



(ENGINEERS)  
**SUBMITTAL DATA**  
**HOT WATER**  
**COIL PERFORMANCE**

**1 & 2 ROW HOT WATER COILS**

**UNIT INLET SIZES: 4Ø, 5Ø & 6Ø**

ROWS & CIRCUIT	GPM	HEAD LOSS	Air Flow, CFM								
			75	100	125	150	200	250	300	350	400
ONE ROW SINGLE CIRCUIT	0.5	0.11	5.3	6.6	7.1	7.6	8.3	9.1	9.8	10.4	10.9
	1.0	0.37	5.8	7.2	8.0	8.5	9.3	10.4	11.4	12.2	12.9
	2.0	1.27	6.0	7.5	8.5	9.0	10.0	11.3	12.4	13.5	14.3
	4.0	4.35	6.2	7.7	8.6	9.3	10.5	11.8	13.1	14.2	15.3
TWO ROWS MULTI-CIRCUIT	0.5	0.03	7.8	9.3	10.3	11.5	13.1	14.3	15.2	16.0	16.7
	1.0	0.11	8.6	10.4	11.8	13.3	15.6	17.5	19.1	20.4	21.6
	2.0	0.37	9.0	11.1	13.2	14.5	17.4	19.8	21.8	23.7	25.3
	4.0	1.27	9.5	11.4	12.1	15.3	18.4	21.1	23.7	25.8	27.8
	5.0	1.89	10.0	11.5	14.5	15.4	18.7	21.6	24.1	26.4	28.4

- Tabulated values are in MBH (thousands of BTU per hour).
- Head Loss is in feet of water.
- MBH values are based on a  $\Delta T$  (temperature difference) of 150° F between entering air and entering water. For other  $\Delta T$ 's, multiply the MBH values by the factors below.

**UNIT INLET SIZES: 7Ø & 8Ø**

ROWS & CIRCUIT	GPM	HEAD LOSS	Air Flow, CFM								
			75	100	200	300	400	500	600	700	800
ONE ROW SINGLE CIRCUIT	0.5	0.15	6.2	7.5	9.8	11.1	12.5	13.5	14.3	15.0	15.8
	1.0	0.51	6.4	8.2	11.1	12.9	14.8	16.3	17.6	18.7	19.6
	2.0	1.74	6.8	8.7	11.9	14.1	16.4	18.3	19.9	21.3	22.6
	4.0	5.93	7.0	8.9	12.4	14.8	17.4	19.5	21.4	23.0	24.5
TWO ROWS MULTI-CIRCUIT	1.0	0.15	8.8	11.2	17.3	21.4	24.4	26.7	28.6	30.2	31.5
	2.0	0.51	8.9	11.9	19.1	24.4	28.5	31.9	34.7	37.2	39.3
	4.0	1.73	9.1	12.2	20.2	26.3	31.2	35.4	39.0	42.1	44.9
	5.0	2.58	9.2	12.3	20.4	26.7	31.8	36.2	40.0	43.3	46.3
	10.0	8.81	9.3	12.4	20.9	27.6	33.2	38.0	42.2	46.0	49.4

- Air Temperature rise =  $927 \times \text{MBH} \div \text{CFM}$
- Air Temperature drop =  $2.04 \times \text{MBH} \div \text{GPM}$
- Connections: Size on single circuit is  $\frac{1}{2}$ " o.d. male solder. Size on multi-circuit is  $\frac{7}{8}$ " o.d. male solder.

