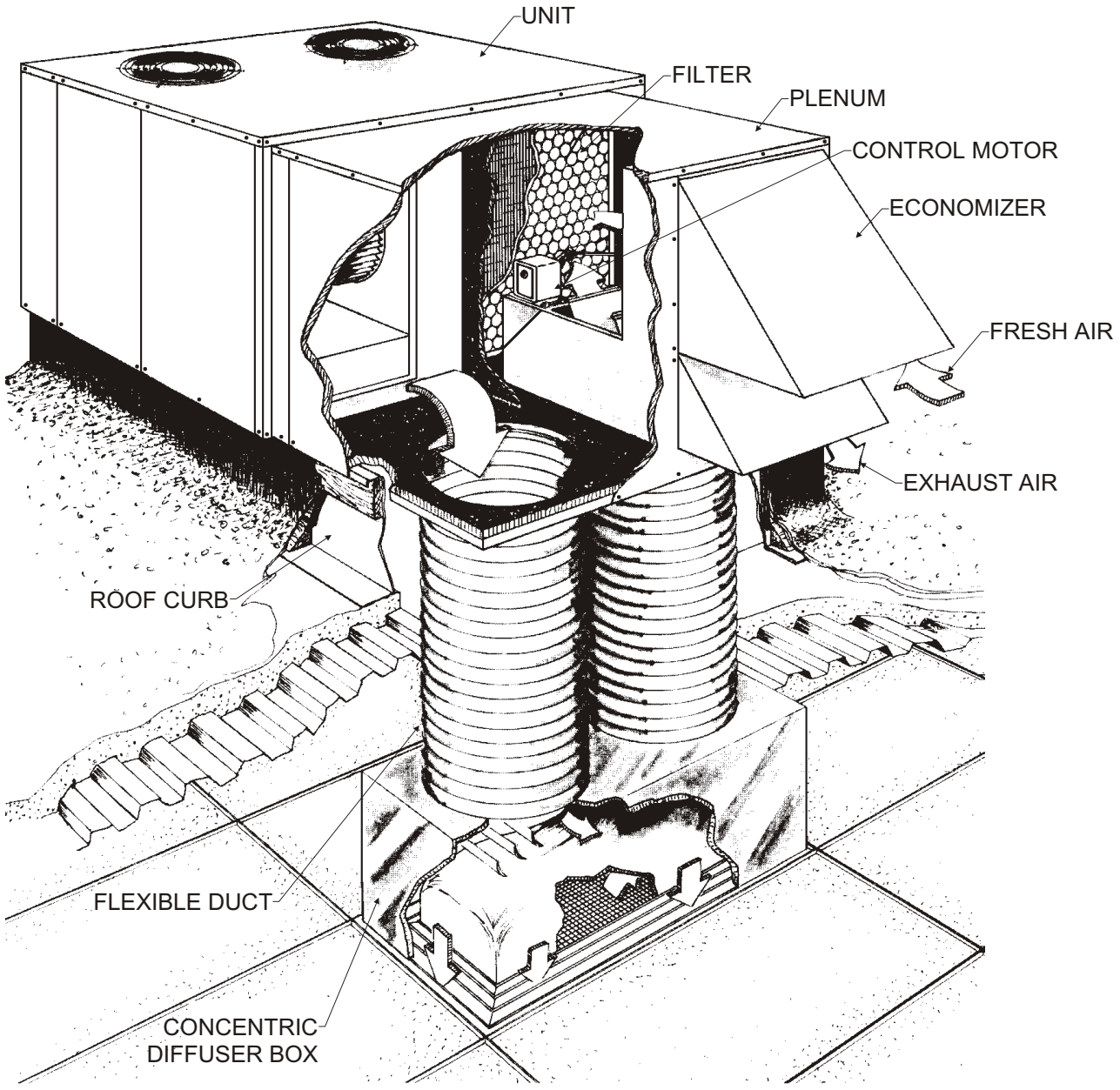
INSTALLATION INSTRUCTIONS FOR CONCENTRIC DIFFUSER



Installation Instructions For Concentric Diffuser

Flush Mount Concentric Diffuser Systems

The **510 & 515 Series** concentric diffuser systems, are designed to provide a single point air distribution system. The systems may be used with either a "T" Bar ceiling or a plaster ceiling, or with no ceiling at all.

