

FANS

Utility and Centrifugal



VENCO'S TIERED MODEL APPROACH gives you flexibility in size, performance and construction, matching the appropriate model to your application. Our centrifugal product line offers a variety of options in construction features, materials and performance by model.

VUSFD



VUSF-200



VUSF-300



VUSF-400



VCSW



PERFORMANCE

Model Size	Maximum Capacities CFM	Static Pressure in. wg	Drive		Frame		Scroll Materials				
			Belt	Direct	Bolted	Welded	Galvanized	Coated Steel	Aluminum	Stainless Steel	
VUSFD-100	6,500	3		▼	▼			▼	▼		
VUSF-200	10,000	5.5	▼		▼			▼			
VUSF-300	53,000	5.5	▼		▼				▼		
VUSF-400	66,000	9	▼				▼		▼		
VCSW-BI	231,000	21	▼	▼			▼		▼	▼	▼
VCSW-AF	195,000	14	▼	▼			▼		▼	▼	▼

FANS

Utility and Centrifugal



MODEL VUSFD-100

DIRECT DRIVE CENTRIFUGAL BACKWARD-INCLINED UTILITY FANS are designed for applications requiring low to medium air volumes and pressures. The wheel design provides the ability to build pressure without overloading.

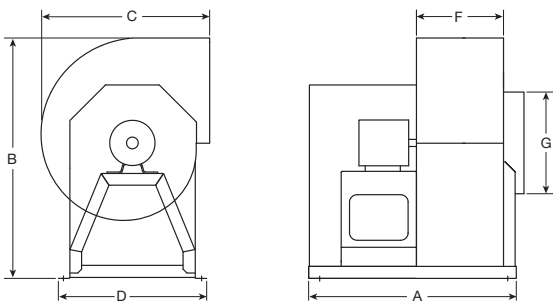
- Integral speed control and simplified wiring.
- Faster start up and lower installed cost – mounted, wired and programmed at factory.
- Quicker and easier to balance – adjust with a push or a button or turn of a dial.

Standard Construction

Housing - galvanized steel, lock-seam
 Three Phase - Mounted and programmed VFD adjustable interface or 0-10 VCD signal
 Single Phase - EC motor, integral dial or 0-10 VCD signal
 Bolted access door
 NEMA-3R, toggle switch, mounted and wired
 Drain
 Wheel - aluminum
 Corrosion-resistant fasteners
 Weatherhood

Options and Accessories

Guards - inlet, outlet
 Flanges - outlet
 Decorative or protective powder coating
 UL/cUL Listed Power Ventilators
 AMCA Licensed for Sound and Air Performance



DIMENSIONS - In Inches

VUSFD-100 Size	A	B	C	D	F	G
10	27 ¹ / ₈	29 ⁷ / ₈	20 ¹ / ₂	22 ³ / ₄	9 ¹ / ₂	11
13	26 ¹ / ₂	33	25	22 ³ / ₄	8 ⁷ / ₈	14
15	28	34 ¹ / ₂	27 ¹ / ₂	22 ³ / ₄	10 ¹ / ₂	15 ³ / ₄
16	29	36 ¹ / ₈	29 ⁵ / ₈	22 ³ / ₄	11 ¹ / ₂	17 ³ / ₄
18	30 ³ / ₄	38	32 ¹ / ₂	22 ³ / ₄	13	19 ¹ / ₄

Note: Dimensions may change depending upon motor

FANS

Utility and Centrifugal



THE VUSF BELT DRIVE TIERED MODELS 200, 300 AND 400 offer multiple levels of construction for the best value to match the intended application and performance.



VUSF-200

- Bolted construction using all galvanized material
- Used in light duty, clean air applications



VUSF-300

- Bolted construction, utilizing all painted steel material
- Used for grease, smoke and clean air applications



VUSF-400

- Welded construction, utilizing all painted steel material
- Used for grease, smoke and clean air applications
- Heavier construction and capable of higher performances than VUSF-300

