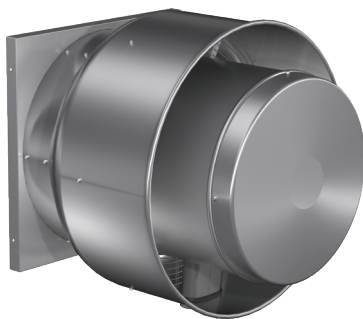


Dayton®



Centrifugal Direct-Drive Upblast Exhaust Ventilators

**Models 20FT10, 20FT11, 36WG76, 48C179 - 48C181,
4HZ40, 4HZ41, 4HZ44, 4HZ45, 52CD36, 5DVN6,
5DVN8, 5DVP0, 5DVP4, 5DVP6, 5DVP8, 5DVR2,
56JN76 - 56JN90, 56JN97, 56MW72**



Dayton

**PLEASE READ AND SAVE
THESE INSTRUCTIONS.**

**READ CAREFULLY
BEFORE ATTEMPTING
TO ASSEMBLE, INSTALL,
OPERATE OR MAINTAIN THE
PRODUCT DESCRIBED.**

**PROTECT YOURSELF AND
OTHERS BY OBSERVING ALL
SAFETY INFORMATION. FAILURE
TO COMPLY WITH INSTRUCTIONS
COULD RESULT IN PERSONAL
INJURY AND/OR PROPERTY
DAMAGE! RETAIN INSTRUCTIONS
FOR FUTURE REFERENCE.**

**PLEASE REFER TO BACK COVER
FOR INFORMATION REGARDING
DAYTON'S WARRANTY AND OTHER
IMPORTANT INFORMATION.**

Model #: _____

Serial #: _____

Purch. Date: _____

*Form 5S6829 / Printed in USA
04632 Version 6 10/2020*

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BEFORE YOU BEGIN

⚠ WARNING

Installation, troubleshooting and parts replacement are to be performed only by qualified personnel.



Electrical Requirements:

- The motor amperage and voltage ratings must be checked for compatibility to supply voltage prior to final electrical connection. Wiring must conform to local and national codes.



Tools Needed:

- Dayton® Roof Curb
- Mounting Fasteners (8)
- Sealant or Caulk
- Tachometer

Recommended Accessories:

- NEMA 1 (1H400, 1H401) / NEMA 4 (1H408, 1H409) Disconnect Switch
- Roof Curb (2RB75-2RB77, 2RB79-2RB82, 24Y860, 2ZV82-2ZV85)
- Ventilated Roof Curb (4HX54-4HX60, 4HX61-4HX63)
- Roof Curb Adapter (3AZK1-3AZK9, 3AZL1-3AZL3)
- Grease Collector Box (48C174)
- Sidewall Grease Collector Kit (56JN65-56JN69)
- Roof Mount Curb Hinge Kit (20CK53-20CK56, 4HX79, 56JN70-56JN72)
- Sidewall Curb Hinge Kit (56JN70-56JN75)
- Wall Mounting Bracket (56JN59-56JN64)
- Clean-Out Port Kit (3ATV9)
- Damper (4HX64-4HX70)

UNPACKING



Contents:

- Dayton® Centrifugal Belt-Drive Upblast Exhaust Ventilator (1)
- Operating Instructions and Parts Manual (1)



Inspect:

- After unpacking unit, inspect carefully for any damage that may have occurred during transit. Check for loose, missing, or damaged parts. Shipping damage claim must be filed with carrier.
- Check all bolts, screws, set-screws, etc. for looseness that may have occurred during transit. Retighten as required. Rotate wheel by hand to be sure it turns freely.
- **See General Safety Instructions on page 2, and Cautions and Warnings as shown.**



GENERAL SAFETY INSTRUCTIONS

Only qualified personnel should install this fan. Personnel should have a clear understanding of these instructions and should be aware of general safety precautions. Improper installation can result in electric shock, possible injury due to coming in contact with moving parts, as well as other potential hazards. Other considerations may be required if high winds or seismic activity is present. If more information is needed, contact a licensed professional engineer before moving forward.

⚠ DANGER

Do not depend on any switch as the sole means of disconnecting power when installing or servicing the ventilator. Always disconnect, lock and tag power source before installing or servicing. Failure to disconnect power source can result in fire, shock or serious injury. Motor will restart without warning after thermal protector trips. Do not touch operating motor, it may be hot enough to cause injury.

⚠ DANGER

Do not place any body parts or objects in ventilator, motor openings or drives while motor is connected to power source.

⚠ WARNING

Do not use this equipment in explosive atmospheres unless motor and disconnect are suitable for use in hazardous environments.

⚠ CAUTION

To reduce the risk of injury to persons, observe the following:

OSHA requires OSHA complying guards when fan is installed within 7 feet of floor or working level.

UL/cUL Standards require OSHA complying guards when fan is installed within 8 feet of floor or working level.

1. Follow all local electrical and safety codes, as well as the National Electrical Code (NEC) and the National Fire Protection Agency (NFPA), where applicable. Follow the Canadian Electrical Code (CEC) in Canada.
2. The rotation of the wheel is critical. It must be free to rotate without striking or rubbing any stationary objects.
3. Motor must be securely and adequately grounded.
4. Do not spin fan wheel faster than max cataloged fan RPM. Adjustments to fan speed significantly affects motor load. If the fan RPM is changed, the motor current should be checked to make sure it is not exceeding the motor nameplate amps.
5. Do not allow the power cable to kink or come in contact with oil, grease, hot surfaces or chemicals. Replace cord immediately if damaged.
6. Verify that the power source is compatible with the equipment.
7. Never open access doors to a duct while the fan is running.

