	Steam 1 PSI * Btu/Hr. Per Foot	HOT WATER RATINGS* BTU/HR./FT. (Flow Rate 3 Ft./Sec.)							
							150° F	160° F	170° F	180° F	190° F	200° F	210° F	220° F
TBG-17	17"	S-532	1 1/4" steel	4 1/4" steel	32	1250	563	663	763	862	975	1075	1188	1313
		S-540	1 1/4" steel	4 1/4" steel	40	1344	605	712	820	927	1048	1156	1277	1411
		S-832	2" steel	4 1/4" steel	32	1201	540	637	733	829	937	1033	1141	1261
		C-340	3/4" copper	4 1/4" alum.	40	1595	717	846	973	1101	1244	1371	1515	1675
		C-440	1" copper	4 1/4" alum.	40	1690	761	896	1031	1166	1318	1453	1606	1775
		C-540	1 1/4" copper	4 1/4" alum.	40	1656	745	878	1010	1143	1292	1424	1573	1739
TBG-24	24"	S-532	1 1/4" steel	4 1/4" steel	32	1460	657	774	891	1007	1139	1256	1387	1533
		S-540	1 1/4" steel	4 1/4" steel	40	1505	677	798	918	1038	1174	1294	1430	1580
		S-832	2" steel	4 1/4" steel	32	1345	605	713	820	928	1049	1157	1278	1412
		C-340	3/4" copper	4 1/4" alum.	40	1749	810	953	1097	1241	1403	1547	1709	1888
		C-440	1" copper	4 1/4" alum.	40	1910	860	1012	1165	1318	1490	1643	1815	2006
		C-540	1 1/4" copper	4 1/4" alum.	40	1868	841	990	1139	1289	1457	1606	1775	1961
TBG-24 Two-tier element	24"	S-532	1 1/4" steel	4 1/4" steel	32	1980	891	1049	1208	1366	1544	1703	1881	2079
		S-540	1 1/4" steel	4 1/4" steel	40	2102	946	1114	1282	1450	1640	1808	1997	2207
		S-832	2" steel	4 1/4" steel	32	1890	851	1002	1153	1304	1474	1625	1796	1985
		C-340	3/4" copper	4 1/4" alum.	40	2337	1052	1238	1425	1613	1823	2010	2221	2454
		C-440	1" copper	4 1/4" alum.	40	2480	1116	1314	1513	1711	1934	2133	2356	2604
		C-540	1 1/4" copper	4 1/4" alum.	40	2427	1092	1286	1480	1675	1893	2087	2306	2548

For ratings at lower water temperatures, refer to conversion table on page 33.  
\*Based on 65°F entering air temperature.

# ACCESSORIES



# TELESCOPIC ACCESSORIES



End Cap

Filler Sleeve

Outside Corner

Inside Corner

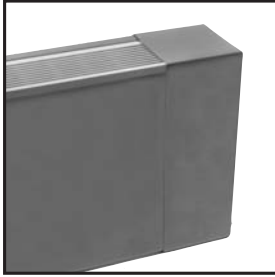
Center Valve Cover

Splice Plate

End Valve Cover

Slotted End Cap

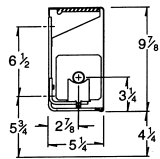
† Access doors: 6" x 6"



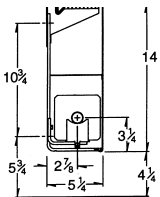
Aluminum grille optional.

Custom Heights & Configurations Available

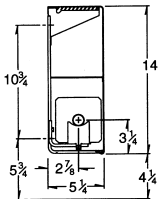
\*Details for optional R-Series Damper shown on model RTD-28



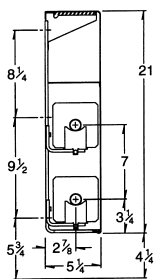
RL-10



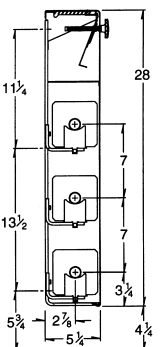
RR-14



RT-14



RT-21

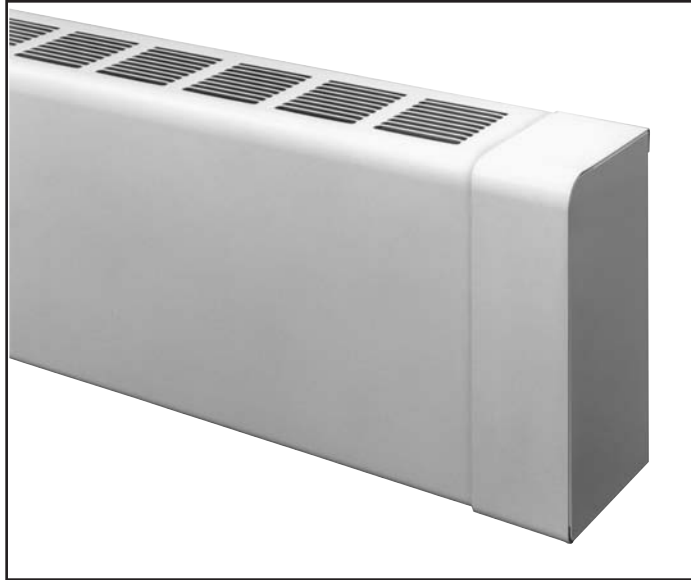


RTD-28\*

# R SERIES

## FLAT-TOP ENCLOSURE

**MODELS RL-10, RR-10, RT-14, RR-14  
RT-21, RR-21, RT-28, RR-28**



### ORDERING DATA

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

**DEPTH:** 5 1/4"

**HEIGHTS:** 9 7/8", 14" (one tier), 21" (one or two tier), 28" (up to three tier).

**LENGTHS:** 2', 3', 3 1/2', 4', 5', 6', 7', 8'. Other 1/2' lengths available to order.

**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.

Element	Recommended number of brackets and hangers for given length.		
	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. 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.

**RR-10, RR-14, RR-21 and RR-28** are special order models and require a full or 4 inch back panel. Allows for 1/2" recess into wall and protects wall covering in case removing of enclosure is necessary. Galvanized finish is standard. Optional baked enamel finish available.

### OPTIONS

**Louver locations**

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

Model RF: Louvered front

Model RB: Louvered top and front

### 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.

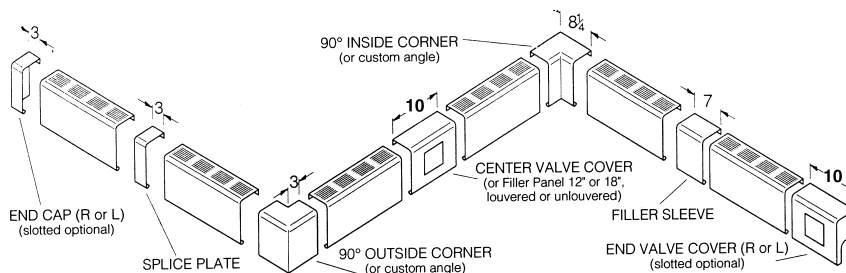
Custom color.

