



 A MESTEK COMPANY



Versa-Line

Commercial Finned Tube Radiation For
Energy-Efficient Hydronic Heating Systems



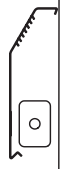
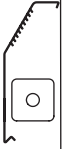
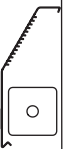






Versa-Line Finned Tube Radiation is Sterling's most versatile and flexible, multi-purpose commercial hydronic heating enclosure line. Versa-Line offers architects, engineers and contractors a full range of enclosure styles, heights, depths, lengths and element selections. Known in the trade as a reliable workhorse, Versa-Line features include small tube sizes and low water temperature ratings.

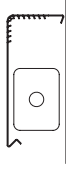
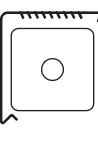
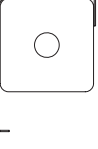
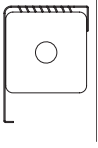
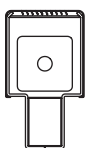
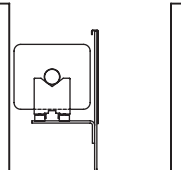

Versa-Line is used in commercial heating installations — structures that demand good looks, durability and low price. Ideally suited for schools, general office buildings, common walkways and high traffic areas. Versa-Line is especially suited for high heat loss areas, yet is attractive enough to be used in areas with subtle lines and perimeter heating.

Versa-Line enclosures are available in 18, 16 and 14 gauge CRS; stainless steel and aluminum are available options. The enclosures are reinforced with full height vertical slip joint stiffeners making them one of the most rugged enclosures on the market today. All enclosures are press brake formed with hard tool dies to ensure consistent styles, shapes and sizes.



- Widest range of heights, depths and element selections.
- 14 basic different enclosure configurations to choose from.
- Overlapping accessories.
- Easy installation.
- Rugged and durable construction.
- Durable baked powder prime finish.
- 9 standard baked powder colors, plus 3 metallic colors.
- Special color capability.
- Ball bearing element hangers.
- Full or partial backplates on all styles.
- Two different damper styles available.
- Available in stainless steel and aluminum.
- 58 standard elements.
- All water ratings are based on 3 feet per second velocity of water.

STYLE	DESIGN	PAGE
JVK-S Slimline Slope Top Enclosure		6
JVA-S Slope Top Enclosure		8
JVB-S Slope Top Enclosure		10
JVB-SS Double Slope Enclosure		15
JVK-T Slimline Top Outlet Enclosure		19
JVA-T/JVB-T Top Outlet Enclosure		21
JVA-F/JVB-F Front Outlet Enclosure		25
JVA-FT/JVB-FT Front and Top Outlet Enclosure		29
JVK-RD Slimline Flat Top Enclosure		33

STYLE	DESIGN	PAGE
JVA-RD/JVB-RD Flat Top Enclosure		35
JVA-E/JVB-E Top Outlet Enclosure		40
VA-X/VB-X Expanded Metal Enclosure		43
VA-C/VB-C Top Outlet Enclosure		48
JVB-PM/JVB-2PM Pedestal Mounted Enclosure		52
TRV Trough		56
Bare Elements		57
Alternatives	Return To Wall	65
Accessories	Typical	66

Notes:

1. See element ordering information on page 57.
2. For non-standard enclosure mounting heights, see correction factor chart on page 73.
3. See specifications on page 5.

ENCLOSURES

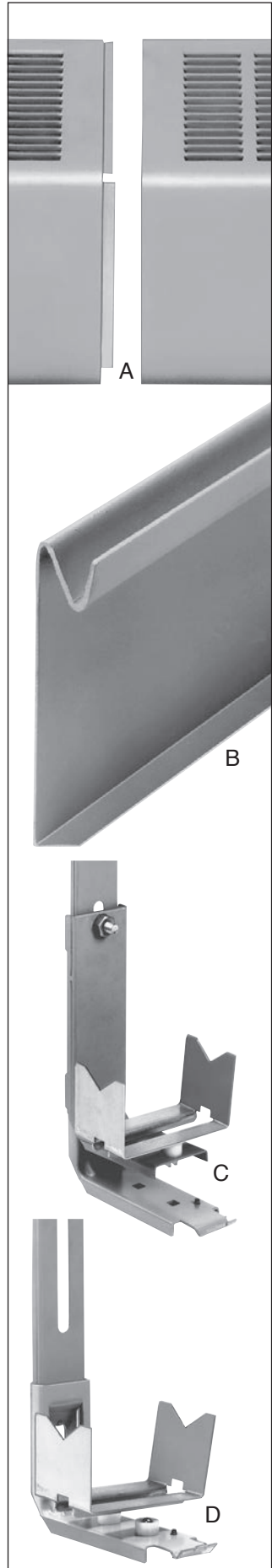
Interlocking slip joints provide for a positive snap together fit between adjoining covers. The male and female slip joints, at the same time, provide vertical stiffness for these enclosures. They are the most rugged and desirable enclosures for today's quality-conscious market. (See photos A.)

BRACKETS AND ELEMENT SUPPORT HANGERS WALL OR BRACKET MOUNTED.

All brackets and element support hangers are die-formed, wiped edge channel type construction which provides the strongest and most rigid support for either the enclosure or element available anywhere. The standard bracket is used with an adjustable bracket mounted hanger. This will provide vertical movement of the element up to 2 1/2 inches for steam pitch requirements simply by loosening a nut. Silent glide action is provided by the nickel chromium plated ball bearings encased in a rugged nylon insert. The isolation effect of the nylon material creates an optimum noise deadening condition and therefore, element expansion noise is virtually eliminated. (See photo C.)

The water brackets are available with the silent glide ball bearing assembly directly mounted to a standard bracket so that the element support hanger is eliminated when pitch is not required. These "water brackets" allow an even faster installation. (See photo D.)

All elements are nested onto a die-formed 18 gauge galvanized slide cradle which rests on the silent glide ball bearings. These slide cradles are designed to support the element tube or pipe only, so that fin drag will not create undesirable noise. (See photos C and D.)



Water and standard brackets are formed at the top to engage the top inside bend of either the partial or full backplate. This automatic locating design simplifies installation and helps keep costs down. (See photos B, C and D.)

All enclosure brackets (standard or water type) are provided with posi-lock enclosure locks. These provide a quick and sure method of securing the enclosure to the bracket and deters vandalism. The bracket is designed to positively snap and secure the enclosure bottom. The posi-lock makes sure it stays there, no matter what. The posi-lock also provides the additional holding force for those installations that require the enclosure assembly to be mounted in an inverted position. (See photo H.)

ROLL PIPE HANGERS

These are designed to support the supply or return pipes within the enclosures. The nylon insert acts as an isolator so that pipe noise is not transmitted as readily through the enclosure. Smooth lateral movement is a definite plus. (See photo E.)

DAMPERS (OPTIONAL)

Knob operated dampers are available in S, T, FT, and F styles. All damper blades are factory installed. The blade is quickly activated by a rugged triple lead screw turned by the die-cast brushed chrome finished knob. (See photo F.)

TAMPER RESISTANT DAMPERS (OPTIONAL)

This optional damper design allows only designated persons to control the desired adjustment with a standard hex key. (See photo G.)

ELEMENTS

All elements are manufactured by means of mechanical expansion. This creates a permanent bond between the fin and tube.

Furnish and install where shown on all plans/drawings, Sterling Versa-Line Finned Tube Assemblies as described in the specifications below or approved equal quality and capacity. Approved AHRI ratings must be submitted as required.

ENCLOSURE AND ACCESSORIES

Finned tube enclosures are to be of style and size as shown on plans. Material will be 18, 16, 14 gauge cold rolled steel with baked primer suitable for field painting. Air discharge and/or inlet louvers are to be "pencil proof." Welded male and female slip joints are to be provided at each end to allow for positive engagement and alignment of adjoining enclosures. All bends (lateral) on enclosure are to be formed on bottoming dies to ensure continuity of all adjoining enclosures and accessories.

ACCESS DOORS

When indicated, access doors will be provided at mixer, shut-off or flow control valves. Doors will be 6" x 9" (or 5" x 6") and hinged at top. Access doors will be located in accessories or enclosure as noted on plans. Door latch head shall require tool for opening.

DAMPERS

Dampers will be provided when indicated on plans. Damper blades will have formed edges for rigidity. Damper blades will be factory installed. Damper actuation will be controlled by knob or tamper resistant operator.

BACKPLATE

All full backplates will be one piece construction, 20 gauge galvanized steel (18 gauge optional) with a die-formed mounting channel into which the enclosure shall self-locate and secure. Self-adhesive sponge air seal gasket to be provided when noted.

All partial backplates are to be machine roll formed, pre-painted, 20 gauge steel with formed mounting channel into which the enclosure shall self-locate and secure. 18 gauge partial backplates will be provided with baked primer finish. Sponge air seal gasket to be provided when noted.

BRACKETS/HANGERS

All brackets and hangers are to be die-formed 14 gauge galvanized steel with channel type wiped edge construction for rigidity. Nickel-chromium plated ball bearings inserted into a nylon isolator insert are to be used in conjunction with an 18 gauge galvanized die-formed element support cradle to provide friction free lateral movement during expansion and contraction. Brackets are to have pre-formed contour at the top allowing the bracket to interlock with the backplate channel. Brackets are to be self-locating in the vertical (height) position. Hangers are to provide for vertical element adjustment when pitch is required (steam). Water jobs will not require adjustable hangers. Full engagement enclosure locks are to be supplied with each bracket.

Accessories will be die-formed 18 gauge cold rolled steel with a baked prime finish suitable for field painting. All vertical edges are to be beaded (180°) edges when overlapping enclosure so that no exposed raw edge will extend outward. Overlapping accessories will provide for make-up required in runs where partitions and/or walls may vary from bay to bay. Accessories shall fit between wall and backplate at top and extend back to wall at bottom for securing with fastener by others.

HEATING ELEMENTS

All copper/aluminum heating elements shall be manufactured with seamless copper tubing mechanically expanded into the diameter of the equally spaced aluminum fins. The ends of the copper tube shall be of finished O.D. (male) and finished I.D. (female, swaged) as to allow the use of standard domestic copper fittings.

All steel heating elements shall be manufactured with steel pressure tubing mechanically expanded into the diameter of the equally spaced steel (.024, .032) fins. The ends of the steel tube shall be threaded to accept all domestic NPT threaded fittings or cut square and chamfered for welding in field. All steel element fins shall be painted black enamel finish.

ENCLOSURES VERSA-LINE SLIP JOINTED.	
Styles	Slope Top. Flat Top — Top Outlet, Front Outlet, Front and Top Outlet.
Lengths	2' thru 8' in 6" increments.
Materials	Cold rolled steel, stainless steel, aluminum, galvanized steel.
Gauges	18, 16, 14 Gauge C.R.S. 18, 16 Gauge SS.
Finish	16, 14, 12 Gauge Aluminum Baked powder prime standard, baked powder colors optional.
BACKPLATES	
Type	Partial standard, full height optional.
Lengths	Partial 8'. Full 2' thru 8' in 6" increments.
Material	Partial 20 gauge, pre-painted standard. 18 gauge baked powder finish optional. Full 20 gauge galvanized, 18 gauge C.R.S. optional.
BRACKETS/HANGERS	Ball bearing with slide cradle adjustable for pitch or fixed for water systems. Die-formed channel type galvanized steel construction with enclosure securing posi-lock clips.
ELEMENTS	Mechanically expanded.
Type	Copper tube aluminum fin, Steel tube steel fin.
Lengths	1", 1 1/4" CU, 1", 1 1/4" & 2" Steel 2' Thru 12'6" in 1" increments 3/4" CU 2' thru 8' in 1" increments.
End Conditions	CU/AL — Swaged one end. Swaged both ends optional. Steel — NPT threads standard. Chamfered for field welding optional.
DAMPERS	Fully modulating damper blades with stiffening roll bend. Operated by hand knob or hex head security type driver.
ACCESSORIES	All die-formed with flange at top to engage behind backplate. Bottom return bend provides vertical flange with mounting holes for securing to wall after overlapping the enclosure. Vertical edges to have rolled bead form.
AIR SEAL	Optional air seal, factory or field installed, on back of backplate. Material is 1/8" x 3/8" closed cell with adhesive back.

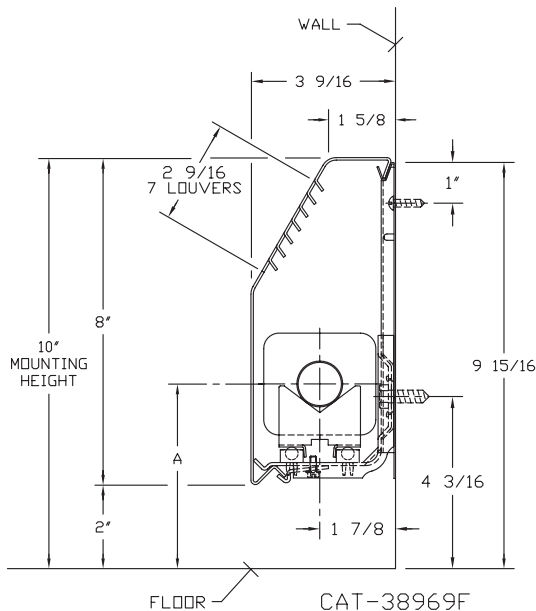


JVK-S8 (Water Brackets only)

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
* 3/4 COPPER	2 1/2 x 2 1/4	1	4 5/16
* 3/4 COPPER	2 1/2 x 2 3/4	1	4 5/16
3/4 COPPER	3 3/4 x 2 3/4	2	5'
* 1" COPPER	2 1/2 x 2 3/4	1	4 1/2
* 1" COPPER	3 3/4 x 2 3/4	2	5 3/16
1 1/4 COPPER	3 3/4 x 2 3/4	2	5 5/16
1" STEEL	3 3/4 x 2 3/4	2	5 5/16

* Damper available with these elements only.

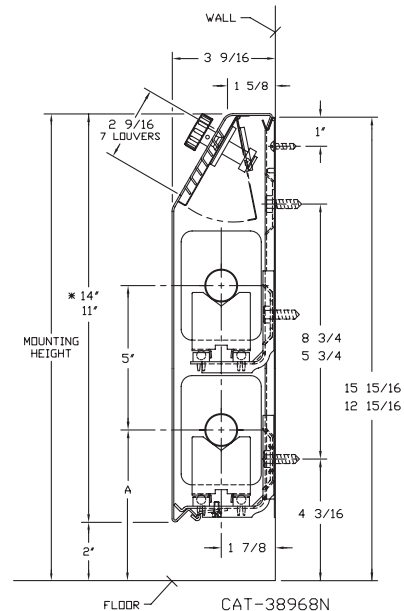
Not recommended for steam applications. Consult factory.



JVK-S11 14 (Water Brackets only)

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
* 3/4 COPPER	2 1/2 x 2 1/4	1	4 5/16
* 3/4 COPPER	2 1/2 x 2 3/4	1	4 5/16
3/4 COPPER	3 3/4 x 2 3/4	2	5'
* 1" COPPER	2 1/2 x 2 3/4	1	4 1/2
* 1" COPPER	3 3/4 x 2 3/4	2	5 3/16
1" COPPER	5' x 2 3/4	3A	5 1/2
1 1/4 COPPER	3 3/4 x 2 3/4	2	5 5/16
1 1/4 COPPER	5' x 2 3/4	3A	5 11/16
1" STEEL	3 3/4 x 2 3/4	2	5 5/16
1" STEEL	5' x 2 3/4	3A	5 11/16
1 1/4 STEEL	3 3/4 x 2 3/4	2	5 1/2
1 1/4 STEEL	5' x 2 3/4	3A	5 15/16

* 2 tier with damper available in 14' height with these elements only.



STYLE "KS" SLIMLINE SLOPE TOP

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
3/4"	R01	2-1/2" x 2-1/4"	50	.011	8K*	1	10	820	710	640	570	500	430	370	330	270	210
					11K	1	13	890	770	690	610	540	470	400	360	290	230
					14K	1	16	960	830	750	660	590	510	430	380	320	250
					14K*	2-5 CL	16	1300	1120	1010	900	790	690	590	520	430	340
3/4"	R02	2-1/2" x 2-3/4"	60	.010	8K*	1	10	950	820	740	660	580	500	430	380	310	250
					11K	1	13	1080	930	840	750	660	570	490	430	360	280
					14K	1	16	1150	990	900	790	700	610	520	460	380	300
					14K*	2-5 CL	16	1650	1420	1290	1140	1010	870	740	660	540	430
1"	R03	2-1/2" x 2-3/4"	55	.011	8K*	1	10	980	840	760	680	600	520	440	390	320	250
					11K	1	13	1050	900	820	720	640	560	470	420	350	270
					14K	1	16	1180	1010	920	810	720	630	530	470	390	310
					14K*	2-5 CL	16	1660	1430	1290	1150	1010	880	750	660	550	430
3/4"	R04	3-3/4" x 2-3/4"	50	.014	8K*	1	10	1010	870	790	700	620	540	450	400	330	260
					11K	1	13	1110	950	870	770	680	590	500	440	370	290
					14K	1	16	1200	1030	940	830	730	640	540	480	400	310
					14K*	2-5 CL	16	1680	1440	1310	1160	1020	890	760	670	550	440
1"	R05	3-3/4" x 2-3/4"	50	.011	8K*	1	10	1020	880	800	700	620	540	460	410	340	270
					11K	1	13	1120	960	870	770	680	590	500	450	370	290
					14K	1	16	1220	1050	950	840	740	650	550	490	400	320
					14K*	2-5 CL	16	1670	1440	1300	1150	1020	890	750	670	550	430
1-1/4"	R08	3-3/4" x 2-3/4"	50	.020	8K*	1	10	1040	890	810	720	630	550	470	420	340	270
					11K	1	13	1140	980	890	790	700	600	510	460	380	300
					14K	1	16	1200	1030	940	830	730	640	540	480	400	310
					14K*	2-5 CL	16	1600	1380	1250	1100	980	850	720	640	530	420
1"	R07	5" x 2-3/4"	50	.020	11K	1	13	1220	1050	950	840	740	650	550	490	400	320
					14K	1	16	1290	1110	1010	890	790	680	580	520	430	340
1-1/4"	R10	5" x 2-3/4"	50	.020	11K	1	13	1190	1020	930	820	730	630	540	480	390	310
					14K	1	16	1260	1080	980	870	770	670	570	500	420	330

*Not recommended for steam applications, consult factory.

Note: Copper tube furnished flared one end standard.

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

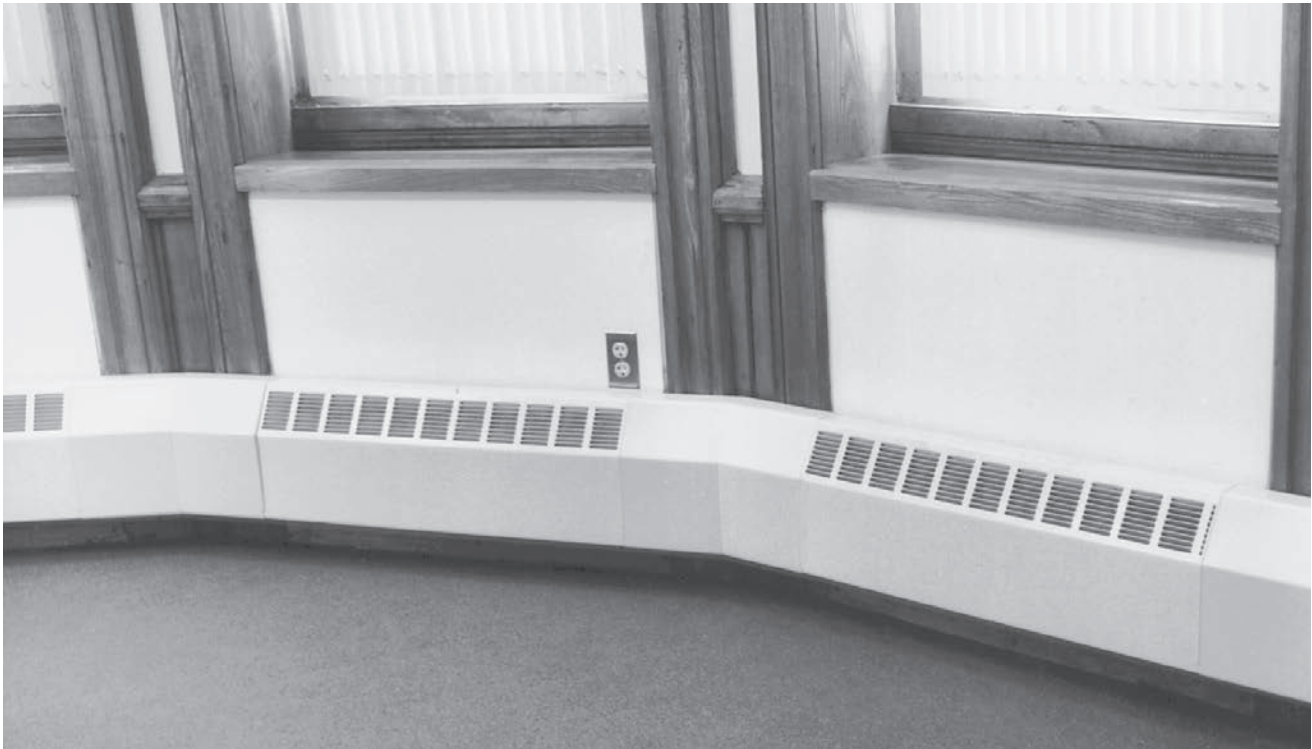
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
1"	R11	3-3/4" x 2-3/4"	40	.024	8K*	1	10	920	790	720	630	560	490	410	370	300	240
					11K	1	13	1020	880	800	700	620	540	460	410	340	270
					14K	1	16	1100	950	860	760	670	580	500	440	360	290
					14K*	2-5 CL	16	1520	1310	1190	1050	930	810	680	610	500	400
1"	R15	5" x 2-3/4"	50	.024	11K	1	13	1170	1010	910	810	710	620	530	470	390	300
					14K	1	16	1170	1010	910	810	710	620	530	470	390	300
1-1/4"	R16	5" x 2-3/4"	50	.024	11K	1	13	1190	1020	930	820	730	630	540	480	390	310
					14K	1	16	1190	1020	930	820	730	630	540	480	390	310

*Not recommended for steam applications, consult factory.

Notes: 1) Steel fin furnished as .024 thick, painted black.

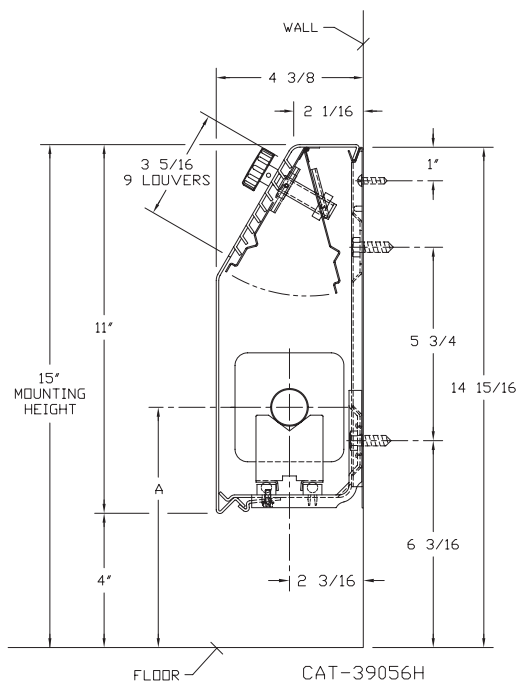
2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.

3) The ends can be provided chamfered for field welded fittings when specified.



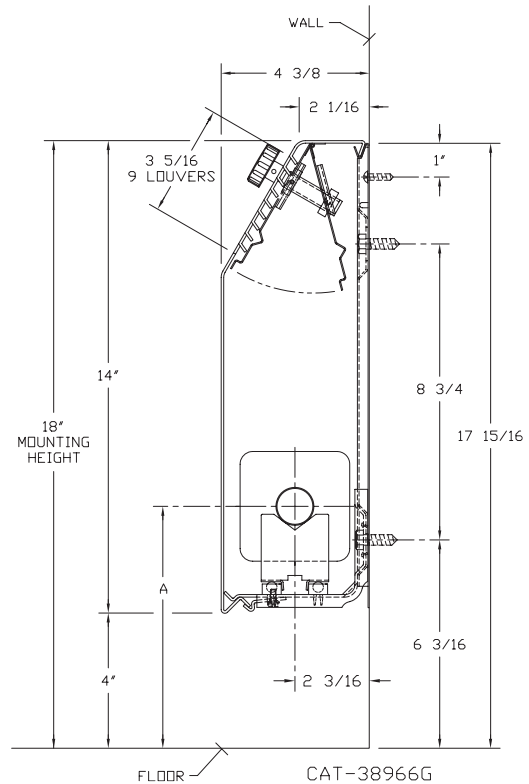
JVA-S11

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 1/4 x 3 1/4	2	7"
1' COPPER	3 1/4 x 3 1/4	2	7 3/16
1 1/4 COPPER	3 1/4 x 3 1/4	1	6 5/8
1' STEEL	3 1/4 x 3 1/4	2	7 5/16
1 1/4 STEEL	3 1/4 x 3 1/4	1	6 13/16



JVA-S14

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 1/4 x 3 1/4	2	7"
1' COPPER	3 1/4 x 3 1/4	2	7 3/16
1 1/4 COPPER	3 1/4 x 3 1/4	1	6 5/8
1' STEEL	3 1/4 x 3 1/4	2	7 5/16
1 1/4 STEEL	3 1/4 x 3 1/4	1	6 13/16



STYLE "S" SLOPE TOP LOW PROFILE

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
3/4"	C3/4-33	3-1/4" SQ.	32	.020	11A*	1	15	1000	860	780	690	610	530	450	400	330	260
3/4"	C3/4-34	3-1/4" SQ.	40	.020	11A*	1	14	1180	1010	920	810	720	630	530	470	390	310
3/4"	C3/4-35	3-1/4" SQ.	50	.020	11A*	1	15	1320	1140	1030	910	810	700	590	530	440	340
1"	C33	3-1/4" SQ.	32	.020	11A*	1	15	980	840	760	680	600	520	440	390	320	250
1"	C34	3-1/4" SQ.	40	.020	11A*	1	15	1150	990	900	790	700	610	520	460	380	300
1"	C35	3-1/4" SQ.	50	.020	11A*	1	15	1260	1080	980	870	770	670	570	500	420	330
1 1/4"	C133	3-1/4" SQ.	32	.020	11A*	1	15	920	790	720	630	560	490	410	370	300	240
1 1/4"	C134	3-1/4" SQ.	40	.020	11A*	1	15	1080	930	840	750	660	570	490	430	360	280
1 1/4"	C135	3-1/4" SQ.	50	.020	11A*	1	15	1190	1020	930	820	730	630	540	480	390	310
3/4"	C3/4-33	3-1/4" SQ.	32	.020	14A	1	18	1080	930	840	750	660	570	490	430	360	280
3/4"	C3/4-34	3-1/4" SQ.	40	.020	14A	1	18	1290	1110	1010	890	790	680	580	520	430	340
3/4"	C3/4-35	3-1/4" SQ.	50	.020	14A	1	18	1440	1240	1120	990	880	760	650	580	480	370
1"	C33	3-1/4" SQ.	32	.020	14A	1	18	1060	910	830	730	650	560	480	420	350	280
1"	C34	3-1/4" SQ.	40	.020	14A	1	18	1250	1080	980	860	760	660	560	500	410	330
1"	C35	3-1/4" SQ.	50	.020	14A	1	18	1370	1180	1070	950	840	730	620	550	450	360
1 1/4"	C133	3-1/4" SQ.	32	.020	14A	1	18	1020	880	800	700	620	540	460	410	340	270
1 1/4"	C134	3-1/4" SQ.	40	.020	14A	1	18	1190	1020	930	820	730	630	540	480	390	310
1 1/4"	C135	3-1/4" SQ.	50	.020	14A	1	18	1330	1140	1040	920	810	700	600	530	440	350

*Not recommended for steam applications consult factory.

Note: Copper tube furnished flared one end standard.

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

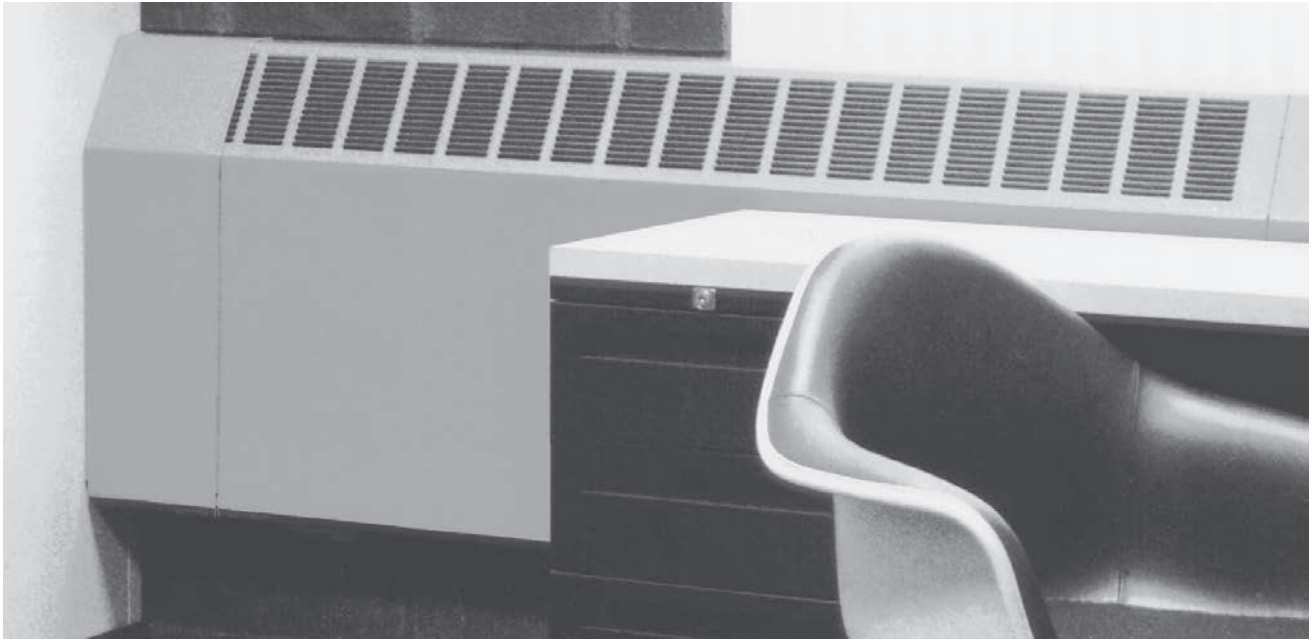
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
1"	S33	3-1/4" SQ.	32	.032	11A*	1	15	930	800	730	640	570	490	420	370	310	240
1"	S34	3-1/4" SQ.	40	.032	11A*	1	15	990	850	770	680	600	520	450	400	330	260
1"	S35	3-1/4" SQ.	50	.032	11A*	1	15	1080	930	840	750	660	570	490	430	360	280
1-1/4"	S133	3-1/4" SQ.	32	.032	11A*	1	15	920	790	720	630	560	490	410	370	300	240
1-1/4"	S134	3-1/4" SQ.	40	.032	11A*	1	15	1000	860	780	690	610	530	450	400	330	260
1-1/4"	S135	3-1/4" SQ.	50	.032	11A*	1	15	1050	900	820	720	640	560	470	420	350	270
1"	S33	3-1/4" SQ.	32	.032	14A	1	18	970	830	760	670	590	510	440	390	320	250
1"	S34	3-1/4" SQ.	40	.032	14A	1	18	1110	950	870	770	680	590	500	440	370	290
1"	S35	3-1/4" SQ.	50	.032	14A	1	18	1180	1010	920	810	720	630	530	470	390	310
1-1/4"	S133	3-1/4" SQ.	32	.032	14A	1	18	960	830	750	660	590	510	430	380	320	250
1-1/4"	S134	3-1/4" SQ.	40	.032	14A	1	18	1120	960	870	770	680	590	500	450	370	290
1-1/4"	S135	3-1/4" SQ.	50	.032	14A	1	18	1150	990	900	790	700	610	520	460	380	300

*Not recommended for steam applications consult factory.

Notes: 1) Steel fins furnished as .032 thick, painted black.

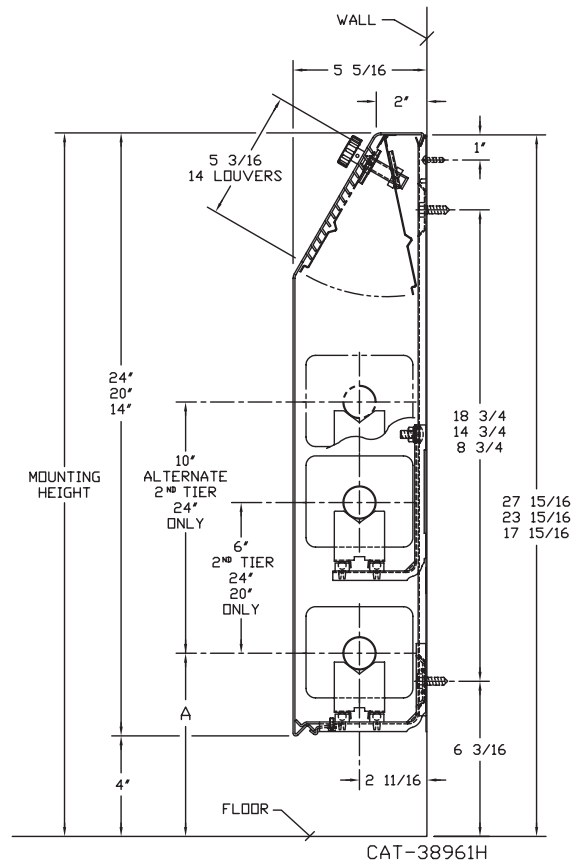
2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.

3) The ends can be provided chamfered for field welded fittings when specified.



JVB-S14 20 24

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4" COPPER	3 5/8 x 4 1/4	2	7"
3/4" COPPER	4 1/4 x 4 1/4	3A	7 3/8"
1" COPPER	3 5/8 x 4 1/4	2	7 3/16"
1" COPPER	4 1/4 x 4 1/4	2	7 3/16"
1 1/4" COPPER	3 5/8 x 4 1/4	2	7 5/16"
1 1/4" COPPER	4 1/4 x 4 1/4	2	7 5/16"
1" STEEL	4 1/4 x 4 1/4	2	7 5/16"
1 1/4" STEEL	4 1/4 x 4 1/4	2	7 1/2"
2" STEEL	4 1/4 x 4 1/4	1	7 1/4"



See page 39 for element center line dimensions with steam bracket installation.

STYLE "S" SLOPE TOP

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								1.00
3/4"	C3/4-433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1520	1310	1190	1050	930	810	680	610	500	400
					20B	1	24	1600	1380	1250	1100	980	850	720	640	530	420
					20B	2-6 CL	24	2480	2130	1930	1710	1510	1310	1120	990	820	640
					24B	1	28	1670	1440	1300	1150	1020	890	750	670	550	430
					24B	2-6 CL	28	2570	2210	2000	1770	1570	1360	1160	1030	850	670
24B	3-6 CL	28	2960	2550	2310	2040	1810	1570	1330	1180	980	770					
3/4"	C3/4-434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1700	1460	1330	1170	1040	900	770	680	560	440
					20B	1	24	1820	1570	1420	1260	1110	960	820	730	600	470
					20B	2-6 CL	24	2580	2220	2010	1780	1570	1370	1160	1030	850	670
					24B	1	28	1910	1640	1490	1320	1170	1010	860	760	630	500
					24B	2-6 CL	28	2700	2320	2110	1860	1650	1430	1220	1080	890	700
24B	3-6 CL	28	3080	2650	2400	2130	1880	1630	1390	1230	1020	800					
3/4"	C3/4-435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1840	1580	1440	1270	1120	980	830	740	610	480
					20B	1	24	2090	1800	1630	1440	1270	1110	940	840	690	540
					20B	2-6 CL	24	2820	2430	2200	1950	1720	1490	1270	1130	930	730
					24B	1	28	2260	1940	1760	1560	1380	1200	1020	900	750	590
					24B	2-6 CL	28	3110	2670	2430	2150	1900	1650	1400	1240	1030	810
24B	3-6 CL	28	3510	3020	2740	2420	2140	1860	1580	1400	1160	910					
1"	C433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1540	1320	1200	1060	940	820	690	620	510	400
					20B	1	24	1620	1390	1260	1120	990	860	730	650	530	420
					20B	2-6 CL	24	2500	2150	1950	1720	1530	1330	1130	1000	830	650
					24B	1	28	1690	1450	1320	1170	1030	900	760	680	560	440
					24B	2-6 CL	28	2590	2230	2020	1790	1580	1370	1170	1040	850	670
24B	3-6 CL	28	2980	2560	2320	2060	1820	1580	1340	1190	980	770					
1"	C434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1780	1530	1390	1230	1090	940	800	710	590	460
					20B	1	24	1900	1630	1480	1310	1160	1010	860	760	630	490
					20B	2-6 CL	24	2660	2290	2070	1840	1620	1410	1200	1060	880	690
					24B	1	28	1990	1710	1550	1370	1210	1050	900	800	660	520
					24B	2-6 CL	28	2770	2380	2160	1910	1690	1470	1250	1110	910	720
24B	3-6 CL	28	3160	2720	2460	2180	1930	1670	1420	1260	1040	820					
1"	C435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1930	1660	1510	1330	1180	1020	870	770	640	500
					20B	1	24	2180	1870	1700	1500	1330	1160	980	870	720	570
					20B	2-6 CL	24	2640	2270	2060	1820	1610	1400	1190	1060	870	690
					24B	1	28	2360	2030	1840	1630	1440	1250	1060	940	780	610
					24B	2-6 CL	28	2910	2500	2270	2010	1780	1540	1310	1160	960	760
24B	3-6 CL	28	3290	2830	2570	2270	2010	1740	1480	1320	1090	860					
1-1/4"	C1433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1450	1250	1130	1000	880	770	650	580	480	380
					20B	1	24	1530	1320	1190	1060	930	810	690	610	500	400
					20B	2 @ 6 CL	24	2360	2030	1840	1630	1440	1250	1060	940	780	610
					24B	1	28	1590	1370	1240	1100	970	840	720	640	520	410
					24B	2 @ 6 CL	28	2450	2110	1910	1690	1490	1300	1100	980	810	640
24B	3 @ 6 CL	28	2820	2430	2200	1950	1720	1490	1270	1130	930	730					
1-1/4"	C1434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1740	1500	1360	1200	1060	920	780	700	570	450
					20B	1	24	1880	1620	1470	1300	1150	1000	850	750	620	490
					20B	2 @ 6 CL	24	2610	2240	2040	1800	1590	1380	1170	1040	860	680
					24B	1	28	1950	1680	1520	1350	1190	1030	880	780	640	510
					24B	2 @ 6 CL	28	2710	2330	2110	1870	1650	1440	1220	1080	890	700
24B	3 @ 6 CL	28	3090	2660	2410	2130	1880	1640	1390	1240	1020	800					
1-1/4"	C1435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1860	1600	1450	1280	1130	990	840	740	610	480
					20B	1	24	2130	1830	1660	1470	1300	1130	960	850	700	550
					20B	2 @ 6 CL	24	2510	2160	1960	1730	1530	1330	1130	1000	830	650
					24B	1	28	2270	1950	1770	1570	1380	1200	1020	910	750	590
					24B	2 @ 6 CL	28	2810	2420	2190	1940	1710	1490	1260	1120	930	730
24B	3 @ 6 CL	28	3180	2730	2480	2190	1940	1690	1430	1270	1050	830					

STYLE "S" SLOPE TOP

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
3/4"	C3/4-43	4-1/4" SQ.	32	.020	14B	1	18	1630	1400	1270	1120	990	860	730	650	540	420
					20B	1	24	1720	1480	1340	1190	1050	910	770	690	570	450
					20B	2-6 CL	24	2630	2260	2050	1810	1600	1390	1180	1050	870	680
					24B	1	28	1790	1540	1400	1240	1090	950	810	720	590	470
					24B	2-6 CL	28	2810	2420	2190	1940	1710	1490	1260	1120	930	730
					24B	3-6 CL	28	3230	2780	2520	2230	1970	1710	1450	1290	1070	840
3/4"	C3/4-44	4-1/4" SQ.	40	.020	14B	1	18	2030	1750	1580	1400	1240	1080	910	810	670	530
					20B	1	24	2210	1900	1720	1520	1350	1170	990	880	730	570
					20B	2-6 CL	24	2930	2520	2290	2020	1790	1550	1320	1170	970	760
					24B	1	28	2350	2020	1830	1620	1430	1250	1060	940	780	610
					24B	2-6 CL	28	3210	2760	2500	2210	1960	1700	1440	1280	1060	830
					24B	3-6 CL	28	3660	3150	2850	2530	2230	1940	1650	1460	1210	950
3/4"	C3/4-45	4-1/4" SQ.	50	.020	14B	1	18	2040	1750	1590	1410	1240	1080	920	820	670	530
					20B	1	24	2320	2000	1810	1600	1420	1230	1040	930	770	600
					20B	2-6 CL	24	3070	2640	2390	2120	1870	1630	1380	1230	1010	800
					24B	1	28	2470	2120	1930	1700	1510	1310	1110	990	820	640
					24B	2-6 CL	28	3270	2810	2550	2260	1990	1730	1470	1310	1080	850
					24B	3-6 CL	28	3700	3180	2890	2550	2260	1960	1670	1480	1220	960
1"	C43	4-1/4" SQ.	32	.020	14B	1	18	1650	1420	1290	1140	1010	870	740	660	540	430
					20B	1	24	1740	1500	1360	1200	1060	920	780	700	570	450
					20B	2-6 CL	24	2590	2230	2020	1790	1580	1370	1170	1040	850	670
					24B	1	28	1810	1560	1410	1250	1100	960	810	720	600	470
					24B	2-6 CL	28	2830	2430	2210	1950	1730	1500	1270	1130	930	740
					24B	3-6 CL	28	3250	2800	2540	2240	1980	1720	1460	1300	1070	850
1"	C44	4-1/4" SQ.	40	.020	14B	1	18	1880	1620	1470	1300	1150	1000	850	750	620	490
					20B	1	24	2040	1750	1590	1410	1240	1080	920	820	670	530
					20B	2-6 CL	24	2690	2310	2100	1860	1640	1430	1210	1080	890	700
					24B	1	28	2140	1840	1670	1480	1310	1130	960	860	710	560
					24B	2-6 CL	28	2920	2510	2280	2010	1780	1550	1310	1170	960	760
					24B	3-6 CL	28	3330	2860	2600	2300	2030	1760	1500	1330	1100	870
1"	C45	4-1/4" SQ.	50	.020	14B	1	18	2060	1770	1610	1420	1260	1090	930	820	680	540
					20B	1	24	2340	2010	1830	1610	1430	1240	1050	940	770	610
					20B	2-6 CL	24	2680	2300	2090	1850	1630	1420	1210	1070	880	700
					24B	1	28	2510	2160	1960	1730	1530	1330	1130	1000	830	650
					24B	2-6 CL	28	3000	2580	2340	2070	1830	1590	1350	1200	990	780
					24B	3-6 CL	28	3390	2920	2640	2340	2070	1800	1530	1360	1120	880
1-1/4"	C143	4-1/4" SQ.	32	.020	14B	1	18	1620	1390	1260	1120	990	860	730	650	530	420
					20B	1	24	1710	1470	1330	1180	1040	910	770	680	560	440
					20B	2-6 CL	24	2540	2180	1980	1750	1550	1350	1140	1020	840	660
					24B	1	28	1770	1520	1380	1220	1080	940	800	710	580	460
					24B	2-6 CL	28	2780	2390	2170	1920	1700	1470	1250	1110	920	720
					24B	3-6 CL	28	3200	2750	2500	2210	1950	1700	1440	1280	1060	830
1-1/4"	C144	4-1/4" SQ.	40	.020	14B	1	18	1850	1590	1440	1280	1130	980	830	740	610	480
					20B	1	24	2000	1720	1560	1380	1220	1060	900	800	660	520
					20B	2-6 CL	24	2640	2270	2060	1820	1610	1400	1190	1060	870	690
					24B	1	28	2100	1810	1640	1450	1280	1110	950	840	690	550
					24B	2-6 CL	28	2870	2470	2240	1980	1750	1520	1290	1150	950	750
					24B	3-6 CL	28	3270	2810	2550	2260	1990	1730	1470	1310	1080	850
1-1/4"	C145	4-1/4" SQ.	50	.020	14B	1	18	2020	1740	1580	1390	1230	1070	910	810	670	530
					20B	1	24	2300	1980	1790	1590	1400	1220	1040	920	760	600
					20B	2-6 CL	24	2630	2260	2050	1810	1600	1390	1180	1050	870	680
					24B	1	28	2470	2120	1930	1700	1510	1310	1110	990	820	640
					24B	2-6 CL	28	2950	2540	2300	2040	1800	1560	1330	1180	970	770
					24B	3-6 CL	28	3330	2860	2600	2300	2030	1760	1500	1330	1100	870

Note: Copper tube furnished flared one end standard.

