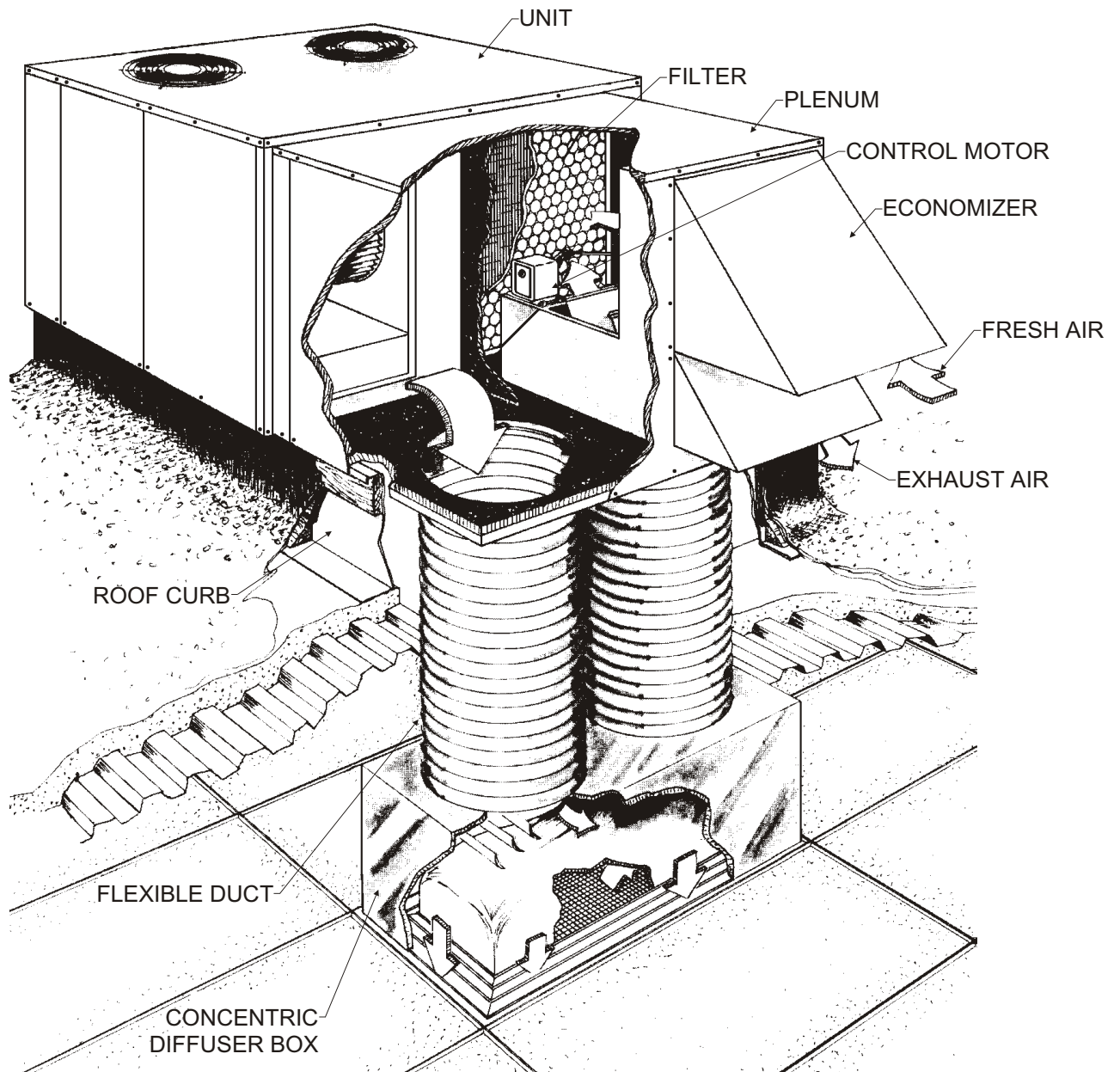


INSTALLATION INSTRUCTIONS FOR CONCENTRIC DIFFUSER



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).