# RATINGS

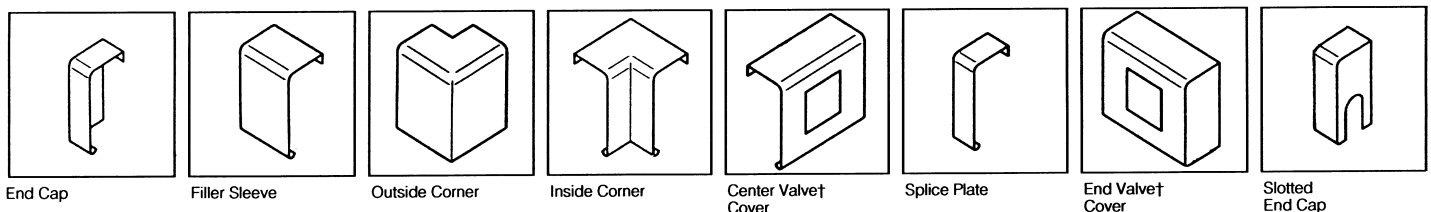
Cover Type	Enclosure Height	Element Type	Tube Size and Material	Fin Size and Material	Fins Per Foot	Steam 1 PSI * Btu/Hr. Per Foot	HOT WATER RATINGS* BTU/HR./FT. (Flow Rate 3 Ft./Sec.)							
							150°F	160°F	170°F	180°F	190°F	200°F	210°F	220°F
RL-10 RR-10	9 7/8"	S-532	1 1/4" steel	4 1/4" steel	32	1230	554	652	750	849	959	1058	1169	1292
		S-540	1 1/4" steel	4 1/4" steel	40	1330	599	705	811	918	1037	1144	1264	1397
		S-832	2" steel	4 1/4" steel	32	1270	572	673	755	876	991	1092	1207	1334
		C-340	3/4" copper	4 1/4" alum.	40	1647	742	872	1004	1136	1285	1417	1565	1730
		C-440	1" copper	4 1/4" alum.	40	1740	783	922	1061	1201	1357	1496	1653	1827
		C-540	1 1/4" copper	4 1/4" alum.	40	1710	770	906	1043	1180	1334	1471	1625	1796
RT-14 RR-14	14"	S-532	1 1/4" steel	4 1/4" steel	32	1280	576	678	781	883	998	1101	1216	1344
		S-540	1 1/4" steel	4 1/4" steel	40	1500	675	795	915	1035	1170	1290	1425	1575
		S-832	2" steel	4 1/4" steel	32	1320	594	700	805	911	1030	1135	1254	1386
		C-340	3/4" copper	4 1/4" alum.	40	1714	771	908	1046	1183	1337	1474	1628	1800
		C-440	1" copper	4 1/4" alum.	40	1820	819	965	1110	1256	1420	1565	1729	1911
		C-540	1 1/4" copper	4 1/4" alum.	40	1780	801	943	1086	1228	1388	1531	1691	1869
RT-21 RR-21	21"	S-532	1 1/4" steel	4 1/4" steel	32	1380	621	731	842	952	1076	1187	1311	1449
		S-540	1 1/4" steel	4 1/4" steel	40	1610	725	853	982	1111	1256	1385	1530	1691
		S-832	2" steel	4 1/4" steel	32	1460	657	774	891	1007	1139	1256	1387	1533
		C-340	3/4" copper	4 1/4" alum.	40	1878	846	996	1146	1296	1465	1615	1784	1972
		C-440	1" copper	4 1/4" alum.	40	1990	896	1055	1214	1373	1552	1711	1891	2090
		C-540	1 1/4" copper	4 1/4" alum.	40	1950	878	1034	1190	1346	1521	1677	1853	2048
RT-21 RR-21 Two-tier element	21"	S-532	1 1/4" steel	4 1/4" steel	32	2200	990	1166	1342	1518	1716	1892	2090	2310
		S-540	1 1/4" steel	4 1/4" steel	40	2440	1098	1293	1488	1684	1903	2098	2318	2562
		S-832	2" steel	4 1/4" steel	32	2230	1004	1182	1360	1539	1739	1918	2119	2342
		C-340	3/4" copper	4 1/4" alum.	40	2668	1201	1414	1627	1840	2081	2294	2535	2801
		C-440	1" copper	4 1/4" alum.	40	2830	1274	1500	1726	1953	2207	2434	2689	2972
		C-540	1 1/4" copper	4 1/4" alum.	40	2770	1247	1468	1690	1911	2161	2382	2632	2909
RT-28 RR-28	28"	S-532	1 1/4" steel	4 1/4" steel	32	1400	630	742	854	956	1092	1204	1330	1470
		S-540	1 1/4" steel	4 1/4" steel	40	1680	756	890	1025	1159	1310	1445	1596	1764
		S-832	2" steel	4 1/4" steel	32	1480	666	784	903	1021	1154	1273	1406	1554
		C-340	3/4" copper	4 1/4" alum.	40	1907	858	1010	1163	1315	1487	1640	1811	2002
		C-440	1" copper	4 1/4" alum.	40	2020	909	1071	1232	1394	1576	1737	1919	2121
		C-540	1 1/4" copper	4 1/4" alum.	40	1980	891	1049	1208	1366	1544	1703	1881	2079
RT-28 RR-28 Two-tier element	28"	S-532	1 1/4" steel	4 1/4" steel	32	2260	1017	1198	1379	1559	1763	1944	2147	2373
		S-540	1 1/4" steel	4 1/4" steel	40	2460	1107	1304	1501	1697	1919	2116	2337	2583
		S-832	2" steel	4 1/4" steel	32	2270	1022	1203	1385	1566	1771	1952	2157	2384
		C-340	3/4" copper	4 1/4" alum.	40	2860	1288	1516	1745	1973	2231	2460	2718	3004
		C-440	1" copper	4 1/4" alum.	40	3030	1364	1606	1848	2091	2363	2606	2879	3182
		C-540	1 1/4" copper	4 1/4" alum.	40	2970	1337	1574	1812	2049	2317	2554	2822	3119
RT-28 RR-28 Three-tier element	28"	S-532	1 1/4" steel	4 1/4" steel	32	2580	1161	1367	1574	1780	2012	2219	2451	2709
		S-540	1 1/4" steel	4 1/4" steel	40	2800	1260	1484	1708	1932	2184	2408	2660	2940
		S-832	2" steel	4 1/4" steel	32	2660	1197	1410	1623	1835	2075	2288	2527	2793
		C-340	3/4" copper	4 1/4" alum.	40	3390	1525	1797	2068	2339	2644	2915	3220	3559
		C-440	1" copper	4 1/4" alum.	40	3590	1616	1903	2190	2477	2800	3087	3411	3770
		C-540	1 1/4" copper	4 1/4" alum.	40	3520	1584	1866	2147	2429	2746	3027	3344	3696

For ratings at lower water temperatures, refer to conversion table on page 33.  
\*Based on 65°F entering air temperature.

# ACCESSORIES



## telescopic accessories



End Cap

Filler Sleeve

Outside Corner

Inside Corner

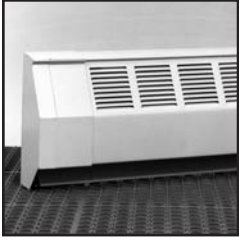
Center Valve Cover

Splice Plate

End Valve Cover

Slotted End Cap

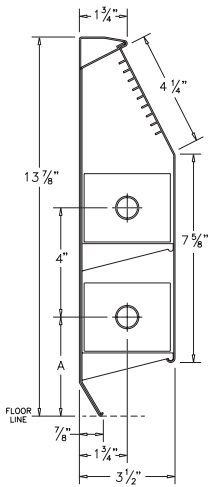
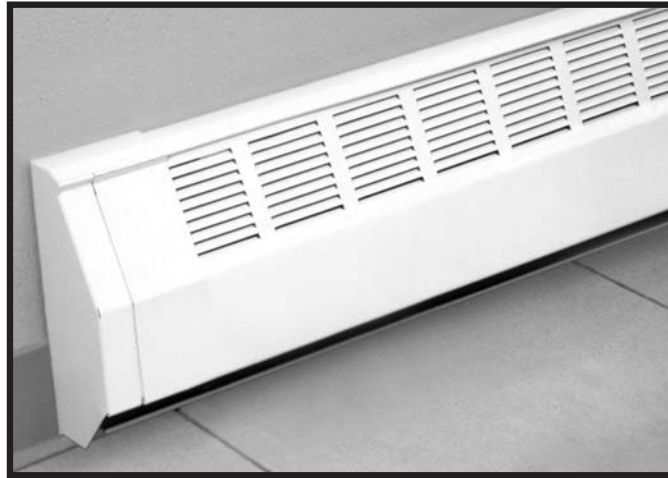
† Access doors: 6" x 6"



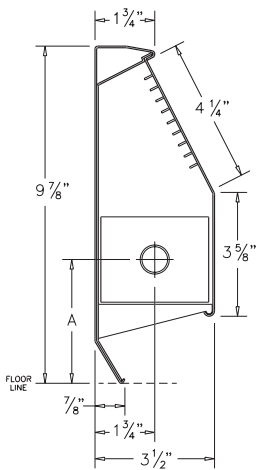
# 350 SERIES

## HIGH-OUTPUT, SLOPE-TOP BASEBOARD

*Pre-painted. Factory packaged.*



**350-14**



**350-10**

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 1 1/4” copper/aluminum elements permit higher flow rates, longer series-loop runs and lower pump loads where required. With the 1 1/4” 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:** 3 1/2”

**HEIGHT:** 9 7/8” (one tier) and 13 7/8” (one or two tier)

**LENGTHS:** 2', 3', 3 1/2', 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.

Model	Element	“A”
351	H-1	3 15/16”
353	H-3	3 5/8”
354	H-4	3 5/8”
355	H-5x	3 15/16”
356	H-6x	3 15/16”

