DE CARDENAS

DXL Series

CATALOGUE

A company of Boldrocchi Group

GENERAL INFORMATION

The fans have been developed for ventilation for civil use, car parks, bypasses for road and railway tunnels, secondary ventilation systems in subways even with the presence of an aggressive atmosphere and are able to work in emergency condition at the maximum temperature of 400°C for 2 hours.

The complete range of DXL fans satisfies every design requirement, they are available with impeller diameters from 310 mm to 900 mm, with 2, 4 and 6 pole motors.

The entire range can be supplied with unidirectional or reversible flow (reversibility> 95%). On request, the fans can be supplied with an integrated "smart" device for real-time monitoring of life parameters, guaranteeing rapid flow inversion and being managed remotely by both the tunnel control system and a wireless device.

The fans of the DXL series can also be supplied with certification according to the EN 12101-3: 2015 standards, the fans can be divided into three resistance classes based on the temperature and the required operating time in temperature.

Class	Maximum Temperature [°C]	Operating Time [h]
F 200	200	2
F 300	300	1
F 400	400	2

Applus laboratories

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FAN CODIFICATION

DXL 080 U 24 11 (L)

Position of the electric junction box

(L) = left/sinistra (R) = right

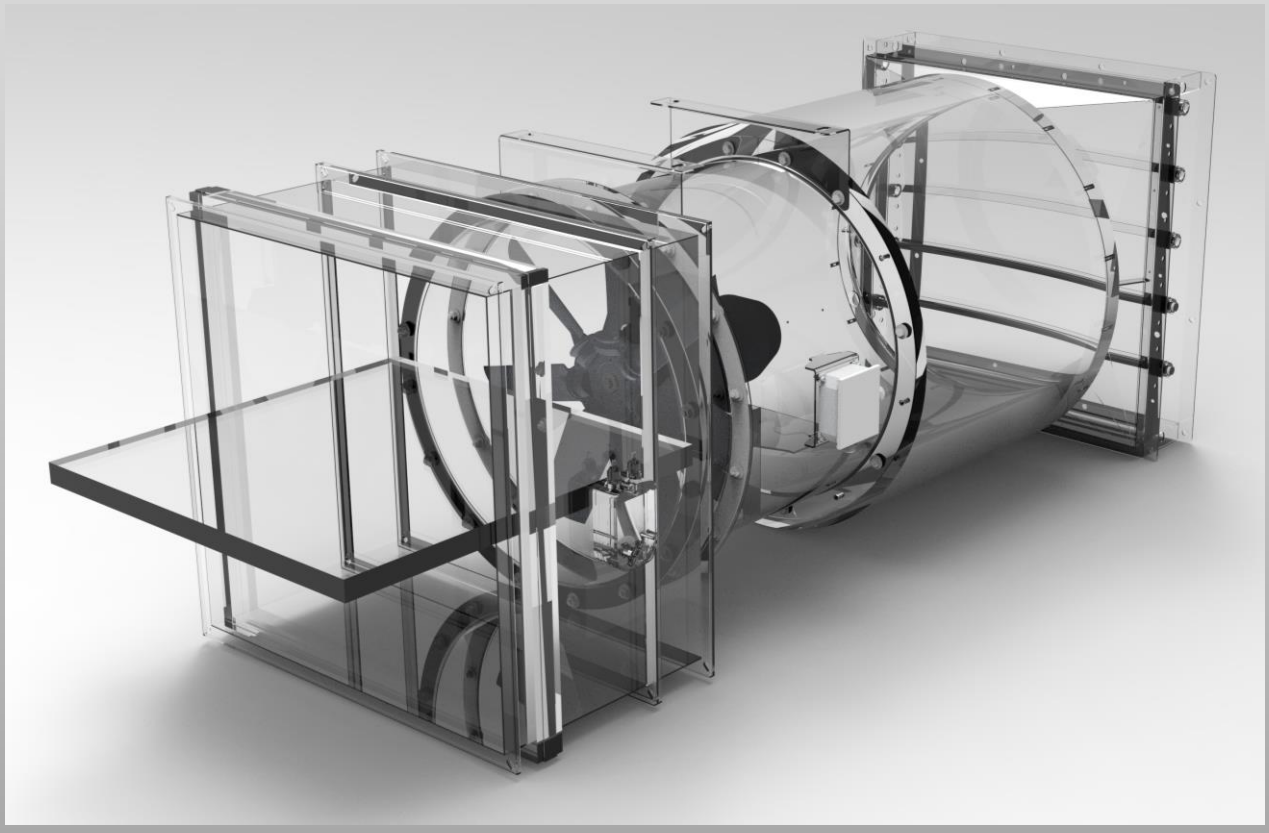
Motor Power [kW]

Pitch Angle

Airflow direction:

R = Reversible U = Unidirectional

Impeller diameter [cm]



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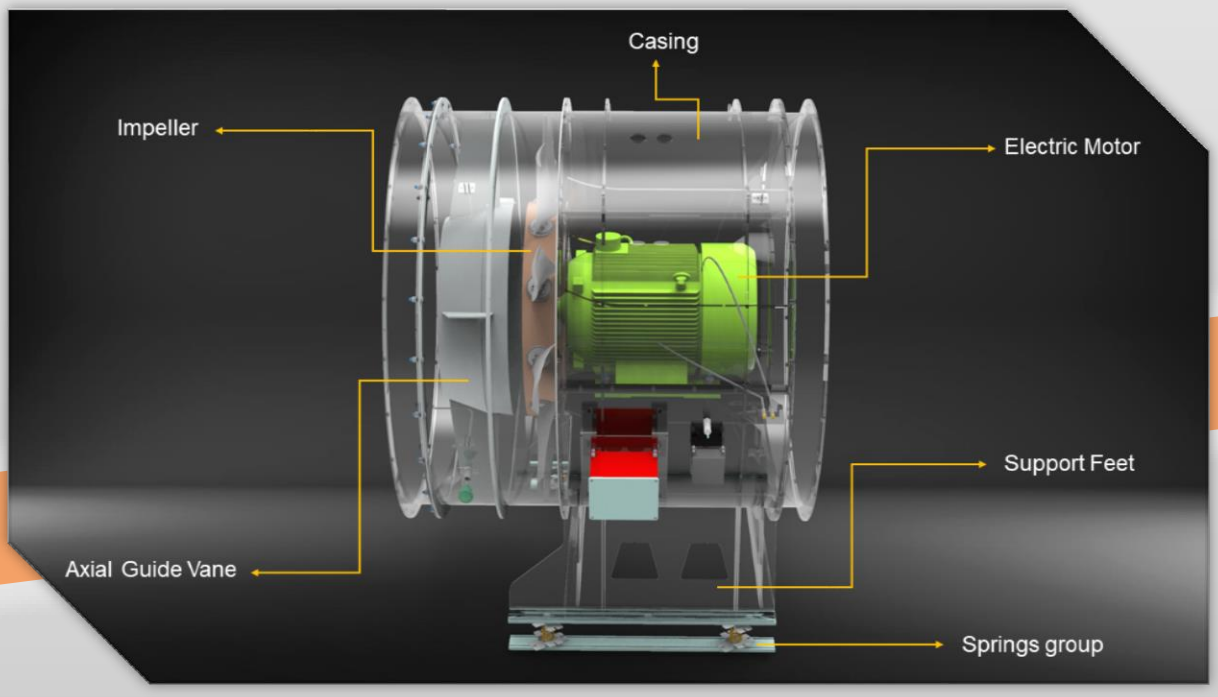
PRODUCT DESCRIPTION

The DXL is designed and built to operate in continuous service in the environmental conditions present at the installation site and withstand the mechanical, corrosive, thermal and humidity actions to which it will be exposed during operation.



MATERIAL FOR PRODUCTION

Casing and Supports can be manufactured with the following materials:

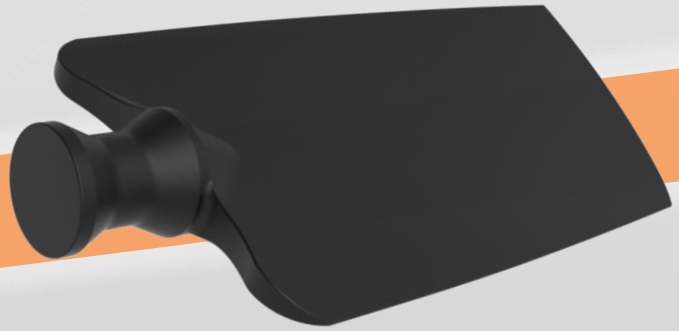
- **carbon-steel plate, galvanized by immersion after working**
- **steel plate galvanized and painted with epoxy resin**
- **stainless steel plate AISI 304L**
- **stainless steel plate AISI 316L**

IMPELLER

The impeller (axial type) is directly coupled to the motor shaft. The blades are airfoil with high aeraulic efficiency (symmetrical if Reversible) and are fixed to the hub through blocks that allow adjustment of the pitch angle with the impeller in stop position.

The impeller can be made with blades in aluminum alloy or in stainless steel for maximum versatility of use and resistance to the workings temperatures.

The hub, in alloy steel protected by anti-corrosion treatment, is equipped with a seat that allows direct coupling to the crankshaft, provided with a special tab.



CASING AND SUPPORTS

The casing with a cylindrical structure, is built with perforated flanges both on the suction side and on the blowing side, made in accordance with ISO 6580.

The feet are designed specifically for each individual application, allowing the fan to be installed horizontally (free-standing or hung) and vertically.

The case is constructed so as not to be excited by the natural operating frequencies and is also designed for the installation of a vibration sensor for continuous monitoring of the vibratory state of the fan.

The motor mounts are designed to ensure the necessary rigidity to the system while ensuring high aerodynamic efficiency.

The volute can be built with the supports of the terminal boxes (power & signals) both on the right and on the left side in order to adapt to any pre-existing cable in the jobsite.

