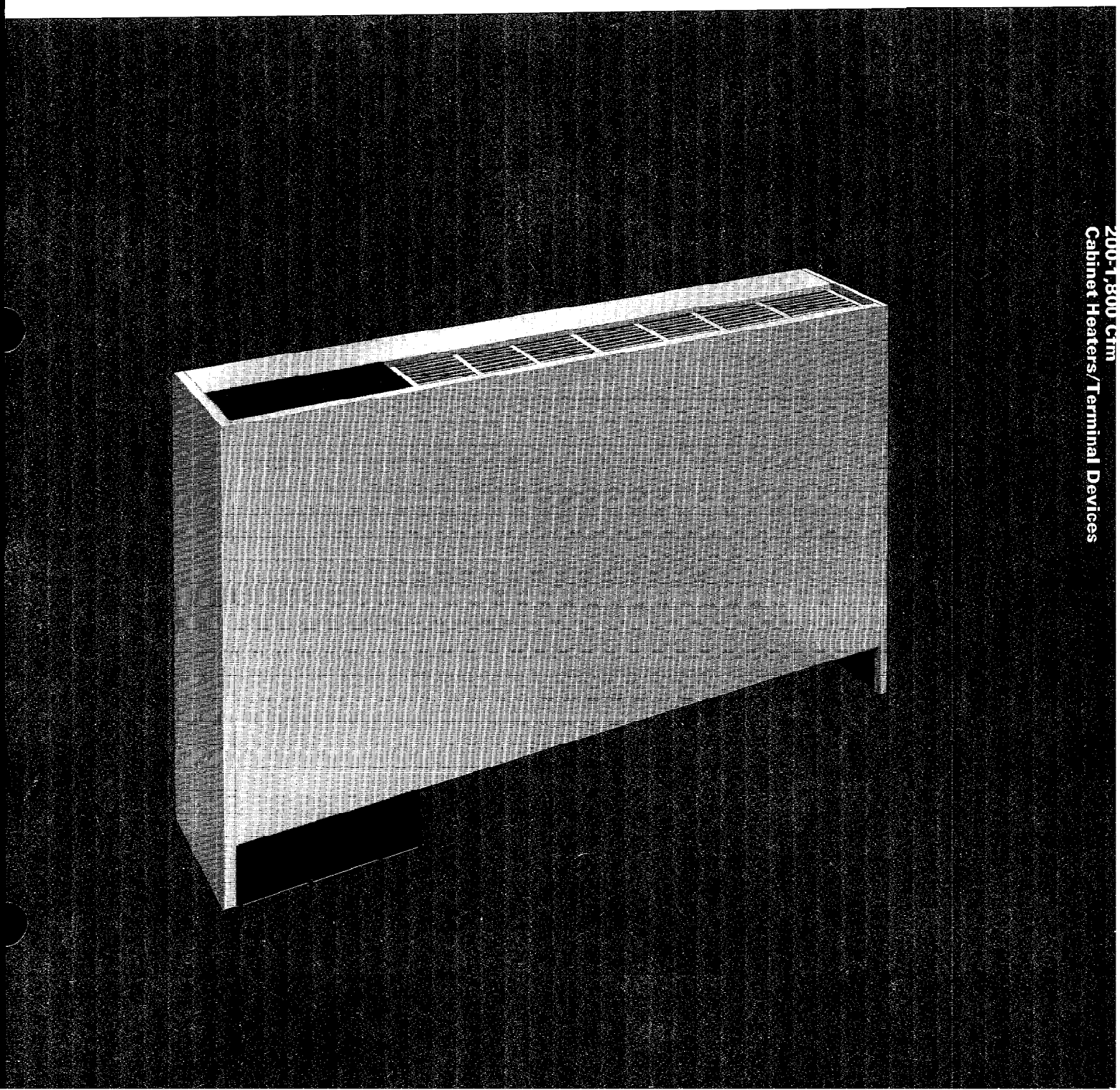
TRANE™

Force-Flo Cabinet Heaters

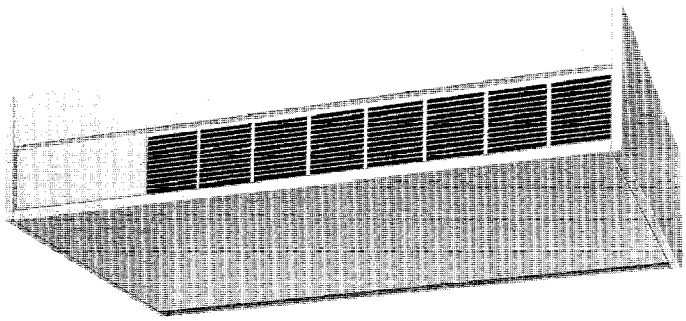
CAB-DS-2 May 1986

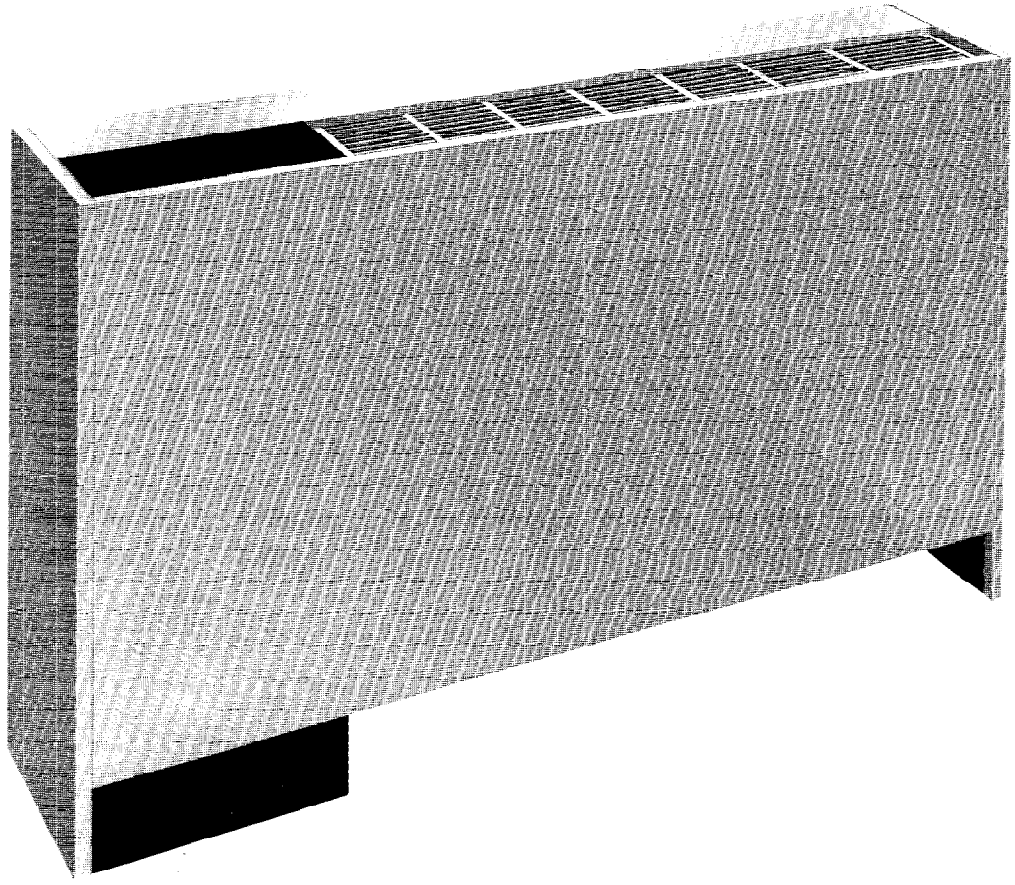
- Exclusive Electric Coil Design
- Vertical, Horizontal and Recessed Models
- Full Line of Options



200-1,800 Cfm
Cabinet Heaters/Terminal Devices

Force-Flo cabinet heaters for a wide variety of applications





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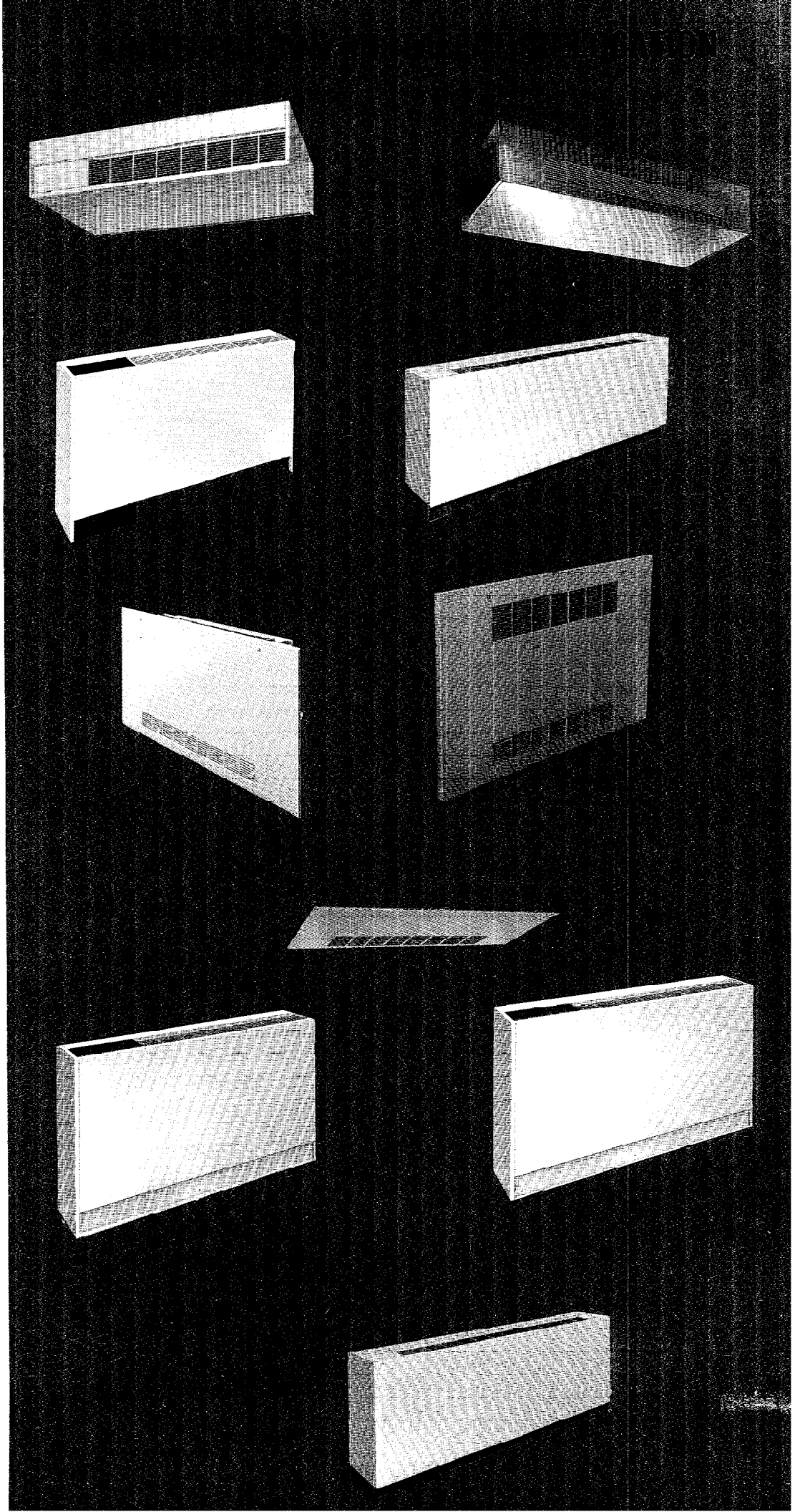
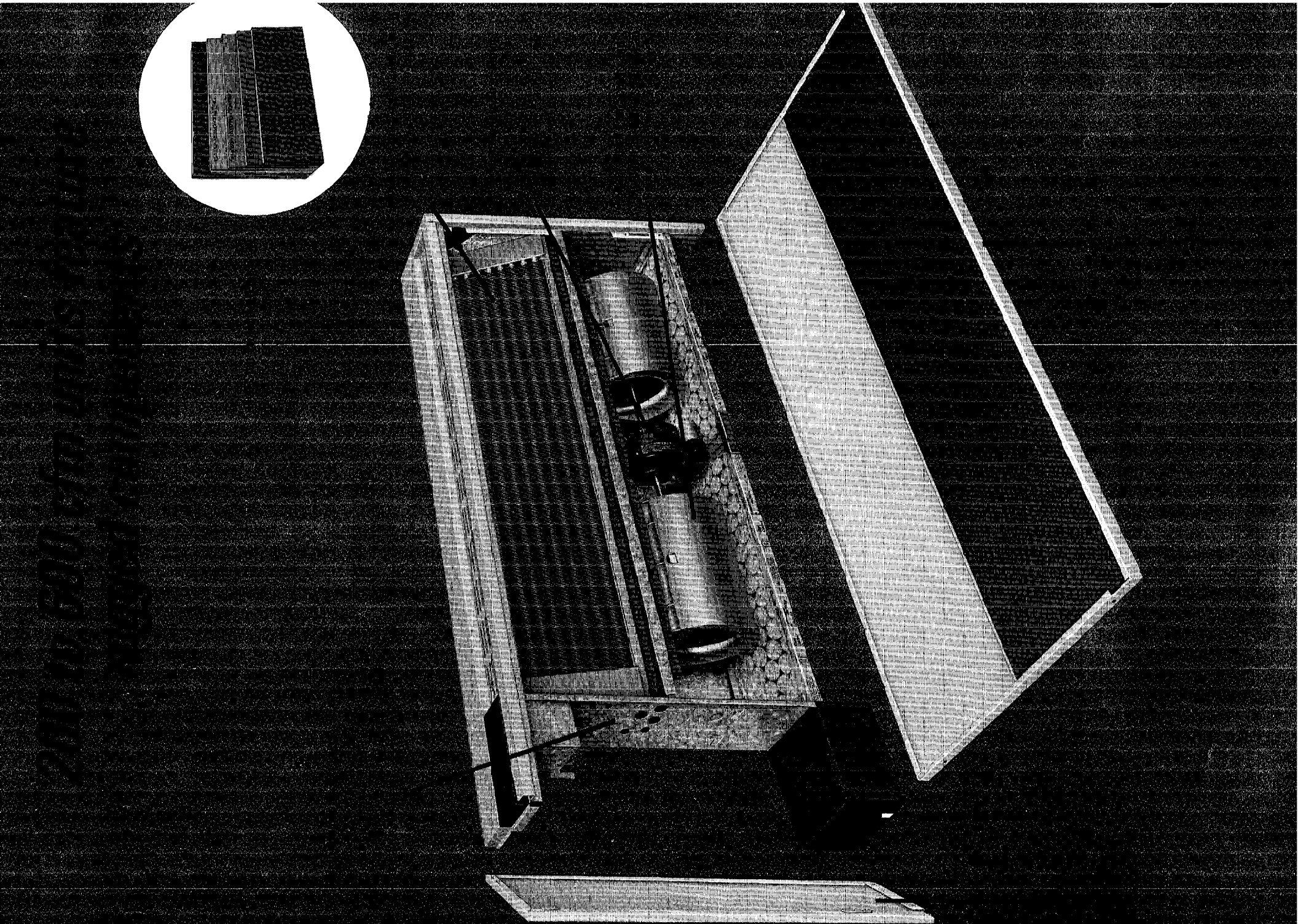
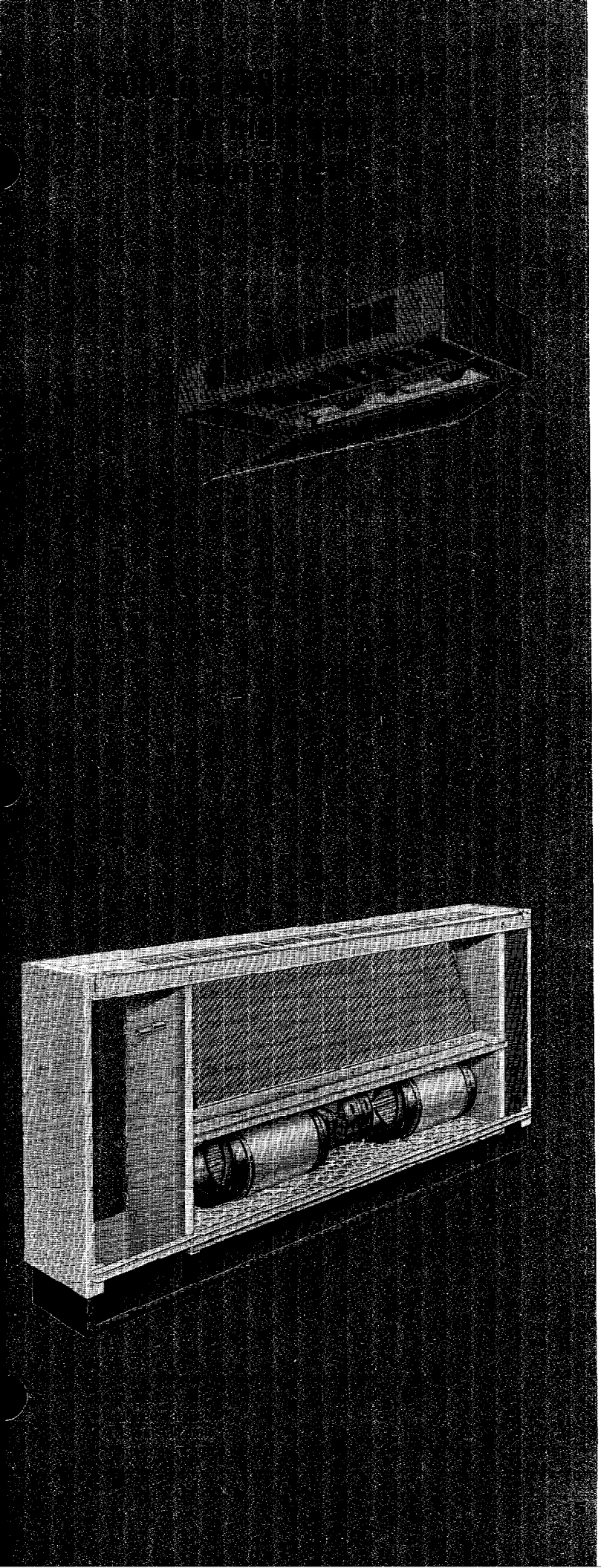




