



STEAM COILS AND UNIT HEATERS

INDUSTRIAL MECHANICAL SPECIALTIES LTD

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HEAVY DUTY - RUGGED

FOR HEAVY INDUSTRY - PAPER-MILLS - STEEL PLANTS ETC.

HEATING COILS

Our all welded steel coils with steel or aluminum fins are constructed of Sch 40 steel pipe (or Sch 80 on request) and headers. All connections are of Sch 80 steel pipe. The coils are enclosed in 12 gauge steel casings with drilled flanges for duct mounting. We have the standard heating coils as well as our NF design "NON-FREEZE" coils. All coils are good for 250 PSI steam maximum and are tested for 850 PSI in our shop before shipment. Hot dip galvanized is available on request. All stainless steel (304 or 316) available.

UNIT HEATERS

Our Unit Heaters are heavy duty industrial type constructed of Sch 40 steel pipe (or Sch 80 on request) with steel or aluminum fins. Fan guards are standard equipment. All motors are heavy duty industrial type and permanently lubricated. The adjustable louvers and cabinets are fabricated from 14 gauge steel and finished in enamel. The cores are of all welded construction and are good for 250 PSI maximum and are hydrostatically tested to 850 PSI. All stainless steel (304 or 316) available. Horizontal or vertical discharge available as well as steam, hot water or glycol types.

"NON-FREEZE" COILS

Our "NON-FREEZE" coils have been designed to heat make-up air for industry under the extreme conditions of our cold winters with freezing temperatures.

In these units the core design features a smaller orifaced steam supply tube distributing all the steam within the entire wall surface of the over-sized outer tube. The fins of the first row are spaced so that air on the last row is always above freezing. The second and subsequent rows are fed steam from the condensate header of the first row in series, thus the first row (coldest) is always full of steam reducing the danger of freeze-up.

The outstanding feature of the "NON-FREEZE" coil is that it is a self-contained unit requiring a single control valve for full control range. Trapping and piping is simplified, and face and by-pass dampers are eliminated.

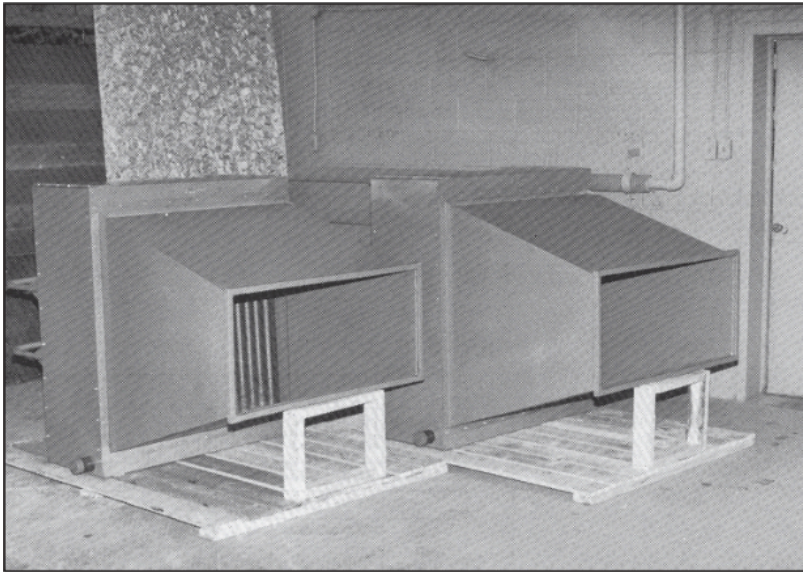
Due to high steam velocity and corresponding pressure drop, steam supply to the "NON-FREEZE" coil should not be less than 5 P.S.I.G.

Most coils available to our industry today are of the commercial grade, that is, they are manufactured of thin materials. With tubes manufactured of schedule 40 steel pipe and min. .024" thick steel fins, IMS coils provide greater resistance to damage and wear from high temperatures, pressures and corrosive conditions. Whether you need a replacement coil or a custom built unit, the same quality and durability are stressed.

The confidence we have in our Industrial Grade Steam Coils and Unit Heaters is passed on to our customers with our thirty-six (36) month guarantee.

IMS

UNIT HEATERS AND DOOR HEATERS

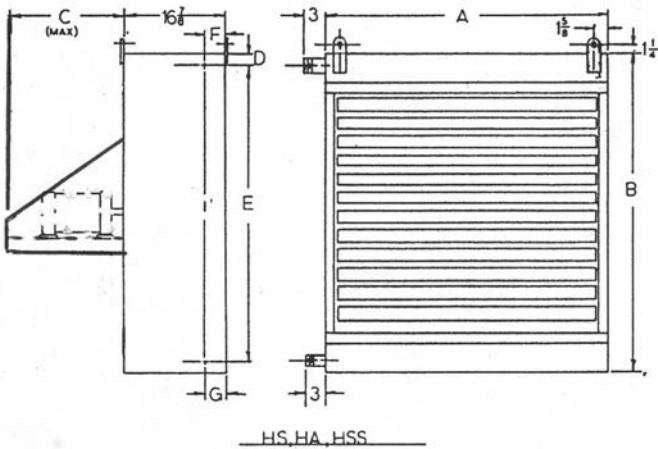


FOR STEAM - HOT WATER - GLYCOL

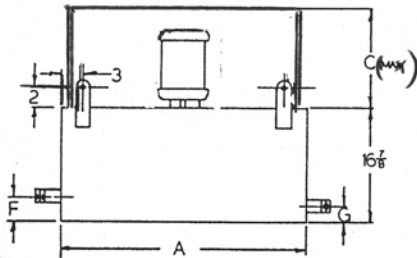
- Rugged core design - Sch 40 or 80 tubes and heavy gauge fins.
- Heavy carbon steel cabinets - 14 ga. minimum.
 - Adjustable air direction louvers.
 - Ball bearing, fan-cooled motors.
 - Fan guards standard on all units.



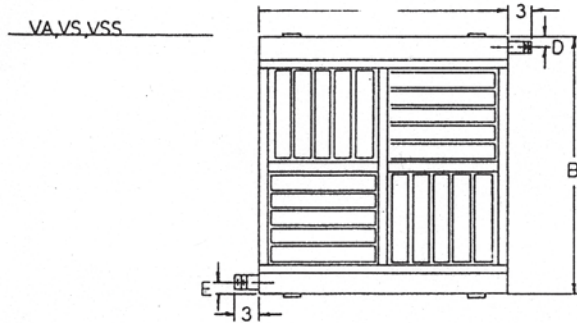
UNIT HEATER DIMENSIONS



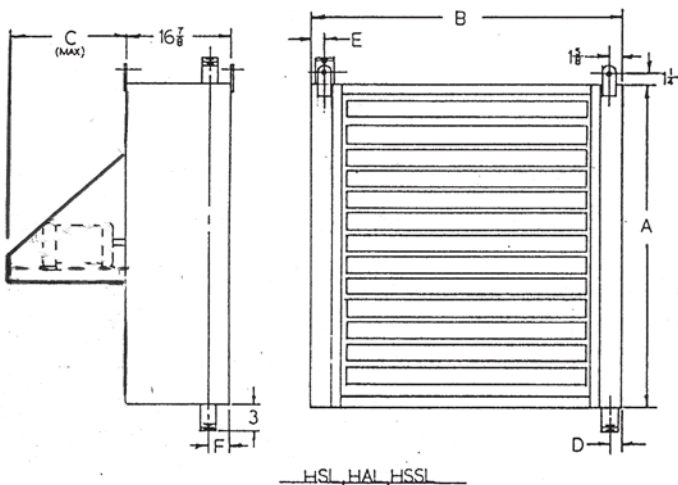
MODELS	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	STEAM CONN. (I.P.S.)	COND. CONN. (I.P.S.)
1-12	19 1/4	24	14 1/4	1 3/8	21 1/4	4 1/2	1 1/2	1 1/2
1-14	21 1/4	26	14 1/4	1 3/8	23 1/4	4 1/2	1 1/2	1 1/2
1-16	24 1/4	29	14 1/4	1 5/8	25 3/4	4 1/2	1 1/2	1 1/2
1-18	27 1/4	32	14 1/4	1 5/8	28 3/4	4 1/2	2	1 1/2
2-16	24 1/4	29	14 1/4	1 3/8	25 3/4	4 1/2	1 1/2	1 1/2
1-24	36	40 3/4	15 1/2	2 1/8	37	5	2 1/2	1 1/2
2-18	27 1/4	32	14 1/4	1 5/8	28 3/4	4 1/2	2	1 1/2
1-30	43	47 3/4	16	2 3/8	43 1/2	5	3	2
2-24	36	40 3/4	15 1/2	2 1/8	37	5	2 1/2	1 1/2
1-36	51 3/4	56 1/2	18	2 3/8	52 1/4	5	3	2
2-30	43	47 3/4	16	2 3/8	43 1/4	5	3	2
2-36	51 3/4	56 1/2	18	2 3/8	52 1/4	5	3	2



MODELS	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	G (IN.)	STEAM CONN. (I.P.S.)	COND. CONN. (I.P.S.)
1-12	19 1/4	24	14 1/4	1 7/8	1 7/8	5 1/2	3 1/2	1 1/2	1 1/2
1-14	21 1/4	26	14 1/4	1 7/8	1 7/8	5 1/2	3 1/2	1 1/2	1 1/2
1-16	24 1/4	29	14 1/4	1 7/8	1 7/8	5 1/2	3 1/2	1 1/2	1 1/2
1-18	27 1/4	32	14 1/4	1 7/8	2	5 1/2	3 1/2	2	1 1/2
2-16	24 1/4	29	14 1/4	1 7/8	1 7/8	5 1/2	3 1/2	1 1/2	1 1/2
1-24	36	40 3/4	15 1/2	2 1/8	2 3/8	6 1/2	3 1/2	2 1/2	1 1/2
2-18	27 1/4	32	14 1/4	1 7/8	2	5 1/2	3 1/2	2	1 1/2
1-30	43	47 3/4	16	2 1/4	2 3/8	6 1/2	3 1/2	3	2
2-24	36	40 3/4	15 1/2	2 1/8	2 3/8	6 1/2	3 1/2	2 1/2	1 1/2
1-36	51 3/4	56 1/2	18	2 1/4	2 3/8	6 1/2	3 1/2	3	2
2-30	43	47 3/4	16	2 1/4	2 3/8	6 1/2	3 1/2	3	2
2-36	51 3/4	56 1/2	18	2 1/4	2 3/8	6 1/2	3 1/2	3	2