515 series is the same as the 510 series, except with an additional filter in the return section (varies depending on size).

Standard features include:

1. All aluminum diffuser frame with aluminum return air eggcrate.
2. Built-in Anti-Sweat gasket.
3. Molded Fiberglass Transition (through 5 tons).
4. Built-in hanging supports.
5. Diffuser box constructed of fiberglass ductboard (through 7.5 tons) or sheet metal.

Standard benefits include:

1. Even four (4) way air distribution.
2. Lightweight design.
3. Factory assembled and sealed.
4. Guaranteed not to "sweat".
5. Guaranteed not to recirculate airflow (short cycle).
6. Return air eggcrate is easily removed.
7. Units are fully insulated (both supply and return).



Side Discharge Concentric Diffuser System

The **530 & 535 SERIES** concentric diffuser systems are designed to provide a single point air distribution system with the added benefit of having directional air control. The system may be used with either a "T" Bar ceiling, a plaster ceiling, or with no ceiling at all.

535 Series is the same as the 530 series, except with an additional filter in the return section (varies depending on size).

Standard features include:

1. All aluminum diffuser frame with aluminum return air eggcrate.
2. Double deflection diffuser with the blades secured by spring steel.
3. Built-in Anti-Sweat gasket.
4. Molded Fiberglass Transition. (through 5 tons).
5. Built-in hanging supports.
6. Diffuser box construction of fiberglass ductboard (through 7.5 tons) or sheet metal.

Standard benefits include:

1. Even four (4) way air distribution.
2. All exposed surfaces (below ceiling) are brushed aluminum.
3. Factory assembled and sealed.
4. Guaranteed not to “sweat”.
5. Guaranteed not to recirculate airflow (short cycle).
6. Return air eggcrate is easily removed.
7. Units are fully insulated (both supply and return).



Installation Instructions For "T" Bar Ceiling

"T" Bar Ceiling Instructions

1. Remove enough ceiling tiles to give you access to the diffuser location, remove any excess "T" bar, and remove or relocate any wiring or existing ducts that may be in the way.
2. The duct work coming from the unit should be as close to the final location of the Diffuser as possible. Flex duct (7.5 ton and below) or flex connection at unit will allow for some misalignment between the unit and the Diffuser.

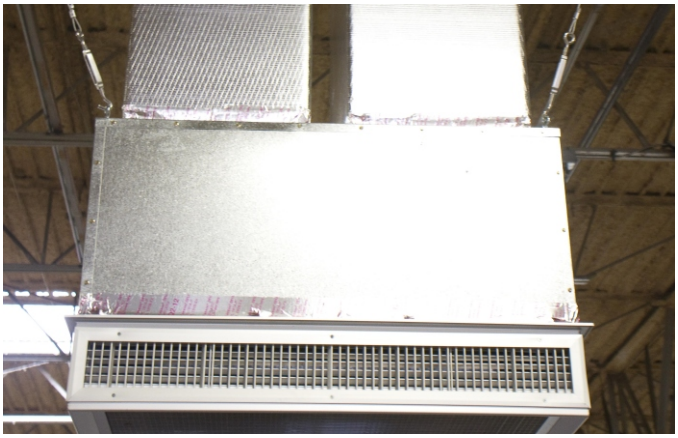


3. Secure four chains or wires with turn buckles to the rafters or other fixed location with enough length to reach the four eye hooks located at each corner on the top of the diffuser. Make sure the hanging points can support the weight of the Concentric Diffuser. **See Concentric Diffuser Engineering Data on Page 7.**

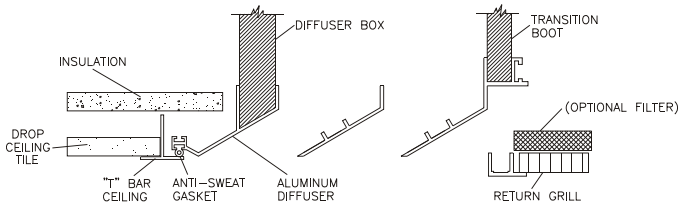


4. Lift the Diffuser into position and attach the four chains or wires previously installed to the eye hooks on the diffuser. The weight of the diffuser should be supported by the chains or wires, not the "T" Bar. Make sure to level the diffuser so that it sits properly in the "T" Bar ceiling.





