



HURRICANE ROTATING ROOF VENTILATOR:

Anemometer Probe distance inside the ventilator (mm)	Wind Velocity (V_w) m/s	Exhaust Air Velocity (V_v) m/s
225	4.58	1.07
450	2.53	0.38
675	2.44	0.18
AVERAGE	3.18	0.54

Flow coefficient (C_f) = Exhaust Air Velocity (V_v) / Wind Velocity (V_w)
= 0.54/3.18
= 0.17

II. HURRICANE® PLUS STATIC ROOF VENTILATOR:

Anemometer Probe distance inside the ventilator (mm)	Wind Velocity (V_w) m/s	Exhaust Air Velocity (V_v) m/s
225	2.11	1.19
450	1.26	0.93
675	1.86	0.71
AVERAGE	1.74	0.94

Flow coefficient (C_f) = Exhaust Air Velocity (V_v) / Wind Velocity (V_w)
= 0.84/1.74
= 0.56

INFERENCE:

From the field tests it's very clear that the performance level of the Hurricane® Plus Static ventilator is 3.2 times better than the Old Rotating Hurricane Ventilators and 6.2 times better than the Onion shaped Rotating Tornado ventilator.

NB: These test values are Instantaneous reading for comparison. These results can ONLY be used to compare the relative instantaneous performance of ventilators. They must not be used for design purposes.



FLOW PERFORMANCE TEST REPORT FOR HURRICANE® PLUS ROOF VENTILATOR

The field test conducted on the premises of Green Energy Solutions LLC, Dubai for the Landmark Group, UAE is carried out with reference to Australian/New Zealand Standard AS/NZS 4740:2000 for Natural Ventilators. The test is for the measurement of Flow Coefficient (i.e. the velocity ratio of exhaust air through the ventilator, to the air passing over the ventilator) which gives an overall performance index for the different ventilators which are tested.

Instruments Used:

1. Airflow Instruments Hot wire Anemometer.
2. Airflow Instruments Wane Anemometer and,
3. Windex Wind direction Indicator.

AIR FLOW READINGS:

I. TORNADO (ROUND SHAPED ROTATING VENTILATOR):

Anemometer Probe distance inside the ventilator (mm)	Wind Velocity (V_w) m/s	Exhaust Air Velocity (V_v) m/s
180	2.97	0.58
357	2.66	0.25
536	2.60	.24
AVERAGE	2.74	0.36

$$\begin{aligned}\text{Flow coefficient } (C_f) &= \text{Exhaust Air Velocity } (V_v) / \text{Wind Velocity } (V_w) \\ &= 0.36/2.74 \\ &= 0.13\end{aligned}$$

The diameter of Tornado is 750 mm in comparison to the Hurricane which has a diameter of 900 mm. The air flow in such different diameters is compared by multiplying the Flow coefficient with the Square of the Ratio of diameters.

$$\text{The corrected flow coefficient, } C_f = (750/900)^2 \times 0.13 = 0.0902$$