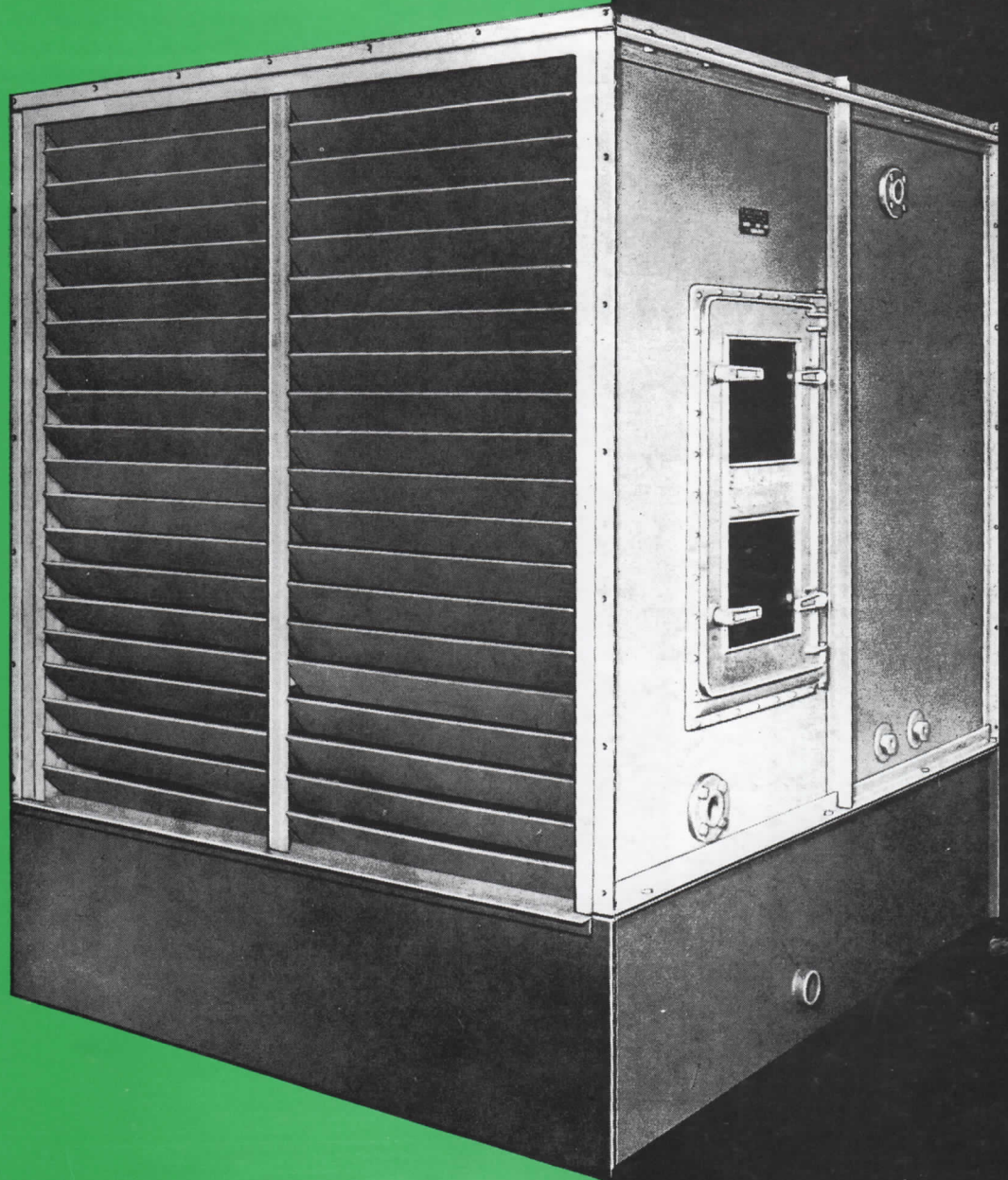


SHELDON AIRWASHERS

available
in three
standard
types



catalogue
no. 810



SHELDONS ENGINEERING LIMITED
CAMBRIDGE, ONTARIO

SHELDONS AIRWASHERS

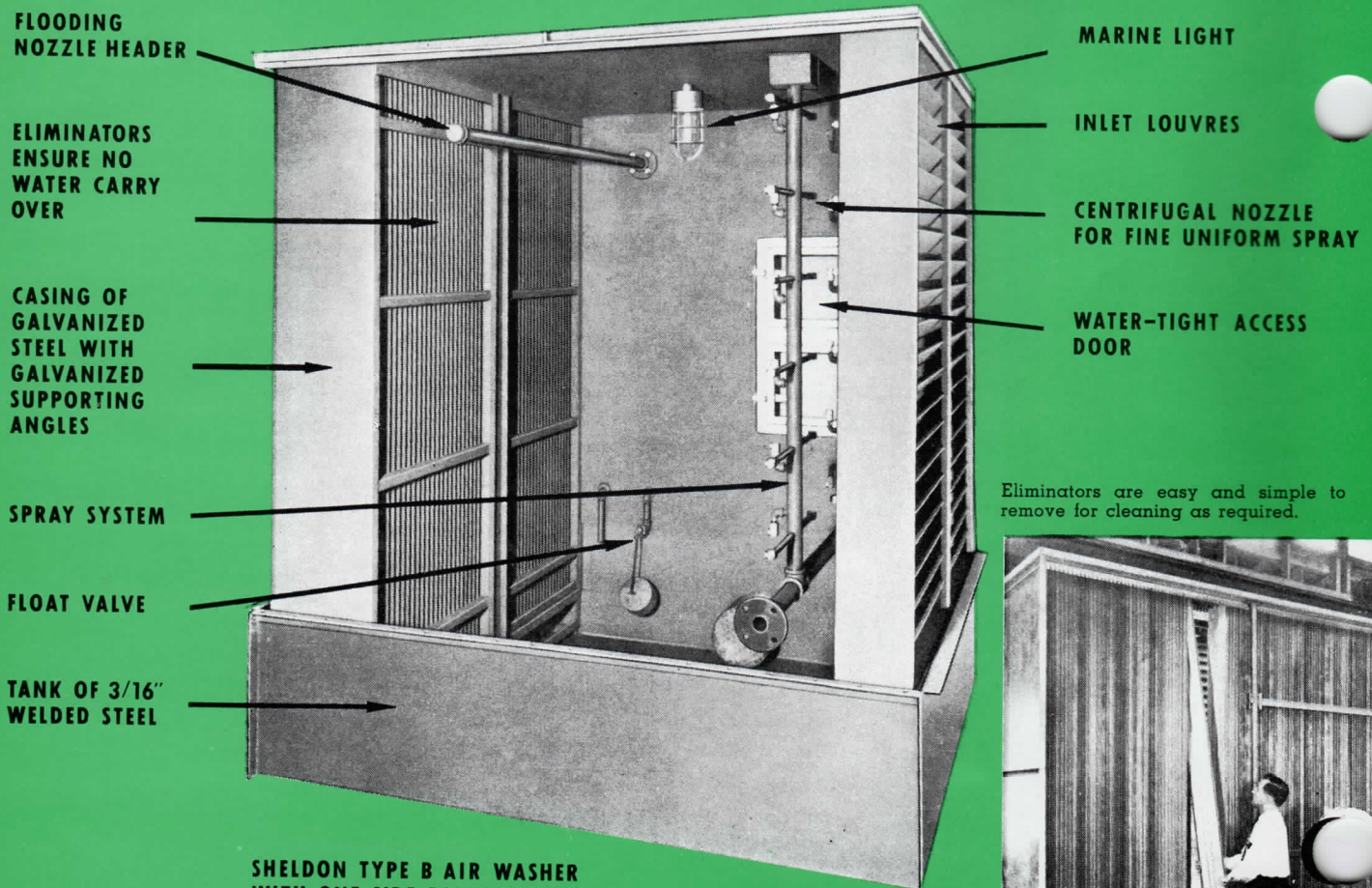
AVAILABLE IN THREE STANDARD TYPES

Sheldon Airwashers are available in three different types to meet the need of industry for clean, humidified air.

Airwashers, as their name implies, not only remove dust and dirt from the air, but also perform necessary heat transfer functions such as humidification, cooling and dehumidification.

Sheldon Airwashers basically consist of a casing containing a spray system, a tank at the bottom for collecting the spray water, and an eliminator section at the leaving end of the unit for the removal of water droplets entrained in the air.

Air is drawn into the Airwasher casing through entry louvres which smooth out the airflow and, at the same time, prevent any backlash of spray water from falling outside the unit. Water sprays covering the entire area of the unit wash the air clean of dust, dirt and fumes. The cleaned air then passes through the eliminators which trap the droplets of moisture carried over from the spray system. In Types A and B Airwashers, the eliminators are continuously sprayed by a set of flooding nozzles which wash down any dust and dirt particles into the tank and also provide additional wetting area for contact with the air.



**SHELDON TYPE B AIR WASHER
WITH ONE SIDE PANEL REMOVED
TO SHOW SPRAY SYSTEM**

Eliminators are easy and simple to remove for cleaning as required.



DETAILS OF SHELDON AIRWASHERS Types A, B and C

CASING — All casings are constructed of 18 ga. galvanized steel sheet and braced with galvanized steel angle with all joints and angle braces riveted and soldered to prevent water leakage. Entry and leaving ends of the Airwasher have flanges with holes ready drilled suitable for duct connections. A rubber gasket at the joint between casing and tank prevents water leaking on the floor.

INLET LOUVRES — These are designed to smooth out the airflow and to prevent backlash of spray water, and are easily removable. Standard inlet louvres are made from 20 ga. galvanized steel sheet, but they can also be supplied in aluminum, stainless steel or other metals, and may also be furnished in plastic where necessary to meet specific requirements.