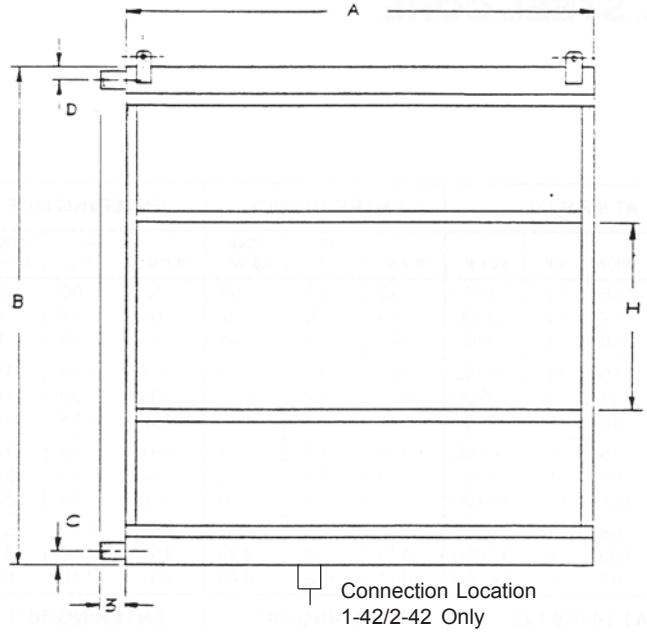
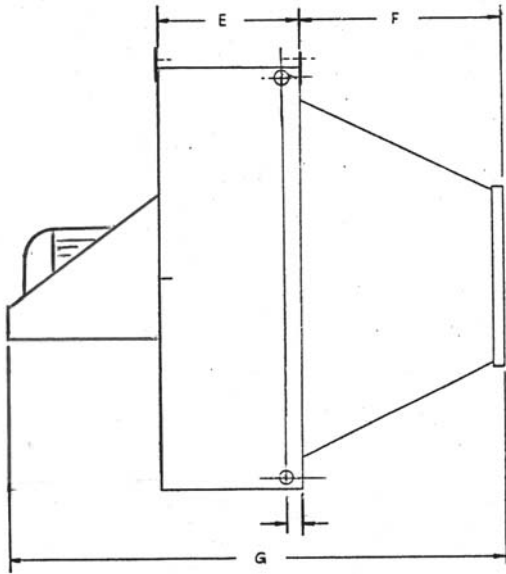


* 2 Direction Louvers only on models: -12, -14 & -16



MODELS	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	CONN. (I.P.S.)
1-12	19 1/4	24	14 1/4	1 5/8	1 5/8	4 1/2	1 1/2
1-14	21 1/4	26	14 1/4	1 5/8	1 5/8	4 1/2	1 1/2
1-16	24 1/4	29	14 1/4	1 5/8	1 5/8	4 1/2	1 1/2
1-18	27 1/4	32	14 1/4	1 5/8	1 5/8	4 1/2	1 1/2
2-16	24 1/4	29	14 1/4	1 5/8	1 5/8	4 1/2	1 1/2
1-24	36	40 3/4	15 1/2	1 5/8	1 5/8	5	1 1/2
2-18	27 1/4	32	14 1/4	1 5/8	1 5/8	4 1/2	1 1/2
1-30	43	47 3/4	16	1 7/8	1 7/8	5	2
2-24	36	40 3/4	15 1/2	1 5/8	1 5/8	5	1 1/2
1-36	51 3/4	56 1/2	18	1 7/8	1 7/8	5	2
2-30	43	47 3/4	16	1 7/8	1 7/8	5	2
2-36	51 3/4	56 1/2	18	1 7/8	1 7/8	5	2

DOOR HEATER DIMENSIONS



MODELS	A (IN.)	B (IN.)	C (IN.)	D (IN.)	E (IN.)	F (IN.)	G (IN.)	H (IN.)	STEAM CONN. (I.P.S.)	COND. CONN. (I.P.S.)
1-18 2-18	27 1/4	32	1 5/8	1 5/8	16 7/8	20	51 1/8	9	2	1 1/2
1-24 2-24	36	40 3/4	1 5/8	2 1/8	16 7/8	29 1/2	62	12	2 1/2	1 1/2
1-30 2-30	43	47 3/4	1 7/8	2 3/8	16 7/8	33	66	18	3	2
1-36 2-36	51 3/4	56 1/2	1 7/8	2 3/8	16 7/8	41	76	21	3	2
1-42 2-42	68	72 3/4	34	34	21	54	100	25	3	3

UNIT HEATER

Suggested Mounting Height (Ft)

MODELS	HORIZONTAL DISCHARGE	VERTICAL DISCHARGE
1-12	11	-
1-14	13	-
1-16	14	16
2-16	12	13
1-18	13	15
2-18	11	12
1-24	15	18
2-24	14	16
1-30	18	20
2-30	15	17
1-36	18	20
2-36	15	17

* With Hi Velocity Cone Multiply Horizontal Mounting By 1.5 and Velocity by 2.0

UNIT HEATER WEIGHTS (LBS.)

MODELS	UNIT HEATER ALL STEEL	UNIT HEATER STEEL/ALUM.	DOOR HEATER ALL STEEL	DOOR HEATER STEEL/ALUM.
1-12	168	156	-	-
1-14	183	170	-	-
1-16	212	193	-	-
2-16	286	253	-	-
1-18	247	224	312	289
2-18	340	298	405	363
1-24	450	410	560	520
2-24	601	525	711	635
1-30	596	539	741	684
2-30	827	705	972	850
1-36	747	614	967	834
2-36	1064	879	1284	1099
1-42	1217	1064	1537	1384
2-42	1725	1420	2045	1740

UNIT HEATER PERFORMANCE @ 5 PSIG STEAM AND 60°F ENTERING AIR

MODEL	HP	AIRFLOW	STEEL TUBES/STEEL FINNS			STEEL TUBES/ALUMINUM FINNS			STAINLESS TUBES AND FINNS		
			M.B.H.	L.A.T. (F)	COND (LB/HR)	M.B.H.	L.A.T. (F)	COND (LB/HR)	M.B.H.	L.A.T. (F)	COND (LB/HR)
1-12	1/4	1300	48	94	50	58	101	60	31	82	33
1-14	1/4	2200	67	88	70	81	94	84	43	78	45
1-16	1/3	2600	85	90	88	101	96	105	54	79	57
2-16	1/3	2200	128	114	133	154	125	161	82	95	86
1-18	1/2	2900	100	92	104	119	98	124	64	81	67
2-18	1/2	2600	157	116	164	186	126	194	101	96	105
1-24	1	6100	191	89	199	224	94	233	122	79	127
2-24	1	5200	292	112	304	354	123	369	187	93	195
1-30	1 1/2	10700	277	84	289	335	89	349	177	75	185
2-30	1 1/2	9700	492	107	513	597	117	622	315	90	328
1-36	2	14600	441	88	460	489	91	510	282	78	294
2-36	2	13600	705	108	734	852	118	888	451	91	470

HEATING CAPACITY CONVERSION FACTORS

MULTIPLY HEATER OUTPUTS (MBH) BY FACTORS BELOW TO DETERMINE OUTPUT AT CONDITIONS OTHER THAN 5 PSIG STEAM AND 60°F ENTERING AIR

STEAM PRESSURE	ENTERING AIR TEMPERATURE (DEG F)									
	0	10	20	30	40	50	60	70	80	90
5	1.36	1.30	1.24	1.18	1.12	1.06	1.00	0.94	0.88	0.82
10	1.43	1.37	1.31	1.25	1.19	1.13	1.07	1.01	0.95	0.89
15	1.50	1.44	1.38	1.32	1.26	1.20	1.14	1.08	1.02	0.96
20	1.55	1.49	1.43	1.37	1.31	1.25	1.19	1.13	1.07	1.01
30	1.64	1.58	1.52	1.46	1.40	1.34	1.28	1.22	1.16	1.10
40	1.71	1.65	1.59	1.53	1.47	1.41	1.35	1.29	1.23	1.17
50	1.79	1.73	1.66	1.60	1.54	1.49	1.43	1.37	1.31	1.24
60	1.84	1.78	1.72	1.66	1.60	1.54	1.48	1.42	1.36	1.30
70	1.89	1.83	1.77	1.71	1.65	1.59	1.53	1.47	1.41	1.35
80	1.94	1.88	1.82	1.76	1.70	1.64	1.58	1.52	1.46	1.40
90	1.98	1.92	1.86	1.80	1.74	1.68	1.62	1.56	1.50	1.44
100	2.02	1.96	1.90	1.84	1.78	1.72	1.66	1.60	1.54	1.49
125	2.11	2.05	1.99	1.93	1.87	1.81	1.75	1.69	1.63	1.57
150	2.19	2.13	2.07	2.01	1.95	1.89	1.83	1.77	1.71	1.65
200	2.32	2.26	2.20	2.14	2.08	2.02	1.96	1.90	1.84	1.78

MBH = HEATER OUTPUT IN THOUSANDS OF BTU/HR

LAT = LEAVING AIR TEMPERATURE IN °F = (MBH X 1000 / (1.08 X AIRFLOW)) + ENTERING AIR TEMP

COND = HEATER CONDENSATE RATE = (MBH X 1000 / LATENT HEAT OF STEAM)

UNIT HEATER PERFORMANCE @ 200°F WATER 60°F ENTERING AIR AND 15°F WATER TEMPERATURE DIFFERENCE

MODELS	HP	AIRFLOW	STEEL TUBES/STEEL FINS			STEEL TUBES/ALUMINUM FINS		
			M.B.H.	L.A.T. (F)	FLOW (USGPM)	M.B.H.	L.A.T. (F)	FLOW (USGPM)
1-12	1/4	1300	28	80	3.7	35	85	4.7
1-14	1/4	2200	38	76	5.1	47	79	6.3
1-16	1/3	2600	49	77	6.5	60	81	8.0
2-16	1/3	2200	84	95	11.2	104	103	13.9
1-18	1/2	2900	60	79	8.0	74	83	9.9
2-18	1/2	2600	108	98	14.4	133	107	17.7
1-24	1	6100	118	78	15.7	145	82	19.3
2-24	1	5200	216	98	28.8	266	107	35.5
1-30	1 1/2	10700	197	77	26.3	242	81	32.3
2-30	1 1/2	9700	352	93	46.9	433	101	57.7
1-36	2	14600	287	78	38.3	353	82	47.1
2-36	2	13600	525	96	70	646	104	86.1

HEATING CAPACITY CONVERSION FACTORS

MULTIPLY HEATER OUTPUTS (MBH) BY FACTORS BELOW TO DETERMINE
OUTPUT AT CONDITIONS OTHER THAN 200°F WATER AND 60°F ENTERING AIR

WATER TEMP. (F)	ENTERING AIR TEMPERATURE (DEG F)							
	30	40	50	60	70	80	90	100
160	0.96	0.88	0.80	0.72	0.63	0.57	0.48	0.41
170	1.04	0.95	0.87	0.79	0.70	0.63	0.55	0.48
180	1.11	1.02	0.94	0.86	0.77	0.70	0.62	0.55
190	1.18	1.10	1.01	0.93	0.85	0.77	0.69	0.62
200	1.26	1.17	1.09	1.00	0.92	0.84	0.76	0.68
210	1.33	1.25	1.16	1.07	0.99	0.91	0.83	0.75
220	1.41	1.32	1.23	1.14	1.06	0.98	0.90	0.82
230	1.48	1.39	1.30	1.22	1.13	1.05	0.97	0.89
240	1.55	1.47	1.37	1.29	1.20	1.12	1.04	0.96
250	1.63	1.54	1.45	1.36	1.27	1.19	1.11	1.03

LAT = E.A.T. + (MBH X 1000)/(1.08 X AIRFLOW)

FLOW = (MBH X 1000)/(500 X WATER TEMPERATURE DIFFERENCE)

