Overview

TCPE

TCPE panel fans are direct drive panel fans designed for low static pressures. All units come standard with a spun galvanized panel, zinc plated motor mount/guard, custom engineered motor and an aluminum blade that is statically and dynamically balanced. They are manufactured under strict ISO 9001 quality standards and performance is certified by AMCA.

Configurations
Exhaust and supply configurations available

Certifications
AMCA Sound/Air and FEG, UL 705 Listed for Electrical

Construction Features
• TCPE spun panels are constructed of 16-gauge G90 galvanized steel. Prepunched panel holes for easy mounting.
• The standard motor mount also serves as a motor side guard that complies with OSHA standards. The motor mount/guard is secured to the fan panel with captivated nut inserts that allow for easy servicing without the removal of the full panel after installation. All ODP and TE motors are custom engineered and come in a variety of standard voltages. All single phase 115V ODP motors can be used with a variable speed controller.
• Steel guards are zinc plated to inhibit corrosion.

TCPE Panel Fan

Now Available with

GridSmart EC Motors

For complete product performance, drawings, and available accessories, Download Fan Selector 10 at tcf.com.

Fan Efficiency Grade (FEG) certification applies to Model TCPE, Size 242A.

Twin City Fan & Blower certifies that the Model TCPE shown herein is 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.
Overview

TCPE

The Propeller Wall Fan is designed for low static pressures and can be mounted in a wall vertically or in a ceiling horizontally. These fans can be configured for both supply and exhaust applications. Typical applications include Warehouse Exhaust, Restroom Exhaust, Attic Exhaust, and Garage Exhaust.

Sizes
- 8” to 24” wheel diameters
- Motor and blade pitch combinations make up a total of 31 unique performing model sizes

Performance
- Airflow to 7,600 CFM
- Static pressures to 5∕8” w.g.
- The addition of speed control adds flexibility to the performance capabilities of all sizes

General HVAC Exhaust
Twin City Fan & Blower offers its own line of custom engineered Electronically Commutated (EC) motors. Electronic commutation is the latest motor technology to be used in direct drive fans. Also known in the industry as Brush Free or Brushless DC, the EC motors utilize an electronic circuit board to control the functionality of the motor. The motor operates off of single phase AC power, which is converted to DC power within the motor’s circuitry. Twin City Fan & Blower has motor options available for 115V, 208-230V or 277V single phase electrical power. The result is a highly efficient motor, even at part load, with an expanded speed control range and a variety of speed control options from which to choose. EC motors are available in ODP, TENV and TEFC enclosures.

**Benefits**

- Efficiencies up to 85%
- Constant efficiency as the motor speed is varied
- Up to 66% energy savings over traditional PSC motors
- Performance range comparable to a belt drive fan with reduced maintenance benefits of a direct drive fan
- 80% usable turndown range as compared with 40% maximum on PSC motors
- Soft start gives fans smooth, quiet start
- Lower operating temperatures result in longer life and reduces energy consumption
- Heavy-duty ball bearings are permanently lubricated
- Elimination of VFD results in lower initial cost

**EC Motor Options**

1/6HP to 1HP

- 1/6HP: 115V, single phase
- 1/4HP – 1HP: 115V, 208-230V, 277V, single phase
- ODP or TENV Enclosure
- Motor mounted speed control dial as standard
- 0-10VDC control leads as standard
- Available with remote mounted speed control dial
**Wall Collar** The wall collar is used to mount the TCPE fan and accessories cleanly into a wall. The collar will give the fan package a finished look when fully installed. It is constructed of 16-gauge G90 galvanized steel and can be ordered fully assembled or as a kit (field assembly required) to reduce shipping costs.

**Wall Box** The wall box is used to completely enclose the fan and accessories. Constructed of 16-gauge galvanized steel with a removable screen. It is available fully assembled or as a kit.

**Backdraft Damper** Backdraft dampers with automatic or motorized operation, feature a felt seal on the edge of the damper blades for quiet operation. Damper frames are constructed of galvanized steel and blades are constructed of 26-gauge aluminum. All dampers ship loose for field mounting in ductwork. Motorized dampers are recommended for low CFM applications to assure unrestricted airflow. Motorized dampers are available with 115, 208, 230, 460, 575 or 24 volt service; 575 volt service requires a step-down transformer. When a motorized damper option is selected a 12” (or greater) high roof curb is required.

**Disconnect Switch** A NEMA 1 disconnect switch provides positive electrical shutoff during fan cleaning or maintenance. Available shipped loose for field mounting and wiring or factory mounted and wired with ODP or TEFC motors.

**Damper Guard Screen** The damper guard screen is used to protect the backdraft damper when a weatherhood is not being used. It is constructed of 18-gauge G90 galvanized steel and comes with a galvanized screen. The screening complies with OSHA standards and will keep birds out of the fan and building.

