

# Rosenberg Fans Range Catalogue



**AXAIR**  
FANS UK LIMITED  
[www.axair-fans.co.uk](http://www.axair-fans.co.uk)

2013 Edition





# The ErP Directive

What you should know now and consider for the future

## Background

With Ecodesign Directive 2009/125/EC (ErP Directive) the European Union has defined requirements for the environmentally sound design of energy consuming products. This directive is part of the 20-20-20 target, according to which energy use should be reduced by 20% and the share of renewable energies increased by 20%, by 2020. It replaces the EuP Directive 2005/32/EC, which referred to a range of electrical products, mainly end user appliances. Concrete measures will be defined through more detailed regulations but in the first stage, starting January 01, 2013, fans with input power ranging from of 125 W to 500 kW will have to meet specific efficiency values. On January 01, 2015, the second stage with higher efficiency values becomes effective and this will consider the entire fan, not just the fan motor.

Use of the CE symbol will be conditional on compliance with all efficiency requirements.

## IEC-motors

Starting June 2011, IEC-motors will have to comply with the requirements of Directive (2009/640/EC) and will have to reach at least efficiency class IE2 (previously: eff1), IEC-motors of a lower efficiency class will no longer be allowed to be marketed within the EU. Therefore Rosenberg has already completed converting all fans with IEC-motors to IE2-level. These are clearly indicated in the latest price list 2011.

## External rotor motors

External rotor motors, which are usually used as fan drives, are not affected by Directive (2009/640/EC). However, from January 2013, all fans will have to comply with the ErP Directive for fans (2011/327/EC).

## EC technology

Rosenberg's energy efficient EC fans already fulfil the efficiency values of the ErP regulations. They are 100% ErP ready, now!

In comparison to conventional AC driven fans, considerably higher efficiency levels, better than 90%, are achieved due to reduced losses in the EC motor. EC motors are easily speed controllable via integrated electronics and offer even greater efficiency over AC motors in this condition, as a result air volume can be readily adjusted to any possible operating point. The integrated, intelligent electronics not only enables speed control but also additional functions, for example; constant airflow, pressure or air quality control.

Rosenberg EC fans fulfil the highest standards of energy and economic efficiency.

You will find further information on our EC fans in our brochure "Standard fans with energy efficient EC technology", which we will send to you upon request, or you can find a pdf version to download on [www.rosenberg.eu](http://www.rosenberg.eu).

# Frequently asked Questions

## Are there exceptions?

For the time being, "yes". Fans for high specification requirements such as ATEX, smoke extract, ambient temperatures above 100°C and fans for railway technology are excluded.

The following end products are also currently excluded - roof fans, duct fans, tube fans and box fans (e.g. Unobox and Zerobox). In the future, these end products will be covered by a specific regulation. Nevertheless the motor/impeller combinations used in these fans will have to adhere to the existing efficiency values of directive (2011/327/EC) for fans.

## Does existing equipment have to be retrofitted?

The answer is "no". Existing equipment does not need to be retrofitted. Only fans and fan systems marketed within the EU after January 01, 2013 will be affected. There will be a transition period for replacement fans until January 01, 2015, for fans sold into the market before January 01, 2013.

## Does the ErP Directive apply globally?

The Directive applies to energy consuming products, which are produced in the EU or imported into the EU. It does not apply to products designated for export out of the EU. However it is assumed that this subject will become an issue in other countries in the near future.

## Will fans become more expensive due to the new directive?

Costs for fans already compliant with the requirements will not increase with the introduction of the ErP Directive. There may be additional costs associated with mandatory technical modifications for certain products, however a return on investment will be achieved in a short timescale by significant improvements in efficiency. Eventually, the end user benefits from a reduction in energy consumption costs and the whole environment from reduced CO<sub>2</sub> emissions!

## How to identify ErP compliant fans?

Starting in 2013 you will be able to identify fans, which are compliant with the ErP Directive by the CE symbol placed on the product. In addition, all Rosenberg fans will be marked with the "ErP ready" logo on the product, in all Sales docu-

ments and brochures, as well as in the fan selection software RoVent.