STYLE "S" SLOPE TOP

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									1.00
1"	S43	4-1/4" SQ.	32	.032	14B	1	18	1410	1210	1100	970	860	750	630	560	470	370	
					20B	1	24	1460	1260	1140	1010	890	770	660	580	480	380	
					20B	2-6 CL	24	2200	1890	1720	1520	1340	1170	990	880	730	570	
					24B	1	28	1500	1290	1170	1040	920	800	680	600	500	390	
					24B	2-6 CL	28	2270	1950	1770	1570	1380	1200	1020	910	750	590	
24B	3-6 CL	28	2610	2240	2040	1800	1590	1380	1170	1040	860	680						
1"	S44	4-1/4" SQ.	40	.032	14B	1	18	1580	1360	1230	1090	960	840	710	630	520	410	
					20B	1	24	1680	1440	1310	1160	1020	890	760	670	550	440	
					20B	2-6 CL	24	2380	2050	1860	1640	1450	1260	1070	950	790	620	
					24B	1	28	1740	1500	1360	1200	1060	920	780	700	570	450	
					24B	2-6 CL	28	2490	2140	1940	1720	1520	1320	1120	1000	820	650	
24B	3-6 CL	28	2840	2440	2220	1960	1730	1510	1280	1140	940	740						
1"	S45	4-1/4" SQ.	50	.032	14B	1	18	1655	1420	1290	1140	1010	880	740	660	550	430	
					20B	1	24	1760	1510	1370	1210	1070	930	790	700	580	460	
					20B	2-6 CL	24	2435	2090	1900	1680	1490	1290	1100	970	800	630	
					24B	1	28	1825	1570	1420	1260	1110	970	820	730	600	470	
					24B	2-6 CL	28	2550	2190	1990	1760	1560	1350	1150	1020	840	660	
24B	3-6 CL	28	2880	2480	2250	1990	1760	1530	1300	1150	950	750						
1-1/4"	S143	4-1/4" SQ.	32	.032	14B	1	18	1300	1120	1010	900	790	690	590	520	430	340	
					20B	1	24	1340	1150	1050	920	820	710	600	540	440	350	
					20B	2-6 CL	24	2020	1740	1580	1390	1230	1070	910	810	670	530	
					24B	1	28	1380	1190	1080	950	840	730	620	550	460	360	
					24B	2-6 CL	28	2080	1790	1620	1440	1270	1100	940	830	690	540	
24B	3-6 CL	28	2390	2060	1860	1650	1460	1270	1080	960	790	620						
1-1/4"	S144	4-1/4" SQ.	40	.032	14B	1	18	1570	1350	1220	1080	960	830	710	630	520	410	
					20B	1	24	1670	1440	1300	1150	1020	890	750	670	550	430	
					20B	2-6 CL	24	2370	2040	1850	1640	1450	1260	1070	950	780	620	
					24B	1	28	1730	1490	1350	1190	1060	920	780	690	570	450	
					24B	2-6 CL	28	2480	2130	1930	1710	1510	1310	1120	990	820	640	
24B	3-6 CL	28	2830	2430	2210	1950	1730	1500	1270	1130	930	740						
1-1/4"	S145	4-1/4" SQ.	50	.032	14B	1	18	1645	1410	1280	1140	1000	870	740	660	540	430	
					20B	1	24	1750	1510	1370	1210	1070	930	790	700	580	460	
					20B	2-6 CL	24	2390	2060	1860	1650	1460	1270	1080	960	790	620	
					24B	1	28	1810	1560	1410	1250	1100	960	810	720	600	470	
					24B	2-6 CL	28	2500	2150	1950	1720	1530	1330	1130	1000	830	650	
24B	3-6 CL	28	2820	2430	2200	1950	1720	1490	1270	1130	930	730						
2"	S242	4-1/4" SQ.	25	.032	14B	1	18	1200	1030	940	830	730	640	540	480	400	310	
					20B	1	24	1230	1060	960	850	750	650	550	490	410	320	
					20B	2-6 CL	24	1930	1660	1510	1330	1180	1020	870	770	640	500	
					24B	1	28	1250	1080	980	860	760	660	560	500	410	330	
					24B	2-6 CL	28	1940	1670	1510	1340	1180	1030	870	780	640	500	
24B	3-6 CL	28	2230	1920	1740	1540	1360	1180	1000	890	740	580						
2"	S243	4-1/4" SQ.	32	.032	14B	1	18	1400	1200	1090	970	850	740	630	560	460	360	
					20B	1	24	1450	1250	1130	1000	880	770	650	580	480	380	
					20B	2-6 CL	24	2110	1810	1650	1460	1290	1120	950	840	700	550	
					24B	1	28	1490	1280	1160	1030	910	790	670	600	490	390	
					24B	2-6 CL	28	2180	1870	1700	1500	1330	1160	980	870	720	570	
24B	3-6 CL	28	2510	2160	1960	1730	1530	1330	1130	1000	830	650						

- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.

STYLE "S" SLOPE TOP

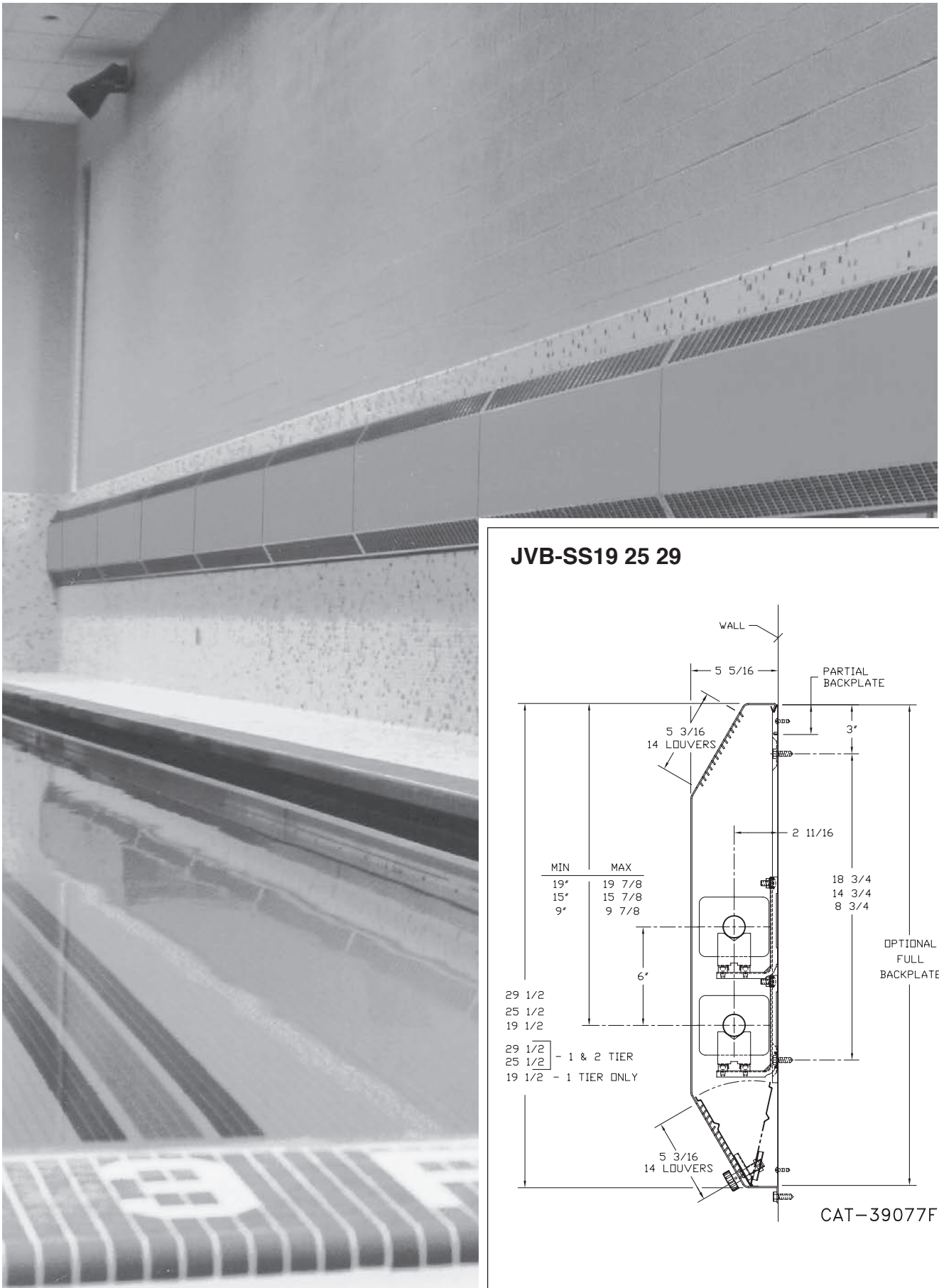
INVERTED ENCLOSURE APPLICATION



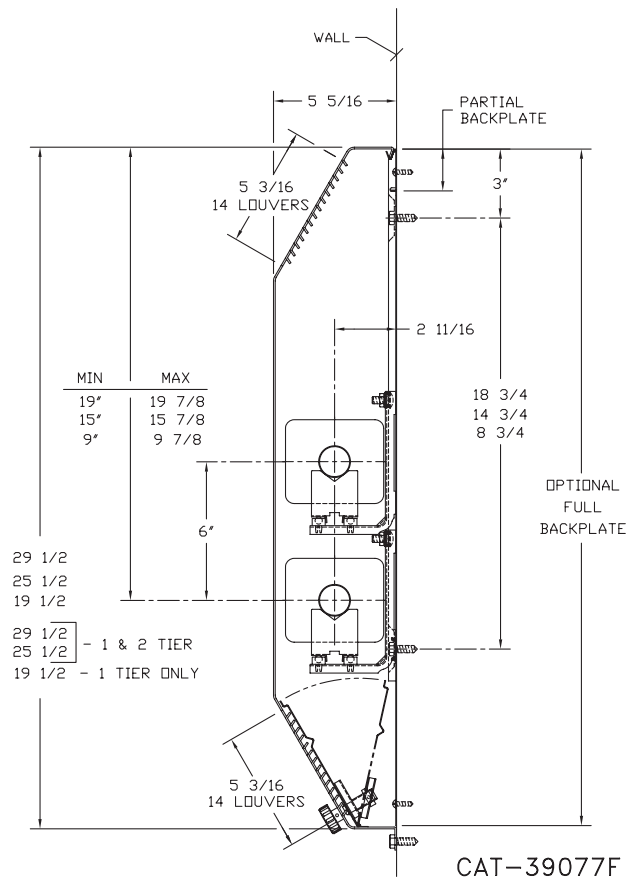
8", 11", 14", 20" and 24" high Versa-Line enclosures can be inverted using standard brackets and ball bearing hangers.

Consult factory for hanger & bracket mounting.

Note: The optional safety latch is available for all inverted enclosures for added security and safety.



JVB-SS19 25 29



STYLE "SS" DOUBLE SLOPE TOP

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33
3/4"	C3/4-433	3-5/8" x 4-1/4"	32	.020	19-1/2B	1	-	1220	1050	950	840	740	650	550	490	400	320
					25-1/2B	1	-	1305	1120	1020	900	800	690	590	520	430	340
					25-1/2B	2-6 CL	-	1985	1710	1550	1370	1210	1050	890	790	660	520
					29-1/2B	1	-	1370	1180	1070	950	840	730	620	550	450	360
					29-1/2B	2-6 CL	-	2080	1790	1620	1440	1270	1100	940	830	690	540
					29-1/2B	3-6 CL	-	2390	2060	1860	1650	1460	1270	1080	960	790	620
3/4"	C3/4-434	3-5/8" x 4-1/4"	40	.020	19-1/2B	1	-	1470	1260	1150	1010	900	780	660	590	490	380
					25-1/2B	1	-	1570	1350	1220	1080	960	830	710	630	520	410
					25-1/2B	2-6 CL	-	2230	1920	1740	1540	1360	1180	1000	890	740	580
					29-1/2B	1	-	1650	1420	1290	1140	1010	870	740	660	540	430
					29-1/2B	2-6 CL	-	2330	2000	1820	1610	1420	1230	1050	930	770	610
					29-1/2B	3-6 CL	-	2660	2290	2070	1840	1620	1410	1200	1060	880	690
3/4"	C3/4-435	3-5/8" x 4-1/4"	50	.020	19-1/2B	1	-	1590	1370	1240	1100	970	840	720	640	520	410
					25-1/2B	1	-	1805	1550	1410	1250	1100	960	810	720	600	470
					25-1/2B	2-6 CL	-	2435	2090	1900	1680	1490	1290	1100	970	800	630
					29-1/2B	1	-	1950	1680	1520	1350	1190	1030	880	780	640	510
					29-1/2B	2-6 CL	-	2685	2310	2090	1850	1640	1420	1210	1070	890	700
					29-1/2B	3-6 CL	-	3030	2610	2360	2090	1850	1610	1360	1210	1000	790
1"	C433	3-5/8" x 4-1/4"	32	.020	19-1/2B	1	-	1330	1140	1040	920	810	700	600	530	440	350
					25-1/2B	1	-	1400	1200	1090	970	850	740	630	560	460	360
					25-1/2B	2-6 CL	-	2160	1860	1680	1490	1320	1140	970	860	710	560
					29-1/2B	1	-	1460	1260	1140	1010	890	770	660	580	480	380
					29-1/2B	2-6 CL	-	2235	1920	1740	1540	1360	1180	1010	890	740	580
					29-1/2B	3-6 CL	-	2570	2210	2000	1770	1570	1360	1160	1030	850	670
1"	C434	3-5/8" x 4-1/4"	40	.020	19-1/2B	1	-	1535	1320	1200	1060	940	810	690	610	510	400
					25-1/2B	1	-	1640	1410	1280	1130	1000	870	740	660	540	430
					25-1/2B	2-6 CL	-	2300	1980	1790	1590	1400	1220	1040	920	760	600
					29-1/2B	1	-	1720	1480	1340	1190	1050	910	770	690	570	450
					29-1/2B	2-6 CL	-	2390	2060	1860	1650	1460	1270	1080	960	790	620
					29-1/2B	3-6 CL	-	2720	2340	2120	1880	1660	1440	1220	1090	900	710
1"	C435	3-5/8" x 4-1/4"	50	.020	19-1/2B	1	-	1665	1430	1300	1150	1020	880	750	670	550	430
					25-1/2B	1	-	1880	1620	1470	1300	1150	1000	850	750	620	490
					25-1/2B	2-6 CL	-	2280	1960	1780	1570	1390	1210	1030	910	750	590
					29-1/2B	1	-	2040	1750	1590	1410	1240	1080	920	820	670	530
					29-1/2B	2-6 CL	-	2510	2160	1960	1730	1530	1330	1130	1000	830	650
					29-1/2B	3-6 CL	-	2840	2440	2220	1960	1730	1510	1280	1140	940	740
1-1/4"	C1433	3-5/8" x 4-1/4"	32	.020	19-1/2B	1	-	1250	1080	980	860	760	660	560	500	410	330
					25-1/2B	1	-	1320	1140	1030	910	810	700	590	530	440	340
					25-1/2B	2-6 CL	-	2040	1750	1590	1410	1240	1080	920	820	670	530
					29-1/2B	1	-	1375	1180	1070	950	840	730	620	550	450	360
					29-1/2B	2-6 CL	-	2115	1820	1650	1460	1290	1120	950	850	700	550
					29-1/2B	3-6 CL	-	2430	2090	1900	1680	1480	1290	1090	970	800	630
1-1/4"	C1434	3-5/8" x 4-1/4"	40	.020	19-1/2B	1	-	1500	1290	1170	1040	920	800	680	600	500	390
					25-1/2B	1	-	1625	1400	1270	1120	990	860	730	650	540	420
					25-1/2B	2-6 CL	-	2255	1940	1760	1560	1380	1200	1010	900	740	590
					29-1/2B	1	-	1685	1450	1310	1160	1030	890	760	670	560	440
					29-1/2B	2-6 CL	-	2340	2010	1830	1610	1430	1240	1050	940	770	610
					29-1/2B	3-6 CL	-	2670	2300	2080	1840	1630	1420	1200	1070	880	690
1-1/4"	C1435	3-5/8" x 4-1/4"	50	.020	19-1/2B	1	-	1610	1380	1260	1110	980	850	720	640	530	420
					25-1/2B	1	-	1840	1580	1440	1270	1120	980	830	740	610	480
					25-1/2B	2-6 CL	-	2165	1860	1690	1490	1320	1150	970	870	710	560
					29-1/2B	1	-	1960	1690	1530	1350	1200	1040	880	780	650	510
					29-1/2B	2-6 CL	-	2425	2090	1890	1670	1480	1290	1090	970	800	630
					29-1/2B	3-6 CL	-	2740	2360	2140	1890	1670	1450	1230	1100	900	710
3/4"	C3/4-43	4-1/4" SQ.	32	.020	19-1/2B	1	-	1320	1140	1030	910	810	700	590	530	440	340
					25-1/2B	1	-	1415	1220	1100	980	860	750	640	570	470	370
					25-1/2B	2-6 CL	-	2180	1870	1700	1500	1330	1160	980	870	720	570
					29-1/2B	1	-	1480	1270	1150	1020	900	780	670	590	490	380
					29-1/2B	2-6 CL	-	2280	1960	1780	1570	1390	1210	1030	910	750	590
					29-1/2B	3-6 CL	-	2620	2250	2040	1810	1600	1390	1180	1050	860	680
3/4"	C3/4-44	4-1/4" SQ.	40	.020	19-1/2B	1	-	1610	1380	1260	1110	980	850	720	640	530	420
					25-1/2B	1	-	1730	1490	1350	1190	1060	920	780	690	570	450
					25-1/2B	2-6 CL	-	2440	2100	1900	1680	1490	1290	1100	980	810	630
					29-1/2B	1	-	1800	1550	1400	1240	1100	950	810	720	590	470
					29-1/2B	2-6 CL	-	2550	2190	1990	1760	1560	1350	1150	1020	840	660
					29-1/2B	3-6 CL	-	2910	2500	2270	2010	1780	1540	1310	1160	960	760

STYLE "SS" DOUBLE SLOPE TOP

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
3/4"	C3/4-45	4-1/4" SQ.	50	.020	19-1/2B	1	-	1650	1420	1290	1140	1010	870	740	660	540	430
					25-1/2B	1	-	1770	1520	1380	1220	1080	940	800	710	580	460
					25-1/2B	2-6 CL	-	2440	2100	1900	1680	1490	1290	1100	980	810	630
					29-1/2B	1	-	1990	1710	1550	1370	1210	1050	900	800	660	520
					29-1/2B	2-6 CL	-	2550	2190	1990	1760	1560	1350	1150	1020	840	660
					29-1/2B	3-6 CL	-	2880	2480	2250	1990	1760	1530	1300	1150	950	750
1"	C43	4-1/4" SQ.	32	.020	19-1/2B	1	-	1425	1230	1110	980	870	760	640	570	470	370
					25-1/2B	1	-	1500	1290	1170	1040	920	800	680	600	500	390
					25-1/2B	2-6 CL	-	2235	1920	1740	1540	1360	1180	1010	890	740	580
					29-1/2B	1	-	1565	1350	1220	1080	950	830	700	630	520	410
					29-1/2B	2-6 CL	-	2445	2100	1910	1690	1490	1300	1100	980	810	640
					29-1/2B	3-6 CL	-	2810	2420	2190	1940	1710	1490	1260	1120	930	730
1"	C44	4-1/4" SQ.	40	.020	19-1/2B	1	-	1625	1400	1270	1120	990	860	730	650	540	420
					25-1/2B	1	-	1760	1510	1370	1210	1070	930	790	700	580	460
					25-1/2B	2-6 CL	-	2325	2000	1810	1600	1420	1230	1050	930	770	600
					29-1/2B	1	-	1850	1590	1440	1280	1130	980	830	740	610	480
					29-1/2B	2-6 CL	-	2520	2170	1970	1740	1540	1340	1130	1010	830	660
					29-1/2B	3-6 CL	-	2870	2470	2240	1980	1750	1520	1290	1150	950	750
1"	C45	4-1/4" SQ.	50	.020	19-1/2B	1	-	1780	1530	1390	1230	1090	940	800	710	590	460
					25-1/2B	1	-	2020	1740	1580	1390	1230	1070	910	810	670	530
					25-1/2B	2-6 CL	-	2315	1990	1810	1600	1410	1230	1040	930	760	600
					29-1/2B	1	-	2165	1860	1690	1490	1320	1150	970	870	710	560
					29-1/2B	2-6 CL	-	2590	2230	2020	1790	1580	1370	1170	1040	850	670
					29-1/2B	3-6 CL	-	2930	2520	2290	2020	1790	1550	1320	1170	970	760
1-1/4"	C143	4-1/4" SQ.	32	.020	19-1/2B	1	-	1400	1200	1090	970	850	740	630	560	460	360
					25-1/2B	1	-	1475	1270	1150	1020	900	780	660	590	490	380
					25-1/2B	2-6 CL	-	2195	1890	1710	1510	1340	1160	990	880	720	570
					29-1/2B	1	-	1530	1320	1190	1060	930	810	690	610	500	400
					29-1/2B	2-6 CL	-	2400	2060	1870	1660	1460	1270	1080	960	790	620
					29-1/2B	3-6 CL	-	2760	2370	2150	1900	1680	1460	1240	1100	910	720
1-1/4"	C144	4-1/4" SQ.	40	.020	19-1/2B	1	-	1600	1380	1250	1100	980	850	720	640	530	420
					25-1/2B	1	-	1725	1480	1350	1190	1050	910	780	690	570	450
					25-1/2B	2-6 CL	-	2280	1960	1780	1570	1390	1210	1030	910	750	590
					29-1/2B	1	-	1815	1560	1420	1250	1110	960	820	730	600	470
					29-1/2B	2-6 CL	-	2480	2130	1930	1710	1510	1310	1120	990	820	640
					29-1/2B	3-6 CL	-	2830	2430	2210	1950	1730	1500	1270	1130	930	740
1-1/4"	C145	4-1/4" SQ.	50	.020	19-1/2B	1	-	1745	1500	1360	1200	1060	920	790	700	580	450
					25-1/2B	1	-	1985	1710	1550	1370	1210	1050	890	790	660	520
					25-1/2B	2-6 CL	-	2270	1950	1770	1570	1380	1200	1020	910	750	590
					29-1/2B	1	-	2135	1840	1670	1470	1300	1130	960	850	700	560
					29-1/2B	2-6 CL	-	2545	2190	1990	1760	1550	1350	1150	1020	840	660
					29-1/2B	3-6 CL	-	2880	2480	2250	1990	1760	1530	1300	1150	950	750

Note: Copper tube furnished flared one end standard.

STYLE "SS" DOUBLE SLOPE TOP

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)																		
									200°	190°	180°	170°	160°	150°	140°	130°	120°	CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									
									1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26									
1"	S43	4-1/4" SQ.	32	.032	19-1/2B	1	-	1215	1040	950	840	740	640	550	490	400	320										
					25-1/2B	1	-	1255	1080	980	870	770	670	560	500	410	330										
					25-1/2B	2-6 CL	-	1980	1700	1540	1370	1210	1050	890	790	650	510										
					29-1/2B	1	-	1290	1110	1010	890	790	680	580	520	430	340										
					29-1/2B	2-6 CL	-	2045	1760	1600	1410	1250	1080	920	820	670	530										
					29-1/2B	3-6 CL	-	2350	2020	1830	1620	1430	1250	1060	940	780	610										
1"	S44	4-1/4" SQ.	40	.032	19-1/2B	1	-	1360	1170	1060	940	830	720	610	540	450	350										
					25-1/2B	1	-	1445	1240	1130	1000	880	770	650	580	480	380										
					25-1/2B	2-6 CL	-	2140	1840	1670	1480	1310	1130	960	860	710	560										
					29-1/2B	1	-	1495	1290	1170	1030	910	790	670	600	490	390										
					29-1/2B	2-6 CL	-	2240	1930	1750	1550	1370	1190	1010	900	740	580										
					29-1/2B	3-6 CL	-	2550	2190	1990	1760	1560	1350	1150	1020	840	660										
1"	S45	4-1/4" SQ.	50	.032	19-1/2B	1	-	1425	1230	1110	980	870	760	640	570	470	370										
					25-1/2B	1	-	1515	1300	1180	1050	920	800	680	610	500	390										
					25-1/2B	2-6 CL	-	2190	1880	1710	1510	1340	1160	990	880	720	570										
					29-1/2B	1	-	1570	1350	1220	1080	960	830	710	630	520	410										
					29-1/2B	2-6 CL	-	2295	1970	1790	1580	1400	1220	1030	920	760	600										
					29-1/2B	3-6 CL	-	2590	2230	2020	1790	1580	1370	1170	1040	850	670										
1-1/4"	S143	4-1/4" SQ.	32	.032	19-1/2B	1	-	1120	960	870	770	680	590	500	450	370	290										
					25-1/2B	1	-	1185	1020	920	820	720	630	530	470	390	310										
					25-1/2B	2-6 CL	-	1780	1530	1390	1230	1090	940	800	710	590	460										
					29-1/2B	1	-	1250	1080	980	860	760	660	560	500	410	330										
					29-1/2B	2-6 CL	-	1880	1620	1470	1300	1150	1000	850	750	620	490										
					29-1/2B	3-6 CL	-	2160	1860	1680	1490	1320	1140	970	860	710	560										
1-1/4"	S144	4-1/4" SQ.	40	.032	19-1/2B	1	-	1360	1170	1060	940	830	720	610	540	450	350										
					25-1/2B	1	-	1470	1260	1150	1010	900	780	660	590	490	380										
					25-1/2B	2-6 CL	-	2090	1800	1630	1440	1270	1110	940	840	690	540										
					29-1/2B	1	-	1560	1340	1220	1080	950	830	700	620	510	410										
					29-1/2B	2-6 CL	-	2240	1930	1750	1550	1370	1190	1010	900	740	580										
					29-1/2B	3-6 CL	-	2550	2190	1990	1760	1560	1350	1150	1020	840	660										
1-1/4"	S145	4-1/4" SQ.	50	.032	19-1/2B	1	-	1415	1220	1100	980	860	750	640	570	470	370										
					25-1/2B	1	-	1505	1290	1170	1040	920	800	680	600	500	390										
					25-1/2B	2-6 CL	-	2150	1850	1680	1480	1310	1140	970	860	710	560										
					29-1/2B	1	-	1555	1340	1210	1070	950	820	700	620	510	400										
					29-1/2B	2-6 CL	-	2250	1940	1760	1550	1370	1190	1010	900	740	590										
					29-1/2B	3-6 CL	-	2540	2180	1980	1750	1550	1350	1140	1020	840	660										
2"	S242	4-1/4" SQ.	25	.032	19-1/2B	1	-	1050	900	820	720	640	560	470	420	350	270										
					25-1/2B	1	-	1110	950	870	770	680	590	500	440	370	290										
					25-1/2B	2-6 CL	-	1670	1440	1300	1150	1020	890	750	670	550	430										
					29-1/2B	1	-	1170	1010	910	810	710	620	530	470	390	300										
					29-1/2B	2-6 CL	-	1770	1520	1380	1220	1080	940	800	710	580	460										
					29-1/2B	3-6 CL	-	2040	1750	1590	1410	1240	1080	920	820	670	530										
2"	S243	4-1/4" SQ.	32	.032	19-1/2B	1	-	1220	1050	950	840	740	650	550	490	400	320										
					25-1/2B	1	-	1290	1110	1010	890	790	680	580	520	430	340										
					25-1/2B	2-6 CL	-	1930	1660	1510	1330	1180	1020	870	770	640	500										
					29-1/2B	1	-	1360	1170	1060	940	830	720	610	540	450	350										
					29-1/2B	2-6 CL	-	2040	1750	1590	1410	1240	1080	920	820	670	530										
					29-1/2B	3-6 CL	-	2350	2020	1830	1620	1430	1250	1060	940	780	610										

- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.

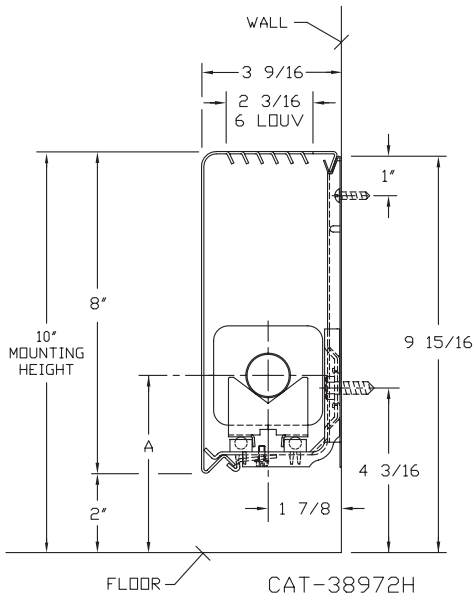


JVK-T8

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
* 3/4 COPPER	2 1/2 x 2 1/4	1	4 5/16
* 3/4 COPPER	2 1/2 x 2 3/4	1	
3/4 COPPER	3 3/4 x 2 3/4	2	5"
* 1' COPPER	2 1/2 x 2 3/4	1	4 1/2
1' COPPER	3 3/4 x 2 3/4	2	5 3/16
1' COPPER	5' x 2 3/4	3A	5 1/2
1 1/4 COPPER	3 3/4 x 2 3/4	2	5 5/16
1 1/4 COPPER	5' x 2 3/4	3A	5 11/16
1' STEEL	3 3/4 x 2 3/4	2	5 5/16
1' STEEL	5' x 2 3/4	3A	5 11/16
1 1/4 STEEL	3 3/4 x 2 3/4	2	5 1/2
1 1/4 STEEL	5' x 2 3/4	3A	5 15/16

* Damper available with these elements only.

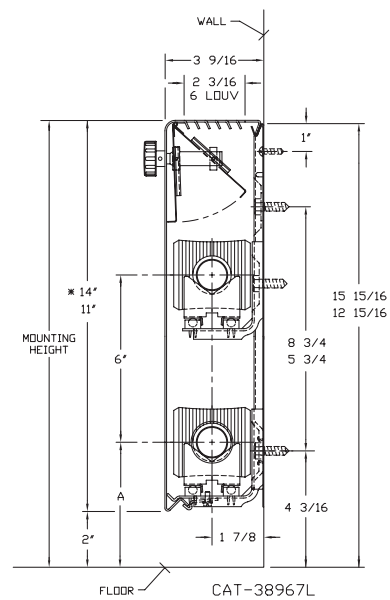
Not recommended for steam applications, consult factory.



JVK-T11 14

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
* 3/4 COPPER	2 1/2 x 2 1/4	1	4 5/16
* 3/4 COPPER	2 1/2 x 2 3/4	1	
3/4 COPPER	3 3/4 x 2 3/4	2	5"
* 1' COPPER	2 1/2 x 2 3/4	1	4 1/2
1' COPPER	3 3/4 x 2 3/4	2	5 3/16
1' COPPER	5' x 2 3/4	3A	5 1/2
1 1/4 COPPER	3 3/4 x 2 3/4	2	5 5/16
1 1/4 COPPER	5' x 2 3/4	3A	5 11/16
1' STEEL	3 3/4 x 2 3/4	2	5 5/16
1' STEEL	5' x 2 3/4	3A	5 11/16
1 1/4 STEEL	3 3/4 x 2 3/4	2	5 1/2
1 1/4 STEEL	5' x 2 3/4	3A	5 15/16

* 2 tier with damper available in 14' height with these elements only.



STYLE "KT" SLIMLINE TOP OUTLET

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									
									1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
3/4"	R01	2-1/2" x 2-1/4"	50	.011	8K*	1	10	750	650	590	520	460	400	340	300	250	200	
					11K	1	13	810	700	630	560	490	430	360	320	270	210	
					14K	1	16	870	750	680	600	530	460	390	350	290	230	
					14K*	2-5 CL	16	1240	1070	970	860	760	660	560	500	410	320	
3/4"	R02	2-1/2" x 2-3/4"	60	.010	8K*	1	10	900	770	700	620	550	480	410	360	300	230	
					11K	1	13	960	830	750	660	590	510	430	380	320	250	
					14K	1	16	1120	960	870	770	680	590	500	450	370	290	
					14K*	2-5 CL	16	1570	1350	1220	1080	960	830	710	630	520	410	
1"	R03	2-1/2" x 2-3/4"	55	.011	8K*	1	10	880	760	690	610	540	470	400	350	290	230	
					11K	1	13	940	810	730	650	570	500	420	380	310	240	
					14K	1	16	1000	860	780	690	610	530	450	400	330	260	
					14K*	2-5 CL	16	1440	1240	1120	990	880	760	650	580	480	370	
3/4"	R04	3-3/4" x 2-3/4"	50	.014	8K*	1	10	1080	930	840	750	660	570	490	430	360	280	
					11K	1	13	1140	980	890	790	700	600	510	460	380	300	
					14K	1	16	1200	1030	940	830	730	640	540	480	400	310	
					14K*	2-5 CL	16	1590	1370	1240	1100	970	840	720	640	520	410	
1"	R05	3-3/4" x 2-3/4"	50	.011	8K*	1	10	1070	920	830	740	650	570	480	430	350	280	
					11K	1	13	1130	970	880	780	690	600	510	450	370	290	
					14K	1	16	1190	1020	930	820	730	630	540	480	390	310	
					14K*	2-5 CL	16	1580	1360	1230	1090	960	840	710	630	520	410	
1-1/4"	R08	3-3/4" x 2-3/4"	50	.020	8K*	1	10	1020	880	800	700	620	540	460	410	340	270	
					11K	1	13	1080	930	840	750	660	570	490	430	360	280	
					14K	1	16	1190	1020	930	820	730	630	540	480	390	310	
					14K*	2-5 CL	16	1600	1380	1250	1100	980	850	720	640	530	420	
1"	R07	5" x 2-3/4"	50	.020	8K*	1	10	1210	1040	940	830	740	640	540	480	400	310	
					11K	1	13	1270	1090	990	880	770	670	570	510	420	330	
					14K	1	16	1320	1140	1030	910	810	700	590	530	440	340	
					14K*	2-5 CL	16	1650	1420	1290	1140	1010	870	740	660	540	430	
1-1/4"	R10	5" x 2-3/4"	50	.020	8K*	1	10	1180	1010	920	810	720	630	530	470	390	310	
					11K	1	13	1240	1070	970	860	760	660	560	500	410	320	
					14K	1	16	1290	1110	1010	890	790	680	580	520	430	340	
					14K*	2-5 CL	16	1610	1380	1260	1110	980	850	720	640	530	420	

*Not recommended for steam applications consult, factory.
Note: Copper tube furnished flared one end standard.

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

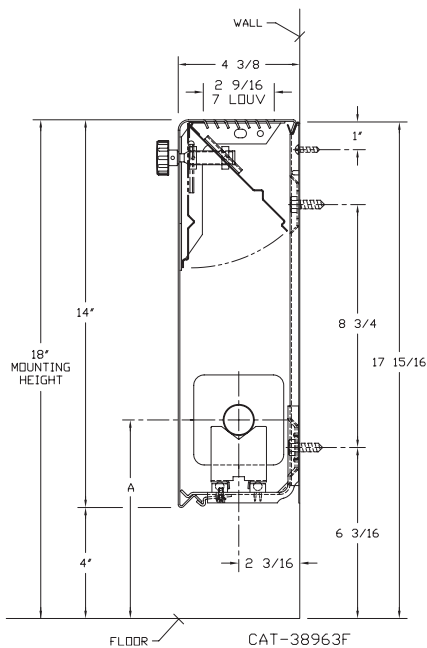
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									
									1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
1"	R11	3-3/4" x 2-3/4"	40	.024	8K*	1	10	830	710	650	570	510	440	370	330	270	220	
					11K	1	13	890	770	690	610	540	470	400	360	290	230	
					14K	1	16	980	840	760	680	600	520	440	390	320	250	
					14K*	2-5 CL	16	1410	1210	1100	970	860	750	630	560	470	370	
1"	R15	5" x 2-3/4"	50	.024	8K*	1	10	890	770	690	610	540	470	400	360	290	230	
					11K	1	13	950	820	740	660	580	500	430	380	310	250	
					14K	1	16	1040	890	810	720	630	550	470	420	340	270	
					14K*	2-5 CL	16	1450	1250	1130	1000	880	770	650	580	480	380	
1-1/4"	R16	5" x 2-3/4"	50	.024	8K*	1	10	910	780	710	630	560	480	410	360	300	240	
					11K	1	13	970	830	760	670	590	510	440	390	320	250	
					14K	1	16	1060	910	830	730	650	560	480	420	350	280	
					14K*	2-5 CL	16	1460	1260	1140	1010	890	770	660	580	480	380	

*Not recommended for steam application, consult factory.
Notes: 1) Steel fin furnished as .024 thick, painted black.
2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
3) The ends can be provided chamfered for field welded fittings when specified.



JVA-T

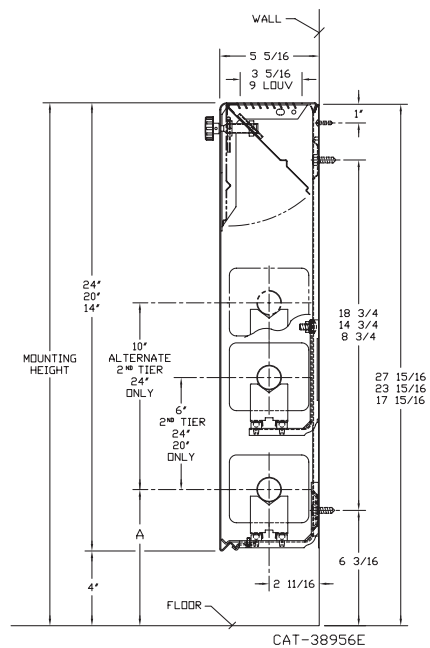
ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4" COPPER	3 1/4 x 3 1/4	2	7"
1" COPPER	3 1/4 x 3 1/4	2	7 3/16"
1 1/4" COPPER	3 1/4 x 3 1/4	1	6 5/8"
1" STEEL	3 1/4 x 3 1/4	2	7 5/16"
1 1/4" STEEL	3 1/4 x 3 1/4	1	6 13/16"



See page 39 for element center line dimensions with steam bracket installation.

JVB-T

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4" COPPER	3 5/8 x 4 1/4	2	7"
3/4" COPPER	4 1/4 x 4 1/4	3A	7 3/8"
1" COPPER	3 5/8 x 4 1/4	2	7 3/16"
1" COPPER	4 1/4 x 4 1/4	2	7 3/16"
1 1/4" COPPER	3 5/8 x 4 1/4	2	7 5/16"
1 1/4" COPPER	4 1/4 x 4 1/4	2	7 5/16"
1" STEEL	4 1/4 x 4 1/4	2	7 5/16"
1 1/4" STEEL	4 1/4 x 4 1/4	2	7 1/2"
2" STEEL	4 1/4 x 4 1/4	1	7 1/4"



See page 39 for element center line dimensions with steam bracket installation.

