LT SERIES

LINOVECTOR II

Submittal

LV4-S24 30 & 36
Slope Top Enclosures
Copper/Aluminum Elements

☐ **LV4 Slip Jointed Enclosure**

Specification

ENCLOSURE:

STYLE: Slope Top, Slope Outlet
OUTLET: Stamped Louvers
Pencil Proof
LENGTHS: 2'0" thru 8'0" in 6" Increments
MAT'L: ☐ 18 Ga. CRS (Std)
☐ 16 Ga. CRS (Opt'l)
☐ 14 Ga. CRS (Opt'l)
☐ 18 Ga. Stainless Steel (Opt'l)
☐ 16 Ga. Stainless Steel (Opt'l)
☐ 14 Ga. Stainless Steel (Opt'l)
☐ 16 Ga. Aluminum (Opt'l)
☐ 14 Ga. Aluminum (Opt'l)
☐ 12 Ga. Aluminum (Opt'l)
HEIGHT: ☐ 24"
☐ 30"
☐ 36"
FINISH: ☐ Baked Powder (Std)
☐ Baked Metallic (Opt'l)

ACCESSORIES:

☐ LV Overlapping Type
All accessories return to the wall at the bottom and have pre-punched holes for fastening to the wall.

ELEMENT:

TYPE: ☐ Cu/Al (Mechanically Expanded)
LENGTHS: 2'0" thru 12'6" in 1" Increments for 1" & 1-1/4" Cu.
2'0" thru 8'0" in 1" Increments for 3/4" Cu.

One End Flared (Standard)

See Catalog for Working Pressures

DAMPER:

Damper Blades Factory Installed
☐ Knob Damper (Opt'l)
☐ Tamper Resistant (Opt'l)

BACKPLATE:

TYPE: ☐ Partial B/P
LENGTHS: 8'0" Only
MAT'L: ☐ 20 Ga. Prepainted (Std)
☐ 18 Ga. Galvannealed (Opt'l)

TYPE: ☐ Full Ht. B/P (Opt'l)
LENGTHS: 2'0" thru 8'0" in 6" Increments
MAT'L: ☐ 20 Ga. Galvannealed (Opt'l)
☐ 20 Ga. Painted (Opt'l)
☐ 18 Ga. Painted (Opt'l)

AIRSEAL:

☐ 1/8" x 3/8" Closed Cell (Opt'l)

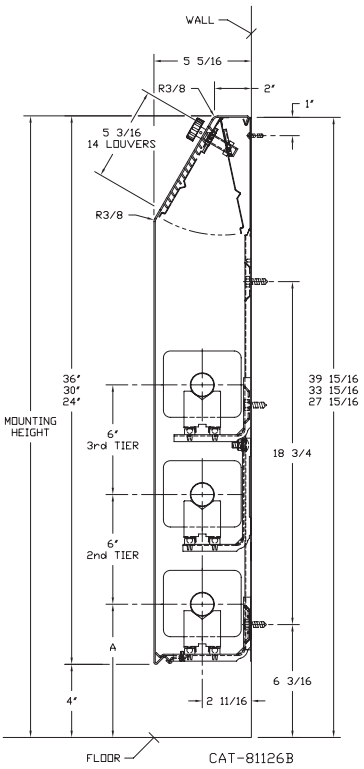
BRACKETS:

☐ Water Brkt (with Stand-Off)
Stand-Off not required with 24" height

☐ B.B. Hanger, Bracket Mtd
☐ B.B. Hanger, Wall Mtd
Wall Mtd B.B. Hanger required for 3rd Tier Element

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"

☐ **LV4-S 24**
☐ **LV4-S 30**
☐ **LV4-S 36**



Vulcan RADIATOR
260 North Elm St., Westfield, MA 01085
(413) 568-9571
www.vulcanrad.com

