

# **LT** series



**COMMERCIAL FINNED TUBE  
LOW OPERATING WATER TEMPERATURE  
HIGH OUTPUT OFFERINGS**

**Vulcan**  
RADIATOR



## MEETING TODAY'S GREEN INITIATIVES...

Today's high efficiency condensing boiler and ground source heat pump hot water systems demand commercial finned tube radiation with the highest BTU outputs possible.

The traditional hot water commercial radiation system operated at 180°F water temperatures. Newer hot water HVAC systems now often operate in the 120°F – 140°F range which is a decrease in heating energy requirements of approximately 60%. Now, the difficulties facing the engineer are how to recover the lost output at the lower operating temperatures and maintain building comfort.

Vulcan has long been considered a leader in the commercial hydronic heating industry. With new, expanded enclosure offerings and a vast array of elements, Vulcan has included the highest capacity combinations together in one catalog. These high efficiency commercial enclosure and finned tube element offerings will provide the engineer with a variety of proven choices to meet the demands of today's low water temperature operating systems.

All of the offerings in this catalog will allow today's modern high efficiency commercial condensing boilers to operate at their full potential, maximizing system efficiency and providing the building owner with all the cost saving benefits possible. This high performing BTU-per-foot commercial finned tube selection will help you meet the requirements of today's new high efficiency low temperature operating systems, and, as part of a complete building system, may help qualify for LEED energy credits.

### Retrofit and New Buildings

The flexibility of Vulcan's low operating temperature commercial finned tube allows it to easily be installed in retrofit applications as well as new building designs. Whether designing a new commercial office building or changing the layout of an existing building, either can easily be accomplished using Vulcan's commercial finned tube radiation. Piping design for hot water hydronic heating systems is extremely flexible and can help cut design costs significantly.

### Custom Applications

With over 70 years of manufacturing experience in the commercial finned tube market, Vulcan's engineering group can customize any enclosure application to meet your specific building needs. That, along with the most modern powder paint system available, gives the engineer and architect almost limitless design options. Our engineering staff has over 50 years of experience in the design and application of commercial finned tube heating systems and will assist you in meeting any job condition you encounter. We understand that your design concepts and conditions are endless. Vulcan will evaluate your options and provide multiple proven design concepts that will perform to the requirements needed for many years to come.

### Working for More Green

All Vulcan Commercial Hydronics products are made from recycled materials. Contact your Vulcan representative for material recycled contents.







# FEATURES AND BENEFITS

## • Low Operating Temperatures and Premium Performance

The Vulcan High Capacity Finned Tube is intended specifically for the use with low temperature water operating condensing boilers and ground source heat pumps.

## • Allows for Maximum Boiler Operating Efficiencies

## • Most Efficient and Comfortable Heating Option Available

## • Greater Comfort with Room-by-Room Temperature Control

When utilizing the many advanced control devices available, each room allows for comfort settings for the occupants based on personal preference.

## • Clean and Healthy

Heat from the natural convective action is distributed evenly along the exterior walls of the room, warming the wall while replacing the cold with warmth. When using hydronic heating systems, the building's ventilation system can be reduced in size, allowing additional budget to increase the quality of the indoor air quality system. This will provide cleaner and better air quality, and fewer airborne germs circulated throughout the building.

## • Design Flexibility

Future zoning or circuit layout changes are easily done and cost less than changing out expensive duct work.

## • Durable Powder Paint Finish

## • Custom Paint Color Matching

Vulcan's state-of-the-art powder paint system allows for the matching of custom colors and includes the availability of RAL and metallic color offerings.

## • Multiple Enclosure Material and Gauge Options

Cold Rolled Steel is standard. Aluminum and Stainless Steel are available options.

Choose from 18, 16, & 14 gauge material thickness.

## • "Made in the U.S.A."

All of the Vulcan High Capacity products are proudly made in the United States utilizing domestically produced raw materials.

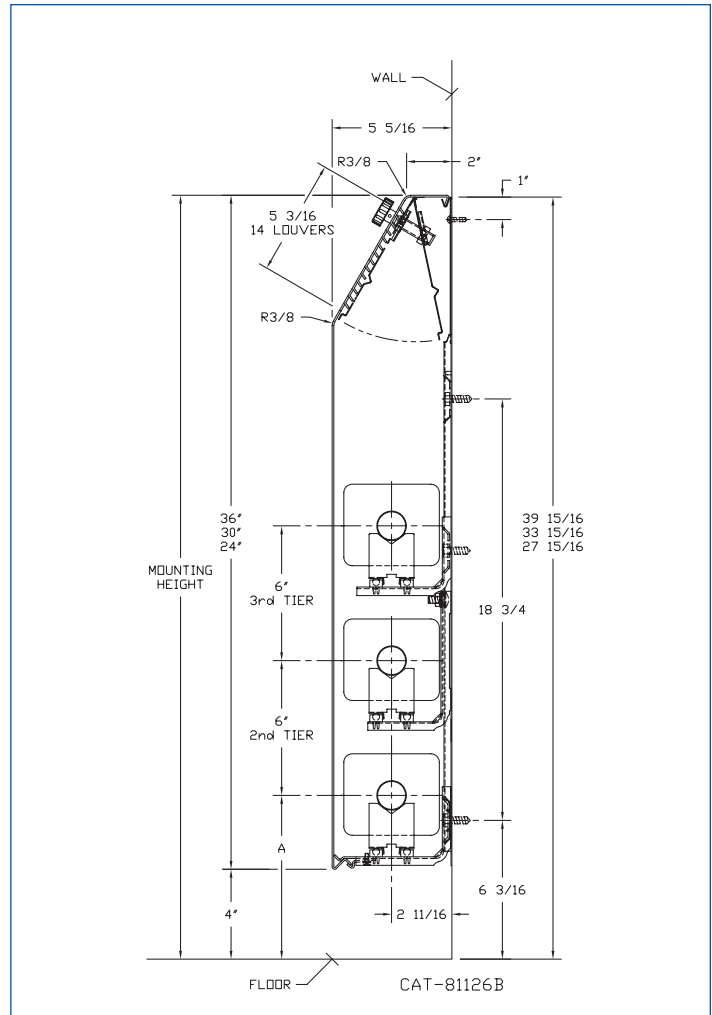
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# LV4-S Style "S" Slope Top Enclosures

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





STYLE LT Series "S"

COPPER/ALUMINUM ELEMENT RATINGS

ALL RATINGS ARE BASED ON 3 FPS WATER VELOCITY, 65°EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FIN PER FT.	FIN THICKNESS IN INCHES	ENCL HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215°F FACTOR	HOT WATER (AVG.)													
									200°F	190°F	180°F	170°F	160°F	150°F	140°F	130°F	120°F	110°F	100°F			
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES													
											1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15
3/4"	VC3/4-433	3-5/8" x 4-1/4"	32	.020	24	1	28	1670	1440	1300	1150	1020	890	750	670	550	430	330	250			
					24	2-6 CL	28	2570	2210	2000	1770	1570	1360	1160	1030	850	670	510	390			
					24	3-6 CL	28	2960	2550	2310	2040	1810	1570	1330	1180	980	770	590	440			
					30	1	34	1860	1600	1450	1280	1130	990	840	740	610	480	370	280			
					30	2-6 CL	34	2460	2120	1920	1700	1500	1300	1110	980	810	640	490	370			
					30	3-6 CL	34	2830	2430	2210	1950	1730	1500	1270	1130	930	740	570	420			
					36	1	40	2050	1760	1600	1410	1250	1090	920	820	680	530	410	310			
					36	2-6 CL	40	2710	2330	2110	1870	1650	1440	1220	1080	890	700	540	410			
					36	3-6 CL	40	3120	2680	2430	2150	1900	1650	1400	1250	1030	810	620	470			
					36	1	28	1910	1640	1490	1320	1170	1010	860	760	630	500	380	290			
3/4"	VC3/4-434	3-5/8" x 4-1/4"	40	.020	24	1	28	2700	2320	2110	1860	1650	1430	1220	1080	890	700	540	410			
					24	2-6 CL	28	3080	2650	2400	2130	1880	1630	1390	1230	1020	800	620	460			
					24	3-6 CL	28	3400	2950	2650	2350	2050	1750	1450	1250	1050	830	640	480			
					30	1	34	2120	1820	1650	1460	1290	1120	950	850	700	550	420	320			
					30	2-6 CL	34	2810	2420	2190	1940	1710	1490	1260	1120	930	730	560	420			
					30	3-6 CL	34	3200	2750	2500	2210	1950	1700	1440	1280	1060	830	640	480			
					36	1	40	2330	2000	1820	1610	1420	1230	1050	930	770	610	470	350			
					36	2-6 CL	40	3080	2650	2400	2130	1880	1630	1390	1230	1020	800	620	460			
					36	3-6 CL	40	3510	3020	2740	2420	2140	1860	1580	1400	1160	910	700	530			
					36	1	28	2260	1940	1760	1560	1380	1200	1020	900	750	590	450	340			
3/4"	VC3/4-435	3-5/8" x 4-1/4"	50	.020	24	1	28	3110	2670	2430	2150	1900	1650	1400	1240	1030	810	620	470			
					24	2-6 CL	28	3510	3020	2740	2420	2140	1860	1580	1400	1160	910	700	530			
					24	3-6 CL	28	3810	3260	2960	2630	2310	1990	1670	1450	1190	940	720	550			
					30	1	34	2510	2160	1960	1730	1530	1330	1130	1000	830	650	500	380			
					30	2-6 CL	34	3320	2860	2590	2290	2030	1760	1490	1330	1100	860	660	500			
					30	3-6 CL	34	3750	3230	2930	2590	2290	1990	1690	1500	1240	980	750	560			
					36	1	40	2760	2370	2150	1900	1680	1460	1240	1100	910	720	550	410			
					36	2-6 CL	40	3650	3140	2850	2520	2230	1930	1640	1460	1200	950	730	550			
					36	3-6 CL	40	4120	3540	3210	2840	2510	2180	1850	1650	1360	1070	820	620			
					36	1	28	1690	1450	1320	1170	1030	900	760	680	560	440	340	250			
1"	VC433	3-5/8" x 4-1/4"	32	.020	24	1	28	2590	2230	2020	1790	1580	1370	1170	1040	850	670	520	390			
					24	2-6 CL	28	2980	2560	2320	2060	1820	1580	1340	1190	980	770	600	450			
					24	3-6 CL	28	3370	2910	2630	2330	2030	1730	1430	1230	1000	780	600	450			
					30	1	34	1880	1620	1470	1300	1150	1000	850	750	620	490	380	280			
					30	2-6 CL	34	2490	2140	1940	1720	1520	1320	1120	1000	820	650	500	370			
					30	3-6 CL	34	2860	2460	2230	1970	1740	1520	1290	1140	940	740	570	430			
					36	1	40	2070	1780	1610	1430	1260	1100	930	830	680	540	410	310			
					36	2-6 CL	40	2740	2360	2140	1890	1670	1450	1230	1100	900	710	550	410			
					36	3-6 CL	40	3150	2710	2460	2170	1920	1670	1420	1260	1040	820	630	470			
					36	1	28	1990	1710	1550	1370	1210	1050	900	800	660	520	400	300			
1"	VC434	3-5/8" x 4-1/4"	40	.020	24	1	28	2770	2380	2160	1910	1690	1470	1250	1110	910	720	550	420			
					24	2-6 CL	28	3160	2720	2460	2180	1930	1670	1420	1260	1040	820	630	470			
					24	3-6 CL	28	3550	3060	2780	2440	2100	1800	1500	1250	1000	780	600	450			
					30	1	34	2210	1900	1720	1520	1350	1170	990	880	730	570	440	330			
					30	2-6 CL	34	2930	2520	2290	2020	1790	1550	1320	1170	970	760	590	440			
					30	3-6 CL	34	3340	2870	2610	2300	2040	1770	1500	1340	1100	870	670	500			
					36	1	40	2430	2090	1900	1680	1480	1290	1090	970	800	630	490	360			
					36	2-6 CL	40	3220	2770	2510	2220	1960	1710	1450	1290	1060	840	640	480			
					36	3-6 CL	40	3670	3160	2860	2530	2240	1950	1650	1470	1210	950	730	550			
					36	1	28	2360	2030	1840	1630	1440	1250	1060	940	780	610	470	350			
1"	VC435	3-5/8" x 4-1/4"	50	.020	24	1	28	2910	2500	2270	2010	1780	1540	1310	1160	960	760	580	440			
					24	2-6 CL	28	3290	2830	2570	2270	2010	1740	1480	1320	1090	860	660	490			
					24	3-6 CL	28	3620	3120	2820	2470	2170	1870	1570	1370	1150	900	690	520			
					30	1	34	2620	2250	2040	1810	1600	1390	1180	1050	860	680	520	390			
					30	2-6 CL	34	3470	2980	2710	2390	2120	1840	1560	1390	1150	900	690	520			
					30	3-6 CL	34	3920	3370	3060	2700	2390	2080	1760	1570	1290	1020	780	590			
					36	1	40	2880	2480	2250	1990	1760	1530	1300	1150	950	750	580	430			
					36	2-6 CL	40	3810	3280	2970	2630	2320	2020	1710	1520	1260	990	760	570			
					36	3-6 CL	40	4310	3710	3360	2970	2630	2280	1940	1720	1420	1120	860	650			
					36	1	28	1590	1370	1240	1100	970	840	720	640	520	410	320	240			
1-1/4"	VC1433	3-5/8" x 4-1/4"	32	.020	24	1	28	2450	2110	1910	1690	1490	1300	1100	980	810	640	490	370			
					24	2-6 CL	28	2820	2430	2200	1950	1720	1490	1270	1130	930	730	560	420			
					24	3-6 CL	28	3170	2720	2480	2200	1950	1720	1490	1270	1130	930	730	560			
					30	1	34	1770	1520	1380	1220	1080	940	800	710	580	460	350	270			
					30	2-6 CL	34	2340	2010	1830	1610	1430	1240	1050	940	770	610	470	350			
					30	3-6 CL	34	2690	2310	2100	1860	1640	1430	1210	1080	890	700	540	400			
					36	1	40	1950	1680	1520	1350	1190	1030	880	780	640	510	390	290			
					36	2-6 CL	40	2580	2220	2010	1780	1570	1370	1160	1030	850	670	520	390			
					36	3-6 CL	40	2970	2550	2320	2050	1810	1570	1340	1190	980	770	590	450			
					36	1	28	1950	1680	1520	1350	1190	1030	880	780	640	510	390	290			
1-1/4"	VC1434	3-5/8" x 4-1/4"	40	.020	24	1	28	2710	2330	2110	1870	1650	1440	1220	1080	890	700	540	410			
					24	2-6 CL	28	3090	2660	2410	2130	1880	1640	1420	1240	1020	800	620	460			
					24	3-6 CL	28	3470	2980	2710	2390	2120	1840	1560	1390	1150	900	690	520			
					30	1	34	2170	1870	1690	1500	1320	1150	980	870	720	560	430	330			
					30	2-6 CL	34	2870	2470	2240	1980	1750	1520	1290	1150	950	750	570	430			
					30	3-6 CL	34	3270	2810	2550	22											