Standard Construction	200	300	400
Housing - lock	▼	▼	▼
Wheel - VUSF-200 and 300, sizes 6-10, aluminum	▼	▼	
Wheel - VUSF-200, sizes 12-22, coated steel VUSF-300, sizes 12-49, coated steel VUSF-400, all sizes, coated steel	▼	▼	▼
Rotatable housing (sizes 7 through 30; arrangement 1, 4 and 10; Class 0, I and II)	▼	▼	▼
Corrosion-resistant fasteners	▼	▼	▼
Ball bearing motor - 1/4 hp and larger	▼	▼	▼
Motor pulley - constant or adjustable	▼	▼	▼
Polyester urethane protective powder coating		▼	▼
Options and Accessories	200	300	400
Welded scroll construction		▼	▼
Wheel rotation - clockwise or counterclockwise	▼	▼	▼
Spark resistance - B or C		▼	▼
NEMA 3R disconnect	▼	▼	▼
Isolators	▼	▼	▼
Weatherhood	▼	▼	▼
Shaft seal with aluminum rub ring		▼	▼
Guards - inlet, outlet	▼	▼	▼
Heat slinger		▼	▼
Extended lube lines	▼	▼	▼
Drain connection	▼	▼	▼
Access door, bolted	▼	▼	▼
Access door, hinged		▼	▼
Flanges - inlet, outlet, companion	▼	▼	▼
Sheaves, multiple groove	▼	▼	▼
Equipment supports	▼	▼	▼
Decorative or protective powder coating		▼	▼
UL/cUL Listed Power Ventilators	▼	▼	▼
UL/cUL Listed Power Ventilators for Restaurant Exhaust Appliances		▼	▼
UL/cUL Listed Power Ventilators for Smoke Control Systems		▼	▼
AMCA Licensed for Air Performance: Model VUSF-206 thru 210, VUSF-306 thru 310, VUSF-327 thru 349			
AMCA Licensed for Sound and Air Performance: Model VUSF-212 thru 222, VUSF-312 thru 324, VUSF-407-BI thru VUSF-449-BI and VUSF-418-AF thru VUSF-449-AF			

FANS

Utility and Centrifugal

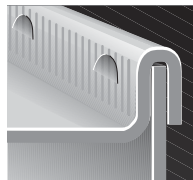


VCSW SINGLE-WIDTH, DIRECT DRIVE AND BELT DRIVE CENTRIFUGAL FANS are designed for clean or contaminated ventilation applications up to 1,000°F for 15 minutes. Units can be mounted (both indoor or outdoor) in ducted inlet and/or ducted outlet installations such as exhaust air, supply air, filtration, comfort conditioning, light industrial processes, fume exhaust, fluid bed pressurization and combustion air.

HOUSING CONSTRUCTION

Lock Housing

Features an exclusive airtight lock seam. This seam provides a structural bond between the side panels and scroll wrap.



Welded Housing

Features a fully welded housing.



Standard Construction

Housing - heavy-gauge steel

- Lock
- Welded

Direct drive, arrangement 4, 8

Belt drive, arrangement 1, 3, 9, 10

Wheel, flat blade centrifugal, VCSW-BI

Wheel, airfoil centrifugal, VCSW-AF

Rotatable housing (sizes 7 through 30; arrangement 1, 4, and 10; Class 0, I and II)

Final assembly vibration analysis

Minimum bearing life of L₁₀ 80,000 hours (Average life - L₅₀ 400,000 hours)

Polyester urethane protective powder coating

Options and Accessories

Guards - inlet, outlet

Motor cover (Arrangement 1, 3, 4, 8, 9)

Flanges - inlet, outlet, companion

Weatherhood (Arrangement 1 motor positions X or Y, 10)

Drain connection

Access door, bolted or hinged

Isolators - rubber, free standing and restrained

Isolation base

Spark resistance - A, B or C

NEMA-3R, 4, 4X, 7/9, 12 disconnect

Shaft seal

Extended lube lines

Extended life bearings L₁₀ 200,000 hours

UL/cUL Listed Power Ventilators

UL/cUL Listed Power Ventilators for Restaurant Exhaust Appliances (Arrangements 1, 9, 10)

UL/cUL Listed Power Ventilators for Smoke Control Systems (Arrangements 1, 9, 10)