SPRAY SECTION — In Type A Airwashers, there are two banks of spray nozzles. Types B and C have only one bank of spray nozzles. Nozzles are of the centrifugal type, giving an unbroken atomized spray cone which offers a very large surface for wetting the air and dust particles. A pressure gauge is furnished for each bank of spray nozzles. Standard nozzles with various orifices are available to meet the various heat transfer requirements. A marine light is installed in all Sheldon Airwashers.

FLOODING NOZZLES — Flooding nozzles are fitted in Type A and B washers only, and are designed to flush the leading surfaces of the eliminator clean of the dirt and dust deposited there from the air as it leaves the Airwasher. In humidification applications, this additional wet surface is useful in increasing the efficiency of the unit.

STRAINERS — To prevent the accumulated dirt washed from the eliminators being recirculated through the pump and spray assembly, large area suction strainers are provided on the tank outlet. These are made from fine brass mesh and are easily removed for cleaning.

SPRAY PIPING — Standard galvanized steel pipe is used for the spray headers. The vertical risers are also made of galvanized iron pipe screwed on

the main horizontal spray headers. Spray headers and risers can also be furnished in plastic piping where necessary to meet special requirements.

ELIMINATORS — These are fitted at the leaving end of the Airwasher to eliminate the water droplets and wet dust particles from the air. Standard eliminators are made of 24 ga. galvanized steel; 22 ga. may be furnished if desired, but they can also be supplied in aluminum, stainless steel or other metals. Eliminators have a series of bends at 37° which are arranged to alter the direction of airflow. The last two bends are provided with three hooks to prevent moisture being carried over into the system. In order to facilitate cleaning, all eliminators may be individually removed with no disturbance to casing or internal parts. Types A and B Airwashers have eliminators spaced on 1 1/8" centres, Type C on 2 1/4" centres. Plastic eliminators can also be furnished where necessary to meet specific requirements.

TANKS — The tanks on all three classes of Airwashers are fabricated of 3/16" steel plate, having an all-welded construction. Tanks are 18" deep and are heavily coated with Bitumastic paint.

WATER CONNECTIONS — A quick-fill connection varying from 1" to 2", depending upon the size of the Airwasher, is provided for connection to fresh water supply. A make-up water connection with an automatic float valve is also provided to maintain the water level in the tank at 14". A dilution connection is provided on all washers to permit continuous bleed in of fresh water.

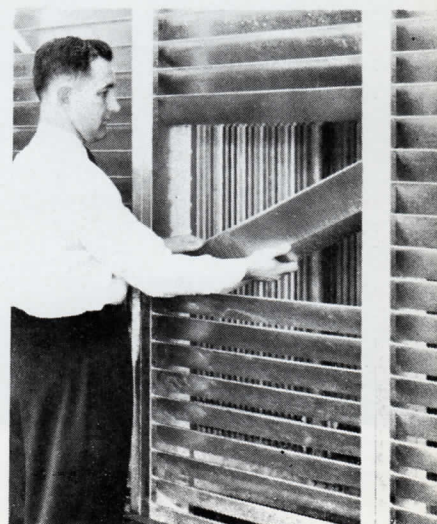
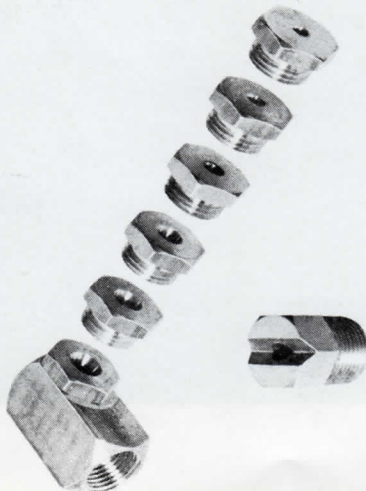
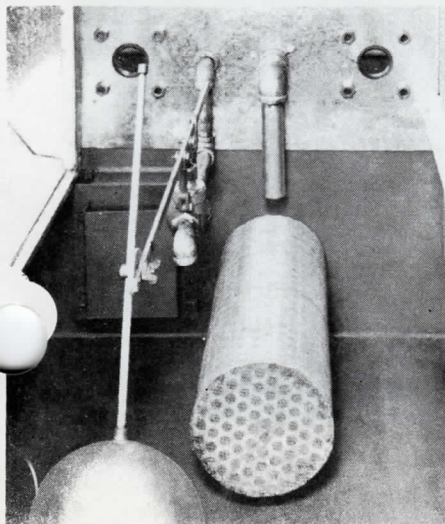
ACCESS DOOR AND FRAME — An access door and frame made from galvanized cast iron is provided on all Airwashers. Each door has a glass inspection window and a watertight rubber seal.

OVERFLOW AND DRAIN — All Airwashers are furnished complete with overflow and overflow trap to provide a water seal in the overflow line. Adjustable baffles are provided to permit a 2" water level adjustment after installation so that the water level may be altered if desired.

View of Airwasher tank, shows float valve, suction strainer and quick fill connection.

Nozzles are available with a range of orifice sizes to suit many different applications.

Individually removable inlet louvres are also available in plastic when requested.



