

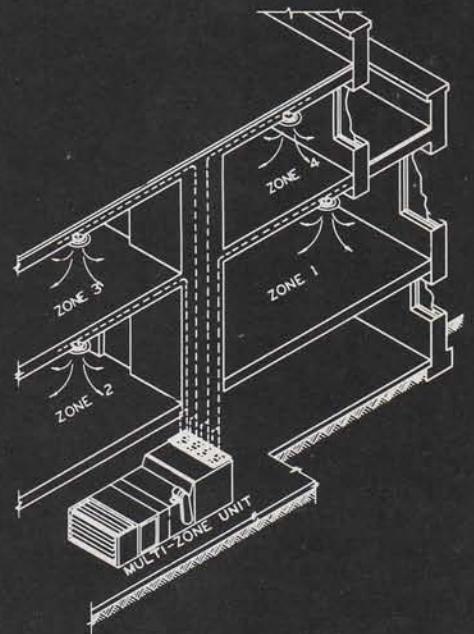
Multi-Zone

AIR CONDITIONING UNITS

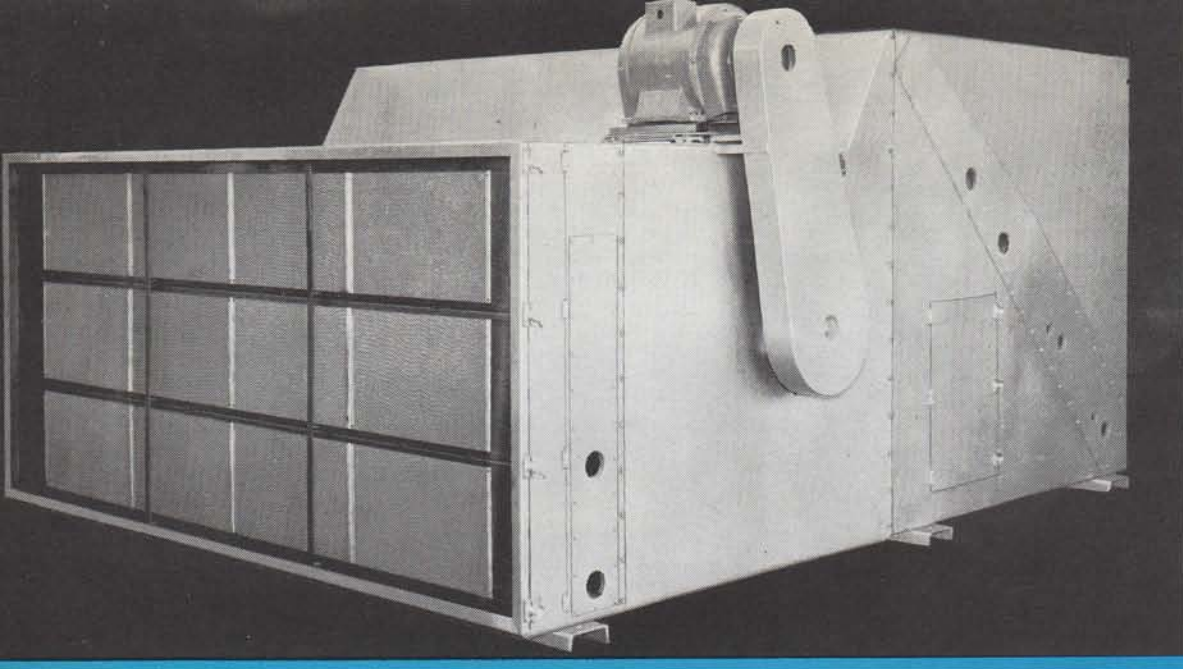
Type "CM"

Bulletin No. 1023

SHELDONS ENGINEERING LIMITED
GALT, ONTARIO, CANADA



Isometric sketch above illustrates operation of Sheldon Multi-Zone Air Conditioning Unit, Type CM. Temperature of each zone is independently controlled.