## What advantages does the Directive provide for me as customer?

With the application of this legal regulation only energy efficient fans will be able to be sold in the EU. This will allow you to save up to 65% in energy costs, depending on the application and you don't need to wait until 2013, energy efficient fans, especially with EC technology, are already available, today!

## Does the ErP Directive also affect air handling units?

A preliminary study to evaluate the status quo and possible energy savings has already been commissioned by the EU. This is to be finalized by the end of 2011 and, based on the findings, a regulation will be drafted.

However, air handling units are already affected through the motors used and, starting in 2013, through complete fans, because of the efficiency requirements in existing directives.

Besides air handling units (for non-residential use), this separate legislation will also deal with and impose limit values on small air conditioning units and heat recovery systems as well as the previously mentioned roof fans, duct fans, tube fans and box fans.

## Active participation of Rosenberg

"The European Ventilation Industry Association" (EVIA) is the umbrella organization of the European ventilation industry. Founded in July 2010, it is composed of three work groups for: "...ventilation units for residential appliances", "...ventilation units for non-residential appliances" and "...fans". With the establishment of the EVIA, the requests and concerns of the European ventilation industry have been met with one voice in the European legislature and as a founding member of the EVIA, Rosenberg is participating actively in the composition of future European guidelines and regulations.



## Technical Information

All Rosenberg fans are equipped with direct driven external rotor motors, which have decisive advantages in comparison with conventional fans:

- **high life time**
- **compact design**
- **motor and impeller assembled to one unit**
- **the speed is 100% controllable** (auto transformers; controller)
- **low starting currents**

All our fans have motor protection through thermal contacts in the motor windings as standard. The impellers are balanced dynamically and statically according to DIN ISO 1940 quality G2.5.



### AC Motor

The drive has due to an external rotor motor a space saving, compact and attractive design. The motor is fitted within the impeller, which enables the best possible cooling. For this reason a 100% variable speed control can be guaranteed. V-belts, additional tension bars and motor mounting devices are not necessary. Only well-dimensioned ball-bearings, fitted on both sides and life time greased are used. Both ball-bearing seats are ground to high precision in one work process to eliminate any vibrations.



External rotor motors have extremely low starting currents. The motors apply mostly to protection class IP54 according to DIN EN 60034-5. The windings comply to isolation class F. In addition the windings have a standard moisture impregnation.

### EC Motor

The used EC motors are characterized by a very high degree of efficiency, also in part-load operational range as well as by an ideal steering mechanism and automatic control action. They are easy to connect, individually pre-configured, compact in construction and show a high power density. Implementation of additional functions (e. g. pressure- and volume-control) is possible. Rosenberg EC motors meet mostly degree of protection category IP54; input voltage of 380V-480V (50/60Hz). Rosenberg EC motors are continuous speed controllable and have an integrated motor protection.



### IEC standard motor

The used three phase IEC norm motors of type B3 are in protection class IP55, with insulation class F, 2-pole and 4-pole realized.

For the conveying of explosive atmospheres in zone 2 we offer fans according to Atex guideline 94/9/EG (Atex 95) in temperature class T1 to T3. Fans for the conveying of and installation in zone 1 are also available on request.