STYLE "T" TOP OUTLET

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									1.00
3/4"	C3/4-33	3-1/4" SQ.	32	.020	14A	1	18	960	830	750	660	590	510	430	380	320	250	
3/4"	C3/4-34	3-1/4" SQ.	40	.020	14A	1	18	1130	970	880	780	690	600	510	450	370	290	
3/4"	C3/4-35	3-1/4" SQ.	50	.020	14A	1	18	1280	1100	1000	880	780	680	580	510	420	330	
1"	C33	3-1/4" SQ.	32	.020	14A	1	18	940	810	730	650	570	500	420	380	310	240	
1"	C34	3-1/4" SQ.	40	.020	14A	1	18	1080	930	840	750	660	570	490	430	360	280	
1"	C35	3-1/4" SQ.	50	.020	14A	1	18	1220	1050	950	840	740	650	550	490	400	320	
1 1/4"	C133	3-1/4" SQ.	32	.020	14A	1	18	900	770	700	620	550	480	410	360	300	230	
1 1/4"	C134	3-1/4" SQ.	40	.020	14A	1	18	1040	890	810	720	630	550	470	420	340	270	
1 1/4"	C135	3-1/4" SQ.	50	.020	14A	1	18	1190	1020	930	820	730	630	540	480	390	310	
3/4"	C3/4-433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1300	1120	1010	900	790	690	590	520	430	340	
					20B	1	24	1380	1190	1080	950	840	730	620	550	460	360	
					20B	2-6 CL	24	2015	1730	1570	1390	1230	1070	910	810	660	520	
					24B	1	28	1420	1220	1110	980	870	750	640	570	470	370	
					24B	2-6 CL	28	2100	1810	1640	1450	1280	1110	950	840	690	550	
24B	3-6 CL	28	2420	2080	1890	1670	1480	1280	1090	970	800	630						
3/4"	C3/4-434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1550	1330	1210	1070	950	820	700	620	510	400	
					20B	1	24	1650	1420	1290	1140	1010	870	740	660	540	430	
					20B	2-6 CL	24	2360	2030	1840	1630	1440	1250	1060	940	780	610	
					24B	1	28	1700	1460	1330	1170	1040	900	770	680	560	440	
					24B	2-6 CL	28	2460	2120	1920	1700	1500	1300	1110	980	810	640	
24B	3-6 CL	28	2800	2410	2180	1930	1710	1480	1260	1120	920	730						
3/4"	C3/4-435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1740	1500	1360	1200	1060	920	780	700	570	450	
					20B	1	24	1870	1610	1460	1290	1140	990	840	750	620	490	
					20B	2-6 CL	24	2690	2310	2100	1860	1640	1430	1210	1080	890	700	
					24B	1	28	1960	1690	1530	1350	1200	1040	880	780	650	510	
					24B	2-6 CL	28	2910	2500	2270	2010	1780	1540	1310	1160	960	760	
24B	3-6 CL	28	3290	2830	2570	2270	2010	1740	1480	1320	1090	860						
1"	C433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1380	1190	1080	950	840	730	620	550	460	360	
					20B	1	24	1450	1250	1130	1000	880	770	650	580	480	380	
					20B	2-6 CL	24	2260	1940	1760	1560	1380	1200	1020	900	750	590	
					24B	1	28	1490	1280	1160	1030	910	790	670	600	490	390	
					24B	2-6 CL	28	2340	2010	1830	1610	1430	1240	1050	940	770	610	
24B	3-6 CL	28	2690	2310	2100	1860	1640	1430	1210	1080	890	700						
1"	C434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1650	1420	1290	1140	1010	870	740	660	540	430	
					20B	1	24	1710	1470	1330	1180	1040	910	770	680	560	440	
					20B	2-6 CL	24	2440	2100	1900	1680	1490	1290	1100	980	810	630	
					24B	1	28	1780	1530	1390	1230	1090	940	800	710	590	460	
					24B	2-6 CL	28	2530	2180	1970	1750	1540	1340	1140	1010	830	660	
24B	3-6 CL	28	2880	2480	2250	1990	1760	1530	1300	1150	950	750						
1"	C435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1810	1560	1410	1250	1100	960	810	720	600	470	
					20B	1	24	1960	1690	1530	1350	1200	1040	880	780	650	510	
					20B	2-6 CL	24	2520	2170	1970	1740	1540	1340	1130	1010	830	660	
					24B	1	28	2050	1760	1600	1410	1250	1090	920	820	680	530	
					24B	2-6 CL	28	2730	2350	2130	1880	1670	1450	1230	1090	900	710	
24B	3-6 CL	28	3080	2650	2400	2130	1880	1630	1390	1230	1020	800						
1-1/4"	C1433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1350	1160	1050	930	820	720	610	540	450	350	
					20B	1	24	1420	1220	1110	980	870	750	640	570	470	370	
					20B	2 @ 6 CL	24	2220	1910	1730	1530	1350	1180	1000	890	730	580	
					24B	1	28	1460	1260	1140	1010	890	770	660	580	480	380	
					24B	2 @ 6 CL	28	2300	1980	1790	1590	1400	1220	1040	920	760	600	
24B	3 @ 6 CL	28	2650	2280	2070	1830	1620	1400	1190	1060	870	690						
1-1/4"	C1434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1580	1360	1230	1090	960	840	710	630	520	410	
					20B	1	24	1680	1440	1310	1160	1020	890	760	670	550	440	
					20B	2 @ 6 CL	24	2380	2050	1860	1640	1450	1260	1070	950	790	620	
					24B	1	28	1740	1500	1360	1200	1060	920	780	700	570	450	
					24B	2 @ 6 CL	28	2480	2130	1930	1710	1510	1310	1120	990	820	640	
24B	3 @ 6 CL	28	2830	2430	2210	1950	1730	1500	1270	1130	930	740						
1-1/4"	C1435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1780	1530	1390	1230	1090	940	800	710	590	460	
					20B	1	24	1920	1650	1500	1320	1170	1020	860	770	630	500	
					20B	2 @ 6 CL	24	2460	2120	1920	1700	1500	1300	1110	980	810	640	
					24B	1	28	2010	1730	1570	1390	1230	1070	900	800	660	520	
					24B	2 @ 6 CL	28	2650	2280	2070	1830	1620	1400	1190	1060	870	690	
24B	3 @ 6 CL	28	2990	2570	2330	2060	1820	1580	1350	1200	990	780						

STYLE "T" TOP OUTLET

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									1.00
3/4"	C3/4-43	4-1/4" SQ.	32	.020	14B	1	18	1400	1200	1090	970	850	740	630	560	460	360	
					20B	1	24	1595	1370	1240	1100	970	850	720	640	530	410	
					20B	2-6 CL	24	2215	1900	1730	1530	1350	1170	1000	890	730	580	
					24B	1	28	1530	1320	1190	1060	930	810	690	610	500	400	
					24B	2-6 CL	28	2305	1980	1800	1590	1410	1220	1040	920	760	600	
					24B	3-6 CL	28	2650	2280	2070	1830	1620	1400	1190	1060	870	690	
3/4"	C3/4-44	4-1/4" SQ.	40	.020	14B	1	18	1700	1460	1330	1170	1040	900	770	680	560	440	
					20B	1	24	1950	1680	1520	1350	1190	1030	880	780	640	510	
					20B	2-6 CL	24	2480	2130	1930	1710	1510	1310	1120	990	820	640	
					24B	1	28	1870	1610	1460	1290	1140	990	840	750	620	490	
					24B	2-6 CL	28	2580	2220	2010	1780	1570	1370	1160	1030	850	670	
					24B	3-6 CL	28	2940	2530	2290	2030	1790	1560	1320	1180	970	760	
3/4"	C3/4-45	4-1/4" SQ.	50	.020	14B	1	18	1745	1500	1360	1200	1060	920	790	700	580	450	
					20B	1	24	2000	1720	1560	1380	1220	1060	900	800	660	520	
					20B	2-6 CL	24	2465	2120	1920	1700	1500	1310	1110	990	810	640	
					24B	1	28	2060	1770	1610	1420	1260	1090	930	820	680	540	
					24B	2-6 CL	28	2480	2130	1930	1710	1510	1310	1120	990	820	640	
					24B	3-6 CL	28	2800	2410	2180	1930	1710	1480	1260	1120	920	730	
1"	C43	4-1/4" SQ.	32	.020	14B	1	18	1490	1280	1160	1030	910	790	670	600	490	390	
					20B	1	24	1550	1330	1210	1070	950	820	700	620	510	400	
					20B	2-6 CL	24	2390	2060	1860	1650	1460	1270	1080	960	790	620	
					24B	1	28	1600	1380	1250	1100	980	850	720	640	530	420	
					24B	2-6 CL	28	2470	2120	1930	1700	1510	1310	1110	990	820	640	
					24B	3-6 CL	28	2840	2440	2220	1960	1730	1510	1280	1140	940	740	
1"	C44	4-1/4" SQ.	40	.020	14B	1	18	1720	1480	1340	1190	1050	910	770	690	570	450	
					20B	1	24	1820	1570	1420	1260	1110	960	820	730	600	470	
					20B	2-6 CL	24	2570	2210	2000	1770	1570	1360	1160	1030	850	670	
					24B	1	28	1890	1630	1470	1300	1150	1000	850	760	620	490	
					24B	2-6 CL	28	2670	2300	2080	1840	1630	1420	1200	1070	880	690	
					24B	3-6 CL	28	3040	2610	2370	2100	1850	1610	1370	1220	1000	790	
1"	C45	4-1/4" SQ.	50	.020	14B	1	18	1930	1660	1510	1330	1180	1020	870	770	640	500	
					20B	1	24	2100	1810	1640	1450	1280	1110	950	840	690	550	
					20B	2-6 CL	24	2540	2180	1980	1750	1550	1350	1140	1020	840	660	
					24B	1	28	2200	1890	1720	1520	1340	1170	990	880	730	570	
					24B	2-6 CL	28	2840	2440	2220	1960	1730	1510	1280	1140	940	740	
					24B	3-6 CL	28	3210	2760	2500	2210	1960	1700	1440	1280	1060	830	
1-1/4"	C143	4-1/4" SQ.	32	.020	14B	1	18	1460	1260	1140	1010	890	770	660	580	480	380	
					20B	1	24	1520	1310	1190	1050	930	810	680	610	500	400	
					20B	2-6 CL	24	2350	2020	1830	1620	1430	1250	1060	940	780	610	
					24B	1	28	1570	1350	1220	1080	960	830	710	630	520	410	
					24B	2-6 CL	28	2430	2090	1900	1680	1480	1290	1090	970	800	630	
					24B	3-6 CL	28	2790	2400	2180	1930	1700	1480	1260	1120	920	730	
1-1/4"	C144	4-1/4" SQ.	40	.020	14B	1	18	1690	1450	1320	1170	1030	900	760	680	560	440	
					20B	1	24	1790	1540	1400	1240	1090	950	810	720	590	470	
					20B	2-6 CL	24	2520	2170	1970	1740	1540	1340	1130	1010	830	660	
					24B	1	28	1860	1600	1450	1280	1130	990	840	740	610	480	
					24B	2-6 CL	28	2620	2250	2040	1810	1600	1390	1180	1050	860	680	
					24B	3-6 CL	28	2990	2570	2330	2060	1820	1580	1350	1200	990	780	
1-1/4"	C145	4-1/4" SQ.	50	.020	14B	1	18	1900	1630	1480	1310	1160	1010	860	760	630	490	
					20B	1	24	2060	1770	1610	1420	1260	1090	930	820	680	540	
					20B	2-6 CL	24	2500	2150	1950	1720	1530	1330	1130	1000	830	650	
					24B	1	28	2160	1860	1680	1490	1320	1140	970	860	710	560	
					24B	2-6 CL	28	2780	2390	2170	1920	1700	1470	1250	1110	920	720	
					24B	3-6 CL	28	3140	2700	2450	2170	1920	1660	1410	1260	1040	820	

Notes: Copper tube furnished flared one end standard.

STYLE "T" TOP OUTLET

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

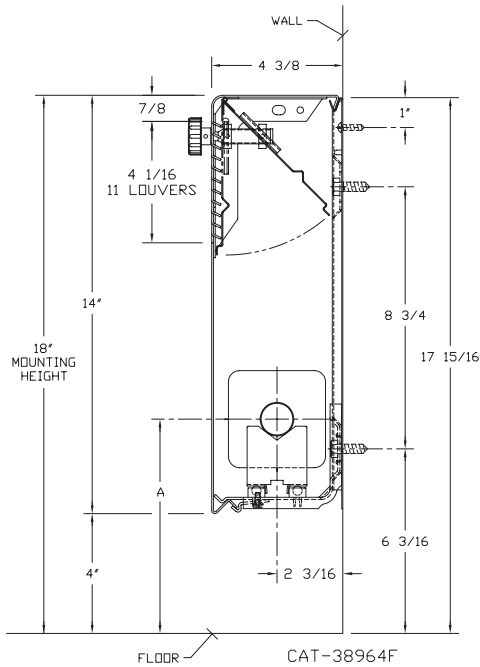
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								1.00
1"	S33	3-1/4" SQ.	32	.032	14A	1	18	840	720	660	580	510	450	380	340	280	220
1"	S34	3-1/4" SQ.	40	.032	14A	1	18	965	830	750	670	590	510	430	390	320	250
1"	S35	3-1/4" SQ.	50	.032	14A	1	18	1035	890	810	710	630	550	470	410	340	270
1-1/4"	S133	3-1/4" SQ.	32	.032	14A	1	18	850	730	660	590	520	450	380	340	280	220
1-1/4"	S134	3-1/4" SQ.	40	.032	14A	1	18	960	830	750	660	590	510	430	380	320	250
1-1/4"	S135	3-1/4" SQ.	50	.032	14A	1	18	1000	860	780	690	610	530	450	400	330	260
1"	S43	4-1/4" SQ.	32	.032	14B	1	18	1200	1030	940	830	730	640	540	480	400	310
					20B	1	24	1250	1080	980	860	760	660	560	500	410	330
					20B	2-6 CL	24	2030	1750	1580	1400	1240	1080	910	810	670	530
					24B	1	28	1280	1100	1000	880	780	680	580	510	420	330
					24B	2-6 CL	28	2080	1790	1620	1440	1270	1100	940	830	690	540
1"	S44	4-1/4" SQ.	40	.032	14B	1	18	1420	1220	1110	980	870	750	640	570	470	370
					20B	1	24	1500	1290	1170	1040	920	800	680	600	500	390
					20B	2-6 CL	24	2200	1890	1720	1520	1340	1170	990	880	730	570
					24B	1	28	1560	1340	1220	1080	950	830	700	620	510	410
					24B	2-6 CL	28	2270	1950	1770	1570	1380	1200	1020	910	750	590
1"	S45	4-1/4" SQ.	50	.032	14B	1	18	1485	1280	1160	1020	910	790	670	590	490	390
					20B	1	24	1570	1350	1220	1080	960	830	710	630	520	410
					20B	2-6 CL	24	2255	1940	1760	1560	1380	1200	1010	900	740	590
					24B	1	28	1635	1410	1280	1130	1000	870	740	650	540	430
					24B	2-6 CL	28	2325	2000	1810	1600	1420	1230	1050	930	770	600
1-1/4"	S143	4-1/4" SQ.	32	.032	14B	1	18	1100	950	860	760	670	580	500	440	360	290
					20B	1	24	1150	990	900	790	700	610	520	460	380	300
					20B	2-6 CL	24	1860	1600	1450	1280	1130	990	840	740	610	480
					24B	1	28	1180	1010	920	810	720	630	530	470	390	310
					24B	2-6 CL	28	1910	1640	1490	1320	1170	1010	860	760	630	500
1-1/4"	S144	4-1/4" SQ.	40	.032	14B	1	18	1410	1210	1100	970	860	750	630	560	470	370
					20B	1	24	1490	1280	1160	1030	910	790	670	600	490	390
					20B	2-6 CL	24	2190	1880	1710	1510	1340	1160	990	880	720	570
					24B	1	28	1550	1330	1210	1070	950	820	700	620	510	400
					24B	2-6 CL	28	2260	1940	1760	1560	1380	1200	1020	900	750	590
1-1/4"	S145	4-1/4" SQ.	50	.032	14B	1	18	1475	1270	1150	1020	900	780	660	590	490	380
					20B	1	24	1560	1340	1220	1080	950	830	700	620	510	410
					20B	2-6 CL	24	2210	1900	1720	1520	1350	1170	990	880	730	570
					24B	1	28	1625	1400	1270	1120	990	860	730	650	540	420
					24B	2-6 CL	28	2280	1960	1780	1570	1390	1210	1030	910	750	590
2"	S242	4-1/4" SQ.	25	.032	14B	1	18	1080	930	840	750	660	570	490	430	360	280
					20B	1	24	1120	960	870	770	680	590	500	450	370	290
					20B	2-6 CL	24	1790	1540	1400	1240	1090	950	810	720	590	470
					24B	1	28	1140	980	890	790	700	600	510	460	380	300
					24B	2-6 CL	28	1820	1570	1420	1260	1110	960	820	730	600	470
2"	S243	4-1/4" SQ.	32	.032	14B	1	18	1260	1080	980	870	770	670	570	500	420	330
					20B	1	24	1310	1130	1020	900	800	690	590	520	430	340
					20B	2-6 CL	24	1980	1700	1540	1370	1210	1050	890	790	650	510
					24B	1	28	1340	1150	1050	920	820	710	600	540	440	350
					24B	2-6 CL	28	2020	1740	1580	1390	1230	1070	910	810	670	530
2"	S243	4-1/4" SQ.	32	.032	14B	1	18	2320	2000	1810	1600	1420	1230	1040	930	770	600

- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.



JVA-F14

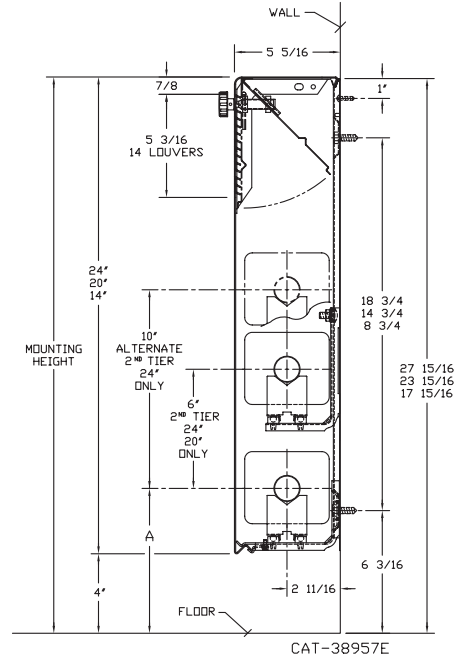
ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 1/4 x 3 1/4	2	7"
1" COPPER	3 1/4 x 3 1/4	2	7 3/16"
1 1/4 COPPER	3 1/4 x 3 1/4	1	6 5/8"
1" STEEL	3 1/4 x 3 1/4	2	7 5/16"
1 1/4 STEEL	3 1/4 x 3 1/4	1	6 13/16"



See page 39 for element center line dimensions with steam bracket installation.

JVB-F14 20 24

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 5/8 x 4 1/4	2	7"
3/4 COPPER	4 1/4 x 4 1/4	3A	7 3/8"
1" COPPER	3 5/8 x 4 1/4	2	7 3/16"
1" COPPER	4 1/4 x 4 1/4	2	7 3/16"
1 1/4 COPPER	3 5/8 x 4 1/4	2	7 5/16"
1 1/4 COPPER	4 1/4 x 4 1/4	2	7 5/16"
1" STEEL	4 1/4 x 4 1/4	2	7 5/16"
1 1/4 STEEL	4 1/4 x 4 1/4	2	7 1/2"
2" STEEL	4 1/4 x 4 1/4	1	7 1/4"



See page 39 for element center line dimensions with steam bracket installation.

STYLE "F" FRONT OUTLET

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									1.00
3/4"	C3/4-33	3-1/4" SQ.	32	.020	14A	1	18	1170	1010	910	810	710	620	530	470	390	300	
3/4"	C3/4-34	3-1/4" SQ.	40	.020	14A	1	18	1340	1150	1050	920	820	710	600	540	440	350	
3/4"	C3/4-35	3-1/4" SQ.	50	.020	14A	1	18	1480	1270	1150	1020	900	780	670	590	490	380	
1"	C33	3-1/4" SQ.	32	.020	14A	1	18	1140	980	890	790	700	600	510	460	380	300	
1"	C34	3-1/4" SQ.	40	.020	14A	1	18	1300	1120	1010	900	790	690	590	520	430	340	
1"	C35	3-1/4" SQ.	50	.020	14A	1	18	1430	1230	1120	990	870	760	640	570	470	370	
1 1/4"	C133	3-1/4" SQ.	32	.020	14A	1	18	1090	940	850	750	660	580	490	440	360	280	
1 1/4"	C134	3-1/4" SQ.	40	.020	14A	1	18	1240	1070	970	860	760	660	560	500	410	320	
1 1/4"	C135	3-1/4" SQ.	50	.020	14A	1	18	1380	1190	1080	950	840	730	620	550	460	360	
3/4"	C3/4-433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1460	1260	1140	1010	890	770	660	580	480	380	
					20B	1	24	1570	1350	1220	1080	960	830	710	630	520	410	
					20B	2-6 CL	24	2390	2060	1860	1650	1460	1270	1080	960	790	620	
					24B	1	28	1620	1390	1260	1120	990	860	730	650	530	420	
					24B	2-6 CL	28	2410	2070	1880	1660	1470	1280	1080	960	800	630	
					24B	3-6 CL	28	2770	2380	2160	1910	1690	1470	1250	1110	910	720	
3/4"	C3/4-434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1680	1440	1310	1160	1020	890	760	670	550	440	
					20B	1	24	1790	1540	1400	1240	1090	950	810	720	590	470	
					20B	2-6 CL	24	2560	2200	2000	1770	1560	1360	1150	1020	840	670	
					24B	1	28	1870	1610	1460	1290	1140	990	840	750	620	490	
					24B	2-6 CL	28	2670	2300	2080	1840	1630	1420	1200	1070	880	690	
					24B	3-6 CL	28	3040	2610	2370	2100	1850	1610	1370	1220	1000	790	
3/4"	C3/4-435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1820	1570	1420	1260	1110	960	820	730	600	470	
					20B	1	24	2080	1790	1620	1440	1270	1100	940	830	690	540	
					20B	2-6 CL	24	2780	2390	2170	1920	1700	1470	1250	1110	920	720	
					24B	1	28	2230	1920	1740	1540	1360	1180	1000	890	740	580	
					24B	2-6 CL	28	2940	2530	2290	2030	1790	1560	1320	1180	970	760	
					24B	3-6 CL	28	3320	2860	2590	2290	2030	1760	1490	1330	1100	860	
1"	C433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1530	1320	1190	1060	930	810	690	610	500	400	
					20B	1	24	1590	1370	1240	1100	970	840	720	640	520	410	
					20B	2-6 CL	24	2470	2120	1930	1700	1510	1310	1110	990	820	640	
					24B	1	28	1640	1410	1280	1130	1000	870	740	660	540	430	
					24B	2-6 CL	28	2540	2180	1980	1750	1550	1350	1140	1020	840	660	
					24B	3-6 CL	28	2920	2510	2280	2010	1780	1550	1310	1170	960	760	
1"	C434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1760	1510	1370	1210	1070	930	790	700	580	460	
					20B	1	24	1870	1610	1460	1290	1140	990	840	750	620	490	
					20B	2-6 CL	24	2640	2270	2060	1820	1610	1400	1190	1060	870	690	
					24B	1	28	1950	1680	1520	1350	1190	1030	880	780	640	510	
					24B	2-6 CL	28	2750	2370	2150	1900	1680	1460	1240	1100	910	720	
					24B	3-6 CL	28	3130	2690	2440	2160	1910	1660	1410	1250	1030	810	
1"	C435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1900	1630	1480	1310	1160	1010	860	760	630	490	
					20B	1	24	2160	1860	1680	1490	1320	1140	970	860	710	560	
					20B	2-6 CL	24	2600	2240	2030	1790	1590	1380	1170	1040	860	680	
					24B	1	28	2330	2000	1820	1610	1420	1230	1050	930	770	610	
					24B	2-6 CL	28	2760	2370	2150	1900	1680	1460	1240	1100	910	720	
					24B	3-6 CL	28	3120	2680	2430	2150	1900	1650	1400	1250	1030	810	
1-1/4"	C1433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1500	1290	1170	1040	920	800	680	600	500	390	
					20B	1	24	1560	1340	1220	1080	950	830	700	620	510	410	
					20B	2 @ 6 CL	24	2430	2090	1900	1680	1480	1290	1090	970	800	630	
					24B	1	28	1600	1380	1250	1100	980	850	720	640	530	420	
					24B	2 @ 6 CL	28	2500	2150	1950	1720	1530	1330	1130	1000	830	650	
					24B	3 @ 6 CL	28	2880	2480	2250	1990	1760	1530	1300	1150	950	750	
1-1/4"	C1434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1730	1490	1350	1190	1060	920	780	690	570	450	
					20B	1	24	1850	1590	1440	1280	1130	980	830	740	610	480	
					20B	2 @ 6 CL	24	2590	2230	2020	1790	1580	1370	1170	1040	850	670	
					24B	1	28	1910	1640	1490	1320	1170	1010	860	760	630	500	
					24B	2 @ 6 CL	28	2700	2320	2110	1860	1650	1430	1220	1080	890	700	
					24B	3 @ 6 CL	28	3080	2650	2400	2130	1880	1630	1390	1230	1020	800	
1-1/4"	C1435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1820	1570	1420	1260	1110	960	820	730	600	470	
					20B	1	24	2070	1780	1610	1430	1260	1100	930	830	680	540	
					20B	2 @ 6 CL	24	2510	2160	1960	1730	1530	1330	1130	1000	830	650	
					24B	1	28	2230	1920	1740	1540	1360	1180	1000	890	740	580	
					24B	2 @ 6 CL	28	2650	2280	2070	1830	1620	1400	1190	1060	870	690	
					24B	3 @ 6 CL	28	2990	2570	2330	2060	1820	1580	1350	1200	990	780	

STYLE "F" FRONT OUTLET

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									1.00
3/4"	C3/4-43	4-1/4" SQ.	32	.020	14B	1	18	1630	1400	1270	1120	990	860	730	650	540	420	
					20B	1	24	1680	1440	1310	1160	1020	890	760	670	550	440	
					20B	2-6 CL	24	2590	2230	2020	1790	1580	1370	1170	1040	850	670	
					24B	1	28	1720	1480	1340	1190	1050	910	770	690	570	450	
					24B	2-6 CL	28	2650	2280	2070	1830	1620	1400	1190	1060	870	690	
24B	3-6 CL	28	3050	2620	2380	2100	1860	1620	1370	1220	1010	790						
3/4"	C3/4-44	4-1/4" SQ.	40	.020	14B	1	18	1900	1630	1480	1310	1160	1010	860	760	630	490	
					20B	1	24	2190	1880	1710	1510	1340	1160	990	880	720	570	
					20B	2-6 CL	24	2950	2540	2300	2040	1800	1560	1330	1180	970	770	
					24B	1	28	2290	1970	1790	1580	1400	1210	1030	920	760	600	
					24B	2-6 CL	28	3000	2580	2340	2070	1830	1590	1350	1200	990	780	
24B	3-6 CL	28	3420	2940	2670	2360	2090	1810	1540	1370	1130	890						
3/4"	C3/4-45	4-1/4" SQ.	50	.020	14B	1	18	1950	1680	1520	1350	1190	1030	880	780	640	510	
					20B	1	24	2230	1920	1740	1540	1360	1180	1000	890	740	580	
					20B	2-6 CL	24	3012	2590	2350	2080	1840	1600	1360	1200	990	780	
					24B	1	28	2400	2060	1870	1660	1460	1270	1080	960	790	620	
					24B	2-6 CL	28	3185	2740	2480	2200	1940	1690	1430	1270	1050	830	
24B	3-6 CL	28	3600	3100	2810	2480	2200	1910	1620	1440	1190	940						
1"	C43	4-1/4" SQ.	32	.020	14B	1	18	1670	1440	1300	1150	1020	890	750	670	550	430	
					20B	1	24	1720	1480	1340	1190	1050	910	770	690	570	450	
					20B	2-6 CL	24	2630	2260	2050	1810	1600	1390	1180	1050	870	680	
					24B	1	28	1760	1510	1370	1210	1070	930	790	700	580	460	
					24B	2-6 CL	28	2690	2310	2100	1860	1640	1430	1210	1080	890	700	
24B	3-6 CL	28	3090	2660	2410	2130	1880	1640	1390	1240	1020	800						
1"	C44	4-1/4" SQ.	40	.020	14B	1	18	1890	1630	1470	1300	1150	1000	850	760	620	490	
					20B	1	24	2040	1750	1590	1410	1240	1080	920	820	670	530	
					20B	2-6 CL	24	2730	2350	2130	1880	1670	1450	1230	1090	900	710	
					24B	1	28	2130	1830	1660	1470	1300	1130	960	850	700	550	
					24B	2-6 CL	28	2860	2460	2230	1970	1740	1520	1290	1140	940	740	
24B	3-6 CL	28	3260	2800	2540	2250	1990	1730	1470	1300	1080	850						
1"	C45	4-1/4" SQ.	50	.020	14B	1	18	1980	1700	1540	1370	1210	1050	890	790	650	510	
					20B	1	24	2260	1940	1760	1560	1380	1200	1020	900	750	590	
					20B	2-6 CL	24	2660	2290	2070	1840	1620	1410	1200	1060	880	690	
					24B	1	28	2430	2090	1900	1680	1480	1290	1090	970	800	630	
					24B	2-6 CL	28	2930	2520	2290	2020	1790	1550	1320	1170	970	760	
24B	3-6 CL	28	3310	2850	2580	2280	2020	1750	1490	1320	1090	860						
1-1/4"	C143	4-1/4" SQ.	32	.020	14B	1	18	1640	1410	1280	1130	1000	870	740	660	540	430	
					20B	1	24	1690	1450	1320	1170	1030	900	760	680	560	440	
					20B	2-6 CL	24	2580	2220	2010	1780	1570	1370	1160	1030	850	670	
					24B	1	28	1730	1490	1350	1190	1060	920	780	690	570	450	
					24B	2-6 CL	28	2640	2270	2060	1820	1610	1400	1190	1060	870	690	
24B	3-6 CL	28	3040	2610	2370	2100	1850	1610	1370	1220	1000	790						
1-1/4"	C144	4-1/4" SQ.	40	.020	14B	1	18	1860	1600	1450	1280	1130	990	840	740	610	480	
					20B	1	24	2000	1720	1560	1380	1220	1060	900	800	660	520	
					20B	2-6 CL	24	2680	2300	2090	1850	1630	1420	1210	1070	880	700	
					24B	1	28	2100	1810	1640	1450	1280	1110	950	840	690	550	
					24B	2-6 CL	28	2810	2420	2190	1940	1710	1490	1260	1120	930	730	
24B	3-6 CL	28	3200	2750	2500	2210	1950	1700	1440	1280	1060	830						
1-1/4"	C145	4-1/4" SQ.	50	.020	14B	1	18	1950	1680	1520	1350	1190	1030	880	780	640	510	
					20B	1	24	2220	1910	1730	1530	1350	1180	1000	890	730	580	
					20B	2-6 CL	24	2610	2240	2040	1800	1590	1380	1170	1040	860	680	
					24B	1	28	2400	2060	1870	1660	1460	1270	1080	960	790	620	
					24B	2-6 CL	28	2870	2470	2240	1980	1750	1520	1290	1150	950	750	
24B	3-6 CL	28	3240	2790	2530	2240	1980	1720	1460	1300	1070	840						

Note: Copper tube furnished flared one end standard.

STYLE "F" FRONT OUTLET

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

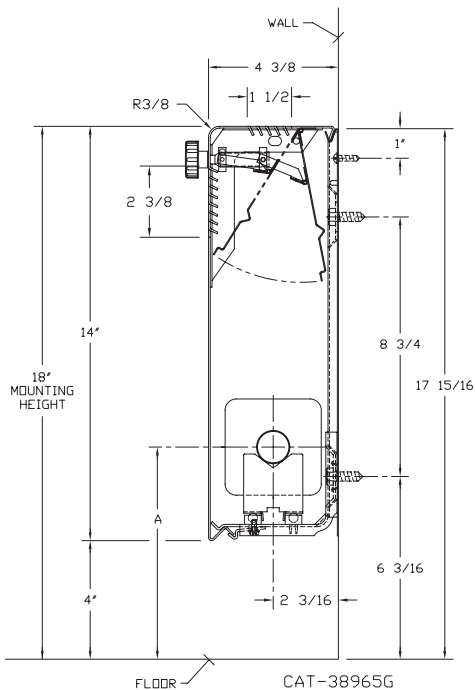
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									1.00
1"	S33	3-1/4" SQ.	32	.032	14A	1	18	990	850	770	680	600	520	450	400	330	260	
1"	S34	3-1/4" SQ.	40	.032	14A	1	18	1105	950	860	760	670	590	500	440	360	290	
1"	S35	3-1/4" SQ.	50	.032	14A	1	18	1180	1010	920	810	720	630	530	470	390	310	
1-1/4"	S133	3-1/4" SQ.	32	.032	14A	1	18	980	840	760	680	600	520	440	390	320	250	
1-1/4"	S134	3-1/4" SQ.	40	.032	14A	1	18	1110	950	870	770	680	590	500	440	370	290	
1-1/4"	S135	3-1/4" SQ.	50	.032	14A	1	18	1140	980	890	790	700	600	510	460	380	300	
1"	S43	4-1/4" SQ.	32	.032	14B	1	18	1380	1190	1080	950	840	730	620	550	460	360	
					20B	1	24	1430	1230	1120	990	870	760	640	570	470	370	
					20B	2-6 CL	24	2155	1850	1680	1490	1310	1140	970	860	710	560	
					24B	1	28	1470	1260	1150	1010	900	780	660	590	490	380	
					24B	2-6 CL	28	2225	1910	1740	1540	1360	1180	1000	890	730	580	
1"	S44	4-1/4" SQ.	40	.032	14B	1	18	1550	1330	1210	1070	950	820	700	620	510	400	
					20B	1	24	1645	1410	1280	1140	1000	870	740	660	540	430	
					20B	2-6 CL	24	2330	2000	1820	1610	1420	1230	1050	930	770	610	
					24B	1	28	1705	1470	1330	1180	1040	900	770	680	560	440	
					24B	2-6 CL	28	2440	2100	1900	1680	1490	1290	1100	980	810	630	
1"	S45	4-1/4" SQ.	50	.032	14B	1	18	1620	1390	1260	1120	990	860	730	650	530	420	
					20B	1	24	1725	1480	1350	1190	1050	910	780	690	570	450	
					20B	2-6 CL	24	2385	2050	1860	1650	1450	1260	1070	950	790	620	
					24B	1	28	1790	1540	1400	1240	1090	950	810	720	590	470	
					24B	2-6 CL	28	2500	2150	1950	1720	1530	1330	1130	1000	830	650	
1-1/4"	S143	4-1/4" SQ.	32	.032	14B	1	18	1260	1080	980	870	770	670	570	500	420	330	
					20B	1	24	1270	1090	990	880	770	670	570	510	420	330	
					20B	2-6 CL	24	2030	1750	1580	1400	1240	1080	910	810	670	530	
					24B	1	28	1280	1100	1000	880	780	680	580	510	420	330	
					24B	2-6 CL	28	2060	1770	1610	1420	1260	1090	930	820	680	540	
1-1/4"	S144	4-1/4" SQ.	40	.032	14B	1	18	1560	1340	1220	1080	950	830	700	620	510	410	
					20B	1	24	1620	1390	1260	1120	990	860	730	650	530	420	
					20B	2-6 CL	24	2350	2020	1830	1620	1430	1250	1060	940	780	610	
					24B	1	28	1660	1430	1290	1150	1010	880	750	660	550	430	
					24B	2-6 CL	28	2400	2060	1870	1660	1460	1270	1080	960	790	620	
1-1/4"	S145	4-1/4" SQ.	50	.032	14B	1	18	1610	1380	1260	1110	980	850	720	640	530	420	
					20B	1	24	1715	1470	1340	1180	1050	910	770	690	570	450	
					20B	2-6 CL	24	2340	2010	1830	1610	1430	1240	1050	940	770	610	
					24B	1	28	1775	1530	1380	1220	1080	940	800	710	590	460	
					24B	2-6 CL	28	2450	2110	1910	1690	1490	1300	1100	980	810	640	
2"	S242	4-1/4" SQ.	25	.032	14B	1	18	1210	1040	940	830	740	640	540	480	400	310	
					20B	1	24	1220	1050	950	840	740	650	550	490	400	320	
					20B	2-6 CL	24	1910	1640	1490	1320	1170	1010	860	760	630	500	
					24B	1	28	1230	1060	960	850	750	650	550	490	410	320	
					24B	2-6 CL	28	1940	1670	1510	1340	1180	1030	870	780	640	500	
2"	S243	4-1/4" SQ.	32	.032	14B	1	18	1380	1190	1080	950	840	730	620	550	460	360	
					20B	1	24	1420	1220	1110	980	870	750	640	570	470	370	
					20B	2-6 CL	24	2130	1830	1660	1470	1300	1130	960	850	700	550	
					24B	1	28	1450	1250	1130	1000	880	770	650	580	480	380	
					24B	2-6 CL	28	2170	1870	1690	1500	1320	1150	980	870	720	560	
2"	S243	4-1/4" SQ.	32	.032	14B	1	18	1380	1190	1080	950	840	730	620	550	460	360	
					20B	1	24	1420	1220	1110	980	870	750	640	570	470	370	
					20B	2-6 CL	24	2130	1830	1660	1470	1300	1130	960	850	700	550	
					24B	1	28	1450	1250	1130	1000	880	770	650	580	480	380	
					24B	2-6 CL	28	2170	1870	1690	1500	1320	1150	980	870	720	560	
2"	S243	4-1/4" SQ.	32	.032	14B	1	18	1380	1190	1080	950	840	730	620	550	460	360	
					20B	1	24	1420	1220	1110	980	870	750	640	570	470	370	
					20B	2-6 CL	24	2130	1830	1660	1470	1300	1130	960	850	700	550	
					24B	1	28	1450	1250	1130	1000	880	770	650	580	480	380	
					24B	2-6 CL	28	2170	1870	1690	1500	1320	1150	980	870	720	560	
2"	S243	4-1/4" SQ.	32	.032	14B	1	18	1380	1190	1080	950	840	730	620	550	460	360	
					20B	1	24	1420	1220	1110	980	870	750	640	570	470	370	
					20B	2-6 CL	24	2130	1830	1660	1470	1300	1130	960	850	700	550	
					24B	1	28	1450	1250	1130	1000	880	770	650	580	480	380	
					24B	2-6 CL	28	2170	1870	1690	1500	1320	1150	980	870	720	560	

- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.



JVA-FT14

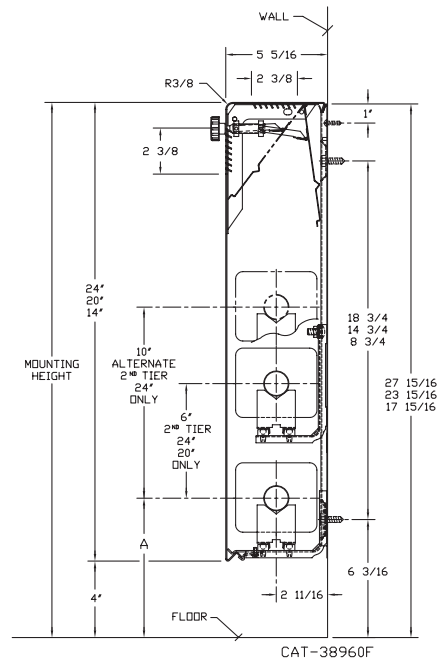
ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 1/4 x 3 1/4	2	7"
1" COPPER	3 1/4 x 3 1/4	2	7 3/16"
1 1/4 COPPER	3 1/4 x 3 1/4	1	6 5/8"
1" STEEL	3 1/4 x 3 1/4	2	7 5/16"
1 1/4 STEEL	3 1/4 x 3 1/4	1	6 13/16"



See page 39 for element center line dimensions with steam bracket installation.

JVB-FT14 20 24

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 5/8 x 4 1/4	2	7"
3/4 COPPER	4 1/4 x 4 1/4	3A	7 3/8"
1" COPPER	3 5/8 x 4 1/4	2	7 3/16"
1" COPPER	4 1/4 x 4 1/4	2	7 3/16"
1 1/4 COPPER	3 5/8 x 4 1/4	2	7 5/16"
1 1/4 COPPER	4 1/4 x 4 1/4	2	7 5/16"
1" STEEL	4 1/4 x 4 1/4	2	7 5/16"
1 1/4 STEEL	4 1/4 x 4 1/4	2	7 1/2"
2" STEEL	4 1/4 x 4 1/4	1	7 1/4"



See page 39 for element center line dimensions with steam bracket installation.

