



INDUSTRIAL PROCESS AND
COMMERCIAL VENTILATION SYSTEMS

AXIAL POWER ROOF VENTILATORS



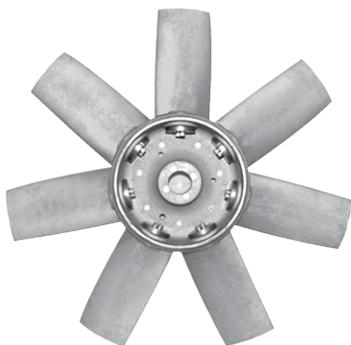
POWER ROOF VENTILATORS



VA Impeller



VS Impeller



VX Impeller



E Impeller



C Impeller

Twin City Fan & Blower offers a wide variety of Power Roof Ventilators (PRVs). The PRVs have been engineered to efficiently handle air moving applications for years of trouble-free service. Twin City Fan & Blower's power roof ventilators are available in steel, aluminum or stainless steel construction, direct or belt drive and with a hood or discharge cap.

TA/VA Impeller – Fixed Pitch

The VA impeller is constructed from a one-piece aluminum casting with fixed blades and is used in vaneaxial and tubeaxial fans. The hub and blades are designed with a variable hub ratio system and special airfoil blades to maximize efficiency. Because of this design, the VA impeller is the most efficient impeller on the market today. The VA impeller is available in static pressures to 7" and impeller diameters from 12" to 60".

TS/VS Impeller – Fixed Pitch

The VS steel impeller is constructed with a spun steel hub and steel blades and is used in steel vaneaxial and tubeaxial fans. To achieve the highest efficiency possible, the blades can be welded to the hub at angles ranging from 30° to 50°. The VS impeller is available in either mild or stainless steel, static pressures to 7", and impeller diameters from 12" to 54".

VX Impeller – Adjustable Pitch

The VX impeller is constructed from cast aluminum and features manually adjustable pitch blades. With its patented method for blade adjustment, performance changes are easily achieved without special tools. The VX is a high volume, high pressure impeller available in static pressure to 7" and impeller diameters from 18" to 84".

E Impeller – Die Cast Aluminum

The "E" series features a die cast aluminum propeller available in 4 and 8 blade designs. Blade angles are factory set and mounted in a die cast aluminum hub. "E" propellers are available in 14" through 48" diameters.

C Impeller – Adjustable Pitch

The "C" impeller is constructed from cast aluminum and features manually adjustable pitch blades. Each blade, held in place by a u-bolt, can be field adjusted for changes in volume or pressure. The C impeller is a high volume, low pressure impeller available in static pressures to 1.5" and impeller diameters from 54" to 72".

UPBLAST PRV

Twin City Fan & Blower's upblast PRV is a heavy-duty exhaust ventilator designed to handle a variety of industrial exhaust applications. Standard construction features include a curb cap and discharge cap. In addition, a weather cover is included on belt-driven Arrangement 9 fans where the motor and drive are out of the airstream. The upblast PRV is designed to utilize either the vaneaxial, tubeaxial, adjustable vaneaxial, duct fan, or adjustable duct fan product lines.

Applications

Twin City Fan & Blower upblast power roof ventilators are used as roof mounted, heavy-duty industrial exhausters for applications such as paint spray booths, paper mills, manufacturing facilities, hospitals, schools, research labs, dip tank exhaust, and general ventilation.

Features

Construction of heavy-gauge painted steel is standard on the upblast PRVs. Aluminum or stainless steel construction is also available. To assure efficient airflow through the unit, housing seams are continuously welded and ground smooth.

Housing Flanges on both the fan's inlet and outlet are integrally rolled and punched for attachment to the discharge cap and curb cap.

Discharge Cap is made up of a windband and butterfly damper and is mounted to the fan's outlet flange. The butterfly dampers, which pivot on bronze bushings, offer minimum resistance to airflow in the open position and provide weather protection when closed. An integral rolled



UBVA with weather cover

flange or rib on the outlet end of the discharge cap adds rigidity to the unit.