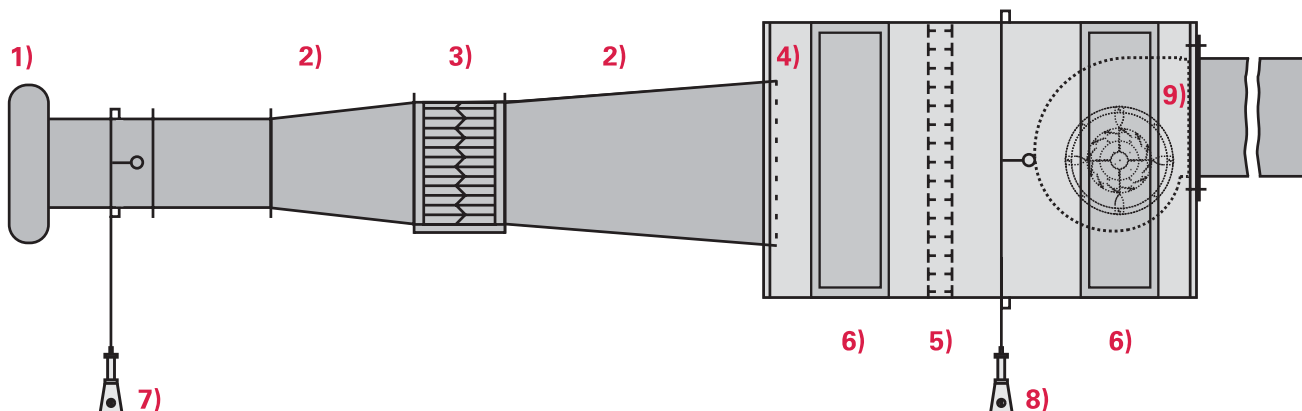
## Technical Information

### Air performance curves

The air performance curves have been established using the inlet test method in the test chamber as shown below according to DIN 24163. They show pressure increase as a function of the volume flow and are valid for air with a density of 1,2 kg/m<sup>3</sup> with a temperature of t=20°C. The mounting position was selected according to the operation conditions to each fan type.

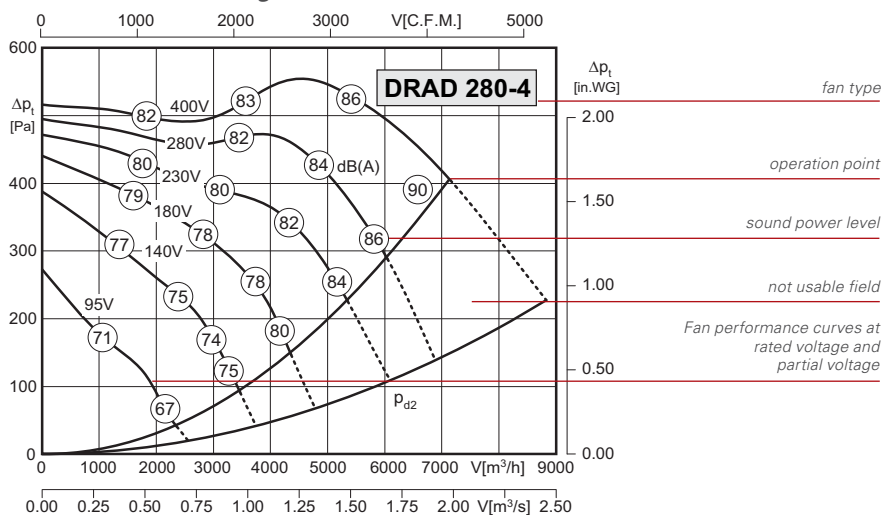
Important note: Power consumption of fan changes proportional to density of conveyed air/gas.

### Test chamber



- 1) inlet cone with pressure measurement device
- 2) transition parts
- 3) throttling device with straightener
- 4) screens
- 5) straightener
- 6) measuring chamber with shutters
- 7) inlet cone pressure manometer (pa)
- 8) pressure manometer  $\Delta p_{fa}$
- 9) tested fan

### Performance curves diagram



Technical formula		
	Designation	Unit
U	rated voltage	V
P <sub>1</sub>	motor power consumption	kWA
I <sub>N</sub>	rated current	
n	fan speed	min <sup>-1</sup> / rpm
V	air volume at 20°C	m <sup>3</sup> /h
p <sub>t</sub>	total pressure	Pa
Δp <sub>t</sub>	total pressure increase	Pa
p <sub>st</sub>	static pressure	Pa
Δp <sub>fa</sub>	pressure increase free outlet	Pa
p <sub>d2</sub>	dynamic pressure outlet	Pa

