

JVB 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)

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

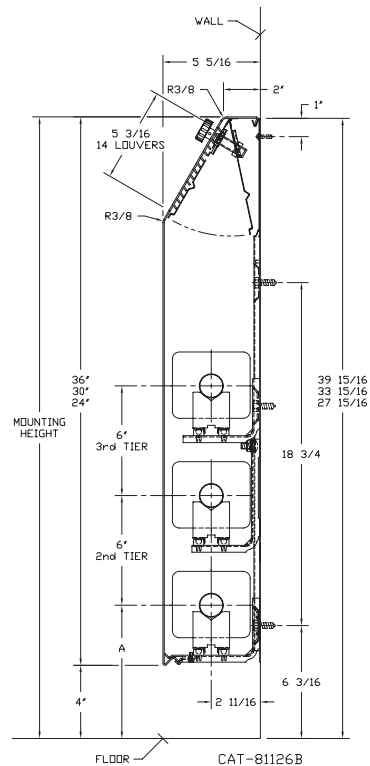
ACCESSORIES:

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

- 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"

- JVB-S 24
 JVB-S 30
 JVB-S 36



260 North Elm St., Westfield, MA 01085
 (413) 564-5535
 www.sterlingheat.com

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



JVB-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 DEPTH AND 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"	S43	4-1/4" SQ.	32	.032	24B	1	28	1500	1.00	0.86	0.78	0.69	0.61	0.53	0.45	.40	.33	.26	.20	.15
						24B	2-6 CL	28	2270	1950	1770	1570	1380	1200	1020	910	750	590	450	340
						24B	3-6 CL	28	2610	2240	2040	1800	1590	1380	1170	1040	860	680	520	390
						30B	1	34	1670	1440	1300	1150	1020	890	750	670	550	430	330	250
						30B	2-6 CL	34	2210	1900	1720	1520	1350	1170	990	880	730	570	440	330
						30B	3-6 CL	34	2540	2180	1980	1750	1550	1350	1140	1020	840	660	510	380
						36B	1	40	1840	1580	1440	1270	1120	980	830	740	610	480	370	280
						36B	2-6 CL	40	2440	2100	1900	1680	1490	1290	1100	980	810	630	490	370
						36B	3-6 CL	40	2810	2420	2190	1940	1710	1490	1260	1120	930	730	560	420
						24B	1	28	1740	1500	1360	1200	1060	920	780	700	570	450	350	260
						24B	2-6 CL	28	2490	2140	1940	1720	1520	1320	1120	1000	820	650	500	370
						1"	S44	4-1/4" SQ.	40	.032	24B	1	28	2840	2440	2220	1960	1730	1510	1280
24B	2-6 CL	28	2490	2140	1940							1720	1520	1320	1120	1000	820	650	500	370
24B	3-6 CL	28	2840	2440	2220							1960	1730	1510	1280	1140	940	740	570	430
30B	1	34	1930	1660	1510							1330	1180	1020	870	770	640	500	390	290
30B	2-6 CL	34	2560	2200	2000							1770	1560	1360	1150	1020	840	670	510	380
30B	3-6 CL	34	2920	2510	2280							2010	1780	1550	1310	1170	960	760	580	440
36B	1	40	2120	1820	1650							1460	1290	1120	950	850	700	550	420	320
36B	2-6 CL	40	2810	2420	2190							1940	1710	1490	1260	1120	930	730	560	420
36B	3-6 CL	40	3200	2750	2500							2210	1950	1700	1440	1280	1060	830	640	480
24B	1	28	1825	1570	1420							1260	1110	970	820	730	600	470	370	270
24B	2-6 CL	28	2550	2190	1990							1760	1560	1350	1150	1020	840	660	510	380
24B	3-6 CL	28	2880	2480	2250							1990	1760	1530	1300	1150	950	750	580	430
1"	S45	4-1/4" SQ.	50	.032	30B	1	34	2030	1750	1580	1400	1240	1080	910	810	670	530	410	300	
						30B	2-6 CL	34	2690	2310	2100	1860	1640	1430	1210	1080	890	700	540	400
						30B	3-6 CL	34	3040	2610	2370	2100	1850	1610	1370	1220	1000	790	610	460
						36B	1	40	2240	1930	1750	1550	1370	1190	1010	900	740	580	450	340
						36B	2-6 CL	40	2970	2550	2320	2050	1810	1570	1340	1190	980	770	590	450
						36B	3-6 CL	40	3360	2890	2620	2320	2050	1780	1510	1340	1110	870	670	500
						24B	1	28	1380	1190	1080	950	840	730	620	550	460	360	280	210
						24B	2-6 CL	28	2080	1790	1620	1440	1270	1100	940	830	690	540	420	310
						24B	3-6 CL	28	2390	2060	1860	1650	1460	1270	1080	960	790	620	480	360