SHELDON TYPE A AIRWASHER - 8 FT. DEEP

The Type A Airwasher is a heavy duty unit, designed for high efficiency and troublefree operation at an economical cost. This unit is eminently suitable where maximum humidification is required.

The casing is 8' deep for all sizes in this class. This Airwasher is furnished with two banks of sprays installed as opposed banks, thereby offering a large exposed spray area through which the air must pass. The spray nozzles are arranged on approximately 10" centres and are designed to give a uniform cone of spray which permits a thorough mixing of air and water spray.

A set of flooding nozzles are furnished which maintain an even water film over the leading surfaces of the eliminators, thus entraining any solid material not already precipitated by the spray chamber. Carry-over of moisture particles in the air stream is prevented by suitably arranged hooks on the last two bends in the eliminators.

Table 1 gives complete information on dimensions and capacities.

CFM

The cfm capacity of the Airwasher is based on a face velocity of 500 ft./min. at 70°F and 29.92" HG barometer.

GPM

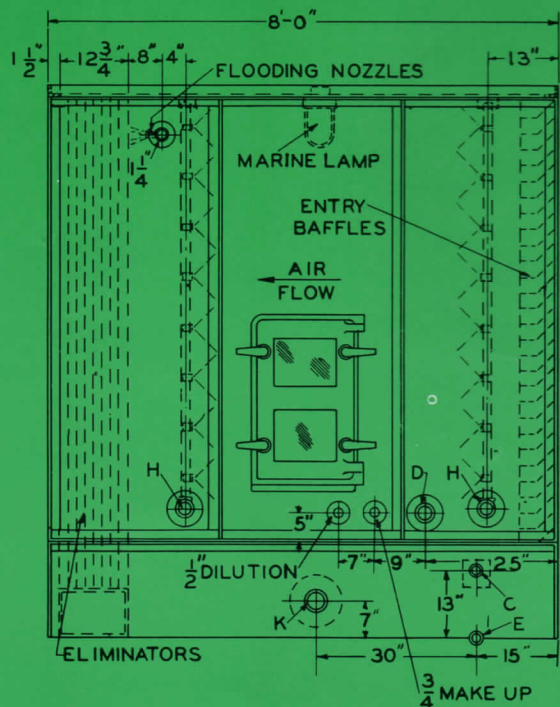
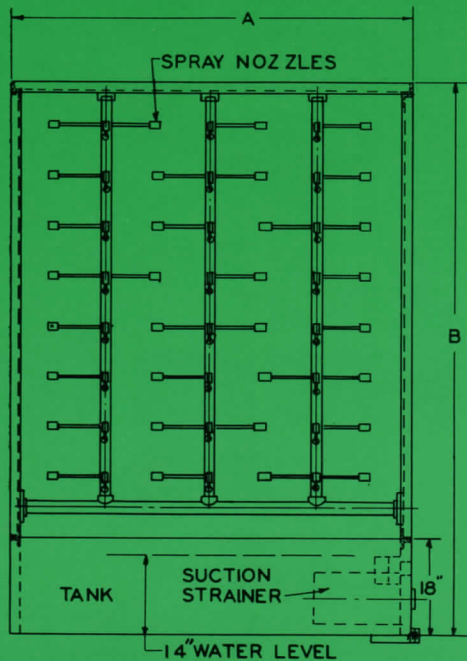
The water quantities given in the table are based on a distribution of 8 gpm/1000 cfm. For applications such as high humidification and dehumidification, consult our nearest Sales Representative.

WEIGHT

The operating weight of the Airwasher includes the water contained in the tank at a level of 14". The shipping weight can be obtained by subtracting the weight of this water from the total.

DIMENSIONS

All dimensions are in inches. Certified drawings will be provided upon request.



SHELDON TYPE B AIRWASHER - 6 FT. DEEP

The Type B Airwasher is designed for general cleaning, purifying, and humidifying where the load is not as severe as that required in Type A Airwashers. Type B Airwashers are furnished with only one bank of spray nozzles instead of two banks as in Type A. The casing is 6' deep in the direction of the airflow, which is sufficient to provide adequate heat exchange between the air and water to meet the requirements of the Type B Airwasher. One set of flooding nozzles is provided in Type B Airwashers to maintain efficient air cleaning. Table II gives complete information on dimensions and capacities.

CFM

The cfm capacity of the Airwasher is based on a face velocity of 500 ft./min. at 70°F and 29.92" HG barometer.

