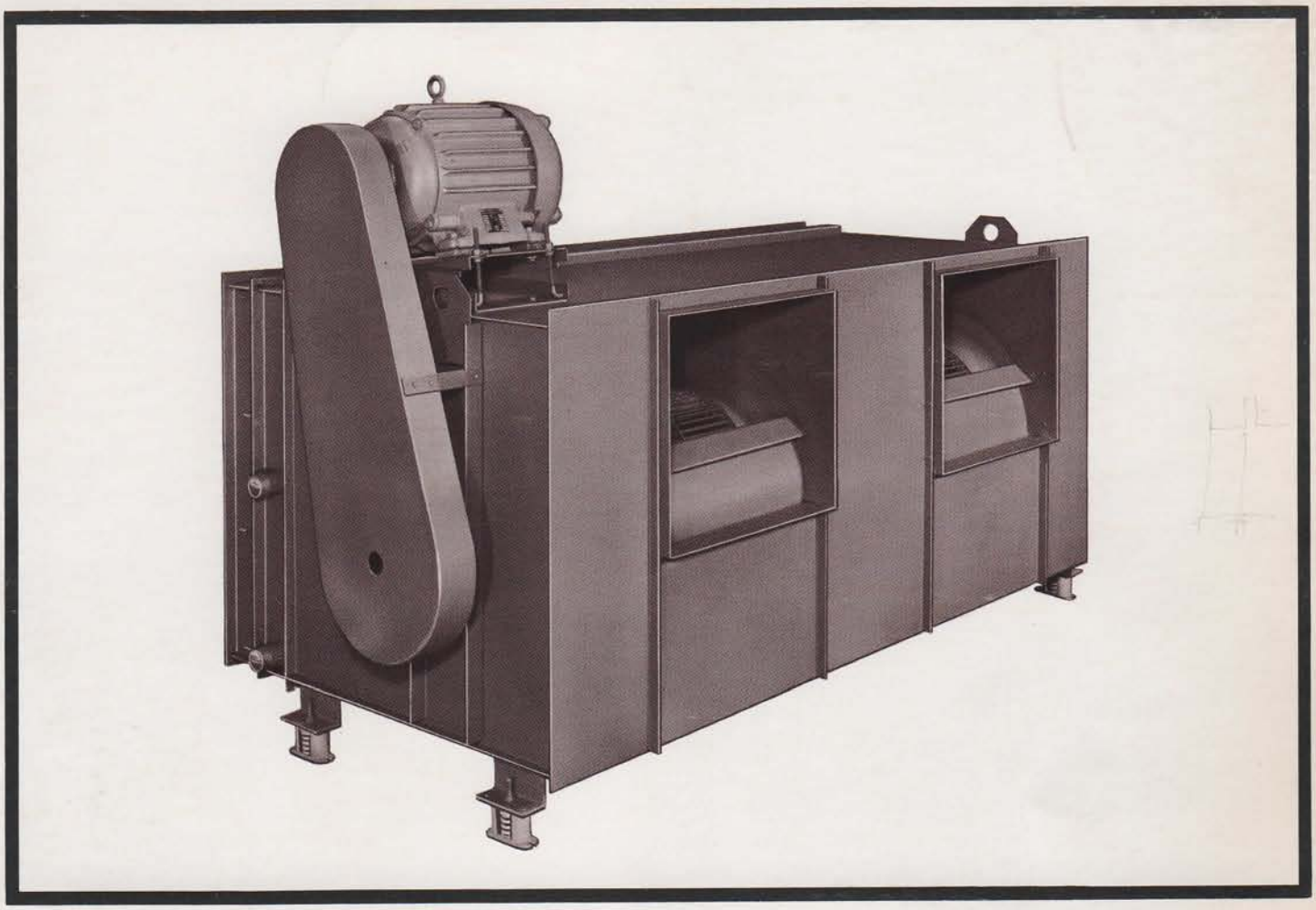
SHELDONS



Heating and Ventilating Units

Catalogue No. 1031

CONTENTS

INDEX

Sheldons Engineering. *Leaders in fan technology*

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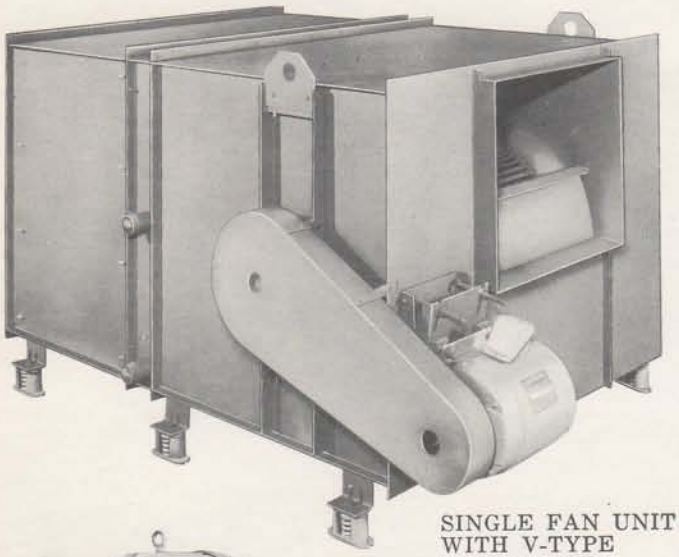
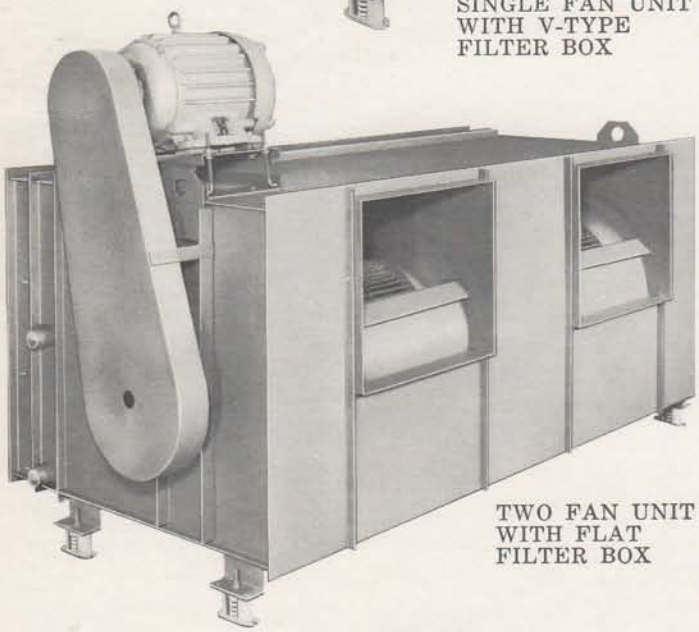
HORIZONTAL AND VERTICAL HEATING AND VENTILATING UNITS



SINGLE FAN UNIT WITH V-TYPE FILTER BOX



TWO FAN UNIT WITH FLAT FILTER BOX

DOUBLE WIDTH TYPE F FAN

DOUBLE WIDTH TYPE B FAN

THE STANDARD BASIC DESIGN of the various component parts provides combinations which can be selected for any heating and ventilating requirements. A wide variety of arrangements is available. The horizontal arrangement is more common. A base section incorporating a plenum and heating coil in conjunction with a standard fan head results in a vertical unit. The various combinations which may be used are outlined on Page 22. Units larger than the standard sizes covered in this catalogue are available on request. THE MULTI-ZONE UNIT provides individual zone control utilizing a single central station unit. An internal by-pass is used to supply zones requiring a lower temperature.

Standard Z-clips are used for both floor mounting and suspended units. Floor legs are available in addition for both horizontal and vertical arrangements. Flanges on the component parts are turned outward so that they are fitted directly to the coil section.

THE FAN HEAD may use either Sheldon Type "F" fans with forward curved blades or the Type "B" fan with backward blades. The forward-curved blade delivers the air at a relatively low running speed. This in itself does not result in low air noise, but in many cases the low operating speed is preferred in order to minimize the mechanical noise associated with higher rotative speeds. The backward-bladed "B" fans features the well-known limiting horsepower characteristic which eliminates the possibility of overloading the motor. All Sheldon fans for H & V units are balanced statically and dynamically on one of three electronic balancing machines. This fan head section may be used on a return air system, as fresh air supply or as an exhauster in place of centrifugal fans.

BEARINGS

SKF permanently lubricated pillow block ball bearings are standard on all H & V cabinets. Other bearings may be supplied if specified.

INSULATION

These units may be insulated with standard ½" or 1" fibreglass insulation. This is coated insulation that will not spall off at any normal air velocities. Fan head insulation has the added benefit that it results in sound attenuation of about four decibels on the downstream side of the fan. Insulation is optional on the draw-through units and is standard on the multi-zone units.

THE BELT GUARD is removable. The maximum projection of the guard on any Sheldon unit is given in the dimension tables.

ACCESSORIES

MIXING BOXES are available as standard style or in combination as a filter-mixing box. The space-saving combination box may use either inlet for fresh or re-circulating air.

THE EVEN-TEMP MIXING BOX can be used in conjunction with the H & V units where minimum stratification of air is a necessity. This is fully described page 23.

FILTERS of several types are offered as standard equipment. Angle filter boxes are used to provide increased filter area; the flat filters are for high velocity types and lower capacities. All filter boxes are designed to accommodate standard filter sizes.

AN ACCESS SPACE may be provided for access to the coils or for the installation of control equipment. It may be provided with access at one end only or at both ends.

DAMPERS are available as face and by-pass dampers, face dampers only, or by-pass dampers only. The H & V units are offered with the internal by-pass as standard. CUT-OFF DAMPERS are sometimes installed with the Type "F" wheel for use on start-up to prevent motor overload. They can be left in a partially closed position when operating at low capacities. This damper control is used when operating in the area indicated at the top of each of the "F" fan rating tables. PROPORTIONING TYPE DAMPERS are available and should always be installed downstream from the heating coil.

VIBRATION ISOLATION

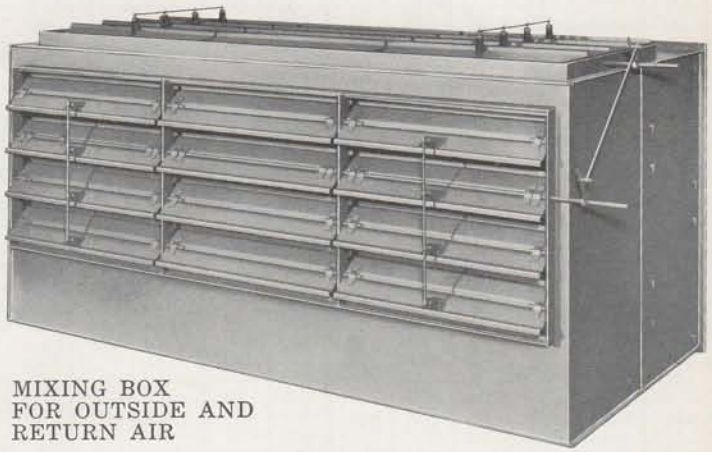
Spring isolators may be used for ceiling suspension or floor mounting of units as illustrated. Rubber-in-shear mounts are also used for hanger or floor mountings. One type of rubber-and-cork mounting is shown in conjunction with the adjustable motor base.

DISCHARGE COWLS

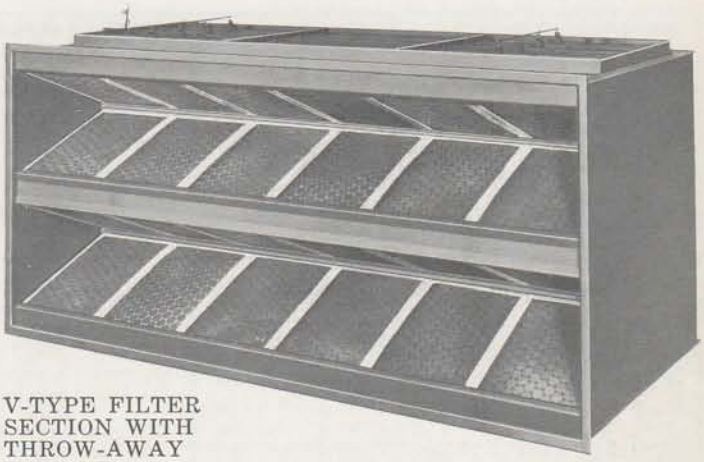
Standard discharge cowls are available for H & V units with 45° and 90° discharge elbows. Where directional controls are required a swivel elbow provides adjustment through 360°. This may be fitted with one or two sets of directional outlet deflectors.

HUMIDIFIER

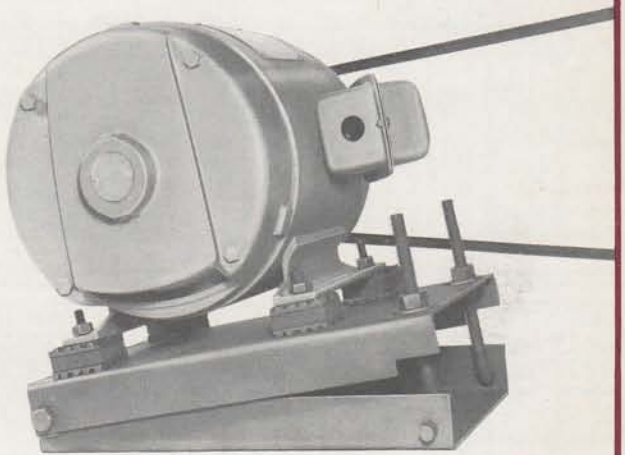
The mist-type fan head humidifier is offered as standard equipment on H & V units. It will result in moderate humidification. Where a higher rate of humidification is required it is recommended that either a steam grid humidifier or a steam pan humidifier be used. The steam grid humidifier is used primarily for process applications. The pan-type humidifier consists of a pan, copper tubing, float valve, make-up, overflow and drain connections.



MIXING BOX
FOR OUTSIDE AND
RETURN AIR



V-TYPE FILTER
SECTION WITH
THROW-AWAY
FILTERS



ADJUSTABLE MOTOR BASE FOR
CORRECT BELT ALIGNMENT

TYPE "F" FAN RATINGS
FOR HEATING AND VENTILATING UNITS

SIZE 1 H 10 — **OUTLET AREA 1.14 SQ FT** — **1 SIZE 100 FAN**

C.F.M.	Outlet Velocity	¼" S.P. R.P.M.	¼" S.P. B.H.P.	½" S.P. R.P.M.	½" S.P. B.H.P.	¾" S.P. R.P.M.	¾" S.P. B.H.P.	1" S.P. R.P.M.	1" S.P. B.H.P.	1¼" S.P. R.P.M.	1¼" S.P. B.H.P.	1½" S.P. R.P.M.	1½" S.P. B.H.P.	1¾" S.P. R.P.M.	1¾" S.P. B.H.P.	2" S.P. R.P.M.	2" S.P. B.H.P.	2¼" S.P. R.P.M.	2¼" S.P. B.H.P.	2½" S.P. R.P.M.	2½" S.P. B.H.P.
1075	943	595	.11	745	.16	893	.23	1028	.32	1157	.41	1280	.50	1383	.59						
1290	1132	640	.15	787	.23	910	.30	1033	.38	1150	.47	1268	.57	1367	.68	1464	.78				
1506	1321	698	.21	838	.30	947	.37	1052	.46	1159	.56	1261	.67	1360	.77	1457	.88	1547	1.00	1636	1.13
1721	1510	769	.30	884	.39	998	.49	1090	.57	1182	.67	1276	.78	1368	.89	1454	1.00	1537	1.12	1626	1.26
1936	1698	844	.41	931	.49	1046	.61	1140	.71	1220	.81	1304	.91	1386	1.03	1469	1.13	1546	1.26	1624	1.43
2151	1887	920	.54	995	.62	1091	.75	1190	.87	1271	.99	1344	1.09	1418	1.21	1490	1.31	1565	1.43	1639	1.59
2366	2075	997	.69	1064	.79	1139	.90	1237	1.04	1321	1.17	1394	1.30	1462	1.41	1526	1.53	1596	1.68	1662	1.81
2582	2265	1078	.89	1139	.99	1201	1.09	1280	1.23	1369	1.39	1445	1.53	1513	1.68	1574	1.81	1634	1.93	1697	2.07
2797	2454	1154	1.11	1212	1.22	1268	1.32	1333	1.46	1412	1.62	1493	1.79	1562	1.93	1626	2.09	1684	2.25	1740	2.37

SIZE 1 H 12 — **OUTLET AREA 1.71 SQ FT** — **1 SIZE 122 FAN**

1614	944	501	.16	619	.24	744	.35	857	.48	964	.62	1067	.75	1157	.88						
1937	1133	533	.23	656	.34	758	.45	863	.57	958	.71	1057	.86	1139	1.02	1220	1.17				
2260	1322	582	.32	698	.45	789	.56	877	.69	966	.84	1051	1.00	1133	1.16	1214	1.32	1289	1.50	1363	1.70
2583	1511	641	.45	737	.58	832	.73	908	.86	985	1.00	1063	1.17	1140	1.34	1212	1.50	1281	1.68	1355	1.89
2906	1699	703	.62	776	.73	872	.91	950	1.07	1017	1.21	1087	1.37	1155	1.55	1224	1.70	1288	1.89	1353	2.14
3229	1888	767	.81	829	.93	909	1.12	992	1.30	1059	1.48	1120	1.64	1182	1.81	1242	1.96	1304	2.15	1366	2.38
3552	2077	831	1.04	887	1.19	949	1.35	1031	1.56	1101	1.75	1162	1.95	1218	2.12	1272	2.30	1330	2.52	1385	2.72
3875	2266	898	1.33	949	1.48	1001	1.64	1067	1.85	1141	2.08	1204	2.29	1261	2.52	1312	2.71	1362	2.89	1414	3.10
4198	2455	962	1.66	1010	1.83	1057	1.98	1111	2.19	1177	2.43	1244	2.68	1302	2.90	1355	3.14	1403	3.37	1450	3.56

SIZE 1 H 13 — **OUTLET AREA 2.10 SQ FT** — **1 SIZE 135 FAN**

1959	933	439	.19	552	.29	659	.42	758	.58	857	.75	948	.91	1028	1.07						
2352	1120	474	.28	583	.41	674	.55	765	.69	852	.86	940	1.04	1012	1.24	1084	1.42				
2744	1307	520	.39	619	.55	697	.68	778	.84	859	1.02	934	1.21	1007	1.41	1079	1.60	1146	1.82	1212	2.06
3136	1493	570	.55	655	.70	740	.89	807	1.04	876	1.21	945	1.42	1013	1.63	1077	1.82	1139	2.04	1204	2.29
3528	1680	625	.75	690	.89	775	1.10	844	1.30	904	1.47	966	1.66	1027	1.88	1088	2.06	1145	2.29	1203	2.60
3920	1867	682	.98	737	1.13	808	1.36	882	1.58	941	1.80	996	1.99	1051	2.20	1104	2.38	1159	2.61	1214	2.89
4312	2053	739	1.26	788	1.44	844	1.64	916	1.89	979	2.12	1033	2.37	1083	2.57	1131	2.79	1182	3.06	1231	3.30
4704	2240	798	1.61	844	1.80	890	1.99	948	2.25	1014	2.53	1070	2.78	1121	3.06	1166	3.29	1211	3.51	1257	3.76
5096	2427	855	2.02	898	2.22	940	2.40	988	2.66	1046	2.95	1106	3.25	1157	3.52	1204	3.81	1247	4.09	1289	4.32

SIZE 1 H 15 — **OUTLET AREA 2.57 SQ FT** — **1 SIZE 150 FAN**

2418	941	395	.24	494	.36	595	.52	686	.72	771	.93	854	1.12	926	1.32						
2902	1129	426	.34	525	.51	603	.67	689	.85	766	1.06	846	1.29	911	1.53	976	1.75				
3385	1317	466	.48	558	.67	631	.84	702	1.03	773	1.26	841	1.50	906	1.74	971	1.98	1031	2.25	1090	2.55
3869	1505	513	.67	590	.87	666	1.09	726	1.29	788	1.50	850	1.75	912	2.01	969	2.25	1025	2.52	1084	2.83
4353	1694	562	.93	621	1.09	698	1.36	760	1.60	814	1.81	870	2.05	924	2.32	979	2.55	1030	2.83	1082	3.21
4837	1882	614	1.21	663	1.39	727	1.68	794	1.95	847	2.22	896	2.46	946	2.71	994	2.94	1043	3.22	1093	3.57
5321	2070	665	1.56	710	1.78	759	2.02	825	2.34	881	2.62	930	2.92	974	3.18	1018	3.45	1064	3.77	1108	4.07
5805	2259	718	1.99	759	2.22	801	2.46	854	2.77	913	3.12	963	3.43	1009	3.77	1050	4.06	1090	4.33	1131	4.64
6289	2447	770	2.49	808	2.74	846	2.97	889	3.28	942	3.64	995	4.01	1042	4.34	1084	4.70	1122	5.04	1160	5.33

SIZE 1 H 16 — **OUTLET AREA 3.11 SQ FT** — **1 SIZE 165 FAN**

2928	941	359	.29	452	.44	539	.63	623	.87	701	1.12	776	1.36	841	1.60						
3514	1130	388	.42	477	.62	551	.82	626	1.03	697	1.29	769	1.56	828	1.85	887	2.12				
4100	1318	423	.58	508	.82	574	1.02	638	1.25	698	1.52	764	1.81	824	2.10	883	2.39	937	2.72	991	3.08
4686	1507	466	.82	536	1.05	605	1.32	660	1.56	716	1.81	773	2.12	829	2.43	878	2.72	932	3.05	985	3.43
5271	1695	511	1.12	564	1.32	634	1.65	691	1.94	740	2.19	791	2.49	840	2.81	890	3.08	936	3.43	983	3.88
5857	1883	558	1.47	603	1.69	661	2.03	721	2.36	770	2.68	815	2.97	860	3.28	903	3.56	948	3.90	993	4.32
6443	2072	604	1.87	645	2.16	690	2.45	750	2.83	801	3.17	845	3.54	886	3.85	925	4.17	967	4.57	1007	4.93
7029	2260	653	2.41	690	2.68	728	2.97	776	3.36	830	3.77	876	4.15	917	4.57	954	4.92	991	5.24	1028	5.62
7615	2449	700	3.01	735	3.32	769	3.59	808	3.97	856	4.41	905	4.86	947	5.26	985	5.70	1020	6.11	1055	6.46

SIZE 1 H 18 — **OUTLET AREA 3.80 SQ FT** — **1 SIZE 182 FAN**

3563	938	296	.30	391	.49	473	.71	564	.99	636	1.30	705	1.61	762	1.93						
4275	1125	322	.44	402	.63	476	.87	546	1.13	622	1.44	691	1.80	754	2.18	810	2.55				
4988	1313	337	.57	416	.83	485	1.07	550	1.35	610	1.65	668	1.99	734	2.37	795	2.79	851	3.21		
5701	1500	366	.78	444	1.08	498	1.34	559	1.62	616	1.94	670	2.27	722	2.62	776	3.04	842	3.47	889	3.96
6414	1688	405	1.08	464	1.35	521	1.67	571	1.96	625	2.29	676	2.64	726	3.02	772	3.41	818	3.82	867	4.27
7126	1875	442	1.44	479	1.64	548	2.08	591	2.38	638	2.71	686	3.08	733	3.47	776	3.87	821	4.27	861	4.73
7839	2063	477	1.86	507	2.05	568	2.47	619	2.89	657	3.22	699	3.59	744	3.99	787	4.41	828	4.84	869	5.30
8552	2251	512	2.35	544	2.60	582	2.90	643	3.44	683	3.82	719	4.21	757	4.61	798	5.02	838	5.48	877	5.96
9264	2438	545	2.89	583	3.24	606	3.44	660	3.97	710	4.53	744	4.91	777	5.32	812	5.77	850	6.21	887	6.69

DAMPER RECOMMENDED FOR CONTROL OF RATINGS ABOVE COLOURED LINE.