# RATINGS

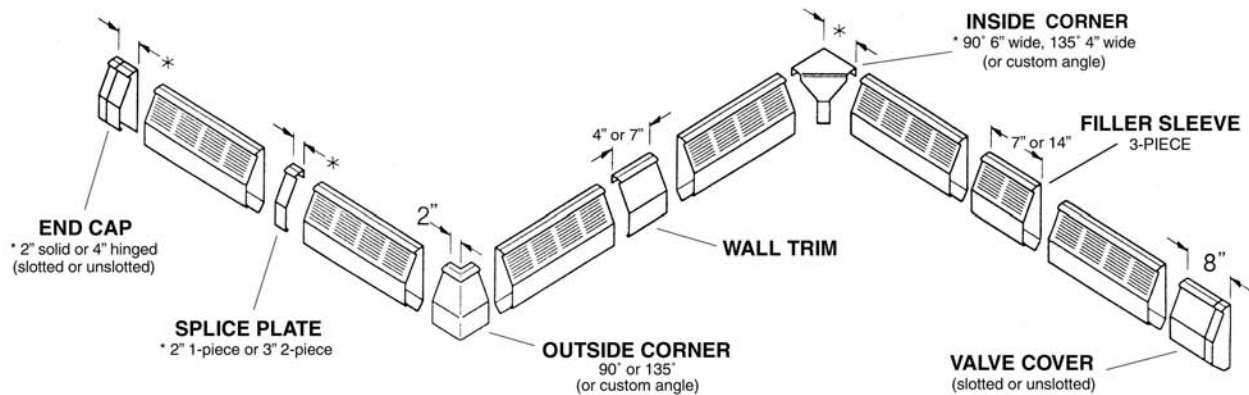
Model Number	Element Type	Rows of Heating Element	Tube Size and Material	Fin Size and Material	Fins Per Foot	Water Flow	Pressure Drop †	Steam 1 PSI Btu/Hr. Per Foot	HOT WATER RATINGS* BTU/HR./FT.							
									150°F	160°F	170°F	180°F	190°F	200°F	210°F	220°F
<b>Single-tier, 9 7/8" Models</b>																
351-10	H-1	1	3/4" copper	3" x 3 3/4" x .024 aluminum	48	1 GPM 4 GPM	47 525	—	570 600	670 700	770 810	870 920	980 1040	1080 1140	1200 1260	1320 1400
353-10	H-3	1	3/4" copper	2 3/4" x 2 1/2" x .011" aluminum	55	1 GPM 4 GPM	47 525	—	520 550	610 650	710 750	800 850	900 960	1000 1060	1100 1170	1220 1290
354-10	H-4	1	1" copper	3" x 2 1/2" x .011" aluminum	48	1 GPM 4 GPM	13 145	—	520 550	610 650	710 750	800 850	900 960	1000 1060	1100 1170	1220 1290
355-10	H-5X	1	1-1/4" copper	3" x 3 3/4" x .020" aluminum	48	1 GPM 4 GPM	6 63	1160	540 570	640 670	730 780	830 880	940 990	1040 1100	1140 1210	1260 1340
356-10	H-6X	1	1-1/4" IPS steel	3" x 3 3/4" x .028 aluminized steel	48	1 GPM 4 GPM	3 41	980	460 490	550 580	630 670	710 750	810 850	890 940	980 1040	1080 1150

## Two-tier, 13 7/8" Models

351-14	H-1	2	3/4" copper	3" x 3 3/4" x .024 aluminum	48	1 GPM 4 GPM	47 525	—	880 970	1040 1150	1290 1420	1440 1590	1590 1750	1740 1920	1890 2080	2030 2250
353-14	H-3	2	3/4" copper	2 3/4" x 2 1/2" x .011" aluminum	55	1 GPM 4 GPM	47 525	—	830 910	980 1080	1210 1340	1350 1490	1490 1650	1630 1800	1770 1960	1910 2110
354-14	H-4	2	1" copper	3" x 2 1/2" x .011" aluminum	48	1 GPM 4 GPM	13 145	—	830 910	980 1080	1210 1340	1350 1490	1490 1650	1630 1800	1770 1960	1910 2110
355-14	H-5x	2	1-1/2" copper	3" x 3 3/4" x .020" aluminum	48	1 GPM 4 GPM	6 63	2160	850 940	1000 1100	1240 1370	1390 1530	1530 1690	1670 1850	1820 2010	1960 2160
356-14	H-6x	2	1-1/4" IPS steel	3" x 3 3/4" x .028 aluminized steel	48	1 GPM 4 GPM	3 41	1870	730 810	860 950	1070 1190	1200 1320	1320 1460	1450 1600	1570 1730	1690 1870

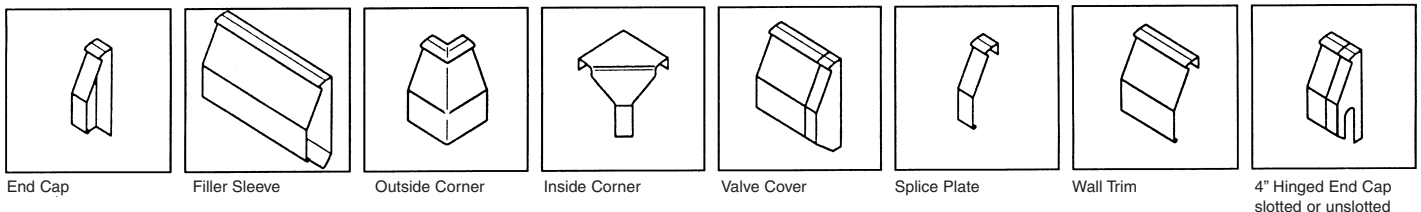
\* Based on 65°F entering air temperature † Millinches per foot.  
 Note: Ratings are based on active finned length (3" less than overall length), and include 15% heating effect factor.  
 Use 4 GPM ratings only when flow is known to be equal to or greater than 4 GPM; otherwise 1 GPM ratings must be used.

# ACCESSORIES



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



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

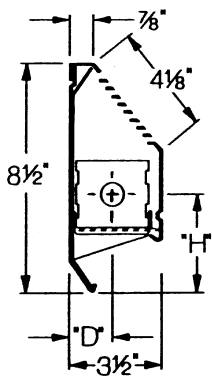


# HD SERIES

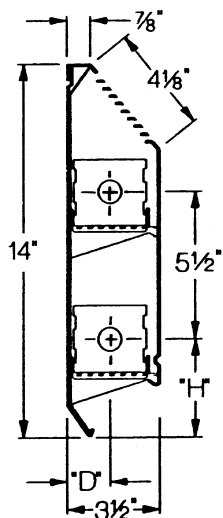
## HEAVY DUTY, 16 GAUGE SLOPE-TOP BASEBOARD



Custom Heights & Configurations Available



**HD-850**



**HD-1400**

Element	"H"	"D"
H-1	4 1/16"	1 3/4"
H-3, H-4	3 5/8"	1 5/8"
H-5x, H-6x	4"	1 3/4"

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 1 1/4" copper/aluminum elements permit higher flow rates, longer series-loop runs and lower pump loads where required. With the 1 1/4" 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.

**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 3/8" self tapping screws with counter-sunk head as supplied in carton. Pencil proof louvers. Damper optional.

**DEPTH:** 3 1/2"

**HEIGHTS:** 8 1/2" (one tier), 14" (one or two tier)

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

# RATINGS

Model Number	Element Type	Rows of Heating Element	Tube Size and Material	Fin Size and Material	Fins per Foot	Water Flow	Pressure Drop†	Steam 1PSI* Btu/Hr. Per Foot	HOT WATER RATINGS* BTU/HR./FT.										
									150°F	160°F	170°F	180°F	190°F	200°F	210°F	220°F			
<b>Single-tier, 8½" Models</b>																			
HD-850	H-1	1	¾" copper	3" x 3¼" x .024" aluminum	48	1 GPM 4 GPM	47 525	-	470 500	550 580	640 680	720 760	800 850	890 940	970 1030	1050 1110			
HD-850	H-3	1	¾" copper	2¾" x 2½" x .011" aluminum	55	1 GPM 4 GPM	47 525	-	420 440	490 520	570 600	640 680	720 760	790 840	870 920	940 990			
HD-850	H-4	1	1" copper	3" x 2½" x .011" aluminum	48	1 GPM 4 GPM	13 145	-	410 430	460 500	560 590	630 670	710 750	780 830	860 1000	1030 980			
HD-850	H-5X	1	1½" copper	3" x 3¼" x .020" aluminum	48	1 GPM 4 GPM	6 63	1160	430 460	550 560	600 640	680 710	770 810	860 880	920 980	1010 1070			
HD-850	H-6X	1	1½" IPS steel	3" x 3¼" x .028" aluminized steel	48	1 GPM 4 GPM	3 41	980	360 370	440 450	510 540	570 600	640 680	710 750	780 830	850 900			

## Two-tier, 14" Models

HD-1400	H-1	2	¾" copper	3" x 3¼" x .024" aluminum	48	1 GPM 4 GPM	47 525	-	690 730	820 870	940 990	1070 1130	1190 1260	1320 1400	1450 1530	1570 1660
HD-1400	H-3	2	¾" copper	2¾" x 2½" x .011" aluminum	55	1 GPM 4 GPM	47 525	-	650 690	770 810	880 930	1000 1060	1110 1170	1230 1300	1340 1420	1460 1540
HD-1400	H-4	2	1" copper	3" x 2½" x .011" aluminum	48	1 GPM 4 GPM	13 145	-	640 680	740 790	870 920	990 1050	1100 1160	1220 1290	1330 1400	1440 1480
HD-1400	H-5X	2	1½" copper	3" x 3¼" x .020" aluminum	48	1 GPM 4 GPM	6 63	1630	650 690	820 850	900 950	1030 1080	1160 1220	1290 1340	1400 1480	1530 1620
HD-1400	H-6X	2	1½" IPS steel	3" x 3¼" x .028" aluminized steel	48	1 GPM 4 GPM	3 41	1440	580 600	710 740	810 850	920 970	1030 1090	1140 1210	1260 1330	1370 1450

