

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 TEMPERATURE† 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):

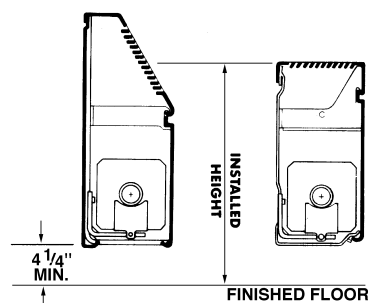
Given:

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 tube0.023 gal./ft.
 Model C440, 1" copper tube0.040 gal./ft.
 Model C540, 1¼" copper tube0.063 gal./ft.
 Model S532, S540, 1¼" steel pipe0.077 gal./ft.
 Model S832, 2" steel pipe0.174 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 commercial baseboard products except Multi/Pak 80 and H and E Series bare elements.

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.

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 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 1 1/4" nominal* copper seamless-drawn tubing* with 4 1/4" x 4 1/4" 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 3/4" 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 1 1/4" IPS steel pipe* (Schedule 40), with 4 1/4" x 4 1/4" 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 3/8" nominal copper tubing, with 3" x 3 3/4" 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 3/8" nominal copper tubing, with 3 1/2" x 2 1/2" x .011" aluminum fins bent to 2 3/4" x 2 1/2", 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 3 1/2" x 2 1/2" x .011" aluminum fins bent to 3" x 2 1/2", 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 1 1/4" nominal copper tubing, with 3" x 3 1/4" 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 1 1/4" IPS steel pipe (Schedule 40), with 3" x 3 1/4" 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 3/4" nominal copper tubing with 2 5/8" x 2 5/8" x .009" aluminum fins, bent to 2 1/2" x 2 1/2", 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 8 1/4" high and 2 1/4" 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 7 1/4" high and 2 1/4" 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.