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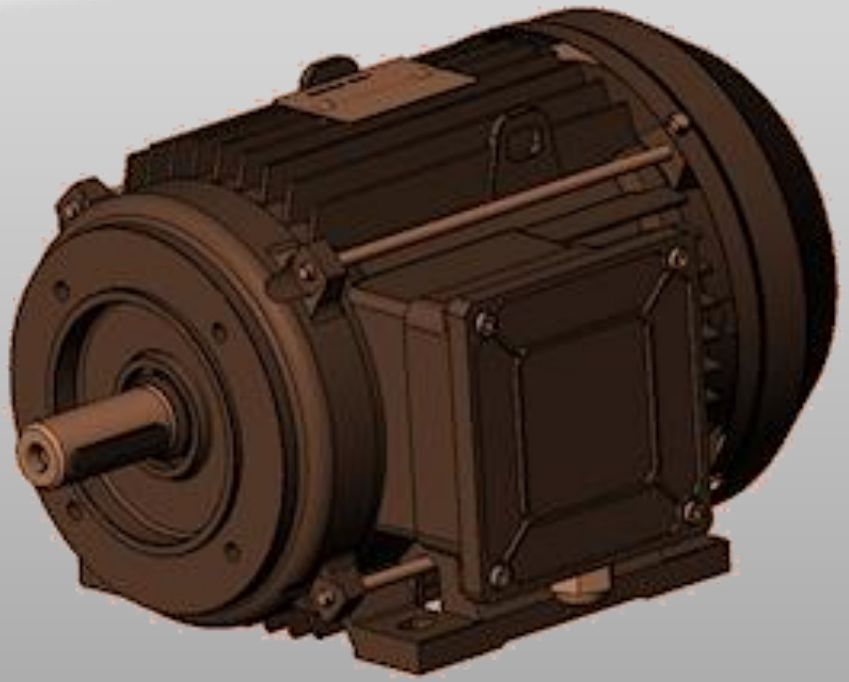
ELECTRIC MOTOR

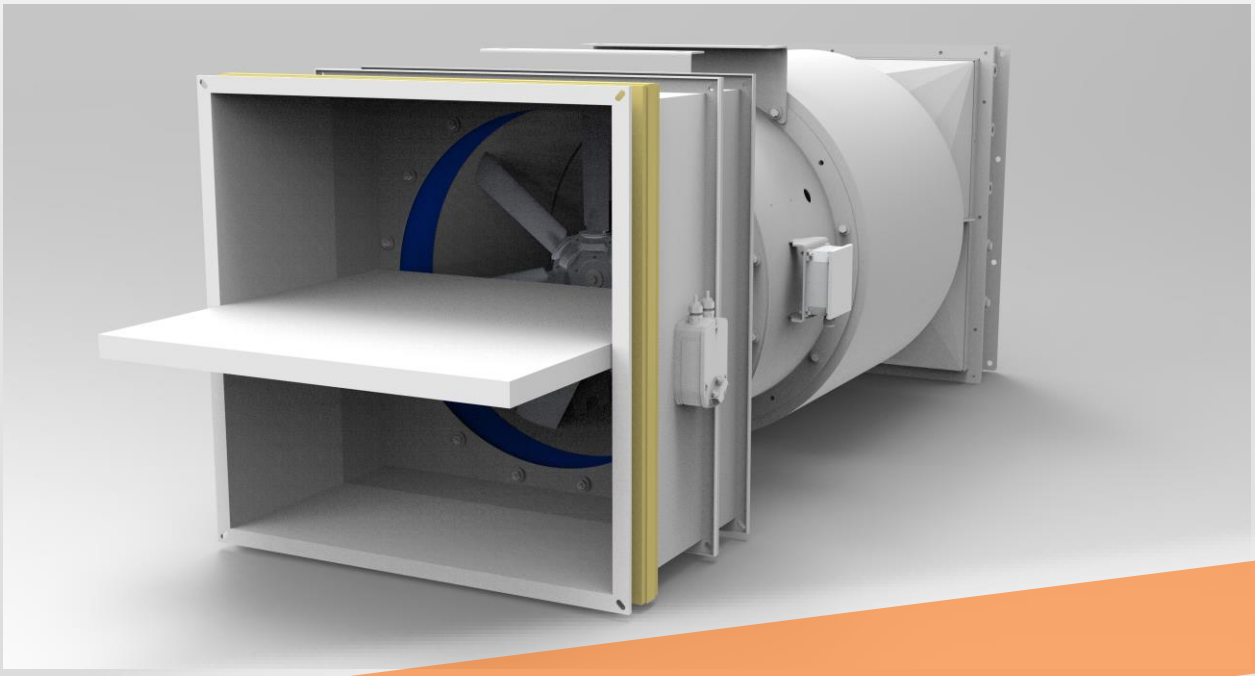
The electric motor is alternating current, asynchronous induction, three-phase with squirrel cage rotor and cooling according to IEC 34-6 standards. The motor complies with IEC Standards 34-1 and 34-5 and is suitable for direct starting and via soft-starter with continuous operation in multi-voltage 400 V / 690 V.

The motor can be started by a 400V inverter, if is required even at a voltage of 690V, a special impregnation of the windings will be carried out and it will be equipped with special DE-NDE bearings suitable for the purpose.

The construction is in B3 form (code I IMB3) in order to ensure maximum fan efficiency, improving the quality of the air flow that hits the impeller. The motor is of the totally closed type without cooling fan: TEAO (Totally Enclosed air over) but it is also cooled in the air flow of the fan. The motor also ensures rapid starting of the fan, even with a voltage reduced by 15%.

The mechanical protection of the motor and terminal box is IP55 and the motor insulation class is H. The bearings are of the pre-lubricated type sized according to ISO 281 - L 10 for a life of 20,000 hours, with an average life of the bearing of 100,000 hours.





ACCESSORIES

The fan can be supplied with the following accessories:

- **Smart System (1)**
- **Rubber insulators or anti-vibration springs**
- **Multi-points Vibration detection system (additional vibration transmitter on motor or fan casing)**
- **Anti-condensation heater**
- **Temperature detection system (PTC or PT100 on windings / Bearings)**
- **Inlet / outlet joints**
- **Cylindrical silencers**
- **Protection grids**
- **Baseframe (standard or inertial with CLS).**

(1) “Smart system” for real-time monitoring of fan life parameters, managed by the tunnel control system or by wireless device. For more information, please contact De Cardenas technical office.

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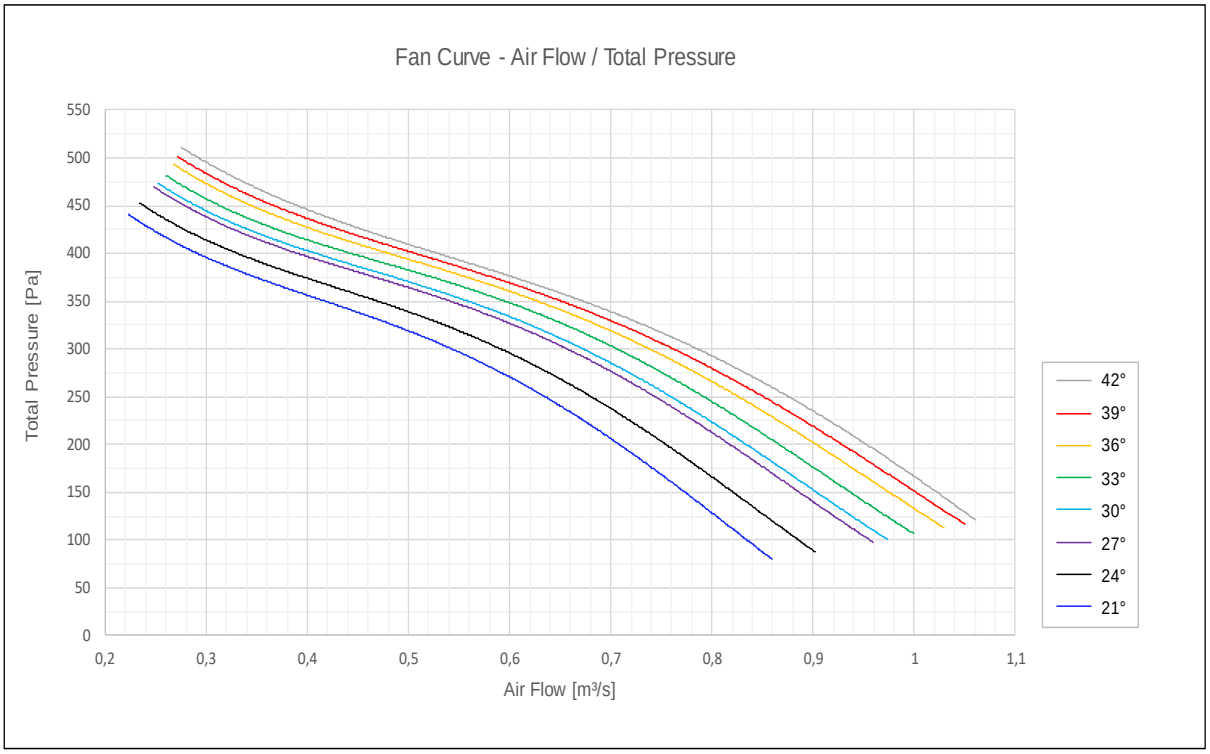
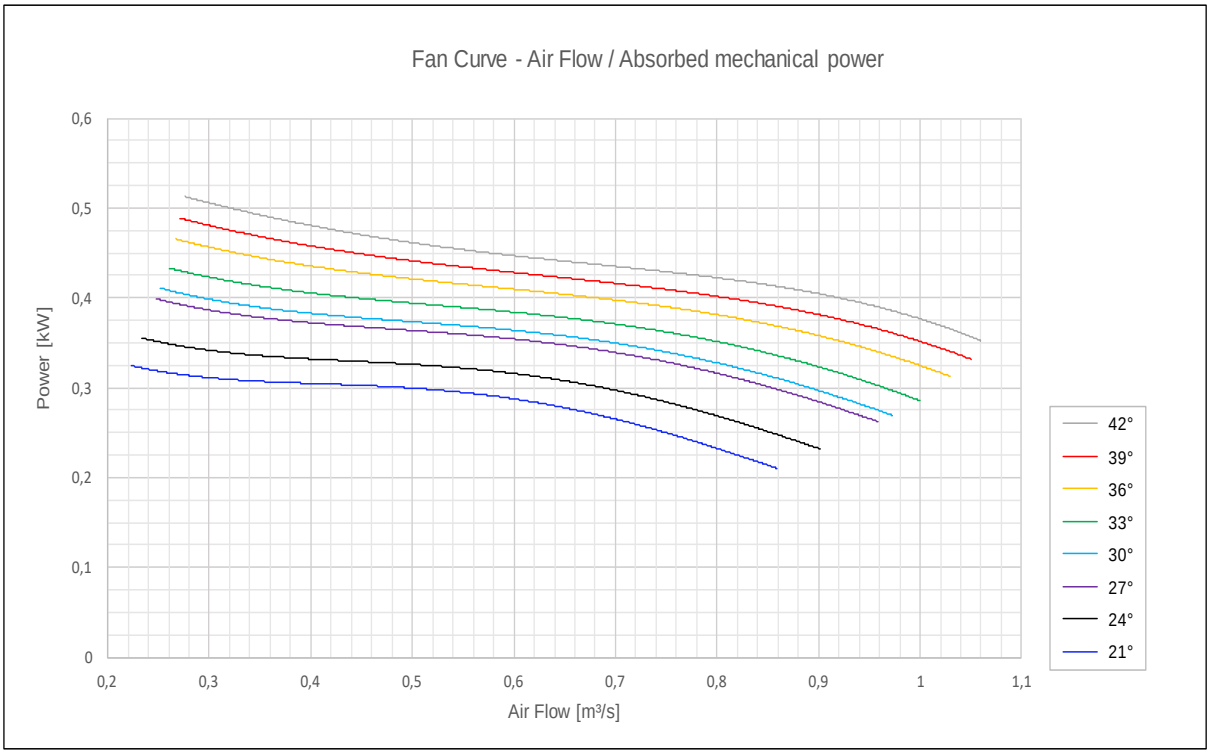
TECHNICAL DATA