GPM

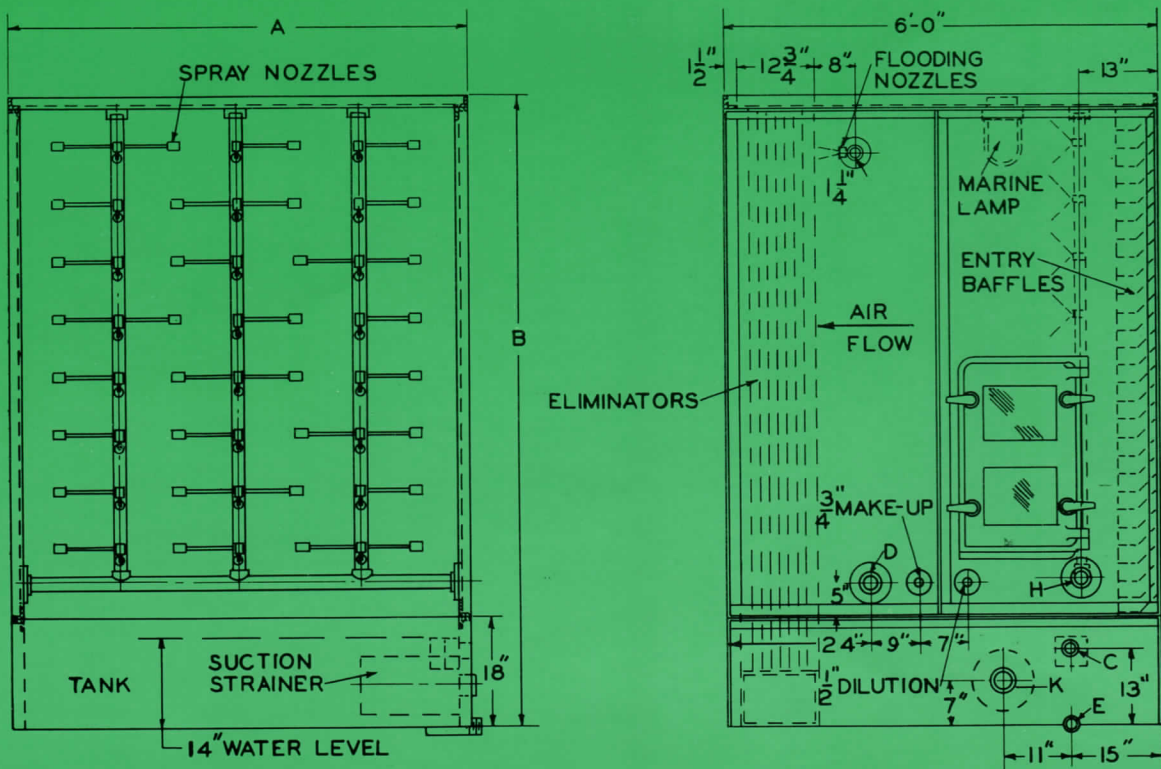
The water quantities given in the table are based on a distribution of 4½ gpm/1000 cfm. For applications such as high humidification and dehumidification, consult our nearest Sales Representative.

WEIGHT

The operating weight of the Airwasher includes the weight of water held in the tank at a level of 14". The shipping weight can be obtained by subtracting the weight of this water from the total.

DIMENSIONS

All dimensions are in inches. Certified drawings will be provided upon request.



SHELDON TYPE C AIRWASHER - 4 FT. DEEP

The Type C Airwasher is the smallest of the three sizes available and it is extremely useful where space is limited. Although it has not the performance of the larger sizes, it is a very effective unit for cleaning and humidifying. It is often used on ventilating installations in industry when the least expensive method of cleaning and washing air is required.

Intimate mixing of the air and water is maintained in this 48" Airwasher by the use of special wide angle spray nozzles to provide maximum wet surface contact area. Flooding nozzles are not normally furnished with this class of washer.

Table III gives complete information on dimensions and capacities.

CFM

The cfm capacity of the Airwasher is based on a

face velocity of 500 ft./min. at 70 F and 29.92" HG barometer.

GPM

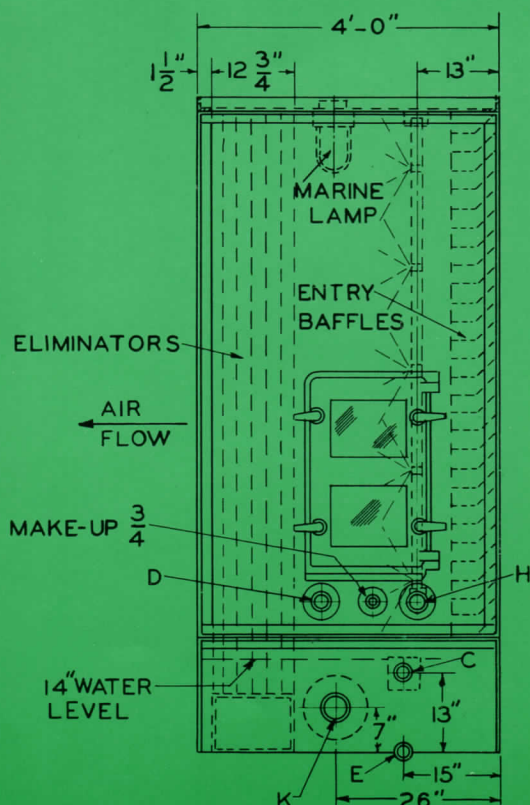
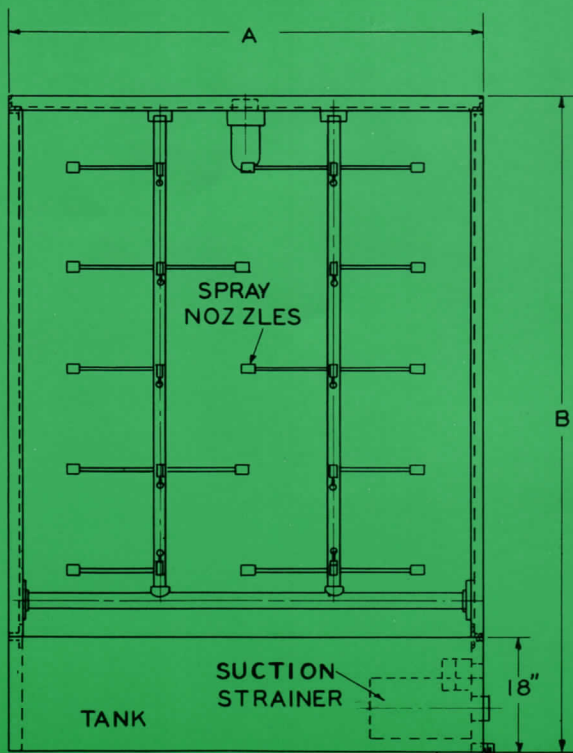
The water quantities given in the table are based on a distribution of approximately 4 gpm/1000 cfm, which is suitable for average humidifying, cleaning or evaporative cooling requirements.

