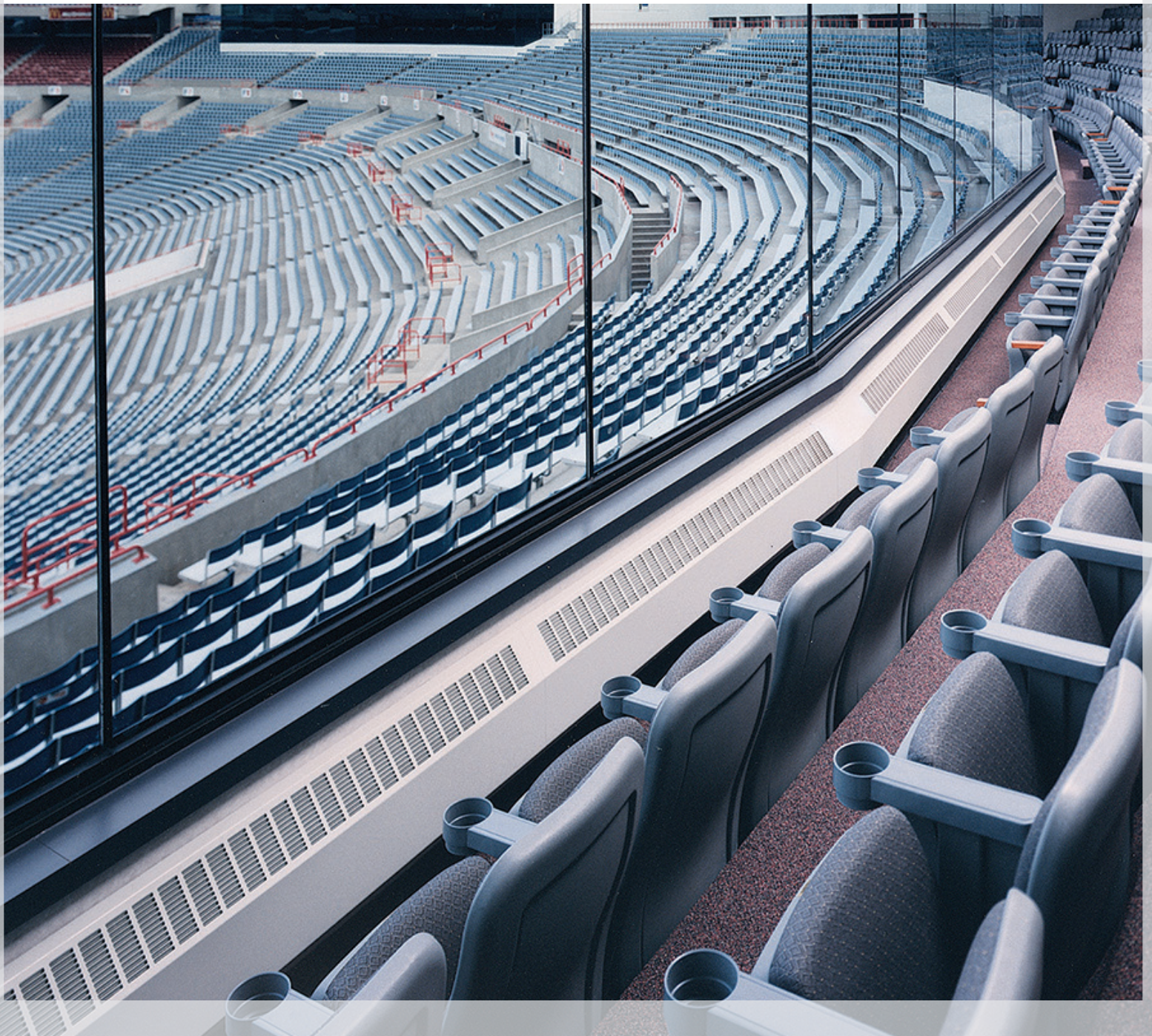


Rittling Regency Enclosures

Catalog





Zehnder decorative radiators



Heating and cooling ceiling systems

zehnder

always the
best climate



Comfortable indoor ventilation



Clean air solutions

Always the best climate for

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Custom-building innovative hydronic systems

Zehnder Rittling long ago coined the phrase “Reinventing Finned Tube” to describe its commitment to design innovation and its unlimited custom engineering capability. For decades, Zehnder Rittling’s constantly expanding inventory and proven ability to control costs without compromising the highest quality standards in manufacturing have made the name synonymous with image, performance, reliability, price, delivery and service.

Zehnder Rittling’s diversity and flexibility have freed architects from the constraints of designing around limited catalog selections of standard elements and enclosure configurations. Today Zehnder Rittling engineers can draw on, or modify, any of 42 different hydronic heating elements and 150 standard enclosure models to build any system an architect can draw to tolerances of less than 0.03125 inch, at an exceptionally competitive cost.

For the architects of the future, Zehnder Rittling will continue to advance finned tube technology in still more new directions and develop ever more efficient, cost-effective hydronic heat transfer systems.

Over sixty-five years of quality, innovation and service... and we’re just getting warmed up.

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When appearance and flexibility of the heating installation are primary considerations, Zehnder Rittling Regency Enclosures offer thermal efficiency and an emphatic vertical stance with unobtrusive louvers and sleek, wall-hugging profiles. The thirteen Regency wall models can be supplied as either low-profile enclosures, for a narrower depth (3-15/16" vs. 5-3/8") and shorter heights where floor-to-sill clearance is minimal, or as standard-dimensioned units, where there are fewer size restrictions.

Pedestal enclosures can be used for floor installations where a wall installation is not possible, often in front of floor to ceiling windows.

These sturdy enclosures are available with fronts and tops of 14, 16, or 18-gauge cold rolled steel, in lengths from 1 to 8 feet in 6-inch increments, and heights to accommodate one to three finned tubes. Stainless steel is also available in lieu of standard cold rolled.

For standard applications:

FS and FT models.

For specialized heating environments:

FR, FF, and FSOS models.

For floor mounted applications:

ETL model.

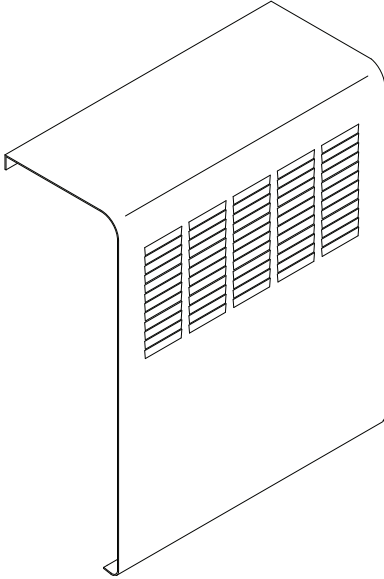
Rittling accessories custom-fit any type of installation demands!

A full line of accessories is available to ensure a professional custom fit, including:

- 3-1/2" end caps
- 12" wide end caps
 - with access door
- Inside and outside corners
- Wall trims: 3-1/2", 5" and 7-1/2"
- 12" wide access panels with access doors (overlap or butt fit)
- 12" wide removable enclosure access section
- Control dampers:
 - ◆ Knob-type
 - ◆ Security allenhead operators
- Snap full height back panels
- Snap mounting channels
- Self-gauging, snap fit, expansion brackets
- Slip-in pipe hanger
- Slip-in second row brackets

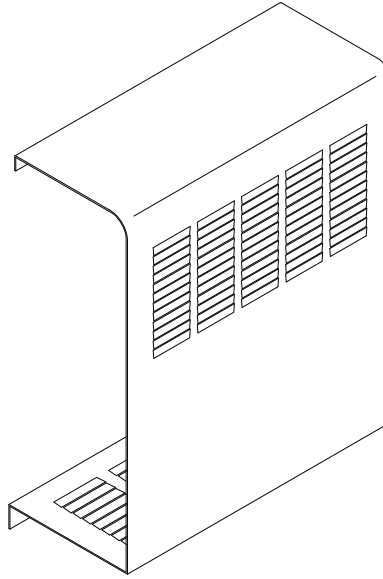
Enclosure models

Flat top



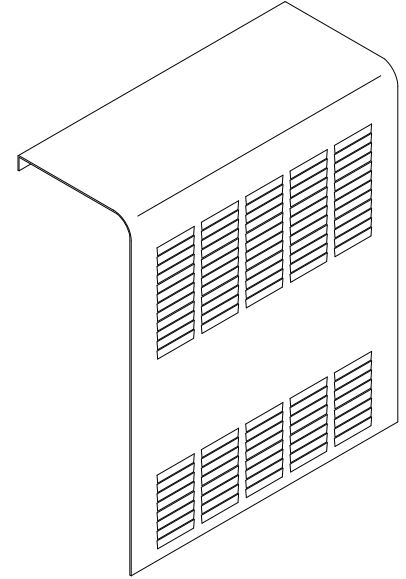
FF:
Flat top, front outlet, open inlet

[FF5 Performance data, 14-21](#)
[FF3 Performance data, 30-32](#)
[FF Dimensional data, 114](#)



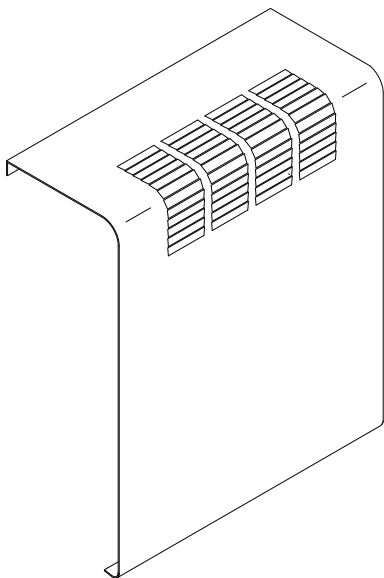
FFHL:
Flat top, front outlet,
horizontal louver inlet

[FFHL5 Performance data, 22-29](#)
[FFHL3 Performance data, 33-35](#)
[FFHL Dimensional data, 114](#)



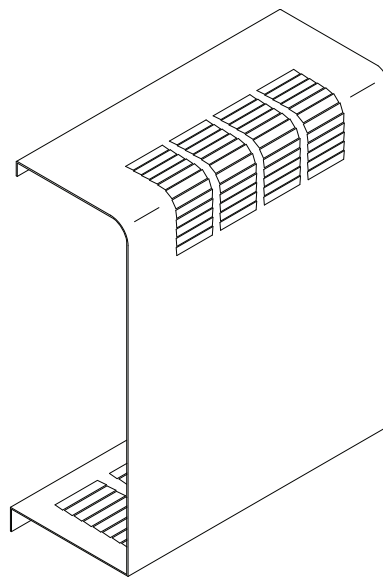
FFVL:
Flat top, front outlet,
vertical louver inlet

[FFVL5 Performance data, 22-29](#)
[FFVL3 Performance data, 33-35](#)
[FFVL Dimensional data, 115](#)



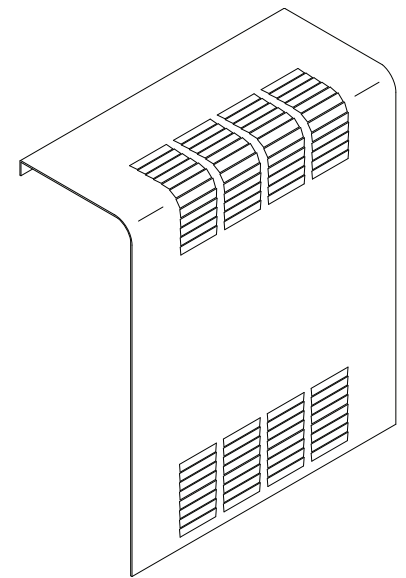
FR:
Flat top, round outlet, open inlet

[FR5 Performance data, 36-43](#)
[FR3 Performance data, 52-54](#)
[FR Dimensional data, 116](#)



FRHL:
Flat top, round outlet,
horizontal louver inlet

[FRHL5 Performance data, 44-51](#)
[FRHL3 Performance data, 55-57](#)
[FRHL Dimensional data, 116](#)

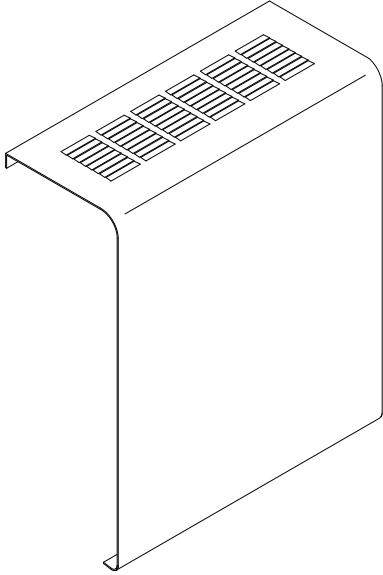


FRVL:
Flat top, round outlet,
vertical louver inlet

[FRVL5 Performance data, 44-51](#)
[FRVL3 Performance data, 55-57](#)
[FRVL Dimensional data, 117](#)

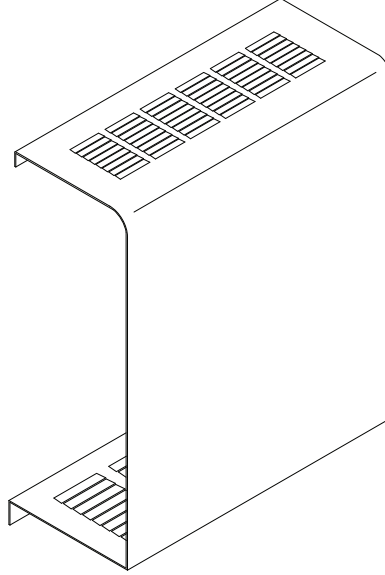
Enclosure models

Flat top



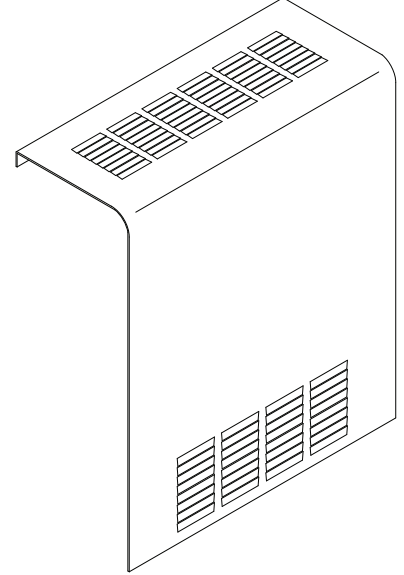
FT:
Flat top, top outlet, open inlet

[FT5 Performance data, 58-65](#)
[FT3 Performance data, 74-76](#)
[FT Dimensional data, 118](#)



FTHL:
Flat top, top outlet,
horizontal louver inlet

[FTHL5 Performance data, 66-73](#)
[FTHL3 Performance data, 77-79](#)
[FTHL Dimensional data, 118](#)

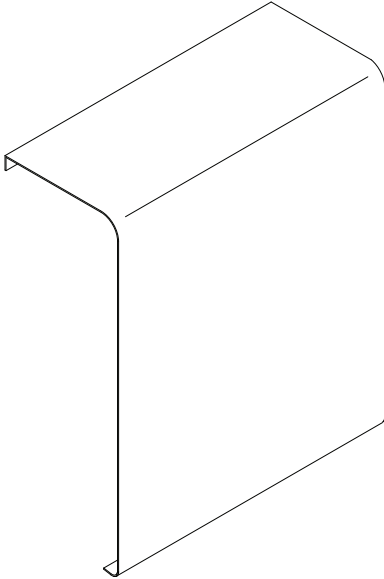


FTVL:
Flat top, top outlet,
vertical louver inlet

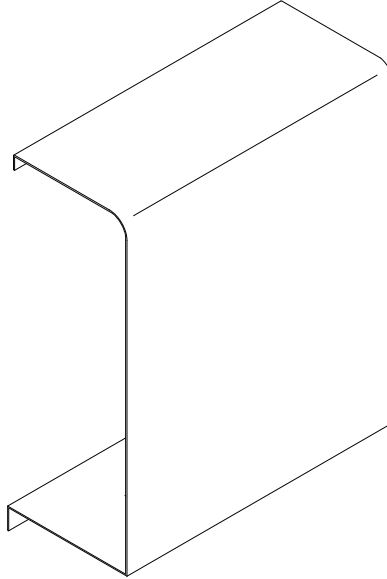
[FTVL5 Performance data, 66-73](#)
[FTVL3 Performance data, 77-79](#)
[FTVL Dimensional data, 119](#)

Enclosure models

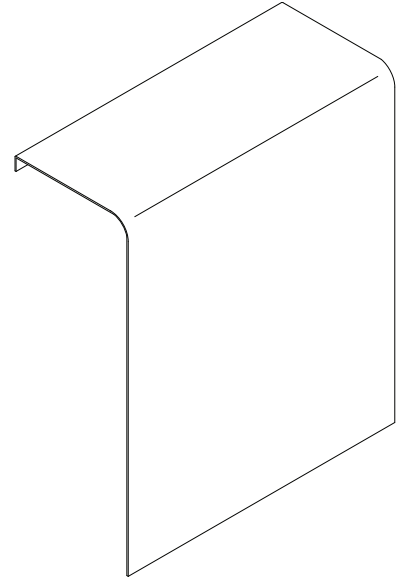
Flat top, pipe enclosures



FTN
Flat top, no louvers, open bottom

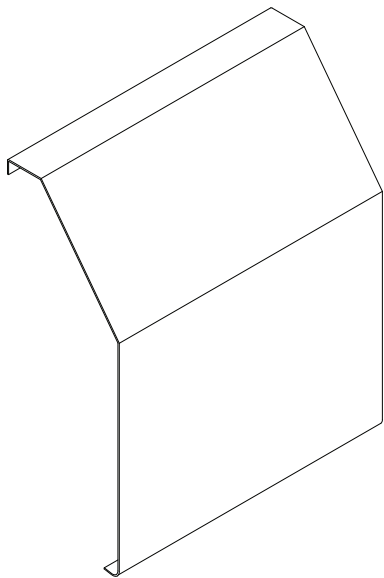


FTHN:
Flat top (to wall), no louvers

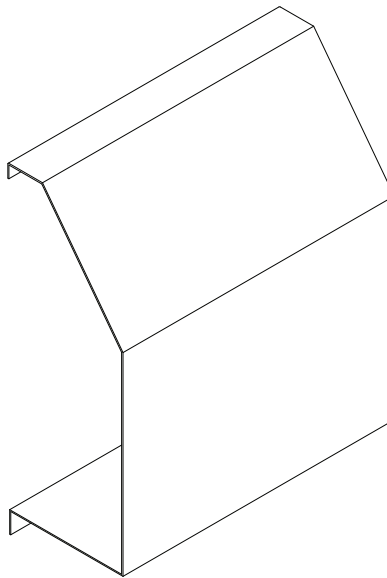


FTVN:
Flat top (to floor), no louvers

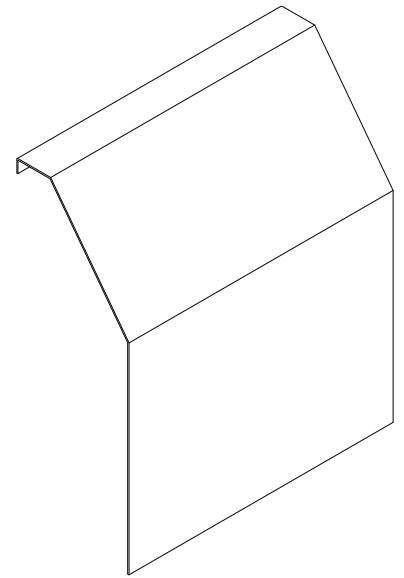
Sloped top, pipe enclosures



FSN:
Sloped top, no louvers



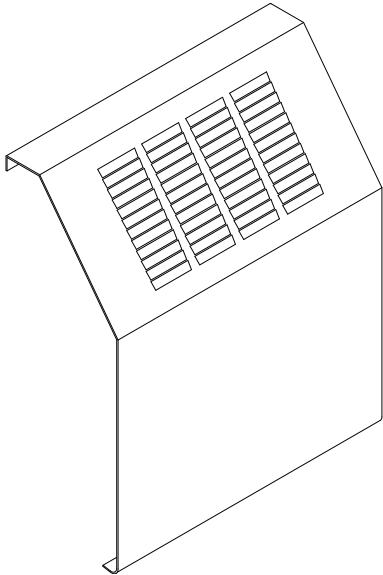
FSHN:
Sloped top, horizontal no louvers



FSVN:
Sloped top (to floor), no louvers

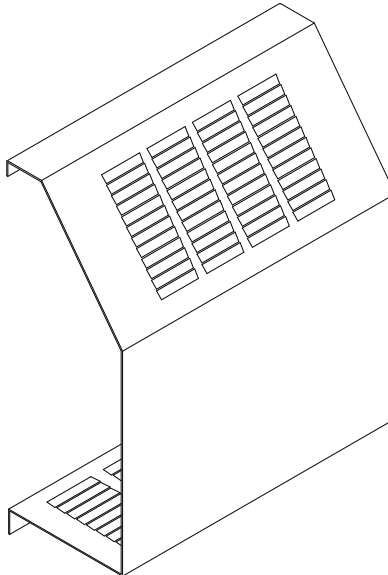
Enclosure models

Sloped top



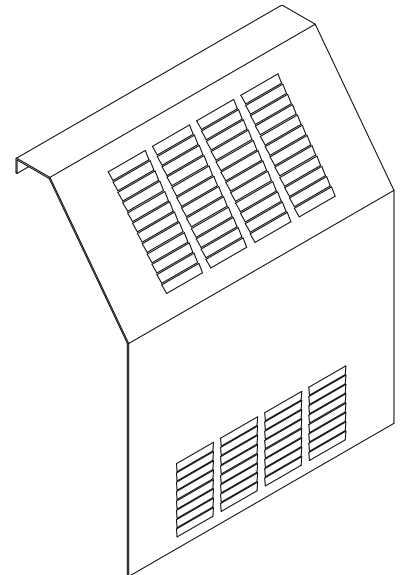
FS:
Sloped top, open inlet

[FS5 Performance data, 80-87](#)
[FS3 Performance data, 96-98](#)
[FS Dimensional data, 120](#)



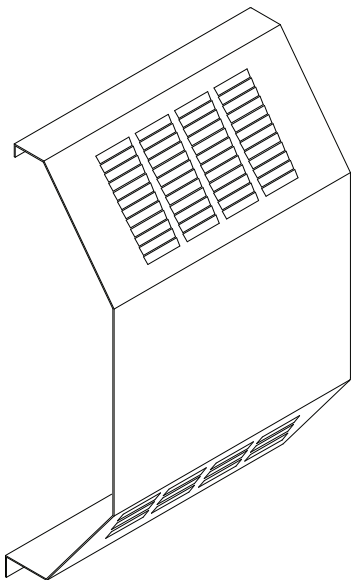
FSHL:
Sloped top, horizontal louver inlet

[FSHL5 Performance data, 88-95](#)
[FSHL3 Performance data, 99-101](#)
[FSHL Dimensional data, 120](#)



FSVL:
Sloped top, vertical louver inlet

[FSVL5 Performance data, 88-95](#)
[FSVL3 Performance data, 99-101](#)
[FSVL Dimensional data, 121](#)

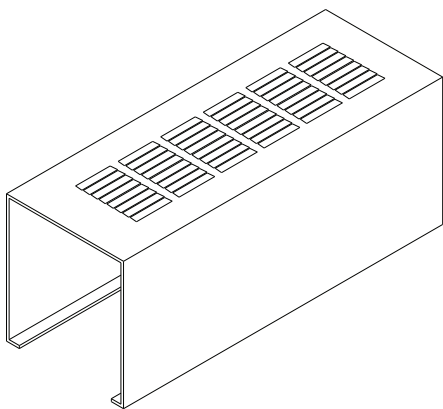


FSOS:
Double sloped style

[FSOS5 Performance data, 102-106](#)
[FSOS3 Performance data, 107-108](#)
[FSOS Dimensional data, 122](#)

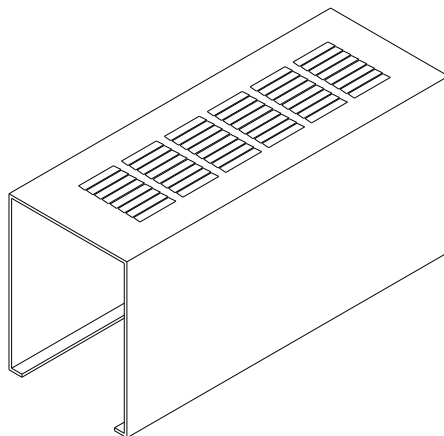
Enclosure models

Pedestal



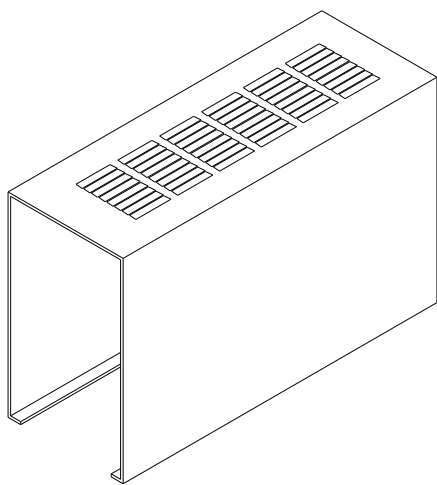
ETL506:
One row, one column pedestal

[ETL Performance data, 109-113](#)
[ETL Dimensional data, 123](#)



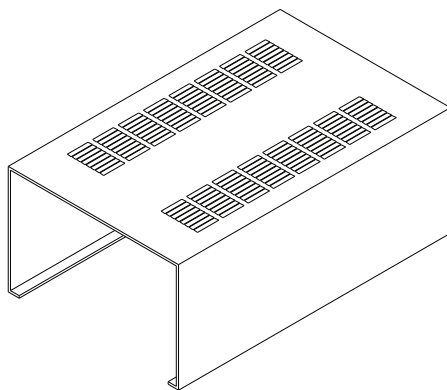
ETL508:
One row, one column pedestal
plus return

[ETL Performance data, 109-113](#)
[ETL Dimensional data, 123](#)



ETL512:
Two row, one column pedestal

[ETL Performance data, 109-113](#)
[ETL Dimensional data, 123](#)



ETL1006:
One row, two column pedestal

[ETL Performance data, 109-113](#)
[ETL Dimensional data, 123](#)

Features

Provide heat through front panel louvers when installations require heated air to be diffused away from exterior walls.

Enclosure

- 14, 16, 18-gauge primed, phosphatized CRS
- 1' to 8' lengths in 6" increments
- Powder coated finish in prime or standard decorator colors
- Stainless steel available

Copper/Aluminum Element

- Tube: 3/4", 1" or 1-1/4"
- Fin: 2-3/4" x 4", 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1' to 12' lengths in 6" increments

Steel Element

- Tube: 1", 1-1/4" or 2"
- Fin: 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1-1/2' to 10' length in 6" increments

Mounting

- Snap mounting channel
- Full back panel 20-gauge (18-gauge available) galvanized steel
- Urethane gasket for air seal available
- 4' or 8' lengths

Hangers

- 16-gauge galvanized steel
- Self-gauging, snap fit, expansion bracket with positive-locking, bottom-mounting clip provides easy installation as well as security. (Not used with FFHL or FFVL)
- Slide cradle will accommodate 1-3/4 inch linear expansion for quiet operation
- Second row bracket, slip-in or wall mounted. Used for multiple tiers of element or with FFHL or FFVL enclosures for all rows
- Slip-in pipe hanger (FF) or wall pipe hanger (FFHL, FFVL) for use with bare tube supply and return pipes
- See charts on pages 81-83 for available combinations

Joints

- Internal joggle joiners provide hairline joints without any external fasteners

Damper (optional)

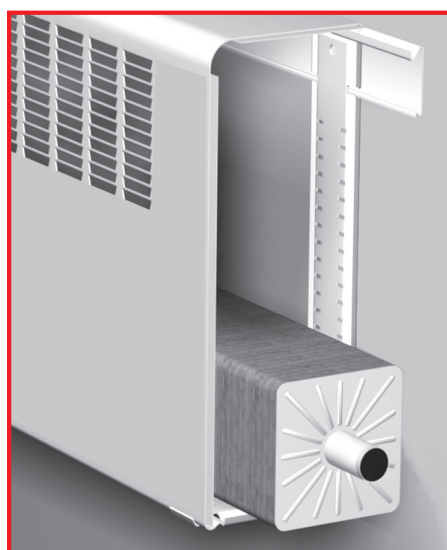
- Durable knob
- Security tamper proof available

Optional Louvered Inlets

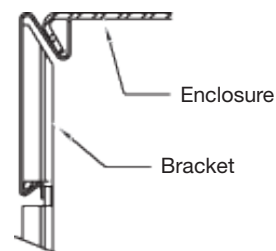
- Horizontal bottom inlet louvers (FFHL)
- Vertical louvered inlet (FFVL)

Accessories

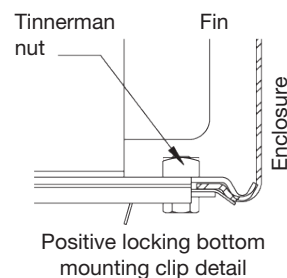
- Standard accessories are 18-gauge
- Overlap for telescoping fit
- Optional butt fit available



Cutaway view of FF5 enclosure showing 4 1/4" x 4 1/4" fin configuration.



Mounting channel detail



Positive locking bottom mounting clip detail



Features

When high heat output is demanded into room and along exterior walls. Appealing enclosure design allows heat to radiate through louvers rounded along top and front edge of cabinet.

Enclosure

- 14, 16, 18-gauge primed, phosphatized CRS
- 1' to 8' lengths in 6" increments
- Powder coated finish in prime or standard decorator colors
- Stainless steel available

Copper/Aluminum Element

- Tube: 3/4", 1" or 1-1/4"
- Fin: 2-3/4" x 4", 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1' to 12' lengths in 6" increments

Steel Element

- Tube: 1", 1-1/4" or 2"
- Fin: 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1-1/2' to 10' length in 6" increments

Mounting

- Snap mounting channel
- Full back panel 20-gauge (18-gauge available) galvanized steel
- Urethane gasket for air seal available
- 4' or 8' lengths

Hangers

- 16-gauge galvanized steel
- Self-gauging, snap fit, expansion bracket with positive-locking, bottom-mounting clip provides easy installation as well as security. (Not used with FRHL or FRVL)
- Slide cradle will accommodate 1-3/4 inch linear expansion for quiet operation
- Second row bracket, slip-in or wall mounted. Used for multiple tiers of element or with FRHL or FRVL enclosures for all rows
- Slip-in pipe hanger (FR) or wall pipe hanger (FRHL, FRVL) for use with bare tube supply and return pipes
- See charts on pages 81-83 for available combinations

Joints

- Internal joggle joiners provide hairline joints without any external fasteners

Damper (optional)

- Durable knob
- Security tamper proof available

Optional Louvered Inlets

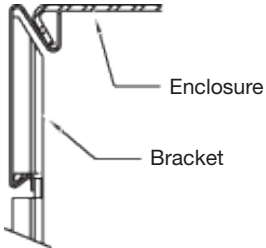
- Horizontal bottom inlet louvers (FRHL)
- Vertical louvered inlet (FRVL)

Accessories

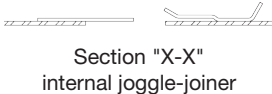
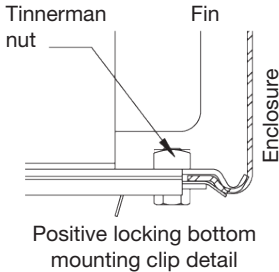
- Standard accessories are 18-gauge
- Overlap for telescoping fit
- Optional butt fit available



Cutaway view of FR5 enclosure showing 4 1/4" x 4 1/4" fin configuration.



Mounting channel detail



Features

Provide an even blanket of heated air through top louvers and emit radiant heat off the front of the cabinet. Ideal for exposed walls and large window areas.

Enclosure

- 14, 16, 18-gauge primed, phosphatized CRS
- 1' to 8' lengths in 6" increments
- Powder coated finish in prime or standard decorator colors
- Stainless steel available
- FTR enclosure has a 90° brake in lieu of radiused brake

Copper/Aluminum Element

- Tube: 3/4", 1" or 1-1/4"
- Fin: 2-3/4" x 4", 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1' to 12' lengths in 6" increments

Steel Element

- Tube: 1", 1-1/4" or 2"
- Fin: 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1-1/2' to 10' length in 6" increments

Mounting

- Snap mounting channel
- Full back panel 20-gauge (18-gauge available) galvanized steel
- Urethane gasket for air seal available
- 4' or 8' lengths

Hangers

- 16-gauge galvanized steel
- Self-gauging, snap fit, expansion bracket with positive-locking, bottom-mounting clip provides easy installation as well as security. (Not used with FTHL or FTVL)
- Slide cradle will accommodate 1-3/4 inch linear expansion for quiet operation
- Second row, slip-in or wall mounted bracket. Used for multiple tiers of element or with FTHL or FTVL enclosures for all rows
- Slip-in pipe hanger (FT) or wall pipe hanger (FTHL, FTVL) for use with bare tube supply and return pipes
- See charts on pages 81-83 for available combinations

Joints

- Internal joggle joiners provide hairline joints without any external fasteners

Damper (optional)

- Durable knob
- Security tamper proof available

Optional Louvered Inlets:

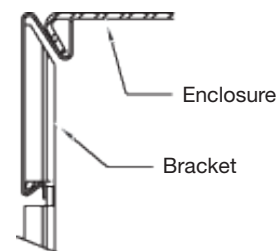
- Horizontal bottom inlet louvers (FTHL)
- Vertical louvered inlet (FTVL)
- No louvers (FTN)

Accessories

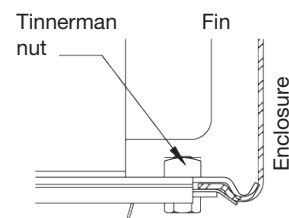
- Standard accessories are 18-gauge
- Overlap for telescoping fit
- Optional butt fit available



Cutaway view of FT5 enclosure showing 4 1/4" x 4 1/4" fin configuration.



Mounting channel detail



Positive locking bottom mounting clip detail



Section "X-X" internal joggle-joiner

Features

Designed for high heat output through a sloped and louvered outlet. Recommended to prevent enclosure from being used as shelf or step.

Enclosure

- 14, 16, 18-gauge primed, phosphatized CRS
- 1' to 8' lengths in 6" increments
- Powder coated finish in prime or standard decorator colors
- Stainless steel available

Copper/Aluminum Element

- Tube: 3/4", 1" or 1-1/4"
- Fin: 2-3/4" x 4", 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1' to 12' lengths in 6" increments

Steel Element

- Tube: 1", 1-1/4" or 2"
- Fin: 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1-1/2' to 10' length in 6" increments

Mounting

- Snap mounting channel
- Full back panel 20-gauge (18-gauge available) galvanized steel
- Urethane gasket for air seal available
- 4' or 8' lengths

Hangers

- 16-gauge galvanized steel
- Self-gauging, snap fit, expansion bracket with positive-locking, bottom-mounting clip provides easy installation as well as security. (Not used with FSHL or FSVL)
- Slide cradle will accommodate 1-3/4 inch linear expansion for quiet operation
- Second row, slip-in or wall mounted bracket. Used for multiple tiers of element or with FSHL or FSVL enclosures for all rows
- Slip-in pipe hanger (FS) or wall pipe hanger (FSHL, FSVL) for use with bare tube supply and return pipes
- See charts on pages 81-83 for available combinations

Joints

- Internal joggle joiners provide hairline joints without any external fasteners

Damper (optional)

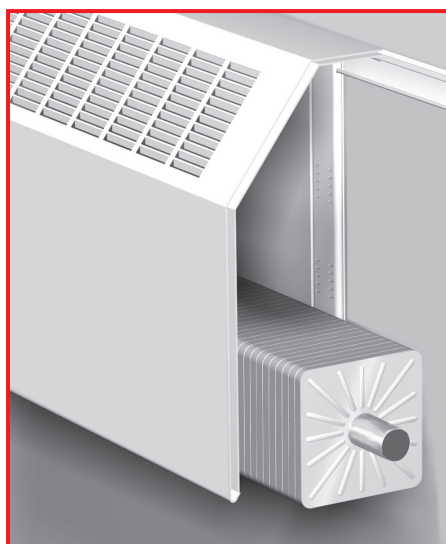
- Durable knob
- Security tamper proof available

Optional Louvered Inlets

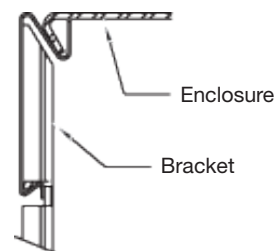
- Horizontal bottom inlet louvers (FSHL)
- Vertical louvered inlet (FSVL)
- No louvers (FSN)

Accessories

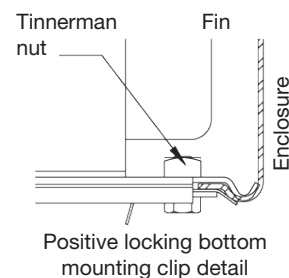
- Standard accessories are 18-gauge
- Overlap for telescoping fit
- Optional butt fit available



Cutaway view of FS5 enclosure showing 4 1/4" x 4 1/4" fin configuration.



Mounting channel detail



Positive locking bottom mounting clip detail



Features

Double sloped panels provide required heat output when higher wall mounting is called for to restrict accessibility, such as in swimming pool areas and gymnasiums.

Enclosure

- 14, 16, 18-gauge primed, phosphatized CRS
- 1' to 8' lengths in 6" increments
- Powder coated finish in prime or standard decorator colors
- Stainless steel available

Copper/Aluminum Element

- Tube: 3/4", 1" or 1-1/4"
- Fin: 2-3/4" x 4", 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1' to 12' lengths in 6" increments

Steel Element

- Tube: 1", 1-1/4" or 2"
- Fin: 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1-1/2' to 10' length in 6" increments

Mounting

- Snap mounting channel
- Full back panel 20-gauge (18-gauge available) galvanized steel
- Urethane gasket for air seal available
- 4' or 8' lengths

Hangers

- 16-gauge galvanized steel
- Wall mounted slip-in second row brackets
- Slide cradle will accommodate 1-3/4 inch linear expansion for quiet operation
- Second row wall mounted bracket used for all tiers of element
- Wall pipe hanger for use with bare tube supply and return pipes
- See charts on pages 81-83 for available combinations

Joints

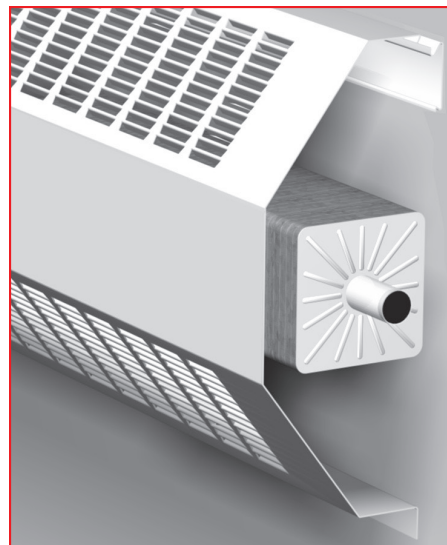
- Internal joggle joiners provide hairline joints without any external fasteners

Damper (optional)

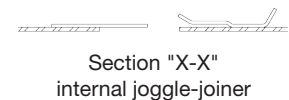
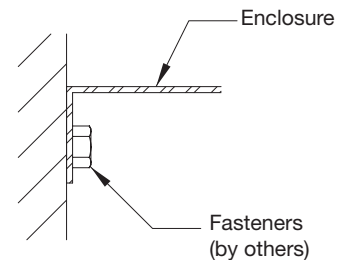
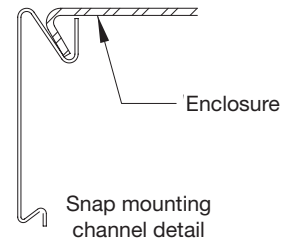
- Durable knob or security tamper proof available

Accessories

- Standard accessories are 18-gauge
- Overlap for telescoping fit
- Optional butt fit available



Cutaway view of FSOS enclosure showing 4 1/4" x 4 1/4" fin configuration.



Features

For use with one or two vertical rows or horizontal columns of finned tube mounted on floor pedestals.

The ETL enclosures have a open inlet with a top-louvered outlet. The brackets support the enclosure and provide expansion cradles for one or two horizontal columns or two rows of finned tube.

All types of finned tube manufactured by Zehnder Rittling fit ETL enclosures.

Enclosure

- 14, 16, 18-gauge primed, phosphatized CRS
- 1' to 8' lengths in 6" increments
- Powder coated finish in prime or standard decorator colors
- Stainless steel available

Copper/Aluminum Element

- Tube: 3/4", 1" or 1-1/4"
- Fin: 2-3/4" x 4", 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1' to 12' lengths in 6" increments

Steel Element

- Tube: 1", 1-1/4" or 2"
- Fin: 3-1/4" x 3-1/4" or 4-1/4" x 4-1/4"
- 1-1/2' to 10' length in 6" increments

Mounting

- Pedestal brackets - 2 available style bases:
 - Adjustable U (standard) 4" +5/8" / -13/16"
 - Aluminum floor flange (optional) not available on 2 column
- Enclosure mounts to a cradle-type expansion bracket with positive locking bottom mounting clip to provide easy installation and security

Hangers

- Bare tube support available for use with ETL5 8" high enclosure
- Slide cradle will accommodate 1-3/4 inch linear expansion for quiet operation
- See charts on pages 81-83 for available combinations

Joints

- Internal joggle joiners provide hairline joints without any external fasteners
- Trims not required at joints

Accessories

- Standard accessories are 18-gauge
- Overlap for telescoping fit
- Optional butt fit available

Model FF5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	14	18	3.90	940	730	650	570	500
		1	20	24	4.00	960	750	660	590	510
		2	20	24	6.10	1460	1140	1010	890	770
		1	24	28	4.20	1010	790	700	620	540
		2	24	28	6.40	1540	1200	1060	940	820
		3	24	28	7.40	1780	1390	1230	1090	940
	1S-3¼ X 3¼-40	1	14	18	4.40	1060	830	730	650	560
		1	20	24	4.70	1130	880	780	690	600
		2	20	24	6.70	1610	1260	1110	980	850
		1	24	28	4.90	1180	920	810	720	630
		2	24	28	7.00	1680	1310	1160	1020	890
		3	24	28	8.10	1940	1510	1340	1180	1030
	1S-3¼ X 3¼-48	1	14	18	4.90	1180	920	810	720	630
		1	20	24	5.50	1320	1030	910	810	700
		2	20	24	7.40	1780	1390	1230	1090	940
		1	24	28	5.70	1370	1070	950	840	730
		2	24	28	7.60	1820	1420	1260	1110	960
		3	24	28	8.70	2090	1630	1440	1270	1110
1" Dia. steel	1S-4¼ X 4¼-32	1	14	18	5.70	1370	1070	950	840	730
		1	20	24	5.90	1420	1110	980	870	750
		2	20	24	8.80	2110	1650	1460	1290	1120
		1	24	28	6.10	1460	1140	1010	890	770
		2	24	28	9.20	2210	1720	1520	1350	1170
		3	24	28	10.60	2540	1980	1750	1550	1350
	1S-4¼ X 4¼-40	1	14	18	6.40	1540	1200	1060	940	820
		1	20	24	6.90	1660	1290	1150	1010	880
		2	20	24	9.70	2330	1820	1610	1420	1230
		1	24	28	7.10	1700	1330	1170	1040	900
		2	24	28	10.10	2420	1890	1670	1480	1280
		3	24	28	11.60	2780	2170	1920	1700	1470
	1S-4¼ X 4¼-48	1	14	18	7.1	1644	1280	1130	1000	870
		1	20	24	7.9	1824	1420	1260	1110	970
		2	20	24	10.6	2442	1900	1680	1490	1290
		1	24	28	8.1	1872	1460	1290	1140	990
		2	24	28	11.0	2527	1970	1740	1540	1340
		3	24	28	12.7	2917	2270	2010	1780	1550

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- FFHL5 and FFVL5 ratings are derated by 12.5%.
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FF5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1 1/4" Dia. steel	1 1/4S-3 1/4 X 3 1/4-32	1	14	18	3.80	900	700	620	550	480
		1	20	24	3.90	940	730	650	570	500
		2	20	24	6.00	1440	1120	990	880	760
		1	24	28	4.10	980	760	680	600	520
		2	24	28	6.30	1510	1180	1040	920	800
		3	24	28	7.30	1750	1370	1210	1070	930
	1 1/4S-3 1/4 X 3 1/4-40	1	14	18	4.30	1030	800	710	630	550
		1	20	24	4.60	1100	860	760	670	580
		2	20	24	6.60	1580	1230	1090	960	840
		1	24	28	4.80	1150	900	790	700	610
		2	24	28	6.90	1660	1290	1150	1010	880
		3	24	28	8.00	1930	1510	1330	1180	1020
	1 1/4S-3 1/4 X 3 1/4-48	1	14	18	4.80	1150	900	790	700	610
		1	20	24	5.40	1300	1010	900	790	690
		2	20	24	7.30	1750	1370	1210	1070	930
		1	24	28	5.60	1340	1050	920	820	710
		2	24	28	7.50	1800	1400	1240	1100	950
		3	24	28	8.60	2060	1610	1420	1260	1090
1 1/2" Dia. steel	1 1/4S-4 1/4 X 4 1/4-32	1	14	18	5.60	1340	1050	920	820	710
		1	20	24	5.80	1390	1080	960	850	740
		2	20	24	8.70	2090	1630	1440	1270	1110
		1	24	28	6.00	1440	1120	990	880	760
		2	24	28	9.10	2180	1700	1500	1330	1160
		3	24	28	10.50	2520	1970	1740	1540	1340
	1 1/4S-4 1/4 X 4 1/4-40	1	14	18	6.30	1510	1180	1040	920	800
		1	20	24	6.80	1630	1270	1120	990	860
		2	20	24	9.60	2300	1790	1590	1400	1220
		1	24	28	7.00	1680	1310	1160	1020	890
		2	24	28	10.00	2400	1870	1660	1460	1270
		3	24	28	11.50	2760	2150	1900	1680	1460
	1 1/4S-4 1/4 X 4 1/4-48	1	14	18	7.10	1700	1330	1170	1040	900
		1	20	24	7.90	1900	1480	1310	1160	1010
		2	20	24	10.60	2540	1980	1750	1550	1350
		1	24	28	8.10	1940	1510	1340	1180	1030
		2	24	28	11.00	2640	2060	1820	1610	1400
		3	24	28	12.70	3050	2380	2100	1860	1620

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- FFHL5 and FFVL5 ratings are derated by 12.5%.
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FF5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
2" Dia. steel	2S-4¼ X 4¼-32	1	14	18	5.50	1320	1030	910	810	700
		1	20	24	5.70	1370	1070	950	840	730
		2	20	24	8.60	2060	1610	1420	1260	1090
		1	24	28	5.90	1420	1110	980	870	750
		2	24	28	9.00	2160	1680	1490	1320	1140
	2S-4¼ X 4¼-40	3	24	28	10.40	2500	1950	1730	1530	1330
		1	14	18	6.20	1490	1160	1030	910	790
		1	20	24	6.70	1610	1260	1110	980	850
		2	20	24	9.50	2290	1790	1580	1400	1210
		1	24	28	6.90	1660	1290	1150	1010	880
	2S-4¼ X 4¼-48	2	24	28	9.90	2380	1860	1640	1450	1260
		3	24	28	11.40	2780	2170	1920	1700	1470
		1	14	18	7.00	1680	1310	1160	1020	890
		1	20	24	7.80	1880	1470	1300	1150	1000
		2	20	24	10.50	2520	1970	1740	1540	1340
	2S-4¼ X 4¼-48	1	24	28	8.00	1920	1500	1320	1170	1020
		2	24	28	10.90	2620	2040	1810	1600	1390
		3	24	28	12.50	3000	2340	2070	1830	1590

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- FFHL5 and FFVL5 ratings are derated by 12.5%.
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FF5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-2¾ X 4 -32	1	14	18	4.43	1063	829	733	648	563
		1	20	24	4.68	1122	875	774	684	595
		2	20	24	6.93	1663	1297	1148	1015	881
		1	24	28	4.90	1175	916	811	717	623
		2	24	28	7.65	1835	1431	1266	1119	972
		3	24	28	8.77	2105	1642	1453	1284	1116
	¾C-2¾ X 4 -40	1	14	18	5.14	1234	963	852	753	654
		1	20	24	5.61	1346	1050	929	821	714
		2	20	24	7.56	1815	1416	1252	1107	962
		1	24	28	5.89	1412	1102	975	862	749
		2	24	28	8.22	1973	1539	1362	1204	1046
		3	24	28	9.43	2264	1766	1562	1381	1200
	¾C-2¾ X 4 -48	1	14	18	5.56	1333	1040	920	813	707
		1	20	24	6.41	1538	1199	1061	938	815
		2	20	24	8.91	2138	1668	1475	1304	1133
		1	24	28	6.88	1650	1287	1139	1007	875
		2	24	28	9.52	2284	1781	1576	1393	1210
		3	24	28	10.62	2548	1987	1758	1554	1350
¾" Dia. copper	¾C-3¼ X 3¼-32	1	14	18	5.10	1220	950	840	740	650
		1	20	24	5.60	1340	1050	920	820	710
		2	20	24	7.40	1480	1150	1020	900	780
		1	24	28	5.90	1420	1110	980	870	750
		2	24	28	8.20	1970	1540	1360	1200	1040
		3	24	28	9.40	2260	1760	1560	1380	1200
	¾C-3¼ X 3¼-40	1	14	18	5.70	1370	1070	950	840	730
		1	20	24	6.30	1510	1180	1040	920	800
		2	20	24	7.70	1850	1440	1280	1130	980
		1	24	28	6.70	1610	1260	1110	980	850
		2	24	28	8.60	2060	1610	1420	1260	1090
		3	24	28	9.90	2380	1860	1640	1450	1260
	¾C-3¼ X 3¼-48	1	14	18	6.20	1490	1160	1030	910	790
		1	20	24	7.10	1700	1330	1170	1040	900
		2	20	24	8.10	1940	1510	1340	1180	1030
		1	24	28	7.60	1820	1420	1260	1110	960
		2	24	28	9.00	2160	1680	1490	1320	1140
		3	24	28	10.40	2500	1950	1730	1530	1330

