



TORNADO ROOF VENTILATORS

Portfolio

**Affordable
Clean Air**

| **marango** LTD

TORNADO

Turbine Roof Ventilator

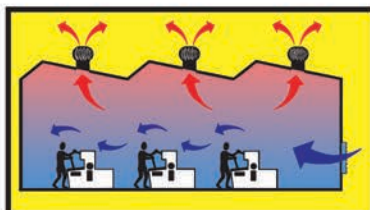
For
INDUSTRIAL VENTILATION



BENEFITS:

- Removes heat, fumes, steam and dust
- Improves productivity
- Improves air quality
- No maintenance or operating costs
- Water and dust proof
- Comprehensive 5 year guarantee.

Sizes available in: 300, 350, 600, 610 and 715mm



THE WHIRLING TURBINE ACTION REMOVES
CONVECTED HEAT AND POLLUTION BUILD-UP

TECHNICAL INFORMATION

SUPERIORITY OF PRODUCT

The Tornado features such superior qualities as: • Tested Extraction Capacity - report available on request • Comprehensive 5 year guarantee • 100% South African Product • Patented Bearing system • Top quality of manufacture • Superior internal design of the Tornado eliminates the necessity of external supporting braces • Larger rotating dome for increased extraction capacity • Sealed bearings enclosed in a sealed bearing housing

MATERIAL TYPE

The Tornado is available in a choice of Galvanised, Zincalume and Aluminium material.

Galvanised Tornado's are constructed of Iscor specification Z 275 - 0,6mm steel.

The structure of the galvanised unit makes it more durable and reliable in the long run in terms of:

high velocity wind areas, hail storms and heavy rain
general handling and transportation

The Aluminium Tornado is recommended for coastal areas.

Polyurethane treated Tornado's are recommended for the ventilation of acid and caustic fumes intensive plants to protect the material from corrosion..

TORNADO SPECIFICATIONS

Specifications	300mm Tornado	350mm Tornado	500mm Tornado	610mm Tornado	715mm Tornado
Tested Air removing capacity at					
▶ 15km/h windspeed	1489m ³ /h	1863m ³ /h	4495m ³ /h	6807m ³ /h	9257m ³ /h
▶ 25km/h windspeed	2184m ³ /h	2731m ³ /h	5757m ³ /h	8515m ³ /h	11491m ³ /h
m² floor coverage per unit					
Open Area	38m ²	50m ²	120m ²	180m ²	260m ²
Sealed bearings in Housing	2	2	2	2	2
No. of blades	20	21	32	40	46
Dome height	270mm	280mm	430mm	530mm	580mm
Dome width	430mm	460mm	660mm	815mm	980mm
Total height	510mm	610mm	870mm	910mm	1020mm
Approximate mass:					
▶ Galvanised Tornado	6.3kg	7.6kg	15.9kg	24.6kg	38.1kg
▶ Zincalume Tornado	5.7kg	7.2kg	14.7kg	22.4kg	34.05kg
▶ Aluminium Tornado	3.8kg	4.7kg	10.4kg	15.2kg	22.1kg

NOTE: The air removing capacity figures shown have been calculated at an average roof height (heat stack) of five metres above working level. Average windspeed = 15km/h.



INSTALLATION : KISIMA WATER

LOCATION	NATURE OF BUSSINESS	ROOF TYPE
Chang'ombe , DSM	Drinking Water Manufacturing	IT 5 Profile 26G
# OF TURBINES	SIZE OF TURBINES	LOCATION OF TURBINES
07 UNITS	500mm	Above Boiler Facilities

At Kisima Water Factory , metal boilers were heating up the factory , and thus causing the heat to be trapped inside the factor environment. Productivity of workers were reduced due to the heat trapped and the humidity of our environment.

Marango Ltd , assisted in installing 7 units. This reduced the heat trapped in the factory dramatically.

T.P.P.L.



INSTALLATION : TANGA PHARMACEUTICAL & PLASTICS LTD

LOCATION	NATURE OF BUSSINESS	ROOF TYPE
Kipawa , DSM	Plastics Manufacturing	Corrugated Profile 26G

# OF TURBINES	SIZE OF TURBINES	LOCATION OF TURBINES
20 UNITS	500mm	Above Plastic Producing Machines

At T.P.P.L , Plastic manufacturing machines were heating up the factory , and thus causing the heat to be trapped inside the factory environment. Productivity of workers were reduced due to the heat trapped and the humidity of our environment.

Marango Ltd , assisted in installing 20 units. This reduced the heat trapped in the factory dramatically.



LIKE A BREATH OF FRESH AIR

marango LTD



INSTALLATION : QUALITY FOAM LTD

LOCATION	NATURE OF BUSSINESS	ROOF TYPE
Mwenge, DSM	Foam Manufacturing	IT 5 Profile 26G
# OF TURBINES	SIZE OF TURBINES	LOCATION OF TURBINES
15 UNITS + Flashings	500mm	Above Mattress Assembly Facility

At QFL , Foam and Mattress Assembly machines were heating up the factory , and thus causing the heat to be trapped inside the factory environment. Productivity of workers were reduced due to the heat trapped and the humidity of our environment.