# LV4-S Style "S" Slope Top Enclosures

## COPPER/ALUMINUM ELEMENT RATINGS

ALL RATINGS ARE BASED ON 3 FPS WATER VELOCITY, 65°F AT

### STYLE LT Series "S"

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FIN PER FT.	FIN THICKNESS IN INCHES	ENCL HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215°F FACTOR	HOT WATER (AVG.)										
									200°F	190°F	180°F	170°F	160°F	150°F	140°F	130°F	120°F	110°F	100°F
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES										
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15
3/4"	VC3/4-43	4-1/4" SQ.	32	.020	24	1	28	1790	1540	1400	1240	1090	950	810	720	590	470	360	270
					24	2-6 CL	28	2810	2420	2190	1940	1710	1490	1260	1120	930	730	560	420
					24	3-6 CL	28	3230	2780	2520	2230	1970	1710	1450	1290	1070	840	650	480
					30	1	34	1990	1710	1550	1370	1210	1050	900	800	660	520	400	300
					30	2-6 CL	34	2630	2260	2050	1810	1600	1390	1180	1050	870	680	530	390
					30	3-6 CL	34	3020	2600	2360	2080	1840	1600	1360	1210	1000	790	600	450
					36	1	40	2190	1880	1710	1510	1340	1160	990	880	720	570	440	330
					36	2-6 CL	40	2900	2490	2260	2000	1770	1540	1310	1160	960	750	580	440
					36	3-6 CL	40	3330	2860	2600	2300	2030	1760	1500	1330	1100	870	670	500
					36	1	28	2350	2020	1830	1620	1430	1250	1060	940	780	610	470	350
					36	2-6 CL	28	3210	2760	2500	2210	1960	1700	1440	1280	1060	830	640	480
					3/4"	VC3/4-44	4-1/4" SQ.	40	.020	24	1	34	2610	2240	2040	1800	1590	1380	1170
24	2-6 CL	34	3460	2980						2700	2390	2110	1830	1560	1380	1140	900	690	520
24	3-6 CL	34	3940	3390						3070	2720	2400	2090	1770	1580	1300	1020	790	590
30	1	40	2870	2470						2240	1980	1750	1520	1290	1150	950	750	570	430
30	2-6 CL	40	3800	3270						2960	2620	2320	2010	1710	1520	1250	990	760	570
30	3-6 CL	40	4330	3720						3380	2990	2640	2290	1950	1730	1430	1130	870	650
36	1	28	2470	2120						1930	1700	1510	1310	1110	990	820	640	490	370
36	2-6 CL	28	3270	2810						2550	2260	1990	1730	1470	1310	1080	850	650	490
36	3-6 CL	28	3700	3180						2890	2550	2260	1960	1670	1480	1220	960	740	560
36	1	34	2750	2370						2150	1900	1680	1460	1240	1100	910	720	550	410
36	2-6 CL	34	3640	3130						2840	2510	2220	1930	1640	1460	1200	950	730	550
36	3-6 CL	34	4110	3530						3210	2840	2510	2180	1850	1640	1360	1070	820	620
3/4"	VC3/4-45	4-1/4" SQ.	50	.020	24	1	40	3030	2610	2360	2090	1850	1610	1360	1210	1000	790	610	450
					24	2-6 CL	40	4010	3450	3130	2770	2450	2130	1800	1600	1320	1040	800	600
					24	3-6 CL	40	4530	3900	3530	3130	2760	2400	2040	1810	1490	1180	910	680
					30	1	28	1810	1560	1410	1250	1100	960	810	720	600	470	360	270
					30	2-6 CL	28	2830	2430	2210	1950	1730	1500	1270	1130	930	740	570	420
					30	3-6 CL	28	3250	2800	2540	2240	1980	1720	1460	1300	1070	850	650	490
					36	1	34	2010	1730	1570	1390	1230	1070	900	800	660	520	400	300
					36	2-6 CL	34	2660	2290	2070	1840	1620	1410	1200	1060	880	690	530	400
					36	3-6 CL	34	3060	2630	2390	2110	1870	1620	1380	1220	1010	800	610	460
					36	1	40	2210	1900	1720	1520	1350	1170	990	880	730	570	440	330
					36	2-6 CL	40	2930	2520	2290	2020	1790	1550	1320	1170	970	760	590	440
					36	3-6 CL	40	3370	2900	2630	2330	2060	1790	1520	1350	1110	880	670	510
1"	VC43	4-1/4" SQ.	32	.020	24	1	28	2140	1840	1670	1480	1310	1130	960	860	710	560	430	320
					24	2-6 CL	28	2920	2510	2280	2010	1780	1550	1310	1170	960	760	580	440
					24	3-6 CL	28	3330	2860	2600	2300	2030	1760	1500	1330	1100	870	670	500
					30	1	34	2380	2050	1860	1640	1450	1260	1070	950	790	620	480	360
					30	2-6 CL	34	3150	2710	2460	2170	1920	1670	1420	1260	1040	820	630	470
					30	3-6 CL	34	3590	3090	2800	2480	2190	1900	1620	1440	1180	930	720	540
					36	1	40	2620	2250	2040	1810	1600	1390	1180	1050	860	680	520	390
					36	2-6 CL	40	3470	2980	2710	2390	2120	1840	1560	1390	1150	900	690	520
					36	3-6 CL	40	3960	3410	3090	2730	2420	2100	1780	1580	1310	1030	790	590
					36	1	28	2510	2160	1960	1730	1530	1330	1130	1000	830	650	500	380
					36	2-6 CL	28	3000	2580	2340	2070	1830	1590	1350	1200	990	780	600	450
					36	3-6 CL	28	3390	2920	2640	2340	2070	1800	1530	1360	1120	880	680	510
1"	VC44	4-1/4" SQ.	40	.020	24	1	34	2790	2400	2180	1930	1700	1480	1260	1120	920	730	560	420
					24	2-6 CL	34	3690	3170	2880	2550	2250	1960	1660	1480	1220	960	740	550
					24	3-6 CL	34	4170	3590	3250	2880	2540	2210	1880	1670	1380	1080	830	630
					30	1	40	3070	2640	2390	2120	1870	1630	1380	1230	1010	800	610	460
					30	2-6 CL	40	4060	3490	3170	2800	2480	2150	1830	1620	1340	1060	810	610
					30	3-6 CL	40	4590	3950	3580	3170	2800	2430	2070	1840	1510	1190	920	690
					36	1	28	1770	1520	1380	1220	1080	940	800	710	580	460	350	270
					36	2-6 CL	28	2780	2390	2170	1920	1700	1470	1250	1110	920	720	560	420
					36	3-6 CL	28	3200	2750	2500	2210	1950	1700	1440	1280	1060	830	640	480
					36	1	34	1970	1690	1540	1360	1200	1040	890	790	650	510	390	300
					36	2-6 CL	34	2610	2240	2040	1800	1590	1380	1170	1040	860	680	520	390
					36	3-6 CL	34	3000	2580	2340	2070	1830	1590	1350	1200	990	780	600	450
1"	VC45	4-1/4" SQ.	50	.020	24	1	28	2510	2160	1960	1730	1530	1330	1130	1000	830	650	500	380
					24	2-6 CL	28	3000	2580	2340	2070	1830	1590	1350	1200	990	780	600	450
					24	3-6 CL	28	3390	2920	2640	2340	2070	1800	1530	1360	1120	880	680	510
					30	1	34	2790	2400	2180	1930	1700	1480	1260	1120	920	730	560	420
					30	2-6 CL	34	3690	3170	2880	2550	2250	1960	1660	1480	1220	960	740	550
					30	3-6 CL	34	4170	3590	3250	2880	2540	2210	1880	1670	1380	1080	830	630
					36	1	40	3070	2640	2390	2120	1870	1630	1380	1230	1010	800	610	460
					36	2-6 CL	40	4060	3490	3170	2800	2480	2150	1830	1620	1340	1060	810	610
					36	3-6 CL	40	4590	3950	3580	3170	2800	2430	2070	1840	1510	1190	920	690
					36	1	28	1770	1520	1380	1220	1080	940	800	710	580	460	350	270
					36	2-6 CL	28	2780	2390	2170	1920	1700	1470	1250	1110	920	720	560	420
					36	3-6 CL	28	3200	2750	2500	2210	1950	1700	1440	1280	1060	830	640	480
1-1/4"	VC143	4-1/4" SQ.	32	.020	24	1	34	2610	2240	2040	1800	1590	1380	1170	1040	860	680	520	390
					24	2-6 CL	34	3460	2980	2700	2390	2110	1830	1560	1380	1140	900	690	520
					24	3-6 CL	34	3940	3390	3070	2720	2400	2090	1770	1580	1300	1020	790	590
					30	1	40	2870	2470	2240	1980	1750	1520	1290	1150	950	750	570	











# LV4-F Style "F" Front Outlet

## COPPER/ALUMINUM ELEMENT RATINGS

ALL RATINGS ARE BASED ON 3 FPS WATER VELOCITY, 65°F AT

### STYLE LT Series "F"

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FIN PER FT.	FIN THICKNESS IN INCHES	ENCL HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215°F FACTOR	HOT WATER (AVG.)										
									200°F	190°F	180°F	170°F	160°F	150°F	140°F	130°F	120°F	110°F	100°F
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES										
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15
3/4"	VC3/4-43	4-1/4" SQ.	32	.020	24	1	28	1720	1480	1340	1190	1050	910	770	690	570	450	340	260
					24	2-6 CL	28	2650	2280	2070	1830	1620	1400	1190	1060	870	690	530	400
					24	3-6 CL	28	3050	2620	2380	2100	1860	1620	1370	1220	1010	790	610	460
					30	1	34	1910	1640	1490	1320	1170	1010	860	760	630	500	380	290
					30	2-6 CL	34	2530	2180	1970	1750	1540	1340	1140	1010	830	660	510	380
					30	3-6 CL	34	2910	2500	2270	2010	1780	1540	1310	1160	960	760	580	440
					36	1	40	2100	1810	1640	1450	1280	1110	950	840	690	550	420	320
					36	2-6 CL	40	2780	2390	2170	1920	1700	1470	1250	1110	920	720	560	420
					36	3-6 CL	40	3200	2750	2500	2210	1950	1700	1440	1280	1060	830	640	480
					36	3-6 CL	40	2290	1970	1790	1580	1400	1210	1030	920	760	600	460	340
3/4"	VC3/4-44	4-1/4" SQ.	40	.020	24	1	28	3000	2580	2340	2070	1830	1590	1350	1200	990	780	600	450
					24	2-6 CL	28	3420	2940	2670	2360	2090	1810	1540	1370	1130	890	680	510
					24	3-6 CL	28	3420	2940	2670	2360	2090	1810	1540	1370	1130	890	680	510
					30	1	34	2550	2190	1990	1760	1560	1350	1150	1020	840	660	510	380
					30	2-6 CL	34	3380	2910	2640	2330	2060	1790	1520	1350	1120	880	680	510
					30	3-6 CL	34	3850	3310	3000	2660	2350	2040	1730	1540	1270	1000	770	580
					36	1	40	2810	2420	2190	1940	1710	1490	1260	1120	930	730	560	420
					36	2-6 CL	40	3720	3200	2900	2570	2270	1970	1670	1490	1230	970	740	560
					36	3-6 CL	40	4240	3650	3310	2930	2590	2250	1910	1700	1400	1100	850	640
					36	3-6 CL	40	2400	2060	1870	1660	1460	1270	1080	960	790	620	480	360
3/4"	VC3/4-45	4-1/4" SQ.	50	.020	24	1	28	3185	2740	2480	2200	1940	1690	1430	1270	1050	830	640	480
					24	2-6 CL	28	3600	3100	2810	2480	2200	1910	1620	1440	1190	940	720	540
					24	3-6 CL	28	3600	3100	2810	2480	2200	1910	1620	1440	1190	940	720	540
					30	1	34	2670	2300	2080	1840	1630	1420	1200	1070	880	690	530	400
					30	2-6 CL	34	3540	3040	2760	2440	2160	1880	1590	1420	1170	920	710	530
					30	3-6 CL	34	4000	3440	3120	2760	2440	2120	1800	1600	1320	1040	800	600
					36	1	40	2940	2530	2290	2030	1790	1560	1320	1180	970	760	590	440
					36	2-6 CL	40	3890	3350	3030	2680	2370	2060	1750	1560	1280	1010	780	580
					36	3-6 CL	40	4400	3780	3430	3040	2680	2330	1980	1760	1450	1140	880	660
					36	3-6 CL	40	2400	2060	1870	1660	1460	1270	1080	960	790	620	480	360
1"	VC43	4-1/4" SQ.	32	.020	24	1	28	2690	2310	2100	1860	1640	1430	1210	1080	890	700	540	400
					24	2-6 CL	28	3090	2660	2410	2130	1880	1640	1390	1240	1020	800	620	460
					24	3-6 CL	28	3090	2660	2410	2130	1880	1640	1390	1240	1020	800	620	460
					30	1	34	1960	1690	1530	1350	1200	1040	880	780	650	510	390	290
					30	2-6 CL	34	2600	2240	2030	1790	1590	1380	1170	1040	860	680	520	390
					30	3-6 CL	34	2990	2570	2330	2060	1820	1580	1350	1200	990	780	600	450
					36	1	40	2160	1860	1680	1490	1320	1140	970	860	710	560	430	320
					36	2-6 CL	40	2860	2460	2230	1970	1740	1520	1290	1140	940	740	570	430
					36	3-6 CL	40	3290	2830	2570	2270	2010	1740	1480	1320	1090	860	660	490
					36	3-6 CL	40	2130	1830	1660	1470	1300	1130	960	850	700	550	430	320
1"	VC44	4-1/4" SQ.	40	.020	24	1	28	2860	2460	2230	1970	1740	1520	1290	1140	940	740	570	430
					24	2-6 CL	28	3260	2800	2540	2250	1990	1730	1470	1300	1080	850	650	490
					24	3-6 CL	28	3260	2800	2540	2250	1990	1730	1470	1300	1080	850	650	490
					30	1	34	2370	2040	1850	1640	1450	1260	1070	950	780	620	470	360
					30	2-6 CL	34	3140	2700	2450	2170	1920	1660	1410	1260	1040	820	630	470
					30	3-6 CL	34	3580	3080	2790	2470	2180	1900	1610	1430	1180	930	720	540
					36	1	40	2610	2240	2040	1800	1590	1380	1170	1040	860	680	520	390
					36	2-6 CL	40	3460	2980	2700	2390	2110	1830	1560	1380	1140	900	690	520
					36	3-6 CL	40	3940	3390	3070	2720	2400	2090	1770	1580	1300	1020	790	590
					36	3-6 CL	40	2430	2090	1900	1680	1480	1290	1090	970	800	630	490	360
1"	VC45	4-1/4" SQ.	50	.020	24	1	28	2930	2520	2290	2020	1790	1550	1320	1170	970	760	590	440
					24	2-6 CL	28	3310	2850	2580	2280	2020	1750	1490	1320	1090	860	660	500
					24	3-6 CL	28	3310	2850	2580	2280	2020	1750	1490	1320	1090	860	660	500
					30	1	34	2700	2320	2110	1860	1650	1430	1220	1080	890	700	540	410
					30	2-6 CL	34	3570	3070	2780	2460	2180	1890	1610	1430	1180	930	710	540
					30	3-6 CL	34	4030	3470	3140	2780	2460	2140	1810	1610	1330	1050	810	600
					36	1	40	2970	2550	2320	2050	1810	1570	1340	1190	980	770	590	450
					36	2-6 CL	40	3930	3380	3070	2710	2400	2080	1770	1570	1300	1020	790	590
					36	3-6 CL	40	4440	3820	3460	3060	2710	2350	2000	1780	1470	1150	890	670
					36	3-6 CL	40	2430	2090	1900	1680	1480	1290	1090	970	800	630	490	360
1-1/4"	VC143	4-1/4" SQ.	32	.020	24	1	28	1730	1490	1350	1190	1060	920	780	690	570	450	350	260
					24	2-6 CL	28	2640	2270	2060	1820	1610	1400	1190	1060	870	690	530	400
					24	3-6 CL	28	3040	2610	2370	2100	1850	1610	1370	1220	1000	790	610	460
					30	1	34	1920	1650	1500	1320	1170	1020	860	770	630	500	380	290
					30	2-6 CL	34	2540	2180	1980	1750	1550	1350	1140	1020	840	660	510	380
					30	3-6 CL	34	2920	2510	2280	2010	1780	1550	1310	1170	960	760	580	440
					36	1	40	2110	1810	1650	1460	1290	1120	950	840	700	550	420	320
					36	2-6 CL	40	2790	2400	2180	1930	1700	1480	1260	1120	920	730	560	420
					36	3-6 CL	40	3210	2760	2500	2210	1960	1700	1440	1280	1060	830	640	480
					36	3-6 CL	40	2100	1810	1640	1450	1280	1110	950	840	690	550	420	320
1-1/4"	VC144	4-1/4" SQ.	40	.020	24	1	28	2810	2420	2190	1940	1710	1490	1260	1120	930	730	560	420
					24	2-6 CL	28	3200	2750	2500	2210	1950	1700	1440	1280	1060	830	640	480
					24	3-6 CL	28	3200	2750	2500	2210	1950	1700	1440	1280	1060	830	640	480
					30	1	34	2340	2010	1830	1610	1430	1240	1050	940	770	610	470	350
					30	2-6 CL	34	3100	2670	2420									