1)	Type: DRAD 280-	Art.-No.: C10-28002	2)
U	3) 400V (50Hz)	Δp <sub>fa</sub> min 9)	260 Pa
P <sub>1</sub>	4) 2.6 kW	ΔI 10)	3.5 %
I <sub>N</sub>	5) 4.4 A	I <sub>A</sub> / I <sub>N</sub> 11)	3.5
n	6) 1280 min <sup>-1</sup>	⚠ 12)	IP54
C <sub>400v</sub>	7) - μF	⚡ 13)	01.006
t <sub>R</sub>	8) 40 °C	⚖ 14)	34 kg

- 1) fan type
- 2) fan article number
- 3-6) fan rated data
- 7) capacitor
- 8) max. permissible medium temperature
- 9) min. required counter pressure
- 10) current increase in partial voltage area
- 11) ratio of starting current to rated current
- 12) motor protection class
- 13) wiring diagram
- 14) fan weight

## Centrifugal Fans

### Centrifugal Fans with forward curved centrifugal impellers

Single and double inlet from Ø180 to Ø400.  
 Fitted with flange as standard.  
 Supplied with mounting brackets for assembly in any 90° set positions.  
 High airflow against low pressure.



#### Type Code

D E R A D 225 -4 K

single inlet  
 double inlet

centrifugal fan

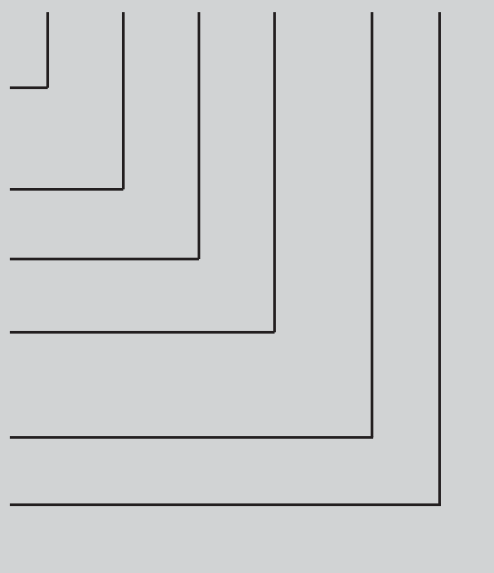
external rotor motor

E = single phase  
 D = three phase alternating current

impeller diameter

number of poles

small motor



### Features and Construction

The high efficiency centrifugal fans have been developed especially for modern ventilation and air conditioning applications and are ideal for the movement of air and light aggressive gas and vapours. The size comply with standard R20 and are in accordance with DIN323. The designation of size corresponds to the outside diameter of the impeller.



#### Casing

The casing of the high efficiency centrifugal fans are made of galvanized sheet steel and the side parts of the scroll is assembled with the spirally shaped guide plate through a standing seam. The side parts are produced with nut sets to fix the mounting brackets, which can be fixed in steps of 90°.



#### Impellers

The drum impeller is made of galvanized sheet steel, and is mounted directly to the rotor of the external rotor motor and are balanced dynamically at two levels together with the rotor according to quality level G2.5 to DIN1940.

### Electrical connection

The motors are fitted with an outgoing cable. The electrical connection can be made via an IP44 terminal box, which is supplied loose.

### Direction of rotation

Direction of rotation for fan types ERA is clockwise viewed from the inlet side, but for fan types DRA it is counter-clockwise viewed from the cable outlet.

### Air performance curves

The performance curves for these fan types have been measured in mounting position B (installed on the pressure side and open on the suction side) and show the total pressure increase  $\Delta p_t$  as a function of the air flow. The dynamic pressure  $\Delta p_{d2}$  refers to the flange cross section at the outlet side of the fan.