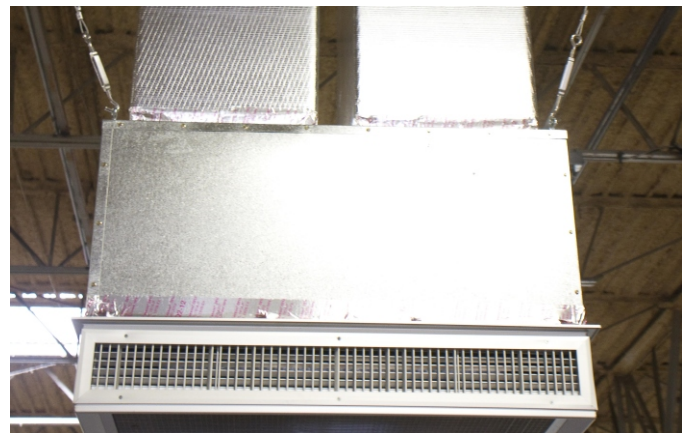
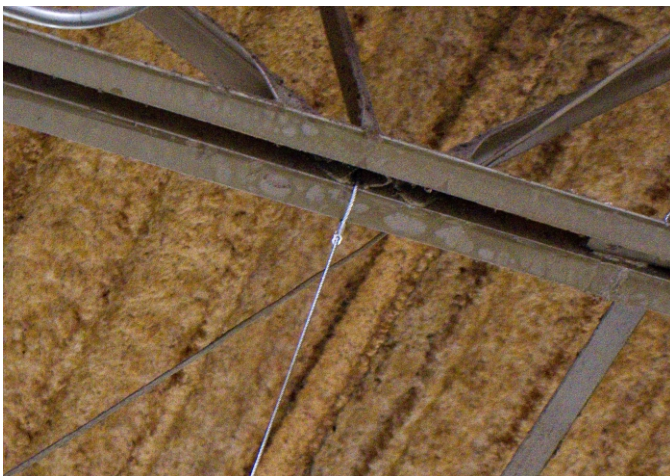
Installation Instructions For "T" Bar Ceiling

"T" Bar Ceiling Instructions

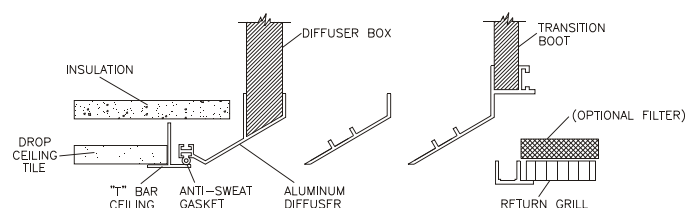
1. Remove enough ceiling tiles to give you access to the diffuser location, remove any excess "T" bar, and remove or relocate any wiring or existing ducts that may be in the way.
2. The duct work coming from the unit should be as close to the final location of the Diffuser as possible. Flex duct (7.5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