MADE IN THE USA

3/24

PROJECT: _____ **DATE:** _____
LOCATION: _____
ARCHITECT: _____
ENGINEER: _____
CONTRACTOR: _____
PO NUMBER: _____

LV4-S Style "S" Slope Top Enclosures

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
					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
3/4"	VC3/4-433	3-5/8" x 4-1/4"	32	.020	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
					24	1	28	1910	1640	1490	1320	1170	1010	860	760	630	500	380	290
					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	2120	1820	1650	1460	1290	1120	950	850	700	550	420	320
3/4"	VC3/4-434	3-5/8" x 4-1/4"	40	.020	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
					24	1	28	2260	1940	1760	1560	1380	1200	1020	900	750	590	450	340
					24	2-6 CL	28	3110	2670	2430	2150	1900	1650	1400	1240	1030	810	620	470
					24	3-6 CL	28	3510	3020	2740	2420	2140	1860	1580	1400	1160	910	700	530
					30	1	34	2510	2160	1960	1730	1530	1330	1130	1000	830	650	500	380
3/4"	VC3/4-435	3-5/8" x 4-1/4"	50	.020	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
					24	1	28	1690	1450	1320	1170	1030	900	760	680	560	440	340	250
					24	2-6 CL	28	2590	2230	2020	1790	1580	1370	1170	1040	850	670	520	390
					24	3-6 CL	28	2980	2560	2320	2060	1820	1580	1340	1190	980	770	600	450
					30	1	34	1880	1620	1470	1300	1150	1000	850	750	620	490	380	280
1"	VC433	3-5/8" x 4-1/4"	32	.020	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
					24	1	28	1990	1710	1550	1370	1210	1050	900	800	660	520	400	300
					24	2-6 CL	28	2770	2380	2160	1910	1690	1470	1250	1110	910	720	550	420
					24	3-6 CL	28	3160	2720	2460	2180	1930	1670	1420	1260	1040	820	630	470
					30	1	34	2210	1900	1720	1520	1350	1170	990	880	730	570	440	330
1"	VC434	3-5/8" x 4-1/4"	40	.020	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
					24	1	28	2360	2030	1840	1630	1440	1250	1060	940	780	610	470	350
					24	2-6 CL	28	2910	2500	2270	2010	1780	1540	1310	1160	960	760	580	440
					24	3-6 CL	28	3290	2830	2570	2270	2010	1740	1480	1320	1090	860	660	490
					30	1	34	2620	2250	2040	1810	1600	1390	1180	1050	860	680	520	390
1"	VC435	3-5/8" x 4-1/4"	50	.020	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
					24	1	28	1590	1370	1240	1100	970	840	720	640	520	410	320	240
					24	2-6 CL	28	2450	2110	1910	1690	1490	1300	1100	980	810	640	490	370
					24	3-6 CL	28	2820	2430	2200	1950	1720	1490	1270	1130	930	730	560	420
					30	1	34	1770	1520	1380	1220	1080	940	800	710	580	460	350	270
1-1/4"	VC1433	3-5/8" x 4-1/4"	32	.020	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
					24	1	28	1950	1680	1520	1350	1190	1030	880	780	640	510	390	290
					24	2-6 CL	28	2710	2330	2110	1870	1650	1440	1220	1080	890	700	540	410
					24	3-6 CL	28	3090	2660	2410	2130	1880	1640	1390	1240	1020	800	620	460
					30	1	34	2170	1870	1690	1500	1320	1150	980	870	720	560	430	330
1-1/4"	VC1434	3-5/8" x 4-1/4"	40	.020	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	2270	1950	1770	1570	1380	1200	1020	910	750	590	450	340
					24	2-6 CL	28	2810	2420	2190	1940	1710	1490	1260	1120	930	730	560	420
					24	3-6 CL	28	3180	2730	2480	2190	1940	1690	1430	1270	1050	830	640	480
					30	1	34	2520	2170	1970	1740	1540	1340	1130	1010	830	660	500	380
1-1/4"	VC1435	3-5/8" x 4-1/4"	50	.020	30	2-6 CL	34	3340	2870	2610	2300	2040	1770	1500	1340	1100	870	670	500
					30	3-6 CL	34	3770	3240	2940	2600	2300	2000	1700	1510	1240	980	750	570
					36	1	40	2770	2380	2160	1910	1690	1470	1250	1110	910	720	550	420
					36	2-6 CL	40	3670	3160	2860	2530	2240	1950	1650	1470	1210	950	730	550
					36	3-6 CL	40	4150	3570	3240	2860	2530	2200	1870	1660	1370	1080	830	620