						30B	1	34	1530	1320	1190	1060	930	810	690	610	500	400	310	230
						30B	2-6 CL	34	2030	1750	1580	1400	1240	1080	910	810	670	530	410	300
						30B	3-6 CL	34	2330	2000	1820	1610	1420	1230	1050	930	770	610	470	350
1-1/4"	S143	4-1/4" SQ.	32	.032	24B	1	28	1730	1490	1350	1190	1060	920	780	690	570	450	350	260	
						24B	2-6 CL	28	2480	2130	1930	1710	1510	1310	1120	990	820	640	500	370
						24B	3-6 CL	28	2830	2430	2210	1950	1730	1500	1270	1130	930	740	570	420
						30B	1	34	1920	1650	1500	1320	1170	1020	860	770	630	500	380	290
						30B	2-6 CL	34	2540	2180	1980	1750	1550	1350	1140	1020	840	660	510	380
						30B	3-6 CL	34	2900	2490	2260	2000	1770	1540	1310	1160	960	750	580	440
						36B	1	40	2110	1810	1650	1460	1290	1120	950	840	700	550	420	320
						36B	2-6 CL	40	2790	2400	2180	1930	1700	1480	1260	1120	920	730	560	420
						36B	3-6 CL	40	3180	2730	2480	2190	1940	1690	1430	1270	1050	830	640	480
						24B	1	28	1810	1560	1410	1250	1100	960	810	720	600	470	360	270
						24B	2-6 CL	28	2500	2150	1950	1720	1530	1330	1130	1000	830	650	500	380
						24B	3-6 CL	28	2820	2430	2200	1950	1720	1490	1270	1130	930	730	560	420
1-1/4"	S144	4-1/4" SQ.	40	.032	30B	1	34	2010	1730	1570	1390	1230	1070	900	800	660	520	400	300	
						30B	2-6 CL	34	2660	2290	2070	1840	1620	1410	1200	1060	880	690	530	400
						30B	3-6 CL	34	3010	2590	2350	2080	1840	1600	1350	1200	990	780	600	450
						36B	1	40	2210	1900	1720	1520	1350	1170	990	880	730	570	440	330
						36B	2-6 CL	40	2930	2520	2290	2020	1790	1550	1320	1170	970	760	590	440
						36B	3-6 CL	40	3310	2850	2580	2280	2020	1750	1490	1320	1090	860	660	500
						24B	1	28	1250	1080	980	860	760	660	560	500	410	330	250	190
						24B	2-6 CL	28	1940	1670	1510	1340	1180	1030	870	780	640	500	390	290
						24B	3-6 CL	28	2230	1920	1740	1540	1360	1180	1000	890	740	580	450	330
						30B	1	34	1390	1200	1080	960	850	740	630	560	460	360	280	210
						30B	2-6 CL	34	1840	1580	1440	1270	1120	980	830	740	610	480	370	280
						30B	3-6 CL	34	2120	1820	1650	1460	1290	1120	950	850	700	550	420	320
1-1/4"	S145	4-1/4" SQ.	50	.032	36B	1	40	1530	1320	1190	1060	930	810	690	610	500	400	310	230	
						36B	2-6 CL	40	2030	1750	1580	1400	1240	1080	910	810	670	530	410	300
						36B	3-6 CL	40	2330	2000	1820	1610	1420	1230	1050	930	770	610	470	350
						24B	1	28	1490	1280	1160	1030	910	790	670	600	490	390	300	220
						24B	2-6 CL	28	2180	1870	1700	1500	1330	1160	980	870	720	570	440	330
						24B	3-6 CL	28	2510	2160	1960	1730	1530	1330	1130	1000	830	650	500	380
						30B	1	34	1660	1430	1290	1150	1010	880	750	660	550	430	330	250
						30B	2-6 CL	34	2200	1890	1720	1520	1340	1170	990	880	730	570	440	330
						30B	3-6 CL	34	2530	2180	1970	1750	1540	1340	1140	1010	830	660	510	380
						36B	1	40	1830	1570	1430	1260	1120	970	820	730	600	480	370	270
						36B	2-6 CL	40	2420	2080	1890	1670	1480	1280	1090	970	800	630	480	360
						36B	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.