AMCA Licensed for Sound and Air Performance

FANS

Utility and Centrifugal



CENTRIFUGAL FAN SELECTION GUIDE

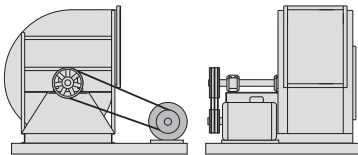
SPARK RESISTANT CONSTRUCTION

Spark C - Includes aluminum inlet cone and rub ring

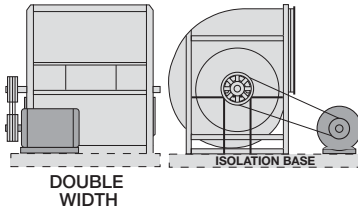
Spark B - Includes aluminum wheel and rub ring

Spark A - Includes aluminum wheel, aluminum scroll and aluminum inlet cone

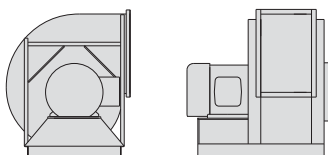
ARRANGEMENT 1 allows for an unlimited motor size and is suitable for high temperatures (up to 1,000°F) or contaminated air. The motor can be located in position W, X/Y or Z around the fan shaft to ensure proper alignment. Isolation base required (by factory) or structural pad (by others).



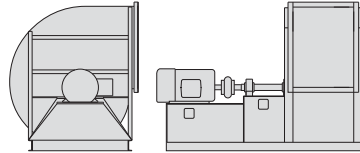
ARRANGEMENT 3 bearing located in the airstream limits temperatures and does not permit spark resistant construction. Requires an isolation base (by factory) or structural pad to mount the fan and motor.



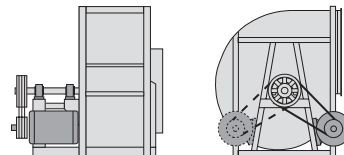
ARRANGEMENT 4 is direct drive with the wheel attached to the motor shaft. Arrangement minimizes maintenance with no sheaves, belt or fan shaft bearings. Provides the most compact design. Limited to temperatures below 110°F.



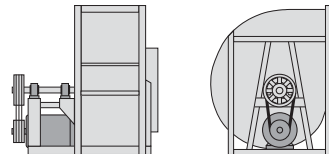
ARRANGEMENT 8 is direct drive with the motor attached to a fan shaft and bearing assembly. Arrangement is recommended for higher horsepower applications in lieu of belt drive. Bearings are located out of the airstream. Available heat fan package to 750°F.



ARRANGEMENT 9 has the motor mounted on the side of the bearing pedestal to allow mounting of larger motor hp sizes in a compact foot print. Isolation base required (by factory).



ARRANGEMENT 10 is the most common fan arrangement. Motor is mounted under the bearing pedestal and can be enclosed with a weatherhood. Limited motor sizes, but arrangement provides smallest overall package size. No mounting base required.



WHEEL TYPES

Backward-Inclined Wheel

Centrifugal, non-overloading style with single-thickness flat blades. Most versatile wheel. Excellent for clean, high-temperature, or contaminated air.



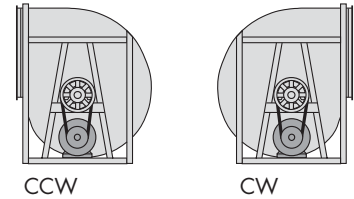
Airfoil Wheel

Centrifugal, non-overloading style with airfoil shaped blades. Higher operating efficiencies. Used for clean air applications.

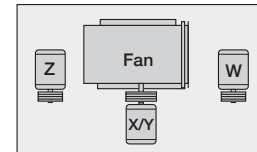


ROTATION

Choice between clockwise (CW) and counter-clockwise (CCW) as determined from the drive side. Rotation changes discharge location as illustrated below.



MOTOR POSITIONS (Arrangement 1 and 3) Motor position determined from the drive side. Letter assignment is independent of discharge position and fan rotation.



DISCHARGE POSITIONS

Utility Fans - determined from the drive side. Some models and sizes allow for field rotation.

CCW TH	CW TH	CCW BH	CW BH
CCW TAD	CW TAD	CCW BAU	CW BAU
CCW DB	CW DB	CCW UB	CW UB
CCW BAD	CW BAD	CCW TAU	CW TAU

Centrifugal Fans - graphic shows discharge positions available on centrifugal fans. Determined from the drive side. Some models and sizes allow for field rotation.

