AIR MOVEMENT TECHNOLOGIES SL

GENERATOR OF WIND

AX1954/4 Axial Fan

Link:www.amtblower.com/en/amt-home.html

Link:www.issuu.com/amt-blower

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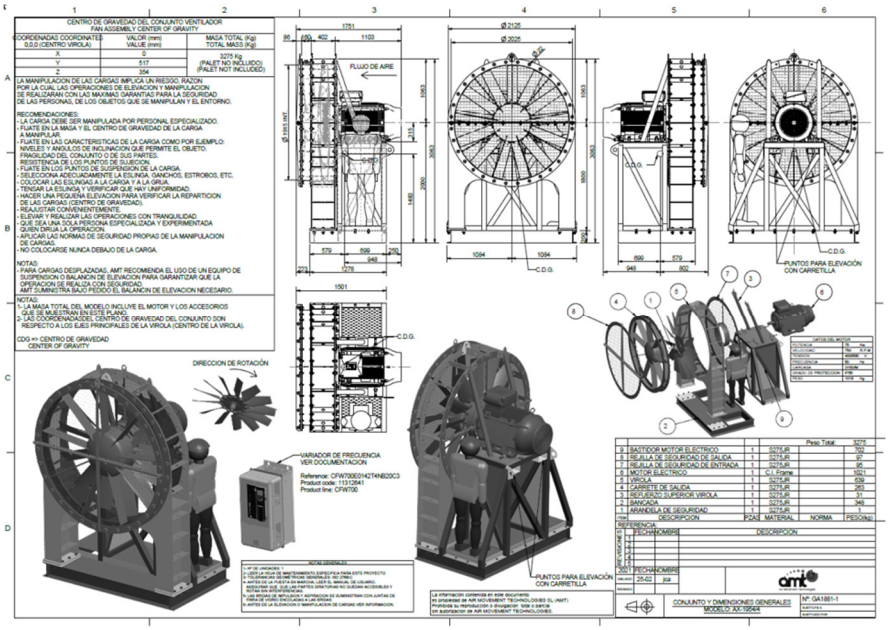
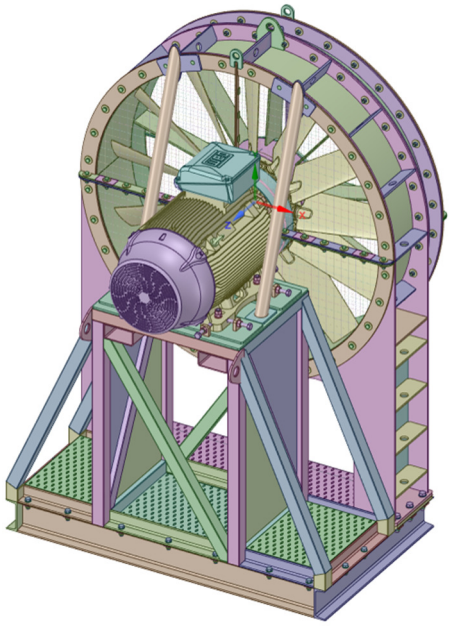
AMT AXIAL TYPES

At Air Movement Technologies S.L., we have developed an Axial fan based on a market need for a very specific type of equipment, and with a wide of range of applications, from the most rigorous in the field of research and mechanical tests, to the most spectacular such as recreation and special effects.

Based on this unique model, we have homothetically created a whole range of sizes and versions that will cover diameters from 500 mm to 2.5 meters, being able to choose the most appropriate configuration or design depending of the needs.





Link: www.amtblower.com/en/catalogue.html

MAIN APPLICATIONS

The main function of this type of axial fans is the Generation of Wind, in a light way such as a breeze, and progressively and it is possible to recreate the effects of a Hurricane.

The characteristics and particularities of this wind and its final use will be the elements that we will study to define the equipment. It can be based on a real need in terms of speeds, or a team concept can be created for a specific application. The main ones could be, structural behavior, resistance of construction materials, leak and tightness tests, incidence of wind pressure on all types of surfaces,...