Note: Be sure that the Anti-Sweat gasket is in contact with the "T" Bar frame.

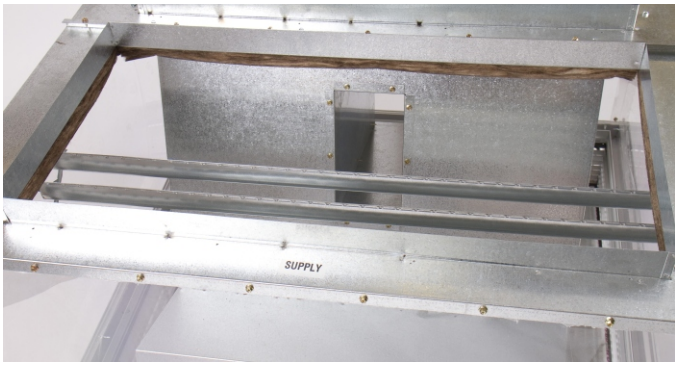


Installation Instructions For "T" Bar Ceiling

5. Re-Install the ceiling tiles and check diffuser for proper airflow.



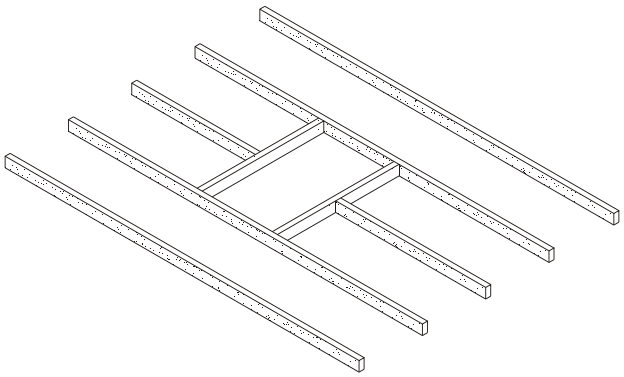
6. Attach the Supply and Return duct drops to the corresponding openings on the top of the diffuser. The supply and return duct openings are marked on the diffuser at the factory.
7. Pull insulation back up to the diffuser box to ensure that the aluminum frame does not sweat.



Installation Instructions For Plaster (Drywall) Ceiling

Commercial Plaster (Drywall) Ceiling Instructions

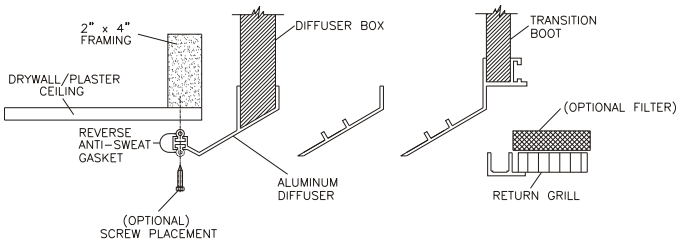
1. Cut opening in Ceiling ½ Inch larger than the diffuser plenum box dimension shown on the diffuser engineering data sheet. (Note: The Plenum box dimensions are smaller than the overall diffuser dimensions). Frame opening with 2” x 4” lumber.