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.**



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

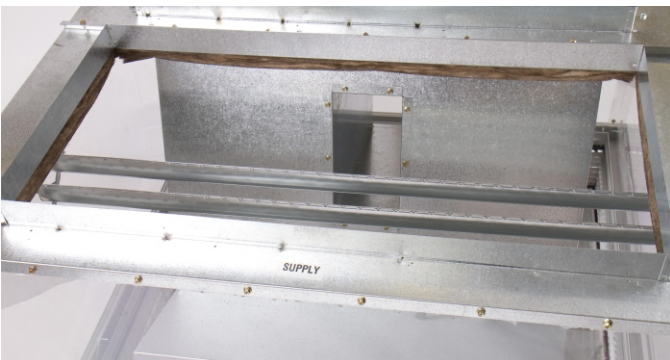


Installation Instructions For "T" Bar Ceiling

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



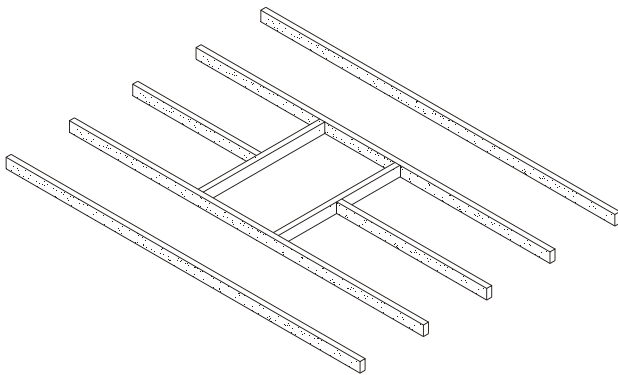
6. Attach the Supply and Return duct drops to the corresponding openings on the top of the diffuser. The supply and return duct openings are marked on the diffuser at the factory.
7. Pull insulation back up to the diffuser box to ensure that the aluminum frame does not sweat.



Installation Instructions For Plaster (Drywall) Ceiling

Commercial Plaster (Drywall) Ceiling Instructions

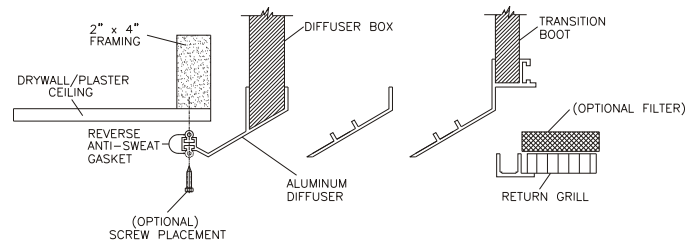
1. Cut opening in Ceiling ½ Inch larger than the diffuser plenum box dimension shown on the diffuser engineering data sheet. (Note: The Plenum box dimensions are smaller than the overall diffuser dimensions). Frame opening with 2" x 4" lumber.



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.**



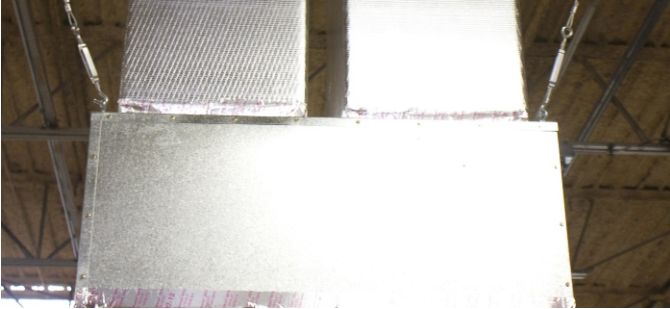
4. Reverse the Anti-Sweat gasket location to the backside of the frame so that when diffuser is flush with ceiling the gasket is in full contact with ceiling surface.



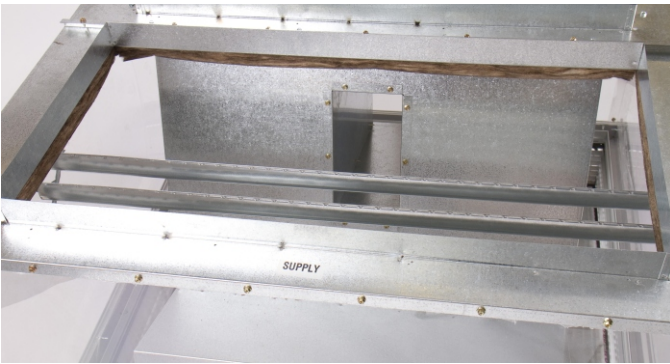
5. Lift the Diffuser into the framed opening and attach the four chains or wires previously installed to the eye hooks on the diffuser. The weight of the diffuser should be supported by the chains or wires. Make sure to level the diffuser so that it sits flush against the ceiling. (optional) You may 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.