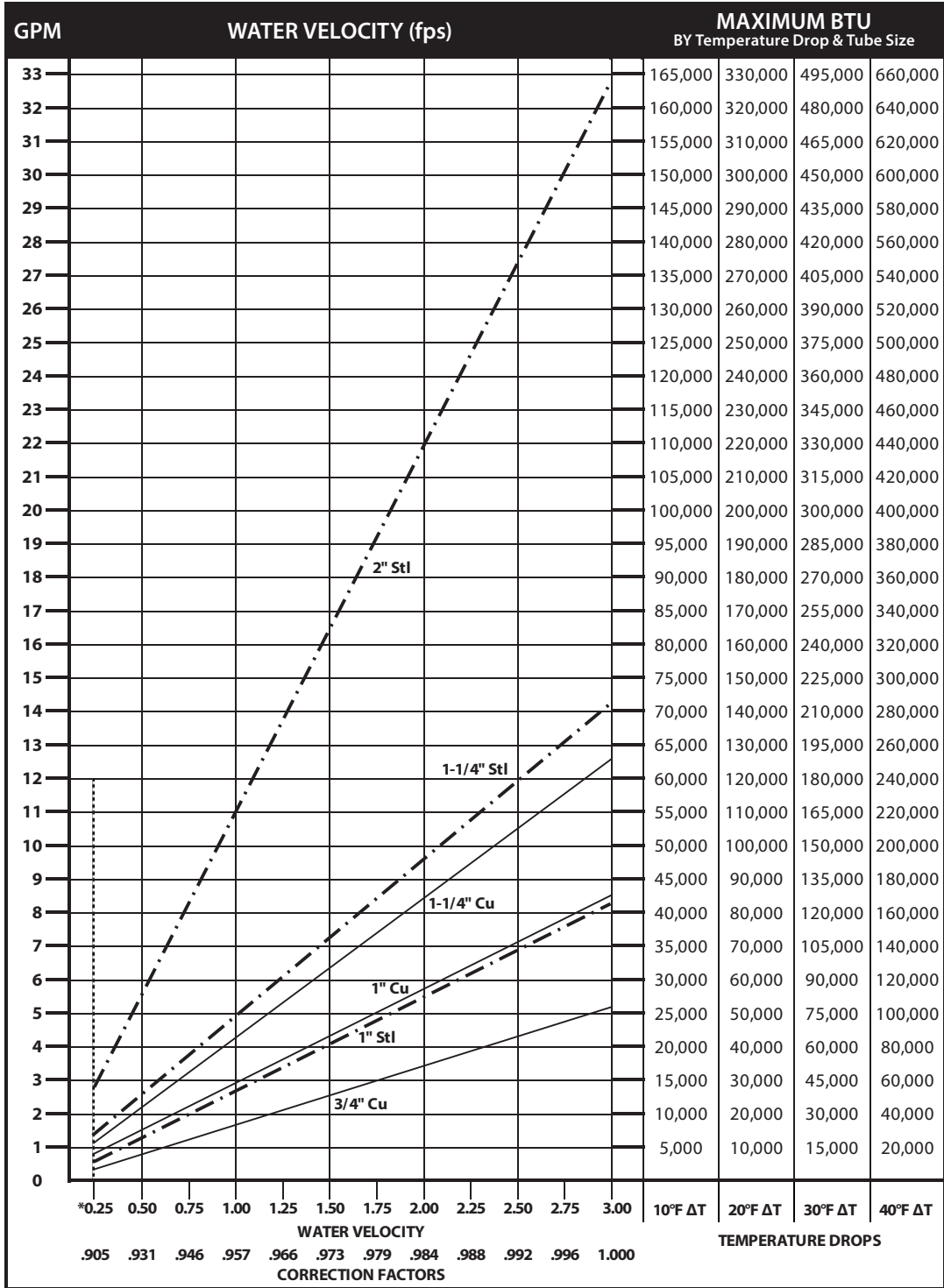
CORRECTION FACTORS FOR WATER TEMPERATURES AND AIR TEMPERATURES OTHER THAN STANDARD															
AVERAGE WATER TEMP. °F	ENTERING AIR TEMPERATURE °F														
	45	55	STD 65	70	75	80	85	90	95	100	110	120	130	140	150
90	.19	.13	.11	.06											
100	.25	.19	.15	.11	.08	.06									
110	.31	.25	.20	.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		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.