SIZE 2 H 10 — **OUTLET AREA 2.28 SQ FT** — **2 SIZE 100 FANS**

C.F.M.	Outlet Velocity	¼" S.P. R.P.M.	¼" S.P. B.H.P.	½" S.P. R.P.M.	½" S.P. B.H.P.	¾" S.P. R.P.M.	¾" S.P. B.H.P.	1" S.P. R.P.M.	1" S.P. B.H.P.	1¼" S.P. R.P.M.	1¼" S.P. B.H.P.	1½" S.P. R.P.M.	1½" S.P. B.H.P.	1¾" S.P. R.P.M.	1¾" S.P. B.H.P.	2" S.P. R.P.M.	2" S.P. B.H.P.	2¼" S.P. R.P.M.	2¼" S.P. B.H.P.	2½" S.P. R.P.M.	2½" S.P. B.H.P.
2145	941	595	.21	745	.31	893	.45	1028	.62	1157	.80	1280	.97	1383	1.14						
2575	1129	640	.30	787	.44	910	.57	1033	.74	1150	.92	1268	1.11	1367	1.32	1464	1.51				
3004	1318	698	.41	838	.57	947	.73	1052	.89	1159	1.09	1261	1.30	1360	1.49	1457	1.71	1547	1.94	1636	2.20
3434	1506	769	.58	884	.75	998	.95	1090	1.11	1182	1.29	1276	1.51	1368	1.73	1454	1.94	1537	2.17	1626	2.44
3863	1694	844	.79	931	.95	1046	1.18	1140	1.39	1220	1.57	1304	1.77	1386	2.01	1469	2.20	1546	2.44	1624	2.77
4292	1882	920	1.04	995	1.21	1091	1.44	1190	1.67	1271	1.91	1344	2.11	1418	2.33	1490	2.54	1565	2.78	1639	3.08
4721	2071	997	1.35	1064	1.53	1139	1.74	1237	2.02	1321	2.27	1394	2.52	1462	2.74	1526	2.98	1596	3.25	1662	3.51
5148	2258	1078	1.71	1139	1.91	1201	2.11	1280	2.38	1369	2.69	1445	2.96	1513	3.25	1574	3.50	1634	3.73	1697	4.00
5580	2447	1154	2.14	1212	2.36	1268	2.55	1333	2.82	1412	3.14	1493	3.46	1562	3.74	1626	4.06	1684	4.35	1740	4.60

SIZE 2 H 12 — **OUTLET AREA 3.42 SQ FT** — **2 SIZE 122 FANS**

3220	942	501	.31	619	.47	744	.68	857	.93	964	1.20	1067	1.46	1157	1.71						
3865	1130	533	.45	656	.66	758	.86	863	1.11	958	1.38	1057	1.67	1139	1.98	1220	2.27				
4509	1318	582	.62	698	.86	789	1.09	877	1.34	966	1.63	1051	1.95	1133	2.24	1214	2.56	1289	2.91	1363	3.30
5154	1507	641	.87	737	1.13	832	1.42	908	1.67	985	1.94	1063	2.26	1140	2.59	1212	2.91	1281	3.26	1355	3.67
5798	1695	703	1.19	776	1.42	872	1.77	950	2.08	1017	2.35	1087	2.66	1155	3.01	1224	3.30	1288	3.67	1353	4.16
6443	1884	767	1.56	829	1.81	909	2.16	992	2.51	1059	2.86	1120	3.17	1182	3.50	1242	3.81	1304	4.18	1366	4.62
7087	2072	831	2.02	887	2.29	949	2.61	1031	3.03	1101	3.40	1162	3.79	1218	4.12	1272	4.47	1330	4.88	1385	5.27
7728	2260	898	2.57	949	2.86	1001	3.17	1067	3.58	1141	4.04	1204	4.45	1261	4.88	1312	5.25	1362	5.60	1414	6.01
8376	2449	962	3.21	1010	3.54	1057	3.83	1111	4.24	1177	4.72	1244	5.19	1302	5.62	1355	6.09	1403	6.53	1450	6.90

SIZE 2 H 13 — **OUTLET AREA 4.20 SQ FT** — **2 SIZE 135 FANS**

3909	931	439	.38	552	.57	659	.83	758	1.13	857	1.46	948	1.77	1028	2.08						
4692	1117	474	.55	583	.80	674	1.04	765	1.35	852	1.68	940	2.03	1012	2.40	1084	2.76				
5474	1303	520	.75	619	1.04	697	1.32	778	1.63	859	1.98	934	2.37	1007	2.72	1079	3.11	1146	3.53	1212	4.01
6257	1490	570	1.06	655	1.37	740	1.72	807	2.03	876	2.36	945	2.74	1013	3.14	1077	3.53	1139	3.96	1204	4.46
7039	1676	625	1.44	690	1.72	775	2.15	844	2.53	904	2.85	966	3.23	1027	3.65	1088	4.01	1145	4.46	1203	5.05
7822	1862	682	1.89	737	2.20	808	2.62	882	3.05	941	3.47	996	3.85	1051	4.25	1104	4.63	1159	5.07	1214	5.61
8604	2049	739	2.45	788	2.78	844	3.17	916	3.68	979	4.13	1033	4.60	1083	5.00	1131	5.43	1182	5.92	1231	6.40
9382	2234	798	3.12	844	3.47	890	3.85	948	4.35	1014	4.90	1070	5.40	1121	5.92	1166	6.37	1211	6.80	1257	7.30
10168	2420	855	3.90	898	4.30	940	4.65	988	5.15	1046	5.73	1106	6.30	1157	6.82	1204	7.39	1247	7.93	1289	8.38

SIZE 2 H 15 — **OUTLET AREA 5.14 SQ FT** — **2 SIZE 150 FANS**

4824	939	395	.46	494	.70	595	1.02	686	1.39	771	1.80	854	2.19	926	2.56						
5790	1126	426	.67	525	.99	603	1.29	689	1.66	766	2.07	846	2.50	911	2.97	976	3.40				
6754	1314	466	.93	558	1.29	631	1.63	702	2.01	773	2.44	841	2.92	906	3.36	971	3.83	1031	4.36	1090	4.94
7721	1502	513	1.30	590	1.69	666	2.13	726	2.50	788	2.91	850	3.39	912	3.88	969	4.36	1025	4.88	1084	5.50
8685	1690	562	1.78	621	2.13	698	2.65	760	3.12	814	3.52	870	3.98	924	4.51	979	4.94	1030	5.50	1082	6.23
9652	1878	614	2.34	663	2.71	727	3.24	794	3.76	847	4.28	896	4.75	946	5.24	994	5.71	1043	6.26	1093	6.92
10616	2065	665	3.03	710	3.43	759	3.91	825	4.54	881	5.09	930	5.68	974	6.17	1018	6.70	1064	7.31	1108	7.89
11577	2252	718	3.85	759	4.28	801	4.75	854	5.36	913	6.05	963	6.67	1009	7.31	1050	7.86	1090	8.39	1131	9.00
12547	2441	770	4.81	808	5.30	846	5.74	889	6.35	942	7.07	995	7.77	1042	8.42	1084	9.12	1122	9.78	1160	10.34

SIZE 2 H 18 — **OUTLET AREA 7.60 SQ FT** — **2 SIZE 182 FANS**

7108	935	296	.58	391	.95	473	1.37	564	1.92	636	2.51	705	3.12	762	3.75						
8530	1122	322	.84	402	1.21	476	1.69	546	2.18	622	2.79	691	3.49	754	4.22	810	4.94				
9952	1309	337	1.11	416	1.61	485	2.08	550	2.61	610	3.19	668	3.85	734	4.59	795	5.42	851	6.23		
11374	1497	366	1.50	444	2.10	498	2.59	559	3.15	616	3.77	670	4.41	722	5.09	776	5.89	842	6.73	889	7.68
12796	1684	405	2.10	464	2.61	521	3.23	571	3.81	625	4.45	676	5.13	726	5.85	772	6.62	818	7.41	867	8.28
14218	1871	442	2.80	479	3.17	548	4.04	591	4.61	638	5.25	686	5.97	733	6.73	776	7.49	821	8.29	861	9.16
15640	2058	477	3.60	507	3.97	568	4.80	619	5.60	657	6.24	699	6.96	744	7.74	787	8.54	828	9.39	869	10.27
17062	2245	512	4.55	544	5.04	582	5.62	643	6.67	683	7.41	719	8.15	757	8.94	798	9.74	838	10.62	877	11.55
18484	2432	545	5.60	583	6.28	606	6.67	660	7.70	710	8.79	744	9.51	777	10.32	812	11.18	850	12.05	887	12.97

SIZE 2 H 20 — **OUTLET AREA 9.20 SQ FT** — **2 SIZE 200 FANS**

8537	928	269	.70	355	1.14	429	1.65	515	2.31	580	3.01	643	3.75	695	4.50						
10245	1114	294	1.01	364	1.45	434	2.03	498	2.62	568	3.35	630	4.19	688	5.07	739	5.93				
11952	1299	304	1.33	377	1.93	443	2.50	503	3.13	557	3.83	609	4.62	670	5.51	725	6.51	776	7.48		
13660	1485	334	1.80	405	2.52	454	3.11	510	3.78	562	4.53	611	5.30	659	6.11	708	7.07	768	8.08	811	9.22
15368	1670	370	2.52	423	3.13	475	3.88	521	4.58	570	5.34	617	6.16	662	7.03	704	7.95	746	8.90	791	9.94
17076	1856	403	3.36	437	3.81	500	4.85	539	5.54	582	6.31	626	7.17	669	8.08	708	9.00	749	9.96	786	11.00
18784	2042	435	4.32	463	4.77	518	5.76	565	6.73	599	7.49	638	8.36	679	9.30	718	10.26	755	11.28	793	12.33
20491	2227	467	5.46	496	6.05	531	6.75	587	8.01	623	8.90	656	9.79	691	10.74	728	11.70	765	12.75	800	13.87
22199	2413	497	6.73	532	7.54	553	8.01	602	9.25	649	10.56	679	11.42	709	12.39	741	13.43	776	14.47	809	15.58

SIZE 2 H 22 — **OUTLET AREA 11.28 SQ FT** — **2 SIZE 222 FANS**

10562	936	243	.86	321	1.41	388	2.04	463	2.85	522	3.73	578	4.64	625	5.57						
12676	1124	264	1.25	327	1.80	391	2.51	448	3.24	510	4.15	567	5.19	619	6.27	665	7.34				
14787	1311	276	1.65	341	2.39	398	3.09	451	3.88	500	4.74	548	5.72	602	6.82	652	8.05	698	9.26		
16902	1498	299	2.23	364	3.12	409	3.85	459	4.68	505	5.60	550	6.55	592	7.56	637	8.75	691	10.00	729	11.41
19015	1686	332	3.12	381	3.88	427	4.80	468	5.66	513	6.61	555	7.62	596	8.69	633	9.84	671	11.01	711	12.30
21128	1873	363	4.16	393	4.71	450	6.00	485	6.85	523	7.80	563	8.87	601	10.00	637	11.13	674	12.32	706	13.61
23241	2060	391	5.35	416	5.90	466	7.13	508	8.32	539	9.27	573	10.34	610	11.50	646	12.69	679	13.95	713	15.26
25354	2248	420	6.76	446	7.49	477	8.35	528	9.91	560	11.01	590	12.11	621	13.28	655	14.47	687	15.78	719	17.16
27467	2435	447	8.32	478	9.33	497	9.91	541	11.44	582	13.06	610	14.13	637	15.34	666	16.61	697	17.91	728	19.27

DAMPER RECOMMENDED FOR CONTROL OF RATINGS ABOVE COLOURED LINE.

1H20 & 1H22 H & V UNITS

SIZE 1H20 B		OUTLET AREA = 4.60 SQ. FT.																		1 SIZE 200B FAN	
CFM	OUT. VEL.	¼" SP		½" SP		¾" SP		1" SP		1¼" SP		1½" SP		1¾" SP		2" SP		2¼" SP		2½" SP	
		RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP
3852	837	555	.30	655	.47	740	.66	818	.88	895	1.10	969	1.37	1037	1.61	1106	1.85	1166	2.10	1224	2.38
4280	930	588	.37	688	.56	772	.77	843	.98	913	1.21	983	1.48	1049	1.74	1115	2.02	1175	2.29	1234	2.58
4708	1023	623	.43	724	.66	801	.88	874	1.10	938	1.36	1001	1.61	1064	1.86	1127	2.19	1184	2.49	1245	2.80
5135	1116	659	.50	760	.78	833	1.00	905	1.25	968	1.50	1026	1.77	1083	2.04	1154	2.34	1209	2.68	1264	3.00
5992	1302	734	.71	828	1.01	851	1.30	967	1.56	1028	1.84	1087	2.14	1139	2.44	1188	2.70	1236	3.05	1286	3.42
6848	1488	818	.98	898	1.30	975	1.65	1040	1.98	1095	2.26	1148	2.58	1201	2.92	1249	3.27	1296	3.59	1337	3.92
7704	1674	898	1.30	970	1.65	1044	2.04	1109	2.43	1167	2.79	1217	3.12	1262	3.45	1310	3.83	1357	4.20	1401	4.59
8560	1860	988	1.73	1047	2.08	1114	2.49	1177	2.92	1236	3.34	1288	3.75	1335	4.13	1375	4.48	1419	4.89	1461	5.30

SIZE 1H20 F		OUTLET AREA = 4.60 SQ. FT.																		1 SIZE 200F FAN	
4279	930	270	.36	355	.59	432	.85	515	1.19	580	1.56	643	1.93	695	2.32	.....	.....	.....	.....	.....	.....
5134	1116	294	.53	364	.76	434	1.04	498	1.36	568	1.73	630	2.16	688	2.62	739	3.06	.....	.....	.....	.....
5991	1302	307	.68	380	1.00	443	1.29	502	1.62	557	1.98	609	2.39	670	2.85	725	3.35	776	3.86	.....	.....
6847	1488	334	.94	405	1.30	454	1.61	510	1.95	562	2.33	611	2.73	659	3.15	708	3.65	768	4.17	811	4.76
7703	1675	370	1.30	423	1.62	475	2.01	521	2.35	570	2.75	617	3.17	662	3.63	704	4.10	746	4.59	791	5.13
8558	1860	403	1.73	437	1.97	500	2.49	539	2.86	582	3.25	626	3.70	669	4.17	708	4.65	749	5.13	786	5.63
9415	2047	435	2.23	463	2.46	518	2.97	565	3.47	599	3.87	638	4.31	679	4.79	718	5.30	755	5.81	793	6.37
10271	2233	467	2.82	496	3.12	531	3.48	587	4.13	623	4.59	656	5.06	691	5.54	728	6.03	765	6.58	800	7.16
11126	2419	497	3.47	532	3.89	553	4.13	602	4.77	649	5.44	679	5.90	709	6.39	741	6.93	776	7.46	809	8.03

SIZE 1H22 B		OUTLET AREA = 5.64 SQ. FT.																		1 SIZE 222B FAN	
4766	845	499	.37	589	.58	665	.82	735	1.08	805	1.37	871	1.69	933	1.99	994	2.29	1048	2.60	1101	2.94
5296	939	529	.46	619	.70	694	.95	758	1.22	821	1.50	884	1.83	943	2.15	1003	2.50	1057	2.84	1110	3.19
5825	1032	560	.53	651	.82	720	1.08	786	1.37	843	1.66	900	1.99	957	2.33	1013	2.70	1065	3.08	1120	3.46
6354	1127	592	.62	683	.97	749	1.23	814	1.55	870	1.86	922	2.18	974	2.53	1038	2.90	1087	3.31	1136	3.72
7414	1315	660	.88	744	1.25	765	1.60	870	1.93	925	2.27	977	2.65	1024	3.02	1068	3.34	1112	3.77	1157	4.24
8473	1502	735	1.22	807	1.60	877	2.04	935	2.45	984	2.79	1032	3.19	1080	3.61	1123	4.04	1165	4.44	1202	4.84
9533	1690	807	1.60	872	2.04	939	2.53	998	3.00	1049	3.45	1094	3.86	1135	4.26	1178	4.74	1220	5.20	1259	5.68
10591	1878	888	2.14	941	2.56	1002	3.08	1058	3.61	1112	4.13	1158	4.64	1200	5.11	1236	5.54	1276	6.05	1313	6.55

SIZE 1H22 F		OUTLET AREA = 5.64 SQ. FT.																		1 SIZE 222F FAN	
5295	939	243	.45	319	.73	388	1.06	463	1.47	522	1.93	578	2.39	625	2.87	.....	.....	.....	.....	.....	.....
6353	1126	264	.65	327	.94	391	1.29	448	1.68	510	2.14	567	2.67	619	3.24	665	3.79	.....	.....	.....	.....
7412	1314	276	.85	341	1.23	398	1.59	451	2.01	500	2.45	548	2.96	602	3.52	652	4.15	698	4.77	.....	.....
8472	1502	300	1.16	364	1.60	409	1.99	459	2.41	505	2.88	550	3.37	592	3.89	637	4.52	691	5.16	729	5.88
9531	1690	332	1.60	381	2.01	427	2.48	468	2.91	513	3.40	555	3.92	596	4.49	633	5.07	671	5.68	711	6.35
10589	1877	363	2.14	393	2.44	450	3.09	485	3.54	523	4.03	563	4.58	601	5.16	637	5.75	674	6.35	706	7.03
11649	2065	391	2.76	416	3.05	466	3.67	508	4.29	539	4.78	573	5.33	610	5.93	646	6.55	679	7.19	713	7.88
12708	2253	420	3.49	446	3.86	477	4.31	528	5.11	560	5.68	590	6.26	621	6.85	655	7.46	687	8.14	719	8.86
13766	2441	447	4.29	478	4.81	497	5.11	541	5.90	582	6.73	610	7.30	637	7.91	666	8.57	697	9.23	728	9.94

NOTE: Dampers recommended for control of ratings above solid line.