UNIT HEATER PERFORMANCE @ 200°F 50/50 GLYCOL 60°F ENTERING AIR AND 15°F WATER TEMPERATURE DIFFERENCE

MODEL	HP	AIRFLOW	STEEL TUBES/STEEL FINS			STEEL TUBES/ALUMINUM FINS		
			M.B.H.	L.A.T. (F)	FLOW (USGPM)	M.B.H.	L.A.T. (F)	FLOW (USGPM)
1-12	1/4	1300	23	76	3.5	28	80	4.2
1-14	1/4	2200	33	74	5.0	40	77	6.1
1-16	1/3	2600	44	75	6.7	54	79	8.2
2-16	1/3	2200	74	91	11.2	91	98	13.8
1-18	1/2	2900	53	77	8.0	65	81	9.8
2-18	1/2	2600	95	93	14.4	117	101	17.7
1-24	1	6100	109	76	16.5	134	80	20.3
2-24	1	5200	199	95	30.1	245	103	37.1
1-30	1 1/2	10700	185	76	28.0	228	80	34.5
2-30	1 1/2	9700	336	92	50.8	413	99	62.5
1-36	2	14600	271	77	41.0	333	81	50.4
2-36	2	13600	495	93	74.9	608	101	92.0

HEATING CAPACITY CONVERSION FACTORS

MULTIPLY HEATER OUTPUTS (MBH) BY FACTORS BELOW TO DETERMINE OUTPUT
AT CONDITIONS OTHER THAN 200°F 50/50 GLYCOL AND 60°F ENTERING AIR

WATER TEMP. (F)	ENTERING AIR TEMPERATURE (DEG F)							
	0	10	20	30	40	50	60	70
160	1.19	1.08	0.98	0.87	0.78	0.66	0.55	0.33
170	1.31	1.20	1.09	0.99	0.86	0.75	0.64	0.44
180	1.42	1.31	1.20	1.10	0.96	0.85	0.74	0.56
190	1.52	1.41	1.30	1.20	1.08	0.97	0.86	0.68
200	1.61	1.51	1.39	1.30	1.22	1.11	1.00	0.80
210	1.70	1.60	1.49	1.39	1.32	1.22	1.10	0.94
220	1.78	1.68	1.58	1.48	1.40	1.31	1.20	1.03
230	1.86	1.75	1.66	1.57	1.49	1.40	1.30	1.14
240	1.93	1.83	1.74	1.65	1.56	1.48	1.40	1.21
250	1.98	1.89	1.80	1.72	1.63	1.54	1.48	1.30

$$\text{LAT} = \text{E.A.T} + (\text{MBH} \times 1000) / (1.08 \times \text{AIRFLOW})$$

$$\text{FLOW} = (\text{MBH} \times 1000) / (441 \times \text{WATER TEMPERATURE DIFFERENCE})$$

DOOR HEATER PERFORMANCE

ALL STEEL CORE (5 P.S.I.G. SATURATED STEAM, 60°F ENTERING AIR)

MODELS	MTG. HT.	H.P.	S.C.F.M.	M.B.H.	F.T.	COND. RATE
1-18	15	1/2	2900	100	92	104
2-18	15	1/2	2600	157	116	164
1-24	17	1	6100	191	89	199
2-24	17	1	5200	292	112	304
1-30	19	1 1/2	10700	277	84	289
2-30	18	1 1/2	9700	492	107	513
1-36	22	2	14600	441	88	460
2-36	21	2	13600	705	108	734
1-42	26	5	27000	758	86	789
2-42	25	5	25750	1307	107	1361

STEEL/ALUMINUM CORE (5 P.S.I.G. SATURATED STEAM, 60° ENTERING AIR)

MODELS	MTG. HT.	H.P.	S.C.F.M.	M.B.H.	F.T.	COND. RATE
1-18	15	1/2	2900	119	98	124
2-18	15	1/2	2600	186	126	194
1-24	17	1	6100	2224	94	233
2-24	17	1	5200	354	123	369
1-30	19	1 1/2	10700	335	89	349
2-30	18	1 1/2	9700	597	117	622
1-36	22	2	14600	489	91	510
2-36	21	2	13600	852	118	888
1-42	26	5	27000	875	90	912
2-42	25	5	25750	1520	114	1564

OUTPUT CORRECTION FOR OTHER THAN 5 P.S.I.G. SATURATED STEAM, 60°F

ENTERING AIR (°F)	STEAM PRESSURE (SATURATED) P.S.I.G.								
	10	20	30	40	50	75	100	150	200
40	1.19	1.31	1.40	1.47	1.54	1.70	1.78	1.95	2.08
50	1.13	1.25	1.34	1.41	1.49	1.64	1.72	1.89	2.02
60	1.07	1.19	1.28	1.35	1.43	1.58	1.66	1.83	1.96
70	1.01	1.13	1.22	1.29	1.37	1.52	1.60	1.77	1.90
80	0.95	1.07	1.16	1.23	1.31	1.46	1.54	1.71	1.84

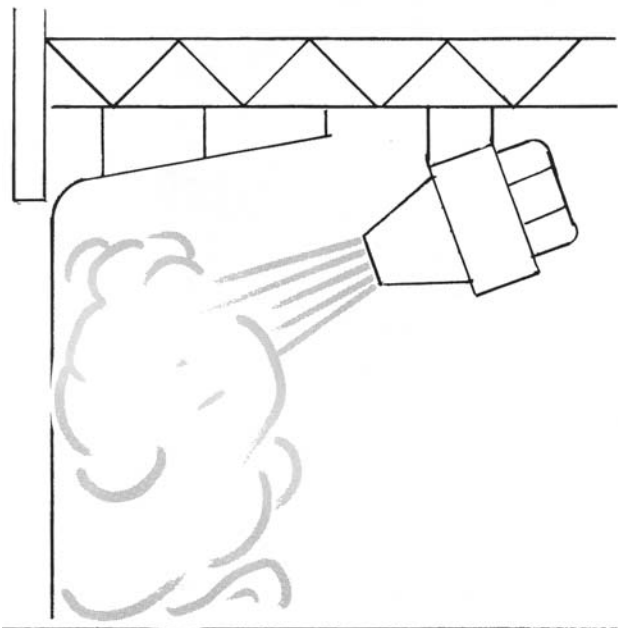
$$\text{FINAL AIR TEMPERATURE} = \text{ENTERING AIR TEMPERATURE} + \frac{.925 \times \text{M.B.H.} \times 1000}{\text{S.C.F.M.}}$$

DOOR HEATER SELECTION

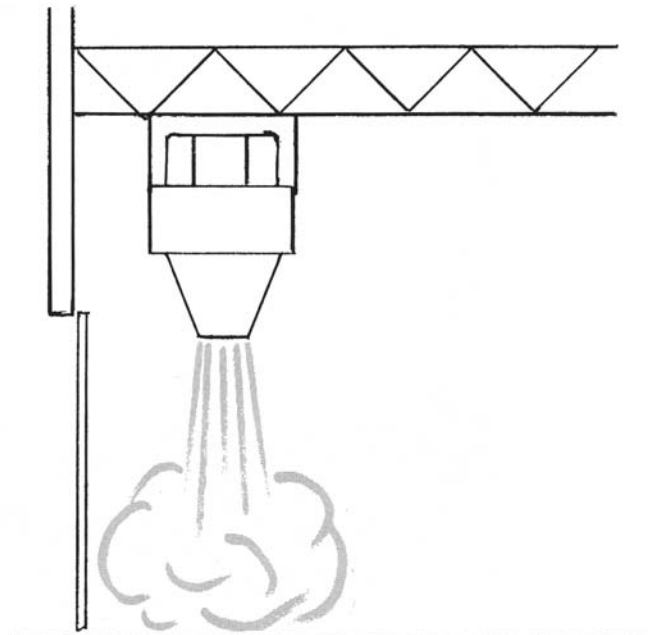
DOOR SIZE (SQ. FT.)	OUTSIDE TEMPERATURE (°F)				
	-20	-10	0	10	20
48	24	24	18	18	18
64	30	24	24	18	18
80	30	30	24	24	18
120	36	30	30	24	24
168	42	36	36	36	30
192	42	42	42	36	30
280	2 x 42	2 x 36	42	42	36
330	2 x 42	2 x 42	2 x 36	42	42

1. Choose model from chart to suit door size and outside temperature.
Determine from tables if 1 or 2 row and core materials such that final air temperature from unit is between 110°F and 120°F.
2. Chart is for doors not facing prevailing winds. Select next larger unit if door does face prevailing wind.
3. No allowance is made for negative building pressure.

DOOR HEATER MOUNTING



**HORIZONTAL DISCHARGE
(FOR OVERHEAD DOORS)**



**VERTICAL DISCHARGE
(FOR SLIDING DOORS)**

COIL TYPES AVAILABLE

Steam Coils

(preheat - heat - reheat)

Dryer Coils

(paper machine dryers)

Hot Water Booster Coils

(duct mounted reheat coils)

Water Cooling Coils

(any type circuit)

Water-Glycol Coils

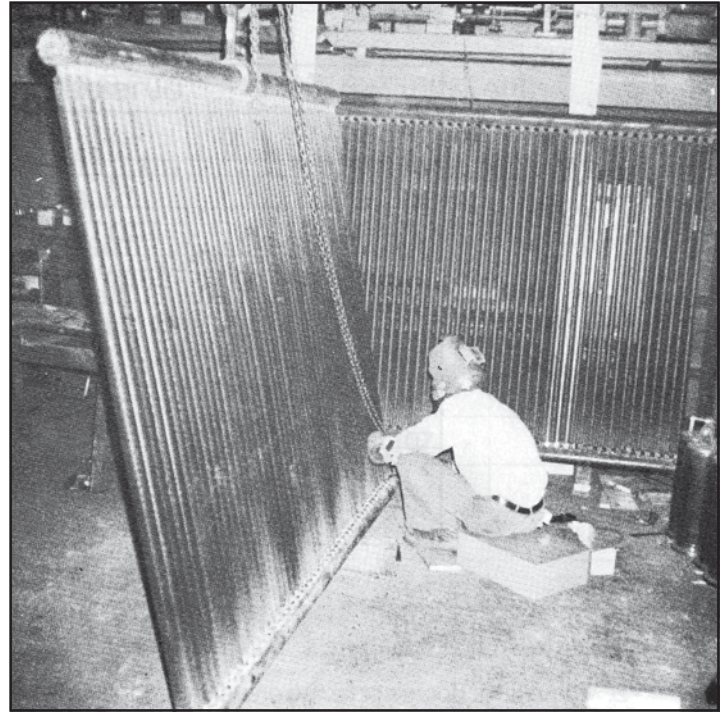
(any type circuit)