Design Data



DYNAMIC FORMULAS

$$\text{BTU} = \text{GPM} \times 500 \times \text{TD}$$

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

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

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

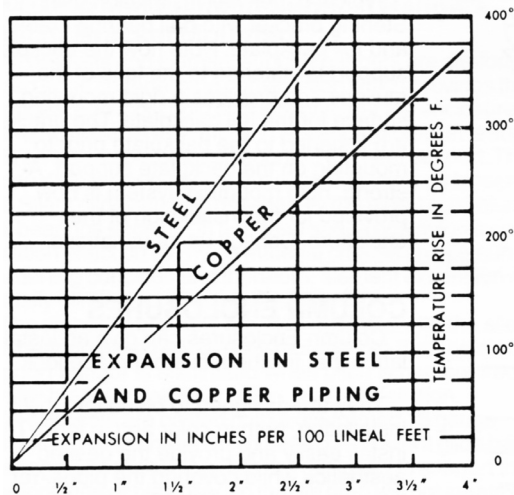
GUARANTEED WORKING PRESSURES

- 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

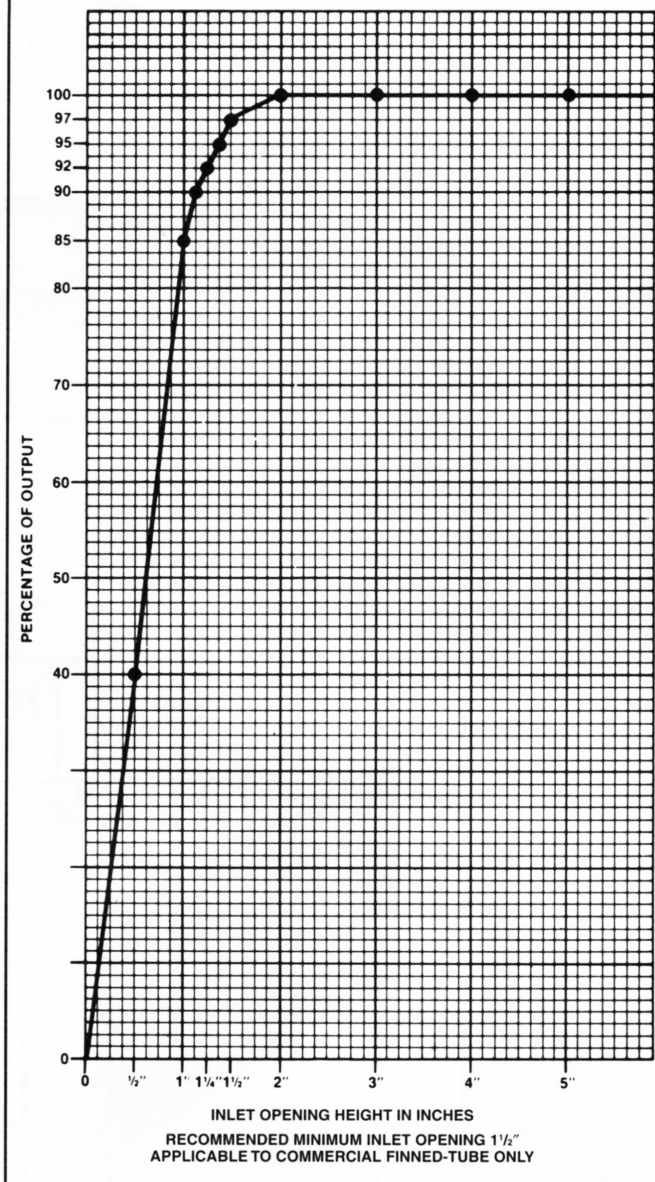
Fluid Temperature 180°F

% 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

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