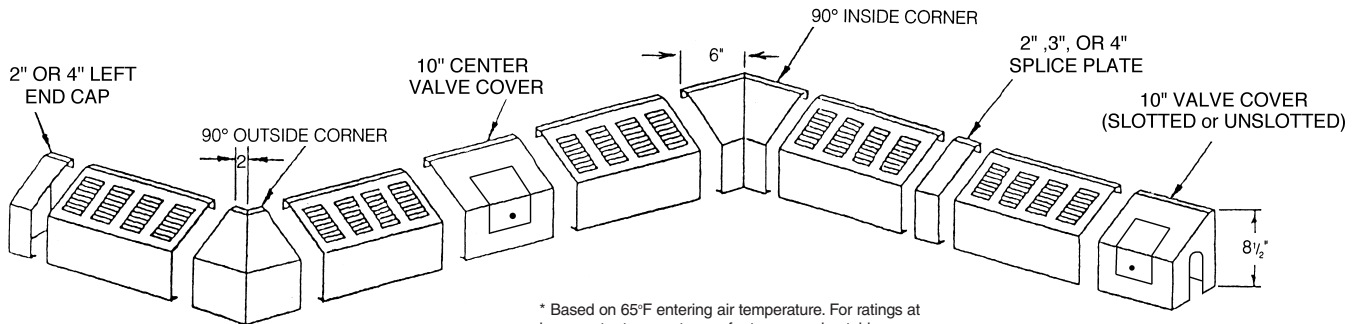
\* Based on 65°F entering air temperature.

† 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



\* Based on 65°F entering air temperature. For ratings at lower water temperature, refer to conversion table on page 33.

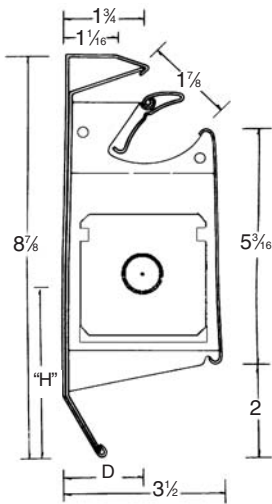
Access doors: 6" x 6"

**Slant/Fin**



# MULTI/PAK<sup>®</sup> 80

## HIGH-OUTPUT, LOW-PROFILE BASEBOARD



ELEMENT	"H"	"D"
H-1	3 7/8"	1 3/4"
H-3	3 1/2"	1 9/16"
H-4	3 1/2"	1 9/16"
H-5X	3 7/8"	1 3/4"
H-6X	3 7/8"	1 3/4"

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 pre-assembled 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.

- 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 1 1/4" copper/aluminum elements permit higher flow rates, longer series-loop runs and lower pump loads. The 1 1/2" 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:** 3 1/2"

**HEIGHT:** 8 7/8"

**LENGTHS:** 2', 3', 3 1/2', 4', 5', 6', 7', 8', 10', 12', 14'.

**MATERIAL:** 18-gauge steel front cover. 21-gauge 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.



# RATINGS

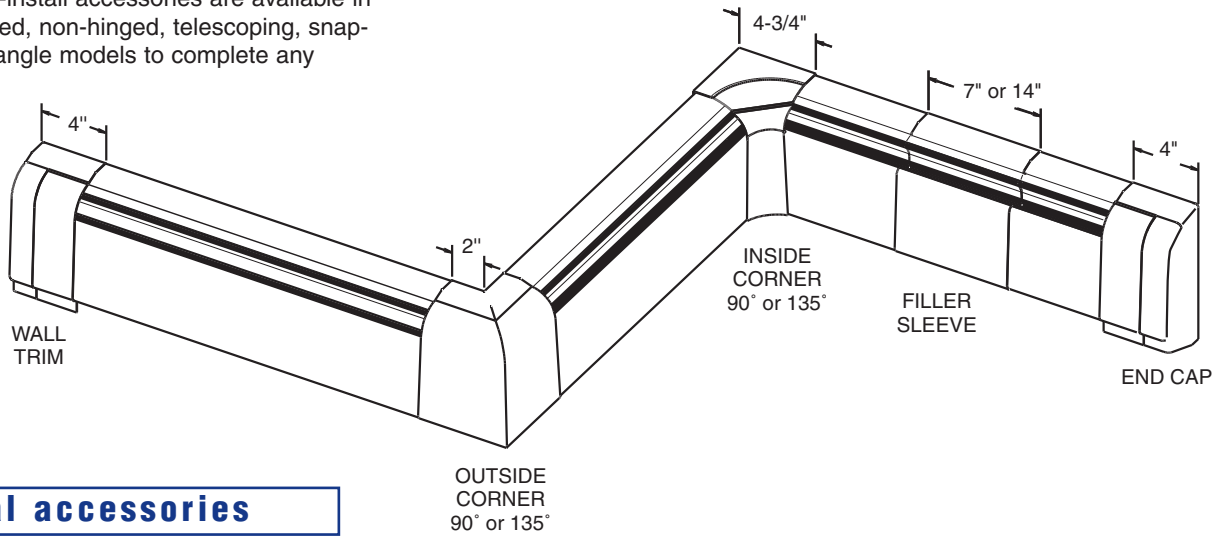


Model Number	Element Type	Tube Size and Material	Fin Size and Material	Fins per Foot	Water Flow	Pressure Drop†	Steam 1PSI* Btu/Hr. Per Foot	HOT WATER RATINGS* BTU/HR./FT.							
								150°F	160°F	170°F	180°F	190°F	200°F	210°F	220°F
81 A	H-1	¾" copper	3 x 3¼" x .024" aluminum	48	1 GPM	47	-	520	610	700	790	880	970	1060	1140
					4 GPM	525		550	640	740	840	930	1030	1120	1200
83-A2	H-3	¾" copper	2¾" x 2½" x .011" aluminum	55	1 GPM	47	-	490	570	650	730	810	890	970	1050
					4 GPM	525		520	600	690	770	860	940	1030	1110
84-A3	H-4	1" copper	3" x 2½" x .011" aluminum	48	1 GPM	13	-	480	560	640	720	800	880	960	1040
					4 GPM	145		510	610	680	760	850	930	1010	1100
85-AX	H-5X	1¼" copper	3" x 3¼" x .020" aluminum	48	1 GPM	6	1130	470	560	650	740	830	920	1010	1100
					4 GPM	63		500	590	690	780	890	970	1070	1160
86-AX	H-6X	1½" IPS steel	3" x 3¼" x .028" aluminized steel	48	1 GPM	3	990	410	490	560	640	710	790	860	940
					4 GPM	41		430	520	590	680	750	840	910	990

For ratings at lower water temperatures, refer to conversion table on page 33. \* Based on 65°F entering air temperature. † Millinches per foot.

# ACCESSORIES

Over 20 easy-to-install accessories are available in a variety of hinged, non-hinged, telescoping, snap-on and custom angle models to complete any installation.



## additional accessories

- Valve cover\*, 8"
- Center valve cover\*, 8"
- Valve cover, slotted\*, 8"
- Zone valve box
- Inside corner\*, custom angle
- Back panel for inside corner
- Outside corner\*, custom angle
- Column cover set

\*Telescopic accessories

# TELESCOPIC ACCESSORIES



Filler Sleeve



Hinged End Cap



Hinged Wall Trim



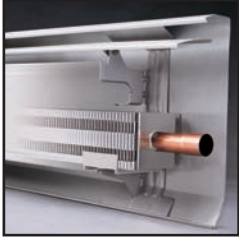
Hinged Valve Cover



Hinged Inside Corner

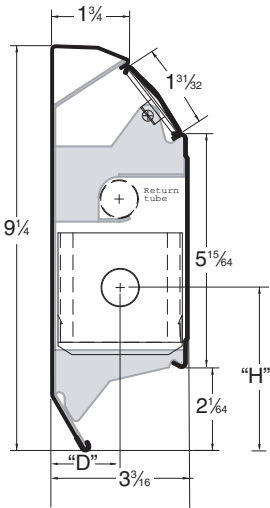


Outside Corner



# BASE/LINE 70

## HIGH-OUTPUT BASEBOARD



Element	"H"	"D"
H-3	3 <sup>23</sup> / <sub>32</sub> "	1 <sup>1</sup> / <sub>2</sub> "
E-75E	3 <sup>17</sup> / <sub>32</sub> "	1 <sup>9</sup> / <sub>32</sub> "

New high-output Base/Line 70 baseboard combines renowned Slant/Fin quality and performance with an economical price. Its heavy duty construction makes it ideal for highly competitive multi-family housing, light commercial and high-output residential heating applications. Base/Line 70 is made with features not found in ordinary baseboard. There's more integrity and durability.