Curb Cap is constructed of heavy-gauge steel with reinforcing gussets, to provide rigid support for mounting on the roof curb.

Weather Covers on belt-driven fans are easily removed for maintenance. To remove the cover without the use of tools, a two-piece hinged clamshell type weather cover is also available.

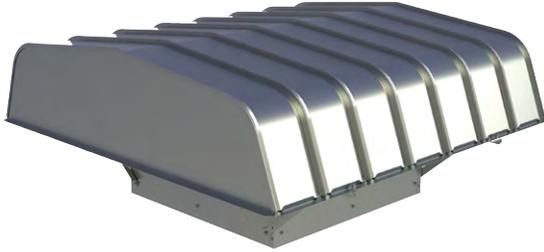
Upblast Power Roof Ventilators

Model	Description	Sizes Arr. 4	Sizes Arr. 9	Volume	SP	Catalog
UBVA	Upblast PRV with TCVA vaneaxial fan	12" to 60"	12" to 60"	900 to 103,000	7"	AX100
UBVS	Upblast PRV with TCVS vaneaxial fan	Contact Factory	12" to 54"	600 to 80,000	7"	AX250
UBTA	Upblast PRV with TCTA tubeaxial fan	12" to 60"	12" to 60"	700 to 100,000	5.5"	AX200
UBTS	Upblast PRV with TCTS tubeaxial fan	Contact Factory	12" to 54"	600 to 80,000	5.5"	AX250
UBVX	Upblast PRV with TCVX adjustable vaneaxial fan	18" to 84"	18" to 84"	1,000 to 170,000	7"	AX300
UBDF	Upblast PRV with TCDF duct fan	12" to 48"	12" to 48"	600 to 41,000	1.5"	AX400
UBDFX	Upblast PRV with TCDFX adjustable duct fan	24" to 60"	24" to 72"	12,000 to 100,000	1.5"	AX410

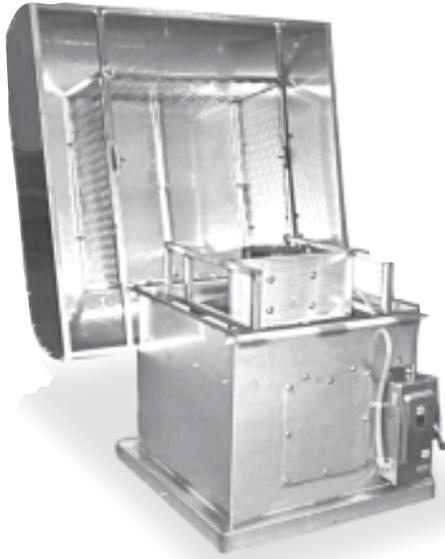
Characteristics

Model	Volume	Pressure	Sound	Wheel Design	Wheel Position
UBVA	High	High	Use where sound is critical	Fixed pitch cast aluminum	Inlet
UBVS	High	High	Use where sound is critical	Fixed pitch steel	Inlet
UBTA	High	Medium	Use where sound is not as critical	Fixed pitch cast aluminum	Inlet
UBTS	High	Medium	Use where sound is not as critical	Fixed pitch steel	Inlet
UBVX	High	High	Use where sound is critical	Adjustable pitch cast aluminum	Inlet
UBDF	High	Low	Use where sound is not as critical	Fixed pitch cast aluminum	Outlet
UBDFX	High	Low	Use where sound is not as critical	Adjustable pitch cast aluminum	Outlet

HOODED PRV



Model HVWP



HVWP with two-piece hood, optional disconnect switch, and standard bird screen

Twin City Fan & Blower's series of hooded power roof ventilators are available for either clean air or corrosive and dirty air applications for both supply and exhaust service. Hooded PRVs are manufactured in two designs. One design utilizes a panel fan mounted vertically inside a square stack and the other design utilizes either the vaneaxial, tubeaxial, adjustable vaneaxial, duct fan, or adjustable duct fan mounted vertically in a round stack. All hooded PRVs are supplied with a bird screen as standard.