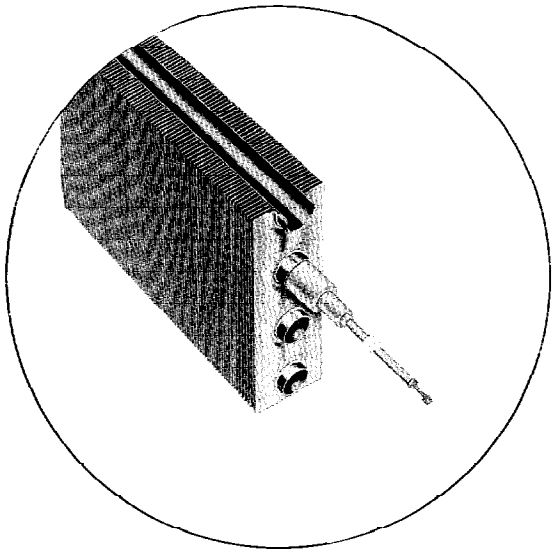


Accessories and options to complete a full line

- Projection Depth Front Panels
- Filters
  - — Permanent
  - — Throwaway
  - — Replaceable media
  - — Renewable media
- Motor Controls (see page 14)
- Steam, Hot Water and Electric Coils
- Motors
  - — Shaded pole
  - — High external static pressure
  - — Permanent split capacitor
  - — Extra high efficiency
- Transformers
- Dead Front Switch
- Wall Boxes
- Baked Enamel Finish
- Unit Levelers
- Discharge Grille Panel
- Recessing Flanges
- False Back Spacers
- Key-Operated Front Panel Lock
- Camlock Access Doors
- Extended Motor Oilers
- Subbases

Safe, reliable operation, long life provided by exclusive electric coil design

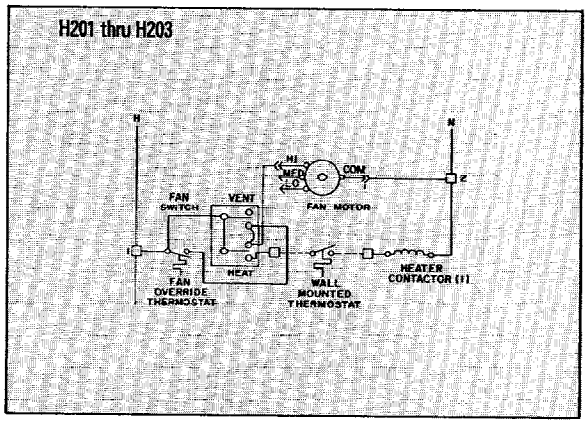
Trane electric coil places resistance elements in the tubes of a hydronic-type fin-tube bundle. This provides greater air side heat transfer surface and resultant lower and safer surface temperatures.

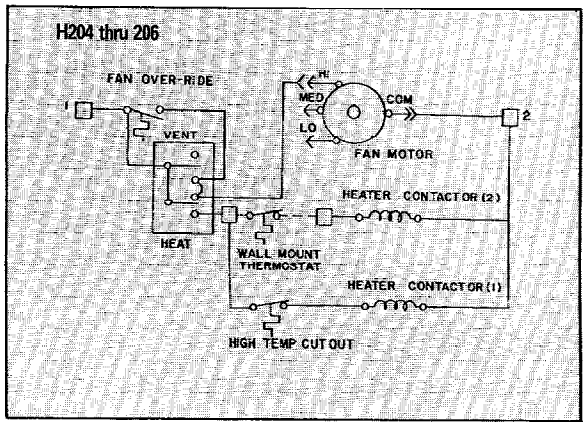


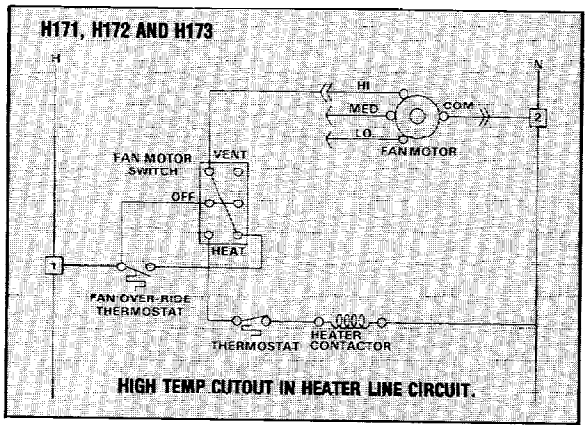
Control of Electric Heat

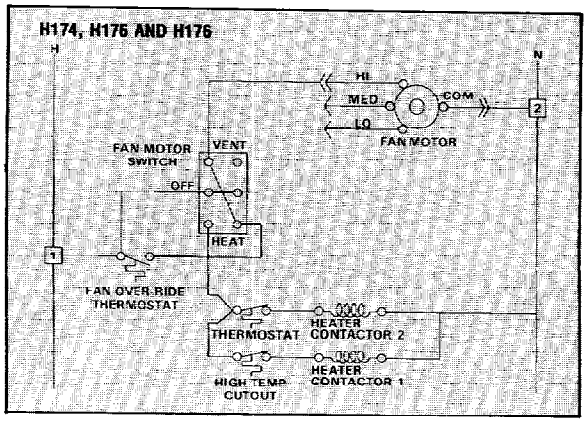
SINGLE HEAT UNITS — 200 TO 600 CFM UNITS
All vertical and horizontal units are supplied with a unit-mounted off-heat-vent selection switch. Only high speed operation is available. In heat position the electric elements are energized. In vent position only the motor operates. In off position the fan and elements are off, but the fan override thermostat cycles the fan until the coil temperature cools.

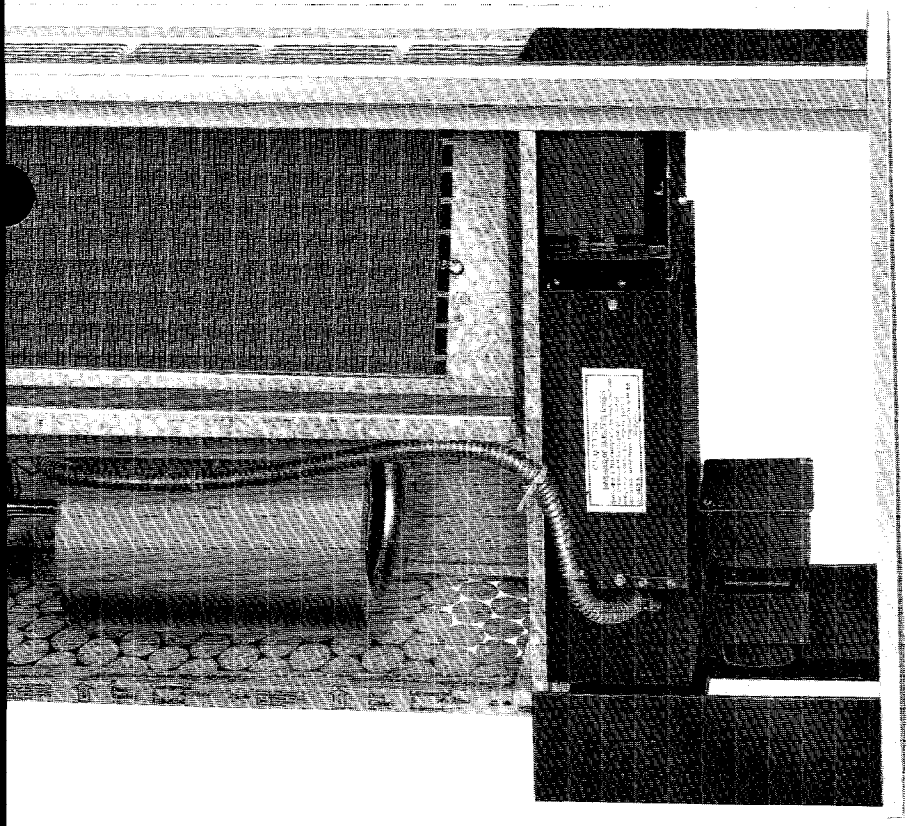
SINGLE HEAT UNITS WITH THERMOSTAT
Same as single heat units without a thermostat except the thermostat cycles the elements on and off when the heat switch is in the heat position.











- CONTROL BOX
  - — Fan Switch
  - — Thermostat (optional)
- JUNCTION BOX
  - — Fan Override Thermostat
  - — Contactors
  - — High Temperature Cutout
  - — Terminal Strips
- DEAD FRONT SWITCH (optional)
- TRANSFORMER (optional)

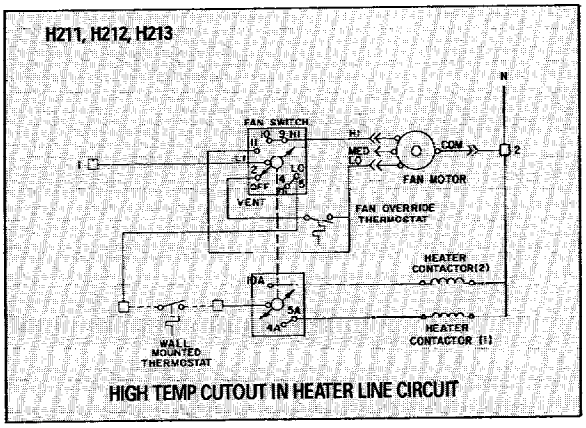
DUAL HEAT UNITS

All vertical and horizontal 200 to 1,800 cfm units are supplied with a unit-mounted off-vent-hi-lo selection switch. In lo position the fan operates at low speed and three elements are energized for low heat. In hi position, the fan operates on high speed and nine elements are energized for high heat. In vent position only the fan operates on high speed. In off position the fan and elements are off, but the fan override thermostat cycles the fan until the coil temperature cools.

DUAL HEAT UNITS WITH THERMOSTAT

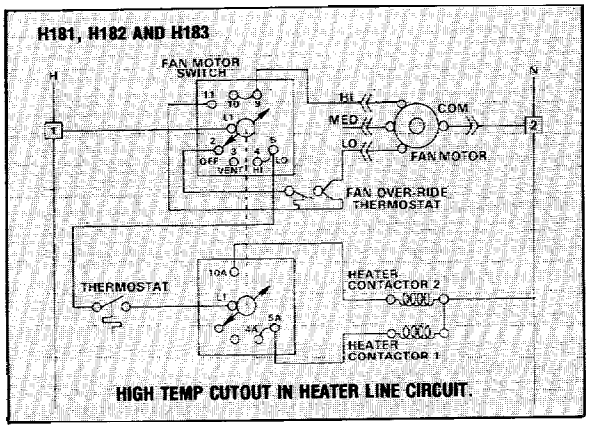
Same as dual heat units without a thermostat except in lo or hi position the thermostat cycles only the elements on and off.

H211, H212, H213



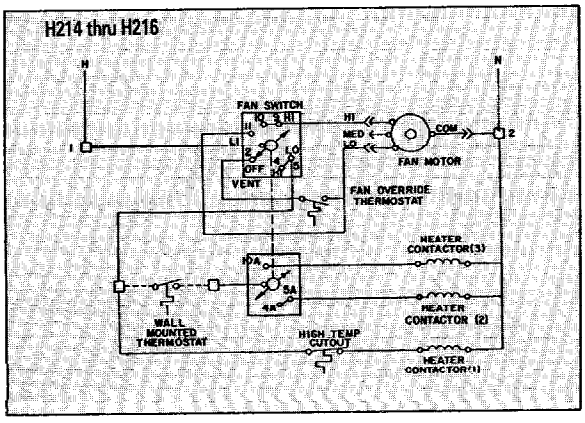
HIGH TEMP CUTOUT IN HEATER LINE CIRCUIT

H181, H182 AND H183

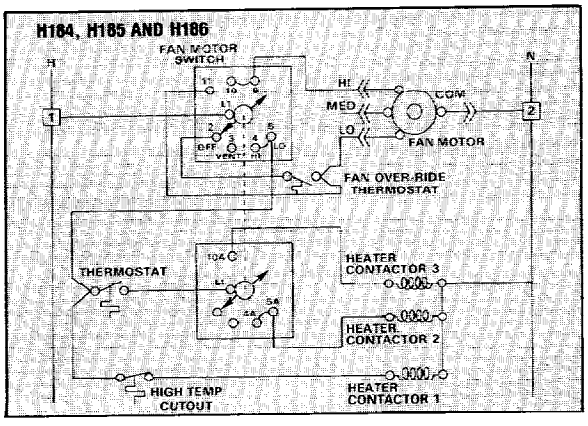


HIGH TEMP CUTOUT IN HEATER LINE CIRCUIT.

H214 thru H216



H184, H185 AND H186



B	1	5	A0	04

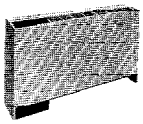
MODEL		OUTLET			INLET
B	VERTICAL CABINET	1	INTEGRAL TOP	2	R.A. TOE SPACE
		4	INTEGRAL FRONT	5	MIXING BASE 100% F.A. BACK
F	VERTICAL CABINET WALL HUNG	1	INTEGRAL TOP	1	BOTTOM - INTEGRAL
H	VERTICAL RECESSED WALL HUNG	3	DUCT COLLAR TOP	6	FRONT - INTEGRAL
		4	INTEGRAL FRONT		
M	INVERTED VERTICAL CABINET	1	INTEGRAL BOTTOM	1	TOP - INTEGRAL
		3	DUCT COLLAR BOTTOM	4	TOP - DUCT COLLAR
		4	INTEGRAL FRONT	6	FRONT - INTEGRAL
N	INVERTED RECESSED WALL HUNG	4	INTEGRAL FRONT	6	FRONT - INTEGRAL
D	HORIZONTAL CABINET	1	INTEGRAL FRONT	1	BACK - INTEGRAL
		3	DUCT COLLAR FRONT	4	BACK - DUCT COLLAR
		4	INTEGRAL BOTTOM	6	BOTTOM - INTEGRAL
E	HORIZONTAL RECESSED CEILING MOUNTED	3	DUCT COLLAR FRONT	6	BOTTOM - INTEGRAL
		4	INTEGRAL BOTTOM		

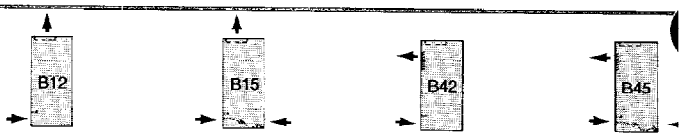
	COIL TYPE
A0	STANDARD HOT WATER COIL
B0	STEAM
E0	ELECTRIC COIL
F0	STEAM DISTRIBUTING COIL

UNIT SIZE
02
03
04
06
08
10
12
13
18

B

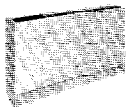
VERTICAL CABINET





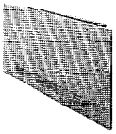
F

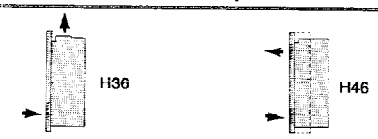
VERTICAL WALL-HUNG CABINET



H

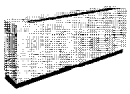
VERTICAL RECESSED OR SEMIRECESSED

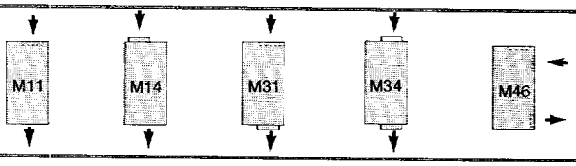




M

INVERTED VERTICAL CABINET





N

INVERTED RECESSED WALL-HUNG

D

HORIZONTAL CABINET

E

HORIZONTAL RECESSED CEILING MOUNTED

SELECTION PROCEDURE

The primary consideration in selecting Force-Flo cabinet heaters is to provide sufficient heating capacity to offset the heat loss and sufficient air quantity for effective performance. Design considerations establish the parameters needed for selection:

- Heating Capacity Required.
- Entering Air Temperature.
- Entering Water Temperature or Steam Pressure to the Coil.
- Water Flow (GPM).