YEAR-AROUND AIR CONDITIONING WITH SHELDON "MULTI-ZONE" UNITS

Sheldon Type "CM" Multi-Zone Air Conditioning Units are designed for the many types of installations where building requirements are such that one unit must furnish complete air conditioning, heating or ventilation to several areas. Each of these areas may require varying air supply conditions, dependent on building exposure or occupancy. Sheldon "CM" Units provide independent, manual or automatic temperature control for each zone.

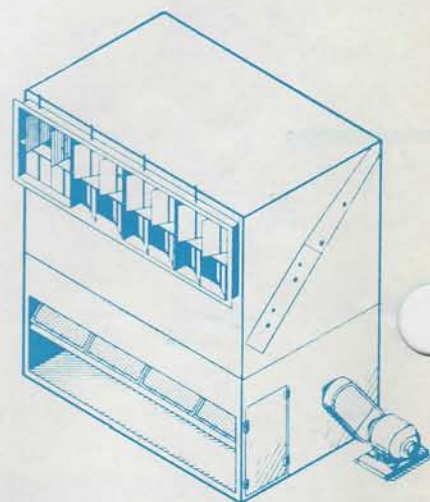
This independent temperature control is accomplished by interconnected mixing dampers for each zone. These dampers are arranged to proportion, either manually or automatically, the cold or hot air flow from the coils to the exact requirements of each individual zone. A high degree of efficiency results from this simple and inexpensive installation.

Type "CM" Multi-Zone Units are arranged with the fans discharging through the cooling or heating sections. They are designed to provide uniform air flow over the respective coils; part passing through the cooling coil where cooling and dehumidifying is accomplished — the balance passing through the heating coil. In the summer months the heating coil normally does not operate and serves as a by-pass only.

Between the leaving side of these coils and the mixing dampers an insulated divider separates the two air streams to ensure accurate control of leaving temperatures.