### Noise levels

The bordered values printed in the performance curve diagrams show the „A“ weighted LWA6 sound power level (fan outlet). Determination of „A“ weighted LWA5 sound power level at fan inlet:

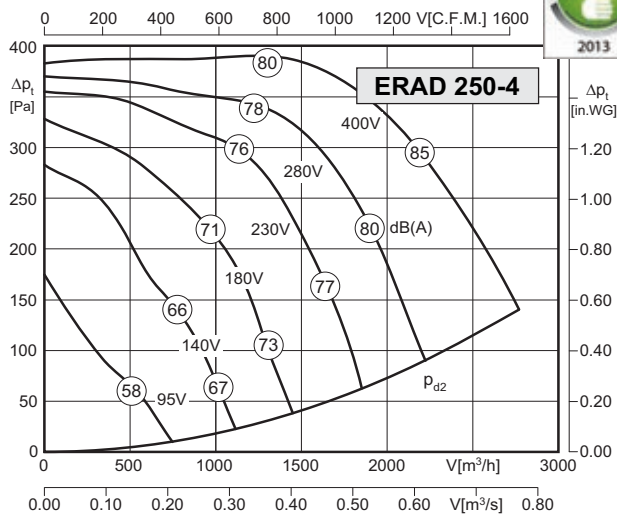
$$LWA5 [dB(A)] = LWA6 [dB(A)] - 3 dB$$

The „A“ weighted sound pressure level LPA at a distance of 1 metre is calculated approximately by deducting 7 db(A) from the „A“ weighted sound power level. It is important to note that the reflection and room characteristic as well as natural frequencies influence the sound pressure levels a different way. The relative octave sound power level LWAre1 at octave medium frequency you can find on the table on each fan type page.



- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



Type: **ERAD 250-4**

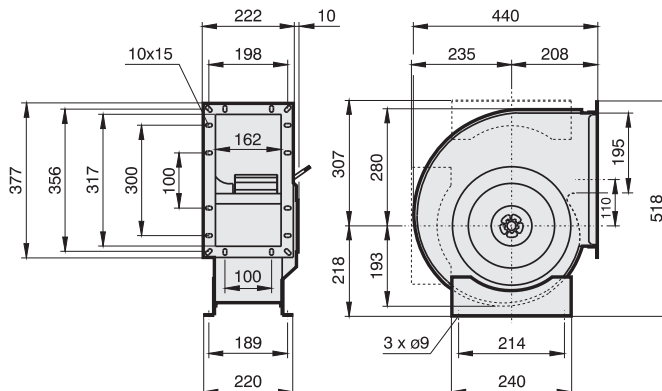
Art.-No. : **B10-25040**

U	400V (50Hz)	Δp <sub>fa min</sub>	-- Pa
P <sub>1</sub>	0.84 kW	ΔI	-- %
I <sub>N</sub>	1.6 A	I <sub>A</sub> / I <sub>N</sub>	2.3
n	1210 min <sup>-1</sup>		IP54
C <sub>400v</sub>	-- μF		01.006
tr	40 °C		17 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)