**UNIT INLET SIZES: 9Ø & 10Ø**

ROWS & CIRCUIT	GPM	HEAD LOSS	Air Flow, CFM								
			200	300	400	500	600	700	800	1000	1200
ONE ROW SINGLE CIRCUIT	0.5	0.03	11.0	12.4	13.3	14.4	15.2	15.9	16.6	17.5	18.2
	1.0	0.10	12.9	14.9	16.3	18.0	19.4	20.5	21.5	23.2	24.6
	2.0	0.33	14.1	16.6	18.5	20.6	22.5	24.1	25.6	28.0	30.0
	4.0	1.14	14.8	17.8	19.8	22.4	24.6	26.6	28.3	31.4	34.0
	8.0	3.9	15.3	18.4	20.7	23.4	25.9	28.1	30.1	33.6	36.6
TWO ROWS MULTI-CIRCUIT	1.0	0.06	18.9	23.6	26.9	29.5	31.6	33.4	34.8	37.1	38.9
	2.0	0.22	21.0	27.1	31.8	35.7	39.0	41.9	44.3	41.4	51.8
	5.0	1.12	22.4	29.7	35.8	40.9	45.5	49.5	53.1	59.3	64.6
	10.0	3.85	23.0	30.8	37.4	43.1	48.2	52.8	57.0	64.4	70.7

$\Delta T$	40	50	60	70	80	100	120	140	150	160	180	200
Factor	0.27	0.33	0.40	0.47	0.53	0.67	0.80	0.93	1.0	1.07	1.20	1.33

Job Name:			
Location:			
Architect:	DRAWN BY: MHM	DATE: 12-01-91	REV. DATE: 1-6-11
Engineer:	REV. NO. 5	APPROVED BY: BGT	DWG. NO.: <b>L-16</b>
Contractor:			



(ENGINEERS)  
**SUBMITTAL DATA**  
**HOT WATER**  
**COIL PERFORMANCE**

**1 & 2 ROW HOT WATER COILS**

**UNIT INLET SIZE: 12Ø**

ROWS & CIRCUIT	GPM	HEAD LOSS	Air Flow, CFM								
			300	400	500	600	800	1000	1200	1400	1600
ONE ROW MULTI-CIRCUIT	1.0	0.13	17.7	19.6	21.0	22.3	25.0	27.1	28.8	30.1	31.4
	2.0	0.44	19.8	22.2	24.1	25.9	29.7	32.7	35.2	37.4	39.3
	4.0	1.50	21.1	23.8	26.0	28.3	32.8	36.6	39.8	42.7	45.2
	8.0	5.14	21.8	24.8	27.2	29.7	34.7	39.0	42.8	46.1	49.1
TWO ROWS MULTI-CIRCUIT	1.0	0.08	26.3	30.3	33.4	35.8	39.6	42.4	44.5	46.2	47.5
	2.0	0.29	29.9	35.6	40.2	44.2	50.6	55.6	59.6	63.0	65.8
	5.0	1.48	32.6	39.6	45.7	51.1	60.3	67.9	74.4	80.0	85.0
	10.0	5.06	33.6	41.5	47.9	54.0	64.5	73.4	81.2	88.0	94.2

- Tabulated values are in MBH (thousands of BTU per hour).
- Head Loss is in feet of water.
- MBH values are based on a  $\Delta T$  (temperature difference) of 150° F between entering air and entering water. For other  $\Delta T$ 's, multiply the MBH values by the factors below.

**UNIT INLET SIZE: 14Ø**

ROWS & CIRCUIT	GPM	HEAD LOSS	Air Flow, CFM								
			400	500	600	800	1000	1500	2000	2500	3000
ONE ROW MULTI-CIRCUIT	1.0	0.05	22.9	24.6	25.9	27.9	30.2	33.8	36.9	38.0	38.2
	2.0	0.19	26.4	28.8	30.7	33.7	37.2	41.7	47.2	51.3	53.0
	5.0	1.00	27.8	31.5	35.8	43.8	47.1	52.9	60.1	66.0	70.9
	10.0	3.40	28.6	33.2	37.4	45.3	51.6	57.0	65.6	72.7	78.7
TWO ROWS MULTI-CIRCUIT	1.0	0.05	33.2	36.7	39.5	43.7	46.6	51.5	54.3	56.3	57.7
	2.0	0.17	39.2	44.6	49.2	56.6	62.3	72.6	79.4	84.3	88.1
	5.0	0.89	43.6	50.8	57.1	68.0	77.0	94.7	107.8	118.1	126.4
	10.0	3.04	45.4	53.2	60.3	72.8	83.5	105.3	122.1	135.9	147.5

- Air Temperature rise =  $927 \times \text{MBH} \div \text{CFM}$
- Air Temperature drop =  $2.04 \times \text{MBH} \div \text{GPM}$
- Connections: Size on single circuit is  $\frac{1}{2}$ " o.d. male solder. Size on multi-circuit is  $\frac{7}{8}$ " o.d. male solder.