Hot Oil Coils

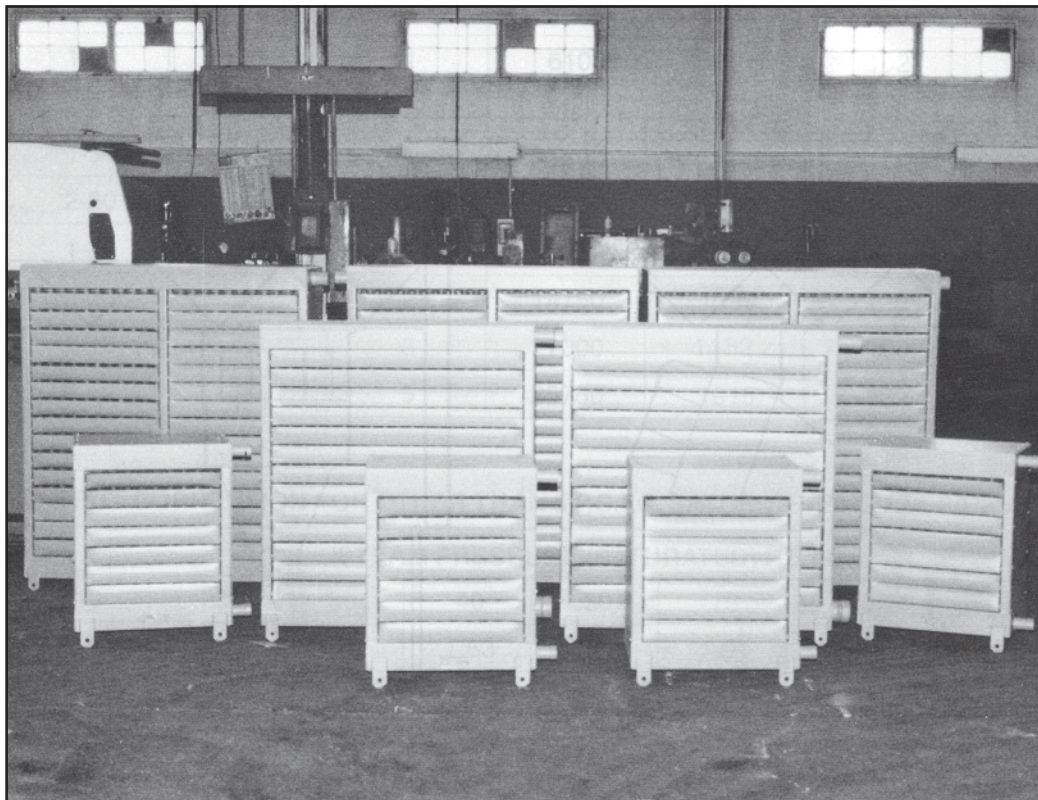
(liquid phase applications)

Boiler Air Preheater Coils

(steel - aluminum - stainless)

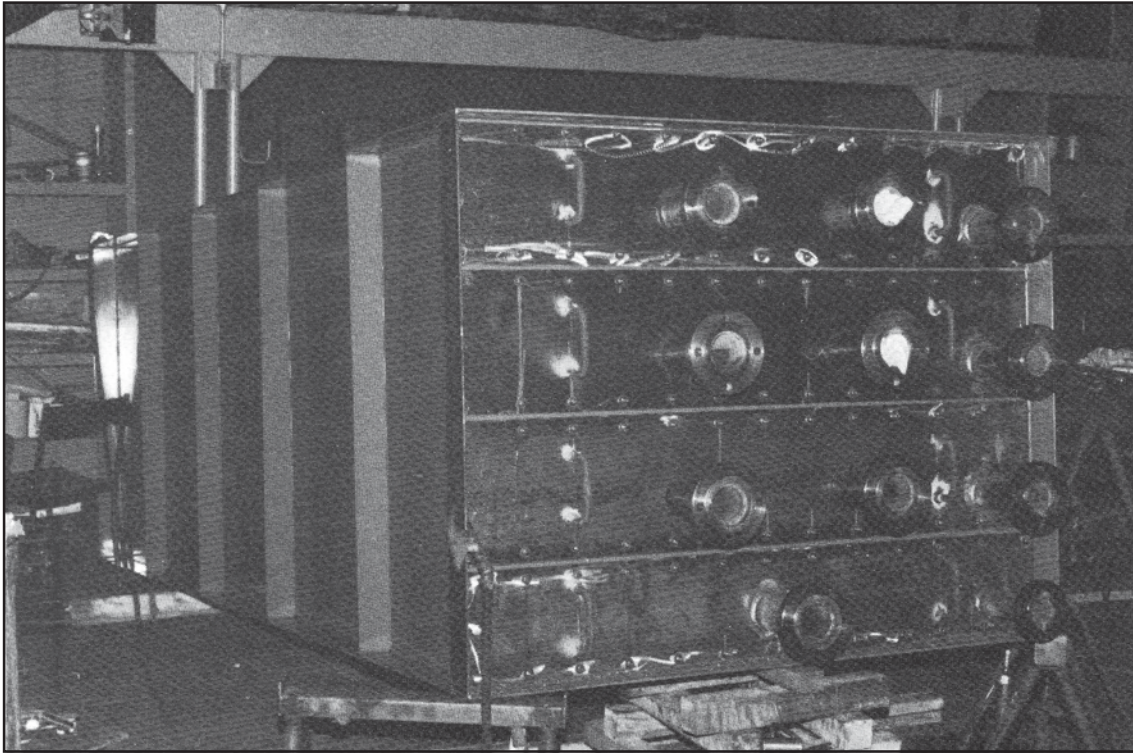


9 Dryer Coils for a chemical plant

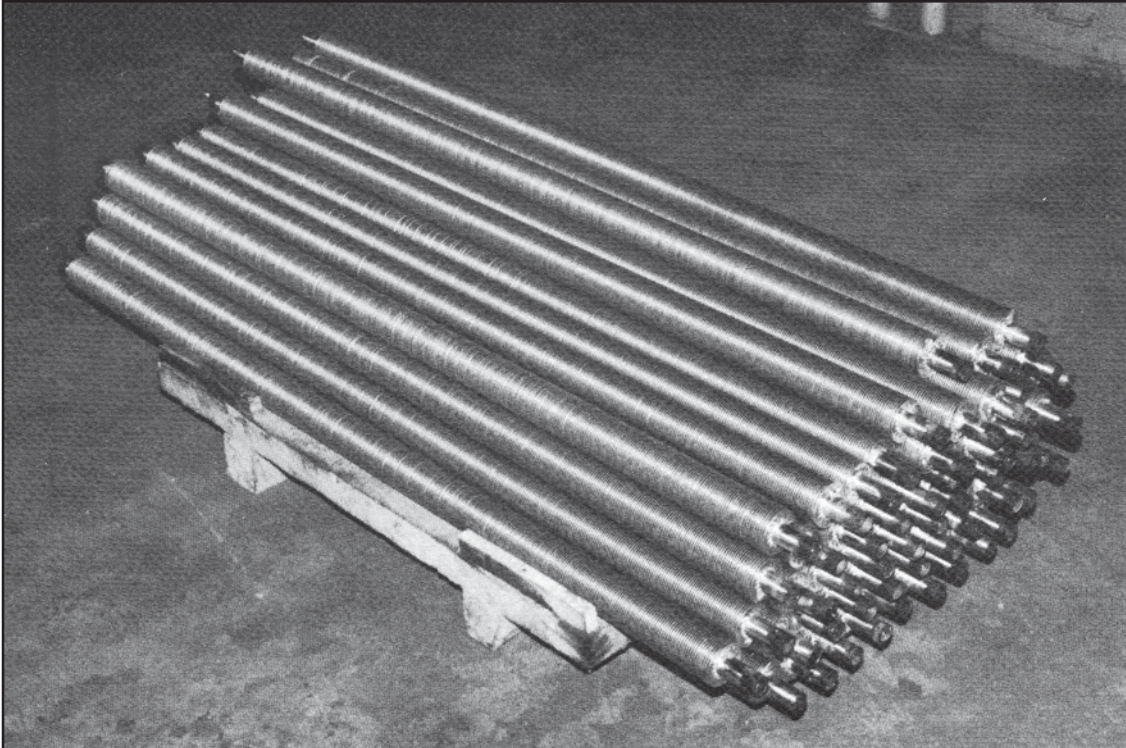


UNIT HEATERS

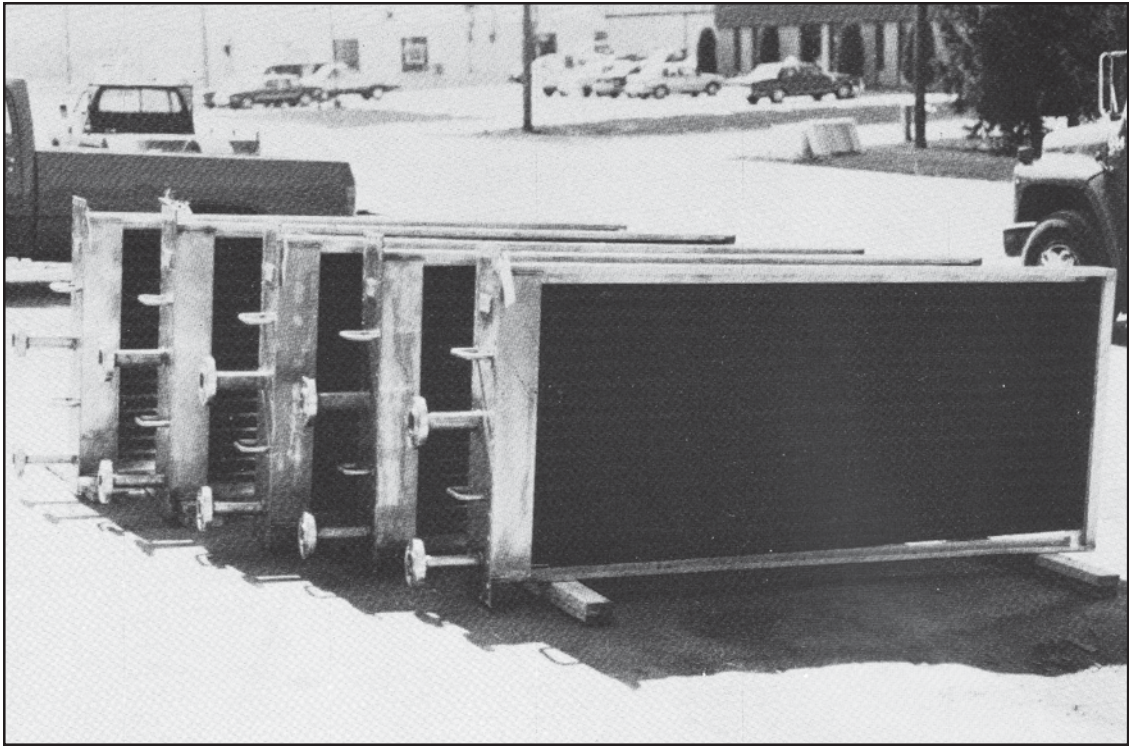
Variety of sizes available.