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FF5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-4¼ X 4¼-32	1	14	18	6.70	1610	1260	1110	980	850
		1	20	24	7.10	1700	1330	1170	1040	900
		2	20	24	10.50	2520	1970	1740	1540	1340
		1	24	28	7.40	1780	1390	1230	1090	940
		2	24	28	11.60	2780	2170	1920	1700	1470
		3	24	28	13.30	3190	2490	2200	1950	1690
	¾C-4¼ X 4¼-40	1	14	18	7.80	1870	1460	1290	1140	990
		1	20	24	8.50	2040	1590	1410	1240	1080
		2	20	24	11.50	2750	2150	1900	1680	1460
		1	24	28	8.90	2140	1670	1480	1310	1130
		2	24	28	12.50	2990	2330	2060	1820	1580
		3	24	28	14.30	3430	2680	2370	2090	1820
	¾C-4¼ X 4¼-48	1	14	18	8.40	2020	1580	1390	1230	1070
		1	20	24	9.70	2330	1820	1610	1420	1230
		2	20	24	13.50	3240	2530	2240	1980	1720
		1	24	28	10.40	2500	1950	1730	1530	1330
		2	24	28	14.40	3460	2700	2390	2110	1830
		3	24	28	16.10	3860	3010	2660	2350	2050
1" Dia. copper	1C-2¾ X 4-32	1	14	18	4.35	1043	813	720	636	553
		1	20	24	4.62	1109	865	765	676	588
		2	20	24	6.79	1630	1272	1125	994	864
		1	24	28	4.81	1155	901	797	705	612
		2	24	28	7.54	1808	1411	1248	1103	958
		3	24	28	8.64	2072	1616	1430	1264	1098
	1C-2¾ X 4-40	1	14	18	5.09	1221	952	842	745	647
		1	20	24	5.56	1333	1040	920	813	707
		2	20	24	7.45	1789	1395	1234	1091	948
		1	24	28	5.80	1393	1086	961	849	738
		2	24	28	8.11	1947	1519	1343	1188	1032
		3	24	28	9.30	2231	1740	1539	1361	1182
	1C-2¾ X 4-48	1	14	18	5.47	1313	1024	906	801	696
		1	20	24	6.27	1505	1174	1038	918	798
		2	20	24	8.72	2092	1632	1444	1276	1109
		1	24	28	6.74	1617	1261	1116	986	857
		2	24	28	9.38	2251	1755	1553	1373	1193
		3	24	28	10.42	2501	1951	1726	1526	1326

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FF5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	14	18	5.00	1200	940	830	730	640
		1	20	24	5.50	1320	1030	910	810	700
		2	20	24	7.30	1750	1370	1210	1070	930
		1	24	28	5.80	1390	1080	960	850	740
		2	24	28	8.10	1940	1510	1340	1180	1030
		3	24	28	9.30	2230	1740	1540	1360	1180
	1C-3¼ X 3¼-40	1	14	18	5.60	1340	1050	920	820	710
		1	20	24	6.20	1490	1160	1030	910	790
		2	20	24	7.60	1820	1420	1260	1110	960
		1	24	28	6.60	1580	1230	1090	960	840
		2	24	28	8.50	2040	1590	1410	1240	1080
		3	24	28	9.80	2350	1830	1620	1430	1250
	1C-3¼ X 3¼-48	1	14	18	6.10	1460	1140	1010	890	770
		1	20	24	7.00	1680	1310	1160	1020	890
		2	20	24	8.00	1920	1500	1320	1170	1020
		1	24	28	7.50	1800	1400	1240	1100	950
		2	24	28	8.90	2140	1670	1480	1310	1130
		3	24	28	10.20	2450	1910	1690	1490	1300
1" Dia. Copper	1C-4¼ X 4¼ -32	1	14	18	6.60	1580	1230	1090	960	840
		1	20	24	7.00	1680	1310	1160	1020	890
		2	20	24	10.30	2470	1930	1700	1510	1310
		1	24	28	7.30	1750	1370	1210	1070	930
		2	24	28	11.40	2740	2140	1890	1670	1450
		3	24	28	13.10	3140	2450	2170	1920	1660
	1C-4¼ X 4¼-40	1	14	18	7.70	1850	1440	1280	1130	980
		1	20	24	8.40	2020	1580	1390	1230	1070
		2	20	24	11.30	2710	2110	1870	1650	1440
		1	24	28	8.80	2110	1650	1460	1290	1120
		2	24	28	12.30	2950	2300	2040	1800	1560
		3	24	28	14.10	3380	2640	2330	2060	1790
	1C-4¼ X 4¼-48	1	14	18	8.30	1990	1550	1370	1210	1050
		1	20	24	9.50	2280	1780	1570	1390	1210
		2	20	24	13.20	3170	2470	2190	1930	1680
		1	24	28	10.20	2450	1910	1690	1490	1300
		2	24	28	14.20	3410	2660	2350	2080	1810
		3	24	28	15.80	3790	2960	2620	2310	2010

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FF5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1 1/4" Dia. copper	1 1/4C-2 3/4 X 4-32	1	14	18	4.29	1030	803	710	628	546
		1	20	24	4.57	1096	855	756	668	581
		2	20	24	6.66	1597	1246	1102	974	847
		1	24	28	4.76	1142	891	788	696	605
		2	24	28	7.40	1775	1385	1225	1083	941
		3	24	28	8.44	2026	1580	1398	1236	1074
	1 1/4C-2 3/4 X 4-40	1	14	18	5.01	1201	937	829	733	637
		1	20	24	5.42	1300	1014	897	793	689
		2	20	24	7.26	1742	1359	1202	1063	923
		1	24	28	5.67	1360	1060	938	829	721
		2	24	28	7.92	1901	1483	1312	1159	1007
		3	24	28	9.10	2185	1704	1507	1333	1158
	1 1/4C-2 3/4 X 4-48	1	14	18	5.34	1280	999	883	781	679
		1	20	24	6.13	1472	1148	1016	898	780
		2	20	24	8.53	2046	1596	1412	1248	1084
		1	24	28	6.60	1584	1236	1093	966	840
		2	24	28	9.19	2204	1719	1521	1345	1168
		3	24	28	10.23	2455	1915	1694	1498	1301
1 1/4" Dia. copper	1 1/4C-3 1/4 X 3 1/4-32	1	14	18	5.00	1200	940	830	730	640
		1	20	24	5.50	1320	1030	910	810	700
		2	20	24	7.30	1750	1370	1210	1070	930
		1	24	28	5.80	1390	1080	960	850	740
		2	24	28	8.00	1920	1500	1320	1170	1020
		3	24	28	9.20	2210	1720	1520	1350	1170
	1 1/4C-3 1/4 X 3 1/4-40	1	14	18	5.60	1340	1050	920	870	710
		1	20	24	6.20	1490	1160	1030	910	790
		2	20	24	7.60	1820	1420	1260	1110	960
		1	24	28	6.60	1580	1230	1090	960	840
		2	24	28	8.40	2020	1580	1390	1230	1070
		3	24	28	9.70	2330	1820	1610	1420	1230
	1 1/4C-3 1/4 X 3 1/4-48	1	14	18	6.10	1460	1140	1010	890	770
		1	20	24	7.00	1680	1310	1160	1020	890
		2	20	24	8.00	1920	1500	1320	1170	1020
		1	24	28	7.40	1780	1390	1230	1090	940
		2	24	28	8.80	2110	1650	1460	1290	1120
		3	24	28	10.20	2450	1910	1690	1490	1300

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FF5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1/4" Dia. Copper	1 1/4C-4 1/4 X 4 1/4-32	1	14	18	6.50	1560	1220	1080	950	830
		1	20	24	6.90	1660	1290	1150	1010	880
		2	20	24	10.10	2420	1890	1670	1480	1280
		1	24	28	7.20	1730	1350	1190	1060	920
		2	24	28	11.20	2690	2100	1860	1640	1430
		3	24	28	12.80	3070	2400	2120	1870	1630
	1 1/4C-4 1/4 X 4 1/4-40	1	14	18	7.60	1820	1420	1260	1110	960
		1	20	24	8.20	1970	1540	1360	1200	1040
		2	20	24	11.00	2640	2060	1820	1610	1400
		1	24	28	8.60	2060	1610	1420	1260	1090
		2	24	28	12.00	2880	2250	1990	1760	1530
		3	24	28	13.80	3310	2580	2280	2020	1750
	1 1/4C-4 1/4 X 4 1/4-48	1	14	18	8.10	1940	1510	1340	1180	1030
		1	20	24	9.30	2230	1740	1540	1360	1180
		2	20	24	12.90	3100	2420	2140	1890	1640
		1	24	28	10.00	2400	1870	1660	1460	1270
		2	24	28	13.90	3340	2610	2300	2040	1770
		3	24	28	15.50	3720	2900	2570	2270	1970

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FFHL5 / FFVL5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	14	18	3.43	823	640	570	500	440
		1	20	24	3.50	840	660	580	510	450
		1	24	28	3.68	884	690	610	540	470
		2	20	24	5.32	1278	1000	880	780	680
		2	24	28	5.61	1348	1050	930	820	710
		3	24	28	6.49	1558	1210	1070	950	830
	1S-3¼ X 3¼-40	1	14	18	3.86	928	720	640	570	490
		1	20	24	4.12	989	770	680	600	520
		1	24	28	4.30	1033	810	710	630	550
		2	20	24	5.87	1409	1100	970	860	750
		2	24	28	6.13	1470	1150	1010	900	780
		3	24	28	7.07	1698	1320	1170	1040	900
	1S-3¼ X 3¼-48	1	14	18	4.30	1033	810	710	630	550
		1	20	24	4.81	1155	900	800	700	610
		1	24	28	4.99	1199	940	830	730	640
		2	20	24	6.49	1558	1210	1070	950	830
		2	24	28	6.64	1593	1240	1100	970	840
		3	24	28	7.62	1829	1430	1260	1120	970
1" Dia. steel	1S-4¼ X 4¼-32	1	14	18	4.99	1199	940	830	730	640
		1	20	24	5.18	1243	970	860	760	660
		1	24	28	5.32	1278	1000	880	780	680
		2	20	24	7.69	1846	1440	1270	1130	980
		2	24	28	8.06	1934	1510	1330	1180	1020
		3	24	28	9.26	2223	1730	1530	1360	1180
	1S-4¼ X 4¼-40	1	14	18	5.61	1348	1050	930	820	710
		1	20	24	6.05	1453	1130	1000	890	770
		1	24	28	6.20	1488	1160	1030	910	790
		2	20	24	8.49	2039	1590	1410	1240	1080
		2	24	28	8.82	2118	1650	1460	1290	1120
		3	24	28	10.14	2433	1900	1680	1480	1290
	1S-4¼ X 4¼-48	1	14	18	6.3	1438	1120	990	880	760
		1	20	24	6.9	1596	1240	1100	970	850
		1	20	24	9.3	2136	1670	1470	1300	1130
		2	24	28	7.1	1638	1280	1130	1000	870
		2	24	28	9.6	2211	1720	1530	1350	1170
		3	24	28	11.1	2552	1990	1760	1560	1350

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FFHL5 / FFVL5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1 1/4" Dia. steel	1 1/4S-3 1/4 X 3 1/4-32	1	14	18	3.28	788	610	540	480	420
		1	20	24	3.43	823	640	570	500	440
		1	24	28	3.57	858	670	590	520	450
		2	20	24	5.25	1260	980	870	770	670
		2	24	28	5.51	1321	1030	910	810	700
	1 1/4S-3 1/4 X 3 1/4-40	3	24	28	6.38	1531	1190	1060	930	810
		1	14	18	3.76	901	700	620	550	480
		1	20	24	4.01	963	750	660	590	510
		1	24	28	4.19	1006	780	690	610	530
		2	20	24	5.76	1383	1080	950	840	730
	1 1/4S-3 1/4 X 3 1/4-48	2	24	28	6.05	1453	1130	1000	890	770
		3	24	28	7.04	1689	1320	1170	1030	900
		1	14	18	4.19	1006	780	690	610	530
		1	20	24	4.74	1138	890	780	690	600
		1	24	28	4.89	1173	910	810	720	620
1 1/2" Dia. steel	1 1/4S-4 1/4 X 4 1/4-32	2	20	24	6.38	1531	1190	1060	930	810
		2	24	28	6.56	1575	1230	1090	960	830
		3	24	28	7.51	1803	1410	1240	1100	960
		1	14	18	4.89	1173	910	810	720	620
		1	20	24	5.07	1216	950	840	740	640
	1 1/4S-4 1/4 X 4 1/4-40	1	24	28	5.25	1260	980	870	770	670
		2	20	24	7.62	1829	1430	1260	1120	970
		2	24	28	7.95	1908	1490	1320	1160	1010
		3	24	28	9.19	2205	1720	1520	1350	1170
		1	14	18	5.51	1321	1030	910	810	700
	1 1/4S-4 1/4 X 4 1/4-48	1	20	24	5.94	1426	1110	980	870	760
		1	24	28	6.13	1470	1150	1010	900	780
		2	20	24	8.39	2013	1570	1390	1230	1070
		2	24	28	8.75	2100	1640	1450	1280	1110
		3	24	28	10.06	2415	1880	1670	1470	1280
1 1/2S-4 1/4 X 4 1/4-48	1	14	18	6.20	1488	1160	1030	910	790	
	1	20	24	6.93	1663	1300	1150	1010	880	
	1	24	28	7.07	1698	1320	1170	1040	900	
	2	20	24	9.26	2223	1730	1530	1360	1180	
	2	24	28	9.63	2310	1800	1590	1410	1220	
3	24	28	11.12	2669	2080	1840	1630	1410		

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FFHL5 / FFVL5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
2" Dia. steel	2S-4¼ X 4¼-32	1	14	18	4.81	1155	900	800	700	610
		1	20	24	4.99	1199	940	830	730	640
		1	24	28	5.18	1243	970	860	760	660
		2	20	24	7.51	1803	1410	1240	1100	960
		2	24	28	7.88	1890	1470	1300	1150	1000
		3	24	28	9.11	2188	1710	1510	1330	1160
	2S-4¼ X 4¼-40	1	14	18	5.43	1304	1020	900	800	690
		1	20	24	5.87	1409	1100	970	860	750
		1	24	28	6.05	1453	1130	1000	890	770
		2	20	24	8.35	2004	1560	1380	1220	1060
		2	24	28	8.68	2083	1620	1440	1270	1100
		3	24	28	10.14	2433	1900	1680	1480	1290
	2S-4¼ X 4¼-48	1	14	18	6.13	1470	1150	1010	900	780
		1	20	24	6.85	1645	1280	1140	1000	870
		1	24	28	7.00	1680	1310	1160	1020	890
		2	20	24	9.19	2205	1720	1520	1350	1170
		2	24	28	9.55	2293	1790	1580	1400	1220
		3	24	28	10.94	2625	2050	1810	1600	1390

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FFHL5 / FFVL5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-2¾ X 4 -32	1	14	18	3.88	930	730	640	570	490
		1	20	24	4.09	982	770	680	600	520
		1	24	28	4.28	1028	800	710	630	540
		2	20	24	6.06	1455	1130	1000	890	770
		2	24	28	6.69	1606	1250	1110	980	850
		3	24	28	7.67	1842	1440	1270	1120	980
	¾C-2¾ X 4 -40	1	14	18	4.45	1068	830	740	650	570
		1	20	24	4.89	1173	910	810	720	620
		1	24	28	5.18	1243	970	860	760	660
		2	20	24	5.40	1295	1010	890	790	690
		2	24	28	7.18	1724	1340	1190	1050	910
		3	24	28	8.24	1978	1540	1360	1210	1050
	¾C-2¾ X 4 -48	1	14	18	4.50	1080	840	750	660	570
		1	20	24	4.91	1178	920	810	720	620
		1	24	28	5.15	1236	960	850	750	650
		2	20	24	6.62	1588	1240	1100	970	840
		2	24	28	7.19	1726	1350	1190	1050	910
		3	24	28	8.25	1981	1550	1370	1210	1050
¾" Dia. copper	¾C-3¼ X 3¼-32	1	14	18	4.99	1199	940	830	730	640
		1	20	24	5.51	1321	1030	910	810	700
		1	24	28	5.87	1409	1100	970	860	750
		2	20	24	6.74	1619	1260	1120	990	860
		2	24	28	7.51	1803	1410	1240	1100	960
		3	24	28	8.68	2083	1620	1440	1270	1100
	¾C-3¼ X 3¼-40	1	14	18	4.86	1166	910	800	710	620
		1	20	24	5.61	1346	1050	930	820	710
		1	24	28	6.02	1444	1130	1000	880	770
		2	20	24	7.79	1871	1460	1290	1140	990
		2	24	28	8.33	1999	1560	1380	1220	1060
		3	24	28	9.29	2230	1740	1540	1360	1180
	¾C-3¼ X 3¼-48	1	14	18	5.43	1304	1020	900	800	690
		1	20	24	6.20	1488	1160	1030	910	790
		1	24	28	6.64	1593	1240	1100	970	840
		2	20	24	7.07	1698	1320	1170	1040	900
		2	24	28	7.88	1890	1470	1300	1150	1000
		3	24	28	9.11	2188	1710	1510	1330	1160

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FFHL5 / FFVL5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-4¼ X 4¼-32	1	14	18	5.87	1409	1100	970	860	750
		1	20	24	6.20	1488	1160	1030	910	790
		1	24	28	6.49	1558	1210	1070	950	830
		2	20	24	9.19	2205	1720	1520	1350	1170
		2	24	28	10.14	2433	1900	1680	1480	1290
		3	24	28	11.63	2791	2180	1930	1700	1480
	¾C-4¼ X 4¼-40	1	14	18	6.82	1636	1280	1130	1000	870
		1	20	24	7.44	1785	1390	1230	1090	950
		1	24	28	7.80	1873	1460	1290	1140	990
		2	20	24	10.03	2406	1880	1660	1470	1280
		2	24	28	10.90	2616	2040	1810	1600	1390
		3	24	28	12.51	3001	2340	2070	1830	1590
	¾C-4¼ X 4¼-48	1	14	18	7.36	1768	1380	1220	1080	940
		1	20	24	8.49	2039	1590	1410	1240	1080
		1	24	28	9.11	2188	1710	1510	1330	1160
		2	20	24	11.81	2835	2210	1960	1730	1500
		2	24	28	12.61	3028	2360	2090	1850	1600
		3	24	28	14.07	3378	2630	2330	2060	1790
1" Dia. copper	1C-2¾ X 4-32	1	14	18	3.80	913	710	630	560	480
		1	20	24	4.04	970	760	670	590	510
		1	24	28	4.21	1011	790	700	620	540
		2	20	24	5.94	1426	1110	980	870	760
		2	24	28	6.59	1582	1230	1090	970	840
		3	24	28	7.55	1813	1410	1250	1110	960
	1C-2¾ X 4-40	1	14	18	4.45	1068	830	740	650	570
		1	20	24	4.86	1166	910	800	710	620
		1	24	28	5.08	1219	950	840	740	650
		2	20	24	6.52	1565	1220	1080	950	830
		2	24	28	7.10	1704	1330	1180	1040	900
		3	24	28	8.13	1952	1520	1350	1190	1030
	1C-2¾ X 4-48	1	14	18	4.79	1149	900	790	700	610
		1	20	24	5.49	1317	1030	910	800	700
		1	24	28	5.90	1415	1100	980	860	750
		2	20	24	7.63	1831	1430	1260	1120	970
		2	24	28	8.21	1970	1540	1360	1200	1040
		3	24	28	9.12	2188	1710	1510	1330	1160

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FFHL5 / FFVL5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	14	18	4.38	1050	820	720	640	560
		1	20	24	4.81	1155	900	800	700	610
		1	24	28	5.07	1216	950	840	740	640
		2	20	24	6.38	1531	1190	1060	930	810
		2	24	28	7.07	1698	1320	1170	1040	900
		3	24	28	8.13	1951	1520	1350	1190	1030
	1C-3¼ X 3¼-40	1	14	18	5.76	1383	1080	950	840	730
		1	20	24	6.13	1470	1150	1010	900	780
		1	24	28	6.38	1531	1190	1060	930	810
		2	20	24	9.01	2161	1690	1490	1320	1150
		2	24	28	9.99	2398	1870	1650	1460	1270
		3	24	28	11.45	2748	2140	1900	1680	1460
	1C-3¼ X 3¼-48	1	14	18	4.89	1173	910	810	720	620
		1	20	24	5.43	1304	1020	900	800	690
		1	24	28	5.76	1383	1080	950	840	730
		2	20	24	6.64	1593	1240	1100	970	840
		2	24	28	7.44	1785	1390	1230	1090	950
		3	24	28	8.57	2056	1600	1420	1250	1090
1" Dia. Copper	1C-4¼ X 4¼ -32	1	14	18	6.74	1619	1260	1120	990	860
		1	20	24	7.36	1768	1380	1220	1080	940
		1	24	28	7.69	1846	1440	1270	1130	980
		2	20	24	9.88	2371	1850	1640	1450	1260
		2	24	28	10.76	2581	2010	1780	1570	1370
		3	24	28	12.32	2958	2310	2040	1800	1570
	1C-4¼ X 4¼-40	1	14	18	5.32	1278	1000	880	780	680
		1	20	24	6.13	1470	1150	1010	900	780
		1	24	28	6.56	1575	1230	1090	960	830
		2	20	24	7.00	1680	1310	1160	1020	890
		2	24	28	7.80	1873	1460	1290	1140	990
		3	24	28	8.93	2144	1670	1480	1310	1140
	1C-4¼ X 4¼-48	1	14	18	7.26	1741	1360	1200	1060	920
		1	20	24	8.31	1995	1560	1380	1220	1060
		1	24	28	8.93	2144	1670	1480	1310	1140
		2	20	24	11.56	2774	2160	1910	1690	1470
		2	24	28	12.43	2984	2330	2060	1820	1580
		3	24	28	13.82	3316	2590	2290	2020	1760

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FFHL5 / FFVL5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1 1/4" Dia. copper	1 1/4C-2 1/4 X 4-32	1	14	18	3.76	901	700	620	550	480
		1	20	24	4.00	959	750	660	580	510
		1	24	28	4.16	999	780	690	610	530
		2	20	24	5.82	1397	1090	960	850	740
		2	24	28	6.47	1553	1210	1070	950	820
		3	24	28	7.39	1773	1380	1220	1080	940
	1 1/4C-2 1/4 X 4-40	1	14	18	4.38	1050	820	720	640	560
		1	20	24	4.81	1155	900	800	700	610
		1	24	28	5.07	1216	950	840	740	640
		2	20	24	6.38	1531	1190	1060	930	810
		2	24	28	7.00	1680	1310	1160	1020	890
		3	24	28	8.06	1934	1510	1330	1180	1020
	1 1/4C-2 1/4 X 4-48	1	14	18	4.38	1051	820	730	640	560
		1	20	24	4.74	1138	890	780	690	600
		1	24	28	4.96	1190	930	820	730	630
		2	20	24	6.35	1524	1190	1050	930	810
		2	24	28	6.93	1663	1300	1150	1010	880
		3	24	28	7.97	1912	1490	1320	1170	1010
1 1/4" Dia. copper	1 1/4C-3 1/4 X 3 1/4-32	1	14	18	4.89	1173	910	810	720	620
		1	20	24	5.43	1304	1020	900	800	690
		1	24	28	5.76	1383	1080	950	840	730
		2	20	24	6.64	1593	1240	1100	970	840
		2	24	28	7.36	1768	1380	1220	1080	940
		3	24	28	8.49	2039	1590	1410	1240	1080
	1 1/4C-3 1/4 X 3 1/4-40	1	14	18	4.67	1120	870	770	680	590
		1	20	24	5.37	1288	1000	890	790	680
		1	24	28	5.78	1386	1080	960	850	730
		2	20	24	7.46	1790	1400	1240	1090	950
		2	24	28	8.04	1929	1500	1330	1180	1020
		3	24	28	8.95	2148	1680	1480	1310	1140
	1 1/4C-3 1/4 X 3 1/4-48	1	14	18	5.32	1278	1000	880	780	680
		1	20	24	6.13	1470	1150	1010	900	780
		1	24	28	6.49	1558	1210	1070	950	830
		2	20	24	7.00	1680	1310	1160	1020	890
		2	24	28	7.69	1846	1440	1270	1130	980
		3	24	28	8.93	2144	1670	1480	1310	1140

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FFHL5 / FFVL5; Standard flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1/4" Dia. Copper	1 1/4C-4 1/4 X 4 1/4-32	1	14	18	5.69	1365	1060	940	830	720
		1	20	24	6.05	1453	1130	1000	890	770
		1	24	28	6.31	1514	1180	1040	920	800
		2	20	24	8.82	2118	1650	1460	1290	1120
		2	24	28	9.81	2354	1840	1620	1440	1250
		3	24	28	11.19	2686	2100	1850	1640	1420
	1 1/4C-4 1/4 X 4 1/4-40	1	14	18	6.64	1593	1240	1100	970	840
		1	20	24	7.18	1724	1340	1190	1050	910
		1	24	28	7.51	1803	1410	1240	1100	960
		2	20	24	9.63	2310	1800	1590	1410	1220
		2	24	28	10.50	2520	1970	1740	1540	1340
		3	24	28	12.07	2896	2260	2000	1770	1540
	1 1/4C-4 1/4 X 4 1/4-48	1	14	18	7.07	1698	1320	1170	1040	900
		1	20	24	8.13	1951	1520	1350	1190	1030
		1	24	28	8.75	2100	1640	1450	1280	1110
		2	20	24	11.30	2713	2120	1870	1650	1440
		2	24	28	12.18	2923	2280	2020	1780	1550
		3	24	28	13.56	3255	2540	2250	1990	1730

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FF3; Low profile flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	8	12	3.12	750	590	520	460	400
		1	11	15	3.30	790	620	550	480	420
		1	14	18	3.40	820	640	570	500	430
		2	14	18	4.70	1130	880	780	690	600
	1S-3¼ X 3¼-40	1	8	12	3.40	820	640	570	500	430
		1	11	15	3.80	910	710	630	560	480
		1	14	18	3.90	940	730	650	570	500
		2	14	18	5.30	1270	990	880	770	670
	1S-3¼ X 3¼-48	1	8	12	3.90	940	730	650	570	500
		1	11	15	4.20	1010	790	700	620	540
		1	14	18	4.40	1060	830	730	650	560
		2	14	18	6.00	1440	1120	990	880	760
1¼" Dia. steel	1¼S-3¼ X 3¼-32	1	8	12	3.00	720	560	500	440	380
		1	11	15	3.20	770	600	530	470	410
		1	14	18	3.30	790	620	550	480	420
		2	14	18	4.60	1100	860	760	670	580
	1¼S-3¼ X 3¼-40	1	8	12	3.30	790	620	550	480	420
		1	11	15	3.70	890	690	610	540	470
		1	14	18	3.80	910	710	630	560	480
		2	14	18	5.20	1250	980	860	760	660
	1¼S-3¼ X 3¼-48	1	8	12	3.80	910	710	630	560	480
		1	11	15	4.10	980	760	680	600	520
		1	14	18	4.30	1030	800	710	630	550
		2	14	18	5.90	1420	1110	980	870	750

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Performance Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FF3; Low profile flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-2 3/4 X 4-32	1	8	12	4.20	1010	790	700	620	540
		1	11	15	4.50	1080	840	750	660	570
		1	14	18	4.80	1150	900	790	700	610
		2	14	18	6.60	1580	1230	1090	960	840
	3/4C-2 3/4 X 4-40	1	8	12	4.60	1110	860	760	670	580
		1	11	15	5.00	1200	940	830	730	640
		1	14	18	5.30	1270	990	880	770	670
		2	14	18	7.30	1750	1370	1210	1070	930
	3/4C-2 3/4 X 4-48	1	8	12	5.00	1200	940	830	730	640
		1	11	15	5.50	1320	1030	910	810	700
		1	14	18	5.80	1390	1080	960	850	740
		2	14	18	7.90	1900	1480	1310	1160	1010
3/4" Dia. copper	3/4C-3 1/4 X 3 1/4-32	1	8	12	4.10	980	760	680	600	520
		1	11	15	4.40	1060	830	730	650	560
		1	14	18	4.70	1130	880	780	690	600
		2	14	18	6.40	1540	1200	1060	940	820
	3/4C-3 1/4 X 3 1/4-40	1	8	12	4.50	1080	840	750	660	570
		1	11	15	4.90	1180	920	810	720	630
		1	14	18	5.10	1220	950	840	740	650
		2	14	18	7.00	1680	1310	1160	1020	890
	3/4C-3 1/4 X 3 1/4-48	1	8	12	5.00	1200	940	830	730	640
		1	11	15	5.30	1270	990	880	770	670
		1	14	18	5.60	1340	1050	920	820	710
		2	14	18	7.60	1820	1420	1260	1110	960
1" Dia. copper	1C-2 3/4 X 4-32	1	8	12	4.10	980	760	680	600	520
		1	11	15	4.40	1060	830	730	650	560
		1	14	18	4.70	1130	880	780	690	600
		2	14	18	6.50	1560	1220	1080	950	830
	1C-2 3/4 X 4-40	1	8	12	4.50	1080	840	750	660	570
		1	11	15	4.90	1180	920	810	720	630
		1	14	18	5.20	1250	980	860	760	660
		2	14	18	7.20	1730	1350	1190	1060	920
	1C-2 3/4 X 4-48	1	8	12	4.90	1180	920	810	720	630
		1	11	15	5.40	1300	1010	900	790	690
		1	14	18	5.70	1370	1070	950	840	730
		2	14	18	7.80	1870	1460	1290	1140	990

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Performance Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FF3; Low profile flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	8	12	4.00	960	750	660	590	510
		1	11	15	4.30	1030	800	710	630	550
		1	14	18	4.60	1100	860	760	670	580
		2	14	18	6.30	1510	1180	1040	920	800
	1C-3¼ X 3¼-40	1	8	12	4.40	1060	830	730	650	560
		1	11	15	4.80	1150	900	790	700	610
		1	14	18	5.00	1200	940	830	730	640
		2	14	18	6.90	1660	1290	1150	1010	880
	1C-3¼ X 3¼-48	1	8	12	4.90	1180	920	810	720	630
		1	11	15	5.20	1250	980	860	760	660
		1	14	18	5.50	1320	1030	910	810	700
		2	14	18	7.50	1800	1400	1240	1100	950
1½" Dia. copper	1¼C-2¾ X 4-32	1	8	12	4.00	960	750	660	590	510
		1	11	15	4.30	1030	800	710	630	550
		1	14	18	4.60	1110	860	760	670	580
		2	14	18	6.40	1540	1200	1060	940	820
	1¼C-2¾ X 4-40	1	8	12	4.40	1060	830	730	650	560
		1	11	15	4.80	1150	900	790	700	610
		1	14	18	5.10	1220	950	840	740	650
		2	14	18	7.10	1700	1330	1170	1040	900
	1¼C-2¾ X 4-48	1	8	12	4.80	1150	900	790	700	610
		1	11	15	5.30	1270	990	880	770	670
		1	14	18	5.60	1340	1050	920	820	710
		2	14	18	7.70	1850	1440	1280	1130	980
1½" Dia. copper	1¼C-3¼ X 3¼-32	1	8	12	3.50	840	660	580	510	450
		1	11	15	3.80	910	710	630	560	480
		1	14	18	4.00	960	750	660	590	510
		2	14	18	5.50	1320	1030	910	810	700
	1¼C-3¼ X 3¼-40	1	8	12	4.40	1060	830	730	650	560
		1	11	15	4.70	1130	880	780	690	600
		1	14	18	5.00	1200	940	830	730	640
		2	14	18	6.90	1660	1290	1150	1010	880
	1¼C-3¼ X 3¼-48	1	8	12	4.80	1150	900	790	700	610
		1	11	15	5.10	1220	950	840	740	650
		1	14	18	5.40	1300	1010	900	790	690
		2	14	18	7.40	1780	1390	1230	1090	940

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Performance Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

**Model FFHL3 / FFVL3;
Low profile flat top, front outlet**

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	11	15	2.88	691	540	480	420	370
		1	14	18	2.99	718	560	500	440	380
		2	14	18	4.12	989	770	680	600	520
	1S-3¼ X 3¼-40	1	11	15	3.32	796	620	550	490	420
		1	14	18	3.43	823	640	570	500	440
		2	14	18	4.63	1111	870	770	680	590
	1S-3¼ X 3¼-48	1	11	15	3.68	884	690	610	540	470
		1	14	18	3.86	928	720	640	570	490
		2	14	18	5.25	1260	980	870	770	670
1½" Dia. steel	1¼S-3¼ X 3¼-32	1	11	15	2.81	674	530	460	410	360
		1	14	18	2.88	691	540	480	420	370
		2	14	18	4.01	963	750	660	590	510
	1¼S-3¼ X 3¼-40	1	11	15	3.24	779	610	540	480	410
		1	14	18	3.32	796	620	550	490	420
		2	14	18	4.56	1094	850	750	670	580
	1¼S-3¼ X 3¼-48	1	11	15	3.57	858	670	590	520	450
		1	14	18	3.76	901	700	620	550	480
		2	14	18	5.18	1243	970	860	760	660

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Performance Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FFHL3 / FFVL3; Low profile flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
¾" Dia. copper	¾C-2¾ X 4-32	1	11	15	3.94	945	740	650	580	500
		1	14	18	4.19	1006	780	690	610	530
		2	14	18	5.76	1383	1080	950	840	730
	¾C-2¾ X 4-40	1	11	15	4.38	1050	820	720	640	560
		1	14	18	4.63	1111	870	770	680	590
		2	14	18	6.38	1531	1190	1060	930	810
	¾C-2¾ X 4-48	1	11	15	4.81	1155	900	800	700	610
		1	14	18	5.07	1216	950	840	740	640
		2	14	18	6.93	1663	1300	1150	1010	880
¾" Dia. copper	¾C-3¼ X 3¼-32	1	11	15	3.86	928	720	640	570	490
		1	14	18	4.12	989	770	680	600	520
		2	14	18	5.61	1348	1050	930	820	710
	¾C-3¼ X 3¼-40	1	11	15	4.30	1033	810	710	630	550
		1	14	18	4.45	1068	830	740	650	570
		2	14	18	6.13	1470	1150	1010	900	780
	¾C-3¼ X 3¼-48	1	11	15	4.63	1111	870	770	680	590
		1	14	18	4.89	1173	910	810	720	620
		2	14	18	6.64	1593	1240	1100	970	840
1" Dia. copper	1C-2¾ X 4-32	1	11	15	3.86	928	720	640	570	490
		1	14	18	4.12	989	770	680	600	520
		2	14	18	5.69	1365	1060	940	830	720
	1C-2¾ X 4-40	1	11	15	4.30	1033	810	710	630	550
		1	14	18	4.56	1094	850	750	670	580
		2	14	18	6.31	1514	1180	1040	920	800
	1C-2¾ X 4-48	1	11	15	4.74	1138	890	780	690	600
		1	14	18	4.99	1199	940	830	730	640
		2	14	18	6.82	1636	1280	1130	1000	870

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Performance Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

**Model FFHL3 / FFVL3;
Low profile flat top, front outlet**

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	11	15	3.76	901	700	620	550	480
		1	14	18	4.01	963	750	660	590	510
		2	14	18	5.51	1321	1030	910	810	700
	1C-3¼ X 3¼-40	1	11	15	4.19	1006	780	690	610	530
		1	14	18	4.38	1050	820	720	640	560
		2	14	18	6.05	1453	1130	1000	890	770
	1C-3¼ X 3¼-48	1	11	15	4.56	1094	850	750	670	580
		1	14	18	4.81	1155	900	800	700	610
		2	14	18	6.56	1575	1230	1090	960	830
1¼" Dia. copper	1¼C-2¾ X 4-32	1	11	15	3.76	901	700	620	550	480
		1	14	18	4.05	971	760	670	590	510
		2	14	18	5.61	1348	1050	930	820	710
	1¼C-2¾ X 4-40	1	11	15	4.19	1006	780	690	610	530
		1	14	18	4.45	1068	830	740	650	570
		2	14	18	6.20	1488	1160	1030	910	790
	1¼C-2¾ X 4-48	1	11	15	4.63	1111	870	770	680	590
		1	14	18	4.89	1173	910	810	720	620
		2	14	18	6.74	1619	1260	1120	990	860
1½" Dia. copper	1½C-3¼ X 3¼-32	1	11	15	3.32	796	620	550	490	420
		1	14	18	3.50	840	660	580	510	450
		2	14	18	4.81	1155	900	800	700	610
	1½C-3¼ X 3¼-40	1	11	15	4.12	989	770	680	600	520
		1	14	18	4.38	1050	820	720	640	560
		2	14	18	6.05	1453	1130	1000	890	770
	1½C-3¼ X 3¼-48	1	11	15	4.45	1068	830	740	650	570
		1	14	18	4.74	1138	890	780	690	600
		2	14	18	6.49	1558	1210	1070	950	830

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Performance Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FR5; Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	14	18	4.10	980	770	680	600	520
		1	20	24	4.20	1010	790	700	620	540
		2	20	24	6.30	1510	1180	1040	920	800
		1	24	28	4.40	1060	830	730	650	560
		2	24	28	6.60	1580	1230	1090	960	840
		3	24	28	7.70	1850	1440	1280	1130	980
	1S-3¼ X 3¼-40	1	14	18	4.60	1100	860	760	670	580
		1	20	24	4.90	1180	920	810	720	630
		2	20	24	6.90	1660	1290	1150	1010	880
		1	24	28	5.10	1220	950	840	740	650
		2	24	28	7.30	1750	1370	1210	1070	930
		3	24	28	8.40	2020	1580	1390	1230	1070
	1S-3¼ X 3¼-48	1	14	18	5.10	1220	950	840	740	650
		1	20	24	5.70	1370	1070	950	840	730
		2	20	24	7.70	1850	1440	1280	1130	980
		1	24	28	5.90	1420	1110	980	870	750
		2	24	28	8.00	1920	1500	1320	1170	1020
		3	24	28	9.20	2210	1720	1520	1350	1170
1" Dia. steel	1S-4¼ X 4¼-32	1	14	18	5.90	1420	1110	980	870	750
		1	20	24	6.10	1460	1140	1010	890	770
		2	20	24	9.20	2210	1720	1520	1350	1170
		1	24	28	6.30	1510	1180	1040	920	800
		2	24	28	9.60	2300	1790	1590	1400	1220
		3	24	28	11.00	2640	2060	1820	1610	1400
	1S-4¼ X 4¼-40	1	14	18	6.60	1580	1230	1090	960	840
		1	20	24	7.10	1700	1330	1170	1040	900
		2	20	24	10.10	2420	1890	1670	1480	1280
		1	24	28	7.40	1780	1390	1230	1090	940
		2	24	28	10.50	2520	1970	1740	1540	1340
		3	24	28	12.00	2880	2250	1990	1760	1530
	1S-4¼ X 4¼-48	1	14	18	7.4	1710	1330	1180	1040	910
		1	20	24	8.3	1919	1500	1320	1170	1020
		2	20	24	11.0	2527	1970	1740	1540	1340
		1	24	28	8.5	1957	1530	1350	1190	1040
		2	24	28	11.4	2622	2050	1810	1600	1390
		3	24	28	13.2	3031	2360	2090	1850	1610

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FR5; Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1 1/4" Dia. steel	1 1/4S-3 1/4 X 3 1/4-32	1	14	18	4.00	960	750	660	590	510
		1	20	24	4.10	980	760	680	600	520
		2	20	24	6.20	1490	1160	1030	910	790
		1	24	28	4.30	1030	800	710	630	550
		2	24	28	6.50	1560	1220	1080	950	830
		3	24	28	7.50	1800	1400	1240	1100	950
	1 1/4S-3 1/4 X 3 1/4-40	1	14	18	4.50	1080	840	750	660	570
		1	20	24	4.80	1150	900	790	700	610
		2	20	24	6.80	1630	1270	1120	990	860
		1	24	28	5.00	1200	940	830	730	640
		2	24	28	7.10	1700	1330	1170	1040	900
		3	24	28	8.20	1970	1540	1360	1200	1040
	1 1/4S-3 1/4 X 3 1/4-48	1	14	18	5.00	1200	940	830	730	640
		1	20	24	5.60	1340	1050	920	820	710
		2	20	24	7.50	1800	1400	1240	1100	950
		1	24	28	5.80	1390	1080	960	850	740
		2	24	28	7.80	1870	1460	1290	1140	990
		3	24	28	9.00	2160	1680	1490	1320	1140
1 1/2" Dia. steel	1 1/4S-4 1/4 X 4 1/4-32	1	14	18	5.80	1390	1080	960	850	740
		1	20	24	6.00	1440	1120	990	880	760
		2	20	24	9.00	2160	1680	1490	1320	1140
		1	24	28	6.20	1490	1160	1030	910	790
		2	24	28	9.40	2260	1760	1560	1380	1200
		3	24	28	10.80	2590	2020	1790	1580	1370
	1 1/4S-4 1/4 X 4 1/4-40	1	14	18	6.50	1560	1220	1080	950	830
		1	20	24	7.00	1680	1310	1160	1020	890
		2	20	24	9.90	2380	1860	1640	1450	1260
		1	24	28	7.20	1730	1350	1190	1060	920
		2	24	28	10.30	2470	1930	1700	1510	1310
		3	24	28	11.80	2830	2210	1950	1730	1500
	1 1/4S-4 1/4 X 4 1/4-48	1	14	18	7.30	1750	1370	1210	1070	930
		1	20	24	8.20	1970	1540	1360	1200	1040
		2	20	24	10.90	2620	2040	1810	1600	1390
		1	24	28	8.40	2020	1580	1390	1230	1070
		2	24	28	11.30	2710	2110	1870	1660	1440
		3	24	28	13.00	3120	2430	2150	1900	1650

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FR5; Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
2" Dia. steel	2S-4¼ X 4¼-32	1	14	18	5.80	1390	1080	960	850	740
		1	20	24	6.00	1440	1120	990	880	760
		2	20	24	8.80	2110	1650	1460	1280	1120
		1	24	28	6.20	1490	1160	1030	910	790
		2	24	28	9.10	2180	1700	1500	1330	1160
	2S-4¼ X 4¼-40	3	24	28	10.50	2520	1970	1740	1540	1340
		1	14	18	6.50	1560	1220	1080	950	830
		1	20	24	6.90	1660	1290	1150	1010	880
		2	20	24	9.50	2280	1790	1570	1390	1210
		1	24	28	7.20	1730	1350	1190	1060	920
	2S-4¼ X 4¼-48	2	24	28	10.00	2400	1870	1660	1460	1270
		3	24	28	11.50	2760	2150	1900	1680	1460
		1	14	18	7.30	1750	1370	1210	1070	930
		1	20	24	7.90	1900	1480	1310	1160	1010
		2	20	24	10.20	2450	1910	1690	1490	1300
2S-4¼ X 4¼-48	1	24	28	8.40	2020	1580	1390	1230	1070	
	2	24	28	10.80	2590	2020	1790	1580	1370	
	3	24	28	12.40	2980	2320	2060	1820	1580	

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FR5; Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-23/4 X 4-32	1	14	18	4.57	1096	855	756	668	581
		1	20	24	4.81	1155	901	797	705	612
		2	20	24	7.21	1729	1349	1193	1055	916
		1	24	28	5.09	1221	952	842	745	647
		2	24	28	7.92	1901	1483	1312	1159	1007
		3	24	28	9.10	2185	1704	1507	1333	1158
	3/4C-23/4 X 4-40	1	14	18	5.42	1300	1014	897	793	689
		1	20	24	5.89	1412	1102	975	862	749
		2	20	24	7.65	1835	1431	1266	1119	972
		1	24	28	6.13	1472	1148	1016	898	780
		2	24	28	8.31	1993	1555	1375	1216	1056
		3	24	28	9.52	2284	1781	1576	1393	1210
	3/4C-23/4 X 4-48	1	14	18	5.80	1393	1086	961	849	738
		1	20	24	6.60	1584	1236	1093	966	840
		2	20	24	7.87	1888	1472	1302	1151	1000
		1	24	28	7.12	1709	1333	1179	1043	906
		2	24	28	8.58	2059	1606	1421	1256	1091
		3	24	28	9.85	2363	1843	1630	1441	1252
3/4" Dia. copper	3/4C-31/4 X 31/4-32	1	14	18	5.30	1270	990	880	770	670
		1	20	24	5.80	1390	1080	960	850	740
		2	20	24	8.10	1940	1510	1340	1180	1030
		1	24	28	6.10	1460	1140	1010	890	770
		2	24	28	9.00	2160	1680	1490	1320	1140
		3	24	28	10.30	2470	1930	1700	1510	1310
	3/4C-31/4 X 31/4-40	1	14	18	5.90	1420	1110	980	870	750
		1	20	24	6.50	1560	1220	1080	950	830
		2	20	24	9.40	2260	1760	1560	1380	1200
		1	24	28	6.90	1660	1290	1150	1010	880
		2	24	28	9.70	2330	1820	1610	1420	1230
		3	24	28	10.70	2570	2000	1770	1570	1360
	3/4C-31/4 X 31/4-48	1	14	18	6.40	1540	1200	1060	940	820
		1	20	24	7.40	1780	1390	1230	1090	940
		2	20	24	9.70	2330	1820	1610	1420	1230
		1	24	28	7.90	1900	1480	1310	1160	1010
		2	24	28	10.00	2400	1870	1660	1460	1270
		3	24	28	11.00	2640	2060	1820	1610	1400

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FR5; Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-4¼ X 4¼-32	1	14	18	6.90	1660	1290	1150	1010	880
		1	20	24	7.30	1750	1370	1210	1070	930
		2	20	24	10.90	2620	2040	1810	1600	1390
		1	24	28	7.70	1850	1440	1280	1130	980
		2	24	28	12.00	2880	2250	1990	1760	1530
		3	24	28	13.80	3310	2580	2280	2020	1750
	¾C-4¼ X 4¼-40	1	14	18	8.20	1970	1540	1360	1200	1040
		1	20	24	8.90	2140	1670	1480	1310	1130
		2	20	24	11.60	2780	2170	1920	1700	1470
		1	24	28	9.30	2230	1740	1540	1360	1180
		2	24	28	12.60	3020	2360	2080	1840	1600
		3	24	28	14.40	3460	2700	2390	2110	1830
	¾C-4¼ X 4¼-48	1	14	18	8.80	2110	1650	1460	1290	1120
		1	20	24	10.00	2400	1870	1660	1460	1270
		2	20	24	11.90	2860	2230	1970	1740	1520
		1	24	28	10.80	2590	2020	1790	1580	1370
		2	24	28	13.00	3120	2430	2150	1900	1650
		3	24	28	14.90	3580	2790	2470	2180	1900
1" Dia. copper	1C-2¾ X 4 -32	1	14	18	4.48	1076	839	742	656	570
		1	20	24	4.76	1142	891	788	696	605
		2	20	24	7.07	1696	1323	1170	1035	899
		1	24	28	4.95	1188	927	820	725	630
		2	24	28	7.78	1868	1457	1289	1139	990
		3	24	28	8.91	2138	1668	1475	1304	1133
	1C-2¾ X 4 -40	1	14	18	5.28	1267	988	874	773	672
		1	20	24	5.75	1379	1076	952	841	731
		2	20	24	7.54	1808	1411	1248	1103	958
		1	24	28	6.00	1439	1122	993	878	763
		2	24	28	8.20	1967	1534	1357	1200	1042
		3	24	28	9.30	2231	1740	1539	1361	1182
	1C-2¾ X 4 -48	1	14	18	5.67	1360	1060	938	829	721
		1	20	24	6.46	1551	1210	1070	946	822
		2	20	24	7.73	1855	1447	1280	1131	983
		1	24	28	6.99	1676	1308	1157	1023	888
		2	24	28	8.39	2013	1570	1389	1228	1067
		3	24	28	9.63	2310	1802	1594	1409	1224

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FR5; Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	14	18	5.20	1250	980	860	760	660
		1	20	24	5.70	1370	1070	950	840	730
		2	20	24	7.90	1900	1480	1310	1160	1010
		1	24	28	6.00	1440	1120	990	880	760
		2	24	28	8.80	2110	1650	1460	1290	1120
		3	24	28	10.10	2420	1890	1670	1480	1280
	1C-3¼ X 3¼-40	1	14	18	5.80	1390	1080	960	850	740
		1	20	24	6.40	1540	1200	1060	940	820
		2	20	24	9.20	2210	1720	1520	1350	1170
		1	24	28	6.80	1630	1270	1120	990	860
		2	24	28	9.50	2280	1780	1570	1390	1210
		3	24	28	10.60	2540	1980	1750	1550	1350
	1C-3¼ X 3¼-48	1	14	18	6.30	1510	1180	1040	920	800
		1	20	24	7.20	1730	1350	1190	1060	920
		2	20	24	9.50	2280	1780	1570	1390	1210
		1	24	28	7.70	1850	1440	1280	1130	980
		2	24	28	9.80	2350	1830	1620	1430	1250
		3	24	28	10.80	2590	2020	1790	1580	1370
1" Dia. copper	1C-4¼ X 4¼-32	1	14	18	6.80	1630	1270	1120	990	860
		1	20	24	7.20	1730	1350	1190	1060	920
		2	20	24	10.70	2570	2000	1770	1570	1360
		1	24	28	7.50	1800	1400	1240	1100	950
		2	24	28	11.80	2830	2210	1950	1730	1500
		3	24	28	13.50	3240	2530	2240	1980	1720
	1C-4¼ X 4¼-40	1	14	18	8.00	1920	1500	1320	1170	1020
		1	20	24	8.70	2090	1630	1440	1270	1110
		2	20	24	11.40	2740	2140	1890	1670	1450
		1	24	28	9.10	2180	1700	1500	1330	1160
		2	24	28	12.40	2980	2320	2060	1820	1580
		3	24	28	14.10	3380	2640	2330	2060	1790
	1C-4¼ X 4¼-48	1	14	18	8.60	2060	1610	1420	1260	1090
		1	20	24	9.80	2350	1830	1620	1430	1250
		2	20	24	11.70	2810	2190	1940	1710	1490
		1	24	28	10.60	2540	1980	1750	1550	1350
		2	24	28	12.70	3050	2380	2100	1860	1620
		3	24	28	14.60	3500	2730	2420	2140	1860

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FR5; Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1 1/4" Dia. copper	1 1/4C-2 1/4 X 4-32	1	14	18	4.43	1063	829	733	648	563
		1	20	24	4.68	1122	875	774	684	595
		2	20	24	6.93	1663	1297	1148	1015	881
		1	24	28	4.90	1175	916	811	717	623
		2	24	28	7.65	1835	1431	1266	1119	972
		3	24	28	8.77	2105	1642	1453	1284	1116
	1 1/4C-2 1/4 X 4-40	1	14	18	5.23	1254	978	865	765	665
		1	20	24	5.67	1360	1060	938	829	721
		2	20	24	7.40	1775	1385	1225	1083	941
		1	24	28	5.94	1426	1112	984	870	756
		2	24	28	8.06	1934	1508	1334	1180	1025
		3	24	28	9.19	2204	1719	1521	1345	1168
	1 1/4C-2 1/4 X 4-48	1	14	18	5.61	1346	1050	929	821	714
		1	20	24	6.41	1538	1199	1061	938	815
		2	20	24	7.59	1822	1421	1257	1111	965
		1	24	28	6.88	1650	1287	1139	1007	875
		2	24	28	8.25	1980	1544	1366	1208	1049
		3	24	28	9.52	2284	1781	1576	1393	1210
1 1/4" Dia. copper	1 1/4C-3 1/4 X 3 1/4-32	1	14	18	4.80	1150	900	790	700	610
		1	20	24	5.50	1320	1030	910	810	700
		2	20	24	7.70	1850	1440	1280	1130	980
		1	24	28	5.80	1390	1080	960	850	740
		2	24	28	8.60	2060	1610	1420	1260	1090
		3	24	28	9.90	2380	1860	1640	1450	1260
	1 1/4C-3 1/4 X 3 1/4-40	1	14	18	5.70	1370	1070	950	840	730
		1	20	24	6.20	1490	1040	1030	910	790
		2	20	24	9.00	2160	1680	1490	1320	1140
		1	24	28	6.50	1560	1220	1080	950	830
		2	24	28	9.30	2230	1740	1540	1360	1180
		3	24	28	10.40	2500	1950	1720	1530	1330
	1 1/4C-3 1/4 X 3 1/4-48	1	14	18	6.10	1460	1140	1010	890	770
		1	20	24	7.10	1700	1330	1170	1040	900
		2	20	24	9.30	2230	1740	1540	1360	1180
		1	24	28	7.60	1820	1420	1260	1110	960
		2	24	28	9.60	2300	1790	1590	1400	1220
		3	24	28	10.70	2570	2000	1770	1570	1360