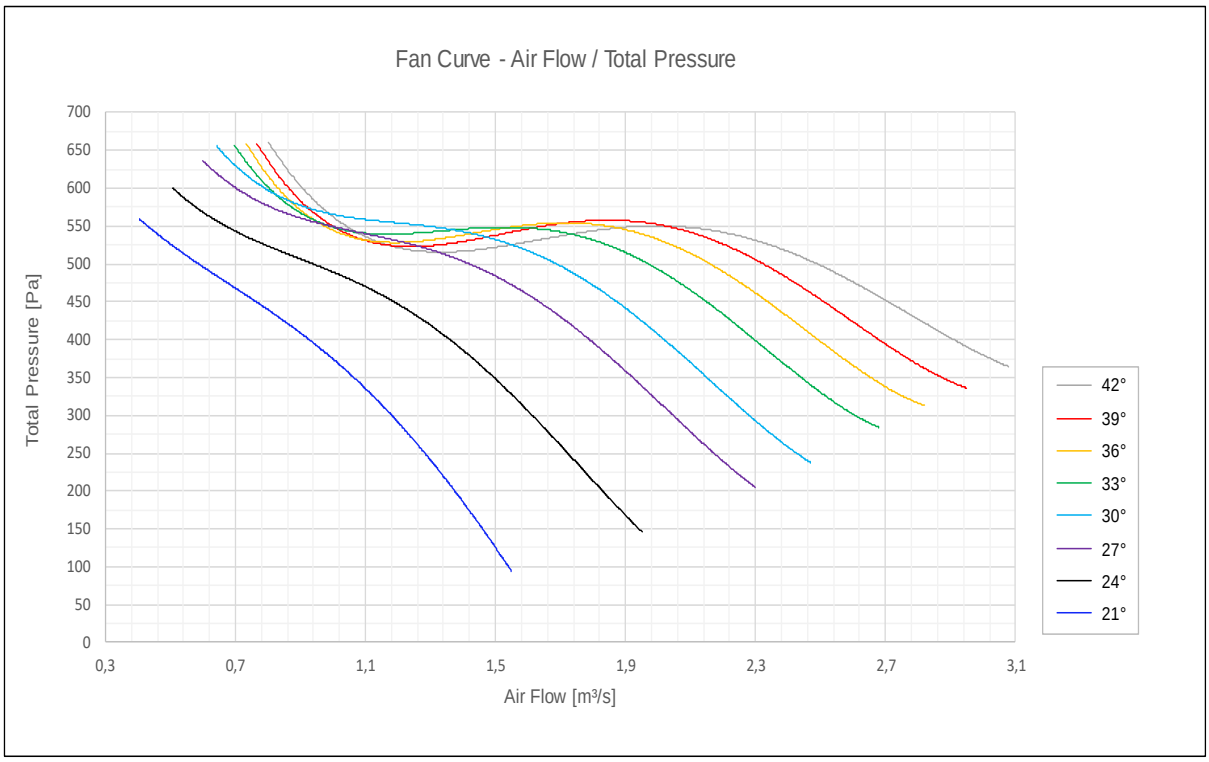
Impeller size 310 mm – (2900 rpm)

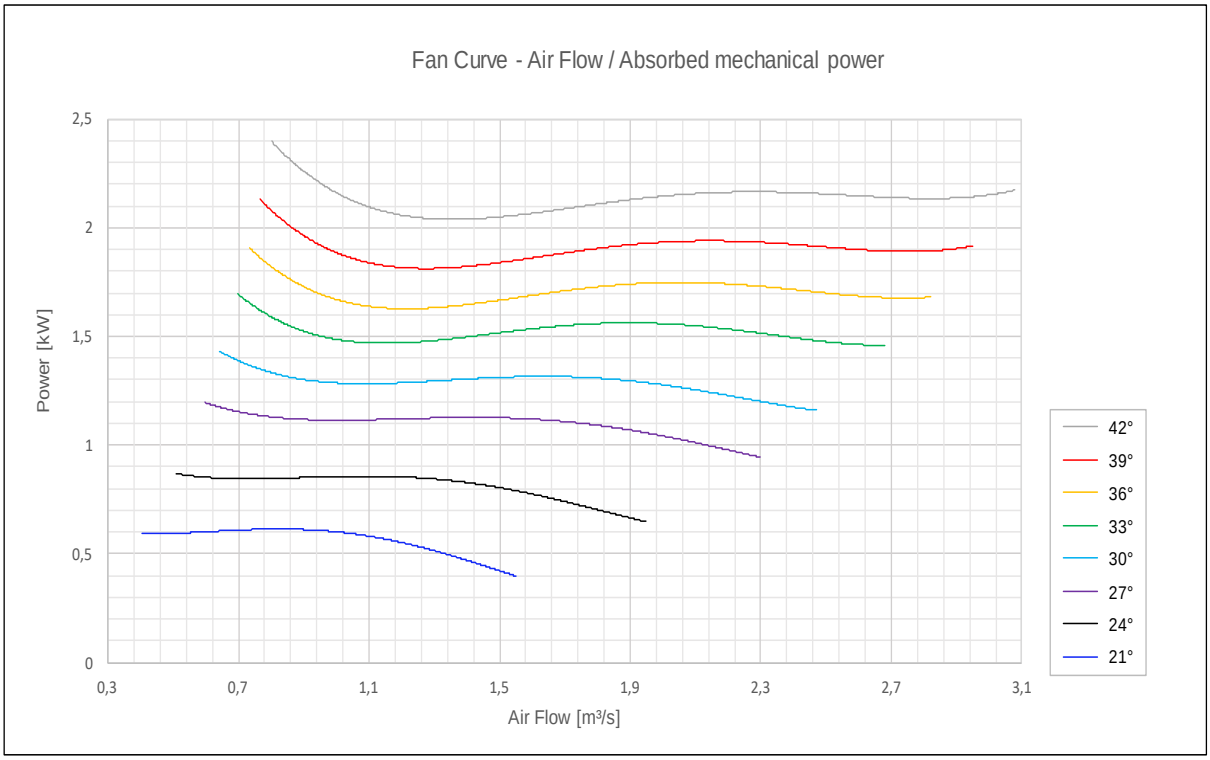




TECHNICAL DATA

Impeller size 400 mm – (2900 rpm)