## STYLE LT Series "F"

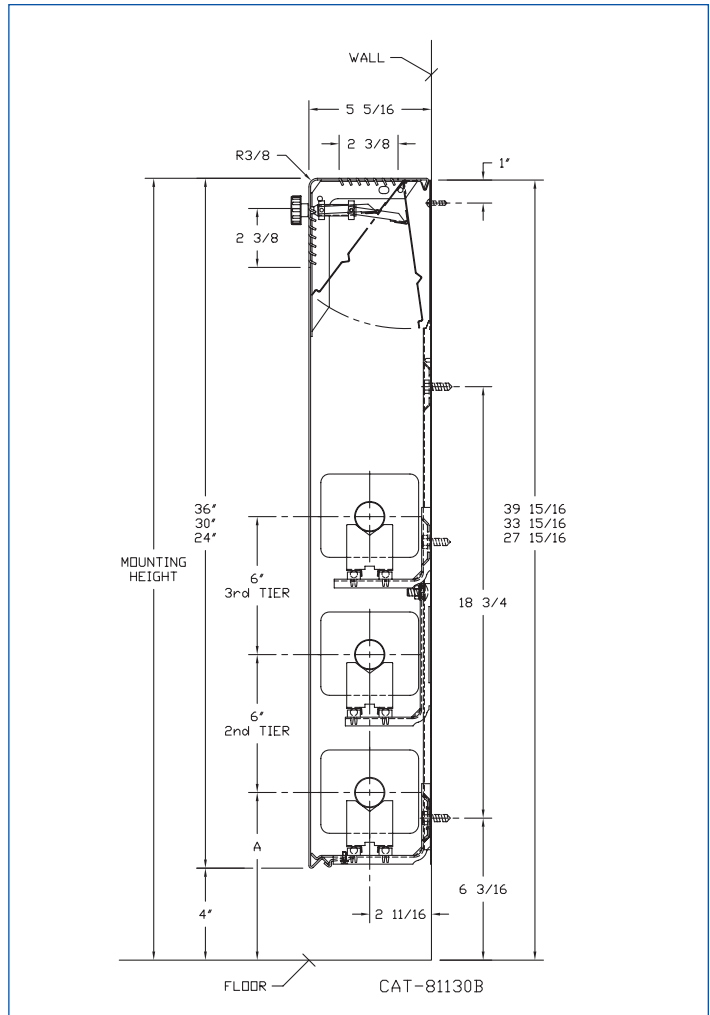
## STEEL ELEMENT RATINGS

ALL RATINGS ARE BASED ON 3 FPS WATER VELOCITY, 65" EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FIN PER FT.	FIN THICKNESS IN INCHES	ENCL HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215°F FACTOR	HOT WATER (AVG.)															
									200°F	190°F	180°F	170°F	160°F	150°F	140°F	130°F	120°F	110°F	100°F					
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES															
											1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15		
1"	VS43	4-1/4" SQ.	32	.032	24	1	28	1470	1260	1150	1010	900	780	660	590	490	380	290	220					
					24	2-6 CL	28	2225	1910	1740	1540	1360	1180	1000	890	730	580	450	330					
					24	3-6 CL	28	2560	2200	2000	1770	1560	1360	1150	1020	840	670	510	380					
					30	1	34	1630	1400	1270	1120	990	860	730	650	540	420	330	240					
					30	2-6 CL	34	2160	1860	1680	1490	1320	1140	970	860	710	560	430	320					
					30	3-6 CL	34	2480	2130	1930	1710	1510	1310	1120	990	820	640	500	370					
					36	1	40	1790	1540	1400	1240	1090	950	810	720	590	470	360	270					
					36	2-6 CL	40	2370	2040	1850	1640	1450	1260	1070	950	780	620	470	360					
					36	3-6 CL	40	2730	2350	2130	1880	1670	1450	1230	1090	900	710	550	410					
					24	1	28	1705	1470	1330	1180	1040	900	770	680	560	440	340	260					
					24	2-6 CL	28	2440	2100	1900	1680	1490	1290	1100	980	810	630	490	370					
					24	3-6 CL	28	2780	2390	2170	1920	1700	1470	1250	1110	920	720	560	420					
1"	VS44	4-1/4" SQ.	40	.032	24	1	34	1900	1630	1480	1310	1160	1010	860	760	630	490	380	290					
					30	2-6 CL	34	2520	2170	1970	1740	1540	1340	1130	1010	830	660	500	380					
					30	3-6 CL	34	2870	2470	2240	1980	1750	1520	1290	1150	950	750	570	430					
					36	1	40	2090	1800	1630	1440	1270	1110	940	840	690	540	420	310					
					36	2-6 CL	40	2770	2380	2160	1910	1690	1470	1250	1110	910	720	550	420					
					36	3-6 CL	40	3160	2720	2460	2180	1930	1670	1420	1260	1040	820	630	470					
					24	1	28	1790	1540	1400	1240	1090	950	810	720	590	470	360	270					
					24	2-6 CL	28	2500	2150	1950	1720	1530	1330	1130	1000	830	650	500	380					
					24	3-6 CL	28	2820	2430	2200	1950	1720	1490	1270	1130	930	730	560	420					
					30	1	34	1990	1710	1550	1370	1210	1050	900	800	660	520	400	300					
					30	2-6 CL	34	2630	2260	2050	1810	1600	1390	1180	1050	870	680	530	390					
					30	3-6 CL	34	2970	2550	2320	2050	1810	1570	1340	1190	980	770	590	450					
1"	VS45	4-1/4" SQ.	50	.032	24	1	40	2190	1880	1710	1510	1340	1160	990	880	720	570	440	330					
					36	2-6 CL	40	2900	2490	2260	2000	1770	1540	1310	1160	960	750	580	440					
					36	3-6 CL	40	3280	2820	2560	2260	2000	1740	1480	1310	1080	850	660	490					
					24	1	28	1280	1100	1000	880	780	680	580	510	420	330	260	190					
					24	2-6 CL	28	2060	1770	1610	1420	1260	1090	930	820	680	540	410	310					
					24	3-6 CL	28	2370	2040	1850	1640	1450	1260	1070	950	780	620	470	360					
					30	1	34	1420	1220	1110	980	870	750	640	570	470	370	280	210					
					30	2-6 CL	34	1880	1620	1470	1300	1150	1000	850	750	620	490	380	280					
					30	3-6 CL	34	2160	1860	1680	1490	1320	1140	970	860	710	560	430	320					
					36	1	40	1560	1340	1220	1080	950	830	700	620	510	410	310	230					
					36	2-6 CL	40	2070	1780	1610	1430	1260	1100	930	830	680	540	410	310					
					36	3-6 CL	40	2380	2050	1860	1640	1450	1260	1070	950	790	620	480	360					
1-1/4"	VS143	4-1/4" SQ.	32	.032	24	1	28	1660	1430	1290	1150	1010	880	750	660	550	430	330	250					
					24	2-6 CL	28	2400	2060	1870	1660	1460	1270	1080	960	790	620	480	360					
					24	3-6 CL	28	2740	2360	2140	1890	1670	1450	1230	1100	900	710	550	410					
					30	1	34	1850	1590	1440	1280	1130	980	830	740	610	480	370	280					
					30	2-6 CL	34	2450	2110	1910	1690	1490	1300	1100	980	810	640	490	370					
					30	3-6 CL	34	2790	2400	2180	1930	1700	1480	1260	1120	920	730	560	420					
					36	1	40	2040	1750	1590	1410	1240	1080	920	820	670	530	410	310					
					36	2-6 CL	40	2700	2320	2110	1860	1650	1430	1220	1080	890	700	540	410					
					36	3-6 CL	40	3080	2650	2400	2130	1880	1630	1390	1230	1020	800	620	460					
					24	1	28	1775	1530	1380	1220	1080	940	800	710	590	460	360	270					
					24	2-6 CL	28	2450	2110	1910	1690	1490	1300	1100	980	810	640	490	370					
					24	3-6 CL	28	2770	2380	2160	1910	1690	1470	1250	1110	910	720	550	420					
1-1/4"	VS144	4-1/4" SQ.	40	.032	30	1	34	1970	1690	1540	1360	1200	1040	890	790	650	510	390	300					
					30	2-6 CL	34	2610	2240	2040	1800	1590	1380	1170	1040	860	680	520	390					
					30	3-6 CL	34	2950	2540	2300	2040	1800	1560	1330	1180	970	770	590	440					
					36	1	40	2170	1870	1690	1500	1320	1150	980	870	720	560	430	330					
					36	2-6 CL	40	2870	2470	2240	1980	1750	1520	1290	1150	950	750	570	430					
					36	3-6 CL	40	3240	2790	2530	2240	1980	1720	1460	1300	1070	840	650	490					
					24	1	28	1230	1060	960	850	750	650	550	490	410	320	250	180					
					24	2-6 CL	28	1940	1670	1510	1340	1180	1030	870	780	640	500	390	290					
					24	3-6 CL	28	2230	1920	1740	1540	1360	1180	1000	890	740	580	450	330					
					30	1	34	1370	1180	1070	950	840	730	620	550	450	360	270	210					
					30	2-6 CL	34	1810	1560	1410	1250	1100	960	810	720	600	470	360	270					
					30	3-6 CL	34	2080	1790	1620	1440	1270	1100	940	830	690	540	420	310					
36	1	40	1510	1300	1180	1040	920	800	680	600	500	390	300	230										
36	2-6 CL	40	2000	1720	1560	1380	1220	1060	900	800	660	520	400	300										
36	3-6 CL	40	2300	1980	1790	1590	1400	1220	1040	920	760	600	460	350										
2"	VS242	4-1/4" SQ.	25	.032	24	1	28	1450	1250	1130	1000	880	770	650	580	480	380	290	220					
					24	2-6 CL	28	2170	1870	1690	1500	1320	1150	980	870	720	560	430	330					
					24	3-6 CL	28	2500	2150	1950	1720	1530	1330	1130	1000	830	650	500	380					
					30	1	34	1610	1380	1260	1110	980	850	720	640	530	420	320	240					
					30	2-6 CL	34	2130	1830	1660	1470	1300	1130	960	850	700	550	430	320					
					30	3-6 CL	34	2450	2110	1910	1690	1490	1300	1100	980	810	640	490	370					
					36	1	40	1770	1520	1380	1220	1080	940	800	710	580	460	350	270					
					36	2-6 CL	40	2340	2010	1830	1610	1430	1240	1050	940	770	610	470	350					
					36	3-6 CL	40	2690	2310	2100	1860	1640	1430	1210	1080	890	700	540	400					
					2"	VS243	4-1/4" SQ.	32	.032	24	1	28	1450	1250	1130	1000	880	770	650	580	480	380	290	220
										24	2-6 CL	28	2170	1870	1690	1500	1320	1150	980	870	720	560	430	330
										24	3-6 CL	28	2500	2150	1950	1720	1530	1330	1130	1000	830	650	500	380
30	1	34	1610	1380						1260	1110	980	850	720	640	530	420	320	240					
30	2-6 CL	34	2130	1830						1660	1470	1300	1130	960	85									