COIL AND FILTER DATA

UNIT SIZE	STEAM COIL					TYPE "CH" WATER COIL					FLAT FILTERS		ANGLE FILTERS	
	Tube Face	N.T.L.	F.A. Large Coil	F.A. Med. Coil	F.A. Small Coil	Tube Len.	F.A. Area	Base GPM 1-Row	Base GPM 2-Row	No. of Cct's.	Number	Size	No.	Size
1H20	27	4' - 3"	13.4	11.9	10.4	4' - 7"	14.1	17.5	33.75	27	6	4—20x20 2—20x16	9	6—20x20 3—16x20
1H22	27	5' - 3"	16.55	14.7	12.75	5' - 7"	17.3	17.5	33.75	27	8	3—16x20, 3—16x25 1—20x20, 1—20x25	12	9—16x25 3—20x25

PIPE CONNECTIONS

UNIT SIZE	TYPE A		TYPE B				CH	
			1-Row		2-Row			
	Sup.	Ret.	S	R	S	R	Sup.	Ret.
1H20	2½	1½	2	1¼	2½	1½	1½	1½
1H22	2½	1½	2	1¼	2½	1½	1½	1½

WEIGHTS

(SEE PAGE 16)

UNIT SIZE	Fan Sec't.	1-Row Steam	2-Row Steam	1-Row CH	2-Row CH	Flat Filter Sect.	Angle Filter Sect.	Mixing Box with FA & RA	Base Plen Coil Sect.	14" Access Sect.	Internal Face & By-Pass Dam. Sec.	
											10" Sec.	For Horiz Air Flow
1H20	430	180	220	187	235	115	310	360	370	67	180	222
1H22	465	195	240	244	329	130	370	420	400	71	207	253

DIMENSIONS — HORIZONTAL UNITS

UNIT SIZE	REFER TO PAGE 17 FOR SKETCHES OF COMPONENTS															
	A	B	BB	C	D	E	F	G	H	J	JJ	K	L	M	N	P
1H20	41	41	41	43½	57	14½	—	28	24	6	21	19	16	46	29	53
1H22	45	45	45	47½	69	19	—	31	26½	6	22½	24	16	50	31	65

DIMENSIONS — VERTICAL UNITS

UNIT SIZE	REFER TO PAGE 18 FOR SKETCHES OF COMPONENTS																			
	A	AA	B	C	D	DD	E	F	G	H	J	JJ	K	L	M	N	P	Q	R	S
1H20	41	43½	41	43½	57	60½	14½	—	28	24	6	21	44½	29½	53½	19	16	46	29	53
1H22	45	45	45	47½	69	62½	19	—	31	26½	6	22½	48½	31½	65½	24	16	50	31	65

Performance based on air at .075 lb. per cu. ft. (70°F) 29.92" hg. barometer.

TYPE "B" FAN RATINGS
FOR HEATING AND VENTILATING UNITS

SIZE 1 H 10 — **OUTLET AREA 1.14 SQ FT** — **1 SIZE 100 FAN**

C.F.M.	Outlet Velocity	¼" S.P. R.P.M.	¼" S.P. B.H.P.	½" S.P. R.P.M.	½" S.P. B.H.P.	¾" S.P. R.P.M.	¾" S.P. B.H.P.	1" S.P. R.P.M.	1" S.P. B.H.P.	1¼" S.P. R.P.M.	1¼" S.P. B.H.P.	1½" S.P. R.P.M.	1½" S.P. B.H.P.	1¾" S.P. R.P.M.	1¾" S.P. B.H.P.	2" S.P. R.P.M.	2" S.P. B.H.P.	2¼" S.P. R.P.M.	2¼" S.P. B.H.P.	2½" S.P. R.P.M.	2½" S.P. B.H.P
969	850	1192	.09	1392	.13	1578	.19	1756	.24	1910	.31	2056	.37	2194	.45	2316	.53	2442	.61	2562	.71
1076	944	1274	.11	1468	.15	1638	.21	1802	.27	1960	.34	2101	.41	2233	.48	2358	.57	2478	.65	2592	.73
1184	1039	1358	.13	1544	.19	1704	.24	1858	.31	2006	.37	2149	.45	2279	.53	2400	.61	2518	.69	2628	.79
1291	1132	1447	.15	1624	.21	1778	.27	1920	.34	2060	.41	2195	.49	2327	.57	2460	.66	2570	.75	2688	.83
1506	1321	1615	.22	1790	.29	1934	.36	2064	.43	2184	.50	2306	.59	2425	.67	2538	.76	2642	.86	2758	.95
1721	1510	1793	.31	1962	.39	2096	.46	2220	.54	2335	.61	2443	.70	2548	.79	2653	.89	2758	.98	2860	1.08
1937	1699	1978	.41	2134	.50	2266	.59	2383	.67	2491	.77	2593	.85	2692	.94	2785	1.04	2880	1.15	2972	1.25
2152	1888	2179	.55	2302	.64	2438	.75	2550	.83	2653	.93	2750	1.03	2840	1.13	2935	1.23	3023	1.33	3104	1.44

SIZE 1 H 12 — **OUTLET AREA 1.71 SQ FT** — **2 SIZE 122 FANS**

1455	851	995	.13	1162	.19	1314	.28	1466	.36	1594	.46	1718	.55	1824	.67	1933	.79	2035	.92	2135	1.06
1615	944	1061	.16	1225	.23	1368	.32	1505	.40	1630	.51	1757	.62	1867	.72	1966	.85	2065	.97	2160	1.09
1777	1039	1132	.19	1287	.28	1420	.36	1548	.46	1672	.56	1791	.67	1899	.79	2000	.91	2098	1.04	2190	1.18
1938	1133	1207	.23	1353	.32	1482	.40	1600	.51	1717	.62	1829	.73	1939	.85	2050	.99	2142	1.12	2240	1.25
2261	1322	1346	.33	1492	.44	1612	.54	1720	.64	1820	.75	1922	.88	2021	1.00	2115	1.14	2202	1.29	2298	1.43
2584	1511	1494	.46	1635	.58	1747	.69	1850	.81	1946	.92	2036	1.05	2123	1.19	2211	1.34	2298	1.47	2383	1.62
2907	1700	1648	.62	1778	.75	1888	.88	1986	1.01	2076	1.15	2161	1.27	2243	1.41	2321	1.56	2400	1.72	2477	1.88
3230	1889	1816	.83	1918	.96	2032	1.12	2125	1.25	2211	1.40	2292	1.55	2367	1.69	2446	1.84	2519	2.00	2587	2.16

SIZE 1 H 13 — **OUTLET AREA 2.10 SQ FT** — **1 SIZE 135 FAN**

1766	841	888	.16	1037	.23	1172	.34	1298	.44	1418	.56	1528	.67	1622	.81	1717	.96	1811	1.12	1901	1.29
1961	934	948	.19	1083	.28	1215	.39	1337	.49	1452	.62	1556	.75	1655	.87	1747	1.03	1836	1.18	1920	1.32
2157	1027	1006	.23	1147	.34	1262	.44	1373	.56	1486	.68	1592	.81	1688	.96	1778	1.10	1865	1.26	1947	1.43
2353	1120	1077	.28	1205	.39	1318	.49	1422	.62	1526	.75	1626	.89	1727	1.03	1822	1.20	1904	1.36	1991	1.52
2745	1307	1196	.40	1326	.53	1438	.66	1529	.78	1613	.91	1708	1.07	1796	1.21	1880	1.38	1957	1.57	2043	1.74
3137	1494	1328	.56	1453	.70	1553	.84	1647	.98	1730	1.12	1810	1.27	1887	1.44	1965	1.63	2043	1.78	2118	1.97
3529	1680	1465	.75	580	.911	1678	1.07	1765	1.23	1845	1.40	1921	1.54	1994	1.71	2063	1.89	2133	2.09	2202	2.28
3921	1867	1614	1.01	1705	1.17	1806	1.36	1889	1.52	1965	1.70	2037	1.88	2104	2.05	2174	2.23	2239	2.43	2300	2.62

SIZE 1 H 15 — **OUTLET AREA 2.57 SQ FT** — **1 SIZE 150 FAN**

2180	848	794	.19	928	.28	1052	.42	1168	.54	1274	.69	1373	.82	1462	1.00	1544	1.18	1628	1.38	1711	1.59
2419	941	850	.24	978	.34	1092	.48	1202	.60	1306	.76	1401	.93	1489	1.08	1572	1.27	1652	1.45	1728	1.63
2662	1036	906	.28	1028	.42	1136	.54	1238	.69	1338	.84	1433	1.00	1519	1.18	1600	1.36	1678	1.56	1752	1.77
2903	1130	965	.34	1082	.48	1186	.60	1280	.76	1374	.93	1463	1.09	1551	1.27	1640	1.48	1714	1.68	1792	1.87
3387	1318	1077	.49	1194	.66	1290	.81	1376	.96	1456	1.12	1538	1.32	1617	1.50	1692	1.71	1762	1.93	1838	2.14
3871	1506	1195	.69	1308	.87	1398	1.03	1480	1.21	1557	1.38	1629	1.57	1698	1.78	1769	2.01	1838	2.20	1906	2.43
4355	1695	1318	.93	1422	1.12	1510	1.32	1589	1.51	1661	1.72	1729	1.90	1794	2.11	1857	2.34	1920	2.58	1982	2.82
4839	1883	1453	1.24	1534	1.44	1626	1.68	1700	1.87	1769	2.10	1834	2.32	1894	2.53	1957	2.76	2015	3.00	2070	3.24

SIZE 1 H 16 — **OUTLET AREA 3.11 SQ FT** — **1 SIZE 165 FAN**

2639	849	722	.24	844	.34	956	.51	1964	.65	1158	.83	1246	1.00	1333	1.22	1407	1.43	1478	1.67	1553	1.92
2930	942	772	.29	889	.42	993	.58	1092	.73	1188	.93	1273	1.12	1353	1.31	1429	1.54	1502	1.76	1571	1.98
3223	1036	823	.34	936	.51	1033	.65	1126	.83	1216	1.02	1303	1.22	1381	1.43	1455	1.65	1526	1.89	1593	2.14
3516	1131	877	.42	984	.58	1078	.73	1164	.93	1249	1.12	1329	1.32	1400	1.54	1491	1.80	1558	2.03	1629	2.27
4101	1319	979	.60	1085	.80	1172	.98	1251	1.16	1324	1.36	1398	1.60	1470	1.81	1538	2.07	1601	2.34	1671	2.59
4687	1507	1087	.83	1189	1.05	1271	1.25	1345	1.47	1415	1.67	1481	1.90	1544	2.16	1608	2.43	1671	2.67	1733	2.94
5273	1695	1199	1.12	1293	1.36	1373	1.60	1444	1.83	1510	2.09	1572	2.30	1631	2.56	1688	2.83	1745	3.12	1801	3.41
5859	1884	1321	1.51	1395	1.74	1478	2.03	1545	2.27	1608	2.54	1667	2.81	1721	3.07	1779	3.34	1832	3.63	1881	3.92

SIZE 1 H 18 — **OUTLET AREA 3.80 SQ FT** — **1 SIZE 182 FAN**

3207	844	611	.25	718	.39	813	.55	896	.73	981	.92	1062	1.14	1137	1.34	1216	1.54	1282	1.75	1342	1.98
3564	939	645	.31	754	.47	846	.64	924	.82	1004	1.01	1077	1.23	1150	1.45	1222	1.68	1288	1.91	1353	2.15
3920	1032	683	.36	794	.55	878	.73	958	.92	1028	1.12	1097	1.34	1166	1.57	1235	1.82	1298	2.07	1365	2.33
4276	1125	722	.42	833	.65	913	.83	992	1.04	1061	1.25	1124	1.47	1187	1.70	1265	1.95	1325	2.23	1385	2.50
4989	1313	805	.59	907	.84	933	1.08	1060	1.30	1127	1.53	1191	1.78	1248	2.03	1302	2.25	1355	2.54	1410	2.85
5702	1501	896	.82	984	1.08	1069	1.37	1140	1.65	1200	1.88	1258	2.15	1316	2.43	1369	2.72	1420	2.99	1465	3.26
6415	1688	984	1.08	1063	1.37	1144	1.70	1216	2.02	1279	2.32	1334	2.60	1383	2.87	1436	3.19	1487	3.50	1535	3.82
7127	1876	1083	1.44	1147	1.73	1221	2.07	1290	2.43	1355	2.78	1412	3.12	1463	3.44	1507	3.73	1555	4.07	1601	4.41

1H20 & 1H22 H & V UNITS

SIZE 1H20 B — **OUTLET AREA = 4.60 SQ. FT.** — **1 SIZE 200B FAN**

CFM	OUT. VEL.	¼" SP RPM	¼" SP HP	½" SP RPM	½" SP HP	¾" SP RPM	¾" SP HP	1" SP RPM	1" SP HP	1¼" SP RPM	1¼" SP HP	1½" SP RPM	1½" SP HP	1¾" SP RPM	1¾" SP HP	2" SP RPM	2" SP HP	2¼" SP RPM	2¼" SP HP	2½" SP RPM	2½" SP HP
3852	837	555	.30	655	.47	740	.66	818	.88	895	1.10	969	1.37	1037	1.61	1106	1.85	1166	2.10	1224	2.38
4280	930	588	.37	688	.56	772	.77	843	.98	913	1.21	983	1.48	1049	1.74	1115	2.02	1175	2.29	1234	2.58
4708	1023	623	.43	724	.66	801	.88	874	1.10	938	1.36	1001	1.61	1064	1.86	1127	2.19	1184	2.49	1245	2.80
5135	1116	659	.50	760	.78	833	1.00	905	1.25	968	1.50	1026	1.77	1083	2.04	1154	2.34	1209	2.68	1264	3.00
5992	1302	734	.71	828	1.01	851	1.30	967	1.56	1028	1.84	1087	2.14	1139	2.44	1188	2.70	1236	3.05	1286	3.42
6848	1488	818	.98	898	1.30	975	1.65	1040	1.98	1095	2.26	1148	2.58	1201	2.92	1249	3.27	1296	3.59	1337	3.92
7704	1674	898	1.30	970	1.65	1044	2.04	1109	2.43	1167	2.79	1217	3.12	1262	3.45	1310	3.83	1357	4.20	1401	4.59
8560	1860	988	1.73	1047	2.08	1114	2.49	1177	2.92	1236	3.34	1288	3.75	1335	4.13	1375	4.48	1419	4.89	1461	5.30

SIZE 1H20 F — **OUTLET AREA = 4.60 SQ. FT.** — **1 SIZE 200F FAN**

4279	930	270	.36	355	.59	432	.85	515	1.19	580	1.56	643	1.93	695	2.32	.....	.. ....	.....	.. ....	.....	.. ....
5134	1116	294	.53	364	.76	434	1.04	498	1.36	568	1.73	630	2.16	688	2.62	739	3.06	.....	.. ....	.....	.. ....
5991	1302	307	.68	380	1.00	443	1.29	502	1.62	557	1.98	609	2.39	670	2.85	725	3.35	776	3.86	.....	.. ....
6847	1488	334	.94	405	1.30	454	1.61	510	1.95	562	2.33	611	2.73	659	3.15	708	3.65	768	4.17	811	4.76
7703	1675	370	1.30	423	1.62	475	2.01	521	2.35	570	2.75	617	3.17	662	3.63	704	4.10	746	4.59	791	5.13
8558	1860	403	1.73	437	1.97	500	2.49	539	2.86	582	3.25	626	3.70	669	4.17	708	4.65	749	5.13	786	5.63
9415	2047	435	2.23	463	2.46	518	2.97	565	3.47	599	3.87	638	4.31	679	4.79	718	5.30	755	5.81	793	6.37
10271	2233	467	2.82	496	3.12	531	3.48	587	4.13	623	4.59	656	5.06	691	5.54	728	6.03	765	6.58	800	7.16
11126	2419	497	3.47	532	3.89	553	4.13	602	4.77	649	5.44	679	5.90	709	6.39	741	6.93	776	7.46	809	8.03

SIZE 1H22 B — **OUTLET AREA = 5.64 SQ. FT.** — **1 SIZE 222B FAN**

4766	845	499	.37	589	.58	665	.82	735	1.08	805	1.37	871	1.69	933	1.99	994	2.29	1048	2.60	1101	2.94
5296	939	529	.46	619	.70	694	.95	758	1.22	821	1.50	884	1.83	943	2.15	1003	2.50	1057	2.84	1110	3.19
5825	1032	560	.53	651	.82	720	1.08	786	1.37	843	1.66	900	1.99	957	2.33	1013	2.70	1065	3.08	1120	3.46
6354	1127	592	.62	683	.97	749	1.23	814	1.55	870	1.86	922	2.18	974	2.53	1038	2.90	1087	3.31	1136	3.72
7414	1315	660	.88	744	1.25	765	1.60	870	1.93	925	2.27	977	2.65	1024	3.02	1068	3.34	1112	3.77	1157	4.24
8473	1502	735	1.22	807	1.60	877	2.04	935	2.45	984	2.79	1032	3.19	1080	3.61	1123	4.04	1165	4.44	1202	4.84
9533	1690	807	1.60	872	2.04	939	2.53	998	3.00	1049	3.45	1094	3.86	1135	4.26	1178	4.74	1220	5.20	1259	5.68
10591	1878	888	2.14	941	2.56	1002	3.08	1058	3.61	1112	4.13	1158	4.64	1200	5.11	1236	5.54	1276	6.05	1313	6.55

SIZE 1H22 F — **OUTLET AREA = 5.64 SQ. FT.** — **1 SIZE 222F FAN**

5295	939	243	.45	319	.73	388	1.06	463	1.47	522	1.93	578	2.39	625	2.87	.....	.. ....	.....	.. ....	.....	.. ....
6353	1126	264	.65	327	.94	391	1.29	448	1.68	510	2.14	567	2.67	619	3.24	665	3.79	.....	.. ....	.....	.. ....
7412	1314	276	.85	341	1.23	398	1.59	451	2.01	500	2.45	548	2.96	602	3.52	652	4.15	698	4.77	.....	.. ....
8472	1502	300	1.16	364	1.60	409	1.99	459	2.41	505	2.88	550	3.37	592	3.89	637	4.52	691	5.16	729	5.88
9531	1690	332	1.60	381	2.01	427	2.48	468	2.91	513	3.40	555	3.92	596	4.49	633	5.07	671	5.68	711	6.35
10589	1877	363	2.14	393	2.44	450	3.09	485	3.54	523	4.03	563	4.58	601	5.16	637	5.75	674	6.35	706	7.03
11649	2065	391	2.76	416	3.05	466	3.67	508	4.29	539	4.78	573	5.33	610	5.93	646	6.55	679	7.19	713	7.88
12708	2253	420	3.49	446	3.86	477	4.31	528	5.11	560	5.68	590	6.26	621	6.85	655	7.46	687	8.14	719	8.86
13766	2441	447	4.29	478	4.81	497	5.11	541	5.90	582	6.73	610	7.30	637	7.91	666	8.57	697	9.23	728	9.94

NOTE: Dampers recommended for control of ratings above solid line.

COIL AND FILTER DATA

UNIT SIZE	STEAM COIL Tube Face	N.T.L.	F.A. Large Coil	F.A. Med. Coil	F.A. Small Coil	TYPE "CH" WATER COIL Tube Len.	F.A. Area	Base GPM 1-Row	Base GPM 2-Row	No. of Cct's.	FLAT FILTERS Number	Size	ANGLE FILTERS No.	Size
1H20	27	4' - 3"	13.4	11.9	10.4	4' - 7"	14.1	17.5	33.75	27	6	4—20x20 2—20x16	9	6—20x20 3—16x20
1H22	27	5' - 3"	16.55	14.7	12.75	5' - 7"	17.3	17.5	33.75	27	8	3—16x20, 3—16x25 1—20x20, 1—20x25	12	9—16x25 3—20x25

PIPE CONNECTIONS

UNIT SIZE	TYPE A Sup.	TYPE A Ret.	TYPE B 1-Row S	TYPE B 1-Row R	TYPE B 2-Row S	TYPE B 2-Row R	CH Sup.	CH Ret.
1H20	2½	1½	2	1¼	2½	1½	1½	1½
1H22	2½	1½	2	1¼	2½	1½	1½	1½

WEIGHTS

(SEE PAGE 16)

UNIT SIZE	Fan Sec't.	1-Row Steam	2-Row Steam	1-Row CH	2-Row CH	Flat Filter Sect.	Angle Filter Sect.	Mixing Box with FA & RA	Base Plen Coil Sect.	14" Access Sect.	Internal Face & By-Pass Dam. Sec. 10" Sec.	Internal Face & By-Pass Dam. Sec. For Horiz Air Flow
1H20	430	180	220	187	235	115	310	360	370	67	180	222
1H22	465	195	240	244	329	130	370	420	400	71	207	253

DIMENSIONS — HORIZONTAL UNITS

UNIT SIZE	REFER TO PAGE 17 FOR SKETCHES OF COMPONENTS A	B	BB	C	D	E	F	G	H	J	JJ	K	L	M	N	P
1H20	41	41	41	43½	57	14½	—	28	24	6	21	19	16	46	29	53
1H22	45	45	45	47½	69	19	—	31	26½	6	22½	24	16	50	31	65

DIMENSIONS — VERTICAL UNITS

UNIT SIZE	REFER TO PAGE 18 FOR SKETCHES OF COMPONENTS A	AA	B	C	D	DD	E	F	G	H	J	JJ	K	L	M	N	P	Q	R	S
1H20	41	43½	41	43½	57	60½	14½	—	28	24	6	21	44½	29½	53½	19	16	46	29	53
1H22	45	45	45	47½	69	62½	19	—	31	26½	6	22½	48½	31½	65½	24	16	50	31	65

Performance based on air at .075 lb. per cu. ft. (70°F) 29.92" hg. barometer.

