EVAPORATIVE COOLING & VENTILATION SYSTEM

keep your factory healthy with cool & fresh air

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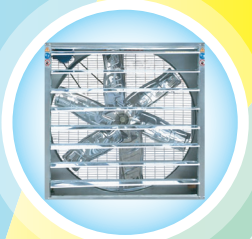

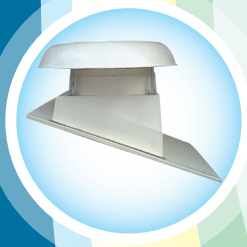

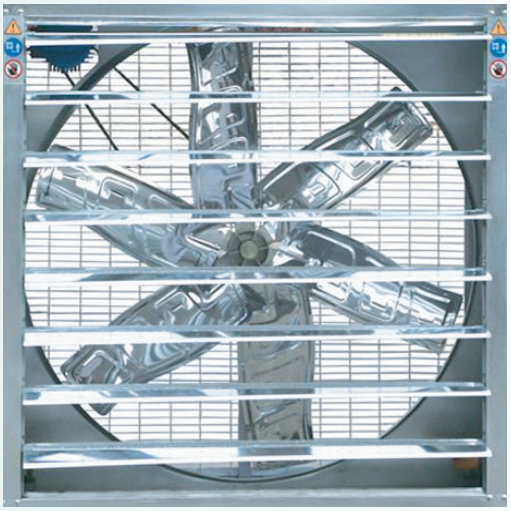

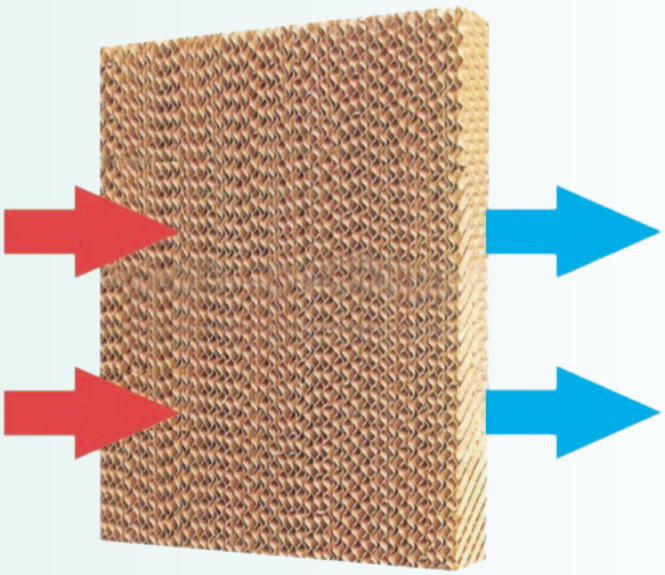

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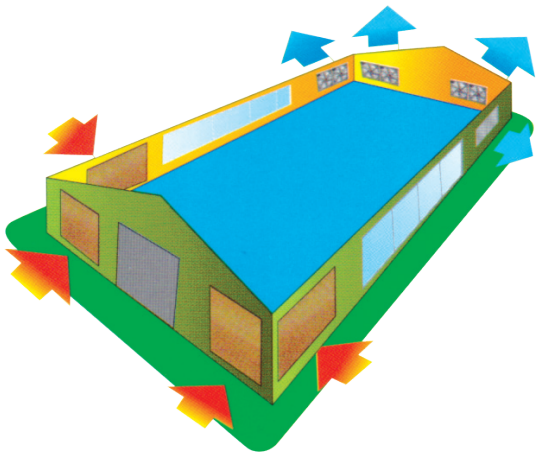
EVAPORATIVE COOLING SYSTEM

Temperature can easily exceed 40^{o}C in spinning, Knitting, finishing & garments factory during the summer if they are not equipped with cooling system. Such high temperature reduces product quality & worker productivity. Evaporative cooling is the most common method for reducing the temperature inside a factory. Air conditioning or refrigeration system can be used, but their installation and operation costs are usually prohibitive.