2. The duct work coming from the unit should be as close to the final location of the Diffuser as possible. Flex duct (7.5 ton and below) or flex connection at unit will allow for some misalignment between the unit and the Diffuser.
3. Secure four chains or wires with turn buckles to the rafters or other fixed location with enough length to reach the four eye hooks located at each corner on the top of the diffuser. Make sure the hanging points can support the weight of the Concentric Diffuser. **See Concentric Diffuser Engineering Data on Page 7.**



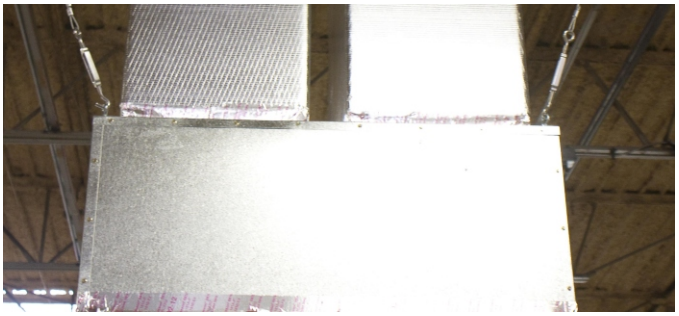
4. Reverse the Anti-Sweat gasket location to the backside of the frame so that when diffuser is flush with ceiling the gasket is in full contact with ceiling surface.



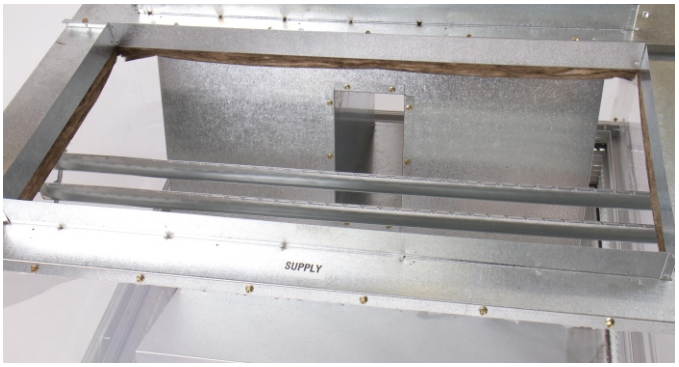
5. Lift the Diffuser into the framed opening and attach the four chains or wires previously installed to the eye hooks on the diffuser. The weight of the diffuser should be supported by the chains or wires. Make sure to level the diffuser so that it sits flush against the ceiling. (optional) You may also secure the diffuser by screwing through the outer frame, through the anti-sweat gasket and into 2” x 4” framing. Run screws every 12 inches on center or closer if necessary.



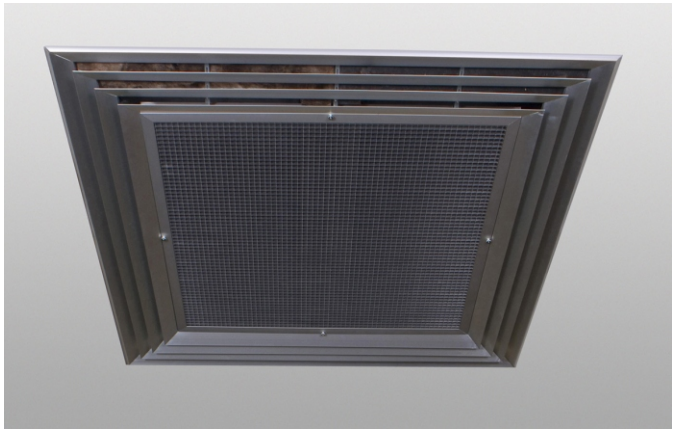
Installation Instructions For Plaster (Drywall) Ceiling



6. Attach the Supply and Return duct drops to the corresponding openings on the top of the diffuser. The supply and return duct openings are marked on the diffuser at the factory.