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FR5; Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1 1/4" Dia. copper	1 1/4C-4 1/4 X 4 1/4-32	1	14	18	6.70	1610	1260	1110	980	850
		1	20	24	7.10	1700	1330	1170	1040	900
		2	20	24	10.50	2520	1970	1740	1540	1340
		1	24	28	7.40	1780	1390	1230	1090	940
		2	24	28	11.60	2780	2170	1920	1700	1480
		3	24	28	13.30	3190	2490	2200	1950	1690
	1 1/4C-4 1/4 X 4 1/4-40	1	14	18	7.90	1900	1480	1310	1160	1010
		1	20	24	8.60	2060	1610	1420	1260	1090
		2	20	24	11.20	2690	2100	1860	1640	1430
		1	24	28	9.00	2160	1680	1490	1320	1140
		2	24	28	12.20	2930	2290	2020	1790	1550
		3	24	28	13.90	3340	2610	2300	2040	1770
	1 1/4C-4 1/4 X 4 1/4-48	1	14	18	8.50	2040	1590	1410	1240	1080
		1	20	24	9.70	2330	1820	1610	1420	1230
		2	20	24	11.50	2760	2150	1900	1680	1460
		1	24	28	10.40	2500	1950	1720	1530	1330
		2	24	28	12.50	3000	2340	2070	1830	1590
		3	24	28	14.40	3460	2700	2390	2110	1830

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FRHL5 / FHVL5; Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	14	18	3.57	857.5	670	590	520	450
		1	20	24	3.68	883.75	690	610	540	470
		1	24	28	3.86	927.5	720	640	570	490
		2	20	24	5.51	1321.25	1030	910	810	700
		2	24	28	5.76	1382.5	1080	950	840	730
		3	24	28	6.74	1618.75	1260	1120	990	860
	1S-3¼ X 3¼-40	1	14	18	4.01	962.5	750	660	590	510
		1	20	24	4.30	1032.5	810	710	630	550
		1	24	28	4.45	1067.5	830	740	650	570
		2	20	24	6.05	1452.5	1130	1000	890	770
		2	24	28	6.38	1531.25	1190	1060	930	810
		3	24	28	7.36	1767.5	1380	1220	1080	940
	1S-3¼ X 3¼-48	1	14	18	4.45	1067.5	830	740	650	570
		1	20	24	4.99	1198.75	940	830	730	640
		1	24	28	5.18	1242.5	970	860	760	660
		2	20	24	6.74	1618.75	1260	1120	990	860
		2	24	28	7.00	1680	1310	1160	1020	890
		3	24	28	8.06	1933.75	1510	1330	1180	1020
1" Dia. steel	1S-4¼ X 4¼-32	1	14	18	5.18	1242.5	970	860	760	660
		1	20	24	5.32	1277.5	1000	880	780	680
		1	24	28	5.51	1321.25	1030	910	810	700
		2	20	24	8.06	1933.75	1510	1330	1180	1020
		2	24	28	8.39	2012.5	1570	1390	1230	1070
		3	24	28	9.63	2310	1800	1590	1410	1220
	1S-4¼ X 4¼-40	1	14	18	5.76	1382.5	1080	950	840	730
		1	20	24	6.20	1487.5	1160	1030	910	790
		1	24	28	6.49	1557.5	1210	1070	950	830
		2	20	24	8.82	2117.5	1650	1460	1290	1120
		2	24	28	9.19	2205	1720	1520	1350	1170
		3	24	28	10.50	2520	1970	1740	1540	1340
	1S-4¼ X 4¼-48	1	14	18	6.5	1496	1170	1030	910	790
		1	20	24	7.3	1679	1310	1160	1020	890
		1	20	24	9.6	2211	1720	1530	1350	1170
		2	24	28	7.4	1712	1340	1180	1040	910
		2	24	28	10.0	2294	1790	1580	1400	1220
		3	24	28	11.5	2652	2070	1830	1620	1410

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FRHL5 / FHVL5;
Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1 1/4" Dia. steel	1 1/4S-3 1/4 X 3 1/4-32	1	14	18	3.50	840	660	580	510	450
		1	20	24	3.57	857.5	670	590	520	450
		1	24	28	3.76	901.25	700	620	550	480
		2	20	24	5.43	1303.75	1020	900	800	690
		2	24	28	5.69	1365	1060	940	830	720
		3	24	28	6.56	1575	1230	1090	960	830
	1 1/4S-3 1/4 X 3 1/4-40	1	14	18	3.94	945	740	650	580	500
		1	20	24	4.19	1006.25	780	690	610	530
		1	24	28	4.38	1050	820	720	640	560
		2	20	24	5.94	1426.25	1110	980	870	760
		2	24	28	6.20	1487.5	1160	1030	910	790
		3	24	28	7.18	1723.75	1340	1190	1050	910
	1 1/4S-3 1/4 X 3 1/4-48	1	14	18	4.38	1050	820	720	640	560
		1	20	24	4.89	1172.5	910	810	720	620
		1	24	28	5.07	1216.25	950	840	740	640
		2	20	24	6.56	1575	1230	1090	960	830
		2	24	28	6.82	1636.25	1280	1130	1000	870
		3	24	28	7.88	1890	1470	1300	1150	1000
1 1/2" Dia. steel	1 1/4S-4 1/4 X 4 1/4-32	1	14	18	5.07	1216.25	950	840	740	640
		1	20	24	5.25	1260	980	870	770	670
		1	24	28	5.43	1303.75	1020	900	800	690
		2	20	24	7.88	1890	1470	1300	1150	1000
		2	24	28	8.24	1977.5	1540	1360	1210	1050
		3	24	28	9.44	2266.25	1770	1560	1380	1200
	1 1/4S-4 1/4 X 4 1/4-40	1	14	18	5.69	1365	1060	940	830	720
		1	20	24	6.13	1470	1150	1010	900	780
		1	24	28	6.31	1513.75	1180	1040	920	800
		2	20	24	8.68	2082.5	1620	1440	1270	1100
		2	24	28	9.01	2161.25	1690	1490	1320	1150
		3	24	28	10.32	2476.25	1930	1710	1510	1310
	1 1/4S-4 1/4 X 4 1/4-48	1	14	18	6.38	1531.25	1190	1060	930	810
		1	20	24	7.18	1723.75	1340	1190	1050	910
		1	24	28	7.36	1767.5	1380	1220	1080	940
		2	20	24	9.55	2292.5	1790	1580	1400	1220
		2	24	28	9.88	2371.25	1850	1640	1450	1260
		3	24	28	11.38	2730	2130	1880	1670	1450

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FRHL5 / FHVL5; Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
2" Dia. steel	2S-4¼ X 4¼-32	1	14	18	5.07	1216.25	950	840	740	640
		1	20	24	5.25	1260	980	870	770	670
		1	24	28	5.43	1303.75	1020	900	800	690
		2	20	24	7.69	1846.25	1440	1270	1130	980
		2	24	28	7.95	1907.5	1490	1320	1160	1010
		3	24	28	9.19	2205	1720	1520	1350	1170
	2S-4¼ X 4¼-40	1	14	18	5.69	1365	1060	940	830	720
		1	20	24	6.05	1452.5	1130	1000	890	770
		1	24	28	6.31	1513.75	1180	1040	920	800
		2	20	24	8.31	1995	1560	1380	1220	1060
		2	24	28	8.75	2100	1640	1450	1280	1110
		3	24	28	10.06	2415	1880	1670	1470	1280
	2S-4¼ X 4¼-48	1	14	18	6.38	1531.25	1190	1060	930	810
		1	20	24	6.93	1662.5	1300	1150	1010	880
		1	24	28	7.36	1767.5	1380	1220	1080	940
		2	20	24	8.93	2143.75	1670	1480	1310	1140
		2	24	28	9.44	2266.25	1770	1560	1380	1200
		3	24	28	10.86	2607.5	2030	1800	1590	1380

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FRHL5 / FHVL5;
Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-23/4 X 4-32	1	14	18	4.00	959	750	660	580	510
		1	20	24	4.21	1010.625	790	700	620	540
		1	24	28	4.45	1068.375	830	740	650	570
		2	20	24	6.30	1512.875	1180	1040	920	800
		2	24	28	6.93	1663.375	1300	1150	1010	880
		3	24	28	7.97	1911.875	1490	1320	1170	1010
	3/4C-23/4 X 4-40	1	14	18	4.74	1137.5	890	780	690	600
		1	20	24	5.15	1235.5	960	850	750	650
		1	24	28	5.37	1288	1000	890	790	680
		2	20	24	6.69	1605.625	1250	1110	980	850
		2	24	28	7.27	1743.875	1360	1200	1060	920
		3	24	28	8.33	1998.5	1560	1380	1220	1060
	3/4C-23/4 X 4-48	1	14	18	5.08	1218.875	950	840	740	650
		1	20	24	5.78	1386	1080	960	850	730
		1	24	28	6.23	1495.375	1170	1030	910	790
		2	20	24	6.88	1652	1290	1140	1010	880
		2	24	28	7.51	1801.625	1410	1240	1100	950
		3	24	28	8.62	2067.625	1610	1430	1260	1100
3/4" Dia. copper	3/4C-33/4 X 33/4-32	1	14	18	4.63	1111.25	870	770	680	590
		1	20	24	5.07	1216.25	950	840	740	640
		1	24	28	5.32	1277.5	1000	880	780	680
		2	20	24	7.07	1697.5	1320	1170	1040	900
		2	24	28	7.88	1890	1470	1300	1150	1000
		3	24	28	9.01	2161.25	1690	1490	1320	1150
	3/4C-33/4 X 33/4-40	1	14	18	5.18	1242.5	970	860	760	660
		1	20	24	5.69	1365	1060	940	830	720
		1	24	28	6.05	1452.5	1130	1000	890	770
		2	20	24	8.24	1977.5	1540	1360	1210	1050
		2	24	28	8.49	2038.75	1590	1410	1240	1080
		3	24	28	9.37	2248.75	1750	1550	1370	1190
	3/4C-33/4 X 33/4-48	1	14	18	5.61	1347.5	1050	930	820	710
		1	20	24	6.49	1557.5	1210	1070	950	830
		1	24	28	6.93	1662.5	1300	1150	1010	880
		2	20	24	8.49	2038.75	1590	1410	1240	1080
		2	24	28	8.75	2100	1640	1450	1280	1110
		3	24	28	9.63	2310	1800	1590	1410	1220

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FRHL5 / FHVL5;
Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-4 1/4 X 4 1/4-32	1	14	18	6.05	1452.5	1130	1000	890	770
		1	20	24	6.38	1531.25	1190	1060	930	810
		1	24	28	6.74	1618.75	1260	1120	990	860
		2	20	24	9.55	2292.5	1790	1580	1400	1220
		2	24	28	10.50	2520	1970	1740	1540	1340
		3	24	28	12.07	2896.25	2260	2000	1770	1540
	3/4C-4 1/4 X 4 1/4-40	1	14	18	7.18	1723.75	1340	1190	1050	910
		1	20	24	7.80	1872.5	1460	1290	1140	990
		1	24	28	8.13	1951.25	1520	1350	1190	1030
		2	20	24	10.14	2432.5	1900	1680	1480	1290
		2	24	28	11.01	2642.5	2060	1820	1610	1400
		3	24	28	12.61	3027.5	2360	2090	1850	1600
	3/4C-4 1/4 X 4 1/4-48	1	14	18	7.69	1846.25	1440	1270	1130	980
		1	20	24	8.75	2100	1640	1450	1280	1110
		1	24	28	9.44	2266.25	1770	1560	1380	1200
		2	20	24	10.43	2502.5	1950	1730	1530	1330
		2	24	28	11.38	2730	2130	1880	1670	1450
		3	24	28	13.05	3132.5	2440	2160	1910	1660
1" Dia. copper	1C-2 3/4 X 4 -32	1	14	18	3.92	941.5	730	650	570	500
		1	20	24	4.16	999.25	780	690	610	530
		1	24	28	4.33	1039.5	810	720	630	550
		2	20	24	6.18	1484	1160	1020	910	790
		2	24	28	6.81	1634.5	1270	1130	1000	870
		3	24	28	7.79	1870.75	1460	1290	1140	990
	1C-2 3/4 X 4 -40	1	14	18	4.62	1108.625	860	760	680	590
		1	20	24	5.03	1206.625	940	830	740	640
		1	24	28	5.25	1259.125	980	870	770	670
		2	20	24	6.59	1582	1230	1090	970	840
		2	24	28	7.17	1721.125	1340	1190	1050	910
		3	24	28	8.13	1952.125	1520	1350	1190	1030
	1C-2 3/4 X 4 -48	1	14	18	4.96	1190	930	820	730	630
		1	20	24	5.65	1357.125	1060	940	830	720
		1	24	28	6.11	1466.5	1140	1010	890	780
		2	20	24	6.76	1623.125	1270	1120	990	860
		2	24	28	7.34	1761.375	1370	1220	1070	930
		3	24	28	8.42	2021.25	1580	1390	1230	1070

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FRHL5 / FHVL5;
Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	14	18	4.56	1093.75	850	750	670	580
		1	20	24	4.99	1198.75	940	830	730	640
		1	24	28	5.25	1260	980	870	770	670
		2	20	24	6.93	1662.5	1300	1150	1010	880
		2	24	28	7.69	1846.25	1440	1270	1130	980
		3	24	28	8.82	2117.5	1650	1460	1290	1120
	1C-3¼ X 3¼-40	1	14	18	5.07	1216.25	950	840	740	640
		1	20	24	5.61	1347.5	1050	930	820	710
		1	24	28	5.94	1426.25	1110	980	870	760
		2	20	24	8.06	1933.75	1510	1330	1180	1020
		2	24	28	8.31	1995	1560	1380	1220	1060
		3	24	28	9.26	2222.5	1730	1530	1360	1180
	1C-3¼ X 3¼-48	1	14	18	5.51	1321.25	1030	910	810	700
		1	20	24	6.31	1513.75	1180	1040	920	800
		1	24	28	6.74	1618.75	1260	1120	990	860
		2	20	24	8.31	1995	1560	1380	1220	1060
		2	24	28	8.57	2056.25	1600	1420	1250	1090
		3	24	28	9.44	2266.25	1770	1560	1380	1200
1" Dia. copper	1C-4¼ X 4¼-32	1	14	18	5.94	1426.25	1110	980	870	760
		1	20	24	6.31	1513.75	1180	1040	920	800
		1	24	28	6.56	1575	1230	1090	960	830
		2	20	24	9.37	2248.75	1750	1550	1370	1190
		2	24	28	10.32	2476.25	1930	1710	1510	1310
		3	24	28	11.81	2835	2210	1960	1730	1500
	1C-4¼ X 4¼-40	1	14	18	7.00	1680	1310	1160	1020	890
		1	20	24	7.62	1828.75	1430	1260	1120	970
		1	24	28	7.95	1907.5	1490	1320	1160	1010
		2	20	24	9.99	2397.5	1870	1650	1460	1270
		2	24	28	10.86	2607.5	2030	1800	1590	1380
		3	24	28	12.32	2957.5	2310	2040	1800	1570
	1C-4¼ X 4¼-48	1	14	18	7.51	1802.5	1410	1240	1100	960
		1	20	24	8.57	2056.25	1600	1420	1250	1090
		1	24	28	9.26	2222.5	1730	1530	1360	1180
		2	20	24	10.24	2458.75	1920	1700	1500	1300
		2	24	28	11.12	2668.75	2080	1840	1630	1410
		3	24	28	12.76	3062.5	2390	2110	1870	1620

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FRHL5 / FHVL5;
Standard flat top, round outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1 1/4" Dia. copper	1 1/4C-2 1/4 X 4-32	1	14	18	3.88	930.125	730	640	570	490
		1	20	24	4.09	981.75	770	680	600	520
		1	24	28	4.28	1028.125	800	710	630	540
		2	20	24	6.06	1455.125	1130	1000	890	770
		2	24	28	6.69	1605.625	1250	1110	980	850
		3	24	28	7.67	1841.875	1440	1270	1120	980
	1 1/4C-2 1/4 X 4-40	1	14	18	4.57	1097.25	860	760	670	580
		1	20	24	4.96	1190	930	820	730	630
		1	24	28	5.20	1247.75	970	860	760	660
		2	20	24	6.47	1553.125	1210	1070	950	820
		2	24	28	7.05	1692.25	1320	1170	1030	900
		3	24	28	8.04	1928.5	1500	1330	1180	1020
	1 1/4C-2 1/4 X 4-48	1	14	18	4.91	1177.75	920	810	720	620
		1	20	24	5.61	1345.75	1050	930	820	710
		1	24	28	6.02	1443.75	1130	1000	880	770
		2	20	24	6.64	1594.25	1240	1100	970	840
		2	24	28	7.22	1732.5	1350	1200	1060	920
		3	24	28	8.33	1998.5	1560	1380	1220	1060
1 1/4" Dia. copper	1 1/4C-3 1/4 X 3 1/4-32	1	14	18	4.19	1006.25	780	690	610	530
		1	20	24	4.81	1155	900	800	700	610
		1	24	28	5.07	1216.25	950	840	740	640
		2	20	24	6.74	1618.75	1260	1120	990	860
		2	24	28	7.51	1802.5	1410	1240	1100	960
		3	24	28	8.68	2082.5	1620	1440	1270	1100
	1 1/4C-3 1/4 X 3 1/4-40	1	14	18	4.99	1198.75	940	830	730	640
		1	20	24	5.43	1303.75	1020	900	800	690
		1	24	28	5.69	1365	1060	940	830	720
		2	20	24	7.88	1890	1470	1300	1150	1000
		2	24	28	8.13	1951.25	1520	1350	1190	1030
		3	24	28	9.11	2187.5	1710	1510	1330	1160
	1 1/4C-3 1/4 X 3 1/4-48	1	14	18	5.32	1277.5	1000	880	780	680
		1	20	24	6.20	1487.5	1160	1030	910	790
		1	24	28	6.64	1592.5	1240	1100	970	840
		2	20	24	8.13	1951.25	1520	1350	1190	1030
		2	24	28	8.39	2012.5	1570	1390	1230	1070
		3	24	28	9.37	2248.75	1750	1550	1370	1190

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

**Model FRHL5 / FHVL5;
Standard flat top, round outlet**

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1 1/4" Dia. copper	1 1/4C-4 1/4 X 4 1/4-32	1	14	18	5.87	1408.75	1100	970	860	750
		1	20	24	6.20	1487.5	1160	1030	910	790
		1	24	28	6.49	1557.5	1210	1070	950	830
		2	20	24	9.19	2205	1720	1520	1350	1170
		2	24	28	10.14	2432.5	1900	1680	1480	1290
		3	24	28	11.63	2791.25	2180	1930	1700	1480
	1 1/4C-4 1/4 X 4 1/4-40	1	14	18	6.93	1662.5	1300	1150	1010	880
		1	20	24	7.51	1802.5	1410	1240	1100	960
		1	24	28	7.88	1890	1470	1300	1150	1000
		2	20	24	9.81	2353.75	1840	1620	1440	1250
		2	24	28	10.68	2563.75	2000	1770	1560	1360
		3	24	28	12.18	2922.5	2280	2020	1780	1550
	1 1/4C-4 1/4 X 4 1/4-48	1	14	18	7.44	1785	1390	1230	1090	950
		1	20	24	8.49	2038.75	1590	1410	1240	1080
		1	24	28	9.11	2187.5	1710	1510	1330	1160
		2	20	24	10.06	2415	1880	1670	1470	1280
		2	24	28	10.94	2625	2050	1810	1600	1390
		3	24	28	12.61	3027.5	2360	2090	1850	1600

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FR3; Low profile flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	8	12	3.30	790	620	550	480	420
		1	11	15	3.50	840	660	580	510	450
		1	14	18	3.70	890	690	610	540	470
		2	14	18	5.00	1200	940	830	730	640
	1S-3¼ X 3¼-40	1	8	12	3.60	860	670	590	520	460
		1	11	15	3.90	940	730	650	570	500
		1	14	18	4.10	980	760	680	600	520
		2	14	18	5.60	1340	1050	920	820	710
	1S-3¼ X 3¼-48	1	8	12	4.10	980	760	680	600	520
		1	11	15	4.40	1060	830	730	650	560
		1	14	18	4.60	1100	860	760	670	580
		2	14	18	6.30	1510	1180	1040	920	800
1¼" Dia. steel	1¼S-3¼ X 3¼-32	1	8	12	3.20	770	600	530	470	410
		1	11	15	3.40	820	640	570	500	430
		1	14	18	3.60	860	670	590	520	460
		2	14	18	4.90	1180	920	810	720	630
	1¼S-3¼ X 3¼-40	1	8	12	3.50	840	660	580	510	450
		1	11	15	3.80	910	710	630	560	480
		1	14	18	4.00	960	750	660	590	510
		2	14	18	5.50	1320	1030	910	810	700
	1¼S-3¼ X 3¼-48	1	8	12	4.00	960	750	660	590	510
		1	11	15	4.30	1030	800	710	630	550
		1	14	18	4.50	1080	840	750	660	570
		2	14	18	6.20	1490	1160	1030	910	790

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FR3; Low profile flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-2 3/4 X 4-32	1	8	12	4.40	1060	830	730	650	560
		1	11	15	4.70	1130	880	780	690	600
		1	14	18	5.00	1200	940	830	730	640
		2	14	18	6.80	1630	1270	1120	990	860
	3/4C-2 3/4 X 4-40	1	8	12	4.80	1150	900	790	700	610
		1	11	15	5.20	1250	980	860	760	660
		1	14	18	5.50	1320	1030	910	810	700
		2	14	18	7.50	1800	1400	1240	1100	950
	3/4C-2 3/4 X 4-48	1	8	12	5.20	1250	980	860	760	660
		1	11	15	5.70	1370	1070	950	840	730
		1	14	18	6.00	1440	1120	990	880	760
		2	14	18	8.20	1970	1540	1360	1200	1040
3/4" Dia. copper	3/4C-3 1/4 X 3 1/4-32	1	8	12	4.20	1010	790	700	620	540
		1	11	15	4.50	1080	840	750	660	570
		1	14	18	4.70	1130	880	780	690	600
		2	14	18	6.40	1540	1200	1060	940	820
	3/4C-3 1/4 X 3 1/4-40	1	8	12	4.50	1080	840	750	660	570
		1	11	15	4.90	1180	920	810	720	630
		1	14	18	5.20	1250	980	860	760	660
		2	14	18	7.10	1700	1330	1170	1040	900
	3/4C-3 1/4 X 3 1/4-48	1	8	12	5.00	1200	940	830	730	640
		1	11	15	5.40	1300	1010	900	790	690
		1	14	18	5.70	1370	1070	950	840	730
		2	14	18	7.90	1900	1480	1310	1160	1010
1" Dia. copper	1C-2 3/4 X 4-32	1	8	12	4.30	1030	800	710	630	550
		1	11	15	4.60	1100	860	760	670	580
		1	14	18	4.90	1180	920	810	720	630
		2	14	18	6.70	1610	1260	1110	980	850
	1C-2 3/4 X 4-40	1	8	12	4.70	1130	880	780	690	600
		1	11	15	5.10	1220	950	840	740	650
		1	14	18	5.40	1300	1010	900	790	690
		2	14	18	7.40	1780	1390	1230	1090	940
	1C-2 3/4 X 4-48	1	8	12	5.10	1220	950	840	740	650
		1	11	15	5.60	1340	1050	920	820	710
		1	14	18	5.90	1420	1110	980	870	750
		2	14	18	8.10	1940	1510	1340	1180	1030

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FR3; Low profile flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	8	12	4.10	980	760	680	600	520
		1	11	15	4.40	1060	830	730	650	560
		1	14	18	4.70	1130	880	780	690	600
		2	14	18	6.40	1540	1200	1060	940	820
	1C-3¼ X 3¼-40	1	8	12	4.50	1080	840	750	660	570
		1	11	15	4.90	1180	920	810	720	630
		1	14	18	5.20	1250	980	860	760	660
		2	14	18	7.10	1700	1330	1170	1040	900
	1C-3¼ X 3¼-48	1	8	12	5.00	1200	940	830	730	640
		1	11	15	5.40	1300	1010	900	790	690
		1	14	18	5.70	1370	1070	950	840	730
		2	14	18	7.80	1870	1460	1290	1140	990
1¼" Dia. copper	1¼C-2¼ X 4-32	1	8	12	4.10	980	760	680	600	520
		1	11	15	4.40	1060	830	730	650	560
		1	14	18	4.70	1130	880	780	690	600
		2	14	18	6.40	1540	1200	1060	940	820
	1¼C-2¼ X 4-40	1	8	12	4.60	1100	860	760	670	580
		1	11	15	4.90	1180	920	810	720	630
		1	14	18	5.20	1250	980	860	760	660
		2	14	18	7.10	1700	1330	1170	1040	900
	1¼C-2¼ X 4-48	1	8	12	5.00	1200	940	830	730	640
		1	11	15	5.40	1300	1010	900	790	690
		1	14	18	5.70	1370	1070	950	840	730
		2	14	18	7.80	1870	1460	1290	1140	990
1¼" Dia. copper	1¼C-3¼ X 3¼-32	1	8	12	3.60	860	670	590	520	460
		1	11	15	3.90	940	730	650	570	500
		1	14	18	4.10	980	760	680	600	520
		2	14	18	5.60	1340	1050	920	820	710
	1¼C-3¼ X 3¼-40	1	8	12	4.50	1800	840	750	660	570
		1	11	15	4.80	1150	900	790	700	610
		1	14	18	5.10	1220	950	840	740	650
		2	14	18	7.00	1680	1310	1160	1020	890
	1¼C-3¼ X 3¼-48	1	8	12	4.90	1180	920	810	720	630
		1	11	15	5.30	1270	990	880	770	670
		1	14	18	5.60	1340	1050	920	820	710
		2	14	18	7.70	1850	1440	1280	1130	980

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

**Model FRHL3 / FRVL3;
Low profile flat top, front outlet**

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	08	12	2.88	691.25	540	480	420	370
		1	11	15	3.06	735	570	510	450	390
		1	14	18	3.24	778.75	610	540	480	410
		2	14	18	4.38	1050	820	720	640	560
	1S-3¼ X 3¼-40	1	08	12	3.14	752.5	590	520	460	400
		1	11	15	3.43	822.5	640	570	500	440
		1	14	18	3.57	857.5	670	590	520	450
		2	14	18	4.89	1172.5	910	810	720	620
	1S-3¼ X 3¼-48	1	08	12	3.57	857.5	670	590	520	450
		1	11	15	3.86	927.5	720	640	570	490
		1	14	18	4.01	962.5	750	660	590	510
		2	14	18	5.51	1321.25	1030	910	810	700
1¼" Dia. steel	1¼S-3¼ X 3¼-32	1	08	12	2.81	673.75	530	460	410	360
		1	11	15	2.99	717.5	560	500	440	380
		1	14	18	3.14	752.5	590	520	460	400
		2	14	18	4.30	1032.5	810	710	630	550
	1¼S-3¼ X 3¼-40	1	08	12	3.06	735	570	510	450	390
		1	11	15	3.32	796.25	620	550	490	420
		1	14	18	3.50	840	660	580	510	450
		2	14	18	4.81	1155	900	800	700	610
	1¼S-3¼ X 3¼-48	1	08	12	3.50	840	660	580	510	450
		1	11	15	3.76	901.25	700	620	550	480
		1	14	18	3.94	945	740	650	580	500
		2	14	18	5.43	1303.75	1020	900	800	690

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FRHL3 / FRVL3;
Low profile flat top, front outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-2 3/4 X 4-32	1	08	12	3.86	927.5	720	640	570	490
		1	11	15	4.12	988.75	770	680	600	520
		1	14	18	4.38	1050	820	720	640	560
		2	14	18	5.94	1426.25	1110	980	870	760
	3/4C-2 3/4 X 4-40	1	08	12	4.19	1006.25	780	690	610	530
		1	11	15	4.56	1093.75	850	750	670	580
		1	14	18	4.81	1155	900	800	700	610
		2	14	18	6.56	1575	1230	1090	960	830
	3/4C-2 3/4 X 4-48	1	08	12	4.56	1093.75	850	750	670	580
		1	11	15	4.99	1198.75	940	830	730	640
		1	14	18	5.25	1260	980	870	770	670
		2	14	18	7.18	1723.75	1340	1190	1050	910
3/4" Dia. copper	3/4C-3 1/4 X 3 1/4-32	1	08	12	3.68	883.75	690	610	540	470
		1	11	15	3.94	945	740	650	580	500
		1	14	18	4.12	988.75	770	680	600	520
		2	14	18	5.61	1347.5	1050	930	820	710
	3/4C-3 1/4 X 3 1/4-40	1	08	12	3.94	945	740	650	580	500
		1	11	15	4.30	1032.5	810	710	630	550
		1	14	18	4.56	1093.75	850	750	670	580
		2	14	18	6.20	1487.5	1160	1030	910	790
	3/4C-3 1/4 X 3 1/4-48	1	08	12	4.38	1050	820	720	640	560
		1	11	15	4.74	1137.5	890	780	690	600
		1	14	18	4.99	1198.75	940	830	730	640
		2	14	18	6.93	1662.5	1300	1150	1010	880
1" Dia. copper	1C-2 3/4 X 4-32	1	08	12	3.76	901.25	700	620	550	480
		1	11	15	4.01	962.5	750	660	590	510
		1	14	18	4.30	1032.5	810	710	630	550
		2	14	18	5.87	1408.75	1100	970	860	750
	1C-2 3/4 X 4-40	1	08	12	4.12	988.75	770	680	600	520
		1	11	15	4.45	1067.5	830	740	650	570
		1	14	18	4.74	1137.5	890	780	690	600
		2	14	18	6.49	1557.5	1210	1070	950	830
	1C-2 3/4 X 4-48	1	08	12	4.45	1067.5	830	740	650	570
		1	11	15	4.89	1172.5	910	810	720	620
		1	14	18	5.18	1242.5	970	860	760	660
		2	14	18	7.07	1697.5	1320	1170	1040	900

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

**Model FRHL3 / FRVL3;
Low profile flat top, front outlet**

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	08	12	3.57	857.5	670	590	520	450
		1	11	15	3.86	927.5	720	640	570	490
		1	14	18	4.12	988.75	770	680	600	520
		2	14	18	5.61	1347.5	1050	930	820	710
	1C-3¼ X 3¼-40	1	08	12	3.94	945	740	650	580	500
		1	11	15	4.30	1032.5	810	710	630	550
		1	14	18	4.56	1093.75	850	750	670	580
		2	14	18	6.20	1487.5	1160	1030	910	790
	1C-3¼ X 3¼-48	1	08	12	4.38	1050	820	720	640	560
		1	11	15	4.74	1137.5	890	780	690	600
		1	14	18	4.99	1198.75	940	830	730	640
		2	14	18	6.82	1636.25	1280	1130	1000	870
1½" Dia. copper	1¼C-2¾ X 4-32	1	08	12	3.57	857.5	670	590	520	450
		1	11	15	3.86	927.5	720	640	570	490
		1	14	18	4.12	988.75	770	680	600	520
		2	14	18	5.61	1347.5	1050	930	820	710
	1¼C-2¾ X 4-40	1	08	12	4.01	962.5	750	660	590	510
		1	11	15	4.30	1032.5	810	710	630	550
		1	14	18	4.56	1093.75	850	750	670	580
		2	14	18	6.20	1487.5	1160	1030	910	790
	1¼C-2¾ X 4-48	1	08	12	4.38	1050	820	720	640	560
		1	11	15	4.74	1137.5	890	780	690	600
		1	14	18	4.99	1198.75	940	830	730	640
		2	14	18	6.82	1636.25	1280	1130	1000	870
1½" Dia. copper	1¼C-3¼ X 3¼-32	1	08	12	3.14	752.5	590	520	460	400
		1	11	15	3.43	822.5	640	570	500	440
		1	14	18	3.57	857.5	670	590	520	450
		2	14	18	4.89	1172.5	910	810	720	620
	1¼C-3¼ X 3¼-40	1	08	12	6.56	1575	1230	1090	960	830
		1	11	15	4.19	1006.25	780	690	610	530
		1	14	18	4.45	1067.5	830	740	650	570
		2	14	18	6.13	1470	1150	1010	900	780
	1¼C-3¼ X 3¼-48	1	08	12	4.30	1032.5	810	710	630	550
		1	11	15	4.63	1111.25	870	770	680	590
		1	14	18	4.89	1172.5	910	810	720	620
		2	14	18	6.74	1618.75	1260	1120	990	860

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FT5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	14	18	4.00	960	750	660	590	510
		1	20	24	4.10	980	760	680	600	520
		2	20	24	6.20	1490	1160	1030	910	790
		1	24	28	4.30	1030	800	710	630	550
		2	24	28	6.50	1560	1220	1080	950	830
		3	24	28	7.50	1800	1400	1240	1100	960
	1S-3¼ X 3¼-40	1	14	18	4.50	1080	840	750	660	570
		1	20	24	4.80	1150	900	790	700	610
		2	20	24	6.80	1630	1270	1120	990	860
		1	24	28	5.00	1200	940	830	730	640
		2	24	28	7.10	1700	1330	1170	1040	900
		3	24	28	8.30	1990	1550	1370	1210	1050
	1S-3¼ X 3¼-48	1	14	18	5.00	1200	940	830	730	640
		1	20	24	5.60	1340	1050	920	820	710
		2	20	24	7.50	1800	1400	1240	1100	950
		1	24	28	5.80	1390	1080	960	850	740
		2	24	28	7.70	1850	1440	1280	1130	980
		3	24	28	8.80	2110	1650	1460	1290	1120
1" Dia. steel	1S-4¼ X 4¼-32	1	14	18	5.80	1390	1080	960	850	740
		1	20	24	6.00	1440	1120	990	880	760
		2	20	24	9.00	2160	1680	1490	1320	1140
		1	24	28	6.20	1490	1160	1030	910	790
		2	24	28	9.40	2260	1760	1560	1380	1200
		3	24	28	10.80	2590	2020	1790	1580	1370
	1S-4¼ X 4¼-40	1	14	18	6.50	1560	1220	1080	950	830
		1	20	24	7.00	1680	1310	1160	1020	890
		2	20	24	9.90	2380	1860	1640	1450	1260
		1	24	28	7.20	1730	1350	1190	1060	920
		2	24	28	10.30	2470	1930	1700	1510	1310
		3	24	28	11.80	2830	2210	1950	1730	1500
	1S-4¼ X 4¼-48	1	14	18	7.2	1663	1300	1150	1010	880
		1	20	24	8.1	1872	1460	1290	1140	990
		2	20	24	10.8	2489	1940	1720	1520	1320
		1	24	28	8.3	1919	1500	1320	1170	1020
		2	24	28	11.2	2575	2010	1780	1570	1360
		3	24	28	13.0	2983	2330	2060	1820	1580

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FT5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1 1/4" Dia. steel	1 1/4S-3 1/4 X 3 1/4-32	1	14	18	3.90	940	730	650	570	500
		1	20	24	4.00	960	750	660	590	510
		2	20	24	6.10	1460	1140	1010	890	770
		1	24	28	4.20	1010	790	700	620	540
		2	24	28	6.40	1540	1200	1060	940	820
		3	24	28	7.40	1780	1390	1230	1090	940
	1 1/4S-3 1/4 X 3 1/4-40	1	14	18	4.40	1060	830	730	650	560
		1	20	24	4.70	1130	880	780	690	600
		2	20	24	6.70	1610	1260	1110	980	850
		1	24	28	4.90	1180	920	810	720	630
		2	24	28	7.00	1680	1310	1160	1020	890
		3	24	28	8.10	1940	1510	1340	1180	1030
	1 1/4S-3 1/4 X 3 1/4-48	1	14	18	4.90	1180	920	810	720	630
		1	20	24	5.50	1320	1030	910	810	700
		2	20	24	7.40	1780	1390	1230	1090	940
		1	24	28	5.70	1370	1070	950	840	730
		2	24	28	7.60	1820	1420	1260	1110	960
		3	24	28	8.70	2090	1630	1440	1270	1110
1 1/2" Dia. steel	1 1/4S-4 1/4 X 4 1/4-32	1	14	18	5.70	1370	1070	950	840	730
		1	20	24	5.90	1420	1110	980	870	750
		2	20	24	8.80	2110	1650	1460	1290	1120
		1	24	28	6.10	1460	1140	1010	890	770
		2	24	28	9.20	2210	1720	1520	1350	1170
		3	24	28	10.60	2540	1980	1750	1550	1350
	1 1/4S-4 1/4 X 4 1/4-40	1	14	18	6.40	1540	1200	1060	940	820
		1	20	24	6.90	1660	1290	1150	1010	880
		2	20	24	9.70	2330	1820	1610	1420	1230
		1	24	28	7.10	1700	1330	1170	1040	900
		2	24	28	10.10	2420	1890	1670	1480	1280
		3	24	28	11.60	2780	2170	1920	1700	1470
	1 1/4S-4 1/4 X 4 1/4-48	1	14	18	7.20	1730	1350	1190	1060	920
		1	20	24	8.00	1920	1500	1320	1170	1020
		2	20	24	10.70	2570	2000	1770	1570	1360
		1	24	28	8.20	1970	1540	1360	1200	1040
		2	24	28	11.10	2660	2070	1840	1620	1410
		3	24	28	12.80	3070	2390	2120	1870	1630

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FT5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
2" Dia. steel	2S-4¼ X 4¼-32	1	14	18	5.70	5.70	1070	950	840	730
		1	20	24	5.90	5.90	1110	980	870	750
		2	20	24	8.60	8.60	1610	1420	1260	1090
		1	24	28	6.10	6.10	1140	1010	890	770
		2	24	28	8.90	8.90	1670	1480	1310	1130
		3	24	28	10.20	10.20	1910	1690	1490	1300
	2S-4¼ X 4¼-40	1	14	18	6.40	6.40	1200	1060	940	820
		1	20	24	6.80	6.80	1270	1120	990	860
		2	20	24	9.30	9.30	1740	1540	1360	1180
		1	24	28	7.10	7.10	1330	1170	1040	900
		2	24	28	9.80	9.80	1830	1620	1430	1250
		3	24	28	11.30	11.30	2110	1870	1650	1440
	2S-4¼ X 4¼-48	1	14	18	7.20	7.20	1350	1190	1060	920
		1	20	24	7.70	7.70	1440	1280	1130	980
		2	20	24	10.00	10.00	1870	1660	1460	1270
		1	24	28	8.20	8.20	1540	1360	1200	1040
		2	24	28	10.60	10.60	1980	1750	1550	1350
		3	24	28	12.20	12.20	2290	2020	1790	1550

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FT5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-2 3/4 X 4-32	1	14	18	4.48	1076	839	742	656	570
		1	20	24	4.76	1142	891	788	696	605
		2	20	24	7.07	1696	1323	1170	1035	899
		1	24	28	4.95	1188	927	820	725	630
		2	24	28	7.78	1868	1457	1289	1139	990
		3	24	28	8.97	2152	1678	1485	1312	1140
	3/4C-2 3/4 X 4-40	1	14	18	5.23	1254	978	865	765	665
		1	20	24	5.75	1379	1076	952	841	731
		2	20	24	7.73	1855	1447	1280	1131	983
		1	24	28	6.00	1439	1122	993	878	763
		2	24	28	8.44	2026	1580	1398	1236	1074
		3	24	28	9.63	2310	1802	1594	1409	1224
	3/4C-2 3/4 X 4-48	1	14	18	5.67	1360	1060	938	829	721
		1	20	24	6.55	1571	1225	1084	958	833
		2	20	24	9.10	2185	1704	1507	1333	1158
		1	24	28	6.99	1676	1308	1157	1023	888
		2	24	28	9.71	2330	1817	1608	1421	1235
		3	24	28	10.84	2600	2028	1794	1586	1378
3/4" Dia. copper	3/4C-3 1/4 X 3 1/4-32	1	14	18	5.20	1250	980	860	760	660
		1	20	24	5.70	1370	1070	950	840	730
		2	20	24	7.50	1800	1400	1240	1100	950
		1	24	28	6.00	1440	1120	990	880	760
		2	24	28	8.40	2020	1580	1390	1230	1070
		3	24	28	9.60	2300	1790	1590	1400	1220
	3/4C-3 1/4 X 3 1/4-40	1	14	18	5.80	1390	1080	960	850	740
		1	20	24	6.40	1540	1200	1060	940	820
		2	20	24	8.80	2110	1650	1460	1290	1120
		1	24	28	6.80	1630	1270	1120	990	860
		2	24	28	9.20	2210	1720	1520	1350	1170
		3	24	28	10.60	2540	1980	1750	1550	1350
	3/4C-3 1/4 X 3 1/4-48	1	14	18	6.40	1540	1200	1060	940	820
		1	20	24	7.30	1750	1370	1210	1070	930
		2	20	24	8.50	2040	1590	1410	1240	1080
		1	24	28	7.90	1900	1480	1310	1160	1010
		2	24	28	9.50	2280	1780	1570	1390	1210
		3	24	28	11.00	2640	2060	1820	1610	1400

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FT5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-4¼ X 4¼-32	1	14	18	6.80	1630	1270	1120	990	860
		1	20	24	7.20	1730	1350	1190	1060	920
		2	20	24	10.70	2570	2000	1770	1570	1360
		1	24	28	7.50	1800	1400	1240	1100	950
		2	24	28	11.80	2830	2210	1950	1730	1500
		3	24	28	13.60	3260	2540	2250	1990	1730
	¾C-4¼ X 4¼-40	1	14	18	7.90	1900	1480	1310	1160	1010
		1	20	24	8.70	2090	1630	1440	1270	1110
		2	20	24	11.70	2810	2190	1940	1710	1490
		1	24	28	9.10	2180	1700	1500	1330	1160
		2	24	28	12.80	3070	2390	2120	1870	1630
		3	24	28	14.60	3500	2730	2420	2140	1860
	¾C-4¼ X 4¼-48	1	14	18	8.60	2060	1610	1420	1260	1090
		1	20	24	9.90	2380	1860	1640	1450	1260
		2	20	24	13.80	3310	2580	2280	2020	1750
		1	24	28	10.60	2540	1980	1750	1550	1350
		2	24	28	14.70	3530	2750	2440	2150	1870
		3	24	28	16.40	3940	3070	2720	2400	2090
1" Dia. copper	1C-2¾ X 4-32	1	14	18	4.43	1063	829	733	648	563
		1	20	24	4.68	1122	875	774	684	595
		2	20	24	6.93	1663	1297	1148	1015	881
		1	24	28	4.90	1175	916	811	717	623
		2	24	28	7.65	1835	1431	1266	1119	972
		3	24	28	8.77	2105	1642	1453	1284	1116
	1C-2¾ X 4-40	1	14	18	5.14	1234	963	852	753	654
		1	20	24	5.61	1346	1050	929	821	714
		2	20	24	7.59	1822	1421	1257	1111	965
		1	24	28	5.89	1412	1102	975	862	749
		2	24	28	8.25	1980	1544	1366	1208	1049
		3	24	28	9.43	2264	1766	1562	1381	1200
	1C-2¾ X 4-48	1	14	18	5.56	1333	1040	920	813	707
		1	20	24	6.41	1538	1199	1061	938	815
		2	20	24	8.91	2138	1668	1475	1304	1133
		1	24	28	6.88	1650	1287	1139	1007	875
		2	24	28	9.52	2284	1781	1576	1393	1210
		3	24	28	10.62	2548	1987	1758	1554	1350

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FT5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	14	18	5.10	1220	950	840	740	650
		1	20	24	5.60	1340	1050	920	820	710
		2	20	24	7.40	1780	1390	1230	1090	940
		1	24	28	5.90	1420	1110	980	870	750
		2	24	28	8.20	1970	1540	1360	1200	1040
		3	24	28	9.40	2260	1760	1560	1380	1120
	1C-3¼ X 3¼-40	1	14	18	5.70	1370	1070	950	840	730
		1	20	24	6.30	1510	1180	1040	920	800
		2	20	24	8.60	2060	1610	1420	1260	1090
		1	24	28	6.70	1610	1260	1110	980	850
		2	24	28	9.00	2160	1680	1490	1320	1140
		3	24	28	10.30	2470	1930	1700	1510	1310
	1C-3¼ X 3¼-48	1	14	18	6.30	1510	1180	1040	920	800
		1	20	24	7.20	1730	1350	1190	1060	920
		2	20	24	8.30	1990	1550	1370	1210	1060
		1	24	28	7.70	1850	1440	1280	1130	980
		2	24	28	9.30	2230	1740	1540	1360	1180
		3	24	28	10.80	2590	2020	1790	1580	1370
1" Dia. copper	1C-4¼ X 4¼-32	1	14	18	6.70	1610	1260	1110	980	850
		1	20	24	7.10	1700	1330	1170	1040	900
		2	20	24	10.50	2520	1970	1740	1540	1340
		1	24	28	7.40	1780	1390	1230	1090	940
		2	24	28	11.60	2780	2170	1920	1700	1470
		3	24	28	13.30	3190	2490	2200	1950	1690
	1C-4¼ X 4¼-40	1	14	18	7.80	1870	1460	1290	1140	990
		1	20	24	8.50	2040	1590	1410	1240	1080
		2	20	24	11.50	2760	2150	1900	1680	1460
		1	24	28	8.90	2140	1670	1480	1310	1130
		2	24	28	12.50	3000	2340	2070	1830	1590
		3	24	28	14.30	3430	2680	2370	2090	1820
	1C-4¼ X 4¼-48	1	14	18	8.40	2020	1580	1390	1230	1070
		1	20	24	9.70	2330	1820	1610	1420	1230
		2	20	24	13.50	3240	2530	2240	1980	1720
		1	24	28	10.40	2500	1950	1720	1530	1330
		2	24	28	14.40	3460	2700	2390	2110	1830
		3	24	28	16.10	3860	3010	2660	2350	2050

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FT5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1/4" Dia. copper	1/4C-2 3/4 X 4-32	1	14	18	4.35	1043	813	720	636	553
		1	20	24	4.62	1109	865	765	676	588
		2	20	24	6.79	1630	1272	1125	994	864
		1	24	28	4.81	1155	901	797	705	612
		2	24	28	7.54	1808	1411	1248	1103	958
		3	24	28	8.64	2072	1616	1430	1264	1098
	1/4C-2 3/4 X 4-40	1	14	18	5.09	1221	952	842	745	647
		1	20	24	5.56	1333	1040	920	813	707
		2	20	24	7.45	1789	1395	1234	1091	948
		1	24	28	5.80	1393	1086	961	849	738
		2	24	28	8.11	1947	1519	1343	1188	1032
		3	24	28	9.30	2231	1740	1539	1361	1182
	1/4C-2 3/4 X 4-48	1	14	18	5.47	1313	1024	906	801	696
		1	20	24	6.27	1505	1174	1038	918	798
		2	20	24	8.72	2092	1632	1444	1276	1109
		1	24	28	6.74	1617	1261	1116	986	857
		2	24	28	9.38	2251	1755	1553	1373	1193
		3	24	28	10.42	2501	1951	1726	1526	1326
1/4" Dia. copper	1/4C-3 1/4 X 3 1/4-32	1	14	18	5.00	1200	940	830	730	640
		1	20	24	5.50	1320	1030	910	810	700
		2	20	24	7.30	1750	1370	1210	1070	930
		1	24	28	5.80	1390	1080	960	850	740
		2	24	28	8.10	1940	1510	1340	1180	1030
		3	24	28	9.30	2230	1740	1540	1360	1180
	1/4C-3 1/4 X 3 1/4-40	1	14	18	5.60	1340	1050	920	820	710
		1	20	24	6.10	1460	1140	1010	890	770
		2	20	24	8.40	2020	1580	1390	1230	1070
		1	24	28	6.40	1540	1200	1060	940	820
		2	24	28	8.80	2110	1650	1460	1290	1120
		3	24	28	10.10	2420	1890	1670	1480	1280
	1/4C-3 1/4 X 3 1/4-48	1	14	18	6.20	1490	1160	1030	910	790
		1	20	24	7.10	1700	1330	1170	1040	900
		2	20	24	8.10	1940	1510	1340	1180	1030
		1	24	28	7.50	1800	1400	1240	1100	950
		2	24	28	9.10	2180	1700	1500	1330	1160
		3	24	28	10.50	2520	1970	1740	1540	1340

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FT5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. Copper	1¼C-4¼ X 4¼-32	1	14	18	6.60	1580	1230	1090	960	840
		1	20	24	7.00	1680	1310	1160	1020	890
		2	20	24	10.30	2470	1930	1700	1510	1310
		1	24	28	7.30	1750	1370	1210	1070	930
		2	24	28	11.40	2740	2140	1890	1670	1450
		3	24	28	13.10	3140	2450	2170	1920	1660
	1¼C-4¼ X 4¼-40	1	14	18	7.70	1850	1440	1280	1130	980
		1	20	24	8.40	2020	1580	1390	1230	1070
		2	20	24	11.30	2710	2110	1870	1650	1440
		1	24	28	8.80	2110	1650	1460	1290	1120
		2	24	28	12.30	2950	2300	2040	1800	1560
		3	24	28	14.10	3380	2640	2330	2060	1790
	1¼C-4¼ X 4¼-48	1	14	18	8.30	1990	1550	1370	1210	1050
		1	20	24	9.50	2280	1780	1570	1390	1210
		2	20	24	13.20	3170	2470	2190	1930	1680
		1	24	28	10.20	2450	1910	1690	1490	1300
		2	24	28	14.20	3410	2660	2350	2080	1810
		3	24	28	15.80	3790	2960	2620	2310	2010