Marango Ltd , assisted in installing 15 units and extended flashings for waterproofing precautions because the ridge was absent in the structure. This reduced the heat trapped in the factory dramatically.



INSTALLATION : CAPITAL ENTERPRISES

LOCATION	NATURE OF BUSSINESS	ROOF TYPE
Chang'ombe, DSM	Storage Facility	IT 5 Profile 26G
# OF TURBINES	SIZE OF TURBINES	LOCATION OF TURBINES
20 Units	500mm	Ridge Centres

INSTYLE SIGNS



INSTALLATION : INSTYLE SIGNS

LOCATION

Banana, DSM

NATURE OF BUSSINESS

Signage and Graphics

ROOF TYPE

Corrugated Profiles 26G

OF TURBINES

7 Units

SIZE OF TURBINES

500mm

LOCATION OF TURBINES

Ridge Centres



LIKE A BREATH OF FRESH AIR

marango LTD



INSTALLATION : TRANSPAPER

LOCATION

Chang'ombe, DSM

NATURE OF BUSSINESS

Paper Converters

ROOF TYPE

Corrugated Profiles 26G

OF TURBINES

4 Units

SIZE OF TURBINES

500mm

LOCATION OF TURBINES

Ridge Centres and Machine



LIKE A BREATH OF FRESH AIR

marango LTD



INSTALLATION : HAKIMI AND SONS

LOCATION	NATURE OF BUSSINESS	ROOF TYPE
kipawa, DSM	Storage Facility	IT 5 Profiles 26G
# OF TURBINES	SIZE OF TURBINES	LOCATION OF TURBINES
6 Units + Flashings	500mm	Flashed out End to End

At Hakimi and Sons storage godown, the roof Structure dropped out to one angle with no opposite faced sheets.. This Structure has no ridge, so we had installed flashing sheets from the highest slope , where the sheets start - all the way to the last Turbine. This technique ensures no water ingress running down the slope and into the turbine.





INSTALLATION : CHANGOMBE WAREHOUSE

LOCATION

Changombe Rd , DSM

NATURE OF BUSSINESS

Storage Facility

ROOF TYPE

Corrugated Iron Sheets

OF TURBINES

6 Turbines

SIZE OF TURBINES

500mm

LOCATION OF TURBINES

Flashed out from extended roof



LIKE A BREATH OF FRESH AIR

marango LTD



INSTALLATION : MASAKI RESIDENCE

LOCATION

Masaki DSM

NATURE OF BUSSINESS

Residence

ROOF TYPE

Asbestos Iron Sheets

OF TURBINES

6 Turbines

SIZE OF TURBINES

500mm

LOCATION OF TURBINES

Ridge Centre



LIKE A BREATH OF FRESH AIR

marango LTD



INSTALLATION : Desktop Productions Limited

LOCATION

Pugu Road DSM

NATURE OF BUSSINESS

Printers

ROOF TYPE

IT 5 Sheets

OF TURBINES

8 Turbines

SIZE OF TURBINES

500mm

LOCATION OF TURBINES

Ridge Centre



LIKE A BREATH OF FRESH AIR

marango LTD



INSTALLATION : VIKINDU WAREHOUSE

LOCATION	NATURE OF BUSSINESS	ROOF TYPE
Vikindu DSM	Warehouse	IT 5 Sheets
# OF TURBINES	SIZE OF TURBINES	LOCATION OF TURBINES
4 Turbines	500mm	Ridge Centre



LIKE A BREATH OF FRESH AIR

marango LTD

PEPSI



INSTALLATION : PEPSI

LOCATION	NATURE OF BUSSINESS	ROOF TYPE
Kipawa Dar es Salaam	Beverages Factory	I T 5 Profiles
# OF TURBINES	SIZE OF TURBINES	LOCATION OF TURBINES
6 UNITS	500mm	Ridge Centre



LIKE A BREATH OF FRESH AIR

marangoLTD

FIVE STAR PRINTERS



INSTALLATION : FIVE STAR PRINTERS

LOCATION

Pugu Rd Dar es Salaam

NATURE OF BUSSINESS

Printing Factory

ROOF TYPE

I T 5 Profiles

OF TURBINES

5 UNITS

SIZE OF TURBINES

500mm

LOCATION OF TURBINES

Ridge Centre



LIKE A BREATH OF FRESH AIR

marangoLTD

TURBINE COMPARISON



TORNADO TURBINE

COMES WITH A BASE PLATE

ADJUSTABLE THROAT

RAIN WATER REPELLENT BLADES

ANTI CORROSION BLADES

PATENTED BEARINGS

SUITABLE FOR ALL PITCHED ROOFS

MANUFACTURER GUARANTEE

FAKE TURBINES

NO BASE PLATES

NO THROAT

DOESNT REPEL RAIN

CORROSIVE BLADES

LOW COST BEARINGS

CANNOT EXTRACT ON HIGH PITCH

NO GUARANTEE



**Say NO TO
FAKE TURBINES**



LIKE A BREATH OF FRESH AIR

marango LTD