At Amt we calculate these fans based on the air flow to be supplied at a set distance and we carry out a CFD Test using finite elements that exactly defines the flow of air supplied and its behavior in the different scenarios that may arise.

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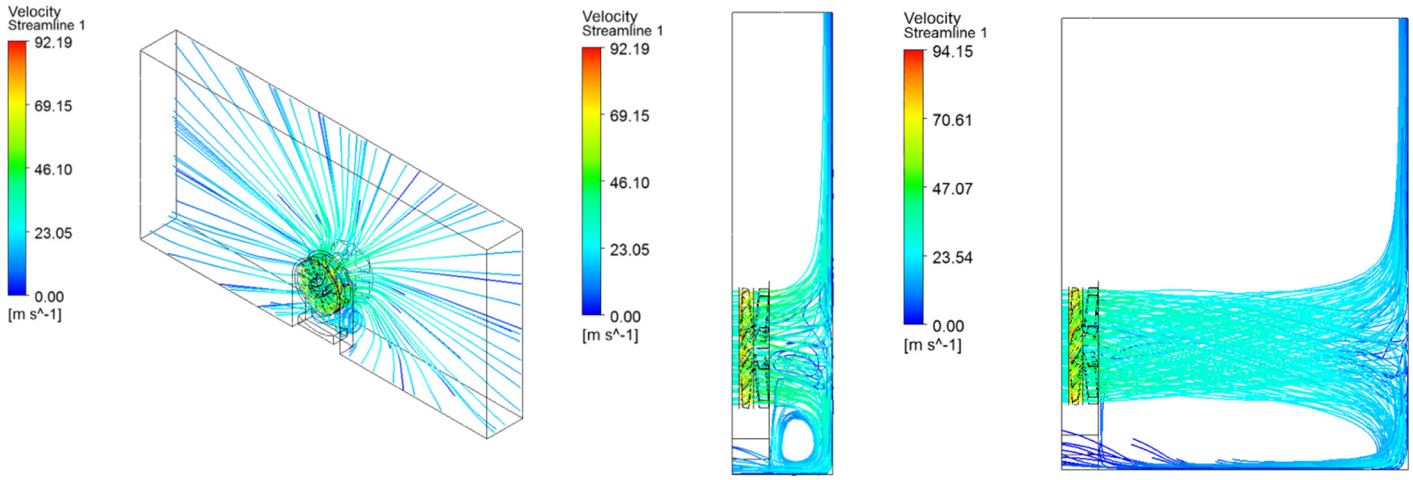
CFD calculations:



For mechanical tests and trials for atmospheric or environmental purposes, such as studies of the behavior of different materials, structures or constructions, there is a criterion for measuring this wind in kilometers per hour or nautical miles.

The **Beaufort Scale** is an empirical measure for wind intensity, based primarily on the state of the sea, its waves and the force of the wind.

Its full name is Beaufort Scale of Force of the Winds.

Beaufort Scale:

Beaufort	Speed of Wind (km/h)	Knots (nautical miles)	Denomination
0	0 to 1	< 1	Calm down
1	2 to 5	1 to 3	Windy
2	6 to 11	4 to 6	Very weak breeze
3	12 to 19	7 to 10	Light breeze
4	20 to 28	11 to 16	Moderate breeze
5	29 to 38	17 to 21	Fresh breeze
6	39 to 49	22 to 27	Strong breeze
7	50 to 61	28 to 33	Strong wind
8	62 to 74	34 to 40	Storm (Hard wind)
9	75 to 88	41 to 47	Strong storm
10	89 to 102	48 to 55	Hard storm
11	103 to 117	56 to 63	Very hard storm
12	>118	>64	Hurricane