SPECIFICATIONS

| Model | 5DVN6, 5DVN8, 5DVP0, 5DVP4, 5DVP6, 48C179 | 20FT10, 20FT11, 36WG76, 48C180, 48C181, 4HZ40G, 4HZ41G, 4HZ44G, 4HZ45G, 52CD36, 56JN76 - 56JN90, 56JN97, 56MW72, 5DVP8, 5DVR2A |
|-------------------|---|--|
| Max. Inlet Temp. | 130°F | 300°F |
| Mounting Location | Roof/Sidewall | Roof/Sidewall |
| Housing Material | Spun Aluminum | |
| Wheel Type | Backward Inclined Centrifugal | |
| Includes | NEMA 1 Junction Box, , ▲ | |
| Agency Compliance | UL/cUL 705 | UL/cUL 762* |
| Agency Compliance | AMCA Sound and Air | |

Electronically commutated ventilators include motor mounted potentiometer dial to adjust speed. Optional remote mount speed control kit 43Y140 can be purchased separately.

* Ventilators are UL/cUL Listed Subject 762 (YZHW) and comply with all requirements set forth in NFPA 96 Standard for Ventilation Control and Fire Protection Commercial Cooking Operations.



SAFETY/ SPECIFICATIONS

ASSEMBLY / INSTALLATION

OPERATION

MAINTENANCE / REPAIR

TROUBLESHOOTING

| 48C181 36WG76 | 4HZ40G 4HZ41G | 5DVR2A | 5DVP8 | 4HZ44G | 4HZ45G | 56JN76 56JN77 |
|------------------|------------------|----------------------------|--------|--------|--------|------------------|
| 19 | 22 | 22 | 22 | 22 | 22 | 26 |
| 13-1/4 | 11 | 11 | 12-1/2 | 13-1/4 | 13-1/4 | 14-3/4 |
| 5/8 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 |
| 14-1/2 | 17-1/2 | 17-1/2 | 17-1/2 | 17-1/2 | 17-1/2 | 21-1/2 |
| 12 | 15 | 15 | 15 | 15 | 15 | 19 |
| 43Y140 | 48C172 | 43Y140 | 48C173 | 48C172 | — | 48C172 |
| 56MW72 | 56JN89 56JN86 | 56JN87 56JN88 56JN97 | 56JN90 | | | |
| 26 | 30 | 30 | 30 | | | |
| 16-1/2 | 18-1/2 | 18-1/2 | 21-1/4 | | | |
| 5/8 | 5/8 | 1/2 | 5/8 | | | |
| 21-1/2 | 25-1/2 | 25-1/2 | 25-1/2 | | | |
| 19 | 23 | 23 | 23 | | | |
| — | 43Y140 | — | — | | | |

PERFORMANCE

| Model 115V, 1-Phase | HP | Model – ECM 115V, 1-Phase | HP | RPM | Max BHP | Sones @ .125" SP @ 5 Ft. |
|------------------------|------|------------------------------|-----|------|------------|--------------------------------|
| 5DVN6 | 1/60 | — | — | 1050 | 0.01 | — |
| | | | | 1300 | 0.01 | 2.5 |
| | | | | 1550 | 0.02 | 4.0 |
| 5DVN8 | 1/30 | — | — | 1050 | 0.01 | — |
| | | | | 1300 | 0.02 | 2.4 |
| | | | | 1550 | 0.03 | 4.7 |
| 5DVP0 | 1/20 | — | — | 1050 | 0.02 | 4.2 |
| | | | | 1300 | 0.03 | 5.5 |
| | | | | 1550 | 0.05 | 7.2 |
| — | — | 48C179 | 1/6 | 860 | 0.02 | — |
| 5DVP4 | 1/15 | | | 1050 | 0.03 | 4.2 |
| | | | | 1300 | 0.05 | 5.4 |
| | | | | 1550 | 0.09 | 7.5 |
| — | — | | | 1140 | 0.04 | 4.6 |
| — | — | | | 1725 | 0.12 | 9.4 |
| 5DVP6 | 1/8 | — | — | 1050 | 0.04 | 4.5 |
| | | | | 1300 | 0.07 | 6.4 |
| | | | | 1550 | 0.12 | 8.5 |
| 20FT10 | 1/6 | — | — | 1140 | 0.07 | 7.0 |
| 20FT11▲ | 1/4 | — | — | 1725 | 0.25 | 13.8 |
| — | — | 52CD36 | 1/2 | 1300 | 0.067 | — |
| — | — | | | 1900 | 0.21 | — |
| — | — | | | 2500 | 0.44 | — |



Dayton Electric Mfg. Co. certifies that the ventilators shown herein are licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 211 and AMCA Publication 311 and comply with the requirements of the AMCA Certified Ratings Program.


| CFM Air Delivery @ Static Pressure Shown | | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|
| .000" | .125" | .250" | .375" | .500" | .750" | 1.00" | 1.25" | 1.50" |
| 133 | 81 | — | — | — | — | — | — | — |
| 165 | 126 | 70 | — | — | — | — | — | — |
| 197 | 164 | 128 | — | — | — | — | — | — |
| 250 | 171 | — | — | — | — | — | — | — |
| 309 | 255 | 152 | — | — | — | — | — | — |
| 369 | 325 | 269 | 160 | — | — | — | — | — |
| 325 | 247 | 133 | — | — | — | — | — | — |
| 403 | 343 | 272 | 173 | — | — | — | — | — |
| 480 | 431 | 376 | 314 | 235 | — | — | — | — |
| 450 | 324 | — | — | — | — | — | — | — |
| 549 | 451 | 306 | — | — | — | — | — | — |
| 680 | 600 | 517 | 391 | — | — | — | — | — |
| 811 | 744 | 677 | 604 | 501 | — | — | — | — |
| 596 | 505 | 395 | — | — | — | — | — | — |
| 903 | 842 | 782 | 722 | 652 | 420 | — | — | — |
| 711 | 570 | 381 | — | — | — | — | — | — |
| 880 | 774 | 641 | 484 | 199 | — | — | — | — |
| 1049 | 964 | 861 | 747 | 616 | — | — | — | — |
| 833 | 754 | 665 | 565 | 408 | — | — | — | — |
| 1260 | 1209 | 1156 | 1100 | 1041 | 918 | 759 | 639 | — |
| — | — | — | — | 335 | — | — | — | — |
| — | — | — | — | 688 | 610 | 520 | 382 | — |
| — | — | — | — | 977 | 929 | 878 | 815 | 750 |

Performance certified is for installation type A: Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: Free inlet hemispherical sone levels.

