

ΔIREF CHOOSE
YOUR AIR

VENTEX

**Evaporative Air Cooling Units
(Air Washers)**



HYGIENIC
AFFORDABLE
COOLING

airef.co

EVAPORATIVE AIR COOLING

AFFORDABLE & ENVIRONMENT FRIENDLY



Evaporative cooling is a process that uses the effect of evaporation as a natural heat sink. Sensible heat from the air is absorbed to be used as latent heat necessary to evaporate water. The amount of sensible heat absorbed depends on the amount of water that can be evaporated.

Absence of conventional air conditioning components such as compressors makes this process highly economical, especially for large

spaces like greenhouses, warehouses and banquets. Moreover, the installation as well as maintenance costs involved are very low as compared to other cooling systems.

Airef manufactures and supplies highly engineered, evaporative cooling units in various sizes, suitable for different applications. Read on to know more about Vortex, the complete range of air washers offered by Airef.

Salient features - VENTEX



Mono-block, insulated panels casing in extruded Aluminium framework.



High efficiency, cellulose rigid media with corrosion free sump and water-manifold



Belt driven, DIDW centrifugal fans or optional plug fans with VFD.



Optional drift eliminating baffles to prevent excess water carry-over

VENTEX



APPLICATION

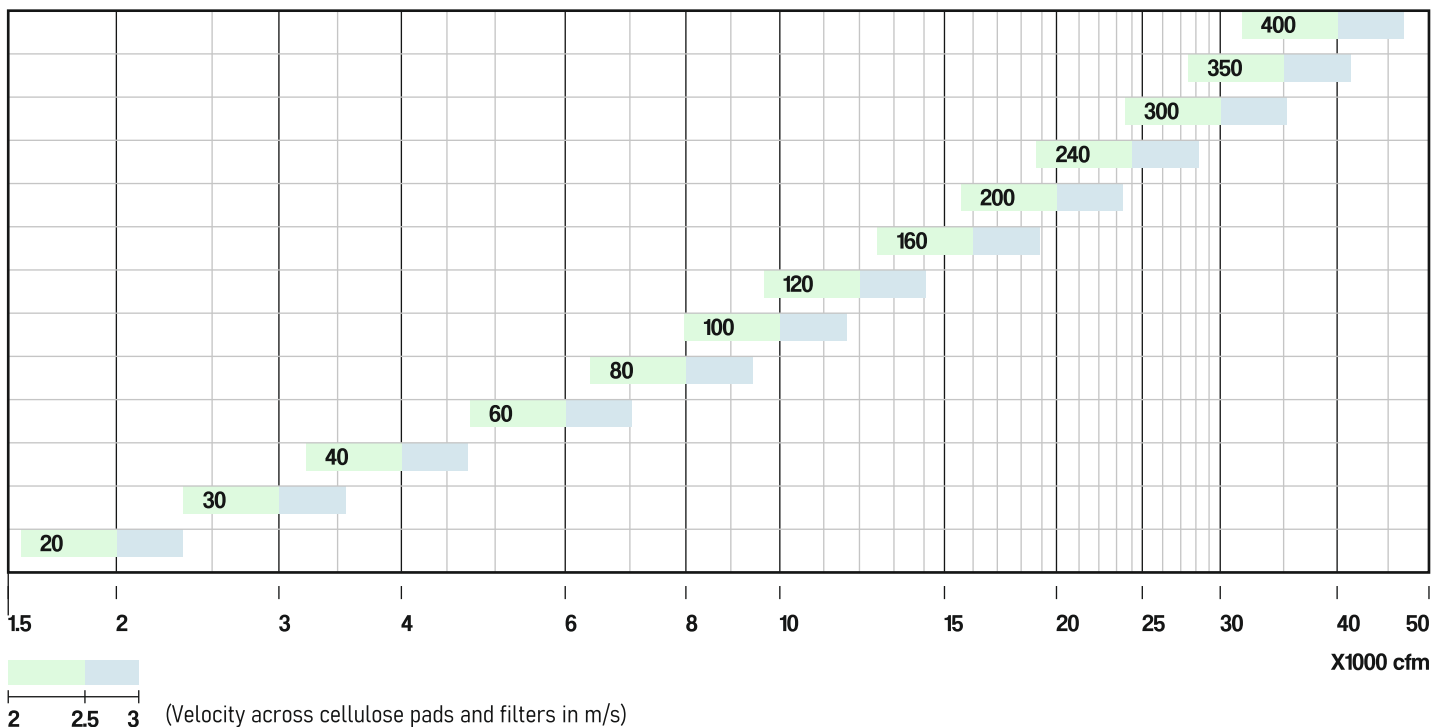
Warehouses, poultry farms, greenhouses, generator rooms, schools, commercial kitchens, storage halls, production and assembly areas etc.