Features

Hood protects the fan from surrounding elements and is designed for low velocity since all four sides are open.

Hood Construction

- Sizes 12" to 60" include interlocking, ribbed panel construction
- Sizes 66" to 84" are two-piece bolted construction
- Sizes 48" and above ship knocked down, field assembly required

Dampers, gravity or motorized, are available as accessories. Dampers are mounted in the stack section of PRVs utilizing panel fans and are remote mounted in the roof curb for PRVs utilizing other axial fan types.

Applications

Clean Air Applications

- High volume, low pressure
- Supply or exhaust design
- Motor and drive in airstream
- Commercial applications
- Dampers mounted in unit
- Temperatures to 200°F

Corrosive or Dirty Air Applications

- High volume, medium to high pressure
- Supply or exhaust design
- Motor and drive out of airstream – Arrangement 9
- Industrial applications
- Dampers remote mounted in roof curb
- Temperatures to 200°F

Hooded Power Roof Ventilators

Model	Description	Sizes Arr. 4	Sizes Arr. 9	Volume	SP	Catalog
HVWP	Hooded PRV with TCWP panel fan	12" to 48"	24" to 48"	300 to 41,000	1.5"	AX500
HVWPX	Hooded PRV with TCWPX adjustable panel fan	24" to 60"	24" to 72"	12,000 to 100,000	1.5"	AX510
HVVA	Hooded PRV with TCVA vaneaxial fan	12" to 60"	12" to 60"	900 to 103,000	7"	AX100
HVTA	Hooded PRV with TCTA tubeaxial fan	12" to 60"	18" to 60"	700 to 100,000	5.5"	AX200
HVVX	Hooded PRV with TCVX adjustable vaneaxial fan	18" to 84"	18" to 84"	1,000 to 170,000	7"	AX300
HVDF	Hooded PRV with TCDF duct fan	12" to 48"	12" to 48"	600 to 41,000	1.5"	AX400
HVDFX	Hooded PRV with TCDFX adjustable duct fan	24" to 60"	24" to 72"	12,000 to 100,000	1.5"	AX410

Twin City Fan & Blower's series of filtered power roof ventilators are available for clean air applications for supply service. Filtered PRVs are manufactured in the same two designs as the hooded PRVs except that they include permanent, washable, aluminum mesh filters or an optional throwaway type.

Features

Hood protects the fan from surrounding elements and is designed for low velocity filtration on all four sides.

Hood Construction

- Sizes 12" to 60" include interlocking, ribbed panel construction
- Sizes 66" to 72" are two-piece bolted construction
- Sizes 42" and above ship knocked down, field assembly required

Dampers, gravity or motorized, are available as accessories. Dampers are mounted in the stack section of PRVs utilizing panel fans and are remote-mounted in the roof curb for PRVs utilizing other axial fan types.

Filters are the permanent, washable, aluminum mesh type or optional throwaway type.

Applications

Clean Air Applications Utilizing Panel Fans

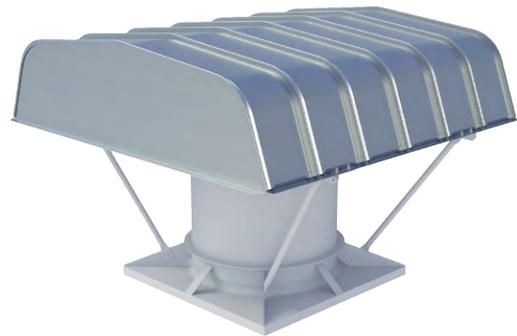
- High volume, low pressure
- Supply design
- Motor and drive in airstream
- Commercial applications
- Dampers mounted in unit
- Temperatures to 150°F