‡ 208-230V, 1-Phase

† 208-230/460V, 3-Phase

▲ Motors are UL Listed for use in hazardous locations.

| | | | | | | |
|-------------------------|---|-----|---|-----|-----------------------------------|---|
| GETTING STARTED | <div>  </div> | | | | | |
| | PERFORMANCE CONTINUED | | | | | |
| | <div>Model</div> <div>115V, 1-Phase</div> | HP | <div>Model – ECM</div> <div>115V, 1-Phase</div> | HP | <div>RPM</div> <div>Max BHP</div> | <div>Sones @</div> <div>.125" SP @</div> <div>5 Ft.</div> |
| | — | — | — | — | 860 0.04 | 0.6 |
| | 4HZ40G | 1/6 | 5DVR2A | 1/4 | 1140 0.09 | 6.5 |
| | 4HZ41G▲ | 1/4 | — | — | 1725 0.29 | 12.5 |
| | — | — | — | — | 860 0.06 | 5.6 |
| | — | — | 48C180 | 1/2 | 1140 0.14 | 8.2 |
| | 5DVP8 | 1/2 | — | — | 1725 0.48 | 16.7 |
| | 4HZ44G | 1/8 | — | — | 860 0.07 | 7.7 |
| | — | — | 36WG76‡, 48C181 | 3/4 | 1140 0.17 | 11.8 |
| | 4HZ45G | 3/4 | — | — | 1725 0.60 | 18.4 |
| | 56JN77 | 1/8 | — | — | 860 0.12 | 7.1 |
| | 56JN76 | 1/4 | — | — | 1140 0.29 | 11.0 |
| | 56JN82 | 1/4 | — | — | 860 0.25 | 9.9 |
| | — | — | 56JN79, 36WG77‡, 56JN80‡ | 3/4 | 1050 0.22 | 9.8 |
| | — | — | — | — | 1300 0.43 | 12.8 |
| | — | — | — | — | 1550 0.72 | 17.5 |
| | — | — | — | — | 550 0.07 | — |
| | — | — | 56JN84, 56JN85‡ | 3/4 | 860 0.25 | 9.9 |
| | 56JN81, 56MW72† | — | — | — | 1140 0.58 | 14.8 |
| | — | — | — | — | 1065 | — |
| | — | — | 56JN83 | 1 | 1340 | — |
| | — | — | — | — | 1725 | — |
| | — | — | — | — | 745 0.26 | 8.1 |
| | 56JN88 | 1/2 | 56JN86‡, 56JN89 | 1 | 860 0.40 | 11.1 |
| | — | — | — | — | 1000 0.63 | 14.7 |
| | 56JN87, 56JN97† | 1 | — | — | 1140 0.93 | 16.5 |
| | 56JN90† | 2 | — | — | 1140 1.74 | 23 |
| | ‡ 208-230V, 1-Phase | | | | | |
| | † 208-230/460V, 3-Phase | | | | | |
| | ▲ Motors are UL Listed for use in hazardous locations. | | | | | |
| SAFETY / SPECIFICATIONS | | | | | | |
| ASSEMBLY / INSTALLATION | | | | | | |
| OPERATION | | | | | | |
| MAINTENANCE / REPAIR | | | | | | |
| TROUBLESHOOTING | | | | | | |

| CFM Air Delivery @ Static Pressure Shown | | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|
| .000" | .125" | .250" | .375" | .500" | .750" | 1.00" | 1.25" | 1.50" |
| 732 | 625 | 481 | — | — | — | — | — | — |
| 970 | 897 | 806 | 707 | — | — | — | — | — |
| 1468 | 1422 | 1373 | 1315 | 1255 | 1129 | 970 | — | — |
| 1015 | 905 | 781 | 581 | — | — | — | — | — |
| 1346 | 1261 | 1180 | 1091 | 981 | — | — | — | — |
| 2037 | 1979 | 1923 | 1869 | 1816 | 1710 | 1571 | 1406 | 1176 |
| 1180 | 1057 | 914 | 675 | — | — | — | — | — |
| 1564 | 1471 | 1379 | 1280 | 1144 | — | — | — | — |
| 2366 | 2305 | 2244 | 2183 | 2122 | 1994 | 1838 | 1646 | 1365 |
| 1558 | 1427 | 1264 | 1034 | — | — | — | — | — |
| 2065 | 1973 | 1864 | 1745 | 1605 | 1167 | — | — | — |
| 2472 | 2315 | 2126 | 1918 | 1680 | — | — | — | — |
| 1902 | 1800 | 1680 | 1540 | 1372 | — | — | — | — |
| 2355 | 2277 | 2186 | 2086 | 1979 | 1717 | 1269 | — | — |
| 2808 | 2743 | 2671 | 2594 | 2509 | 2329 | 2110 | 1823 | 1349 |
| 1581 | 1303 | — | — | — | — | — | — | — |
| 2472 | 2315 | 2156 | 1918 | 1680 | — | — | — | — |
| 3277 | 3161 | 3035 | 2896 | 2745 | 2421 | 1983 | — | — |
| — | — | — | — | 1487 | 1252 | — | — | — |
| — | — | — | — | 2053 | 1897 | 1724 | 1513 | — |
| — | — | — | — | 2787 | 2680 | 2560 | 2439 | 2310 |
| 2815 | 2617 | 2448 | 2143 | 1763 | — | — | — | — |
| 3249 | 3074 | 2922 | 2732 | 2474 | — | — | — | — |
| 3778 | 3625 | 3486 | 3362 | 3190 | 2738 | — | — | — |
| 4307 | 4173 | 4045 | 3927 | 3822 | 3470 | 3072 | 2477 | — |
| 6412 | 6224 | 6036 | 5855 | 5674 | 5283 | 4837 | 4276 | 3445 |