1H24 & 2H24 H&V UNITS

SIZE 1H24 B		OUTLET AREA = 6.84 SQ. FT.																		1—SIZE 245B FAN	
	O.V.	¼" S.P.		½" S.P.		¾" S.P.		1" S.P.		1¼" S.P.		1½" S.P.		1¾" S.P.		2" S.P.		2¼" S.P.		2½" S.P.	
C.F.M.	F.P.M.	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP	RPM	HP
5785	845	453	.45	535	.70	604	.99	667	1.32	731	1.66	791	2.06	847	2.42	903	2.78	952	3.16	1000	3.57
6429	939	480	.56	562	.85	630	1.15	688	1.48	746	1.82	802	2.22	857	2.62	910	3.03	959	3.45	1008	3.88
7072	1033	509	.65	591	.99	654	1.32	714	1.66	766	2.02	817	2.42	869	2.83	920	3.28	967	3.73	1017	4.20
7714	1127	538	.76	621	1.17	680	1.50	734	1.88	790	2.26	837	2.65	884	3.07	942	3.52	987	4.02	1032	4.51
9000	1315	600	1.06	676	1.52	695	1.95	790	2.35	840	2.76	887	3.21	930	3.66	970	4.06	1009	4.58	1050	5.14
10,286	1503	667	1.48	733	1.95	796	2.47	849	2.98	894	3.39	937	3.88	980	4.38	1020	4.91	1058	5.39	1091	5.88
11,573	1691	733	1.95	792	2.47	852	3.07	906	3.64	953	4.19	994	4.69	1030	5.18	1070	5.75	1108	6.31	1143	6.89
12,857	1878	807	2.60	854	3.12	910	3.73	961	4.38	1009	5.02	1052	5.63	1090	6.21	1123	6.73	1158	7.34	1193	7.96

SIZE 1H24 F		OUTLET AREA = 6.84 SQ. FT.																		1—SIZE 245F FAN	
6428	940	220	.54	290	.88	352	1.28	420	1.79	474	2.35	525	2.90	568	3.48						
7712	1127	240	.79	297	1.14	355	1.57	407	2.04	463	2.60	515	3.25	562	3.93	603	4.60				
8998	1315	251	1.03	310	1.50	361	1.93	410	2.44	454	2.98	498	3.59	547	4.28	592	5.03	634	5.79		
10,285	1504	273	1.41	331	1.95	371	2.42	416	2.92	459	3.50	499	4.10	538	4.73	578	5.48	627	6.26	662	7.14
11,571	1692	302	1.95	346	2.44	388	3.01	425	3.54	466	4.13	504	4.76	541	5.45	575	6.15	609	6.89	646	7.70
12,855	1879	329	2.60	357	2.96	408	3.75	440	4.29	475	4.89	511	5.56	546	6.26	578	6.98	612	7.70	641	8.53
14,142	2068	355	3.36	378	3.70	423	4.46	461	5.21	489	5.81	521	6.48	554	7.18	586	7.96	617	8.73	647	9.56
15,428	2256	381	4.24	405	4.69	434	5.23	479	6.21	509	6.89	536	7.59	564	8.32	594	9.06	624	9.89	653	10.75
16,712	2443	406	5.21	434	5.84	451	6.21	492	7.16	529	8.17	554	8.86	579	9.60	605	10.41	633	11.20	661	12.07

SIZE 2H24 B		OUTLET AREA = 13.68 SQ. FT.																		2—SIZE 245B FANS	
11,543	847	453	.90	535	1.37	604	1.93	667	2.58	731	3.25	791	3.99	847	4.69	903	5.41	952	6.15	1000	6.93
12,826	937	480	1.08	562	1.64	630	2.24	688	2.87	746	3.54	802	4.33	857	5.11	910	5.90	959	6.71	1008	7.54
14,109	1031	509	1.26	591	1.93	654	2.58	714	3.25	766	3.91	817	4.69	869	5.52	920	6.37	967	7.27	1017	8.17
15,392	1125	538	1.50	621	2.27	680	2.90	734	3.66	790	4.40	837	5.14	884	5.97	942	6.86	987	7.83	1032	8.77
17,957	1312	600	2.09	676	2.94	695	3.81	790	4.55	840	5.38	887	6.26	930	7.13	970	7.90	1009	8.91	1050	9.99
20,522	1500	667	2.87	733	3.81	796	4.82	849	5.77	894	6.60	937	7.54	980	8.53	1020	9.54	1058	10.52	1091	11.46
23,088	1688	733	3.81	792	4.82	852	5.97	906	7.09	953	8.14	994	9.13	1030	10.07	1070	11.18	1108	12.30	1143	13.42
25,653	1875	807	5.07	854	6.08	910	7.27	961	8.53	1009	9.78	1052	10.97	1090	12.09	1123	13.10	1158	14.29	1193	15.48

SIZE 2H24 F		OUTLET AREA = 13.68 SQ. FT.																		2—SIZE 245F FANS	
12,823	937	220	1.05	290	1.71	352	2.47	420	3.46	474	4.53	525	5.63	568	6.77						
15,388	1125	240	1.52	297	2.18	355	3.05	407	3.93	463	5.03	515	6.30	562	7.61	603	8.91				
17,953	1312	251	2.00	310	2.90	361	3.75	410	4.71	454	5.75	498	6.95	547	8.28	592	9.78	634	11.24		
20,519	1500	273	2.71	331	3.79	371	4.67	416	5.68	459	6.80	499	7.96	538	9.18	578	10.63	627	12.14	662	13.85
23,084	1687	302	3.79	346	4.71	388	5.83	425	6.87	466	8.03	504	9.25	541	10.55	575	11.94	609	13.37	646	14.94
25,649	1875	329	5.05	357	5.72	408	7.29	440	8.32	475	9.47	511	10.77	546	12.14	578	13.51	612	14.96	641	16.52
28,215	2063	355	6.49	378	7.16	423	8.66	461	10.10	489	11.26	521	12.56	554	13.96	586	15.41	617	16.94	647	18.53
30,780	2250	381	8.21	405	9.09	434	10.14	479	12.03	509	13.37	536	14.70	564	16.13	594	17.57	624	19.16	653	20.81
33,345	2438	406	10.10	434	11.33	451	12.03	492	13.89	529	15.86	554	17.16	579	18.62	605	20.17	633	21.74	661	23.40

NOTE: Dampers recommended for control of ratings above solid line.

COIL AND FILTER DATA

UNIT SIZE	STEAM COIL					TYPE "CH" WATER COIL					FLAT FILTERS		ANGLE FILTERS	
	Tube Face	N.T.L.	F.A. Large Coil	F.A. Med. Coil	F.A. Small Coil	Tube Len.	F.A. Area	Base GPM 1-Row	Base GPM 2-Row	No. of Cct's.	Number	Size	No.	Size
1H24	15/18	5'-6"	21.1	18.0	17.3	5'-10"	21.9	21.25	41.25	33	8	4—20x25 4—16x25	16	8—20x20 8—16x20
2H24	15/18	9'-9"	37.5	34.1	30.7	10'-1"	38.3	21.25	41.25	33	12	20x25	24	20x20

PIPE CONNECTIONS

UNIT SIZE	TYPE A		TYPE B				CH	
			1-Row		2-Row			
	Sup.	Ret.	S	R	S	R	Sup.	Ret.
1H24	2	1½	1½	1½	2	1½	1½	1½
2H24	2	1½	1½	1½	2	1½	1½	1½

WEIGHTS

(SEE PAGE 16)

UNIT SIZE	Fan Sec't.	1-Row Steam	2-Row Steam	1-Row CH	2-Row CH	Flat Filter Sect.	Angle Filter Sect.	Mixing Box with FA & RA	Base Plen Coil Sect.	14" Access Sect.	Internal Face & By-Pass Dam. Sec.	
											10" Sec.	For Horiz Air Flow
1H24	650	260	310	350	460	160	350	500	330	80	260	300
2H24	1470	435	510	600	760	260	740	750	625	100	360	440

DIMENSIONS — HORIZONTAL UNITS

UNIT SIZE	REFER TO PAGE 17 FOR SKETCHES OF COMPONENTS															
	A	B	BB	C	D	E	F	G	H	J	JJ	K	L	M	N	P
1H24	51½	49	53⅝	54	72	19	—	34	29¼	6	21	22	16	51	36	68
2H24	51½	49	53⅝	54	123	14¼	26½	34	29¼	6	21	22	16	51	36	119

DIMENSIONS — VERTICAL UNITS

UNIT SIZE	REFER TO PAGE 18 FOR SKETCHES OF COMPONENTS																		
	A	AA	B	C	D	DD	E	F	G	H	J	JJ	K	L	M	N	P	Q	R	S
1H24	51½	55⅝	49	54	72	75½	19	—	34	29¼	6	21	55	36½	68½	22	16	51	36	68
2H24	51½	55⅝	49	54	123	126½	14¼	26½	34	29¼	6	21	55	36½	119½	22	16	51	36	119

Performance based on air at .075 lb. per cu. ft. (70°F) 29.92" hg. barometer.

SIZE 2 H 10								OUTLET AREA 2.28 SQ FT												2 SIZE 100 FANS	
C.F.M.	Outlet Velocity	¼" S.P.		½" S.P.		¾" S.P.		1" S.P.		1¼" S.P.		1½" S.P.		1¾" S.P.		2" S.P.		2¼" S.P.		2½" S.P.	
		R.P.M.	B.H.P.	R.P.M.	B.H.P.	R.P.M.	B.H.P.	R.P.M.	B.H.P.	R.P.M.	B.H.P.	R.P.M.	B.H.P.	R.P.M.	B.H.P.	R.P.M.	B.H.P.	R.P.M.	B.H.P.	R.P.M.	B.H.P.
1932	847	1192	.17	1392	.25	1578	.36	1756	.47	1910	.59	2056	.71	2194	.87	2316	1.02	2442	1.20	2562	1.38
2146	941	1274	.21	1468	.30	1633	.41	1802	.52	1960	.66	2101	.80	2233	.94	2358	1.10	2478	1.25	2592	1.42
2362	1036	1358	.25	1544	.36	1704	.47	1858	.59	2006	.73	2149	.87	2279	1.02	2400	1.19	2518	1.35	2628	1.53
2576	1130	1447	.30	1624	.41	1778	.53	1920	.66	2060	.80	2195	.95	2327	1.10	2460	1.28	2570	1.45	2688	1.63
3005	1318	1615	.43	1790	.57	1934	.70	2064	.83	2184	.98	2306	1.15	2425	1.29	2538	1.47	2642	1.67	2758	1.86
3435	1506	1793	.59	1962	.76	2096	.89	2220	1.05	2335	1.20	2443	1.37	2548	1.55	2653	1.73	2758	1.90	2860	2.11
3864	1694	1978	.80	2134	.98	2266	1.15	2383	1.31	2491	1.49	2593	1.65	2692	1.83	2785	2.03	2880	2.23	2972	2.44
4294	1883	2179	1.07	2302	1.24	2438	1.45	2550	1.63	2653	1.82	2750	2.01	2840	2.19	2935	2.38	3023	2.59	3104	2.80

SIZE 2 H 12								OUTLET AREA 3.42 SQ FT												2 SIZE 122 FANS	
2900	848	995	.25	1162	.37	1314	.54	1461	.70	1594	.89	1718	1.07	1824	1.30	1933	1.53	2035	1.80	2135	2.07
3222	942	1061	.31	1225	.45	1368	.62	1505	.79	1630	.99	1757	1.20	1867	1.41	1966	1.65	2065	1.88	2160	2.13
3545	1037	1132	.37	1287	.54	1420	.70	1548	.89	1672	1.10	1791	1.30	1899	1.53	2000	1.78	2098	2.03	2190	2.29
3867	1131	1207	.45	1353	.62	1482	.79	1600	.99	1717	1.20	1829	1.43	1939	1.65	2050	1.92	2142	2.17	2240	2.44
4511	1319	1346	.64	1492	.85	1612	1.05	1720	1.24	1820	1.47	1922	1.72	2021	1.94	2115	2.21	2202	2.50	9298	2.79
5156	1508	1494	.89	1635	1.14	1747	1.34	1850	1.57	1946	1.80	2036	2.05	2123	2.32	2211	2.60	2298	2.85	2383	3.16
5800	1696	1648	1.20	1778	1.47	1888	1.72	1986	1.96	2076	2.23	2161	2.48	2243	2.75	2321	3.04	2400	3.35	2477	3.66
6445	1885	1816	1.61	1918	1.86	2032	2.17	2125	2.44	2211	2.73	2292	3.02	2367	3.29	2446	3.58	2519	3.89	2587	4.20

SIZE 2 H 13								OUTLET AREA 4.20 SQ FT												2 SIZE 135 FANS	
3521	838	888	.30	1037	.45	1177	.66	1298	.85	1418	1.08	1528	1.30	1622	1.58	1717	1.86	1811	2.19	1901	2.51
3912	931	948	.38	1083	.55	1215	.75	1337	.96	1452	1.20	1556	1.46	1658	1.71	1747	2.00	1836	2.28	1920	2.59
4304	1024	1006	.45	1147	.66	1262	.85	1373	1.08	1486	1.34	1592	1.58	1688	1.86	1778	2.16	1865	2.46	1947	2.78
4695	1117	1077	.55	1205	.75	1318	.96	1422	1.20	1526	1.46	1626	1.74	1727	2.00	1822	2.33	1904	2.63	1991	2.96
5476	1303	1196	.78	1326	1.03	1438	1.27	1529	1.51	1613	1.78	1708	2.09	1796	2.36	1880	2.68	1957	3.04	2043	3.39
6259	1490	1328	1.08	1453	1.38	1553	1.63	1647	1.91	1730	2.19	1810	2.49	1887	2.82	1965	3.16	2043	3.46	2118	3.84
7041	1676	1465	1.46	1580	1.78	1678	2.09	1765	2.38	1845	2.71	1921	3.01	1994	3.34	2063	3.69	2133	4.07	2202	4.44
7824	1862	1614	1.95	1705	2.26	1806	2.63	1889	2.96	1965	3.31	2037	3.67	2104	3.99	2174	4.35	2239	4.72	2300	5.10

SIZE 2 H 15								OUTLET AREA 5.14 SQ FT												2 SIZE 150 FANS	
4344	845	794	.37	928	.55	1052	.81	1168	1.05	1274	1.33	1373	1.60	1462	1.95	1544	2.29	1628	2.70	1711	3.10
4827	939	850	.46	978	.67	1092	.93	1202	1.18	1306	1.48	1401	1.80	1489	2.11	1572	2.47	1652	2.82	1728	3.19
5310	1033	906	.55	1028	.81	1136	1.05	1238	1.33	1338	1.65	1433	1.95	1519	2.29	1600	2.67	1678	3.04	1752	3.43
5793	1127	965	.67	1082	.93	1186	1.18	1280	1.48	1374	1.80	1463	2.14	1551	2.47	1640	2.88	1714	3.25	1792	3.66
6757	1314	1077	.96	1194	1.27	1290	1.57	1376	1.86	1456	2.20	1538	2.58	1617	2.91	1692	3.31	1762	3.75	1838	4.18
7724	1502	1195	1.33	1308	1.71	1398	2.01	1480	2.35	1557	2.70	1629	3.07	1698	3.48	1769	3.89	1838	4.26	1906	4.73
8688	1690	1318	1.80	1422	2.20	1510	2.58	1589	2.94	1661	3.34	1729	3.72	1794	4.12	1857	4.55	1920	5.02	1982	5.48
9655	1878	1453	2.41	1534	2.79	1626	3.25	1700	3.66	1769	4.09	1834	4.52	1894	4.93	1957	5.36	2015	5.83	2070	6.29

SIZE 2 H 18								OUTLET AREA 7.60 SQ FT												2 SIZE 182 FANS	
6399	842	611	.50	718	.76	813	1.07	896	1.43	981	1.80	1062	2.21	1137	2.60	1216	3.00	1282	3.41	1342	3.84
7110	936	645	.60	754	.91	846	1.24	924	1.59	1004	1.96	1077	2.40	1150	2.83	1222	3.27	1288	3.72	1353	4.18
7821	1029	683	.70	794	1.07	878	1.43	958	1.80	1028	2.17	1097	2.60	1166	3.06	1235	3.53	1298	4.03	1365	4.53
8532	1123	722	.83	833	1.26	913	1.61	992	2.03	1061	2.44	1124	2.85	1187	3.31	1265	3.80	1325	4.34	1385	4.86
9954	1310	805	1.16	907	1.63	933	2.11	1060	2.52	1127	2.98	1191	3.47	1248	3.95	1302	4.38	1355	4.94	1410	5.54
11376	1497	896	1.59	984	2.11	1069	2.67	1140	3.20	1200	3.66	1258	4.18	1316	4.73	1369	5.29	1420	5.83	1465	6.35
12798	1684	984	2.11	1063	2.67	1144	3.31	1216	3.93	1279	4.51	1334	5.06	1383	5.58	1436	6.20	1487	6.82	1535	7.44
14220	1871	1083	2.81	1147	3.37	1221	4.03	1290	4.73	1355	5.42	1412	6.08	1463	6.70	1507	7.26	1555	7.92	1601	8.58

SIZE 2 H 20								OUTLET AREA 9.20 SQ FT												2 SIZE 200 FANS	
7685	835	557	.60	655	.91	737	1.29	820	1.72	895	2.16	969	2.65	1041	3.12	1111	3.60	1166	4.10	1224	4.61
8539	927	588	.72	688	1.09	772	1.49	843	1.91	913	2.35	983	2.88	1049	3.40	1118	3.93	1175	4.47	1234	5.02
9393	1020	623	.84	724	1.29	803	1.72	874	2.16	938	2.61	996	3.12	1064	3.68	1127	4.24	2284	4.84	1245	5.44
10247	1113	659	1.00	760	1.51	833	1.93	908	2.44	968	2.93	1026	3.42	1083	3.98	1154	4.56	1209	5.21	1264	5.84
11955	1298	734	1.39	828	1.96	851	2.53	967	3.03	1028	3.58	1087	4.17	1139	4.74	1188	5.26	1236	5.93	1286	6.65
13663	1484	818	1.91	898	2.53	975	3.21	1040	3.84	1095	4.40	1148	5.02	1201	5.68	1249	6.35	1296	7.00	1337	7.63
15370	1669	898	2.53	970	3.21	1044	3.98	1109	4.72	1167	5.42	1217	6.08	1262	6.70	1310	7.45	1357	8.19	1401	8.94
17078	1855	988	3.37	1047	4.05	1114	4.84	1177	5.68	1236	6.51	1288	7.30	1335	8.05	1375	8.72	1419	9.51	1461	10.30

SIZE 2 H 22								OUTLET AREA 11.28 SQ FT												2 SIZE 222 FANS	
9509	843	502	.74	590	1.13	665	1.59	735	2.12	802	2.67	871	3.28	933	3.86	994	4.46	1048	5.07	1098	5.71
10565	937	529	.89	621	1.35	694	1.84	758	2.36	821	2.91	884	3.57	943	4.21	1003	4.86	1057	5.53	1110	6.21
11622	1030	560	1.04	651	1.59	718	2.12	786	2.67	843	3.22	899	3.86	597	4.55	1018	5.25	1065	5.99	1124	6.73
12679	1124	592	1.23	683	1.87	749	2.39	814	3.02	870	3.63	922	4.24	974	4.92	1038	5.65	1087	6.45	1136	7.22
14792	1311	660	1.72	744	2.42	765	3.14	870	3.74	925	4.43	977	5.16	1024	5.87	1068	6.51	1111	7.34	1157	8.23
16905	1499	735	2.36	807	3.14	877	3.97	935	4.76	984	5.44	1032	6.21	1083	7.03	1123	7.86	1165	8.66	1202	9.44
19018	1686	807	3.14	872	3.97	939	4.92	1002	5.84	1049	6.70	1094	7.52	1135	8.29	1178	9.21	1220	10.13	1259	11.06
21131	1873	891	4.18	941	5.01	1002	5.99	1058	7.03	1112	8.05	1158	9.03	1197	9.96	1236	10.79	1276	11.77	1313	12.75