- **9 1/4" height**
- **25% higher output than standard baseboard**
- **Choice of 2 heating elements**
- **Heavy duty construction**
- **18-gauge front cover**
- **Massive, full-support bracket**
- **Pivot-mounted, fully modulating damper**

### CONTRACTOR-FRIENDLY FEATURES SPEED

**INSTALLATION:** Base/Line 70 baseboard is factory assembled and packaged for quick carton-to-wall installation. Brackets slide laterally to align with wall studs, if desired. Return piping is quick and easy using standard 90° fittings. A full range of piano hinged and snap-on accessories give the installation a neat look. The Base/Line 70 bracket is more than twice the size and weight of brackets provided with some other baseboard brands. It offers exceptional floor to top panel support. The hefty 18-gauge front panel resists damage during and after installation. The exclusive pivot mount damper permits easy adjustment while holding any position from fully open to fully closed for room-by-room comfort control.

## ORDERING DATA

**PACKAGING:** Complete assembly - Model 73-A. Factory assembled, packaged in individual cartons. Includes H-3 element, enclosure, brackets, plastic expansion cradles and damper. Model 70-E. Cover and E-75E element packaged and shipped separately.

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

**DEPTH:** 3<sup>3</sup>/<sub>16</sub>"

**HEIGHT:** 9<sup>1</sup>/<sub>4</sub>"

**LENGTHS:** 2', 3', 3<sup>1</sup>/<sub>2</sub>', 4', 5', 6', 7', 8'.

**MATERIAL:** 18-gauge steel front cover 21-gauge 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 two. Copper with aluminum fins: H-3 or E-75E. See page 30.

# RATINGS



## HOT WATER RATINGS BTUH/HR./FT.

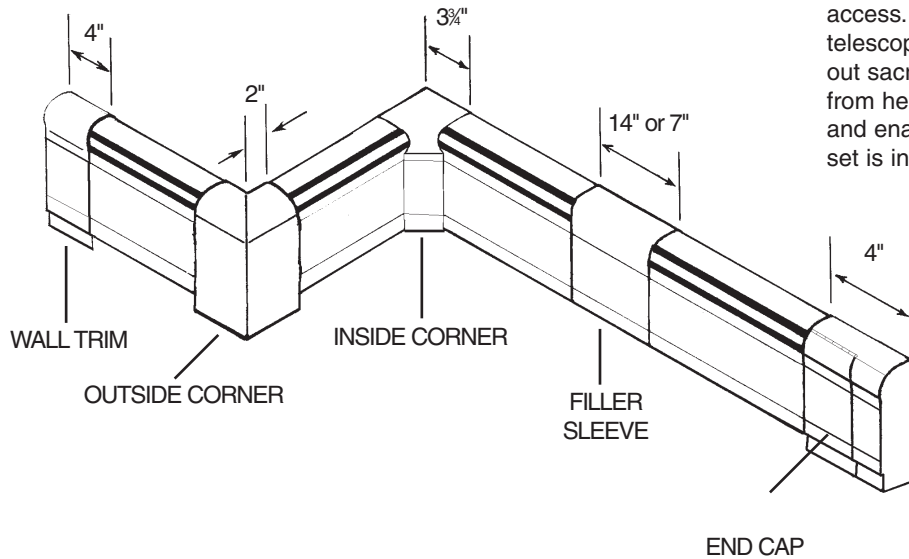
Model Number	Element Type	Tube Size and Material†	Fin Size and Material	Fins per Foot	Water Flow	Pressure Drop*	140° F‡	150° F	160° F	170° F	180° F	190° F	200° F	210° F	220° F
73-A	H-3	¾" copper	2¾" x 2½" x .011" aluminum	55	1 GPM	47	400	480	560	640	720	800	880	960	1040
					4 GPM	525	430	510	590	680	760	850	930	1020	1100
70-E	E-75E	¾" copper	2¾" x 2½" x .011" aluminum	55	1 GPM	47	330	390	460	540	610	680	750	830	900
					4 GPM	525	340	410	490	570	640	720	790	880	950

\* Millinches per foot. † Nominal ‡ Ratings at 140°F determined by multiplying 150°F rating by the I=B=R conversion multiplier of .84.

NOTE: Ratings are for element installed with damper open, with expansion cradles and with 65°F entering air. Ratings are based on active finned length [5" to 6" less than overall length] and include 15% heating effect factor. Use 4gpm ratings only when flow is known to be equal to or greater than 4 gpm; otherwise, 1 gpm ratings must be used.

# ACCESSORIES

A selection of telescopic accessories let you fit Base/Line 70 to virtually any field condition for an easy, neat wall-to-wall fit. Piano hinged end caps, valve covers and wall trim swing up for easy access. They have full back panels, giving them telescopic flexibility for the desired lateral fit, without sacrificing stability. All accessories are made from heavy gauge steel, die struck for precision fit and enamel finished inside and out. A splice plate set is included free with lengths 5' and longer.



## telescopic accessories



Hinged End Cap



Non-Hinged End Cap



Hinged Wall Trim



Filler Sleeve



2" Splice Plate



Non-Hinged Wall Trim



Inside Corner



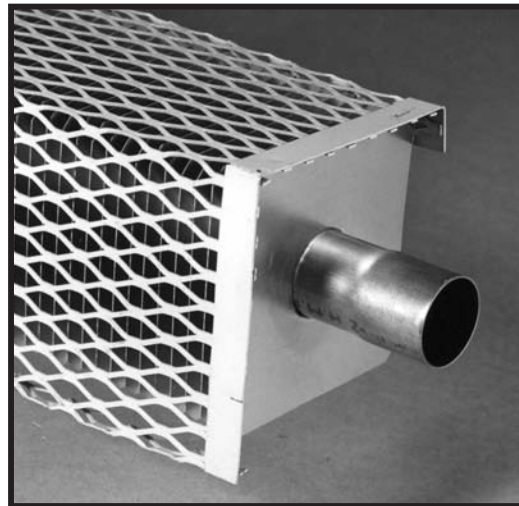
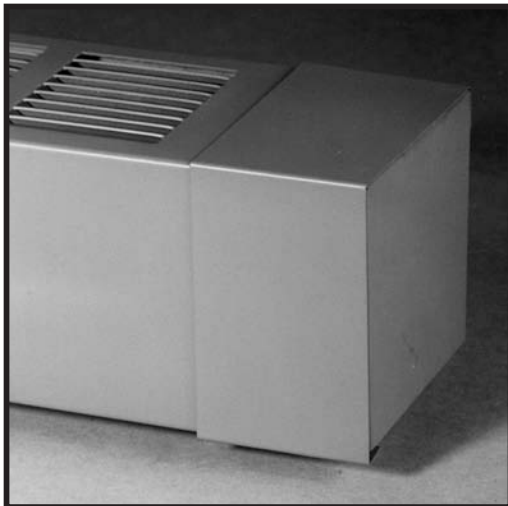
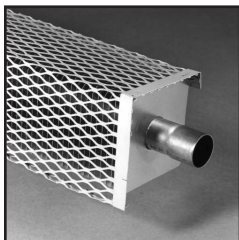
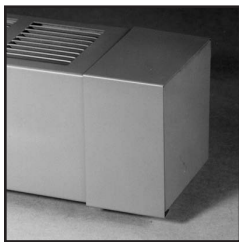
Outside Corner



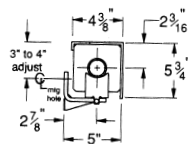
Valve Cover

# F & EM SERIES

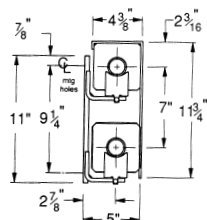
## LOUVERED AND EXPANDED METAL ELEMENT COVERS



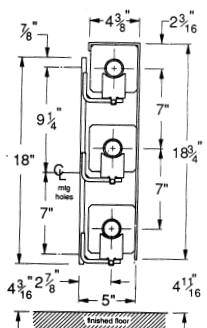
Custom Heights & Configurations Available



**F-5  
EM-5**



**F-12  
EM-12**



**F-19  
EM-19**

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 1/8" and horizontally by 1/16".

F SERIES

EM SERIES

### ORDERING DATA

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

**DEPTH:** 4 3/8"

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

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

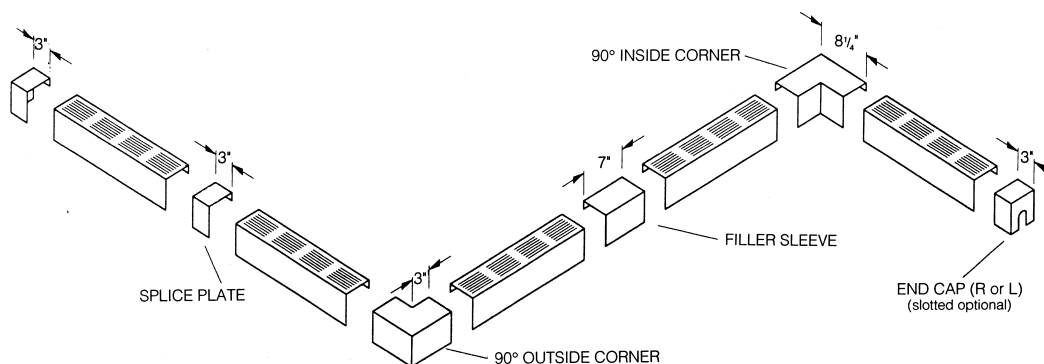
Element	Recommended number of brackets and hangers for given length.		
	2	3	4
S-532	2-4 ft.	5-7 ft.	8 ft.
S-540	2-4 ft.	5-7 ft.	8 ft.
S-832	2-4 ft.	5-6 ft.	7-8 ft.
C-340	2-5 ft.	6-8 ft.	—
C-440	2-5 ft.	6-8 ft.	—
C-540	2-5 ft.	6-8 ft.	—

\* Based on 65°F entering air temperature. For ratings at lower water temperature, refer to conversion table on page 33.