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FTHL5 / FTVL5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	14	18	3.50	840	660	580	510	450
		1	20	24	3.57	858	670	590	520	450
		1	24	28	3.76	901	700	620	550	480
		2	20	24	5.43	1304	1020	900	800	690
		2	24	28	5.69	1365	1060	940	830	720
		3	24	28	6.56	1575	1230	1090	960	830
	1S-3¼ X 3¼-40	1	14	18	3.94	945	740	650	580	500
		1	20	24	4.19	1006	780	690	610	530
		1	24	28	4.38	1050	820	720	640	560
		2	20	24	5.94	1426	1110	980	870	760
		2	24	28	6.20	1488	1160	1030	910	790
		3	24	28	7.26	1741	1360	1200	1060	920
	1S-3¼ X 3¼-48	1	14	18	4.38	1050	820	720	640	560
		1	20	24	4.89	1173	910	810	720	620
		1	24	28	5.07	1216	950	840	740	640
		2	20	24	6.56	1575	1230	1090	960	830
		2	24	28	6.74	1619	1260	1120	990	860
		3	24	28	7.69	1846	1440	1270	1130	980
1" Dia. steel	1S-4¼ X 4¼-32	1	14	18	5.07	1216	950	840	740	640
		1	20	24	5.25	1260	980	870	770	670
		1	24	28	5.43	1304	1020	900	800	690
		2	20	24	7.88	1890	1470	1300	1150	1000
		2	24	28	8.24	1978	1540	1360	1210	1050
		3	24	28	9.44	2266	1770	1560	1380	1200
	1S-4¼ X 4¼-40	1	14	18	5.69	1365	1060	940	830	720
		1	20	24	6.13	1470	1150	1010	900	780
		1	24	28	6.31	1514	1180	1040	920	800
		2	20	24	8.68	2083	1620	1440	1270	1100
		2	24	28	9.01	2161	1690	1490	1320	1150
		3	24	28	10.32	2476	1930	1710	1510	1310
	1S-4¼ X 4¼-48	1	14	18	6.3	1455	1130	1000	890	770
		1	20	24	7.1	1638	1280	1130	1000	870
		1	20	24	9.5	2178	1700	1500	1330	1150
		2	24	28	7.3	1679	1310	1160	1020	890
		2	24	28	9.8	2253	1760	1550	1370	1190
		3	24	28	11.3	2610	2040	1800	1590	1380

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FTHL5 / FTVL5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1 1/2" Dia. steel	1 1/4S-3 1/4 X 3 1/4-32	1	14	18	3.43	823	640	570	500	440
		1	20	24	3.50	840	660	580	510	450
		1	24	28	3.68	884	690	610	540	470
		2	20	24	5.32	1278	1000	880	780	680
		2	24	28	5.61	1348	1050	930	820	710
		3	24	28	6.49	1558	1210	1070	950	830
	1 1/4S-3 1/4 X 3 1/4-40	1	14	18	3.86	928	720	640	570	490
		1	20	24	4.12	989	770	680	600	520
		1	24	28	4.30	1033	810	710	630	550
		2	20	24	5.87	1409	1100	970	860	750
		2	24	28	6.13	1470	1150	1010	900	780
		3	24	28	7.07	1698	1320	1170	1040	900
	1 1/4S-3 1/4 X 3 1/4-48	1	14	18	4.30	1033	810	710	630	550
		1	20	24	4.81	1155	900	800	700	610
		1	24	28	4.99	1199	940	830	730	640
		2	20	24	6.49	1558	1210	1070	950	830
		2	24	28	6.64	1593	1240	1100	970	840
		3	24	28	7.62	1829	1430	1260	1120	970
1 1/2" Dia. steel	1 1/4S-4 1/4 X 4 1/4-32	1	14	18	4.99	1199	940	830	730	640
		1	20	24	5.18	1243	970	860	760	660
		1	24	28	5.32	1278	1000	880	780	680
		2	20	24	7.69	1846	1440	1270	1130	980
		2	24	28	8.06	1934	1510	1330	1180	1020
		3	24	28	9.26	2223	1730	1530	1360	1180
	1 1/4S-4 1/4 X 4 1/4-40	1	14	18	5.61	1348	1050	930	820	710
		1	20	24	6.05	1453	1130	1000	890	770
		1	24	28	6.20	1488	1160	1030	910	790
		2	20	24	8.49	2039	1590	1410	1240	1080
		2	24	28	8.82	2118	1650	1460	1290	1120
		3	24	28	10.14	2433	1900	1680	1480	1290
	1 1/4S-4 1/4 X 4 1/4-48	1	14	18	6.31	1514	1180	1040	920	800
		1	20	24	7.00	1680	1310	1160	1020	890
		1	24	28	7.18	1724	1340	1190	1050	910
		2	20	24	9.37	2249	1750	1550	1370	1190
		2	24	28	9.70	2328	1820	1610	1420	1230
		3	24	28	11.19	2686	2100	1850	1640	1420

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FTHL5 / FTVL5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
2" Dia. steel	2S-4¼ X 4¼-32	1	14	18	4.99	1199	940	830	730	640
		1	20	24	5.18	1243	970	860	760	660
		1	24	28	5.32	1278	1000	880	780	680
		2	20	24	7.51	1803	1410	1240	1100	960
		2	24	28	7.80	1873	1460	1290	1140	990
		3	24	28	8.93	2144	1670	1480	1310	1140
	2S-4¼ X 4¼-40	1	14	18	5.61	1348	1050	930	820	710
		1	20	24	5.94	1426	1110	980	870	760
		1	24	28	6.20	1488	1160	1030	910	790
		2	20	24	8.13	1951	1520	1350	1190	1030
		2	24	28	8.57	2056	1600	1420	1250	1090
		3	24	28	9.88	2371	1850	1640	1450	1260
	2S-4¼ X 4¼-48	1	14	18	6.31	1514	1180	1040	920	800
		1	20	24	6.74	1619	1260	1120	990	860
		1	24	28	7.18	1724	1340	1190	1050	910
		2	20	24	8.75	2100	1640	1450	1280	1110
		2	24	28	9.26	2223	1730	1530	1360	1180
		3	24	28	10.68	2564	2000	1770	1560	1360

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FTHL5 / FTVL5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-23/4 X 4-32	1	14	18	3.92	942	730	650	570	500
		1	20	24	4.16	999	780	690	610	530
		1	24	28	4.33	1040	810	720	630	550
		2	20	24	6.18	1484	1160	1020	910	790
		2	24	28	6.81	1635	1270	1130	1000	870
		3	24	28	7.85	1883	1470	1300	1150	1000
	3/4C-23/4 X 4-40	1	14	18	4.57	1097	860	760	670	580
		1	20	24	5.03	1207	940	830	740	640
		1	24	28	5.25	1259	980	870	770	670
		2	20	24	6.76	1623	1270	1120	990	860
		2	24	28	7.39	1773	1380	1220	1080	940
		3	24	28	8.42	2021	1580	1390	1230	1070
	3/4C-23/4 X 4-48	1	14	18	4.96	1190	930	820	730	630
		1	20	24	5.73	1375	1070	950	840	730
		1	24	28	6.11	1467	1140	1010	890	780
		2	20	24	7.97	1912	1490	1320	1170	1010
		2	24	28	8.49	2039	1590	1410	1240	1080
		3	24	28	9.48	2275	1770	1570	1390	1210
3/4" Dia. copper	3/4C-33/4 X 33/4-32	1	14	18	4.56	1094	850	750	670	580
		1	20	24	4.99	1199	940	830	730	640
		1	24	28	5.25	1260	980	870	770	670
		2	20	24	6.56	1575	1230	1090	960	830
		2	24	28	7.36	1768	1380	1220	1080	940
		3	24	28	8.39	2013	1570	1390	1230	1070
	3/4C-33/4 X 33/4-40	1	14	18	5.07	1216	950	840	740	640
		1	20	24	5.61	1348	1050	930	820	710
		1	24	28	5.94	1426	1110	980	870	760
		2	20	24	7.69	1846	1440	1270	1130	980
		2	24	28	8.06	1934	1510	1330	1180	1020
		3	24	28	9.26	2223	1730	1530	1360	1180
	3/4C-33/4 X 33/4-48	1	14	18	5.61	1348	1050	930	820	710
		1	20	24	6.38	1531	1190	1060	930	810
		1	24	28	6.93	1663	1300	1150	1010	880
		2	20	24	7.44	1785	1390	1230	1090	950
		2	24	28	8.31	1995	1560	1380	1220	1060
		3	24	28	9.63	2310	1800	1590	1410	1220

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FTHL5 / FTVL5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-4¼ X 4¼-32	1	14	18	5.94	1426	1110	980	870	760
		1	20	24	6.31	1514	1180	1040	920	800
		1	24	28	6.56	1575	1230	1090	960	830
		2	20	24	9.37	2249	1750	1550	1370	1190
		2	24	28	10.32	2476	1930	1710	1510	1310
		3	24	28	11.89	2853	2220	1970	1740	1510
	¾C-4¼ X 4¼-40	1	14	18	6.93	1663	1300	1150	1010	880
		1	20	24	7.62	1829	1430	1260	1120	970
		1	24	28	7.95	1908	1490	1320	1160	1010
		2	20	24	10.24	2459	1920	1700	1500	1300
		2	24	28	11.19	2686	2100	1850	1640	1420
		3	24	28	12.76	3063	2390	2110	1870	1620
	¾C-4¼ X 4¼-48	1	14	18	7.51	1803	1410	1240	1100	960
		1	20	24	8.68	2083	1620	1440	1270	1100
		1	24	28	9.26	2223	1730	1530	1360	1180
		2	20	24	12.07	2896	2260	2000	1770	1540
		2	24	28	12.87	3089	2410	2130	1880	1640
		3	24	28	14.36	3448	2690	2380	2100	1830
1" Dia. copper	1C-2¾ X 4-32	1	14	18	3.88	930	730	640	570	490
		1	20	24	4.09	982	770	680	600	520
		1	24	28	4.28	1028	800	710	630	540
		2	20	24	6.06	1455	1130	1000	890	770
		2	24	28	6.69	1606	1250	1110	980	850
		3	24	28	7.67	1842	1440	1270	1120	980
	1C-2¾ X 4-40	1	14	18	4.50	1080	840	750	660	570
		1	20	24	4.91	1178	920	810	720	620
		1	24	28	5.15	1236	960	850	750	650
		2	20	24	6.64	1594	1240	1100	970	840
		2	24	28	7.22	1733	1350	1200	1060	920
		3	24	28	8.25	1981	1550	1370	1210	1050
	1C-2¾ X 4-48	1	14	18	4.86	1166	910	800	710	620
		1	20	24	5.61	1346	1050	930	820	710
		1	24	28	6.02	1444	1130	1000	880	770
		2	20	24	7.79	1871	1460	1290	1140	990
		2	24	28	8.33	1999	1560	1380	1220	1060
		3	24	28	9.29	2230	1740	1540	1360	1180

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FTHL5 / FTVL5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	14	18	4.45	1068	830	740	650	570
		1	20	24	4.89	1173	910	810	720	620
		1	24	28	5.18	1243	970	860	760	660
		2	20	24	6.49	1558	1210	1070	950	830
		2	24	28	7.18	1724	1340	1190	1050	910
		3	24	28	8.24	1978	1540	1360	1210	1050
	1C-3¼ X 3¼-40	1	14	18	4.99	1199	940	830	730	640
		1	20	24	5.51	1321	1030	910	810	700
		1	24	28	5.87	1409	1100	970	860	750
		2	20	24	7.51	1803	1410	1240	1100	960
		2	24	28	7.88	1890	1470	1300	1150	1000
		3	24	28	9.01	2161	1690	1490	1320	1150
	1C-3¼ X 3¼-48	1	14	18	5.51	1321	1030	910	810	700
		1	20	24	6.31	1514	1180	1040	920	800
		1	24	28	6.74	1619	1260	1120	990	860
		2	20	24	7.26	1741	1360	1200	1060	920
		2	24	28	8.13	1951	1520	1350	1190	1030
		3	24	28	9.44	2266	1770	1560	1380	1200
1" Dia. copper	1C-4¼ X 4¼-32	1	14	18	5.87	1409	1100	970	860	750
		1	20	24	6.20	1488	1160	1030	910	790
		1	24	28	6.49	1558	1210	1070	950	830
		2	20	24	9.19	2205	1720	1520	1350	1170
		2	24	28	10.14	2433	1900	1680	1480	1290
		3	24	28	11.63	2791	2180	1930	1700	1480
	1C-4¼ X 4¼-40	1	14	18	6.82	1636	1280	1130	1000	870
		1	20	24	7.44	1785	1390	1230	1090	950
		1	24	28	7.80	1873	1460	1290	1140	990
		2	20	24	10.06	2415	1880	1670	1470	1280
		2	24	28	10.94	2625	2050	1810	1600	1390
		3	24	28	12.51	3001	2340	2070	1830	1590
	1C-4¼ X 4¼-48	1	14	18	7.36	1768	1380	1220	1080	940
		1	20	24	8.49	2039	1590	1410	1240	1080
		1	24	28	9.11	2188	1710	1510	1330	1160
		2	20	24	11.81	2835	2210	1960	1730	1500
		2	24	28	12.61	3028	2360	2090	1850	1600
		3	24	28	14.07	3378	2630	2330	2060	1790

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FTHL5 / FTVL5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1/4" Dia. copper	1/4C-2 1/4 X 4-32	1	14	18	3.80	913	710	630	560	480
		1	20	24	4.04	970	760	670	590	510
		1	24	28	4.21	1011	790	700	620	540
		2	20	24	5.94	1426	1110	980	870	760
		2	24	28	6.59	1582	1230	1090	970	840
		3	24	28	7.55	1813	1410	1250	1110	960
	1/4C-2 1/4 X 4-40	1	14	18	4.45	1068	830	740	650	570
		1	20	24	4.86	1166	910	800	710	620
		1	24	28	5.08	1219	950	840	740	650
		2	20	24	6.52	1565	1220	1080	950	830
		2	24	28	7.10	1704	1330	1180	1040	900
		3	24	28	8.13	1952	1520	1350	1190	1030
	1/4C-2 1/4 X 4-48	1	14	18	4.79	1149	900	790	700	610
		1	20	24	5.49	1317	1030	910	800	700
		1	24	28	5.90	1415	1100	980	860	750
		2	20	24	7.63	1831	1430	1260	1120	970
		2	24	28	8.21	1970	1540	1360	1200	1040
		3	24	28	9.12	2188	1710	1510	1330	1160
1/4" Dia. copper	1/4C-3 1/4 X 3 1/4-32	1	14	18	4.38	1050	820	720	640	560
		1	20	24	4.81	1155	900	800	700	610
		1	24	28	5.07	1216	950	840	740	640
		2	20	24	6.38	1531	1190	1060	930	810
		2	24	28	7.07	1698	1320	1170	1040	900
		3	24	28	8.13	1951	1520	1350	1190	1030
	1/4C-3 1/4 X 3 1/4-40	1	14	18	4.89	1173	910	810	720	620
		1	20	24	5.32	1278	1000	880	780	680
		1	24	28	5.61	1348	1050	930	820	710
		2	20	24	7.36	1768	1380	1220	1080	940
		2	24	28	7.69	1846	1440	1270	1130	980
		3	24	28	8.82	2118	1650	1460	1290	1120
	1/4C-3 1/4 X 3 1/4-48	1	14	18	5.43	1304	1020	900	800	690
		1	20	24	6.20	1488	1160	1030	910	790
		1	24	28	6.56	1575	1230	1090	960	830
		2	20	24	7.07	1698	1320	1170	1040	900
		2	24	28	7.95	1908	1490	1320	1160	1010
		3	24	28	9.19	2205	1720	1520	1350	1170

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FTHL5 / FTVL5; Standard flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. Copper	1 1/4C-4 1/4 X 4 1/4-32	1	14	18	5.76	1383	1080	950	840	730
		1	20	24	6.13	1470	1150	1010	900	780
		1	24	28	6.38	1531	1190	1060	930	810
		2	20	24	9.01	2161	1690	1490	1320	1150
		2	24	28	9.99	2398	1870	1650	1460	1270
		3	24	28	11.45	2748	2140	1900	1680	1460
	1 1/4C-4 1/4 X 4 1/4-40	1	14	18	6.74	1619	1260	1120	990	860
		1	20	24	7.36	1768	1380	1220	1080	940
		1	24	28	7.69	1846	1440	1270	1130	980
		2	20	24	9.88	2371	1850	1640	1450	1260
		2	24	28	10.76	2581	2010	1780	1570	1370
		3	24	28	12.32	2958	2310	2040	1800	1570
	1 1/4C-4 1/4 X 4 1/4-48	1	14	18	7.26	1741	1360	1200	1060	920
		1	20	24	8.31	1995	1560	1380	1220	1060
		1	24	28	8.93	2144	1670	1480	1310	1140
		2	20	24	11.56	2774	2160	1910	1690	1470
		2	24	28	12.43	2984	2330	2060	1820	1580
		3	24	28	13.82	3316	2590	2290	2020	1760

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FT3; Low profile flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	8	12	3.20	770	600	530	470	410
		1	11	15	3.40	820	640	570	500	430
		1	14	18	3.50	840	660	580	510	450
		2	14	18	4.80	1150	900	790	700	610
	1S-3¼ X 3¼-40	1	8	12	3.50	840	660	580	510	450
		1	11	15	3.90	940	730	650	570	500
		1	14	18	4.00	960	750	660	590	510
		2	14	18	5.40	1300	1010	900	790	680
	1S-3¼ X 3¼-48	1	8	12	4.00	960	750	660	590	510
		1	11	15	4.30	1030	800	710	630	540
		1	14	18	4.50	1080	840	750	660	570
		2	14	18	6.10	1460	1140	1010	890	770
1¼" Dia. steel	1¼S-3¼ X 3¼-32	1	8	12	3.10	740	580	510	450	390
		1	11	15	3.30	790	620	550	480	420
		1	14	18	3.40	820	640	570	500	430
		2	14	18	4.70	1130	880	780	690	600
	1¼S-3¼ X 3¼-40	1	8	12	3.40	820	640	570	500	430
		1	11	15	3.80	910	710	630	560	480
		1	14	18	3.90	940	730	650	570	500
		2	14	18	5.30	1270	990	880	770	670
	1¼S-3¼ X 3¼-48	1	8	12	3.90	940	730	650	570	500
		1	11	15	4.20	1010	790	700	620	540
		1	14	18	4.40	1060	830	730	650	560
		2	14	18	6.00	1440	1120	990	880	760

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information

- Performance ratings based on:
- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
 - Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
 - Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)
 - Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
 - Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FT3; Low profile flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-2 3/4 X 4-32	1	08	12	4.29	1030	800	710	630	550
		1	11	15	4.58	1100	860	760	670	580
		1	14	18	4.92	1180	920	810	720	630
		2	14	18	6.71	1610	1260	1110	980	850
	3/4C-2 3/4 X 4-40	1	08	12	4.71	1130	880	780	690	600
		1	11	15	5.08	1220	950	840	740	650
		1	14	18	5.42	1300	1010	900	790	690
		2	14	18	7.42	1780	1390	1230	1090	940
	3/4C-2 3/4 X 4-48	1	08	12	5.08	1220	950	840	740	650
		1	11	15	5.58	1340	1050	920	820	710
		1	14	18	5.92	1420	1110	980	870	750
		2	14	18	8.00	1920	1500	1320	1170	1020
3/4" Dia. copper	3/4C-3 1/4 X 3 1/4-32	1	08	12	4.08	980	760	680	600	520
		1	11	15	4.42	1060	830	730	650	560
		1	14	18	4.71	1130	880	780	690	600
		2	14	18	6.42	1540	1200	1060	940	820
	3/4C-3 1/4 X 3 1/4-40	1	08	12	4.50	1080	840	750	660	570
		1	11	15	4.92	1180	920	810	720	630
		1	14	18	5.21	1250	980	860	760	660
		2	14	18	7.08	1700	1330	1170	1040	900
	3/4C-3 1/4 X 3 1/4-48	1	08	12	5.00	1200	940	830	730	640
		1	11	15	5.42	1300	1010	900	790	690
		1	14	18	5.71	1370	1070	950	840	730
		2	14	18	7.79	1870	1460	1290	1140	990
1" Dia. copper	1C-2 3/4 X 4-32	1	08	12	4.21	1010	790	700	620	540
		1	11	15	4.50	1080	840	750	660	570
		1	14	18	4.79	1150	900	790	700	610
		2	14	18	6.58	1580	1230	1090	960	840
	1C-2 3/4 X 4-40	1	08	12	4.63	1110	870	770	680	590
		1	11	15	5.00	1200	940	830	730	640
		1	14	18	5.29	1270	990	880	770	670
		2	14	18	7.29	1750	1370	1210	1070	930
	1C-2 3/4 X 4-48	1	08	12	5.00	1200	940	830	730	640
		1	11	15	5.50	1320	1030	910	810	700
		1	14	18	5.79	1390	1080	960	850	740
		2	14	18	7.92	1900	1480	1310	1160	1010

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FT3; Low profile flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	08	12	4.00	960	750	660	590	510
		1	11	15	4.29	1030	800	710	630	550
		1	14	18	4.58	1100	860	760	670	580
		2	14	18	6.29	1510	1180	1040	920	800
	1C-3¼ X 3¼-40	1	08	12	4.42	1060	830	730	650	560
		1	11	15	4.79	1150	900	790	700	610
		1	14	18	5.08	1220	950	840	740	650
		2	14	18	7.00	1680	1310	1160	1020	890
	1C-3¼ X 3¼-48	1	08	12	4.92	1180	920	810	720	630
		1	11	15	5.29	1270	990	880	770	670
		1	14	18	5.58	1340	1050	920	820	710
		2	14	18	7.71	1850	1440	1280	1130	980
1½" Dia. copper	1¼C-2¾ X 4-32	1	08	12	4.08	980	760	680	600	520
		1	11	15	4.42	1060	830	730	650	560
		1	14	18	4.71	1130	880	780	690	600
		2	14	18	6.50	1560	1220	1080	950	830
	1¼C-2¾ X 4-40	1	08	12	4.50	1080	840	750	660	570
		1	11	15	4.92	1180	920	810	720	630
		1	14	18	5.21	1250	980	860	760	660
		2	14	18	7.21	1730	1350	1190	1060	920
	1¼C-2¾ X 4-48	1	08	12	4.92	1180	920	810	720	630
		1	11	15	5.42	1300	1010	900	790	690
		1	14	18	5.71	1370	1070	950	840	730
		2	14	18	7.79	1870	1460	1290	1140	990
1½" Dia. copper	1¼C-3¼ X 3¼-32	1	08	12	3.50	840	660	580	510	450
		1	11	15	3.79	910	710	630	560	480
		1	14	18	4.00	960	750	660	590	510
		2	14	18	5.50	1320	1030	910	810	700
	1¼C-3¼ X 3¼-40	1	08	12	4.42	1060	830	730	650	560
		1	11	15	4.71	1130	880	780	690	600
		1	14	18	5.00	1200	940	830	730	640
		2	14	18	6.92	1660	1290	1150	1010	880
	1¼C-3¼ X 3¼-48	1	08	12	4.79	1150	900	790	700	610
		1	11	15	5.21	1250	980	860	760	660
		1	14	18	5.50	1320	1030	910	810	700
		2	14	18	7.50	1800	1400	1240	1100	950

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

**Model FTHL3 FTVL3;
Low profile flat top, top outlet**

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	08	12	2.81	674	530	460	410	360
		1	11	15	2.99	718	560	500	440	380
		1	14	18	3.06	735	570	510	450	390
		2	14	18	4.19	1006	780	690	610	530
	1S-3¼ X 3¼-40	1	08	12	3.06	735	570	510	450	390
		1	11	15	3.43	823	640	570	500	440
		1	14	18	3.50	840	660	580	510	450
		2	14	18	4.74	1138	890	780	690	600
	1S-3¼ X 3¼-48	1	08	12	3.50	840	660	580	510	450
		1	11	15	3.76	901	700	620	550	480
		1	14	18	3.94	945	740	650	580	500
		2	14	18	5.32	1278	1000	880	780	680
1¼" Dia. steel	1¼S-3¼ X 3¼-32	1	08	12	2.70	648	510	450	390	340
		1	11	15	2.88	691	540	480	420	370
		1	14	18	2.99	718	560	500	440	380
		2	14	18	4.12	989	770	680	600	520
	1¼S-3¼ X 3¼-40	1	08	12	2.99	718	560	500	440	380
		1	11	15	3.32	796	620	550	490	420
		1	14	18	3.43	823	640	570	500	440
		2	14	18	4.63	1111	870	770	680	590
	1¼S-3¼ X 3¼-48	1	08	12	3.43	823	640	570	500	440
		1	11	15	3.68	884	690	610	540	470
		1	14	18	3.86	928	720	640	570	490
		2	14	18	5.25	1260	980	870	770	670

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FTHL3 FTVL3; Low profile flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-2 3/4 X 4-32	1	08	12	3.76	901	700	620	550	480
		1	11	15	4.01	963	750	660	590	510
		1	14	18	4.30	1033	810	710	630	550
		2	14	18	5.87	1409	1100	970	860	750
	3/4C-2 3/4 X 4-40	1	08	12	4.12	989	770	680	600	520
		1	11	15	4.45	1068	830	740	650	570
		1	14	18	4.74	1138	890	780	690	600
		2	14	18	6.49	1558	1210	1070	950	830
	3/4C-2 3/4 X 4-48	1	08	12	4.45	1068	830	740	650	570
		1	11	15	4.89	1173	910	810	720	620
		1	14	18	5.18	1243	970	860	760	660
		2	14	18	7.00	1680	1310	1160	1020	890
3/4" Dia. copper	3/4C-3 1/4 X 3 1/4-32	1	08	12	3.57	858	670	590	520	450
		1	11	15	3.86	928	720	640	570	490
		1	14	18	4.12	989	770	680	600	520
		2	14	18	5.61	1348	1050	930	820	710
	3/4C-3 1/4 X 3 1/4-40	1	08	12	3.94	945	740	650	580	500
		1	11	15	4.30	1033	810	710	630	550
		1	14	18	4.56	1094	850	750	670	580
		2	14	18	6.20	1488	1160	1030	910	790
	3/4C-3 1/4 X 3 1/4-48	1	08	12	4.38	1050	820	720	640	560
		1	11	15	4.74	1138	890	780	690	600
		1	14	18	4.99	1199	940	830	730	640
		2	14	18	6.82	1636	1280	1130	1000	870
1" Dia. copper	1C-2 3/4 X 4-32	1	08	12	3.68	884	690	610	540	470
		1	11	15	3.94	945	740	650	580	500
		1	14	18	4.19	1006	780	690	610	530
		2	14	18	5.76	1383	1080	950	840	730
	1C-2 3/4 X 4-40	1	08	12	4.05	971	760	670	590	510
		1	11	15	4.38	1050	820	720	640	560
		1	14	18	4.63	1111	870	770	680	590
		2	14	18	6.38	1531	1190	1060	930	810
	1C-2 3/4 X 4-48	1	08	12	4.38	1050	820	720	640	560
		1	11	15	4.81	1155	900	800	700	610
		1	14	18	5.07	1216	950	840	740	640
		2	14	18	6.93	1663	1300	1150	1010	880

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FTFL3 FTVL3; Low profile flat top, top outlet

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	08	12	3.50	840	660	580	510	450
		1	11	15	3.76	901	700	620	550	480
		1	14	18	4.01	963	750	660	590	510
		2	14	18	5.51	1321	1030	910	810	700
	1C-3¼ X 3¼-40	1	08	12	3.86	928	720	640	570	490
		1	11	15	4.19	1006	780	690	610	530
		1	14	18	4.45	1068	830	740	650	570
		2	14	18	6.13	1470	1150	1010	900	780
	1C-3¼ X 3¼-48	1	08	12	4.30	1033	810	710	630	550
		1	11	15	4.63	1111	870	770	680	590
		1	14	18	4.89	1173	910	810	720	620
		2	14	18	6.74	1619	1260	1120	990	860
1½" Dia. copper	1¼C-2¼ X 4-32	1	08	12	3.57	858	670	590	520	450
		1	11	15	3.86	928	720	640	570	490
		1	14	18	4.12	989	770	680	600	520
		2	14	18	5.69	1365	1060	940	830	720
	1¼C-2¼ X 4-40	1	08	12	3.94	945	740	650	580	500
		1	11	15	4.30	1033	810	710	630	550
		1	14	18	4.56	1094	850	750	670	580
		2	14	18	6.31	1514	1180	1040	920	800
	1¼C-2¼ X 4-48	1	08	12	4.30	1033	810	710	630	550
		1	11	15	4.74	1138	890	780	690	600
		1	14	18	4.99	1199	940	830	730	640
		2	14	18	6.82	1636	1280	1130	1000	870
1½" Dia. copper	1¼C-3¼ X 3¼-32	1	08	12	3.06	735	570	510	450	390
		1	11	15	3.32	796	620	550	490	420
		1	14	18	3.50	840	660	580	510	450
		2	14	18	4.81	1155	900	800	700	610
	1¼C-3¼ X 3¼-40	1	08	12	3.86	928	720	640	570	490
		1	11	15	4.12	989	770	680	600	520
		1	14	18	4.38	1050	820	720	640	560
		2	14	18	6.05	1453	1130	1000	890	770
	1¼C-3¼ X 3¼-48	1	08	12	4.19	1006	780	690	610	530
		1	11	15	4.56	1094	850	750	670	580
		1	14	18	4.81	1155	900	800	700	610
		2	14	18	6.56	1575	1230	1090	960	830

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FS5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	14	18	4.10	980	770	680	600	520
		1	20	24	4.20	1010	790	700	620	540
		2	20	24	6.30	1510	1180	1040	920	800
		1	24	28	4.40	1060	830	730	650	560
		2	24	28	6.60	1580	1230	1090	960	840
		3	24	28	7.70	1850	1440	1280	1130	980
	1S-3¼ X 3¼-40	1	14	18	4.60	1100	860	760	670	580
		1	20	24	4.90	1180	920	810	720	630
		2	20	24	6.90	1660	1290	1150	1010	880
		1	24	28	5.10	1220	950	840	740	650
		2	24	28	7.30	1750	1360	1200	1060	920
		3	24	28	8.40	2020	1570	1390	1230	1060
	1S-3¼ X 3¼-48	1	14	18	5.10	1220	950	840	740	650
		1	20	24	5.70	1370	1070	950	840	730
		2	20	24	7.70	1850	1440	1280	1130	980
		1	24	28	5.90	1420	1110	980	870	750
		2	24	28	8.00	1920	1500	1320	1170	1020
		3	24	28	9.20	2210	1720	1520	1350	1170
1" Dia. steel	1S-4¼ X 4¼-32	1	14	18	5.90	1420	1110	980	870	750
		1	20	24	6.10	1460	1140	1010	890	770
		2	20	24	9.20	2210	1720	1520	1350	1170
		1	24	28	6.30	1510	1180	1040	920	800
		2	24	28	9.60	2300	1790	1590	1400	1220
		3	24	28	11.00	2640	2060	1820	1610	1400
	1S-4¼ X 4¼-40	1	14	18	6.60	1580	1230	1090	960	840
		1	20	24	7.10	1700	1330	1170	1040	900
		2	20	24	10.10	2420	1890	1670	1480	1280
		1	24	28	7.40	1780	1390	1230	1090	940
		2	24	28	10.50	2520	1970	1740	1540	1340
		3	24	28	12.00	2880	2250	1990	1760	1530
	1S-4¼ X 4¼-48	1	14	18	7.4	1710	1330	1180	1040	910
		1	20	24	8.3	1919	1500	1320	1170	1020
		2	20	24	11.0	2527	1970	1740	1540	1340
		1	24	28	8.5	1957	1530	1350	1190	1040
		2	24	28	11.4	2622	2050	1810	1600	1390
		3	24	28	13.2	3031	2360	2090	1850	1610

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

- Important Rating Information** Performance ratings based on:
- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
 - Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
 - Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FS5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1 1/4" Dia. steel	1 1/4S-3 1/4 X 3 1/4-32	1	14	18	4.00	960	750	660	590	510
		1	20	24	4.10	980	760	680	600	520
		2	20	24	6.20	1490	1160	1030	910	790
		1	24	28	4.30	1030	800	710	630	550
		2	24	28	6.50	1560	1220	1080	950	830
		3	24	28	7.50	1800	1400	1240	1100	950
	1 1/4S-3 1/4 X 3 1/4-40	1	14	18	4.50	1080	840	750	660	570
		1	20	24	4.80	1150	900	790	700	610
		2	20	24	6.80	1630	1270	1120	990	860
		1	24	28	5.00	1200	940	830	730	640
		2	24	28	7.10	1700	1330	1170	1040	900
		3	24	28	8.20	1970	1540	1360	1200	1040
	1 1/4S-3 1/4 X 3 1/4-48	1	14	18	5.00	1200	940	830	730	640
		1	20	24	5.60	1340	1050	920	820	710
		2	20	24	7.50	1800	1400	1240	1100	960
		1	24	28	5.80	1390	1080	960	850	740
		2	24	28	7.80	1870	1460	1290	1140	990
		3	24	28	9.00	2160	1680	1490	1320	1140
1 1/4" Dia. steel	1 1/4S-4 1/4 X 4 1/4-32	1	14	18	5.80	1390	1080	960	850	740
		1	20	24	6.00	1440	1120	990	880	760
		2	20	24	9.00	2160	1680	1490	1320	1140
		1	24	28	6.20	1490	1160	1030	910	790
		2	24	28	9.40	2260	1760	1560	1380	1200
		3	24	28	10.80	2590	2020	1790	1580	1370
	1 1/4S-4 1/4 X 4 1/4-40	1	14	18	6.50	1560	1220	1080	950	830
		1	20	24	7.00	1680	1310	1160	1020	890
		2	20	24	9.90	2380	1860	1640	1450	1260
		1	24	28	7.20	1730	1350	1190	1060	920
		2	24	28	10.30	2470	1930	1700	1510	1310
		3	24	28	11.80	2830	2210	1950	1730	1500
	1 1/4S-4 1/4 X 4 1/4-48	1	14	18	7.30	1750	1370	1210	1070	930
		1	20	24	8.20	1970	1540	1360	1200	1040
		2	20	24	10.90	2620	2040	1810	1600	1390
		1	24	28	8.40	2020	1580	1390	1230	1070
		2	24	28	11.30	2710	2110	1870	1660	1440
		3	24	28	13.00	3120	2430	2150	1900	1650

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

- Important Rating Information** Performance ratings based on:
- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
 - Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
 - Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FS5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
2" Dia. steel	2S-4¼ X 4¼-32	1	14	18	5.80	1390	1080	960	850	740
		1	20	24	6.00	1400	1120	990	880	760
		2	20	24	8.80	2110	1650	1460	1280	1120
		1	24	28	6.20	1490	1160	1030	910	790
		2	24	28	9.10	2180	1700	1500	1330	1160
	2S-4¼ X 4¼-40	3	24	28	10.50	2520	1970	1740	1540	1340
		1	14	18	6.50	1560	1220	1080	950	830
		1	20	24	6.90	1660	1290	1150	1010	880
		2	20	24	9.50	2280	1790	1570	1390	1210
		1	24	28	7.20	1730	1350	1190	1060	920
	2S-4¼ X 4¼-48	2	24	28	10.00	2400	1870	1660	1460	1270
		3	24	28	11.50	2760	2150	1900	1680	1460
		1	14	18	7.30	1750	1370	1210	1070	930
		1	20	24	7.90	1900	1480	1310	1160	1010
		2	20	24	10.20	2450	1910	1690	1490	1300
		1	24	28	8.40	2020	1580	1390	1230	1070
		2	24	28	10.80	2590	2020	1790	1580	1370
		3	24	28	12.40	2980	2320	2060	1820	1580

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

- Important Rating Information** Performance ratings based on:
- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
 - Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
 - Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FS5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-2 3/4 X 4-32	1	14	18	4.57	1096	855	756	668	581
		1	20	24	4.81	1155	901	797	705	612
		2	20	24	7.21	1729	1349	1193	1055	916
		1	24	28	5.09	1221	952	842	745	647
		2	24	28	7.92	1901	1483	1312	1159	1007
		3	24	28	9.10	2185	1704	1507	1333	1158
	3/4C-2 3/4 X 4-40	1	14	18	5.42	1300	1014	897	793	689
		1	20	24	5.89	1412	1102	975	862	749
		2	20	24	7.65	1835	1431	1266	1119	972
		1	24	28	6.13	1472	1148	1016	898	780
		2	24	28	8.31	1993	1555	1375	1216	1056
		3	24	28	9.52	2284	1781	1576	1393	1210
	3/4C-2 3/4 X 4-48	1	14	18	5.80	1393	1086	961	849	738
		1	20	24	6.60	1584	1236	1093	966	840
		2	20	24	7.87	1888	1472	1302	1151	1000
		1	24	28	7.12	1709	1333	1179	1043	906
		2	24	28	8.58	2059	1606	1421	1256	1091
		3	24	28	9.85	2363	1843	1630	1441	1252
3/4" Dia. copper	3/4C-3 1/4 X 3 1/4-32	1	14	18	5.30	1270	990	880	770	670
		1	20	24	5.80	1390	1080	960	850	740
		2	20	24	8.10	1940	1510	1340	1180	1030
		1	24	28	6.10	1460	1140	1010	890	770
		2	24	28	9.00	2160	1680	1490	1320	1140
		3	24	28	10.30	2470	1930	1700	1510	1310
	3/4C-3 1/4 X 3 1/4-40	1	14	18	5.90	1420	1110	980	870	750
		1	20	24	6.50	1560	1220	1080	950	830
		2	20	24	9.40	2260	1760	1560	1380	1200
		1	24	28	6.90	1660	1290	1150	1010	880
		2	24	28	9.70	2330	1820	1610	1420	1230
		3	24	28	10.70	2570	2000	1770	1570	1360
	3/4C-3 1/4 X 3 1/4-48	1	14	18	6.40	1540	1200	1060	940	820
		1	20	24	7.40	1780	1390	1230	1090	940
		2	20	24	9.70	2330	1820	1610	1420	1230
		1	24	28	7.90	1900	1480	1310	1160	1010
		2	24	28	10.00	2400	1870	1660	1460	1270
		3	24	28	11.00	2640	2060	1820	1600	1400

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

- Important Rating Information** Performance ratings based on:
- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
 - Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
 - Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FS5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-4¼ X 4¼-32	1	14	18	6.90	1660	1290	1150	1010	880
		1	20	24	7.30	1750	1370	1210	1070	930
		2	20	24	10.90	2620	2040	1810	1600	1390
		1	24	28	7.70	1850	1440	1280	1130	980
		2	24	28	12.00	2880	2250	1990	1760	1530
		3	24	28	13.80	3310	2580	2280	2020	1760
	¾C-4¼ X 4¼-40	1	14	18	8.20	1970	1540	1360	1200	1040
		1	20	24	8.90	2140	1670	1480	1300	1130
		2	20	24	11.60	2780	2170	1920	1700	1470
		1	24	28	9.30	2230	1740	1540	1360	1180
		2	24	28	12.60	3020	2360	2080	1840	1600
		3	24	28	14.40	3460	2700	2390	2110	1830
	¾C-4¼ X 4¼-48	1	14	18	8.80	2110	1650	1460	1290	1120
		1	20	24	10.00	2400	1870	1660	1460	1270
		2	20	24	11.90	2860	2230	1980	1740	1520
		1	24	28	10.80	2590	2020	1790	1580	1370
		2	24	28	13.00	3120	2430	2150	1900	1650
		3	24	28	14.90	3580	2790	2470	2180	1900
1" Dia. copper	1C-2¾ X 4-32	1	14	18	4.48	1076	839	742	656	570
		1	20	24	4.76	1142	891	788	696	605
		2	20	24	7.07	1696	1323	1170	1035	899
		1	24	28	4.95	1188	927	820	725	630
		2	24	28	7.78	1868	1457	1289	1139	990
		3	24	28	8.91	2138	1668	1475	1304	1133
	1C-2¾ X 4-40	1	14	18	5.28	1267	988	874	773	672
		1	20	24	5.75	1379	1076	952	841	731
		2	20	24	7.54	1808	1411	1248	1103	958
		1	24	28	6.00	1439	1122	993	878	763
		2	24	28	8.20	1967	1534	1357	1200	1042
		3	24	28	9.30	2231	1740	1539	1361	1182
	1C-2¾ X 4-48	1	14	18	5.67	1360	1060	938	829	721
		1	20	24	6.46	1551	1210	1070	946	822
		2	20	24	7.73	1855	1447	1280	1131	983
		1	24	28	6.99	1676	1308	1157	1023	888
		2	24	28	8.39	2013	1570	1389	1228	1067
		3	24	28	9.63	2310	1802	1594	1409	1224

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

- Important Rating Information** Performance ratings based on:
- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
 - Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
 - Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FS5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	14	18	5.20	1250	980	860	760	660
		1	20	24	5.70	1370	1070	950	840	730
		2	20	24	7.90	1900	1480	1310	1160	1010
		1	24	28	6.00	1440	1120	990	880	760
		2	24	28	8.80	2110	1650	1460	1290	1120
		3	24	28	10.10	2420	1890	1670	1480	1280
	1C-3¼ X 3¼-40	1	14	18	5.80	1390	1080	960	850	740
		1	20	24	6.40	1540	1200	1060	940	820
		2	20	24	9.20	2210	1720	1520	1350	1170
		1	24	28	6.80	1630	1270	1120	990	860
		2	24	28	9.50	2280	1780	1570	1390	1210
		3	24	28	10.60	2540	1980	1750	1550	1350
	1C-3¼ X 3¼-48	1	14	18	6.30	1510	1180	1040	920	800
		1	20	24	7.20	1730	1350	1190	1060	920
		2	20	24	9.50	2280	1780	1570	1390	1208
		1	24	28	7.70	1850	1440	1280	1130	980
		2	24	28	9.80	2350	1830	1620	1430	1250
		3	24	28	10.80	2590	2020	1790	1580	1370
1" Dia. copper	1C-4¼ X 4¼-32	1	14	18	6.80	1630	1270	1120	990	860
		1	20	24	7.20	1730	1350	1190	1060	920
		2	20	24	10.70	2570	2000	1770	1570	1360
		1	24	28	7.50	1800	1400	1240	1100	950
		2	24	28	11.80	2830	2200	1950	1730	1500
		3	24	28	13.50	3240	2530	2240	1980	1720
	1C-4¼ X 4¼-40	1	14	18	8.00	1920	1500	1320	1170	1020
		1	20	24	8.70	2090	1630	1440	1270	1110
		2	20	24	11.40	2740	2140	1890	1670	1450
		1	24	28	9.10	2180	1700	1500	1330	1160
		2	24	28	12.40	2980	2330	2060	1820	1580
		3	24	28	14.10	3380	2640	2330	2060	1790
	1C-4¼ X 4¼-48	1	14	18	8.60	2060	1610	1420	1260	1090
		1	20	24	9.80	2350	1830	1620	1430	1250
		2	20	24	11.70	2810	2190	1940	1710	1490
		1	24	28	10.60	2540	1980	1750	1550	1350
		2	24	28	12.70	3050	2380	2100	1860	1620
		3	24	28	14.60	3500	2730	2420	2140	1860

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FS5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1 1/4" Dia. copper	1 1/4C-2 3/4 X 4-32	1	14	18	4.43	1063	829	733	648	563
		1	20	24	4.68	1122	875	774	684	595
		2	20	24	6.93	1663	1297	1148	1015	881
		1	24	28	4.90	1175	916	811	717	623
		2	24	28	7.65	1835	1431	1266	1119	972
		3	24	28	8.77	2105	1642	1453	1284	1116
	1 1/4C-2 3/4 X 4-40	1	14	18	5.23	1254	978	865	765	665
		1	20	24	5.67	1360	1060	938	829	721
		2	20	24	7.40	1775	1385	1225	1083	941
		1	24	28	5.94	1426	1112	984	870	756
		2	24	28	8.06	1934	1508	1334	1180	1025
		3	24	28	9.19	2204	1719	1521	1345	1168
	1 1/4C-2 3/4 X 4-48	1	14	18	5.61	1346	1050	929	821	714
		1	20	24	6.41	1538	1199	1061	938	815
		2	20	24	7.59	1822	1421	1257	1111	965
		1	24	28	6.88	1650	1287	1139	1007	875
		2	24	28	8.25	1980	1544	1366	1208	1049
		3	24	28	9.52	2284	1781	1576	1393	1210
1 1/4" Dia. copper	1 1/4C-3 1/4 X 3 1/4-32	1	14	18	4.80	1150	900	790	700	610
		1	20	24	5.50	1320	1030	910	810	700
		2	20	24	7.70	1850	1400	1280	1130	980
		1	24	28	5.80	1390	1080	960	850	740
		2	24	28	8.60	2060	1610	1420	1260	1090
		3	24	28	9.90	2380	1860	1640	1450	1260
	1 1/4C-3 1/4 X 3 1/4-40	1	14	18	5.70	1370	1070	950	840	730
		1	20	24	6.20	1490	1160	1030	910	790
		2	20	24	9.00	2160	1680	1490	1320	1140
		1	24	28	6.50	1560	1220	1080	950	830
		2	24	28	9.30	2230	1740	1540	1360	1180
		3	24	28	10.40	2500	1950	1720	1530	1330
	1 1/4C-3 1/4 X 3 1/4-48	1	14	18	6.10	1460	1140	1040	890	770
		1	20	24	7.10	1700	1330	1170	1040	900
		2	20	24	9.30	2230	1740	1540	1360	1180
		1	24	28	7.60	1820	1420	1260	1110	960
		2	24	28	9.60	2300	1790	1590	1400	1220
		3	24	28	10.70	2570	2000	1770	1570	1360

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FS5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1/4" Dia. copper	1/4C-4 1/4 X 4 1/4-32	1	14	18	6.70	1610	1260	1110	980	850
		1	20	24	7.10	1700	1330	1170	1040	900
		2	20	24	10.50	2520	1970	1740	1540	1340
		1	24	28	7.40	1780	1390	1230	1090	940
		2	24	28	11.60	2780	2170	1920	1700	1480
	1/4C-4 1/4 X 4 1/4-40	3	24	28	13.30	3190	2490	2200	1950	1690
		1	14	18	7.90	1900	1480	1310	1160	1010
		1	20	24	8.60	2060	1610	1420	1260	1090
		2	20	24	11.20	2690	2100	1860	1640	1430
		1	24	28	9.00	2160	1680	1490	1320	1140
	1/4C-4 1/4 X 4 1/4-48	2	24	28	12.20	2930	2290	2020	1790	1550
		3	24	28	13.90	3340	2610	2300	2040	1770
		1	14	18	8.50	2040	1590	1410	1240	1080
		1	20	24	9.70	2330	1820	1610	1420	1230
		2	20	24	11.50	2760	2150	1900	1680	1460
	1/4C-4 1/4 X 4 1/4-48	1	24	28	10.40	2500	1950	1720	1530	1330
		2	24	28	12.50	3000	2340	2070	1830	1590
		3	24	28	14.40	3460	2700	2390	2110	1830

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSHL5 / FSVL5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	14	18	3.57	858	670	590	520	450
		1	20	24	3.68	884	690	610	540	470
		1	24	28	3.86	928	720	640	570	490
		2	20	24	5.51	1321	1030	910	810	700
		2	24	28	5.76	1383	1080	950	840	730
		3	24	28	6.74	1619	1260	1120	990	860
	1S-3¼ X 3¼-40	1	14	18	4.01	963	750	660	590	510
		1	20	24	4.30	1033	810	710	630	550
		1	24	28	4.45	1068	830	740	650	570
		2	20	24	6.05	1453	1130	1000	890	770
		2	24	28	6.38	1531	1190	1060	930	810
		3	24	28	7.36	1768	1380	1220	1080	940
	1S-3¼ X 3¼-48	1	14	18	4.45	1068	830	740	650	570
		1	20	24	4.99	1199	940	830	730	640
		1	24	28	5.18	1243	970	860	760	660
		2	20	24	6.74	1619	1260	1120	990	860
		2	24	28	7.00	1680	1310	1160	1020	890
		3	24	28	8.06	1934	1510	1330	1180	1020
1" Dia. steel	1S-4¼ X 4¼-32	1	14	18	5.18	1243	970	860	760	660
		1	20	24	5.32	1278	1000	880	780	680
		1	24	28	5.51	1321	1030	910	810	700
		2	20	24	8.06	1934	1510	1330	1180	1020
		2	24	28	8.39	2013	1570	1390	1230	1070
		3	24	28	9.63	2310	1800	1590	1410	1220
	1S-4¼ X 4¼-40	1	14	18	5.76	1383	1080	950	840	730
		1	20	24	6.20	1488	1160	1030	910	790
		1	24	28	6.49	1558	1210	1070	950	830
		2	20	24	8.82	2118	1650	1460	1290	1120
		2	24	28	9.19	2205	1720	1520	1350	1170
		3	24	28	10.50	2520	1970	1740	1540	1340
	1S-4¼ X 4¼-48	1	14	18	6.5	1496	1170	1030	910	790
		1	20	24	7.3	1679	1310	1160	1020	890
		1	20	24	9.6	2211	1720	1530	1350	1170
		2	24	28	7.4	1712	1340	1180	1040	910
		2	24	28	10.0	2294	1790	1580	1400	1220
		3	24	28	11.5	2652	2070	1830	1620	1410

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSHL5 / FSVL5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1 1/4" Dia. steel	1 1/4S-3 1/4 X 3 1/4-32	1	14	18	3.50	840	660	580	510	450
		1	20	24	3.57	858	670	590	520	450
		1	24	28	3.76	901	700	620	550	480
		2	20	24	5.43	1304	1020	900	800	690
		2	24	28	5.69	1365	1060	940	830	720
		3	24	28	6.56	1575	1230	1090	960	830
	1 1/4S-3 1/4 X 3 1/4-40	1	14	18	3.94	945	740	650	580	500
		1	20	24	4.19	1006	780	690	610	530
		1	24	28	4.38	1050	820	720	640	560
		2	20	24	5.94	1426	1110	980	870	760
		2	24	28	6.20	1488	1160	1030	910	790
		3	24	28	7.18	1724	1340	1190	1050	910
	1 1/4S-3 1/4 X 3 1/4-48	1	14	18	4.38	1050	820	720	640	560
		1	20	24	4.89	1173	910	810	720	620
		1	24	28	5.07	1216	950	840	740	640
		2	20	24	6.56	1575	1230	1090	960	830
		2	24	28	6.82	1636	1280	1130	1000	870
		3	24	28	7.88	1890	1470	1300	1150	1000
1 1/2" Dia. steel	1 1/4S-4 1/4 X 4 1/4-32	1	14	18	5.07	1216	950	840	740	640
		1	20	24	5.25	1260	980	870	770	670
		1	24	28	5.43	1304	1020	900	800	690
		2	20	24	7.88	1890	1470	1300	1150	1000
		2	24	28	8.24	1978	1540	1360	1210	1050
		3	24	28	9.44	2266	1770	1560	1380	1200
	1 1/4S-4 1/4 X 4 1/4-40	1	14	18	5.69	1365	1060	940	830	720
		1	20	24	6.13	1470	1150	1010	900	780
		1	24	28	6.31	1514	1180	1040	920	800
		2	20	24	8.68	2083	1620	1440	1270	1100
		2	24	28	9.01	2161	1690	1490	1320	1150
		3	24	28	10.32	2476	1930	1710	1510	1310
	1 1/4S-4 1/4 X 4 1/4-48	1	14	18	6.38	1531	1190	1060	930	810
		1	20	24	7.18	1724	1340	1190	1050	910
		1	24	28	7.36	1768	1380	1220	1080	940
		2	20	24	9.55	2293	1790	1580	1400	1220
		2	24	28	9.88	2371	1850	1640	1450	1260
		3	24	28	11.38	2730	2130	1880	1670	1450