Sheldons

HEATING AND VENTILATING UNITS

QUICK SELECTION TABLES

Cabinet Size	Capacity CFM	Coil Face Velocity	Fan O. V.
1-H-10	1400	400	1230
Coil FA	1750	500	1535
3.5 sq. ft.	2100	600	1840
	2450	700	2150
	2800	800	2455
	3250	900	2850
	3500	1000	3070
1-H-12	2080	400	1215
Coil FA	2600	500	1520
5.2 sq. ft.	3120	600	1825
	3640	700	2130
	4160	800	2435
	4680	900	2740
	5200	1000	3040
1-H-13	2520	400	1200
Coil FA	3150	500	1500
6.3 sq. ft.	3780	600	1800
	4410	700	2100
	5040	800	2400
	5670	900	2700
	6300	1000	3000
1-H-15	2960	400	1150
Coil FA	3700	500	1440
7.4 sq. ft.	4440	600	1730
	5180	700	2020
	5920	800	2310
	6660	900	2690
	7400	1000	2880
1-H-16	3360	400	1080
Coil FA	4200	500	1350
8.4 sq. ft.	5040	600	1620
	5880	700	1890
	6720	800	2160
	7560	900	2430
	8400	1000	2700
1-H-18	4200	400	1105
Coil FA	5250	500	1380
10.5 sq. ft.	6300	600	1660
	7350	700	1935
	8400	800	2210
	9450	900	2490
	10500	1000	2760

Cabinet Size	Capacity CFM	Coil Face Velocity	Fan O. V.
2-H-10	2660	400	1168
Coil FA	3325	500	1415
6.65 sq. ft.	3990	600	1750
	4655	700	2045
	5320	800	2330
	5985	900	2630
	6650	1000	2830
2-H-12	3660	400	1070
Coil FA	4575	500	1338
9.15 sq. ft.	5490	600	1605
	6405	700	1875
	7320	800	2140
	8235	900	2410
	9180	1000	2676
2-H-13	4640	400	1105
Coil FA	5800	500	1380
11.6 sq. ft.	5960	600	1660
	8120	700	1935
	9280	800	2210
	10340	900	2470
	11600	1000	2760
2-H-15	6360	400	1240
Coil FA	7950	500	1545
15.9 sq. ft.	9540	600	1855
	11130	700	2170
	12720	800	2480
	14210	900	2770
	15900	1000	3090
2-H-18	8140	400	1070
Coil FA	10175	500	1340
20.35 sq. ft.	12210	600	1610
	14245	700	1875
	16280	800	2140
	18297	900	2490
	20350	1000	2680
2-H-20	9940	400	1080
Coil FA	12425	500	1350
24.85 sq. ft.	14910	600	1620
	17395	700	1890
	19880	800	2160
	22365	900	2430
	24850	1000	2700
2-H-22	11440	400	1015
Coil FA	14300	500	1269
28.6 sq. ft.	17160	600	1522
	20020	700	1780
	22880	800	2130
	25740	900	2280
	28600	1000	2540

STEAM COILS

FINAL AIR TEMPERATURES — 1 ROW		TYPE "A" COILS							Velocity of Air through Face Area at 70°F and 29.92".				
Ent. Air Temp.	Series Surface	300′	400′	500′	600′	700′	800′	900′	1000′	1100′	1200′	1300′	1400′	1500′
0°	51	52.6	46.8	42.6	39.6	37.0	35.0	33.0	31.4	29.7	28.4	27.2	26.2	25.4
	61	72.6	63.7	57.9	53.0	49.4	46.3	43.4	41.0	39.2	37.5	36.0	34.6	33.6
	71	88.0	77.8	70.5	65.4	61.0	56.3	53.1	50.2	47.6	45.5	43.6	42.0	40.2
	81	108.5	95.0	86.4	80.1	75.0	69.8	65.0	61.1	57.9	54.9	52.4	50.4	48.8
	91	116.0	101.4	92.9	85.8	80.0	75.0	69.9	66.0	63.3	60.1	57.1	54.9	53.1
	101	138.0	121.5	110.0	101.0	93.8	87.4	82.1	77.4	73.0	69.9	66.5	64.0	61.7
CONDENSATE RATE — LB. PER SQ. FT. F.A.														
0°	51	17.9	21.2	24.2	26.9	29.3	31.7	33.6	35.6	37.0	38.6	40.1	41.6	43.2
	61	24.6	28.9	32.8	36.0	39.1	41.9	44.1	46.5	48.9	51.0	53.0	54.9	57.1
	71	29.8	35.3	39.9	44.3	48.4	51.0	54.0	56.8	59.4	61.9	64.2	66.6	68.4
	81	36.8	43.1	48.9	54.4	59.4	63.2	66.1	69.2	72.2	74.6	77.1	80.0	83.0
	91	39.3	46.0	52.6	58.2	63.4	67.9	71.1	74.7	79.0	81.6	84.0	87.1	90.2
	101	46.7	55.1	62.4	68.6	74.3	79.0	83.5	87.5	91.0	95.0	97.9	101.5	105.0

TYPE "B" COILS													
Ent. Air Temp.	Series Surface	300′		400′		500′		600′		700′		800′	
		F.T.	COND.	F.T.	COND.	F.T.	COND.	F.T.	COND.	F.T.	COND.	F.T.	COND.
0°	W1	77.2	26.0	67.2	30.2	60.2	33.8	55.1	37.2	51.2	40.4	48.0	43.2
	X1	89.7	30.2	77.2	34.7	68.3	38.3	62.2	42.0	57.8	45.4	53.9	48.5
	Y1	108.5	36.6	94.0	42.2	84.0	47.1	76.8	51.8	71.0	55.7	66.6	59.8
	72B	108.9	36.8	100.6	45.4	93.2	52.6	88.1	59.7	84.4	66.6	80.6	72.7
	82B	125.0	42.3	114.6	51.8	107.1	60.4	101.2	68.5	96.3	76.0	92.4	83.5
	W2	149.7	50.4	131.7	59.2	119.0	66.9	109.5	74.0	102.0	80.2	96.0	86.5
	X2	153.2	51.7	136.8	61.4	124.8	70.0	116.0	78.4	108.4	85.0	102.7	92.1

CONSTANTS for obtaining Temperature Rise at various Steam Pressures

Note: To obtain Final Temperature for Steam Pressures or Entering Air Temperatures other than those shown in Tables, multiply the ratings for Zero Entering Air Temperatures and 5 Pounds Steam Pressure as shown in the various Tables, by Conversion Factors given in this Table, and add this Temperature Rise to Temperatures of Entering Air.

Ent. Air Temp. °F	Steam Pressure in Pounds per Square Inch (Gauge)															
	0	2	5	10	15	20	30	40	50	60	80	100	125	150	175	200
—30	1.066	1.097	1.132	1.187	1.234	1.272	1.340	1.398	1.445	1.495	1.560	1.620	1.690	1.742	1.795	1.845
—20	1.021	1.050	1.088	1.142	1.187	1.227	1.295	1.350	1.399	1.441	1.514	1.575	1.641	1.699	1.750	1.795
—10	.997	1.006	1.044	1.098	1.143	1.183	1.250	1.306	1.355	1.397	1.470	1.531	1.597	1.655	1.705	1.751
0	.933	.962	1.000	1.054	1.100	1.139	1.206	1.262	1.310	1.353	1.426	1.487	1.554	1.611	1.662	1.707
10	.889	.918	.956	1.010	1.055	1.095	1.163	1.219	1.266	1.309	1.382	1.443	1.510	1.566	1.618	1.664
20	.845	.874	.912	.966	1.012	1.051	1.119	1.174	1.223	1.265	1.338	1.399	1.465	1.523	1.574	1.620
30	.801	.830	.868	.922	.968	1.007	1.075	1.130	1.179	1.221	1.294	1.355	1.421	1.479	1.530	1.575
40	.757	.786	.824	.877	.923	.963	1.030	1.086	1.134	1.177	1.250	1.311	1.378	1.435	1.486	1.351
45	.735	.764	.802	.856	.901	.941	1.009	1.064	1.113	1.155	1.228	1.289	1.355	1.413	1.464	1.510
50	.713	.742	.780	.834	.879	.919	.986	1.042	1.091	1.133	1.201	1.267	1.334	1.390	1.442	1.487
55	.691	.720	.758	.812	.857	.897	.965	1.020	1.069	1.111	1.184	1.245	1.311	1.369	1.420	1.465
60	.669	.698	.736	.790	.835	.875	.943	.998	1.046	1.089	1.161	1.224	1.290	1.346	1.398	1.444
65	.647	.676	.714	.768	.813	.853	.921	.976	1.025	1.067	1.141	1.201	1.267	1.325	1.376	1.421
70	.625	.654	.692	.746	.791	.831	.899	.954	1.003	1.045	1.119	1.179	1.245	1.302	1.354	1.400
75	.603	.632	.670	.724	.769	.809	.877	.932	.981	1.023	1.097	1.157	1.224	1.280	1.332	1.377
80	.581	.610	.648	.702	.747	.787	.855	.910	.959	1.001	1.075	1.135	1.201	1.259	1.310	1.355
85	.559	.588	.626	.679	.725	.765	.833	.888	.937	.979	1.053	1.113	1.180	1.236	1.288	1.334
90	.537	.566	.604	.657	.703	.743	.811	.866	.914	.957	1.031	1.091	1.157	1.215	1.266	1.311
100	.493	.522	.560	.613	.659	.691	.767	.822	.871	.913	.986	1.047	1.114	1.170	1.222	1.268
110	.449	.478	.516	.569	.615	.655	.723	.778	.827	.869	.942	1.003	1.070	1.126	1.177	1.224
120	.405	.434	.472	.525	.571	.611	.679	.734	.783	.825	.898	.969	1.025	1.082	1.133	1.180
140	.317	.346	.384	.438	.483	.523	.591	.646	.695	.737	.810	.871	.937	.995	1.045	1.091
160	.229	.258	.296	.349	.395	.434	.503	.558	.606	.649	.722	.784	.850	.907	.955	1.005
180	.141	.169	.208	.262	.307	.347	.414	.470	.519	.561	.633	.695	.762	.819	.869	.915
200	.053	.081	.120	.173	.219	.259	.326	.382	.430	.473	.545	.607	.673	.731	.782	.877

HOT WATER COILS

WATER — COIL HEAD LOSS

Head Loss = (Base Head Loss) X M_1 X $\frac{\text{(Number of Passes)}}{2}$

***Base Head Loss (Feet of Water)**

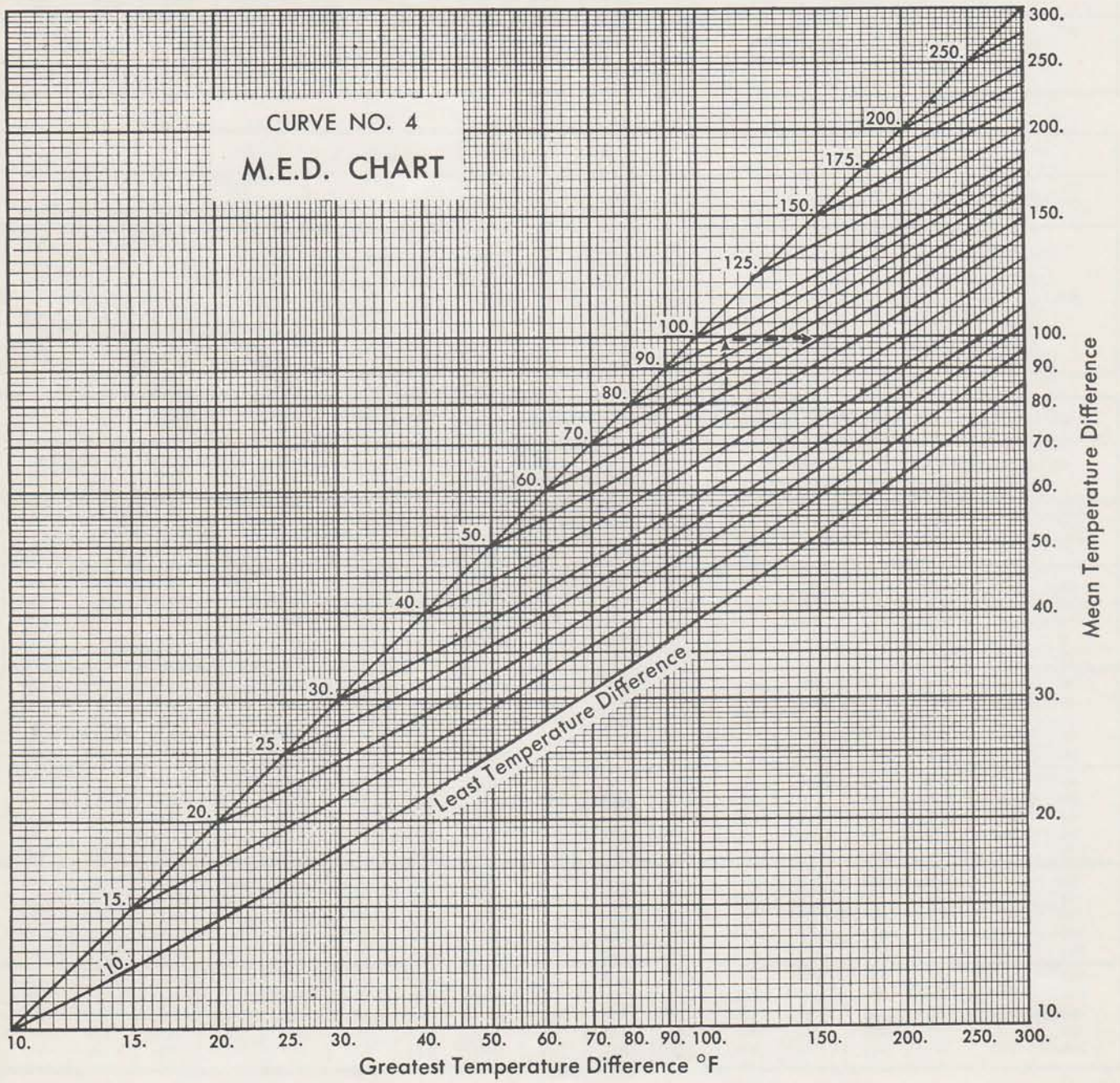
Tube Length	2' 0"	2' 6"	3' 0"	3' 6"	4' 0"	4' 6"	5' 0"	5' 6"	6' 0"	6' 6"	7' 0"	7' 6"	8' 0"	8' 6"	9' 0"	9' 6"	10' 0"
Head Loss	.71	.73	.75	.77	.79	.81	.84	.86	.88	.90	.92	.94	.96	.98	1.01	1.03	1.04

*"Base Head loss" is for 1.25 GPM/circuit.

M_1 — Change in Head Loss With Change in GPM

Per Cent GPM**	25	50	75	100	125	150	175	200	250	300	350	400
Head Loss Multiplier	.081	.28	.60	1.00	1.50	2.10	2.80	3.50	5.30	7.30	9.7	12.3

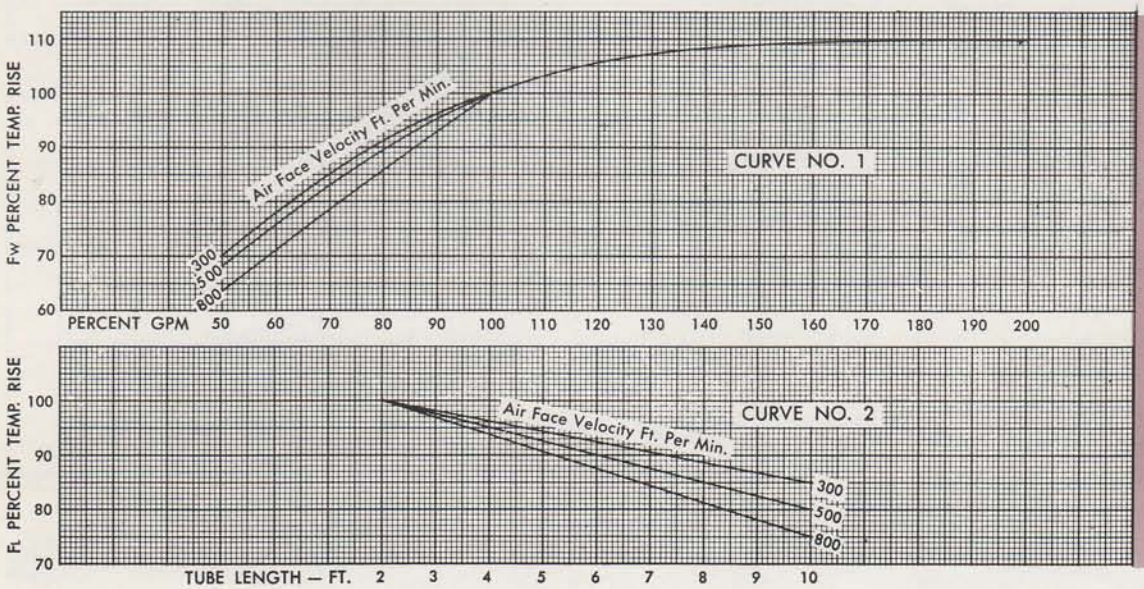
**1.25 GPM/circuit = 100%. Percent GPM = $\frac{\text{GPM Per Circuit}}{1.25}$ X 100 GPM in shaded area requires special headers.



HOT WATER COIL RATINGS FINAL AIR TEMPERATURES °F (Tables read directly for Base GPM and 2-Pass Coils only)

Temp. Entering °F		Rows	Air Face Velocity in Ft. Per Min.*					
Air	Water	Deep	300′	400′	500′	600′	700′	800′
−20°	140	1	39	29	23	19	15	13
		2	79	65	55	47	42	39
	160	1	47	36	30	24	22	18
		2	91	77	66	58	52	48
	180	1	55	44	37	32	28	24
		2	105	88	77	69	62	56
	200	1	63	53	44	38	34	31
		2	118	100	88	79	72	66
	220	1	72	61	52	45	39	35
		2	133	112	100	90	82	76
−10°	140	1	45	36	30	26	23	21
		2	83	70	60	53	48	45
	160	1	53	43	37	32	29	26
		2	95	81	71	63	58	54
	180	1	61	51	44	39	35	31
		2	108	93	82	74	68	63
	200	1	69	59	51	45	41	36
		2	122	105	93	84	78	72
	220	1	78	67	59	52	47	42
		2	136	117	105	95	88	82
0°	140	1	51	43	37	33	31	29
		2	87	75	65	59	54	51
	160	1	59	50	44	40	36	34
		2	99	85	76	68	64	60
	180	1	67	58	51	46	42	38
		2	111	98	87	79	74	70
	200	1	75	65	58	52	48	43
		2	126	110	98	89	84	78
	220	1	84	73	66	59	55	49
		2	139	122	110	100	94	88
10°	140	1	57	50	44	41	38	37
		2	90	79	71	64	60	58
	160	1	65	57	51	47	44	41
		2	102	90	81	74	70	66
	180	1	73	65	58	53	50	46
		2	115	102	92	85	80	76
	200	1	81	72	65	59	56	51
		2	129	114	103	95	90	84
	220	1	91	80	73	66	62	57
		2	143	126	115	106	100	94
20°	140	1	63	56	52	48	46	45
		2	94	84	76	70	66	64
	160	1	72	64	59	54	52	49
		2	106	95	86	80	76	73
	180	1	79	71	65	61	58	54
		2	119	107	98	91	86	82
	200	1	88	79	72	67	63	59
		2	133	119	109	101	95	90
	220	1	109	100	94	88	84	80
		2	147	131	120	112	105	100