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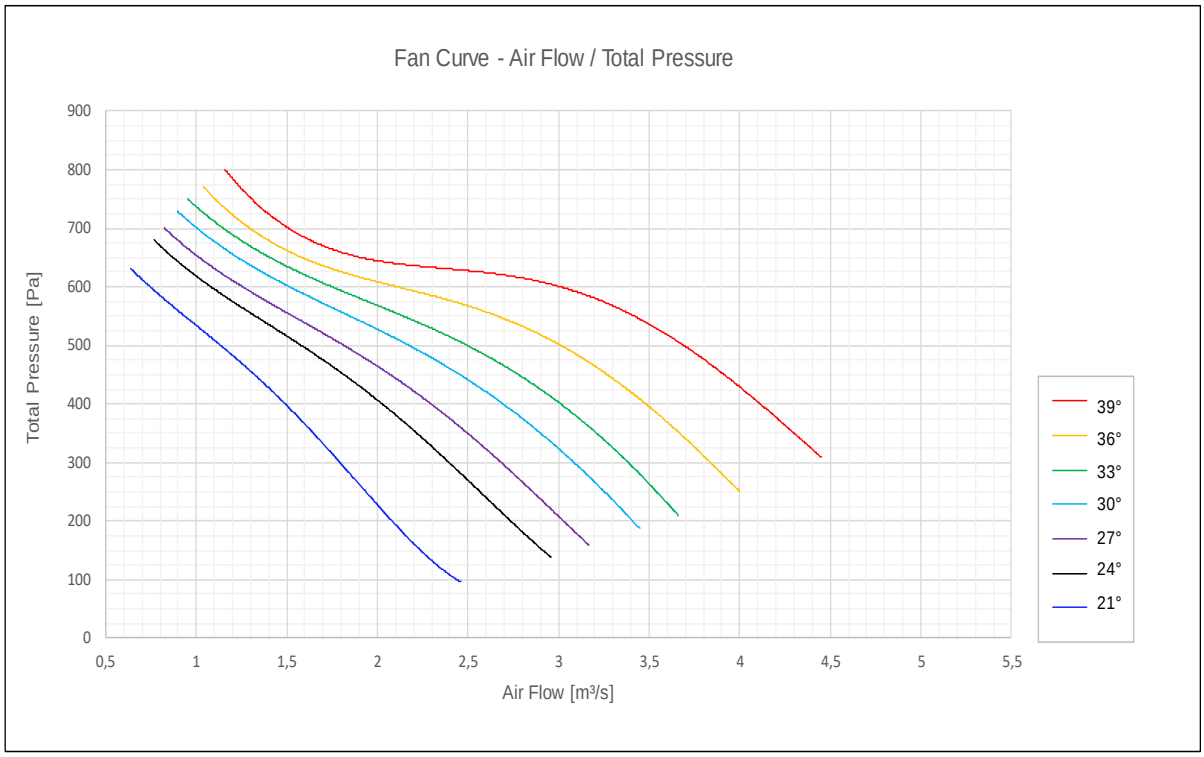
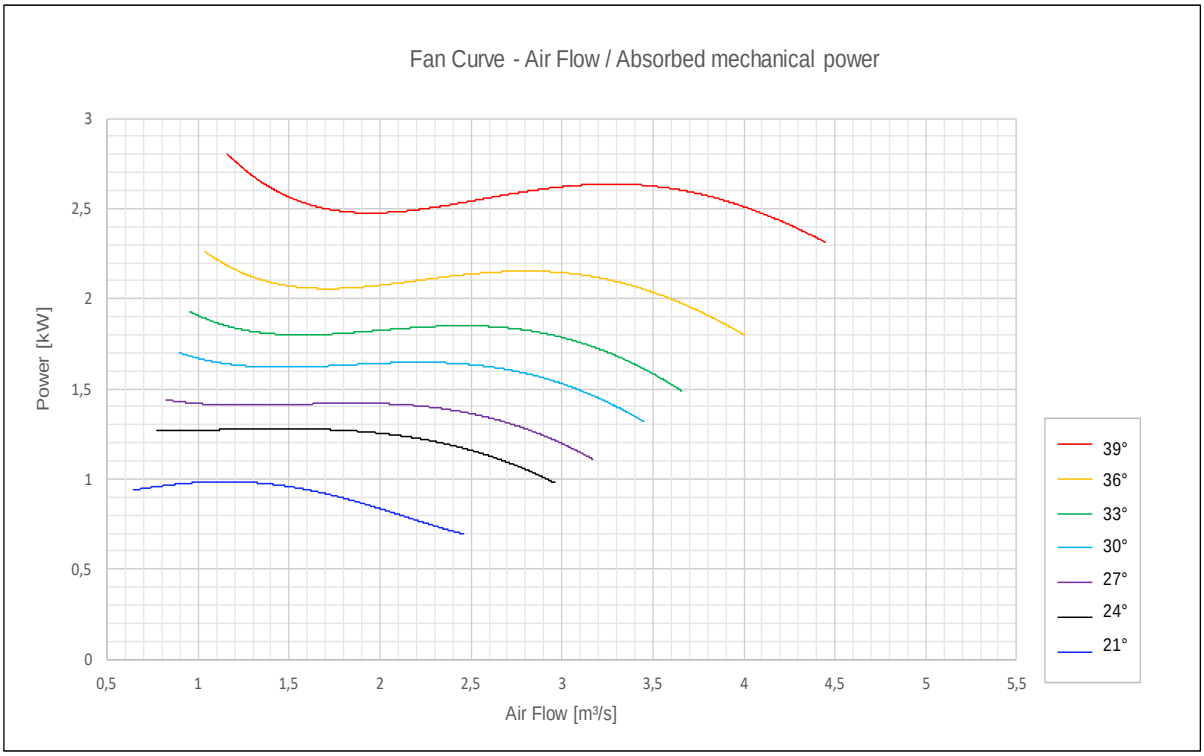
TECHNICAL DATA

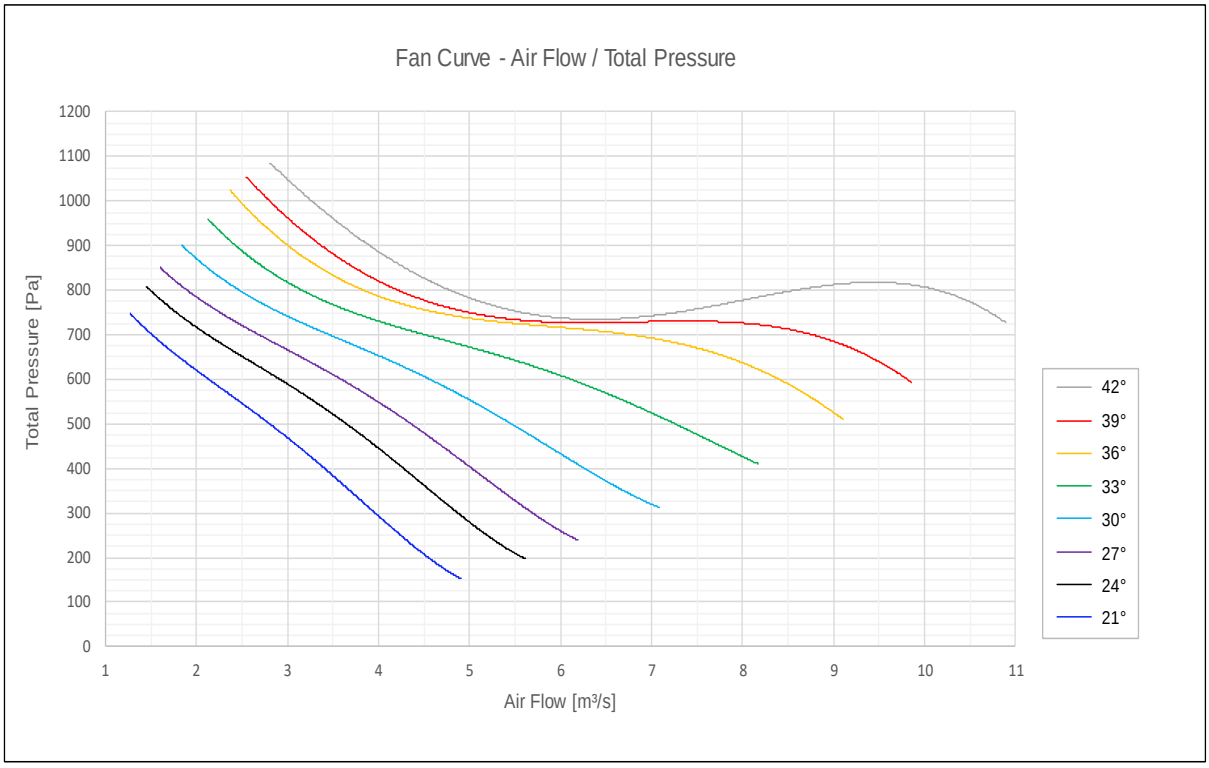
Impeller size 500 mm – (2900 rpm)

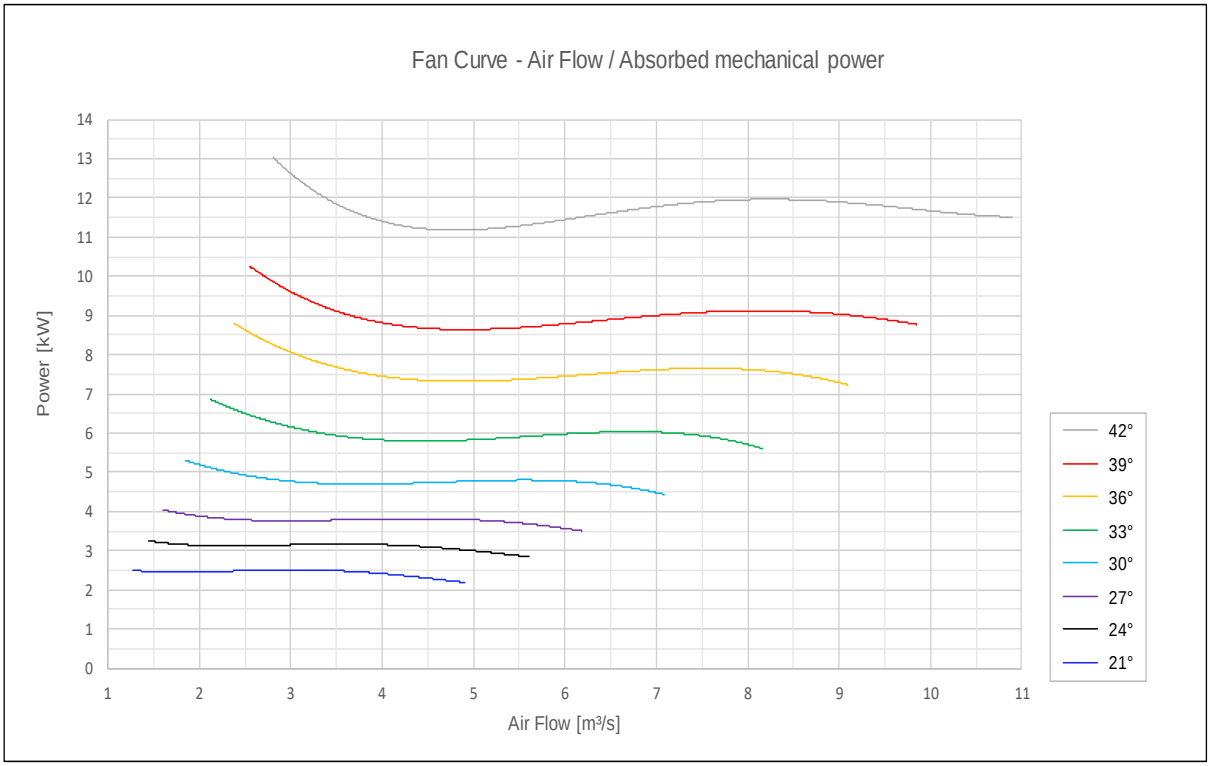




TECHNICAL DATA

Impeller size 630 mm – (2900 rpm)