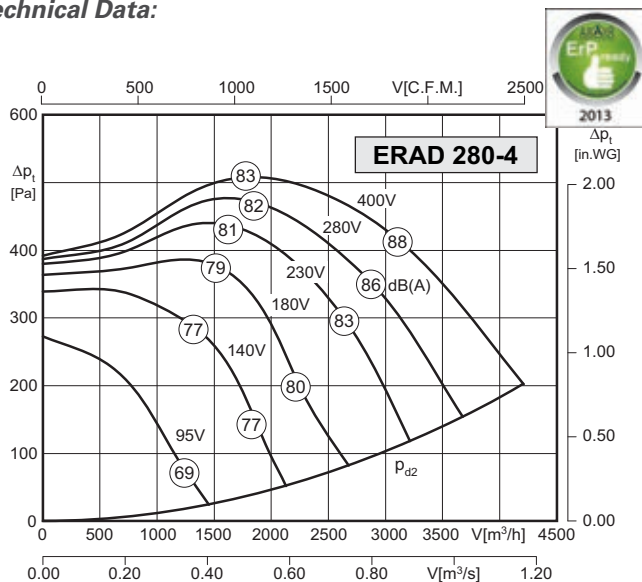
## Centrifugal Fans single inlet

Size: 280



- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **ERAD 280-4**

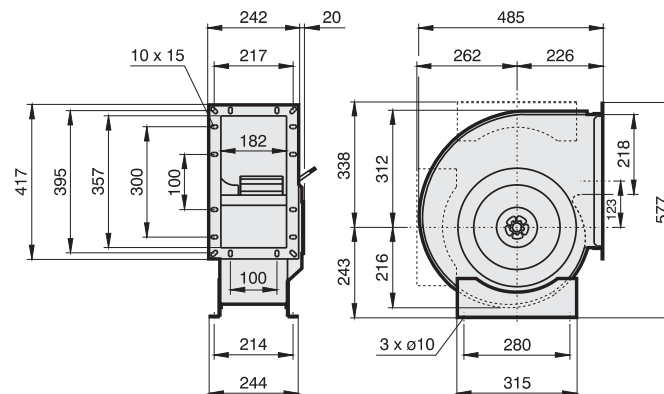
Art.-No.: **B10-28040**

U	400V (50Hz)	Δp <sub>fa min</sub>	-- Pa
P <sub>1</sub>	1.85 kW	ΔI	7 %
I <sub>N</sub>	3.2 A	I <sub>A</sub> / I <sub>N</sub>	3.2
n	1300 min <sup>-1</sup>	⚠	IP54
C <sub>400v</sub>	-- μF	⚡	01.006
t <sub>R</sub>	40 °C	🔋	24 kg

Sound levels available upon request

### Dimensions:

(all dimensions in mm)



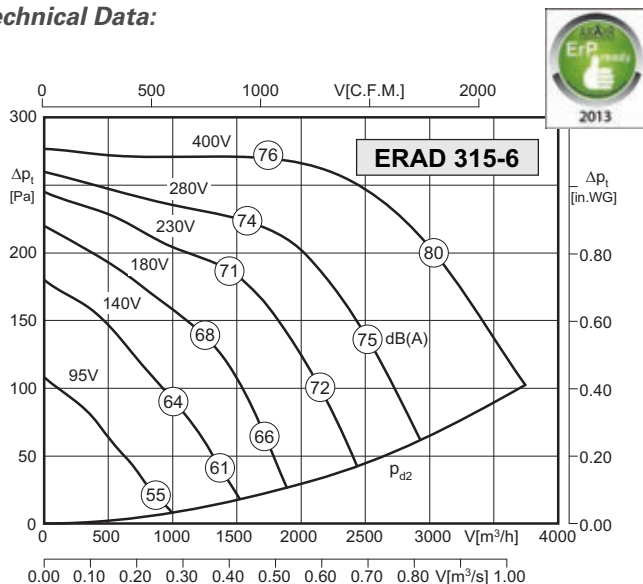
## Centrifugal Fans single inlet

Size: 315



- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **ERAD 315-6**

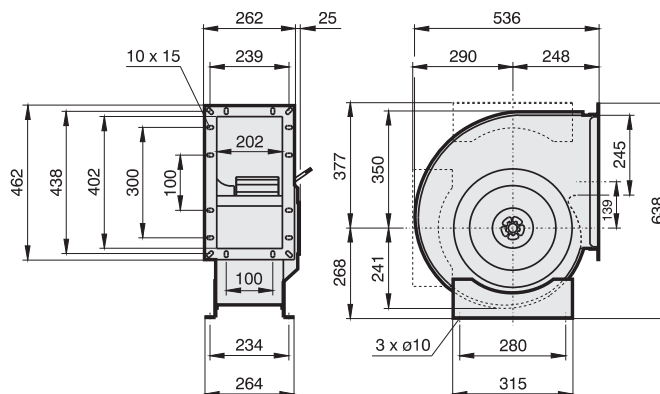
Art.-No. : B10-31546

U	400V (50Hz)	$\Delta P_{fa \text{ min}}$	- Pa
P <sub>1</sub>	0.82 kW	$\Delta I$	- %
I <sub>N</sub>	1.5 A	I <sub>A</sub> / I <sub>N</sub>	2.0
n	730 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.006
t <sub>R</sub>	45 °C		29 kg