7. Check diffuser for proper airflow



Installation Instruction
Engineering Data

510 & 515 Series
Concentric Diffuser Engineering Data

Model#	CFM	Static Pressure	Throw In Feet	Neck Velocity	Jet Velocity	Noise Level	Weight
01-510-16 01-515-16	600	0.09	10-14	234	417	18	27
	800	0.11	12-18	313	556	20	27
	1000	0.14	15-20	391	691	20	27
	1200	0.17	16-22	469	833	25	27
	1400	0.20	17-24	547	972	30	27
01-510-18 01-515-18	1000	0.14	15-20	391	694	20	27
	1200	0.17	16-22	469	833	25	27
	1400	0.20	17-24	547	972	30	27
	1600	0.24	18-25	625	1111	30	27
	1800	0.30	20-28	703	1250	35	27
	2000	0.36	21-29	781	1389	40	27
	2200	0.40	22-30	859	1528	40	27
01-510-20 01-515-20	2600	0.17	19-24	663	1294	30	42
	2800	0.20	20-28	714	1393	35	42
	3000	0.25	21-29	765	1492	35	42
	3200	0.31	22-29	816	1592	40	42
	3400	0.37	22-30	867	1692	40	42
01-510-22 01-515-22	3600	0.17	22-29	844	1646	34	104
	4000	0.21	24-33	938	1829	40	104
	4400	0.27	28-37	1032	2011	40	104
01-510-50 01-515-50	4500	0.31	25-34	922	1795	40	151
	5000	0.34	24-33	938	1829	40	151
	5400	0.39	32-41	1083	2107	45	151
01-510-60 01-515-60	5600	0.36	28-37	1000	2082	45	158
	6000	0.42	40-50	1071	2230	45	158
	6400	0.50	43-52	1143	2379	50	158
	6600	0.54	45-56	1179	2454	50	158
01-510-80 01-515-80	7200	0.39	26-35	996	2093	45	197
	8000	0.50	42-51	1107	2326	50	197
	8400	0.56	44-54	1162	2442	50	197
	8800	0.63	48-59	1217	2558	50	197
01-510-100 01-515-100	9600	0.41	32-41	1036	2159	45	197
	10000	0.45	37-46	1079	2249	45	197
	10400	0.50	42-51	1122	2339	50	197
01-510-300 01-515-300	10000	0.57	37-46	713	1506	35	244
	11000	0.72	46-56	785	1657	35	244
	12000	0.90	54-66	856	1808	40	244
	13000	1.10	62-75	927	1958	40	244

1. All data is based on the Air Diffusion Council guidelines.
2. Throw data is based on Terminal Velocities of 75 FPM using isothermal air.
3. Actual noise levels are less than those shown.

* Jet velocity is higher than neck velocity on the (510) flush mount diffusers because the air gets "pinched down" as it exits – similar to high pressure water coming out of a garden hose with a sprayer.

The drop down (530) diffusers have enough face area in the supply grills so that the air velocity does not increase significantly as it exits the concentric. That is why "Neck Velocity" and "Jet Velocity" are the same for the drop downs.