# LV4-FT Style "FT" Front & Top Outlet

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





## STYLE LT Series "FT"

### COPPER/ALUMINUM ELEMENT RATINGS

ALL RATINGS ARE BASED ON 3 FPS WATER VELOCITY, 65°F AT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FIN PER FT.	FIN THICKNESS IN INCHES	ENCL HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215°F FACTOR	HOT WATER (AVG.)															
									200°F	190°F	180°F	170°F	160°F	150°F	140°F	130°F	120°F	110°F	100°F					
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES															
											1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15		
3/4"	VC3/4-433	3-5/8" x 4-1/4"	32	.020	24	1	28	1560	1340	1220	1080	950	830	700	620	510	410	310	230					
					24	2-6 CL	28	2230	1920	1740	1540	1360	1180	1000	890	740	580	450	330					
					24	3-6 CL	28	2560	2200	2000	1770	1560	1360	1150	1020	840	670	510	380					
					30	1	34	1730	1490	1350	1190	1060	920	780	690	570	450	350	260					
					30	2-6 CL	34	2290	1970	1790	1580	1400	1210	1030	920	760	600	460	340					
					30	3-6 CL	34	2630	2260	2050	1810	1600	1390	1180	1050	870	680	530	390					
					36	1	40	1900	1630	1480	1310	1160	1010	860	760	630	490	380	290					
					36	2-6 CL	40	2520	2170	1970	1740	1540	1340	1130	1010	830	660	500	380					
					36	3-6 CL	40	2900	2490	2260	2000	1770	1540	1310	1160	960	750	580	440					
					36	1	28	1740	1500	1360	1200	1060	920	780	700	570	450	350	260					
					36	2-6 CL	28	2490	2140	1940	1720	1520	1320	1120	1000	820	650	500	370					
					3/4"	VC3/4-434	3-5/8" x 4-1/4"	40	.020	24	1	28	1740	1500	1360	1200	1060	920	780	700	570	450	350	260
24	2-6 CL	28	2490	2140						1940	1720	1520	1320	1120	1000	820	650	500	370					
24	3-6 CL	28	2840	2440						2220	1960	1730	1510	1280	1140	940	740	570	430					
30	1	34	1930	1660						1510	1330	1180	1020	870	770	640	500	390	290					
30	2-6 CL	34	2560	2200						2000	1770	1560	1360	1150	1020	840	670	510	380					
30	3-6 CL	34	2920	2510						2280	2010	1780	1550	1310	1170	960	760	580	440					
36	1	40	2120	1820						1650	1460	1290	1120	950	850	700	550	420	320					
36	2-6 CL	40	2810	2420						2190	1940	1710	1490	1260	1120	930	730	560	420					
36	3-6 CL	40	3200	2750						2500	2210	1950	1700	1440	1280	1060	830	640	480					
24	1	28	1990	1710						1550	1370	1210	1050	900	800	660	520	400	300					
24	2-6 CL	28	2860	2460						2230	1970	1740	1520	1290	1140	940	740	570	430					
24	3-6 CL	28	3230	2780						2520	2230	1970	1710	1450	1290	1070	840	650	480					
3/4"	VC3/4-435	3-5/8" x 4-1/4"	50	.020	24	1	34	2210	1900	1720	1520	1350	1170	990	880	730	570	440	330					
					30	2-6 CL	34	2930	2520	2290	2020	1790	1550	1320	1170	970	760	590	440					
					30	3-6 CL	34	3310	2850	2580	2280	2020	1750	1490	1320	1090	860	660	500					
					36	1	40	2430	2090	1900	1680	1480	1290	1090	970	800	630	490	360					
					36	2-6 CL	40	3220	2770	2510	2220	1960	1710	1450	1290	1060	840	640	480					
					36	3-6 CL	40	3640	3130	2840	2510	2220	1930	1640	1460	1200	950	730	550					
					24	1	28	1570	1350	1220	1080	960	830	710	630	520	410	310	240					
					24	2-6 CL	28	2380	2050	1860	1640	1450	1260	1070	950	790	620	480	360					
					24	3-6 CL	28	2740	2360	2140	1890	1670	1450	1230	1100	900	710	550	410					
					30	1	34	1750	1510	1370	1210	1070	930	790	700	580	460	350	260					
					30	2-6 CL	34	2320	2000	1810	1600	1420	1230	1040	930	770	600	460	350					
					30	3-6 CL	34	2670	2300	2080	1840	1630	1420	1200	1070	880	690	530	400					
1"	VC433	3-5/8" x 4-1/4"	32	.020	36	1	40	1930	1660	1510	1330	1180	1020	870	770	640	500	390	290					
					36	2-6 CL	40	2560	2200	2000	1770	1560	1360	1150	1020	840	670	510	380					
					36	3-6 CL	40	2940	2530	2290	2030	1790	1560	1320	1180	970	760	590	440					
					24	1	28	1820	1570	1420	1260	1110	960	820	730	600	470	360	270					
					24	2-6 CL	28	2570	2210	2000	1770	1570	1360	1160	1030	850	670	510	390					
					24	3-6 CL	28	2930	2520	2290	2020	1790	1550	1320	1170	970	760	590	440					
					30	1	34	2020	1740	1580	1390	1230	1070	910	810	670	530	400	300					
					30	2-6 CL	34	2670	2300	2080	1840	1630	1420	1200	1070	880	690	530	400					
					30	3-6 CL	34	3040	2610	2370	2100	1850	1610	1370	1220	1000	790	610	460					
					36	1	40	2220	1910	1730	1530	1350	1180	1000	890	730	580	440	330					
					36	2-6 CL	40	2940	2530	2290	2030	1790	1560	1320	1180	970	760	590	440					
					36	3-6 CL	40	3350	2880	2610	2310	2040	1780	1510	1340	1110	870	670	500					
1"	VC434	3-5/8" x 4-1/4"	40	.020	24	1	28	2080	1790	1620	1440	1270	1100	940	830	690	540	420	310					
					24	2-6 CL	28	2680	2300	2090	1850	1630	1420	1210	1070	880	700	540	400					
					24	3-6 CL	28	3030	2610	2360	2090	1850	1610	1360	1210	1000	790	610	450					
					30	1	34	2310	1990	1800	1590	1410	1220	1040	920	760	600	460	350					
					30	2-6 CL	34	3060	2630	2390	2110	1870	1620	1380	1220	1010	800	610	460					
					30	3-6 CL	34	3460	2980	2700	2390	2110	1830	1560	1380	1140	900	690	520					
					36	1	40	2540	2180	1980	1750	1550	1350	1140	1020	840	660	510	380					
					36	2-6 CL	40	3360	2890	2620	2320	2050	1780	1510	1340	1110	870	670	500					
					36	3-6 CL	40	3800	3270	2960	2620	2320	2010	1710	1520	1250	990	760	570					
					24	1	28	1540	1320	1200	1060	940	820	690	620	510	400	310	230					
					24	2-6 CL	28	2340	2010	1830	1610	1430	1240	1050	940	770	610	470	350					
					24	3-6 CL	28	2690	2310	2100	1860	1640	1430	1210	1080	890	700	540	400					
1-1/4"	VC1433	3-5/8" x 4-1/4"	32	.020	30	1	34	1710	1470	1330	1180	1040	910	770	680	560	440	340	260					
					30	2-6 CL	34	2260	1940	1760	1560	1380	1200	1020	900	750	590	450	340					
					30	3-6 CL	34	2600	2240	2030	1790	1590	1380	1170	1040	860	680	520	390					
					36	1	40	1880	1620	1470	1300	1150	1000	850	750	620	490	380	280					
					36	2-6 CL	40	2490	2140	1940	1720	1520	1320	1120	1000	820	650	500	370					
					36	3-6 CL	40	2860	2460	2230	1970	1740	1520	1290	1140	940	740	570	430					
					1-1/4"	VC1434	3-5/8" x 4-1/4"	40	.020	24	1	28	1780	1530	1390	1230	1090	940	800	710	590	460	360	270
										24	2-6 CL	28	2520	2170	1970	1740	1540	1340	1130	1010	830	660	500	380
										24	3-6 CL	28	2870	2470	2240	1980	1750	1520	1290	1150	950	750	570	430
										30	1	34	1980	1700	1540	1370	1210	1050	890	790	650	510	400	300
										30	2-6 CL	34	2620	2250	2040	1810	1600	1390	1180	1050	860	680	520	390
										30	3-6 CL	34	2990	2570	2330	2060	1820	1580	1350	1200	990	780	600	450
36	1	40	2180	1870						1700	1500	1330	1160	980	870	720	570	440	330					
36	2-6 CL	40	2890	2490						2250	1990	1760	1530	1300	1160	950	750	580	430					
36	3-6 CL	40	3290	2830						2570	2270	2010	1740	1480	1320	1090	860	660	490					
1-1/4"	VC1435	3-5/8" x 4-1/4"	50	.020						24	1	28	2040	1750	1590	1410	1240	1080	920	820	670	530	410	310
										24	2-6 CL	28	2620											

# LV4-FT Style "FT" Front & Top Outlet

## COPPER/ALUMINUM ELEMENT RATINGS

ALL RATINGS ARE BASED ON 3 FPS WATER VELOCITY, 65°F AT

### STYLE LT Series "FT"

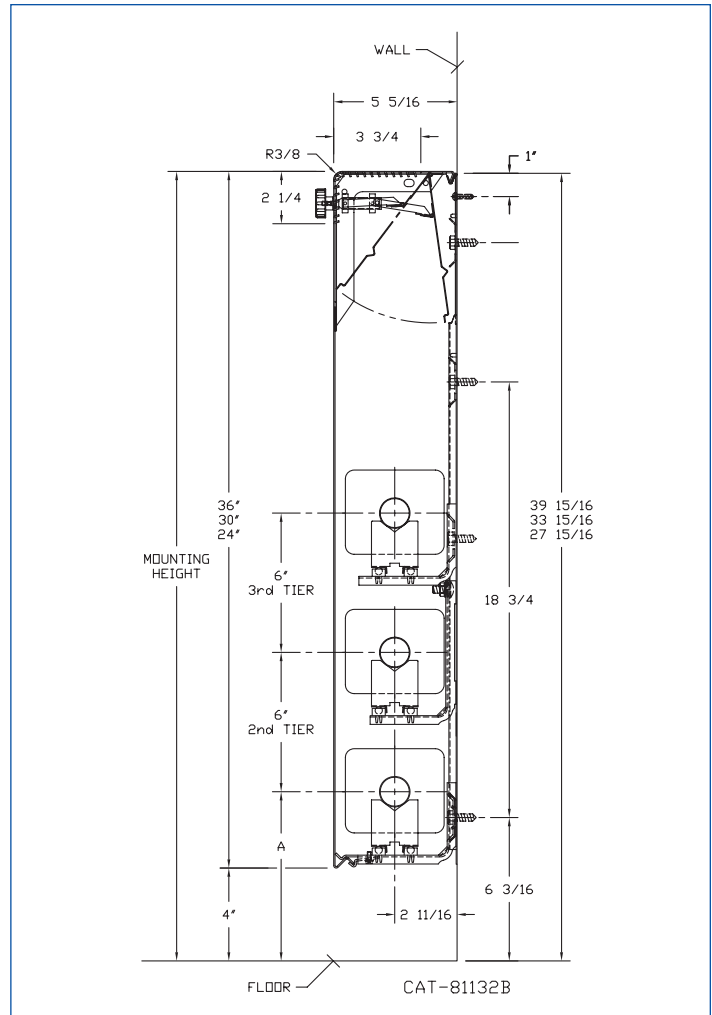
TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FIN PER FT.	FIN THICKNESS IN INCHES	ENCL HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215°F FACTOR	HOT WATER (AVG.)													
									200°F	190°F	180°F	170°F	160°F	150°F	140°F	130°F	120°F	110°F	100°F			
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES													
											1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15
3/4"	VC3/4-43	4-1/4" SQ.	32	.020	24	1	28	1570	1350	1220	1080	960	830	710	630	520	410	310	240			
					24	2-6 CL	28	2440	2100	1900	1680	1490	1290	1100	980	810	630	490	370			
					24	3-6 CL	28	2810	2420	2190	1940	1710	1490	1260	1120	930	730	560	420			
					30	1	34	1750	1510	1370	1210	1070	930	790	700	580	460	350	260			
					30	2-6 CL	34	2320	2000	1810	1600	1420	1230	1040	930	770	600	460	350			
					30	3-6 CL	34	2670	2300	2080	1840	1630	1420	1200	1070	880	690	530	400			
					36	1	40	1930	1660	1510	1330	1180	1020	870	770	640	500	390	290			
					36	2-6 CL	40	2560	2200	2000	1770	1560	1360	1150	1020	840	670	510	380			
					36	3-6 CL	40	2940	2530	2290	2030	1790	1560	1320	1180	970	760	590	440			
					36	3-6 CL	40	2940	2530	2290	2030	1790	1560	1320	1180	970	760	590	440			
3/4"	VC3/4-44	4-1/4" SQ.	40	.020	24	1	28	2120	1820	1650	1460	1290	1120	950	850	700	550	420	320			
					24	2-6 CL	28	2650	2280	2070	1830	1620	1400	1190	1060	870	690	530	400			
					24	3-6 CL	28	3020	2600	2360	2080	1840	1600	1360	1210	1000	790	600	450			
					30	1	34	2360	2030	1840	1630	1440	1250	1060	940	780	610	470	350			
					30	2-6 CL	34	3120	2680	2430	2150	1900	1650	1400	1250	1030	810	620	470			
					30	3-6 CL	34	3560	3060	2780	2460	2170	1890	1600	1420	1170	930	710	530			
					36	1	40	2600	2240	2030	1790	1590	1380	1170	1040	860	680	520	390			
					36	2-6 CL	40	3440	2960	2680	2370	2100	1820	1550	1380	1140	890	690	520			
					36	3-6 CL	40	3920	3370	3060	2700	2390	2080	1760	1570	1290	1020	780	590			
					36	3-6 CL	40	3920	3370	3060	2700	2390	2080	1760	1570	1290	1020	780	590			
3/4"	VC3/4-45	4-1/4" SQ.	50	.020	24	1	28	2040	1750	1590	1410	1240	1080	920	820	670	530	410	310			
					24	2-6 CL	28	2795	2400	2180	1930	1700	1480	1260	1120	920	730	560	420			
					24	3-6 CL	28	3160	2720	2460	2180	1930	1670	1420	1260	1040	820	630	470			
					30	1	34	2270	1950	1770	1570	1380	1200	1020	910	750	590	450	340			
					30	2-6 CL	34	3010	2590	2350	2080	1840	1600	1350	1200	990	780	600	450			
					30	3-6 CL	34	3400	2920	2650	2350	2070	1800	1530	1360	1120	880	680	510			
					36	1	40	2500	2150	1950	1720	1530	1330	1130	1000	830	650	500	380			
					36	2-6 CL	40	3310	2850	2580	2280	2020	1750	1490	1320	1090	860	660	500			
					36	3-6 CL	40	3740	3220	2920	2580	2280	1980	1680	1500	1230	970	750	560			
					36	3-6 CL	40	3740	3220	2920	2580	2280	1980	1680	1500	1230	970	750	560			
1"	VC43	4-1/4" SQ.	32	.020	24	1	28	1690	1450	1320	1170	1030	900	760	680	560	440	340	250			
					24	2-6 CL	28	2510	2160	1960	1730	1530	1330	1130	1000	830	650	500	380			
					24	3-6 CL	28	2890	2490	2250	1990	1760	1530	1300	1160	950	750	580	430			
					30	1	34	1880	1620	1470	1300	1150	1000	850	750	620	490	380	280			
					30	2-6 CL	34	2490	2140	1940	1720	1520	1320	1120	1000	820	650	500	370			
					30	3-6 CL	34	2860	2460	2230	1970	1740	1520	1290	1140	940	740	570	430			
					36	1	40	2070	1780	1610	1430	1260	1100	930	830	680	540	410	310			
					36	2-6 CL	40	2740	2360	2140	1890	1670	1450	1230	1100	900	710	550	410			
					36	3-6 CL	40	3150	2710	2460	2170	1920	1670	1420	1260	1040	820	630	470			
					36	3-6 CL	40	3150	2710	2460	2170	1920	1670	1420	1260	1040	820	630	470			
1"	VC44	4-1/4" SQ.	40	.020	24	1	28	2010	1730	1570	1390	1230	1070	900	800	660	520	400	300			
					24	2-6 CL	28	2700	2320	2110	1860	1650	1430	1220	1080	890	700	540	410			
					24	3-6 CL	28	3080	2650	2400	2130	1880	1630	1390	1230	1020	800	620	460			
					30	1	34	2240	1930	1750	1550	1370	1190	1010	900	740	580	450	340			
					30	2-6 CL	34	2970	2550	2320	2050	1810	1570	1340	1190	980	770	590	450			
					30	3-6 CL	34	3390	2920	2640	2340	2070	1800	1530	1360	1120	880	680	510			
					36	1	40	2470	2120	1930	1700	1510	1310	1110	990	820	640	490	370			
					36	2-6 CL	40	3270	2810	2550	2260	1990	1730	1470	1310	1080	850	650	490			
					36	3-6 CL	40	3730	3210	2910	2570	2280	1980	1680	1490	1230	970	750	560			
					36	3-6 CL	40	3730	3210	2910	2570	2280	1980	1680	1490	1230	970	750	560			
1"	VC45	4-1/4" SQ.	50	.020	24	1	28	2220	1910	1730	1530	1350	1180	1000	890	730	580	440	330			
					24	2-6 CL	28	2730	2350	2130	1880	1670	1450	1230	1090	900	710	550	410			
					24	3-6 CL	28	3080	2650	2400	2130	1880	1630	1390	1230	1020	800	620	460			
					30	1	34	2470	2120	1930	1700	1510	1310	1110	990	820	640	490	370			
					30	2-6 CL	34	3270	2810	2550	2260	1990	1730	1470	1310	1080	850	650	490			
					30	3-6 CL	34	3700	3180	2890	2550	2260	1960	1670	1480	1220	960	740	560			
					36	1	40	2720	2340	2120	1880	1660	1440	1220	1090	900	710	540	410			
					36	2-6 CL	40	3600	3100	2810	2480	2200	1910	1620	1440	1190	940	720	540			
					36	3-6 CL	40	4070	3500	3170	2810	2480	2160	1830	1630	1340	1060	810	610			
					36	3-6 CL	40	4070	3500	3170	2810	2480	2160	1830	1630	1340	1060	810	610			
1-1/4"	VC143	4-1/4" SQ.	32	.020	24	1	28	1660	1430	1290	1150	1010	880	750	660	550	430	330	250			
					24	2-6 CL	28	2470	2120	1930	1700	1510	1310	1110	990	820	640	490	370			
					24	3-6 CL	28	2840	2440	2220	1960	1730	1510	1280	1140	940	740	570	430			
					30	1	34	1850	1590	1440	1280	1130	980	830	740	610	480	370	280			
					30	2-6 CL	34	2450	2110	1910	1690	1490	1300	1100	980	810	640	490	370			
					30	3-6 CL	34	2820	2430	2200	1950	1720	1490	1270	1130	930	730	560	420			
					36	1	40	2040	1750	1590	1410	1240	1080	920	820	670	530	410	310			
					36	2-6 CL	40	2700	2320	2110	1860	1650	1430	1220	1080	890	700	540	410			
					36	3-6 CL	40	3100	2670	2420	2140	1890	1640	1400	1240	1020	810	620	470			
					36	3-6 CL	40	3100	2670	2420	2140	1890	1640	1400	1240	1020	810	620	470			
1-1/4"	VC144	4-1/4" SQ.	40	.020	24	1	28	1970	1690	1540	1360	1200	1040	890	790	650	510	390	300			
					24	2-6 CL	28	2660	2290	2070	1840	1620	1410	1200	1060	880	690	530	400			
					24	3-6 CL	28	3030	2610	2360	2090	1850	1610	1360	1210	1000	790	610	450			
					30	1	34	2190	1880	1710	1510	1340	1160	990	880	720	570	440	330			
					30	2-6 CL	34	2900	2490	2260	2000	1770	1540	1310	1160	960	750	580				





