TCI

Tubular Centrifugal Inline Fan

PRODUCT GUIDE

PENN BARRY™

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INTRODUCTION

TCI is a light industrial airfoil tubular centrifugal inline fan that delivers reliable air performance. TCI can be either ceiling hung or floor mounted, making it suitable for both horizontal and vertical applications.

Utilizing an all-aluminum airfoil non-overloading impeller, TCI provides a higher level of efficiency. Every part of the fan airstream is designed and manufactured to produce the highest results under rated operating conditions.

TCI offers industry leading air performance compared to similar products in the market.

Capacity:

- Flow capacity up to 7,500 cfm
- Static pressure up to 7.0" w.g.

CERTIFICATIONS & LISTINGS

AMCA Certification

PennBarry certifies that the TCI belt drive models 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.

cULus Certification

TCI carries the UL label, UL705, (ZACT / ZACT7), file #E28413.

FEATURES & BENEFITS

Access Door

An oversized access door provides easy access for maintenance or replacement of wheel, shaft, and bearings.

Wheel

The TCI's non-overloading wheel is constructed using extruded aluminum airfoil blades for higher efficiency than traditional backward inclined blades.

Flexible mounting

Eight mounting brackets and 4 bolt on feet enable horizontal or vertical orientation

Fasteners

All fasteners are made from corrosion-resistant stainless steel.

Bearings

Bearings have a minimum L10 life rating of 100,000 hours. Concentric lock mechanisms grip the shaft and reduce vibration better than set screw lock bearings.

Motor

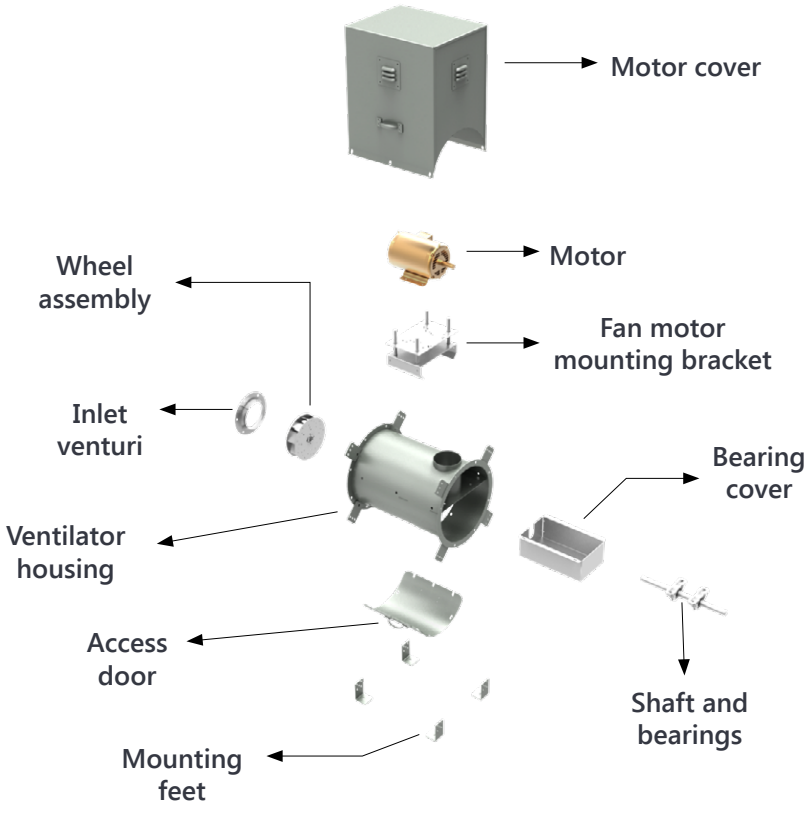
A fan cooled TEFC frame, premium efficient motor with 1.15 service factor is included. Explosion proof motors available.

Extended lube lines:

Preloaded at the factory, lube lines allow for easy bearing re-lubrication.

Housing

Housings are constructed of heavy gauge steel and are continuously welded so they will be strong and airtight.



OPTIONS & ACCESSORIES

An extensive selection of accessory items to cover various application requirements is available at additional cost.

AMCA B Construction

AMCA "B" construction is available. With this construction, the fan shall have a non-ferrous impeller and non-ferrous ring about the opening through which the shaft passes. The impeller, bearings and shaft are adequately attached to prevent a lateral or axial shift which would cause ferrous parts to rub or strike.

Safety Service Switch

NEMA 3R safety service switches are available to allow positive electrical shut-off and safety. NEMA 3R switches are factory mounted when factory wiring is requested, otherwise shipped loose. Wiring is only run from the motor to the junction box. (Factory wiring of explosion proof applications is not available.) Service switches are to be field wired by a licensed electrician.