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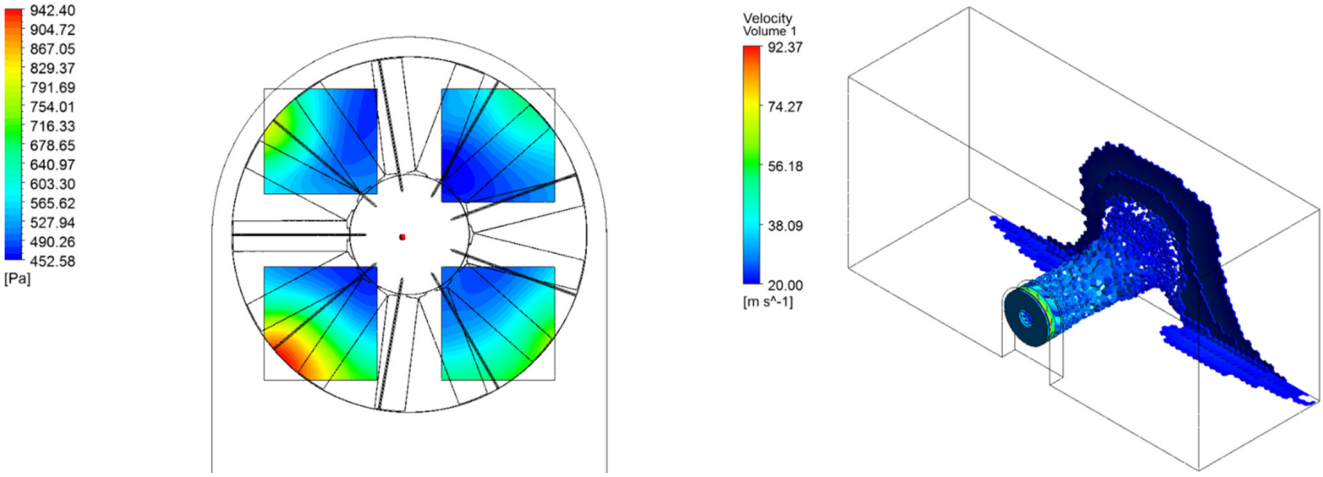
Knowing what the need is, the speed of the wind we want to generate, and the final application of the equipment, at AMT we design the most suitable fan, we select the most appropriate materials of manufacturing and we define the work conditions according the customer´s requirements and the installation where the fan will be adapted.



The behavior of the wind and how it affects the different elements or structures is an important factor to take into account when studying and analyzing the fan to be installed. There are several criteria for such an analysis:

- Analysis directions
- Load factors and resistance reduction
- Tip-over safety
- Slip safety
- Internal pressures
- Safety during construction phases
- Group effect by neighboring buildings
- Structural analysis
- Soil and structure interaction

There are also other effects of the wind that should be considered:

- Medium thrusts
- Dynamic thrust in the direction of the wind
- Vibrations transverse to flow
- Aerodynamic instability

These and other aspects can be consulted in the technical standards for the design and construction of structures and buildings. (Structural safety, wind design and others).

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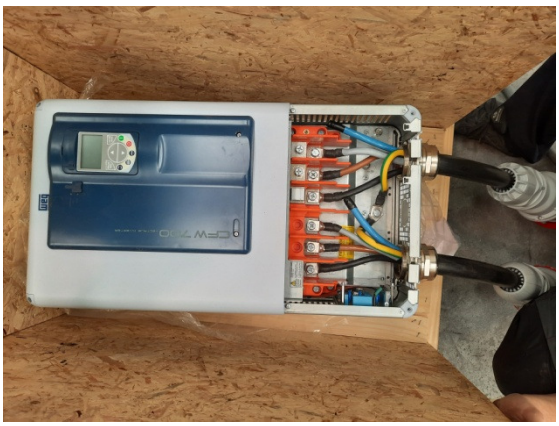
Due to the wide range of possibilities in terms of applications, at AMT we design our equipment as versatile as possible, with Tailor made development for each case and project, as example:

- Automatic or manual height adjustment systems
- Easy-to-use mobile equipment
- Ground fixing elements

- Speed-frequency regulation systems (for different operating and test points)