# LV4-R Style "R" Flat Top Enclosures

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



## COPPER/ALUMINUM ELEMENT RATINGS

ALL RATINGS ARE BASED ON 3 FPS WATER VELOCITY, 65°F AT

### STYLE LT Series "R"

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FIN PER FT.	FIN THICKNESS IN INCHES	ENCL HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215°F FACTOR	HOT WATER (AVG.)														
									200°F	190°F	180°F	170°F	160°F	150°F	140°F	130°F	120°F	110°F	100°F				
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES														
												1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15
3/4"	VC3/4-433	3-5/8" x 4-1/4"	32	.020	24	1	28	1565	1350	1220	1080	950	830	700	630	520	410	310	230				
					24	2-6 CL	28	2215	1900	1730	1530	1350	1170	1000	890	730	580	440	330				
					24	3-6 CL	28	2550	2190	1990	1760	1560	1350	1150	1020	840	660	510	380				
					30	1	34	1740	1500	1360	1200	1060	920	780	700	570	450	350	260				
					30	2-6 CL	34	2300	1980	1790	1590	1400	1220	1040	920	760	600	460	350				
					30	3-6 CL	34	2650	2280	2070	1830	1620	1400	1190	1060	870	690	530	400				
					36	1	40	1920	1650	1500	1320	1170	1020	860	770	630	500	380	290				
					36	2-6 CL	40	2540	2180	1980	1750	1550	1350	1140	1020	840	660	510	380				
					36	3-6 CL	40	2920	2510	2280	2010	1780	1550	1310	1170	960	760	580	440				
					24	1	28	1870	1610	1460	1290	1140	990	840	750	620	490	370	280				
					24	2-6 CL	28	2590	2230	2020	1790	1580	1370	1170	1040	850	670	520	390				
					24	3-6 CL	28	2950	2540	2300	2040	1800	1560	1330	1180	970	770	590	440				
3/4"	VC3/4-434	3-5/8" x 4-1/4"	40	.020	24	1	34	2080	1790	1620	1440	1270	1100	940	830	690	540	420	310				
					30	2-6 CL	34	2750	2370	2150	1900	1680	1460	1240	1100	910	720	550	410				
					30	3-6 CL	34	3130	2690	2440	2160	1910	1660	1410	1250	1030	810	630	470				
					36	1	40	2290	1970	1790	1580	1400	1210	1030	920	760	600	460	340				
					36	2-6 CL	40	3030	2610	2360	2090	1850	1610	1360	1210	1000	790	610	450				
					36	3-6 CL	40	3450	2970	2690	2380	2100	1830	1550	1380	1140	900	690	520				
					24	1	28	2210	1900	1720	1520	1350	1170	990	880	730	570	440	330				
					24	2-6 CL	28	2820	2430	2200	1950	1720	1490	1270	1130	930	730	560	420				
					24	3-6 CL	28	3190	2740	2490	2200	1950	1690	1440	1280	1050	830	640	480				
					30	1	34	2460	2120	1920	1700	1500	1300	1110	980	810	640	490	370				
					30	2-6 CL	34	3260	2800	2540	2250	1990	1730	1470	1300	1080	850	650	490				
					30	3-6 CL	34	3680	3160	2870	2540	2240	1950	1660	1470	1210	960	740	550				
3/4"	VC3/4-435	3-5/8" x 4-1/4"	50	.020	24	1	40	2710	2330	2110	1870	1650	1440	1220	1080	890	700	540	410				
					36	2-6 CL	40	3590	3090	2800	2480	2190	1900	1620	1440	1180	930	720	540				
					36	3-6 CL	40	4060	3490	3170	2800	2480	2150	1830	1620	1340	1060	810	610				
					24	1	28	1650	1420	1290	1140	1010	870	740	660	540	430	330	250				
					24	2-6 CL	28	2560	2200	2000	1770	1560	1360	1150	1020	840	670	510	380				
					24	3-6 CL	28	2940	2530	2290	2030	1790	1560	1320	1180	970	760	590	440				
					30	1	34	1830	1570	1430	1260	1120	970	820	730	600	480	370	270				
					30	2-6 CL	34	2420	2080	1890	1670	1480	1280	1090	970	800	630	480	360				
					30	3-6 CL	34	2780	2390	2170	1920	1700	1470	1250	1110	920	720	560	420				
					36	1	40	2010	1730	1570	1390	1230	1070	900	800	660	520	400	300				
					36	2-6 CL	40	2660	2290	2070	1840	1620	1410	1200	1060	880	690	530	400				
					36	3-6 CL	40	3060	2630	2390	2110	1870	1620	1380	1220	1010	800	610	460				
1"	VC433	3-5/8" x 4-1/4"	32	.020	24	1	28	1950	1680	1520	1350	1190	1030	880	780	640	510	390	290				
					24	2-6 CL	28	2720	2340	2120	1880	1660	1440	1220	1090	900	710	540	410				
					24	3-6 CL	28	3100	2670	2420	2140	1890	1640	1400	1240	1020	810	620	470				
					30	1	34	2170	1870	1690	1500	1320	1150	980	870	720	560	430	330				
					30	2-6 CL	34	2870	2470	2240	1980	1750	1520	1290	1150	950	750	570	430				
					30	3-6 CL	34	3270	2810	2550	2260	1990	1730	1470	1310	1080	850	650	490				
					36	1	40	2390	2060	1860	1650	1460	1270	1080	960	790	620	480	360				
					36	2-6 CL	40	3160	2720	2460	2180	1930	1670	1420	1260	1040	820	630	470				
					36	3-6 CL	40	3600	3100	2810	2480	2200	1910	1620	1440	1190	940	720	540				
					24	1	28	2330	2000	1820	1610	1420	1230	1050	930	770	610	470	350				
					24	2-6 CL	28	2970	2550	2320	2050	1810	1570	1340	1190	980	770	590	450				
					24	3-6 CL	28	3360	2890	2620	2320	2050	1780	1510	1340	1110	870	670	500				
1"	VC434	3-5/8" x 4-1/4"	40	.020	24	1	34	2590	2230	2020	1790	1580	1370	1170	1040	850	670	520	390				
					30	2-6 CL	34	3430	2950	2680	2370	2090	1820	1540	1370	1130	890	690	510				
					30	3-6 CL	34	3880	3340	3030	2680	2370	2060	1750	1550	1280	1010	780	580				
					36	1	40	2850	2450	2220	1970	1740	1510	1280	1140	940	740	570	430				
					36	2-6 CL	40	3770	3240	2940	2600	2300	2000	1700	1510	1240	980	750	570				
					36	3-6 CL	40	4260	3660	3320	2940	2600	2260	1920	1700	1410	1110	850	640				
					24	1	28	1630	1400	1270	1120	990	860	730	650	540	420	330	240				
					24	2-6 CL	28	2580	2220	2010	1780	1570	1370	1160	1030	850	670	520	390				
					24	3-6 CL	28	2970	2550	2320	2050	1810	1570	1340	1190	980	770	590	450				
					30	1	34	1810	1560	1410	1250	1100	960	810	720	600	470	360	270				
					30	2-6 CL	34	2400	2060	1870	1660	1460	1270	1080	960	790	620	480	360				
					30	3-6 CL	34	2760	2370	2150	1900	1680	1460	1240	1100	910	720	550	410				
1-1/4"	VC1433	3-5/8" x 4-1/4"	32	.020	24	1	40	1990	1710	1550	1370	1210	1050	900	800	660	520	400	300				
					36	2-6 CL	40	2630	2260	2050	1810	1600	1390	1180	1050	870	680	530	390				
					36	3-6 CL	40	3020	2600	2360	2080	1840	1600	1360	1210	1000	790	600	450				
					24	1	28	1920	1650	1500	1320	1170	1020	860	770	630	500	380	290				
					24	2-6 CL	28	2750	2370	2150	1900	1680	1460	1240	1100	910	720	550	410				
					24	3-6 CL	28	3130	2690	2440	2160	1910	1660	1410	1250	1030	810	630	470				
					30	1	34	2140	1840	1670	1480	1310	1130	960	860	710	560	430	320				
					30	2-6 CL	34	2830	2430	2210	1950	1730	1500	1270	1130	930	740	570	420				
					30	3-6 CL	34	3230	2780	2520	2230	1970	1710	1450	1290	1070	840	650	480				
					36	1	40	2360	2030	1840	1630	1440	1250	1060	940	780	610	470	350				
					36	2-6 CL	40	3120	2680	2430	2150	1900	1650	1400	1250	1030	810	620	470				
					36	3-6 CL	40	3560	3060	2780	2460	2170	1890	1600	1420	1170	930	710	530				
1-1/4"	VC1434	3-5/8" x 4-1/4"	40	.020	24	1	28	2380	2050	1860	1640	1450	1260	1070	950	790	620	480	360				
					24	2-6 CL	28	3000	2580	2340	2070	1830	1590	1350	1200	990	780	600	450				
					24	3-6 CL	28	3390	2920	2640	2340	2070	1800	1530	1360	1120	880	680	510				



# LV4-R Style "R" Flat Top Enclosures

## COPPER/ALUMINUM ELEMENT RATINGS

ALL RATINGS ARE BASED ON 3 FPS WATER VELOCITY, 65°F AT

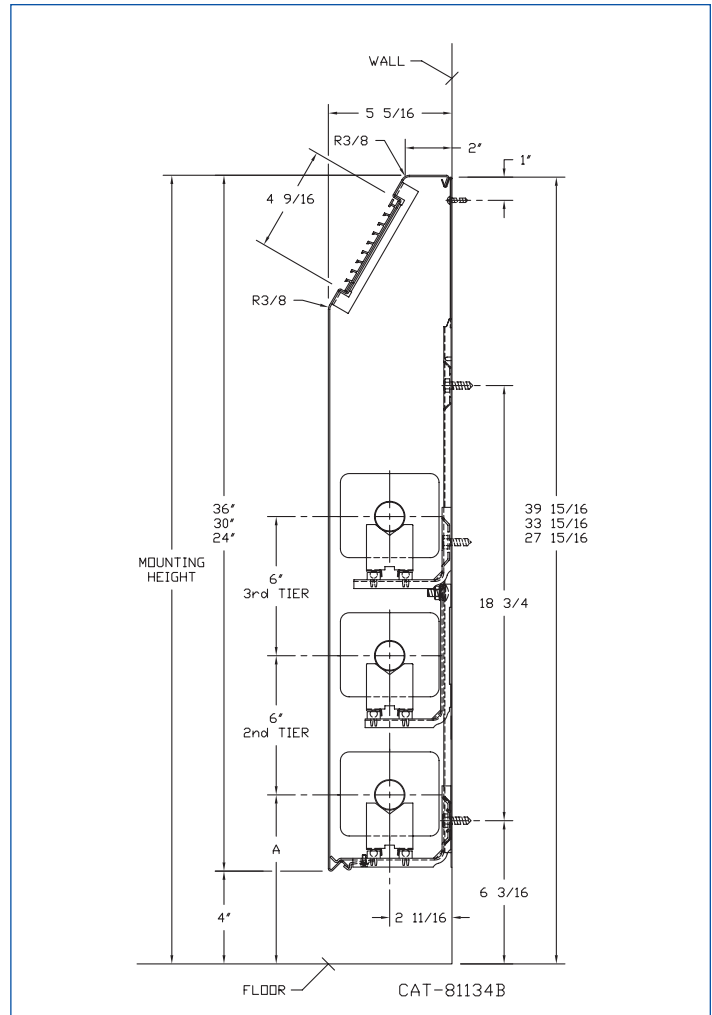
### STYLE LT Series "R"