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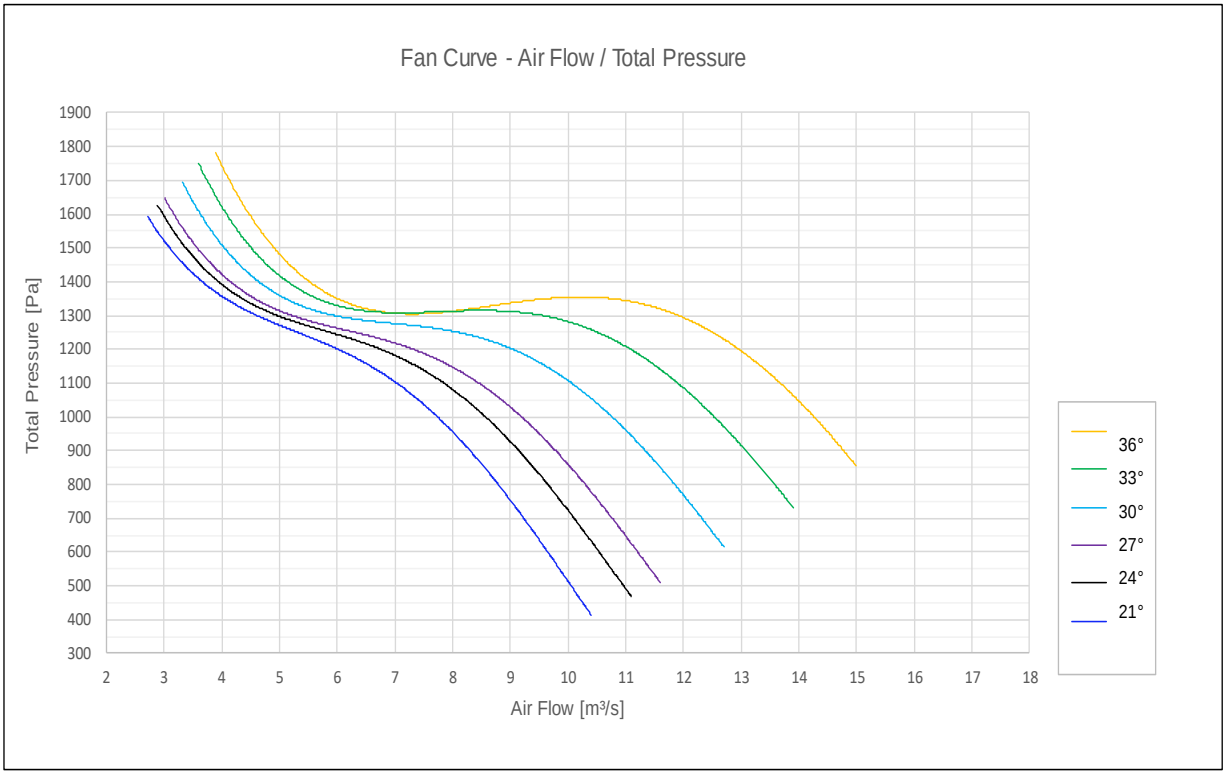
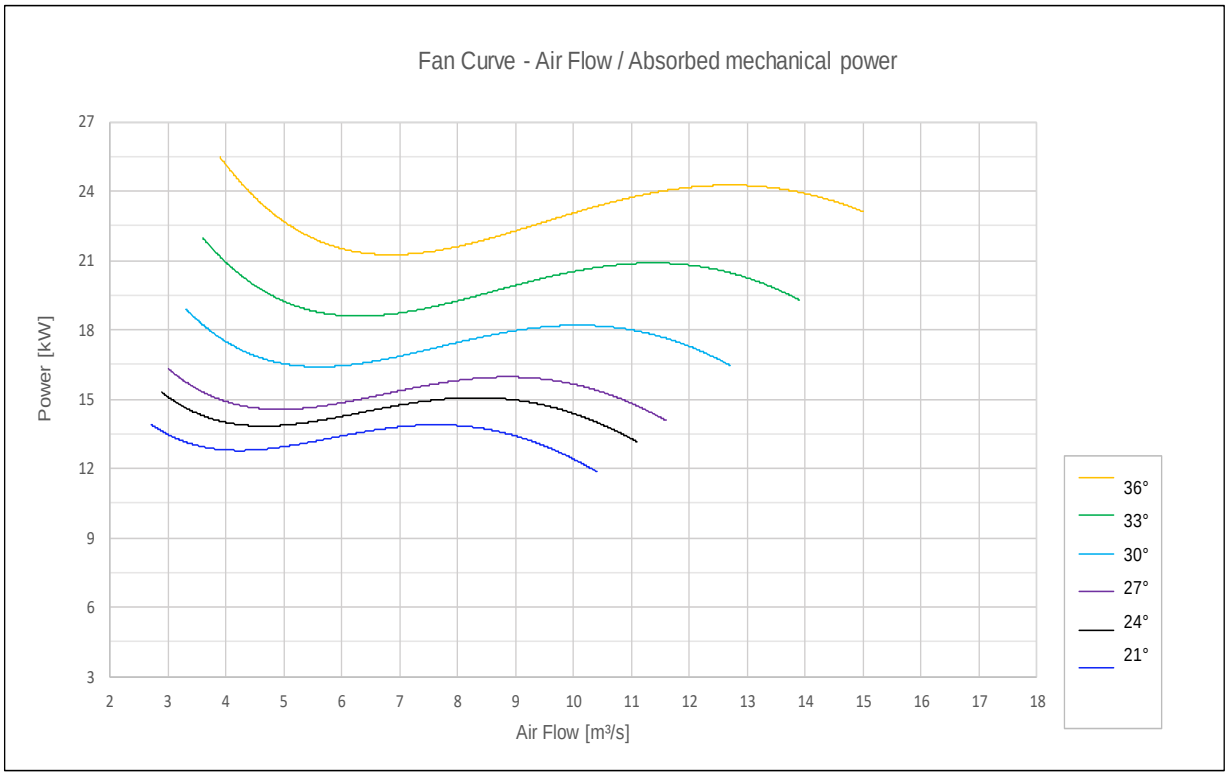
TECHNICAL DATA

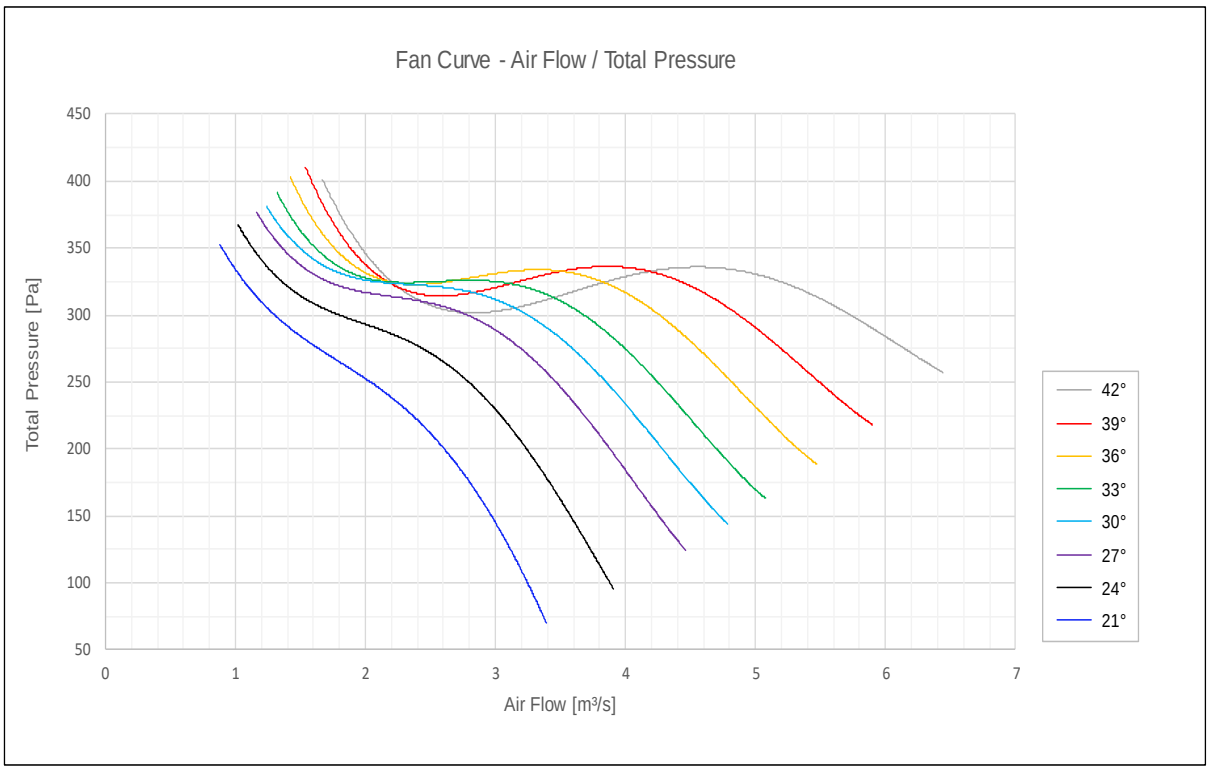
Impeller size 710 mm – (2900 rpm)

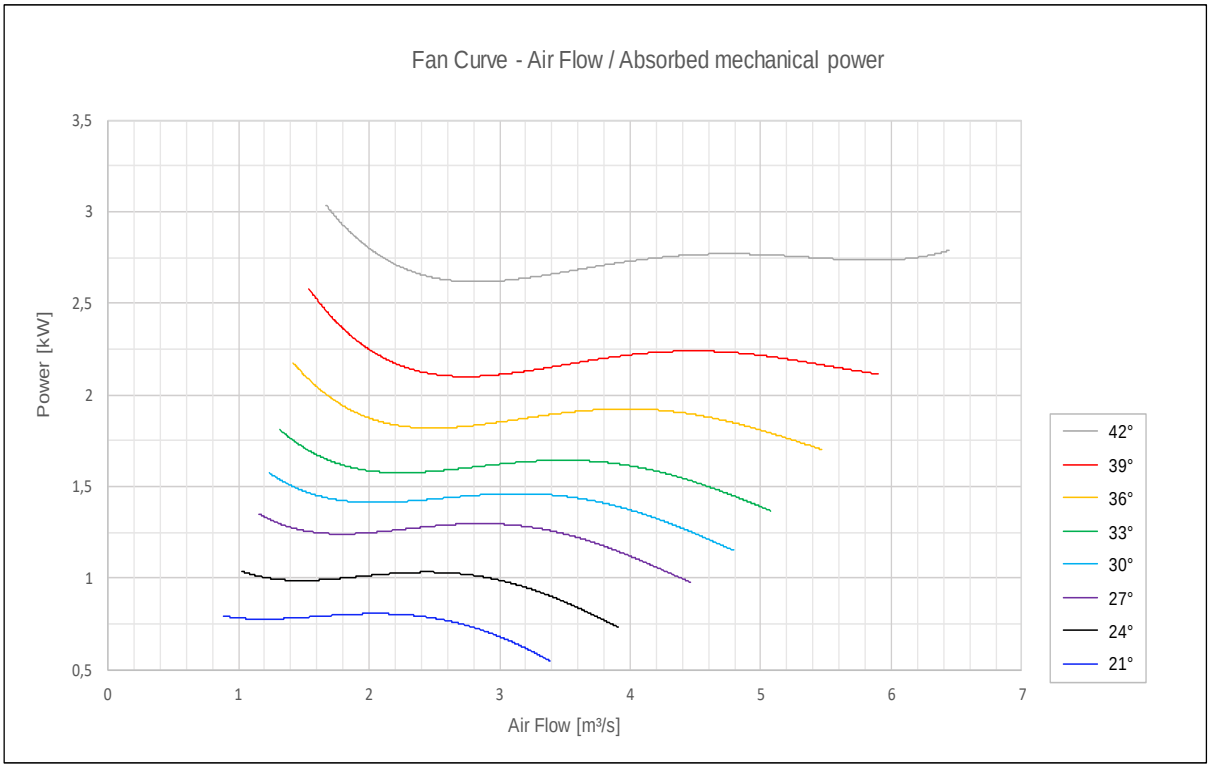




TECHNICAL DATA

Impeller size 630 mm – (1480 rpm)