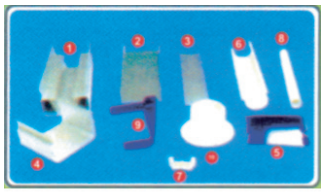
Evaporation cooling is a process that reduces the temperature 7^{o}~12^{o}C of air by the evaporation of water into the airstreams. As Water is evaporated, energy is lost from the air reducing its temperature. Reduced temperature enters in to room and room become cool.

EVAPORATIVE COOLING PAD AND EXHAUST FAN SYSTEM

A pad-and-fan cooling system typically consists of axial flow. Industrial blower/Exhaust fans installed in one wall and correctly sized wetted pads placed along the opposite wall. The fans exhaust air from the building and draw in fresh air through the pads. Exhaust Fan should be located in the side of the building that is downwind of the summer time prevailing winds. To function properly, the fans must be able to develop a slight vacuum inside the building. This requires that the remainder of the building be reasonably airtight.



PIPE-FITTINGS AND ACCESSORIES FOR EVAPORATIVE COOLING SYSTEM



Frame system parts

1. Aluminium frame
2. Frame side plate
3. Splint
4. Frame joint
5. Frame in cap
6. Semicircle pipe
7. Pipe carrier
8. Water pipe
9. Hook
10. Back water coupling

Pipe system part

1. 25mm Tee
2. 32mm Tee
3. Straight pipe
4. 25mm Elbow
5. Joint
6. Reducer
7. Filter joint
8. Cashing cap
9. 75mm pipe
10. 75mm pipe
11. Valve
12. Filter

Water Pump

BUILDING REQUIREMENTS AND SUGGESTED LAYOUT

Cooling system designs usually specify 0.75 to 1 air change per minute as a maximum ventilation rate for buildings 150 feet to 220 feet long. Summer ventilation needs for worker may vary from 0.1 to more than 1 air change per minute depending on the species and the ventilation system that is selected.

EVAPORATIVE COOLING PAD

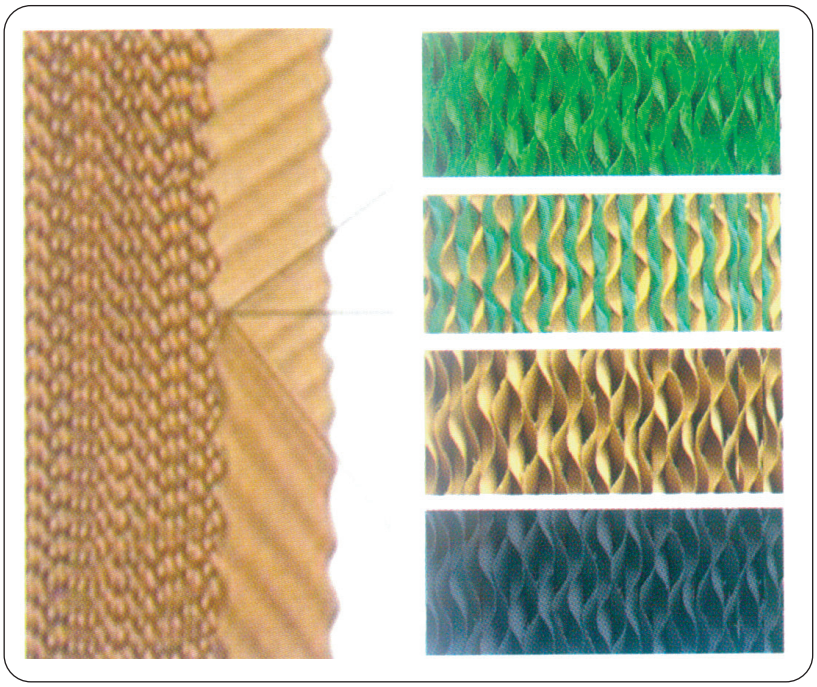
The cooling cells are made from a specially formulated cellulose paper impregnated with insoluble anti-rot salts and ensure a long service life. It is designed with an exclusive cross-fluted configuration, which induces highly turbulent mixing inside the pad between the water and air, and contributes to the evaporative efficiency. The cross-fluted designs make the pads a strong self-supporting pad with high evaporative efficiency and low pressure drop (resistance to air flow).