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FIN PER FT.	FIN THICKNESS IN INCHES	ENCL HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	HOT WATER (AVG.)																
								CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES																
								200°F	190°F	180°F	170°F	160°F	150°F	140°F	130°F	120°F	110°F	100°F						
								STEAM 215°F FACTOR	1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15				
3/4"	VC3/4-43	4-1/4" SQ.	32	.020	24	1	28	1685	1450	1310	1160	1030	890	760	670	560	440	340	250					
					24	2-6 CL	28	2435	2090	1900	1680	1490	1290	1100	970	800	630	490	370					
					24	3-6 CL	28	2800	2410	2180	1930	1710	1480	1260	1120	920	730	560	420					
					30	1	34	1870	1610	1460	1290	1140	990	840	750	620	490	370	280					
					30	2-6 CL	34	2480	2130	1930	1710	1510	1310	1120	990	820	640	500	370					
					30	3-6 CL	34	2850	2450	2220	1970	1740	1510	1280	1140	940	740	570	430					
					36	1	40	2060	1770	1610	1420	1260	1090	930	820	680	540	410	310					
					36	2-6 CL	40	2730	2350	2130	1880	1670	1450	1230	1090	900	710	550	410					
					36	3-6 CL	40	3140	2700	2450	2170	1920	1660	1410	1260	1040	820	630	470					
					36	1	28	2350	2020	1830	1620	1430	1250	1060	940	780	610	470	350					
					36	2-6 CL	28	3270	2810	2550	2260	1990	1730	1470	1310	1080	850	650	490					
					3/4"	VC3/4-44	4-1/4" SQ.	40	.020	24	1	34	2610	2240	2040	1800	1590	1380	1170	1040	860	680	520	390
24	2-6 CL	34	3460	2980						2700	2390	2110	1830	1560	1380	1140	900	690	520					
24	3-6 CL	34	3940	3390						3070	2720	2400	2090	1770	1580	1300	1020	790	590					
30	1	40	2870	2470						2240	1980	1750	1520	1290	1150	950	750	570	430					
30	2-6 CL	40	3800	3270						2960	2620	2320	2010	1710	1520	1250	990	760	570					
30	3-6 CL	40	4330	3720						3380	2990	2640	2290	1950	1730	1430	1130	870	650					
36	1	28	2550	2190						1990	1760	1560	1350	1150	1020	840	660	510	380					
36	2-6 CL	28	3380	2910						2640	2330	2060	1790	1520	1350	1120	880	680	510					
36	3-6 CL	28	3820	3290						2980	2640	2330	2020	1720	1530	1260	990	760	570					
36	1	34	2840	2440						2220	1960	1730	1510	1280	1140	940	740	570	430					
36	2-6 CL	34	3760	3230						2930	2590	2290	1990	1690	1500	1240	980	750	560					
36	3-6 CL	34	4250	3660						3320	2930	2590	2250	1910	1700	1400	1110	850	640					
3/4"	VC3/4-45	4-1/4" SQ.	50	.020	24	1	40	3130	2690	2440	2160	1910	1660	1410	1250	1030	810	630	470					
					24	2-6 CL	40	4140	3560	3230	2860	2530	2190	1860	1660	1370	1080	830	620					
					24	3-6 CL	40	4680	4020	3650	3230	2850	2480	2110	1870	1540	1220	940	700					
					30	1	28	1810	1560	1410	1250	1100	960	810	720	600	470	360	270					
					30	2-6 CL	28	2810	2420	2190	1940	1710	1490	1260	1120	930	730	560	420					
					30	3-6 CL	28	3230	2780	2520	2230	1970	1710	1450	1290	1070	840	650	480					
					36	1	34	2010	1730	1570	1390	1230	1070	900	800	660	520	400	300					
					36	2-6 CL	34	2660	2290	2070	1840	1620	1410	1200	1060	880	690	530	400					
					36	3-6 CL	34	3060	2630	2390	2110	1870	1620	1380	1220	1010	800	610	460					
					36	1	40	2210	1900	1720	1520	1350	1170	990	880	730	570	440	330					
					36	2-6 CL	40	2930	2520	2290	2020	1790	1550	1320	1170	970	760	590	440					
					36	3-6 CL	40	3370	2900	2630	2330	2060	1790	1520	1350	1110	880	670	510					
1"	VC43	4-1/4" SQ.	32	.020	24	1	28	1780	1530	1390	1230	1090	940	800	710	590	460	360	270					
					24	2-6 CL	28	2720	2340	2120	1880	1660	1440	1220	1090	900	710	540	410					
					24	3-6 CL	28	3130	2690	2440	2160	1910	1660	1410	1250	1030	810	630	470					
					30	1	34	1980	1700	1540	1370	1210	1050	890	790	650	510	400	300					
					30	2-6 CL	34	2620	2250	2040	1810	1600	1390	1180	1050	860	680	520	390					
					30	3-6 CL	34	3010	2590	2350	2080	1840	1600	1350	1200	990	780	600	450					
					36	1	40	2180	1870	1700	1500	1330	1160	980	870	720	570	440	330					
					36	2-6 CL	40	2890	2490	2250	1990	1760	1530	1300	1160	950	750	580	430					
					36	3-6 CL	40	3320	2860	2590	2290	2030	1760	1490	1330	1100	860	660	500					
					1"	VC44	4-1/4" SQ.	40	.020	24	1	28	2550	2190	1990	1760	1560	1350	1150	1020	840	660	510	380
										24	2-6 CL	28	3250	2800	2540	2240	1980	1720	1460	1300	1070	850	650	490
										24	3-6 CL	28	3670	3160	2860	2530	2240	1950	1650	1470	1210	950	730	550
30	1	34	2840	2440						2220	1960	1730	1510	1280	1140	940	740	570	430					
30	2-6 CL	34	3410	2930						2660	2350	2080	1810	1530	1360	1130	890	680	510					
30	3-6 CL	34	3910	3330						3060	2750	2480	2170	1900	1620	1440	1180	930	720	540				
36	1	40	2620	2250						2040	1810	1600	1390	1180	1050	860	680	520	390					
36	2-6 CL	40	3470	2980						2710	2390	2120	1840	1560	1390	1150	900	690	520					
36	3-6 CL	40	3960	3410						3090	2730	2420	2100	1780	1580	1310	1030	790	590					
1"	VC45	4-1/4" SQ.	50	.020						24	1	28	2550	2190	1990	1760	1560	1350	1150	1020	840	660	510	380
										24	2-6 CL	28	3250	2800	2540	2240	1980	1720	1460	1300	1070	850	650	490
										24	3-6 CL	28	3670	3160	2860	2530	2240	1950	1650	1470	1210	950	730	550
					30	1	34	2840	2440	2220	1960	1730	1510	1280	1140	940	740	570	430					
					30	2-6 CL	34	3410	2930	2660	2350	2080	1810	1530	1360	1130	890	680	510					
					30	3-6 CL	34	3910	3330	3060	2750	2480	2170	1900	1620	1440	1180	930	720	540				
					36	1	40	2620	2250	2040	1810	1600	1390	1180	1050	860	680	520	390					
					36	2-6 CL	40	3470	2980	2710	2390	2120	1840	1560	1390	1150	900	690	520					
					36	3-6 CL	40	3960	3410	3090	2730	2420	2100	1780	1580	1310	1030	790	590					
					1-1/4"	VC143	4-1/4" SQ.	32	.020	24	1	28	1780	1530	1390	1230	1090	940	800	710	590	460	360	270
										24	2-6 CL	28	2720	2340	2120	1880	1660	1440	1220	1090	900	710	540	410
										24	3-6 CL	28	3130	2690	2440	2160	1910	1660	1410	1250	1030	810	630	470
30	1	34	1980	1700						1540	1370	1210	1050	890	790	650	510	400	300					
30	2-6 CL	34	2620	2250						2040	1810	1600	1390	1180	1050	860	680	520	390					
30	3-6 CL	34	3010	2590						2350	2080	1840	1600	1350	1200	990	780	600	450					
36	1	40	2180	1870						1700	1500	1330	1160	980	870	720	570	440	330					
36	2-6 CL	40	2890	2490						2250	1990	1760	1530	1300	1160	950	750	580	430					
36	3-6 CL	40	3320	2860						2590	2290	2030	1760	1490	1330	1100	860	660	500					
1-1/4"	VC144	4-1/4" SQ.	40	.020						24	1	28	2160	1860	1680	1490	1320	1140	970	860	710	560	430	320
										24	2-6 CL	28	2940	2530	2290	2030	1790	1560	1320	1180	970	760	590	440
										24	3-6 CL	28	3350	2880	2610	2310	2040	1780	1510	1340	1110	870	670	500
					30	1	34	2400	2060	1870	1660	1460	1270	1080	960	790	620	480	36					



# JV4-ARS Slope Top Aluminum Grille

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





**STYLE LT Series "ARS"**

**COPPER/ALUMINUM ELEMENT RATINGS**

ALL RATINGS ARE BASED ON 3 FPS WATER VELOCITY, 65°EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FIN PER FT.	FIN THICKNESS IN INCHES	ENCL HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215°F FACTOR	HOT WATER (AVG.)													
									200°F	190°F	180°F	170°F	160°F	150°F	140°F	130°F	120°F	110°F	100°F			
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES													
											1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15
3/4"	VC3/4-433	3-5/8" x 4-1/4"	32	.020	24	1	28	1670	1440	1300	1150	1020	890	750	670	550	430	330	250			
					24	2-6 CL	28	2570	2210	2000	1770	1570	1360	1160	1030	850	670	510	390			
					24	3-6 CL	28	2960	2550	2310	2040	1810	1570	1330	1180	980	770	590	440			
					30	1	34	1860	1600	1450	1280	1130	990	840	740	610	480	370	280			
					30	2-6 CL	34	2460	2120	1920	1700	1500	1300	1110	980	810	640	490	370			
					30	3-6 CL	34	2830	2430	2210	1950	1730	1500	1270	1130	930	740	570	420			
					36	1	40	2050	1760	1600	1410	1250	1090	920	820	680	530	410	310			
					36	2-6 CL	40	2710	2330	2110	1870	1650	1440	1220	1080	890	700	540	410			
					36	3-6 CL	40	3120	2680	2430	2150	1900	1650	1400	1250	1030	810	620	470			
					36	1	28	1910	1640	1490	1320	1170	1010	860	760	630	500	380	290			
3/4"	VC3/4-434	3-5/8" x 4-1/4"	40	.020	24	1	28	2700	2320	2110	1860	1650	1430	1220	1080	890	700	540	410			
					24	2-6 CL	28	3080	2650	2400	2130	1880	1630	1390	1230	1020	800	620	460			
					24	3-6 CL	28	3480	3000	2700	2370	2090	1810	1530	1330	1090	860	670	500			
					30	1	34	2120	1820	1650	1460	1290	1120	950	850	700	550	420	320			
					30	2-6 CL	34	2810	2420	2190	1940	1710	1490	1260	1120	930	730	560	420			
					30	3-6 CL	34	3200	2750	2500	2210	1950	1700	1440	1280	1060	830	640	480			
					36	1	40	2330	2000	1820	1610	1420	1230	1050	930	770	610	470	350			
					36	2-6 CL	40	3080	2650	2400	2130	1880	1630	1390	1230	1020	800	620	460			
					36	3-6 CL	40	3510	3020	2740	2420	2140	1860	1580	1400	1160	910	700	530			
					36	1	28	2260	1940	1760	1560	1380	1200	1020	900	750	590	450	340			
3/4"	VC3/4-435	3-5/8" x 4-1/4"	50	.020	24	1	28	3110	2670	2430	2150	1900	1650	1400	1240	1030	810	620	470			
					24	2-6 CL	28	3510	3020	2740	2420	2140	1860	1580	1400	1160	910	700	530			
					24	3-6 CL	28	3910	3320	3040	2700	2380	2060	1780	1540	1260	1010	780	590			
					30	1	34	2510	2160	1960	1730	1530	1330	1130	1000	830	650	500	380			
					30	2-6 CL	34	3320	2860	2590	2290	2030	1760	1490	1330	1100	860	660	500			
					30	3-6 CL	34	3750	3230	2930	2590	2290	1990	1690	1500	1240	980	750	560			
					36	1	40	2760	2370	2150	1900	1680	1460	1240	1100	910	720	550	410			
					36	2-6 CL	40	3650	3140	2850	2520	2230	1930	1640	1460	1200	950	730	550			
					36	3-6 CL	40	4120	3540	3210	2840	2510	2180	1850	1650	1360	1070	820	620			
					36	1	28	1690	1450	1320	1170	1030	900	760	680	560	440	340	250			
1"	VC433	3-5/8" x 4-1/4"	32	.020	24	1	28	2590	2230	2020	1790	1580	1370	1170	1040	850	670	520	390			
					24	2-6 CL	28	2980	2560	2320	2060	1820	1580	1340	1190	980	770	600	450			
					24	3-6 CL	28	3380	2860	2600	2300	2000	1700	1440	1240	1010	790	610	460			
					30	1	34	1880	1620	1470	1300	1150	1000	850	750	620	490	380	280			
					30	2-6 CL	34	2490	2140	1940	1720	1520	1320	1120	1000	820	650	500	370			
					30	3-6 CL	34	2860	2460	2230	1970	1740	1520	1290	1140	940	740	570	430			
					36	1	40	2070	1780	1610	1430	1260	1100	930	830	680	540	410	310			
					36	2-6 CL	40	2740	2360	2140	1890	1670	1450	1230	1100	900	710	550	410			
					36	3-6 CL	40	3150	2710	2460	2170	1920	1670	1420	1260	1040	820	630	470			
					36	1	28	1990	1710	1550	1370	1210	1050	900	800	660	520	400	300			
1"	VC434	3-5/8" x 4-1/4"	40	.020	24	1	28	2770	2380	2160	1910	1690	1470	1250	1110	910	720	550	420			
					24	2-6 CL	28	3160	2720	2460	2180	1930	1670	1420	1260	1040	820	630	470			
					24	3-6 CL	28	3560	3020	2740	2420	2140	1860	1580	1400	1160	910	700	530			
					30	1	34	2210	1900	1720	1520	1350	1170	990	880	730	570	440	330			
					30	2-6 CL	34	2930	2520	2290	2020	1790	1550	1320	1170	970	760	590	440			
					30	3-6 CL	34	3340	2870	2610	2300	2040	1770	1500	1340	1100	870	670	500			
					36	1	40	2430	2090	1900	1680	1480	1290	1090	970	800	630	490	360			
					36	2-6 CL	40	3220	2770	2510	2220	1960	1710	1450	1290	1060	840	640	480			
					36	3-6 CL	40	3670	3160	2860	2530	2240	1950	1650	1470	1210	950	730	550			
					36	1	28	2360	2030	1840	1630	1440	1250	1060	940	780	610	470	350			
1"	VC435	3-5/8" x 4-1/4"	50	.020	24	1	28	2910	2500	2270	2010	1780	1540	1310	1160	960	760	580	440			
					24	2-6 CL	28	3290	2830	2570	2270	2010	1740	1480	1320	1090	860	660	490			
					24	3-6 CL	28	3620	3060	2760	2420	2120	1840	1560	1390	1150	900	690	520			
					30	1	34	2620	2250	2040	1810	1600	1390	1180	1050	860	680	520	390			
					30	2-6 CL	34	3470	2980	2710	2390	2120	1840	1560	1390	1150	900	690	520			
					30	3-6 CL	34	3920	3370	3060	2700	2390	2080	1760	1570	1290	1020	780	590			
					36	1	40	2880	2480	2250	1990	1760	1530	1300	1150	950	750	580	430			
					36	2-6 CL	40	3810	3280	2970	2630	2320	2020	1710	1520	1260	990	760	570			
					36	3-6 CL	40	4310	3710	3360	2970	2630	2280	1940	1720	1420	1120	860	650			
					36	1	28	1590	1370	1240	1100	970	840	720	640	520	410	320	240			
1-1/4"	VC1433	3-5/8" x 4-1/4"	32	.020	24	1	28	2450	2110	1910	1690	1490	1300	1100	980	810	640	490	370			
					24	2-6 CL	28	2820	2430	2200	1950	1720	1490	1270	1130	930	730	560	420			
					24	3-6 CL	28	3170	2700	2430	2150	1880	1610	1340	1160	950	740	570				
					30	1	34	1770	1520	1380	1220	1080	940	800	710	580	460	350	270			
					30	2-6 CL	34	2340	2010	1830	1610	1430	1240	1050	940	770	610	470	350			
					30	3-6 CL	34	2690	2310	2100	1860	1640	1430	1210	1080	890	700	540	400			
					36	1	40	1950	1680	1520	1350	1190	1030	880	780	640	510	390	290			
					36	2-6 CL	40	2580	2220	2010	1780	1570	1370	1160	1030	850	670	520	390			
					36	3-6 CL	40	2970	2550	2320	2050	1810	1570	1340	1190	980	770	590	450			
					36	1	28	1950	1680	1520	1350	1190	1030	880	780	640	510	390	290			
1-1/4"	VC1434	3-5/8" x 4-1/4"	40	.020	24	1	28	2710	2330	2110	1860	1650	1430	1220	1080	890	700	540	410			
					24	2-6 CL	28	3090	2660	2410	2130	1880	1620	1390	1240	1020	800	620	460			
					24	3-6 CL	28	3470	2980	2700	2370	2090	1810	1530	1330	1090	860	670	500			
					30	1	34	2170	1870	1690	1500	1320	1150	980	870	720	560	430	330			
					30	2-6 CL	34	2870	2470	2240	1980	1750	1520	1290	1150	950	750	570	430			
					30	3-6 CL	34</															