In addition, to maintain a feeling of warmth, the final air temperature should be greater than 100 F.

HOT WATER SELECTION — Tables 10-1 and 10-2 give capacities for Force-Flo Cabinet Heaters at an entering air temperature of 60 F and entering water temperature of 180 F.

Correction factors for capacities at other combinations of entering air and water temperatures are listed in Table 11-1.

Unit Capacity = Capacity at 60 F EAT and 180 F EWT × Correction Factor (Table 11-1)

When making a selection, it is often helpful to convert the actual required capacity to an equivalent capacity at 60 F EAT and 180 F EWT. When this is done, the correct unit can be selected from Table 10-1 or 10-2 by inspection.

$$\text{Catalog Capacity} = \frac{\text{Required Capacity}}{\text{Correction Factor}}$$

Capacity variation with airflow is found in Charts 13-2 and 13-4.

Selection Example 1

Given:

Heating Requirement	= 45,000 Btuh
Entering Water Temperature	= 190 F
Entering Air Temperature	= 60 F
Maximum Water Flow	= 2.00 gpm

Solution:

Correction factor from Table 11-1 = 1.08

$$\text{Catalog Capacity} = \frac{45{,}000}{1.08} = 41{,}670 \text{ Btuh}$$

Inspection of Tables 10-1 and 10-2 shows that an 06 size unit has a tabulated capacity of 41.9 MBh at 2.00 gpm with a water pressure drop of 1.54 feet. From Table 14-1, the actual airflow rate for a size 06 unit is 570 cfm.

Actual capacity will be: $41.9 \times 1.08 \times 1{,}000 = 45{,}250$ Btuh

$$\text{Air Temperature Rise} = \frac{Q}{\text{cfm} \times 1.085} = \frac{45{,}250}{570 \times 1.085} =$$

73.2 F

(Can also be obtained from Chart 12-2.)

Final Air Temperature = 60 F + 67.8 F = 127.8 F

Selection Example 2

Given:

Heating Requirement	= 90,000 Btuh
Entering Air Temperature	= 70 F
Entering Water Temperature	= 180 F
Maximum Water Flow	= 8.00 gpm
External Static Pressure	= 0.10-inch H_2O

Solution:

Correction factor from Table 11-1 = 0.917

$$\text{Catalog Capacity} = \frac{90{,}000}{0.917} = 98{,}150 \text{ Btuh}$$

Assuming a size 18 unit, the cfm at 0.10-inch esp from Table 14-1 is 96 percent of nominal and the capacity from Chart 13-4 is 95.2 percent. From Table 10-2, capacity at 60 F EAT, 180 F EWT and 8.00 gpm, corrected for reduced cfm is:

$108.3 \times 0.952 = 103.1$ MBh

Actual capacity will be $103.1 \times 0.917 \times 1{,}000 = 94{,}540$ Btuh

$$\text{Water Temperature Drop} = \frac{94{,}540}{8.00 \times 500} = 23.6 \text{ F}$$

(Can also be obtained from Chart 12-1.)

The final air temperature must be calculated as the unit is operating at other than rated free flow cfm. From Table 14-1, the rated free flow cfm is 1,610. At 0.10-inch esp, the airflow rate is $1{,}610 \times 0.96 = 1{,}545$

$$\text{Air Temperature Rise} = \frac{94{,}540}{1{,}545 \times 1.085} = 56.4 \text{ F}$$

Final Air Temperature = 70 F + 56.4 = 126.4 F

STEAM COIL SELECTION — Table 11-2 provides capacities of the standard and distributing type steam coils at both 2 and 5 psig steam, based on 60 F EAT. In addition, Q/ITD is given for each coil to facilitate selection at any combination of entering air temperature and steam pressure.

Selection Example 3

Given:

Heating Requirement	= 41,000 Btuh
Steam Pressure Available	= 10 psig
EAT	= 30 F

The specified load and entering air temperature include the effect of ventilation requirements. As the entering air temperature is below the freezing point, a steam distributing coil (Type "F") is required. Unit capacity at medium and low speeds is also required.

Solution:

From Table 12-1, entering steam temperature at 10 psig is 239 F.

$$\text{ITD} = 239 - 30 = 209$$

$$\text{Q/ITD (required)} = \frac{41{,}000}{209} = 196$$

Inspection of Table 11-2 reveals that a size 04 unit with a Type "F" coil has a Q/ITD of 198.

Capacity = 198 × 209 = 41,400 Btuh

At medium speed of the G2 motor, the capacity factor for steam from Chart 13-1 is 0.905.

At low speed of the G2 motor, the capacity factor for steam from Chart 13-1 is 778.

Medium Speed Capacity = 0.905 × 41,400 = 37,450

Low Speed Capacity = 0.778 × 41,400 = 32,200

TABLE 10-1 — A Coil Hot Water Capacities, 60 F EAT and 180 F EWT

UNIT SIZE	HIGH SPEED (1100 RPM)					LOW SPEED (700 RPM)				
	GPM	WPD	MBH	WTD	FAT	GPM	WPD	MBH	WTD	FAT
02	0.50	0.07	11.1	44.4	102.8	0.50	0.07	9.6	38.3	118.2
	0.75	0.15	13.6	36.5	112.5	0.75	0.15	11.3	30.2	128.6
	1.00	0.24	15.3	30.9	119.2	1.00	0.24	12.4	24.9	135.3
	1.50	0.50	17.6	23.8	128.0	1.50	0.50	13.7	18.5	143.5
	2.00	0.83	19.0	19.3	133.5	2.00	0.83	14.5	14.7	148.3
	3.00	1.70	20.7	14.0	140.0	3.00	1.70	15.4	10.4	153.7
	5.00	4.20	22.3	9.0	146.0	5.00	4.20	16.2	6.6	158.6
	1.90	0.76	18.8	20.0	132.6	1.35	0.41	13.4	20.0	141.5
	0.63	0.11	12.5	40.0	108.1	0.46	0.06	9.2	40.0	116.1
03	0.50	0.08	14.9	54.9	100.2	0.50	0.08	13.0	51.5	115.1
	0.75	0.17	18.4	49.2	109.7	0.75	0.17	15.4	40.9	125.3
	1.00	0.28	20.9	42.0	116.4	1.00	0.28	17.0	34.0	132.1
	1.50	0.58	24.1	32.5	125.2	1.50	0.58	18.9	25.4	140.5
	2.00	0.97	26.2	26.5	130.8	2.00	0.97	20.1	20.2	145.5
	3.00	1.99	28.6	19.3	137.4	3.00	1.99	21.5	14.4	151.2
	5.00	4.90	31.0	12.6	143.7	5.00	4.90	22.7	9.1	156.3
	2.87	1.84	28.4	20.0	136.8	2.03	0.99	20.2	20.0	145.7
	1.08	0.33	21.5	40.0	118.2	0.78	0.18	15.6	40.0	126.2
04	0.50	0.11	17.0	68.6	95.5	0.50	0.11	15.2	61.1	108.7
	0.75	0.23	21.4	57.8	104.7	0.75	0.23	18.4	49.5	119.1
	1.00	0.38	24.6	49.9	111.4	1.00	0.38	20.6	41.7	126.1
	1.50	0.77	28.9	39.2	120.5	1.50	0.77	23.4	31.6	135.1
	2.00	1.28	31.7	32.3	126.4	2.00	1.28	25.1	25.5	140.7
	3.00	2.63	35.2	23.9	133.5	3.00	2.63	27.1	18.4	147.1
	5.00	6.49	38.5	15.7	140.5	5.00	6.49	28.9	11.8	153.0
	3.75	3.90	36.7	20.0	136.9	2.71	2.19	26.6	20.0	145.6
	1.46	0.73	28.6	40.0	119.9	1.07	0.42	21.0	40.0	127.6
06	0.50	0.13	21.3	85.4	91.9	0.50	0.13	19.2	77.0	104.3
	0.75	0.27	27.2	73.1	100.8	0.75	0.27	23.7	63.6	114.6
	1.00	0.45	31.6	64.0	107.5	1.00	0.45	26.8	54.1	121.9
	1.50	0.93	37.8	51.1	116.8	1.50	0.93	30.9	41.7	131.4
	2.00	1.54	41.9	42.6	123.0	2.00	1.54	33.5	34.0	137.3
	3.00	3.16	47.1	31.9	130.7	3.00	3.16	36.6	24.8	144.4
	5.00	7.80	52.2	21.3	138.4	5.00	7.80	39.5	16.0	151.1
	5.38	8.89	52.8	20.0	139.4	3.88	4.97	38.2	20.0	148.1
	2.19	1.82	43.2	40.0	124.8	1.60	1.03	31.5	40.0	132.7

WPD = WATER PRESSURE DROP.
WTD = WATER TEMPERATURE DIFFERENCE.
FAT = FINAL AIR TEMPERATURE.

TABLE 10-2 — A Coil Hot Water Capacities, 60 F EAT and 180 F EWT

UNIT SIZE	HIGH SPEED (775 RPM)					LOW SPEED (525 RPM)				
	GPM	WPD	MBH	WTD	FAT	GPM	WPD	MBH	WTD	FAT
08	1.00	0.14	32.5	66.2	97.2	1.00	0.14	28.7	58.5	108.4
	2.00	0.55	44.6	45.5	111.0	2.00	0.55	37.4	38.2	123.1
	3.00	1.20	50.9	34.6	118.2	3.00	1.20	41.6	28.4	130.3
	4.00	2.07	54.7	28.0	122.6	4.00	2.07	44.1	22.6	134.5
	5.00	3.17	57.3	23.4	125.6	5.00	3.17	45.8	18.7	137.3
	6.00	4.49	59.2	20.2	127.8	6.00	4.49	46.9	16.0	139.3
	6.07	4.59	59.3	20.0	127.9	6.07	4.59	45.2	20.0	136.4
	2.43	.81	47.1	40.0	114.6	2.43	.81	36.6	40.0	121.9
10	1.00	0.11	35.0	70.9	93.5	1.00	0.11	31.1	63.6	104.1
	2.00	0.44	49.3	50.2	107.3	2.00	0.44	41.8	42.8	119.3
	4.00	1.71	62.1	31.7	119.6	4.00	1.71	50.5	25.8	131.6
	5.00	2.65	65.5	26.7	122.8	5.00	2.65	52.7	21.6	134.7
	6.00	3.79	68.0	23.1	125.2	6.00	3.79	54.3	18.5	136.9
	8.00	6.67	71.4	18.2	128.5	8.00	6.67	56.4	14.4	139.9
	7.16	5.38	70.2	20.0	127.3	7.16	5.38	53.5	20.0	135.8
	2.87	.89	56.3	40.0	114.0	2.87	.89	43.3	40.0	121.3
12	1.00	0.12	36.9	74.7	90.7	1.00	0.12	33.3	67.9	100.9
	2.00	0.45	53.8	54.8	104.8	2.00	0.45	46.2	47.2	116.8
	6.00	3.43	77.9	26.5	124.8	6.00	3.43	62.4	21.3	136.7
	7.00	4.56	80.4	23.5	126.9	7.00	4.56	64.0	18.7	138.6
	8.00	5.84	82.5	21.1	128.6	8.00	5.84	65.3	16.7	140.2
	9.00	7.26	84.2	19.1	130.0	9.00	7.26	66.3	15.1	141.4
	8.50	6.57	83.4	20.0	129.4	8.50	6.57	63.2	20.0	137.7
	3.40	1.19	66.4	40.0	115.2	3.40	1.19	50.8	40.0	122.3
13	1.00	0.11	39.0	78.9	89.0	1.00	0.11	35.4	72.2	99.0
	2.00	0.41	56.1	59.2	103.3	2.00	0.41	50.2	51.4	115.3
	6.00	3.04	86.9	29.6	124.8	6.00	3.04	69.8	23.8	136.8
	7.00	4.01	90.1	26.3	127.2	7.00	4.01	71.8	21.0	139.0
	8.00	5.11	92.7	23,7	129.1	8.00	5.11	73.4	18.8	140.8
	9.00	6.32	94.8	21.5	130.6	9.00	6.32	74.7	17.0	142.2
	9.84	7.43	96.2	20.0	131.7	9.84	7.43	72.5	20.0	139.8
	3.91	1.40	76.8	40.0	117.3	3.91	1.40	58.3	40.0	124.2
18	1.00	0.11	41.4	83.0	83.0	1.00	0.11	38.6	78.2	87.1
	2.00	0.41	63.8	64.5	95.4	2.00	0.41	57.3	58.4	99.3
	6.00	3.04	100.5	34.1	115.8	6.00	3.04	85.0	29.0	116.3
	7.00	4.01	104.8	30.5	118.2	7.00	4.01	88.0	25.7	118.1
	8.00	5.11	108.3	27.6	120.2	8.00	5.11	90.5	23.1	119.5
	9.00	6.32	111.2	25.2	121.8	9.00	6.32	92.5	21.0	120.7
	11.97	10.59	117.5	20.0	125.3	11.97	10.59	93.4	20.0	119.8
	4.74	1.98	93.3	40.0	111.9	4.74	1.98	74.6	40.0	107.6

WPD = WATER PRESSURE DROP.
WTD = WATER TEMPERATURE DIFFERENCE.
FAT = FINAL AIR TEMPERATURE.

TABLE 11-1 — Capacity Correction Factors for Entering Conditions Other Than 60 F EAT and 180 F EWT

ENTERING AIR TEMP F	ENTERING WATER TEMPERATURES, F													
	95	100	110	120	130	140	150	160	170	180	190	200	210	220
40	.458	.500	.583	.666	.75	.833	.917	1.00	1.08	1.16	1.25	1.33	1.42	1.50
50	.375	.417	.500	.583	.666	.75	.835	.917	1.00	1.08	1.16	1.25	1.33	1.42
60	.292	.333	.417	.500	.583	.666	.750	.835	.917	1.00	1.08	1.16	1.25	1.33
70	.208	.250	.333	.417	.500	.583	.666	.750	.835	.917	1.00	1.08	1.16	1.25
80	.125	.167	.250	.333	.417	.500	.583	.666	.750	.835	.917	1.00	1.08	1.16

NOTE: These Factors are based on constant GPM.

STEAM

TABLE 11-2 — Steam Coil Capacities

UNIT SIZE	COIL TYPE	Q/ITD	2 PSIG STEAM				5 PSIG STEAM			
			MBH	EDR	FINAL AIR TEMP °F	CONDENSATE LBS/HR	MBH	EDR	FINAL AIR TEMP °F	CONDENSATE LBS/HR
	HIGH FAN SPEED 60 F EAT									
02	STD. STEAM BO STEAM DIST. FO	112	17.8	74	133	18.4	18.7	78	136	19.5
03	STD. STEAM BO STEAM DIST. FO	169	26.9	112	137	27.9	28.2	117	141	29.4
04	STD. STEAM BO STEAM DIST. FO	198	31.5	131	133	32.6	33.0	137	136	34.4
06	STD. STEAM BO STEAM DIST. FO	287	45.6	190	134	47.3	48.0	200	138	50.0
08	STD. STEAM BO STEAM DIST. FO	472	75.1	313	141	78.0	79.0	329	146	81.9
10	STD. STEAM BO STEAM DIST. FO	526	83.6	348	144	86.9	87.9	366	148	91.0
12	STD. STEAM BO STEAM DIST. FO	652	103.5	432	147	107.2	109.0	496	151	88.0
13	STD. STEAM BC STEAM DIST. FO	761	121.0	504	149	125.5	127.2	530	154	132.0
18	STD. STEAM BO STEAM DIST. FO	907	144.1	601	140	149.5	151.4	631	144	157.0

Q/ITD = BTUH DIVIDED BY (SATURATED STEAM TEMP. °F—ENTERING AIR TEMP. °F).
EDR = EQUIVALENT DIRECT RADIATION.
STEAM DISTRIBUTING COILS ARE NOT AVAILABLE ON INVERTED MODELS M AND N.