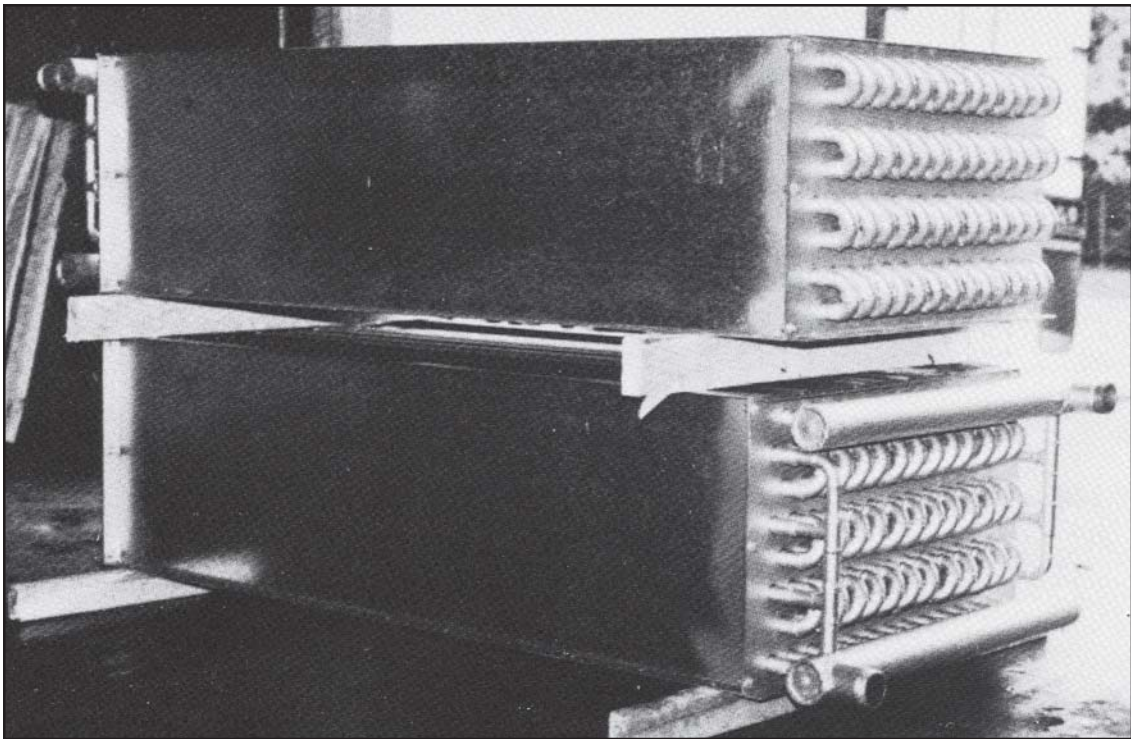
Air Preheater Coils (4 in common frame)
each coil is individually removable (shipped to Mexico)



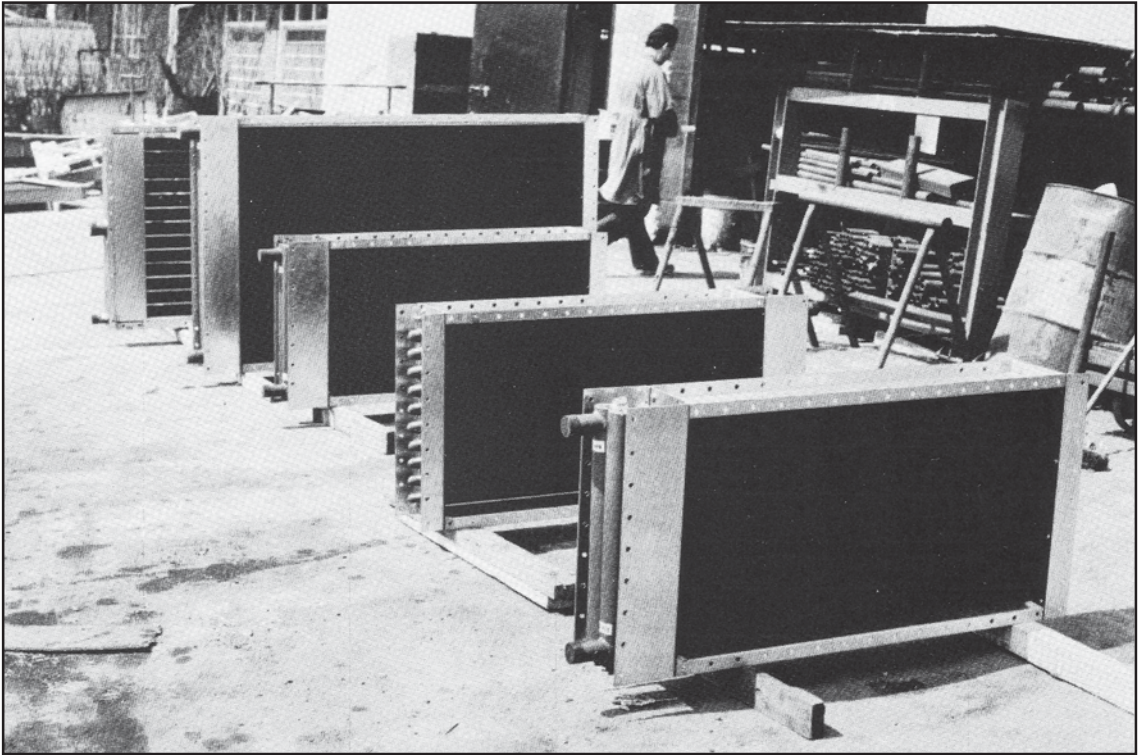
Finned Pipe
Available in length all Steel, Steel/Aluminum, all Stainless, Stainless/Aluminum



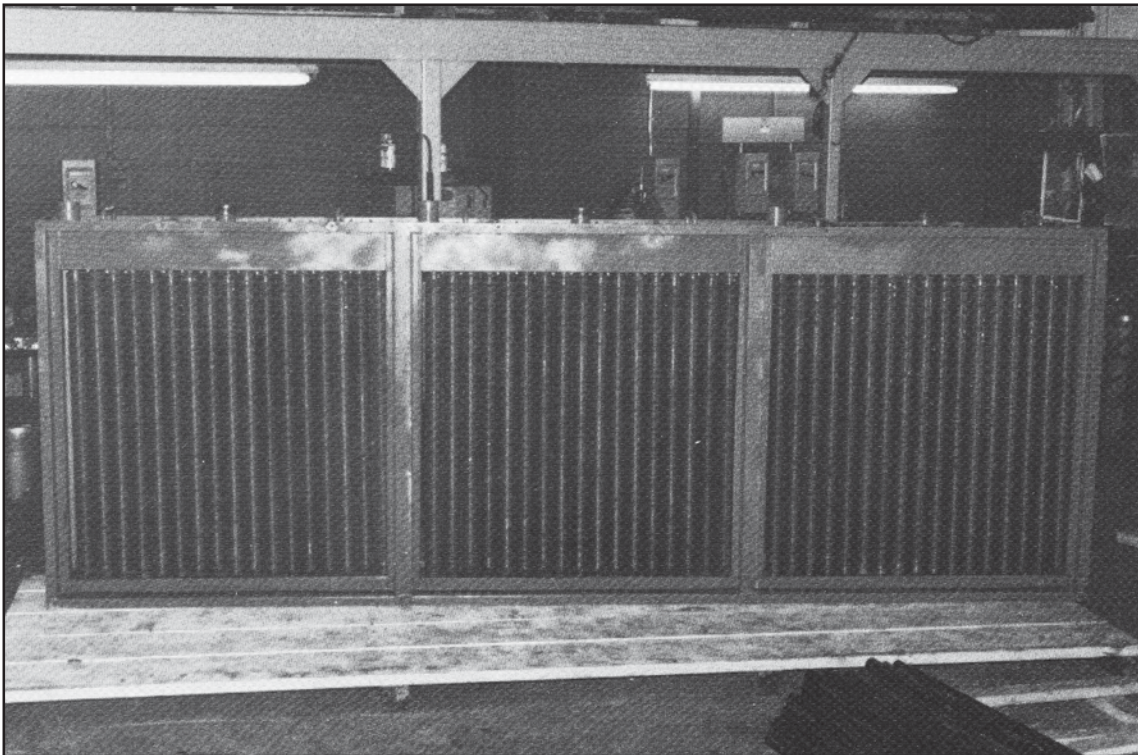
Steel Dryer Coils



Heavy Duty Cooling Coils



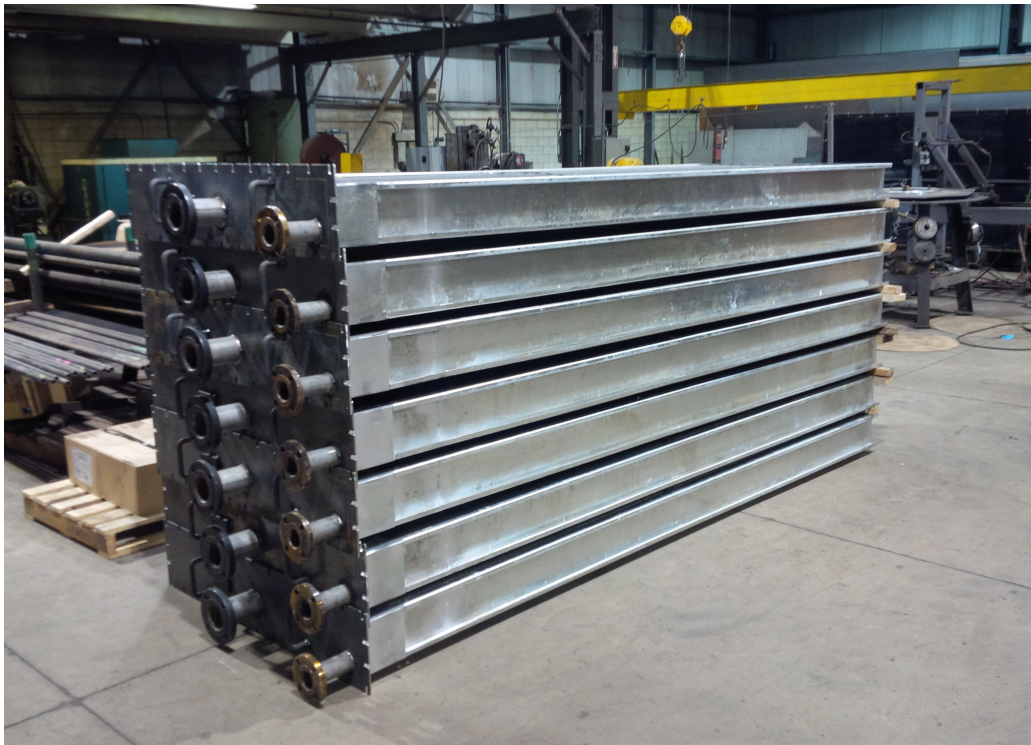
Hersite Coated Coils
for a Paper Mill (total of 17 Coils)



Air Preheater Coils
3 coils in common frame.