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSHL5 / FSVL5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
2" Dia. steel	2S-4¼ X 4¼-32	1	14	18	5.07	1216	950	840	740	640
		1	20	24	5.10	1225	960	850	750	650
		1	24	28	5.43	1304	1020	900	800	690
		2	20	24	7.69	1846	1440	1270	1130	980
		2	24	28	7.95	1908	1490	1320	1160	1010
		3	24	28	9.19	2205	1720	1520	1350	1170
	2S-4¼ X 4¼-40	1	14	18	5.69	1365	1060	940	830	720
		1	20	24	6.05	1453	1130	1000	890	770
		1	24	28	6.31	1514	1180	1040	920	800
		2	20	24	8.31	1995	1560	1380	1220	1060
		2	24	28	8.75	2100	1640	1450	1280	1110
		3	24	28	10.06	2415	1880	1670	1470	1280
	2S-4¼ X 4¼-48	1	14	18	6.38	1531	1190	1060	930	810
		1	20	24	6.93	1663	1300	1150	1010	880
		1	24	28	7.36	1768	1380	1220	1080	940
		2	20	24	8.93	2144	1670	1480	1310	1140
		2	24	28	9.44	2266	1770	1560	1380	1200
		3	24	28	10.86	2608	2030	1800	1590	1380

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSHL5 / FSVL5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
3/4" Dia. copper	3/4C-2 3/4 X 4-32	1	14	18	4.00	959	750	660	580	510
		1	20	24	4.21	1011	790	700	620	540
		1	24	28	4.45	1068	830	740	650	570
		2	20	24	6.30	1513	1180	1040	920	800
		2	24	28	6.93	1663	1300	1150	1010	880
		3	24	28	7.97	1912	1490	1320	1170	1010
	3/4C-2 3/4 X 4-40	1	14	18	4.74	1138	890	780	690	600
		1	20	24	5.15	1236	960	850	750	650
		1	24	28	5.37	1288	1000	890	790	680
		2	20	24	6.69	1606	1250	1110	980	850
		2	24	28	7.27	1744	1360	1200	1060	920
		3	24	28	8.33	1999	1560	1380	1220	1060
	3/4C-2 3/4 X 4-48	1	14	18	5.08	1219	950	840	740	650
		1	20	24	5.78	1386	1080	960	850	730
		1	24	28	6.23	1495	1170	1030	910	790
		2	20	24	6.88	1652	1290	1140	1010	880
		2	24	28	7.51	1802	1410	1240	1100	950
		3	24	28	8.62	2068	1610	1430	1260	1100
3/4" Dia. copper	3/4C-3 1/4 X 3 1/4-32	1	14	18	4.63	1111	870	770	680	590
		1	20	24	5.07	1216	950	840	740	640
		1	24	28	5.32	1278	1000	880	780	680
		2	20	24	7.07	1698	1320	1170	1040	900
		2	24	28	7.88	1890	1470	1300	1150	1000
		3	24	28	9.01	2161	1690	1490	1320	1150
	3/4C-3 1/4 X 3 1/4-40	1	14	18	5.18	1243	970	860	760	660
		1	20	24	5.69	1365	1060	940	830	720
		1	24	28	6.05	1453	1130	1000	890	770
		2	20	24	8.24	1978	1540	1360	1210	1050
		2	24	28	8.49	2039	1590	1410	1240	1080
		3	24	28	9.37	2249	1750	1550	1370	1190
	3/4C-3 1/4 X 3 1/4-48	1	14	18	5.61	1348	1050	930	820	710
		1	20	24	6.49	1558	1210	1070	950	830
		1	24	28	6.93	1663	1300	1150	1010	880
		2	20	24	8.49	2039	1590	1410	1240	1080
		2	24	28	8.75	2100	1640	1450	1280	1110
		3	24	28	9.63	2310	1800	1590	1410	1220

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSHL5 / FSVL5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-4¼ X 4¼-32	1	14	18	6.05	1453	1130	1000	890	770
		1	20	24	6.38	1531	1190	1060	930	810
		1	24	28	6.74	1619	1260	1120	990	860
		2	20	24	9.55	2293	1790	1580	1400	1220
		2	24	28	10.50	2520	1970	1740	1540	1340
		3	24	28	12.07	2896	2260	2000	1770	1540
	¾C-4¼ X 4¼-40	1	14	18	7.18	1724	1340	1190	1050	910
		1	20	24	7.80	1873	1460	1290	1140	990
		1	24	28	8.13	1951	1520	1350	1190	1030
		2	20	24	10.14	2433	1900	1680	1480	1290
		2	24	28	11.01	2643	2060	1820	1610	1400
		3	24	28	12.61	3028	2360	2090	1850	1600
	¾C-4¼ X 4¼-48	1	14	18	7.69	1846	1440	1270	1130	980
		1	20	24	8.75	2100	1640	1450	1280	1110
		1	24	28	9.44	2266	1770	1560	1380	1200
		2	20	24	10.43	2503	1950	1730	1530	1330
		2	24	28	11.38	2730	2130	1880	1670	1450
		3	24	28	13.05	3133	2440	2160	1910	1660
1" Dia. copper	1C-2¾ X 4-32	1	14	18	3.92	942	730	650	570	500
		1	20	24	4.16	999	780	690	610	530
		1	24	28	4.33	1040	810	720	630	550
		2	20	24	6.18	1484	1160	1020	910	790
		2	24	28	6.81	1635	1270	1130	1000	870
		3	24	28	7.79	1871	1460	1290	1140	990
	1C-2¾ X 4-40	1	14	18	4.62	1109	860	760	680	590
		1	20	24	5.03	1207	940	830	740	640
		1	24	28	5.25	1259	980	870	770	670
		2	20	24	6.59	1582	1230	1090	970	840
		2	24	28	7.17	1721	1340	1190	1050	910
		3	24	28	8.13	1952	1520	1350	1190	1030
	1C-2¾ X 4-48	1	14	18	4.96	1190	930	820	730	630
		1	20	24	5.65	1357	1060	940	830	720
		1	24	28	6.11	1467	1140	1010	890	780
		2	20	24	6.76	1623	1270	1120	990	860
		2	24	28	7.34	1761	1370	1220	1070	930
		3	24	28	8.42	2021	1580	1390	1230	1070

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSHL5 / FSVL5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	14	18	4.56	1094	850	750	670	580
		1	20	24	4.99	1199	940	830	730	640
		1	24	28	5.25	1260	980	870	770	670
		2	20	24	6.93	1663	1300	1150	1010	880
		2	24	28	7.69	1846	1440	1270	1130	980
		3	24	28	8.82	2118	1650	1460	1290	1120
	1C-3¼ X 3¼-40	1	14	18	5.07	1216	950	840	740	640
		1	20	24	5.61	1348	1050	930	820	710
		1	24	28	5.94	1426	1110	980	870	760
		2	20	24	8.06	1934	1510	1330	1180	1020
		2	24	28	8.31	1995	1560	1380	1220	1060
		3	24	28	9.26	2223	1730	1530	1360	1180
	1C-3¼ X 3¼-48	1	14	18	5.51	1321	1030	910	810	700
		1	20	24	6.31	1514	1180	1040	920	800
		1	24	28	6.74	1619	1260	1120	990	860
		2	20	24	8.31	1995	1560	1380	1220	1060
		2	24	28	8.57	2056	1600	1420	1250	1090
		3	24	28	9.44	2266	1770	1560	1380	1200
1" Dia. copper	1C-4¼ X 4¼-32	1	14	18	5.94	1426	1110	980	870	760
		1	20	24	6.31	1514	1180	1040	920	800
		1	24	28	6.56	1575	1230	1090	960	830
		2	20	24	9.37	2249	1750	1550	1370	1190
		2	24	28	10.32	2476	1930	1710	1510	1310
		3	24	28	11.81	2835	2210	1960	1730	1500
	1C-4¼ X 4¼-40	1	14	18	7.00	1680	1310	1160	1020	890
		1	20	24	7.62	1829	1430	1260	1120	970
		1	24	28	7.95	1908	1490	1320	1160	1010
		2	20	24	9.99	2398	1870	1650	1460	1270
		2	24	28	10.86	2608	2030	1800	1590	1380
		3	24	28	12.32	2958	2310	2040	1800	1570
	1C-4¼ X 4¼-48	1	14	18	7.51	1803	1410	1240	1100	960
		1	20	24	8.57	2056	1600	1420	1250	1090
		1	24	28	9.26	2223	1730	1530	1360	1180
		2	20	24	10.24	2459	1920	1700	1500	1300
		2	24	28	11.12	2669	2080	1840	1630	1410
		3	24	28	12.76	3063	2390	2110	1870	1620

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSHL5 / FSVL5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1 1/4" Dia. copper	1 1/4C-2 3/4 X 4-32	1	14	18	3.88	930	730	640	570	490
		1	20	24	4.09	982	770	680	600	520
		1	24	28	4.28	1028	800	710	630	540
		2	20	24	6.06	1455	1130	1000	890	770
		2	24	28	6.69	1606	1250	1110	980	850
		3	24	28	7.67	1842	1440	1270	1120	980
	1 1/4C-2 3/4 X 4-40	1	14	18	4.57	1097	860	760	670	580
		1	20	24	4.96	1190	930	820	730	630
		1	24	28	5.20	1248	970	860	760	660
		2	20	24	6.47	1553	1210	1070	950	820
		2	24	28	7.05	1692	1320	1170	1030	900
		3	24	28	8.04	1929	1500	1330	1180	1020
	1 1/4C-2 3/4 X 4-48	1	14	18	4.91	1178	920	810	720	620
		1	20	24	5.61	1346	1050	930	820	710
		1	24	28	6.02	1444	1130	1000	880	770
		2	20	24	6.64	1594	1240	1100	970	840
		2	24	28	7.22	1733	1350	1200	1060	920
		3	24	28	8.33	1999	1560	1380	1220	1060
1 1/4" Dia. copper	1 1/4C-3 1/4 X 3 1/4-32	1	14	18	4.19	1006	780	690	610	530
		1	20	24	4.81	1155	900	800	700	610
		1	24	28	5.07	1216	950	840	740	640
		2	20	24	6.74	1619	1260	1120	990	860
		2	24	28	7.51	1803	1410	1240	1100	960
		3	24	28	8.68	2083	1620	1440	1270	1100
	1 1/4C-3 1/4 X 3 1/4-40	1	14	18	4.99	1199	940	830	730	640
		1	20	24	5.43	1304	1020	900	800	690
		1	24	28	5.69	1365	1060	940	830	720
		2	20	24	7.88	1890	1470	1300	1150	1000
		2	24	28	8.13	1951	1520	1350	1190	1030
		3	24	28	9.11	2188	1710	1510	1330	1160
	1 1/4C-3 1/4 X 3 1/4-48	1	14	18	5.32	1278	1000	880	780	680
		1	20	24	6.20	1488	1160	1030	910	790
		1	24	28	6.64	1593	1240	1100	970	840
		2	20	24	8.13	1951	1520	1350	1190	1030
		2	24	28	8.39	2013	1570	1390	1230	1070
		3	24	28	9.37	2249	1750	1550	1370	1190

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSHL5 / FSVL5; Standard sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1/4" Dia. copper	1/4C-4 1/4 X 4 1/4-32	1	14	18	5.87	1409	1100	970	860	750
		1	20	24	6.20	1488	1160	1030	910	790
		1	24	28	6.49	1558	1210	1070	950	830
		2	20	24	9.19	2205	1720	1520	1350	1170
		2	24	28	10.14	2433	1900	1680	1480	1290
		3	24	28	11.63	2791	2180	1930	1700	1480
	1/4C-4 1/4 X 4 1/4-40	1	14	18	6.93	1663	1300	1150	1010	880
		1	20	24	7.51	1803	1410	1240	1100	960
		1	24	28	7.88	1890	1470	1300	1150	1000
		2	20	24	9.81	2354	1840	1620	1440	1250
		2	24	28	10.68	2564	2000	1770	1560	1360
		3	24	28	12.18	2923	2280	2020	1780	1550
	1/4C-4 1/4 X 4 1/4-48	1	14	18	7.44	1785	1390	1230	1090	950
		1	20	24	8.49	2039	1590	1410	1240	1080
		1	24	28	9.11	2188	1710	1510	1330	1160
		2	20	24	10.06	2415	1880	1670	1470	1280
		2	24	28	10.94	2625	2050	1810	1600	1390
		3	24	28	12.61	3028	2360	2090	1850	1600

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FS3; Low profile sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	8	12	3.30	790	620	550	480	420
		1	11	15	3.50	840	660	580	510	450
		1	14	18	3.70	890	690	610	540	470
		2	14	18	5.00	1200	940	830	730	640
	1S-3¼ X 3¼-40	1	8	12	3.60	860	670	590	520	460
		1	11	15	3.90	940	730	650	570	500
		1	14	18	4.10	980	760	680	600	520
		2	14	18	5.60	1340	1050	920	820	710
	1S-3¼ X 3¼-48	1	8	12	4.10	980	760	680	600	520
		1	11	15	4.40	1060	830	730	650	560
		1	14	18	4.60	1100	860	760	670	580
		2	14	18	6.30	1510	1180	1040	920	800
1¼" Dia. steel	1¼S-3¼ X 3¼-32	1	8	12	3.20	770	600	530	470	410
		1	11	15	3.40	820	640	570	500	430
		1	14	18	3.60	860	670	590	520	460
		2	14	18	4.90	1180	920	810	720	630
	1¼S-3¼ X 3¼-40	1	8	12	3.50	840	660	580	510	450
		1	11	15	3.80	910	710	630	560	480
		1	14	18	4.00	960	750	660	590	510
		2	14	18	5.50	1320	1030	910	810	700
	1¼S-3¼ X 3¼-48	1	8	12	4.00	960	750	660	590	510
		1	11	15	4.30	1030	800	710	630	550
		1	14	18	4.50	1080	840	750	660	570
		2	14	18	6.20	1490	1160	1030	910	790

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FS3; Low profile sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-2¾ X 4-32	1	8	12	4.40	1060	830	730	650	560
		1	11	15	4.70	1130	880	780	690	600
		1	14	18	5.00	1200	940	830	730	640
		2	14	18	6.80	1630	1270	1120	990	860
	¾C-2¾ X 4-40	1	8	12	4.80	1150	900	790	700	610
		1	11	15	5.20	1240	970	850	760	660
		1	14	18	5.50	1320	1030	910	810	700
		2	14	18	7.50	1800	1400	1240	1100	950
	¾C-2¾ X 4-48	1	8	12	5.20	1240	970	850	760	660
		1	11	15	5.70	1360	1060	940	830	720
		1	14	18	6.00	1440	1120	990	880	760
		2	14	18	8.20	1970	1540	1360	1200	1040
¾" Dia. copper	¾C-3¼ X 3¼-32	1	8	12	4.20	1010	790	700	620	540
		1	11	15	4.50	1080	840	750	660	570
		1	14	18	4.70	1130	880	780	690	600
		2	14	18	6.40	1540	1200	1060	940	820
	¾C-3¼ X 3¼-40	1	8	12	4.50	1080	840	750	660	570
		1	11	15	4.90	1180	920	810	720	630
		1	14	18	5.20	1250	980	860	760	660
		2	14	18	7.10	1700	1330	1170	1040	900
	¾C-3¼ X 3¼-48	1	8	12	5.00	1200	940	830	730	640
		1	11	15	5.40	1300	1010	900	790	690
		1	14	18	5.70	1370	1070	950	840	730
		2	14	18	7.90	1900	1480	1310	1160	1010
1" Dia. copper	1C-2¾ X 4-32	1	8	12	4.30	1030	800	710	630	550
		1	11	15	4.60	1100	860	760	670	580
		1	14	18	4.90	1180	920	810	720	630
		2	14	18	6.70	1610	1260	1110	980	850
	1C-2¾ X 4-40	1	8	12	4.70	1130	880	780	690	600
		1	11	15	5.10	1220	950	840	740	650
		1	14	18	5.40	1300	1010	900	790	690
		2	14	18	7.40	1780	1390	1230	1090	940
	1C-2¾ X 4-48	1	8	12	5.10	1220	950	840	740	650
		1	11	15	5.60	1340	1050	920	820	710
		1	14	18	5.90	1420	1110	980	870	750
		2	14	18	8.10	1940	1510	1340	1180	1030

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FS3; Low profile sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	8	12	4.10	980	760	680	600	520
		1	11	15	4.40	1060	830	730	650	560
		1	14	18	4.70	1130	880	780	690	600
		2	14	18	6.40	1540	1200	1060	940	820
	1C-3¼ X 3¼-40	1	8	12	4.50	1080	840	750	660	570
		1	11	15	4.90	1180	920	810	720	630
		1	14	18	5.20	1250	980	860	760	660
		2	14	18	7.10	1700	1330	1170	1040	900
	1C-3¼ X 3¼-48	1	8	12	5.00	1200	940	830	730	640
		1	11	15	5.40	1300	1010	900	790	690
		1	14	18	5.70	1370	1070	950	840	730
		2	14	18	7.80	1870	1460	1290	1140	990
1½" Dia. copper	1¼C-2¾ X 4-32	1	8	12	4.10	980	760	680	600	520
		1	11	15	4.40	1060	830	730	650	560
		1	14	18	4.70	1130	880	780	690	600
		2	14	18	6.40	1540	1200	1060	940	820
	1¼C-2¾ X 4-40	1	8	12	4.60	1100	860	760	670	580
		1	11	15	4.90	1180	920	810	720	630
		1	14	18	5.20	1250	980	860	760	660
		2	14	18	7.10	1700	1330	1170	1040	900
	1¼C-2¾ X 4-48	1	8	12	5.00	1200	940	830	730	640
		1	11	15	5.40	1300	1010	900	790	690
		1	14	18	5.70	1370	1070	950	840	730
		2	14	18	7.80	1870	1460	1290	1140	990
1½" Dia. copper	1¼C-3¼ X 3¼-32	1	8	12	3.60	860	670	590	520	460
		1	11	15	3.90	940	730	650	570	500
		1	14	18	4.10	980	760	680	600	520
		2	14	18	5.60	1340	1050	920	820	710
	1¼C-3¼ X 3¼-40	1	8	12	4.50	1080	840	750	660	570
		1	11	15	4.80	1150	900	790	700	610
		1	14	18	5.10	1220	950	840	740	650
		2	14	18	7.00	1680	1310	1160	1020	890
	1¼C-3¼ X 3¼-48	1	8	12	4.90	1180	920	810	720	630
		1	11	15	5.30	1270	990	880	770	670
		1	14	18	5.60	1340	1050	920	820	710
		2	14	18	7.70	1850	1440	1280	1130	980

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSHL3 / FSVL3; Low profile sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	11	15	3.06	735	570	510	450	390
		1	14	18	3.24	779	610	540	480	410
		2	14	18	4.38	1050	820	720	640	560
	1S-3¼ X 3¼-40	1	11	15	3.43	823	640	570	500	440
		1	14	18	3.57	858	670	590	520	450
		2	14	18	4.89	1173	910	810	720	620
	1S-3¼ X 3¼-48	1	11	15	3.86	928	720	640	570	490
		1	14	18	4.01	963	750	660	590	510
		2	14	18	5.51	1321	1030	910	810	700
1½" Dia. steel	1¼S-3¼ X 3¼-32	1	11	15	2.99	718	560	500	440	380
		1	14	18	3.14	753	590	520	460	400
		2	14	18	4.30	1033	810	710	630	550
	1¼S-3¼ X 3¼-40	1	11	15	3.32	796	620	550	490	420
		1	14	18	3.50	840	660	580	510	450
		2	14	18	4.81	1155	900	800	700	610
	1¼S-3¼ X 3¼-48	1	11	15	3.76	901	700	620	550	480
		1	14	18	3.94	945	740	650	580	500
		2	14	18	5.43	1304	1020	900	800	690

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSHL3 / FSVL3; Low profile sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-2¾ X 4-32	1	11	15	4.12	989	770	680	600	520
		1	14	18	4.38	1050	820	720	640	560
		2	14	18	5.94	1426	1110	980	870	760
	¾C-2¾ X 4-40	1	11	15	4.52	1085	850	750	660	580
		1	14	18	4.81	1155	900	800	700	610
		2	14	18	6.56	1575	1230	1090	960	830
	¾C-2¾ X 4-48	1	11	15	4.96	1190	930	820	730	630
		1	14	18	5.25	1260	980	870	770	670
		2	14	18	7.18	1724	1340	1190	1050	910
¾" Dia. copper	¾C-3¼ X 3¼-32	1	11	15	3.94	945	740	650	580	500
		1	14	18	4.12	989	770	680	600	520
		2	14	18	5.61	1348	1050	930	820	710
	¾C-3¼ X 3¼-40	1	11	15	4.30	1033	810	710	630	550
		1	14	18	4.56	1094	850	750	670	580
		2	14	18	6.20	1488	1160	1030	910	790
	¾C-3¼ X 3¼-48	1	11	15	4.74	1138	890	780	690	600
		1	14	18	4.99	1199	940	830	730	640
		2	14	18	6.93	1663	1300	1150	1010	880
1" Dia. copper	1C-2¾ X 4-32	1	11	15	4.01	963	750	660	590	510
		1	14	18	4.30	1033	810	710	630	550
		2	14	18	5.87	1409	1100	970	860	750
	1C-2¾ X 4-40	1	11	15	4.45	1068	830	740	650	570
		1	14	18	4.74	1138	890	780	690	600
		2	14	18	6.49	1558	1210	1070	950	830
	1C-2¾ X 4-48	1	11	15	4.89	1173	910	810	720	620
		1	14	18	5.18	1243	970	860	760	660
		2	14	18	7.07	1698	1320	1170	1040	900

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)

- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSHL3 / FSVL3; Low profile sloped top

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-3¼ X 3¼-32	1	11	15	3.86	928	720	640	570	490
		1	14	18	4.12	989	770	680	600	520
		2	14	18	5.61	1348	1050	930	820	710
	1C-3¼ X 3¼-40	1	11	15	4.30	1033	810	710	630	550
		1	14	18	4.56	1094	850	750	670	580
		2	14	18	6.20	1488	1160	1030	910	790
	1C-3¼ X 3¼-48	1	11	15	4.74	1138	890	780	690	600
		1	14	18	4.99	1199	940	830	730	640
		2	14	18	6.82	1636	1280	1130	1000	870
1¼" Dia. copper	1¼C-2¾ X 4-32	1	11	15	3.86	928	720	640	570	490
		1	14	18	4.12	989	770	680	600	520
		2	14	18	5.61	1348	1050	930	820	710
	1¼C-2¾ X 4-40	1	11	15	4.30	1033	810	710	630	550
		1	14	18	4.56	1094	850	750	670	580
		2	14	18	6.20	1488	1160	1030	910	790
	1¼C-2¾ X 4-48	1	11	15	4.74	1138	890	780	690	600
		1	14	18	4.99	1199	940	830	730	640
		2	14	18	6.82	1636	1280	1130	1000	870
1½" Dia. copper	1½C-3¼ X 3¼-32	1	11	15	3.43	823	640	570	500	440
		1	14	18	3.57	858	670	590	520	450
		2	14	18	4.89	1173	910	810	720	620
	1½C-3¼ X 3¼-40	1	11	15	4.19	1006	780	690	610	530
		1	14	18	4.45	1068	830	740	650	570
		2	14	18	6.13	1470	1150	1010	900	780
	1½C-3¼ X 3¼-48	1	11	15	4.63	1111	870	770	680	590
		1	14	18	4.89	1173	910	810	720	620
		2	14	18	6.74	1619	1260	1120	990	860

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)

- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSOS5; Standard double sloped

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	18	22	3.82	917	716	633	560	486
		1	24	28	4.39	1053	821	727	642	558
		2	24	28	6.65	1595	1244	1100	973	845
	1S-3¼ X 3¼-40	1	18	22	4.18	1004	783	693	612	532
		1	24	28	4.90	1176	917	811	717	623
		2	24	28	7.31	1755	1369	1211	1070	930
	1S-3¼ X 3¼-48	1	18	22	4.60	1104	861	762	673	585
		1	24	28	5.39	1293	1009	892	789	685
		2	24	28	8.04	1930	1506	1332	1177	1023
1" Dia. steel	1S-4¼ X 4¼-32	1	18	22	5.10	1223	954	844	746	648
		1	24	28	5.85	1404	1095	969	856	744
		2	24	28	8.86	2126	1659	1467	1297	1127
	1S-4¼ X 4¼-40	1	18	22	5.58	1338	1044	923	816	709
		1	24	28	6.53	1568	1223	1082	956	831
		2	24	28	9.75	2340	1825	1614	1427	1240
	1S-4¼ X 4¼-48	1	18	22	6.1	1398	1090	960	850	740
		1	24	28	7.1	1638	1280	1130	1000	870
		2	24	28	10.6	2445	1910	1690	1490	1300

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSOS5; Standard double sloped

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1 1/4" Dia. steel	1 1/4S-3 1/4 X 3 1/4-32	1	18	22	3.75	899	702	621	549	477
		1	24	28	4.30	1032	805	712	630	547
		2	24	28	6.51	1564	1220	1079	954	829
	1 1/4S-3 1/4 X 3 1/4-40	1	18	22	4.10	984	768	679	600	522
		1	24	28	4.80	1153	899	795	703	611
		2	24	28	7.17	1720	1342	1187	1049	912
	1 1/4S-3 1/4 X 3 1/4-48	1	18	22	4.51	1082	844	747	660	574
		1	24	28	5.28	1268	989	875	773	672
		2	24	28	7.88	1892	1476	1306	1154	1003
1 1/4" Dia. steel	1 1/4S-4 1/4 X 4 1/4-32	1	18	22	5.00	1199	935	827	732	636
		1	24	28	5.74	1377	1074	950	840	730
		2	24	28	8.69	2085	1626	1438	1272	1105
	1 1/4S-4 1/4 X 4 1/4-40	1	18	22	5.47	1312	1023	905	800	695
		1	24	28	6.40	1537	1199	1061	938	815
		2	24	28	9.56	2294	1789	1583	1399	1216
	1 1/4S-4 1/4 X 4 1/4-48	1	18	22	6.01	1443	1126	996	880	765
		1	24	28	7.04	1691	1319	1167	1031	896
		2	24	28	10.51	2523	1968	1741	1539	1337
2" Dia. steel	2S-4 1/4 X 4 1/4-32	1	18	22	4.91	1179	919	813	719	625
		1	24	28	5.69	1366	1066	943	833	724
		2	24	28	8.27	1986	1549	1370	1211	1052
	2S-4 1/4 X 4 1/4-40	1	18	22	5.40	1297	1011	895	791	687
		1	24	28	6.26	1503	1172	1037	917	796
		2	24	28	9.10	2184	1704	1507	1332	1158
	2S-4 1/4 X 4 1/4-48	1	18	22	5.94	1426	1113	984	870	756
		1	24	28	6.89	1653	1289	1141	1008	876
		2	24	28	10.01	2402	1874	1658	1465	1273

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSOS5; Standard double sloped

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-2¾ X 4-32	1	18	22	4.24	1016	793	701	620	539
		1	24	28	4.48	1076	839	742	656	570
		2	24	28	6.66	1597	1246	1102	974	847
	¾C-2¾ X 4-40	1	18	22	5.01	1201	937	829	733	637
		1	24	28	5.47	1313	1024	906	801	696
		2	24	28	7.12	1709	1333	1179	1043	906
	¾C-2¾ X 4-48	1	18	22	5.42	1300	1014	897	793	689
		1	24	28	6.13	1472	1148	1016	898	780
		2	24	28	7.32	1756	1369	1211	1071	930
¾" Dia. copper	¾C-3¼ X 3¼-32	1	18	22	4.81	1155	901	797	705	612
		1	24	28	5.09	1223	954	844	746	648
		2	24	28	7.56	1815	1416	1252	1107	962
	¾C-3¼ X 3¼-40	1	18	22	5.69	1365	1065	942	833	723
		1	24	28	6.22	1493	1164	1030	910	791
		2	24	28	8.09	1943	1515	1340	1185	1030
	¾C-3¼ X 3¼-48	1	18	22	6.16	1478	1152	1019	901	783
		1	24	28	6.97	1673	1305	1154	1020	886
		2	24	28	8.31	1995	1556	1377	1217	1057
¾" Dia. copper	¾C-4¼ X 4¼-32	1	18	22	6.40	1540	1201	1063	939	816
		1	24	28	6.80	1630	1271	1125	994	864
		2	24	28	10.10	2420	1888	1670	1476	1283
	¾C-4¼ X 4¼-40	1	18	22	7.60	1820	1420	1256	1110	965
		1	24	28	8.30	1990	1552	1373	1214	1055
		2	24	28	10.80	2590	2020	1787	1580	1373
	¾C-4¼ X 4¼-48	1	18	22	8.20	1970	1537	1359	1202	1044
		1	24	28	9.30	2230	1739	1539	1360	1182
		2	24	28	11.10	2660	2075	1835	1623	1410

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)

- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSOS5; Standard double sloped

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1" Dia. copper	1C-2¼ X 4-32	1	18	22	4.15	997	777	688	608	528
		1	24	28	4.43	1063	829	733	648	563
		2	24	28	6.60	1584	1236	1093	966	840
	1C-2¼ X 4-40	1	18	22	4.90	1175	916	811	717	623
		1	24	28	5.34	1280	999	883	781	679
		2	24	28	6.99	1676	1308	1157	1023	888
	1C-2¼ X 4-48	1	18	22	5.28	1267	988	874	773	672
		1	24	28	6.00	1439	1122	993	878	763
		2	24	28	7.21	1729	1349	1193	1055	916
1" Dia. copper	1C-3¼ X 3¼-32	1	18	22	4.72	1133	883	781	691	600
		1	24	28	5.03	1208	942	833	737	640
		2	24	28	7.50	1800	1404	1242	1098	954
	1C-3¼ X 3¼-40	1	18	22	5.56	1335	1041	921	814	708
		1	24	28	6.06	1455	1135	1004	888	771
		2	24	28	7.94	1905	1486	1314	1162	1010
	1C-3¼ X 3¼-48	1	18	22	6.00	1440	1123	994	878	763
		1	24	28	6.81	1635	1275	1128	997	867
		2	24	28	8.19	1965	1533	1356	1199	1041
1" Dia. copper	1C-4¼ X 4¼-32	1	18	22	6.30	1510	1178	1042	921	800
		1	24	28	6.70	1610	1256	1111	982	853
		2	24	28	10.00	2400	1872	1656	1464	1272
	1C-4¼ X 4¼-40	1	18	22	7.40	1780	1388	1228	1086	943
		1	24	28	8.10	1940	1513	1339	1183	1028
		2	24	28	10.60	2540	1981	1753	1549	1346
	1C-4¼ X 4¼-48	1	18	22	8.00	1920	1498	1325	1171	1018
		1	24	28	9.10	2180	1700	1504	1330	1155
		2	24	28	10.90	2620	2044	1808	1598	1389

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSOS5; Standard double sloped

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
1/4" Dia. copper	1¼C-2¼ X 4-32	1	18	22	4.10	983	767	679	600	521
		1	24	28	4.35	1043	813	720	636	553
		2	24	28	6.46	1551	1210	1070	946	822
	1¼C-2¼ X 4-40	1	18	22	4.81	1155	901	797	705	612
		1	24	28	5.28	1267	988	874	773	672
		2	24	28	6.88	1650	1287	1139	1007	875
	1¼C-2¼ X 4-48	1	18	22	5.23	1254	978	865	765	665
		1	24	28	5.94	1426	1112	984	870	756
		2	24	28	7.07	1696	1323	1170	1035	899
1/4" Dia. copper	1¼C-3¼ X 3¼-32	1	18	22	4.66	1118	872	771	682	592
		1	24	28	4.94	1185	924	818	723	628
		2	24	28	7.34	1763	1375	1216	1075	934
	1¼C-3¼ X 3¼-40	1	18	22	5.47	1313	1024	906	801	696
		1	24	28	6.00	1440	1123	994	878	763
		2	24	28	7.81	1875	1463	1294	1144	994
	1¼C-3¼ X 3¼-48	1	18	22	5.94	1425	1112	983	869	755
		1	24	28	6.75	1620	1264	1118	988	859
		2	24	28	8.03	1928	1503	1330	1176	1022
1/4" Dia. copper	1¼C-4¼ X 4¼-32	1	18	22	6.20	1490	1162	1028	909	790
		1	24	28	6.60	1580	1232	1090	964	837
		2	24	28	9.80	2350	1833	1622	1434	1246
	1¼C-4¼ X 4¼-40	1	18	22	7.20	1750	1365	1208	1068	928
		1	24	28	8.00	1920	1498	1325	1171	1018
		2	24	28	10.40	2500	1950	1725	1525	1325
	1¼C-4¼ X 4¼-48	1	18	22	7.90	1900	1482	1311	1159	1007
		1	24	28	9.00	2160	1685	1490	1318	1145
		2	24	28	10.70	2570	2005	1773	1568	1362

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)

- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSOS3; Low profile double sloped

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element										
1" Dia. steel	1S-3¼ X 3¼-32	1	14	18	3.44	826	644	570	504	438
	1S-3¼ X 3¼-40	1	14	18	3.76	903	705	623	551	479
	1S-3¼ X 3¼-48	1	14	18	4.14	994	775	686	606	527
1½" Dia. steel	1¼S-3¼ X 3¼-32	1	14	18	3.37	809	631	559	494	429
	1¼S-3¼ X 3¼-40	1	14	18	3.69	886	691	611	540	469
	1¼S-3¼ X 3¼-48	1	14	18	4.06	974	760	672	594	516

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model FSOS3; Low profile double sloped

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
					215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element										
¾" Dia. copper	¾C-2¾ X 4-32	1	14	18	3.52	844	658	582	515	447
	¾C-2¾ X 4-40	1	14	18	4.15	997	778	688	608	528
	¾C-2¾ X 4-48	1	14	18	4.50	1079	842	745	658	572
¾" Dia. copper	¾C-3¼ X 3¼-32	1	14	18	3.99	959	748	661	585	508
	¾C-3¼ X 3¼-40	1	14	18	4.72	1133	884	782	691	600
	¾C-3¼ X 3¼-48	1	14	18	5.11	1226	957	846	748	650
1" Dia. copper	1C-2¾ X 4-32	1	14	18	3.45	827	645	571	642	433
	1C-2¾ X 4-40	1	14	18	4.06	975	761	673	498	508
	1C-2¾ X 4-48	1	14	18	4.38	1052	820	726	585	552
1" Dia. copper	1C-3¼ X 3¼-32	1	14	18	3.73	895	698	617	546	474
	1C-3¼ X 3¼-40	1	14	18	4.62	1108	864	765	676	587
	1C-3¼ X 3¼-48	1	14	18	4.74	1138	887	785	694	603
1½" Dia. copper	1¼C-2¾ X 4-32	1	14	18	3.40	816	637	563	498	433
	1¼C-2¾ X 4-40	1	14	18	3.99	959	748	661	585	508
	1¼C-2¾ X 4-48	1	14	18	4.34	1041	812	718	635	552
1½" Dia. copper	1¼C-3¼ X 3¼-32	1	14	18	3.86	928	723	640	566	492
	1¼C-3¼ X 3¼-40	1	14	18	4.54	1089	850	752	665	577
	1¼C-3¼ X 3¼-48	1	14	18	4.93	1183	923	816	721	627

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model ETL5 / ETL10; Standard pedestal

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Columns of element (on 5-inch centers)	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
						215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element											
1" Dia. steel	1S-3¼ X 3¼-32	1	1	6	10	3.6	870	679	600	531	461
		1	1	8	12	3.7	889	694	614	542	471
		1	2	12	16	5.5	1309	1021	903	799	694
		2	1	6	10	6.6	1590	1240	1097	970	843
	1S-3¼ X 3¼-40	1	1	6	10	3.9	940	733	649	573	498
		1	1	8	12	4.1	973	759	671	594	516
		1	2	12	16	5.9	1426	1112	984	870	756
		2	1	6	10	6.9	1660	1295	1145	1013	880
	1S-3¼ X 3¼-48	1	1	6	10	4.2	1000	780	690	610	530
		1	1	8	12	4.4	1056	824	729	644	560
		1	2	12	16	6.3	1505	1174	1038	918	798
		2	1	6	10	7.6	1830	1427	1263	1116	970
1" Dia. steel	1S-4¼ X 4¼-32	1	1	6	10	5	1230	959	849	750	652
		1	1	8	12	5.1	1235	963	852	753	655
		1	2	12	16	7.2	1727	1347	1191	1053	915
		2	1	6	10	9.4	2250	1755	1553	1373	1193
	1S-4¼ X 4¼-40	1	1	6	10	5.2	1270	991	876	775	673
		1	1	8	12	5.4	1297	1012	895	791	688
		1	2	12	16	7.6	1828	1426	1261	1115	969
		2	1	6	10	9.9	2400	1872	1656	1464	1272
	1S-4¼ X 4¼-48	1	1	6	10	5.8	1340	1040	920	820	710
		1	2	8	12	6	1385	1040	920	820	710
		2	1	12	16	8.3	1917	1040	920	820	710
		1	1	6	10	10.7	2451	1910	1690	1500	1300

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model ETL5 / ETL10; Standard pedestal

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Columns of element (on 5-inch centers)	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
						215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Steel element											
1 1/4" Dia. steel	1 1/4S-3 1/4 X 3 1/4-32	1	1	6	10	3.7	890	694	614	543	472
		1	1	8	12	3.8	914	713	631	558	484
		1	2	12	16	5.6	1344	1048	927	820	712
		2	1	6	10	6.8	1630	1271	1125	994	864
	1 1/4S-3 1/4 X 3 1/4-40	1	1	6	10	4	960	749	662	586	509
		1	1	8	12	4.2	998	778	689	609	529
		1	2	12	16	6.1	1464	1142	1010	893	776
		2	1	6	10	7.1	1700	1326	1173	1037	901
	1 1/4S-3 1/4 X 3 1/4-48	1	1	6	10	4.3	1030	803	711	628	546
		1	1	8	12	4.5	1081	843	746	659	573
		1	2	12	16	6.4	1536	1198	1060	937	814
		2	1	6	10	7.8	1870	1459	1290	1141	991
1 1/4" Dia. steel	1 1/4S-4 1/4 X 4 1/4-32	1	1	6	10	5.2	1250	975	863	763	663
		1	1	8	12	5.4	1285	1002	886	784	681
		1	2	12	16	7.3	1752	1367	1209	1069	929
		2	1	6	10	9.6	2300	1794	1587	1403	1219
	1 1/4S-4 1/4 X 4 1/4-40	1	1	6	10	5.4	1300	1014	897	793	689
		1	1	8	12	5.6	1347	1051	930	822	714
		1	2	12	16	8.1	1944	1516	1341	1186	1030
		2	1	6	10	10.2	2450	1911	1691	1495	1299
	1 1/4S-4 1/4 X 4 1/4-48	1	1	6	10	6	1440	1123	994	878	763
		1	1	8	12	6.3	1509	1177	1041	920	800
		1	2	12	16	8.7	2088	1629	1441	1274	1107
		2	1	6	10	11	2640	2059	1822	1610	1399
2" Dia. steel	2S-4 1/4 X 4 1/4-32	1	1	6	10	5.1	1220	952	842	744	647
		1	1	8	12	5.2	1260	983	869	769	668
		1	2	12	16	7.3	1760	1372	1214	1073	933
		2	1	6	10	9.5	2280	1778	1573	1391	1208
	2S-4 1/4 X 4 1/4-40	1	1	6	10	5.6	1340	1045	925	817	710
		1	1	8	12	5.8	1397	1090	964	852	741
		1	2	12	16	8.5	2033	1586	1403	1240	1077
		2	1	6	10	10.4	2500	1950	1725	1525	1325
	2S-4 1/4 X 4 1/4-48	1	1	6	10	6.1	1460	1139	1007	891	774
		1	1	8	12	6.4	1534	1196	1058	936	813
		1	2	12	16	8.9	2147	1674	1481	1309	1138
		2	1	6	10	11.5	2760	2153	1904	1684	1463

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model ETL5 / ETL10; Standard pedestal

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Columns of element (on 5-inch centers)	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
						215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element											
3/4" Dia. copper	¾C-2¾ X 4-32	1	1	6	10	3.7	900	702	621	549	477
		1	1	8	12	4.2	1005	784	694	613	533
		1	2	12	16	6.7	1608	1254	1110	981	852
		2	1	6	10	7	1680	1310	1159	1025	890
	¾C-2¾ X 4-40	1	1	6	10	4	970	757	669	592	514
		1	1	8	12	4.6	1099	857	759	671	583
		1	2	12	16	7.1	1704	1329	1176	1039	903
		2	1	6	10	7.4	1770	1381	1221	1080	938
	¾C-2¾ X 4-48	1	1	6	10	4.3	1040	811	718	634	551
		1	1	8	12	5.0	1190	928	821	726	631
		1	2	12	16	7.5	1800	1404	1242	1098	954
		2	1	6	10	7.9	1890	1474	1304	1153	1002
3/4" Dia. copper	¾C-3¼ X 3¼-32	1	1	6	10	3.7	880	686	607	537	466
		1	1	8	12	4.2	1005	784	694	613	533
		1	2	12	16	6.3	1505	1174	1038	918	797
		2	1	6	10	6.1	1690	1318	1166	1031	896
	¾C-3¼ X 3¼-40	1	1	6	10	4	980	764	676	598	519
		1	1	8	12	4.6	1099	857	759	671	583
		1	2	12	16	7.3	1754	1368	1210	1070	930
		2	1	6	10	7.4	1780	1388	1228	1086	943
	¾C-3¼ X 3¼-48	1	1	6	10	4.3	1050	819	725	641	557
		1	1	8	12	5.0	1190	928	821	726	631
		1	2	12	16	6.7	1617	1261	1115	986	857
		2	1	6	10	7.9	1900	1482	1311	1159	1007
3/4" Dia. copper	¾C-4¼ X 4¼-32	1	1	6	10	5.1	1230	959	849	750	652
		1	1	8	12	5.8	1386	1081	956	845	734
		1	2	12	16	9.4	2256	1760	1557	1376	1196
		2	1	6	10	9.6	2300	1794	1587	1403	1219
	¾C-4¼ X 4¼-40	1	1	6	10	5.8	1380	1076	952	842	731
		1	1	8	12	6.6	1594	1243	1100	972	845
		1	2	12	16	10.1	2412	1881	1664	1471	1278
		2	1	6	10	10.5	2520	1966	1739	1537	1336
	¾C-4¼ X 4¼-48	1	1	6	10	6.9	1650	1287	1139	1007	875
		1	1	8	12	8.0	1910	1490	1318	1165	1012
		1	2	12	16	10.3	2472	1928	1706	1508	1310
		2	1	6	10	12.7	3040	2371	2098	1854	1611

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model ETL5 / ETL10; Standard pedestal

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Columns of element (on 5-inch centers)	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
						215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element											
1" Dia. copper	1C-2¾ X 4-32	1	1	6	10	3.7	890	694	614	543	472
		1	1	8	12	4.2	1005	784	694	613	533
		1	2	12	16	6.6	1584	1236	1093	966	840
		2	1	6	10	6.9	1660	1295	1145	1013	880
	1C-2¾ X 4-40	1	1	6	10	4	960	749	662	586	509
		1	1	8	12	4.6	1099	857	759	671	583
		1	2	12	16	6.9	1656	1292	1143	1010	878
		2	1	6	10	7.3	1750	1365	1208	1068	928
	1C-2¾ X 4-48	1	1	6	10	4.3	1030	803	711	628	546
		1	1	8	12	5.0	1190	928	821	726	631
		1	2	12	16	7.2	1728	1348	1192	1054	916
		2	1	6	10	7.8	1870	1459	1290	1141	991
1" Dia. copper	1C-3¼ X 3¼-32	1	1	6	10	3.6	860	671	593	525	456
		1	1	8	12	4.1	978	763	675	597	518
		1	2	12	16	6.2	1485	1158	1025	906	787
		2	1	6	10	6.6	1580	1232	1090	964	837
	1C-3¼ X 3¼-40	1	1	6	10	3.8	910	710	628	555	482
		1	1	8	12	4.4	1044	815	721	637	553
		1	2	12	16	6.6	1580	1232	1090	964	837
		2	1	6	10	7	1680	1310	1159	1025	890
	1C-3¼ X 3¼-48	1	1	6	10	4.1	980	764	676	598	519
		1	1	8	12	4.7	1135	885	783	692	601
		1	2	12	16	6.9	1650	1287	1139	1007	875
		2	1	6	10	7.5	1800	1404	1242	1098	954
1" Dia. copper	1C-4¼ X 4¼-32	1	1	6	10	5.1	1210	944	835	738	641
		1	1	8	12	5.8	1386	1081	956	845	734
		1	2	12	16	9.3	2232	1741	1540	1362	1183
		2	1	6	10	9.4	2250	1755	1553	1373	1193
	1C-4¼ X 4¼-40	1	1	6	10	5.7	1350	1053	932	824	716
		1	1	8	12	6.5	1566	1222	1081	956	830
		1	2	12	16	9.8	2352	1835	1623	1435	1247
		2	1	6	10	10.3	2470	1927	1704	1507	1309
	1C-4¼ X 4¼-48	1	1	6	10	6.8	1620	1264	1118	988	859
		1	1	8	12	7.8	1882	1468	1299	1148	998
		1	2	12	16	10.1	2422	1889	1671	1477	1283
		2	1	6	10	12.4	2980	2324	2056	1818	1579

*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

Model ETL5 / ETL10; Standard pedestal

In BTU/hr per active (finned) lineal foot of tube at entering air temperature of 65°F

Element	Columns of element (on 5-inch centers)	Rows of element (on 6-inch centers)	Enclosure height (in inches)	Recommended minimum installed height (in inches)	EDR* (ft ² / ft)	Steam heat	Hot water heat				
						215°F factor of 1.00	190°F factor of 0.78	180°F factor of 0.69	170°F factor of 0.61	160°F factor of 0.53	
Copper element											
1 1/4" Dia. copper	1 1/4C-2 3/4 X 4-32	1	1	6	10	3.7	890	694	614	543	472
		1	1	8	12	4.2	1005	784	694	613	533
		1	2	12	16	6.6	1584	1236	1093	966	840
		2	1	6	10	6.9	1660	1295	1145	1013	880
	1 1/4C-2 3/4 X 4-40	1	1	6	10	4	960	749	662	586	509
		1	1	8	12	4.6	1099	857	759	671	583
		1	2	12	16	7.1	1704	1329	1176	1039	903
		2	1	6	10	7.3	1750	1365	1208	1068	928
	1 1/4C-2 3/4 X 4-48	1	1	6	10	4.2	1010	788	697	616	535
		1	1	8	12	4.8	1163	907	802	709	616
		1	2	12	16	7.2	1728	1348	1192	1054	916
		2	1	6	10	7.7	1850	1443	1277	1129	981
1 1/4" Dia. copper	1 1/4C- 3/4 X 3/4-32	1	1	6	10	3.6	860	671	593	525	456
		1	1	8	12	4.1	978	763	675	597	518
		1	2	12	16	6.5	1560	1217	1077	952	827
		2	1	6	10	6.6	1580	1232	1090	964	837
	1 1/4C- 3/4 X 3/4-40	1	1	6	10	3.8	910	710	628	555	482
		1	1	8	12	4.4	1044	815	721	637	553
		1	2	12	16	6.8	1634	1274	1127	997	866
		2	1	6	10	7	1680	1310	1159	1025	890
	1 1/4C- 3/4 X 3/4-48	1	1	6	10	4	960	749	662	586	509
		1	1	8	12	4.6	1107	864	764	675	587
		1	2	12	16	6.0	1437	1121	991	876	761
		2	1	6	10	7.4	1780	1388	1228	1086	943
1 1/4" Dia. copper	1 1/4C- 4 1/4 X 4 1/4-32	1	1	6	10	5	1200	936	828	732	636
		1	1	8	12	5.7	1359	1060	937	829	720
		1	2	12	16	9.1	2184	1704	1507	1332	1158
		2	1	6	10	9.3	2230	1739	1539	1360	1182
	1 1/4C- 4 1/4 X 4 1/4-40	1	1	6	10	5.6	1340	1045	925	817	710
		1	1	8	12	6.4	1539	1200	1062	939	816
		1	2	12	16	9.7	2328	1816	1606	1420	1234
		2	1	6	10	10.2	2450	1911	1691	1495	1299
	1 1/4C- 4 1/4 X 4 1/4-48	1	1	6	10	6.7	1610	1256	1111	982	853
		1	1	8	12	7.7	1855	1447	1280	1131	983
		1	2	12	16	9.9	2376	1853	1639	1449	1259
		2	1	6	10	12.3	2950	2301	2036	1800	1564

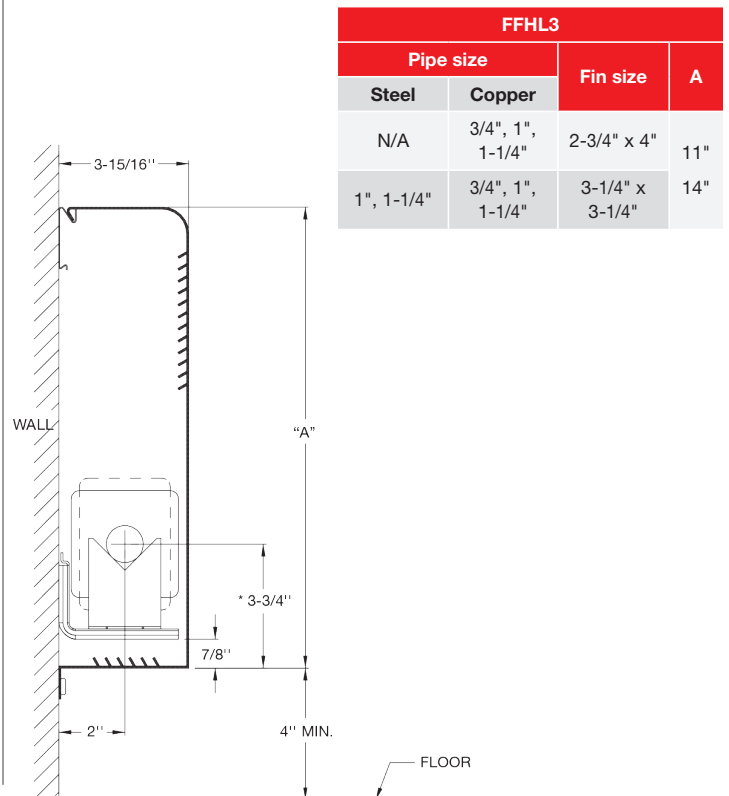
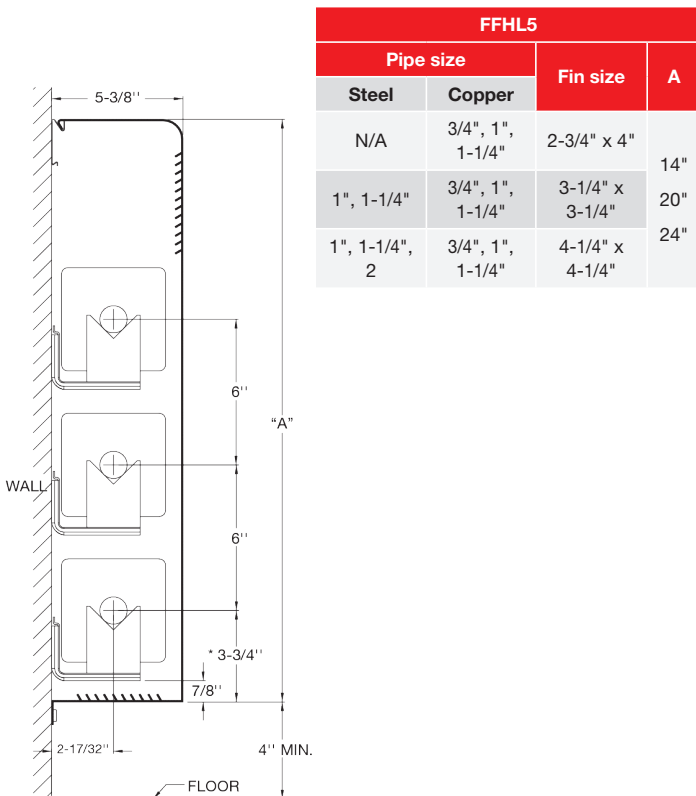
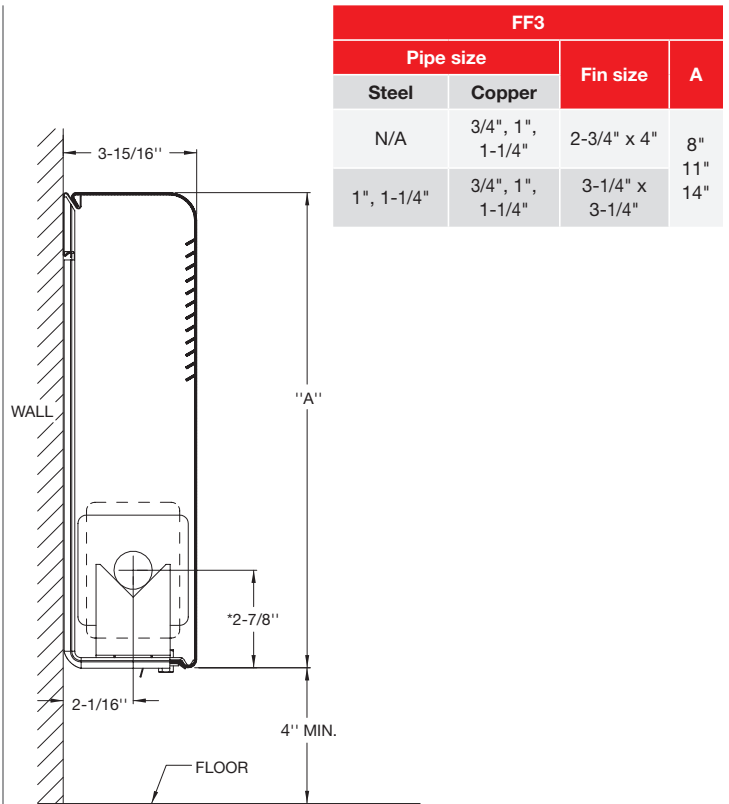
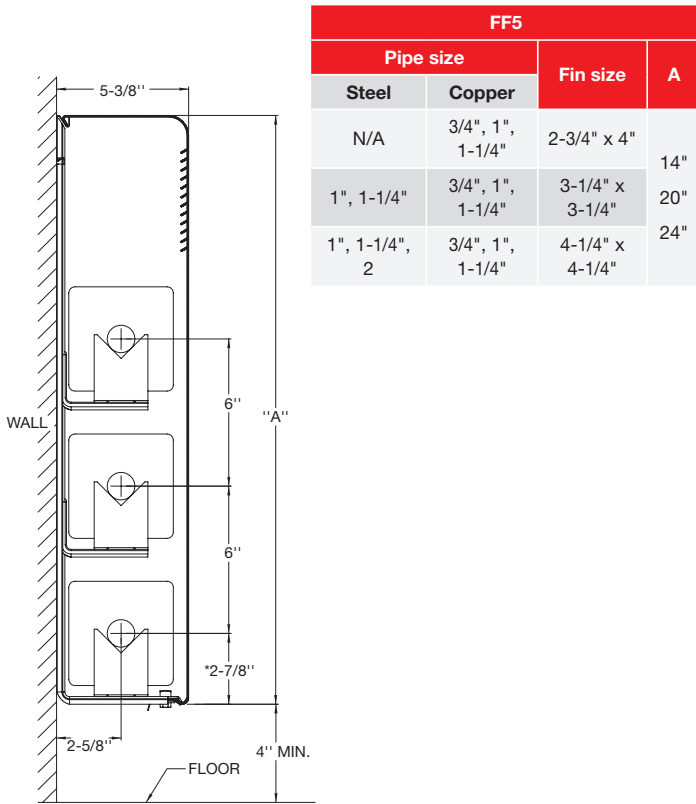
*EDR - Equivalent Direct Radiation area (for steam heat) per active (finned) lineal foot of tube.