A special water distribution pad spreads water over the surface of the material, ensuring a uniform supply of water to the pad wall to keep the entire air contact surface thoroughly wetted. The wetted surface area of the pad to airflow ration is large.

These pads able to cope with high water flow rates in order for the water to trap dust and other solids. A low resistance of air flow means low power consumption.

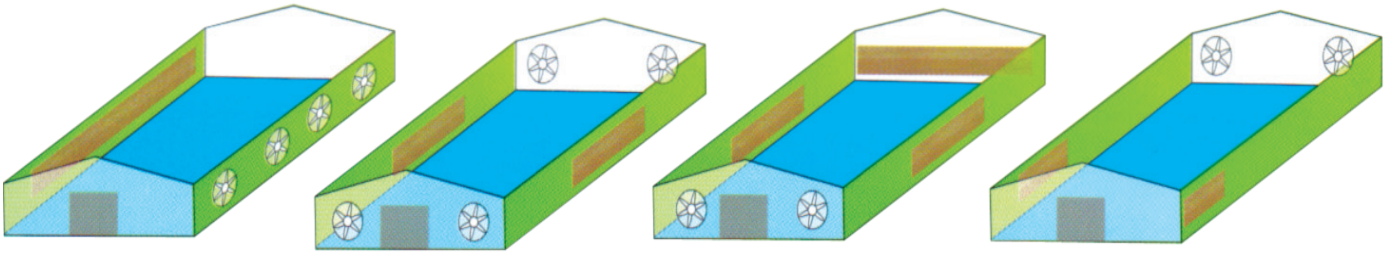
Water should adhere to the pads and not drop off and be carried into the machine.

TYPE	HEIGHT (MM)	WIDTH (MM)	DEPTH (MM)
7090	2000	600	100
	2000	600	150
	1800	600	100
	1800	600	150
	1600	600	100
	1600	600	150
	1500	600	100
	1500	600	150
5090	2000	600	100
	2000	600	150
	1800	600	100
	1800	600	150
	1600	600	100
	1600	600	150
	1500	600	100
	1500	600	150



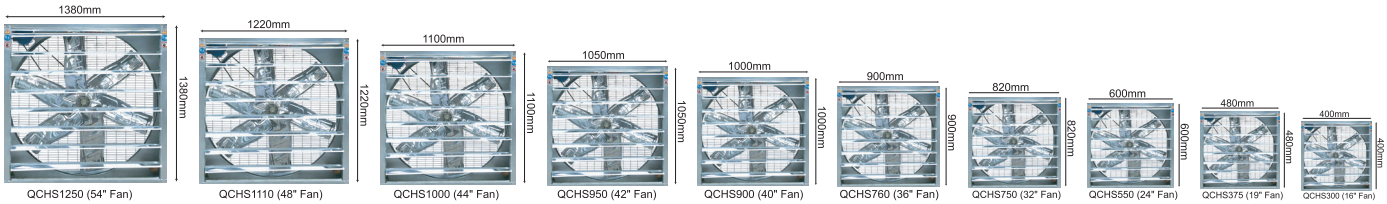
INSTALLATION OF 'COOLING PAD-INDUSTRIAL BLOWER' COOLING SYSTEM

Cooling pad and industrial blower/exhaust fan generally is collocation correspondingly in the evaporative cooling system. The site of installation of system is showed as like the following picture.



INDUSTRIAL BLOWER (EXHAUST FAN)