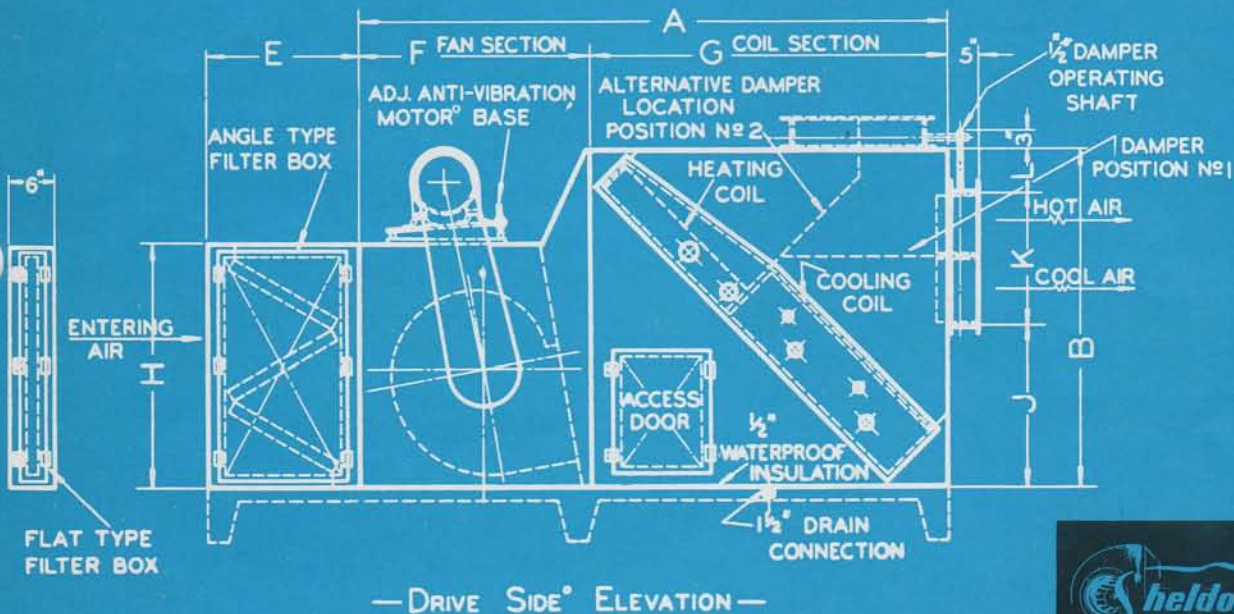
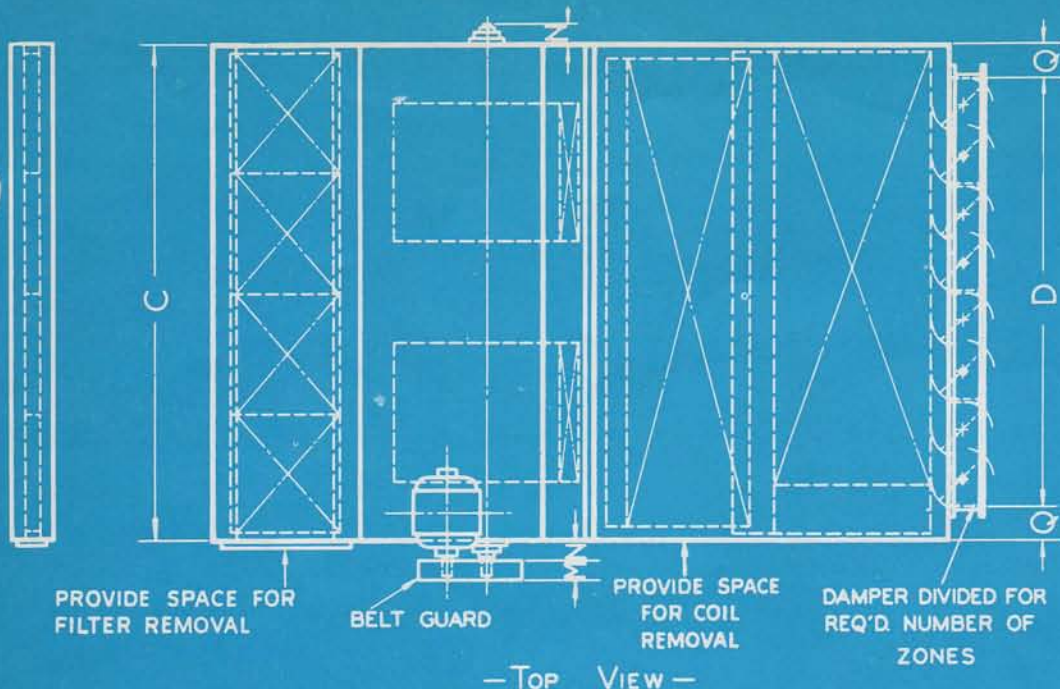
Mixing dampers for each zone are interconnected and external damper rod extensions have been provided to facilitate installation of damper controls. These dampers are normally assembled with the unit to permit one supply duct to each zone or room. However, where a dual duct installation is desired, the unit mixing dampers may be omitted and controlled mixing dampers installed at each supply outlet.

Large range of "CM" Unit sizes makes possible the economical selection for all types of installations. Maximum zoning arrangements vary from three to six, dependent on unit size. Where space limitations dictate, these units are available in vertical arrangements.



Type "CM" Vertical Unit for installations where space is limited.

SHELDONS						
Unit Size	A	B	C	D	E	
110	61½	41½	37½	32	20	
111	68	37	43½	38	20	
112	70	37	50	44	19	
211	73	42	56½	50	23	
212	75	42	65	60	23	
213	78	42	75	70	20	
215	77	59	75	70	20	
216	80	59	83	76	23	
218	96	63	96	86	23	
220	96	66	108	98	23	
222	97	74	113	104	23	
224	121	80	113	104	23	



TYPE "CM" MULTI-ZONE AIR CONDITIONING UNIT (Dimensions in Inches)