STYLE "FT" FRONT & TOP OUTLET

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								1.00
3/4"	C3/4-33	3-1/4" SQ.	32	.020	14A	1	18	1040	890	810	720	630	550	470	420	340	270
3/4"	C3/4-34	3-1/4" SQ.	40	.020	14A	1	18	1210	1040	940	830	740	640	540	480	400	310
3/4"	C3/4-35	3-1/4" SQ.	50	.020	14A	1	18	1340	1150	1050	920	820	710	600	540	440	350
1"	C33	3-1/4" SQ.	32	.020	14A	1	18	1010	870	790	700	620	540	450	400	330	260
1"	C34	3-1/4" SQ.	40	.020	14A	1	18	1180	1010	920	810	720	630	530	470	390	310
1"	C35	3-1/4" SQ.	50	.020	14A	1	18	1290	1110	1010	890	790	680	580	520	430	340
1 1/4"	C133	3-1/4" SQ.	32	.020	14A	1	18	970	830	760	670	590	510	440	390	320	250
1 1/4"	C134	3-1/4" SQ.	40	.020	14A	1	18	1130	970	880	780	690	600	510	450	370	290
1 1/4"	C135	3-1/4" SQ.	50	.020	14A	1	18	1250	1080	980	860	760	660	560	500	410	330
3/4"	C3/4-433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1440	1240	1120	990	880	760	650	580	480	370
					20B	1	24	1520	1310	1190	1050	930	810	680	610	500	400
					20B	2-6 CL	24	2150	1850	1680	1480	1310	1140	970	860	710	560
					24B	1	28	1560	1340	1220	1080	950	830	700	620	510	410
					24B	2-6 CL	28	2230	1920	1740	1540	1360	1180	1000	890	740	580
24B	3-6 CL	28	2560	2200	2000	1770	1560	1360	1150	1020	840	670					
3/4"	C3/4-434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1620	1390	1260	1120	990	860	730	650	530	420
					20B	1	24	1700	1460	1330	1170	1040	900	770	680	560	440
					20B	2-6 CL	24	2410	2070	1880	1660	1470	1280	1080	960	800	630
					24B	1	28	1740	1500	1360	1200	1060	920	780	700	570	450
					24B	2-6 CL	28	2490	2140	1940	1720	1520	1320	1120	1000	820	650
24B	3-6 CL	28	2840	2440	2220	1960	1730	1510	1280	1140	940	740					
3/4"	C3/4-435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1770	1520	1380	1220	1080	940	800	710	580	460
					20B	1	24	1920	1650	1500	1320	1170	1020	860	770	630	500
					20B	2-6 CL	24	2680	2300	2090	1850	1630	1420	1210	1070	880	700
					24B	1	28	1990	1710	1550	1370	1210	1050	900	800	660	520
					24B	2-6 CL	28	2860	2460	2230	1970	1740	1520	1290	1140	940	740
24B	3-6 CL	28	3230	2780	2520	2230	1970	1710	1450	1290	1070	840					
1"	C433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1460	1260	1140	1010	890	770	660	580	480	380
					20B	1	24	1520	1310	1190	1050	930	810	680	610	500	400
					20B	2-6 CL	24	2320	2000	1810	1600	1420	1230	1040	930	770	600
					24B	1	28	1570	1350	1220	1080	960	830	710	630	520	410
					24B	2-6 CL	28	2380	2050	1860	1640	1450	1260	1070	950	790	620
24B	3-6 CL	28	2740	2360	2140	1890	1670	1450	1230	1100	900	710					
1"	C434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1670	1440	1300	1150	1020	890	750	670	550	430
					20B	1	24	1780	1530	1390	1230	1090	940	800	710	590	460
					20B	2-6 CL	24	2490	2140	1940	1720	1520	1320	1120	1000	820	650
					24B	1	28	1820	1570	1420	1260	1110	960	820	730	600	470
					24B	2-6 CL	28	2570	2210	2000	1770	1570	1360	1160	1030	850	670
24B	3-6 CL	28	2930	2520	2290	2020	1790	1550	1320	1170	970	760					
1"	C435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1860	1600	1450	1280	1130	990	840	740	610	480
					20B	1	24	2010	1730	1570	1390	1230	1070	900	800	660	520
					20B	2-6 CL	24	2510	2160	1960	1730	1530	1330	1130	1000	830	650
					24B	1	28	2080	1790	1620	1440	1270	1100	940	830	690	540
					24B	2-6 CL	28	2680	2300	2090	1850	1630	1420	1210	1070	880	700
24B	3-6 CL	28	3030	2610	2360	2090	1850	1610	1360	1210	1000	790					
1-1/4"	C1433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1430	1230	1120	990	870	760	640	570	470	370
					20B	1	24	1490	1280	1160	1030	910	790	670	600	490	390
					20B	2 @ 6 CL	24	2280	1960	1780	1570	1390	1210	1030	910	750	590
					24B	1	28	1540	1320	1200	1060	940	820	690	620	510	400
					24B	2 @ 6 CL	28	2340	2010	1830	1610	1430	1240	1050	940	770	610
24B	3 @ 6 CL	28	2690	2310	2100	1860	1640	1430	1210	1080	890	700					
1-1/4"	C1434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1630	1400	1270	1120	990	860	730	650	540	420
					20B	1	24	1740	1500	1360	1200	1060	920	780	700	570	450
					20B	2 @ 6 CL	24	2440	2100	1900	1680	1490	1290	1100	980	810	630
					24B	1	28	1780	1530	1390	1230	1090	940	800	710	590	460
					24B	2 @ 6 CL	28	2520	2170	1970	1740	1540	1340	1130	1010	830	660
24B	3 @ 6 CL	28	2870	2470	2240	1980	1750	1520	1290	1150	950	750					
1-1/4"	C1435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1820	1570	1420	1260	1110	960	820	730	600	470
					20B	1	24	1970	1690	1540	1360	1200	1040	890	790	650	510
					20B	2 @ 6 CL	24	2460	2120	1920	1700	1500	1300	1110	980	810	640
					24B	1	28	2040	1750	1590	1410	1240	1080	920	820	670	530
					24B	2 @ 6 CL	28	2620	2250	2040	1810	1600	1390	1180	1050	860	680
24B	3 @ 6 CL	28	2960	2550	2310	2040	1810	1570	1330	1180	980	770					

STYLE "FT" FRONT & TOP OUTLET

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									
									1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
3/4"	C3/4-43	4-1/4" SQ.	32	.020	14B	1	18	1460	1260	1140	1010	890	770	660	580	480	380	
					20B	1	24	1540	1320	1200	1060	940	820	690	620	510	400	
					20B	2-6 CL	24	2360	2030	1840	1630	1440	1250	1060	940	780	610	
					24B	1	28	1570	1350	1220	1080	960	830	710	630	520	410	
					24B	2-6 CL	28	2440	2100	1900	1680	1490	1290	1100	980	810	630	
					24B	3-6 CL	28	2810	2420	2190	1940	1710	1490	1260	1120	930	730	
3/4"	C3/4-44	4-1/4" SQ.	40	.020	14B	1	18	1850	1590	1440	1280	1130	980	830	740	610	480	
					20B	1	24	2080	1790	1620	1440	1270	1100	940	830	690	540	
					20B	2-6 CL	24	2500	2150	1950	1720	1530	1330	1130	1000	830	650	
					24B	1	28	2120	1820	1650	1460	1290	1120	950	850	700	550	
					24B	2-6 CL	28	2650	2280	2070	1830	1620	1400	1190	1060	870	690	
					24B	3-6 CL	28	3020	2600	2360	2080	1840	1600	1360	1210	1000	790	
3/4"	C3/4-45	4-1/4" SQ.	50	.020	14B	1	18	1815	1560	1420	1250	1110	960	820	730	600	470	
					20B	1	24	1970	1690	1540	1360	1200	1040	890	790	650	510	
					20B	2-6 CL	24	2565	2210	2000	1770	1560	1360	1150	1030	850	670	
					24B	1	28	2040	1750	1590	1410	1240	1080	920	820	670	530	
					24B	2-6 CL	28	2795	2400	2180	1930	1700	1480	1260	1120	920	730	
					24B	3-6 CL	28	3160	2720	2460	2180	1930	1670	1420	1260	1040	820	
1"	C43	4-1/4" SQ.	32	.020	14B	1	18	1620	1390	1260	1120	990	860	730	650	530	420	
					20B	1	24	1660	1430	1290	1150	1010	880	750	660	550	430	
					20B	2-6 CL	24	2460	2120	1920	1700	1500	1300	1110	980	810	640	
					24B	1	28	1690	1450	1320	1170	1030	900	760	680	560	440	
					24B	2-6 CL	28	2510	2160	1960	1730	1530	1330	1130	1000	830	650	
					24B	3-6 CL	28	2890	2490	2250	1990	1760	1530	1300	1160	950	750	
1"	C44	4-1/4" SQ.	40	.020	14B	1	18	1760	1510	1370	1210	1070	930	790	700	580	460	
					20B	1	24	1940	1670	1510	1340	1180	1030	870	780	640	500	
					20B	2-6 CL	24	2560	2200	2000	1770	1560	1360	1150	1020	840	670	
					24B	1	28	2010	1730	1570	1390	1230	1070	900	800	660	520	
					24B	2-6 CL	28	2700	2320	2110	1860	1650	1430	1220	1080	890	700	
					24B	3-6 CL	28	3080	2650	2400	2130	1880	1630	1390	1230	1020	800	
1"	C45	4-1/4" SQ.	50	.020	14B	1	18	1900	1630	1480	1310	1160	1010	860	760	630	490	
					20B	1	24	2120	1820	1650	1460	1290	1120	950	850	700	550	
					20B	2-6 CL	24	2550	2190	1990	1760	1560	1350	1150	1020	840	660	
					24B	1	28	2220	1910	1730	1530	1350	1180	1000	890	730	580	
					24B	2-6 CL	28	2730	2350	2130	1880	1670	1450	1230	1090	900	710	
					24B	3-6 CL	28	3080	2650	2400	2130	1880	1630	1390	1230	1020	800	
1-1/4"	C143	4-1/4" SQ.	32	.020	14B	1	18	1590	1370	1240	1100	970	840	720	640	520	410	
					20B	1	24	1630	1400	1270	1120	990	860	730	650	540	420	
					20B	2-6 CL	24	2420	2080	1890	1670	1480	1280	1090	970	800	630	
					24B	1	28	1660	1430	1290	1150	1010	880	750	660	550	430	
					24B	2-6 CL	28	2470	2120	1930	1700	1510	1310	1110	990	820	640	
					24B	3-6 CL	28	2840	2440	2220	1960	1730	1510	1280	1140	940	740	
1-1/4"	C144	4-1/4" SQ.	40	.020	14B	1	18	1730	1490	1350	1190	1060	920	780	690	570	450	
					20B	1	24	1900	1630	1480	1310	1160	1010	860	760	630	490	
					20B	2-6 CL	24	2510	2160	1960	1730	1530	1330	1130	1000	830	650	
					24B	1	28	1970	1690	1540	1360	1200	1040	890	790	650	510	
					24B	2-6 CL	28	2660	2290	2070	1840	1620	1410	1200	1060	880	690	
					24B	3-6 CL	28	3030	2610	2360	2090	1850	1610	1360	1210	1000	790	
1-1/4"	C145	4-1/4" SQ.	50	.020	14B	1	18	1860	1600	1450	1280	1130	990	840	740	610	480	
					20B	1	24	2080	1790	1620	1440	1270	1100	940	830	690	540	
					20B	2-6 CL	24	2510	2160	1960	1730	1530	1330	1130	1000	830	650	
					24B	1	28	2190	1880	1710	1510	1340	1160	990	880	720	570	
					24B	2-6 CL	28	2680	2300	2090	1850	1630	1420	1210	1070	880	700	
					24B	3-6 CL	28	3030	2610	2360	2090	1850	1610	1360	1210	1000	790	

Note: Copper tube furnished flared one end standard.

STYLE "FT" FRONT & TOP OUTLET

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

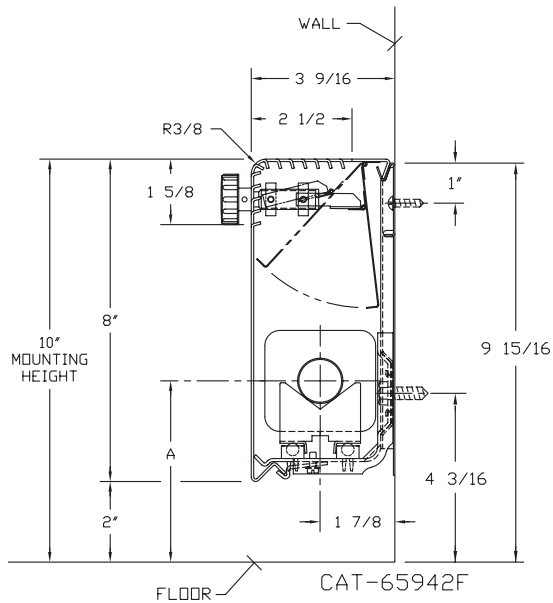
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									1.00
1"	S33	3-1/4" SQ.	32	.032	14A	1	18	920	790	720	630	560	490	410	370	300	240	
1"	S34	3-1/4" SQ.	40	.032	14A	1	18	1000	860	780	690	610	530	450	400	330	260	
1"	S35	3-1/4" SQ.	50	.032	14A	1	18	1070	920	830	740	650	570	480	430	350	280	
1-1/4"	S133	3-1/4" SQ.	32	.032	14A	1	18	910	780	710	630	560	480	410	360	300	240	
1-1/4"	S134	3-1/4" SQ.	40	.032	14A	1	18	1030	890	800	710	630	550	460	410	340	270	
1-1/4"	S135	3-1/4" SQ.	50	.032	14A	1	18	1060	910	830	730	650	560	480	420	350	280	
1"	S43	4-1/4" SQ.	32	.032	14B	1	18	1300	1120	1010	900	790	690	590	520	430	340	
					20B	1	24	1355	1170	1060	930	830	720	610	540	450	350	
					20B	2-6 CL	24	2030	1750	1580	1400	1240	1080	910	810	670	530	
					24B	1	28	1460	1260	1140	1010	890	770	660	580	480	380	
					24B	2-6 CL	28	2095	1800	1630	1450	1280	1110	940	840	690	540	
1"	S44	4-1/4" SQ.	40	.032	14B	1	18	1455	1250	1130	1000	890	770	650	580	480	380	
					20B	1	24	1550	1330	1210	1070	950	820	700	620	510	400	
					20B	2-6 CL	24	2195	1890	1710	1510	1340	1160	990	880	720	570	
					24B	1	28	1605	1380	1250	1110	980	850	720	640	530	420	
					24B	2-6 CL	28	2295	1970	1790	1580	1400	1220	1030	920	760	600	
1"	S45	4-1/4" SQ.	50	.032	14B	1	18	1525	1310	1190	1050	930	810	690	610	500	400	
					20B	1	24	1620	1390	1260	1120	990	860	730	650	530	420	
					20B	2-6 CL	24	2245	1930	1750	1550	1370	1190	1010	900	740	580	
					24B	1	28	1680	1440	1310	1160	1020	890	760	670	550	440	
					24B	2-6 CL	28	2350	2020	1830	1620	1430	1250	1060	940	780	610	
1-1/4"	S143	4-1/4" SQ.	32	.032	14B	1	18	1190	1020	930	820	730	630	540	480	390	310	
					20B	1	24	1220	1050	950	840	740	650	550	490	400	320	
					20B	2-6 CL	24	1910	1640	1490	1320	1170	1010	860	760	630	500	
					24B	1	28	1240	1070	970	860	760	660	560	500	410	320	
					24B	2-6 CL	28	1940	1670	1510	1340	1180	1030	870	780	640	500	
1-1/4"	S144	4-1/4" SQ.	40	.032	14B	1	18	1510	1300	1180	1040	920	800	680	600	500	390	
					20B	1	24	1600	1380	1250	1100	980	850	720	640	530	420	
					20B	2-6 CL	24	2330	2000	1820	1610	1420	1230	1050	930	770	610	
					24B	1	28	1660	1430	1290	1150	1010	880	750	660	550	430	
					24B	2-6 CL	28	2410	2070	1880	1660	1470	1280	1080	960	800	630	
1-1/4"	S145	4-1/4" SQ.	50	.032	14B	1	18	1515	1300	1180	1050	920	800	680	610	500	390	
					20B	1	24	1610	1380	1260	1110	980	850	720	640	530	420	
					20B	2-6 CL	24	2200	1890	1720	1520	1340	1170	990	880	730	570	
					24B	1	28	1670	1440	1300	1150	1020	890	750	670	550	430	
					24B	2-6 CL	28	2305	1980	1800	1590	1410	1220	1040	920	760	600	
2"	S242	4-1/4" SQ.	25	.032	14B	1	18	1160	1000	900	800	710	610	520	460	380	300	
					20B	1	24	1190	1020	930	820	730	630	540	480	390	310	
					20B	2-6 CL	24	1870	1610	1460	1290	1140	990	840	750	620	490	
					24B	1	28	1210	1040	940	830	740	640	540	480	400	310	
					24B	2-6 CL	28	1920	1650	1500	1320	1170	1020	860	770	630	500	
2"	S243	4-1/4" SQ.	32	.032	14B	1	18	1350	1160	1050	930	820	720	610	540	450	350	
					20B	1	24	1400	1200	1090	970	850	740	630	560	460	360	
					20B	2-6 CL	24	2090	1800	1630	1440	1270	1110	940	840	690	540	
					24B	1	28	1430	1230	1120	990	870	760	640	570	470	370	
					24B	2-6 CL	28	2160	1860	1680	1490	1320	1140	970	860	710	560	
					24B	3-6 CL	28	2480	2130	1930	1710	1510	1310	1120	990	820	640	

- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.

JVK-RD8

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
* 3/4 COPPER	2 1/2 x 2 1/4	1	4 5/16
* 3/4 COPPER	2 1/2 x 2 3/4	1	4 5/16
* 3/4 COPPER	3 3/4 x 2 3/4	2	5"
* 1" COPPER	2 1/2 x 2 3/4	1	4 1/2
* 1" COPPER	3 3/4 x 2 3/4	2	5 3/16
* 1" COPPER	5" x 2 3/4	3A	5 1/2
* 1 1/4 COPPER	3 3/4 x 2 3/4	2	5 5/16
* 1 1/4 COPPER	5" x 2 3/4	3A	5 11/16
* 1" STEEL	3 3/4 x 2 3/4	2	5 5/16
* 1" STEEL	5" x 2 3/4	3A	5 11/16
* 1 1/4 STEEL	3 3/4 x 2 3/4	2	5 1/2
* 1 1/4 STEEL	5" x 2 3/4	3A	5 15/16

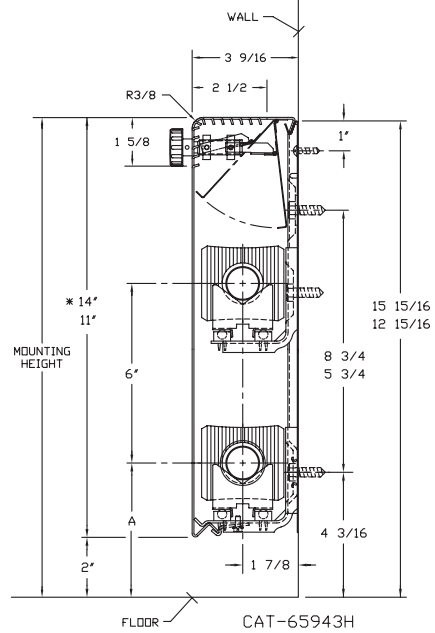
* Damper available with these elements only.



JVK-RD11 14

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
* 3/4 COPPER	2 1/2 x 2 1/4	1	4 5/16
* 3/4 COPPER	2 1/2 x 2 3/4	1	4 5/16
* 3/4 COPPER	3 3/4 x 2 3/4	2	5"
* 1" COPPER	2 1/2 x 2 3/4	1	4 1/2
* 1" COPPER	3 3/4 x 2 3/4	2	5 3/16
* 1" COPPER	5" x 2 3/4	3A	5 1/2
* 1 1/4 COPPER	3 3/4 x 2 3/4	2	5 5/16
* 1 1/4 COPPER	5" x 2 3/4	3A	5 11/16
* 1" STEEL	3 3/4 x 2 3/4	2	5 5/16
* 1" STEEL	5" x 2 3/4	3A	5 11/16
* 1 1/4 STEEL	3 3/4 x 2 3/4	2	5 1/2
* 1 1/4 STEEL	5" x 2 3/4	3A	5 15/16

* 2 tier with damper available in 14" height with these elements only.



STYLE "KRD" SLIMLINE

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
3/4"	R01	2-1/2" x 2-1/4"	50	.011	8K*	1	10	830	710	650	570	510	440	370	330	270	220
					11K	1	13	890	770	690	610	540	470	400	360	290	230
					14K	1	16	960	830	750	660	590	510	430	380	320	250
					14K*	2-5 CL	16	1360	1170	1060	940	830	720	610	540	450	350
3/4"	R02	2-1/2" x 2-3/4"	60	.010	8K*	1	10	990	850	770	680	600	520	450	400	330	260
					11K	1	13	1060	910	830	730	650	560	480	420	350	280
					14K	1	16	1230	1060	960	850	750	650	550	490	410	320
					14K*	2-5 CL	16	1730	1490	1350	1190	1060	920	780	690	570	450
1"	R03	2-1/2" x 2-3/4"	55	.011	8K*	1	10	970	830	760	670	590	510	440	390	320	250
					11K	1	13	1030	890	800	710	630	550	460	410	340	270
					14K	1	16	1100	950	860	760	670	580	500	440	360	290
					14K*	2-5 CL	16	1580	1360	1230	1090	960	840	710	630	520	410
3/4"	R04	3-3/4" x 2-3/4"	50	.014	8K*	1	10	1190	1020	930	820	730	630	540	480	390	310
					11K	1	13	1250	1080	980	860	760	660	560	500	410	330
					14K	1	16	1320	1140	1030	910	810	700	590	530	440	340
					14K*	2-5 CL	16	1750	1510	1370	1210	1070	930	790	700	580	460
1"	R05	3-3/4" x 2-3/4"	50	.011	8K*	1	10	1180	1010	920	810	720	630	530	470	390	310
					11K	1	13	1240	1070	970	860	760	660	560	500	410	320
					14K	1	16	1310	1130	1020	900	800	690	590	520	430	340
					14K*	2-5 CL	16	1740	1500	1360	1200	1060	920	780	700	570	450
1-1/4"	R08	3-3/4" x 2-3/4"	50	.020	8K*	1	10	1120	960	870	770	680	590	500	450	370	290
					11K	1	13	1190	1020	930	820	730	630	540	480	390	310
					14K	1	16	1310	1130	1020	900	800	690	590	520	430	340
					14K*	2-5 CL	16	1760	1510	1370	1210	1070	930	790	700	580	460
1"	R07	5" x 2-3/4"	50	.020	8K*	1	10	1330	1140	1040	920	810	700	600	530	440	350
					11K	1	13	1400	1200	1090	970	850	740	630	560	460	360
					14K	1	16	1450	1250	1130	1000	880	770	650	580	480	380
					14K*	2-5 CL	16	1820	1570	1420	1260	1110	960	820	730	600	470
1-1/4"	R10	5" x 2-3/4"	50	.020	8K*	1	10	1300	1120	1010	900	790	690	590	520	430	340
					11K	1	13	1360	1170	1060	940	830	720	610	540	450	350
					14K	1	16	1420	1220	1110	980	870	750	640	570	470	370
					14K*	2-5 CL	16	1770	1520	1380	1220	1080	940	800	710	580	460

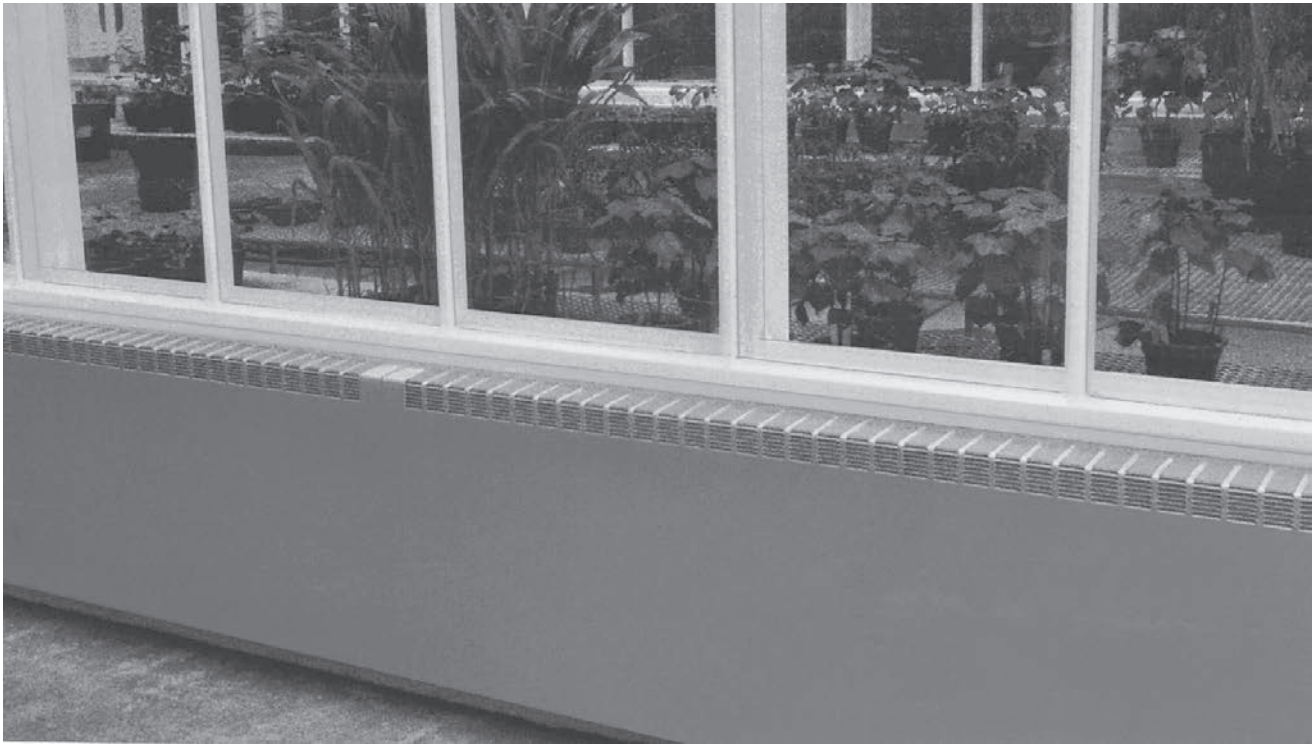
*Not recommended for steam applications, consult factory.
Note: Copper tube furnished flared one end standard.

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

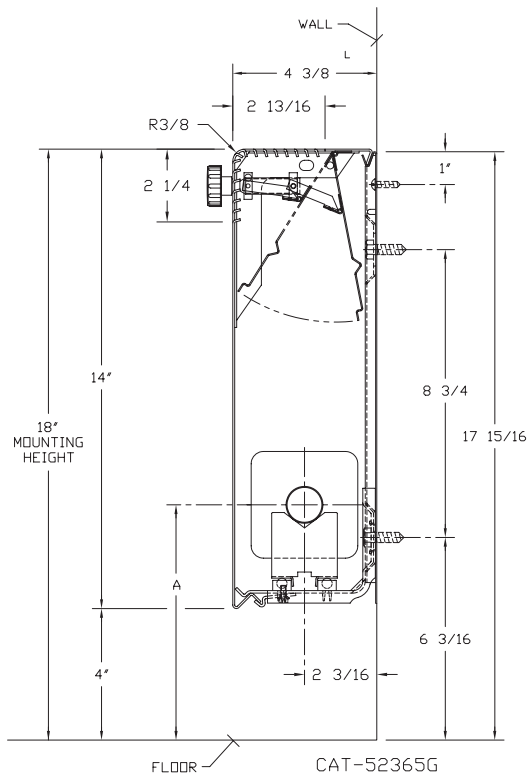
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
1"	R11	3-3/4" x 2-3/4"	40	.024	8K*	1	10	920	790	720	630	560	490	410	370	300	240
					11K	1	13	980	840	760	680	600	520	440	390	320	250
					14K	1	16	1050	900	820	720	640	560	470	420	350	270
					14K*	2-5 CL	16	1500	1290	1170	1040	920	800	680	600	500	390
1"	R15	5" x 2-3/4"	50	.024	8K*	1	10	990	850	770	680	600	520	450	400	330	260
					11K	1	13	1040	890	810	720	630	550	470	420	340	270
					14K	1	16	1120	960	870	770	680	590	500	450	370	290
					14K*	2-5 CL	16	1410	1210	1100	970	860	750	630	560	470	370
1-1/4"	R16	5" x 2-3/4"	50	.024	8K*	1	10	1010	870	790	700	620	540	450	400	330	260
					11K	1	13	1070	920	830	740	650	570	480	430	350	280
					14K	1	16	1140	980	890	790	700	600	510	460	380	300
					14K*	2-5 CL	16	1590	1370	1240	1100	970	840	720	640	520	410

*Not recommended for steam applications, consult factory.
Notes: 1) Steel fin furnished as .024 thick. Painted black.
2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
3) The ends can be provided chamfered for field welded fittings when specified.



JVA-RD

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 1/4 x 3 1/4	2	7"
1" COPPER	3 1/4 x 3 1/4	2	7 3/16"
1 1/4 COPPER	3 1/4 x 3 1/4	1	6 5/8"
1" STEE	3 1/4 x 3 1/4	2	7 5/16"
1 1/4 STEEL	3 1/4 x 3 1/4	1	6 13/16"

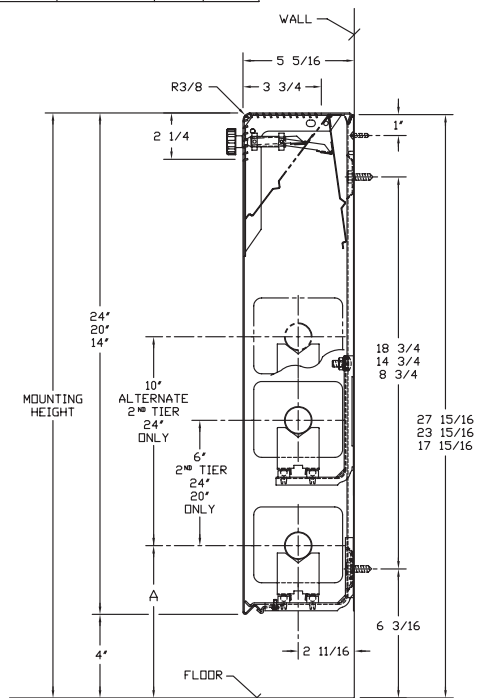


CAT-52365G

See page 39 for element center line dimensions with steam bracket installation.

JVB-RD

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 5/8 x 4 1/4	2	7"
3/4 COPPER	4 1/4 x 4 1/4	3A	7 3/8"
1" COPPER	3 5/8 x 4 1/4	2	7 3/16"
1" COPPER	4 1/4 x 4 1/4	2	7 3/16"
1 1/4 COPPER	3 5/8 x 4 1/4	2	7 5/16"
1 1/4 COPPER	4 1/4 x 4 1/4	2	7 5/16"
1" STEEL	4 1/4 x 4 1/4	2	7 5/16"
1 1/4 STEEL	4 1/4 x 4 1/4	2	7 1/2"
2" STEEL	4 1/4 x 4 1/4	1	7 1/4"



CAT-52366F

See page 39 for element center line dimensions with steam bracket installation.

STYLE "RD" FLAT TOP

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								1.00
3/4"	C3/4-33	3-1/4" SQ.	32	.020	14A	1	18	1070	920	830	740	650	570	480	430	350	280
3/4"	C3/4-34	3-1/4" SQ.	40	.020	14A	1	18	1240	1070	970	860	760	660	560	500	410	320
3/4"	C3/4-35	3-1/4" SQ.	50	.020	14A	1	18	1420	1220	1110	980	870	750	640	570	470	370
1"	C33	3-1/4" SQ.	32	.020	14A	1	18	1050	900	820	720	640	560	470	420	350	270
1"	C34	3-1/4" SQ.	40	.020	14A	1	18	1190	1020	930	820	730	630	540	480	390	310
1"	C35	3-1/4" SQ.	50	.020	14A	1	18	1430	1230	1120	990	870	760	640	570	470	370
1 1/4"	C133	3-1/4" SQ.	32	.020	14A	1	18	1010	870	790	700	620	540	450	400	330	260
1 1/4"	C134	3-1/4" SQ.	40	.020	14A	1	18	1120	960	870	770	680	590	500	450	370	290
1 1/4"	C135	3-1/4" SQ.	50	.020	14A	1	18	1340	1150	1050	920	820	710	600	540	440	350
3/4"	C3/4-433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1405	1210	1100	970	860	740	630	560	460	370
					20B	1	24	1490	1280	1160	1030	910	790	670	600	490	390
					20B	2-6 CL	24	2140	1840	1670	1480	1310	1130	960	860	710	560
					24B	1	28	1565	1350	1220	1080	950	830	700	630	520	410
					24B	2-6 CL	28	2215	1900	1730	1530	1350	1170	1000	890	730	580
24B	3-6 CL	28	2550	2190	1990	1760	1560	1350	1150	1020	840	660					
3/4"	C3/4-434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1690	1450	1320	1170	1030	900	760	680	560	440
					20B	1	24	1790	1540	1400	1240	1090	950	810	720	590	470
					20B	2-6 CL	24	2490	2140	1940	1720	1520	1320	1120	1000	820	650
					24B	1	28	1870	1610	1460	1290	1140	990	840	750	620	490
					24B	2-6 CL	28	2590	2230	2020	1790	1580	1370	1170	1040	850	670
24B	3-6 CL	28	2950	2540	2300	2040	1800	1560	1330	1180	970	770					
3/4"	C3/4-435	3-5/8" x 4-1/4"	50	.020	14B	1	18	1930	1660	1510	1330	1180	1020	870	770	640	500
					20B	1	24	2110	1810	1650	1460	1290	1120	950	840	700	550
					20B	2-6 CL	24	2640	2270	2060	1820	1610	1400	1190	1060	870	690
					24B	1	28	2210	1900	1720	1520	1350	1170	990	880	730	570
					24B	2-6 CL	28	2820	2430	2200	1950	1720	1490	1270	1130	930	730
24B	3-6 CL	28	3190	2740	2490	2200	1950	1690	1440	1280	1050	830					
1"	C433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1560	1340	1220	1080	950	830	700	620	510	410
					20B	1	24	1610	1380	1260	1110	980	850	720	640	530	420
					20B	2-6 CL	24	2480	2130	1930	1710	1510	1310	1120	990	820	640
					24B	1	28	1650	1420	1290	1140	1010	870	740	660	540	430
					24B	2-6 CL	28	2560	2200	2000	1770	1560	1360	1150	1020	840	670
24B	3-6 CL	28	2940	2530	2290	2030	1790	1560	1320	1180	970	760					
1"	C434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1770	1520	1380	1220	1080	940	800	710	580	460
					20B	1	24	1880	1620	1470	1300	1150	1000	850	750	620	490
					20B	2-6 CL	24	2600	2240	2030	1790	1590	1380	1170	1040	860	680
					24B	1	28	1950	1680	1520	1350	1190	1030	880	780	640	510
					24B	2-6 CL	28	2720	2340	2120	1880	1660	1440	1220	1090	900	710
24B	3-6 CL	28	3100	2670	2420	2140	1890	1640	1400	1240	1020	810					
1"	C435	3-5/8" x 4-1/4"	50	.020	14B	1	18	2030	1750	1580	1400	1240	1080	910	810	670	530
					20B	1	24	2220	1910	1730	1530	1350	1180	1000	890	730	580
					20B	2-6 CL	24	2770	2380	2160	1910	1690	1470	1250	1110	910	720
					24B	1	28	2330	2000	1820	1610	1420	1230	1050	930	770	610
					24B	2-6 CL	28	2970	2550	2320	2050	1810	1570	1340	1190	980	770
24B	3-6 CL	28	3360	2890	2620	2320	2050	1780	1510	1340	1110	870					
1-1/4"	C1433	3-5/8" x 4-1/4"	32	.020	14B	1	18	1530	1320	1190	1060	930	810	690	610	500	400
					20B	1	24	1590	1370	1240	1100	970	840	720	640	520	410
					20B	2 @ 6 CL	24	2470	2120	1930	1700	1510	1310	1110	990	820	640
					24B	1	28	1630	1400	1270	1120	990	860	730	650	540	420
					24B	2 @ 6 CL	28	2580	2220	2010	1780	1570	1370	1160	1030	850	670
24B	3 @ 6 CL	28	2970	2550	2320	2050	1810	1570	1340	1190	980	770					
1-1/4"	C1434	3-5/8" x 4-1/4"	40	.020	14B	1	18	1750	1510	1370	1210	1070	930	790	700	580	460
					20B	1	24	1850	1590	1440	1280	1130	980	830	740	610	480
					20B	2 @ 6 CL	24	2620	2250	2040	1810	1600	1390	1180	1050	860	680
					24B	1	28	1920	1650	1500	1320	1170	1020	860	770	630	500
					24B	2 @ 6 CL	28	2750	2370	2150	1900	1680	1460	1240	1100	910	720
24B	3 @ 6 CL	28	3130	2690	2440	2160	1910	1660	1410	1250	1030	810					
1-1/4"	C1435	3-5/8" x 4-1/4"	50	.020	14B	1	18	2040	1750	1590	1410	1240	1080	920	820	670	530
					20B	1	24	2240	1930	1750	1550	1370	1190	1010	900	740	580
					20B	2 @ 6 CL	24	2730	2350	2130	1880	1670	1450	1230	1090	900	710
					24B	1	28	2380	2050	1860	1640	1450	1260	1070	950	790	620
					24B	2 @ 6 CL	28	3000	2580	2340	2070	1830	1590	1350	1200	990	780
24B	3 @ 6 CL	28	3390	2920	2640	2340	2070	1800	1530	1360	1120	880					

STYLE "RD" FLAT TOP

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)																		
									200°	190°	180°	170°	160°	150°	140°	130°	120°	CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									
									1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26									
3/4"	C3/4-43	4-1/4" SQ.	32	.020	14B	1	18	1520	1310	1190	1050	930	810	680	610	500	400										
					20B	1	24	1615	1390	1260	1110	990	860	730	650	530	420										
					20B	2-6 CL	24	2345	2020	1830	1620	1430	1240	1060	940	770	610										
					24B	1	28	1685	1450	1310	1160	1030	890	760	670	560	440										
					24B	2-6 CL	28	2435	2090	1900	1680	1490	1290	1100	970	800	630										
					24B	3-6 CL	28	2800	2410	2180	1930	1710	1480	1260	1120	920	730										
3/4"	C3/4-44	4-1/4" SQ.	40	.020	14B	1	18	2100	1810	1640	1450	1280	1110	950	840	690	550										
					20B	1	24	2250	1940	1760	1550	1370	1190	1010	900	740	590										
					20B	2-6 CL	24	3180	2730	2480	2190	1940	1690	1430	1270	1050	830										
					24B	1	28	2350	2020	1830	1620	1430	1250	1060	940	780	610										
					24B	2-6 CL	28	3270	2810	2550	2260	1990	1730	1470	1310	1080	850										
					24B	3-6 CL	28	3730	3210	2910	2570	2280	1980	1680	1490	1230	970										
3/4"	C3/4-45	4-1/4" SQ.	50	.020	14B	1	18	2210	1900	1720	1520	1350	1170	990	880	730	570										
					20B	1	24	2420	2080	1890	1670	1480	1280	1090	970	800	630										
					20B	2-6 CL	24	3200	2750	2500	2210	1950	1700	1440	1280	1060	830										
					24B	1	28	2550	2190	1990	1760	1560	1350	1150	1020	840	660										
					24B	2-6 CL	28	3380	2910	2640	2330	2060	1790	1520	1350	1120	880										
					24B	3-6 CL	28	3820	3290	2980	2640	2330	2020	1720	1530	1260	990										
1"	C43	4-1/4" SQ.	32	.020	14B	1	18	1710	1470	1330	1180	1040	910	770	680	560	440										
					20B	1	24	1760	1510	1370	1210	1070	930	790	700	580	460										
					20B	2-6 CL	24	2720	2340	2120	1880	1660	1440	1220	1090	900	710										
					24B	1	28	1810	1560	1410	1250	1100	960	810	720	600	470										
					24B	2-6 CL	28	2810	2420	2190	1940	1710	1490	1260	1120	930	730										
					24B	3-6 CL	28	3230	2780	2520	2230	1970	1710	1450	1290	1070	840										
1"	C44	4-1/4" SQ.	40	.020	14B	1	18	1940	1670	1510	1340	1180	1030	870	780	640	500										
					20B	1	24	2070	1780	1610	1430	1260	1100	930	830	680	540										
					20B	2-6 CL	24	2850	2450	2220	1970	1740	1510	1280	1140	940	740										
					24B	1	28	2140	1840	1670	1480	1310	1130	960	860	710	560										
					24B	2-6 CL	28	2990	2570	2330	2060	1820	1580	1350	1200	990	780										
					24B	3-6 CL	28	3410	2930	2660	2350	2080	1810	1530	1360	1130	890										
1"	C45	4-1/4" SQ.	50	.020	14B	1	18	2220	1910	1730	1530	1350	1180	1000	890	730	580										
					20B	1	24	2430	2090	1900	1680	1480	1290	1090	970	800	630										
					20B	2-6 CL	24	3030	2610	2360	2090	1850	1610	1360	1210	1000	790										
					24B	1	28	2550	2190	1990	1760	1560	1350	1150	1020	840	660										
					24B	2-6 CL	28	3250	2800	2540	2240	1980	1720	1460	1300	1070	850										
					24B	3-6 CL	28	3670	3160	2860	2530	2240	1950	1650	1470	1210	950										
1-1/4"	C143	4-1/4" SQ.	32	.020	14B	1	18	1700	1460	1330	1170	1040	900	770	680	560	440										
					20B	1	24	1740	1500	1360	1200	1060	920	780	700	570	450										
					20B	2-6 CL	24	2670	2300	2080	1840	1630	1420	1200	1070	880	690										
					24B	1	28	1780	1530	1390	1230	1090	940	800	710	590	460										
					24B	2-6 CL	28	2720	2340	2120	1880	1660	1440	1220	1090	900	710										
					24B	3-6 CL	28	3130	2690	2440	2160	1910	1660	1410	1250	1030	810										
1-1/4"	C144	4-1/4" SQ.	40	.020	14B	1	18	1950	1680	1520	1350	1190	1030	880	780	640	510										
					20B	1	24	2090	1800	1630	1440	1270	1110	940	840	690	540										
					20B	2-6 CL	24	2810	2420	2190	1940	1710	1490	1260	1120	930	730										
					24B	1	28	2160	1860	1680	1490	1320	1140	970	860	710	560										
					24B	2-6 CL	28	2940	2530	2290	2030	1790	1560	1320	1180	970	760										
					24B	3-6 CL	28	3350	2880	2610	2310	2040	1780	1510	1340	1110	870										
1-1/4"	C145	4-1/4" SQ.	50	.020	14B	1	18	2100	1810	1640	1450	1280	1110	950	840	690	550										
					20B	1	24	2300	1980	1790	1590	1400	1220	1040	920	760	600										
					20B	2-6 CL	24	2940	2530	2290	2030	1790	1560	1320	1180	970	760										
					24B	1	28	2380	2050	1860	1640	1450	1260	1070	950	790	620										
					24B	2-6 CL	28	3060	2630	2390	2110	1870	1620	1380	1220	1010	800										
					24B	3-6 CL	28	3460	2980	2700	2390	2110	1830	1560	1380	1140	900										

Note: Copper tube furnished flared one end standard.