### Sound levels available upon request

### Dimensions:

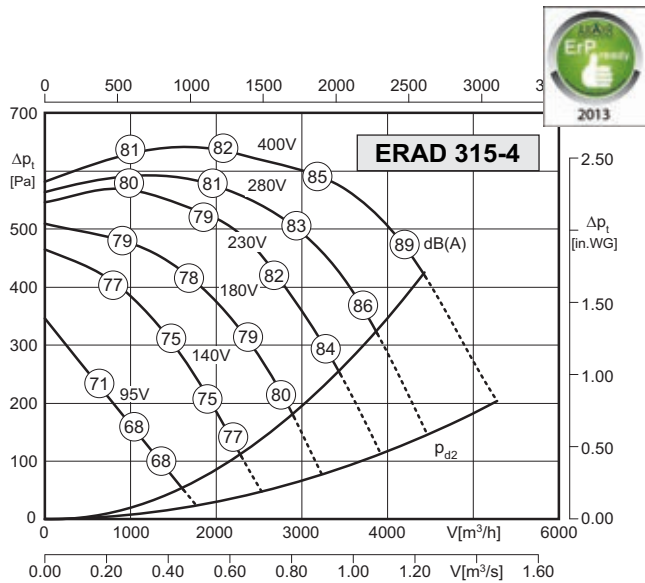
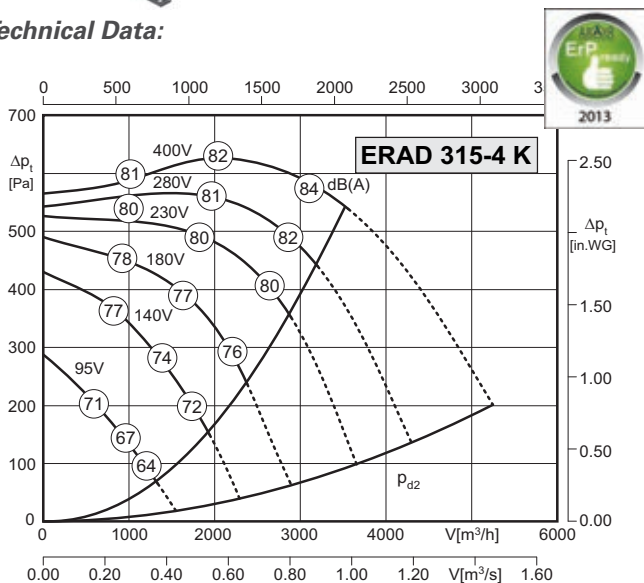
(all dimensions in mm)





- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



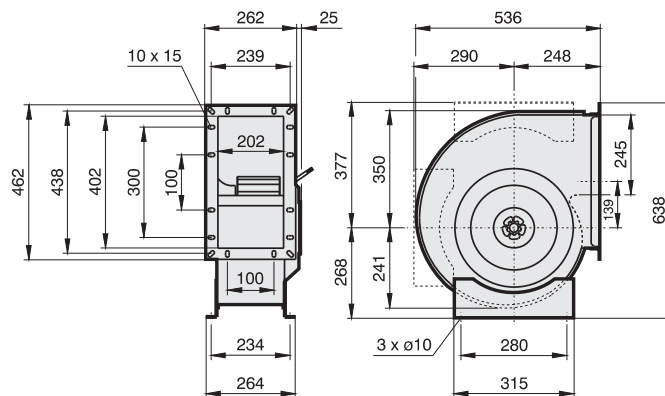
Type : ERAD 315-4K		Art.-No. : B10-31543	
U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	450 Pa
P <sub>1</sub>	1.55 kW	$\Delta I$	- %
I <sub>N</sub>	2.75 A	I <sub>A</sub> / I <sub>N</sub>	3.3
n	1280 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		26 kg

Type : ERAD 315-4		Art.-No. : B10-31540	
U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	280 Pa
P <sub>1</sub>	2.0 kW	$\Delta I$	- %
I <sub>N</sub>	4.1 A	I <sub>A</sub> / I <sub>N</sub>	3.5
n	1320 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		30 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