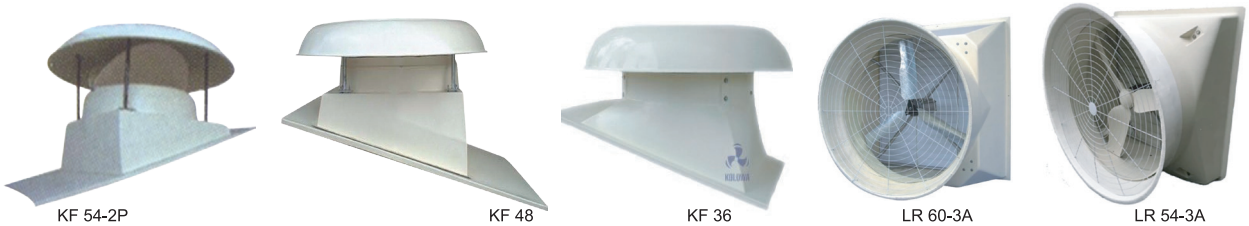
Our energy saving industrial Blower (Exhaust Fan) is easy to install. These exhaust fans have automatic shutter on one side and a security grill on other side to prevent accidents. They consume low power but have high capacity and create less noise.



MODEL	BODY SIZE (MM)	BLADE ROTATING DIA(Inc)	BODY MATERIAL	BLADE MATERIAL	SHUTTER MATERIAL	CAPACITY (m^3/hr.)	ROUND SPEED (RPM)	MOTOR SPEED (RPM)	NOISE (db)	POWER	FAN WEIGHT (kg)
QCHS1250 (54"Fan)	1380X1380X400	50"	Galvanized Steel / Stainless Steel	Stainless Steel Aluminium Alloy Galvanized Steel	Stainless Steel Aluminium Alloy Galvanized Steel	44000	439	1400	⩽=70	1.1/1.5Kw,3PH 380Volt. 50Hz	65
QCHS1110 (48"Fan)	1220X1220X400	44"	Galvanized Steel / Stainless Steel	Stainless Steel Aluminium Alloy Galvanized Steel	Stainless Steel Aluminium Alloy Galvanized Steel	37500	439	1400	⩽=70	1.1/1.5Kw,3PH/1PH 380Volt. 50Hz	58
QCHS1000 (44"Fan)	1100X1100X400	40"	Galvanized Steel / Stainless Steel	Stainless Steel Aluminium Alloy Galvanized Steel	Stainless Steel Aluminium Alloy Galvanized Steel	35000	439	1400	⩽=70	0.75Kw,3PH 380Volt. 50Hz	50
QCHS950 (42"Fan)	1050X1050X400	38"	Galvanized Steel / Stainless Steel	Stainless Steel Aluminium Alloy Galvanized Steel	Stainless Steel Aluminium Alloy Galvanized Steel	32500	439	1400	⩽=70	0.75Kw,3PH 380Volt. 50Hz	48
QCHS900 (40"Fan)	1000X1000X400	36"	Galvanized Steel / Stainless Steel	Stainless Steel Aluminium Alloy Galvanized Steel	Stainless Steel Aluminium Alloy Galvanized Steel	30000	439	1400	⩽=70	0.75Kw,3PH 380Volt. 50Hz	46
QCHS760 (36"Fan)	900X900X400	32"	Galvanized Steel / Stainless Steel	Stainless Steel Aluminium Alloy Galvanized Steel	Stainless Steel Aluminium Alloy Galvanized Steel	25000	439	1400	⩽=70	0.55Kw,3PH 380Volt. 50Hz	38
QCHS750 (32"Fan)	820X820X400	30"	Galvanized Steel / Stainless Steel	Stainless Steel Aluminium Alloy Galvanized Steel	Stainless Steel Aluminium Alloy Galvanized Steel	22000	960	1400	⩽=70	0.55Kw,3PH 380Volt. 50Hz	33
QCHS550 (24"Fan)	600X600X380	23"	Galvanized Steel / Stainless Steel	Stainless Steel Aluminium Alloy Galvanized Steel	Stainless Steel Aluminium Alloy Galvanized Steel	9500	1400	1400	⩽=70	0.38Kw,3PH/1PH 380Volt. 50Hz	22
QCHS375 (19"Fan)	480X480X350	15"	Galvanized Steel / Stainless Steel	Stainless Steel Aluminium Alloy Galvanized Steel	Stainless Steel Aluminium Alloy Galvanized Steel	5000	1400	1400	⩽=70	0.18Kw,3PH/1PH 220/380Volt. 50Hz	15
QCHS300 (16"Fan)	400X400X350	12"	Galvanized Steel / Stainless Steel	Stainless Steel Aluminium Alloy Galvanized Steel	Stainless Steel Aluminium Alloy Galvanized Steel	1500	1400	1400	⩽=70	0.12Kw,1PH 220/380Volt. 50Hz	12

ROOF MOUNTED NEGATIVE PRESSURE VENTILATION SYSTEM:

In case a wall mounted negative pressure ventilation system is not applicable, then roof mounted system is specially designed for roof mounted application.