STYLE "RD" FLAT TOP

STEEL ELEMENTS

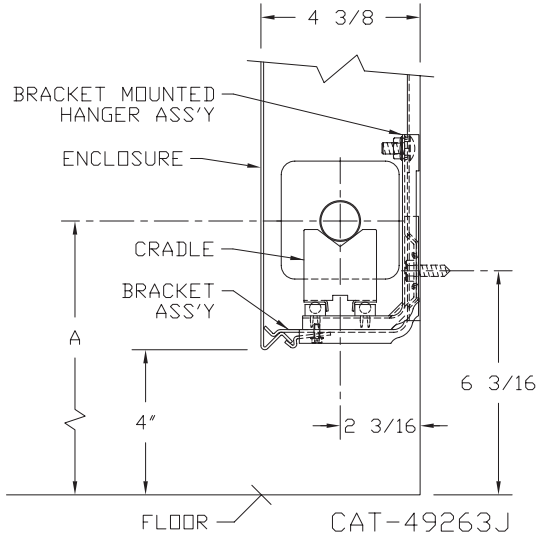
ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)																		
									200°	190°	180°	170°	160°	150°	140°	130°	120°	CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									
									1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26									
1"	S33	3-1/4" SQ.	32	.032	14A	1	18	1000	860	780	690	610	530	450	400	330	260										
1"	S34	3-1/4" SQ.	40	.032	14A	1	18	1100	950	860	760	670	580	500	440	360	290										
1"	S35	3-1/4" SQ.	50	.032	14A	1	18	1170	1010	910	810	710	620	530	470	390	300										
1-1/4"	S133	3-1/4" SQ.	32	.032	14A	1	18	990	850	770	680	600	520	450	400	330	260										
1-1/4"	S134	3-1/4" SQ.	40	.032	14A	1	18	1120	960	870	770	680	590	500	450	370	290										
1-1/4"	S135	3-1/4" SQ.	50	.032	14A	1	18	1150	990	900	790	700	610	520	460	380	300										
1"	S43	4-1/4" SQ.	32	.032	14B	1	18	1430	1230	1120	990	870	760	640	570	470	370										
					20B	1	24	1480	1270	1150	1020	900	780	670	590	490	380										
					20B	2-6 CL	24	2215	1900	1730	1530	1350	1170	1000	890	730	580										
					24B	1	28	1520	1310	1190	1050	930	810	680	610	500	400										
					24B	2-6 CL	28	2255	1940	1760	1560	1380	1200	1010	900	740	590										
1"	S44	4-1/4" SQ.	40	.032	14B	1	18	1605	1380	1250	1110	980	850	720	640	530	420										
					20B	1	24	1705	1470	1330	1180	1040	900	770	680	560	440										
					20B	2-6 CL	24	2395	2060	1870	1650	1460	1270	1080	960	790	620										
					24B	1	28	1765	1520	1380	1220	1080	940	790	710	580	460										
					24B	2-6 CL	28	2470	2120	1930	1700	1510	1310	1110	990	820	640										
1"	S45	4-1/4" SQ.	50	.032	14B	1	18	1680	1440	1310	1160	1020	890	760	670	550	440										
					20B	1	24	1785	1540	1390	1230	1090	950	800	710	590	460										
					20B	2-6 CL	24	2455	2110	1910	1690	1500	1300	1100	980	810	640										
					24B	1	28	1850	1590	1440	1280	1130	980	830	740	610	480										
					24B	2-6 CL	28	2535	2180	1980	1750	1550	1340	1140	1010	840	660										
1-1/4"	S143	4-1/4" SQ.	32	.032	14B	1	18	1300	1120	1010	900	790	690	590	520	430	340										
					20B	1	24	1310	1130	1020	900	800	690	590	520	430	340										
					20B	2-6 CL	24	2070	1780	1610	1430	1260	1100	930	830	680	540										
					24B	1	28	1320	1140	1030	910	810	700	590	530	440	340										
					24B	2-6 CL	28	2120	1820	1650	1460	1290	1120	950	850	700	550										
1-1/4"	S144	4-1/4" SQ.	40	.032	14B	1	18	1540	1320	1200	1060	940	820	690	620	510	400										
					20B	1	24	1620	1390	1260	1120	990	860	730	650	530	420										
					20B	2-6 CL	24	2400	2060	1870	1660	1460	1270	1080	960	790	620										
					24B	1	28	1680	1440	1310	1160	1020	890	760	670	550	440										
					24B	2-6 CL	28	2510	2160	1960	1730	1530	1330	1130	1000	830	650										
1-1/4"	S145	4-1/4" SQ.	50	.032	14B	1	18	1670	1440	1300	1150	1020	890	750	670	550	430										
					20B	1	24	1775	1530	1380	1220	1080	940	800	710	590	460										
					20B	2-6 CL	24	2405	2070	1880	1660	1470	1270	1080	960	790	630										
					24B	1	28	1835	1580	1430	1270	1120	970	830	730	610	480										
					24B	2-6 CL	28	2485	2140	1940	1710	1520	1320	1120	990	820	650										
2"	S242	4-1/4" SQ.	25	.032	14B	1	18	1230	1060	960	850	750	650	550	490	410	320										
					20B	1	24	1240	1070	970	860	760	660	560	500	410	320										
					20B	2-6 CL	24	1940	1670	1510	1340	1180	1030	870	780	640	500										
					24B	1	28	1250	1080	980	860	760	660	560	500	410	330										
					24B	2-6 CL	28	2000	1720	1560	1380	1220	1060	900	800	660	520										
2"	S243	4-1/4" SQ.	32	.032	14B	1	18	1420	1220	1110	980	870	750	640	570	470	370										
					20B	1	24	1460	1260	1140	1010	890	770	660	580	480	380										
					20B	2-6 CL	24	2140	1840	1670	1480	1310	1130	960	860	710	560										
					24B	1	28	1480	1270	1150	1020	900	780	670	590	490	380										
					24B	2-6 CL	28	2220	1910	1730	1530	1350	1180	1000	890	730	580										
24B	3-6 CL	28	2550	2190	1990	1760	1560	1350	1150	1020	840	660															

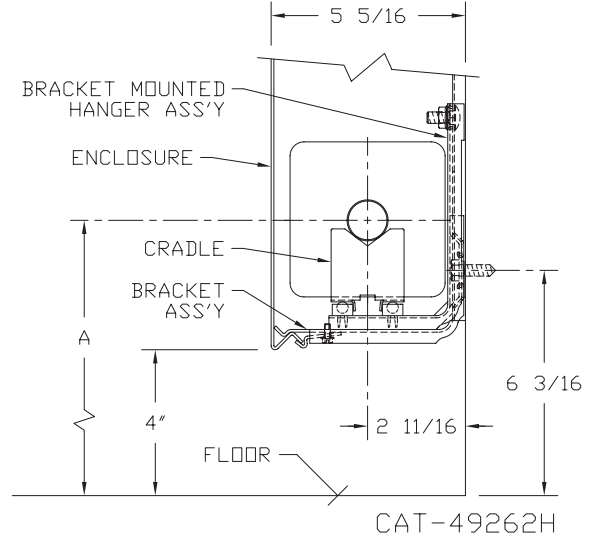
- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.

VERTICAL ELEMENT CENTERLINE DIMENSIONS FOR INSTALLATIONS USING STEAM BRACKETS WITH HANGERS

“A” OFFSET



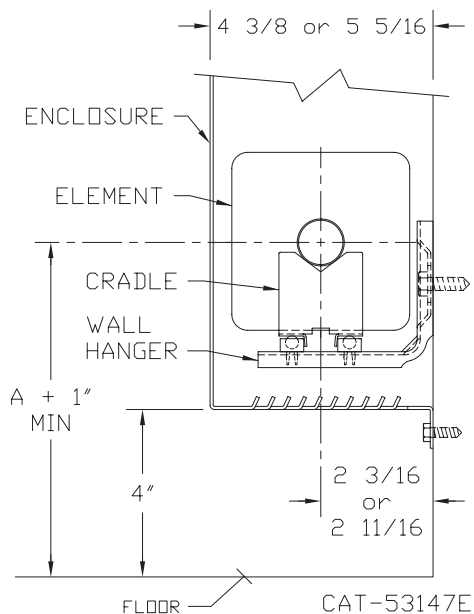
“B” OFFSET

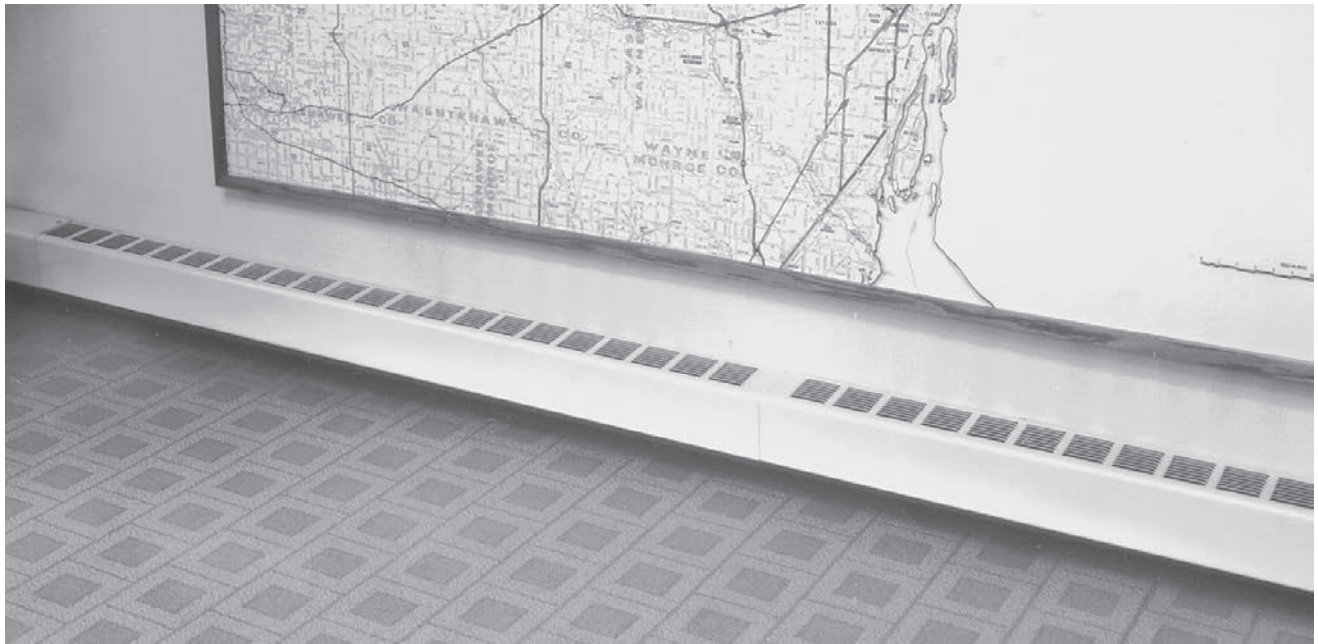


ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A MIN	A MAX
3/4 COPPER	3 1/4 x 3 1/4	2	7 3/8	9 5/8
1" COPPER	3 1/4 x 3 1/4	2	7 1/2	9 3/4
1 1/4 COPPER	3 1/4 x 3 1/4	2	7 5/8	9 7/8
1" STEEL	3 1/4 x 3 1/4	2	7 5/8	9 3/4
1 1/4 STEEL	3 1/4 x 3 1/4	1	7 3/16	9 3/8

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A MIN	A MAX
3/4 COPPER	3 5/8 x 4 1/4	2	7 3/8	8 3/4
	4 1/4 x 4 1/4	3A	7 11/16	9 1/16
1" COPPER	3 5/8 x 4 1/4	2	7 1/2	8 7/8
	4 1/4 x 4 1/4			
1 1/4 COPPER	3 5/8 x 4 1/4	2	7 5/8	9"
	4 1/4 x 4 1/4			
1" STEEL	4 1/4 x 4 1/4	2	7 5/8	9"
1 1/4 STEEL	4 1/4 x 4 1/4	2	7 7/8	9 1/4
2" STEEL	4 1/4 x 4 1/4	1	7 5/8	9"

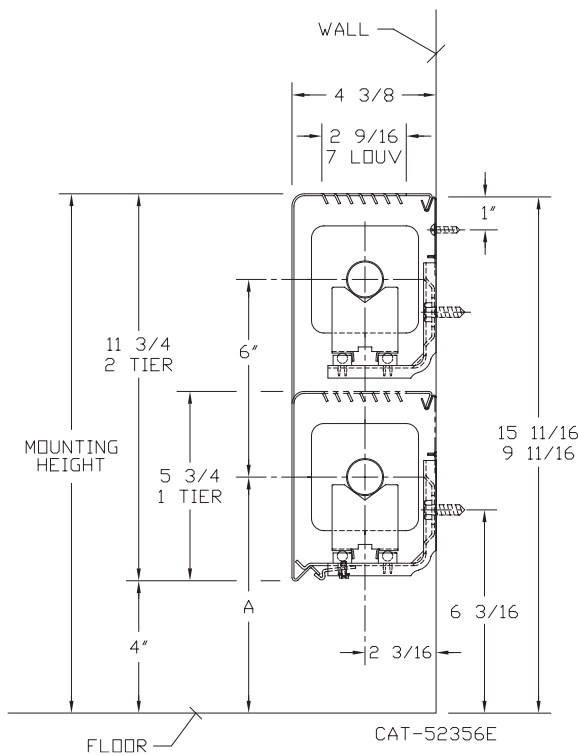
LOUVERED INLET RETURN TO WALL





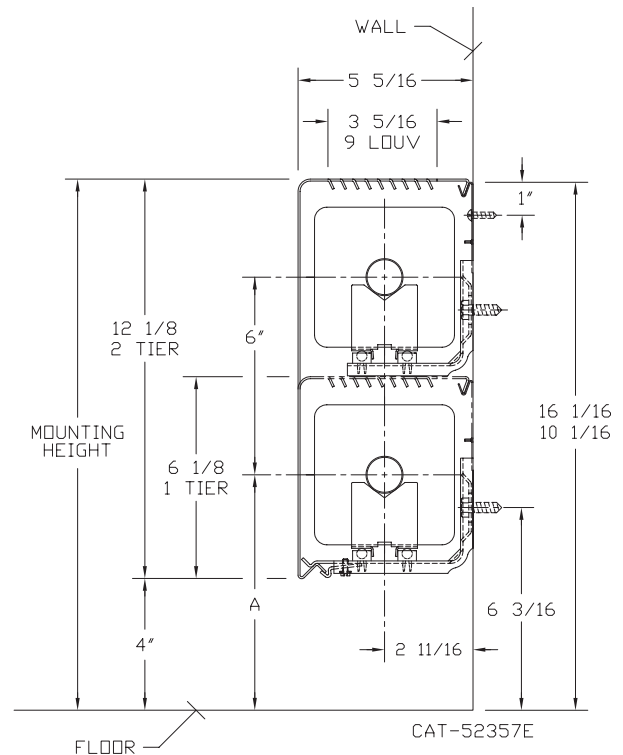
JVA-E5 11

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4" COPPER	3 1/4 x 3 1/4	2	7"
1" COPPER	3 1/4 x 3 1/4	2	7 3/16"
1 1/4" COPPER	3 1/4 x 3 1/4	1	6 5/8"
1" STEEL	3 1/4 x 3 1/4	2	7 5/16"
1 1/4" STEEL	3 1/4 x 3 1/4	1	6 13/16"



JVB-E6 12

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4" COPPER	3 5/8 x 4 1/4	2	7"
3/4" COPPER	4 1/4 x 4 1/4	3A	7 3/8"
1" COPPER	3 5/8 x 4 1/4	2	7 3/16"
1" COPPER	4 1/4 x 4 1/4	2	7 3/16"
1 1/4" COPPER	3 5/8 x 4 1/4	2	7 5/16"
1 1/4" COPPER	4 1/4 x 4 1/4	2	7 5/16"
1" STEEL	4 1/4 x 4 1/4	2	7 5/16"
1 1/4" STEEL	4 1/4 x 4 1/4	2	7 1/2"
2" STEEL	4 1/4 x 4 1/4	1	7 1/4"



STYLE "E" TOP OUTLET

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									1.00
3/4"	C3/4-33	3-1/4" SQ.	32	.020	5A 11A	1 2-6 CL	9-3/4 15-3/4	840 1380	720 1190	660 1080	580 950	510 840	450 730	380 620	340 550	280 460	220 360	
3/4"	C3/4-34	3-1/4" SQ.	40	.020	5A 11A	1 2-6 CL	9-3/4 15-3/4	970 1490	830 1280	760 1160	670 1030	590 910	510 790	440 670	390 600	320 490	250 390	
3/4"	C3/4-35	3-1/4" SQ.	50	.020	5A 11A	1 2-6 CL	9-3/4 15-3/4	980 1440	840 1240	760 1120	680 990	600 880	520 760	440 650	390 580	320 480	250 370	
1"	C33	3-1/4" SQ.	32	.020	5A 11A	1 2-6 CL	9-3/4 15-3/4	820 1360	710 1170	640 1060	570 940	500 830	430 720	370 610	330 540	270 450	210 350	
1"	C34	3-1/4" SQ.	40	.020	5A 11A	1 2-6 CL	9-3/4 15-3/4	950 1470	820 1260	740 1150	660 1010	580 900	500 780	430 660	380 590	310 490	250 380	
1"	C35	3-1/4" SQ.	50	.020	5A 11A	1 2-6 CL	9-3/4 15-3/4	960 1470	830 1260	750 1150	660 1010	590 900	510 780	430 660	380 590	320 490	250 380	
1-1/4"	C133	3-1/4" SQ.	32	.020	5A 11A	1 2-6 CL	9-3/4 15-3/4	780 1320	670 1140	610 1030	540 910	480 810	410 700	350 590	310 530	260 440	200 340	
1-1/4"	C134	3-1/4" SQ.	40	.020	5A 11A	1 2-6 CL	9-3/4 15-3/4	910 1400	780 1200	710 1090	630 970	560 850	480 740	410 630	360 560	300 460	240 360	
1-1/4"	C135	3-1/4" SQ.	50	.020	5A 11A	1 2-6 CL	9-3/4 15-3/4	920 1380	790 1190	720 1080	630 950	560 840	490 730	410 620	370 550	300 460	240 360	
3/4"	C3/4-433	3-5/8" x 4-1/4"	32	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	865 1340	740 1150	670 1050	600 920	530 820	460 710	390 600	350 540	290 440	220 350	
3/4"	C3/4-434	3-5/8" x 4-1/4"	40	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1190 1900	1020 1630	930 1480	820 1310	730 1160	630 1010	540 860	480 760	390 630	310 490	
3/4"	C3/4-435	3-5/8" x 4-1/4"	50	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1270 2060	1090 1770	990 1610	880 1420	770 1260	670 1090	570 930	510 820	420 680	330 540	
1"	C433	3-5/8" x 4-1/4"	32	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1110 1690	950 1450	870 1320	770 1170	680 1030	590 900	500 760	440 680	370 560	290 440	
1"	C434	3-5/8" x 4-1/4"	40	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1230 1960	1060 1690	960 1530	850 1350	750 1200	650 1040	550 880	490 780	410 650	320 510	
1"	C435	3-5/8" x 4-1/4"	50	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1320 1930	1140 1660	1030 1510	910 1330	810 1180	700 1020	590 870	530 770	440 640	340 500	
1-1/4"	C1433	3-5/8" x 4-1/4"	32	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1090 1660	940 1430	850 1290	750 1150	660 1010	580 880	490 750	440 660	360 550	280 430	
1-1/4"	C1434	3-5/8" x 4-1/4"	40	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1210 1920	1040 1650	940 1500	830 1320	740 1170	640 1020	540 860	480 770	400 630	310 500	
1-1/4"	C1435	3-5/8" x 4-1/4"	50	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1300 1890	1120 1630	1010 1470	900 1300	790 1150	690 1000	590 850	520 760	430 620	340 490	
3/4"	C3/4-43	4-1/4" SQ.	32	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1200 1900	1030 1630	940 1480	830 1310	730 1160	640 1010	540 860	480 760	400 630	310 490	
3/4"	C3/4-44	4-1/4" SQ.	40	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1600 2200	1380 1890	1250 1720	1100 1520	980 1340	850 1170	720 990	640 880	530 730	420 570	
3/4"	C3/4-45	4-1/4" SQ.	50	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1330 1880	1140 1620	1040 1470	920 1300	810 1150	700 1000	600 850	530 750	440 620	350 490	
1"	C43	4-1/4" SQ.	32	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1220 1920	1050 1650	950 1500	840 1320	740 1170	650 1020	550 860	490 770	400 630	320 500	
1"	C44	4-1/4" SQ.	40	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1480 2010	1270 1730	1150 1570	1020 1390	900 1230	780 1070	670 900	590 800	490 660	380 520	
1"	C45	4-1/4" SQ.	50	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1370 1930	1180 1660	1070 1510	950 1330	840 1180	730 1020	620 870	550 770	450 640	360 500	
1-1/4"	C143	4-1/4" SQ.	32	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1200 1880	1030 1620	940 1470	830 1300	730 1150	640 1000	540 850	480 750	400 620	310 490	
1-1/4"	C144	4-1/4" SQ.	40	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1330 1970	1140 1690	1040 1540	920 1360	810 1200	700 1040	600 890	530 790	440 650	350 510	
1-1/4"	C145	4-1/4" SQ.	50	.020	6B 12B	1 2-6 CL	10-1/8 16-1/8	1350 1890	1160 1630	1050 1470	930 1300	820 1150	720 1000	610 850	540 760	450 620	350 490	

Note: Copper tube furnished flared one end standard.

STYLE "E" TOP OUTLET

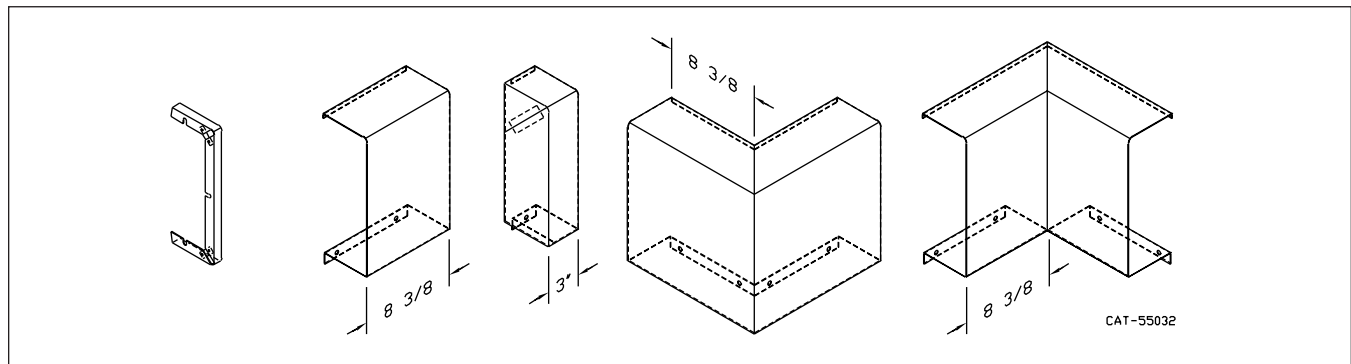
STEEL ELEMENTS

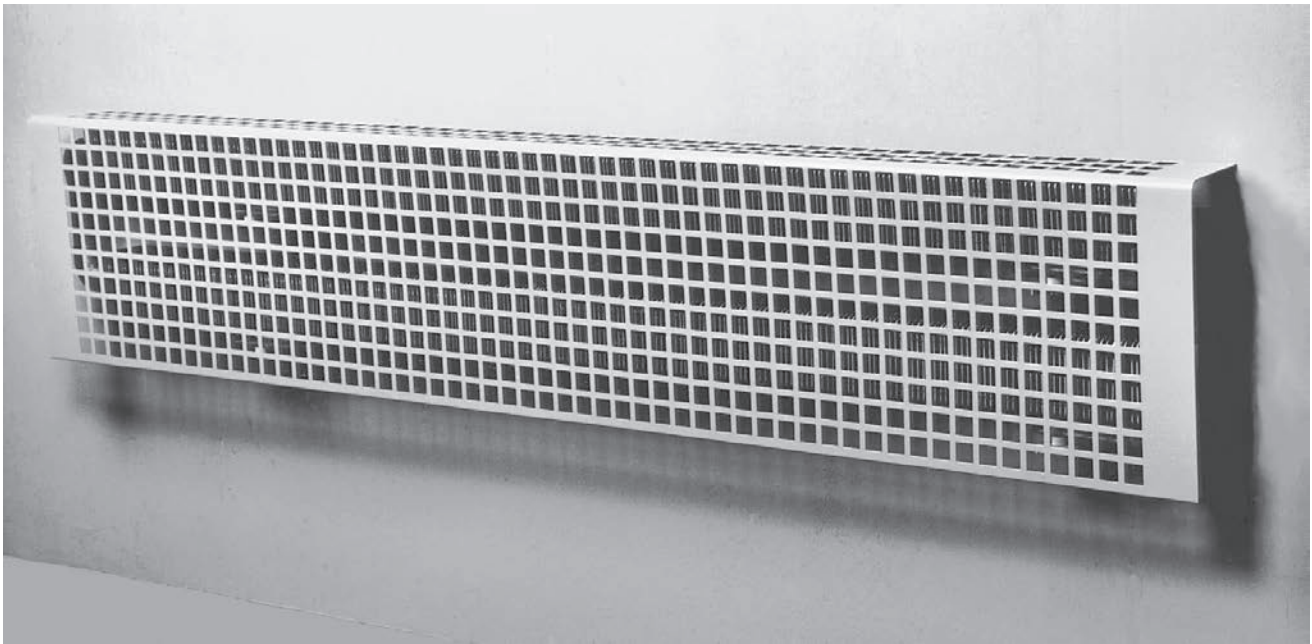
ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									
1"	S33	3-1/4" SQ.	32	.032	5A 11A	1 2-6 CL	9-3/4 15-3/4	780 1330	670 1140	610 1040	540 920	480 810	410 700	350 600	310 530	260 440	200 350	
1"	S34	3-1/4" SQ.	40	.032	5A 11A	1 2-6 CL	9-3/4 15-3/4	860 1475	740 1270	670 1150	590 1020	520 900	460 780	390 660	340 590	280 490	220 380	
1"	S35	3-1/4" SQ.	50	.032	5A 11A	1 2-6 CL	9-3/4 15-3/4	910 1550	780 1330	710 1210	630 1070	560 950	480 820	410 700	360 620	300 510	240 400	
1-1/4"	S133	3-1/4" SQ.	32	.032	5A 11A	1 2-6 CL	9-3/4 15-3/4	770 1320	660 1140	600 1030	530 910	470 810	410 700	350 590	310 530	250 440	200 340	
1-1/4"	S134	3-1/4" SQ.	40	.032	5A 11A	1 2-6 CL	9-3/4 15-3/4	870 1490	750 1280	680 1160	600 1030	530 910	460 790	390 670	350 600	290 490	230 390	
1-1/4"	S135	3-1/4" SQ.	50	.032	5A 11A	1 2-6 CL	9-3/4 15-3/4	880 1510	760 1300	690 1180	610 1040	540 920	470 800	400 680	350 600	290 500	230 390	
1"	S43	4-1/4" SQ.	32	.032	6B 12B	1 2-6 CL	10-1/8 16-1/8	1095 1850	940 1590	850 1440	760 1280	670 1130	580 980	490 830	440 740	360 610	280 480	
1"	S44	4-1/4" SQ.	40	.032	6B 12B	1 2-6 CL	10-1/8 16-1/8	1215 1910	1040 1640	950 1490	840 1320	740 1170	640 1010	550 860	490 760	400 630	320 500	
1"	S45	4-1/4" SQ.	50	.032	6B 12B	1 2-6 CL	10-1/8 16-1/8	1300 2150	1120 1850	1010 1680	900 1480	790 1310	690 1140	590 970	520 860	430 710	340 560	
1-1/4"	S143	4-1/4" SQ.	32	.032	6B 12B	1 2-6 CL	10-1/8 16-1/8	1010 1700	870 1460	790 1330	700 1170	620 1040	540 900	450 770	400 680	330 560	260 440	
1-1/4"	S144	4-1/4" SQ.	40	.032	6B 12B	1 2-6 CL	10-1/8 16-1/8	1210 1900	1040 1630	940 1480	830 1310	740 1160	640 1010	540 860	480 760	400 630	310 490	
1-1/4"	S145	4-1/4" SQ.	50	.032	6B 12B	1 2-6 CL	10-1/8 16-1/8	1280 2135	1100 1840	1000 1670	880 1470	780 1300	680 1130	580 960	510 850	420 700	330 560	
2"	S242	4-1/4" SQ.	25	.032	6B 12B	1 2-6 CL	10-1/8 16-1/8	950 1620	820 1390	740 1260	660 1120	580 990	500 860	430 730	380 650	310 530	250 420	
2"	S243	4-1/4" SQ.	32	.032	6B 12B	1 2-6 CL	10-1/8 16-1/8	1130 1770	970 1520	880 1380	780 1220	690 1080	600 940	510 800	450 710	370 580	290 460	

- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.

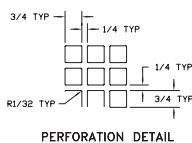
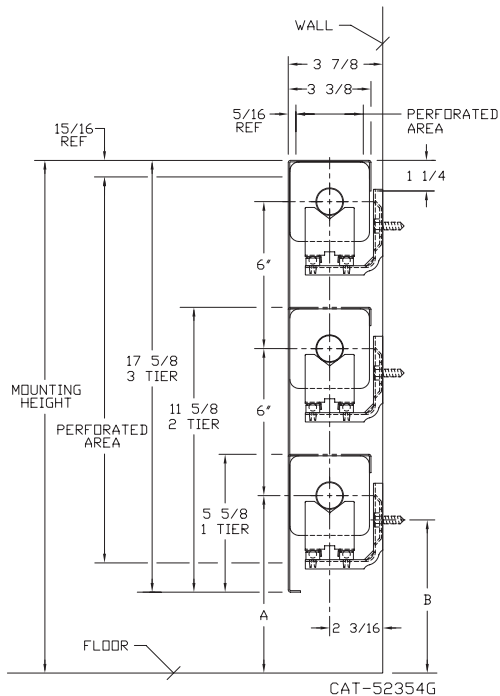
STYLE E ACCESSORIES





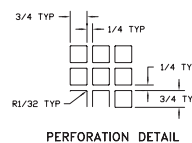
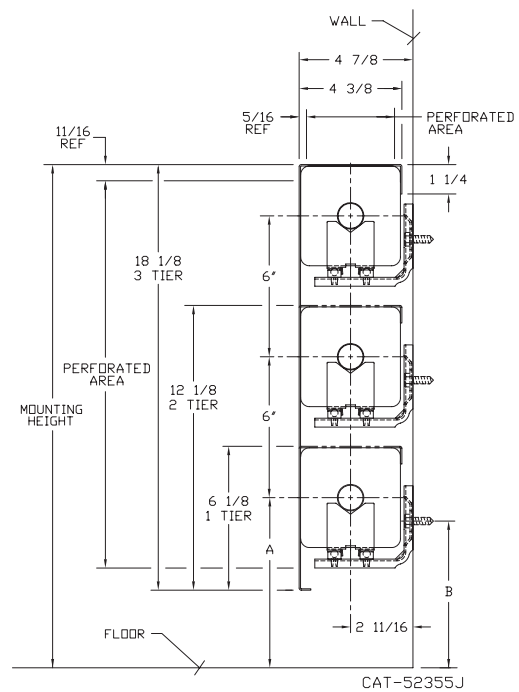
VA-X

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A	B
3/4" COPPER	3 1/4 x 3 1/4	2	7 3/16	6 3/8
1" COPPER	3 1/4 x 3 1/4	2	7 3/16	6 3/16
1 1/4" COPPER	3 1/4 x 3 1/4	1	7 3/16	6 3/4
1" STEEL	3 1/4 x 3 1/4	2	7 3/16	6 1/16
1 1/4" STEEL	3 1/4 x 3 1/4	1	7 3/16	6 9/16



VB-X

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A	B
3/4" COPPER	3 5/8 x 4 1/4	2	7 1/2	6 11/16
	4 1/4 x 4 1/4	3A	7 3/16	5 15/16
1" COPPER	3 5/8 x 4 1/4	2	7 1/2	6 1/2
	4 1/4 x 4 1/4		7 3/16	6 3/16
1 1/4" COPPER	3 5/8 x 4 1/4	2	7 1/2	6 3/8
	4 1/4 x 4 1/4		7 3/16	6 1/16
1" STEEL	4 1/4 x 4 1/4	2	7 3/16	6 1/16
1 1/4" STEEL	4 1/4 x 4 1/4	2	7 3/16	5 7/8
2" STEEL	4 1/4 x 4 1/4	1	7 3/16	6 1/8



STYLE "X" EXPANDED METAL

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
									200°	190°	180°	170°	160°	150°	140°	130°	120°	
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									1.00
3/4"	C3/4-33	3-1/4" SQ.	32	.020	5A	1	8-7/8	930	800	730	640	570	490	420	370	310	240	
					11A	2 @ 6 CL	14-7/8	1650	1420	1290	1140	1010	870	740	660	540	430	
					17A	3 @ 6 CL	20-7/8	2310	1990	1800	1590	1410	1220	1040	920	760	600	
3/4"	C3/4-34	3-1/4" SQ.	40	.020	5A	1	8-7/8	1090	940	850	750	660	580	490	440	360	280	
					11A	2 @ 6 CL	14-7/8	1800	1550	1400	1240	1100	950	810	720	590	470	
					17A	3 @ 6 CL	20-7/8	2470	2120	1930	1700	1510	1310	1110	990	820	640	
3/4"	C3/4-35	3-1/4" SQ.	50	.020	5A	1	8-7/8	1210	1040	940	830	740	640	540	480	400	310	
					11A	2 @ 6 CL	14-7/8	1930	1660	1510	1330	1180	1020	870	770	640	500	
					17A	3 @ 6 CL	20-7/8	2580	2220	2010	1780	1570	1370	1160	1030	850	670	
1"	C33	3-1/4" SQ.	32	.020	5A	1	8-7/8	930	800	730	640	570	490	420	370	310	240	
					11A	2 @ 6 CL	14-7/8	1650	1420	1290	1140	1010	870	740	660	540	430	
					17A	3 @ 6 CL	20-7/8	2280	1960	1780	1570	1390	1210	1030	910	750	590	
1"	C34	3-1/4" SQ.	40	.020	5A	1	8-7/8	1040	890	810	720	630	550	470	420	340	270	
					11A	2 @ 6 CL	14-7/8	1780	1530	1390	1230	1090	940	800	710	590	460	
					17A	3 @ 6 CL	20-7/8	2390	2060	1860	1650	1460	1270	1080	960	790	620	
1"	C35	3-1/4" SQ.	50	.020	5A	1	8-7/8	1160	1000	900	800	710	610	520	460	380	300	
					11A	2 @ 6 CL	14-7/8	1860	1600	1450	1280	1130	990	840	740	610	480	
					17A	3 @ 6 CL	20-7/8	2500	2150	1950	1720	1530	1330	1130	1000	830	650	
1-1/4"	C133	3-1/4" SQ.	32	.020	5A	1	8-7/8	930	800	730	640	570	490	420	370	310	240	
					11A	2 @ 6 CL	14-7/8	1610	1380	1260	1110	980	850	720	640	530	420	
					17A	3 @ 6 CL	20-7/8	2270	1950	1770	1570	1380	1200	1020	910	750	590	
1-1/4"	C134	3-1/4" SQ.	40	.020	5A	1	8-7/8	1020	880	800	700	620	540	460	410	340	270	
					11A	2 @ 6 CL	14-7/8	1770	1520	1380	1220	1080	940	800	710	580	460	
					17A	3 @ 6 CL	20-7/8	2350	2020	1830	1620	1430	1250	1060	940	780	610	
1-1/4"	C135	3-1/4" SQ.	50	.020	5A	1	8-7/8	1120	960	870	770	680	590	500	450	370	290	
					11A	2 @ 6 CL	14-7/8	1820	1570	1420	1260	1110	960	820	730	600	470	
					17A	3 @ 6 CL	20-7/8	2450	2110	1910	1690	1490	1300	1100	980	810	640	
3/4"	C3/4-433	3-5/8" X 4-1/4"	32	.020	6B	1	9-3/8	1160	1000	900	800	710	610	520	460	380	300	
					12B	2 @ 6 CL	15-3/8	2040	1750	1590	1410	1240	1080	920	820	670	530	
					18B	3 @ 6 CL	21-3/8	2760	2370	2150	1900	1680	1460	1240	1100	910	720	
3/4"	C3/4-434	3-5/8" X 4-1/4"	40	.020	6B	1	9-3/8	1390	1200	1080	960	850	740	630	560	460	360	
					12B	2 @ 6 CL	15-3/8	2390	2060	1860	1650	1460	1270	1080	960	790	620	
					18B	3 @ 6 CL	21-3/8	3170	2730	2470	2190	1930	1680	1430	1270	1050	820	
3/4"	C3/4-435	3-5/8" X 4-1/4"	50	.020	6B	1	9-3/8	1540	1320	1200	1060	940	820	690	620	510	400	
					12B	2 @ 6 CL	15-3/8	2540	2180	1980	1750	1550	1350	1140	1020	840	660	
					18B	3 @ 6 CL	21-3/8	3310	2850	2580	2280	2020	1750	1490	1320	1090	860	
1"	C433	3-5/8" X 4-1/4"	32	.020	6B	1	9-3/8	1210	1040	940	830	740	640	540	480	400	310	
					12B	2 @ 6 CL	15-3/8	2130	1830	1660	1470	1300	1130	960	850	700	550	
					18B	3 @ 6 CL	21-3/8	2880	2480	2250	1990	1760	1530	1300	1150	950	750	
1"	C434	3-5/8" X 4-1/4"	40	.020	6B	1	9-3/8	1350	1160	1050	930	820	720	610	540	450	350	
					12B	2 @ 6 CL	15-3/8	2320	2000	1810	1600	1420	1230	1040	930	770	600	
					18B	3 @ 6 CL	21-3/8	3070	2640	2390	2120	1870	1630	1380	1230	1010	800	
1"	C435	3-5/8" X 4-1/4"	50	.020	6B	1	9-3/8	1540	1320	1200	1060	940	820	690	620	510	400	
					12B	2 @ 6 CL	15-3/8	2530	2180	1970	1750	1540	1340	1140	1010	830	660	
					18B	3 @ 6 CL	21-3/8	3310	2850	2580	2280	2020	1750	1490	1320	1090	860	
1-1/4"	C1433	3-5/8" X 4-1/4"	32	.020	6B	1	9-3/8	1260	1080	980	870	770	670	570	500	420	330	
					12B	2 @ 6 CL	15-3/8	2220	1910	1730	1530	1350	1180	1000	890	730	580	
					18B	3 @ 6 CL	21-3/8	3000	2580	2340	2070	1830	1590	1350	1200	990	780	
1-1/4"	C1434	3-5/8" X 4-1/4"	40	.020	6B	1	9-3/8	1380	1190	1080	950	840	730	620	550	460	360	
					12B	2 @ 6 CL	15-3/8	2370	2040	1850	1640	1450	1260	1070	950	780	620	
					18B	3 @ 6 CL	21-3/8	3130	2690	2440	2160	1910	1660	1410	1250	1030	810	
1-1/4"	C1435	3-5/8" X 4-1/4"	50	.020	6B	1	9-3/8	1540	1320	1200	1060	940	820	690	620	510	400	
					12B	2 @ 6 CL	15-3/8	2540	2180	1980	1750	1550	1350	1140	1020	840	660	
					18B	3 @ 6 CL	21-3/8	3320	2860	2590	2290	2030	1760	1490	1330	1100	860	
3/4"	C3/4 43	4-1/4" SQ.	32	.020	6B	1	9-3/8	1290	1110	1010	890	790	680	580	520	430	340	
					12B	2 @ 6 CL	15-3/8	2250	1940	1760	1550	1370	1190	1010	900	740	590	
					18B	3 @ 6 CL	21-3/8	3070	2640	2390	2120	1870	1630	1380	1230	1010	800	
3/4"	C3/4 44	4-1/4" SQ.	40	.020	6B	1	9-3/8	1540	1320	1200	1060	940	820	690	620	510	400	
					12B	2 @ 6 CL	15-3/8	2440	2100	1900	1680	1490	1290	1100	980	810	630	
					18B	3 @ 6 CL	21-3/8	3200	2750	2500	2210	1950	1700	1440	1280	1060	830	
3/4"	C3/4 45	4-1/4" SQ.	50	.020	6B	1	9-3/8	1580	1360	1230	1090	960	840	710	630	520	410	
					12B	2 @ 6 CL	15-3/8	2520	2170	1970	1740	1540	1340	1130	1010	830	660	
					18B	3 @ 6 CL	21-3/8	3290	2830	2570	2270	2010	1740	1480	1320	1090	860	
1"	C43	4-1/4" SQ.	32	.020	6B	1	9-3/8	1290	1110	1010	890	790	680	580	520	430	340	
					12B	2 @ 6 CL	15-3/8	2280	1960	1780	1570	1390	1210	1030	910	750	590	
					18B	3 @ 6 CL	21-3/8	3100	2670	2420	2140	1890	1640	1400	1240	1020	810	

STYLE "X" EXPANDED METAL

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
1"	C44	4-1/4" SQ.	40	.020	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1430 2390 3190	1230 2060 2740	1120 1860 2490	990 1650 2200	870 1460 1950	760 1270 1690	640 1080 1440	570 960 1280	470 790 1050	370 620 830
1"	C45	4-1/4" SQ.	50	.020	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1610 2540 3320	1380 2180 2860	1260 1980 2590	1110 1750 2290	980 1550 2030	850 1350 1760	720 1140 1490	640 1020 1330	530 840 1100	420 660 860
1-1/4"	C143	4-1/4" SQ.	32	.020	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1340 2370 3230	1150 2040 2780	1050 1850 2520	920 1640 2230	820 1450 1970	710 1260 1710	600 1070 1450	540 950 1290	440 780 1070	350 620 840
1-1/4"	C144	4-1/4" SQ.	40	.020	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1590 2570 3350	1370 2210 2880	1240 2000 2610	1100 1770 2310	970 1570 2040	840 1360 1780	720 1160 1510	640 1030 1340	520 850 1110	410 670 870
1-1/4"	C145	4-1/4" SQ.	50	.020	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1640 2360 3070	1410 2030 2640	1280 1840 2390	1130 1630 2120	1000 1440 1870	870 1250 1630	740 1060 1380	660 940 1230	540 780 1010	430 610 800

Note: Copper tube furnished flared one end standard.