530 & 535 Series
Concentric Diffuser Engineering Data

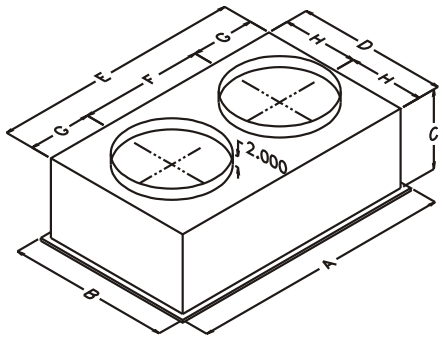
Model#	CFM	Static Pressure	Throw In Feet	Neck /Jet Velocity	Noise Level	Weight
01-530-16 01-535-16	600	0.09	8-15	210	20	38
	800	0.11	9-16	281	20	38
	1000	0.14	10-17	351	20	38
	1200	0.17	11-18	421	20	38
01-530-18 01-535-18	1200	0.17	11-18	421	20	38
	1400	0.20	12-19	491	20	38
	1600	0.24	12-20	561	20	38
	1800	0.30	13-21	632	20	38
	2000	0.36	14-23	702	20	38
	2200	0.40	16-25	772	20	38
01-530-20 01-535-20	2600	0.17	24-29	669	20	82
	2800	0.20	25-30	720	25	82
	3000	0.25	27-33	772	25	82
	3200	0.31	28-35	823	25	82
	3400	0.37	30-37	874	30	82
01-530-22 01-535-22	3600	0.17	25-33	851	30	122
	3800	0.18	27-35	898	30	122
	4000	0.21	29-37	946	30	122
	4200	0.24	32-40	993	30	122
	4400	0.27	34-42	1040	30	122
01-530-50 01-535-50	4600	0.31	26-31	841	30	145
	4800	0.32	27-32	878	30	145
	5000	0.34	28-33	915	30	145
	5200	0.36	28-34	951	30	145
	5400	0.39	29-35	988	30	145
01-530-60 01-535-60	5600	0.36	39-49	920	30	217
	5800	0.39	42-51	954	30	217
	6000	0.42	44-54	1022	30	217
	6200	0.46	45-55	1056	30	217
	6400	0.50	46-55	1090	30	217
	6600	0.54	47-56	1124	30	217
01-530-80 01-535-80	7200	0.39	33-38	827	25	238
	7600	0.43	36-41	873	25	238
	8000	0.50	39-44	918	30	238
	8400	0.56	43-49	964	30	238
	8800	0.63	47-55	1010	30	238
01-530-100 01-535-100	9200	0.74	49-57	1056	50	238
	9400	0.80	50-58	1079	55	238
	9600	0.83	52-62	1102	55	238
	9800	0.86	55-63	1125	55	238
	10000	1.00	57-65	1148	55	238
	10200	1.07	60-68	1171	60	238
	10400	1.16	63-71	1194	60	238
01-530-300 01-535-300	10000	0.51	46-54	907	30	285
	10500	0.58	50-58	953	30	285
	11000	0.65	53-61	998	30	285
	11500	0.73	55-64	1043	30	285
	12000	0.82	58-67	1089	30	285
	12500	0.91	61-71	1134	30	285
	13000	1.00	64-74	1179	35	285

1. All data is based on the Air Diffusion Council guidelines.
2. Throw data is based on Terminal Velocities of 75 FPM using isothermal air.
3. Actual noise levels are less than those shown.
4. Throw is based on diffuser blades being directed in a straight pattern.

* Jet velocity is higher than neck velocity on the (510) flush mount diffusers because the air gets "pinched down" as it exits – similar to high pressure water coming out of a garden hose with a sprayer.

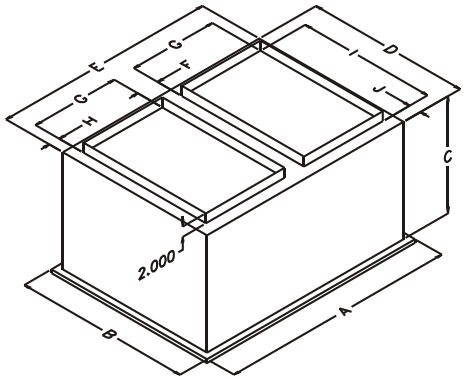
The drop down (530) diffusers have enough face area in the supply grills so that the air velocity does not increase significantly as it exits the concentric. That is why "Neck Velocity" and "Jet Velocity" are the same for the drop downs.

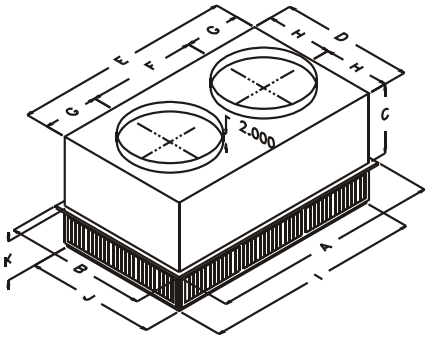
Installation Instructions For Dimensional Data