WEIGHT

The operating weight of the Airwasher includes the weight of water held in the tank at a level of 14". The shipping weight can be obtained by subtracting the weight of this water from the total.

DIMENSIONS

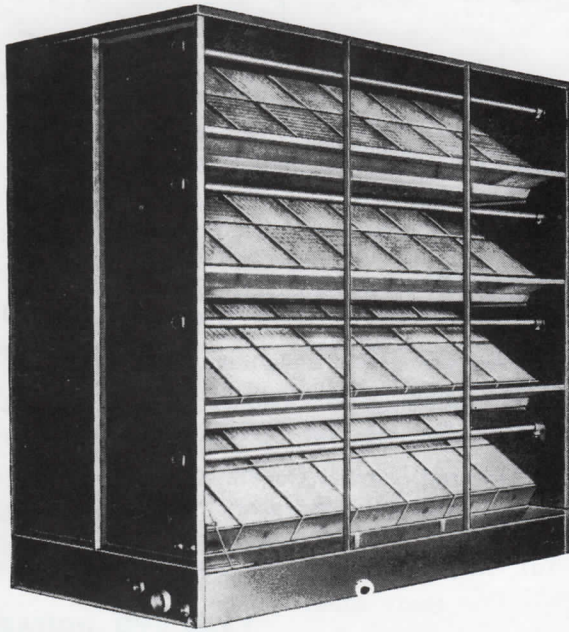
All dimensions are in inches. Certified drawings will be provided upon request.