RANGE

2000 CFM to 40000 CFM (13 Sizes)

AIRFLOW DIAGRAM

VENTEX 20, VENTEX 30, VENTEX 40, VENTEX 60, VENTEX 80, VENTEX 100, VENTEX 120, VENTEX 160, VENTEX 200, VENTEX 240, VENTEX 300, VENTEX 350, VENTEX 400



CONSTRUCTION

1. N25 casing :

Outer skin - Powder coated galvanized steel sheet
Inner skin - Plain galvanized steel sheet
Framework - Extruded Aluminum
Insulation - 25 mm thick Polyurethane Foam PUF (Density 40 kg/m³)

2. Motor :

Totally enclosed, fan-cooled motors are used. (3 ph / 415 VAC)

DESCRIPTION

Airef manufactures direct-evaporative cooling units using the high efficiency rigid cellulose pads. The units are based on adiabatic cooling process to cool down ambient air and are mostly used for large spaces such as production halls and warehouses. The air is filtered using Aluminium coarse filters before entering the area. DIDW centrifugal fans used are belt-driven using TEFC motors.

FEATURES

- A. Double skin casing for low heat transfer into the atmosphere
- B. Stainless water sump fitted with 4 pass PVC mist eliminators
- C. Washable synthetic filters
- D. High saturation efficiency of cooling media (upto 90%)

OPTIONS

- A. Factory-fitted volume control damper
- B. 45 mm thick casing in thermal break mainframe

3. Centrifugal fans :

DIDW type centrifugal fans are V-belt driven. All fans are statically and dynamically balanced, and connected via flexible connectors.

4. Filters :

Primary panel filters - G3 Aluminum wire-mesh media in Aluminum frame

5. Cooling Pad section :

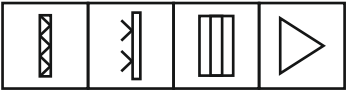
Cross corrugated cellulose rigid media with flute size of 7 mm and thickness 200 mm are provided with SS 304 sump, suitable pump and necessary piping and valves. (300 mm thick pads are optional)

6. Drift Eliminators :

4-pass drift eliminators made of PVC are provided downstream of the cooling pad.

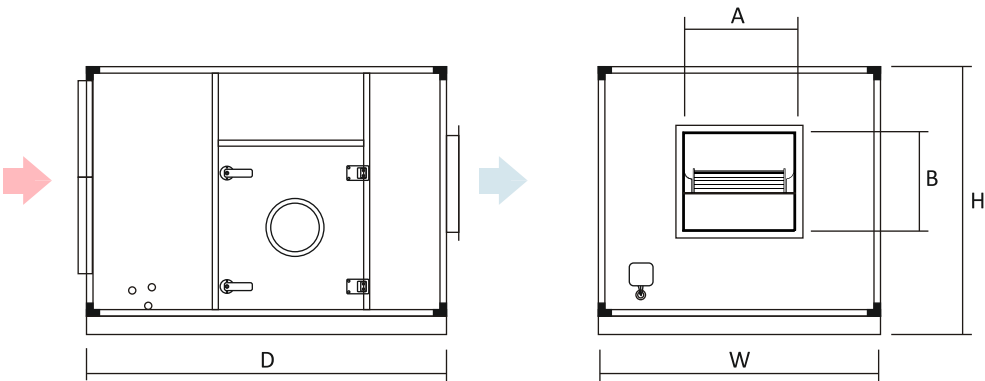
ORDER OF SECTIONS :

Primary Filters (Wire-mesh) - Cellulose pad section - Drift eliminators - DIDW Fan Section



DIMENSIONS

VENTEX 20, VENTEX 30, VENTEX 40, VENTEX 60, VENTEX 80, VENTEX 100, VENTEX 120, VENTEX 160, VENTEX 200, VENTEX 240, VENTEX 300, VENTEX 350, VENTEX 400



Dimensions (mm)	W	H	D	A	B
Ventex 20	700	950	1700	331	289
Ventex 30	1035	950	1750	395	341
Ventex 40	1340	950	1700	471	404
Ventex 60	1340	1250	1800	557	478
Ventex 80	1340	1650	2150	638	638
Ventex 100	1675	1650	2150	715	715
Ventex 120	1980	1650	2300	801	801
Ventex 160	2620	1650	2450	898	898
Ventex 200	2620	1950	2650	1007	1007
Ventex 240	2620	2250	2800	1130	1130
Ventex 300	3260	2250	2800	1130	1130
Ventex 350	3260	2550	2950	1267	1267
Ventex 400	3260	2850	2950	1267	1267

TECHNICAL SPECIFICATIONS

VENTEX 20, VENTEX 30, VENTEX 40, VENTEX 60, VENTEX 80

Technical Specifications	UOM	VENTEX 20	VENTEX 30	VENTEX 40	VENTEX 60	VENTEX 80
Fan phase / voltage	50Hz/VAC	~3 / 430	~3 / 430	~3 / 430	~3 / 430	~3 / 430
Fan power	KW	0.499	0.775	0.966	1.504	2.577
Fan speed	RPM	1017	867	728	615	658
Pump phase / voltage	50Hz/VAC	~1 / 215	~1 / 215	~1 / 215	~1 / 215	~1 / 215
Pump power	KW	0.15	0.15	0.15	0.15	0.37
Filter, supply air		G3	G3	G3	G3	G3
Operation		Outdoor				