Vibration Isolators- Ceiling or Floor Mounted

These items are available in both rubber-in-shear and spring type to mitigate residual vibration transmission. All isolators are properly sized to the unit.

Copper Lube Lines:

If desired, the standard lube lines can be replaced with those constructed of copper materials.

Stainless Steel Shaft:

If another material is desired for the motor shaft, stainless steel shafts are available for selection.

Companion Flanges

Companion flanges are available for when the unit is connected to duct work by a transition section. The companion flange fits the fan to the transition and guarantees proper sizing.

Variable Frequency Drives

Variable frequency drives (VFDs) are designed to meet performance requirements while increasing efficiency. By varying the fan motor input frequency and voltage, the VFD controls the motor speed and torque, helping to improve productivity and lower energy consumption. The VSC and VSA are ideal for both new and retrofit fan applications. Shipped loose and separately.

Motor Covers

Weather resistant covers enclosing the drive assembly, motor, shaft and bearings are available. These covers protect the shaft, bearings and drive from moisture and excessive dirt.

Shaft Seals

Ceramic fiber shaft seals are available for selection

Mounting Channel Assembly

Mounting channels are recommended for fan assemblies that require both isolators and motor positions at 3 or 9 o'clock. This allows the center of mass of the motor and fan to be positioned between all isolators. Otherwise, "rocking" may occur due to the center of mass being outside the isolators.

OPTIONS & ACCESSORIES

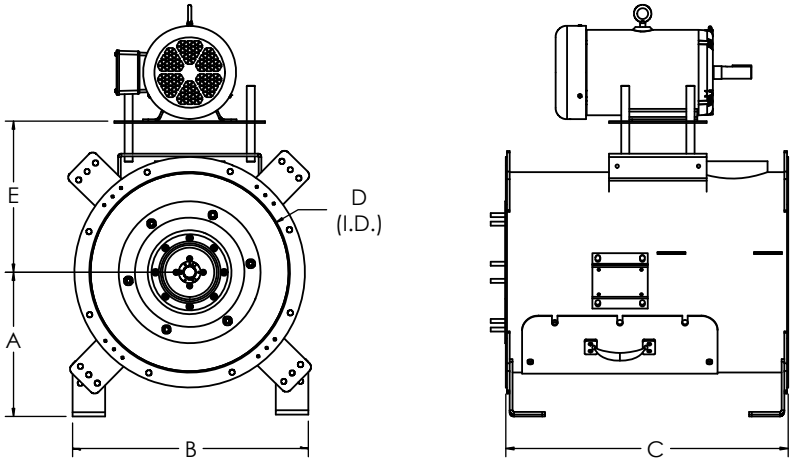
Piezometer Ring

Piezometer ring measures the pressure differential across the fan inlet and can be converted to an airflow measurement. An optional transducer with digital display is available to quickly read performance or connect to a controls system.

2.0 Service Factor

Optional increase in belt service factor of 2.0 versus the standard 1.5 is available. The extra allowance for overload capacity in drives increases belt life and improves operation.

DIMENSIONAL DATA



Size	A	B	C	D	E	Shipping Weight (lbs.)
90	13.25	21.75	26	18.50	16	160
105	13.25	21.75	26	18.50	16	160
122	13.25	21.75	26	18.50	16	160
135	13.88	23.13	28	20.25	17.50	200
150	14.38	24.63	30	22.38	18.25	225
165	16.13	26.50	30	24.75	18.25	235
182	18.38	30.38	32	30.13	20.50	275

All dimensions are in inches.
A= Fan centerline height with feet
B= Overall width of feet
C= Drum length
D= Fan drum inside diameter
E= Max height of motor plate

FAN SELECTIONS

Model

TCI - High Level Descriptor

Construction

Tag
<enter value>

Altitude
<enter value>

Temperature (°F)
<enter value>

Application Flow (CFM)
<enter value>

Application Static Pressure (inwg)
<enter value>

Unit Size
090
105
122
135
150
165
182

Drive Type
B = Belt

Fan RPM
<####>

Arrangement
L = Arr. 9 Horizontal Base
M = Arr. 9 Horizontal Ceiling Hung
N = Arr. 9 Vertical Downblast
P = Arr. 9 Vertical Upblast

Motor

Motors and Drives
1 = Factory supplied, factory mounted
2 = Factory supplied, customer mounted
3 = Customer supplied, customer mounted
4 = Customer supplied, factory mounted

Motor Position
A = 0 degrees
C = 90 degrees
E = 180 degrees
G = 270 degrees

Motor Enclosure
0 = None
2 = TE w/o Overload
5 = EXP C2D1
7 = TE w/ SGR
X = Special