TYPE C Airwasher - Table 3

Size	CFM	Face Area Sq. Ft.	Spray Nozzles	U.S. G. P. M. Total	Total Operating Weight Lbs.	A	B	C Overflow	D Quick-fill	E Drain	H Spray Headers	K Suction
C 22	2000	4	2	8	1230	27	43 1/2	1 1/2	1 1/4	1 1/2	1 1/2	1 1/2
C 23	3000	6	3	11	1320	27	55 1/2	1 1/2	1 1/4	1 1/2	1 1/2	1 1/2
C 32	3000	6	4	11	1680	39	43 1/2	1 1/2	1 1/4	1 1/2	1 1/2	1 1/2
C 33	4500	9	6	17	1780	39	55 1/2	1 1/2	1 1/4	1 1/2	1 1/2	1 1/2
C 34	6000	12	8	22	1880	39	67 1/2	1 1/2	1 1/4	1 1/2	1 1/2	1 1/2
C 35	7500	15	9	28	1980	39	79 1/2	1 1/2	1 1/4	1 1/2	1 1/2	1 1/2
C 42	4000	8	5	15	2070	51	43 1/2	1 1/2	1 1/4	1 1/2	1 1/2	1 1/2
C 43	6000	12	6	22	2180	51	55 1/2	1 1/2	1 1/4	1 1/2	1 1/2	1 1/2
C 44	8000	16	9	30	2295	51	67 1/2	2	1 1/4	1 1/2	1 1/2	2
C 45	10000	20	12	38	2410	51	79 1/2	2	1 1/4	1 1/2	2	2
C 46	12000	24	15	45	2520	51	91 1/2	2	1 1/4	1 1/2	2	2
C 53	7500	15	9	28	2660	63	55 1/2	2	1 1/4	1 1/2	1 1/2	2
C 54	10000	20	12	38	2780	63	67 1/2	2	1 1/4	1 1/2	2	2
C 55	12500	25	16	47	2900	63	79 1/2	2	1 1/4	1 1/2	2	2
C 56	15000	30	16	56	3020	63	91 1/2	2	1 1/4	1 1/2	2	2
C 57	17500	35	20	65	3140	63	103 1/2	2	1 1/4	1 1/2	2 1/2	2 1/2
C 64	12000	24	12	45	3250	75	67 1/2	2	1 1/4	1 1/2	2	2
C 65	15000	30	18	56	3375	75	79 1/2	2	1 1/4	1 1/2	2	2
C 66	18000	36	20	67	3500	75	91 1/2	2	1 1/4	1 1/2	2 1/2	2 1/2
C 67	21000	42	24	79	3630	75	103 1/2	2	1 1/4	1 1/2	2 1/2	2 1/2
C 68	24000	48	28	90	3750	75	115 1/2	2	1 1/4	1 1/2	2 1/2	3
C 75	17500	35	20	65	3840	87	79 1/2	2	1 1/4	1 1/2	2 1/2	2 1/2
C 76	21000	42	25	79	3990	87	91 1/2	2	1 1/4	1 1/2	2 1/2	2 1/2
C 77	24500	49	30	92	4140	87	103 1/2	2	1 1/4	1 1/2	2 1/2	3
C 78	28000	56	35	105	4290	87	115 1/2	2 1/2	1 1/4	1 1/2	2 1/2	3
C 79	31500	63	40	118	4440	87	127 1/2	2 1/2	1 1/4	1 1/2	3	3
C 86	24000	48	28	90	4500	99	91 1/2	2 1/2	1 1/4	2	2 1/2	3
C 87	28000	56	30	105	4700	99	103 1/2	2 1/2	1 1/4	2	2 1/2	3
C 88	32000	64	36	120	4900	99	115 1/2	2 1/2	1 1/4	2	3	4
C 89	36000	72	40	135	5150	99	127 1/2	2 1/2	1 1/4	2	3	4
C 810	40000	80	48	150	5350	99	139 1/2	2 1/2	1 1/4	2	3	4
C 97	31500	63	30	118	5270	111	103 1/2	2 1/2	1 1/4	2	3	3
C 98	36000	72	36	135	5470	111	115 1/2	2 1/2	1 1/4	2	3	4
C 99	40500	81	42	152	5670	111	127 1/2	2 1/2	1 1/4	2	3	4
C 910	45000	90	48	170	5870	111	139 1/2	2 1/2	1 1/4	2	3	4
C 1008	40000	80	35	150	5920	123	115 1/2	2 1/2	1 1/4	2	3	4
C 1009	45000	90	42	170	6240	123	127 1/2	2 1/2	1 1/4	2	3	4
C 1010	50000	100	49	188	6550	123	139 1/2	2 1/2	1 1/4	2	3	4
C 1011	55000	110	56	206	6870	123	151 1/2	2 1/2	1 1/4	2	4	4
C 1108	44000	88	42	165	6550	135	115 1/2	2 1/2	1 1/4	2	3	4
C 1109	49500	99	48	185	6870	135	127 1/2	2 1/2	1 1/4	2	3	4
C 1110	55000	110	56	206	7180	135	139 1/2	2 1/2	1 1/4	2	4	4
C 1111	60500	121	64	226	7400	135	151 1/2	2 1/2	1 1/4	2	4	5
C 1208	48000	96	45	180	7100	148	116	2 1/2	1 1/4	2	3	4
C 1209	54000	108	54	200	7450	148	128	2 1/2	1 1/4	2	4	4
C 1210	60000	120	63	225	7800	148	140	2 1/2	1 1/4	2	4	5
C 1211	66000	132	72	248	8150	148	152	3	1 1/4	2	4	5
C 1308	52000	104	50	195	7650	160	116	3	1 1/4	2 1/2	4	4
C 1309	58500	117	60	220	8030	160	128	3	1 1/4	2 1/2	4	4
C 1310	65000	130	70	244	8420	160	140	3	1 1/4	2 1/2	4	5
C 1311	71500	143	80	270	8800	160	152	3	1 1/4	2 1/2	4	5
C 1408	56000	112	66	210	8200	172	116	3	1 1/4	2 1/2	4	5
C 1409	63000	126	77	236	8600	172	128	3	1 1/4	2 1/2	4	5
C 1410	70000	140	82	262	9000	172	140	3	1 1/4	2 1/2	4	5
C 1411	77000	154	88	290	9400	172	152	3	1 1/4	2 1/2	4	5
C 1508	60000	120	66	225	8750	184	116	3	1 1/4	2 1/2	4	5
C 1509	67500	135	80	250	9200	184	128	3	1 1/4	2 1/2	4	5
C 1510	75000	150	88	280	9650	184	140	3	1 1/4	2 1/2	4	5
C 1511	82500	165	96	310	10100	184	152	3	1 1/4	2 1/2	4	5
C 1608	64000	128	78	240	9300	196	116	3	1 1/4	2 1/2	4	5
C 1609	72000	144	91	270	9750	196	128	3	1 1/4	2 1/2	4	5
C 1610	80000	160	98	300	10020	196	140	3	1 1/4	2 1/2	4	5
C 1611	88000	176	104	330	10400	196	152	3	1 1/4	2 1/2	5	5
C 1708	68000	136	84	255	9900	208	116	3	1 1/2	2 1/2	4	5
C 1709	76500	153	98	288	10380	208	128	3	1 1/2	2 1/2	4	5
C 1710	85000	170	112	320	10870	208	140	3	1 1/2	2 1/2	5	5
C 1711	93500	187	126	350	11350	208	152	3	1 1/2	2 1/2	5	6
C 1808	72000	144	84	270	10400	220	116	3	1 1/2	2 1/2	4	5
C 1809	81000	162	98	300	10930	220	128	3	1 1/2	2 1/2	4	5
C 1810	90000	180	112	338	11440	220	140	3	1 1/2	2 1/2	5	6
C 1811	99000	198	126	370	11920	220	152	3	1 1/2	2 1/2	5	6
C 1908	76000	152	90	285	10920	232	116	3	1 1/2	2 1/2	4	5
C 1909	85500	171	105	320	11470	232	128	3	1 1/2	2 1/2	5	5
C 1910	95000	190	120	355	12020	232	140	3	1 1/2	2 1/2	5	6
C 1911	104500	209	135	390	12570	232	152	3	1 1/2	2 1/2	5	6
C 2008	80000	160	96	300	11600	244	116	3	1 1/2	3	4	5
C 2009	90000	180	112	340	12130	244	128	3	1 1/2	3	5	6
C 2010	100000	200	128	375	12670	244	140	3	1 1/2	3	5	6
C 2011	110000	220	144	410	13250	244	152	3	1 1/2	3	5	6
C 2108	84000	168	96	315	12030	256	116	3	1 1/2	3	4	5
C 2109	94500	189	112	355	12600	256	128	3	1 1/2	3	5	6
C 2110	105000	210	128	395	13240	256	140	3	1 1/2	3	5	6
C 2111	115500	231	144	430	13900	256	152	3	1 1/2	3	5	6
C 2208	88000	176	102	335	12500	268	116	3	1 1/2	3	5	6
C 2209	99000	198	119	370	13150	268	128	3	1 1/2	3	5	6
C 2210	110000	220	136	410	13770	268	140	3	1 1/2	3	5	6
C 2211	121000	242	153	450	14400	268	152	3	1 1/2	3	5	6