TABLE 12-1 — Steam Properties

STEAM PRESSURE PSIG	2	5	10	15	20	25	35	50	60	70	75
SAT. STEAM TEMP. °F	219	227	239	250	259	267	281	297	306	316	320
LAT. HEAT-BTU/LB.	965	960	952	945	939	933	924	912	905	898	895

TABLE 12-2 — Trane Valve Capacity (See DS-STSP for Complete Data)

SIZE	STEAM (SQ. FT. EDR) PRESSURE DIFFERENTIALS				HOT WATER PRESSURE DROP (IN. WATER) AT TABULATED GPM				
	¼ LB.*	½ LB.+	1 LB.	2 LB.	1 IN.	2 IN.	3 IN.	5 IN.	10 IN.
½"	45	60	90	120	.66	.94	1.15	1.50	2.10
¾"	90	120	180	250	1.65	2.35	2.85	3.70	5.20
1"	150	200	300	450	2.20	3.10	3.80	4.90	6.90

*USE FOR SMALL VAPOR SYSTEMS
+USE FOR VACUUM AND LARGE VAPOR SYSTEMS

TABLE 12-3 — Trane Low Pressure Thermostatic Trap Capacity (See DS-STSP for Other Data)

SIZE	MODEL	CAPACITY IN SQ. FT. EDR AT VARIOUS PRESSURE DIFFERENCES						
		4 OZ.	8 OZ.	1 LB.	1½ LB.	2 LB.	5 LB.	10 LB.
½"	B-1	85	120	165	200	235	370	530
¼"	B-3	165	230	330	400	465	730	1050

CAPACITY SELECTION CORRECTION FACTORS

CHART 12-1 — Water Temperature Drop

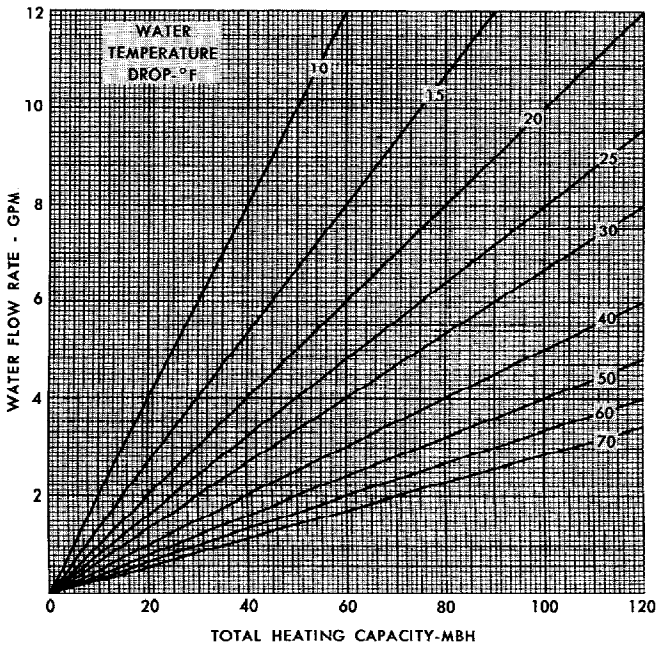


CHART 12-2 — Air Temperature Rise

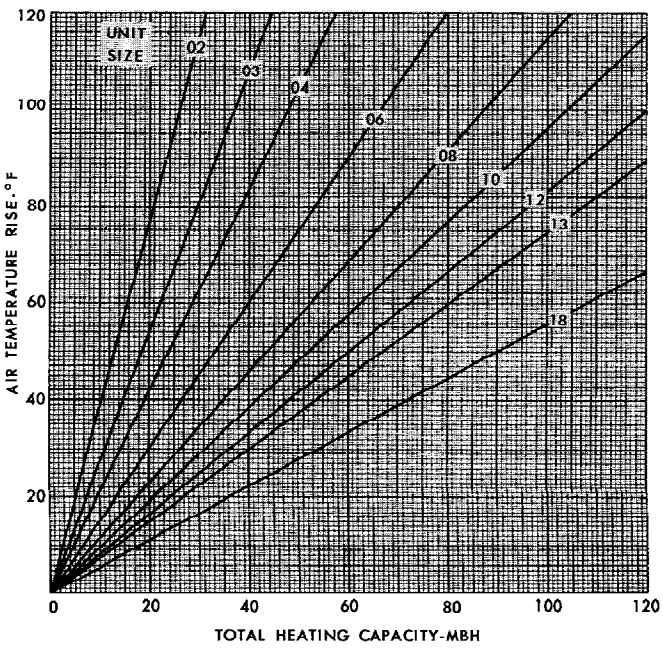


CHART 13-1 — Medium and Low Speed Capacity Factors, 200-600 CFM

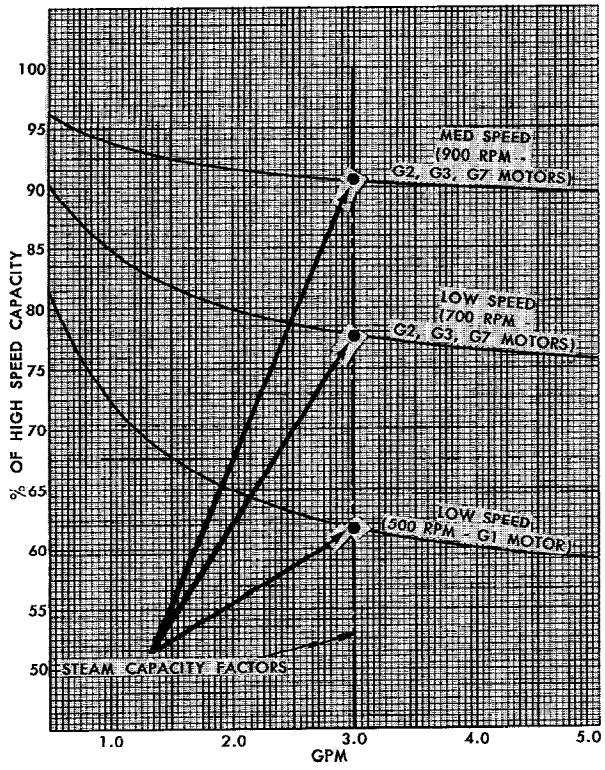


CHART 13-3 — Medium and Low Speed Capacity Factors, 800-1800 CFM

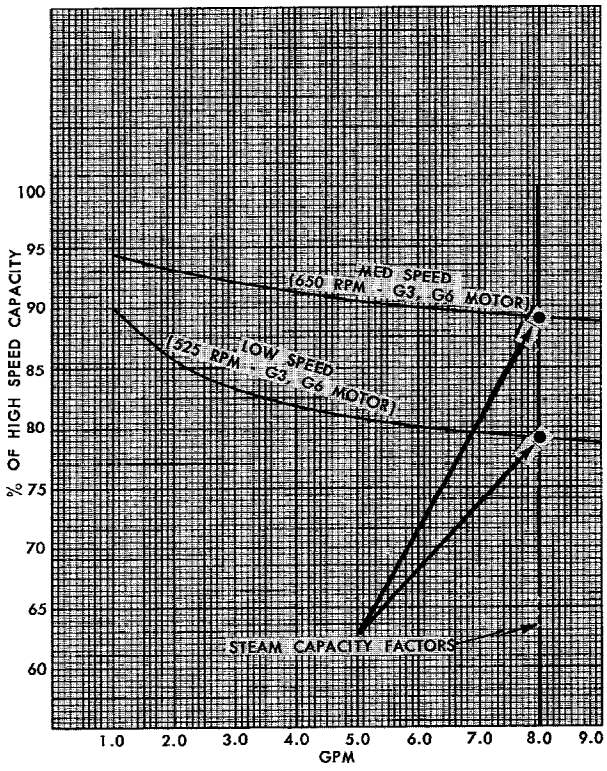


CHART 13-2 — Capacity Variation with Airflow, 200-600 CFM

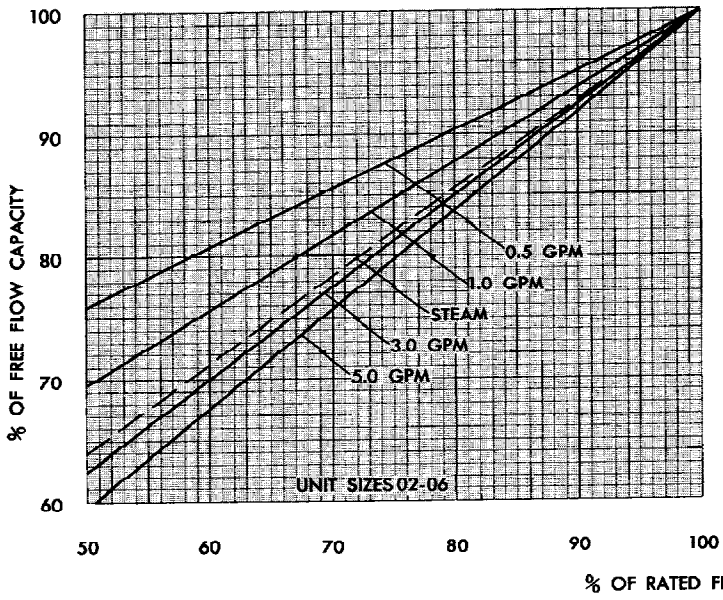
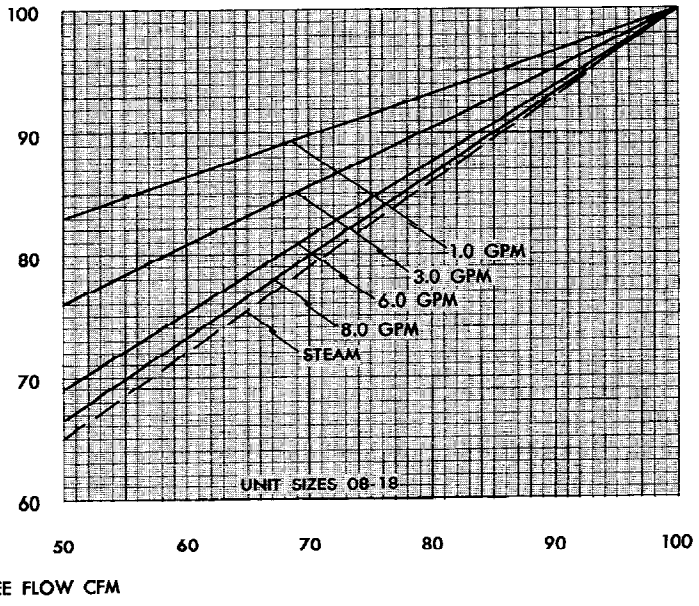


CHART 13-4 — Capacity Variation with Airflow, 800-1800 CFM



% OF RATED FREE FLOW CFM

TABLE 14-1 — Horizontal CFM for Various External Static Pressures

UNIT SIZE	RATED CFM	EXTERNAL STATIC PRESSURES (INCHES OF WATER)				
		0.10	0.15	0.20	0.30	0.40
3-SPEED (G-2 AND G-3) MOTORS						
02	220	192	163	—	—	—
03	300	270	238	—	—	—
04	420	375	310	—	—	—
06	560	505	480	—	—	—
08	880	787	688	—	—	—
10	950	850	750	—	—	—
12	1050	950	840	—	—	—
13	1150	1050	940	—	—	—
18	1700	1600	1520	—	—	—
HIGH EXTERNAL STATIC PRESSURE (G-4) MOTOR						
04	640	600	560	515	420	315
06	880	845	812	775	690	575
08	1170	1120	1065	1010	890	745
10	1430	1365	1295	1220	1044	810
12	1460	1390	1303	1225	1050	816
13	1510	1440	1350	1275	1099	865

NOTE: DATA BASED ON HIGH FAN SPEED.

ELECTRIC SELECTION

TABLE 14-2 — Electric Coil Capacities and Current Draw

UNIT SIZE	NO. OF ELEMENTS				MBH	KW	AMPERES PER PHASE					
	SINGLE HEAT	DUAL HEAT					208 V 1 PH 2 WIRE	208 V 3 PH 3 WIRE	240 V 1 PH 2 WIRE	240 V 3 PH 3 WIRE	277 V 1 PH 2 WIRE	480 V 3 PH 3 WIRE
		HI	LO									
02	9	9	3	HI	12.75	3.75	18	10.4	15.6	9.0	13.5	4.5
				LO	4.25	1.25	6	3.4	5.2	3.0	4.5	1.5
03	9	9	3	HI	19.10	5.62	27	15.6	23.4	13.6	20.2	6.8
				LO	6.35	1.87	9	5.2	7.8	4.54	6.73	2.27
04	9	9	3	HI	25.50	7.50	36	20.8	31.2	18.0	27.0	9.0
				LO	8.50	2.50	12	6.94	10.4	6.0	9.0	3.0
06	9	9	3	HI	38.20	11.25	NOT AVA.	31.2	47.0	27.0	40.7	13.5
				LO	12.75	3.75	NOT AVA.	10.4	15.65	9.0	13.6	4.5
08	NOT AVAILABLE	6	3	HI	51.2	15.0	NOT AVA.	41.6	62.5	36.0	54.2	18.0
				LO	25.6	7.50	NOT AVA.	20.8	31.2	18.0	27.1	9.0
10	NOT AVAILABLE	9	3	HI	61.5	18.0	NOT AVA.	50.0	75.0	43.2	64.9	21.6
				LO	20.5	6.0	NOT AVA.	16.7	25.0	14.4	21.6	7.2
12	NOT AVAILABLE	9	3	HI	76.9	22.5	NOT AVA.	62.5	94.0	54.0	81.2	27.0
				LO	25.6	7.5	NOT AVA.	20.8	31.3	18.0	27.1	9.0
13	NOT AVAILABLE	9	3	HI	92.3	27.0	NOT AVA.	75.0	113.0	65.0	93.3	32.4
				LO	30.7	9.0	NOT AVA	25.0	37.6	21.7	31.4	10.8
18	NOT AVAILABLE	9	3	HI	123.0	36.0	NOT AVA.	100.0	NOT AVA.	86.5	NOT AVA.	43.4
				LO	41.0	12.0	NOT AVA.	33.3	NOT AVA.	28.2	NOT AVA.	14.1

1. ABOVE 48 AMPS. PER PHASE, CIRCUITS ARE SUBDIVIDED AND FUSED.
2. ELECTRIC COILS ARE NOT AVAILABLE ON INVERTED MODELS M AND N, LEFT HANDED UNITS, OR 200-1300 CFM UNITS WITH G4 HIGH E.S.P. MOTORS.