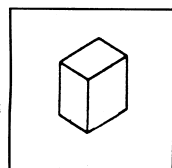
# RATINGS

Model Number	Enclosure Height	Element Type	Tube Size and Material	Fin Size and Material	Fins Per Foot	Steam 1 PSI * Btu/Hr. Per Foot	HOT WATER RATINGS* BTU/HR./FT. (Flow Rate 3 Ft./Sec.)							
							150° F	160° F	170° F	180° F	190° F	200° F	210° F	220° F
F-5	4¾"	S-532	1¼" steel	4¼" steel	32	1250	563	663	763	862	975	1075	1188	1313
		S-540	1¼" steel	4¼" steel	40	1340	603	710	817	925	1045	1152	1273	1407
		S-832	2" steel	4¼" steel	32	1280	576	678	781	883	998	1101	1216	1344
		C-340	¾" copper	4¼" alum.	40	1560	702	827	951	1077	1217	1341	1482	1638
		C-440	1" copper	4¼" alum.	40	1650	743	875	1007	1139	1287	1419	1568	1733
		C-540	1¼" copper	4¼" alum.	40	1620	729	859	988	1118	1264	1393	1539	1701
F-12 Two-tier element	11¾"	S-532	1¼" steel	4¼" steel	32	2070	932	1097	1263	1428	1615	1780	1967	2174
		S-540	1¼" steel	4¼" steel	40	2160	972	1145	1318	1490	1685	1858	2052	2268
		S-832	2" steel	4¼" steel	32	2090	941	1108	1275	1442	1630	1797	1986	2195
		C-340	¾" copper	4¼" alum.	40	2600	1170	1378	1586	1794	2028	2236	2470	2730
		C-440	1" copper	4¼" alum.	40	2750	1238	1458	1678	1897	2145	2365	2613	2888
		C-540	1¼" copper	4¼" alum.	40	2700	1215	1431	1647	1863	2106	2322	2565	2835
F-19 Three-tier element	18¾"	S-532	1¼" steel	4¼" steel	32	2580	1161	1367	1574	1780	2012	2219	2451	2709
		S-540	1¼" steel	4¼" steel	40	2690	1211	1426	1641	1856	2098	2313	2556	2825
		S-832	2" steel	4¼" steel	32	2610	1175	1383	1592	1801	2036	2245	2480	2741
		C-340	¾" copper	4¼" alum.	40	3139	1413	1664	1915	2166	2449	2700	2982	3296
		C-440	1" copper	4¼" alum.	40	3330	1499	1765	2031	2298	2597	2864	3164	3497
		C-540	1¼" copper	4¼" alum.	40	3260	1467	1728	1989	2249	2543	2804	3097	3423
EM-5	4¾"	S-532	1¼" steel	4¼" steel	32	1290	581	684	787	890	1006	1109	1226	1355
		S-540	1¼" steel	4¼" steel	40	1370	617	726	836	945	1069	1178	1302	1439
		S-832	2" steel	4¼" steel	32	1310	590	694	799	904	1022	1127	1245	1376
		C-340	¾" copper	4¼" alum.	40	1656	745	878	1010	1143	1292	1424	1574	1739
		C-440	1" copper	4¼" alum.	40	1750	788	928	1068	1208	1365	1505	1663	1838
		C-540	1¼" copper	4¼" alum.	40	1720	774	912	1049	1187	1342	1479	1634	1806
EM-12 Two-tier element	11¾"	S-532	1¼" steel	4¼" steel	32	2270	1022	1203	1385	1566	1771	1952	2157	2384
		S-540	1¼" steel	4¼" steel	40	2390	1076	1267	1458	1649	1864	2055	2271	2510
		S-832	2" steel	4¼" steel	32	2290	1031	1214	1397	1580	1786	1969	2176	2405
		C-340	¾" copper	4¼" alum.	40	2918	1314	1547	1780	2014	2276	2510	2772	3064
		C-440	1" copper	4¼" alum.	40	3090	1391	1638	1885	2132	2410	2657	2936	3245
		C-540	1¼" copper	4¼" alum.	40	3030	1364	1606	1848	2091	2363	2606	2879	3182
EM-19 Three-tier element	18¾"	S-532	1¼" steel	4¼" steel	32	3060	1377	1622	1867	2111	2387	2632	2907	3213
		S-540	1¼" steel	4¼" steel	40	3140	1413	1664	1915	2167	2449	2700	2983	3297
		S-832	2" steel	4¼" steel	32	3080	1386	1632	1879	2125	2402	2649	2926	3234
		C-340	¾" copper	4¼" alum.	40	3736	1681	1980	2279	2578	2914	3214	3550	3923
		C-440	1" copper	4¼" alum.	40	3960	1782	2099	2416	2732	3089	3406	3762	4158
		C-540	1¼" copper	4¼" alum.	40	3880	1746	2056	2367	2677	3026	3337	3686	4074

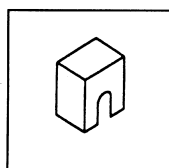
# ACCESSORIES



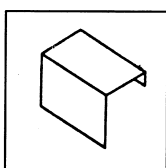
# TELESCOPIC ACCESSORIES



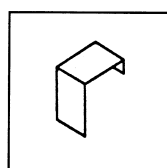
End Cap



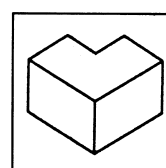
Slotted End Cap



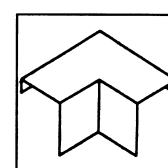
Filler Sleeve



Splice Plate



Outside Corner

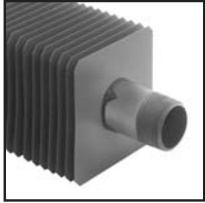


Inside Corner

# BARE ELEMENTS

## STEEL ELEMENTS

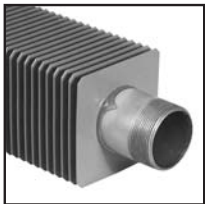
## COPPER/ALUMINUM ELEMENTS



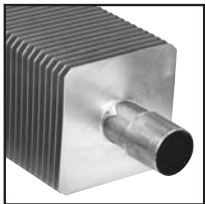
S-532



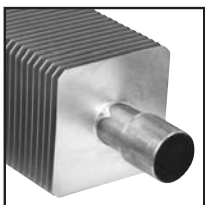
S-540



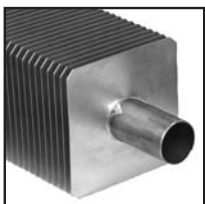
S-832



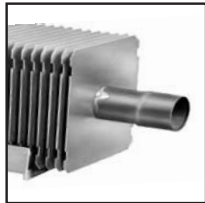
C-340



C-440



C-540



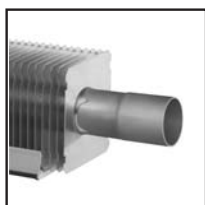
H-1



H-3



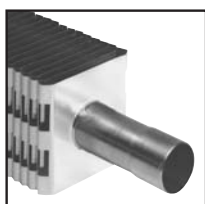
H-4



H-5X



H-6X



E-75

### 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.

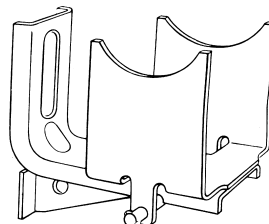
## ORDERING DATA

**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. (C-340 up to 10 ft.)

E and H Series: 2, 3, 3½, 4, 5, 6, 7, 8 feet.

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



### M-1 Expansion Hanger:

Specify for bare element installations.