# JV4-ARS Slope Top Aluminum Grille

## COPPER/ALUMINUM ELEMENT RATINGS

ALL RATINGS ARE BASED ON 3 FPS WATER VELOCITY, 65°F AT

### STYLE LT Series "ARS"

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FIN PER FT.	FIN THICKNESS IN INCHES	ENCL HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215°F FACTOR	HOT WATER (AVG.)										
									200°F	190°F	180°F	170°F	160°F	150°F	140°F	130°F	120°F	110°F	100°F
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES										
								1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15
3/4"	VC3/4-43	4-1/4" SQ.	32	.020	24	1	28	1790	1540	1400	1240	1090	950	810	720	590	470	360	270
					24	2-6 CL	28	2810	2420	2190	1940	1710	1490	1260	1120	930	730	560	420
					24	3-6 CL	28	3230	2780	2520	2230	1970	1710	1450	1290	1070	840	650	480
					30	1	34	1990	1710	1550	1370	1210	1050	900	800	660	520	400	300
					30	2-6 CL	34	2630	2260	2050	1810	1600	1390	1180	1050	870	680	530	390
					30	3-6 CL	34	3020	2600	2360	2080	1840	1600	1360	1210	1000	790	600	450
					36	1	40	2190	1880	1710	1510	1340	1160	990	880	720	570	440	330
					36	2-6 CL	40	2900	2490	2260	2000	1770	1540	1310	1160	960	750	580	440
					36	3-6 CL	40	3330	2860	2600	2300	2030	1760	1500	1330	1100	870	670	500
					36	3-6 CL	40	3330	2860	2600	2300	2030	1760	1500	1330	1100	870	670	500
3/4"	VC3/4-44	4-1/4" SQ.	40	.020	24	1	28	2350	2020	1830	1620	1430	1250	1060	940	780	610	470	350
					24	2-6 CL	28	3210	2760	2500	2210	1960	1700	1440	1280	1060	830	640	480
					24	3-6 CL	28	3660	3150	2850	2530	2230	1940	1650	1460	1210	950	730	550
					30	1	34	2610	2240	2040	1800	1590	1380	1170	1040	860	680	520	390
					30	2-6 CL	34	3460	2980	2700	2390	2110	1830	1560	1380	1140	900	690	520
					30	3-6 CL	34	3940	3390	3070	2720	2400	2090	1770	1580	1300	1020	790	590
					36	1	40	2870	2470	2240	1980	1750	1520	1290	1150	950	750	570	430
					36	2-6 CL	40	3800	3270	2960	2620	2320	2010	1710	1520	1250	990	760	570
					36	3-6 CL	40	4330	3720	3380	2990	2640	2290	1950	1730	1430	1130	870	650
					36	3-6 CL	40	4330	3720	3380	2990	2640	2290	1950	1730	1430	1130	870	650
3/4"	VC3/4-45	4-1/4" SQ.	50	.020	24	1	28	2470	2120	1930	1700	1510	1310	1110	990	820	640	490	370
					24	2-6 CL	28	3270	2810	2550	2260	1990	1730	1470	1310	1080	850	650	490
					24	3-6 CL	28	3700	3180	2890	2550	2260	1960	1670	1480	1220	960	740	560
					30	1	34	2750	2370	2150	1900	1680	1460	1240	1100	910	720	550	410
					30	2-6 CL	34	3640	3130	2840	2510	2220	1930	1640	1460	1200	950	730	550
					30	3-6 CL	34	4110	3530	3210	2840	2510	2180	1850	1640	1360	1070	820	620
					36	1	40	3030	2610	2360	2090	1850	1610	1360	1210	1000	790	610	450
					36	2-6 CL	40	4010	3450	3130	2770	2450	2130	1800	1600	1320	1040	800	600
					36	3-6 CL	40	4530	3900	3530	3130	2760	2400	2040	1810	1490	1180	910	680
					36	3-6 CL	40	4530	3900	3530	3130	2760	2400	2040	1810	1490	1180	910	680
1"	VC43	4-1/4" SQ.	32	.020	24	1	28	1810	1560	1410	1250	1100	960	810	720	600	470	360	270
					24	2-6 CL	28	2830	2430	2210	1950	1730	1500	1270	1130	930	740	570	420
					24	3-6 CL	28	3250	2800	2540	2240	1980	1720	1460	1300	1070	850	650	490
					30	1	34	2010	1730	1570	1390	1230	1070	900	800	660	520	400	300
					30	2-6 CL	34	2660	2290	2070	1840	1620	1410	1200	1060	880	690	530	400
					30	3-6 CL	34	3060	2630	2390	2110	1870	1620	1380	1220	1010	800	610	460
					36	1	40	2210	1900	1720	1520	1350	1170	990	880	730	570	440	330
					36	2-6 CL	40	2930	2520	2290	2020	1790	1550	1320	1170	970	760	590	440
					36	3-6 CL	40	3370	2900	2630	2330	2060	1790	1520	1350	1110	880	670	510
					36	3-6 CL	40	3370	2900	2630	2330	2060	1790	1520	1350	1110	880	670	510
1"	VC44	4-1/4" SQ.	40	.020	24	1	28	2140	1840	1670	1480	1310	1130	960	860	710	560	430	320
					24	2-6 CL	28	2920	2510	2280	2010	1780	1550	1310	1170	960	760	580	440
					24	3-6 CL	28	3330	2860	2600	2300	2030	1760	1500	1330	1100	870	670	500
					30	1	34	2380	2050	1860	1640	1450	1260	1070	950	790	620	480	360
					30	2-6 CL	34	3150	2710	2460	2170	1920	1670	1420	1260	1040	820	630	470
					30	3-6 CL	34	3590	3090	2800	2480	2190	1900	1620	1440	1180	930	720	540
					36	1	40	2620	2250	2040	1810	1600	1390	1180	1050	860	680	520	390
					36	2-6 CL	40	3470	2980	2710	2390	2120	1840	1560	1390	1150	900	690	520
					36	3-6 CL	40	3960	3410	3090	2730	2420	2100	1780	1580	1310	1030	790	590
					36	3-6 CL	40	3960	3410	3090	2730	2420	2100	1780	1580	1310	1030	790	590
1"	VC45	4-1/4" SQ.	50	.020	24	1	28	2510	2160	1960	1730	1530	1330	1130	1000	830	650	500	380
					24	2-6 CL	28	3000	2580	2340	2070	1830	1590	1350	1200	990	780	600	450
					24	3-6 CL	28	3390	2920	2640	2340	2070	1800	1530	1360	1120	880	680	510
					30	1	34	2790	2400	2180	1930	1700	1480	1260	1120	920	730	560	420
					30	2-6 CL	34	3690	3170	2880	2550	2250	1960	1660	1480	1220	960	740	550
					30	3-6 CL	34	4170	3590	3250	2880	2540	2210	1880	1670	1380	1080	830	630
					36	1	40	3070	2640	2390	2120	1870	1630	1380	1230	1010	800	610	460
					36	2-6 CL	40	4060	3490	3170	2800	2480	2150	1830	1620	1340	1060	810	610
					36	3-6 CL	40	4590	3950	3580	3170	2800	2430	2070	1840	1510	1190	920	690
					36	3-6 CL	40	4590	3950	3580	3170	2800	2430	2070	1840	1510	1190	920	690
1-1/4"	VC143	4-1/4" SQ.	32	.020	24	1	28	1770	1520	1380	1220	1080	940	800	710	580	460	350	270
					24	2-6 CL	28	2780	2390	2170	1920	1700	1470	1250	1110	920	720	560	420
					24	3-6 CL	28	3200	2750	2500	2210	1950	1700	1440	1280	1060	830	640	480
					30	1	34	1970	1690	1540	1360	1200	1040	890	790	650	510	390	300
					30	2-6 CL	34	2610	2240	2040	1800	1590	1380	1170	1040	860	680	520	390
					30	3-6 CL	34	3000	2580	2340	2070	1830	1590	1350	1200	990	780	600	450
					36	1	40	2170	1870	1690	1500	1320	1150	980	870	720	560	430	330
					36	2-6 CL	40	2870	2470	2240	1980	1750	1520	1290	1150	950	750	570	430
					36	3-6 CL	40	3300	2840	2570	2280	2010	1750	1490	1320	1090	860	660	500
					36	3-6 CL	40	3300	2840	2570	2280	2010	1750	1490	1320	1090	860	660	500
1-1/4"	VC144	4-1/4" SQ.	40	.020	24	1	28	2100	1810	1640	1450	1280	1110	950	840	690	550	420	320
					24	2-6 CL	28	2870	2470	2240	1980	1750	1520	1290	1150	950	750	570	430
					24	3-6 CL	28	3270	2810	2550	2260	1990	1730	1470	1310	1080	850	650	490
					30	1	34	2340	2010	1830	1610	1430	1240	1050	940	770	610	470	350
					30	2-6 CL	34	3100	267										

**STYLE LT Series "ARS"**
**STEEL ELEMENT RATINGS**
ALL RATINGS ARE BASED ON 3 FPS WATER VELOCITY, 65" EAT

TUBE SIZE	CATALOG DESIGNATION	FIN SIZE HEIGHT X WIDTH	FIN PER FT.	FIN THICKNESS IN INCHES	ENCL HEIGHT IN INCHES	TIERS AND CENTERS IN INCHES	MTG. HEIGHT IN INCHES	STEAM 215°F FACTOR	HOT WATER (AVG.)														
									200°F	190°F	180°F	170°F	160°F	150°F	140°F	130°F	120°F	110°F	100°F				
									CORRECTION FACTORS FOR AVERAGE WATER TEMPERATURES														
												1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15
1"	VS43	4-1/4" SQ.	32	.032	24	1	28	1500	1290	1170	1040	920	800	680	600	500	390	300	230				
					24	2-6 CL	28	2270	1950	1770	1570	1380	1200	1020	910	750	590	450	340				
					24	3-6 CL	28	2610	2240	2040	1800	1590	1380	1170	1040	860	680	520	390				
					30	1	34	1670	1440	1300	1150	1020	890	750	670	550	430	330	250				
					30	2-6 CL	34	2210	1900	1720	1520	1350	1170	990	880	730	570	440	330				
					30	3-6 CL	34	2540	2180	1980	1750	1550	1350	1140	1020	840	660	510	380				
					36	1	40	1840	1580	1440	1270	1120	980	830	740	610	480	370	280				
					36	2-6 CL	40	2440	2100	1900	1680	1490	1290	1100	980	810	630	490	370				
					36	3-6 CL	40	2810	2420	2190	1940	1710	1490	1260	1120	930	730	560	420				
					1"	VS44	4-1/4" SQ.	40	.032	24	1	28	1740	1500	1360	1200	1060	920	780	700	570	450	350
24	2-6 CL	28	2490	2140						1940	1720	1520	1320	1120	1000	820	650	500	370				
24	3-6 CL	28	2840	2440						2220	1960	1730	1510	1280	1140	940	740	570	430				
30	1	34	1930	1660						1510	1330	1180	1020	870	770	640	500	390	290				
30	2-6 CL	34	2560	2200						2000	1770	1560	1360	1150	1020	840	670	510	380				
30	3-6 CL	34	2920	2510						2280	2010	1780	1550	1310	1170	960	760	580	440				
36	1	40	2120	1820						1650	1460	1290	1120	950	850	700	550	420	320				
36	2-6 CL	40	2810	2420						2190	1940	1710	1490	1260	1120	930	730	560	420				
36	3-6 CL	40	3200	2750						2500	2210	1950	1700	1440	1280	1060	830	640	480				
1"	VS45	4-1/4" SQ.	50	.032						24	1	28	1825	1570	1420	1260	1110	970	820	730	600	470	370
					24	2-6 CL	28	2550	2190	1990	1760	1560	1350	1150	1020	840	660	510	380				
					24	3-6 CL	28	2880	2480	2250	1990	1760	1530	1300	1150	950	750	580	430				
					30	1	34	2030	1750	1580	1400	1240	1080	910	810	670	530	410	300				
					30	2-6 CL	34	2690	2310	2100	1860	1640	1430	1210	1080	890	700	540	400				
					30	3-6 CL	34	3040	2610	2370	2100	1850	1610	1370	1220	1000	790	610	460				
					36	1	40	2240	1930	1750	1550	1370	1190	1010	900	740	580	450	340				
					36	2-6 CL	40	2970	2550	2320	2050	1810	1570	1340	1190	980	770	590	450				
					36	3-6 CL	40	3360	2890	2620	2320	2050	1780	1510	1340	1110	870	670	500				
					1-1/4"	VS143	4-1/4" SQ.	32	.032	24	1	28	1380	1190	1080	950	840	730	620	550	460	360	280
24	2-6 CL	28	2080	1790						1620	1440	1270	1100	940	830	690	540	420	310				
24	3-6 CL	28	2390	2060						1860	1650	1460	1270	1080	960	790	620	480	360				
30	1	34	1530	1320						1190	1060	930	810	690	610	500	400	310	230				
30	2-6 CL	34	2030	1750						1580	1400	1240	1080	910	810	670	530	410	300				
30	3-6 CL	34	2330	2000						1820	1610	1420	1230	1050	930	770	610	470	350				
36	1	40	1680	1440						1310	1160	1020	890	760	670	550	440	340	250				
36	2-6 CL	40	2220	1910						1730	1530	1350	1180	1000	890	730	580	440	330				
36	3-6 CL	40	2550	2190						1990	1760	1560	1350	1150	1020	840	660	510	380				
1-1/4"	VS144	4-1/4" SQ.	40	.032						24	1	28	1730	1490	1350	1190	1060	920	780	690	570	450	350
					24	2-6 CL	28	2480	2130	1930	1710	1510	1310	1120	990	820	640	500	370				
					24	3-6 CL	28	2830	2430	2210	1950	1730	1500	1270	1130	930	740	570	420				
					30	1	34	1920	1650	1500	1320	1170	1020	860	770	630	500	380	290				
					30	2-6 CL	34	2540	2180	1980	1750	1550	1350	1140	1020	840	660	510	380				
					30	3-6 CL	34	2900	2490	2260	2000	1770	1540	1310	1160	960	750	580	440				
					36	1	40	2110	1810	1650	1460	1290	1120	950	840	700	550	420	320				
					36	2-6 CL	40	2790	2400	2180	1930	1700	1480	1260	1120	920	730	560	420				
					36	3-6 CL	40	3180	2730	2480	2190	1940	1690	1430	1270	1050	830	640	480				
					1-1/4"	VS145	4-1/4" SQ.	50	.032	24	1	28	1810	1560	1410	1250	1100	960	810	720	600	470	360
24	2-6 CL	28	2500	2150						1950	1720	1530	1330	1130	1000	830	650	500	380				
24	3-6 CL	28	2820	2430						2200	1950	1720	1490	1270	1130	930	730	560	420				
30	1	34	2010	1730						1570	1390	1230	1070	900	800	660	520	400	300				
30	2-6 CL	34	2660	2290						2070	1840	1620	1410	1200	1060	880	690	530	400				
30	3-6 CL	34	3010	2590						2350	2080	1840	1600	1350	1200	990	780	600	450				
36	1	40	2210	1900						1720	1520	1350	1170	990	880	730	570	440	330				
36	2-6 CL	40	2930	2520						2290	2020	1790	1550	1320	1170	970	760	590	440				
36	3-6 CL	40	3310	2850						2580	2280	2020	1750	1490	1320	1090	860	660	500				
2"	VS242	4-1/4" SQ.	25	.032						24	1	28	1250	1080	980	860	760	660	560	500	410	330	250
					24	2-6 CL	28	1940	1670	1510	1340	1180	1030	870	780	640	500	390	290				
					24	3-6 CL	28	2230	1920	1740	1540	1360	1180	1000	890	740	580	450	330				
					30	1	34	1390	1200	1080	960	850	740	630	560	460	360	280	210				
					30	2-6 CL	34	1840	1580	1440	1270	1120	980	830	740	610	480	370	280				
					30	3-6 CL	34	2120	1820	1650	1460	1290	1120	950	850	700	550	420	320				
					36	1	40	1530	1320	1190	1060	930	810	690	610	500	400	310	230				
					36	2-6 CL	40	2030	1750	1580	1400	1240	1080	910	810	670	530	410	300				
					36	3-6 CL	40	2330	2000	1820	1610	1420	1230	1050	930	770	610	470	350				
					2"	VS243	4-1/4" SQ.	32	.032	24	1	28	1490	1280	1160	1030	910	790	670	600	490	390	300
24	2-6 CL	28	2180	1870						1700	1500	1330	1160	980	870	720	570	440	330				
24	3-6 CL	28	2510	2160						1960	1730	1530	1330	1130	1000	830	650	500	380				
30	1	34	1660	1430						1290	1150	1010	880	750	660	550	430	330	250				
30	2-6 CL	34	2200	1890						1720	1520	1340	1170	990	880	730	570	440	330				
30	3-6 CL	34	2530	2180						1970	1750	1540	1340	1140	1010	830	660	510	380				
36	1	40	1830	1570						1430	1260	1120	970	820	730	600	480	370	270				
36	2-6 CL	40	2420	2080						1890	1670	1480	1280	1090	970	800	630	480	360				
36	3-6 CL	40	2780	2390						2170	1920	1700	1470	1250	1110	920	720	560	420				