KF 54-2P | KF 48 | KF 36 | LR 60-3A | LR 54-3A

MODEL	BODY SIZE (CM)	BLADE (INC)	BODY MATERIAL	BLADE MATERIAL	NO. OF BLADE	ROUND SPEED (RPM)	POWER (Hp)	FAN WEIGHT (kg)	CAPACITY (m^3/hr)
KF 54-2P	240x161x(67,123)	48"	FRP	SMC OR ALUMINIUM	3	630	2	105	45,000
KF - 48	239.6X160(94,70)	48"	FRP	SMC OR ALUMINIUM	3	630	2	91	45,000
KF - 36	120X152(96,55)	36"	FRP	STAINLESS STEEL	3	800	0.75	60	17,000
LR60 - 3A	162X162X92	52"	FRP	ALUMINUM ALLOY	3	630	2	85	59,000
LR54 - 3A	146X146X80	48"	FRP	ALUMINIUM ALLOY OR SMC	3	630	1.5	79	45,000

FRP Exhaust Fan

Application examples

Technical Parameter

Model	Blade Diameter (mm)	Volume m^3/hr	Power (w)	Rated Voltage	Height (mm)	Width (mm)	Thickness (mm)
DLF-850	600	30000	370/8	380	850	850	480
DLF-1060	880	32000	550/10	380	1060	1060	550
DLF-1260	1050	42000	750/10	380	1260	1260	560
DLF-1460	1250	45000	750/12 1100/12	380	1460	1460	600

WIND TURBINE (NATURAL DRAUGHT FAN)

Roof Mounted wind Turbine (Natural Draught Fan) depends upon the natural force of wind and temperature difference to activate the system by causing warm air in the room to rise and exit at the ceiling and enter fresh air via lower opening in the wall. This fan drive by lateral wide force without electrical power and no operation cost.

Wind Turbine Model

Model No	Material	Outer Diameter (mm)	Stack (Height) (mm)	Capacity For wind velocity 12km/Hr
BN-500	Stainless Steel / Aluminum	580	400	2300

Air Circulation Fan

Performance characteristics:

" The frames all adopt the high quality stainless steel by stretching forming, no rust, beautiful appearance;
" The aluminum punching blade, attractive appearance light weight, large air volume, low vibration, low noise;
" The fixed mount with special adjustable angle design which could change air direction as per requirement. Firmly fixed, stable operation.
" According to the high temperature and humidity in greenhouse, individually customize high quality totally enclosed international motor, to ensure excellent performance.

Performance characteristics:

Type	Air Volume (m^3/hr)	Power (w)	Voltage (v)	Diameter (mm)
DLF-400	5300	150	220/380	400
DLF-500	8700	180	380	500

Evaporative Air Cooler

Down Discharge

Top Discharge

Side Discharge

Model Explanation

F - Fixed installation type,
M - Movable type
A - Axis-flow type
C - Centrifugal fan type
D - Down discharge
B - Side discharge
U - Top discharge
ER - Three phase, 380~4150V/ 50~60Hz, 1 speed, fixed
EQ - Single phase, 220~240V/ 50~60Hz, 3 speed, Triac
IQ - Single phase, 220~240V/ 50~60Hz, 50 variable speed, Inverter