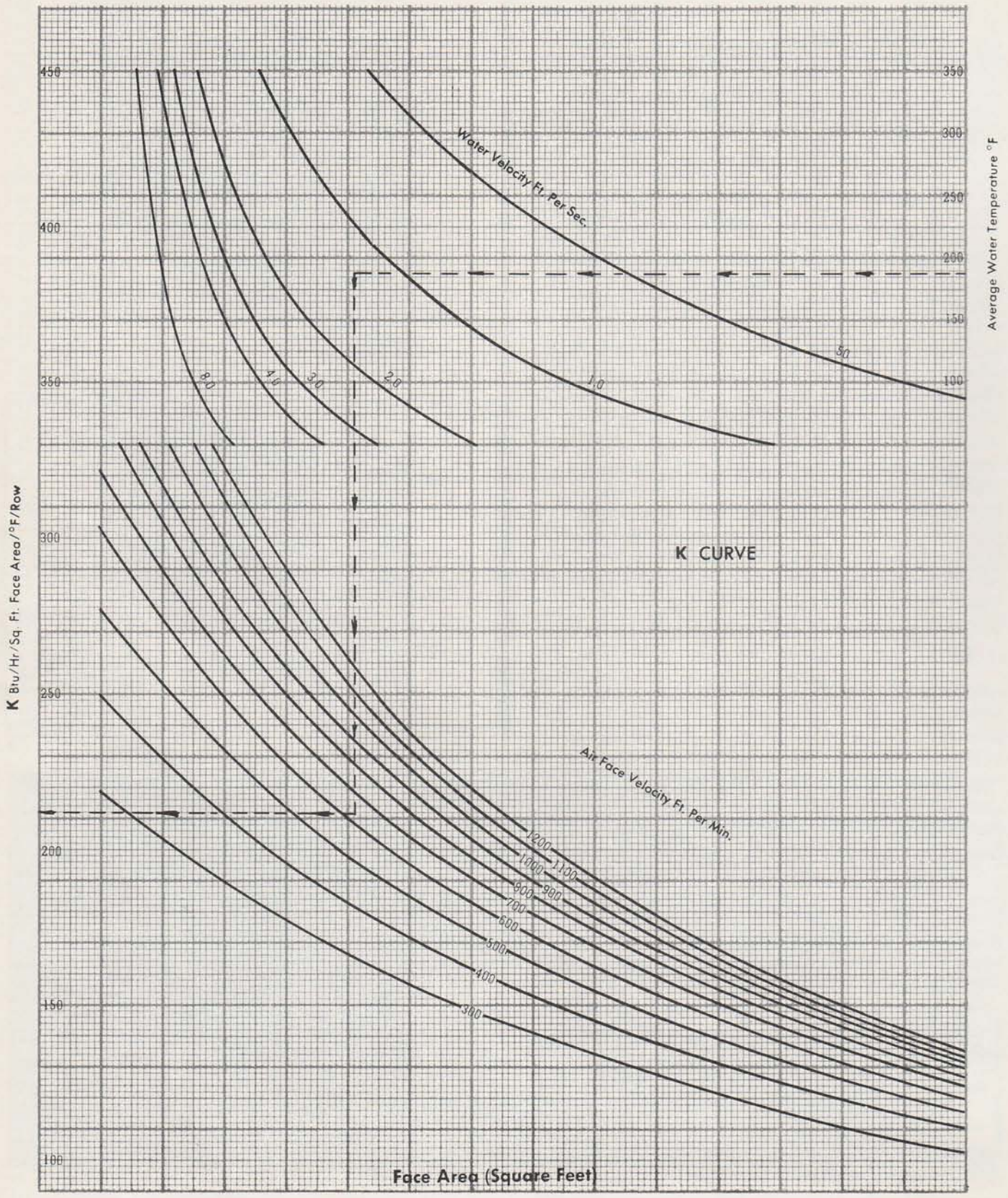
Temp. Entering °F		Rows	Air Face Velocity in Ft. Per Min.*					
Air	Water	Deep	300′	400′	500′	600′	700′	800′
30°	140	1	70	63	59	56	54	52
		2	98	88	81	76	72	70
	160	1	78	71	66	62	59	57
		2	110	99	92	86	82	79
	180	1	86	78	72	68	65	62
		2	123	111	103	96	92	88
	200	1	94	86	79	74	71	67
		2	137	124	114	106	101	96
	220	1	103	94	87	81	77	73
		2	151	136	126	117	111	106
40°	140	1	75	70	66	64	62	60
		2	101	93	87	82	79	76
	160	1	84	77	73	69	67	65
		2	114	104	97	91	88	85
	180	1	92	85	79	75	73	70
		2	127	116	108	102	98	95
	200	1	100	92	86	81	78	75
		2	141	128	119	112	107	102
	220	1	109	100	94	88	84	80
		2	154	140	131	123	117	112
50°	140	1	82	77	73	71	69	68
		2	105	98	92	88	85	83
	160	1	90	84	80	77	75	73
		2	118	109	102	97	94	91
	180	1	98	92	86	83	80	77
		2	131	121	113	108	104	100
	200	1	106	99	93	88	86	83
		2	145	133	124	117	113	108
	220	1	116	107	101	95	92	88
		2	158	145	136	128	123	118
60°	140	1	88	84	81	79	77	76
		2	109	102	97	94	91	89
	160	1	97	91	87	84	82	81
		2	122	113	108	103	100	98
	180	1	105	99	93	90	88	85
		2	135	125	119	113	110	107
	200	1	113	106	100	96	93	91
		2	148	137	130	123	119	114
	220	1	122	114	107	102	99	96
		2	162	149	141	134	129	124
70°	140	1	94	91	88	86	85	84
		2	113	107	103	99	97	95
	160	1	103	98	94	92	90	88
		2	125	118	113	109	107	104
	180	1	111	105	101	98	95	93
		2	138	130	124	119	116	113
	200	1	119	112	107	103	100	98
		2	152	142	135	129	125	120
	220	1	128	120	114	110	106	104
		2	165	154	146	139	134	130



CORRECTIONS FOR TUBE LENGTH

CORRECTIONS FOR GALLONAGE

HEAT TRANSFER HOT WATER COILS



COILS AND FILTERS

COIL AND FILTER DATA*

Unit Size	1 H 10	1 H 12	1 H 13	1 H 15	1 H 16	1 H 18	2 H 10	2 H 12	2 H 13	2 H 15	2 H 18	2 H 20	2 H 22
Steam Coils													
Tube Face	12	15	18	18	18	24	12	15	18	21	24	27	27
Tube Length (NTL)	2' 6"	3' 3"	3' 0"	3' 6"	4' 0"	3' 9"	4' 9"	5' 3"	5' 6"	6' 6"	7' 3"	8' 0"	9' 0"
FA Large Coil	3.5	5.2	6.3	7.4	8.4	10.5	6.65	9.15	11.6	15.9	20.3	24.85	28.6
FA Medium Coil	—	4.2	5.2	6.1	7.0	9.2	—	7.35	9.6	13.7	17.7	22.4	25.2
FA Small Coil	—	—	—	—	—	7.9	—	—	—	11.4	15.2	19.2	22.0
Type CH Water Coil													
Tube Length	2' 10"	3' 4"	3' 4"	3' 10"	4' 4"	4' 1"	5' 1"	5 7"	5' 10"	6' 10"	7' 7"	8' 4"	9' 4"
FA Area	3.73	5.55	6.77	7.78	8.88	11.1	6.91	9.55	12.4	16.5	20.9	25.9	29.7
Base GPM 1-Row	7.5	10.0	11.25	11.25	11.25	15.0	7.5	10.0	11.25	13.75	15.0	17.5	21.25
Base GPM 2-Row	15.0	18.75	22.5	22.5	22.5	30.0	15.0	18.75	22.5	26.25	30.0	33.75	41.25
"N" No. of Ccts	12	15	18	18	18	24	12	15	18	21	24	27	27
Flat Filters													
Number	2	2	2	4	4	4	3	4	4	8	8	8	14
Size	1-16x20 1-20x20	20x25	20x25	16x20	16x25	2-16x25 2-20x25	20x20	3-16x25 1-20x25	2-16x25 2-20x25	16x20	2-16x20 2-20x20 2-16x25 2-20x25	20x25	7-16x20 7-16x25
Angle Filters													
Number	4	4	6	9	6	9	6	8	12	12	15	16	28
Size	16x20	20x25	20x20	16x20	20x25	16x25	20x20	16x25	6-16x20 6-20x20	20x20	6-16x25 9-20x25	20x25	16x25
Gross Filter Area — Flat	5.00	6.94	6.94	8.90	11.10	12.49	8.33	11.80	12.49	17.80	22.49	27.75	35.00
Gross Filter Area — Angle	8.90	13.88	16.65	20.00	20.80	25.00	16.65	28.80	30.00	33.30	47.85	55.50	77.75

*Dimensions are given for standard units only — larger units on request.

AIR FRICTION TABLE — Type "A" Coils

Series Surface	Velocity of Air Through Face Area — At 70° F. and 29.92" Barometer												
	300'	400'	500'	600'	700'	800'	900'	1000'	1100'	1200'	1300'	1400'	1500'
51	.020	.033	.048	.065	.084	.105	.128	.154	.180	.209	.239	.270	.302
61	.031	.051	.074	.100	.130	.163	.198	.237	.278	.322	.370	.421	.472
71	.039	.063	.092	.126	.162	.025	.248	.298	.349	.405	.462	.530	.590
81	.058	.094	.138	.187	.245	.309	.375	.450	.525	.609	.695	.790	.880
91	.062	.101	.147	.201	.262	.326	.406	.475	.561	.651	.745	.840	.940
101	.080	.130	.188	.255	.328	.410	.498	.591	.680	.782	.890	1.020	1.130

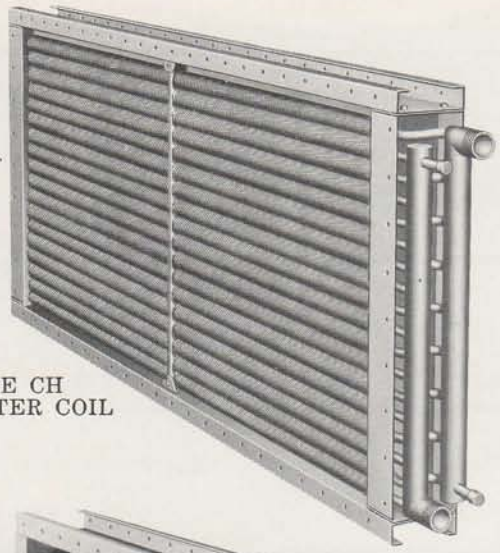
AIR FRICTION TABLE
TYPE "B" STEAM COILS AND TYPE "CH" WATER COILS

	Velocity of Air (Ft. per Min.)					
	300	400	500	600	700	800
Steam Coils						
W1	.022	.037	.055	.077	.102	.130
X1	.027	.045	.067	.093	.122	.156
Y1	.038	.060	.087	.117	.151	.189
72B	.045	.072	.105	.142	.184	.230
82B	.047	.076	.110	.151	.194	.243
W2	.050	.081	.118	.161	.208	.262
X2	.060	.098	.142	.192	.250	.312
Water Coils — 1 Row	.038	.060	.087	.117	.151	.189
Water Coils — 2 Row	.060	.098	.142	.192	.250	.312

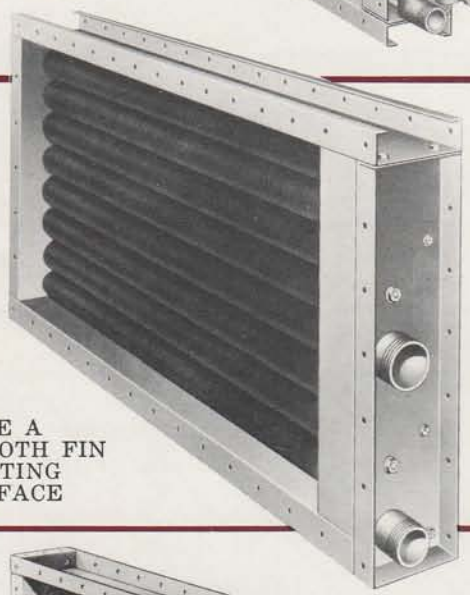
FILTER RESISTANCE

HIGH VELOCITY CLEANABLE TYPE		LOW VELOCITY THROW-AWAY TYPE	
Filter Vel.	Static Resistance	Filter Vel.	Static Resistance
400	.077"	150	.03"
500	.112"	200	.05"
600	.156"	250	.07"
700	.205"	300	.10"
800	.257"	350	.13"

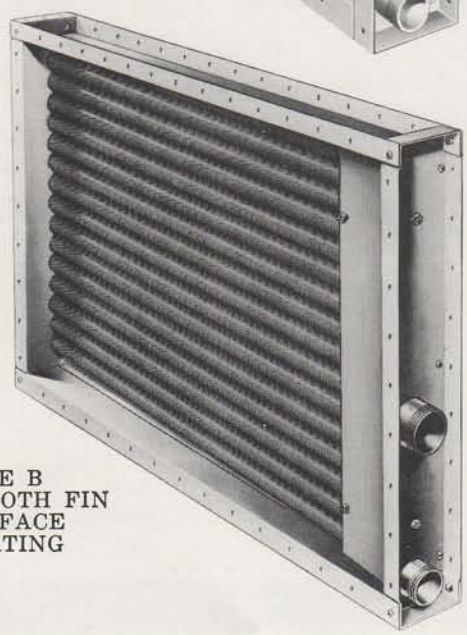
STANDARD COILS



TYPE CH
WATER COIL



TYPE A
SMOOTH FIN
HEATING
SURFACE



TYPE B
SMOOTH FIN
SURFACE
HEATING

GENERAL

All coils have galvanized casings with flanges which may be bolted directly to the adjacent sections, thereby forming an integral part of the unit. The copper tubing may have copper or aluminum fins as a helix around the tube. All steam coils are of the non-freeze design.

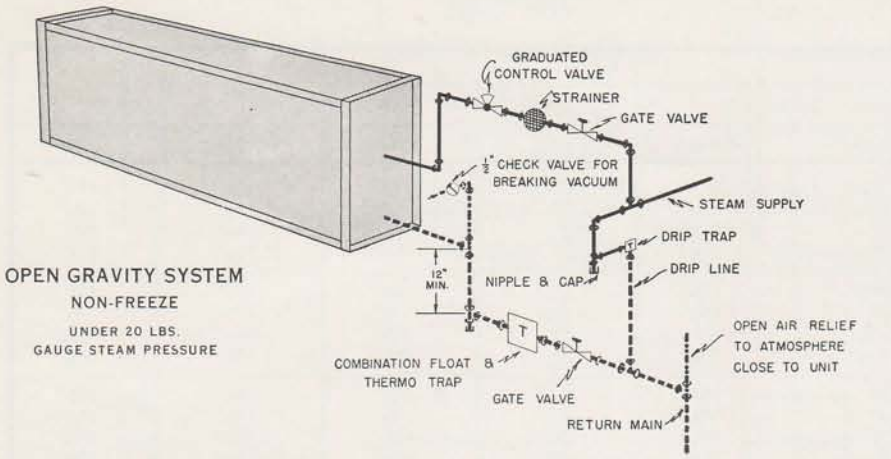
TYPE CH WATER COILS

These coils are built with the supply and return connections at the same end of the coil. An air vent connection is also provided. Ethylene glycol (prestone) can be used in these coils, if protection is required against freezing air. The CH coil is available in one or two rows. These coils are slightly longer than the steam coils for the same cabinet, but all coils fit within the cabinet dimensions with no headers exposed. Means are provided to drain the coils whether installed in vertical or horizontal units. Single row coils are normally supplied ½ circuit and 2-row coils are supplied full circuit. When CH coils handle air below freezing temperatures it is recommended that a circulating pump be installed in each unit system. The flow of water to the coil should not be throttled if freezing temperatures are encountered.

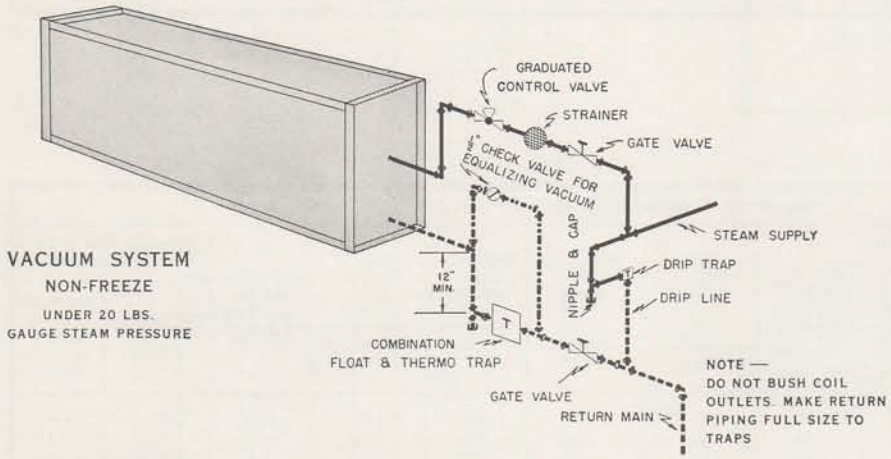
TYPE A STEAM COILS are available in single-row only. The tubing is 1″ diameter. Several series are listed, all of which are available as standard. In all cases the coils are installed with sufficient pitch in both horizontal and vertical units to assure good drainage of condensate. The large diameter tubes provide excellent steam distribution over the entire face area and facilitate drainage.

TYPE B STEAM COILS are available in both one and two rows. The tubing is ⅝″ diameter. These are also available in several series. Series W and X are recommended for textile mills and other applications where lint is present. The wider tube spacing permits foreign material to pass through more readily and facilitates cleaning.

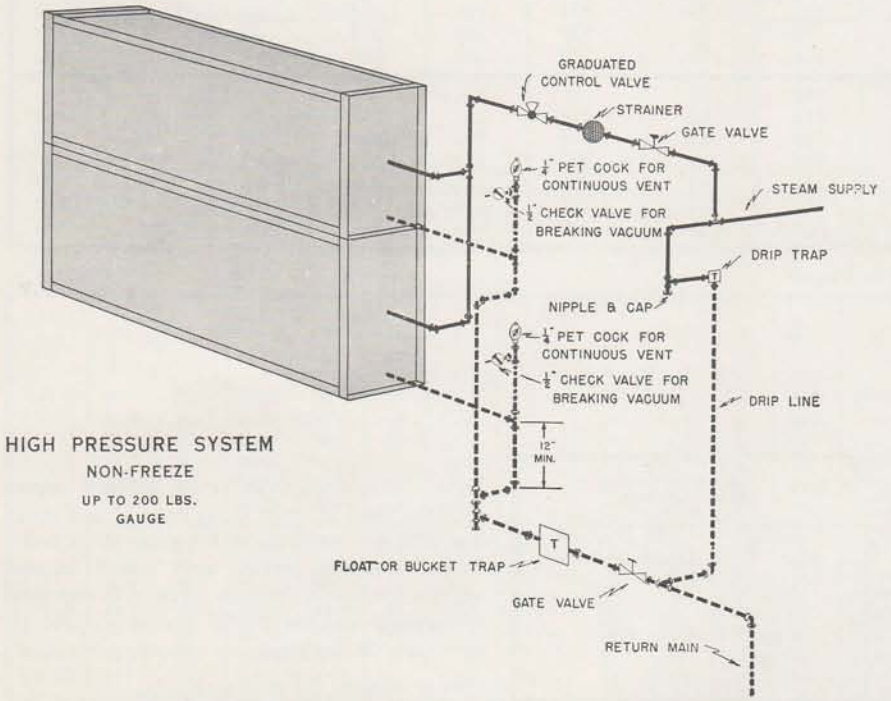
COIL CONNECTIONS



OPEN GRAVITY SYSTEM
NON-FREEZE
UNDER 20 LBS. GAUGE STEAM PRESSURE



VACUUM SYSTEM
NON-FREEZE
UNDER 20 LBS. GAUGE STEAM PRESSURE



HIGH PRESSURE SYSTEM
NON-FREEZE
UP TO 200 LBS. GAUGE

NOTES ON PIPING CONNECTIONS

1. Do not bush return outlets of Heaters. Make connection full size of Heater Return, reducing at trap.

2. Use Thermostatic Traps for venting only and Float or Bucket Traps for condensate removal. Trap size should be selected on the Difference in Pressure between the steam supply main and the return main.

3. Do not use 45° or vertical lift Check Valves. Use only 15° Check Valves as they can open with lower head of water.

4. Do not drip steam mains into coil sections, drip them on pressure side of control valve and trap into return main beyond trap from coil.

5. Do not oversize control valve, select valve from steam load and not from coil supply connection.

6. Do not use a single trap for 2 or more coils installed in series unless entire bank is controlled by one valve. Each group or bank of coils under separate control must have a separate trap.

7. Do not try to lift condensate above coil return into overhead main, or drain into mains under pressure with modulating or on and off steam control valves. A pump and receiver or boiler return trap should be installed between coil condensate traps and overhead mains and return mains under pressure.

8. Do not fail to use strainer (3/32" Mesh) as shown by piping diagrams on steam supply side, to avoid collection of scale or other foreign matter in distributing orifices.

   NOTE: Non-Freeze, laid flat for vertical airflow, must be installed with tubes draining downward toward the header end of the coil.