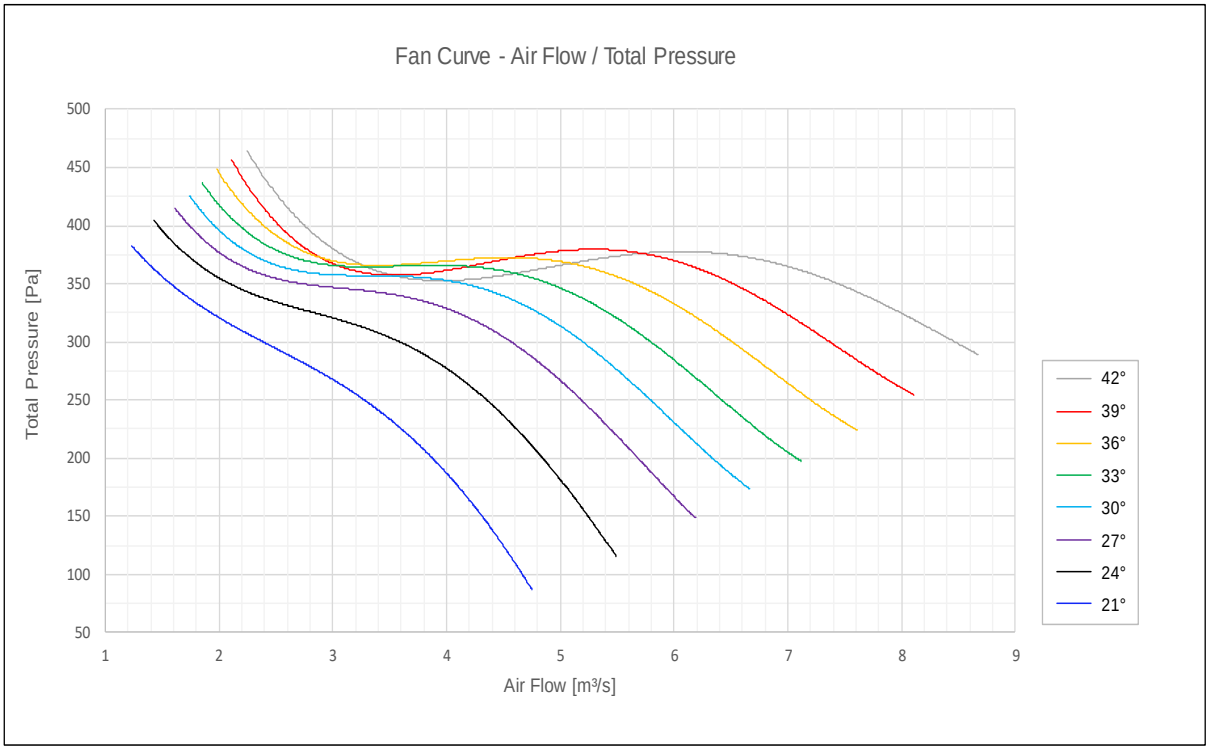


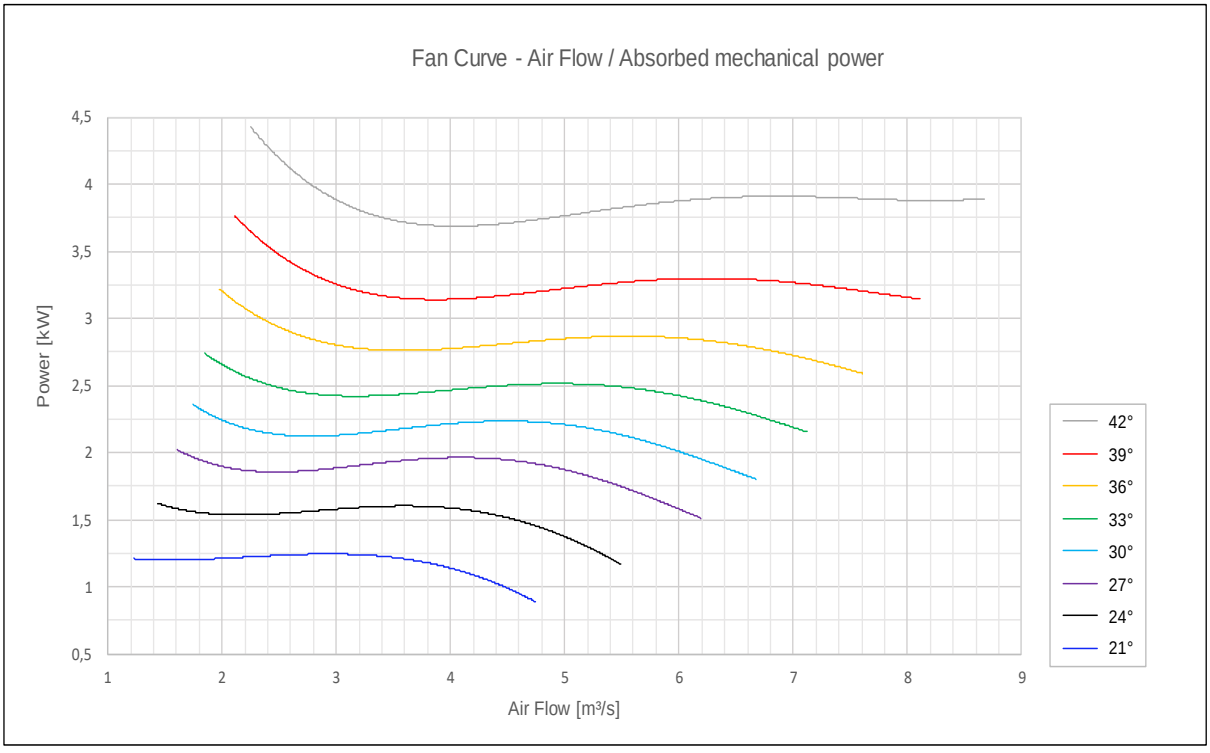


DE CARDENAS

TECHNICAL DATA

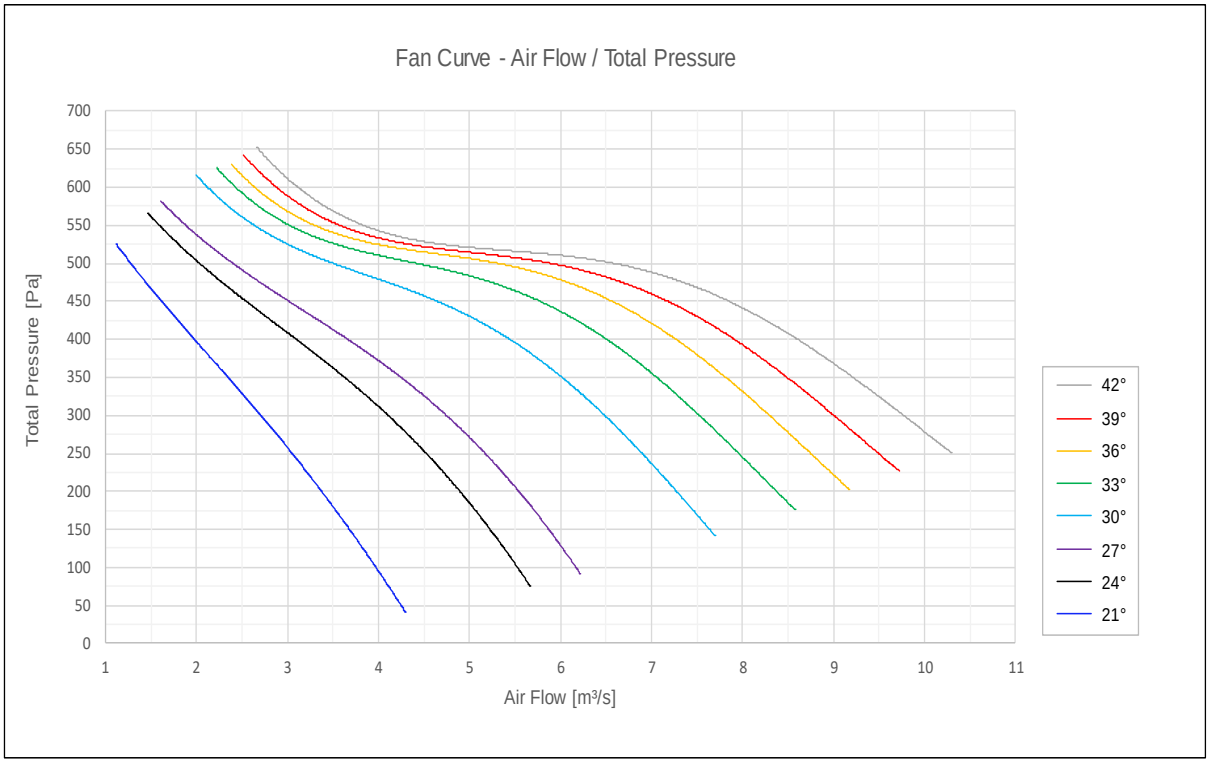
Impeller size 710 mm – (1480 rpm)