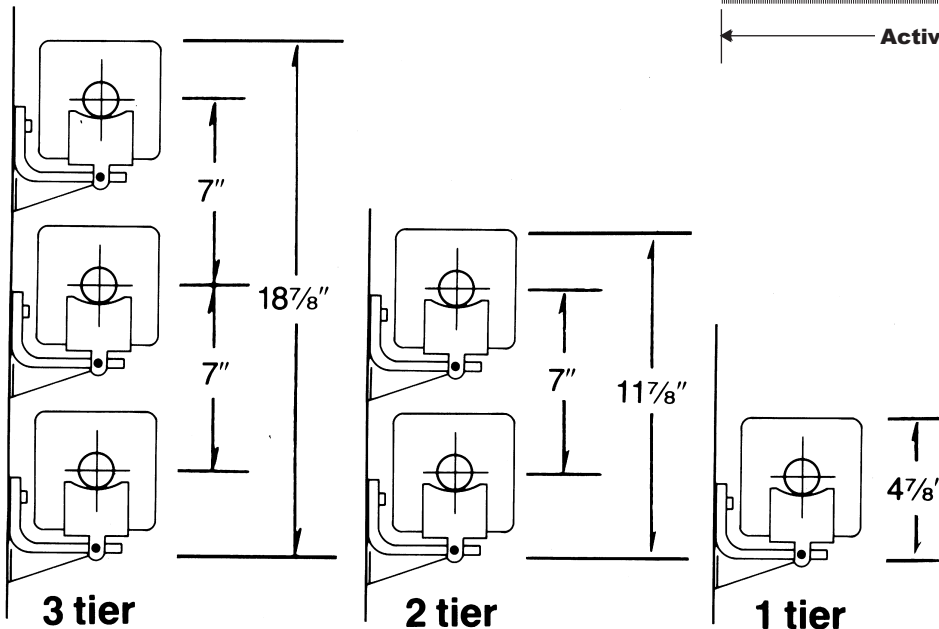
# BARE ELEMENT RATINGS

Model Number	Tube Size and Material	Fin Size and Material	Fins per Foot	No. of Tiers 7" cl	Pressure Drop †	Steam 1PSI Btu/Hr. Per Foot	HOT WATER RATINGS* BTU/HR./FT. (Flow Rate 3 Ft./Sec.)							
							150° F	160° F	170° F	180° F	190° F	200° F	210° F	220° F
S-532	1½" IPS steel	4¼" x 4¼" x .024" electro-gal. steel	32	1		1340	603	710	817	925	1045	1152	1273	1407
				2	420	2410	1085	1277	1470	1663	1880	2073	2290	2531
				3		3170	1427	1680	1934	2187	2473	2726	3012	3329
S-540	1½" IPS steel	4¼" x 4¼" x .024" electro-gal. steel	40	1		1490	671	790	909	1028	1162	1281	1416	1565
				2	420	2530	1139	1341	1543	1746	1973	2176	2404	2657
				3		3220	1449	1707	1964	2222	2512	2769	3059	3381
S-832	2" IPS steel	4¼" x 4¼" x .024" electro-gal. steel	32	1		1360	612	721	830	938	1061	1170	1292	1428
				2	252	2420	1089	1283	1476	1670	1888	2081	2299	2541
				3		3190	1436	1691	1946	2201	2488	2743	3031	3350
C-340	¾" copper	4¼" x 4¼" x .020" aluminum	40	1		1724	776	914	1052	1189	1344	1482	1638	1810
				2	708	3033	1366	1608	1851	2094	2366	2609	2882	3186
				3		3881	1747	2057	2367	2678	3027	3338	3687	4075
C-440	1" copper	4¼" x 4¼" x .020" aluminum	40	1		1830	824	970	1116	1263	1427	1574	1739	1922
				2	504	3210	1445	1701	1958	2215	2504	2761	3050	3371
				3		4110	1850	2178	2507	2836	3206	3535	3905	4316
C-540	1½" copper	4¼" x 4¼" x .020" aluminum	40	1		1790	806	949	1092	1235	1398	1539	1701	1880
				2	396	3150	1418	1670	1922	2174	2457	2709	2993	3308
				3		4030	1814	2136	2458	2781	3143	3466	3829	4232
H-1	¾" copper	3" x 3¼" x .024" aluminum	48	1		—	505	595	685	775	876	966	1067	1179
				2	708	—	717	844	972	1099	1243	1370	1513	1673
				3		—	1134	1336	1537	1739	1966	2167	2394	2646
H-5X	1½" copper	3" x 3¼" x .020" aluminum	48	1		1085	488	575	662	749	846	933	1031	1139
				2	396	1540	693	816	939	1063	1201	1324	1463	1617
				3		2435	1096	1291	1485	1680	1899	2094	2313	2557
H-6X	1½" IPS steel	3" x 3¼" x .028" aluminized steel	48	1		950	428	504	580	656	741	817	903	998
				2	420	1440	648	763	878	994	1123	1238	1368	1512
				3		2050	923	1087	1251	1415	1599	1763	1948	2153

NOTE: H-3, H-4 and E-3 elements are not recommended for bare-element installation. H-1 is not recommended for steam applications.

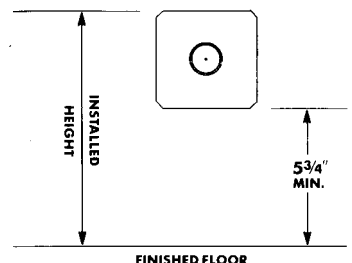
For ratings at lower water temperatures, refer to conversion table on page 33.  
 \* Based on 65°F entering air temperature  
 † Millinches per foot, based on flow rate of 3FPS; according to ASHRAE fundamentals handbook, 2001.

Active length of each element is as follows:  
 S and C series — 5¼" less than total length.  
 E and H series — 3" less than total length.



Dimensions for bare element installation without enclosures ("S" and "C" elements).

The installed height for elements is defined as the distance from the finished floor to the top of the fin. The minimum mounting height on all elements without enclosures is 5¾" from finished floor to bottom of fins of lowest element.



# RHINO-CAST

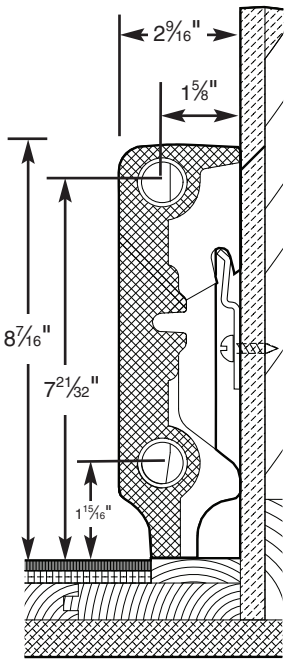
## CAST-IRON BASEBOARD



Optional air outlet grille adds a contemporary look.



Slant/Fin has renewed the popularity of cast-iron baseboard with new Rhino-Cast. It is about an inch and a half shorter than old style cast-iron baseboard, yet its heat output compares with the higher, bulkier models. That means less weight for installers to handle and a lower, sleeker appearance. With its unique hanging strip, Rhino-Cast may also be wall mounted at any height.



- Cast-iron tough -- nearly indestructible.
- Modern low profile. Just 8 7/16" high.
- Less weight. Easier to handle.
- Wall hanging option for above-floor mounting.
- Air outlet grille optional.

**DEPTH:** 2 9/16"  
**HEIGHT:** 8 7/16"

**LENGTHS:** Individual panels: 1 1/2' and 2'.

Complete assemblies and sub-assemblies from 3' to 6'. Field assemblies are available in lengths from 6 1/2' to 24'.

**MATERIAL:** Cast-iron.

**FINISH:** Gray prime. Enclosure accessories are zinc coated with a gray prime finish.

### ORDERING DATA

**CONSTRUCTION:** Individual panel configurations: stand alone with left and right legs, left end with left leg, right end with right leg and center panel with no legs. All panels for wall mounting have no legs. Individual panels are joined with metal push nipples. End panels are tapped for 3/4" pipe connection.

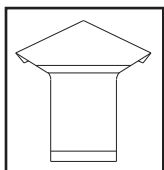
### RATINGS

Model	Water Flow	Pressure Drop †	HOT WATER RATINGS* BTUH/HR./FT.								
			150° F	160° F	170° F	180° F	190° F	200° F	210° F	215° F	220° F
RCB	1 GPM	6.0	360	420	480	540	610	670	730	760	780
	4 GPM	175	380	440	510	570	640	710	770	800	840

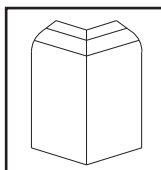


NOTE: Maximum allowable working pressure - 30psi  
\*Ratings based on 65° F entering air.