Performance certified is for installation type A: Free inlet, Free outlet. Performance ratings do not include the effects of appurtenances (accessories). The sound ratings shown are loudness values in fan sones at 5 ft. (1.5 m) in a hemispherical free field calculated per AMCA Standard 301. Values shown are for installation type A: Free inlet hemispherical sone levels.

RECEIVING

Upon receiving the product, check to ensure all items are accounted for by referencing the delivery receipt or packing list. Inspect each crate or carton for shipping damage before accepting delivery. Alert the carrier of any damage detected. The customer will make notation of damage (or shortage of items) on the delivery receipt and all copies of the bill of lading which is countersigned by the delivering carrier. If damaged, immediately contact your representative. Any physical damage to the unit after acceptance is not the responsibility of the manufacturer.

⚠ WARNING

Do not lift by the fan hood. Avoid lifting fans in a way that will bend or distort fan parts. Never pass slings or timbers through the venturi of fan. Fans with special coatings or paints must be protected in handling to prevent damage.

HANDLING

Lift Direct Drive unit on to the roof utilizing hooks under the horizontal supports. Evenly space the hooks using a minimum of four lifting straps. Use a spreader bar to ensure the straps do not come in contact with the unit, see Figure 1.

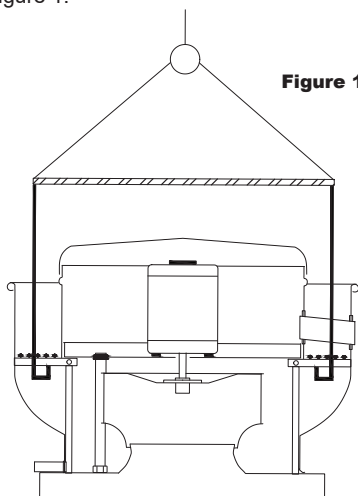


Figure 1

INSTALLATION INSTRUCTIONS -

General Ventilation Installation

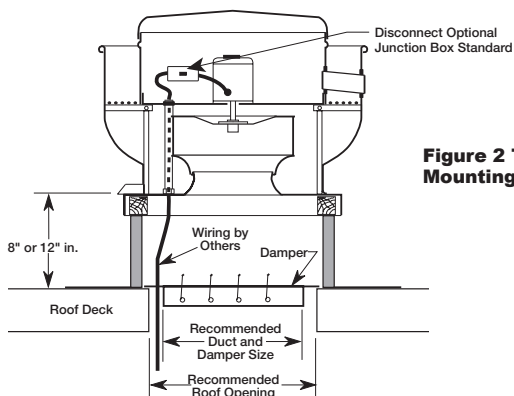


Figure 2 Typical Roof Mounting Installation

1. On the roof surface, cut an appropriate sized hole and follow manufacturer's instructions on curb installation. Caulk and flash the curb to ensure a water tight seal.
2. If unit is equipped with a backdraft damper, it should be installed now.
3. Remove motor cover. Access to the motor compartment is accomplished by removing the screws.
4. On direct drive fans, lift and place the unit on top of roof curb using hooks under the horizontal supports. Refer to Figure 1, page 10.
5. Secure fan to curb using a minimum of eight lag screws, metal screws or other suitable fasteners. Shims may be required depending upon curb installation and roofing material.
6. Verify power line wiring is de-energized before connecting fan motor to power source.
7. For commercial kitchen the electrical supply must enter the motor compartment through the breather tube. For other non-flammable applications, the electrical supply can be routed through the conduit chase between the curb cap and the bottom of the motor compartment.
8. Connect power supply wiring to the motor as indicated on the motor nameplate or terminal box cover. Check the power source for compatibility with the requirements of your equipment.
9. Check fan wheel for free rotation, re-center if necessary. Check setscrew(s) for tightness.
10. Check all fasteners for tightness.

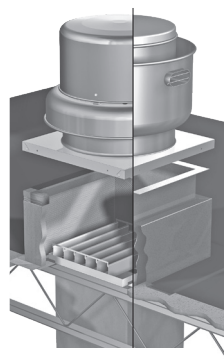


Figure 3 - Roof Curb Installation

11. Mount and wire safety disconnect switch under motor cover. Wire control switches at ground level, refer to Figure 4.
12. Replace motor cover.

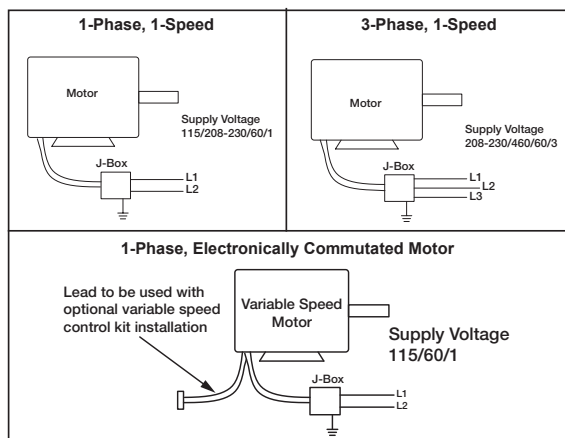


Figure 4

Electrical Connection

⚠ CAUTION

Comply with all local codes including the National Electrical Code (NEC) and National Fire Protection Act (NFPA).