GENERAL DATA

WEIGHTS

TABLE 14-3 — Approximate Force-Flo Unit Weights

UNIT SIZE	CABINET MODELS	CONCEALED MODELS
02	65	55
03	80	65
04	95	80
06	115	100
08	185	125
10	215	150
12	235	170
13	250	195
18	270	210

FILTER DATA

TABLE 14-4 — Filter Data

UNIT SIZE	FILTERS DIMENSIONS
02	8¼ x 19⅞
03	8¼ x 27⅞
04	8¼ x 31⅞
06	8¼ x 43⅞
08	11 x 45¾
10	11 x 45¾
12	11 x 57¾
13	11 x 69¾
18	11 x 69¾

MOTORS

TABLE 15-1 — Force-Flo Motor Characteristics

MOTOR	CHARACTERISTICS	UNIT SIZE 02	03	04	06	08	10	12 & 13	18
G2 TWSP	VOLTS	115/60/1	115/60/1	115/60/1	115/60/1	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE
	PF	0.75	0.74	0.60	0.56				
	RPM	1,100/900/700	1,100/900/700	1,075/900/700	1,075/900/700				
	CFM	230/200/145	320/260/200	410/340/265	570/475/370				
	AMPS	1.10/0.80/0.60	1.60/1.15/0.85	1.60/1.00/0.75	2.10/1.50/1.35				
	WATTS	95/70/50	135/100/75	110/65/55	135/105/90				
	HP	1/60	1/30	1/30	1/20				
G3 TWPSC	VOLTS	115/60/1	115/60/1	115/60/1	115/60/1	115/60/1	115/60/1	115/60/1	115/60/1
	PF	0.87	0.82	0.77	0.78	0.76	0.87	0.85	0.85
	RPM	1,100/900/700	1,100/900/700	1,075/900/700	1,075/900/700	775/650/525	775/650/525	775/650/525	1700/1400/1200
	CFM	230/200/145	320/260/200	410/340/265	570/475/370	840/710/570	1,000/840/680	1,200/1,000/810	1700/1400/1200
	AMPS	0.85/0.40/0.30	0.90/0.50/0.40	0.85/0.50/0.40	1.00/0.75/0.65	1.60/1.20/1.05	1.70/1.40/1.20	1.90/1.45/1.35	4.00/3.15/2.65
	WATTS	85/40/30	85/50/40	75/50/40	90/70/60	140/115/100	170/135/115	190/135/125	360/310/260
	HP	1/60	1/30	1/30	1/20	1/12	1/8	1/6	1/3
G4 TWPSC	VOLTS	115/60/1	115/60/1	115/60/1	115/60/1	115/60/1	115/60/1	115/60/1	MOTOR NOT AVAILABLE
	PF	.087	.087	0.94	0.89	0.79	0.75	0.77	
	RPM	1500/1200/950	1500/1200/950	1,500/1,200/950	1,500/1,200/950	1,100/900/700	1,100/900/700	1,100/900/700	
	CFM	340/255/200	415/320/260	530/480/355	870/680/540	1,180/935/700	1,530/1,220/900	1,560/1,240/920	
	AMPS	.90/.70/.60	1.30/.90/.70	1.85/1.20/.90	2.00/1.35/1.00	3.2/2.05/1.60	4.10/2.80/2.60	4.30/2.90/2.70	
	WATTS	90/75/60	130/95/70	200/130/95	205/130/100	290/205/155	355/290/255	380/300/260	
	HP	1/15	1/12	1/8	1/8	1/4	1/3	1/3	
G5 TWPSC	VOLTS	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	230/50/1	230/50/1	230/50/1	MOTOR NOT AVAILABLE
	PF					0.82	0.93	0.87	
	RPM					680/540/425	680/540/425	680/540/425	
	CFM					700/590/480	830/700/570	1,100/830/680	
	AMPS					0.90/0.35/0.25	0.75/0.45/0.35	0.80/0.50/0.40	
	WATTS					170/65/55	160/90/70	160/110/90	
	HP					1/12	1/8	1/6	
G6 TWPSC	VOLTS	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	230/60/1	230/60/1	230/60/1	MOTOR NOT AVAILABLE
	PF					0.98	0.92	0.97	
	RPM					775/650/525	775/650/525	775/650/525	
	CFM					840/710/570	1,000/840/680	1,200/1,000/810	
	AMPS					0.75/0.35/0.30	0.90/0.50/0.40	0.90/0.55/0.45	
	WATTS					170/80/60	190/105/70	200/125/100	
	HP					1/12	1/8	1/6	
G7 TWSP	VOLTS	230/50/1	230/50/1	230/50/1	230/50/1	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE
	PF	0.63	0.59	0.65	0.62				
	RPM	1,100/900/700	1,100/900/700	1,075/900/700	1,075/900/700				
	CFM	230/200/145	320/260/200	410/340/265	570/475/370				
	AMPS	0.45/0.40/0.35	0.70/0.60/0.56	0.70/0.45/0.40	0.95/0.80/0.70				
	WATTS	65/55/50	95/85/75	105/75/60	135/120/100				
	HP	1/60	1/33	1/30	1/20				
G9 TWPSC HIGH EFFICIENCY	VOLTS	115/60/1	115/60/1	115/60/1	115/60/1	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE	MOTOR NOT AVAILABLE
	PF	0.96	0.95	0.96	0.87				
	RPM	1,100/900/700	1,100/900/700	1,075/900/700	1,075/900/700				
	CFM	230/200/145	320/260/200	410/340/265	570/475/370				
	AMPS	0.50/0.30/0.20	0.55/0.35/0.30	0.50/0.40/0.30	0.80/0.70/0.65				
	WATTS	55/35/25	60/40/30	55/45/35	80/75/70				
	HP	1/30	1/20	1/30	1/15				

NOTE: Medium and low speed rpm is for reference only. Variations will occur depending on manufacture

NOTE: This data based on 0.05-inch external static pressure, the minimum to be used with G4 motors

TWSP — Tap Wound Shaded Pole
TWPSC — Tap Wound Permanent Split Capacitor
PF — Power Factor
AMPS — Full Load Amps
WATTS — Input Watts
HP — Nominal Horsepower

CONTROLS

TABLE 15-2 — Controls for Water and Steam Heating Units

CONTROL DESCRIPTION	FOR USE WITH MODELS AND SIZES	CONTROL NUMBER
Speed Switch Unit Mounted	All	H31
Speed Switch Wall Mounted	D & E (02-06 Sizes) D, E & N (08-18 Sizes)	H02
Speed Switch and Thermostat Wall Mounted	D, E, M & N (02-06 Sizes) D, E, M11, M34, M46 & N (08-18 Sizes)	H04
Speed Switch and Thermostat Unit Mounted	B12, B15, F & H	H06
Speed Switch Unit Mounted And Thermostat Wall Mounted	All	H08

MOTOR CONTROLS — MODELS B, D, E, F & H (02-06) WITH ELECTRIC (TYPE EO) COIL

HEATER POWER SOURCE	208/60/1	240/60/1	277/60/1	208/60/3	240/60/3	480/60/3
CONTROL DESCRIPTION	NO.	NO.	NO.	NO.	NO.	NO.
Single Heat Switch & Motor Switch (heat-off-vent) with Wall Mounted Thermostat	H201	H202	H203	H204	H205	H206
Dual Heat Switch & Motor Switch (off-vent-hi-low) with Wall Mounted Thermostat	H211	H212	H213	H214	H215	H216
Single Heat Switch & Motor Switch (heat-off-vent) with unit mounted thermostats	H171	H172	H173	H174	H175	H176
Dual Heat Switch & Motor Switch (off-vent-hi-low) with unit mounted thermostats	H181	H182	H183	H184	H185	H186

MOTOR CONTROLS — MODELS B, D, E & H (08-18) WITH ELECTRIC (TYPE EO) COIL

HEATER POWER SOURCE	240/60/1	277/60/1	208/60/3	240/60/3	480/60/3
CONTROL DESCRIPTION	NO.	NO.	NO.	NO.	NO.
Dual Heat Switch & Motor Switch (off-vent-hi-low) with Unit Mounted Thermostat	H182	H183	H184	H185	H186

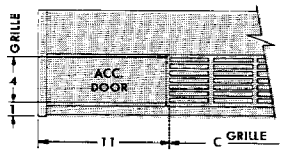
ROUGHING-IN-DIMENSIONS

MODEL F

VERTICAL WALL HUNG

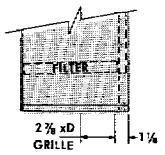
SIZES 02-06

OUTLETS



☐ 1. TOP INTEGRAL GRILLE

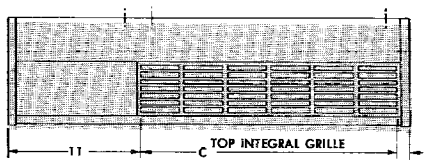
INLETS



☐ 1. BOTTOM LATTICE GRILLE

UNIT SIZE	NOM CFM	NO. FANS	A	B	C	D	E	F
02	200	1	31½	20	19¾	27¾	19¾	17½
03	300	1	39½	28	27¾	35¾	27¾	25½
04	400	2	43½	32	31¾	39¾	31¾	29½
06	600	2	55½	44	43¾	51¾	43¾	41½

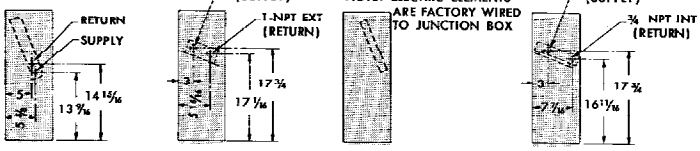
NOTE: LEFT HAND UNIT SHOWN. RIGHT HAND OPPOSITE.



COIL TYPES		CONNECTIONS	
		SUPPLY	RETURN
AO	STD. HOT WATER	⅝ O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	
EO	ELECTRIC	R.H. ONLY	
FO	STEAM DISTRIBUTING	1 - N.P.T. INT.	¾ N.P.T. INT.

HEATING COILS

NOTE: SWEAT ⅝ O.D. TUBES TO FEMALE COIL CONNECTIONS

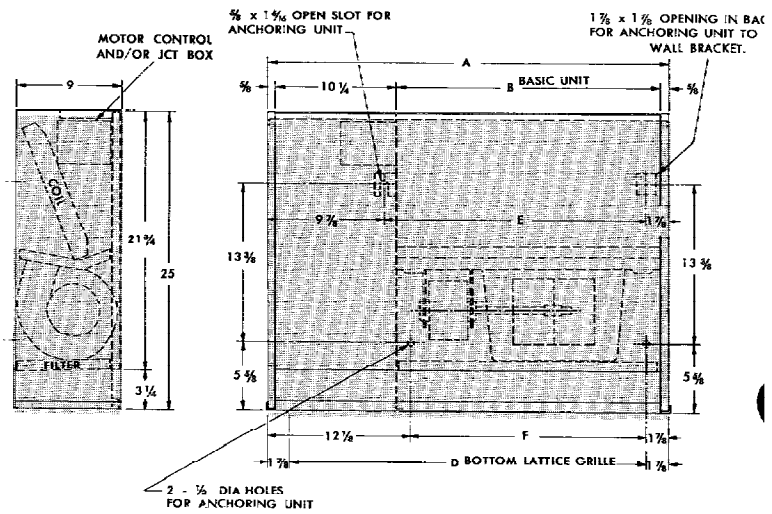


☐ TYPE AO 1-ROW WATER COIL

☐ TYPE BO 1-ROW STEAM COIL

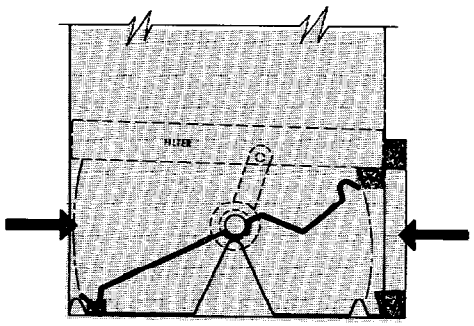
☐ TYPE EO ELECTRIC COIL-AVAILABLE WITH R.H. UNIT ONLY.

☐ TYPE FO 1-ROW STEAM DISTRIBUTING COIL



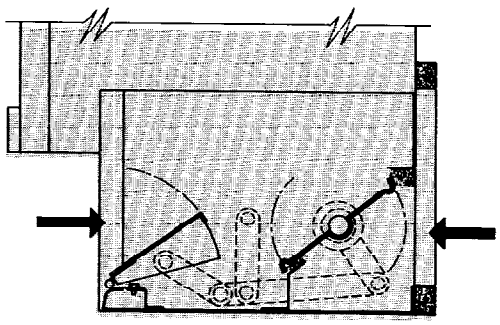
ALL DIMENSIONS APPROXIMATE. CERTIFIED PRINTS AVAILABLE ON REQUEST.

FRESH AIR BASE OPTIONS



FRESH AIR BASE 02-06

0-100% Proportional Outside Air-Return Air Damper available for 02-06 units.



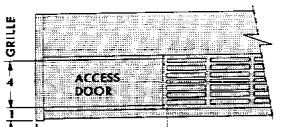
FRESH AIR BASE 08-10

Fresh Air Base with 100% Proportioning Damper available for 08-18 units.

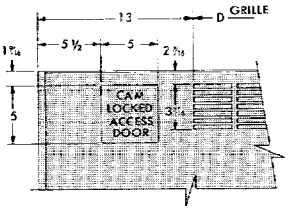
MODEL B

VERTICAL CABINET
SIZES 02-06

OUTLETS

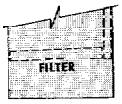


☐ 1. TOP INTEGRAL GRILLE

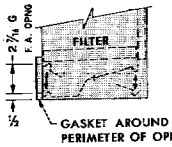


☐ 4. FRONT INTEGRAL GRILLE

INLETS

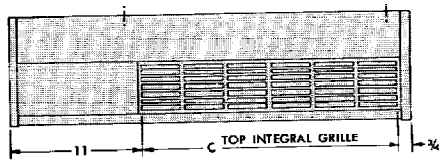


☐ 2. RETURN AIR TOE SPACE



☐ 5. 100% FRESH AIR BACK

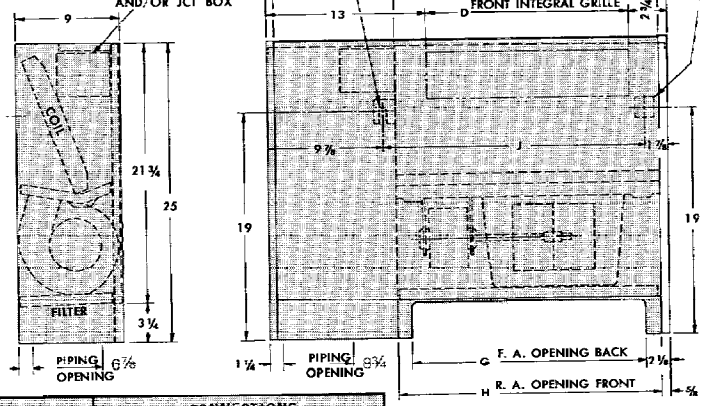
UNIT SIZE	NOM. CFM	NO. FANS	A	B	C	D	G	H	J
02	200	1	31½	20	19¾	15¾	17	19 15/16	19¾
03	300	1	39½	28	27¾	23¾	25	27 15/16	27¾
04	400	2	43½	32	31¾	27¾	29	31 15/16	31¾
06	600	2	55½	44	43¾	39¾	41	43 15/16	43¾



1⅞ x 1⅜ OPENING IN BACK FOR ANCHORING UNIT TO WALL BRACKET.

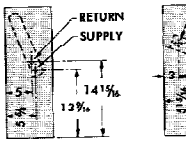
⅝ x 1⅜ OPEN SLOT FOR ANCHORING UNIT

NOTE: LEFT HAND UNIT SHOWN. RIGHT HAND OPPOSITE.

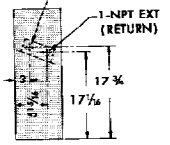


HEATING COILS

NOTE: SWEAT ⅞ O.D. TUBES TO FEMALE COIL CONNECTIONS



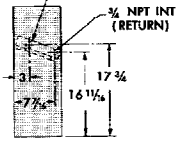
☐ TYPE AO 1-ROW WATER COIL



☐ TYPE BO 1-ROW STEAM COIL

NOTE: ELECTRIC ELEMENTS ARE FACTORY WIRED TO JUNCTION BOX

☐ TYPE EO ELECTRIC COIL-AVAILABLE WITH R.H. UNIT ONLY.

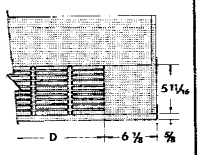


☐ TYPE FO 1-ROW STEAM DISTRIBUTING COIL

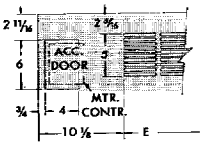
COIL TYPES		CONNECTIONS	
		SUPPLY	RETURN
AO	STD. HOT WATER	⅜ O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	
EO	ELECTRIC	R.H. ONLY	
FO	STEAM DISTRIBUTING	1 - N.P.T. INT.	¾ N.P.T. INT.