Door Heaters



Replacement Steam Coil

COIL DESIGNATION

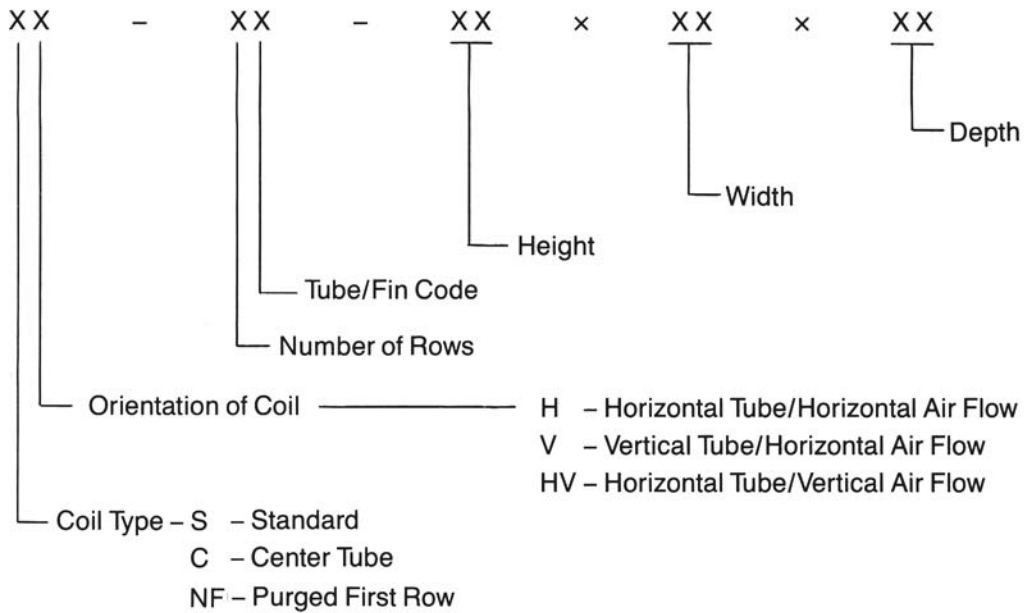
STEEL TUBE/STEEL FIN

CODE	3/4 I.P.S. TUBE .024 X .595 FIN	CODE	1" I.P.S. TUBE .036 X .720 FIN
Q	6 FPI	S	4 1/2 FPI
R	7 FPI	T	5 1/2 FPI

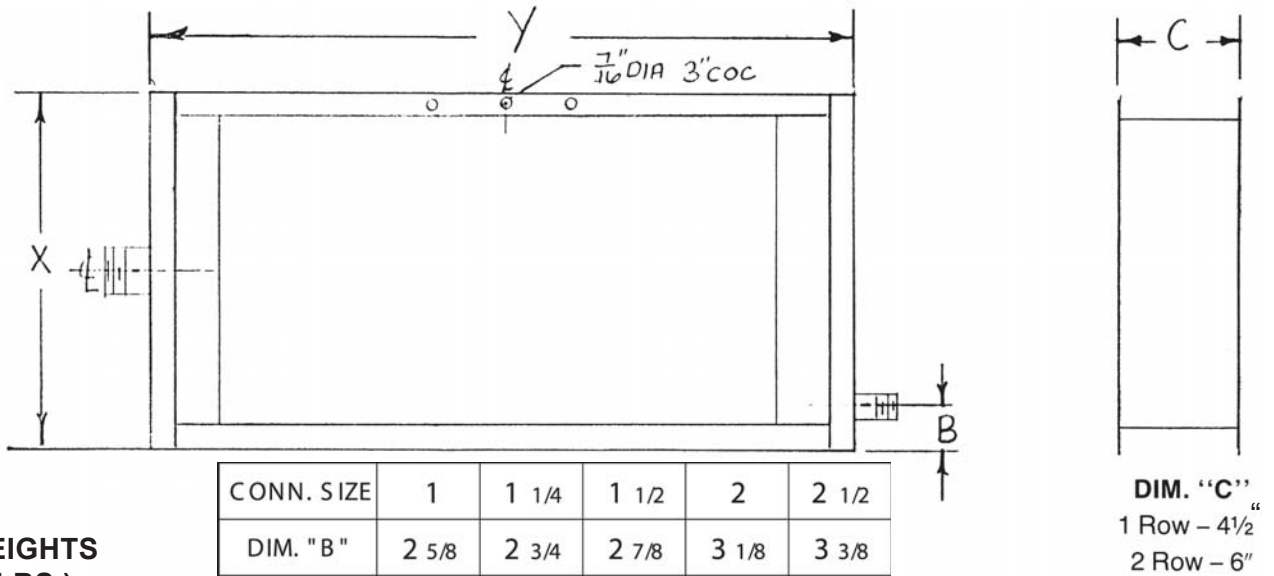
STEEL TUBE/ALUMINUM FIN

CODE	3/4 I.P.S. TUBE .024 X .625 FIN	CODE	1" I.P.S. TUBE .024 X .750 FIN
U	6 1/2 FPI	W	5 1/2 FPI
V	8 FPI	Y	7 FPI

TYPICAL DESIGNATION



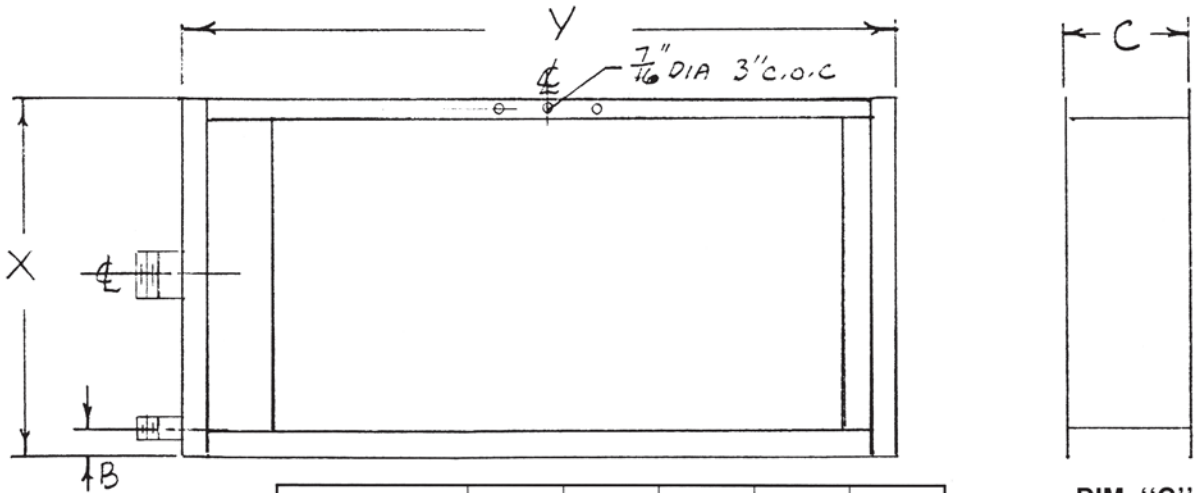
STANDARD COILS



WEIGHTS (LBS.)

X	Y										
		48	60	72	84	96	108	120	132	144	
22 1/8	Face Area (sq. ft.)	4.65	6.24	7.84	9.43	11.02	12.62	14.21	15.80	17.40	
	FE	1 Row	131	166	201	235	280	315	350	384	419
		2 Row	276	338	400	462	526	586	648	709	770
	FE AL	1 Row	98	109	131	150	183	205	226	246	267
		2 Row	198	235	272	308	346	382	419	457	495
	30 5/8	Face Area (sq. ft.)	6.49	8.78	11.08	13.37	15.47	17.76	20.05	22.34	24.64
FE		1 Row	180	226	284	331	379	434	482	529	575
		2 Row	383	468	553	639	725	810	894	980	1064
FE AL		1 Row	127	156	196	225	254	293	322	351	380
		2 Row	266	317	368	419	470	521	572	619	668
39 1/8		Face Area (sq. ft.)	8.25	11.25	14.25	17.25	20.25	23.25	26.25	29.25	32.25
	FE	1 Row	227	300	367	428	489	549	608	667	726
		2 Row	490	600	710	820	930	1040	1150	1260	1369
	FE AL	1 Row	152	201	236	282	317	352	387	422	457
		2 Row	337	400	464	528	591	655	719	782	841
	47 5/8	Face Area (sq. ft.)	10.20	13.91	17.61	21.32	25.03	28.74	32.45	36.16	39.86
FE		1 Row	277	367	454	526	598	671	743	815	888
		2 Row	600	742	879	1015	1152	1287	1423	1560	1696
FE AL		1 Row	187	248	310	352	395	437	479	522	565
		2 Row	417	494	569	644	721	797	870	946	1024
56 1/8		Face Area (sq. ft.)	12.15	16.56	20.98	25.40	29.81	34.23	38.65	43.06	47.48
	FE	1 Row	327	434	544	624	707	793	878	963	1050
		2 Row	722	884	1048	1210	1374	1534	1696	1860	2023
	FE AL	1 Row	220	295	384	422	473	522	571	622	673
		2 Row	497	588	674	760	851	939	1021	1110	1207

CENTER TUBE COILS



CONN. SIZE	1	1 1/4	1 1/2	2	2 1/2
DIM. "B"	1 5/8	1 3/4	1 7/8	2 1/8	2 5/16

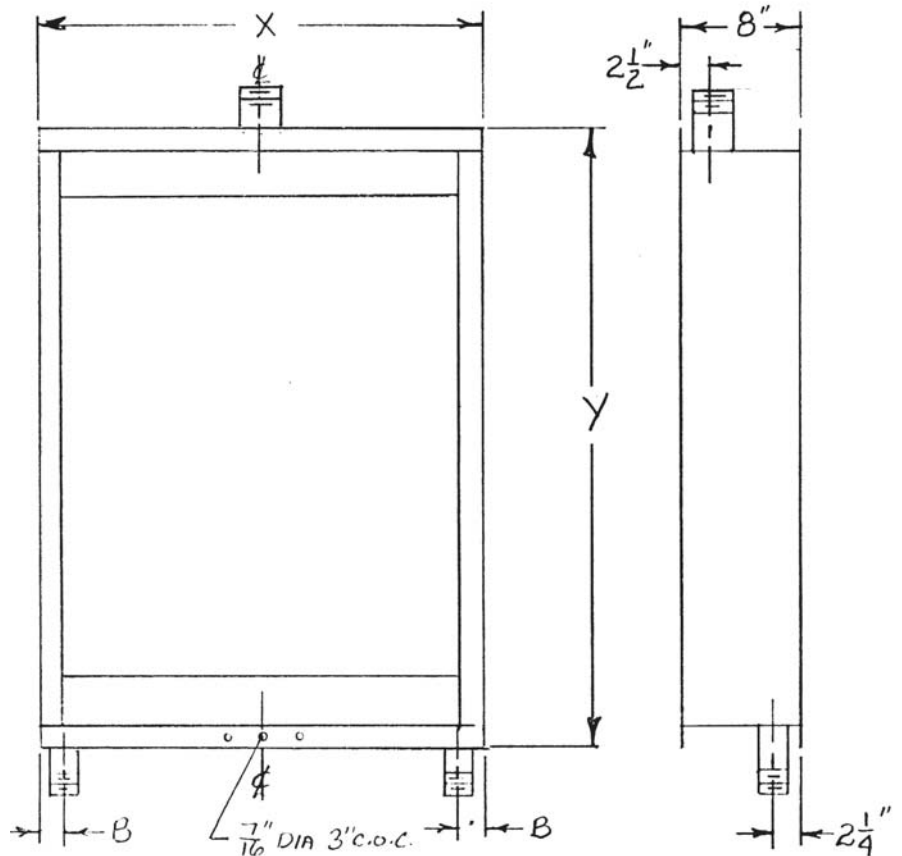
DIM. "C"
 1 Row - 5"
 2 Row - 6 1/2"