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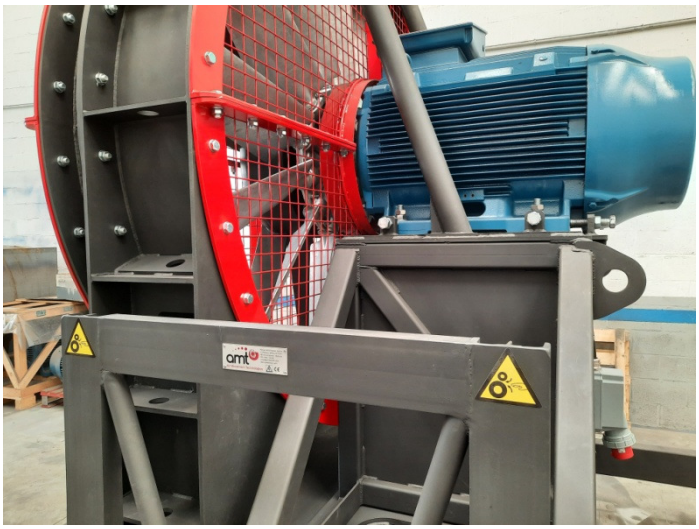
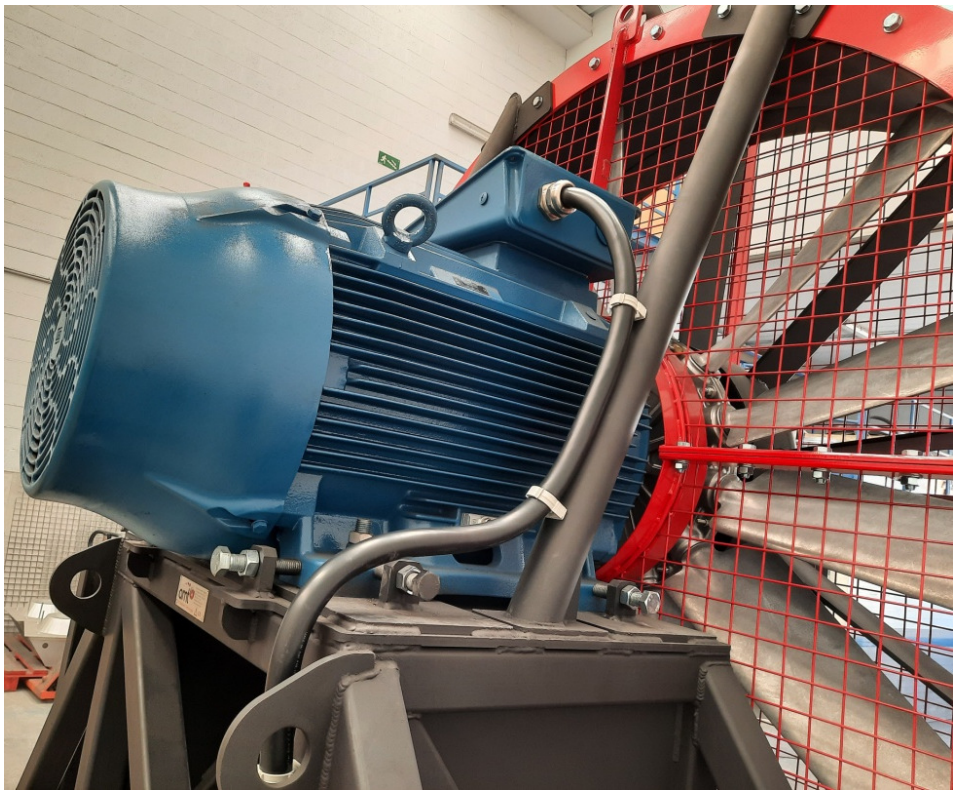
- Most appropriate manufacturing materials according to application
- Quality construction and heavy duty for long life



- Easy handling, commissioning and maintenance



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- High security measures during operation and stand-by
- Safety and hygiene instructions; Marked

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OTHER APPLICATIONS

In another context, this type of equipment is prepared to simulate complementary wind atmospheric conditions with the world of entertainment, events with special effects and even for film shoots that need to recreate the most demanding situations, strong gusts of wind, hurricanes, etc. Or the lightest breeze.

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