⚠ CAUTION

Install in accordance to NEC 70 and NFPA requirements.

IMPORTANT: Exhaust ventilators used in kitchen ventilation applications must have external wiring.

NOTE: Refer to motor nameplate for wiring procedures. Refer to switch manufacturer for installation and wiring procedures.

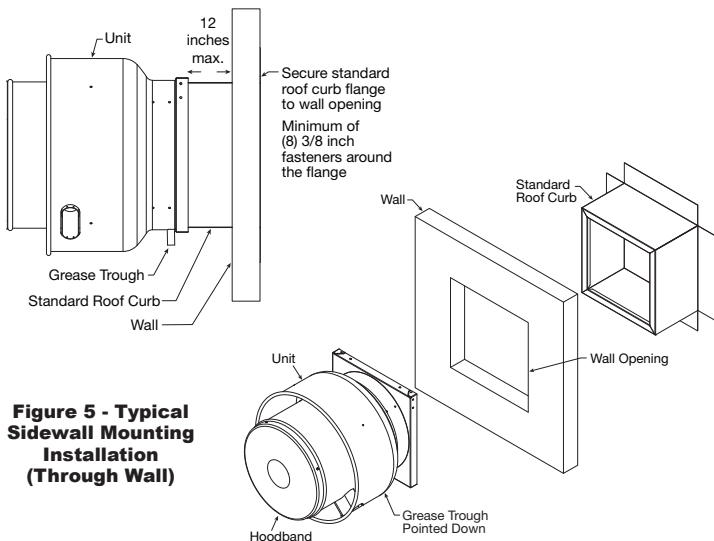
1. Motor and ventilator must be securely grounded (bare metal) to a suitable electric ground, such as a grounded water pipe or ground wire system.
2. Wire motor for desired voltage per wiring diagram on motor, refer to Figure 4 for connection wiring diagram.

SIDEWALL MOUNTING INSTALLATION

- 1a. **Curb:** Cut an appropriate sized hole in the wall for either through wall (recommended) or exterior face mount and follow the manufacturer's instructions on curb installation.
- 1b. **Wall bracket:** Cut an appropriate sized hole in the wall for exterior face mounting. If unit is equipped with a backdraft damper, it should be installed in the ductwork/wall opening now.
2. Mount the curb or wall bracket to the wall with a minimum of eight 3/8 inch fasteners around the flange. Caulk and flash the curb or wall bracket to ensure a watertight seal.
3. Curb only: If unit is equipped with a backdraft damper, it should be installed now.
4. Lift the fan into place. Do NOT support the unit by the hoodband during installation.
- 5a. **Curb:** Orient fan so the grease trough is downward and secure fan to curb using a minimum of eight lag screws, metal screws or other suitable fasteners.
- 5b. **Wall bracket:** Orient fan so the grease trough is downward and secure fan to bracket using the fasteners provided. Wall Mounting Bracket Skus: 56JN59-56JN64.
6. Follow steps 6 through 12 of Installation instructions on page 11.

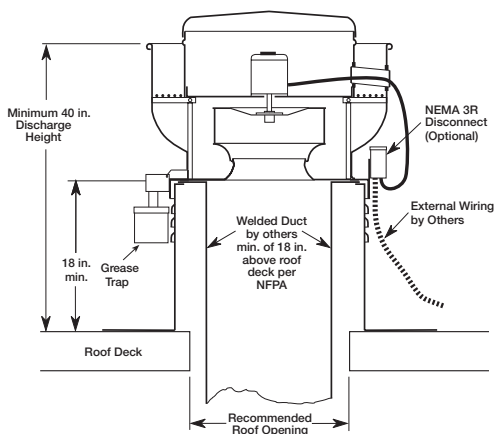
NOTE: If using any type of hinging, your fan must be a minimum of 8 inches away from the wall.

NOTE: Do not install your fan more than 12 inches away from the wall.



**Figure 5 - Typical
Sidewall Mounting
Installation
(Through Wall)**

COMMERCIAL KITCHEN INSTALLATION



**Figure 6
Typical Roof
Mounting
Installation**

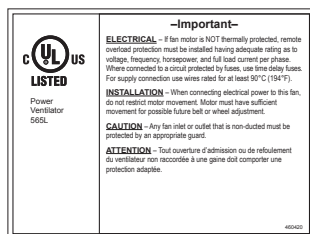
Commercial kitchen installations must comply with NFPA 96. Check local and national codes for these installations and consult local code authorities for other specific requirements.

1. On the roof surface, cut an appropriate sized hole and follow manufacturer's instructions on curb installation. Caulk and flash the curb to ensure watertight seal.
2. If unit is equipped with a backdraft damper. DO NOT install it. Perform steps 3 - 12 of General Ventilation Installation on page 11.

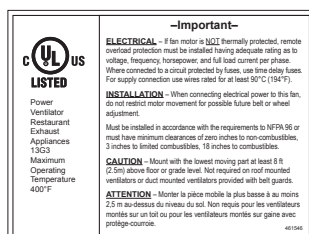
IMPORTANT:

- The size of the duct must be equal to or larger than the inlet opening of the fan.
- To comply with NFPA 96, the fan discharge must be a minimum of 40 in. (1016 mm) above the roof surface and a minimum of 10 ft. (3048 mm) from any building air intake.
- Per NFPA 96, ductwork to an upblast discharge exhaust fan must be constructed of and supported by carbon steel not less than No. 6 MSG (1.52 mm) or stainless steel not less than No. 18 MSG (1.21 mm) in thickness. Duct must also extend a minimum of 18 in. (457 mm) above the roof surface.
- Ensure that a minimum of 500 ft/min of air velocity through the duct is maintained per NFPA 96, clause 8.2.1.1, 2014 edition and UL 762, Issue #7, clause 6.2, October 14, 2013.
- The following accessories may be required by NFPA 96 depending upon installation: Grease Trap, Hinge Kit or Hinged Base, Clean-Out Port, and Vented Curb.