Clean Air Applications Utilizing Tubeaxial or Vaneaxial Fans

- High volume, medium to high pressure
- Supply design
- Motor and drive out of airstream – Arrangement 9
- Industrial applications
- Dampers remote-mounted in roof curb
- Temperatures to 150°F



HFWP with two-piece hood, standard filters, and optional disconnect switch



Model HFTA

Filtered Power Roof Ventilators

Model	Description	Sizes Arr. 4	Sizes Arr. 9	Volume	SP	Catalog
HFWP	Hooded PRV with TCWP panel fan	12" to 48"	24" to 48"	300 to 41,000	1.5"	AX500
HFWPX	Hooded PRV with TCWPX adjustable panel fan	24" to 60"	24" to 72"	12,000 to 100,000	1.5"	AX510
HFVA	Hooded PRV with TCVA vaneaxial fan	12" to 60"	12" to 60"	900 to 103,000	7"	AX100
HFTA	Hooded PRV with TCTA tubeaxial fan	12" to 60"	18" to 60"	700 to 100,000	5.5"	AX200
HFVX	Hooded PRV with TCVX adjustable vaneaxial fan	18" to 72"	18" to 72"	1,000 to 170,000	7"	AX300
HFDF	Hooded PRV with TCDF duct fan	12" to 48"	12" to 48"	600 to 41,000	1.5"	AX400
HFDFX	Hooded PRV with TCDFX adjustable duct fan	24" to 60"	24" to 72"	12,000 to 100,000	1.5"	AX410

SWINGOUT & CLAMSHELL FANS



All aluminum TCTA swingout with optional clamshell weather cover and split inner cylinder

TCTA Swingout

Twin City Fan & Blower's swingout fans provide access to the fan for cleaning and general maintenance without removing it from the ductwork. When quick-open clamp latches are released, the door swings out on heavy-duty hinges to provide out of the airstream access to the impeller for cleaning. For additional access to the shaft and bearings, an optional split inner cylinder is available.

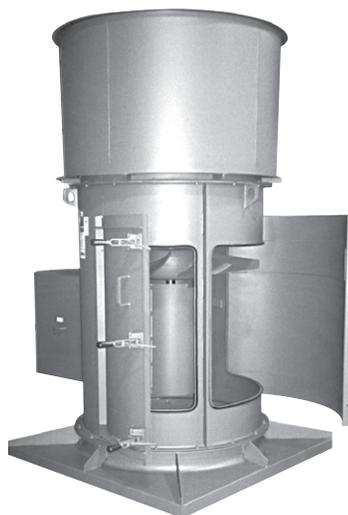
Features:

- A safe location to work on the fan
- Easy access to fan components
- Fan can be cleaned without debris going into the ductwork

Swingout Fans

Model	Description	Sizes Arr. 9	Volume	SP	Catalog
TCVA Swingout	Vaneaxial swingout fan	18" to 60"	2,000 to 80,000	7"	AX100
TCTA Swingout	Tubeaxial swingout fan	18" to 60"	2,000 to 80,000	5.5"	AX200
TCVX Swingout	Adjustable vaneaxial swingout fan	18" to 60"	1,000 to 100,000	7"	AX300

TCTA clamshell with impeller mounted on discharge end



TCTA Clamshell

Twin City Fan & Blower's clamshell fans provide access to internal components of the fan without removing it from the system. Two large doors with heavy-duty hinges provide access to the impeller and inner cylinder for cleaning and general maintenance. One door is large enough to remove the impeller from the fan. A split inner cylinder is standard on all clamshell fans for easy access to the shaft and bearings.