Evaporative Air Cooler, Specification / Parameters

Model	Max Airflow (m^3/hr)	Fan style	VOLTAGE (V/Hz)	Motor Power (Kw)	Working current (A)	Water tank Capacity (L)	Water Consumption rate (L/hr)	Dimension L×W×H (mm)	Size of air outlet L×H(mm)	Noise DB(A)	Net weight (kg)	Effective area (m^2)
FAD18-ER	18000	Axis-flow	380/50	1.1	2.7	25	20	1080×1080×980	700×690	≤72	71	100-150
FAB18-EQ	18000	Axis-flow	220/50	1.1	5	25	20	1080×1080×980	700×690	≤72	71	100-150
FAB18-IQ	18000	Axis-flow	220/50	1.1	5	25	20	1080×1080×980	700×690	≤72	71	100-150
FAU18-ER	18000	Axis-flow	380/50	1.1	2.7	25	20	1080×1080×1040	670×670	≤72	78	100-150
FAU18-EQ	18000	Axis-flow	220/50	1.1	5	25	20	1080×1080×1040	670×670	≤72	78	100-150
FAU18-IQ	18000	Axis-flow	220/50	1.1	5	25	20	1080×1080×1040	670×670	≤72	78	100-150
FAD23-ER	23000	Axis-flow	380/50	1.3	3.1	25	25	1080×1080×980	670×670	≤79	69	100-150
FAD23-EQ	23000	Axis-flow	220/50	1.3	6.2	25	25	1080×1080×980	670×670	≤79	69	100-150
FAD23-IQ	23000	Axis-flow	220/50	1.3	6	25	25	1080×1080×980	670×670	≤79	69	100-150
FAB23-ER	23000	Axis-flow	380/50	1.3	3.1	25	20	1080×1080×980	700×690	≤79	71	100-150
FAB23-EQ	23000	Axis-flow	220/50	1.3	6.2	25	20	1080×1080×980	700×690	≤79	71	100-150
FAB23-IQ	23000	Axis-flow	220/50	1.3	6	25	20	1080×1080×980	700×690	≤79	71	100-150
FAU23-ER	23000	Axis-flow	380/50	1.1	3.3	25	20	1080×1080×1040	670×670	≤79	78	100-150
FAU23-EQ	23000	Axis-flow	220/50	1.1	6.2	25	20	1080×1080×1040	670×670	≤79	78	100-150
FAU23-IQ	23000	Axis-flow	220/50	1.1	6	25	20	1080×1080×1040	670×670	≤79	78	100-150
FCD18-ER	18000	Centrifugal	380/50	1.5	3.5	25	25	1080×1080×980	450×420	≤79	104	150-200
FCD18-I Q	18000	Centrifugal	220/50	1.5	8	25	25	1080×1080×980	450×420	≤79	104	150-200
FCB18-ER	18000	Centrifugal	380/50	1.5	3.5	25	25	1080×1080×980	450×420	≤79	110	150-200
FCB18-IQ	18000	Centrifugal	220/50	1.5	8	25	25	1080×1080×980	450×420	≤79	110	150-200
FCU18-ER	18000	Centrifugal	380/50	1.5	3.5	25	25	1080×1080×950	450×420	≤79	114	150-200
FCU18-IQ	18000	Centrifugal	220/50	1.5	8	25	25	1080×1080×950	450×420	≤79	114	150-200
RL30A	30000	Axis-flow	380/50	2.2	5.6	65	65	1500×1500×1350	800×800	≤78	175	200-250
RL30B	30000	Axis-flow	380/50	2.2	5.6	65	65	1500×1500×1350	800×800	≤78	175	200-250
RL36A	36000	Axis-flow	380/50	3	6.5	65	85	1500×1500×1350	800×800	≤83	160	200-300
RL36B	36000	Axis-flow	380/50	3	6.5	65	85	1470×1470×1470	930×930	≤83	160	200-300
RL25B	25000	Centrifugal	380/50	5.5	11.6	65	60	1470×1490×1400	620×570	≤82	360	200-250
RL35B	35000	Centrifugal	380/50	7.5	15.4	70	80	1770×1800×1420	782×700	≤84	450	200-300
RL45B	45000	Centrifugal	380/50	11	25.4	100	120	2090×1970×1630	858×766	≤88	585	300-450
RL60B	60000	Centrifugal	380/50	15	30.3	100	150	2090×1970×1630	926×834	≤90	650	350-550

All specifications mentioned are under test conditions, actual performance depends on units and ambient conditions. Due to our continuous endeavor for product improvement, the specifications are subject to change without any Prior notice.