9. Do not fail to provide all coils with proper air vents to eliminate non-condensable gases.

10. Do not support steam piping from units. Both mains and coil sections should be supported independently.

PIPING CONNECTIONS - WEIGHTS - GLYCOL FACTORS

PIPING CONNECTIONS

Cabinet	TYPE A		TYPE B				CH	
			1 Row		2 Row			
	Supply	Return	Supply	Return	Supply	Return	Supply	Return
1 H 10	2"	1½"	1½"	1"	2"	1½"	1½"	1½"
1 H 12	2"	1½"	1½"	1¼"	2"	1½"	1½"	1½"
1 H 13	2"	1½"	2"	1¼"	2"	1½"	1½"	1½"
1 H 15	2"	1½"	2"	1¼"	2"	1½"	1½"	1½"
1 H 16	2"	1½"	2"	1¼"	2"	1½"	1½"	1½"
1 H 18	2½"	1½"	2"	1¼"	2½"	1½"	1½"	1½"
2 H 10	2"	1½"	1½"	1"	2"	1½"	1½"	1½"
2 H 12	2"	1½"	1½"	1¼"	2"	1½"	1½"	1½"
2 H 13	2"	1½"	2"	1¼"	2"	1½"	1½"	1½"
2 H 15	2½"	1½"	2"	1¼"	2½"	1½"	1½"	1½"
2 H 18	2½"	1½"	2"	1¼"	2½"	1½"	1½"	1½"
2 H 20	2½"	1½"	2"	1¼"	2½"	1½"	1½"	1½"
2 H 22	1½"	1½"	2"	1¼"	2½"	1½"	1½"	1½"

TABLE OF WEIGHTS*

Unit Size	Weight of Component or Section											
	Fan Section (Motor, Drive, and Guard are **not** incl.)	5" COIL SECTIONS				Flat Filter Section (incl. high velocity filters)	H.D. Angle Filter Section (incl. high velocity filters)	Mix. Box Section with F.A. and R.A. Dampers (no filters)	Base-Plenum-Coil Section (Vert. Units) Wgt. of 5" coil not incl.	14" Wide Access or Plenum Section	Internal Face & By-Pass Damper Section	
		1-Row Steam Coil CTAF (Std. large coil)	2-Row Steam Coil CTAF (Std. large coil)	1-Row CH Hot Water Coil CTAF (Std. large coil) filled with water	2-Row CH Hot Water Coil CTAF (Std. large coil) filled with water						10" Section (for vert. airflow)	For Horiz. airflow (incl. 5" coil cover section)
1 H 10	200	60	75	75	100	45	125	140	125	40	—	—
1 H 12	245	75	95	105	135	55	155	185	150	45	105	115
1 H 13	275	85	105	120	150	55	180	215	165	45	115	125
1 H 15	320	95	115	135	170	75	210	250	190	50	140	160
1 H 16	365	105	130	155	190	90	230	280	215	60	150	175
1 H 18	395	120	155	175	235	100	250	300	230	60	150	185
2 H 10	305	100	115	115	160	75	190	200	170	55	—	—
2 H 12	400	120	145	150	210	100	240	260	215	65	165	185
2 H 13	490	135	170	200	265	125	300	290	260	70	190	210
2 H 15	600	165	210	255	330	150	340	355	305	75	220	250
2 H 18	710	190	250	310	410	175	400	440	340	85	250	300
2 H 20	815	245	330	370	500	200	500	530	400	95	300	360
2 H 22	960	280	360	415	560	230	600	610	440	100	345	410

*Weights of standard Sheldon units only — larger units on request.

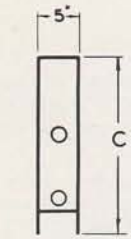
FACTORS FOR ETHYLENE GLYCOL*

Design Outside Air Temp. °F	F_1	F_2	Ethylene Glycol* Water Solution	
	F_1 X Water GPM = Solution GPM	F_2 X Water Head = Solution Head (Ft. H_2O)	Freezing Point °F	% Ethylene Glycol By Volume
+20	1.06	1.00	+10	28%
+10	1.09	1.15	0	36
0	1.11	1.15	−10	43
−10	1.25	1.55	−20	47
−20	1.40	1.90	−30	52

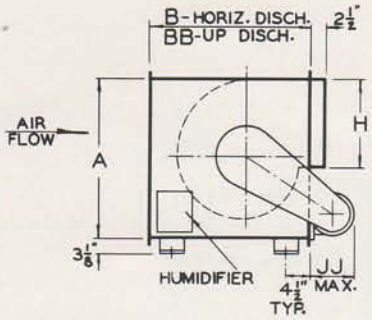
Note: To select CH Coil using ethylene glycol solutions, read "K" from Curve Page 12 and calculate GPM and head loss as for water. Then apply factors F_1 and F_2. (Factors valid only if average solution temperature is above 150°F, with maximum temperature not over 300°). Consult supplier of anti-freeze for inhibitors for controlling corrosion.

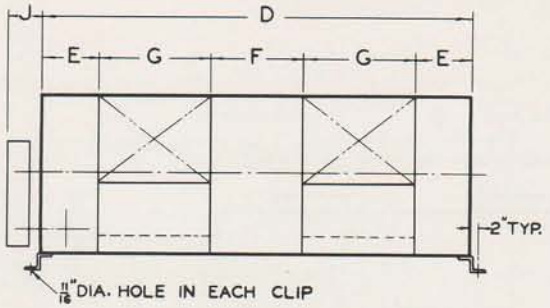
*This is Prestone, Zerex or equivalent.

DIMENSIONS — HORIZONTAL UNITS



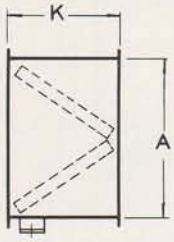
STD. LARGE COIL



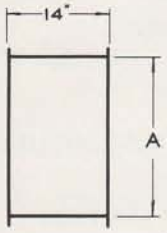


BASIC HORIZONTAL UNIT

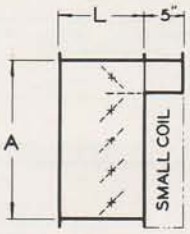
FLAT FILTERS



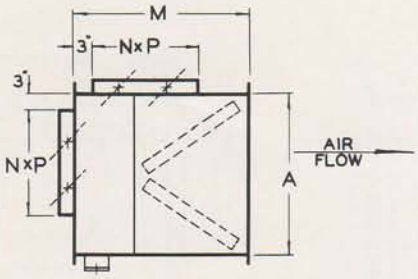
ANGLE FILTER BOX



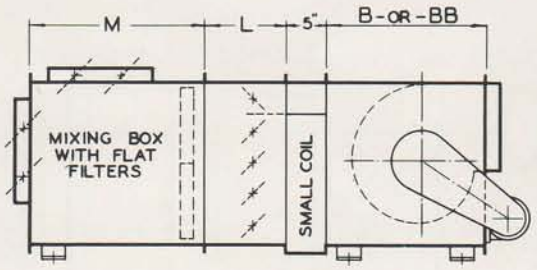
ACCESS OR PLENUM SPACE



FACE & INTERNAL BY-PASS DAMPERS — FOR MOUNTING AT UPSTREAM SIDE OF COIL



MIXING BOX WITH ANGLE FILTERS

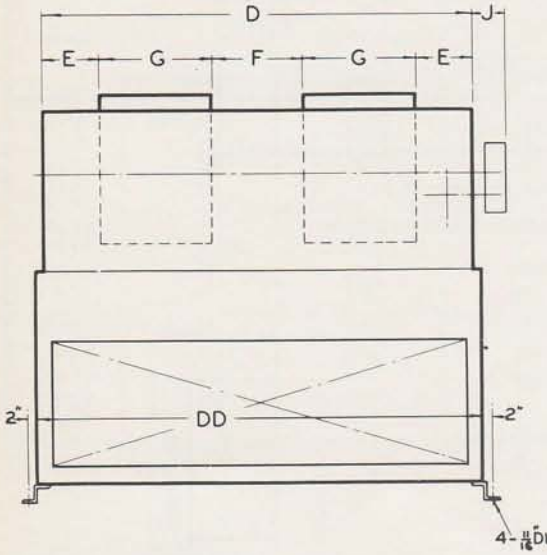


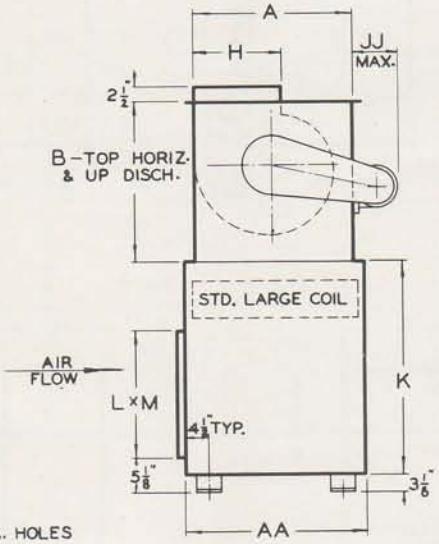
TYPICAL ASSEMBLY OF COMPONENTS

NOTES — All projecting flanges will extend 1¼" beyond box casings.
— All components are shown for floor mounting. When ceiling suspended unit is required, support clips move to top of casing.
— Coil outlet conn. must be located high enough to allow proper cooling leg between condensate outlet and trap. (Refer to Coil Piping diagrams.)

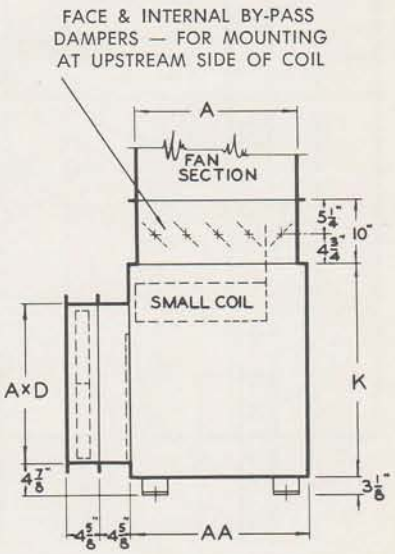
Unit Size	A	B	BB	C	D	E	F	G	H	J	JJ	K	L	M	N	P	Face Area of Large Steam Coil	Steam Coil F.A. For Internal By-Pass Units
1 H 10	21½	24	28⅝	24	36	11	—	14	12	6	16½	22¾	—	30	13	32	3.5	—
1 H 12	25¾	28	32⅝	28¼	42	12½	—	17	14¾	6	16½	27¼	11	36	17	38	5.2	4.2
1 H 13	28	30	34⅝	30½	42	11½	—	19	16¼	6	18	22¾	11	36	19	38	6.3	5.2
1 H 15	32	32½	37⅛	34½	48	13½	—	21	18	6	18	22¾	13	38	21	44	7.4	6.1
1 H 16	34	35	39⅝	36½	54	15½	—	23	19¾	6	19½	22¾	13	38	21	50	8.4	8.4
1 H 18	38	38	42⅝	40½	51	12¾	—	25½	21¾	6	19½	27¼	16	46	27	47	10.5	7.9
2 H 10	21½	24	28⅝	24	63	9½	16	14	12	6	18	22¾	—	30	13	59	6.65	—
2 H 12	25¾	28	32⅝	28¼	69	9½	16	17	14¾	6	19½	27¼	11	36	17	65	9.15	7.35
2 H 13	28	30	34⅝	30½	72	9½	15	19	16¼	6½	21	22¾	11	36	19	68	11.6	9.6
2 H 15	32	32½	37⅛	34½	84	11½	19	21	18	6½	21	22¾	13	38	21	80	15.9	11.4
2 H 18	38	38	42⅝	40½	93	11¼	19½	25½	21¾	7½	26	27¼	16	46	27	89	20.3	15.2
2 H 20	41	41	45⅝	43½	102	12¼	21½	28	24	7½	26	22¾	16	46	29	98	24.85	19.2
2 H 22	45	45	49⅝	47½	114	13¾	24½	31	26½	8	28	27¼	16	50	31	110	28.6	25.2

DIMENSIONS — VERTICAL UNITS



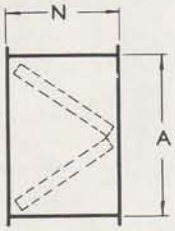


BASIC VERTICAL UNIT WITH HEATING COIL & BASE-PLENUM SECTION

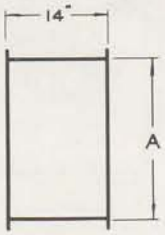


BASE SECTION PLUS FLAT FILTERS & DAMPERS

STD. LARGE COIL

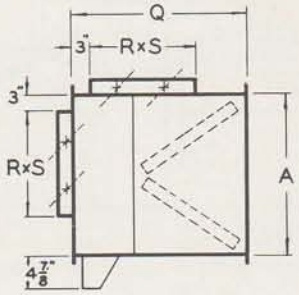


ANGLE FILTER BOX



ACCESS OR PLENUM SPACE

FACE & INTERNAL BY-PASS DAMPERS — FOR MOUNTING AT UPSTREAM SIDE OF COIL

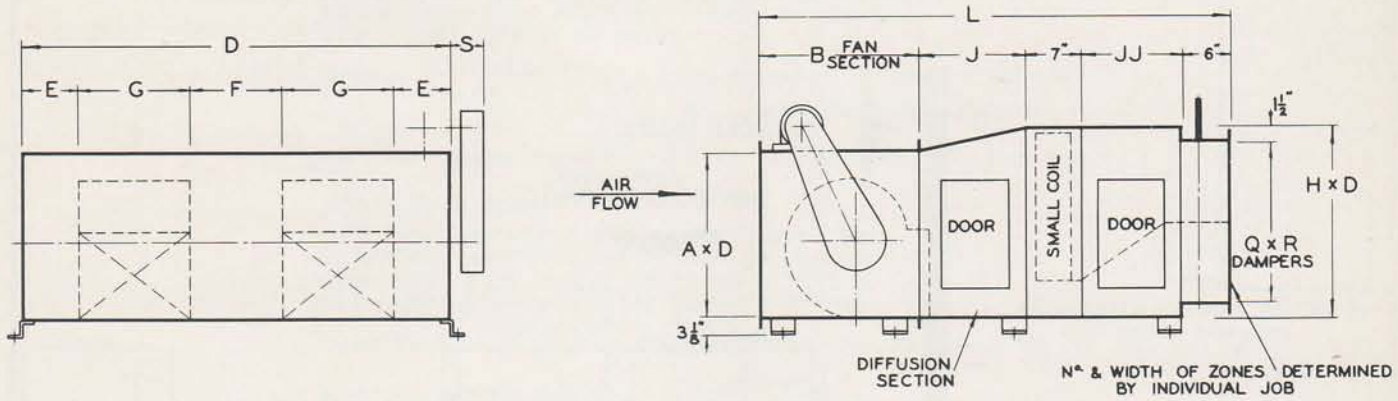


MIXING BOX WITH ANGLE FILTERS

NOTES — All projecting flanges will extend 1¼" beyond box casings.
— Coil outlet conn. must be located high enough to allow proper cooling leg between condensate outlet and trap. (Refer to Coil Piping diagrams.)

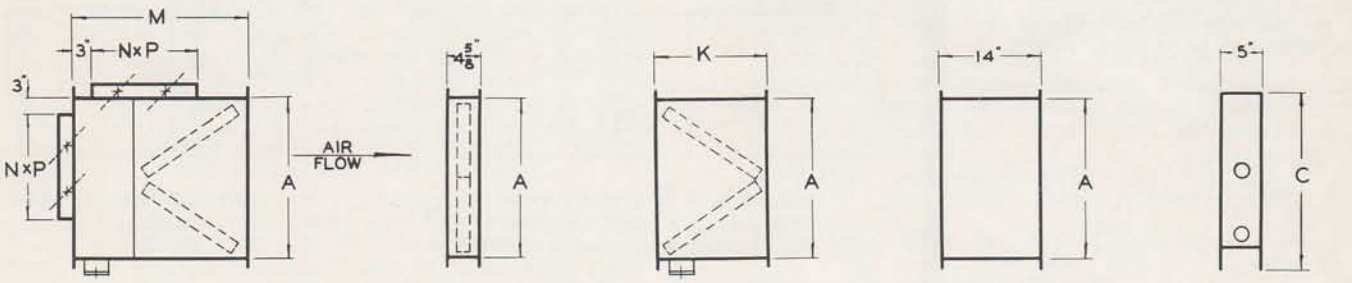
Unit Size	A	AA	B	C	D	DD	E	F	G	H	J	JJ	K	L	M	N	P	Q	R	S	Face Area of Large Steam Coil	Steam Coil F.A. For Internal By-Pass Units
1H10	21½	21½	24	24	36	39½	11	—	14	12	6	16½	25	13½	32½	22¾	—	30	13	32	3.5	—
1H12	25¾	25¾	28	28¼	42	45½	12½	—	17	14¾	6	16½	29¼	17½	38½	27¼	11	36	17	38	5.2	4.2
1H13	28	30½	30	30½	42	45½	11½	—	19	16¼	6	18	31½	19½	38½	22¾	11	36	19	38	6.3	5.2
1H15	32	34½	32½	34½	48	51½	13½	—	21	18	6	18	35½	21½	44½	22¾	13	38	21	44	7.4	6.1
1H16	34	34	35	36½	54	57½	15½	—	23	19¾	6	19½	37½	21½	50½	22¾	13	38	21	50	8.4	8.4
1H18	38	38	38	40½	51	54½	12¾	—	25½	21¾	6	19½	41½	27½	47½	27¼	16	46	27	47	10.5	7.9
2H10	21½	21½	24	24	63	66½	9½	16	14	12	6	18	25	13½	59½	22¾	—	30	13	59	6.65	—
2H12	25¾	25¾	28	28¼	69	72½	9½	16	17	14¾	6	19½	29¼	17½	65½	27¼	11	36	17	65	9.15	7.35
2H13	28	30½	30	30½	72	75½	9½	15	19	16¼	6½	21	31½	19½	68½	22¾	11	36	19	68	11.6	9.6
2H15	32	34½	32½	34½	84	87½	11½	19	21	18	6½	21	35½	21½	80½	22¾	13	38	21	80	15.9	11.4
2H18	38	38	38	40½	93	96½	11¼	19½	25½	21¾	7½	26	41½	27½	89½	27¼	16	46	27	89	20.3	15.2
2H20	41	43½	41	43½	102	105½	12¼	21½	28	24	7½	26	44½	29½	98½	22¾	16	46	29	98	24.85	19.2
2H22	45	45	45	47½	114	117½	13¾	24½	31	26½	8	28	48½	31½	110½	27¼	16	50	31	110	28.6	25.2

TYPE HM MULTIZONE UNITS



BASIC TYPE HM MULTIZONE

ALL PROJECTING FLANGES WILL EXTEND 1¼" BEYOND BOX CASINGS



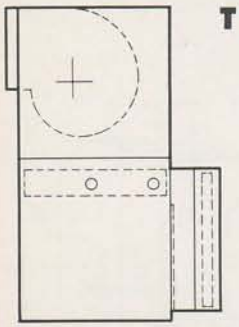
MIXING BOX WITH ANGLE FILTERS | FLAT FILTERS | ANGLE FILTER BOX | ACCESS OR PLENUM SPACE | STD. LARGE COIL

5 TYPICAL COMPONENTS, FOR MOUNTING AT UPSTREAM SIDE OF FAN SECTION

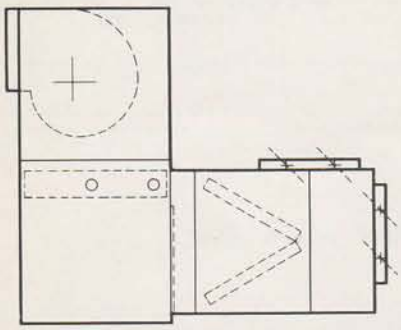
Unit Size	A	B	C	D	E	F	G	H	J	JJ	K	L	M	N	P	Q	R	S	Face Area of Small Reheat Steam Coil	Face Area of Large Preheat Steam Coil
1HM12	25¾	28	28¼	42	12½	—	17	25¾	15	12	27¼	68	36	17	38	22¾	39	6	3.85	5.2
1HM13	28	30	30½	42	11½	—	19	29	15	12	22¾	70	36	19	38	26	39	6	4.8..	6.3
1HM15	32	32½	34½	48	13½	—	21	34	17	14	22¾	76½	38	21	44	31	45	6	6.85	7.4
1HM16	34	35	36½	54	15½	—	23	34	17	14	22¾	79	38	21	50	31	51	6	7.9	8.4
1HM18	38	38	40½	51	12¾	—	25½	40½	20	16	27¼	87	46	27	47	37½	48	6	8.6	10.5
2HM12	25¾	28	28¼	69	9½	16	17	25¾	15	12	27¼	68	36	17	65	22¾	66	6	7.0	9.15
2HM13	28	30	30½	72	9½	15	19	29	15	12	22¾	70	36	19	68	26	69	6½	9.15	11.6
2HM15	32	32½	34½	84	11½	19	21	34	17	14	22¾	76½	38	21	80	31	81	6¼	13.15	15.9
2HM18	38	38	40½	93	11¼	19½	25½	40½	20	16	27¼	87	46	27	89	37½	90	7½	17.1	20.3
2HM20	41	41	43½	102	12¼	21½	28	44½	22	18	22¾	94	46	29	98	41½	99	7½	21.7	24.85
2HM22	45	45	47½	114	13¾	24½	31	49½	24	18	27¼	100	50	31	110	46½	111	8	27.6	28.6

H & V UNIT COMBINATIONS

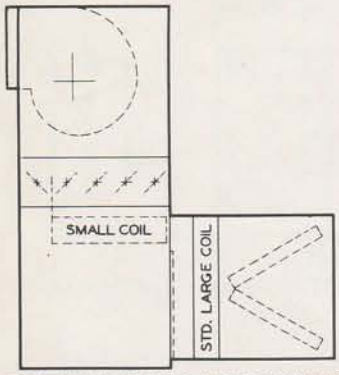
TYPICAL COMBINATIONS OF H & V COMPONENTS



