

**STAY COOL
WITH**

**AIRVENT TURBINE VENTILATOR
THE BEST ON THE ROOF.**



**NEW TECHNOLOGY WITHOUT POWER OR OPERATING COSTS.
IMPROVES WORKING CONDITIONS AND INCREASES PRODUCTIVITY.**

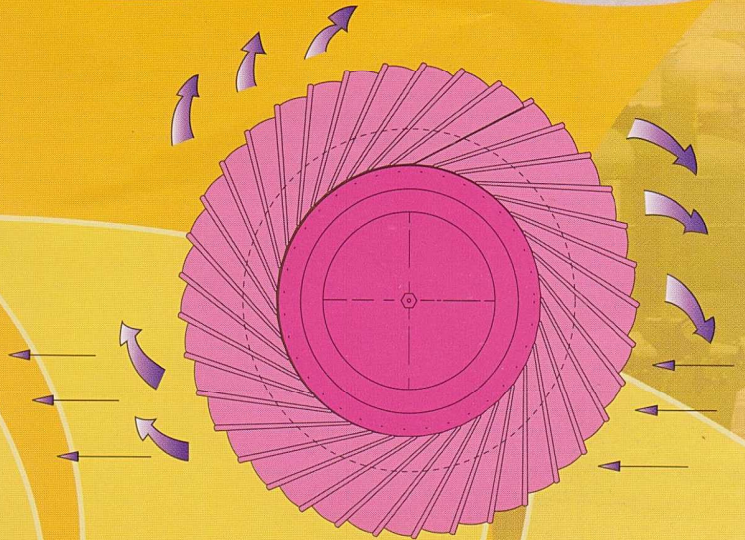
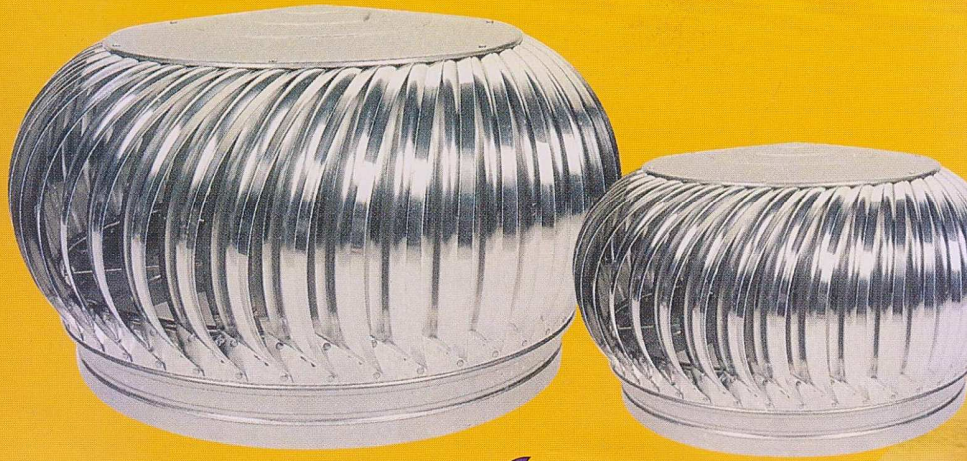
NATURAL ECONOMICALLY EFFECTIVE VENTILATION ALL YEAR ROUND WITHOUT POWER OR OPERATION COSTS. IMPROVES WORKING CONDITIONS AND INCREASES PRODUCTIVITY. AN ENERGY SAVER FOR A BETTER TOMORROW.

HOW DOES IT WORK.

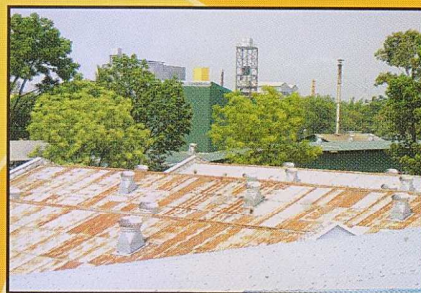
The turbine ventilator operates by utilising the velocity energy of the wind to induce air flow by centrifugal action. The centrifugal force caused by the spinning vanes creates a region of low pressure area which draws air out through the turbine. Air drawn out by the turbine is continuously replaced by fresh air from the outside. The slightest breeze will cause the turbine to spin and even after the breeze has stopped, the fly wheel effect of the rotor cage will use its stored energy to continuously remove air giving rise to ventilation. Suction is maintained even at low wind velocities.