**WEIGHTS
(LBS.)**

X \ Y			48	60	72	84	96	108	120	132	144	
			Face Area (sq. ft.)	EE	FE	EE	AL	EE	FE	EE	AL	
22 1/8			Face Area (sq. ft.)	4.75	6.33	7.92	9.50	11.08	12.67	14.25	15.83	17.42
	EE	1 Row	180	221	262	301	340	381	421	461	498	
		FE	2 Row	317	382	452	517	589	650	719	780	835
	EE	1 Row	114	128	154	175	210	237	261	283	305	
		AL	2 Row	210	250	288	328	367	409	442	485	524
	30 5/8			Face Area (sq. ft.)	6.88	9.16	11.46	13.75	16.04	18.33	20.63	22.92
EE		1 Row	233	289	344	401	457	512	569	625	679	
		FE	2 Row	440	528	624	716	812	907	992	1088	1170
EE		1 Row	142	174	215	250	282	325	355	389	420	
		AL	2 Row	282	336	390	444	498	552	606	656	708
39 1/8				Face Area (sq. ft.)	9.00	12.00	15.00	18.00	21.00	24.00	27.00	30.00
	EE	1 Row	298	369	448	512	586	658	729	800	871	
		FE	2 Row	563	672	802	919	1041	1165	1288	1412	1520
	EE	1 Row	170	225	264	316	351	390	429	468	507	
		AL	2 Row	356	425	491	560	627	694	763	829	892
	47 5/8			Face Area (sq. ft.)	11.13	14.83	18.54	22.25	25.96	29.67	33.38	37.08
EE		1 Row	368	457	546	635	723	813	901	990	1075	
		FE	2 Row	690	838	993	1137	1290	1441	1594	1747	1883
EE		1 Row	209	278	347	394	439	485	531	579	627	
		AL	2 Row	442	524	603	683	774	853	930	1012	1096
56 1/8				Face Area (sq. ft.)	13.25	17.67	22.08	26.50	30.92	35.33	39.75	44.17
	EE	1 Row	432	540	654	753	853	960	1062	1165	1271	
		FE	2 Row	830	1007	1185	1367	1539	1719	1899	2084	2246
	EE	1 Row	246	330	400	443	495	549	604	690	741	
		AL	2 Row	527	623	714	806	911	1005	1092	1187	1291

PURGED FIRST ROW COILS

CONN. SIZE	DIM. "B"
1	1 5/8
1 1/4	1 3/4
1 1/2	1 7/8
2	2 1/8
2 1/2	2 5/16



WEIGHTS (LBS.)

Y X			48	60	72	84	96	108	120	132	144
22 1/8	Face Area (sq. ft.)		4.49	6.07	7.65	9.24	10.82	12.40	13.99	15.57	17.15
	FE/FE 2 Row		323	388	459	524	597	658	725	787	842
	FE/AL 2 Row		212	254	291	332	382	413	447	490	529
30 5/8	Face Area (sq. ft.)		6.49	8.78	11.08	13.37	15.66	17.95	20.24	22.53	24.83
	FE/FE 2 Row		450	538	635	726	823	918	1001	1100	1193
	FE/AL 2 Row		287	342	400	454	509	563	617	666	719
39 1/8	Face Area (sq. ft.)		8.50	11.50	14.50	17.50	20.50	23.50	26.50	29.50	32.50
	FE/FE 2 Row		575	687	817	935	1057	1180	1304	1428	1535
	FE/AL 2 Row		370	440	506	576	642	709	779	845	907
47 5/8	Face Area (sq. ft.)		10.51	14.22	17.92	21.63	25.34	29.05	32.76	36.47	40.17
	FE/FE 2 Row		708	854	1013	1157	1310	1462	1612	1768	1905
	FE/AL 2 Row		462	544	623	703	794	874	952	1034	1116
56 1/8	Face Area (sq. ft.)		12.51	16.93	21.35	25.76	30.18	34.60	39.01	43.43	47.85
	FE/FE 2 Row		855	1032	1210	1393	1665	1744	1926	2110	2274
	FE/AL 2 Row		550	655	720	831	936	1030	1117	1212	1316

STANDARD CRIMPED FIN TUBE

METHOD

Before winding, the fin strip material is formed by rollers to “crimp” the fin. The strip is then helically wound under tension onto the surface of the tube. Due to the “wave” form on the edge of the formed strip, the resulting effective increase in contact length ensures a good mechanical (and therefore thermal) contact between fin and tube. Both ends of the spiral fin are either welded or brazed to the tube to prevent any possibility of unwinding.

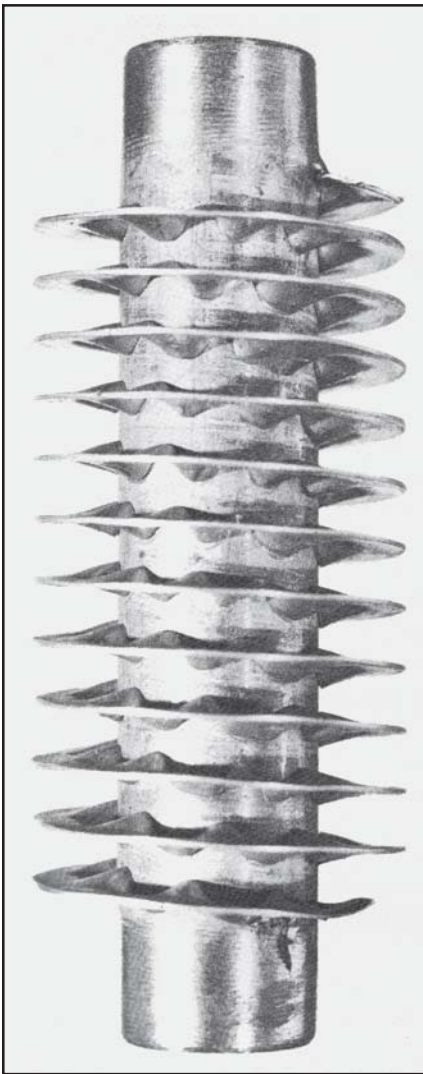
USES

For many years, the crimped fin tube has proven to be the most effective and economical element used for space heating due to the large surface area per linear foot obtained in the crimping process.

SIZES

The sizes shown in the table below are the most common pipes found in space heating systems.

STANDARD FINNED STEEL PIPE DIMENSIONS (All Pipe Sch 40)



**L-FIN
AVAILABLE ON REQUEST**

PIPE SIZE IPS	FIN SIZE	DIAMETER OVER FINS	FIN SPACING	SURFACE AREA FT ² /LIN. FT.	EXTERNAL SURFACE/ INTERNAL SURFACE	APPROX. WEIGHT PER FT. (LB.)
3/4"	.065 X 3/4"	2 1/2"	7/16"	2.51	11.7	2.70
1"	.065 X 3/4"	2 13/16"	7/16"	2.80	10.2	3.25
1"	.024 X 3/4"	2 3/4"	3/8" 5/16"	3.20 3.60	11.6 13.1	3.50 3.70
1 1/4"	.065 X 3/4"	3 1/8"	7/16"	3.25	9.0	4.5
1 1/4"	.036 X 1"	3 5/8"	3/8" 5/16"	3.72 4.18	10.3 11.6	4.8 5.1
1 1/2"	.065 X 3/4"	3 3/8"	7/16"	3.50	8.3	5.0
1 1/2"	.036 X 1"	3 7/8"	3/8" 5/16"	4.00 4.50	9.5 10.7	5.3 5.6
2"	.065 X 3/4"	3 7/8"	7/16"	4.13	7.6	6.6
2"	.036 X 1"	4 3/8"	3/8" 5/16"	4.71 5.30	8.7 9.8	7.0 7.4
2 1/2"	.065 X 3/4"	4 3/8"	7/16"	4.65	7.2	9.1
3"	.065 X 3/4"	5"	7/16"	5.36	6.7	11.4

INSTALLATION OPERATING INSTRUCTIONS

1. Each coil should be individually trapped. It is not recommended that more than one coil be connected to a single trap.
2. Traps should be sized to handle at least three times the normal operating load of the coil and should be of a type which will give adequate venting of non-condensable gases.
3. A strainer should be provided between the coil and trap.
4. The outlet of the coil should be kept full size as far as the trap and this run should be as short as possible.
5. Control valves should be sized based on coil load not based on size of the inlet connections.
6. A vacuum breaker or thermostatic vent must be provided between the coil and any control valve.
7. To prevent water hammer, all steam lines should be sloped toward the coil, all condensate lines away from the coil. Any low points in the piping should be drained through a drip trap. Supply lines to coils from steam mains should run off the top of the main. Supply lines should be dripped before entering coils.
8. If air below 35°F is supplied to a coil, the steam pressure must be maintained above 5 P.S.I.G. or provision for air bypass must be provided.
9. When air below 35°F is to be admitted to a coil, the steam should be supplied to the coil at least 15 minutes before the fans start.
10. Steam piping should not be supported from the coils, but should have independent support hangers.

TYPICAL SPECIFICATIONS

Supply _____ IMS (standard, center tube, purged first row), steam coils to heat _____ S.C.F.M. of air entering at _____ °F to _____ °F using _____ P.S.I.G. saturated steam.

1. Standard Coils

Construction of coils to consist of 3/4" Sch 40 carbon steel pipe tubes spiral wound under tension with .024" thick minimum (aluminum, steel) fins. Tubes are welded into Sch 40 minimum wall carbon steel pipe headers. Connections are to be Sch 80 male pipe thread at opposite ends of the coil. Cores are fitted into 12 ga. minimum carbon steel casing which has 1 1/2 " wide drilled flange all around for duct mounting. The coils are to be hydrostatically tested to 850 P.S.I.G. after manufacture.