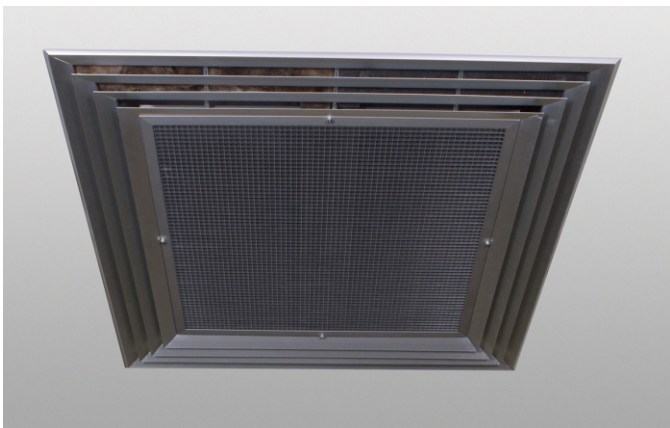
Installation Instructions For Plaster (Drywall) Ceiling



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 |
| 01-510-20 01-515-20 | 2000 | 0.36 | 21-29 | 781 | 1389 | 40 | 27 |
| | 2200 | 0.40 | 22-30 | 859 | 1528 | 40 | 27 |
| | 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 |
| 01-510-22 01-515-22 | 3200 | 0.31 | 22-29 | 816 | 1592 | 40 | 42 |
| | 3400 | 0.37 | 22-30 | 867 | 1692 | 40 | 42 |
| | 3600 | 0.17 | 22-29 | 844 | 1646 | 34 | 104 |
| 01-510-50 01-515-50 | 4000 | 0.21 | 24-33 | 938 | 1829 | 40 | 104 |
| | 4400 | 0.27 | 28-37 | 1032 | 2011 | 40 | 104 |
| | 4500 | 0.31 | 25-34 | 922 | 1795 | 40 | 151 |
| 01-510-60 01-515-60 | 5000 | 0.34 | 24-33 | 938 | 1829 | 40 | 151 |
| | 5400 | 0.39 | 32-41 | 1083 | 2107 | 45 | 151 |
| | 5600 | 0.36 | 28-37 | 1000 | 2082 | 45 | 158 |
| 01-510-80 01-515-80 | 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 |
| 01-510-100 01-515-100 | 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 |
| 01-510-300 01-515-300 | 8800 | 0.63 | 48-59 | 1217 | 2558 | 50 | 197 |
| | 9600 | 0.41 | 32-41 | 1036 | 2159 | 45 | 197 |
| | 10000 | 0.45 | 37-46 | 1079 | 2249 | 45 | 197 |
| 01-510-500 01-515-500 | 10400 | 0.50 | 42-51 | 1122 | 2339 | 50 | 197 |
| | 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 |

- All data is based on the Air Diffusion Council guidelines.
- Throw data is based on Terminal Velocities of 75 FPM using isothermal air.
- 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