FEATURES:

- Rigid roll formed curved vanes
- Weatherproof and stormproof
- Rotor shaft and bearing assembly concealed in aluminium or stainless steel casing. Easily field replaced
- Virtually maintenance free
- Light weight and durable
- 10 years warranty
- Available in aluminium and stainless steel



Bashundhara Tissue



British American Tobacco BD. Manikgonj



City Sugar Mills Ltd

THE BENEFITS OF A NATURAL VENTILATION SYSTEM

Factories, warehouses, workshops and even community buildings are frequently constructed without an efficient natural ventilation system for the benefit of occupants.

And, if the interior of the building gets hot and stale, there's always door or windows that can be opened to provide for the ventilation.

However, stale and hot air doesn't disperse by itself and opening doors or windows is simply not sufficient to provide adequate ventilation in most buildings.

But, by installing AIRVENT Turbine Ventilators, you can provide an efficient and cost effective system of nature ventilation for the benefit of the building's occupants.

These wind driven Ventilators, unlike doors or window, draw air upwards, creating a convection current, and in the process they extract stale air, together with air

which has become hot due to the building's exposure to long hours of sunlight and from manufacturing processes within the building.

As the stale and hot air is extracted by the ventilators, it is replaced by fresh air at ambient temperature entering through doorways and openings thus completing the convection cycle current and improving the internal environment.

Needless to say, fresh air make people feel more energetic whilst stale air causes people to feel tired and on hot days the air movement over the body causes evaporation to occur which is the natural way of cooling down and reducing heat stress on the body.

Airvent Turbine Ventilator also help to prevent condensation by extracting moist condensate forming air, and in the case of fire will extract smoke and fumes thus preventing the building from becoming smoke filled and allowing the occupants to escape to safety.

SELECTION PROCEDURE

- 1) Determine volume of space to be ventilated
Volume (ft³) = L x W x H
Where L = Length, W = Width, H = Height of building
- 2) Select Air change Rate from Table A
- 3) Calculate required ventilation rate Q (cfm)

$$Q \text{ (cfm)} = \frac{\text{Volume (ft}^3\text{)} \times \text{Air change Rate}}{60}$$

- 4) Determine number of ventilators = $\frac{\text{Ventilation Rate } Q}{\text{Exhaust Capacity}}$

Example :

Building dimensions with L = 100ft, W = 60 ft, H = 20 ft

Volume (ft³) = 120000 ft³

Air change Rate selected = 12 per hour

$$\text{Ventilation rate } Q = \frac{120000 \times 12}{60} = 24000 \text{ CFM}$$

Refer Table B, Select suitable Model from table is AV-600

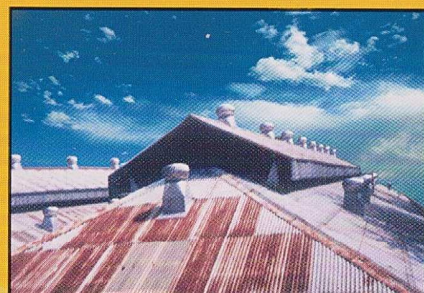
Exhaust capacity = 1972 CFM

Under wind velocity of 8 mph, temp diff of 5 degrees, stack height = 20 ft

Selection is 12 Nos. of AV-600



FARR Ceramics Ltd.



Northern Corporation



Jobeda Spinning Mills Ltd



Shovon Group of Companies



Royal Denim Ltd. Comilla EPZ

TABLE A : Recommended Air Change Rates

| Type of building | Air Changes per hour | Type of building | Air Changes per hour |
|-------------------|----------------------|-------------------|----------------------|
| Assembly hall | 6-12 | Factories (Heavy) | 10-30 |
| Auditorium | 4-12 | Laundry | 12-30 |
| Bakeries | 12-20 | Paper Mill | 8-30 |
| Boiler room | 15-60 | Textile Mill | 4-12 |
| Brewery | 8-30 | Packing room | 8-30 |
| Class room | 10-15 | Transformer room | 12-30 |
| Engine room | 12-30 | Paint shops | 10-30 |
| Factories (light) | 6-12 | Warehouse | 4-6 |