Horsepower
0.250 = 1/4
0.333 = 1/3
0.500 = 1/2
0.750 = 3/4
01.00 = 1
01.50 = 1 1/2
02.00 = 2
03.00 = 3
05.00 = 5
07.50 = 7 1/2
X = Special

Voltage/Phase/Cycle
B = 110V/1PH/50HZ*
C = 115V/1PH/60HZ
F = 208V/1PH/60HZ*
G = 208V/3PH/60HZ*
H = 220V/1PH/50HZ*
J = 220V/3PH/50HZ*
K = 230V/1PH/60HZ
L = 230V/3PH/60HZ
M = 240V/1PH/50HZ*
N = 240V/3PH/50HZ*
Q = 380V/3PH/50HZ*
R = 380V/3PH/60HZ*
S = 400V/3PH/50HZ*
T = 415V/3PH/50HZ*
U = 440V/3PH/50HZ*
V = 460V/3PH/60HZ
W = 480V/3PH/60HZ*
X = Special
Y = 575V/3PH/60HZ
Z=600V/3PH/60HZ*
* Non-standard offering subject to longer lead times and price adjustment

Motor Frame
FS = Factory Supplied
01 = 48
02 = 56
05 = 143T
06 = 145T
07 = 182T
08 = 184T
09 = 213T
10 = 215T
11 = 254T
12 = 256T
13 = 284T
14 = 286T
X = Special

Motor Pole
1 = 1800 4 pole motor
2 = 3600 2 pole motor
3 = 3000 2 pole motor*
4 = 1500 4 pole motor*
5 = 1200 6 pole motor
6 = 1000 6 pole motor*
7 = 0870 8 pole motor*
A = 2S2W 1800/1200*
C = 2S1W 1800/900*
X = Special
* Non-standard offering subject to longer lead times and price adjustment

Switches / Sensors
0 = None
H = Piezo ring only

FAN SELECTIONS

Electrical accessories

Controllers
0 = None
V = VFD

Disconnect and ITW
0 = None
F = NEMA 3R - mounted and wired
X = Special
* ITW - Internal wiring not provided on explosion proof motors

Bearings
D = 100K
X = Special

Drive Kit Option
0 = None
A = Adjustable drive kit
B = Adjustable drive kit 2.0 service factor
C = Constant drive kit
E = Constant drive kit 2.0 service factor
X = Special
Note: Service factor is at the closed position of the adjustable sheave

Paint/Coating
A = Standard Enamel
Q = Airdry phenolic with UV protection
X = Special
* Colors only available in Standard Enamel

Paint Color*
01 = Standard color (gray)
X = Special
* Colors only available for Standard Enamel

Special Construction
0 = None
B = Spark resistance (AMCA B)

Construction Accessories
Q = Access door bolted plus drain

Motor Cover
0 = None
C = Motor cover

Stainless Steel
0 = None
S = 304SS Shaft
U = 316SS Shaft
X = Special

Vibration Isolators
0 = None
1 = Rubber in shear floor
2 = Rubber in shear hanger
4 = Housed spring floor
5 = Housed spring hanger
X = Special

Flange/Companion Flange Kit
0 = None
4 = Companion inlet flange kit*
5 = Companion outlet flange kit*
6 = Companion inlet and outlet flange kit*

Shaft Seal
0 = None
C = Ceramic

Extended Lube Lines
C = Extended copper lube lines
L = Extended lube lines

PENNBARRY PRODUCT SOLUTIONS

Commercial

- Roof & wall exhaust centrifugal fans
- Ceiling, wall, & inline centrifugal fans
- Roof supply centrifugal fans
- Square & round centrifugal fans
- Wall mounted axial fans
- Hooded roof axial fans
- Upblast roof axial fans
- Gravity ventilators
- Roof curbs

Industrial

- Freestanding centrifugal fans
- Industrial & material handling fans
- Tubular centrifugal inline fans
- Mixed flow centrifugal fans
- Plug & plenum fans
- Wall mounted propeller fans
- Tube axial fans
- Vane axial fans
- Bifurcator Fans
- Lab exhaust

Kitchen ventilation

- Make-up air units
- Exhaust fans

Energy recovery

- Outdoor units
- Indoor units

PennBarry is proud to be your preferred manufacturer of commercial and industrial fans and blowers. Learn how PennBarry can assist you in your next application by contacting your PennBarry Representative or visiting us on the web at www.pennbarry.com

PennBarry | www.pennbarry.com | pennbarrysales@pennbarry.com | Tel 972 212 4700 | Fax 972 212 4702

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