Important Rating Information Performance ratings based on:

- Installation at height shown. (Lower heights are not recommended. For greater heights, refer to EZselect selection software.)
- Entering air temperature of 65°F. (For other temperatures, refer to EZselect selection software.)
- Steam at nominal 1 (actual 0.9) psig and 215°F. (For other conditions, refer to EZselect selection software.)

- Water average temperature (°F) shown and velocity of 3 fps or more. (For lower velocities, refer to EZselect selection software.)
- Refer to IOM for Linear expansion of steel and copper finned tube with temperature.

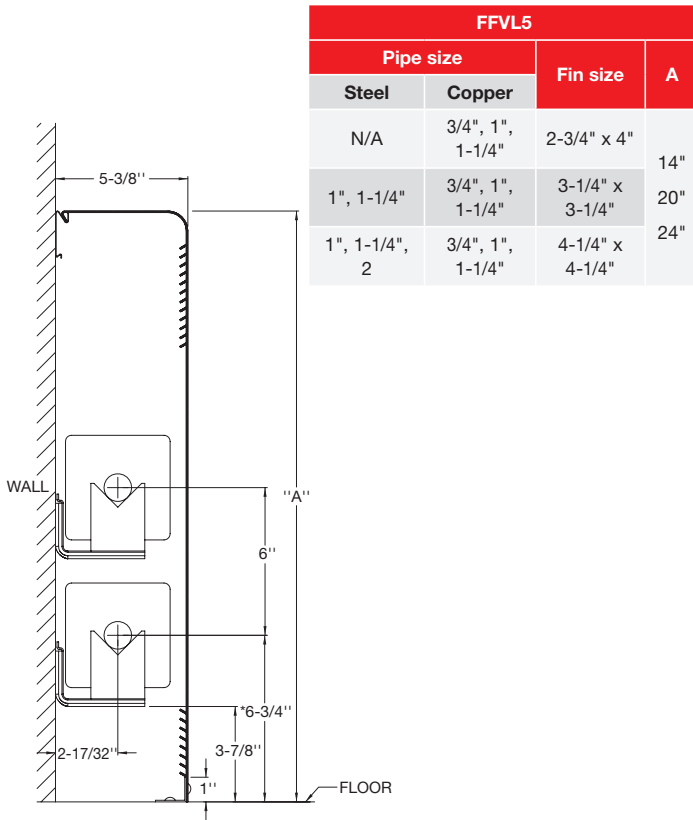
Flat top, front outlet enclosure



Notes:
 ■ *Centerlines are based on 1" copper tube.

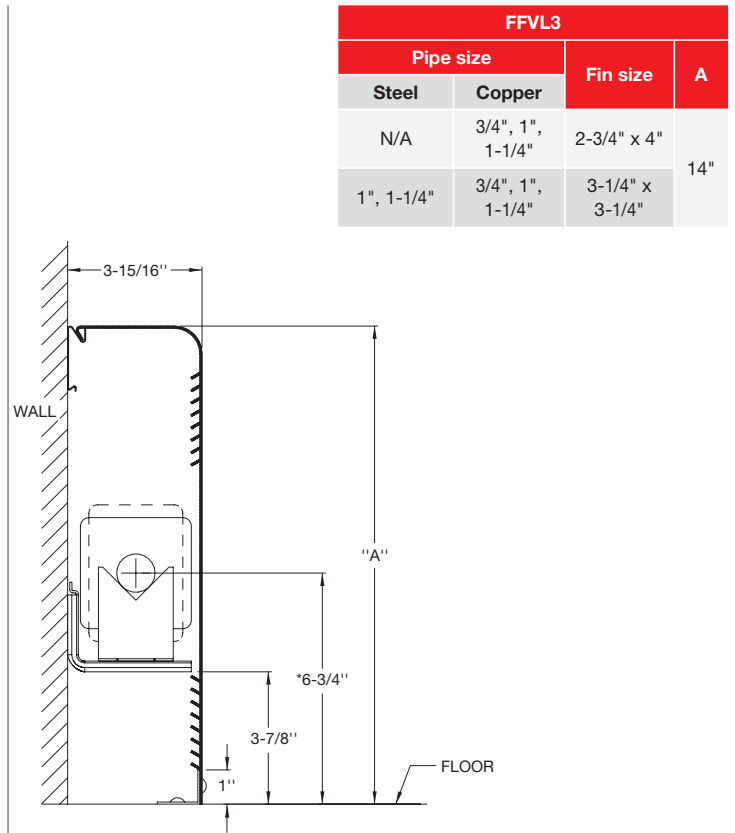
■ Damper option and number of rows available are dependant on enclosure size and piping configurations. (see page 81-83)

Flat top, front outlet enclosure



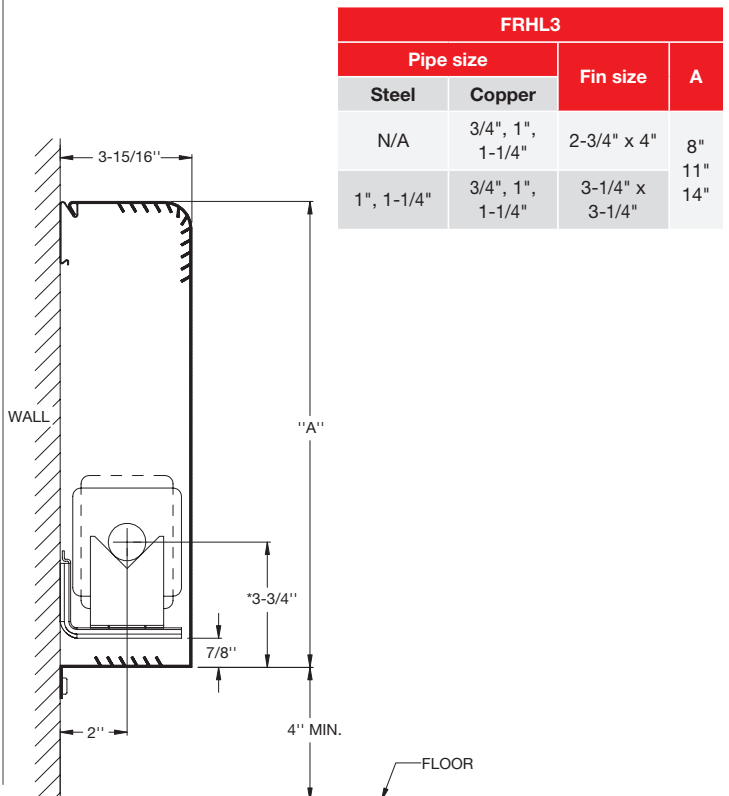
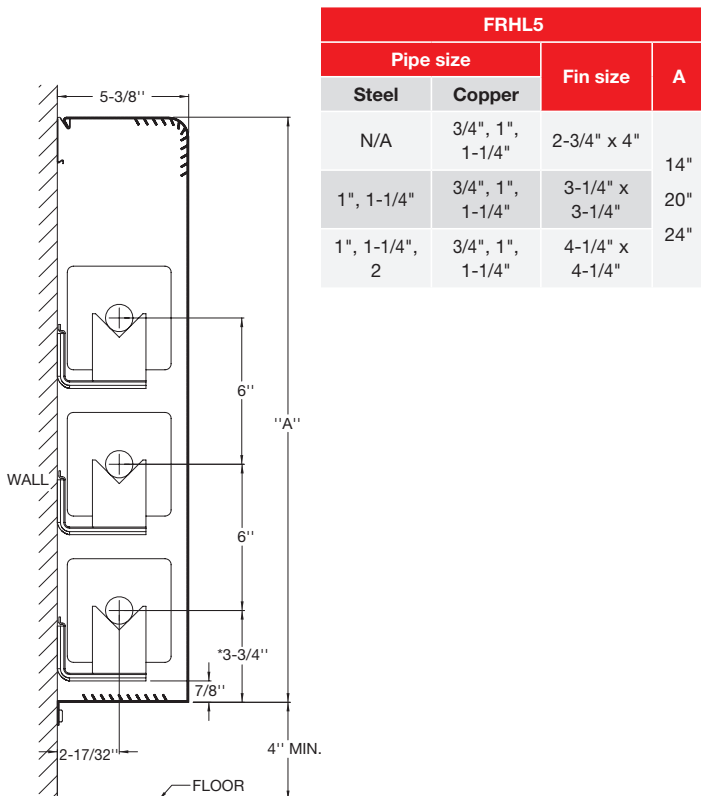
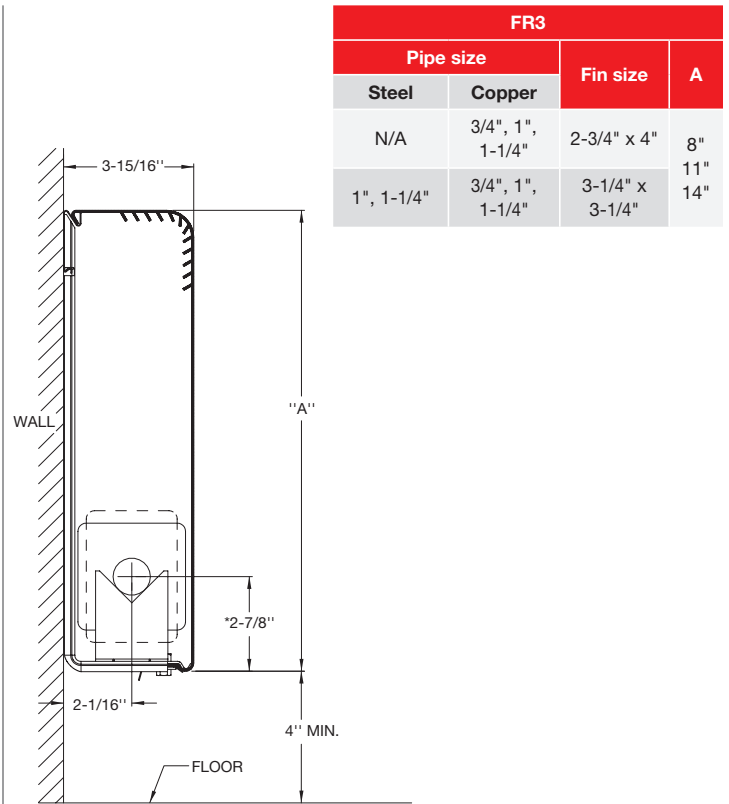
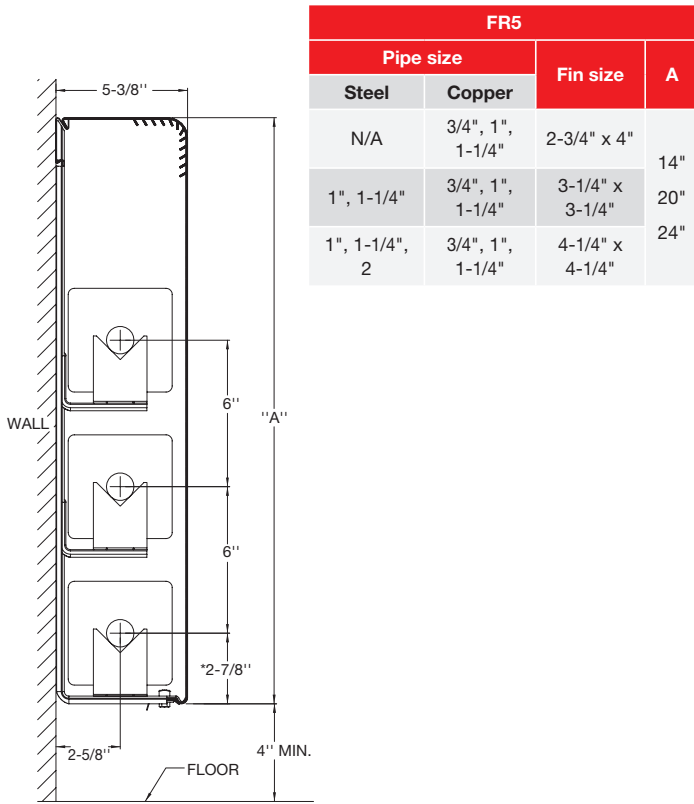
Notes:

- *Centerlines are based on 1" copper tube.



- Damper option and number of rows available are dependant on enclosure size and piping configurations. (see page 81-83)

Flat top, round outlet enclosure

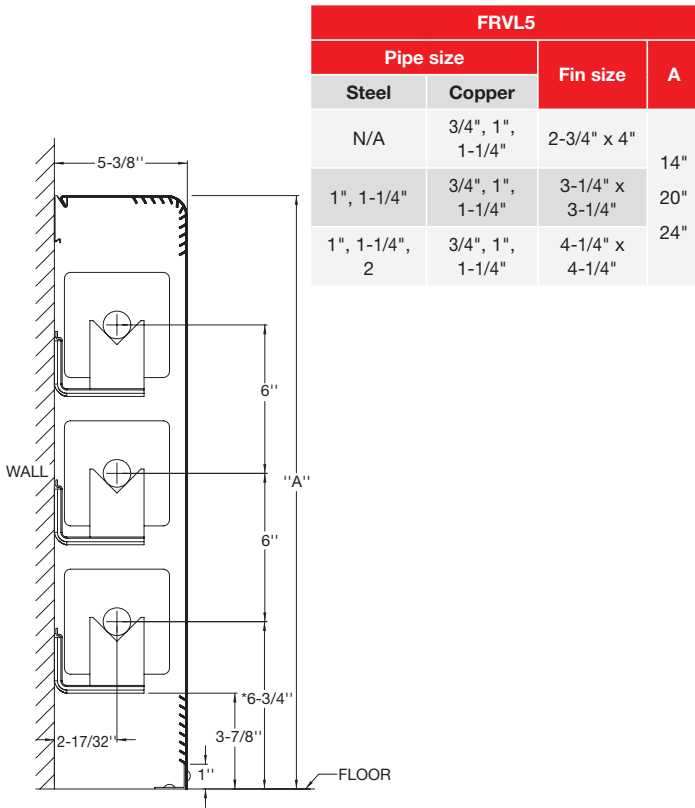


Notes:

■ *Centerlines are based on 1" copper tube.

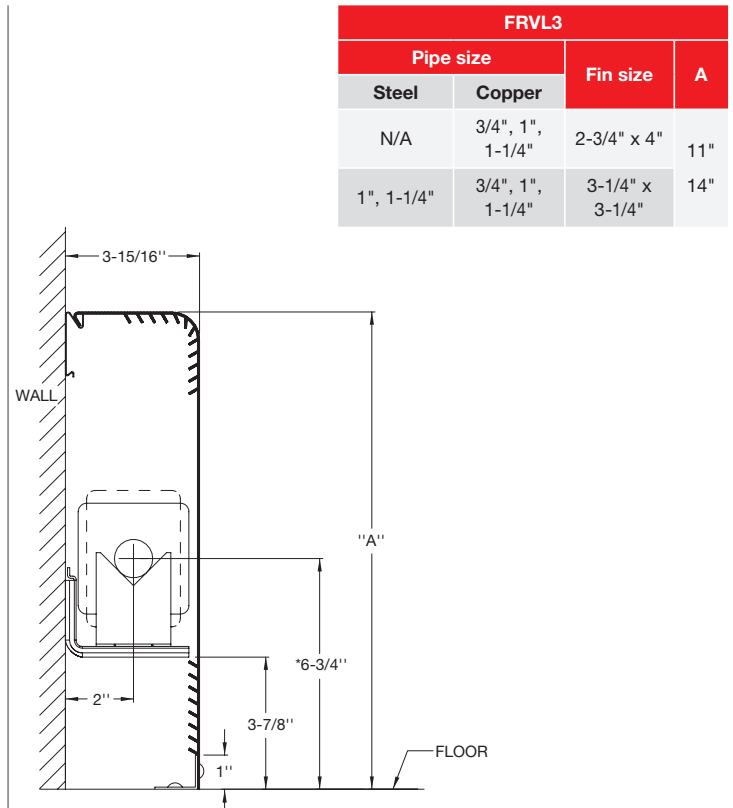
■ Damper option and number of rows available are dependant on enclosure size and piping configurations. (see page 81-83)

Flat top, round outlet enclosure



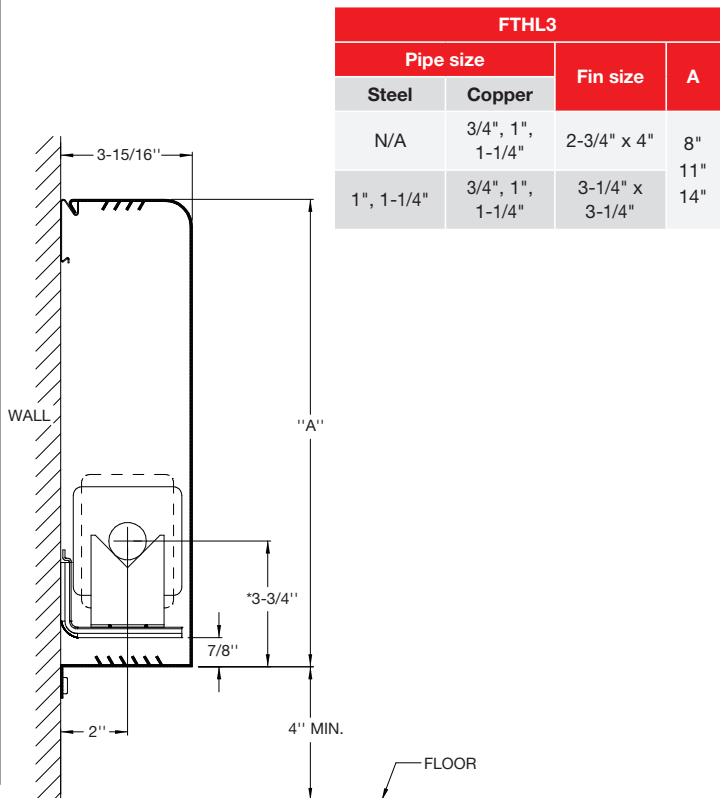
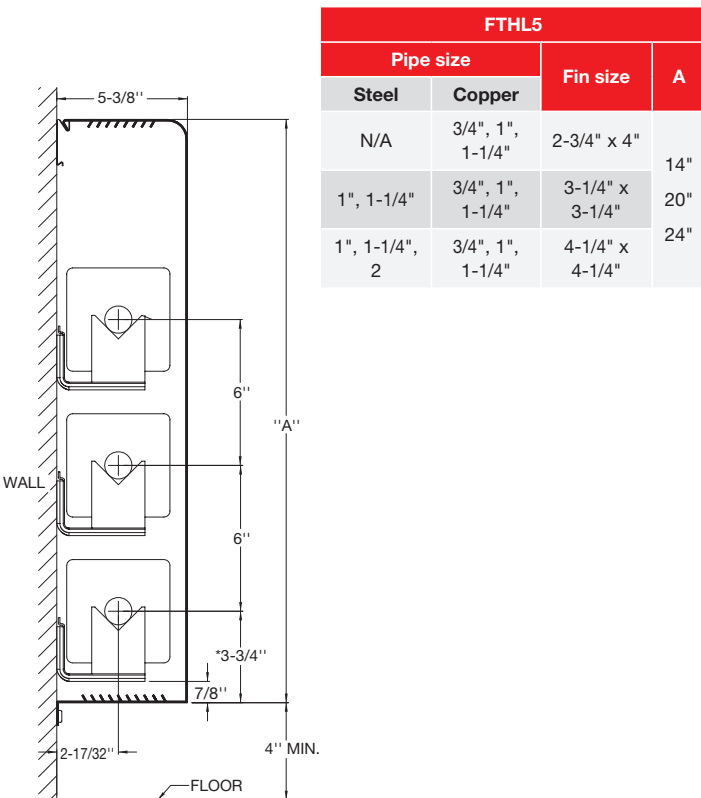
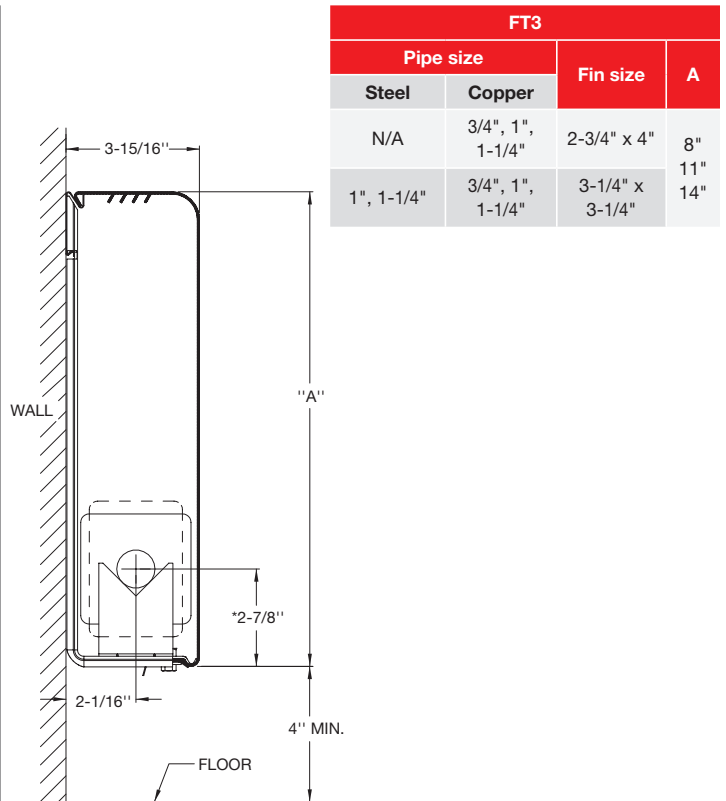
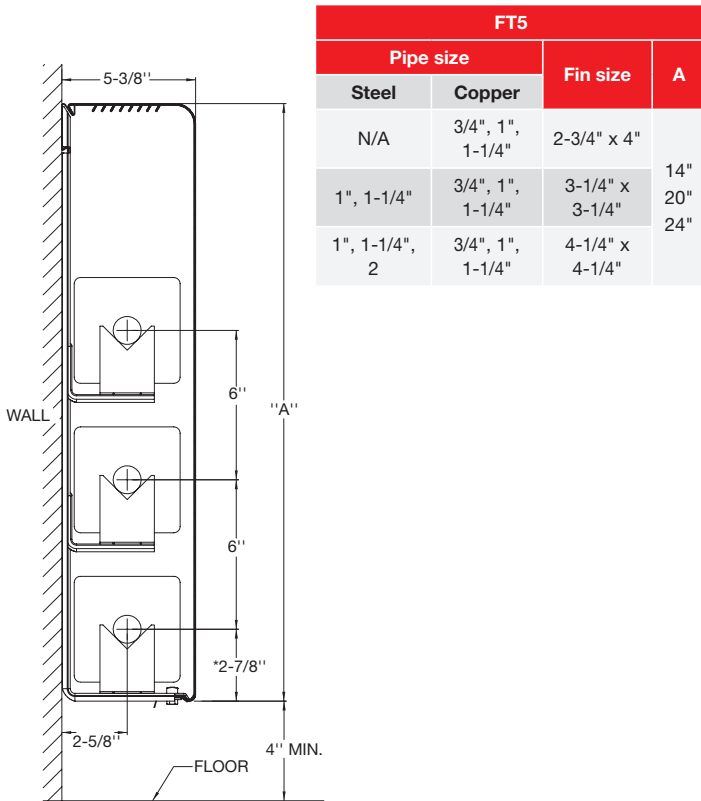
Notes:

- *Centerlines are based on 1" copper tube.



- Damper option and number of rows available are dependant on enclosure size and piping configurations. (see page 81-83)

Flat top, top outlet enclosure

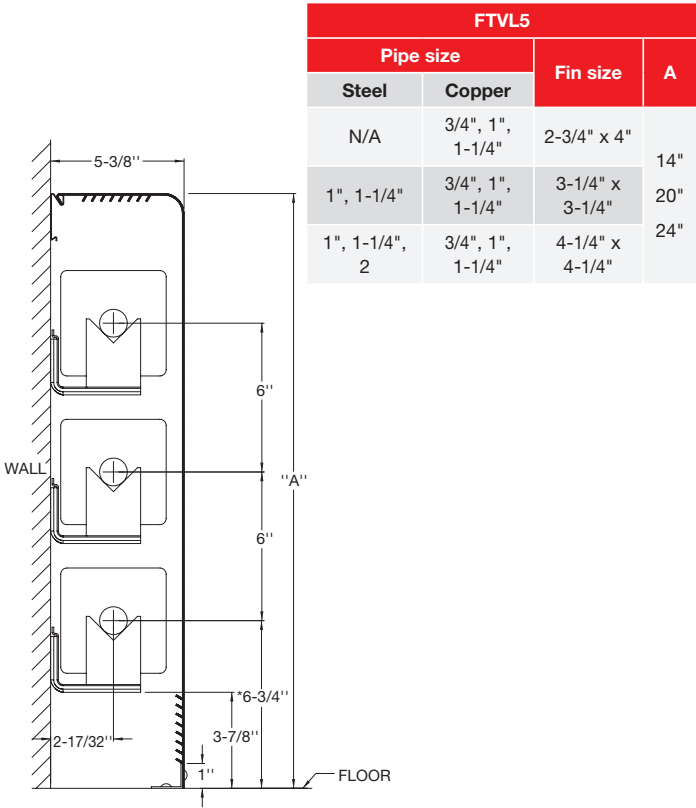


Notes:

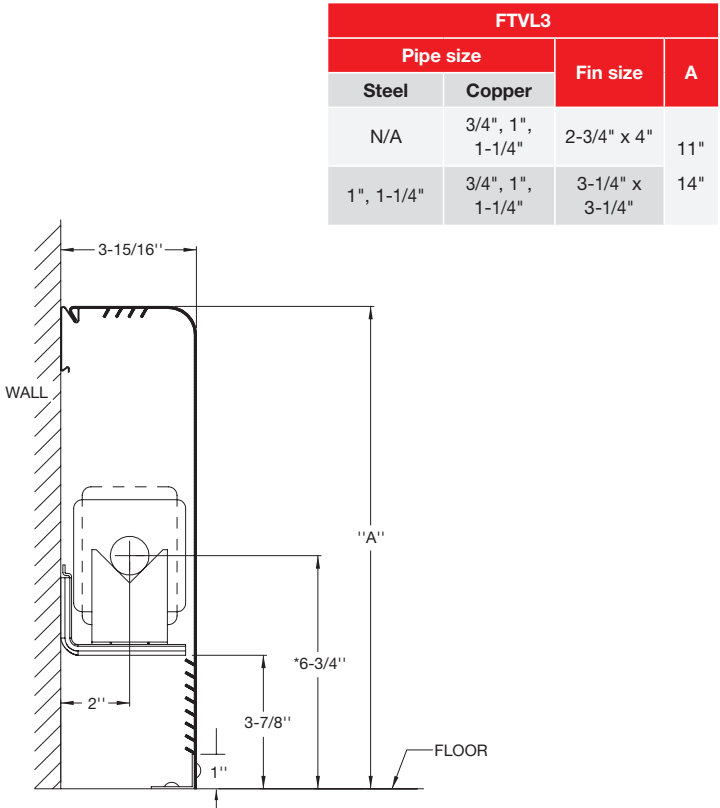
■ *Centerlines are based on 1" copper tube.

■ Damper option and number of rows available are dependant on enclosure size and piping configurations. (see page 81-83)

Flat top, top outlet enclosure

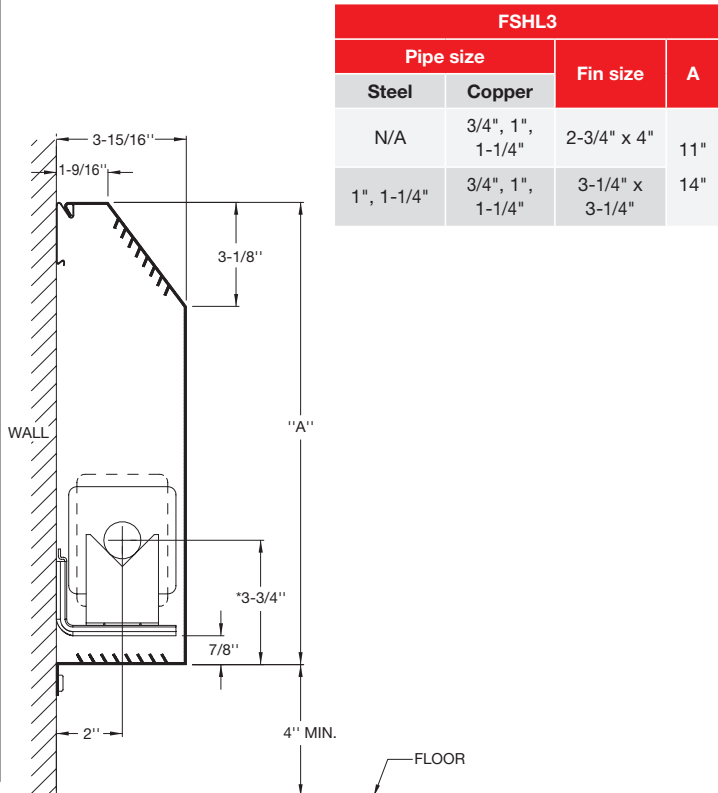
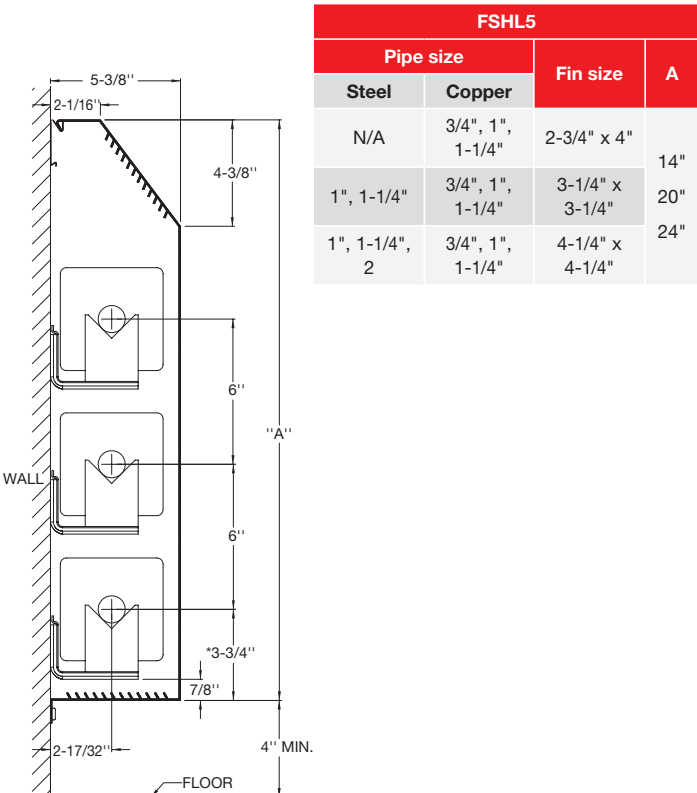
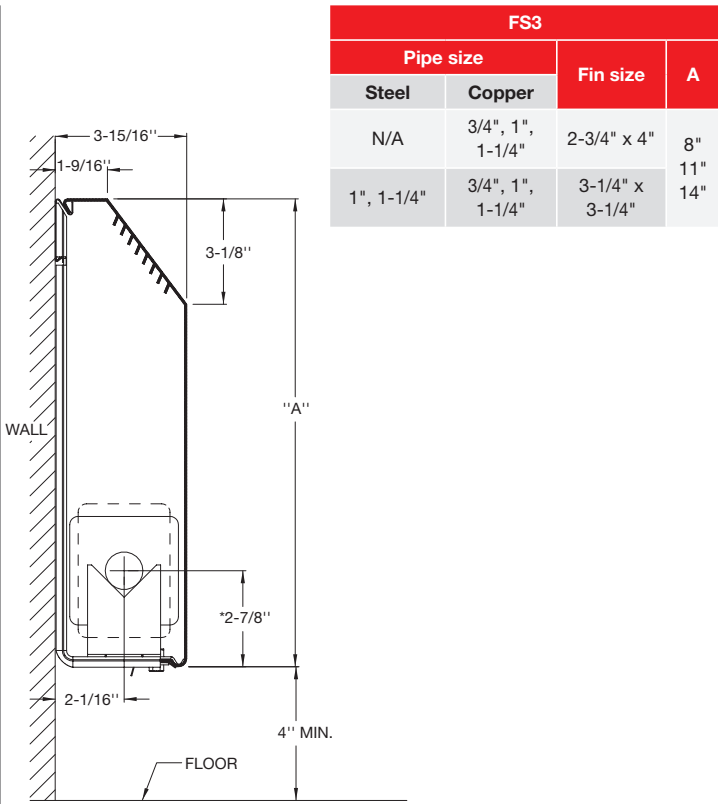
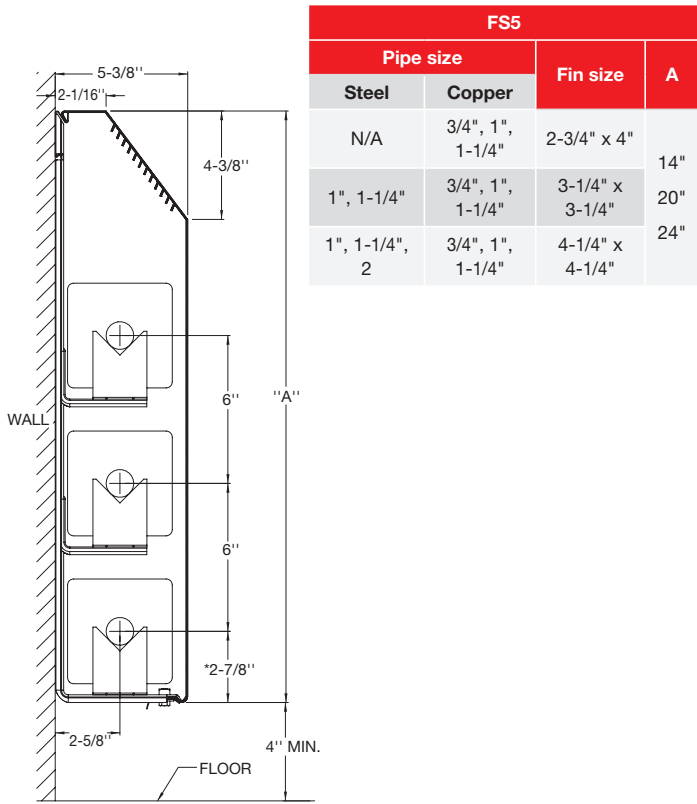


Notes:
 ■ *Centerlines are based on 1" copper tube.



■ Damper option and number of rows available are dependant on enclosure size and piping configurations. (see page 81-83)

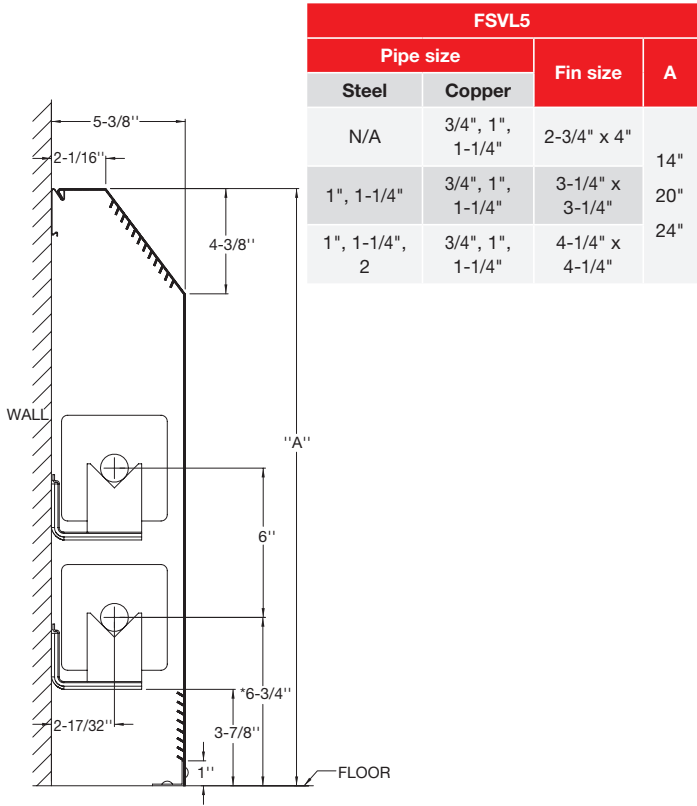
Slope top, front outlet enclosure



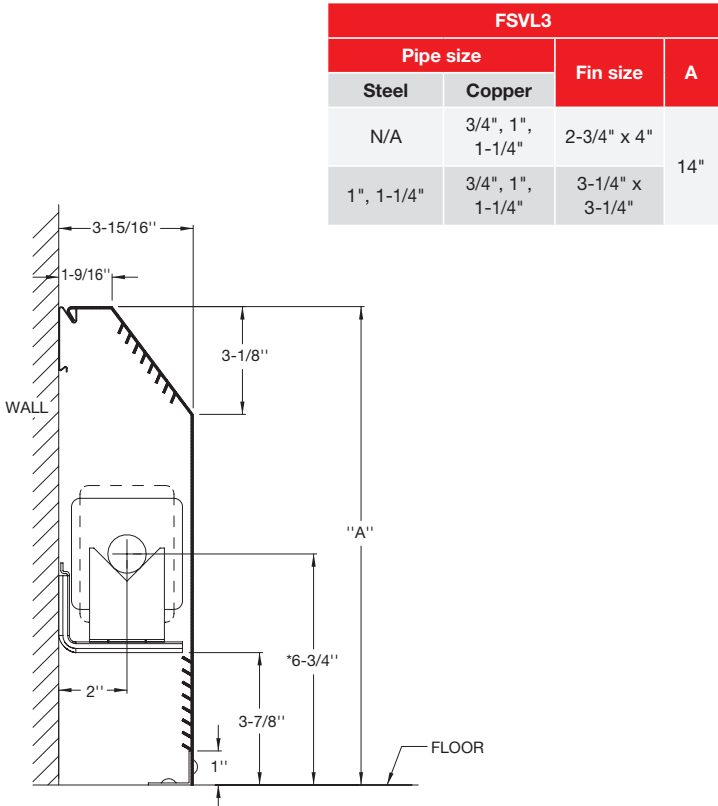
Notes:
 ■ *Centerlines are based on 1" copper tube.

■ Damper option and number of rows available are dependant on enclosure size and piping configurations. (see page 81-83)

Slope top, front outlet enclosure

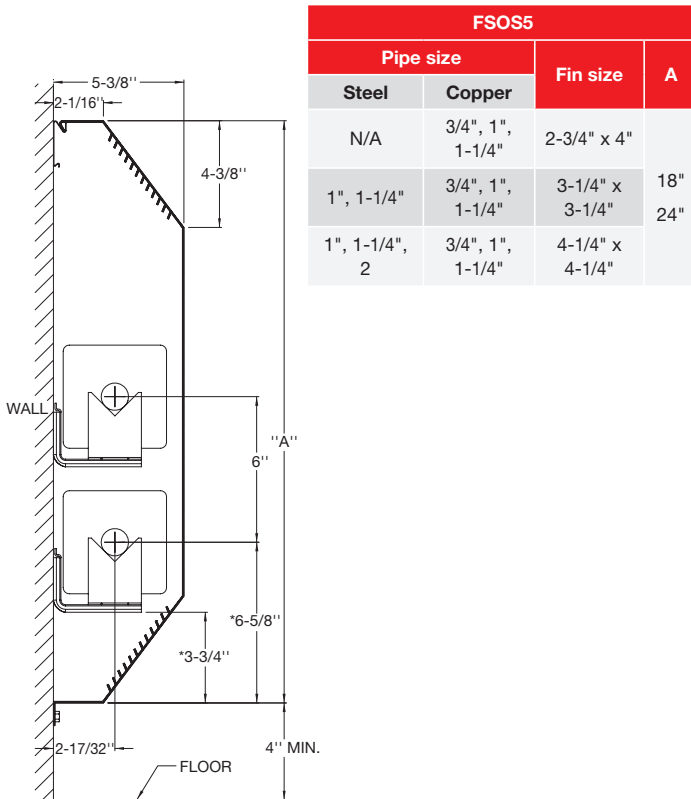


Notes:
 ■ *Centerlines are based on 1" copper tube.



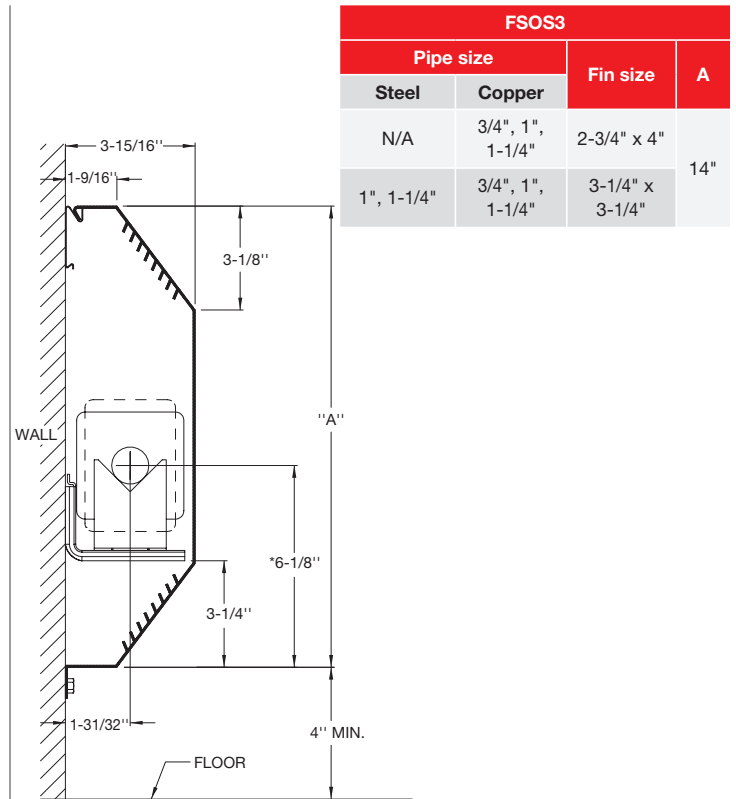
■ Damper option and number of rows available are dependant on enclosure size and piping configurations. (see page 81-83)

Double slope top enclosure



Notes:

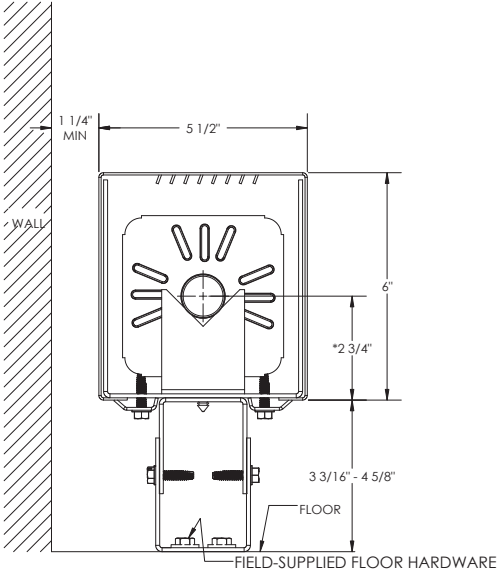
- *Centerlines are based on 1" copper tube.



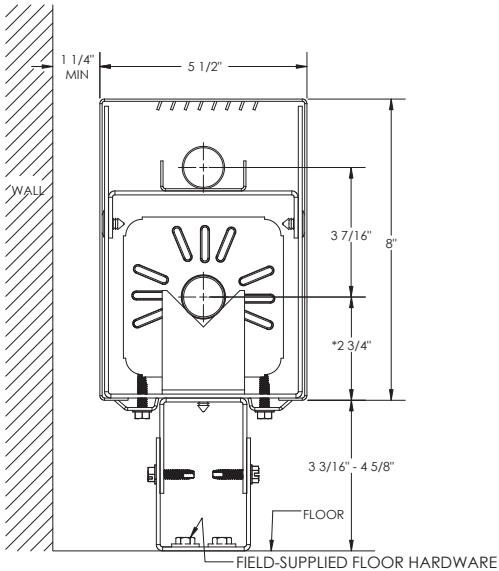
- Damper option and number of rows available are dependant on enclosure size and piping configurations. (see page 81-83)

Pedestal enclosure

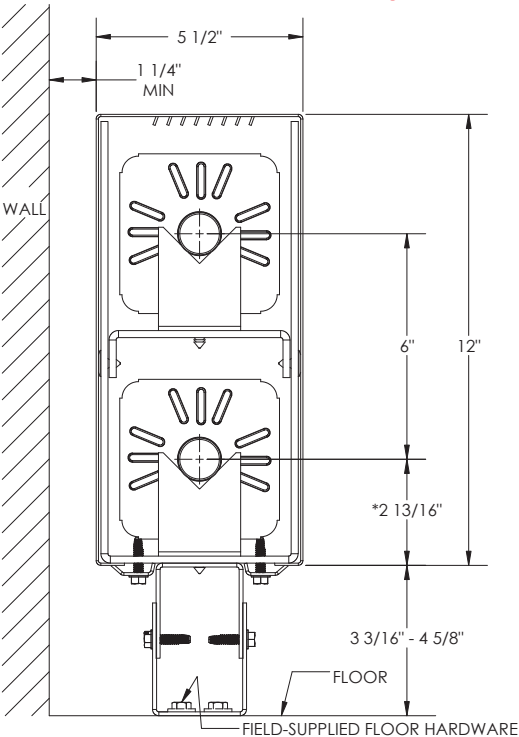
ETL506
One column, one row style



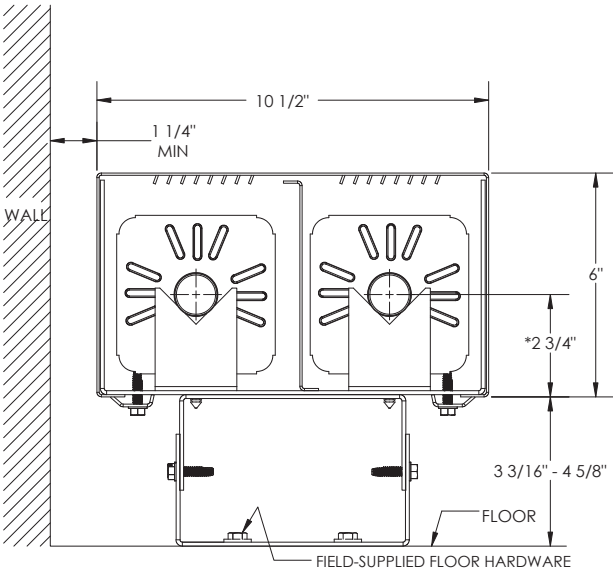
ETL508
One column, one row plus return style



ETL512
One column, two row style



ETL10
Two column, one row style



Notes:
■ *Centerlines are based on 1" copper tube.