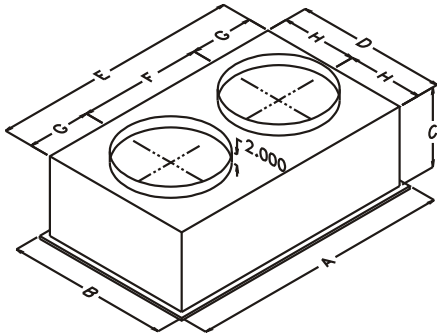
| Model# | CFM | Static Pressure | Throw In Feet | Neck /Jet Velocity | Noise Level | Weight |
|--------------------------|-------|-----------------|---------------|--------------------|-------------|--------|
| 01-530-16 01-535-16 | 600 | 0.09 | 8-15 | 210 | 20 | 38 |
| | 800 | 0.11 | 9-16 | 281 | 20 | 38 |
| | 1000 | 0.14 | 10-17 | 351 | 20 | 38 |
| | 1200 | 0.17 | 11-18 | 421 | 20 | 38 |
| 01-530-18 01-535-18 | 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 |
| 01-530-22 01-535-22 | 3400 | 0.37 | 30-37 | 874 | 30 | 82 |
| | 3600 | 0.17 | 25-33 | 851 | 30 | 122 |
| | 3800 | 0.18 | 27-35 | 898 | 30 | 122 |
| | 4000 | 0.21 | 29-37 | 946 | 30 | 122 |
| 01-530-50 01-535-50 | 4200 | 0.24 | 32-40 | 993 | 30 | 122 |
| | 4400 | 0.27 | 34-42 | 1040 | 30 | 122 |
| | 4600 | 0.31 | 26-31 | 841 | 30 | 145 |
| | 4800 | 0.32 | 27-32 | 878 | 30 | 145 |
| | 5000 | 0.34 | 28-33 | 915 | 30 | 145 |
| 01-530-60 01-535-60 | 5200 | 0.36 | 28-34 | 951 | 30 | 145 |
| | 5400 | 0.39 | 29-35 | 988 | 30 | 145 |
| | 5600 | 0.36 | 39-49 | 920 | 30 | 217 |
| | 5800 | 0.39 | 42-51 | 954 | 30 | 217 |
| | 6000 | 0.42 | 44-54 | 1022 | 30 | 217 |
| 01-530-80 01-535-80 | 6200 | 0.46 | 45-55 | 1056 | 30 | 217 |
| | 6400 | 0.50 | 46-55 | 1090 | 30 | 217 |
| | 6600 | 0.54 | 47-56 | 1124 | 30 | 217 |
| | 7200 | 0.39 | 33-38 | 827 | 25 | 238 |
| | 7600 | 0.43 | 36-41 | 873 | 25 | 238 |
| 01-530-100 01-535-100 | 8000 | 0.50 | 39-44 | 918 | 30 | 238 |
| | 8400 | 0.56 | 43-49 | 964 | 30 | 238 |
| | 8800 | 0.63 | 47-55 | 1010 | 30 | 238 |
| | 9200 | 0.74 | 49-57 | 1056 | 50 | 238 |
| | 9400 | 0.80 | 50-58 | 1079 | 55 | 238 |
| 01-530-300 01-535-300 | 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 |
| 01-530-500 01-535-500 | 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 |

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

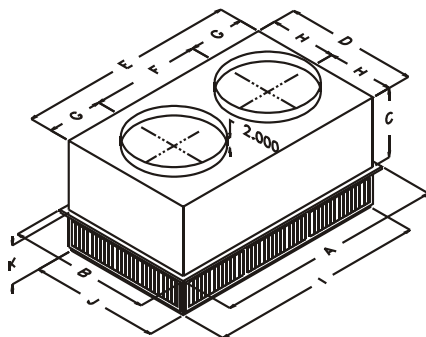
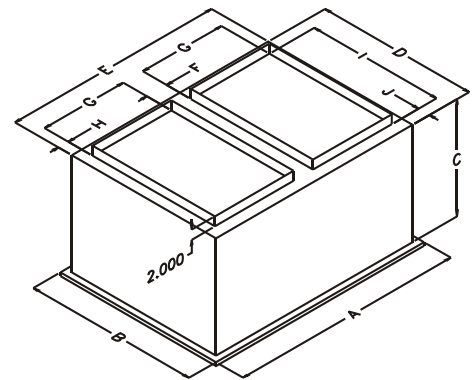
The drop down (530) diffusers have enough face area in the supply grills so that the air velocity does not increase significantly as it exits the concentric. That is why "Neck Velocity" and "Jet Velocity" are the same for the drop downs.

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 5/8" | 21 1/2" | 45 1/2" | 22 1/2" | 11 1/2" | 10 3/4" | 45 1/2" | 21 1/2" | 7 5/8" | 16 RD |
| 01-530-18 01-535-18 | 47 5/8" | 23 5/8" | 11 5/8" | 21 1/2" | 45 1/2" | 22 1/2" | 11 1/2" | 10 3/4" | 45 1/2" | 21 1/2" | 7 5/8" | 18 RD |
| 01-530-20 01-535-20 | 47 5/8" | 29 5/8" | 14 5/8" | 27 1/2" | 45 1/2" | 22 1/2" | 11 1/2" | 13 3/4" | 45 1/2" | 27 1/2" | 8 5/8" | 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 5/8" | 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 5/8" | 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 5/8" | 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 5/8" | 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 5/8" | 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 5/8" | 28x60 |