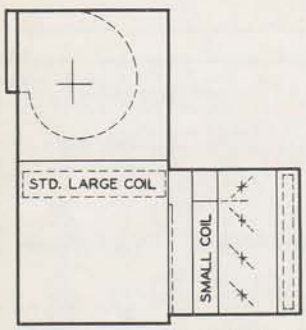
FAN SECTION PLUS COIL-BASE-PLENUM PLUS FLAT FILTERS



FAN SECTION PLUS COIL-BASE-PLENUM PLUS MIXING BOX WITH ANGLE FILTERS



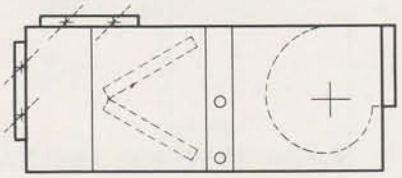
FAN SECTION PLUS FACE & BY-PASS DAMPERS PLUS SMALL COIL-BASE-PLENUM PLUS COIL PLUS ANGLE FILTERS



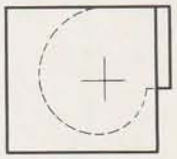
FAN SECTION PLUS COIL-BASE-PLENUM PLUS SMALL COIL PLUS FACE & BY-PASS DAMPERS PLUS FLAT FILTERS

VERTICAL UNITS

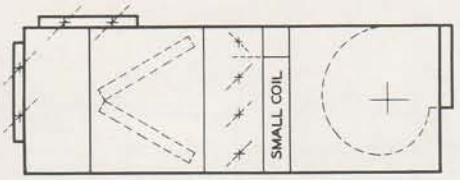
HORIZONTAL UNITS



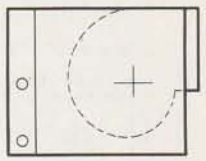
FAN SECTION PLUS COIL PLUS MIXING BOX WITH ANGLE FILTERS



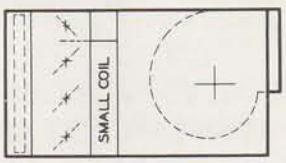
FAN SECTION



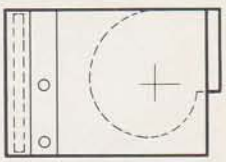
FAN SECTION PLUS SMALL COIL PLUS FACE & BY-PASS DAMPERS PLUS MIXING BOX WITH ANGLE FILTERS



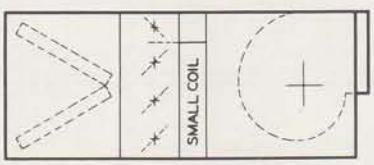
FAN SECTION PLUS COIL



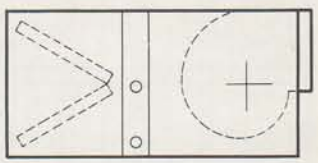
FAN SECTION PLUS SMALL COIL PLUS FACE & BY-PASS DAMPERS PLUS FLAT FILTERS



FAN SECTION PLUS COIL PLUS FLAT FILTERS



FAN SECTION PLUS SMALL COIL PLUS FACE & BY-PASS DAMPERS PLUS ANGLE FILTERS



FAN SECTION PLUS COIL PLUS ANGLE FILTERS

FORMULAE AND SELECTIONS

FORMULAE

GENERAL

CFM x 1.087 x Temp rise of air = Btu/hr heating load

CFM x 4.495 = lb of air per hr.

$$MED = \frac{\Delta t_1 - \Delta t_2}{\log_e \frac{\Delta t_1}{\Delta t_2}}$$

Δt_1 = Greatest temperature difference

Δt_2 = Least temperature difference

$$\text{Coil Face Velocity} = \frac{\text{CFM}}{\text{Face Area}}$$ (Face Area Table Page 13)

FOR WATER COILS

GPM (US) per tube x 1.235 = water velocity ft/sec

GPM (IMP) per tube x 1.48 = water velocity ft/sec

GPM (US) x 500 x temp diff (water) = BTU/hr

GPM (IMP) x 600 x temp diff (water) = BTU/hr

$$\text{Water Velocity} = \frac{\text{GPM (US) x 1.235}}{\text{N}}$$ (N from Table Page 13)

$$\text{Rows Deep (Water Coil)} = \frac{\text{Total Heat}}{\text{K x MED x Face Area}}$$

K from Chart Page 12

MED from Chart Page 10 or Formula above.

SELECTION OF UNITS

1. Select a Sheldon H & V Unit to heat 8000 cfm from 0° to 100°F using steam coils. Steam is available at 5 psig. Coil face velocity—700 fpm.

In this case, the unit may be selected directly from the Table on Page 8. A 2-H-13 unit will give approximately 700 fpm face velocity. The actual coil face area is obtained from the Table on Page 13. A full size steam coil has a face area of 11.6 sq. ft., giving a face velocity of 688 fpm.

No Type "A" coil will produce a final air temperature of 100°F with this face velocity. A Type "B" coil (Table on Page 9), Series W_2 will give a final temperature of 102F.

2. A Sheldon unit is to be selected to handle 4800 cfm at 1" SP heated from 30°F to 100°F using steam at 50 psig. Coil face velocity—600 fpm.

The coil face area is 4800/600 = 8.0 sq. ft. From Table on Page 13 select a 1-H-16 Unit. Table of fan ratings Page 4 may be interpolated at 667 rpm and 1.62 HP.

The steam factor for 30°F entry temperature and 50 lb steam is given on Page 9 as 1.179. The temperature rise required of 70°F is divided by this factor to give a temperature rise for a rating of 70 ÷ 1.179 = 59.5 °F. The final temperature for use with tables is 30 + 59.5 = 89.5 °F.

At 600 fpm coil face velocity and initial temperature of 30° F, a Series 72B coil will give a final temperature of 88.1°F. This may be close enough, as the coil face area is slightly over the required size. Otherwise a 82B or 101A coil must be used. (Coil ratings Page 9). Fan ratings may be selected Pages 4 to 7.

3. Select a standard Sheldon H & V Unit using a hot water coil to following conditions: 4200 cfm 40°F entering air temperature, 700 fpm nominal face velocity, final air temperature 105°F.

In many cases, a quick selection method is entirely adequate. The Size 1-H-13 may be selected from the Table on Page 8. On Table on Page 11 for 40°F entering air and 200°F entering water indicates that a final air temperature of 107°F will be obtained with a 2-row coil. The actual air temperature will be slightly higher than 107°F as the coil face velocity is somewhat lower than the 700 fpm used as a basis of selection.

4. A hot water coil may also be selected using the chart on Page 11. Select a unit to handle 3500 cfm at 1¼" SP. Temperature rise required is from 55°F entering to 85° leaving, using water at 200°F.

For the quick selection table use 1-H-12 unit with 5.2 square feet nominal coil face area. The actual coil face area for a water coil is slightly larger (5.6 sq ft Table Page 13) giving a coil face velocity of 615 fpm.

Total Heat Load (See Formula)

= 3500 x 1.087 (85-55) = 114000 BTU/hr

$$\text{Water temperature drop} = \frac{114000}{10 \times 500} = 23°\text{F}$$

(Base GPM = 10, Table Page 10)

Water Velocity through Tubes =

$$\frac{\text{GPM x 1.235 x 2*}}{\text{N}} = 1.648 \text{ fps}$$

(N = 15 (from table P. 13)

From K curve Page 12 enter at the right at average water temperature of 188.5, move horizontally to left to 1.648 fps water velocity, vertically downward to 625 fpm coil face velocity and find K = 212 at left.

MED (Chart Page 10) = 117

$$\text{Rows Deep} = \frac{114000}{117 \times 212 \times 5.6} = 0.82 \text{ rows.}$$

Use a single-row Type CH water coil.

*NOTE: ½ Circuit coils are used in 1-row and full circuit coils are normally used in 2-row water coils. In half circuit coils the water velocity is doubled.

The fan performance may be selected by interpolating the figures given for the 1-H-12 unit Page 4. The speed will be 1094 rpm and the horsepower 1.71.

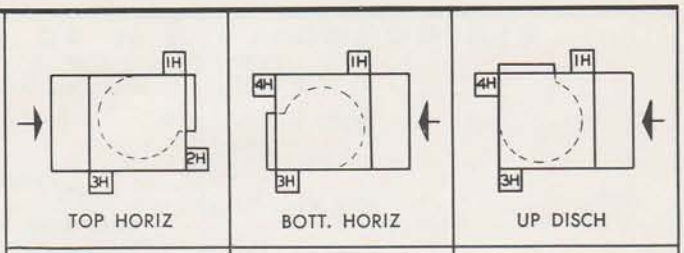
For precise work, correction charts for water coils are given Page 11. Water head loss through the coils is tabulated Page 10.

MOTOR LOCATIONS

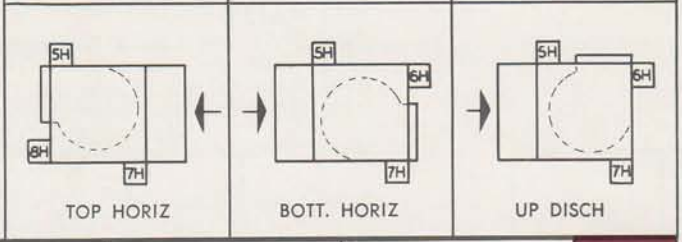
UNIT ARRANGEMENT AND MOTOR LOCATION CODE

■ HORIZ UNITS or FAN SECTIONS.....

CLOCKWISE

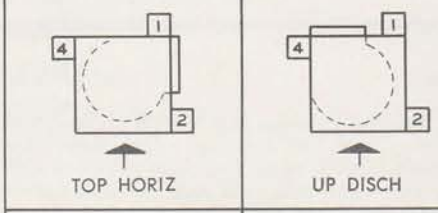


CTR C W

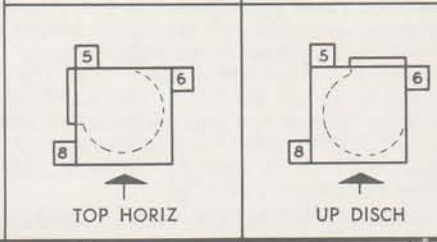


■ VERTICAL FAN SECTIONS ONLY.....

CLOCKWISE

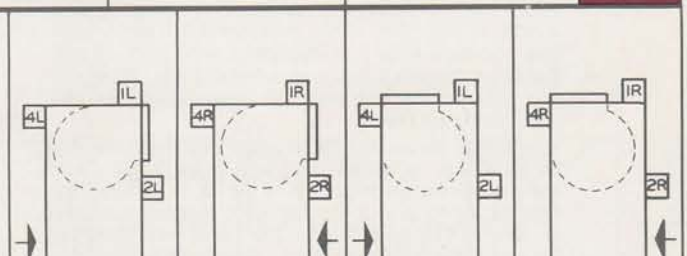


CTR C W

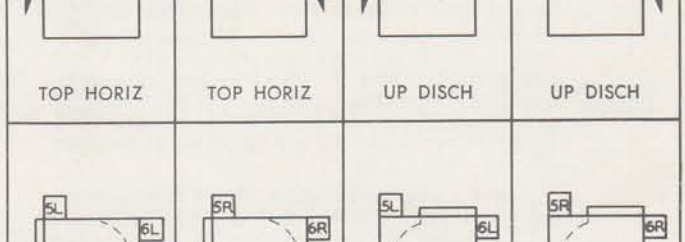


■ VERTICAL UNITS (WITH BASE SECTION).....

CLOCKWISE



CTR C W



Rotation is designated with fan viewed from drive side.

Direction of air entry is shown thus

Motor Code Numbers 1 to 4 incl., are used for clockwise fan units thus [2]

Motor Code Numbers 5 to 8 incl., are used for counter clockwise fan units thus [6]

Letter "H" in motor code denotes Horizontal Unit.

Letters "L" and "R" in motor code (vert. units) denote direction of air entry into unit.

Unit ordering information must include Motor Code and Fan Discharge data.

units) denote Direction of Air Entry Into Unit.

EVEN - TEMP MIXING BOX

EVEN-TEMP MIXING BOX

To meet the need for improved mixing of the fresh and return air in heating, ventilating and air conditioning units, Sheldons have designed the EVEN-TEMP Mixing Box to provide practically 100% uniform temperature air across the entire outlet area of the mixing box, under almost any condition of fresh or return air.

Sheldons EVEN-TEMP mixing box has a maximum temperature gradient of 3° to 6°F across the whole discharge area, over the range from 5% to 75% fresh air, with fresh air entering at 0°F. Variations in fresh air temperature from —15°F to +10°F have no measurable effect on the final temperature gradients.

Special internal baffles and carefully placed air passages have been effectively designed to force the hot and cold air streams into direct contact with each other and thus achieve complete and thorough mixing.

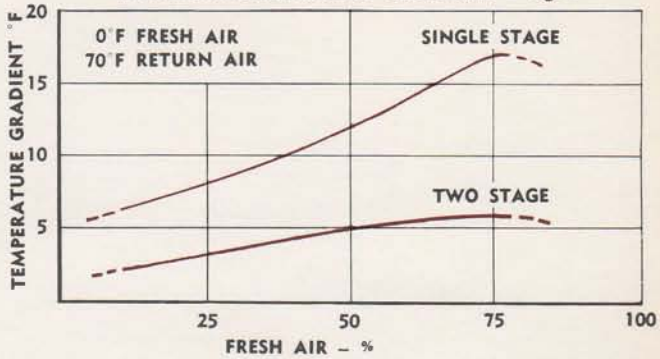
Mixing can be obtained with either one or two stages of baffling, depending on the desired conditions and the space available. Tests on several different configurations of baffles showed that complete mixing of fresh air and return air down to 5° temperature gradient could not be achieved with a single stage mixing box.

SINGLE-STAGE UNIT — This design provides very good mixing of the two air streams, giving a maximum temperature gradient of about 15°F as shown in Fig. 1. This is achieved with a short box and may be satisfactory when space is limited.

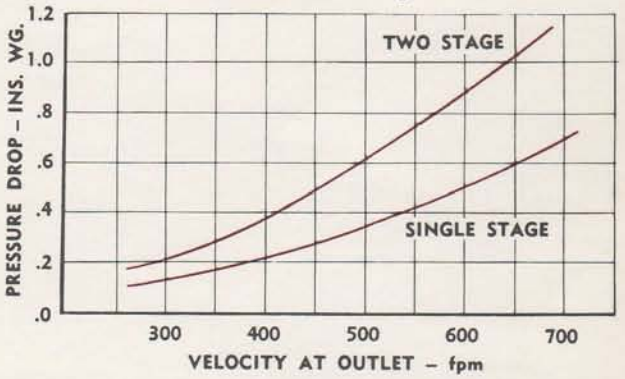
TWO-STAGE UNIT — Where an improved temperature gradient is required, the addition of a second stage of baffles completes the intimate mixing of the air stream and effectively reduces the maximum temperature gradient to approximately 5°F as shown in Fig. 1.

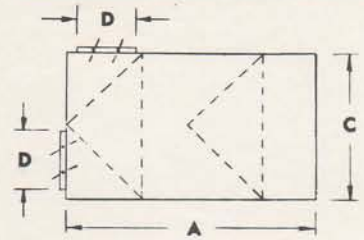
NOTE: To obtain the results indicated in Fig. 1, the fresh air MUST ALWAYS ENTER ABOVE THE HORIZONTAL CENTRE-LINE. Four alternate positions of FA and RA supply connections are available as shown.

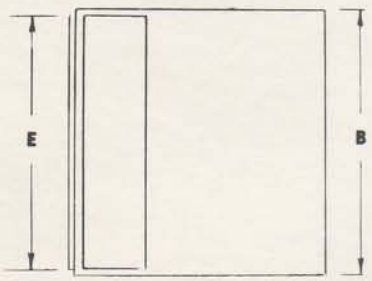
MAXIMUM TEMPERATURE GRADIENTS – Fig. 1



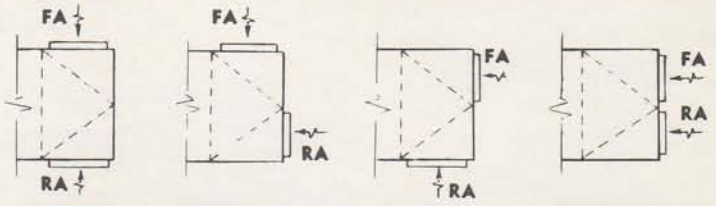
AIR FRICTION – Fig. 2





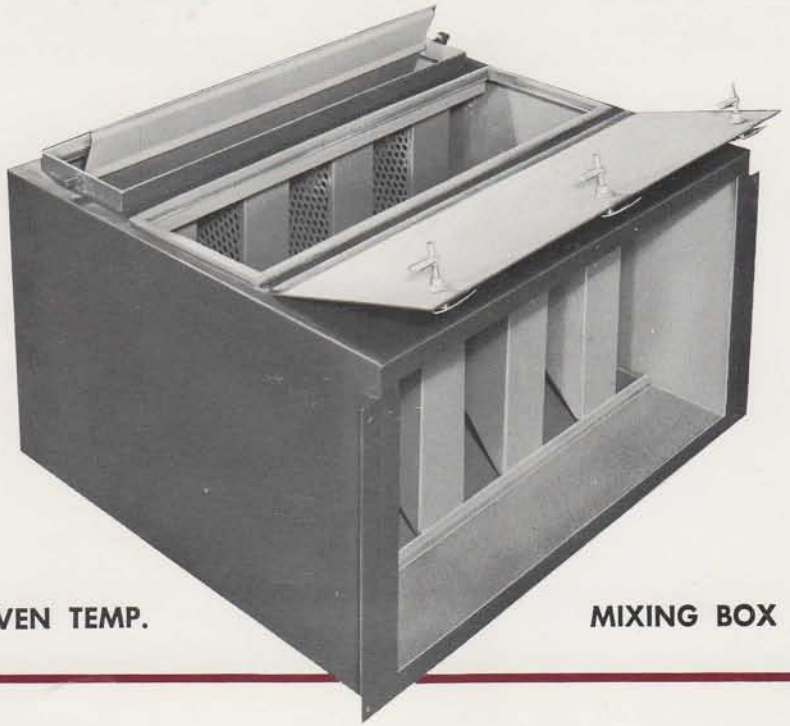


DIMENSIONS

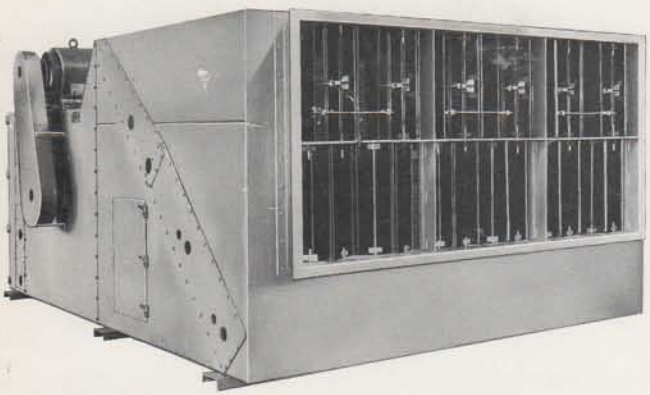


Unit Size	Capacity at 800 FPM Coil Face Vel.	A		B	C	D	E	*Weight
		Single Stage	Two Stage					
1 H 10	2800	20	37	36	21½	8½	32	144
1 H 12	4150	23	44	42	25¾	10½	38	200
1 H 13	5030	25	48	42	28	12	38	232
1 H 15	5900	29	54	48	32	14	44	310
1 H 16	6700	31	58	54	34	15	50	340
1 H 18	8380	34	65	51	38	16½	47	460
2 H 10	5300	20	37	63	21½	8½	59	240
2 H 12	7300	23	44	69	25¾	10½	65	270
2 H 13	9250	25	48	72	28	12	68	330
2 H 15	12700	29	54	84	32	14	80	390
2 H 18	16300	31	58	93	38	16½	89	560
2 H 20	19900	37	70	102	41	18	98	900
2 H 22	22900	40	76	114	45	20	110	1010

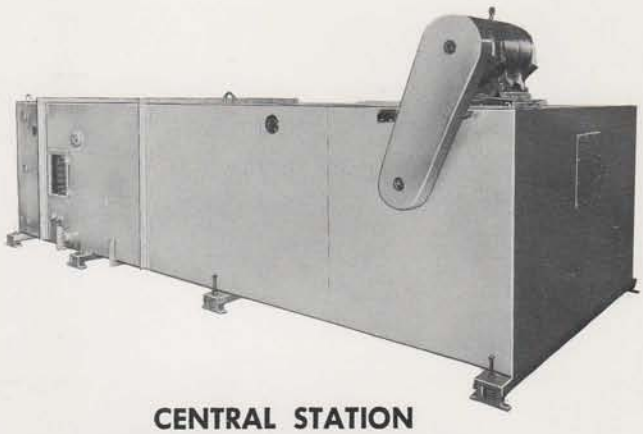
*Weights based on two-stage units. Single-stage units are approximately 50% of these weights.



EVEN TEMP. MIXING BOX



MULTI - ZONE UNIT



CENTRAL STATION
AIR CONDITIONING UNIT

Sheldons Engineering.

Leaders in fan technology

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