VERTICAL CABINET
SIZES 08-18

OUTLETS



☐ 1. TOP INTEGRAL GRILLE

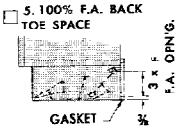


☐ 4. FRONT INTEGRAL GRILLE

INLETS

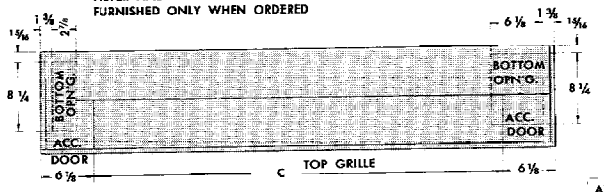
☐ 2. R.A TOE SPACE

☐ 5. 100% F.A. BACK TOE SPACE

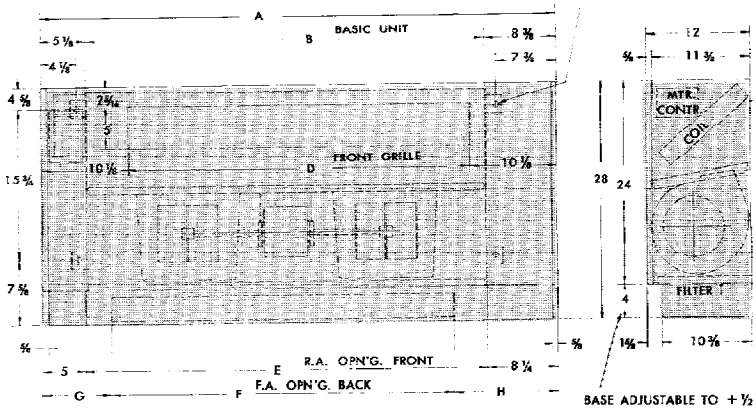


UNIT SIZE	NOM. C.F.M	NO. FANS	A	B	C	D	E	F	G	H
08 10	800 1000	2	60	46½	47¾	39¾	46¾	39	8⅞	12⅛
12	1200	2	72	58½	59¾	51¾	58¾	48⅞	9 15/16	13 3/16
13 18	1300 1800	2	84	70½	71¾	63¾	70¾	58¾	11	14¼

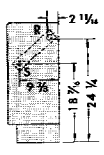
NOTE:
R. H. UNIT AS SHOWN . L. H. UNIT OPPOSITE.
FILTER AND FILTER MT'G. CHANNELS FURNISHED ONLY WHEN ORDERED



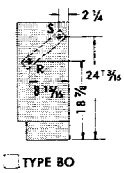
⅝ DIA. 4 HOLES FOR ANCHORING BASIC UNIT



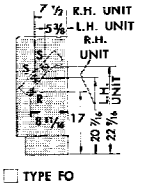
HEATING COILS



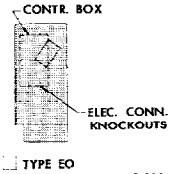
☐ TYPE AO



☐ TYPE BO



☐ TYPE FO



☐ TYPE EO
CONTR. BOX ALWAYS ON R. H. END TYPE E ONLY

COIL TYPES		CONNECTIONS	
		SUPPLY	RETURN
AO	STD. HOT WATER	⅞ O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	
EO	ELECTRIC	R.H. ONLY	
FO	STEAM DISTRIBUTING	1½ N.P.T. INT.	1 - N.P.T. INT.

MODEL H

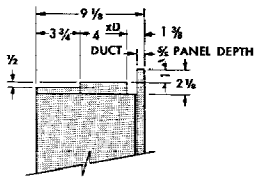
RECESSED FOUR-SIDE OVERLAP

SIZES 02-06

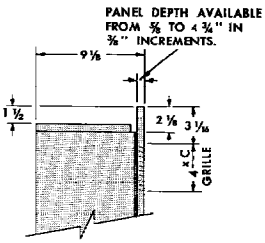
UNIT SIZE	NOM CFM	NO. FANS	A	B	C	D	E	F	G
02	200	1	39	20	15¾	19 11/16	17½	15¾	22
03	300	1	47	28	23¾	27 11/16	25½	23¾	30
04	400	2	51	32	27¾	31 11/16	29½	27¾	34
06	600	2	63	44	39¾	43 11/16	41½	39¾	46

NOTE: E & G DIMENSIONS WILL DIFFER WHEN AN ELECTRIC COIL IS ORDERED. CERTIFIED PRINTS AVAILABLE ON REQUEST.

OUTLETS

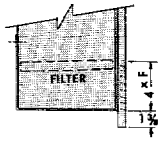


☐ 3. TOP DUCT COLLAR

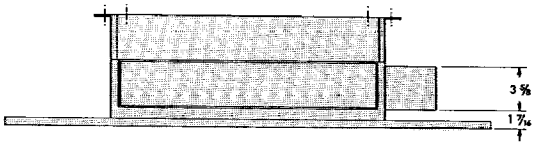


☐ 4. FRONT INTEGRAL GRILLE

INLETS



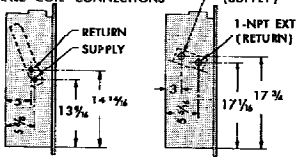
☐ 6. FRONT INTEGRAL GRILLE



COIL TYPES		CONNECTIONS	
		SUPPLY	RETURN
AO	STD. HOT WATER	5/8 O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	
EO	ELECTRIC	R.H. ONLY	
FO	STEAM DISTRIBUTING	1 - N.P.T. INT.	¾ N.P.T. INT.

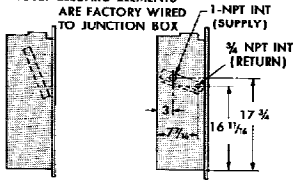
HEATING COILS

NOTE: SWEAT 5/8 O.D. TUBES TO FEMALE COIL CONNECTIONS

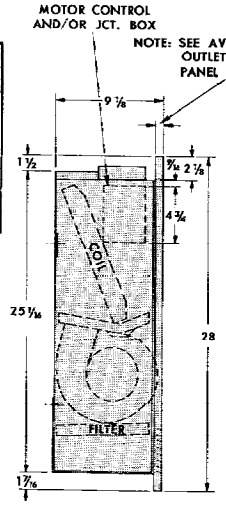


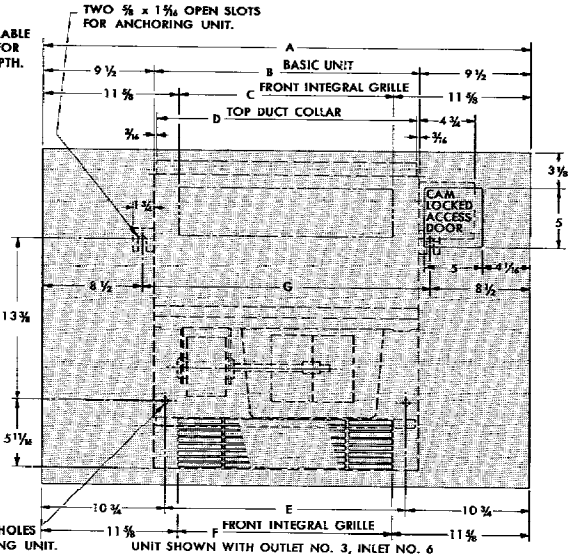
☐ TYPE AO 1-ROW WATER COIL ☐ TYPE BO 1-ROW STEAM COIL

NOTE: ELECTRIC ELEMENTS ARE FACTORY WIRED TO JUNCTION BOX



☐ TYPE EO ELECTRIC COIL-AVAILABLE WITH R.H. UNIT ONLY. ☐ TYPE FO 1-ROW STEAM DISTRIBUTING COIL





RECESSED FOUR-SIDE OVERLAP

SIZES 08-18

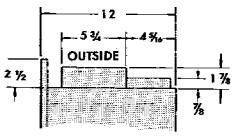
UNIT SIZE	NOM C.F.M	NO. FANS	A	B	C	D	E	F
08 10	800 1000	2	65½	46½	45½	43¾	39	13¼
12	1200	2	77½	58½	57½	55¾	48⅞	14 5/8
13 18	1300 1800	2	89½	70½	69½	67¾	58¾	15⅜

NOTE:
R. H. UNIT AS SHOWN - L. H. UNIT OPPOSITE.
FILTER AND FILTER MT'G. CHANNELS FURNISHED ONLY WHEN ORDERED

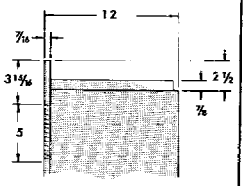
2½" PANEL DEPTH STD. ALSO AVAILABLE IN 5/8" THRU 5 7/8" DEPTH IN 3/8" INCREMENTS.

RECESS OPN'G. (APPROX.)
LENGTH: DIM. A MINUS 2"
HEIGHT: 30¾ MIN.

OUTLETS



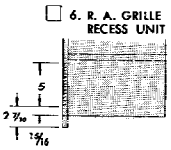
☐ 3. TOP DUCT COLLAR



☐ 4. FRONT INTEGRAL GRILLE

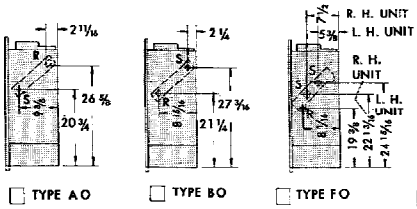
INLETS

☐ 6. R. A. GRILLE RECESS UNIT



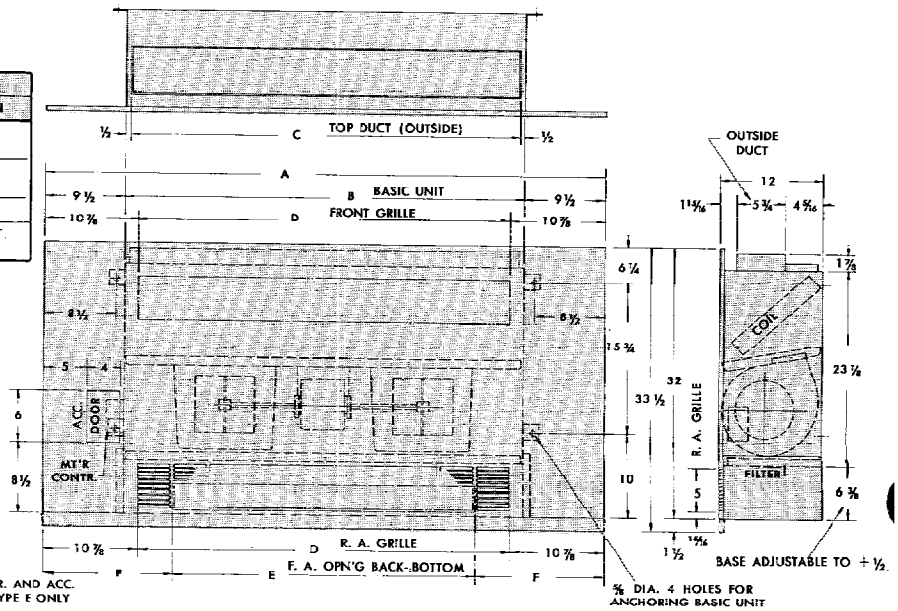
COIL TYPES		CONNECTIONS	
		SUPPLY	RETURN
AO	STD. HOT WATER	7/8 O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	
EO	ELECTRIC	R.H. ONLY	
FO	STEAM DISTRIBUTING	1½ N.P.T. INT.	1 - N.P.T. INT.

HEATING COILS



☐ TYPE AO ☐ TYPE BO ☐ TYPE FO ☐ TYPE EO

CONTR. BOX, MOTOR CONTR. AND ACC. DOOR ALWAYS R. H. END. TYPE E ONLY



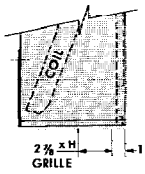
ALL DIMENSIONS APPROXIMATE. CERTIFIED PRINTS AVAILABLE ON REQUEST.

MODEL M

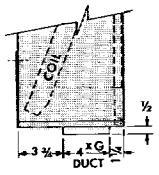
INVERTED WALL MOUNTED
SIZES 02-06

UNIT SIZE	NOM CFM	NO. FANS	A	B	C	D	E	F	G	H
02	200	1	31½	20	19¾	30¼	15¾	19¾	30¼	27¾
03	300	1	39½	28	27¾	38¼	23¾	27¾	38¼	35¾
04	400	2	43½	32	31¾	42¼	27¾	31¾	42¼	39¾
06	600	2	55½	44	43¾	54¼	39¾	43¾	54¼	51¾

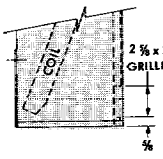
OUTLETS



☐ 1. BOTTOM LATTICE GRILLE

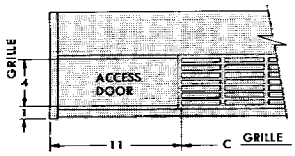


☐ 3. BOTTOM DUCT COLLAR

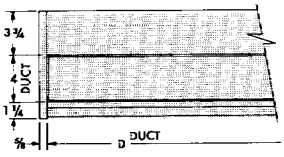


☐ 4. FRONT LATTICE GRILLE

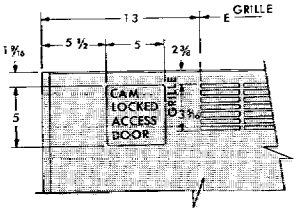
INLETS



☐ 1. TOP INTEGRAL GRILLE

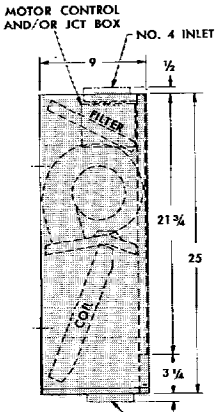


☐ 4. TOP DUCT COLLAR (½" HIGH)



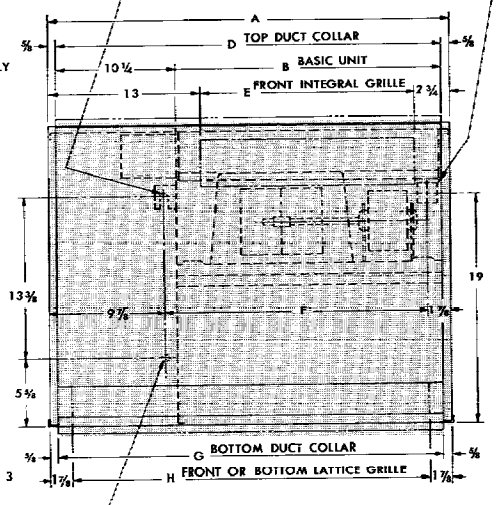
☐ 6. FRONT INTEGRAL GRILLE

NOTE: LEFT HAND UNIT SHOWN. RIGHT HAND OPPOSITE.



⅝ x 1⅝ OPEN SLOT FOR ANCHORING UNIT

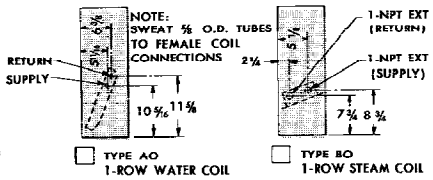
1⅜ x 1⅜ OPENING IN BACK FOR ANCHORING UNIT TO WALL BRACKET.



UNIT SHOWN WITH OUTLET NO. 1, INLET NO. 1

½ DIA HOLE FOR ANCHORING UNIT

HEATING COILS



☐ TYPE AO 1-ROW WATER COIL

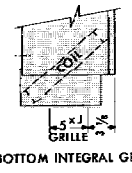
☐ TYPE BO 1-ROW STEAM COIL

COIL TYPES		CONNECTIONS	
		SUPPLY	RETURN
AO	STD. HOT WATER	⅝ O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	

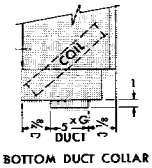
INVERTED WALL MOUNTED
SIZES 08-18

UNIT SIZE	CFM	NO OF FANS	A	B	C	D	E	F	G	H	J
08 10	800 1000	2	60	46½	47¾	42	39¾	48½	42	45¾	39¾
12	1200	2	72	58½	59¾	54	51¾	60½	54	57¾	51¾
13 18	1300 1800	2	84	70½	71¾	66	63¾	72½	66	69¾	63¾

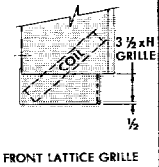
OUTLETS



☐ 1. BOTTOM INTEGRAL GRILLE

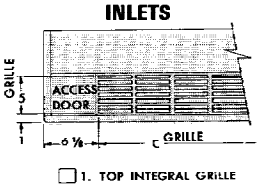


☐ 3. BOTTOM DUCT COLLAR

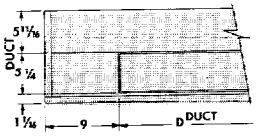


☐ 4. FRONT LATTICE GRILLE

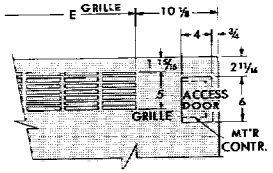
INLETS



☐ 1. TOP INTEGRAL GRILLE

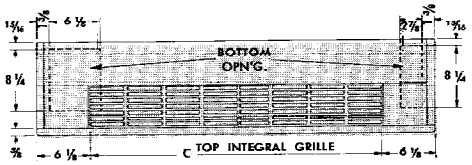


☐ 4. TOP DUCT COLLAR (1" HIGH)



☐ 6. FRONT INTEGRAL GRILLE

COIL TYPES		CONNECTIONS	
		SUPPLY	RETURN
AO	STD. HOT WATER	⅞ O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	

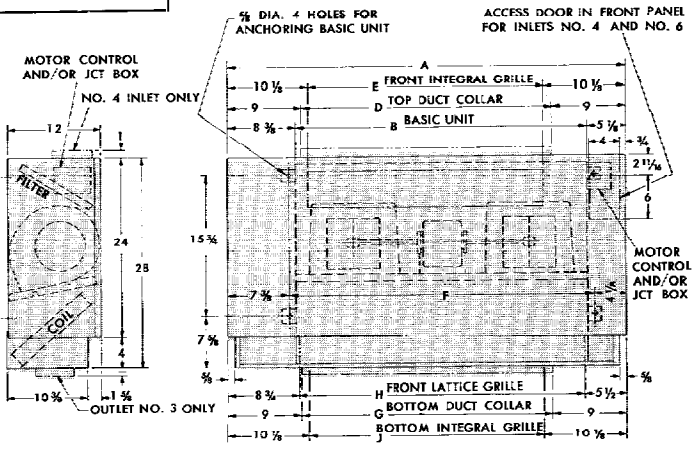


⅝ DIA. 4 HOLES FOR ANCHORING BASIC UNIT

ACCESS DOOR IN FRONT PANEL FOR INLETS NO. 4 AND NO. 6

MOTOR CONTROL AND/OR JCT BOX

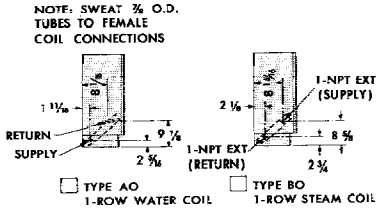
NO. 4 INLET ONLY



NOTE: LEFT HAND UNIT SHOWN. RIGHT HAND OPPOSITE.