STEEL ELEMENTS

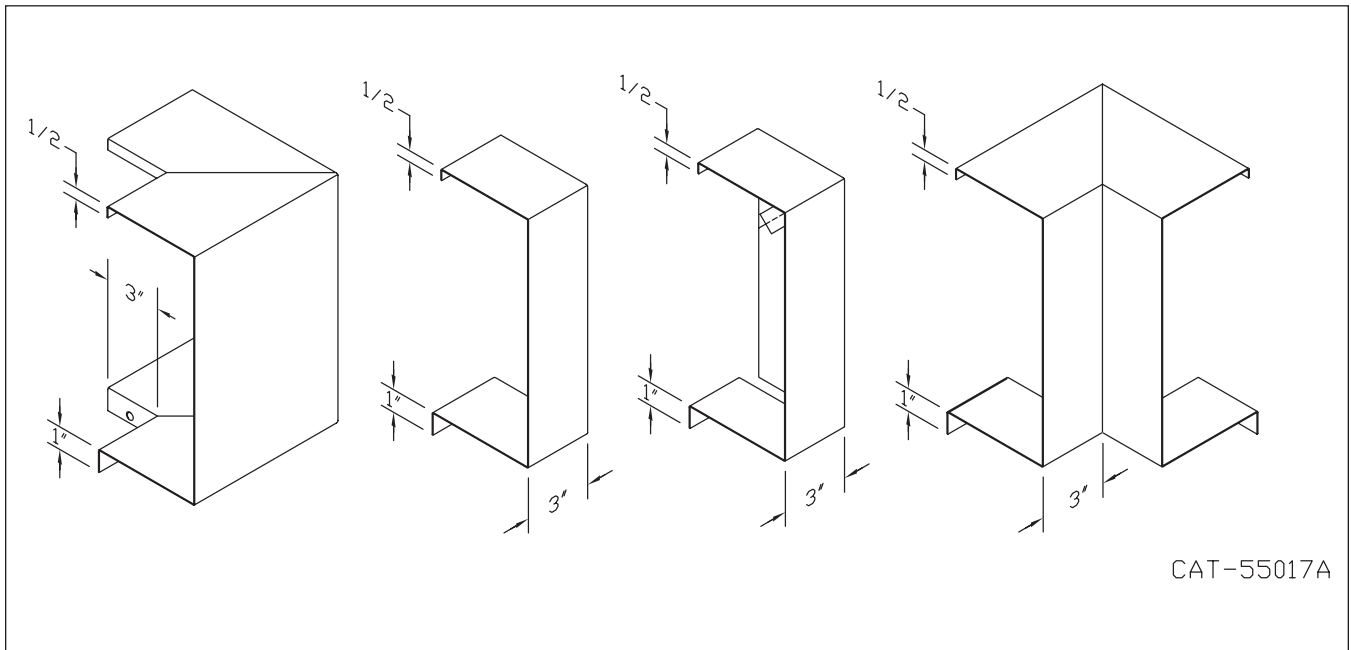
ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	ENCL DEPTH AND HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
									200°	190°	180°	170°	160°	150°	140°	130°	120°
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
1"	S33	3-1/4" SQ.	32	.032	5A 11A 17A	1 2 @ 6 CL 3 @ 6 CL	8-7/8 14-7/8 20-7/8	870 1520 2110	750 1310 1810	680 1190 1650	600 1050 1460	530 930 1290	460 810 1120	390 680 950	350 610 840	290 500 700	230 400 550
1"	S34	3-1/4" SQ.	40	.032	5A 11A 17A	1 2 @ 6 CL 3 @ 6 CL	8-7/8 14-7/8 20-7/8	950 1630 2260	820 1400 1940	740 1270 1760	660 1120 1560	580 990 1380	500 860 1200	430 730 1020	380 650 900	310 540 750	250 420 590
1"	S35	3-1/4" SQ.	50	.032	5A 11A 17A	1 2 @ 6 CL 3 @ 6 CL	8-7/8 14-7/8 20-7/8	1020 1720 2350	880 1480 2020	800 1340 1830	700 1190 1620	620 1050 1430	540 910 1250	460 770 1060	410 690 940	340 570 780	270 450 610
1-1/4"	S133	3-1/4" SQ.	32	.032	5A 11A 17A	1 2 @ 6 CL 3 @ 6 CL	8-7/8 14-7/8 20-7/8	860 1560 2150	740 1340 1850	670 1220 1680	590 1080 1480	520 930 1310	460 830 1140	390 700 970	340 620 860	280 510 710	220 410 560
1-1/4"	S134	3-1/4" SQ.	40	.032	5A 11A 17A	1 2 @ 6 CL 3 @ 6 CL	8-7/8 14-7/8 20-7/8	960 1630 2160	830 1400 1860	750 1270 1680	660 1120 1490	590 990 1320	510 860 1140	430 730 970	380 650 860	320 540 710	250 420 560
1-1/4"	S135	3-1/4" SQ.	50	.032	5A 11A 17A	1 2 @ 6 CL 3 @ 6 CL	8-7/8 14-7/8 20-7/8	990 1680 2190	850 1440 1880	770 1310 1710	680 1160 1510	600 1020 1340	520 890 1160	450 760 990	400 670 880	330 550 720	260 440 570
1"	S43	4-1/4" SQ.	32	.032	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1270 2230 2930	1090 1920 2520	990 1740 2290	880 1540 2020	770 1360 1790	670 1180 1550	570 1000 1320	510 890 1170	420 740 970	330 580 760
1"	S44	4-1/4" SQ.	40	.032	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1430 2350 3050	1230 2020 2620	1120 1830 2380	990 1620 2100	870 1430 1860	760 1250 1620	640 1060 1370	570 940 1220	470 780 1010	370 610 790
1"	S45	4-1/4" SQ.	50	.032	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1520 2410 3100	1310 2070 2670	1190 1880 2420	1050 1660 2140	930 1470 1890	810 1280 1640	680 1080 1400	610 960 1240	500 800 1020	400 630 810
1-1/4"	S143	4-1/4" SQ.	32	.032	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1170 2210 2910	1010 1900 2500	910 1720 2270	810 1520 2010	710 1350 1780	620 1170 1540	530 990 1310	470 880 1160	390 730 960	300 570 760
1-1/4"	S144	4-1/4" SQ.	40	.032	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1420 2340 3040	1220 2010 2610	1110 1830 2370	980 1610 2100	870 1430 1850	750 1240 1610	640 1050 1370	570 940 1220	470 770 1000	370 610 790
1-1/4"	S145	4-1/4" SQ.	50	.032	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1490 2360 3070	1280 2030 2640	1160 1840 2390	1030 1630 2120	910 1440 1870	790 1250 1630	670 1060 1380	600 940 1230	490 780 1010	390 610 800
2"	S242	4-1/4" SQ.	25	.032	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1090 1950 2590	940 1680 2230	850 1520 2020	750 1350 1790	660 1190 1580	580 1030 1370	490 880 1170	440 780 1040	360 640 850	280 510 670
2"	S243	4-1/4" SQ.	32	.032	6B 12B 18B	1 2 @ 6 CL 3 @ 6 CL	9-3/8 15-3/8 21-3/8	1270 2140 2790	1090 1840 2400	990 1670 2180	880 1480 1930	770 1310 1700	670 1130 1480	570 960 1260	510 860 1120	420 710 920	330 560 730

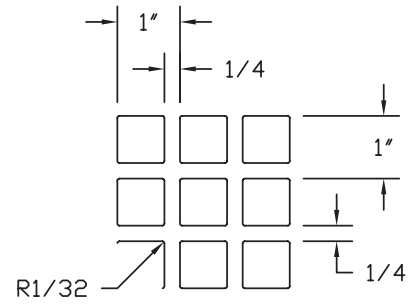
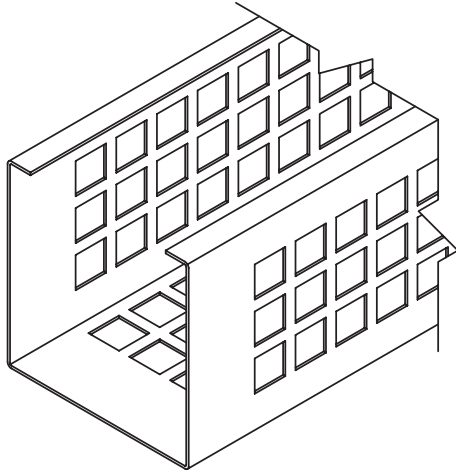
- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.

STYLE "X" EXPANDED METAL

STYLE X ACCESSORIES



STYLE "X-C" EXPANDED METAL - CEILING



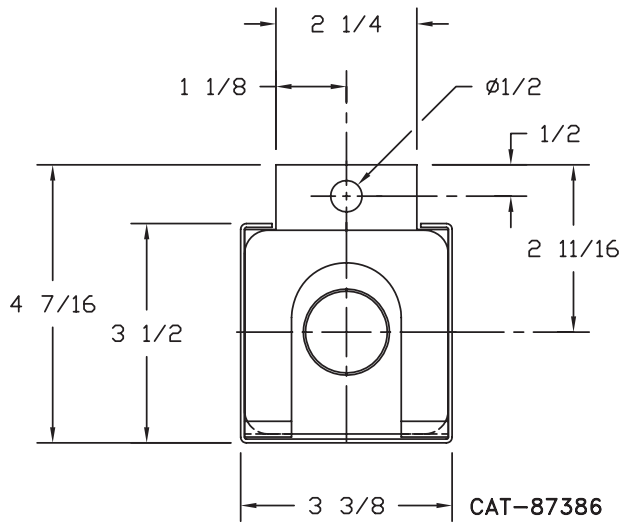
ENCLOSURE PERFORATION DETAIL

VA-X3C

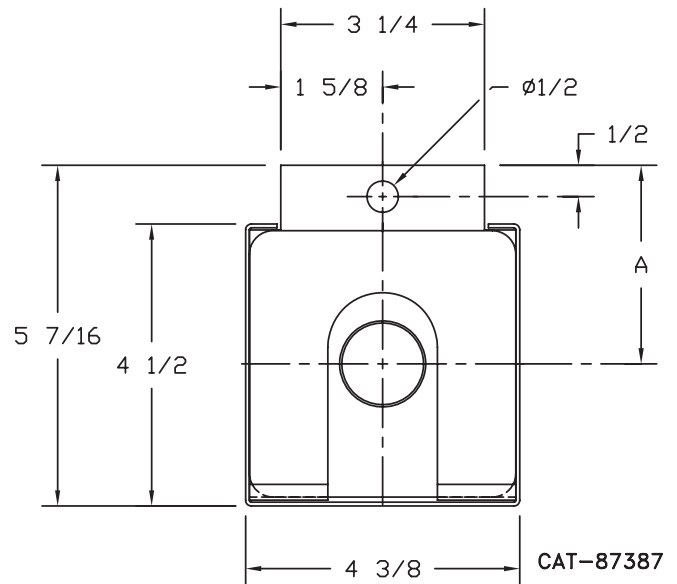
ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH
3/4 COPPER	3 1/4 x 3 1/4
1" COPPER	3 1/4 x 3 1/4
1 1/4 COPPER	3 1/4 x 3 1/4
1" STEEL	3 1/4 x 3 1/4
1 1/4 STEEL	3 1/4 x 3 1/4

VA-X4C

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	A
3/4 COPPER	3 5/8 x 4 1/4	3 1/2
3/4 COPPER	4 1/4 x 4 1/4	3 3/16
1" COPPER	3 5/8 x 4 1/4	3 1/2
1" COPPER	4 1/4 x 4 1/4	3 3/16
1 1/4 COPPER	3 5/8 x 4 1/4	3 1/2
1 1/4 COPPER	4 1/4 x 4 1/4	3 3/16
1" STEEL	4 1/4 x 4 1/4	3 3/16
1 1/4 STEEL	4 1/4 x 4 1/4	3 3/16



CAT-87386



CAT-87387

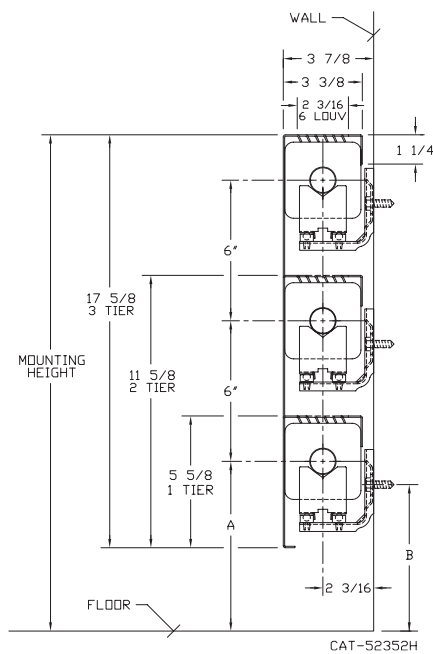
METHOD OF SUPPORT TO BE DETERMINED BY ENGINEER OR CONTRACTOR. MATERIALS USED WILL BE BY OTHERS.

Apply .85 derate factor to "X" style ratings.



VA-C

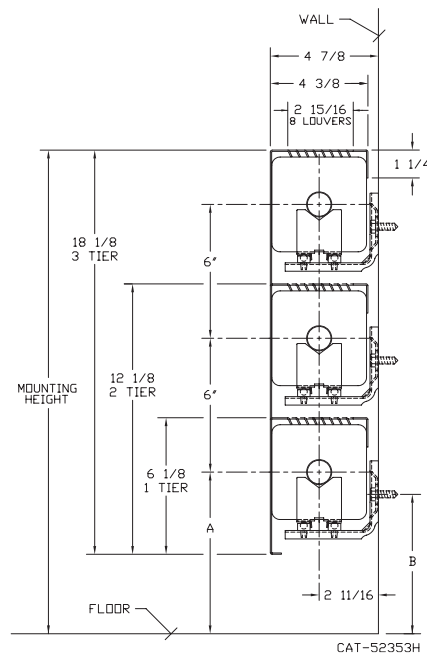
ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A	B
3/4 COPPER	3 1/4 x 3 1/4	2	6 15/16	6 1/8
1" COPPER	3 1/4 x 3 1/4	2	6 15/16	5 15/16
1 1/4 COPPER	3 1/4 x 3 1/4	1	6 15/16	6 1/2
1" STEEL	3 1/4 x 3 1/4	2	6 15/16	5 13/16
1 1/4 STEEL	3 1/4 x 3 1/4	1	6 15/16	6 5/16



CAT-52352H

VB-C

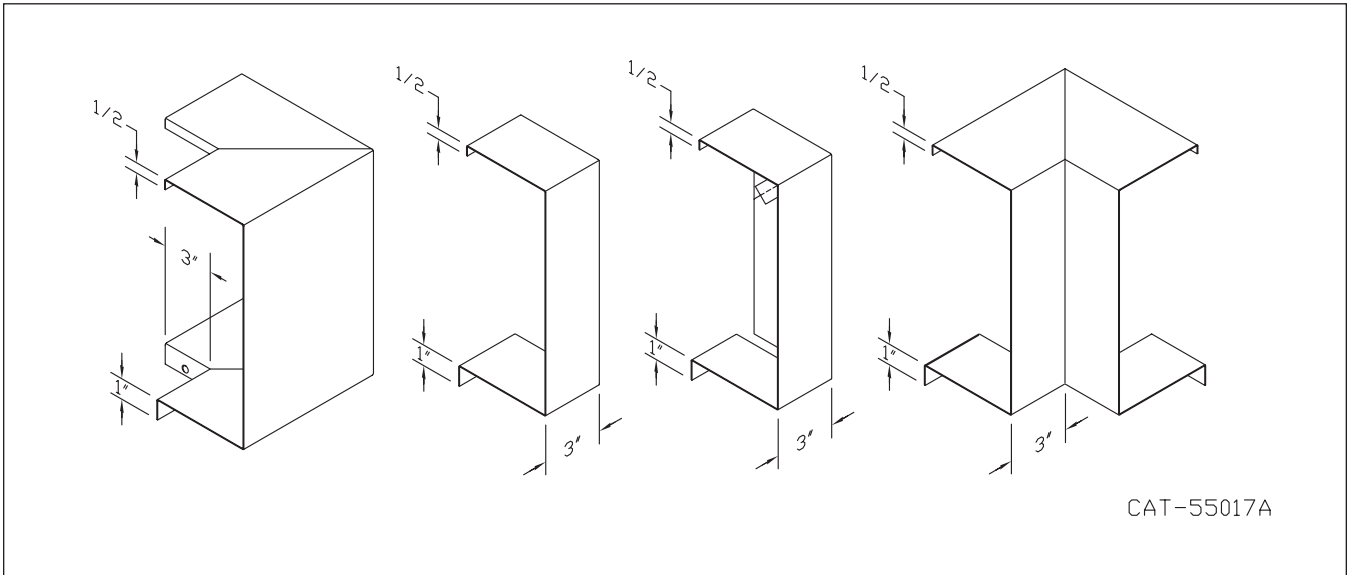
ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A	B
3/4 COPPER	3 5/8 x 4 1/4	2	7 1/4	6 7/16
	4 1/4 x 4 1/4	3A	6 15/16	5 11/16
1" COPPER	3 5/8 x 4 1/4	2	7 1/4	6 1/4
	4 1/4 x 4 1/4		6 15/16	5 15/16
1 1/4 COPPER	3 5/8 x 4 1/4	2	7 1/4	6 1/8
	4 1/4 x 4 1/4		6 15/16	5 13/16
1" STEEL	4 1/4 x 4 1/4	2	6 15/16	5 13/16
1 1/4 STEEL	4 1/4 x 4 1/4	2	6 15/16	5 5/8
2" STEEL	4 1/4 x 4 1/4	1	6 15/16	5 7/8



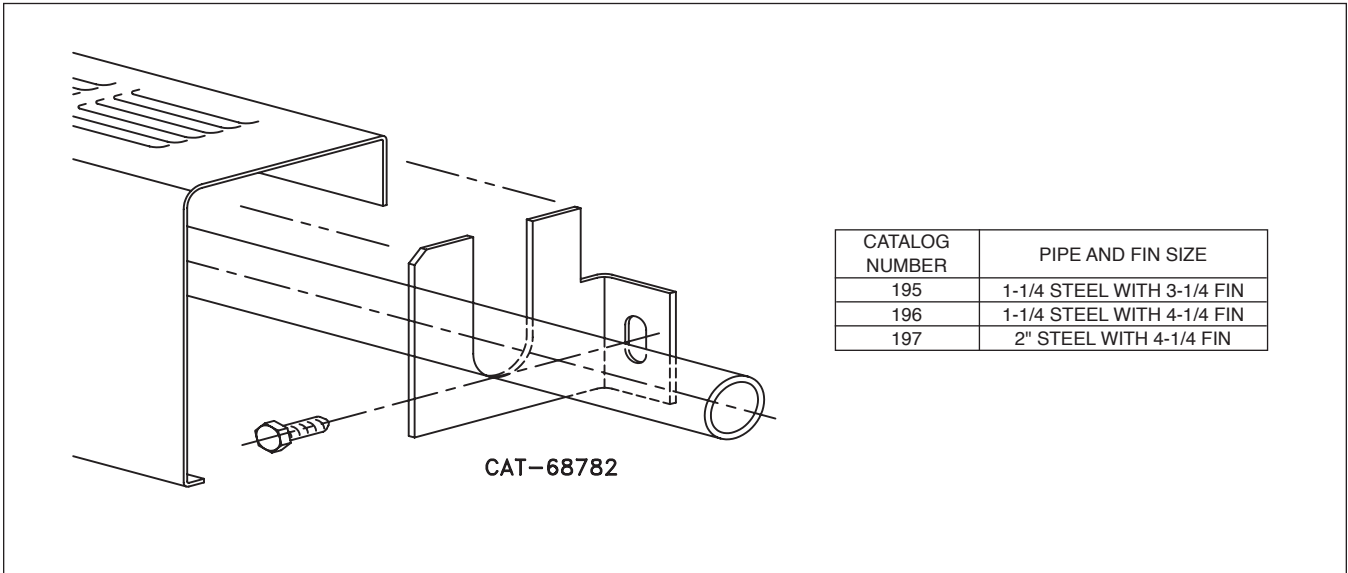
CAT-52353H

STYLE "C" TOP OUTLET

STYLE C ACCESSORIES



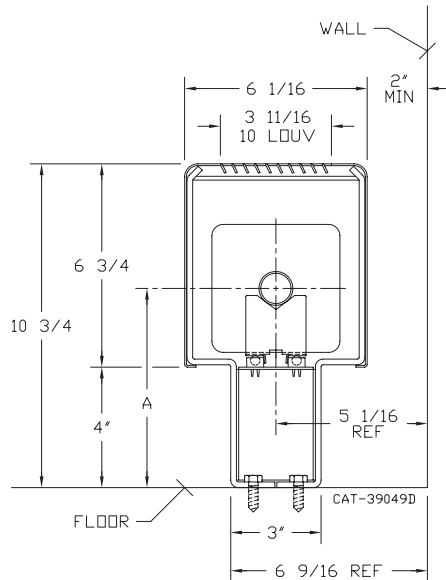
PIPE AND COVER SUPPORT BRACKET





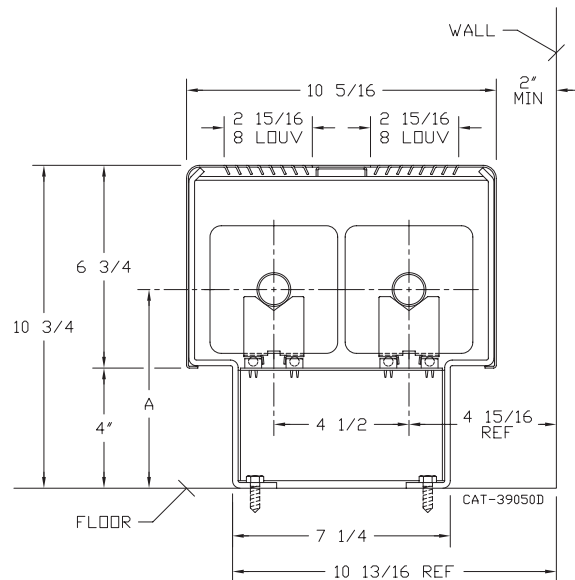
JVB-PM

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 5/8 x 4 1/4	2	6 7/16
3/4 COPPER	4 1/4 x 4 1/4	3A	6 13/16
1" COPPER	3 5/8 x 4 1/4	2	6 5/8
1" COPPER	4 1/4 x 4 1/4	2	6 5/8
1 1/4 COPPER	3 5/8 x 4 1/4	2	6 3/4
1 1/4 COPPER	4 1/4 x 4 1/4	2	6 3/4
1" STEEL	4 1/4 x 4 1/4	2	6 3/4
1 1/4 STEEL	4 1/4 x 4 1/4	2	6 15/16
2" STEEL	4 1/4 x 4 1/4	1	6 11/16



JVB-2PM

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4 COPPER	3 5/8 x 4 1/4	2	6 7/16
3/4 COPPER	4 1/4 x 4 1/4	3A	6 13/16
1" COPPER	3 5/8 x 4 1/4	2	6 5/8
1" COPPER	4 1/4 x 4 1/4	2	6 5/8
1 1/4 COPPER	3 5/8 x 4 1/4	2	6 3/4
1 1/4 COPPER	4 1/4 x 4 1/4	2	6 3/4
1" STEEL	4 1/4 x 4 1/4	2	6 3/4
1 1/4 STEEL	4 1/4 x 4 1/4	2	6 15/16
2" STEEL	4 1/4 x 4 1/4	1	6 11/16

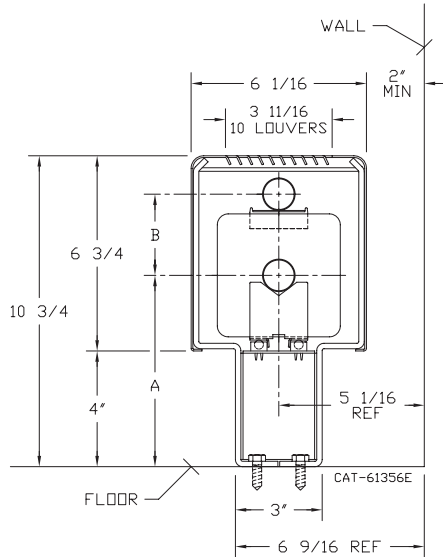


STYLE "PM" PEDESTAL MOUNTED

ALTERNATE PIPING CAPABILITY WITH 3/4" AND 1" COPPER TUBE ELEMENTS

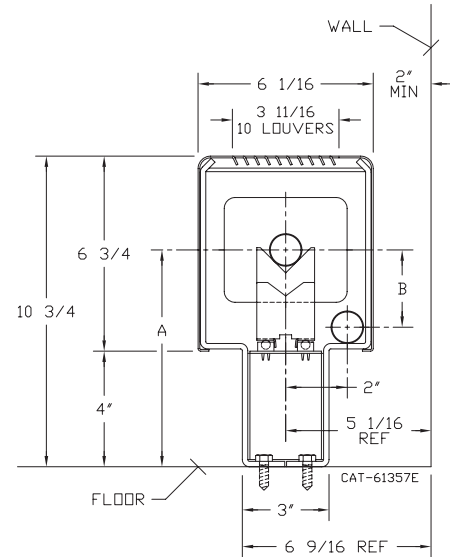
JVB-PM WITH RETURN ABOVE ELEMENT

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A	B WITH 3/4 RETURN
3/4 COPPER	3 5/8 x 4 1/4	2	6 7/16	2 3/8
3/4 COPPER	4 1/4 x 4 1/4	3A	6 13/16	2 11/16
1" COPPER	3 5/8 x 4 1/4	2	6 5/8	2 1/2
1" COPPER	4 1/4 x 4 1/4	2	6 5/8	2 7/8



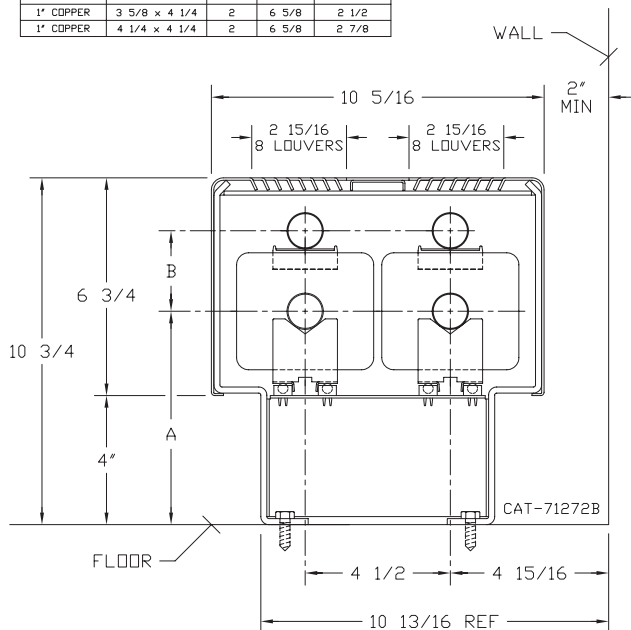
JVB-PM WITH RETURN BELOW ELEMENT

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A	B WITH 3/4 RETURN	B WITH 1" RETURN
3/4 COPPER	3 5/8 x 4 1/4	6	7 3/16	2 1/2	2 3/8
3/4 COPPER	4 1/4 x 4 1/4	10	7 3/8	2 11/16	N/A
1" COPPER	3 5/8 x 4 1/4	6	7 3/8	2 11/16	2 9/16
1" COPPER	4 1/4 x 4 1/4	10	7 9/16	2 7/8	2 3/4



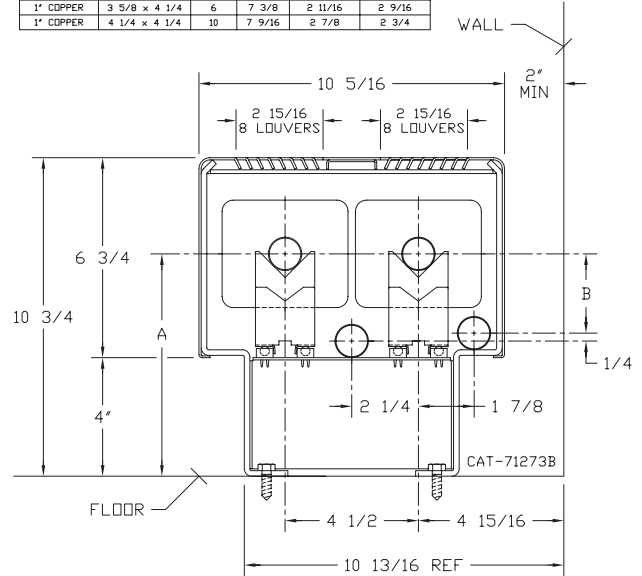
JVB-2PM WITH RETURN ABOVE ELEMENT

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A	B WITH 3/4 RETURN
3/4 COPPER	3 5/8 x 4 1/4	2	6 7/16	2 3/8
3/4 COPPER	4 1/4 x 4 1/4	3A	6 13/16	2 11/16
1" COPPER	3 5/8 x 4 1/4	2	6 5/8	2 1/2
1" COPPER	4 1/4 x 4 1/4	2	6 5/8	2 7/8



JVB-2PM WITH RETURN BELOW ELEMENT

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A	B WITH 3/4 RETURN	B WITH 1" RETURN
3/4 COPPER	3 5/8 x 4 1/4	6	7 3/16	2 1/2	2 3/8
3/4 COPPER	4 1/4 x 4 1/4	10	7 3/8	2 11/16	N/A
1" COPPER	3 5/8 x 4 1/4	6	7 3/8	2 11/16	2 9/16
1" COPPER	4 1/4 x 4 1/4	10	7 9/16	2 7/8	2 3/4

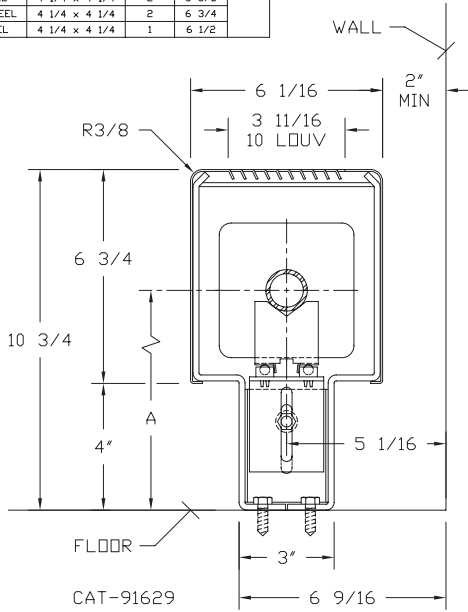


STYLE "PM" PEDESTAL MOUNTED

OPTIONAL ADJUSTABLE PEDESTAL BRACKET ASSEMBLIES FOR 2-PIPE STEAM

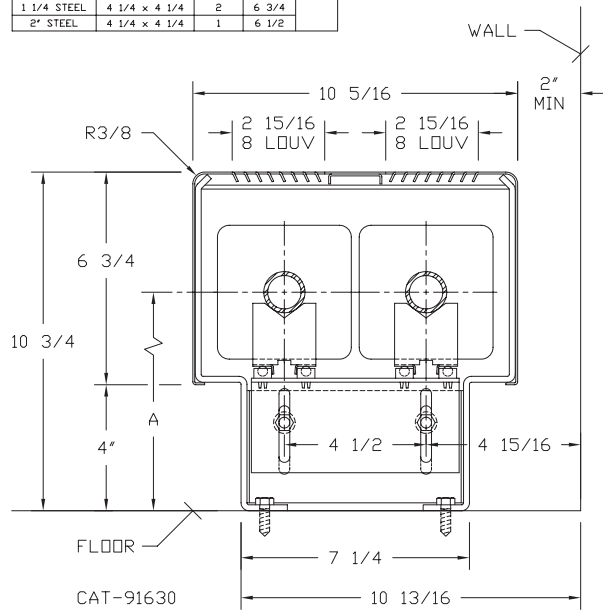
JVB-PM

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A MIN	A MAX
3/4 COPPER	3 5/8 x 4 1/4	2	6 1/2	8"
3/4 COPPER	4 1/4 x 4 1/4	3A	6 11/16	
1" COPPER	3 5/8 x 4 1/4	2	6 1/2	
1" COPPER	4 1/4 x 4 1/4	2	6 1/2	
1 1/4 COPPER	3 5/8 x 4 1/4	2	6 5/8	
1 1/4 COPPER	4 1/4 x 4 1/4	2	6 5/8	
1" STEEL	4 1/4 x 4 1/4	2	6 5/8	
1 1/4 STEEL	4 1/4 x 4 1/4	2	6 3/4	
2" STEEL	4 1/4 x 4 1/4	1	6 1/2	



JVB-2PM

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A MIN	A MAX
3/4 COPPER	3 5/8 x 4 1/4	2	6 1/2	8"
3/4 COPPER	4 1/4 x 4 1/4	3A	6 11/16	
1" COPPER	3 5/8 x 4 1/4	2	6 1/2	
1" COPPER	4 1/4 x 4 1/4	2	6 1/2	
1 1/4 COPPER	3 5/8 x 4 1/4	2	6 5/8	
1 1/4 COPPER	4 1/4 x 4 1/4	2	6 5/8	
1" STEEL	4 1/4 x 4 1/4	2	6 5/8	
1 1/4 STEEL	4 1/4 x 4 1/4	2	6 3/4	
2" STEEL	4 1/4 x 4 1/4	1	6 1/2	

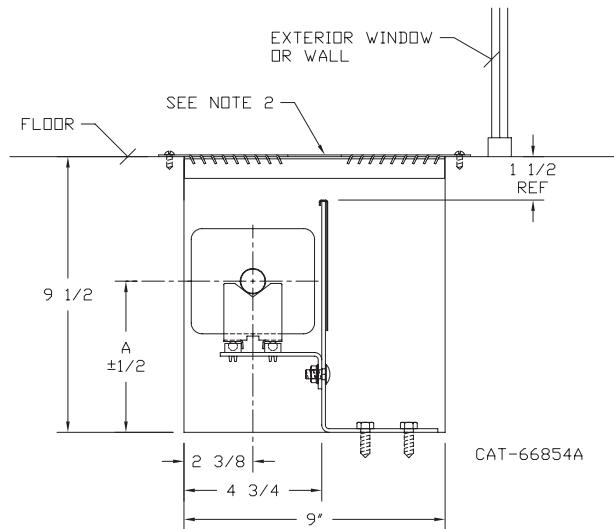


TRV

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4" COPPER	3 5/8 x 4 1/4	2	5 3/16
3/4" COPPER	4 1/4 x 4 1/4	3A	5 9/16
1" COPPER	3 5/8 x 4 1/4	2	5 3/8
1" COPPER	4 1/4 x 4 1/4	2	5 3/8
1 1/4" COPPER	3 5/8 x 4 1/4	2	5 1/2
1 1/4" COPPER	4 1/4 x 4 1/4	2	5 1/2
1" STEEL	4 1/4 x 4 1/4	2	5 1/2
1 1/4" STEEL	4 1/4 x 4 1/4	2	5 11/16
2" STEEL	4 1/4 x 4 1/4	1	5 7/16

NOTES:

- Trough Liner Optional (Not Shown).
- Floor Grille is by Other or Consult Factory for Availability.



COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	TROUGH DEPTH AND HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
							200°	190°	180°	170°	160°	150°	140°	130°	120°	
							CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									
							1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
3/4"	C3/4-433	3-5/8" x 4-1/4"	32	.020	9 1/2 x 9	1120	960	870	770	680	590	500	450	370	290	
	C3/4-434		40	"	"	1340	1150	1050	920	820	710	600	540	440	350	
	C3/4-435		50	"	"	1480	1270	1150	1020	900	780	670	590	490	380	
1"	C433	3-5/8" x 4-1/4"	32	.020	9 1/2 x 9	1170	1010	910	810	710	620	530	470	390	300	
	C434		40	"	"	1300	1120	1010	900	790	690	590	520	430	340	
	C435		50	"	"	1480	1270	1150	1020	900	780	670	590	490	380	
1-1/4"	C1433	3-5/8" x 4-1/4"	32	.020	9 1/2 x 9	1210	1040	940	830	740	640	540	480	400	310	
	C1434		40	"	"	1330	1140	1040	920	810	700	600	530	440	350	
	C1435		50	"	"	1480	1270	1150	1020	900	780	670	590	490	380	
3/4"	C3/4-43	4-1/4" SQ.	32	.020	9 1/2 x 9	1240	1070	970	860	760	660	560	500	410	320	
	C3/4-44		40	"	"	1480	1270	1150	1020	900	780	670	590	490	380	
	C3/4-45		50	"	"	1530	1320	1190	1060	930	810	690	610	500	400	
1"	C43	4-1/4" SQ.	32	.020	9 1/2 x 9	1240	1070	970	860	760	660	560	500	410	320	
	C44		40	"	"	1380	1190	1080	950	840	730	620	550	460	360	
	C45		50	"	"	1550	1330	1210	1070	950	820	700	620	510	400	
1-1/4"	C143	4-1/4" SQ.	32	.020	9 1/2 x 9	1300	1120	1010	900	790	690	590	520	430	340	
	C144		40	"	"	1540	1320	1200	1060	940	820	690	620	510	400	
	C145		50	"	"	1580	1360	1230	1090	960	840	710	630	520	410	

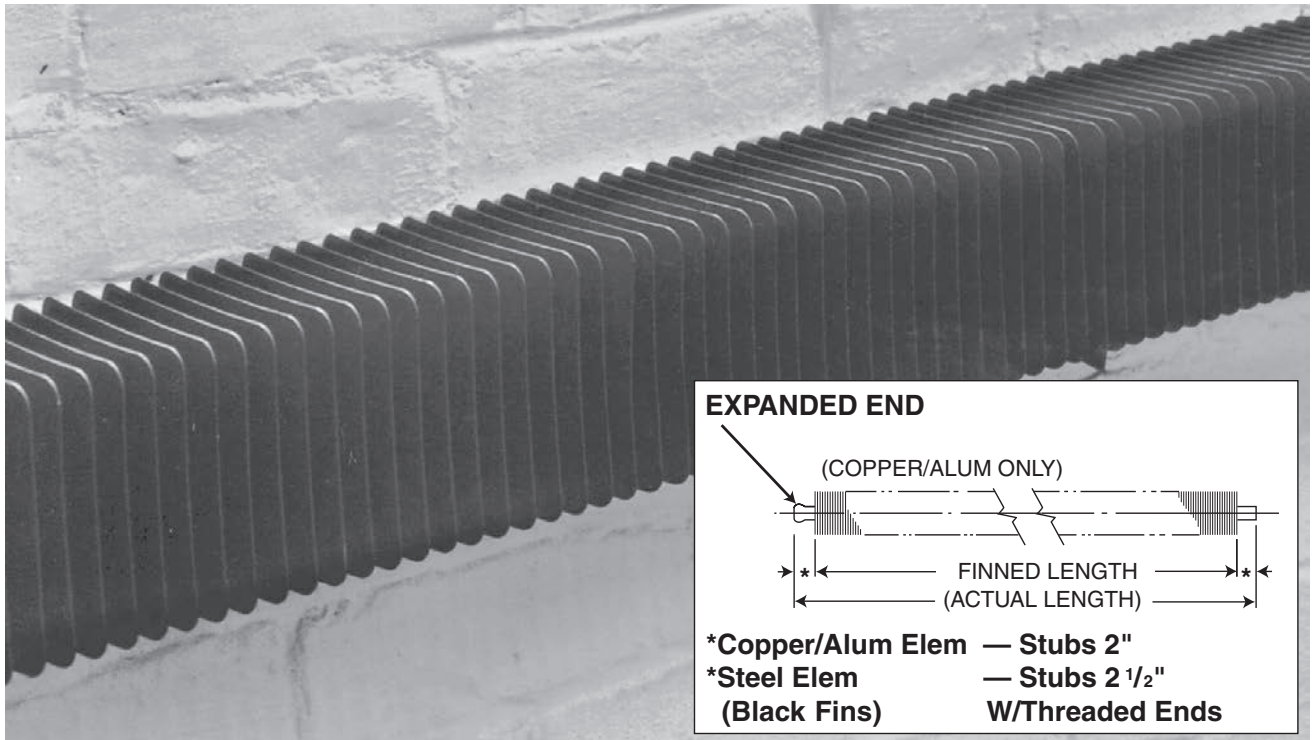
- Notes: 1. Ratings are based on 24 sq. in. of free area per linear foot of air inlet and outlet each.
2. For systems using steam, consult factory.

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	TROUGH DEPTH AND HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
							200°	190°	180°	170°	160°	150°	140°	130°	120°	
							CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									
							1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
1"	S43	4-1/4" SQ.	32	.032	9 1/2 x 9	1220	1050	950	840	740	650	550	490	400	320	
	S44		40	"	"	1380	1190	1080	950	840	730	620	550	460	360	
	S45		50	"	"	1460	1260	1140	1010	890	770	660	580	480	380	
1-1/4"	S143	4-1/4" SQ.	32	.032	9 1/2 x 9	1130	970	880	780	690	600	510	450	370	290	
	S144		40	"	"	1370	1180	1070	950	840	730	620	550	450	360	
	S145		50	"	"	1430	1230	1120	990	870	760	640	570	470	370	
2"	S242	4-1/4" SQ.	25	.032	9 1/2 x 9	1050	900	820	720	640	560	470	420	350	270	
	S243		32	"	"	1220	1050	950	840	740	650	550	490	400	320	

- Notes: 1. Ratings are based on 24 sq. in. of free area per linear foot of air inlet and outlet each.
2. For systems using steam, consult factory.



ELEMENT ORDERING INFORMATION

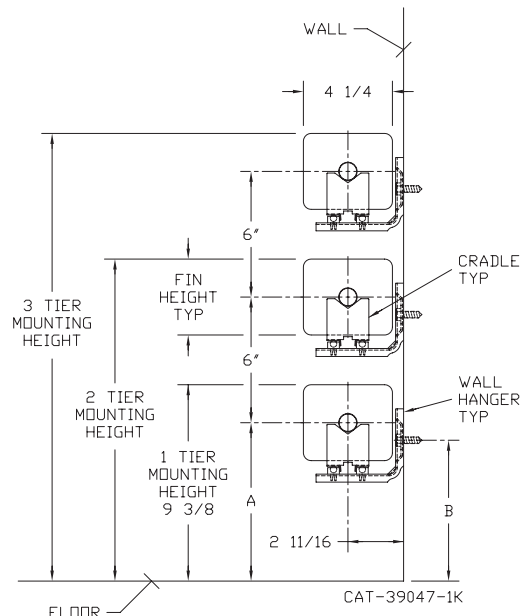
When ordering element specify fin thickness: steel = .024, .032; copper = .020, .011 as shown on Selection Pages.

For standard and special lengths refer to price sheets.

The ratings shown in this catalog are in BTU per hour per linear foot of *active* fin length. Active fin length is catalog ordering length less 4" on copper/aluminum element and less 5" on steel elements. The water ratings shown are based on a water velocity flow rate of three feet per second as determined by AHRI and applying factors to the steam rating.

Bare Element "B" Offset

TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A	B
3/4 COPPER	3 5/8 x 4 1/4	2	7 9/16	6 3/4
	4 1/4 x 4 1/4	3A	7 1/4	6"
1" COPPER	3 5/8 x 4 1/4	2	7 9/16	6 9/16
	4 1/4 x 4 1/4		7 1/4	6 1/4
1 1/4 COPPER	3 5/8 x 4 1/4	2	7 9/16	6 7/16
	4 1/4 x 4 1/4		7 1/4	6 1/8
1" STEEL	4 1/4 x 4 1/4	2	7 1/4	6 1/8
1 1/4 STEEL	4 1/4 x 4 1/4	2	7 1/4	5 15/16
2" STEEL	4 1/4 x 4 1/4	1	7 1/4	6 3/16



BARE ELEMENT STYLE "B"

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HRLIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)									
								200°	190°	180°	170°	160°	150°	140°	130°	120°	
								CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES									
					<i>1</i>	<i>9-3/8</i>	1210	1040	940	830	740	640	540	480	400	310	
3/4"	C3/4-433	3-5/8" X 4-1/4"	32	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2130 2880	1830 2480	1660 2250	1470 1990	1300 1760	1130 1530	960 1300	850 1150	700 950	550 750	
3/4"	C3/4-434	3-5/8" X 4-1/4"	40	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2490 3300	2140 2840	1940 2570	1720 2280	1520 2010	1320 1750	1120 1490	1000 1320	820 1090	650 860	
3/4"	C3/4-435	3-5/8" X 4-1/4"	50	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2650 3450	2280 2970	2070 2690	1830 2380	1620 2100	1400 1830	1190 1550	1060 1380	870 1140	690 900	
1"	C433	3-5/8" X 4-1/4"	32	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2220 3000	1910 2580	1730 2340	1530 2070	1350 1830	1180 1590	1000 1350	890 1200	730 990	580 780	
1"	C434	3-5/8" X 4-1/4"	40	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2420 3200	2080 2750	1890 2500	1670 2210	1480 1950	1280 1700	1090 1440	970 1280	800 1060	630 830	
1"	C435	3-5/8" X 4-1/4"	50	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2640 3450	2270 2970	2060 2690	1820 2380	1610 2100	1400 1830	1190 1550	1060 1380	870 1140	690 900	
1-1/4"	C1433	3-5/8" X 4-1/4"	32	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2310 3130	1990 2690	1800 2440	1590 2160	1410 1910	1220 1660	1040 1410	920 1250	760 1030	600 810	
1-1/4"	C1434	3-5/8" X 4-1/4"	40	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2470 3260	2120 2800	1930 2540	1700 2250	1510 1990	1310 1730	1110 1470	990 1300	820 1080	640 850	
1-1/4"	C1435	3-5/8" X 4-1/4"	50	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2650 3460	2280 2980	2070 2700	1830 2390	1620 2110	1400 1830	1190 1560	1060 1380	870 1140	690 900	
3/4"	C3/4 43	4-1/4" SQ.	32	.020	2-6 CL 3-6 CL	15-3/8 21-3/8	1340 3200	1150 2750	1050 2500	920 2210	820 1950	710 1700	600 1440	540 1280	440 1060	350 830	
3/4"	C3/4 44	4-1/4" SQ.	40	.020	2-6 CL 3-6 CL	15-3/8 21-3/8	1600 3330	1380 2860	1250 2600	1100 2300	980 2030	850 1760	720 1500	640 1330	530 1100	420 870	
3/4"	C3/4 45	4-1/4" SQ.	50	.020	2-6 CL 3-6 CL	15-3/8 21-3/8	1650 3430	1420 2950	1290 2680	1140 2370	1010 2090	870 1820	740 1540	660 1370	540 1130	430 890	
1"	C43	4-1/4" SQ.	32	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2370 3230	2040 2780	1850 2520	1640 2230	1450 1970	1260 1710	1070 1450	950 1290	780 1070	620 840	
1"	C44	4-1/4" SQ.	40	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2490 3320	2140 2860	1940 2590	1720 2290	1520 2030	1320 1760	1120 1490	1000 1330	820 1100	650 860	
1"	C45	4-1/4" SQ.	50	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2650 3460	2280 2980	2070 2700	1830 2390	1620 2110	1400 1830	1190 1560	1060 1380	870 1140	690 900	
1-1/4"	C143	4-1/4" SQ.	32	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2470 3360	2120 2890	1930 2620	1700 2320	1510 2050	1310 1780	1110 1510	990 1340	820 1110	640 870	
1-1/4"	C144	4-1/4" SQ.	40	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2680 3490	2300 3000	2090 2720	1850 2410	1630 2130	1420 1850	1210 1570	1070 1400	880 1150	700 910	
1-1/4"	C145	4-1/4" SQ.	50	<i>.020</i>	2-6 CL 3-6 CL	15-3/8 21-3/8	2460 3200	2120 2750	1920 2500	1700 2210	1500 1950	1300 1700	1110 1440	980 1280	810 1060	640 830	

Note: Copper tube furnished flared one end standard.