TECHNICAL SPECIFICATIONS
VENTEX 100, VENTEX 120, VENTEX 160, VENTEX 200, VENTEX 240

Technical Specifications	UOM	VENTEX 100	VENTEX 120	VENTEX 160	VENTEX 200	VENTEX 240
Fan phase / voltage	50Hz/VAC	~3 / 430	~3 / 430	~3 / 430	~3 / 430	~3 / 430
Fan power	KW	3.151	3.799	5.076	7.618	9.52
Fan speed	RPM	584	511	457	446	406
Pump phase / voltage	50Hz/VAC	~1 / 215	~1 / 215	~1 / 215	~1 / 215	~1 / 215
Pump power	KW	0.37	0.37	0.37	0.37	0.37
Filter, supply air		G3	G3	G3	G3	G3
Operation				Outdoor		

TECHNICAL SPECIFICATIONS
VENTEX 300, VENTEX 350, VENTEX 400

Technical Specifications	UOM	VENTEX 300	VENTEX 350	VENTEX 400
Fan phase / voltage	50Hz/VAC	~3 / 430	~3 / 430	~3 / 430
Fan power	KW	11.866	13.412	15.776
Fan speed	RPM	401	357	355
Pump phase / voltage	50Hz/VAC	~1 / 215	~1 / 215	~1 / 215
Pump power	KW	0.75	0.75	0.75
Filter, supply air		G3	G3	G3
Operation			Outdoor	

ACCESSORIES
VENTEX 20, VENTEX 30, VENTEX 40, VENTEX 60, VENTEX 80

Technical Specifications	VENTEX 20	VENTEX 30	VENTEX 40	VENTEX 60	VENTEX 80
Panel filters 610x610x50	1	1	2	2	4
Panel filters 610x305x50	0	1	0	2	0
Volume control damper	331X289	395X341	471X404	557X478	638X638

ACCESSORIES
VENTEX 100, VENTEX 120, VENTEX 160, VENTEX 200, VENTEX 240

Technical Specifications	VENTEX 100	VENTEX 120	VENTEX 160	VENTEX 200	VENTEX 240
Panel filters 610x610x50	4	6	8	8	12
Panel filters 610x305x50	2	0	0	4	0
Volume control damper	715X715	801X801	898X898	1007X1007	1130X1130

ACCESSORIES
VENTEX 300, VENTEX 350, VENTEX 400

Technical Specifications	VENTEX 300	VENTEX 350	VENTEX 400
Panel filters 610x610x50	15	15	20
Panel filters 610x305x50	0	5	0
Volume control damper	1130X1130	1267X1267	1267X1267

APPROXIMATE AIR TEMPERATURES AT SUPPLY END (IN CELCIUS)

Ambient temp (°C)	Ambient Relative Humidity (RH%)								
	10	20	30	40	50	60	70	80	90
10	4	4.5	5.5	6	7	7.5	8	9	9.5
15	7.5	8.5	9.5	10.5	11	12	13	13.5	14
20	11	12	13	14.5	15.5	16.5	17.5	18.5	19
25	14.5	16	17	18.5	20	21	22	23	24
30	17.5	19.5	21	22.5	24	25	26.5	28	29
35	20	23	25	26.5	28.5	30	31.5	32.5	34
40	23	26.5	29	31	32.5	34.5	36	37.5	39
45	26	29	32.5	35	37	39	40.5	42	44
50	29	32.5	36.5	39	41	43.5	45	47	48.5

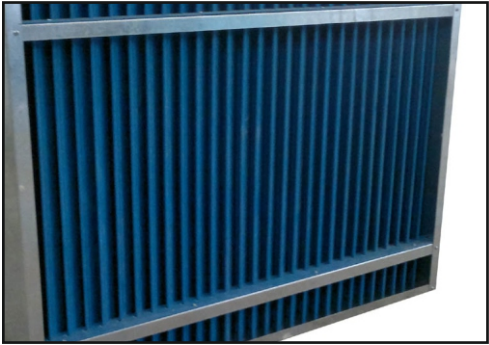
Values based on performance of 200 mm thick pads with 7 mm flute size and minimum 80% saturation

USE OF DRIFT ELIMINATORS

Ventex series of evaporative cooling units is, as a standard, supplied with high quality, specially designed drift eliminators to eliminate the chances of water droplets to be drifted into fan section or supply ducts from the surface of cellulose pad.

Provided downstream of the cooling pad, the eliminator baffles are made of PVC for corrosion resistance and high strength. These baffles have a unique 4-pass design to arrest and drain down most amount of water droplets. Pitched at suitable distances, the baffles stand vertically adjacent to each other and the water retained by the eliminators flows back to the main sump for re-circulation.

The baffles are further stacked in GSS frame for easy maintenance and replacement. The pressure drop caused by the use of these eliminators iis very low.



[illegible]

CHOOSE YOUR AIR



AIREF SYSTEMS PRIVATE LIMITED

Plot 570, Industrial Area, Phase 9, Mohali 160062, Punjab
T: +91 90565 90909 Email: mail@airefengineers.net

airef.co/fresh-air-treatment-units