UNIT SHOWN WITH OUTLET NO. 1, INLET NO. 2

HEATING COILS



☐ TYPE AO 1-ROW WATER COIL

☐ TYPE BO 1-ROW STEAM COIL

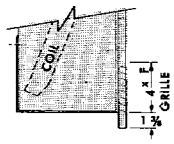
MODEL N

INVERTED RECESSED FOUR-SIDE OVERLAP

SIZES 02-06

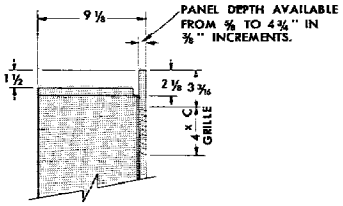
UNIT SIZE	NOM. CFM	NO. FANS	A	B	C	F	G
02	200	1	39	20	15¾	15¾	22
03	300	1	47	28	23¾	23¾	30
04	400	2	51	32	27¾	27¾	34
06	600	2	63	44	39¾	39¾	46

OUTLETS

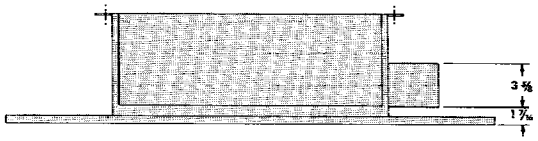


☐ 4. FRONT INTEGRAL GRILLE

INLETS

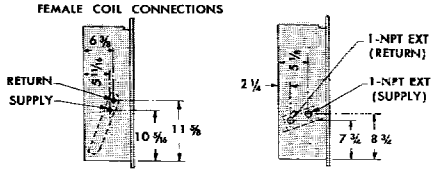


☐ 6. FRONT INTEGRAL GRILLE



HEATING COILS

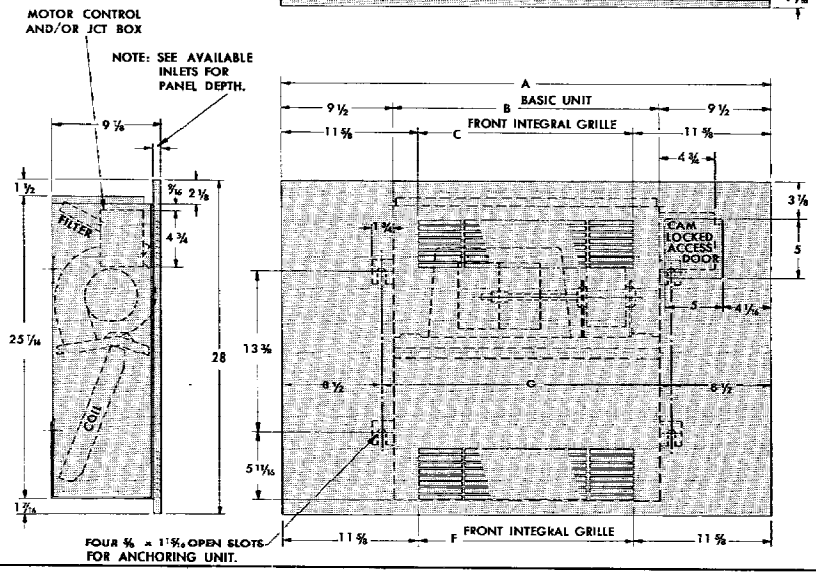
NOTE: SWEAT ⅞ O.D. TUBES TO FEMALE COIL CONNECTIONS



☐ AO 1-ROW WATER COIL

☐ BO 1-ROW STEAM COIL

COIL TYPES		CONNECTIONS	
		SUPPLY	RETURN
AO	STD. HOT WATER	⅝ O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	



INVERTED RECESSED FOUR-SIDE OVERLAP

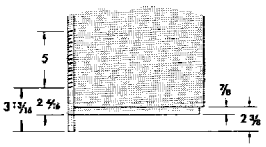
SIZES 08-18

UNIT SIZE	NOM. C.F.M	NO. FANS	A	B	C
08 10	800 1000	2	65½	46½	43¾
12	1200	2	77½	58½	55¾
13 18	1300 1800	2	89½	70½	67¾

NOTE:
R. H. UNIT AS SHOWN - L. H. UNIT OPPOSITE.
FILTER AND FILTER MT'G. CHANNELS FURNISHED ONLY WHEN ORDERED
RECESS. OPN'G. (APPROX.)
LENGTH: DIM. A MINUS 2"
HEIGHT: 30¾" MIN.

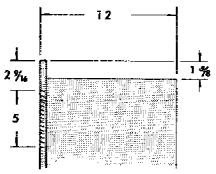
2½" PANEL DEPTH STD. ALSO AVAILABLE IN ⅝" THRU 5⅞" DEPTH IN ⅜" INCREMENTS.

OUTLETS



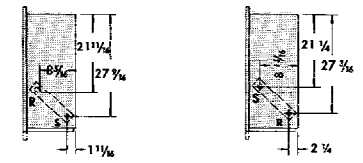
☐ 4. FRONT INTEGRAL GRILLE

INLETS



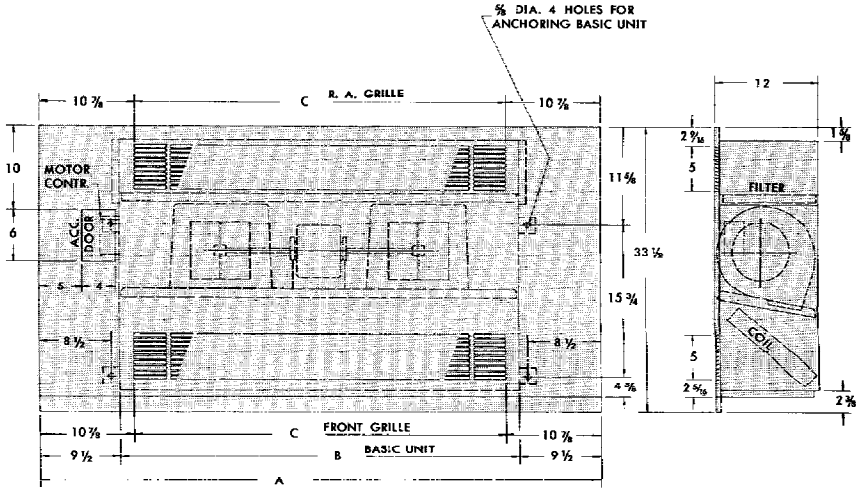
☐ 6. R. A. GRILLE RECESS UNIT

HEATING COILS



☐ TYPE AO ☐ TYPE BO

COIL TYPES		CONNECTIONS	
		SUPPLY	RETURN
AO	STD. HOT WATER	⅞ O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	

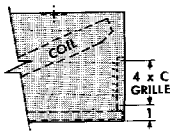


ALL DIMENSIONS APPROXIMATE. CERTIFIED PRINTS AVAILABLE ON REQUEST.

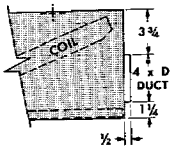
MODEL D

HORIZONTAL CABINET
SIZES 02-06

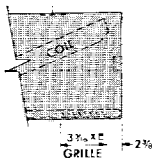
OUTLETS



☐ 1. FRONT INTEGRAL GRILLE

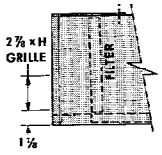


☐ 3. FRONT DUCT COLLAR

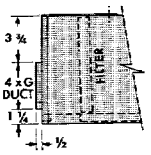


☐ 4. BOTTOM INTEGRAL GRILLE

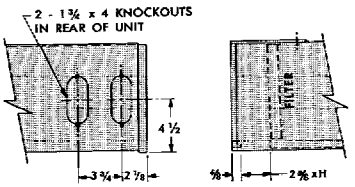
INLETS



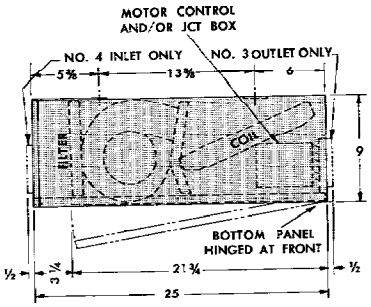
☐ 1. BACK LATTICE GRILLE



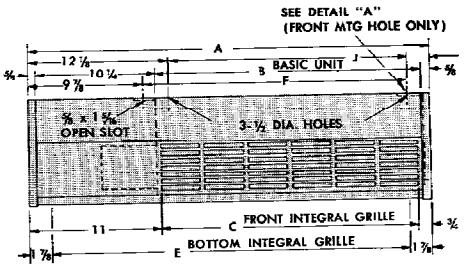
☐ 4. BACK DUCT COLLAR



☐ 6. BOTTOM LATTICE GRILLE



NOTE: LEFT HAND UNIT SHOWN. RIGHT HAND OPPOSITE.

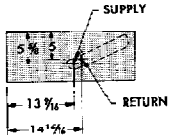


UNIT SHOWN WITH OUTLET NO. 1, INLET NO. 1

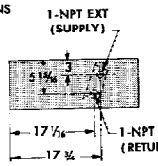
UNIT SIZE	NOM CFM	NO. FANS	A	B	C	D	E	F	G	H	J
02	200	1	31½	20	19¾	30¼	27¾	19¾	30¼	27¾	17½
03	300	1	39½	28	27¾	38¼	35¾	27¾	38¼	35¾	25½
04	400	2	43½	32	31¾	42¼	39¾	31¾	42¼	39¾	29½
06	600	2	55½	44	43¾	54¼	51¾	43¾	54¼	51¾	41½

HEATING COILS

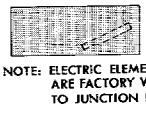
NOTE: SWEAT ⅝ O.D. TUBES TO FEMALE COIL CONNECTIONS



☐ TYPE AO 1-ROW WATER COIL

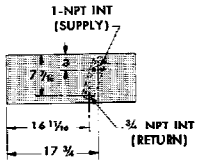


☐ TYPE BO 1-ROW STEAM COIL



NOTE: ELECTRIC ELEMENTS ARE FACTORY WIRED TO JUNCTION BOX

☐ TYPE EO ELECTRIC COIL-AVAILABLE WITH R.H. UNIT ONLY.

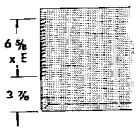


☐ TYPE FO 1-ROW STEAM DISTRIBUTING COIL

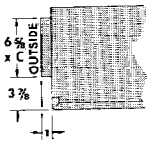
COIL TYPES		CONNECTIONS SUPPLY	CONNECTIONS RETURN
AO	STD. HOT WATER	⅝ O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	
EO	ELECTRIC	R.H. ONLY	
FO	STEAM DISTRIBUTING	1 - N.P.T. INT.	¾ N.P.T. INT.

HORIZONTAL CABINET
SIZES 08-18

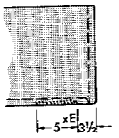
OUTLETS



☐ 1. FRONT INTEGRAL GRILLE

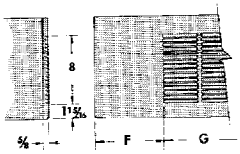


☐ 3. FRONT DUCT COLLAR

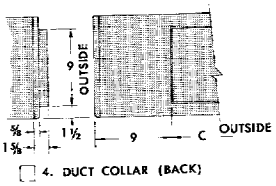


☐ 4. BOTTOM INTEGRAL GRILLE

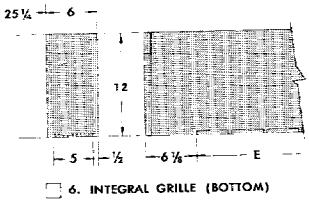
INLETS



☐ 1. INTEGRAL GRILLE (BACK)



☐ 4. DUCT COLLAR (BACK)

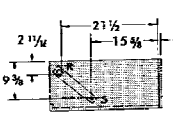


☐ 6. INTEGRAL GRILLE (BOTTOM)

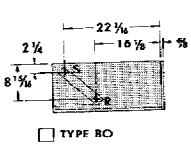
COIL TYPES		CONNECTIONS SUPPLY	CONNECTIONS RETURN
AO	STD. HOT WATER	⅞ O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	
EO	ELECTRIC	R.H. ONLY	
FO	STEAM DISTRIBUTING	1½ N.P.T. INT.	1 - N.P.T INT.

UNIT SIZE	NOM. C.F.M.	NO. FANS	A	B	C	D	E	F	G
08 10	800 1000	2	60	46½	42	39¾	47¾	8⅞	42¼
12	1200	2	72	58½	54	51¾	59¾	8½	55
13 18	1300 1800	2	84	70½	66	63¾	71¾	8⅛	67¾

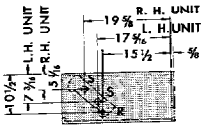
HEATING COILS



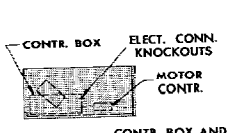
☐ TYPE AO



☐ TYPE BO

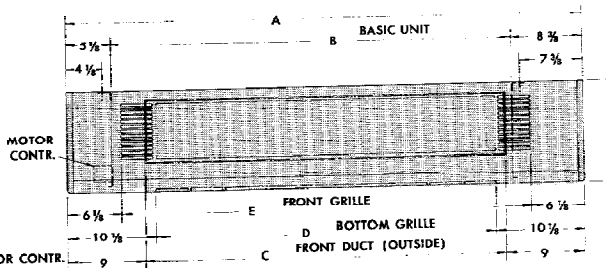


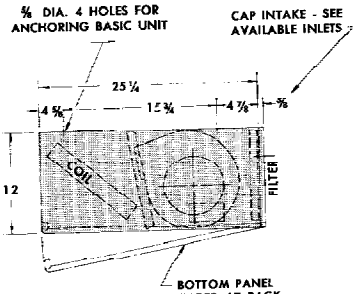
☐ TYPE FO



☐ TYPE EO

CONTR. BOX AND MOTOR CONTR. ALWAYS R. H. END. TYPE F ONLY





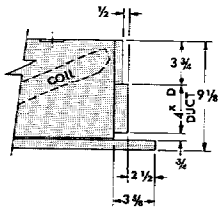
ALL DIMENSIONS APPROXIMATE. CERTIFIED PRINTS AVAILABLE ON REQUEST.