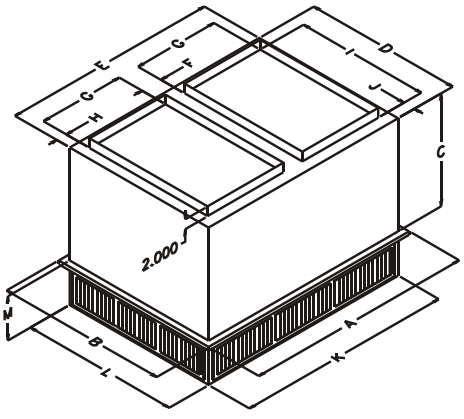
DIMENSIONAL DATA									
MODEL#	A	B	C	D	E	F	G	H	DUCT SIZE
01-510-16 01-515-16	47 5/8	23 5/8	13 1/2	21	45	22 1/2	11 1/4	10 1/2	16 RD
01-510-18 01-515-18	47 5/8	23 5/8	13 1/2	21	45	22 1/2	11 1/4	10 1/2	18 RD
01-510-20 01-515-20	47 5/8	29 5/8	16 5/8	27	45	22 1/2	11 1/4	13 1/2	20 RD

DIMENSIONAL DATA											
MODEL#	A	B	C	D	E	F	G	H	I	J	DUCT SIZE
01-510-22 01-515-22	47 5/8	35 5/8	23 1/4	33	45	4 1/2	18	2 1/4	28	2 1/2	18x28
01-510-50 01-515-50	47 5/8	41 5/8	29 1/4	39	45	4 1/2	18	2 1/4	32	3 1/4	18x32
01-510-60 01-515-60	47 5/8	47 5/8	29 1/4	45	45	4 1/2	18	2 1/4	36	4 1/2	18x36
01-510-80 01-515-80	59 5/8	59 5/8	35 1/4	57	57	4 1/2	24	2 1/4	48	4 1/2	24x48
01-510-100 01-515-100	59 5/8	59 5/8	35 1/4	57	57	4 1/2	24	2 1/4	54	1 1/2	24x54
01-510-300 01-515-300	63 5/8	63 5/8	40	63 1/8	63 1/2	4 1/2	28	1 1/4	60	1 1/2	28x60





DIMENSIONAL DATA												
MODEL#	A	B	C	D	E	F	G	H	I	J	K	DUCT SIZE
01-530-16 01-535-16	47 5/8	23 5/8	11 3/8	21 1/2	45 1/2	22 1/2	11 1/2	10 3/4	45 1/2	21 1/2	7 1/8	16 RD
01-530-18 01-535-18	47 5/8	23 5/8	11 3/8	21 1/2	45 1/2	22 1/2	11 1/2	10 3/4	45 1/2	21 1/2	7 1/8	18 RD
01-530-20 01-535-20	47 5/8	29 5/8	14 3/8	27 1/2	45 1/2	22 1/2	11 1/2	13 3/4	45 1/2	27 1/2	8 1/8	20 RD



DIMENSIONAL DATA														
MODEL#	A	B	C	D	E	F	G	H	I	J	K	L	M	DUCT SIZE
01-530-22 01-535-22	47 5/8	35 5/8	20 5/8	33 1/2	45 1/2	4 1/2	18	2 1/2	28	2 3/4	45 1/2	33 1/2	9 1/8	18x28
01-530-50 01-535-50	47 5/8	41 5/8	25 5/8	39 1/2	45 1/2	4 1/2	18	2 1/2	32	3 3/4	45 1/2	39 1/2	9 1/8	18x32
01-530-60 01-535-60	47 5/8	47 5/8	24 5/8	45 1/2	45 1/2	4 1/2	18	2 1/2	36	4 3/4	45 1/2	45 1/2	10 1/8	18x36
01-530-80 01-535-80	59 5/8	59 5/8	30 5/8	57 1/2	57 1/2	4 1/2	24	2 1/2	48	4 3/4	57 1/2	57 1/2	11 1/8	24x48
01-530-100 01-535-100	59 5/8	59 5/8	30 5/8	57 1/2	57 1/2	4 1/2	24	2 1/2	54	1 3/4	57 1/2	57 1/2	11 1/8	24x54
01-530-300 01-535-300	65 5/8	65 5/8	40 1/2	63 1/2	63 1/2	4 1/2	28	1 1/2	60	1 3/4	63 1/2	63 1/2	12 1/8	28x60