Snap expansion brackets

Model	Depth	Height (inches)	1 row	2 row	3 row	1 row with damper	2 row with damper	3 row with damper	1 row with return line	2 row with return line	3 row with return line	1 row with damper & return line	2 row with damper & return line	3 row with damper & return line
FS	3	8	✓											
		11	✓			✓			✓					
		14	✓	✓		✓			✓			✓		
	5	14	✓			✓			✓			✓		
		20	✓	✓		✓	✓		✓	✓		✓		
		24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
FT, FF, FR	3	8	✓											
		11	✓	✓*		✓			✓					
		14	✓	✓		✓			✓			✓		
	5	14	✓	✓		✓			✓			✓		
		20	✓	✓	✓	✓	✓		✓	✓		✓	✓	
		24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Note:

- Except 1 1/4" - 2 3/4" X 4" element
- Based upon standard center lines

Steam expansion brackets

Model	Depth	Height (inches)	1 row	2 row	3 row	1 row with damper	2 row with damper	3 row with damper	1 row with return line	2 row with return line	3 row with return line	1 row with damper & return line	2 row with damper & return line	3 row with damper & return line
FS	3	8	✓											
		11	✓			✓			✓					
		14	✓			✓			✓			✓		
	5	14	✓			✓			✓			✓*		
		20	✓	✓		✓	✓		✓	✓		✓		
		24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
FT, FF, FR	3	8	✓											
		11	✓						✓					
		14	✓	✓		✓			✓			✓		
	5	14	✓	✓		✓			✓					
		20	✓	✓	✓	✓	✓		✓	✓		✓	✓	
		24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

Note:

- *Except 1-1/4" - 4-1/4" X 4-1/4" element/return
- Based upon standard center lines

Second row brackets

Model	Depth	Height (inches)	1 row	2 row	3 row	1 row with damper	2 row with damper	3 row with damper	1 row with return line	2 row with return line	3 row with return line	1 row with damper & return line	2 row with damper & return line	3 row with damper & return line
FSOS	3	14	✓			✓			✓					
		18	✓			✓			✓			✓		
	5	24	✓	✓		✓	✓		✓	✓		✓	✓**	
FSSL	3	11	✓			✓			✓					
		14	✓			✓			✓			✓		
	5	14	✓			✓			✓			✓*		
		20	✓	✓		✓	✓		✓	✓		✓		
		24	✓	✓	✓	✓	✓		✓	✓		✓	✓	
FFHL, FTSL, FRHL	3	8	✓											
		11	✓						✓					
		14	✓	✓		✓			✓			✓		
	5	14	✓	✓		✓			✓			✓		
		20	✓	✓		✓	✓		✓	✓		✓		
		24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
FTVL, FRVL	3	11	✓						✓***					
		14	✓			✓			✓					
	5	14	✓											
		20	✓	✓		✓			✓	✓***		✓***		
		24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
FFVL	3	14	✓			✓			✓			✓***		
		14	✓						✓					
	5	20	✓	✓		✓			✓	✓		✓		
		24	✓	✓		✓	✓		✓	✓		✓		

Note:

- *Except 1-1/4C 4-1/4" element/return
- **Except 1-1/4C 2-3/4 x 4 element/return
- ***Return below element
- Based upon standard center lines

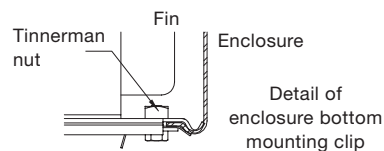
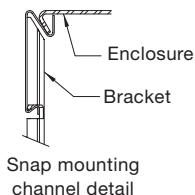
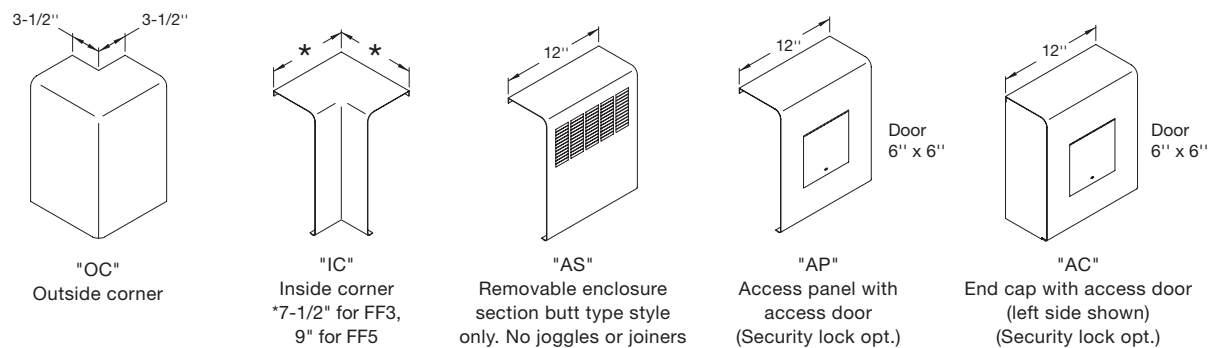
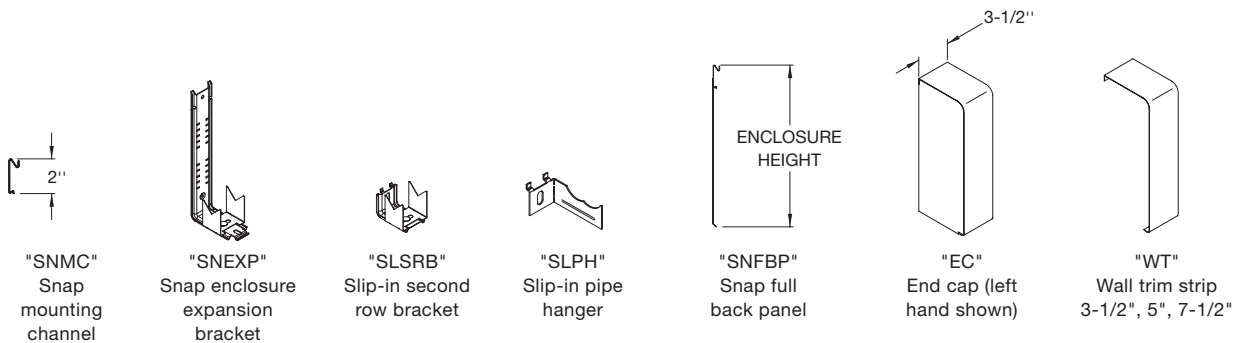
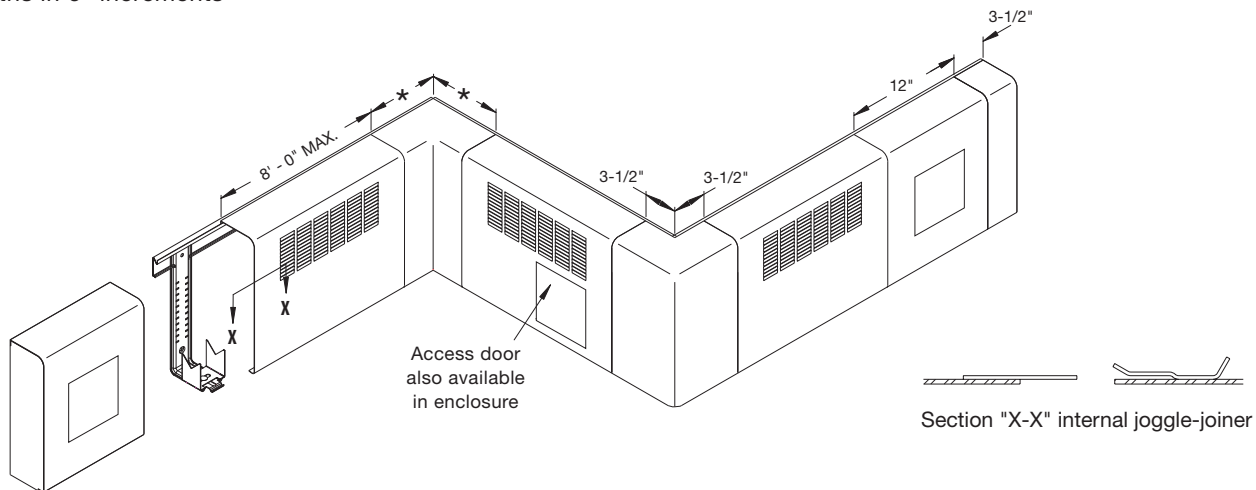
Steam second row brackets

Model	Depth	Height (inches)	1 row	2 row	3 row	1 row with damper	2 row with damper	3 row with damper	1 row with return line	2 row with return line	3 row with return line	1 row with damper & return line	2 row with damper & return line	3 row with damper & return line
FSOS	3	14	✓			✓			✓					
		18	✓			✓			✓					
	5	24	✓	✓		✓	✓		✓	✓		✓		
FSHL	3	11	✓			✓			✓					
		14	✓			✓			✓			✓		
	5	14	✓			✓			✓					
		20	✓	✓		✓	✓		✓	✓		✓		
		24	✓	✓	✓	✓	✓		✓	✓		✓	✓	
FSVL	3	14	✓			✓			✓					
		14	✓			✓			✓*					
	5	20	✓	✓		✓			✓	✓*				
		24	✓	✓		✓	✓		✓	✓		✓	✓*	
FFHL, FTHL, FRHL	3	8	✓											
		11	✓						✓					
		14	✓	✓		✓			✓			✓		
	5	14	✓	✓		✓	✓		✓			✓		
		20	✓	✓		✓	✓		✓	✓		✓		
		24	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	
FTVL, FRVL	3	11	✓						✓*					
		14	✓			✓			✓					
	5	14	✓						✓					
		20	✓	✓		✓			✓	✓*		✓*		
		24	✓	✓	✓	✓	✓		✓	✓	✓*	✓	✓*	
FFVL	3	14	✓			✓			✓			✓*		
		14	✓						✓					
	5	20	✓	✓		✓			✓	✓*		✓		
		24	✓	✓		✓	✓		✓	✓		✓		

Note:

- *Return below element
- Based upon standard center lines

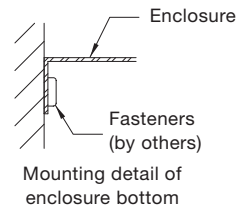
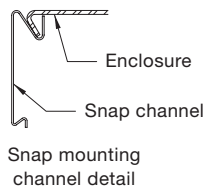
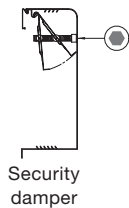
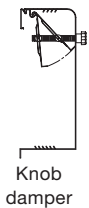
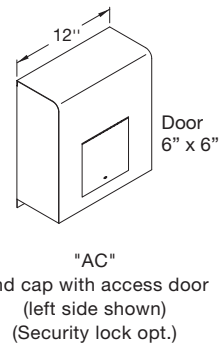
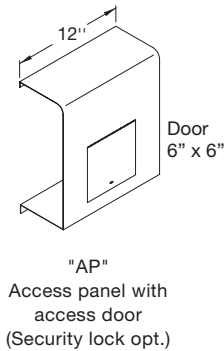
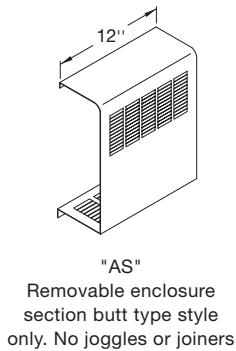
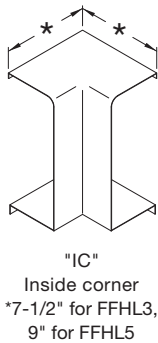
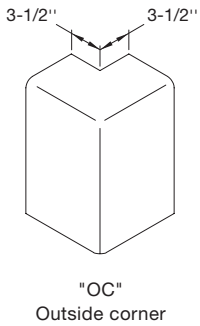
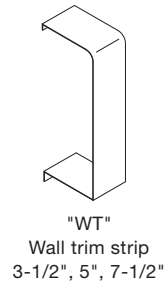
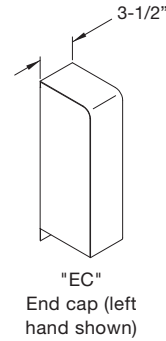
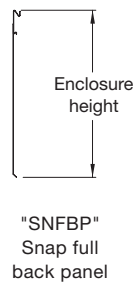
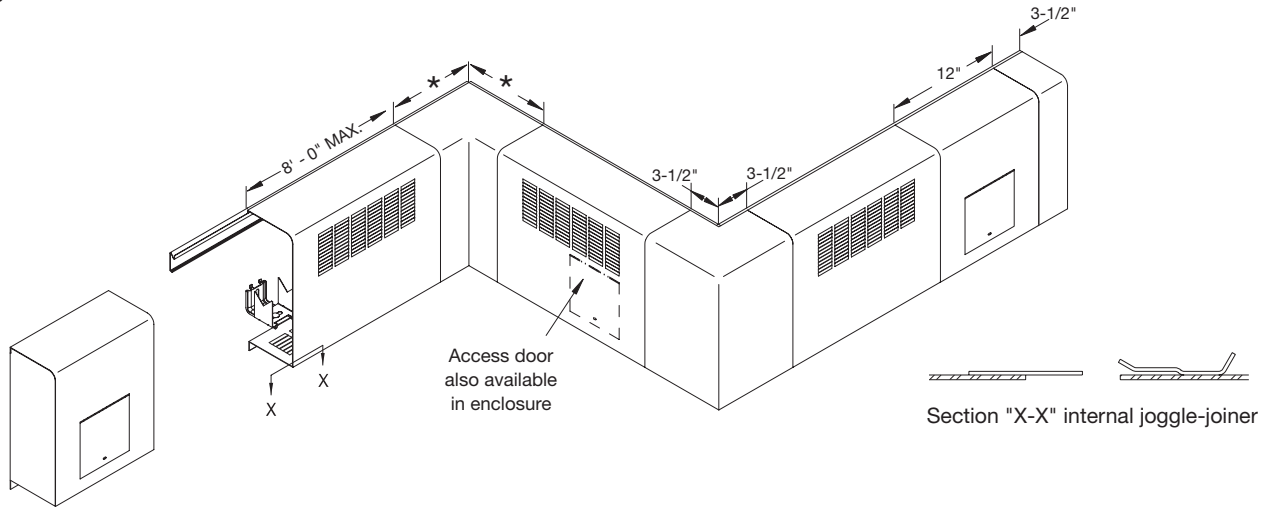
Standard enclosures are available in 1' to 8' lengths in 6" increments



Notes:

■ All accessories are overlap type, butt type optional (except as noted)

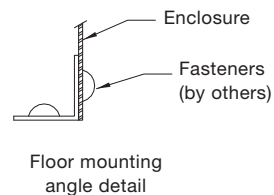
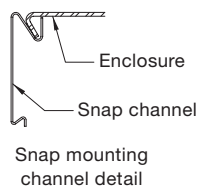
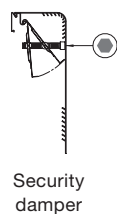
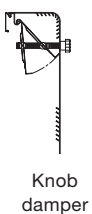
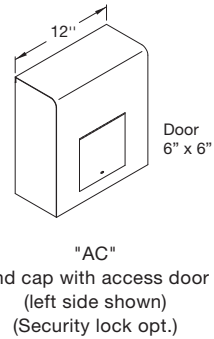
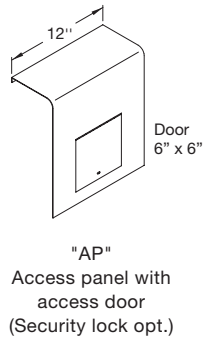
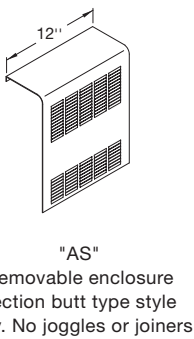
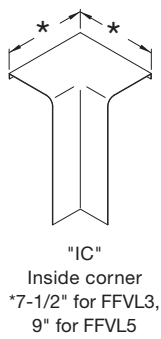
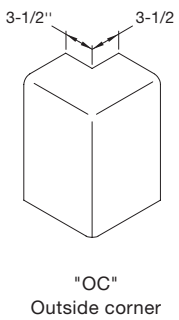
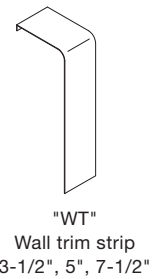
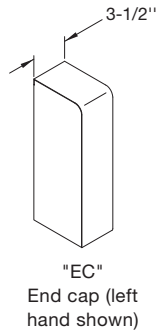
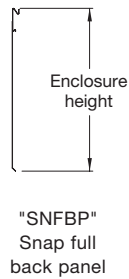
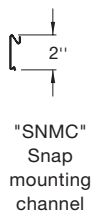
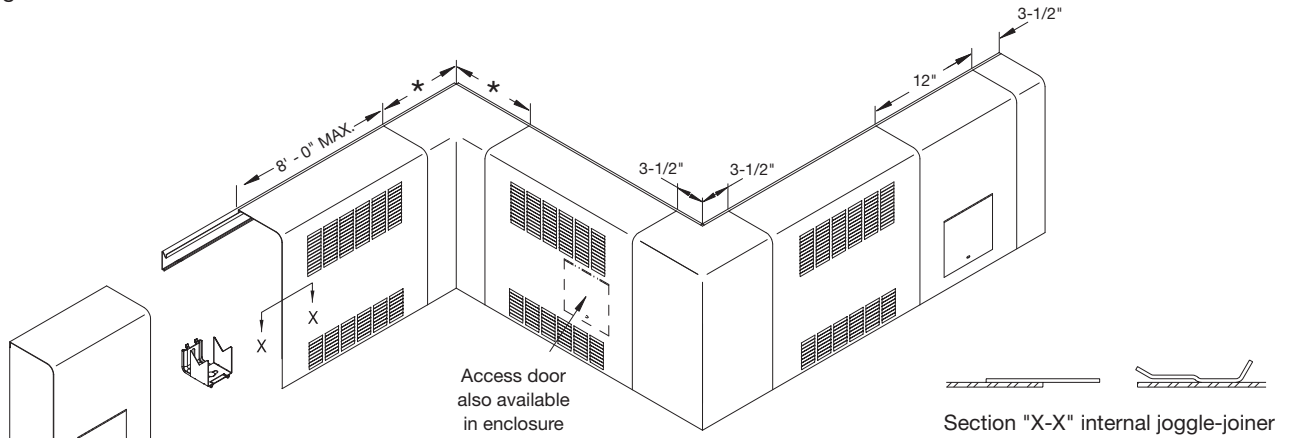
Standard enclosures are available in 1' to 8' lengths in 6" increments



Notes:

- All accessories are overlap type, butt type optional (except as noted)

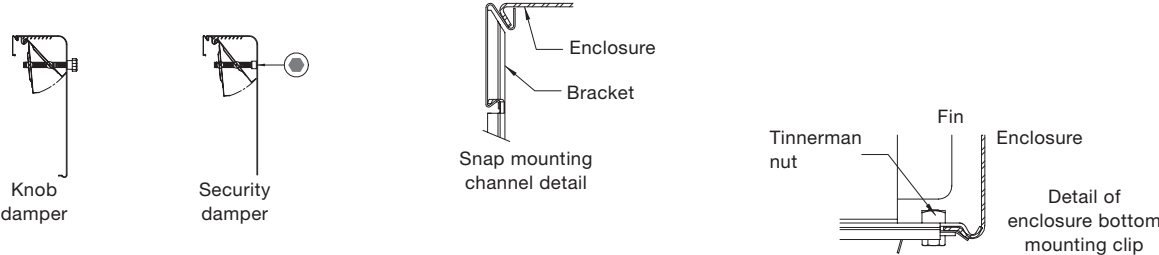
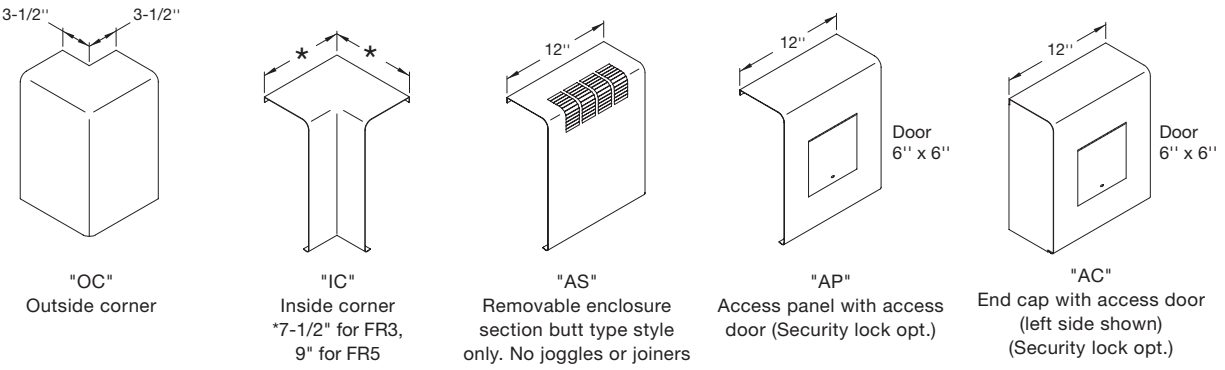
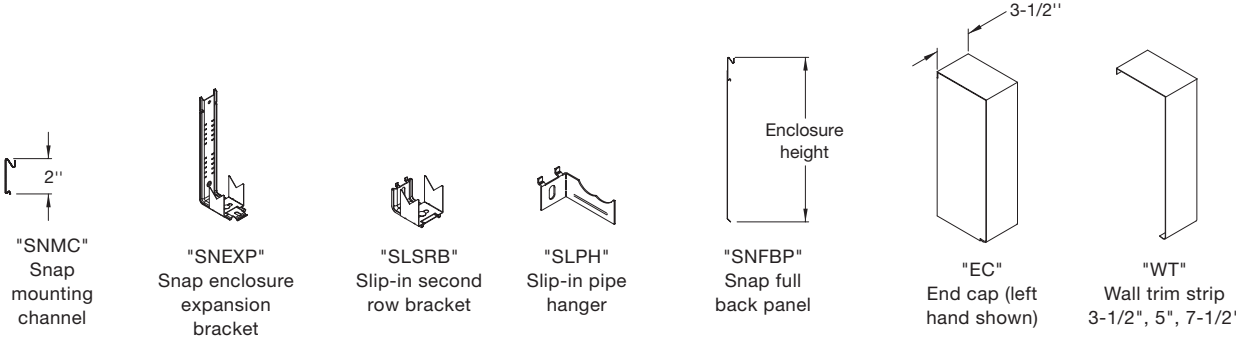
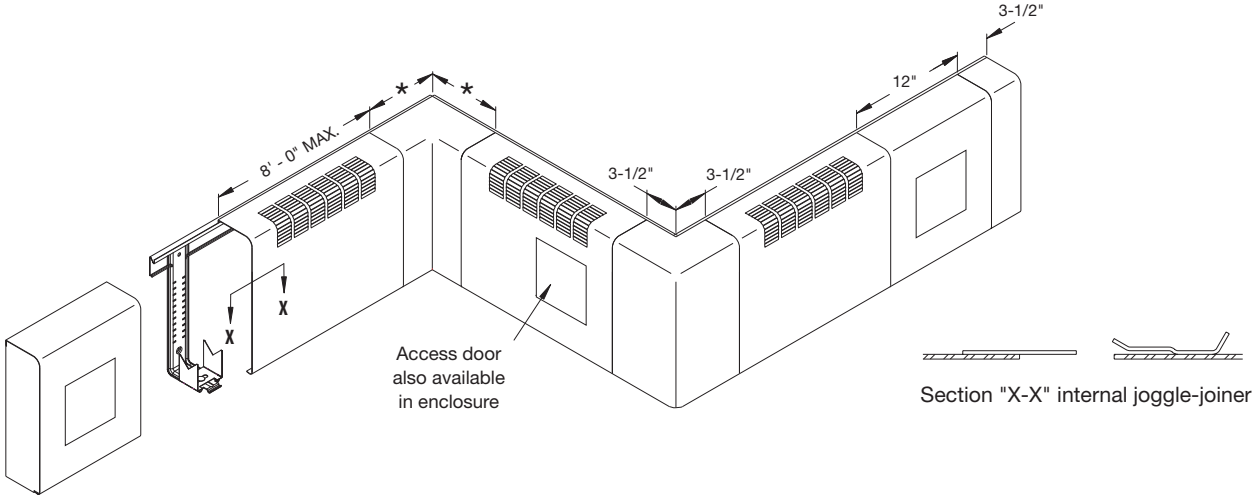
Standard enclosures are available in 1' to 8' lengths in 6" increments



Notes:

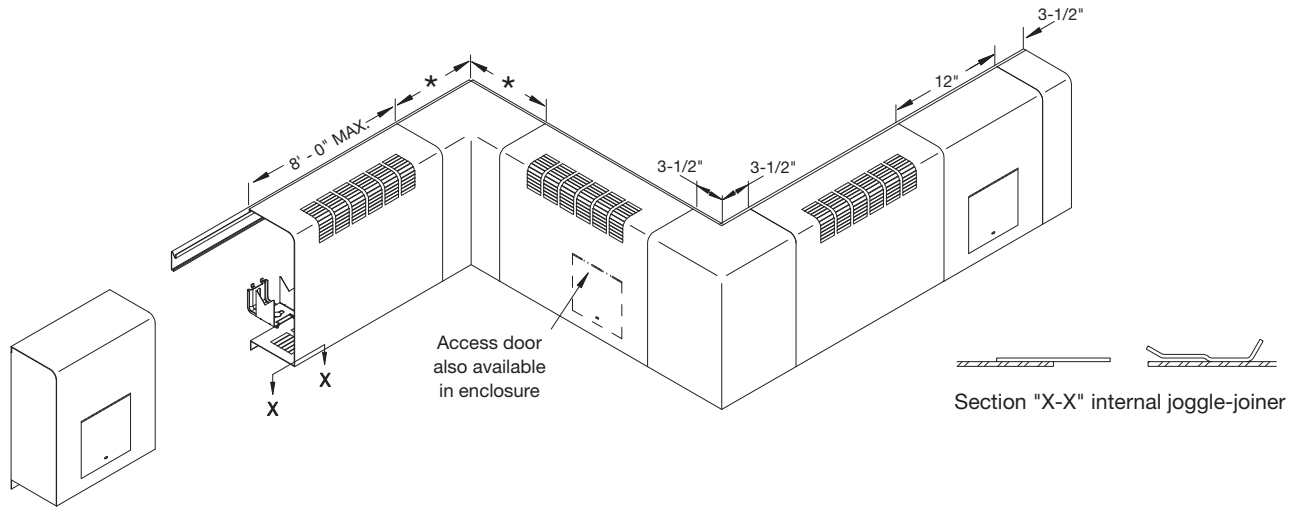
■ All accessories are overlap type, butt type optional (except as noted)

Standard enclosures are available in 1' to 8' lengths in 6" increments

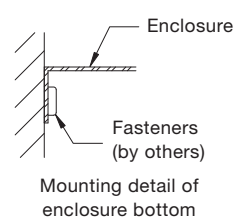
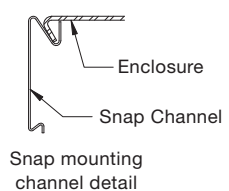
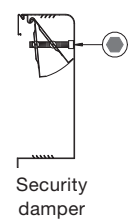
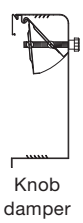
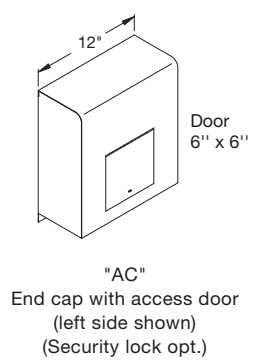
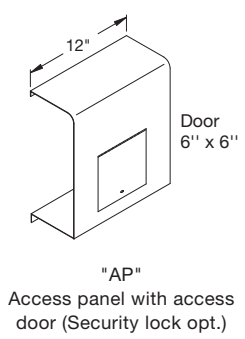
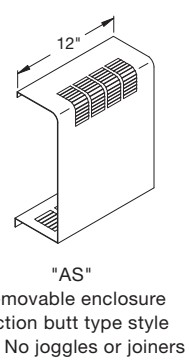
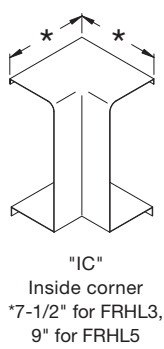
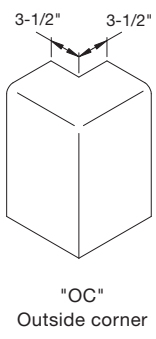
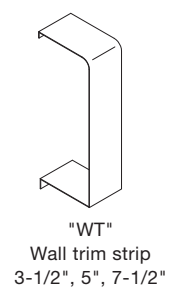
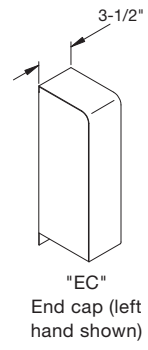
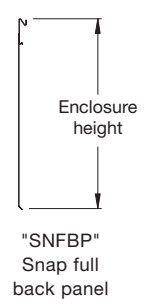
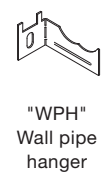


Notes:
 ■ All accessories are overlap type, butt type optional (except as noted)

Standard enclosures are available
in 1' to 8' lengths in 6" increments



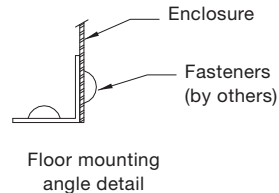
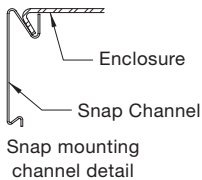
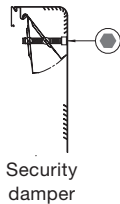
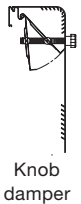
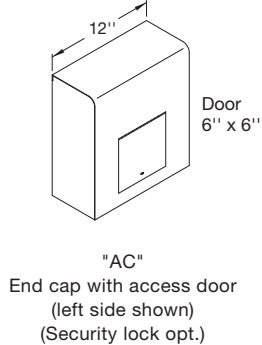
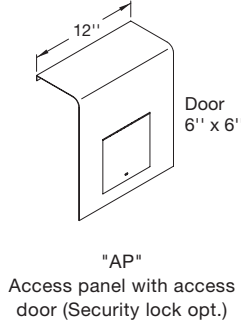
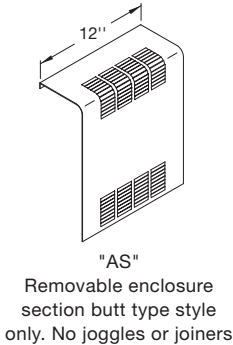
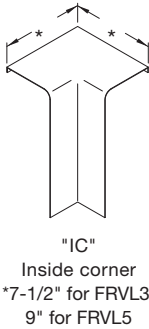
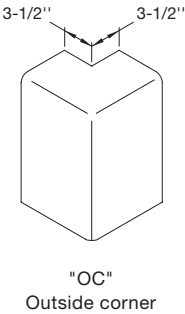
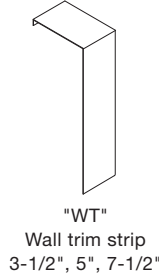
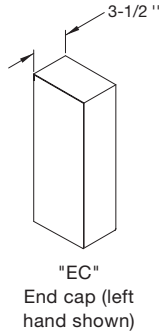
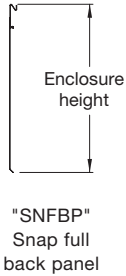
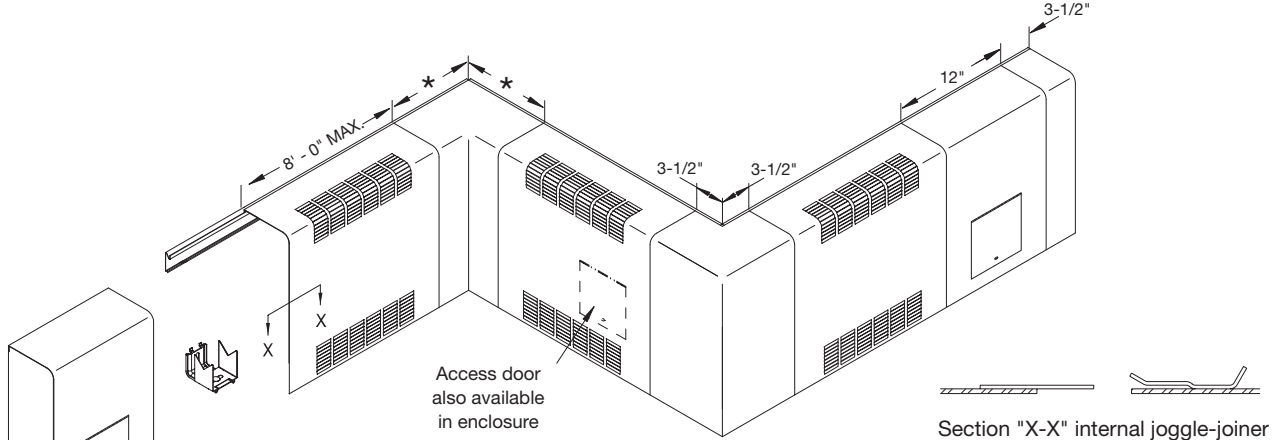
Section "X-X" internal joggle-joiner



Notes:
■ All accessories are overlap type, butt type optional (except as noted)

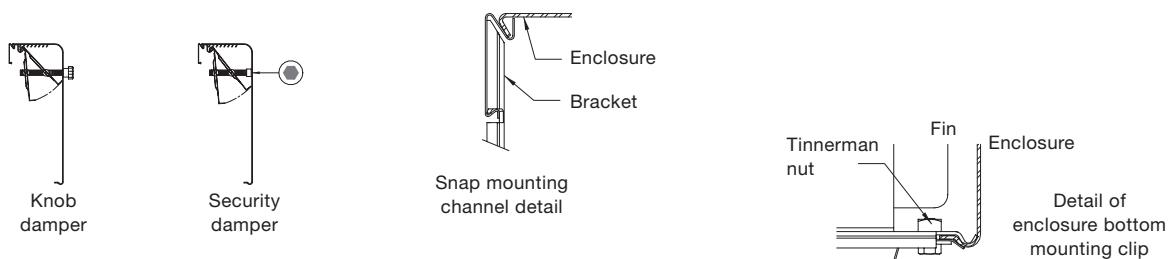
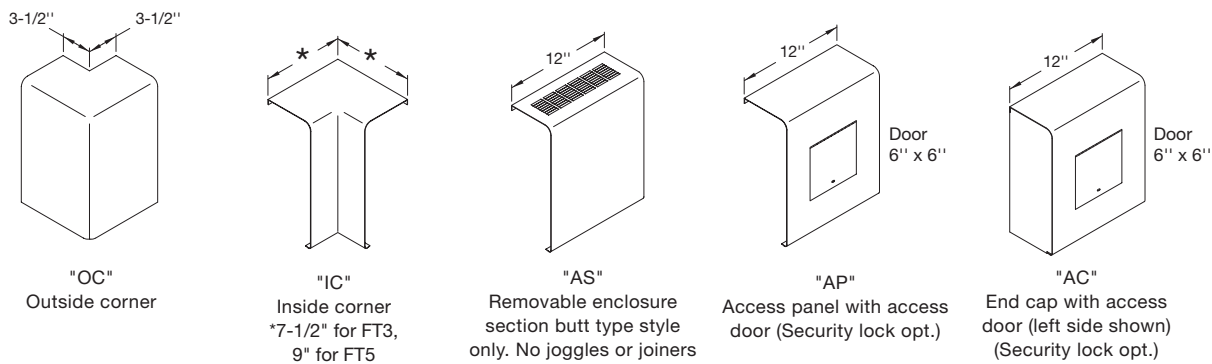
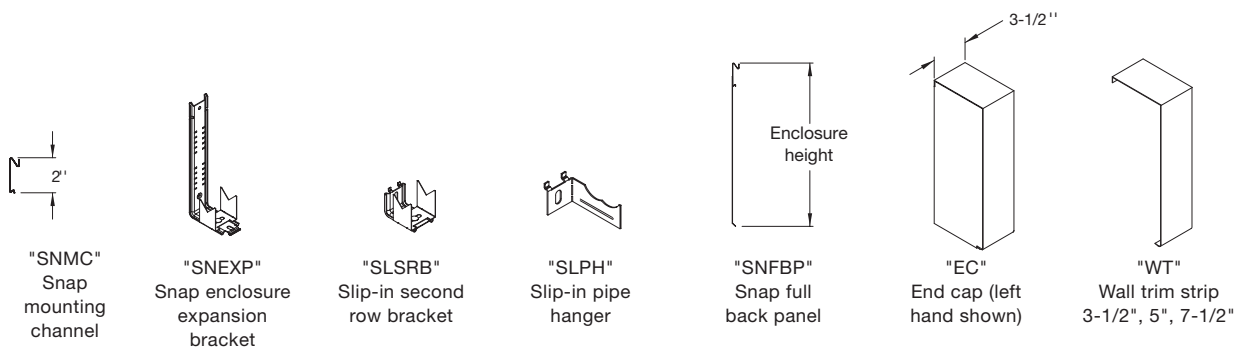
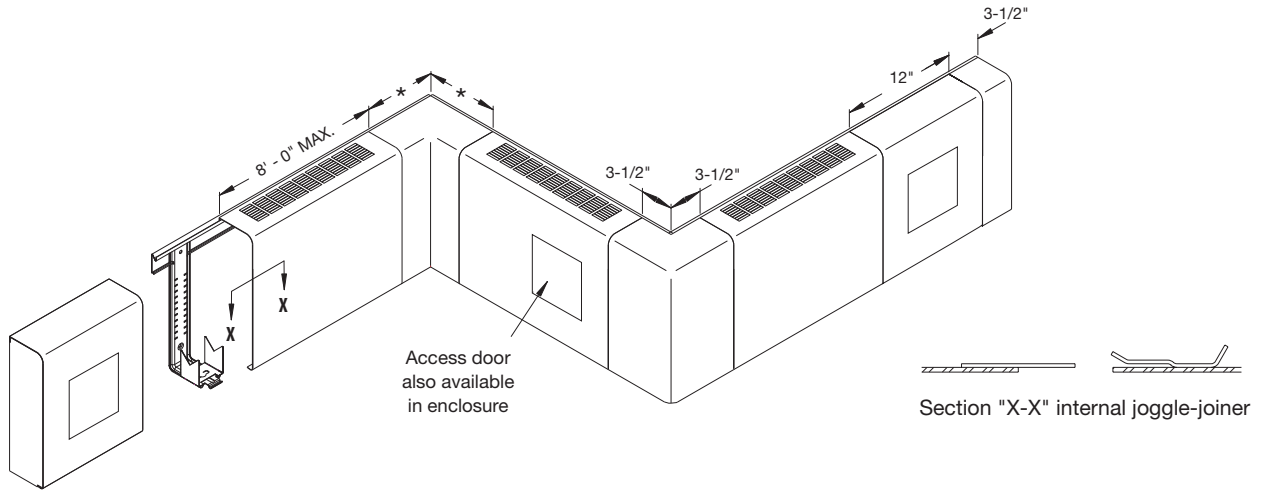
FRVL5 / FRVL3

Standard enclosures are available in 1' to 8' lengths in 6" increments



Notes:
 ■ All accessories are overlap type, butt type optional (except as noted)

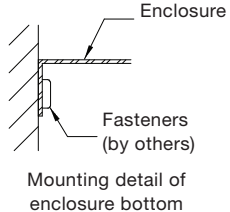
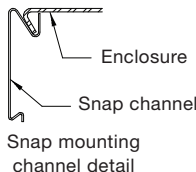
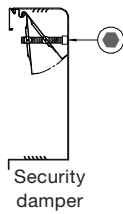
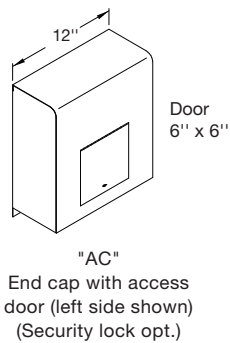
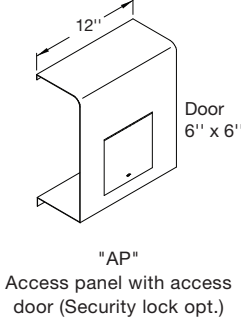
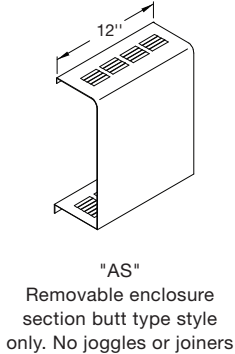
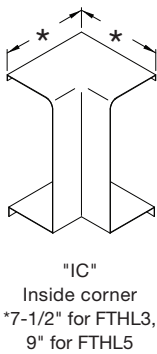
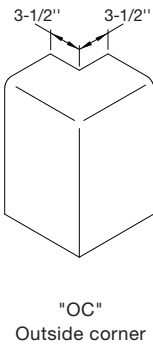
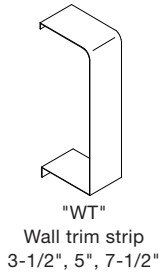
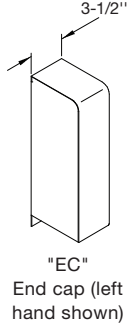
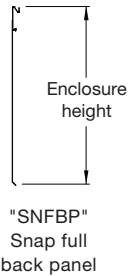
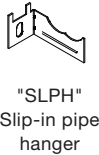
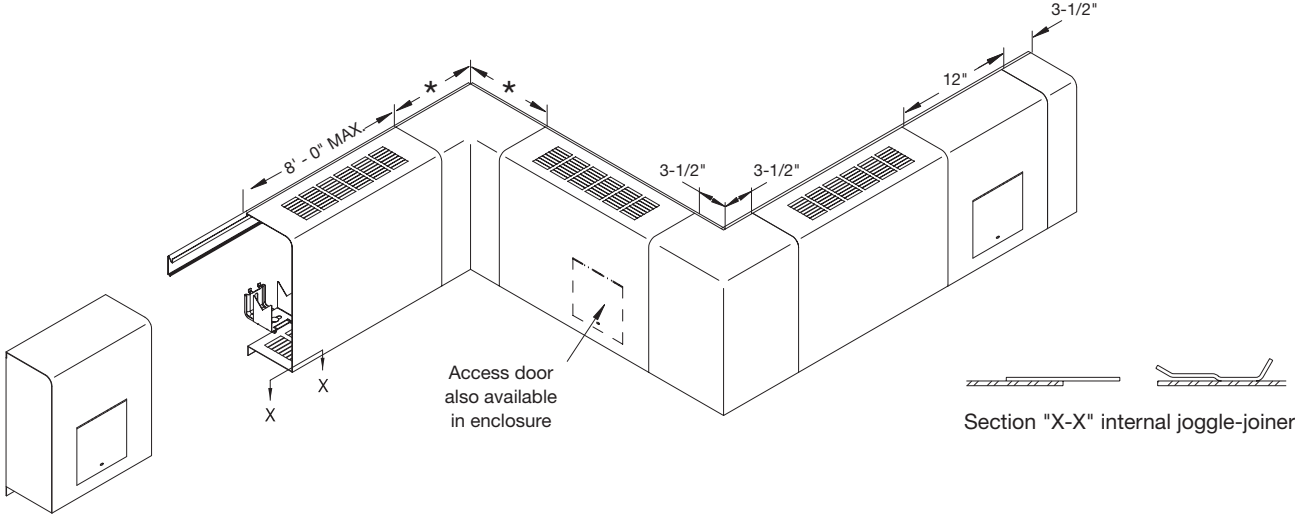
Standard enclosures are available in 1' to 8' lengths in 6" increments



Notes:
 ■ All accessories are overlap type, butt type optional (except as noted)

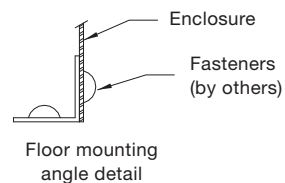
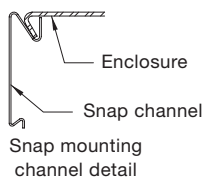
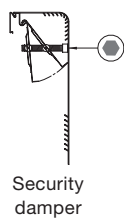
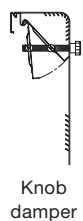
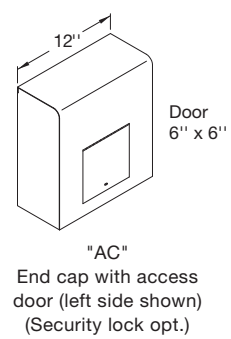
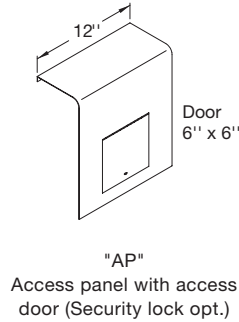
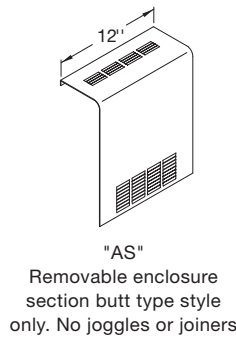
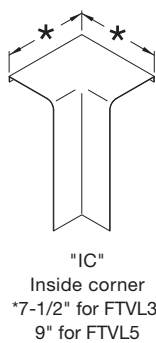
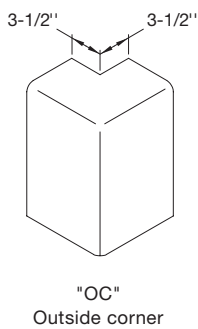
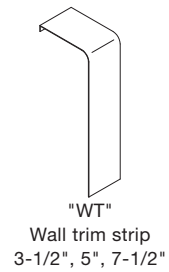
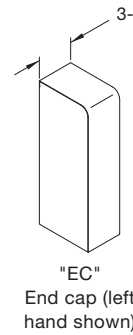
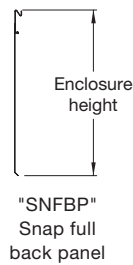
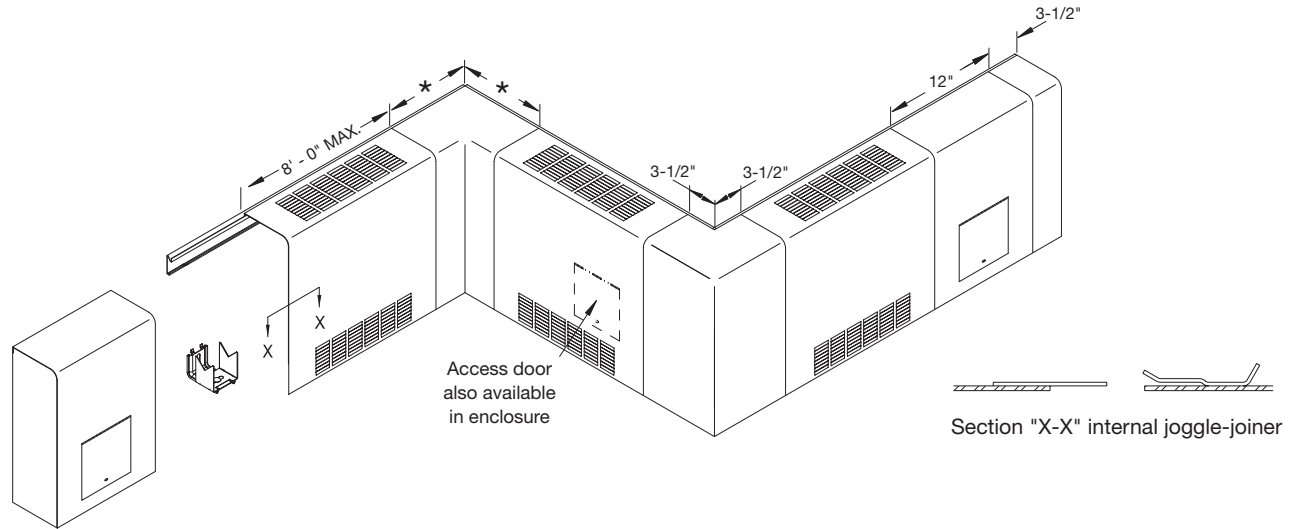
FTHL5 / FTHL3

Standard enclosures are available in 1' to 8' lengths in 6" increments



Notes:
 ■ All accessories are overlap type, butt type optional (except as noted)