**Weatherhood with Guard Screen** The weatherhood is used to keep the elements from entering the building and to prevent wind from affecting the performance of the fan and backdraft damper. It easily fits over the backdraft damper and can be installed to the wall collar or wall box through the prepunched holes. The weatherhood is constructed of 18-gauge G90 galvanized steel and comes standard with a removable bird screen. It can be ordered fully assembled or as a kit (field assembly required) to reduce shipping costs.
Disconnect switches provide positive electrical shutoff during fan cleaning or maintenance.

NEMA 1 Disconnect Switch (Standard)
A NEMA 1 disconnect switch is available shipped loose for field mounting and wiring or factory mounted and wired with ODP or TEFC motors.

NEMA 3R Disconnect Switch
A NEMA 3R, rain proof, disconnect is available shipped loose for field mounting and wiring or factory mounted and wired externally.

NEMA 4 Disconnect Switch
A NEMA 4, water and dust tight, disconnect is available shipped loose for field mounting and wiring or factory mounted and wired externally.
### PERFORMANCE DATA

**NOTES:**

1. Performance ratings do not include the effects of appurtenances (accessories).
2. Performance certified is for installation Type A: Free inlet, free outlet.
3. Speed (RPM) shown is nominal. Performance is based on actual speed of test.
4. The sound ratings shown are loudness values in fan sones at 5 ft. (1.5m) in a hemispherical free field calculated per AMCA Standard 301.

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### Sound Power Levels

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**NOTES:**

1. The sound power level ratings shown are in decibels, referred to 10–12 watts calculated per AMCA Standard 301. The A-weighted sound ratings show have been calculated per AMCA Standard 301.
2. Values shown are for Lwa sound power levels for installation Type A: Free inlet, free outlet. Ratings do not include the effects of duct end correction.
3. The AMCA Certified Ratings Seal applies to some ratings only.

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**Outlet Area = 3.31 ft²**
TCPE

**DIMENSIONAL DATA**

Dimensions are not to be used for construction.

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**Wall Box with Removable Screen**

**Backdraft Damper**

**Wall Collar**

**Weatherhood with Bird Screen**

dimensions are not to be used for construction.
Wall exhaust fans shall be of the propeller direct drive model TCPE, as manufactured by Twin City Fan & Blower, Minneapolis, Minnesota.

**PERFORMANCE** — Performance ratings shall conform to AMCA Standard 205 (fan efficiency grade), 211 (air performance) and 311 (sound performance). Fans shall be tested in accordance with ANSI/AMCA Standard 210 (air performance) and 300 (sound performance) in an AMCA accredited laboratory. Fans shall be licensed to bear the AMCA certified ratings seal for both sound and air, and fan efficiency grade (FEG).

Fans shall bear a permanently attached nameplate displaying model and serial number of the unit for future identification.

**CONSTRUCTION** — Panels shall be constructed of 16-gauge G90 galvanized steel for durability and appearance. Panels shall have a deep spun inlet venturi and prepunched holes for easy mounting.

**PROPELLERS** — Propellers shall be of fixed pitch design and constructed with fabricated aluminum blades fastened to a steel hub. The propeller assembly shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96, “Balance Quality and Vibration Levels for Fans” to Fan Application Category BV-3, Balance Quality Grade G6.3.

**MOTORS** — All motors shall be electronically commutated (EC), permanent split capacitor (PSC) single phase or three phase induction, permanently lubricated, heavy duty, ball bearing type, with thermal overload protection, closely matched to the fan load and provided at the voltage, phase, hertz, and enclosure as specified on the fan schedule. Motors for use with variable speed control shall be closely matched to the fan load and provide good speed controllability without any objectionable noise.

**MOTOR MOUNT/GUARD ASSEMBLY** — Motor mount/guard assembly shall be of zinc plated construction and secured to the fan panel with captivated nut inserts for easy servicing without the removal of the full panel. Propeller blades shall be protected on the air intake with a guard that is compliant to OSHA Standard 1910.212 (Machine Guarding, Exposure of Blades).

**FINISH AND COATING** — Fans shall have galvanized steel orifice panels.

**ACCESSORIES** — Fans shall be provided with wall collar, backdraft damper, damper guard screen, weatherhood with screen, variable speed controller and disconnect switch where required.

**FACTORY RUN TEST** — All fans prior to shipment shall be completely assembled and test run as a unit at operating speed or maximum RPM allowed for the particular construction type. Each propeller shall be statically and dynamically balanced in accordance with ANSI/AMCA 204-96 “Balance Quality and Vibration Levels for Fans” to Fan Application Category BV-3, Balance Quality Grade G6.3. Balance readings shall be taken by electronic type equipment in the axial, vertical, and horizontal directions on each of the bearings. Records shall be maintained and a written copy shall be available upon request.

**GUARANTEE** — The manufacturer shall guarantee the workmanship and materials for its TCPE wall propeller fans for at least one (1) year from startup or eighteen (18) months from shipment, whichever occurs first.