MODEL E

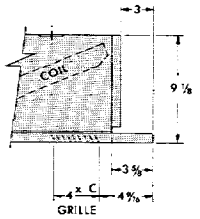
HORIZONTAL RECESSED

SIZES 02-06

OUTLETS

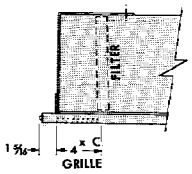


☐ 3. FRONT DUCT COLLAR



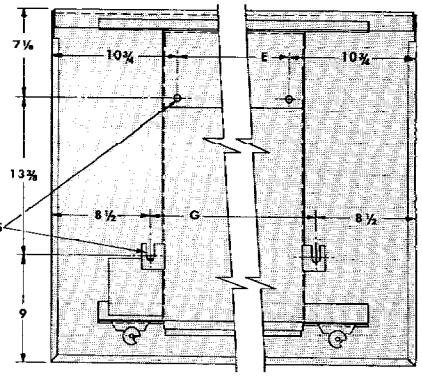
☐ 4. BOTTOM INTEGRAL GRILLE

INLETS



☐ 6. BOTTOM INTEGRAL GRILLE

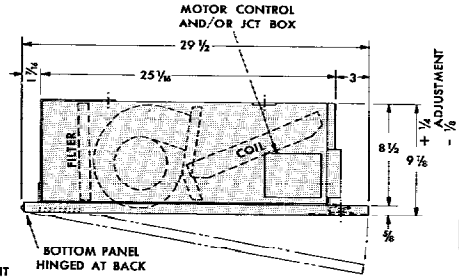
UNIT SIZE	NOM. CFM	NO. FANS	A	B	C	D	E	G
02	200	1	39	20	15¾	19 1/16	17½	22
03	300	1	47	28	23¾	27 1/16	25½	30
04	400	2	51	32	27¾	31 1/16	29½	34
06	600	2	63	44	39¾	43 1/16	41½	46

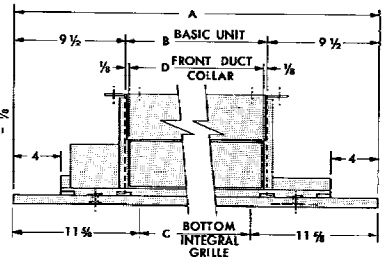


TWO ½ DIA. HOLES AND TWO ⅝ x 1⅛ OPEN SLOTS FOR ANCHORING UNIT.

NOTE: LEFT HAND UNIT SHOWN. RIGHT HAND OPPOSITE.

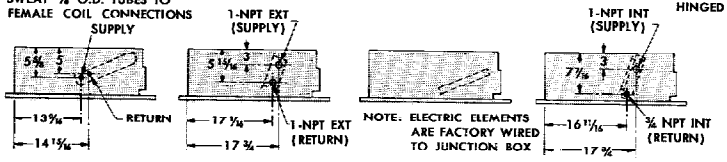
NOTE: E & G DIMENSIONS WILL DIFFER WHEN AN ELECTRIC COIL IS ORDERED. CERTIFIED PRINTS AVAILABLE ON REQUEST.





HEATING COILS

NOTE: SWEAT ⅝ O.D. TUBES TO FEMALE COIL CONNECTIONS



☐ TYPE AO 1-ROW WATER COIL

☐ TYPE BO 1-ROW STEAM COIL

☐ TYPE EO ELECTRIC COIL-AVAILABLE WITH R.H. UNIT ONLY.

☐ TYPE FO 1-ROW STEAM DISTRIBUTING COIL

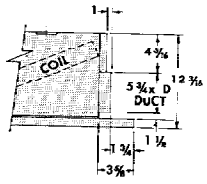
COIL TYPES		CONNECTIONS	
		SUPPLY	RETURN
AO	STD. HOT WATER	⅝ O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	
EO	ELECTRIC	R.H. ONLY	
FO	STEAM DISTRIBUTING	1 - N.P.T. INT.	¾ N.P.T. INT.

UNIT SHOWN WITH OUTLET NO. 3, INLET NO. 6

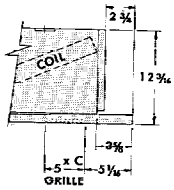
HORIZONTAL RECESSED

SIZES 08-18

OUTLETS

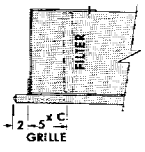


☐ 3. FRONT DUCT COLLAR



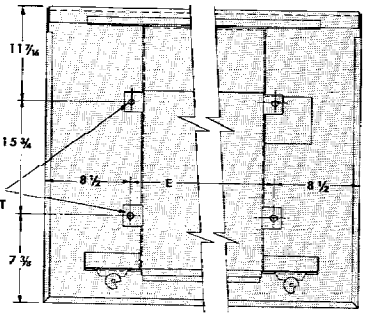
☐ 4. BOTTOM INTEGRAL GRILLE

INLETS



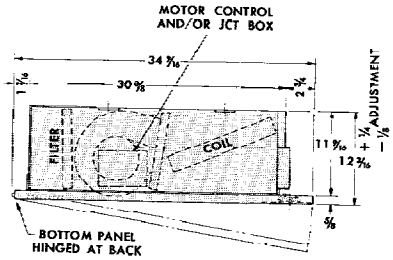
☐ 6. BOTTOM INTEGRAL GRILLE

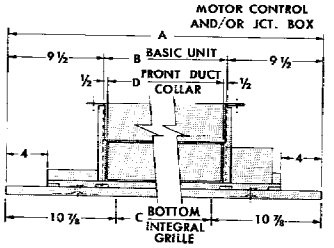
UNIT SIZE	CFM	NO OF FANS	A	B	C	D	E
08 10	800 1000	2	65½	46½	43¾	45½	48½
12	1200	2	77½	58½	55¾	57½	60½
13 18	1300 1800	2	89½	70½	67¾	69½	72½



⅝ DIA. 4 HOLES FOR ANCHORING BASIC UNIT

NOTE: LEFT HAND UNIT SHOWN. RIGHT HAND OPPOSITE.

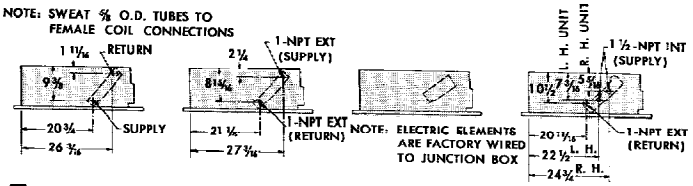




UNIT SHOWN WITH OUTLET NO. 3, INLET NO. 6

HEATING COILS

NOTE: SWEAT ⅝ O.D. TUBES TO FEMALE COIL CONNECTIONS



☐ TYPE AO 1-ROW WATER COIL

☐ TYPE BO 1-ROW STEAM COIL

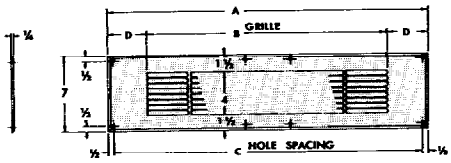
☐ TYPE EO ELECTRIC COIL-AVAILABLE WITH R.H. UNIT ONLY.

☐ TYPE FO 1-ROW STEAM DISTRIBUTING COIL

COIL TYPES		CONNECTIONS	
		SUPPLY	RETURN
AO	STD. HOT WATER	⅞ O.D. SWEAT	
BO	STD. CAP. STEAM	1 - N.P.T. EXT.	
EO	ELECTRIC	R.H. ONLY	
FO	STEAM DISTRIBUTING	1½ N.P.T. INT.	1 - N.P.T. INT.

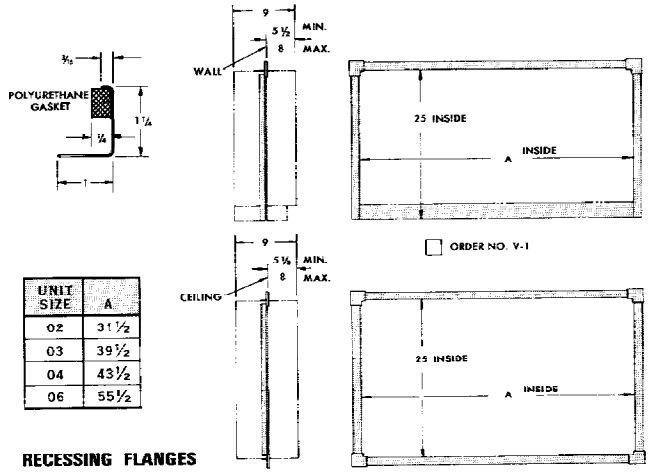
ACCESSORIES

FOR SIZES 02-06



DISCHARGE GRILLES

UNIT SIZE	ORDER NO. T-5			
	A	B	C	D
02	27	19¾	13-13	3⅝
03	35	27¾	12-10-12	3⅝
04	39	31¾	13-12-13	3⅝
06	51	43¾	13-12-12-13	3⅝

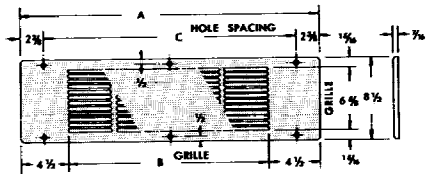


UNIT SIZE	A
02	31½
03	39½
04	43½
06	55½

RECESSING FLANGES

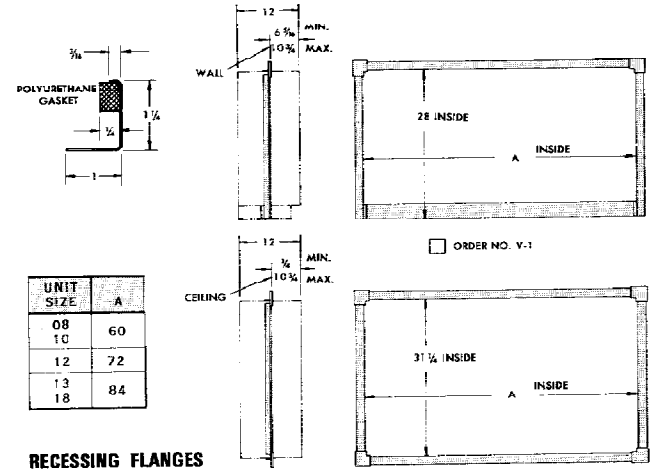
RECESSING FLANGES ARE DESIGNED FOR ATTACHING TO CABINET UNITS TO OVERLAP THE RECESS OPENING. ORDER NO. V-1 IS USED ON MODEL B CABINET UNITS. ORDER NO. V-2 IS USED WITH CEILING MODEL D-46 AND INVERTED WALL MOUNTED MODEL M-46

FOR SIZES 08-18



DISCHARGE GRILLES

UNIT SIZE	ORDER NO. T-5		
	A	B	C
08 10	52¾	43¾	4 12.00
12	64¾	55¾	5 12.00
13 18	76¾	67¾	6 12.00



UNIT SIZE	A
08 10	60
12	72
13 18	84

RECESSING FLANGES

RECESSING FLANGES ARE DESIGNED FOR ATTACHING TO CABINET UNITS TO OVERLAP THE RECESS OPENING. ORDER NO. V-1 IS USED ON MODEL B CABINET UNITS. ORDER NO. V-2 IS USED WITH CEILING MODEL D-46 AND M-46.

MECHANICAL SPECIFICATIONS

BASIC UNIT — Includes chassis, coil, fanboard, fanwheel(s), housing(s), motor, and insulation. Chassis is galvanized steel wrap-around structural frame with all edges flanged. Insulation is faced, heavy density glass fiber.

VERTICAL CABINET MODELS — 16-gauge steel front panels and 18-gauge steel end and top panels have channel-formed edges around entire panel perimeters. Front panel insulated over entire coil section. Integral, stamped outlet grilles have 15° deflection from vertical. Stamped lattice discharge grilles on inverted airflow models. Access door on coil connection side of unit. Front panel removable without tools.

VERTICAL RECESSED MODELS — 16-gauge steel, four-side overlap front panels, with M-shaped stiffener running entire panel length as standard. Integral, stamped, inlet and outlet grilles have 15° downward deflection. Front panel insulated over entire coil section. Front camlocked access doors on righthand side of unit. Front panel removed with two screws. Panel depths from 5/8-inch to 5 7/8-inches in 800-1800 cfm units.

HORIZONTAL CABINET MODELS — 18-gauge steel panels. Bottom and end panels have channel-formed edges around entire panel perimeter. Integral, stamped outlet grilles have 15°downward deflection. Stamped lattice inlet grilles. Bottom panel hinged at front and camlocked at back.

HORIZONTAL RECESSED MODELS — 18-gauge steel, removable, four-side overlap bottom panel adjustable 3/8-inch with full length, piano-type hinge at back and camlocks at front.

CABINET FINISH — All cabinet parts cleaned, bonderized, phosphatized, and painted with light grey baked-on enamel finish as standard. Optional baked-on enamel in eight decorator colors (chestnut brown, forest green, platinum grey, redwood, pale gold, flat black, bronze tone, or shell white) are available. Standard and optional finish meet Corps of Engineers specifications CE301.37 (salt spray test).

WATER COILS — 5/8-inch OD seamless copper tubes mechanically bonded to configured aluminum fins with continuous fin collars and sleeved coil end supports. Maximum working pressure 300 psig, factory burst test 450 psig (air), and leak test 300 psig (air under water). Maximum entering water temperature 275 F. Supply and return connections on same side of units on all models and sizes.

STEAM COILS — 1-inch OD seamless copper tubes mechanically bonded to configurated aluminum fins with continuous fin collars and sleeved coil end supports. Maximum working pressure 75 psig for Type B steam coil, and 100 psig on Type F steam distributing coil. Factory leaktest 250 psig (air under water). Maximum entering steam temperature 325 F for standard coil (Type B) and 400 F for steam distributing coil (Type F). Steam distributing coils have cast iron headers. Supply and return connections on same side of units on all models and sizes.

ELECTRIC HEATING COILS — Hydronic type finned-tube construction with resistance elements inserted in tubes on 200-600 cfm units; spiral sheath type on 800-1800 cfm units. Units factory wired with unit mounted heat switch, magnetic contactors, high temperature cutout safety control, and fan override thermostat.

FANS — Fan wheels centrifugal, forward-curved, double width of non-corrosive, molded, fiberglass-reinforced thermo-plastic material on all units except electric heat and inverted airflow models which use aluminum. Fan housings of formed sheet metal on 200-600 cfm units; 800-1800 cfm units have end caps made of non-corrosive molded, fiberglass reinforced thermoplastic material, and fan scrolls of galvanized steel.

MOTORS — All motors have integral thermal overload protection and start at 87 percent of rated voltage. Motors operate satisfactorily at 90 percent of rated voltage on all speed settings and at 10 percent over voltage without undue magnetic noise. Temperature rise by winding resistance method does not exceed 60 C (shaded pole motors) and 50 C (PSC motors) on high speed. All motors factory run tested assembled in unit prior to shipping. Motor cords quickly detachable at junction box by locking prong connector.

FILTERS — Removable from vertical cabinet models without removing front panel; from horizontal units by pivoting hinged bottom panel. 1-inch woven glass filters standard. Options include 1/2-inch permanent, cleanable aluminum mesh; 1/2-inch renewable media in permanent aluminum frame; and 1-inch replaceable media of woven glass fiber with 1-inch permanent aluminum frame.

ELECTRICAL PERFORMANCE — All cataloged models wired in accordance with National Electric Code. Option, Underwriters' Laboratories, Inc. listed. Junction box for motor cord provided unless otherwise specified.

ACCESSORIES

ALUMINUM WALL BOXES — Coated with methacrylite resin lacquer. (Anodized optional.) 200-600 cfm, sizes have stamped integral eliminators and galvanized, wire mesh insect screen. 800-1200 cfm sizes heavy gauge aluminum with W-shaped, eliminator type vertical louvers.

DISCHARGE GRILLE PANELS — Stamped 18-gauge galvanized steel (02-06); stamped without access door (08-18).

UNIT LEVELERS — Refrigerator type bolts, available on vertical models B, H, N, and M46 (200-600 cfm).

RECESSING FLANGES — 18-gauge steel flanges for recessing vertical cabinet and horizontal cabinet models into wall or ceiling.

MOTOR STARTERS — Isolates unit from electric power source for maintenance. Thermal overload device protects motor. Overload mechanism reset by moving toggle switch to "off" and then "on" position (200-600 cfm).

TRANSFORMERS — Totally enclosed transformers with Class F insulation to step down power voltage to 115 volts for motor-control circuit. Transformers factory mounted.

TAMPERPROOF ACCESS DOOR — Allen wrench operated camlock device. Vertical cabinet (200-600 cfm).

TAMPERPROOF FRONT PANEL — Key operated locking-device. Vertical cabinet (200-600 cfm).

SUBBASE — 18-gauge steel in heights of 2 to 6-inches in 1-inch increments (vertical cabinet, 200-600 cfm).

EXTENDED MOTOR OILERS — Plastic tubes terminate beneath top discharge grille of vertical cabinet models with top discharge grilles (200-600 cfm). Tube openings are covered.

The Trane Company
Commercial Systems Group
3600 Pammel Creek Road
La Crosse, WI 54601-7599

Supersedes CAB-DS-2-584
CAB-CS-2 386
File No. PL-TD-CAB-000-DS-2-586