BARE ELEMENT STYLE "B"

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HRLIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

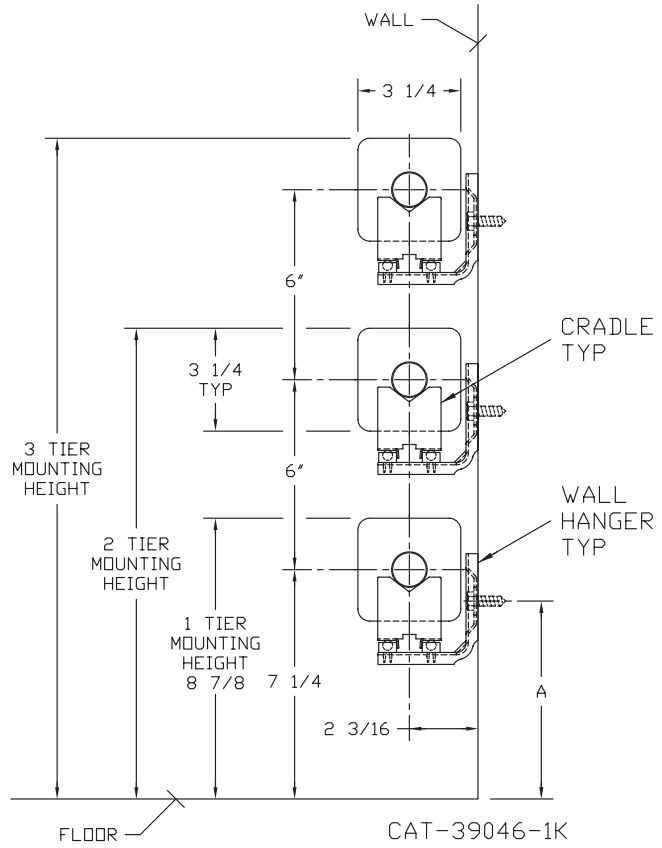
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)										
								200°	190°	180°	170°	160°	150°	140°	130°	120°	CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES	
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	
1"	S43	4-1/4" SQ.	32	.032	1	9-3/8	1320	1140	1030	910	810	700	590	530	440	340		
					2-6 CL	15-3/8	2320	2000	1810	1600	1420	1230	1040	930	770	600		
					3-6 CL	21-3/8	3050	2620	2380	2100	1860	1620	1370	1220	1010	790		
1"	S44	4-1/4" SQ.	40	.032	1	9-3/8	1490	1280	1160	1030	910	790	670	600	490	390		
					2-6 CL	15-3/8	2450	2110	1910	1690	1490	1300	1100	980	810	640		
					3-6 CL	21-3/8	3180	2730	2480	2190	1940	1690	1430	1270	1050	830		
1"	S45	4-1/4" SQ.	50	.032	1	9-3/8	1580	1360	1230	1090	960	840	710	630	520	410		
					2-6 CL	15-3/8	2510	2160	1960	1730	1530	1330	1130	1000	830	650		
					3-6 CL	21-3/8	3230	2780	2520	2230	1970	1710	1450	1290	1070	840		
1-1/4"	S143	4-1/4" SQ.	32	.032	1	9-3/8	1220	1050	950	840	740	650	550	490	400	320		
					2-6 CL	15-3/8	2300	1980	1790	1590	1400	1220	1040	920	760	600		
					3-6 CL	21-3/8	3030	2610	2360	2090	1850	1610	1360	1210	1000	790		
1-1/4"	S144	4-1/4" SQ.	40	.032	1	9-3/8	1480	1270	1150	1020	900	780	670	590	490	380		
					2-6 CL	15-3/8	2440	2100	1900	1680	1490	1290	1100	980	810	630		
					3-6 CL	21-3/8	3170	2730	2470	2190	1930	1680	1430	1270	1050	820		
1-1/4"	S145	4-1/4" SQ.	50	.032	1	9-3/8	1550	1330	1210	1070	950	820	700	620	510	400		
					2-6 CL	15-3/8	2460	2120	1920	1700	1500	1300	1110	980	810	640		
					3-6 CL	21-3/8	3200	2750	2500	2210	1950	1700	1440	1280	1060	830		
2"	S242	4-1/4" SQ.	25	.032	1	9-3/8	1140	980	890	790	700	600	510	460	380	300		
					2-6 CL	15-3/8	2030	1750	1580	1400	1240	1080	910	810	670	530		
					3-6 CL	21-3/8	2700	2320	2110	1860	1650	1430	1220	1080	890	700		
2"	S243	4-1/4" SQ.	32	.032	1	9-3/8	1320	1140	1030	910	810	700	590	530	440	340		
					2-6 CL	15-3/8	2230	1920	1740	1540	1360	1180	1000	890	740	580		
					3-6 CL	21-3/8	2910	2500	2270	2010	1780	1540	1310	1160	960	760		
2"	S244	4-1/4" SQ.	40	.032	1	9-3/8	1490	1280	1160	1030	910	790	670	600	490	390		
					2-6 CL	15-3/8	2360	2030	1840	1630	1440	1250	1060	940	780	610		
					3-6 CL	21-3/8	3040	2610	2370	2100	1850	1610	1370	1220	1000	790		

- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.

BARE ELEMENT STYLE "A"

Bare Element "A" Offset

ELEMENT TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A
3/4" COPPER	3 1/4" x 3 1/4"	2	6 3/8"
1" COPPER	3 1/4" x 3 1/4"	2	6 1/4"
1 1/4" COPPER	3 1/4" x 3 1/4"	1	6 3/4"
1" STEEL	3 1/4" x 3 1/4"	2	6 1/8"
1 1/4" STEEL	3 1/4" x 3 1/4"	1	6 5/8"



BARE ELEMENT STYLE "A"

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
								200°	190°	180°	170°	160°	150°	140°	130°	120°
								CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
3/4"	C3/4-33	3-1/4" SQ.	32	.020	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	970 1720 2410	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								830	760	670	590	510	440	390	320	250
								1480	1340	1190	1050	910	770	690	570	450
3/4"	C3/4-34	3-1/4" SQ.	40	.020	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	1140 1880 2570	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								980	890	790	700	600	510	460	380	300
								1620	1470	1300	1150	1000	850	750	620	490
3/4"	C3/4-35	3-1/4" SQ.	50	.020	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	1260 2010 2690	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								1080	980	870	770	670	570	500	420	330
								1730	1570	1390	1230	1070	900	800	660	520
1"	C33	3-1/4" SQ.	32	.020	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	970 1720 2370	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								830	760	670	590	510	440	390	320	250
								1480	1340	1190	1050	910	770	690	570	450
1"	C34	3-1/4" SQ.	40	.020	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	1080 1850 2490	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								930	840	750	660	570	490	430	360	280
								1590	1440	1280	1130	980	830	740	610	480
1"	C35	3-1/4" SQ.	50	.020	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	1210 1940 2600	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								1040	940	830	740	640	540	480	400	310
								1670	1510	1340	1180	1030	870	780	640	500
1-1/4"	C133	3-1/4" SQ.	32	.020	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	970 1680 2360	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								830	760	670	590	510	440	390	320	250
								1440	1310	1160	1020	890	760	670	550	440
1-1/4"	C134	3-1/4" SQ.	40	.020	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	1060 1840 2450	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								910	830	730	650	560	480	420	350	280
								1580	1440	1270	1120	980	830	740	610	480
1-1/4"	C135	3-1/4" SQ.	50	.020	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	1170 1900 2550	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								1010	910	810	710	620	530	470	390	300
								1630	1480	1310	1160	1010	860	760	630	490

Note: Copper tube furnished flared one end standard.

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

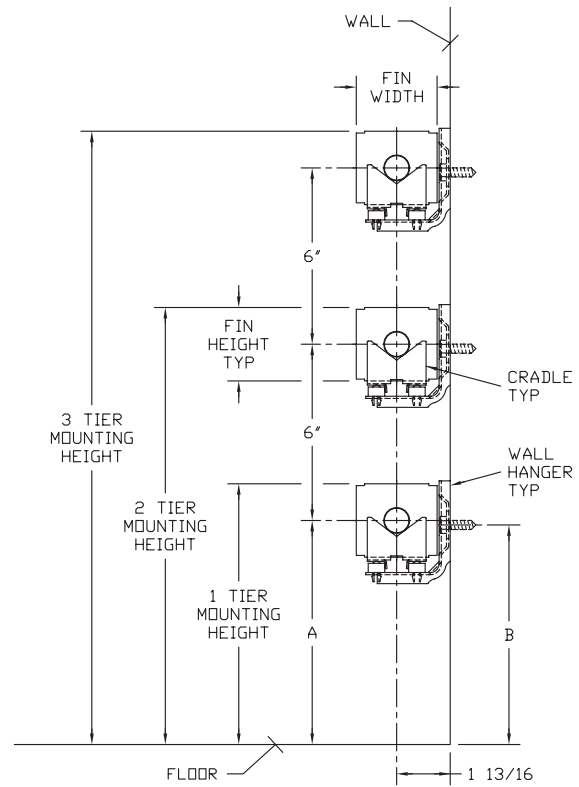
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
								200°	190°	180°	170°	160°	150°	140°	130°	120°
								CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
1"	S33	3-1/4" SQ.	32	.032	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	910 1580 2200	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								780	710	630	560	480	410	360	300	240
								1360	1230	1090	960	840	710	630	520	410
1"	S34	3-1/4" SQ.	40	.032	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	990 1700 2350	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								850	770	680	600	520	450	400	330	260
								1460	1330	1170	1040	900	770	680	560	440
1"	S35	3-1/4" SQ.	50	.032	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	1060 1790 2450	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								910	830	730	650	560	480	420	350	280
								1540	1400	1240	1090	950	810	720	590	470
1-1/4"	S133	3-1/4" SQ.	32	.032	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	900 1620 2240	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								770	700	620	550	480	410	360	300	230
								1390	1260	1120	990	860	730	650	530	420
1-1/4"	S134	3-1/4" SQ.	40	.032	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	1000 1700 2250	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								860	780	690	610	530	450	400	330	260
								1460	1330	1170	1040	900	770	680	560	440
1-1/4"	S135	3-1/4" SQ.	50	.032	1 2-6 CL 3-6 CL	8-7/8 14-7/8 20-7/8	1030 1750 2280	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
								890	800	710	630	550	460	410	340	270
								1510	1370	1210	1070	930	790	700	580	460

- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.

BARE ELEMENT STYLE "K"

Bare Element "K" Offset

TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A	B	1 TIER MOUNTING HEIGHT
3/4 COPPER	2 1/2 x 2 1/4	1	7 5/8	7 1/2	8 7/8
	2 1/2 x 2 3/4	1			
	3 3/4 x 2 3/4	2			
1" COPPER	2 1/2 x 2 3/4	1	7 5/8	7 5/16	10"
	3 3/4 x 2 3/4	2	7"	6"	
	5" x 2 3/4	3A	7 1/2	6 1/8	
1 1/4 COPPER	3 3/4 x 2 3/4	2	7"	5 7/8	8 7/8
	5" x 2 3/4	3A	7 1/2	5 15/16	10"
1" STEEL	3 3/4 x 2 3/4	2	7"	5 7/8	8 7/8
	5" x 2 3/4	3A	7 1/2	6"	10"
1 1/4 STEEL	3 3/4 x 2 3/4	2	7"	5 11/16	8 7/8
	5" x 2 3/4	3A	7 1/2	5 3/4	10"

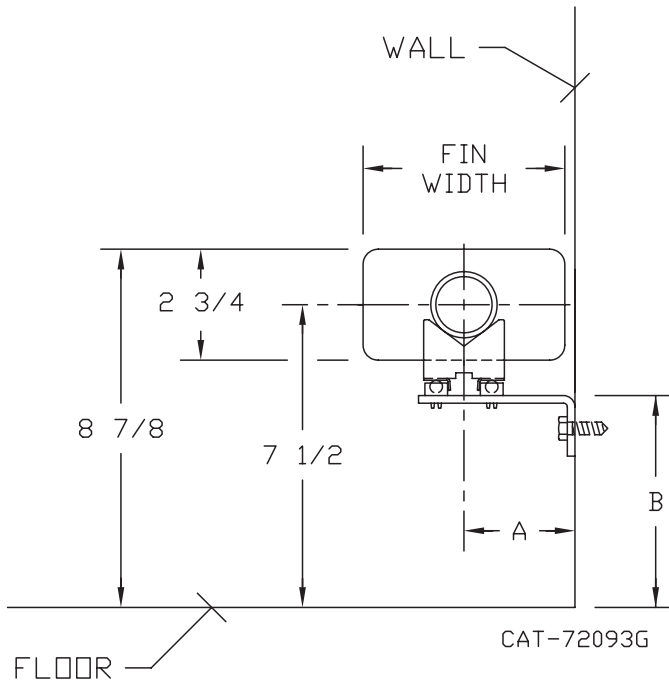


CAT-69647-1B

BARE ELEMENT STYLE "SP"

Bare Element "SP" Offset

TUBE SIZE	FIN SIZE HEIGHT x WIDTH	CRADLE NUMBER	A	B
3/4 COPPER	2 3/4 x 3 3/4	2	2 1/8	5 1/16
1" COPPER	2 3/4 x 3 3/4	1	2 1/8	5 9/16
	2 3/4 x 5"	1	2 3/4	
1 1/4 COPPER	2 3/4 x 3 3/4	1	2 1/8	5 7/16
	2 3/4 x 5"	1	2 3/4	
1" STEEL	2 3/4 x 3 3/4	1	2 1/8	5 7/16
	2 3/4 x 5"	1	2 3/4	
1 1/4 STEEL	2 3/4 x 5"	1	2 3/4	5 1/4



CAT-72093G

BARE ELEMENT STYLE "K"

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
								200°	190°	180°	170°	160°	150°	140°	130°	120°
								CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
					1	8-7/8	1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
3/4"	R01	2-1/2" x 2-1/4"	50	.011	2-6CL 3-6CL	14-7/8 20-7/8	800 1370 1870	690 1180 1610	620 1070 1460	550 950 1290	490 840 1140	420 730 990	360 620 840	320 550 750	260 450 620	210 360 490
3/4"	R02	2-1/2" x 2-3/4"	60	.010	2-6CL 3-6CL	14-7/8 20-7/8	950 1630 2240	820 1400 1930	740 1270 1750	660 1120 1550	580 990 1370	500 860 1190	430 730 1010	380 650 900	310 540 740	250 420 580
1"	R03	2-1/2" x 2-3/4"	55	.011	2-6CL 3-6CL	14-7/8 20-7/8	930 1610 2210	800 1380 1900	730 1260 1720	640 1110 1520	570 980 1350	490 850 1170	420 720 990	370 640 880	310 530 730	240 420 570
3/4"	R04	3-3/4" x 2-3/4"	50	.014	2-6CL 3-6CL	14-7/8 20-7/8	1130 1930 2650	970 1660 2280	880 1510 2070	780 1330 1830	690 1180 1620	600 1020 1400	510 870 1190	450 770 1060	370 640 870	290 500 690
1"	R05	3-3/4" x 2-3/4"	50	.014	2-6CL 3-6CL	14-7/8 20-7/8	1120 1910 2630	960 1640 2260	870 1490 2050	770 1320 1810	680 1170 1600	590 1010 1390	500 860 1180	450 760 1050	370 630 870	290 500 680
1"	R07	5" x 2-3/4"	50	.020	2-6CL 3-6CL	16 22	1260 2100 2870	1080 1810 2470	980 1640 2240	870 1450 1980	770 1280 1750	670 1110 1520	570 950 1290	500 840 1150	420 690 950	330 550 750
1-1/4"	R08	3-3/4" x 2-3/4"	50	.020	2-6CL 3-6CL	14-7/8 20-7/8	1070 1830 2560	920 1570 2200	830 1430 2000	740 1260 1770	650 1120 1560	570 970 1360	480 820 1150	430 730 1020	350 600 840	280 480 670
1-1/4"	R10	5" x 2-3/4"	50	.020	2-6CL 3-6CL	16 22	1230 2070 2850	1060 1780 2450	960 1610 2220	850 1430 1970	750 1260 1740	650 1100 1510	550 930 1280	490 830 1140	410 680 940	320 540 740

Note: Copper tube furnished flared one end standard.

STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
								200°	190°	180°	170°	160°	150°	140°	130°	120°
								CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
					1	8-7/8	1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
1"	R11	3-3/4" x 2-3/4"	40	.024	2-6CL 3-6CL	14-7/8 20-7/8	880 1540 2150	760 1320 1850	690 1200 1680	610 1060 1480	540 940 1310	470 820 1140	400 690 970	350 620 860	290 510 710	230 400 560
1"	R15	5" x 2-3/4"	50	.024	2-6CL 3-6CL	16 22	940 1630 2260	810 1400 1940	730 1270 1760	650 1120 1560	570 990 1380	500 860 1200	420 730 1020	380 650 900	310 540 750	240 420 590
1-1/4"	R16	5" x 2-3/4"	50	.024	2-6CL 3-6CL	16 22	960 1650 2280	830 1420 1960	750 1290 1780	660 1140 1570	590 1010 1390	510 870 1210	430 740 1030	380 660 910	320 540 750	250 430 590

- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.

BARE ELEMENT STYLE "SP"

COPPER/ALUMINUM ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
								200°	190°	180°	170°	160°	150°	140°	130°	120°
								CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
3/4"	R04R	2-3/4" x 3-3/4"	50	.014	1 2-6CL 3-6CL	8-7/8 14-7/8 20-7/8	1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26
							1280	1100	1000	880	780	680	580	510	420	330
							2190	1880	1710	1510	1340	1160	990	880	720	570
1"	R05R	2-3/4" x 3-3/4"	50	.014	1 2-6CL 3-6CL	8-7/8 14-7/8 20-7/8	1270	1090	990	880	770	670	570	510	420	330
							2180	1870	1700	1500	1330	1160	980	870	720	570
							2980	2560	2320	2060	1820	1580	1340	1190	980	770
1"	R07R	2-3/4" x 5"	50	.020	1 2-6CL 3-6CL	8-7/8 14-7/8 20-7/8	1610	1380	1260	1110	980	850	720	640	530	420
							2510	2160	1960	1730	1530	1330	1130	1000	830	650
							3310	2850	2580	2280	2020	1750	1490	1320	1090	860
1-1/4"	R08R	2-3/4" x 3-3/4"	50	.020	1 2-6CL 3-6CL	8-7/8 14-7/8 20-7/8	1250	1080	980	860	760	660	560	500	410	330
							1980	1700	1540	1370	1210	1050	890	790	650	510
							2620	2250	2040	1810	1600	1390	1180	1050	860	680
1-1/4"	R10R	2-3/4" x 5"	50	.020	1 2-6CL 3-6CL	8-7/8 14-7/8 20-7/8	1600	1380	1250	1100	980	850	720	640	530	420
							2530	2180	1970	1750	1540	1340	1140	1010	830	660
							3310	2850	2580	2280	2020	1750	1490	1320	1090	860

Note: Copper tube furnished flared one end standard.

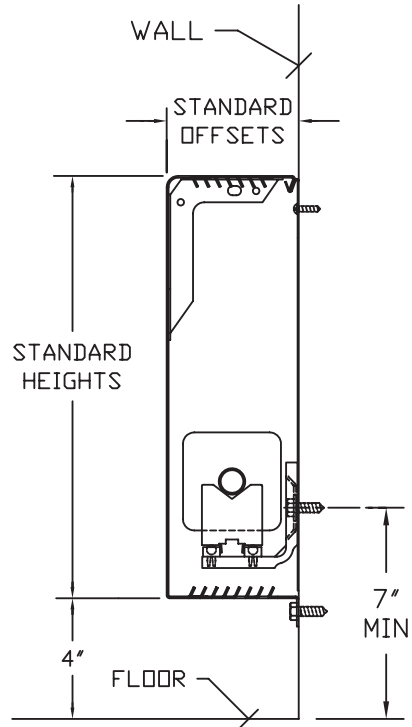
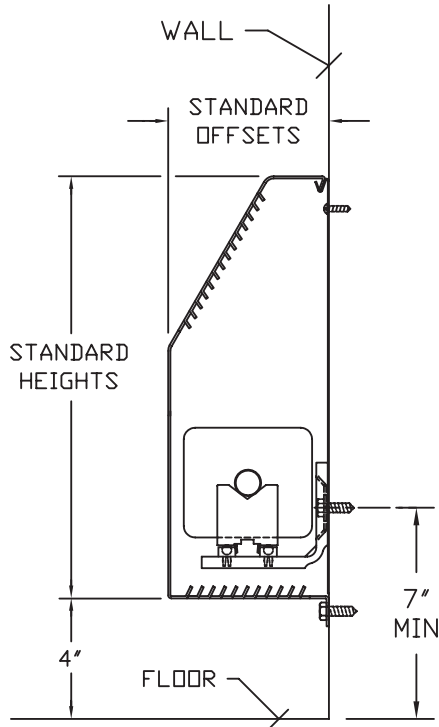
STEEL ELEMENTS

ALL RATINGS ARE IN BTU/HR/LIN FT AND BASED ON 3 FPS VELOCITY, 65° EAT

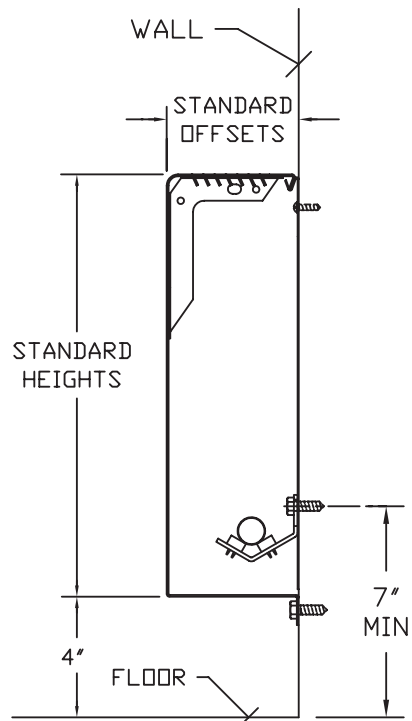
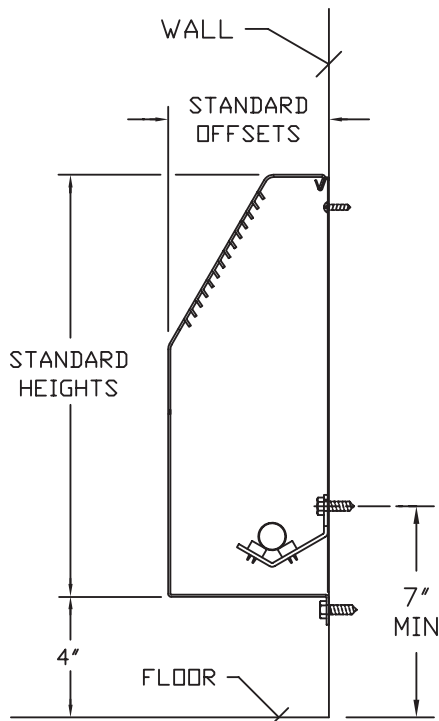
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FINS PER FT.	FIN THICKNESS IN INCHES	TIERS AND CENTERS IN INCHES	MOUNTING HEIGHT IN INCHES	STEAM 215° FACTOR	HOT WATER (AVG.)								
								200°	190°	180°	170°	160°	150°	140°	130°	120°
								CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES								
1"	R15R	2-3/4" x 5"	50	.024	1 2-6CL 3-6CL	8-7/8 14-7/8 20-7/8	1140	980	890	790	700	600	510	460	380	300
							2010	1730	1570	1390	1230	1070	900	800	660	520
							2810	2420	2190	1940	1710	1490	1260	1120	930	730
1-1/4"	R16R	2-3/4" x 5"	50	.024	1 2-6CL 3-6CL	8-7/8 14-7/8 20-7/8	1170	1010	910	810	710	620	530	470	390	300
							2040	1750	1590	1410	1240	1080	920	820	670	530
							2830	2430	2210	1950	1730	1500	1270	1130	930	740

- Notes: 1) Steel fins furnished as .032 thick, painted black.
 2) NPT threads furnished on steel elements. Please use domestic fittings for proper installation.
 3) The ends can be provided chamfered for field welded fittings when specified.

DRAFT BARRIER, RETURN TO WALL AND LOUVERED INLET STYLES

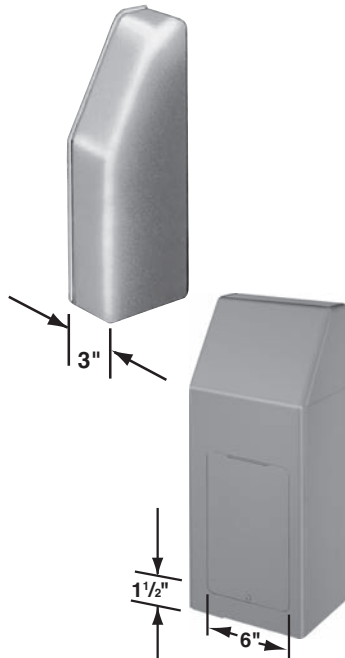


**RETURN TO WALL, LOUVERED INLET
RWLI**



**RETURN TO WALL, NO INLET LOUVERS
DRAFT BARRIER STYLE
RWDB**

CAT-53178C



ACCESS DOOR LOCATIONS SLOPE TOP END CAP & WALL SLEEVE		
ENCLOSURE OFFSET	ENCLOSURE HEIGHT	ACCESS DOOR SIZE
3 9/16	8", 11", 14"	6' x 5'
4 3/8	11", 14"	6' x 5'
5 5/16	14"	6' x 5'
5 5/16	20", 24"	6' x 9'

CAT-68521-2E

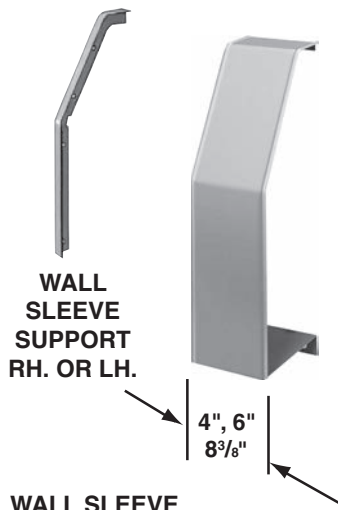
ALTERNATE ACCESS DOOR LOCATIONS
ARE AVAILABLE, CONSULT FACTORY.



ACCESS DOOR LOCATIONS FLAT TOP END CAP & WALL SLEEVE		
ENCLOSURE OFFSET	ENCLOSURE HEIGHT	ACCESS DOOR SIZE
3 9/16	8", 11"	6' x 5'
3 9/16	14"	6' x 9'
4 3/8	14"	6' x 9'
5 5/16	14", 20", 24"	6' x 9'

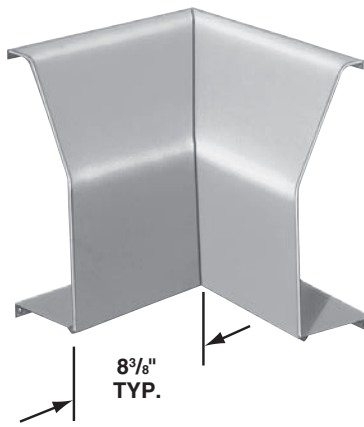
CAT-68521-1E

ALTERNATE ACCESS DOOR LOCATIONS
ARE AVAILABLE, CONSULT FACTORY.



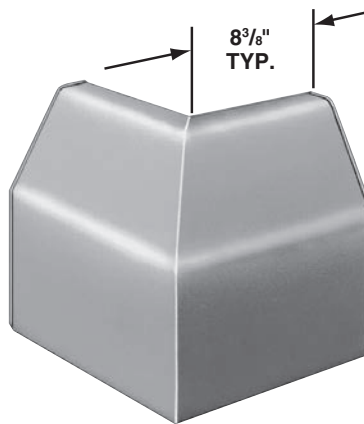
WALL
SLEEVE
SUPPORT
RH. OR LH.

WALL SLEEVE
ALSO AVAILABLE
WITH ACCESS DOOR



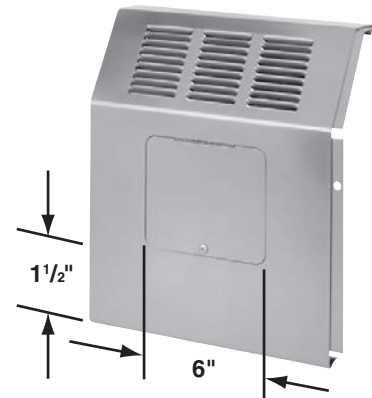
8 3/8"
TYP.

INSIDE CORNER



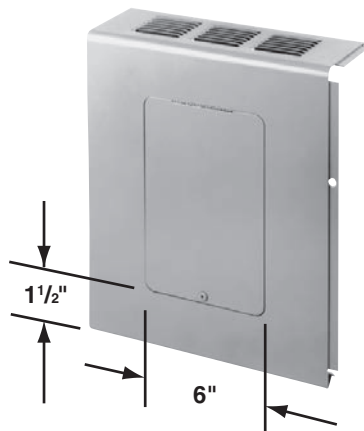
8 3/8"
TYP.

OUTSIDE CORNER



ACCESS DOOR LOCATIONS SLOPE TOP VALVE COMPARTMENT		
ENCLOSURE OFFSET	ENCLOSURE HEIGHT	ACCESS DOOR SIZE
3 9/16	8", 11", 14"	6' x 5'
4 3/8	11", 14"	6' x 5'
5 5/16	14"	6' x 5'
5 5/16	20", 24"	6' x 9'

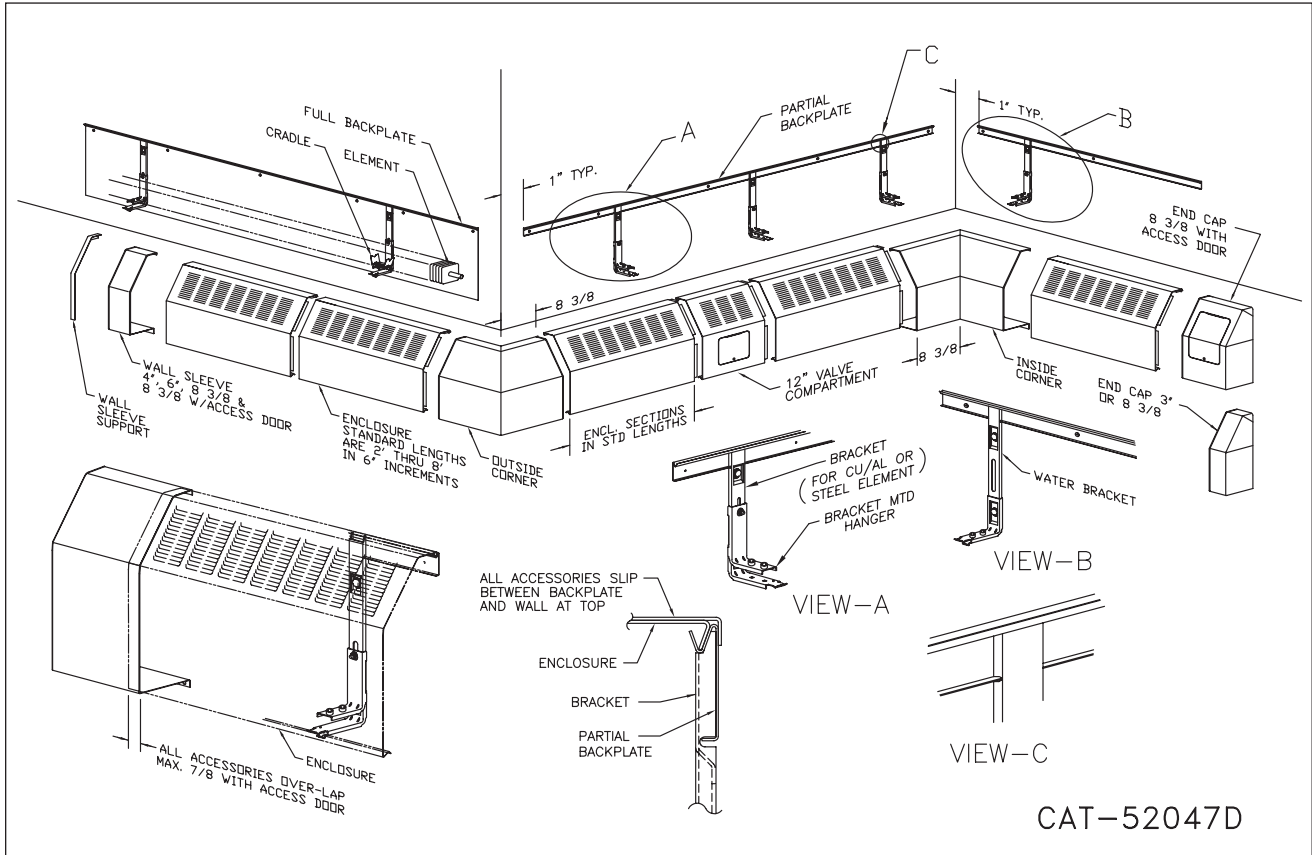
CAT-68521-4E



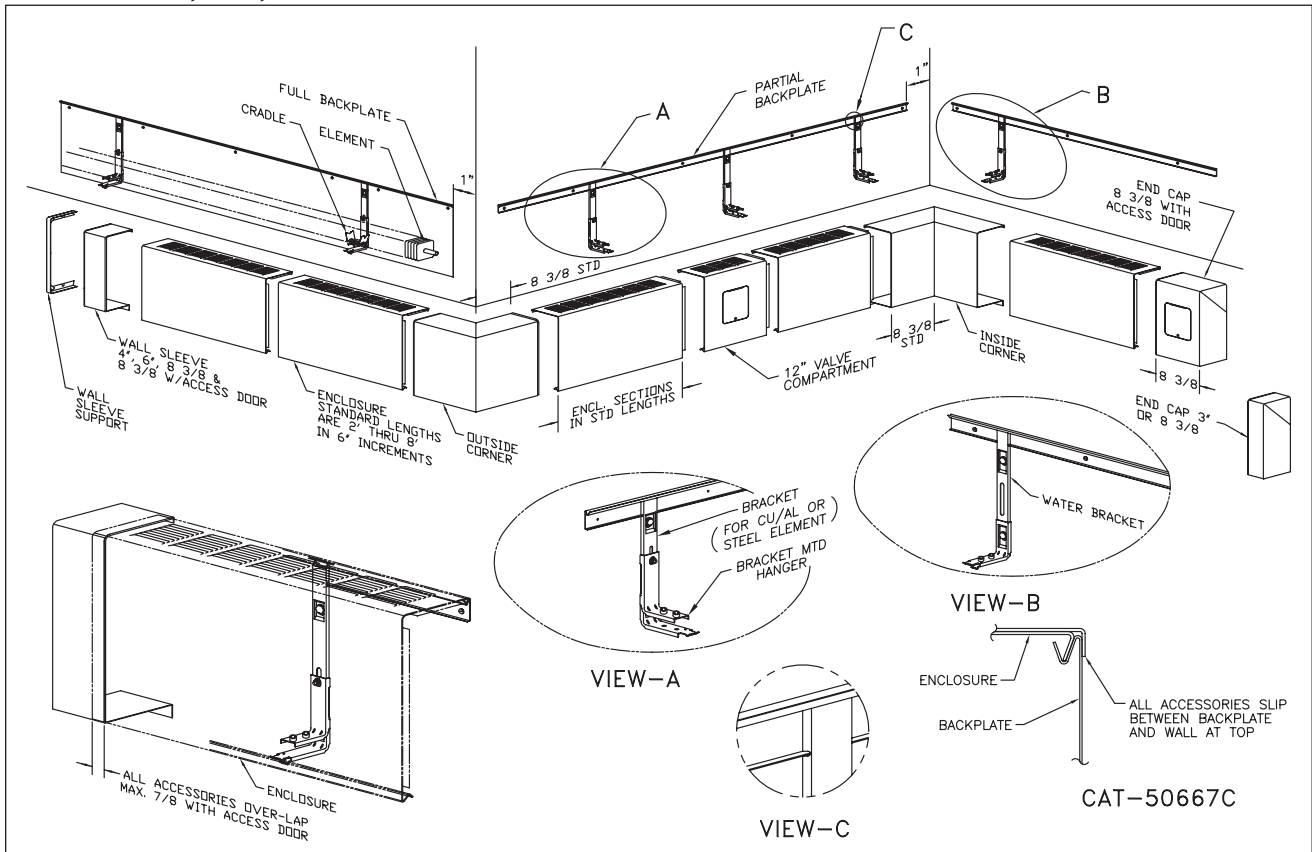
ACCESS DOOR LOCATIONS FLAT TOP VALVE COMPARTMENT		
ENCLOSURE OFFSET	ENCLOSURE HEIGHT	ACCESS DOOR SIZE
3 9/16	8", 11"	6' x 5'
3 9/16	14"	6' x 9'
4 3/8	14"	6' x 9'
5 5/16	14", 20", 24"	6' x 9'