Some further examples of Sheldon Air Conditioning equipment are shown below:

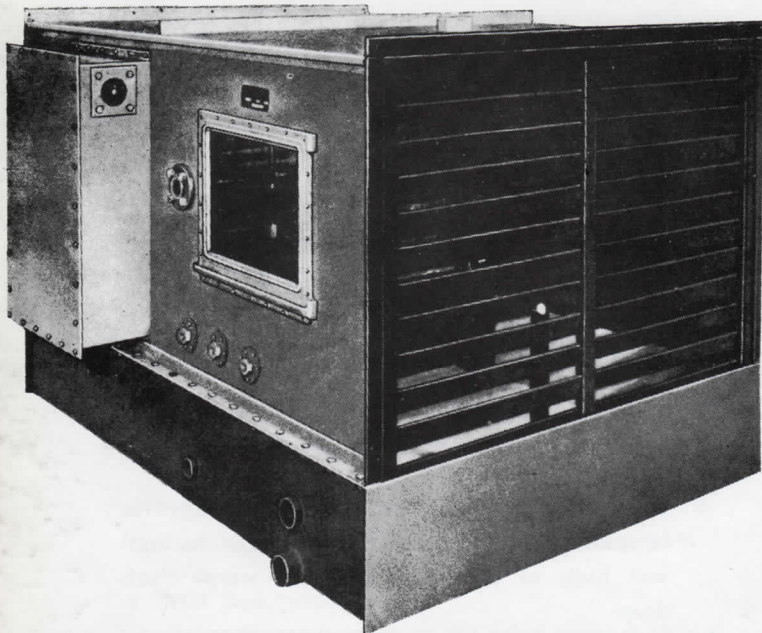


CAPILLARY AIRWASHERS

Capillary Airwashers are ideally suited to systems involving the cleaning and humidification of large quantities of air as in textile mills, hospital operating theatres, laboratories, and many industrial applications.

Saturation efficiencies as high as 97% can be obtained with Capillary Airwashers with low pumping heads.

For further information of the application of these units, apply to any of the Sales Offices listed below.



SPRAYED COIL DEHUMIDIFIERS

Sheldon Sprayed Coil Dehumidifiers are ideally suited for use in office buildings, hotels, hospitals, and large commercial and industrial installations where accurate control of temperature and humidity over a wide range of conditions is required.

For further information on the application and sizes of these units, apply to any of the Sales Offices listed below.

Sheldons

SHELDONS ENGINEERING LIMITED

Cambridge, Ontario; Montreal, Toronto, Hamilton, London, Ottawa, Edmonton, Vancouver

Representatives in all principal cities across Canada

Sheldons Manufacturing Corporation, Elgin, Illinois