## COMMERCIAL FINNED TUBE CHARTS FOR RATING CORRECTIONS

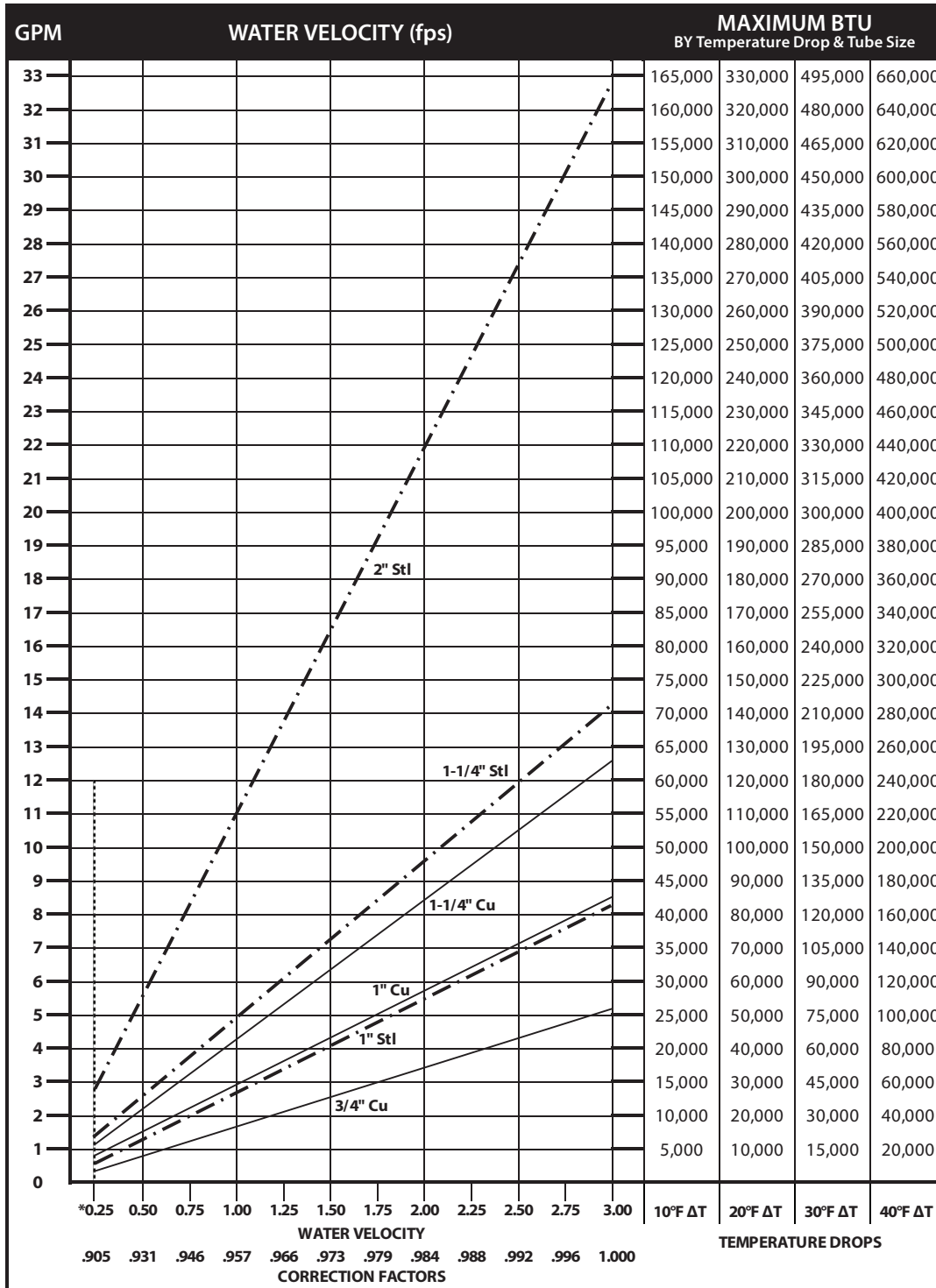
For assistance with ratings and selection, please use our online Specifier.

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

CORRECTION FACTORS FOR STEAM PRESSURES AND AIR TEMPERATURES OTHER THAN STANDARD																
STEAM		TEMP. °F	ENTERING AIR TEMPERATURE °F													
PRESSURE			45	55	STD 65	70	75	80	85	90	100	110	120	130	140	150
GAUGE	ABS. PSI															
(VAC) 15" HG	7.32	178.9	0.90	0.80	0.70	0.65	0.60	0.56	0.51	0.45	0.39	0.32	0.25	0.18	0.13	0.08
(VAC) 10" HG	9.78	192.2	1.02	0.91	0.81	0.76	0.71	0.66	0.62	0.55	0.48	0.40	0.33	0.26	0.20	0.14
(VAC) 5" HG	12.25	202.9	1.11	1.00	0.90	0.85	0.79	0.75	0.70	0.63	0.56	0.48	0.40	0.33	0.27	0.20
▶ 0 PSI	14.696	212.0	1.19	1.09	0.97	0.92	0.87	0.82	0.77	0.70	0.63	0.54	0.46	0.38	0.31	0.25
.899	15.595	215.0	1.22	1.11	1.00	0.95	0.90	0.84	0.80	0.75	0.65	0.57	0.48	0.40	0.33	0.26
5	19.70	227.1	1.34	1.22	1.11	1.05	1.00	0.95	0.90	0.81	0.75	0.66	0.57	0.49	0.41	0.34
10	24.70	239.4	1.45	1.33	1.22	1.17	1.11	1.05	1.00	0.91	0.85	0.75	0.66	0.58	0.50	0.42
15	29.70	249.8	1.55	1.43	1.31	1.26	1.20	1.14	1.09	1.00	0.94	0.84	0.75	0.66	0.57	0.49
20	34.70	258.5	1.63	1.52	1.40	1.33	1.28	1.23	1.17	1.07	1.02	0.92	0.82	0.73	0.64	0.55
25	39.70	266.8	1.71	1.59	1.47	1.41	1.36	1.30	1.25	1.15	1.09	0.98	0.89	0.80	0.71	0.62
30	44.70	274.0	1.78	1.66	1.54	1.48	1.42	1.37	1.31	1.21	1.15	1.05	0.95	0.85	0.76	0.68
40	54.70	286.7	1.91	1.79	1.66	1.61	1.54	1.49	1.43	1.32	1.27	1.16	1.06	0.97	0.87	0.78
50	64.70	297.7	2.02	1.90	1.77	1.71	1.65	1.60	1.54	1.42	1.37	1.26	1.16	1.06	0.96	0.87
60	74.70	307.3	2.10	2.00	1.87	1.81	1.75	1.69	1.63	1.51	1.47	1.35	1.25	1.15	1.05	0.95
70	84.70	316.0	2.20	2.09	1.95	1.89	1.83	1.77	1.71	1.59	1.55	1.44	1.33	1.23	1.12	1.03
80	94.70	323.9	2.27	2.17	2.03	1.97	1.91	1.85	1.80	1.69	1.63	1.52	1.41	1.31	1.20	1.10
90	104.70	331.2	2.36	2.24	2.11	2.05	1.98	1.93	1.87	1.74	1.70	1.59	1.48	1.38	1.28	1.17
100	114.70	337.9	2.43	2.31	2.18	2.11	2.05	2.00	1.94	1.81	1.77	1.65	1.54	1.44	1.33	1.23
125	139.70	352.9	2.59	2.47	2.33	2.27	2.21	2.16	2.10	1.96	1.92	1.80	1.69	1.59	1.48	1.38
150	164.70	365.9	2.73	2.62	2.47	2.43	2.35	2.29	2.23	2.08	2.05	1.94	1.82	1.72	1.61	1.51
175	189.70	377.4	2.86	2.74	2.60	2.54	2.47	2.41	2.35	2.21	2.17	2.05	1.95	1.85	1.73	1.63
200	214.70	387.8	2.95	2.85	2.71	2.63	2.58	2.52	2.47	2.31	2.29	2.17	2.06	1.96	1.84	1.75

From Keenan and Keyes — Linear Interpolation. NOTE: Gauge pressure should be corrected for altitude.

Rate of pitch for steam 1/2" drop over 20-foot run.



**DYNAMIC FORMULAS**

**BTU = GPM x 500 x TD**

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

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

\*Do not design below .25 fps.

**Pressure Drop at Given Water Velocities (Feet of Water per 100 ft. of pipe) based on Hazen - Williams calculation**

Nominal Pipe Size	Water Velocity (ft/sec)											
	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
3/4" Copper	0.06	0.20	0.42	0.72	1.09	1.53	2.04	2.61	3.25	3.95	4.71	5.53
1" Copper	0.04	0.15	0.32	0.54	0.81	1.14	1.52	1.94	2.42	2.94	3.50	4.11
1 1/4" Copper	0.03	0.12	0.25	0.43	0.64	0.90	1.20	1.54	1.92	2.33	2.78	3.26
1" Steel	0.04	0.15	0.32	0.54	0.81	1.14	1.52	1.95	2.42	2.94	3.51	4.12
1 1/4" Steel	0.03	0.11	0.23	0.40	0.60	0.84	1.12	1.44	1.79	2.17	2.59	3.05
2" Steel	0.02	0.07	0.14	0.25	0.37	0.52	0.69	0.89	1.10	1.34	1.60	1.88

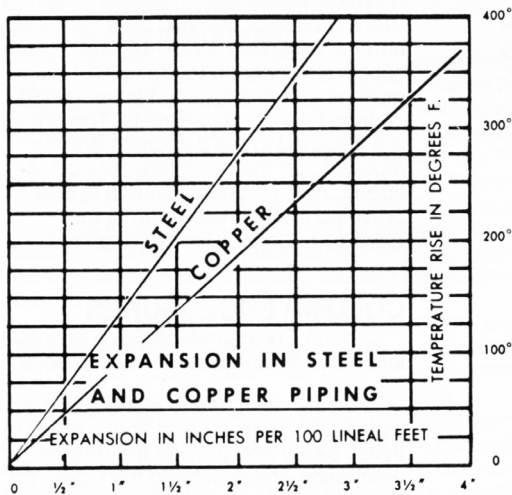
## GUARANTEED WORKING PRESSURES

- 1" IPS – 780 at Temperatures up to 650°F.
- 1-1/4" IPS – 660 at Temperatures up to 650°F.
- 2" IPS – 405 at Temperatures up to 650°F.
- 1-1/4" CU – 194 at Temperatures up to 300°F.
- 1" CU 204 at Temperatures up to 300°F.
- 3/4" CU 218 PSI at Temperatures up to 300°F.

MAXIMUM PRESSURES AT OTHER TEMPERATURES  
ARE AVAILABLE UPON REQUEST.

### Pipe Water Capacities and Quantities Circulated at Velocity of 3 Feet Per Second

Nominal Pipe Size	Pipe I.D. (inches)	Gals Per Lin. Ft.	GPM @ 3' per sec Velocity
3/4" Copper	0.835	0.028	5.12
1" Copper	1.077	0.047	8.52
1 1/4" Copper	1.315	0.071	12.70
1" Steel	1.075	0.047	8.49
1 1/4" Steel	1.395	0.079	14.29
2" Steel	2.115	0.183	32.85



### Glycol Correction Factors

#### Fluid Temperature 200°F

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

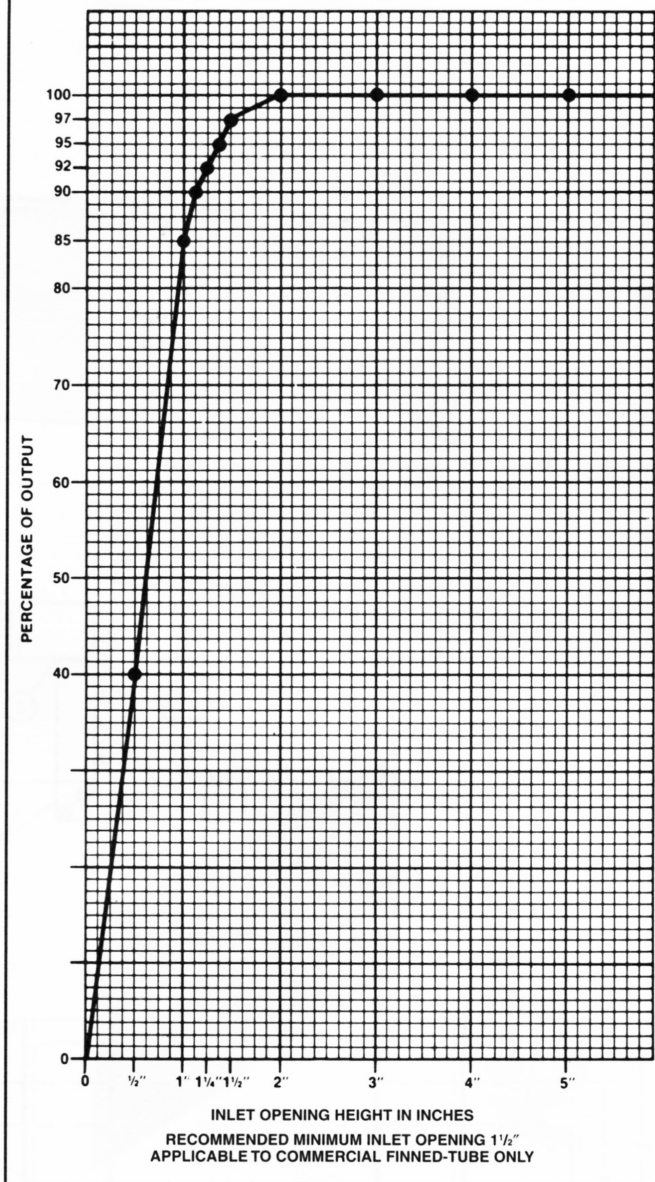
#### Fluid Temperature 180°F

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

#### Fluid Temperature 140°F

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

### INLET VS. OUTPUT/BTUH CAPACITY REDUCTION



### ALTITUDE FACTORS

Approximate factors for convective heat value at varying altitudes

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



## LIMITED WARRANTY

### Commercial Finned Tube Radiation

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

This limited warranty does not apply:

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

This limited warranty is conditional upon:

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

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

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

# Vulcan

R A D I A T O R

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