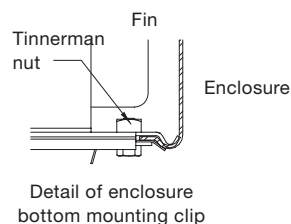
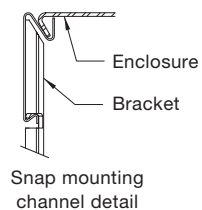
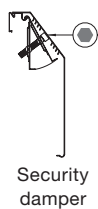
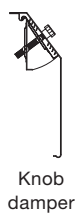
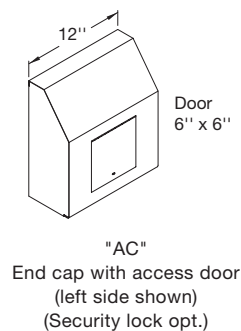
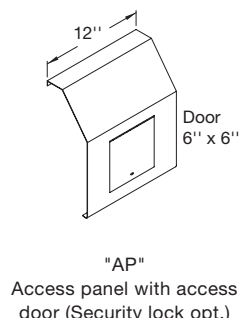
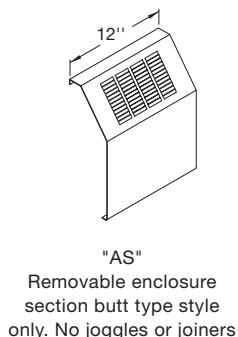
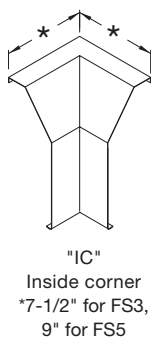
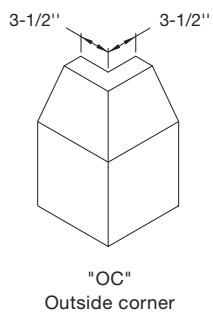
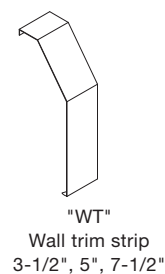
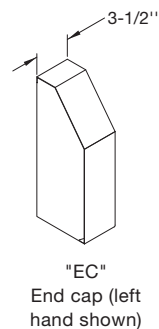
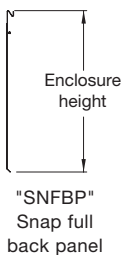
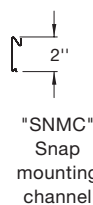
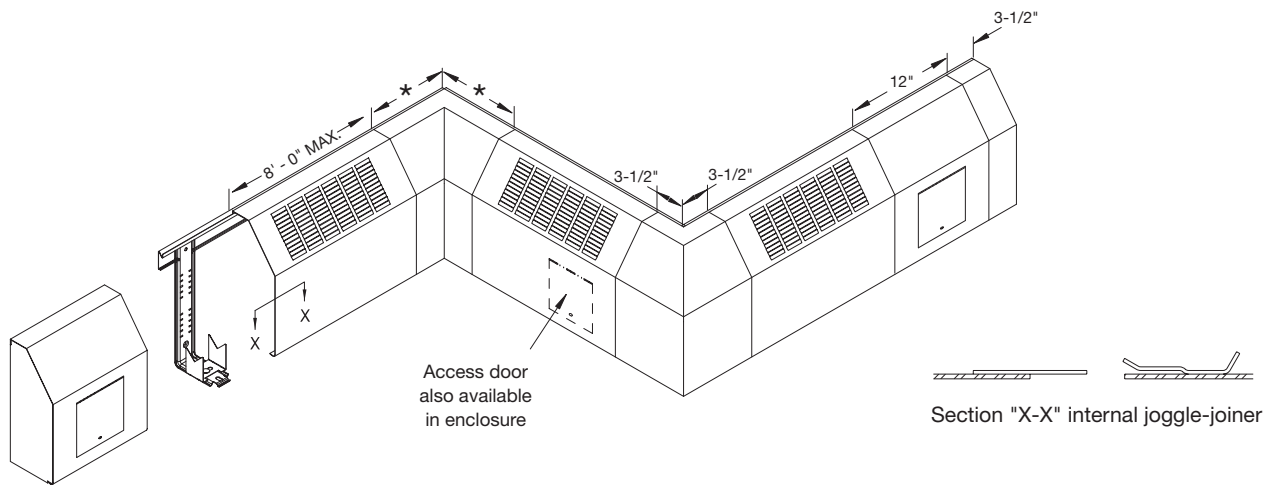
Standard enclosures are available
in 1' to 8' lengths in 6" increments



Notes:

■ All accessories are overlap type, butt type optional (except as noted)

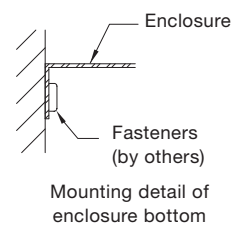
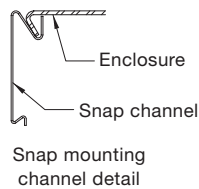
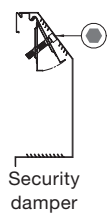
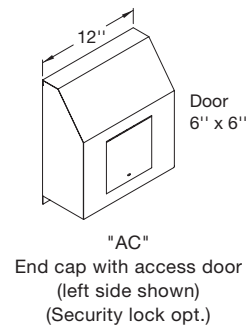
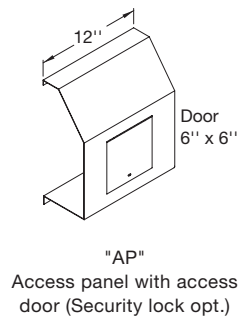
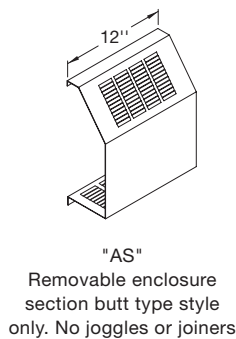
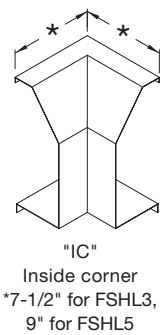
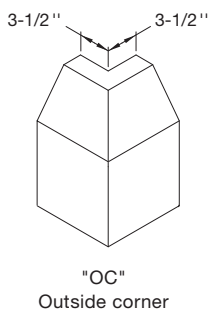
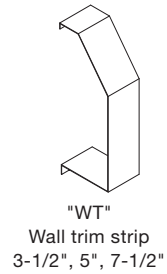
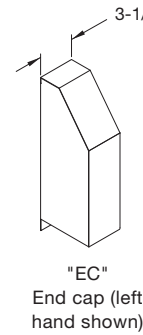
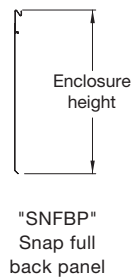
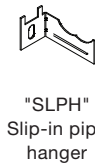
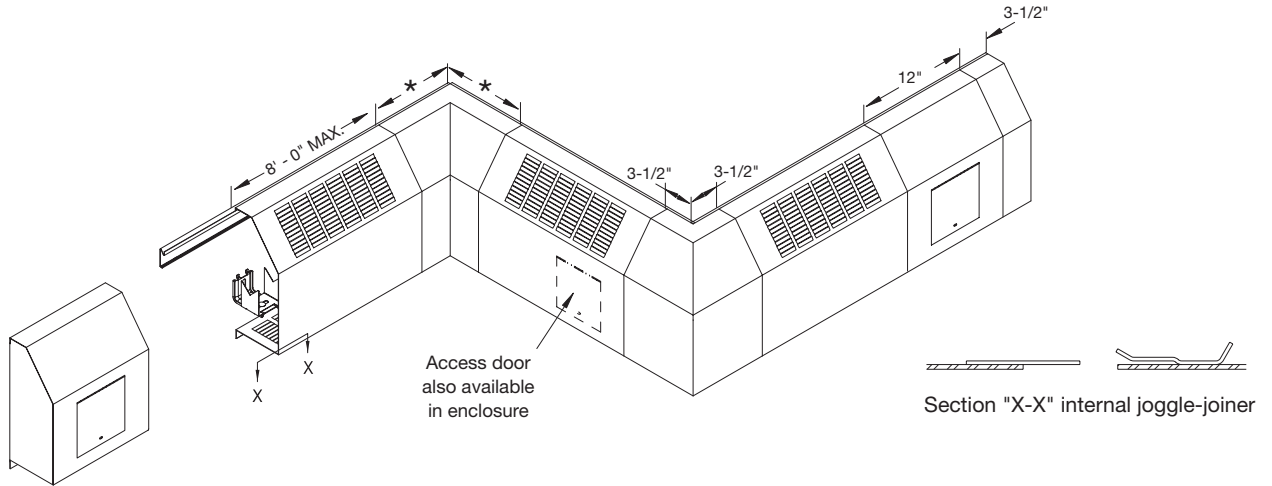
Standard enclosures are available in 1' to 8' lengths in 6" increments



Notes:

■ All accessories are overlap type, butt type optional (except as noted)

Standard enclosures are available
in 1' to 8' lengths in 6" increments

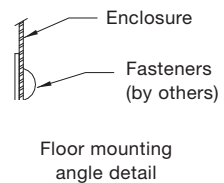
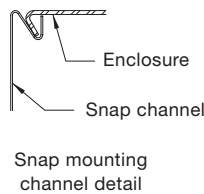
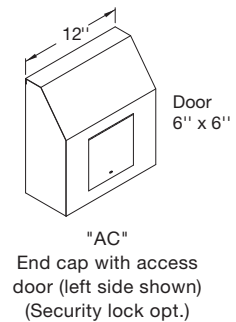
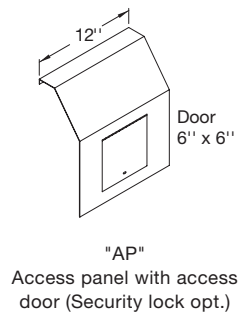
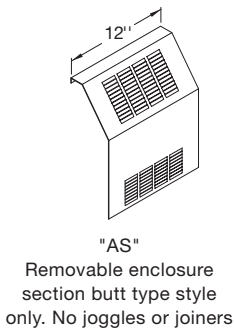
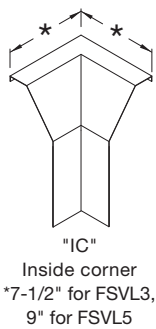
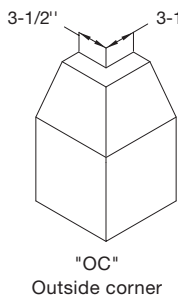
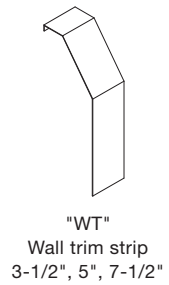
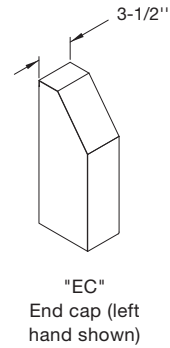
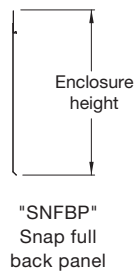
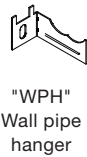
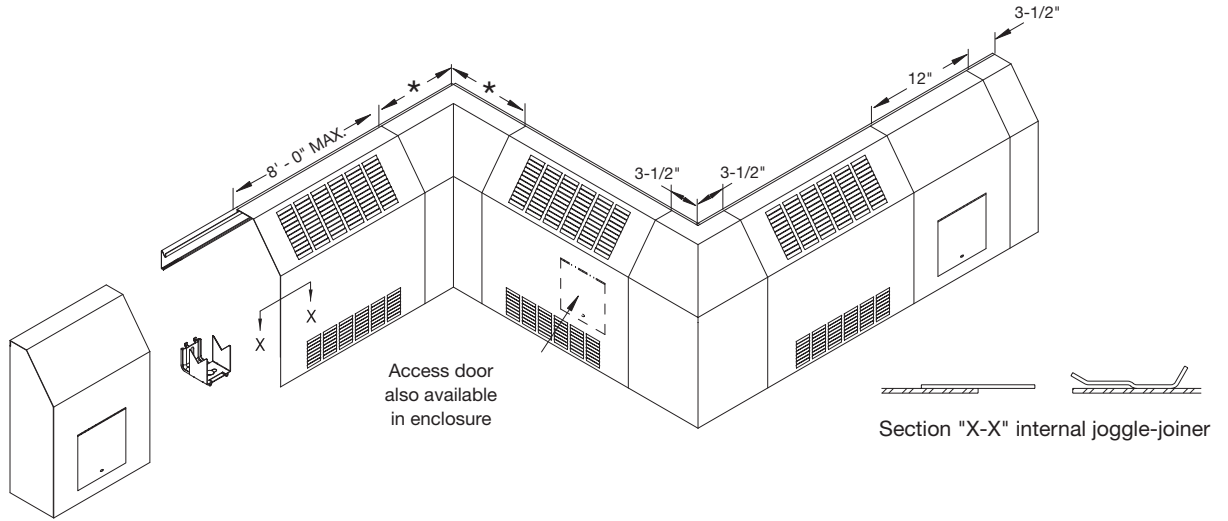


Notes:

■ All accessories are overlap type, butt type optional (except as noted)

FSVL5 / FSVL3

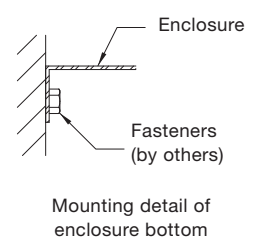
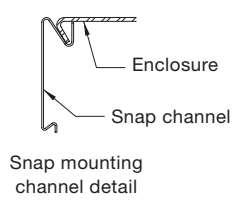
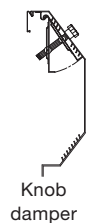
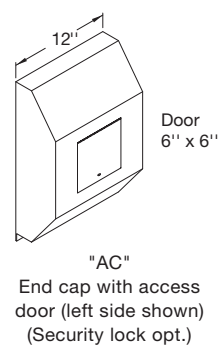
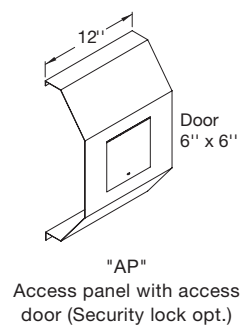
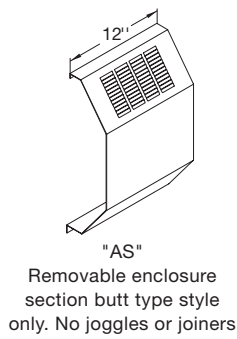
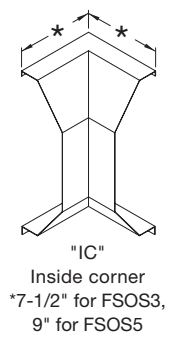
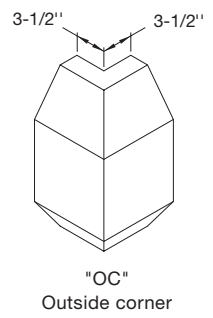
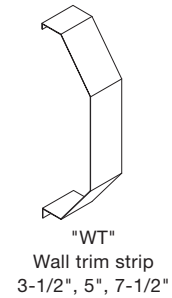
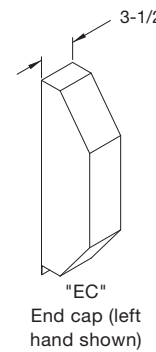
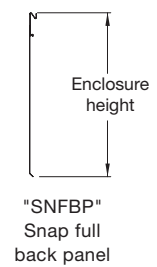
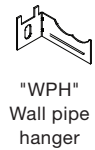
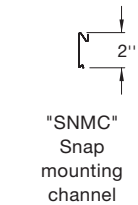
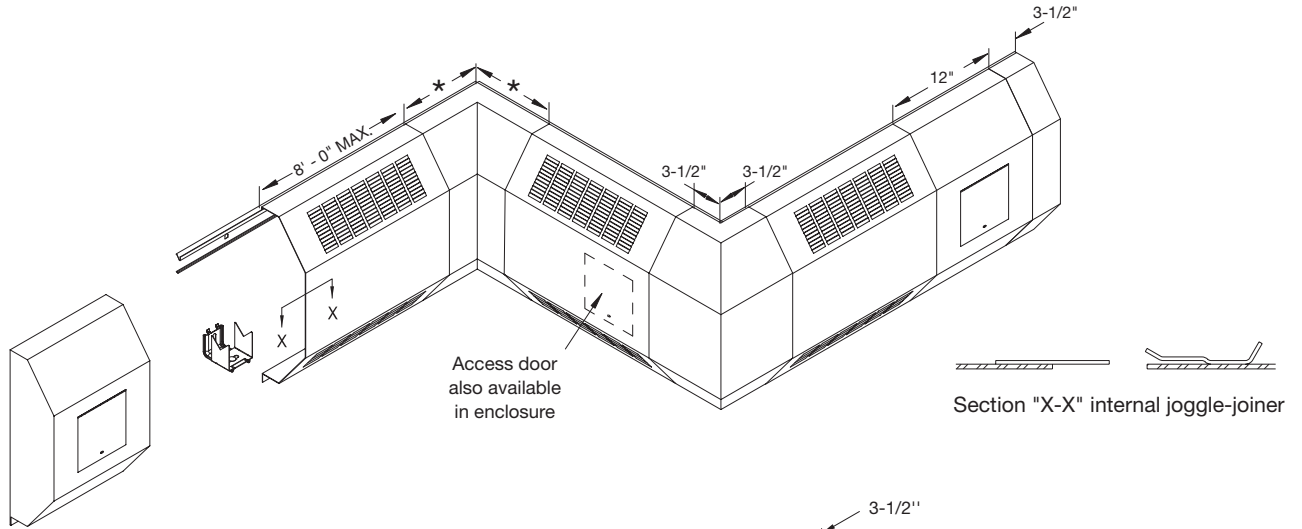
Standard enclosures are available in 1' to 8' lengths in 6" increments



Notes:

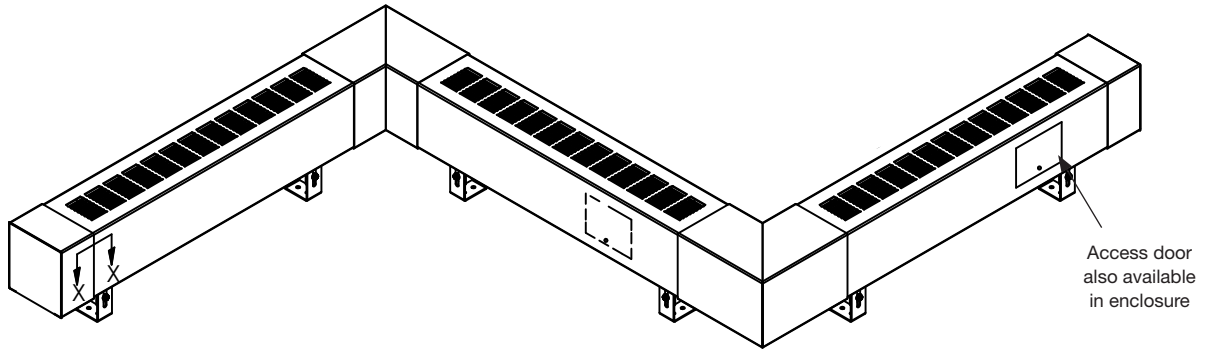
■ All accessories are overlap type, butt type optional (except as noted)

Standard enclosures are available in 1' to 8' lengths in 6" increments

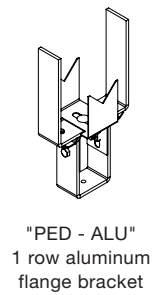
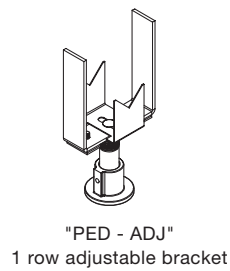
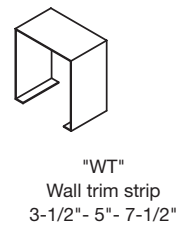
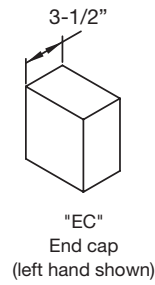
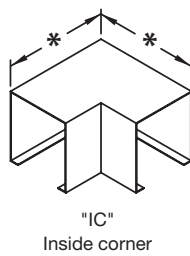
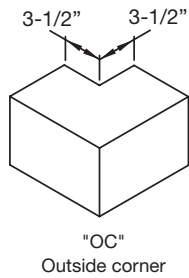


Notes:
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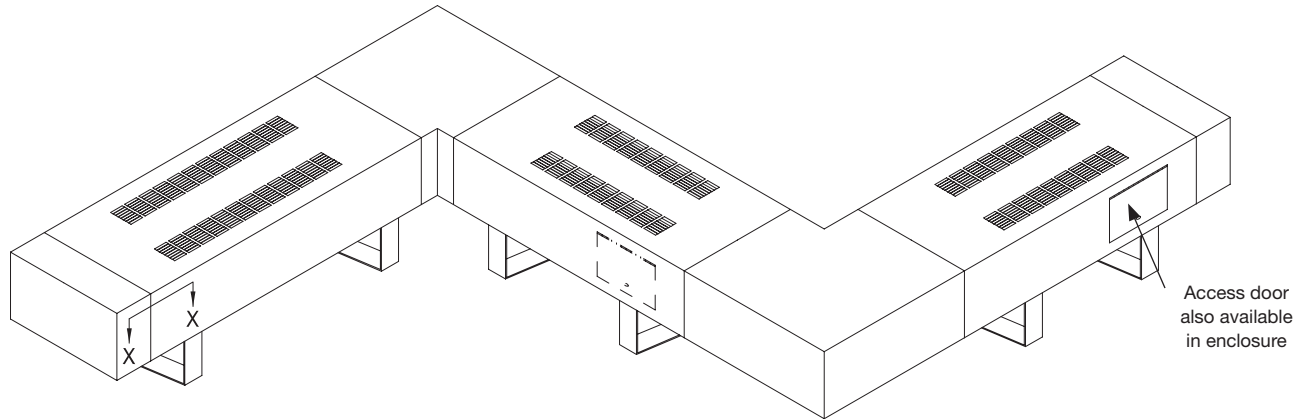
Standard enclosures are available
in 1' to 8' lengths in 6" increments



Section "X-X" internal joggle-joiner

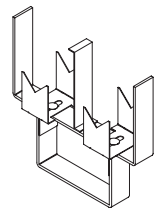
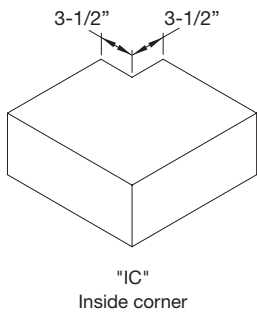
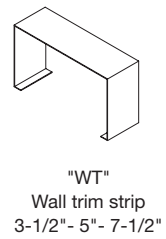
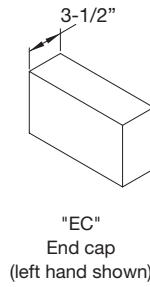
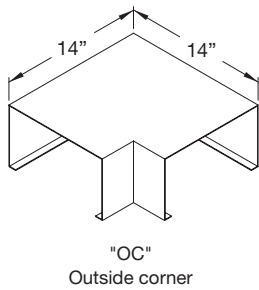


Standard enclosures are available
in 1' to 8' lengths in 6" increments

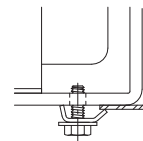


Access door
also available
in enclosure

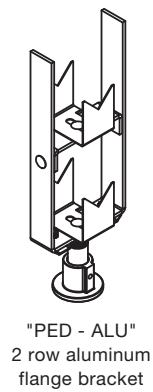
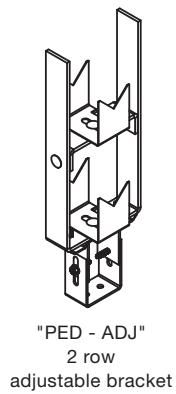
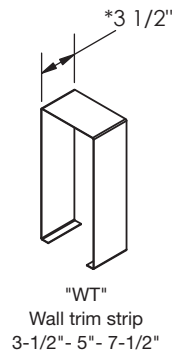
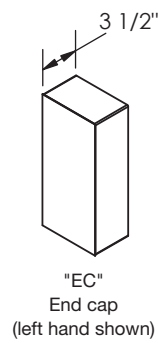
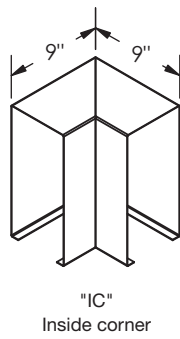
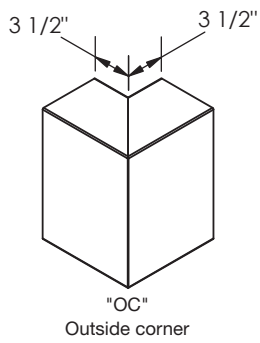
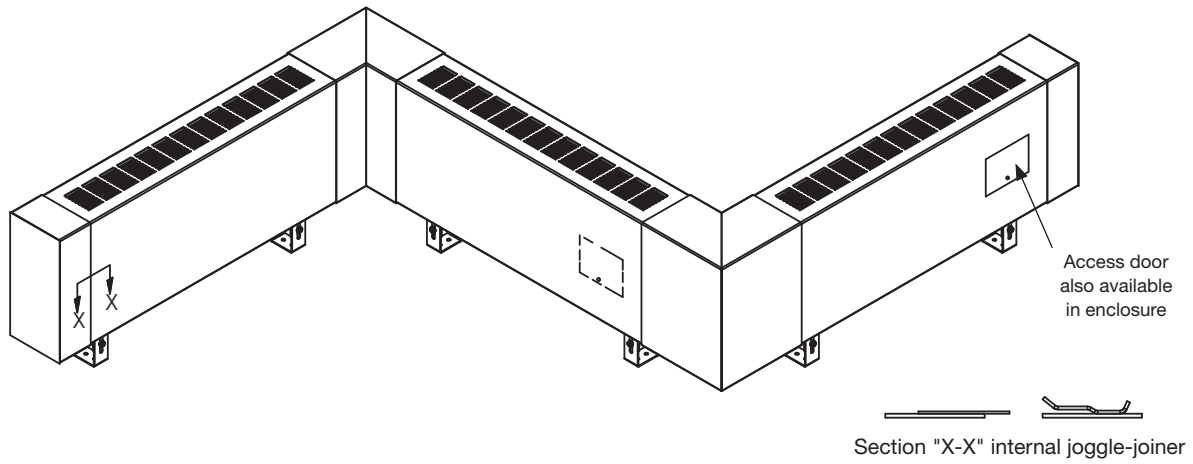
Section "X-X" internal joggle-joiner



"PED - ADJ"
2 column
adjustable bracket

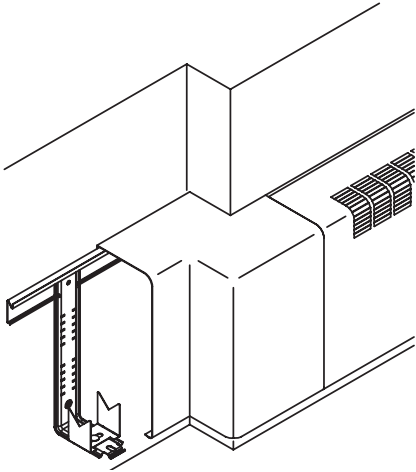


Standard enclosures are available
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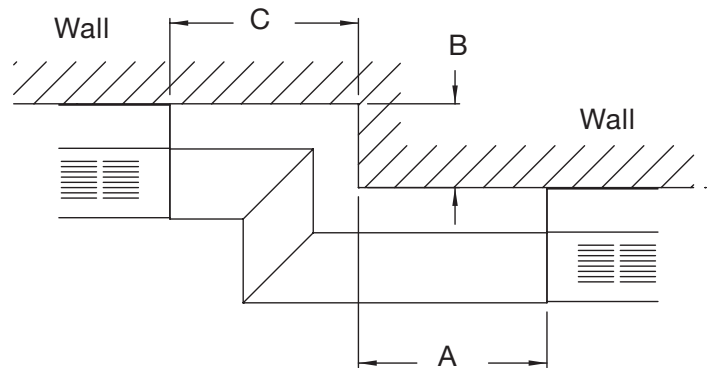


Z-corner enclosure

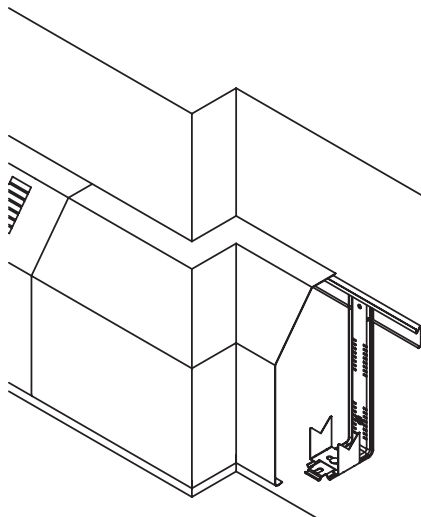
**FR5 Z-corner
left hand shown***



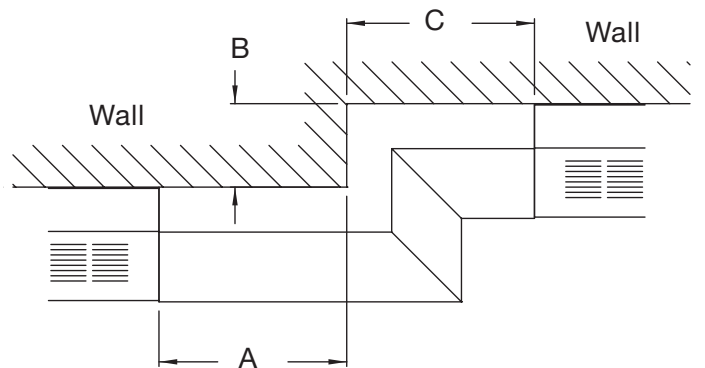
**Top View
FS5 Z-corner left hand shown****



**FS5 Z-corner
right hand shown***



**Top View
FS5 Z-corner right hand shown****



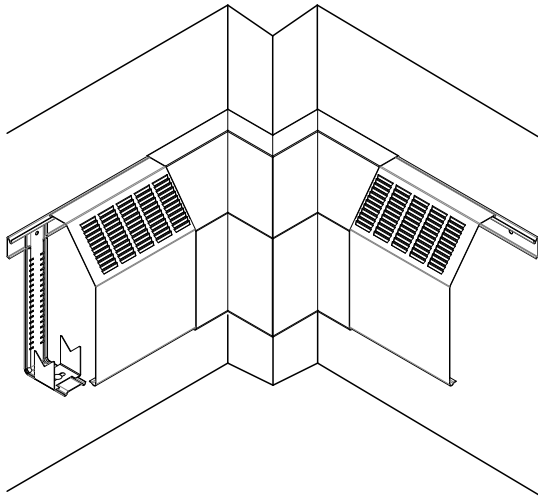
Notes:

- *Z-corners are available for all enclosure styles
- A dimension must be min. 1" (typ. use submittal outside corner wall length)
- B dimension must be min. 1-5/8"

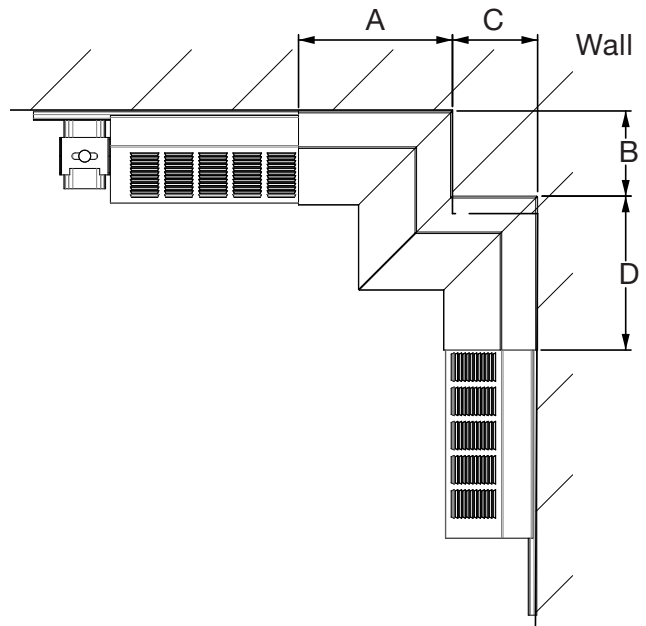
- C dimension must be min. 1" larger than the enclosure depth (typ. use submittal inside corner wall length)
- **When ordering specify enclosure style, dimensions listed from left to right and LH or RH style Z-corner

M-corner enclosure

FS5 M-corner shown*



Top view



Note:

- *M-corners are available for all enclosure styles
- A and D dimensions must be min. 1" (typ. use submittal inside cover wall length)
- B and C dimensions must be min. 1-5/8"
- All accessories overlap (except as noted)
- Interlocking style optional (except as noted)

The effects of water velocity on finned tube output

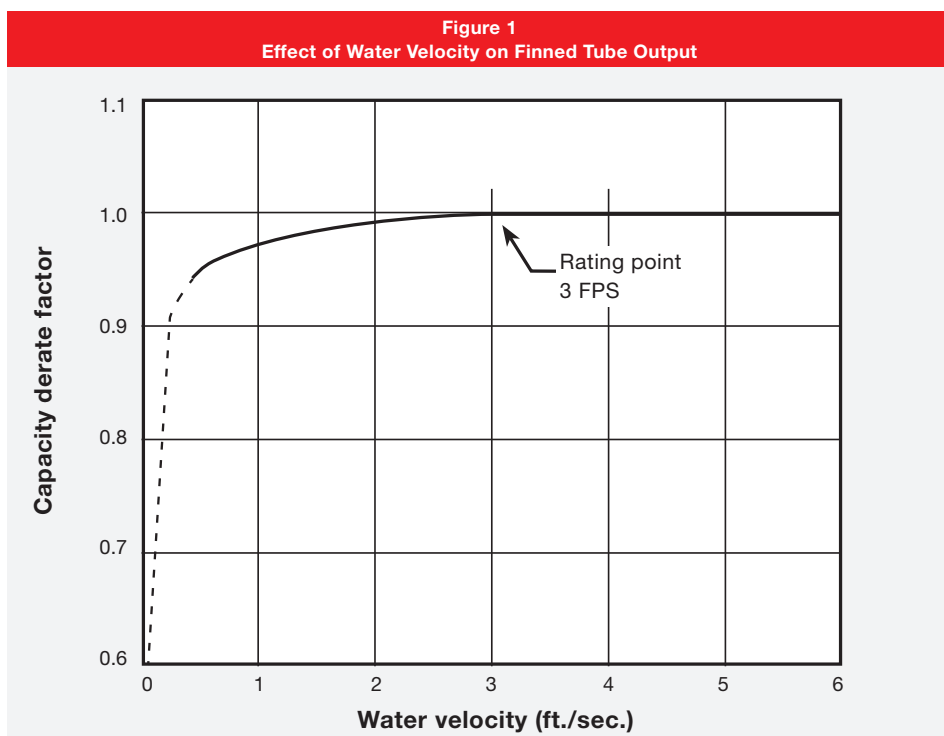
The Institute of Boiler and Radiator Manufacturers sponsored a test program at the University of Illinois to determine the effect of water velocity on heat output of various sizes of finned tubed element.

The results of this test show that when the water velocity falls below 0.4 f.p.s., the flow changes from turbulent to streamline. With systems designed at water velocities below this point the output cannot be accurately predicted so should always be avoided.

Figure 1 shows rating factors that can be utilized when the water velocity falls below 3 f.p.s.

It is recommended when designing low-load systems that the water velocity be a key factor in element selection.

For more information on this topic, please refer to the 1969 equipment volume of ASHRAE Guide and Data Book Page #393.



Note:
 ■ ---- below critical velocity

Figure 2
Pipe water capacities and quantities circulated at velocity of 3 feet per second*

Pipe Size	Gallons per linear foot	Gallons per minute*	Pounds per hour*
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

Note:
 ■ *3 feet per second velocity is basis for hot water rating factors shown on this page

$$\text{Velocity ft./sec.} = \frac{\text{lbs./hr.}}{(\text{gal./ft.}) (3600) (8.3)}$$

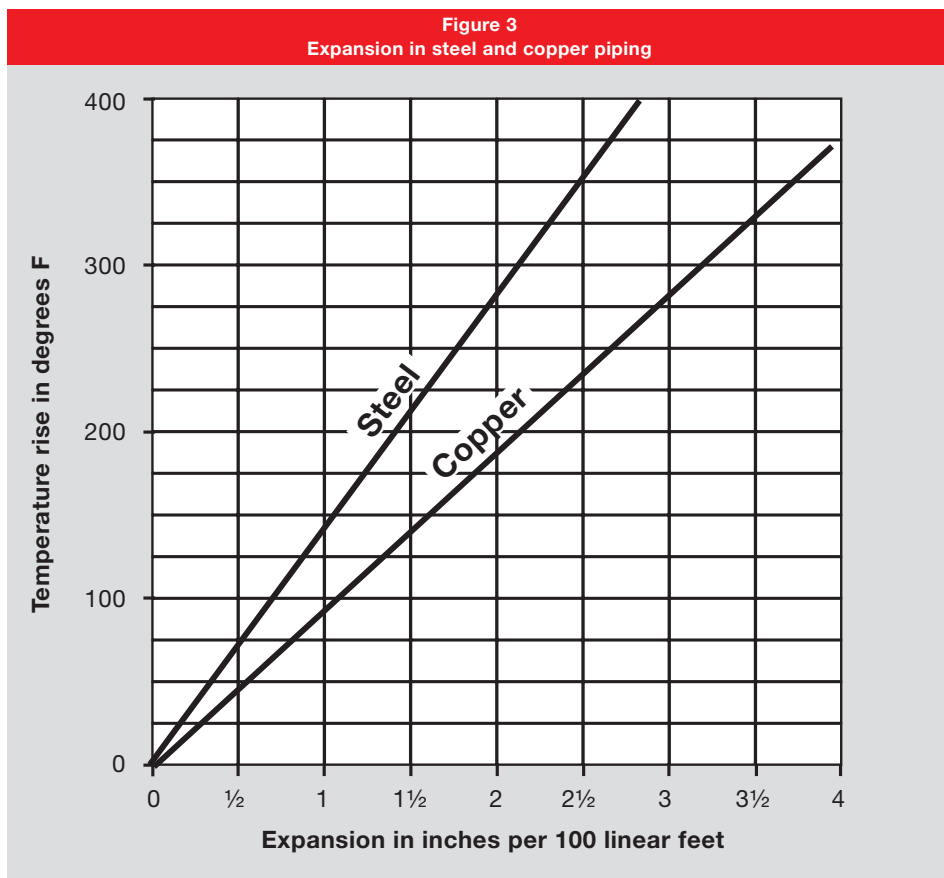
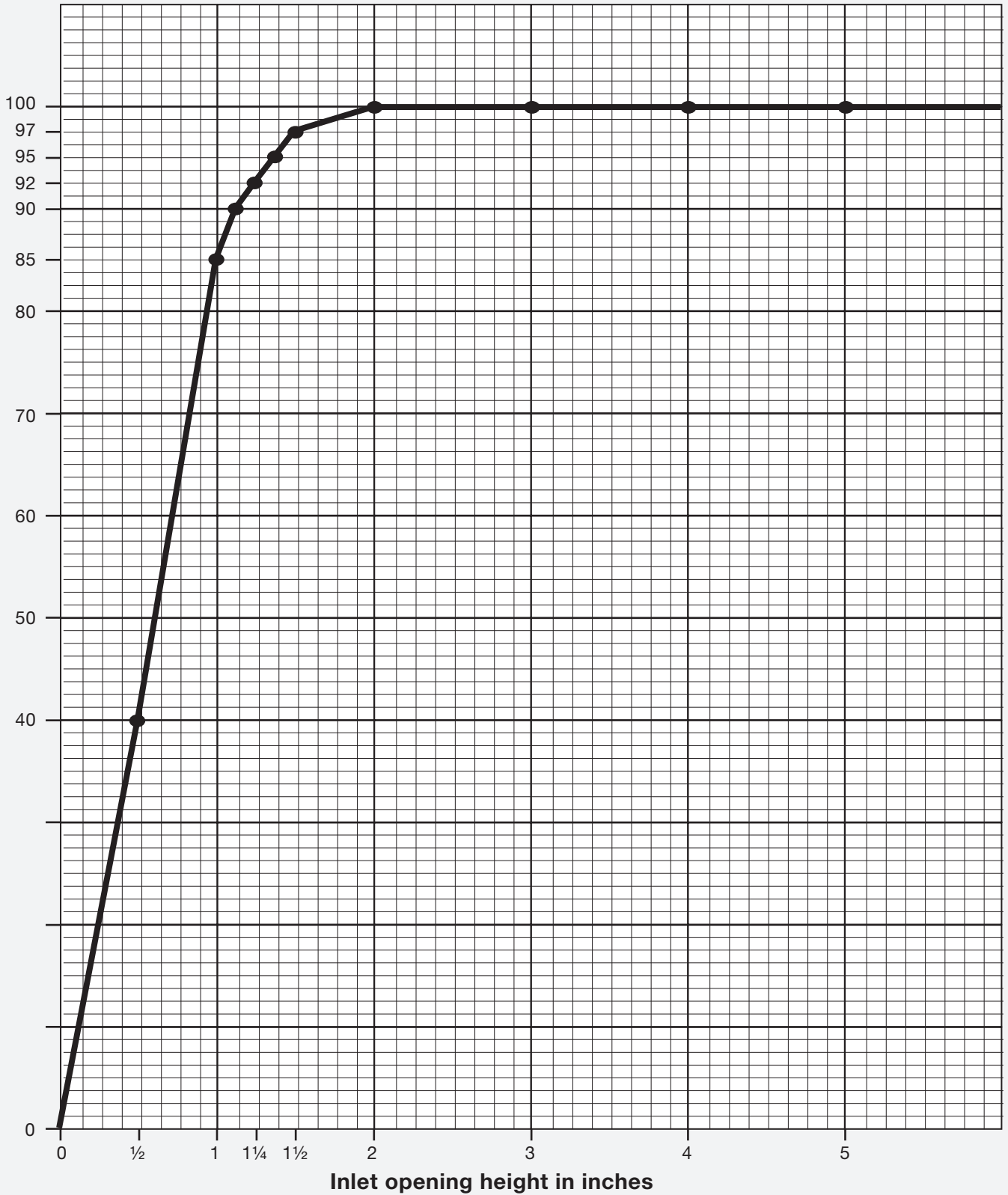


Figure 4 - Inlet vs. output / BTUH capacity reduction



Recommended minimum inlet opening 1-1/2". Applicable to commercial finned-tube only

General

Furnish and install finned tube heating elements and enclosures as indicated on plans, with required mounting components and accessories. Material shall be manufactured in accordance with Zehnder Rittling's High Quality Standards.

Steel heating elements

Steel heating elements shall consist of 0.027" thick galvanized fins permanently bonded to high pressure A106 seamless schedule 40B steel tubing by mechanically expanding the steel tubing to the steel fins. Steel tube wall thickness; 1" dia. - 0.0133", 1-1/4" dia. - 0.140", 2" dia - 0.154", prior to tube expansion.

Guaranteed working pressures:

1" IPS - 780 psig at temperature up to 650°F. 1-1/4" IPS - 660 psig at temperatures up to 650°F.
2" IPS - 405 psig at temperatures up to 650°F.

Copper-aluminum heating elements

Copper-aluminum heating elements shall consist of 0.016" thick, 1100

grade aluminum fins permanently bonded to lightly annealed copper alloy 122 seamless drawn tubing by mechanically expanding the copper tubing to the aluminum fins. Copper tube wall thickness; 3/4" dia - 0.020", 1" dia. - 0.025", 1-1/4" dia. - 0.028", prior to tube expansion. Copper tube meets the following ASTM standard designations: ASTM B42, ASTM B68, ASTM B75, ASTM B88, ASTM B111, ASTM B152, ASTM B280.

Guaranteed working pressures:

1-1/4" CU - 194 psig at temperatures up to 300°F. 1" CU - 204 psig at temperature up to 300°F. 3/4" CU - 218 psig at temperatures up to 300°F.

Mounting channel or full back panel

Snap mounting channel shall be die formed from 23-gauge galvanized steel and the full back panel from 20-gauge galvanized steel. For rigidity, the top projection of the mounting channel or full back panel shall position the enclosure away from the wall so as to allow for installation or removal of enclosure without damage to wall. A urethane gasket is available to form air seal at wall (optional).

Wall hanger brackets for all open inlet enclosures

All hanger brackets shall be die formed

for rigidity. Brackets used for first row or one row of finned tube shall incorporate a positive-lock mounting clip for the enclosure for all open inlet enclosures. Brackets will be self-gauging, allowing for a single measurement installation.

Wall hanger brackets for all open inlet enclosures

All hanger brackets shall be die formed for rigidity. Brackets will support the element and fasten directly to the wall. They will not attach to the enclosure.

All hangers must provide for lengthwise movement of elements during expansion and contraction as well as aligning elements to prevent contact with brackets, walls, or enclosure.

ETL hanger brackets

All brackets must provide for lengthwise movement of elements during expansion and contraction as well as aligning elements to prevent contact with brackets, walls or enclosure. Brackets to be adjustable type (+5/8 / -13/16) as standard. Optional solid post with aluminum floor flange available. Brackets to be provided with all pieces for floor mounting, excluding fasteners.

Enclosures and accessories

Enclosures shall be of the type as shown on the drawings. Enclosures

shall be manufactured from 14-16-18-gauge cold rolled steel. All enclosures shall be reinforced with welded gussets. The joining of enclosure shall be accomplished by use of internal joggle joiners to provide for hairline joints and added rigidity. No sheet metal screws or other fastening devices shall be visible.

Securing the top portion of the enclosure to the wall will be accomplished by use of a full length mounting channel or full back panel.

The lower portion of open inlet enclosures will be secured by use of a positive-locking, bottom-mounting clip using fasteners, thus preventing removal without tools.

VL enclosures will be secured to the floor using floor mounting angle or channel (fasteners by others).

HL enclosures will be secured to the wall by the flange of the enclosure (with fasteners by others).

Pedestal enclosures will attach to the brackets which will be mounted directly to the floor, no wall supports or brackets are needed.

Dampers

Enclosure dampers shall be provided where indicated. Damper blades shall

be fabricated from 18-gauge material painted to match enclosure color. Threaded damper screw and trunion shall provide positive operation of blade to provide variable heat output.

Damper shall be operated by solid plastic damper knobs attached to damper screw. Recessed security allen head operators shall be used in secure areas as indicated. Consult factory on enclosure heights of 8" or below.

Access doors

Access doors shall be provided where noted on plans. Doors shall be 6" x

6". Doors shall be hinged and have slotted operators. Recessed security allen head operators shall be used in secure areas as indicated. Doors shall be positioned directly in enclosure or in 12" long access panel. Consult factory on enclosure heights of 8" or below.

Paint

All enclosures and accessories shall be degreased and chemically phosphatized before application of a durable, attractive, electrostatic epoxy powder coating. Decorator colors are available from Zehnder Rittling's color selector chart.

Zehnder Rittling's reputation for leadership in commercial heating systems design and fabrication thrives on a demonstrated ability to modify or adapt components from our vast standard inventory and to break new ground with innovative applications.

Our ingenuity and expertise free architects from the constraints of hydronic-heating conventions. We can, for instance, customize enclosures to any dimensions in stainless, textured embossed, or perforated steel for installation anywhere: in ceilings, walls, or trenches. We'll angle finned tube systems to match the wall or slope of a floor. We can even fabricate the enclosure to match the curve of a wall. We'll fabricate all copper heating elements, bronze anodized and other specialty outlet grilles, or pipe enclosures without grilles. Challenge us and we'll build it!

If you have a special application you would like us to evaluate, please call to arrange a consultation with a Zehnder Rittling expert.

The brand with the best indoor climate

The broad and clearly structured portfolio from the Zehnder Group is split into four product lines. Consequently, we can provide the right product, the perfect system and the matching service for all types of projects - from new builds to renovations, single- or multiple- family homes, as well as commercial projects. This variety ensures that our wealth of experience is continuously expanding, providing tangible added value to our customers on a daily basis.



Decorative radiators

Our individual decorative radiators for living and bathrooms not only make a home warmer but also more attractive. Created by renowned designers, they impress with excellent functionality.

NUMBERS THAT SPEAK FOR THEMSELVES

MANUFACTURER OF
THE
1ST

121
YEARS OF INNOVATIVE

AROUND **3,000** FOUNDED IN

REPRESENTED IN
COUNTRIES **19**

1,800,000
TONNES OF CO₂ SAVED SINCE 2005

WARRANTY

Zehnder guarantees its products to be free from defects in material and workmanship for a period of one year from date of shipment from our Buffalo, New York factory.

Should there be any defects in the good(s), the purchaser should promptly notify Zehnder and upon receipt of written consent from Zehnder, the purchaser shall return the defective good(s) to the factory for inspection with freight prepaid. If inspection shows the goods to be defective, Zehnder will at its discretion repair or replace the said item(s).

Defects arising from damage due to shipment, improper installation, negligence or misuse by others are not covered by this warranty.



Comfortable indoor ventilation

Our comfortable indoor ventilation is energy-efficient and provides a healthy indoor climate. It promotes the well-being of the occupants and increases the value of the property.



Heating and cooling ceiling systems

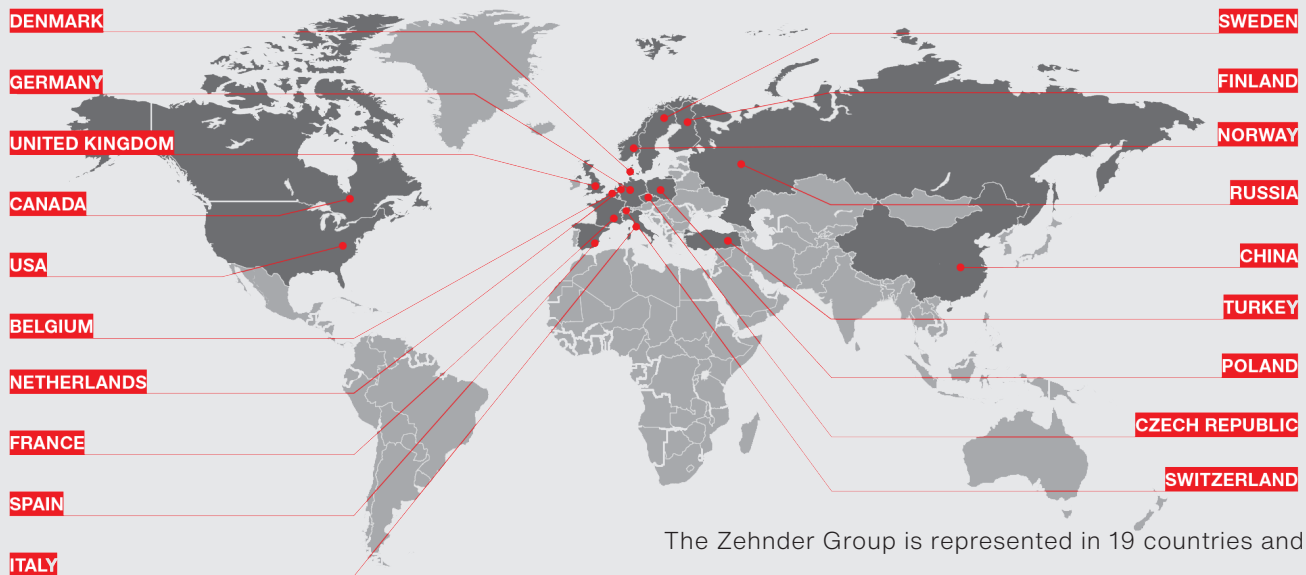
Zehnder heating and cooling ceiling systems are convenient and energy-efficient for heating and cooling. They are perfectly attuned to the relevant environment.



Clean air solutions

Clean air solutions from Zehnder reduce the level of dust in the air, create a healthier working climate and reduce the amount of cleaning required.

BEST CLIMATE IN THE WORLD



The Zehnder Group is represented in 19 countries and its

This warranty is extended only to the original purchaser from Zehnder.

IMPORTANT: Approved submittal documentation, specific to each project, supersedes the general guidelines contained within this document.

zehnder

The Zehnder brand offers excellent indoor climate solutions within the sectors of decorative radiators, clean air solutions, comfortable indoor ventilation and heating and cooling ceiling systems.

