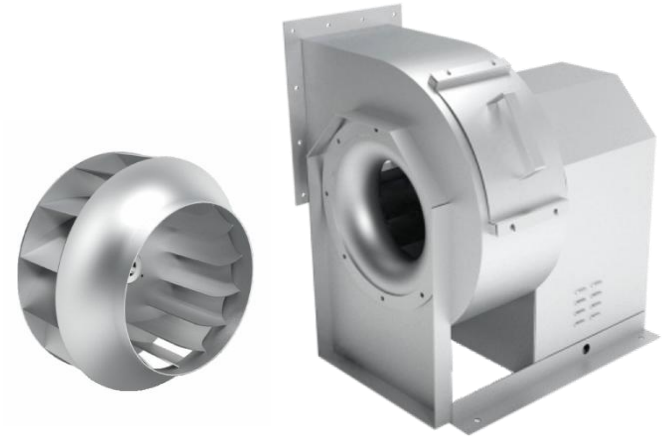
CUS - CENTRIFUGAL UTILITY SET

INFINAIR™
INFINAIR ARABIA CO. LTD.

Ratings and Applications

Airflow Range	500～56,000 m³/h (294～32,941CFM)
Static Pressure Range	136～1,400 Pa (0.55～5.62 in.WG.)
Drive Types	Belt / Direct drive / VFD
Mounting Types	Base Mount/ Ceiling Hung
Applications	1. Industrial ventilation 2. Explosion-proof air supply and exhaust 3. Smoke removal 4. Kitchen fume exhaust



Wheel Technology

1. Highlights of the 4 Generation of Wind-Surfer wheel

- Excellent sound and air performance
- Wide performance range of high efficiency and non-overload
- The balance quality grade as high as G2.5

2. Air Performance Design

- Optimized design through CFD flow field simulation and repeated tests
- Wheel cone and inlet cone in conformity with flow field characteristics
- Flow passages control: airflow regulated well through precise synergy
- Optimized mounting angle for blades

3. Structural Design

- Stress analysis by FEA method for better performance
- Various additional strengthening for different specifications for greater reliability
- Riveting technology used to avoid stress

4. Wheel Improved

- Continuous Improvement: upgraded to the 4th generation of wheel
- Compared with the 3rd generation: overall performance improved by 5-10 %
- Compared with the 3rd generation: overall sound level reduced by 2-3 dB(A)

5. Advanced Process

- Wheel cone and inlet cone formed by spinning to ensure good air performance
- Inlet Cone: replacing the inlet bell to ensure smooth airflow
- Blades: formed by punching to ensure quality
- Tooling: dedicated fixtures to ensure the precise mounting position of blades

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General Features

1. Wide Performance Range

- Wheel Diameter: 300~ 1,000 mm
- Wide RPM and performance ranges offering more choices in model selection
- The number of turns adjustable, pulley and motor replaceable: performance range regulated for better adaptability

2. Scroll Turned for Variable Discharge Directions at Jobsite

The scroll is fixed by 8 equally spaced bolts. Discharge directions can be adjusted at the jobsite within the allowable angle range.

3. Continuously Welded Housing

- The continuously welded housing has sufficient structural rigidity
- It is more suitable for ventilation of moist air compared with scroll manufactured with lock seam
- The accumulated dropping liquid inside the scroll will not result in leakage
- It is suitable for exhausting air containing condensed water and kitchen fumes

4. Easy Maintenance

- Access doors are available on both sides of the motor
- With one screw driver, the electrical components can be checked and repaired
- Scroll access door is provided as a standard accessory

5. Suitable for outdoor installation

- Rain cover available to protect the whole drive unit
- Total protection from sunlight, rain and snow affecting rotating parts
- Fewer impacts from climate factors on the durability and safety of fans

6. Compact Structure

- Belt drive: AMCA arrangement 10 (motor right under shaft); direct drive: AMCA arrangement 4
- The compact structural design reducing space
- Belt length reduced and belt life extended
- Low center height of scroll leaving more space for duct installation

Technical Information

1. Quality Standards

The fan shall be tested and certified in accordance with AMCA Standard 210 & 300,UL 705. AMCA Seal for (Efficiency Sound, Air Performance and Fan energy index) shall be tagged on each fan before leaving the factory as a standard seal, for other seals shall be tagged on the fan according to application and customer needs.

The manufacturer shall obtain Production License for National Industrial Products and be certified by ISO 9001, ISO 14001, ISO 45001.

2. Fan Type

The fan shall be direct or belt drive type, with an aluminum backward inclined centrifugal wheel. The inlet cone shall have a curved section to ensure smooth air movement. Each wheel shall be statically and dynamically balanced up to grade G 2.5 as per ISO 1940.

3. Housing Material

The fan housing shall be constructed of steel. It shall be thick and strong enough to support the drive mechanism and motor. The scroll shall be continuously welded. The fan surface shall go through the processes of alkaline wash and Parkerizing and be finished with electrostatic epoxy coatings in black or other colors specified by customers.

Both the wheel and inlet shall be constructed of aluminum. Access door: An access door must be provided for the scroll to remove possible foreign bodies inside of the fan. The platform on which the fan is placed shall be a stable and level one and vibration isolators shall be used for connection. The pre-embedded fixing method shall not be required.

4. Protections

Standard belt drive CUS fans that include a shaft/bearing guard and belt guard are for indoor installation.
For outdoor installation, there shall be a rain cover that offers total protection for the motor and other driving parts.

5. Fan Parts and Drive Mechanism (For belt drive type only)

Fan Part	Description
Shaft	The shaft shall be heat treated through homogenizing furnace to the hardness level of HB370, and the hard film shall be applied on the surface to avoid corrosion. The shaft shall also be subject to balancing tests together with the wheel. The design speed of the shaft shall be at least 25% more than the maximum running speed of the fan.
Bearings	Metal bearings shall be used to support the fan shaft to avoid vibrations directly coming onto the motor. The bearing life shall be (80, 000 to 150,000) hours at the maximum operating speed specified in the catalog as per the design. The bearing shall be of permanently sealed type and metal pillow block ball bearing that can be lubricated.
Drive Support	Drive mechanism shall be supported by heavy gauge steel sheet finished with powder coatings to avoid corrosion. The belt tension can be adjusted through the adjusting bolt at the motor base. The design shall make sure the fan shaft and motor shaft is always parallel.
Pulley	Fan pulleys shall be sized for a minimum of 150% of the driving power. Pulleys shall be cast iron, keyed and securely attached to the wheel and motor shaft. Conical type bushings shall be equipped for easy removal of the pulley.
Motor	The motor shall be carefully matched to the fan load. It shall be (IP55,IP56, …etc) rated with Class F,H Insulation according to project specification . The motor bearing shall be of ball type and lubrication- free. Out of the air stream shall the motor and drive mechanism be located to avoid grease or dirt accumulation.