CAT-68521-3E

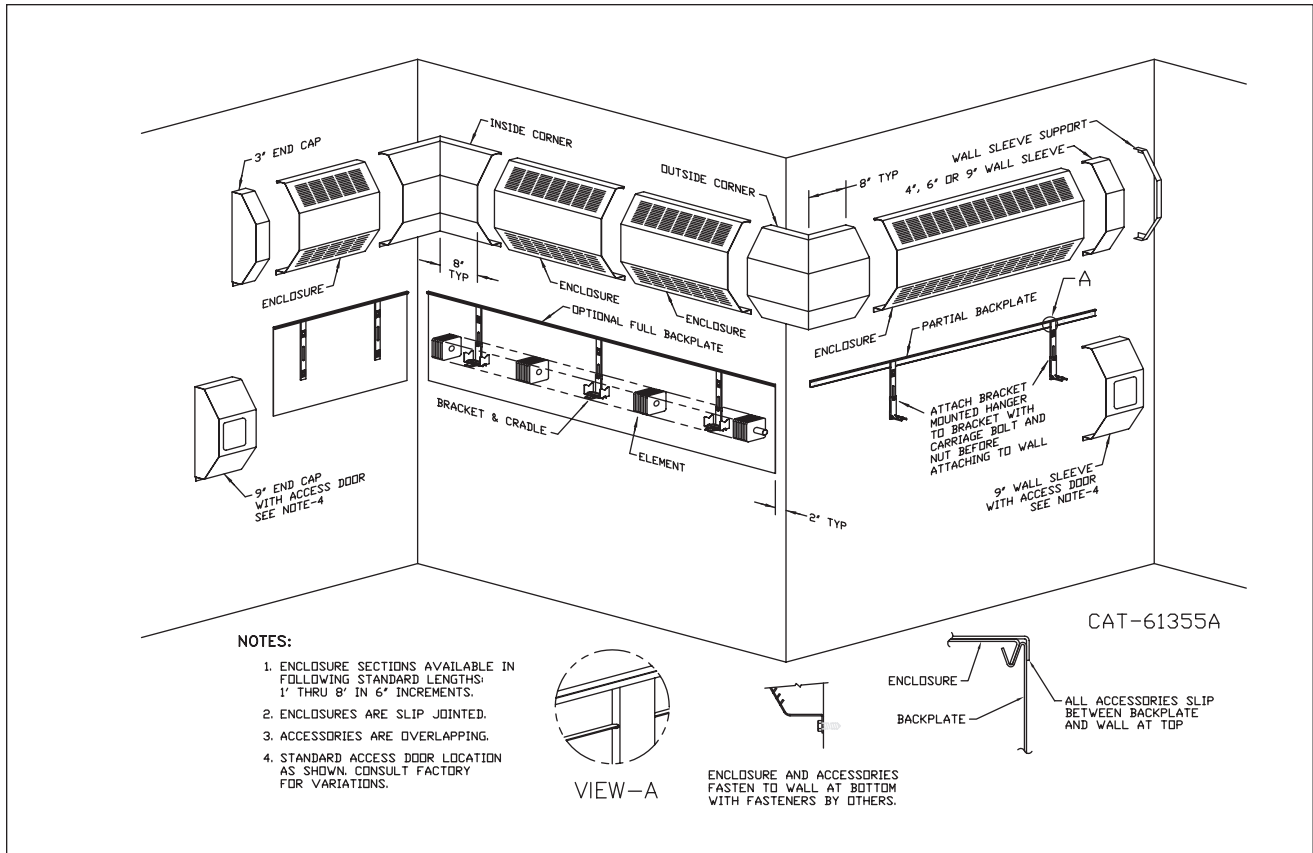
STYLES "S" AND "KS" SLOPE TOP INSTALLATION AND ACCESSORY DETAILS



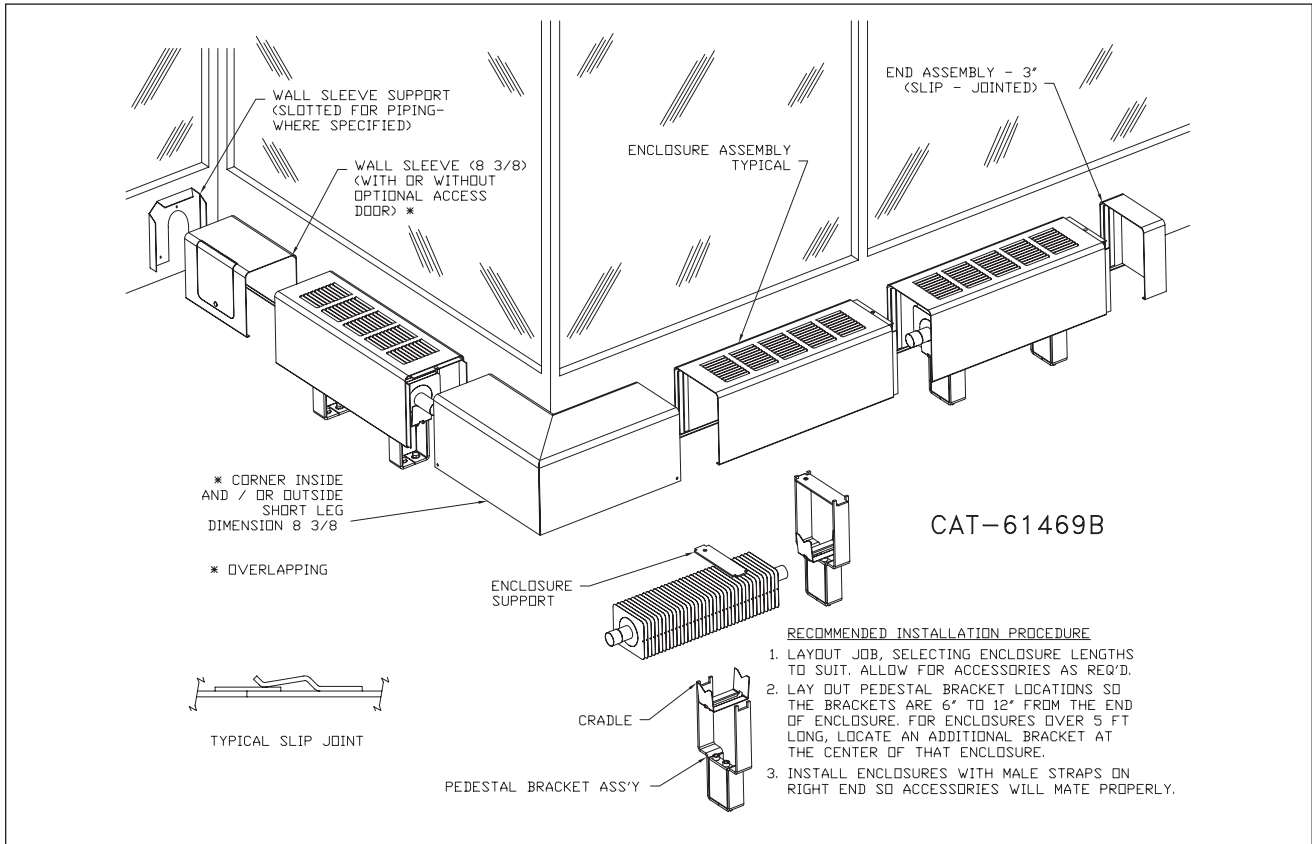
STYLES "F", "T", "FT" AND "KT" INSTALLATION AND ACCESSORY DETAILS



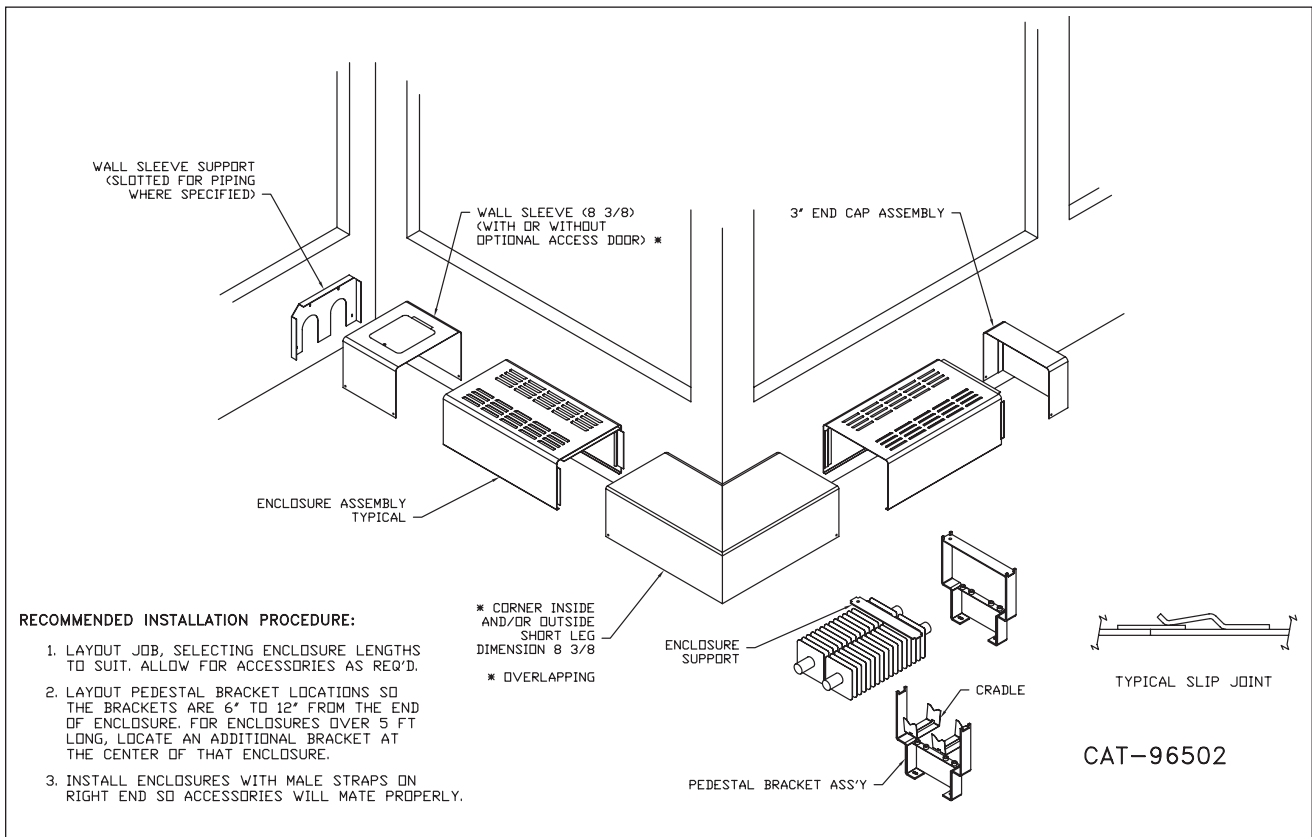
STYLE "SS" DOUBLE SLOPE TOP INSTALLATION AND ACCESSORY DETAILS



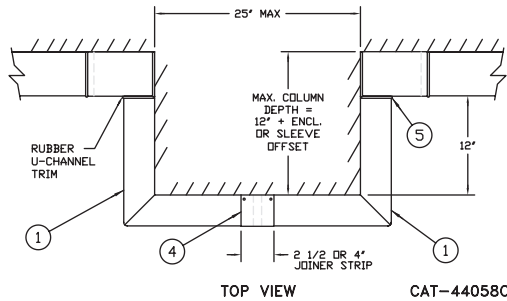
STYLE "PM" PEDESTAL MOUNTED INSTALLATION AND ACCESSORY DETAILS



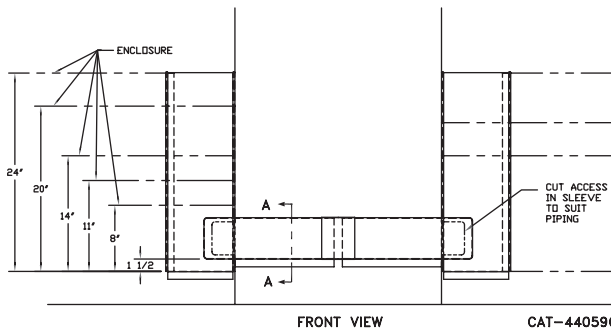
STYLE "2PM" PEDESTAL MOUNTED INSTALLATION AND ACCESSORY DETAILS



COLUMN ENCLOSURES



TOP VIEW CAT-44058C



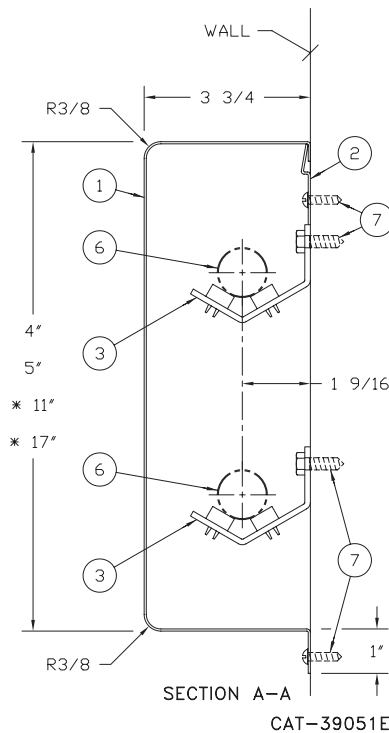
FRONT VIEW CAT-44059C

NOTE –
ALL PARTS SUPPLIED TO
MAXIMUM DIMENSIONS,
AS SHOWN TO BE CUT
ON THE JOB TO SUIT
INDIVIDUAL COLUMN SIZES.

*PIPING MAY BE
1 OR 2 TIERS AS
REQUIRED. INSTALL
HANGERS TO SUIT
ENCLOSURE PIPING.

FOR JVK-S8 CALL FOR 4" HIGH

SEE PAGE 71 FOR STRAIGHT
PIECES 4", 5", 11" OR 17"



SECTION A-A CAT-39051E

STERLING COLUMN ENCLOSURES

Column Enclosures give installations that finished, custom-made look.

It is designed to blend into the installation, both in color and in form. It installs easily without a single bolt showing, yet is highly practical in use.

This picture shows the smooth contours and precision fabrication. The drawing at left gives full details and dimensions.

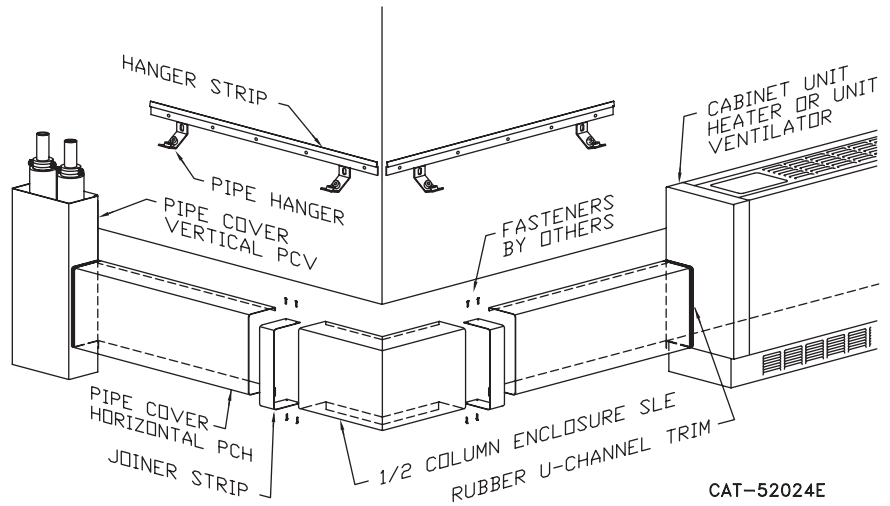


DETAILS AND DIMENSIONS

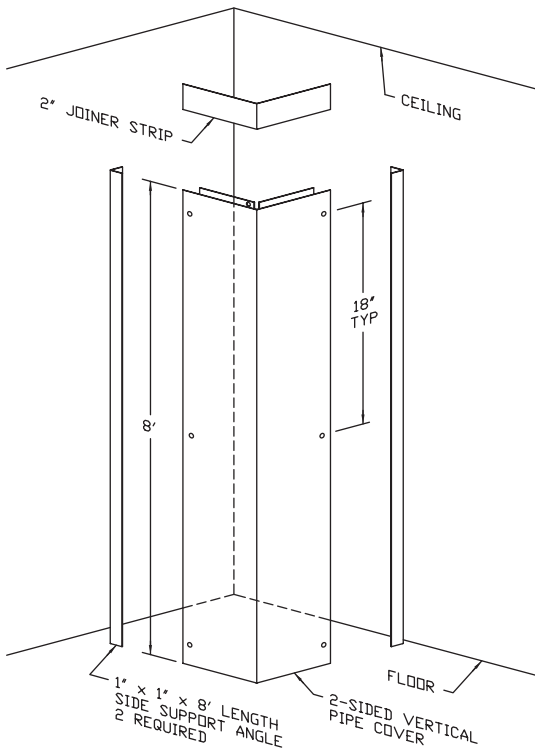
1. Column Enclosure — 18 Gauge CRS (SRP-15820)
2. Hanger Strip — 18 Gauge CRS
3. Roll Pipe Hanger
4. Joiner Strip — 2 1/2" or 4" wide (SRP-15821) with #8 x 1 1/2 Truss Head Screws
5. Rubber U-Channel Trim 1/16 x 3/16 x 5/16
6. Pipe By Others
7. Fasteners By Others Unless Specified

PIPE ENCLOSURES

Catalog Number	Description
Horizontal	
PCH-4	4" High 18 GA - 8' Lengths
PCH-5	5" High 18 GA - 8' Lengths
PCH-11	11" High 18 GA - 8' Lengths
PCH-17	17" High 18 GA - 8' Lengths
B610	Mounting Strip
RPH	Roll Pipe Hanger
Vertical	
PCV-52	5 x 5 Two Side 18 GA - 8' Lengths
PCV-82	8 x 8 Two Side 18 GA - 8' Lengths
PCV-53	5 x 5 Three Side 18 GA - 8' Lengths
PCV-83	8 x 8 Three Side 18 GA - 8' Lengths
1 x 1	1 x 1 Side Support Angle - 8' Lengths (2 per Vertical Pipe Enclosure)



CAT-52024E

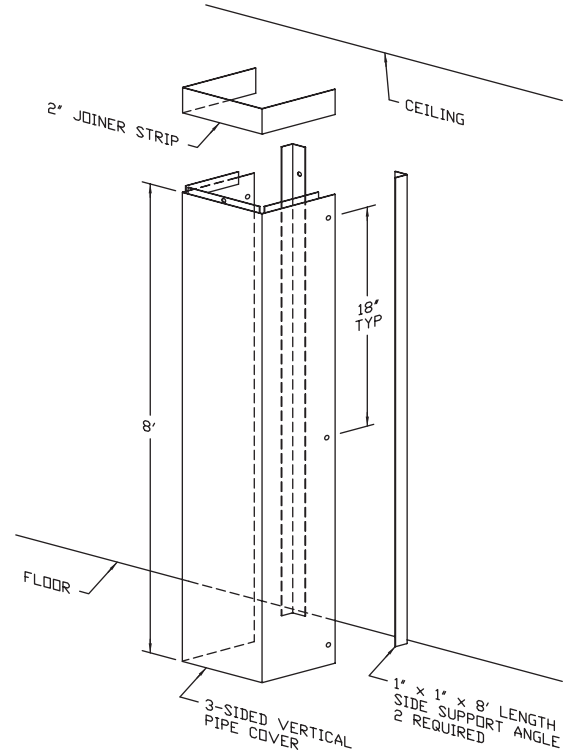


FASTENERS ARE BY OTHERS.

FOR CEILING HEIGHTS GREATER THAN 8', MULTIPLE PIECES WILL BE REQUIRED.

PCV-52 5' x 5' x 8' LENGTHS
PCV-82 8' x 8' x 8' LENGTHS

CAT-68234



FASTENERS ARE BY OTHERS.

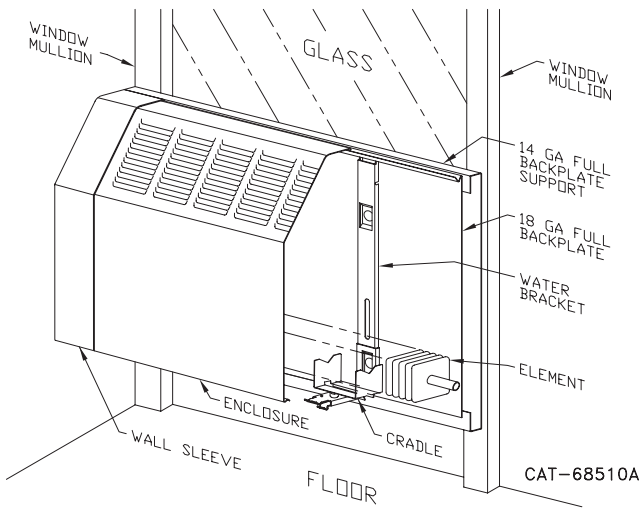
FOR CEILING HEIGHTS GREATER THAN 8', MULTIPLE PIECES WILL BE REQUIRED.

PCV-53 5' x 5' x 8' LENGTHS
PCV-83 8' x 8' x 8' LENGTHS

CAT-68235

**BACKPLATE SUPPORTS
FOR WINDOW MULLIONS**

Versa-Line
by Sterling

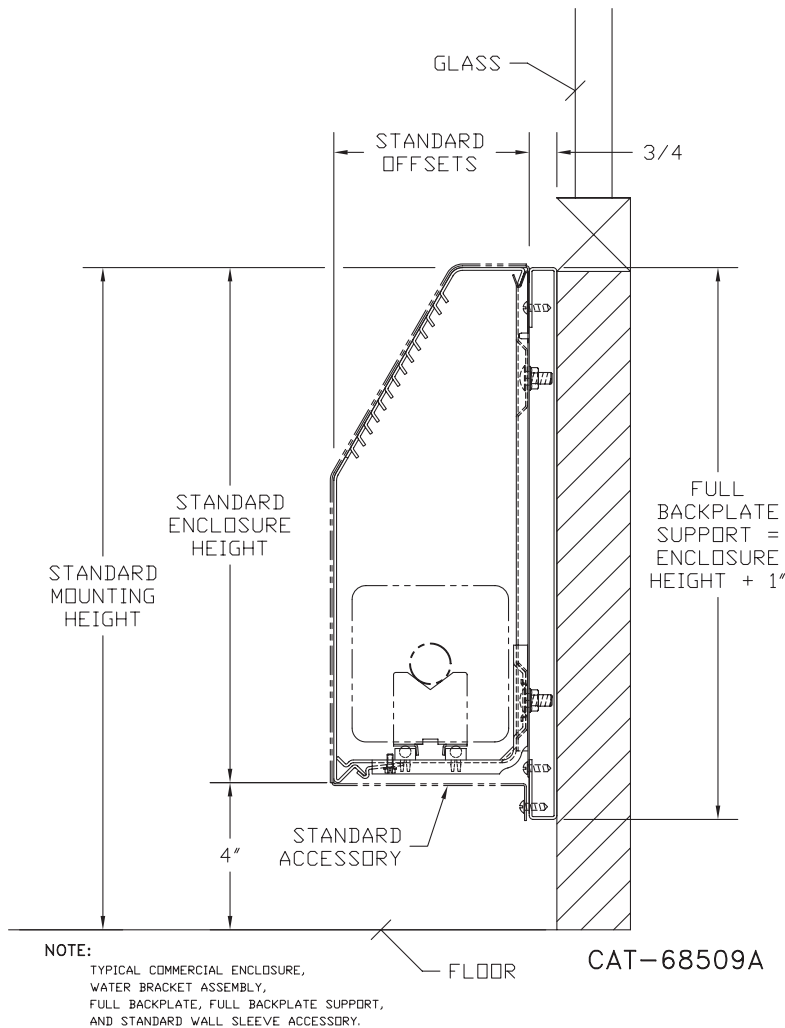


Versa-Line Radiation is easily adaptable to panel wall, curtain wall, and window wall construction.

All that is necessary for the full support of the Versa-Line assemblies are the mullions used in this type of construction.

The assemblies are just as easily installed as in any other type of construction. Versa-Line is versatile. Consult us for unusual dimensional applications. (7 1/2" minimum height)

Typical panel wall installation using the Sterling bracket with ball-bearing cradle, and full backplate. Note how the backplate support lag to the mullions and the backplate to the backplate support. Then the brackets attach to the backplate. Consult us for variations.



Correction Factor Chart for Non-Standard Mounting Heights

MOUNTING HEIGHT (Inches)	ENCLOSURE STYLE						
	BARE FIN ALL SIZES	FRONT OUTLET	FT (FRONT & TOP)		SLOPE		
			3 1/4" FINS	4 1/4" FINS	2 3/4" FINS	3 1/4" FINS	4 1/4" FINS
40 or more	1.000	1.000	1.000	1.000	1.000	1.000	1.000
38	1.000	1.000	1.000	1.000	1.000	1.000	1.003
36	1.000	1.004	1.005	1.005	1.006	1.007	1.009
34	1.010	1.014	1.011	1.010	1.012	1.013	1.016
32	1.020	1.024	1.017	1.015	1.019	1.020	1.025
30	1.030	1.039	1.029	1.024	1.031	1.033	1.039
29	1.040	1.049	1.035	1.029	1.038	1.040	1.045
28	1.050	1.059	1.041	1.034	1.045	1.047	1.052
27	1.060	1.069	1.046	1.039	1.051	1.053	1.059
26	1.070	1.079	1.052	1.044	1.058	1.060	1.065
25	1.080	1.089	1.058	1.049	1.065	1.067	1.072
24	1.090	1.099	1.064	1.054	1.071	1.073	1.079
23	1.100	1.109	1.070	1.059	1.078	1.080	1.085
22	1.110	1.119	1.076	1.064	1.085	1.087	1.092
21	1.120	1.129	1.082	1.069	1.091	1.093	1.099
20	1.130	1.139	1.088	1.074	1.098	1.100	1.100
19	1.140	1.149	1.089	1.075	1.100	1.100	1.100
18 or less	1.150	1.150	1.089	1.075	1.100	1.100	1.100

TOP OUTLET "T" IS NOT AFFECTED.

The AHRI Ratings cataloged include the factor shown for the recommended mounting height.

If the unit is to be installed at a different height than that recommended, the AHRI Rating (except for Top Outlet) must be adjusted as follows: AHRI Rating multiplied by

$$\frac{\text{Factor from Table Above for actual mounting height}}{\text{Factor from Table Above for recommended mounting height}}$$

EXAMPLE: Corrected steam rating for 1 row C145 element in JVB14 (14" high enclosures) mounted 30" above floor in lieu of the 18" recommended.

FORMULA:

Catalog Rating x $\frac{\text{Factor at 30" Height}}{\text{Factor at 18" Height}}$

SOLUTION: 1950 x $\frac{1.039}{1.150}$ = 1760 BTU/Hr.

DYNAMIC FORMULAS

BTU = GPM x 500 x TD

GPM = $\left(\frac{\text{BTU}}{500}\right) \div \text{TD}$

TD = $\left(\frac{\text{BTU}}{500}\right) \div \text{GPM}$

COMMERCIAL FINNED TUBE RATING CORRECTION CHARTS

CATALOG FINNED TUBE RATINGS ARE BASED UPON THE FOLLOWING CONDITIONS:

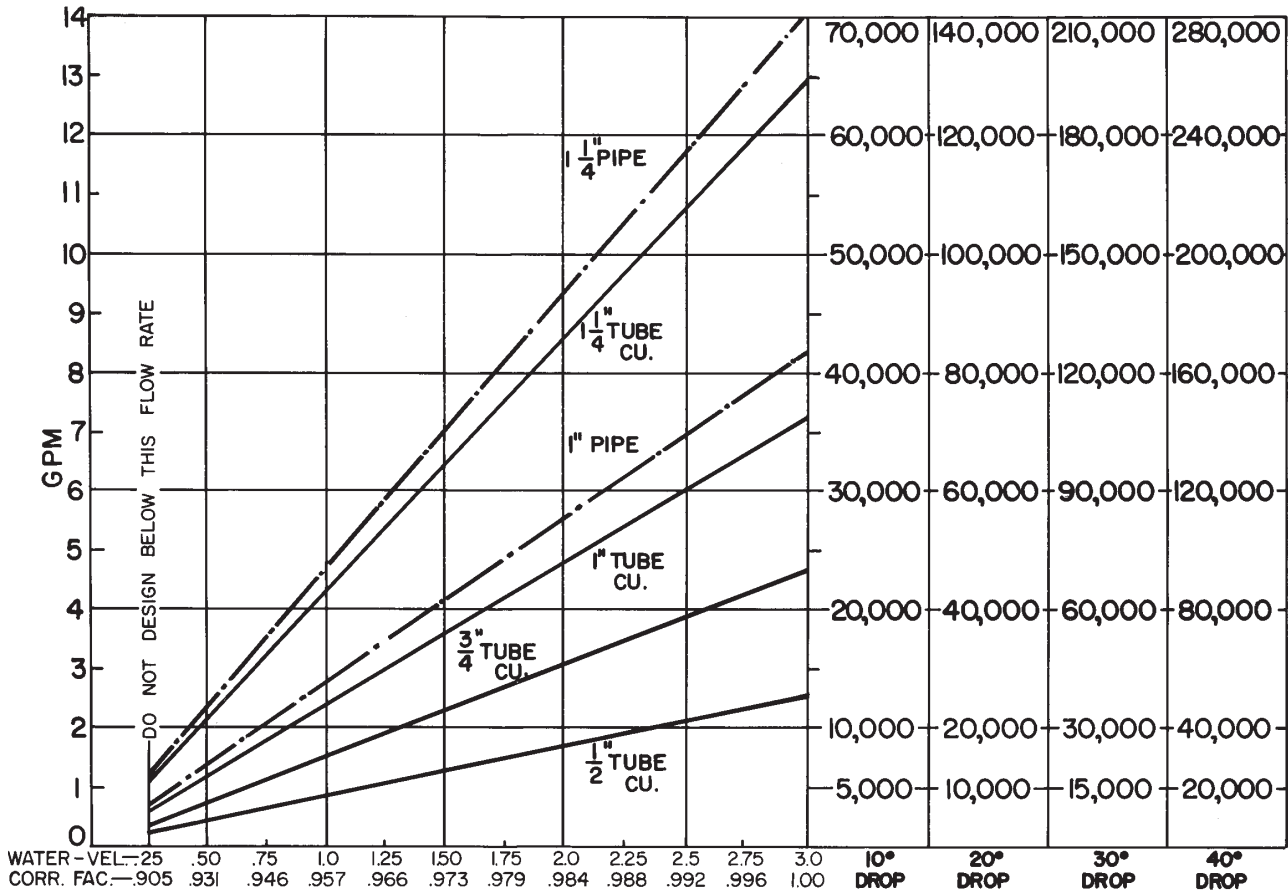
- 215°F AVERAGE WATER OR STEAM TEMPERATURE
- 65°F ENTERING AIR TEMPERATURE
- 3 FEET PER SECOND WATER FLOW RATE
- CATALOG MOUNTING HEIGHT

USE THE FOLLOWING CALCULATION WITH CORRECTION FACTORS FOR JOB CONDITIONS TO DETERMINE CORRECTED RATING:

$$\text{CORRECTED RATING} = (\text{215°F CATALOG RATING}) \times \left(\frac{\text{CORRECTION FACTOR FOR STEAM OR WATER AND AVERAGE AIR TEMP.}}{\text{CORRECTION FACTOR FOR MOUNTING HTG.-SEE CATALOG RATING}} \right) \times \left(\frac{\text{CORRECTION FACTOR FOR FLOW RATE}}{\text{CORRECTION FACTOR FOR MOUNTING HTG.-SEE CATALOG RATING}} \right)$$

USE THE FOLLOWING CHARTS TO SELECT CORRECTION FACTORS

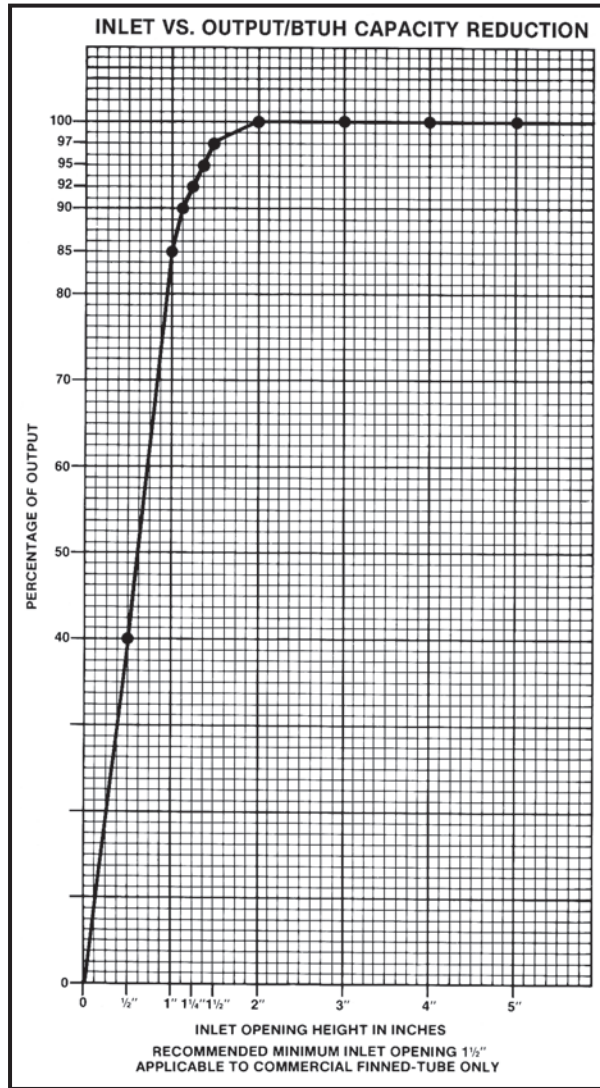
CHART/WATER VEL./CORR. FACTOR / PRESS. DROP/TOTAL BTU.



1/2" COP. ALUM.	1.80	2.33	5.33	9.16					
3/4" COP. ALUM.	.5	1.5	3.16	5.4	6.25				
1" COP. ALUM.	.233	.41	.83	1.45	2.16	2.83	3.66		
1" PIPE		.37	.79	1.3	2.00	2.70	3.70	4.80	
1 1/4" COP. ALUM.	.16	.33	.55	.79	1.08	1.33	1.8	2.25	2.26
1 1/4" PIPE	.09	.18	.31	.5	.70	1.0	1.1	1.3	1.6
									1.8
									2.58
									2.3
									3.3

PRESSURE DROP PER 100 LINEAR FT., IN FEET OF HEAD

INLET AIR CORRECTION FACTOR



GUARANTEED WORKING PRESSURES

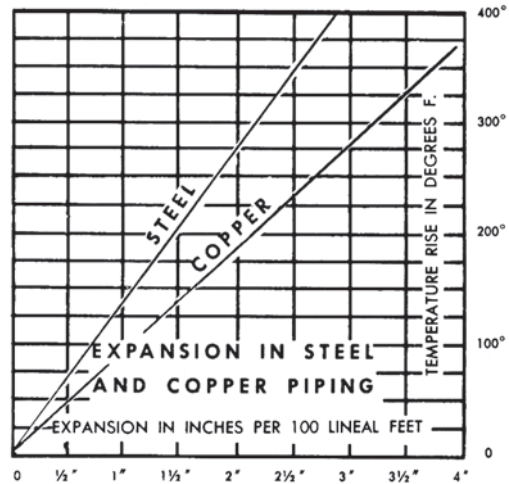
- 1" IPS — 780 AT TEMPERATURES UP TO 650°F.
 - 1 1/4" IPS — 660 AT TEMPERATURES UP TO 650°F.
 - 2" IPS — 405 AT TEMPERATURES UP TO 650°F.
 - 1 1/4" CU — 194 AT TEMPERATURES UP TO 300°F.
 - 1" CU — 204 AT TEMPERATURES UP TO 300°F.
 - 3/4" CU — 218 PSI AT TEMPERATURES UP TO 300°F.
- MAXIMUM PRESSURES AT OTHER TEMPERATURES ARE AVAILABLE UPON REQUEST.

RATE OF PITCH FOR STEAM 1/2" DROP OVER 20 FT. RUN.

PIPE WATER CAPACITIES AND QUANTITIES CIRCULATED AT VELOCITY OF 3* FEET PER SECOND			
Pipe Size	Gals. Per Linear Ft.	Gals./Min. @ 3' Sec. Vel.*	Lbs./Hr. @ 3' Sec. Vel.*
1/2"	.016	2.88	1440
3/4"	.023	4.14	2070
1"	.040	7.20	3600
1 1/4"	.063	11.34	5660
1 1/2"	.102	18.36	9160
2"	.170	30.60	15300
2 1/2"	.275	49.50	24850
3"	.390	70.20	35000

*3 Ft./Sec. Velocity is Basic for Hot Water Rating Factors Shown on this Page.

$$\text{VELOCITY FT./SEC.} = \frac{\text{LBS. PER HOUR}}{(\text{GALS. PER FT.}) (3600) (8.3)}$$



GLYCOL CORRECTION FACTORS

Fluid Temperature 200°F

% Solution	Ethylene Glycol	Propylene Glycol
20	.952	.988
30	.921	.968
40	.888	.943
50	.852	.912

Fluid Temperature 180°F

% Solution	Ethylene Glycol	Propylene Glycol
20	.946	.982
30	.913	.961
40	.879	.934
50	.842	.902

Fluid Temperature 140°F

% Solution	Ethylene Glycol	Propylene Glycol
20	.934	.97
30	.898	.946
40	.861	.916
50	.821	.881

ALTITUDE FACTORS

Approximate factors for convective heat value at varying altitudes

Altitude	Ferrous Units	Copper Alum. Units
Sea Level	1.000	1.000
1,000 ft.	.984	.969
2,000 ft.	.968	.938
3,000 ft.	.952	.908
4,000 ft.	.936	.878
5,000 ft.	.920	.850
6,000 ft.	.904	.822
7,000 ft.	.889	.795
8,000 ft.	.874	.768
9,000 ft.	.859	.743
10,000 ft.	.844	.718
15,000 ft.	.771	.603
20,000 ft.	.703	.502

**CORRECTION FACTORS FOR STEAM PRESSURES
AND AIR TEMPERATURES OTHER THAN STANDARD**

STEAM		ENTERING AIR TEMPERATURE, °F														
Pressure		Temp.	STD													
Gauge	Abs. Psi	°F	45	55	65	70	75	80	85	90	100	110	120	130	140	150
(Vac) 15" Hg	7.32	178.9	0.90	0.80	0.70	0.65	0.60	0.56	0.51	0.45	0.39	0.32	0.25	0.18	0.13	0.08
(Vac) 10"	9.78	192.2	1.02	0.91	0.81	0.76	0.71	0.66	0.62	0.55	0.48	0.40	0.33	0.26	0.20	0.14
(Vac) 5"	12.25	202.9	1.11	1.00	0.90	0.85	0.79	0.75	0.70	0.63	0.56	0.48	0.40	0.33	0.27	0.20
(Vac) 0 Psi	14.696	212.0	1.19	1.09	0.97	0.92	0.87	0.82	0.77	0.70	0.63	0.54	0.46	0.38	0.31	0.25
▶ .899	15.595	215.0	1.22	1.11	1.00	0.95	0.90	0.84	0.80	0.75	0.65	0.57	0.48	0.40	0.33	0.26
5	19.70	227.1	1.34	1.22	1.11	1.05	1.00	0.95	0.90	0.81	0.75	0.66	0.57	0.49	0.41	0.34
10	24.70	239.4	1.45	1.33	1.22	1.17	1.11	1.05	1.00	0.91	0.85	0.75	0.66	0.58	0.50	0.42
15	29.70	249.8	1.55	1.43	1.31	1.26	1.20	1.14	1.09	1.00	0.94	0.84	0.75	0.66	0.57	0.49
20	34.70	258.8	1.63	1.52	1.40	1.33	1.28	1.23	1.17	1.07	1.02	0.92	0.82	0.73	0.64	0.55
25	39.70	266.8	1.71	1.59	1.47	1.41	1.36	1.30	1.25	1.15	1.09	0.98	0.89	0.80	0.71	0.62
30	44.70	274.0	1.78	1.66	1.54	1.48	1.42	1.37	1.31	1.21	1.15	1.05	0.95	0.85	0.76	0.68
40	54.70	286.7	1.91	1.79	1.66	1.61	1.54	1.49	1.43	1.32	1.27	1.16	1.06	0.97	0.87	0.78
50	64.70	297.7	2.02	1.90	1.77	1.71	1.65	1.60	1.54	1.42	1.37	1.26	1.16	1.06	0.96	0.87
60	74.70	307.3	2.10	2.00	1.87	1.81	1.75	1.69	1.63	1.51	1.47	1.35	1.25	1.15	1.05	0.95
70	84.70	316.0	2.20	2.09	1.95	1.89	1.83	1.77	1.71	1.59	1.55	1.44	1.33	1.23	1.12	1.03
80	94.70	323.9	2.27	2.17	2.03	1.97	1.91	1.85	1.80	1.69	1.63	1.52	1.41	1.31	1.20	1.10
90	104.70	331.2	2.36	2.24	2.11	2.05	1.98	1.93	1.87	1.74	1.70	1.59	1.48	1.38	1.28	1.17
100	114.70	337.9	2.43	2.31	2.18	2.11	2.05	2.00	1.94	1.81	1.77	1.65	1.54	1.44	1.33	1.23
125	139.70	352.9	2.59	2.47	2.33	2.27	2.21	2.16	2.10	1.96	1.92	1.80	1.69	1.59	1.48	1.38
150	164.70	365.9	2.73	2.62	2.47	2.43	2.35	2.29	2.23	2.08	2.05	1.94	1.82	1.72	1.61	1.51
175	189.70	377.4	2.86	2.74	2.60	2.54	2.47	2.41	2.35	2.21	2.17	2.05	1.95	1.85	1.73	1.63
200	214.70	387.8	2.95	2.85	2.71	2.63	2.58	2.52	2.47	2.31	2.29	2.17	2.06	1.96	1.84	1.75

From Keenan and Keyes — Linear Interpolation.

Note: Gauge pressure should be corrected for altitude.

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

AVERAGE WATER TEMP. °F	ENTERING AIR TEMPERATURE, °F														
	45	55	STD 65	70	75	80	85	90	95	100	110	120	130	140	150
90	.19	.13	.11	.06											
100	.25	.19	.15	.11	.08	.06									
110	.31	.25	.20	.16	.13	.11	.08	.06							
120	.38	.31	.26	.21	.19	.16	.13	.11	.08	.06					
130	.45	.38	.33	.28	.25	.21	.19	.16	.13	.11	.06				
140	.53	.45	.40	.34	.31	.28	.25	.21	.19	.16	.11	.06			
150	.61	.53	.45	.41	.38	.34	.31	.28	.25	.21	.16	.11	.06		
160	.69	.61	.53	.49	.45	.41	.38	.34	.31	.28	.21	.16	.11	.06	
170	.77	.69	.61	.57	.53	.49	.45	.41	.38	.34	.28	.21	.16	.11	.06
180	.86	.77	.69	.65	.61	.57	.53	.49	.45	.41	.34	.28	.21	.16	.11
190	.95	.86	.78	.73	.69	.65	.61	.57	.53	.49	.41	.34	.28	.21	.16
200	1.05	.95	.86	.82	.77	.73	.69	.65	.61	.57	.49	.41	.34	.28	.21
210	1.14	1.05	.95	.91	.86	.82	.77	.73	.69	.65	.57	.49	.41	.34	.28
▶ 215 (STD.)	1.19	1.09	1.00	.95	.91	.86	.82	.77	.73	.69	.61	.53	.45	.38	.31
220	1.24	1.14	1.05	1.00	.95	.91	.86	.82	.77	.73	.65	.57	.49	.41	.34
230	1.34	1.24	1.14	1.09	1.05	1.00	.95	.91	.86	.82	.73	.65	.57	.49	.41
240	1.44	1.34	1.25	1.19	1.14	1.09	1.05	1.00	.95	.91	.82	.73	.65	.57	.49
250	1.55	1.44	1.34	1.29	1.24	1.19	1.14	1.09	1.05	1.00	.91	.82	.73	.65	.57
260	1.66	1.55	1.44	1.39	1.34	1.29	1.24	1.19	1.14	1.09	1.00	.91	.82	.73	.65
270	1.76	1.66	1.55	1.50	1.44	1.39	1.34	1.29	1.24	1.19	1.09	1.00	.91	.82	.73
280	1.87	1.76	1.66	1.60	1.55	1.50	1.44	1.39	1.34	1.29	1.19	1.09	1.00	.91	.82
290	1.99	1.87	1.76	1.71	1.66	1.60	1.55	1.50	1.44	1.39	1.29	1.19	1.09	1.00	.91
300	2.10	1.99	1.87	1.82	1.76	1.71	1.66	1.60	1.55	1.50	1.39	1.29	1.19	1.09	1.00

LIMITED WARRANTY

Commercial Finned Tube Radiation

The Manufacturer warrants to the original owner at the original installation site that the Commercial Finned Tube (the "Product") will be free from defects in material or workmanship for a period not to exceed (1) year from date of shipment from the factory. If upon examination by the Manufacturer the Product is shown to have a defect in material or workmanship during the warranty period, the Manufacturer will repair or replace, at its option, that part of the Product which is shown to be defective.

This limited warranty does not apply:

- (a) if the Product has been subjected to misuse or neglect, has been accidentally or intentionally damaged, has not been installed, maintained or operated in accordance with the furnished written instructions, or has been altered or modified in any way by any unauthorized person.
- (b) to any expenses, including labor or material, incurred during removal or reinstallation of the defective Product or part thereof.
- (c) to any workmanship of any installer of the Product.

This limited warranty is conditional upon:

- (a) shipment, to the Manufacturer, of that part of the Product thought to be defective. Goods may only be returned with the prior written approval of the Manufacturer. All returns must be freight prepaid.
- (b) determination in the reasonable opinion of the Manufacturer that there exists a defect in material or workmanship.

Repair or replacement of any part under this Limited Warranty shall not extend the duration of the warranty with respect to such repaired or replaced part beyond the stated warranty period.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, AND ALL SUCH OTHER WARRANTIES, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED AND EXCLUDED FROM THIS LIMITED WARRANTY. IN NO EVENT SHALL THE MANUFACTURER BE LIABLE IN ANY WAY FOR ANY CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES OF ANY NATURE WHATSOEVER, OR FOR ANY AMOUNTS IN EXCESS OF THE SELLING PRICE OF THE PRODUCT OR ANY PARTS THEREOF FOUND TO BE DEFECTIVE. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY BY EACH JURISDICTION.



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