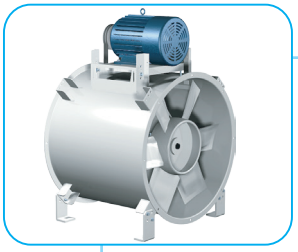
AXIAL BLOWER FAN

ECOOL offer one of the most comprehensive industrial fan ranges of any manufacturer in the world. The Fan motor design for 50 cycles, show some of the range of axial and centrifugal fans available with direct drive. The fan design approach offers multiple impllers for each fan type allowing the most economical arrangement to be confidently selected. Even if applications necessitate change, a different impeller can in most cases be used without having to change the whole fan. There are many drives fan like Direct drive, V- Belt drive, and Other drives fans are also manufactured with drives via a coupling; or with pneumatic, hydraulic or water motors.

Standard specifications

Offered as standard are a wide selection of outlet positions, casing geometries, casing thicknesses, materials and impellers for the various fan types.

Model	Dia	Motor Power (Kw)	Motor Speed RPM	Static Pressure	Capacity (m^3/hr)
ECR-12	12"	0.55	1400	150 PA	3000
ECR-16	16"	0.75	1400	150 PA	4000
ECR-18	18"	1.1	1400	150 PA	5000
ECR-20	20"	1.1	1400	150 PA	8000
ECR-24	24"	1.5/2.2	1400	200 / 250 PA	15000
ECR-30	30"	5.5	1400	287 PA	18000
ECR-32	32"	5.5	1400	300 PA	20000
ECR-36	36"	7.5	1400	250 PA	33000
ECR-40	40"	11.1	900 / 1400	250 PA	40000
ECR-48	48"	18.5/15	960 / 1400	250 PA	65000
ECR-50	50"	18.5	960	250 PA	78000



Suitable for the exhaust of smoke, dusty foul and humld air up to a maximum temperature of 60^{0}c. ideal for foundry, cement works and paper factories.

- Volume flow from 1,200 m3 /h up to 250,000 m3/h
- Pressure from 5 mm/h20 up to 100mm/h20

Suitable for the exhaust of smoke, dusty foul and humld air up to a maximum temperature of 60^{0}c. ideal for foundry, cement works and paper factories and in all applications where big volume are needed such as ventllation plants for boat galleries, tummels and mine.

- Volume flow from 18,200 m3 /h up to 175,000 m3/h
- Push from 152 N to 2,100 N

CENTRIFUGAL FANS

Inlet sizes 63 to 2500 mm.
Casing thickness 1.5 to 20 mm.
Casing pressure types RNN & LRZ (Low pressure). PRZ & MRZ (Medium pressure). HRZ (High pressure). SRZ (Ultra-high pressure).
Impeller types Min. 6 types per casing incl.dust impellers.
Motor frame sizes 63 to 450.
Drive types Direct, V-belt or coupling.
Materials Steel; aluminium; stainless steel; titanium; spec alloys.
Surface treatment As axial flow fan.
Outlet positions To Eurovent.
Special designs Flame-proof; shock-proof; extreme temperature; gas-tight; rubberised; decontaminable; earth-quake proof; corrosion resistant, as required.

ACCESSORISE

- Shaped Inlets
- Fire Dampers
- Protection Grills
- Mushroom Cowls
- Vibration Attenuators
- Jet Cowls
- Flexible Connections
- Counter Flanges
- Silencers
- Variable Inlet Vanes
- Inlet/Outlet Dampers
- Acoustic Enclosures
- Insulations
- Monitoring Instrumentation

Model	Inlet Dia	Outlet Dia	Motor Power (Kw)	Motor Speed RPM	Capacity (m^3/hr)
ECR-6	6"	4" x 6"	1.5/2.2	1400	5,000
ECR-8	8"	6" x 8"	2.2/4	1400	7,000
ECR-10	10"	8" x 10"	4/5.5	1400	12,000
ECR-12	12"	10" x 12"	5.5/7.5	1400	15,000