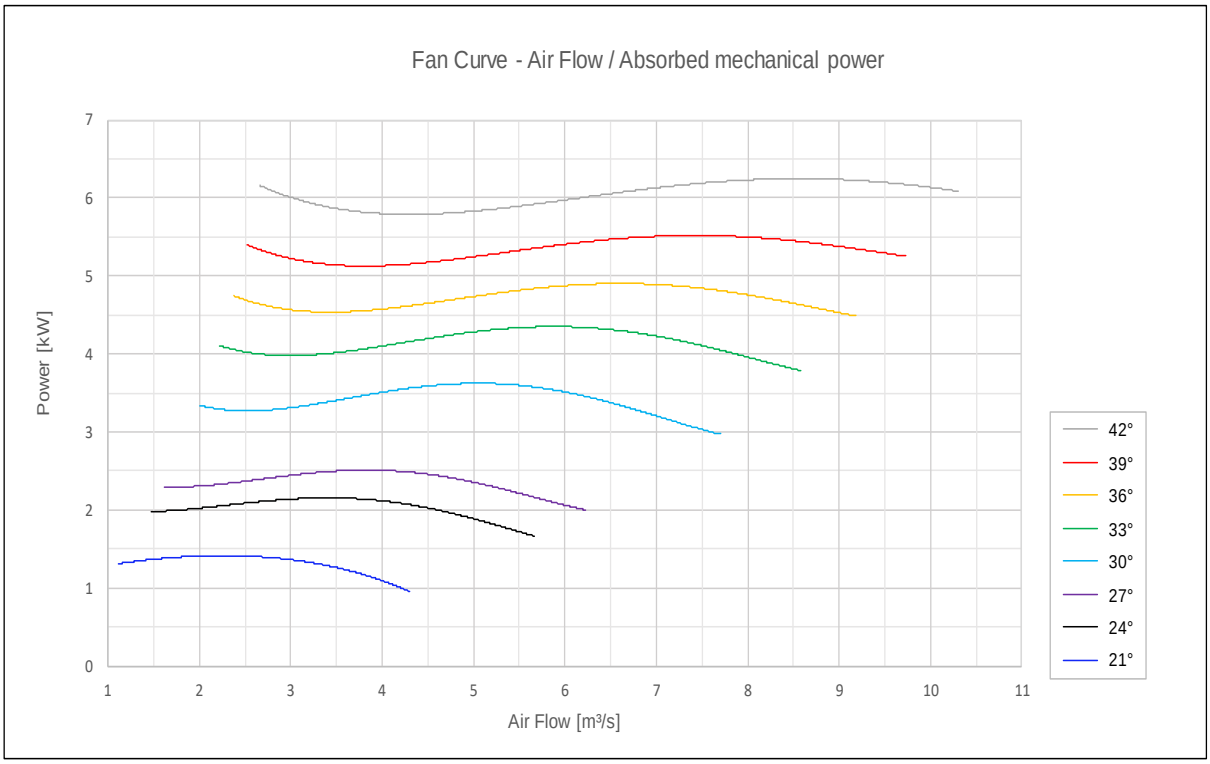




TECHNICAL DATA

Impeller size 800 mm – (1480 rpm)

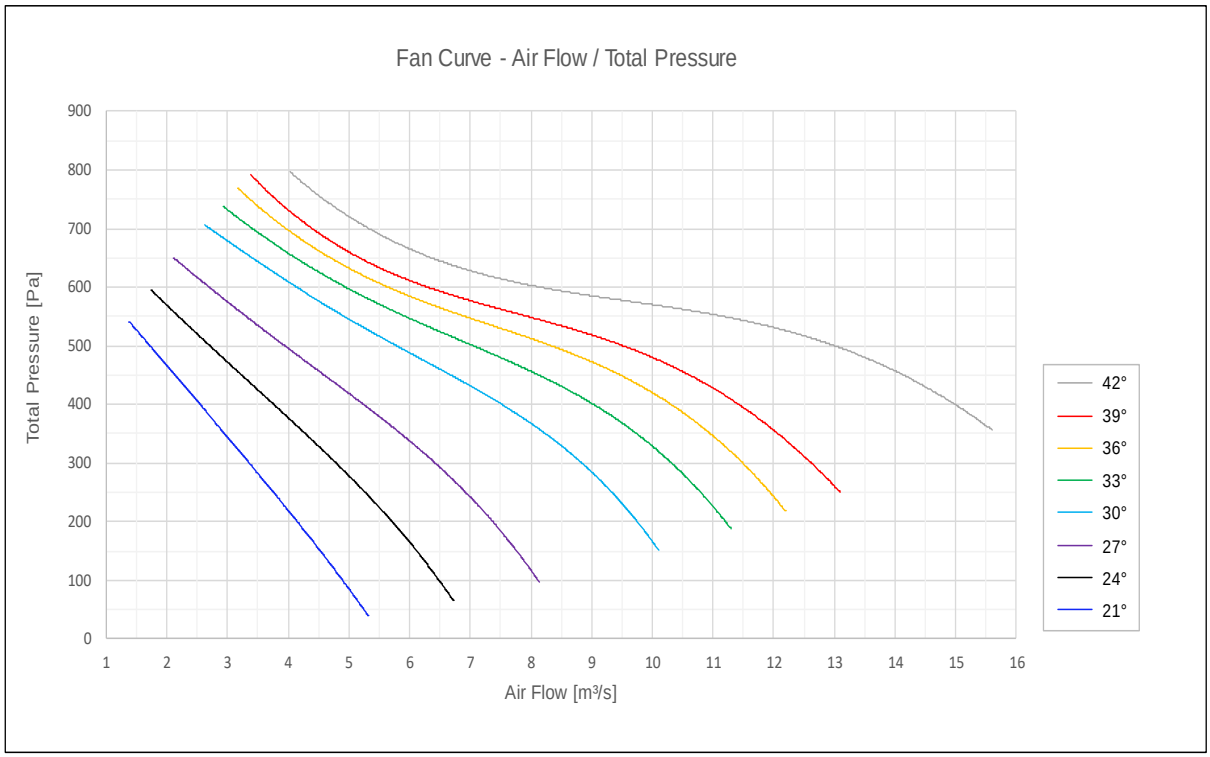


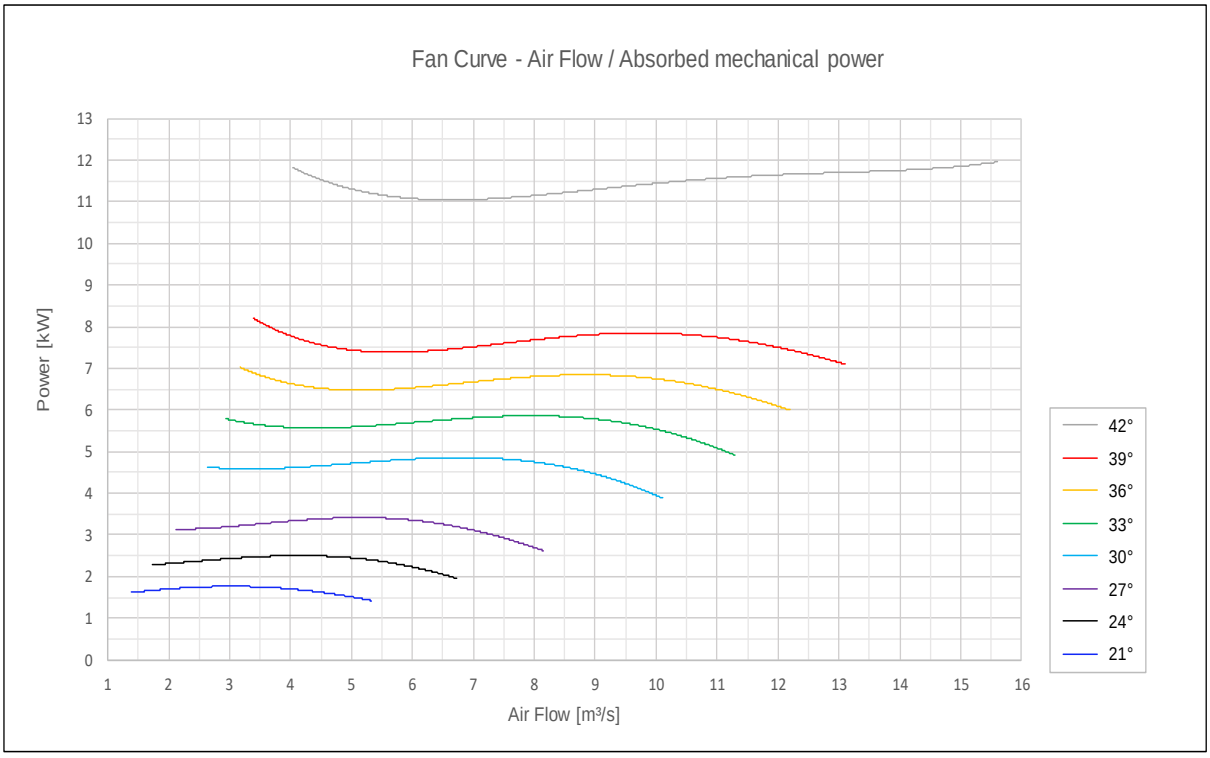


DE CARDENAS

TECHNICAL DATA

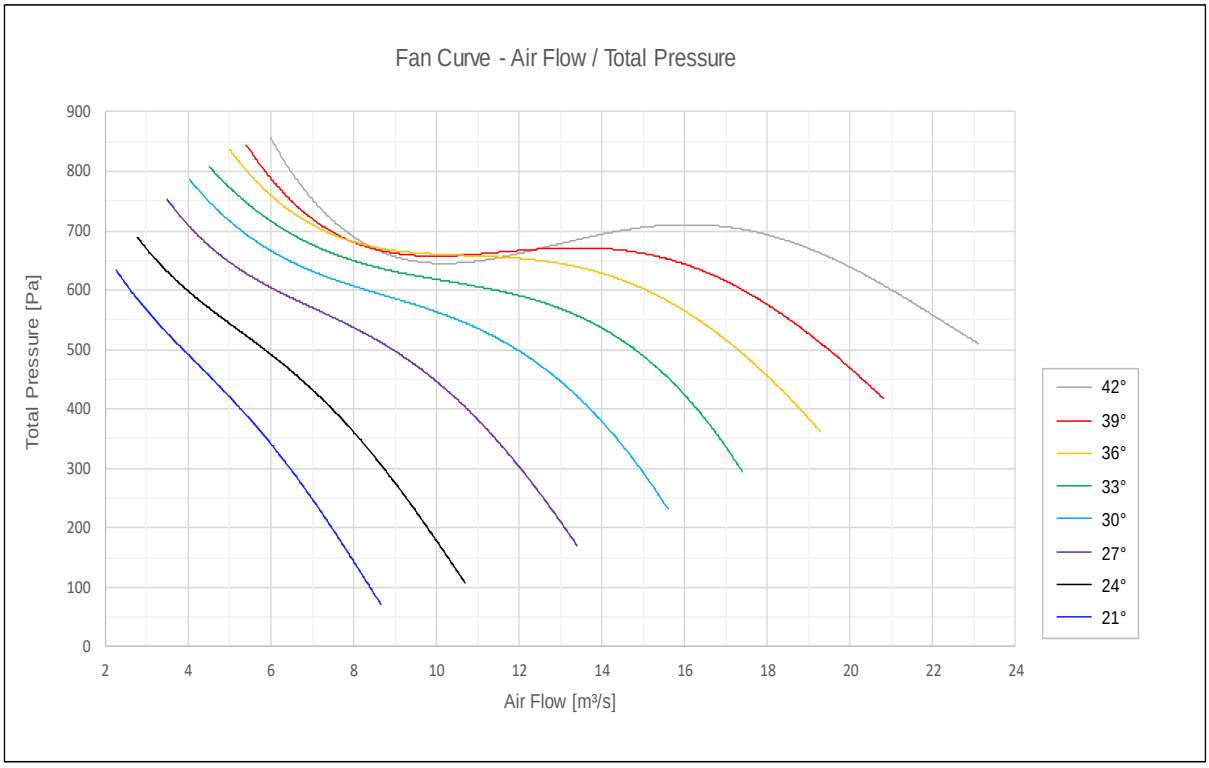
Impeller size 900 mm – (1480 rpm)