LV4-S Style "S" Slope Top Enclosures

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
					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
3/4"	VC3/4-43	4-1/4" SQ.	32	.020	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
					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
3/4"	VC3/4-44	4-1/4" SQ.	40	.020	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
					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
3/4"	VC3/4-45	4-1/4" SQ.	50	.020	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
					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
1"	VC43	4-1/4" SQ.	32	.020	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
					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
1"	VC44	4-1/4" SQ.	40	.020	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
					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
1"	VC45	4-1/4" SQ.	50	.020	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
					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
1-1/4"	VC143	4-1/4" SQ.	32	.020	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
					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
1-1/4"	VC144	4-1/4" SQ.	40	.020	30	2-6 CL	34	3100	2670	2420	2140	1890	1640	1400	1240	1020	810	620	470
					30	3-6 CL	34	3530	3040	2750	2440	2150	1870	1590	1410	1160	920	710	530
					36	1	40	2580	2220	2010	1780	1570	1370	1160	1030	850	670	520	390
					36	2-6 CL	40	3420	2940	2670	2360	2090	1810	1540	1370	1130	890	680	510
					36	3-6 CL	40	3900	3350	3040	2690	2380	2070	1760	1560	1290	1010	780	590
					24	1	28	2470	2120	1930	1700	1510	1310	1110	990	820	640	490	370
					24	2-6 CL	28	2950	2540	2300	2040	1800	1560	1330	1180	970	770	590	440
					24	3-6 CL	28	3330	2860	2600	2300	2030	1760	1500	1330	1100	870	670	500
					30	1	34	2750	2370	2150	1900	1680	1460	1240	1100	910	720	550	410
1-1/4"	VC145	4-1/4" SQ.	50	.020	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

LV4-S Style "S" Slope Top Enclosures

STYLE LT Series "S"

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	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
1"	VS45	4-1/4" SQ.	50	.032	24	1	28	1825	1570	1420	1260	1110	970	820	730	600	470	370	270
					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	210
					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	260
					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	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	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	190
					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	220
					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