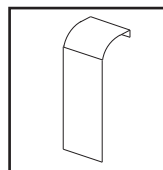
### TELESCOPIC ACCESSORIES



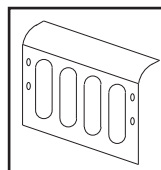
Inside Corner



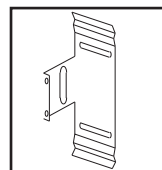
Outside Corner



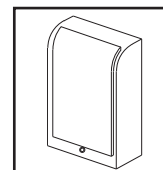
Splice Plate



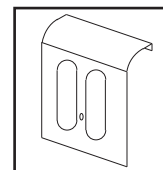
Extension Panel  
available in 1 foot  
increments from  
1 to 6 feet



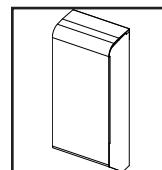
Bracket



Valve Cover



Filler Sleeve



End Cap



# Slant/Fin DATA

## ENGINEERING DATA\*

### SPECIFICATIONS

Ratings are based on active (finned) length. Active length of "S" and "C" elements is 5¼" less than total length. Fin size of "S" and "C" elements is 4¼" x 4¼". 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 OUTPUTS AT WATER FLOW RATES OF LESS THAN 3 FEET PER SECOND

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

**TABLE 2**

CORRECTION FACTORS FOR WATER TEMPERATURES† AND AIR TEMPERATURES OTHER THAN STANDARD

AVERAGE WATER TEMP. °F	ENTERING AIR TEMPERATURE								
	45	50	55	60	65	70	75	80	85
90	.19	.16	.13	.11	.08	.06			
100	.25	.22	.19	.16	.13	.11	.08	.06	
110	.31	.28	.25	.22	.19	.16	.13	.11	.08
120	.38	.34	.31	.28	.25	.22	.19	.16	.13
130	.45	.42	.38	.34	.31	.28	.25	.22	.19
140	.53	.49	.45	.42	.38	.34	.31	.28	.25
150	.61	.57	.53	.49	.45	.42	.38	.34	.31
155	.65	.61	.57	.53	.49	.45	.42	.38	.34
160	.69	.65	.61	.57	.53	.49	.45	.42	.38
165	.73	.69	.65	.61	.57	.53	.49	.45	.42
170	.78	.73	.69	.65	.61	.57	.53	.49	.45
175	.82	.78	.73	.69	.65	.61	.57	.53	.49
180	.86	.82	.78	.73	.69	.65	.61	.57	.53
185	.91	.86	.82	.78	.73	.69	.65	.61	.57
190	.95	.91	.86	.82	.78	.73	.69	.65	.61
195	1.00	.95	.91	.86	.82	.78	.73	.69	.65
200	1.05	1.00	.95	.91	.86	.82	.78	.73	.69
205	1.09	1.05	1.00	.95	.91	.86	.82	.78	.73
210	1.14	1.09	1.05	1.00	.95	.91	.86	.82	.78
215	1.20	1.14	1.09	1.05	1.00	.95	.91	.86	.82
220	1.25	1.20	1.14	1.09	1.05	1.00	.95	.91	.86
225	1.32	1.25	1.20	1.14	1.09	1.05	1.00	.95	.91
230	1.39	1.32	1.25	1.20	1.14	1.09	1.05	1.00	.95
235	1.41	1.39	1.32	1.25	1.20	1.14	1.09	1.05	1.00
240	1.44	1.41	1.39	1.32	1.25	1.20	1.14	1.09	1.05

† 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.

### Steam Ratings

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

### Recommended Installed Height

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:

$$\left[ \frac{\text{Factor from Table 3 for actual installed height}}{\text{Factor from Table 3 for recommended installed height}} \right] \times \text{Rating shown on pages 7, 11, 13, 15, 17, 19, 25 \& 27}$$

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

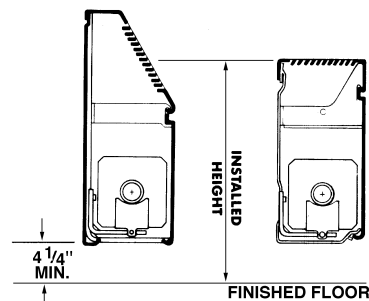
Given:

- Installed height 36" [1.00 ÷ 1.15] x 1500 = 1304 Btu/Hr./Ft.
- Recommended height 14"
- Water Temperature 200°F
- Cover type 95-10
- Element C-540

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

**TABLE 3**

Height †	Factor	Height †	Factor
36" or more	1.00	25"	1.08
34"	1.01	24"	1.09
32"	1.02	23"	1.10
30"	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



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 4¼" from finished floor to bottom of front panel.

### 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 contain the following volume of water: ¾" copper tube .....0.023 gal./ft. Model C440, 1" copper tube .....0.040 gal./ft. Model C540, 1¼" copper tube .....0.063 gal./ft. Model S532, S540, 1¼" steel pipe .....0.077 gal./ft. Model S832, 2" steel pipe .....0.174 gal./ft.

### 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.

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

# 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 Corporation. 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 Corporation.

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. (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 Corporation.

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. (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 Corporation. Cover shall be of one-piece construction. (A knob-actuated damper shall be provided.) 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 slope-top fin-tube enclosures with elements, required mounting components and all accessories as manufactured by Slant/Fin Corporation.

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 Corporation.

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 dis-

charge 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 from 18 (16 or 14) gauge galvanized steel or as custom color matched as per specification.

Brackets and hangers shall be channeled steel in hot dipped wiped coat galvanized finish. Brackets and hangers 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.

### TBG 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 Corporation. Cover shall be of one piece construction. Enclosure shall be (TBG-17, TBG-24) and shall have (1 or 2) tier element. (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 Corporation.

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. (A knob actuated 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 or 14) 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.

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## 350 Series

Furnish and install 350 Series Model \_\_\_\_\_ baseboard cover assembly as manufactured by Slant/Fin Corporation, 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 HD Series—slope-top baseboard with element, required mounting components and accessories as manufactured by Slant/Fin Corporation. 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 steel, back panel from 20-gauge 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 guide 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  $\frac{3}{8}$ " 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 butt one length of cover to the next. Accessories to be fastened with screws (pan-head) supplied by others.

## Multi/Pak 80

Furnish and install Multi/Pak® 80 baseboard cover assembly as manufactured by Slant/Fin Corporation, consisting of one-piece 21-gauge back and top panel, and one-piece 18-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 zinc-bonded 16-gauge 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.

## Base/Line 70

Furnish and install Base/Line 70 baseboard cover assembly as manufactured by Slant/Fin Corp., consisting of back panel, front panel, damper vane and support brackets (electro-galvanized), 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. The support brackets shall be formed to accommodate return tubing above the heating element using standard fittings. Damper vane shall modulate fully and retain any setting through its arc. All cover components shall be painted in Nu-White thermosetting 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 Corporation. 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.

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

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 Corporation, consisting of 1½" nominal\* copper seamless-drawn tubing\* with 4¼" x 4¼" 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 Corporation, consisting of 1½" IPS steel pipe\* (Schedule 40), with 4¼" x 4¼" 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.

## H-1 Element

Furnish and install H-1 baseboard heating element as manufactured by Slant/Fin Corporation, consisting of ¾" nominal copper tubing, with 3" x 3¼" x .024" aluminum fins, spaced 48 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 tube shall be expanded to receive the unexpanded end of another, without couplings.

## H-3 Element

Furnish and install H-3 baseboard heating element as manufactured by Slant/Fin Corporation, consisting of ¾" nominal copper tubing, with 3½" x 2½" x .011" aluminum fins bent to 2¾" x 2½", spaced 55 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 tube shall be expanded to receive the unexpanded end of another, without couplings.

## H-4 Element

Furnish and install H-4 baseboard heating element as manufactured by Slant/Fin Corporation, consisting of 1" nominal copper tubing, with 3½" x 2½" x .011" aluminum fins bent to 3" x 2½", spaced 48 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 tube shall be expanded to receive the unexpanded end of another, without couplings.

## H-5X Element

Furnish and install H-5 baseboard heating element as manufactured by Slant/Fin Corporation, consisting of 1½" nominal copper tubing, with 3" x 3¼" x .020" aluminum fins, spaced 48 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 tube shall be expanded to receive the unexpanded end of another, without couplings.

## H-6X Element

Furnish and install H-6 baseboard heating element as manufactured by Slant/Fin Corporation, consisting of 1½" IPS steel pipe (Schedule 40), with 3" x 3¼" x .028" steel fins, spaced 48 per linear foot. Fins shall be mechanically bonded to the pipe 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. Both ends of each element pipe shall be threaded with IPS standard threads.

## E-75E Element

Furnish and install E-75 baseboard heating element as manufactured by Slant/Fin Corporation, consisting of ¾" nominal copper tubing with 2½" x 2½" x .009" aluminum fins, bent to 2½" x 2½", spaced 55 per linear foot. 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. End fins are of plated steel for extra ruggedness. One end of each element tube shall be expanded to receive the unexpanded end of another, without couplings.

## Rhino Cast Series

Furnish and install as shown on the plans Rhino Cast series baseboard with required mounting components and accessories as manufactured by Slant/Fin Corporation.

Baseboard shall be 8½" high and 2½" deep. End sections shall have floor - standing legs cast into baseboard. Intermediate sections shall have adjustable floor leveling bolts to compensate for uneven floors.

Optional wall model shall mount on the wall without floor standing legs below baseboard. Wall mounted cast iron baseboard shall be 7½" high and 2½" deep. Baseboard shall be mounted \_\_\_\_\_ off of the floor.

Baseboard shall be made of durable cast iron with metal push nipple used as water seal between sub-assemblies. Screws securing baseboard to wall shall be hidden and not visible from the frontal view.

Provide all required accessories for a complete installation.

**BACK COVER**

*do not print*