2. Center Tube Coils

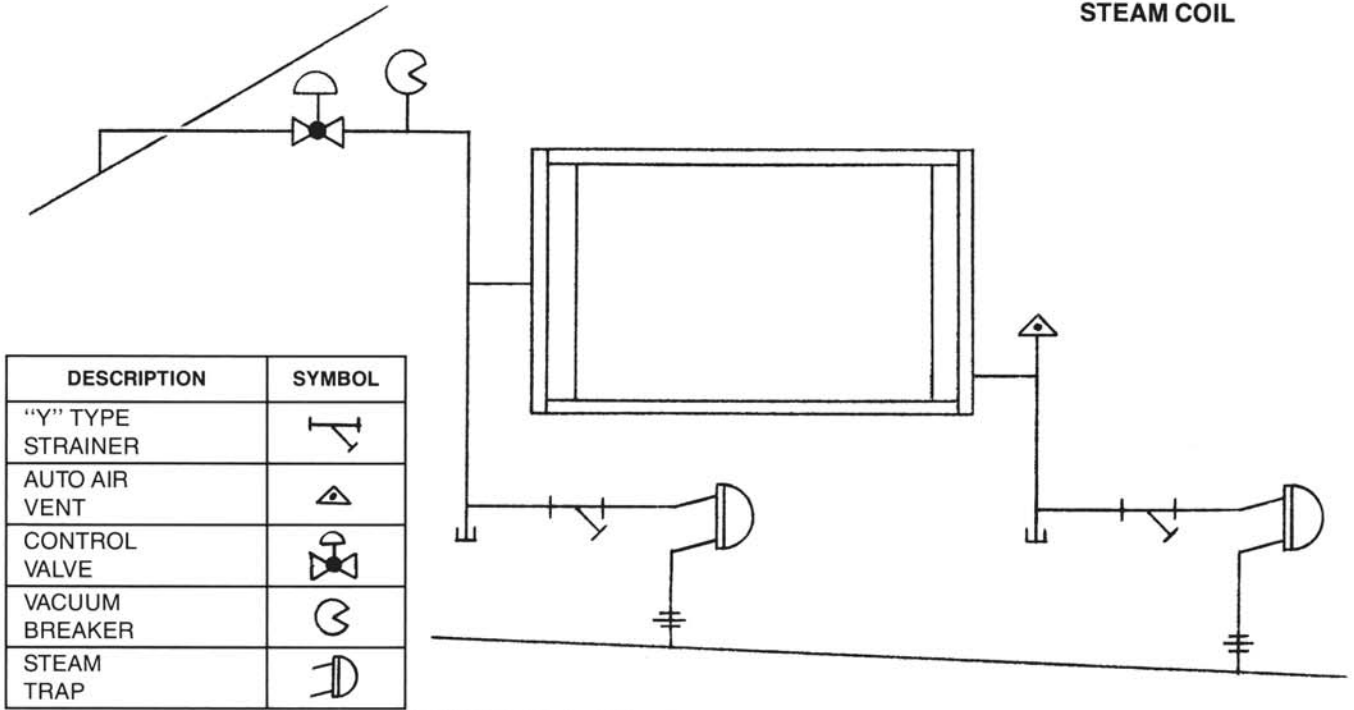
Construction of coils to consist of 1" Sch 40 carbon steel pipe tubes wound under tension with .024" thick minimum (aluminum, steel) fins. Tubes are welded into Sch 40 minimum wall carbon steel headers. Center tube is to be 5/8" x 18 B.W.G. wall and to be welded into 3/16" minimum baffle plate within the header. Connections are to be Sch 80 male pipe thread on the same end of the coils. Tube ends opposite header end are plugged and are free to expand and contract individually. Cores are fitted into 12 ga. minimum carbon steel casing which has 1 1/2" wide drilled flange all around for duct mounting. The coils are to be hydrostatically tested to 850 P.S.I.G. after manufacture.

3. Purged First Row Coils

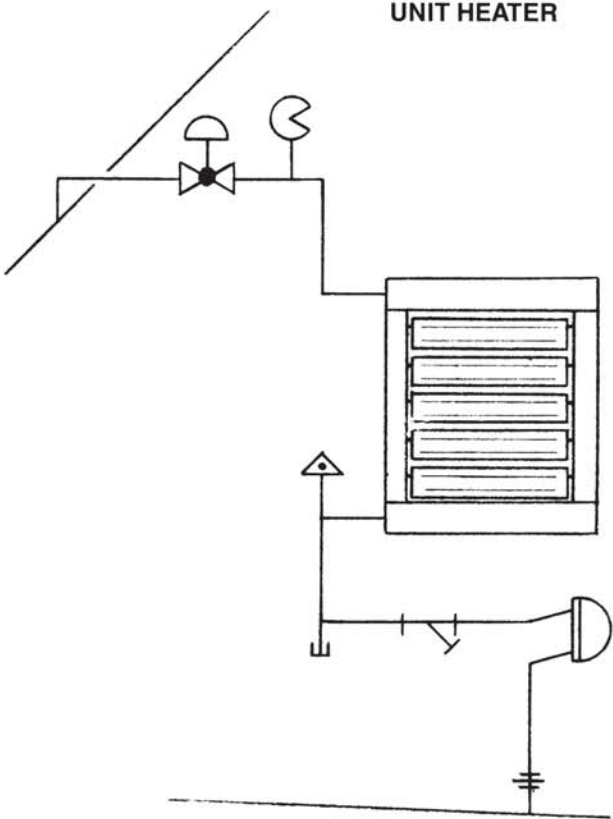
Construction of coils to consist of 1" Sch 40 carbon steel pipe tubes spiral wound under tension with .024" thick minimum (aluminum, steel) fins. Tubes in the first row are welded into a Sch 40 carbon steel pipe header at one end and to a carbon steel box header at the other end. Tubes of the second row are welded to the box header and have a 5/8" x 18 B.W.G. wall carbon steel center tube which is welded into a 3/16" carbon steel baffle within the box header. Connections are Sch 80 male pipe thread at opposite end of the coil. Cores are fitted into 12 ga. minimum carbon steel casing which has 1 1/2" wide drilled flange all around for duct mounting. The coils are to be hydrostatically tested to 850 P.S.I.G. after manufacture.

SUGGESTED PIPING

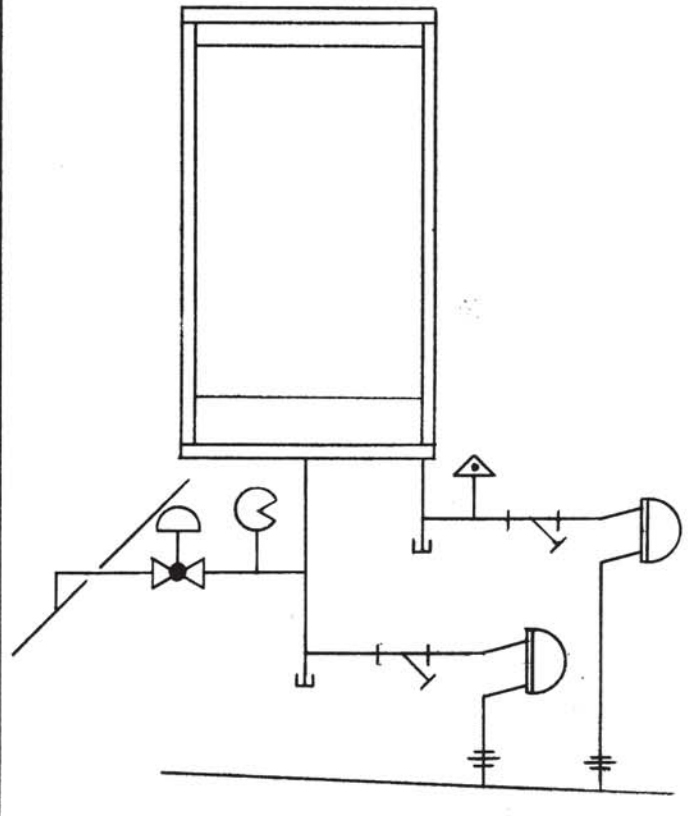
STEAM COIL



UNIT HEATER



CENTER TUBE



WARRANTY

The Company warrants to the extent herein provided the equipment of its own manufacture, against defects in material and workmanship under normal use and service for which the equipment was designed for a period of thirty-six (36) months after shipment from the Company factory. If such equipment should fail through defect in workmanship or material, and specific written notice of such failure is made to the Company within thirty-six (36) months after date of shipment from the factory, the Company will either repair or replace any such items of its own manufacture, f.o.b. its factory, without charge. The Company shall have the option of requiring the return of the defective material to its factory, with transportation charges prepaid, to establish the claim. Labor charges are not included or allowed.

The Company shall not be liable for expenses incurred in repairs or alterations made outside the Company's factory without proper and prior authorization from the Company, nor shall the Company be responsible in any way for the performance of the equipment to which any revisions or alterations have been made by others.

The Company shall in no event be held liable for damages or delay resulting from or arising out of defective machinery nor for consequential damages or otherwise except for repair or replacement of items of defective material or workmanship.

Outside purchased equipment and accessories (such as motors) furnished with Industrial Mechanical Specialties Limited equipment are subject to any warrants and guarantees of the original manufacturer but in no case shall be less than 12 months from date of shipment from our factory.

INDUSTRIAL MECHANICAL SPECIALTIES LIMITED

INDUSTRIAL MECHANICAL SPECIALTIES LTD

33 GLEN CAMERON ROAD, THORNHILL, ONTARIO, CANADA L3T 1N9

TEL (905) 889-5237 FAX (905) 889-4818

EMAIL IMS@IMSCANADA.COM WWW.IMSCANADA.COM

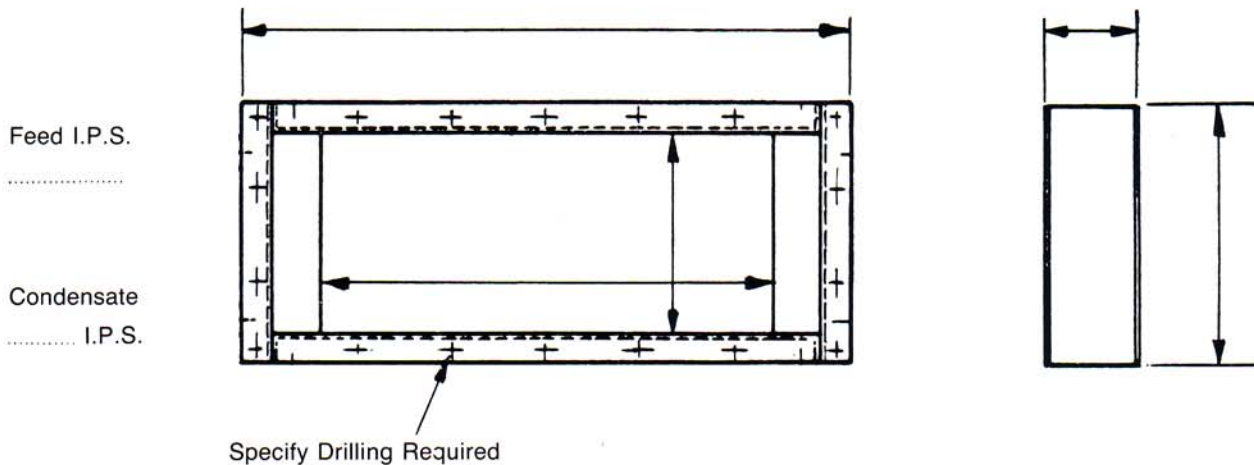
Date Customer: Salesman:
 Address:

IF QUOTING FOR NEW HEATING COIL:

DUTY: 1. Air Volume C.F.M. **DETAILS:** Coil Tubes to be HORIZONTAL
 Air { 2. Entering Temp. °F. or VERTICAL
 { 3. Final Temp. °F.
 4. Steam Pressure P.S.I.G. Number of Coils Required:
 5. Max. Air Pressure Drop Inches W.G. Delivery Required:

SIZE & SHAPE OF COIL REQUIRED:

(Fill in desired dimensions)



SHOW CONNECTION LOCATIONS AS REQUIRED

IF REPLACING EXISTING COIL:

1. Make of Coil: 5. Inlet Temp: °F.
 2. Overall Dimensions: 6. Final Temp: °F.
 3. No. of Rows: 7. Steam Press: P.S.I.G.
 4. Type of Coil: 8. Delivery Required:

ORDERING AND/OR INQUIRY SPECIFICATION SHEET
 PLEASE PHOTO COPY, COMPLETE AND SEND TO US.