**UNIT INLET SIZE: 16Ø**

ROWS & CIRCUIT	GPM	HEAD LOSS	Air Flow, CFM										
			400	600	800	1000	1200	1400	1600	2000	2300	2700	3000
ONE ROW MULTI-CIRCUIT	1.0	0.06	25.1	28.6	30.9	32.7	34.7	36.4	37.8	40.1	41.5	43.0	44.0
	2.0	0.21	29.0	34.0	37.5	40.3	43.6	46.4	48.8	53.0	55.5	58.5	60.4
	3.0	0.44	30.6	36.2	40.3	43.7	47.6	51.1	54.1	59.3	62.6	66.4	63.9
	5.0	1.09	32.0	38.4	43.0	46.9	51.5	55.6	59.3	65.6	69.7	74.6	77.3
TWO ROWS MULTI-CIRCUIT	1.0	0.02	33.6	39.8	43.9	46.7	48.9	50.6	52.0	54.1	55.2	56.5	57.2
	2.0	0.06	40.1	50.3	57.8	63.5	68.2	72.0	75.2	80.4	83.4	86.8	88.8
	3.0	0.13	42.8	54.9	64.3	71.8	78.0	83.3	87.9	95.4	99.9	105.1	108.3
	5.0	0.32	45.1	59.2	70.5	80.0	84.0	95.1	101.3	111.8	118.5	126.0	131.0
10.0	1.09	47.0	62.8	76.1	87.5	97.5	106.4	114.5	128.5	137.6	148.3	155.4	

**UNIT INLET SIZE: 24 x 16 (Rectangular)**

ROWS & CIRCUIT	GPM	HEAD LOSS	Air Flow, CFM								
			600	1200	1800	2400	3000	3600	4200	4800	5400
ONE ROW MULTI-CIRCUIT	3.0	1.15	38.0	49.5	57.4	64.5	70.1	74.7	78.5	81.8	84.7
	5.0	2.90	40.3	53.8	63.4	72.4	79.8	85.9	91.1	95.7	99.7
	7.0	5.20	41.3	55.9	66.5	76.5	84.8	91.8	97.8	103.2	107.9
	9.0	8.08	41.9	57.1	68.3	79.0	87.8	95.4	102.0	107.9	113.1
Airsides $\Delta P_s$			0.01	0.02	0.05	0.08	0.12	0.17	0.22	0.27	0.34
TWO ROWS MULTI-CIRCUIT	3.0	0.56	52.2	76.1	90.4	100.1	107.2	112.7	117.0	120.6	123.6
	5.0	1.41	55.9	85.8	105.5	120.0	131.2	140.1	147.5	153.7	159.0
	7.0	2.51	57.6	90.6	113.5	130.8	144.6	155.9	165.4	173.5	180.6
	9.0	3.86	58.6	93.5	118.4	137.6	153.2	166.1	177.2	186.7	195.1
Airsides $\Delta P_s$			0.01	0.04	0.09	0.15	0.23	0.31	0.41	0.52	0.64

$\Delta T$	40	50	60	70	80	100	120	140	150	160	180	200
Factor	0.27	0.33	0.40	0.47	0.53	0.67	0.80	0.93	1.0	1.07	1.20	1.33

Consult Factory for Larger Size VAV Boxes with Hot Water Coils

Job Name:			
Location:			
Architect:	DRAWN BY: MHM	DATE: 12-01-91	REV. DATE: 1-6-11
Engineer:	REV. NO. 2	APPROVED BY: BGT	DWG. NO.: L-17
Contractor:			