- Minimum duct velocities must be maintained in kitchen exhaust applications. If a speed controller is used, ensure compliance with all applicable codes.



Representation of UL Listed Power Ventilator label



Representation of UL Listed Power Ventilator Restaurant Exhaust Appliances label

GREASE TRAP INSTALLATION

The polypropylene grease trap is designed to collect grease residue and avoid drainage onto roof surface. Follow all local codes, as well as the National Fire Protection Agency (NFPA) where applicable.

NFPA 96: Upblast fans shall have a drain directed to a readily accessible and visible grease receptacle not to exceed 1 gal. (3.8L)

Grease Trap Maintenance

Regular inspection of grease trap is recommended. Depending on the amount of grease discharged through the fan, the grease trap should be cleaned regularly to ensure proper operation.

HINGE INSTALLATION

NFPA 96: Upblast exhaust fans shall be supplied with a hinge.

Refer to listed Installation, Operation and Maintenance Manuals for parts list and specific installation instructions:

- Sidewall Mount Hinge Kit
- Bracket Hinge Kit - Curb Cap Sizes 34" - 46"
- Hinge Kit With Cables - Curb Cap Sizes 19" - 30"

PRE-STARTING CHECKS

- Check all fasteners and setscrews for tightness. The wheel should rotate freely and be aligned as shown in Figure 7.

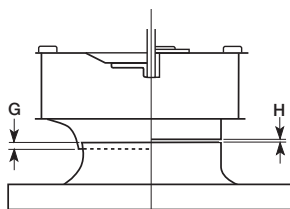


Figure 7 - Wheel Overlap and Gap Dimension



| Model | 5DVN6, 5DVN8, 5DVP0, 5DVP4, 5DVP6, 48C179 | 4HZ40G, 4HZ41G, 4HZ44G, 4HZ45G, 5DVP8, 5DVR2, 56MW72, 20FT10, 20FT11, 36WG76, 48C180, 48C181, 52CD36, 56JN76-56JN85 | 56JN86, 56JN87, 56JN88, 56JN89, 56JN90, 56JN97 |
|--------------|---|---|---|
| | Overlap (inches) | — | 1/4 |
| Gap (inches) | 3/32 | — | — |

2. Wheel position is preset and the unit is test run at the factory. Movement may occur during shipment and realignment may be necessary.

Centering the wheel can be accomplished by loosening the bolts on the support pan and moving support pan until wheel is properly aligned. For units with drive frame mounting, loosen the bolts holding the drive frame to the vibration isolators and reposition the drive frame if additional movement is needed for wheel alignment.

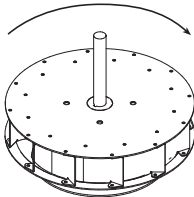


Figure 8

Wheel and inlet cone overlap can be adjusted by loosening the set-screws in the wheel hub and moving the wheel to the desired position.

3. Check wheel rotation (viewing from the shaft side) by momentarily energizing the unit. Rotation should be clockwise as shown in Figure 8 and correspond to the rotation decal on the unit. If wheel rotation is incorrect, reverse two of the wiring leads or check motor wiring for single phase. Fan RPM should be checked and verified with a tachometer.

⚠ WARNING

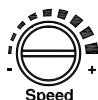
Correct direction of wheel rotation is critical. Reversed rotation will result in poor air performance, motor overloading and possible motor burnout.

OPERATION

1. Before starting up or operating fan, check all fasteners for tightness. In particular, check the setscrews in the wheel hub (or the tapered bushing and pulleys if applicable).
2. While in the OFF position or before connecting the fan to power, turn the fan wheel by hand to be sure it is not striking the venturi or any obstacle.
3. Start the fan and shut it off immediately to check rotation of the wheel with directional arrow in the motor compartment, reference Figure 9.
4. When the fan is started, observe the operation and check for any unusual noises.
5. With the system in full operation and all ductwork attached, measure current input to the motor and compare with the nameplate rating to determine if the motor is operating under safe load conditions.
6. Keep inlets and approaches to fan clean and free from obstruction.

IMPORTANT: Adjust (tighten) belt tension after the first 24-48 hours of operation.

7. Electronically commutated motors can be controlled two ways:
 - a. A motor mounted potentiometer is mounted on the case of the motor to adjust the speed manually. Turn the potentiometer using a screwdriver to adjust the speed.



- b. The motor includes a capped motor lead that can be connected to a Dayton variable-speed control kit. The motor lead cap can be removed and connected to the nine-pin motor/transformer harness lead. Follow installation instructions provided with optional speed control kit.



Remote Touch
35YV94



Remote Dial
43Y140



2-Speed
35YV92



Temp/Humidity
35YV93

INSPECTION

Inspection of the fan should be conducted at the first 30 minute and 24 hour intervals of satisfactory operation.

30 Minute Interval: Inspect bolts, setscrews and motor mounting bolts. Adjust and tighten as necessary.

24 Hour Interval: Check all internal components. On belt drive unit only, inspect belt alignment and tension. Adjust and tighten as necessary.

MAINTENANCE

WARNING

Disconnect and secure to the "off" position all electrical power to the fan prior to inspection or servicing. Failure to comply with this safety precaution could result in serious injury or death.

CAUTION

This unit should be made non-functional when cleaning the wheel or housing (fuses removed, disconnect locked off).