F	G	H	J	K	L	M	N	Q	Heat. Coil Face Area Sq. Ft.	Cool. Coil Face Area Sq. Ft.	Air Filters		Max. No. Zones	Damper Outlet Area	Rated C.F.M.*
											Flat	Angle			
27	34½	23	21½	14	3½	2½	1¾	2¾	2.11	3.30	1 - 20 x 25	2 - 16 x 25	3	3.11	1,980
28	40	23	21½	14	3½	2½	2	2¾	2.57	4.18	2 - 20 x 20	4 - 16 x 20	3	3.69	2,500
30	40	25	21½	14	3½	3	2	3	3.04	5.06	2 - 20 x 20	4 - 16 x 25	3	4.27	3,040
28	45	28	23	16	2½	3	2	3¼	4.07	6.60	3 - 16 x 25	4 - 20 x 25	4	5.55	3,960
30	45	28	22½	18	2½	3	2¼	2½	5.24	8.64	3 - 20 x 25	6 - 20 x 20	5	7.5	5,200
33	45	35	22½	18	2½	3½	2¼	2½	5.82	10.30	6 - 16 x 20	6 - 20 x 25	5	8.75	6,200
36	41	35	25	24	3	3½	2½	2½	7.70	13.68	6 - 16 x 25	9 - 16 x 25	6	11.68	8,200
39	41	41	25	26	5	3½	2½	3½	8.40	15.80	8 - 16 x 20	12 - 20 x 20	6	13.72	9,500
43	53	43	25	30	4	4	2¾	5	12.20	20.91	8 - 20 x 20	18 - 16 x 20	6	17.92	12,500
48	48	47	31	32	3	4½	3	5	14.00	24.85	8 - 20 x 25	12 - 20 x 25	6	21.6	15,000
52	45	51	27	34	3	4½	3	4½	14.90	28.40	12 - 16 x 25	20 - 20 x 20	6	24.6	17,000
58	63	53	33	40	4	4½	3½	4½	17.90	33.20	14 - 16 x 25	28 - 16 x 20	6	28.9	20,000

* Recommended Max. Cooling Coil Velocity 600 F.P.M.

Vertical Units Shown on Dwg. SB-1011

SELECTION OF UNITS

Type "CM" Multi-Zone Units have been designed to include component parts of Sheldon Type "C" Air Conditioning Units, fully described in Catalogue No. 1022, and

Type "H" Industrial Units — Catalogue No. 1021. Fan performance and coil selections may be determined easily from the above catalogues.

CONSTRUCTION

FAN SECTION: Fans used are double width, double inlet, with streamlined inlets and a choice of forward curved or backwardly inclined fan wheels, making possible a wide selection in performance and speeds. All fan wheels and shafts are dynamically balanced and mounted on ball bearings with rubber pillow blocks. This provides smooth, quiet operation.

The interior of all fan sections is lined with $\frac{1}{2}$ " air-acoustic material for the reduction of sound levels to a minimum.

COIL SECTION: All coil sections will accommodate direct expansion, chilled water or brine, cooling coils; and non-freeze or hot water heating coils as required. Drain pan and casing lined with $\frac{1}{2}$ " waterproof insulation. Adequate drainage connection provided for removal of coil condensate.

Type "CM" Multi-Zone Units are manufactured with the heating and cooling coil assembly as standard, but may be furnished, if desired with cooling coil and by-pass, or with heating coil and by-pass to suit special requirements.

ZONE DAMPERS: These dampers may be located in either of two positions as illustrated on page 3:

Position No. 1—horizontal air flow
vertical blades

Position No. 2—vertical air flow
horizontal blades

These arrangements eliminate elbows and permit installation of equipment with minimum space requirements.

HUMIDIFIER: Where some method of introducing humidity into the air is desired, a steam grid humidifier is available. For installations requiring high humidities, a Sheldon Capillary Washer section is recommended and should be installed before the fan section, with separate preheat coil.

PREHEAT COILS: Separate coil sections for preheating are available for bolting to inlet box of fan section on installations requiring a large percentage of outside air. They may be fitted with heating coils of type as selected from Catalogue No. 1022.

FILTERS: Angle or flat type filter sections are available for bolting to inlet of preheat coil section or fan section, and may be fitted with throw-away, cleanable or high velocity permanent type filters as desired and as indicated on page 3.

SUPPORTS: Units can be provided for ceiling suspension or standard floor mounting. Supporting legs are available where required. Vibration isolators are available for both types.



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