Design Data

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

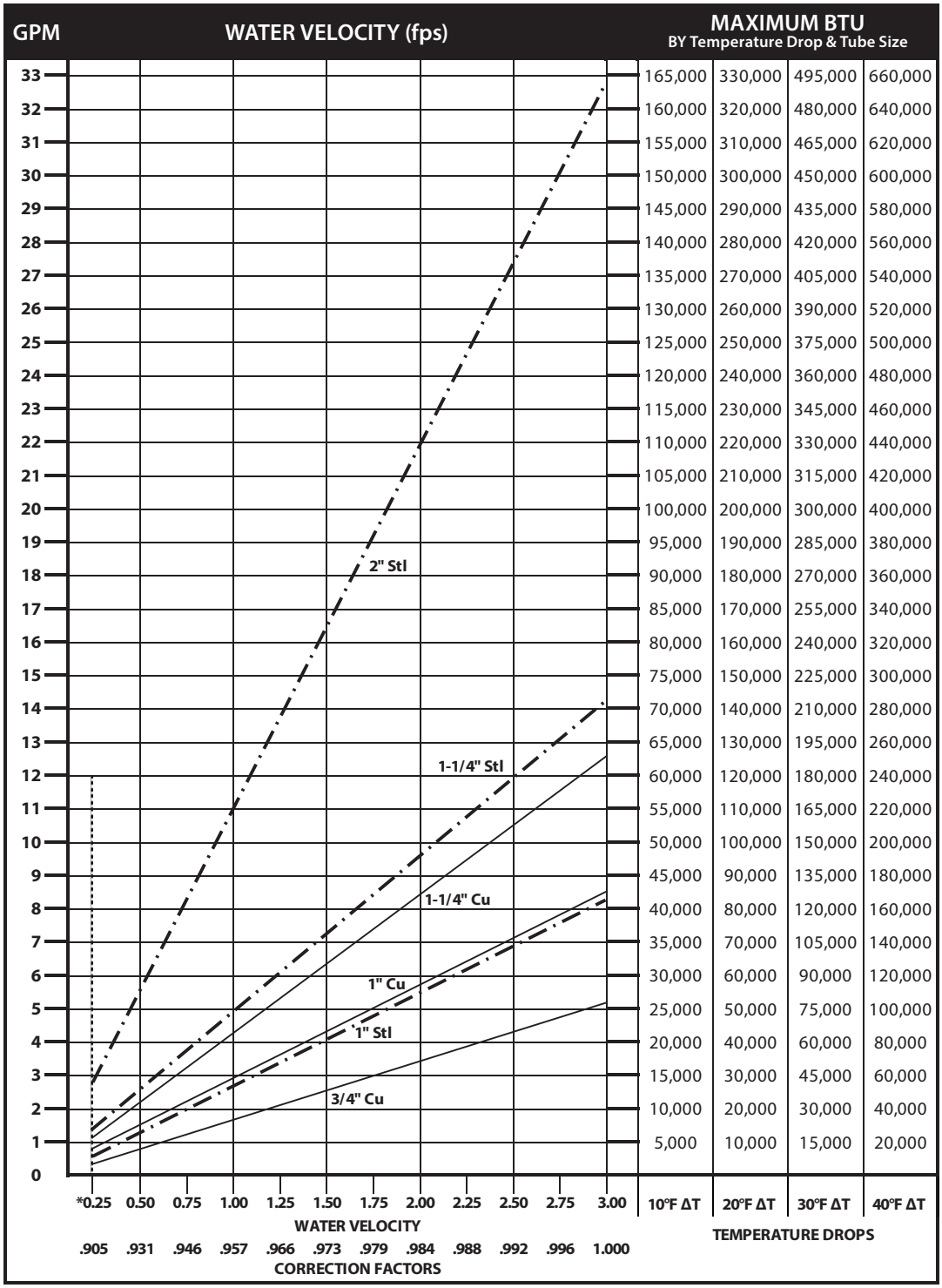
CORRECTION FACTORS FOR STEAM PRESSURES AND AIR TEMPERATURES OTHER THAN STANDARD

STEAM PRESSURE		TEMP. °F	ENTERING AIR TEMPERATURE °F													
GAUGE	ABS. PSI		45	55	STD 65	70	75	80	85	90	100	110	120	130	140	150
(VAC) 15" HG	7.32	178.9	0.90	0.80	0.70	0.65	0.60	0.56	0.51	0.45	0.39	0.32	0.25	0.18	0.13	0.08
(VAC) 10"	9.78	192.2	1.02	0.91	0.81	0.76	0.71	0.66	0.62	0.55	0.48	0.40	0.33	0.26	0.20	0.14
(VAC) 5"	12.25	202.9	1.11	1.00	0.90	0.85	0.79	0.75	0.70	0.63	0.56	0.48	0.40	0.33	0.27	0.20
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 ½"drop over 20-foot run.

Design Data



*Do not design below .25 fps.