IMPORTANT: Uneven cleaning of the wheel will produce an out of balance condition that will cause vibration in the fan.

Installation and maintenance are to be performed only by qualified personnel who are familiar with local codes and regulations and who are experienced with this type of equipment.

Motor maintenance is generally limited to cleaning and lubrication (where applicable). Cleaning should be limited to exterior surfaces only. Removing dust buildup on motor housing ensures proper motor cooling.

Greasing of motors is only intended when fittings are provided. Many fractional horsepower motors are permanently lubricated and should not be lubricated after installation. Motors supplied with grease fittings should be greased in accordance with manufacturer's recommendations. Where motor temperatures do not exceed 104°F (40°C), the grease should be replaced after 2,000 hours of running time as a general rule.

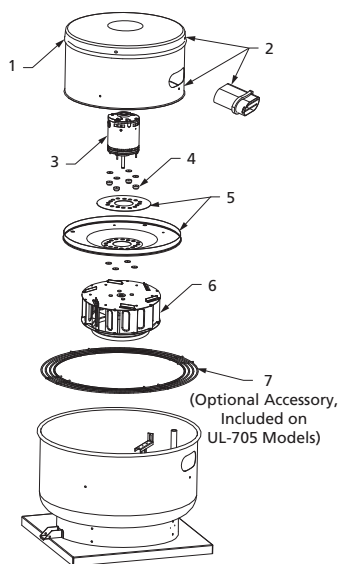
Wheels require very little attention when moving clean air. Occasionally, oil and dust may accumulate causing imbalance. When this occurs, the wheel and housing should be cleaned to ensure smooth and safe operation.

All fasteners should be checked for tightness each time maintenance checks are performed prior to restarting unit.

- When installing fans for restaurant exhaust applications follow NFPA 96 for cleaning fans.
- Grease containers must be emptied at regular intervals to prevent overflow.

A proper maintenance program will help these units deliver years of dependable service.

REPAIR PARTS ILLUSTRATION FOR ROOF/SIDEWALL



REPAIR PARTS LIST FOR ROOF/SIDEWALL

| Ref. No. | Description | Part Number for Models: | | | | | | Qty. |
|----------|---------------|-------------------------|--------|--------|--------|--------|--------|------|
| | | 4HZ40G | 4HZ41G | 4HZ44G | 4HZ45G | 56JN77 | 56JN76 | |
| 1 | Cover | 21DY73 | 21DY73 | 21DY73 | 21DY73 | 21DY74 | 21DY74 | 1 |
| 2 | Hood Assembly | 21DZ09 | 21DZ09 | 21DZ09 | 21DZ09 | 21DZ71 | 21DZ71 | 1 |
| 3 | Motor | 4YU23 | 4YU27 | 4YU19 | 4YU29 | 4YU19 | 4YY54 | 1 |
| 4 | Isolator Kit | 21DZ10 | 21DZ10 | 21DZ10 | 21DZ10 | 21DY93 | 21DY93 | 1 |
| 5 | Support Plate | 21DZ33 | 21DZ33 | 21DY10 | 21DY10 | 21DZ53 | 21DZ53 | 1 |
| 6 | Wheel | 21DY91 | 21DY91 | 21DZ46 | 21DZ46 | 21DW39 | 21DW39 | 1 |
| 7 | Birdscreen | 4YY78 | 4YY78 | 4YY78 | 4YY78 | 4YY79 | 4YY79 | 1 |

| Ref. No. | Description | Part Number for Models: | | | | | | Qty. |
|----------|---------------|-------------------------|--------|--------|--------|--------|--------|------|
| | | 56JN81 | 56JN82 | 56JN87 | 56JN88 | 5DVN6 | 5DVN8 | |
| 1 | Cover | 21DY74 | 21DY74 | 21DY75 | 21DY75 | 21DY72 | 21DY72 | 1 |
| 2 | Hood Assembly | 21DZ71 | 21DZ71 | 21DZ72 | 21DZ72 | 21DZ07 | 21DZ07 | 1 |
| 3 | Motor | 4YY55 | 4YU20 | 4YU26 | 4YU22 | 21DW27 | 4YU32 | 1 |
| 4 | Isolator Kit | 21DY93 | 21DY93 | 21DY93 | 21DY93 | 21DZ10 | 21DZ10 | 1 |
| 5 | Support Plate | 21DZ53 | 21DZ53 | 21DZ35 | 21DW38 | 21DY78 | 21DY78 | 1 |
| 6 | Wheel | 21DX68 | 21DZ44 | 21DZ54 | 21DZ54 | 21DW32 | 21DY85 | 1 |
| 7 | Birdscreen | 4YY79 | 4YY79 | 4YY80 | 4YY80 | 4ZA27† | 4ZA27† | 1 |

† Birdscreen included on UL-705 models: 5DVN6, 5DVN8, 5DVP0, 5DVP4, 5DVP6, 48C179.

| Ref. No. | Description | Part Number for Models: | | | | | | Qty. |
|----------|---------------|-------------------------|---------|---------|--------|--------|--------|------|
| | | 5DVP0 | 5DVP4 | 5DVP6 | 5DVP8 | 56JN90 | 5DVR2A | |
| 1 | Cover | 21DW30 | 21DW30 | 21DW30 | 21DY73 | 21DY75 | 21DY73 | 1 |
| 2 | Hood Assembly | 21DW41 | 21DW41 | 21DW41 | 21DZ09 | 21DZ72 | 21DZ09 | 1 |
| 3 | Motor | 1AGF8 | 21DW28 | 4YU34 | 4YU28 | 21DW29 | 43Y136 | 1 |
| 4 | Isolator Kit | 21DZ10 | 21DZ10 | 21DZ10 | 21DZ10 | 21DV98 | 21DZ10 | 1 |
| 5 | Support Plate | 21DW31 | 21DW31 | 21DW31 | 21DZ31 | 21DW38 | 21DZ33 | 1 |
| 6 | Wheel | 21DW33 | 21DW34 | 21DY87 | 21EC48 | 21DW37 | 21DY91 | 1 |
| 7 | Birdscreen | 21DW49† | 21DW49† | 21DW49† | 4YY78 | 4YY80 | 4YY78 | 1 |