Features:

- Easy access for cleaning internal parts
- Inner cylinder split for access to shaft and bearings

Clamshell Fans

Model	Description	Sizes Arr. 9	Volume	SP	Catalog
TCVA Clamshell	Vaneaxial clamshell fan	18" to 60"	2,000 to 100,000	7"	AX100
TCTA Clamshell	Tubeaxial clamshell fan	18" to 60"	2,000 to 100,000	5.5"	AX200
TCVX Clamshell	Adjustable vaneaxial clamshell fan	18" to 84"	2,000 to 170,000	7"	AX300

LOW PROFILE PRV

Twin City Fan & Blower's low profile PRV is an economical, compact exhaust ventilator designed to handle a variety of high volume and low pressure applications. Standard construction features include both a curb cap and discharge cap. The low profile PRV is designed to utilize the TCWP panel fan for sizes 12" to 48" and the TCWPX adjustable panel fan for sizes 24" to 72".

Features

Construction of heavy-gauge painted steel is standard on the low profile PRVs. For corrosive applications, aluminum or stainless steel construction is available. To assure efficient airflow through the unit, the discharge cap seams are continuously welded and ground smooth.

Discharge Cap is made up of a windband and butterfly damper and is mounted to the fan's outlet flange. The butterfly dampers which pivot on bronze bushings, offer minimum resistance to airflow in the open position and provide weather protection when closed. An integral rolled flange or rib on the outlet end of the discharge cap adds rigidity to the unit.

Curb Cap is constructed of heavy-gauge steel with reinforcing gussets, to provide support for mounting on the roof curb.



Low profile PRV
(includes curb cap and discharge cap)

Low Profile Power Roof Ventilators

Model	Description	Sizes Arr. 4	Sizes Arr. 9	Volume	SP	Catalog
LPRV	Low profile PRV with TCWP panel fan	12" to 48"	24" to 48"	300 to 38,000	1.5"	AX500
LPRVX	Low profile PRV with TCWPX adjustable panel fan	24" to 60"	24" to 72"	12,000 to 100,000	1.5"	AX510

AXIAL PRV ACCESSORIES

Construction

Steel, stainless steel, and aluminum construction is available for both housings and impellers.

Roof Curb

Roof curbs are designed to create a base that the power roof ventilator's curb cap fits over. Roof curbs vary based on fan type and the slope of the roof. Roof curbs are normally shipped directly to the job site for installation before the fan arrives.

Disconnect Switches

Disconnect switches are available and sized to match the motor power requirement. The use of a disconnect switch allows the power to be shut off at the unit to avoid accidental start-up during servicing.

Coatings

Special coatings are available for corrosion and abrasion resistance.

Fusible Link Assembly

A fusible link assembly can be added to the standard butterfly dampers in the discharge cap. When the temperature through the ventilator exceeds 165°F, the fusible link releases a spring operated damper opener, providing gravity ventilation in case electricity to the ventilator is interrupted in a fire.

Inlet/Outlet Screens

Safety screens are available for mounting in the fan inlet, or outlet of the discharge cap. Outlet screen is easily removed for maintenance.

Access Door

Access door is available for impeller inspection or cleaning. The general access door is located opposite the motor mount.

INDUSTRIAL PROCESS AND COMMERCIAL VENTILATION SYSTEMS

CENTRIFUGAL FANS | UTILITY SETS | PLENUM & PLUG FANS | INLINE CENTRIFUGAL FANS
MIXED FLOW FANS | TUBEAXIAL & VANEAXIAL FANS | PROPELLER WALL FANS | PROPELLER ROOF VENTILATORS
CENTRIFUGAL ROOF & WALL EXHAUSTERS | CEILING VENTILATORS | GRAVITY VENTILATORS | DUCT BLOWERS
RADIAL BLADED FANS | RADIAL TIP FANS | HIGH EFFICIENCY INDUSTRIAL FANS | PRESSURE BLOWERS
LABORATORY EXHAUST FANS | FILTERED SUPPLY FANS | MANCOOLERS | FIBERGLASS FANS | CUSTOM FANS



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