DYNAMIC FORMULAS

$$BTU = GPM \times 500 \times TD$$

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

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

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

Design Data

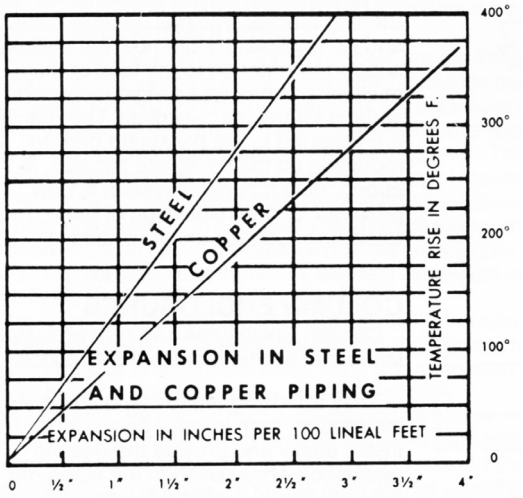
GUARANTEED WORKING PRESSURES

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

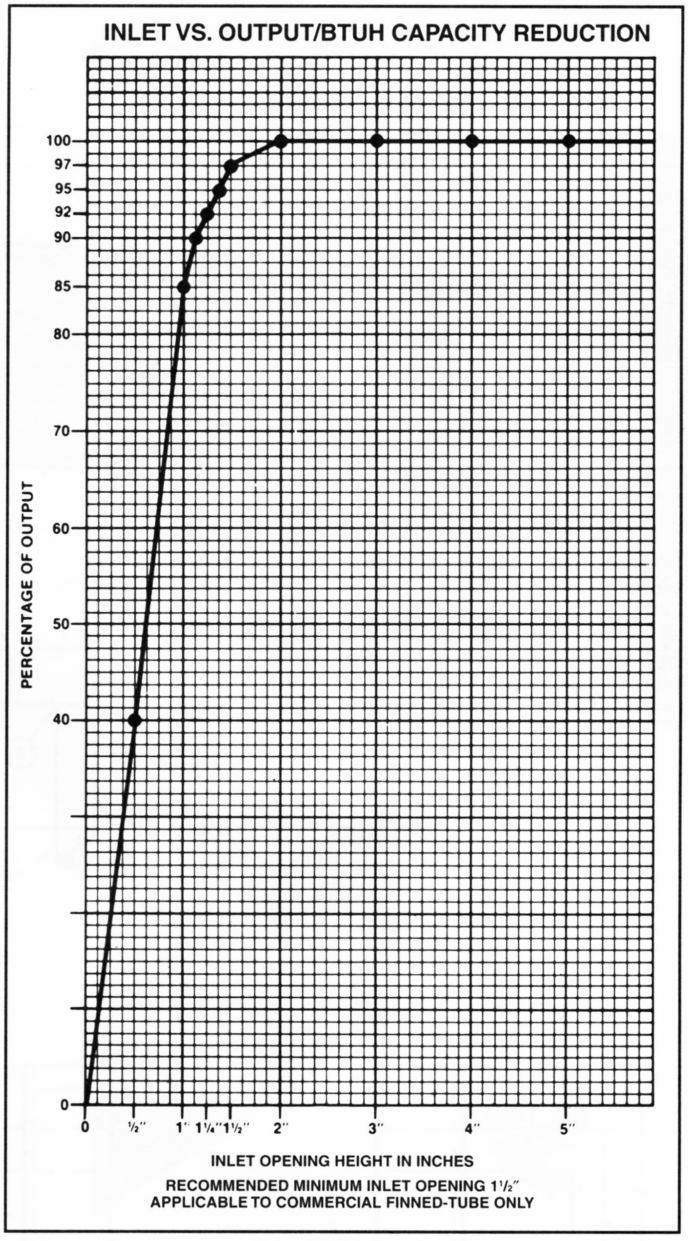
% Solution	Ethylene Glycol	Propylene Glycol
20	.952	.988
30	.921	.968
40	.888	.943
50	.852	.912

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



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