| Ref. No. | Description | Part Number for Models: | | | | | | Qty. |
|----------|---------------|-------------------------|--------|--------|--------|--------|--------|------|
| | | 56JN79 | 56JN84 | 56MW72 | 56JN97 | 20FT10 | 20FT11 | |
| 1 | Cover | 21DY74 | 21DY74 | 21DY74 | 21DY75 | 21DY73 | 21DY73 | 1 |
| 2 | Hood Assembly | 21DZ71 | 21DZ71 | 21DZ05 | 21DV76 | 21DZ09 | 21DZ09 | 1 |
| 3 | Motor | 43Y138 | 43Y138 | 21DV61 | 21DV66 | 4YU23 | 4YU27 | 1 |
| 4 | Isolator Kit | 21DY93 | 21DZ10 | 21DZ10 | 21DV98 | 21DZ10 | 21DZ10 | 1 |
| 5 | Support Plate | 21DZ53 | 21DZ53 | 21DV79 | 21DV77 | 21DZ30 | 21DZ30 | 1 |
| 6 | Wheel | 29PH76 | 21DZ44 | 21DZ44 | 21DV74 | 29PH74 | 29PH74 | 1 |
| 7 | Birdscreen | 4YY79 | 4YY79 | 4YY79 | 4YY80 | 4YY78 | 4YY78 | 1 |

| Ref. No. | Description | Part Number for Models: | | | | | | Qty. |
|----------|---------------|-------------------------|--------|--------|--------|---------|--------|------|
| | | 36WG76 | 56JN80 | 56JN85 | 56JN86 | 48C179 | 48C180 | |
| 1 | Cover | 21DY73 | 21DY74 | 21DY74 | 21DY75 | 21DW30 | 21DY73 | 1 |
| 2 | Hood Assembly | 21DZ09 | 21DZ71 | 21DZ71 | 21DZ72 | 21DW41 | 21DZ09 | 1 |
| 3 | Motor | 41TL06 | 41TL06 | 41TL06 | 41TL07 | 43Y135 | 43Y137 | 1 |
| 4 | Isolator Kit | 21DZ10 | 21DY93 | 21DZ10 | 21DY93 | 21DZ08 | 21DZ10 | 1 |
| 5 | Support Plate | 21DY10 | 21DZ53 | 21DZ53 | 21DW38 | 21DW31 | 21DZ31 | 1 |
| 6 | Wheel | 21DY09 | 29PH76 | 21DZ44 | 21DW17 | 21DW34 | 21EC48 | 1 |
| 7 | Birdscreen | 4YY78 | 4YY79 | 4YY79 | 4YY80 | 21DW49† | 4YY78 | 1 |

| Ref. No. | Description | Part Number for Models: | | | | | | Qty. |
|----------|---------------|-------------------------|--------|--------|--------|--------|--|------|
| | | 48C181 | 56JN89 | 52CD36 | 56JN78 | 56JN83 | | |
| 1 | Cover | 21DY73 | 21DY75 | 21DY73 | 21DY74 | 21DY74 | | 1 |
| 2 | Hood Assembly | 21DZ09 | 21DZ72 | 21DZ09 | 21DZ16 | 21DZ16 | | 1 |
| 3 | Motor | 43Y138 | 43Y139 | 43Y137 | 43Y138 | 43Y138 | | 1 |
| 4 | Isolator Kit | 21DZ10 | 21DY93 | 21DZ10 | 21DY93 | 21DY93 | | 1 |
| 5 | Support Plate | 21DY10 | 21DW38 | 21DZ30 | 21DZ53 | 21DZ53 | | 1 |
| 6 | Wheel | 21DY09 | 21DW17 | 62XJ36 | 62XJ37 | 21DW36 | | 1 |
| 7 | Birdscreen | 4YY78 | 4YY80 | 4YY78 | 4YY79 | 4YY79 | | 1 |

TROUBLESHOOTING GUIDE

| Symptom | Possible Cause(s) | Corrective Action |
|------------------------------|---|--|
| Ventilator inoperative | <ol style="list-style-type: none"> 1. Blown fuse or breaker 2. Defective motor 3. Incorrectly wired | <ol style="list-style-type: none"> 1. Replace or repair 2. Replace or repair 3. Shut power OFF and check wiring for proper connections |
| Excessive noise or vibration | <ol style="list-style-type: none"> 1. Loose wheel 2. Accumulation of material on wheel 3. Ventilator base not securely anchored 4. Motor hood loose and rattling 5. Fan wheel out of balance | <ol style="list-style-type: none"> 1. Tighten set screws 2. Clean 3. Secure properly 4. Tighten acorn nuts securing motor hood 5. Replace wheel |
| Insufficient airflow | <ol style="list-style-type: none"> 1. Blocked duct or clogged filters 2. Damper closed 3. Incorrect wheel rotation 4. Loose fitting duct sections permitting air loss | <ol style="list-style-type: none"> 1. Clean or replace 2. Inspect/repair 3. Check motor wiring 4. Check for secure connection where duct sections are joined (suggest duct tape at seams for sealed closure) |
| Motor overloads or overheats | <ol style="list-style-type: none"> 1. Shorted motor winding 2. Incorrect wheel rotation 3. Over/Under line voltage | <ol style="list-style-type: none"> 1. Replace motor 2. Check motor wiring 3. Contact Power Company |

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