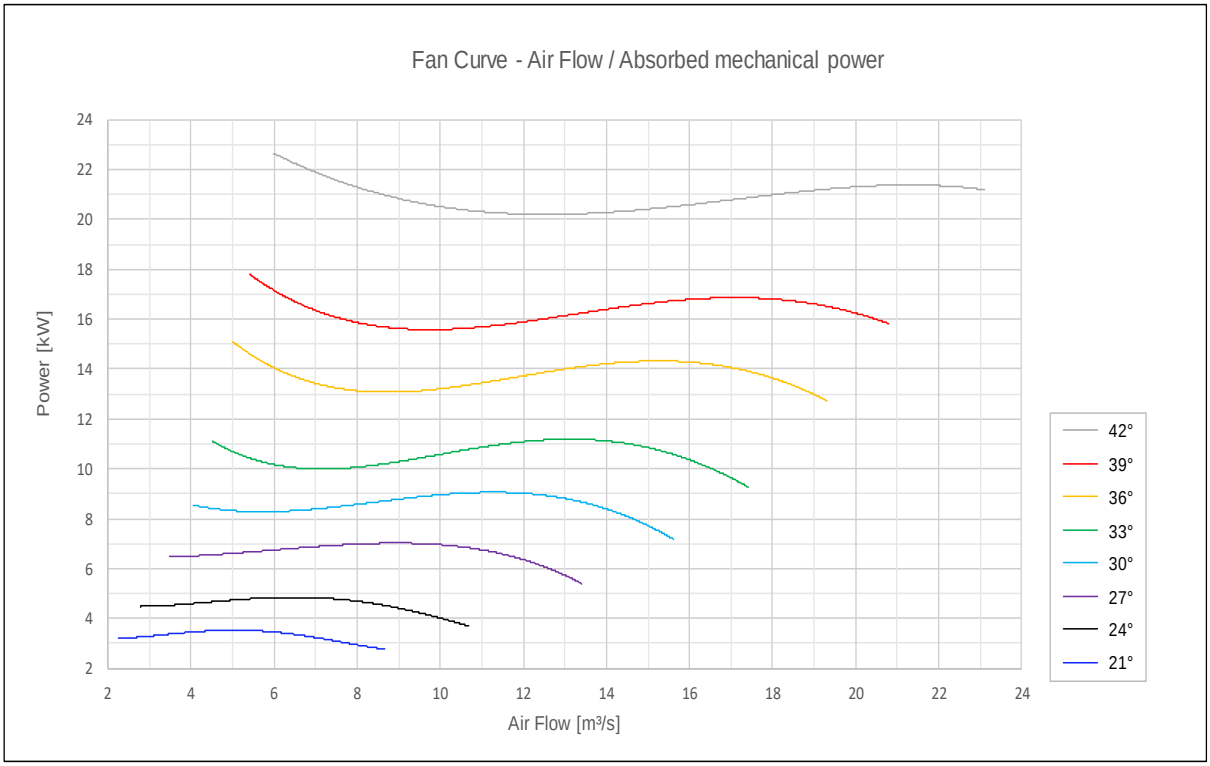




TECHNICAL DATA

Impeller size 1000 mm – (1480 rpm)





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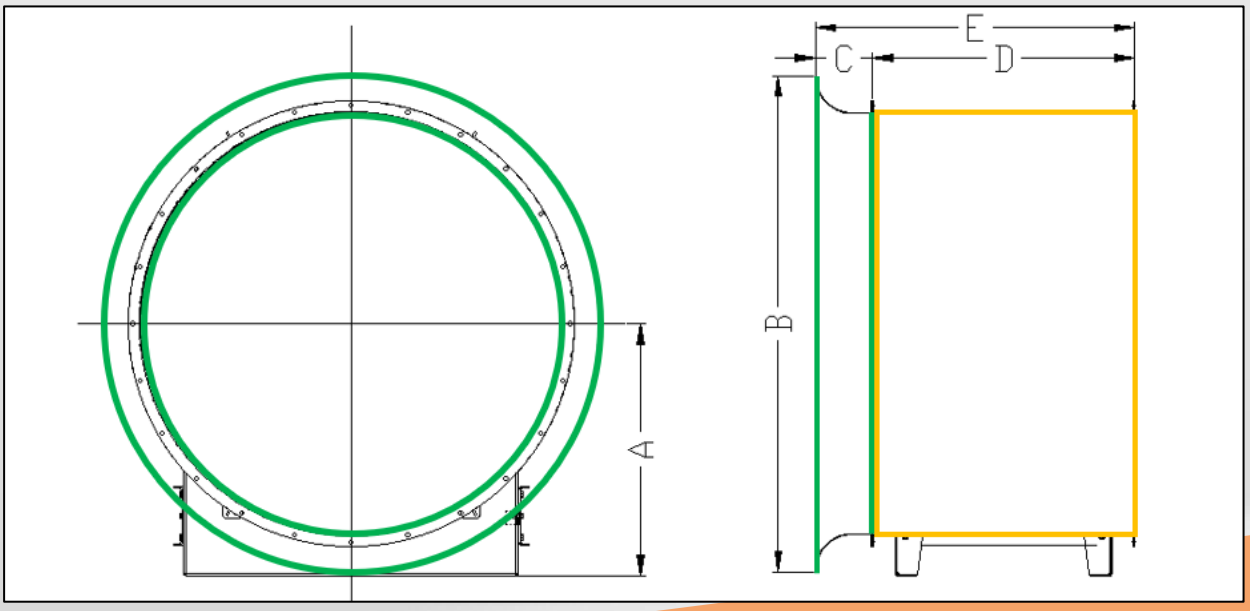
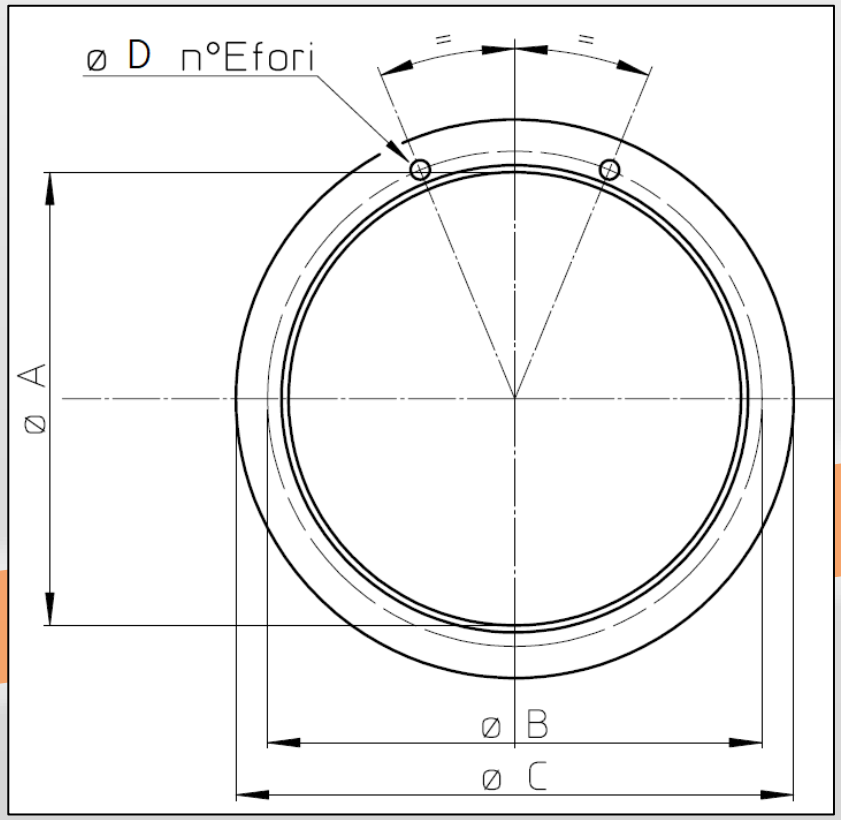
MAIN DIMENSIONS



TAGLIA DXL DXL SIZE	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]
31	300	450	100	350	450
40	350	525	105	350	455
50	400	645	125	400	525
63	500	800	165	400	565
71	550	900	200	450	650
80	600	1000	200	450	650
90	650	1100	200	500	700
100	700	1220	200	500	700
112	800	1380	200	550	750
125	850	1500	200	750	950
140	950	1700	200	850	1050
160	1050	1900	200	1000	1200

(*) De Cardenas reserves the right to make technical changes

FLANGES



DXL SIZE	A [mm]	B [mm]	C [mm]	D [mm]	E
31	315	355	395	10	8
40	400	450	500	12	8
50	500	560	600	12	12
63	630	690	730	12	12
71	710	770	810	12	16
80	800	860	900	12	16
90	900	960	1000	12	16
100	1000	1070	1100	15	16
112	1120	1190	1240	15	20
125	1250	1320	1370	15	20
140	1400	1470	1520	15	20
160	1600	1680	1720	19	24

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