TABLE B : PERFORMANCE DATA

| WIND VELOCITY (MPH) | | | 5 | | | 8 | | | 10 | | |
|---------------------|------------------|--------------------|-------------------------|------|------|------|------|------|------|------|------|
| TEMP DIFF° C | | | 3 | 5 | 10 | 3 | 5 | 10 | 3 | 5 | 10 |
| MODEL NO. | THROAT SIZE (IN) | STACK (HEIGHT FT.) | EXHAUST CAPACITY IN CFM | | | | | | | | |
| AV : 300 | 12 | 10 | 519 | 542 | 580 | 817 | 840 | 878 | 1027 | 1050 | 1088 |
| | | 20 | 546 | 574 | 620 | 844 | 872 | 918 | 1056 | 1084 | 1130 |
| | | 30 | 566 | 600 | 656 | 864 | 898 | 954 | 1076 | 1110 | 1166 |
| | | 40 | 580 | 620 | 686 | 877 | 918 | 984 | 1090 | 1130 | 1196 |
| AV : 350 | 14 | 10 | 623 | 652 | 700 | 973 | 1002 | 1050 | 1222 | 1250 | 1296 |
| | | 20 | 654 | 692 | 756 | 1004 | 1042 | 1106 | 1252 | 1290 | 1354 |
| | | 30 | 681 | 728 | 806 | 1031 | 1078 | 1156 | 1277 | 1324 | 1402 |
| | | 40 | 702 | 756 | 846 | 1052 | 1106 | 1196 | 1300 | 1354 | 1444 |
| AV : 500 | 20 | 10 | 939 | 1000 | 1102 | 1436 | 1498 | 1600 | 1792 | 1854 | 1958 |
| | | 20 | 1005 | 1084 | 1216 | 1503 | 1582 | 1714 | 1859 | 1938 | 2070 |
| | | 30 | 1058 | 1154 | 1314 | 1556 | 1652 | 1812 | 1915 | 2010 | 2168 |
| | | 40 | 1107 | 1216 | 1398 | 1605 | 1714 | 1896 | 1961 | 2070 | 2252 |
| AV : 560 | 22 | 10 | 1050 | 1126 | 1251 | 1598 | 1675 | 1800 | 1989 | 2065 | 2191 |
| | | 20 | 1130 | 1128 | 1390 | 1680 | 1777 | 1939 | 2070 | 2167 | 2328 |
| | | 30 | 1198 | 1315 | 1509 | 1747 | 1864 | 2058 | 2139 | 2255 | 2448 |
| | | 40 | 1257 | 1390 | 1612 | 1806 | 1939 | 2161 | 2194 | 2328 | 2551 |
| AV : 600 | 24 | 10 | 1163 | 1252 | 1400 | 1763 | 1852 | 2000 | 2187 | 2276 | 2424 |
| | | 20 | 1257 | 1372 | 1564 | 1857 | 1972 | 2164 | 2282 | 2396 | 2586 |
| | | 30 | 1339 | 1476 | 1704 | 1939 | 2076 | 2304 | 2363 | 2500 | 2728 |
| | | 40 | 1407 | 1564 | 1826 | 2007 | 2164 | 2426 | 2428 | 2586 | 2850 |
| AV : 760 | 30 | 10 | 1813 | 1952 | 2184 | 2755 | 2894 | 3126 | 3417 | 3556 | 3788 |
| | | 20 | 1966 | 2144 | 2440 | 2908 | 3086 | 3382 | 3572 | 3748 | 4042 |
| | | 30 | 2092 | 2306 | 2662 | 3036 | 3248 | 3602 | 3698 | 3910 | 4264 |
| | | 40 | 2194 | 2440 | 2850 | 3136 | 3382 | 3792 | 3796 | 4042 | 4452 |
| AV : 1000 | 40 | 10 | 3547 | 3818 | 4270 | 5388 | 5660 | 6114 | 6677 | 6648 | 7400 |
| | | 20 | 3852 | 4200 | 4780 | 5994 | 6042 | 6622 | 6982 | 7330 | 7910 |
| | | 30 | 4101 | 4520 | 5218 | 5945 | 6364 | 7062 | 7230 | 7650 | 8350 |
| | | 40 | 4296 | 4780 | 5586 | 6137 | 6622 | 7430 | 7426 | 7910 | 8716 |

The data above to be used as a guide only



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