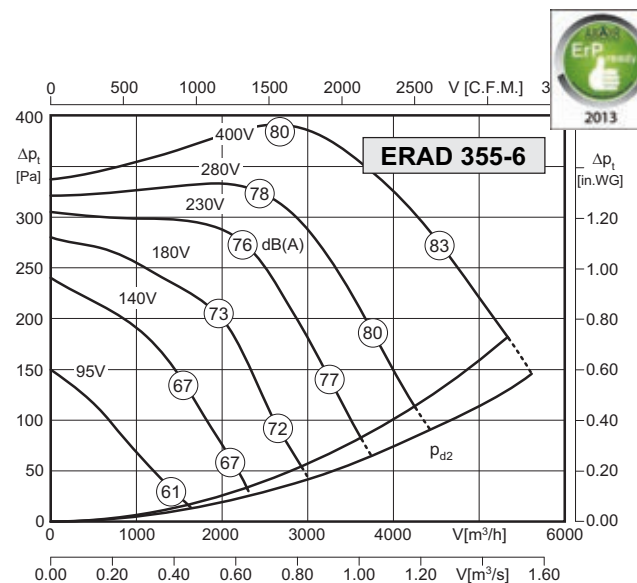
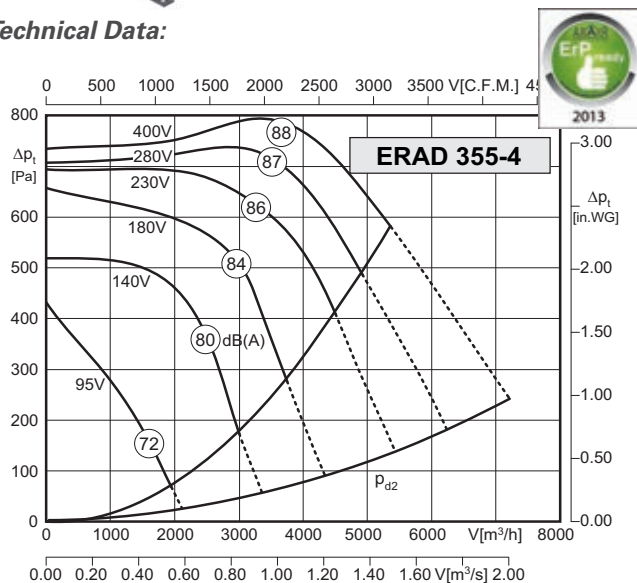
# Centrifugal Fans single inlet

## Size: 355



- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **ERAD 355-4** Art.-No. : **B10-35540**

U	400V (50Hz)	$\Delta P_{fa}$ min	450 Pa
P <sub>1</sub>	3.2 kW	$\Delta I$	29 %
I <sub>N</sub>	5.9 A	I <sub>A</sub> / I <sub>N</sub>	12.5
n	1405 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.006
t <sub>R</sub>	40 °C		52 kg

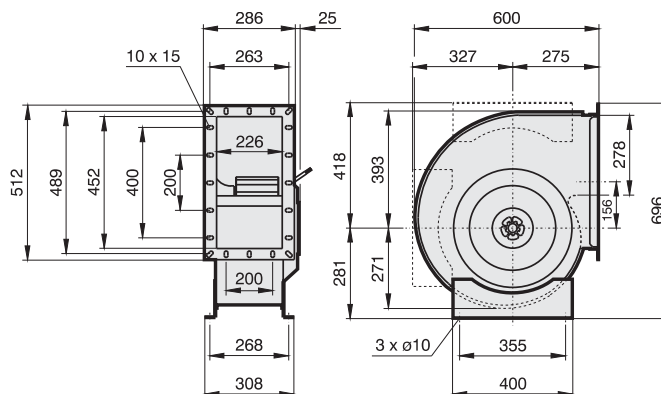
Type: **ERAD 355-6** Art.-No. : **B10-35546**

U	400V (50Hz)	$\Delta P_{fa}$ min	50 Pa
P <sub>1</sub>	1.6 kW	$\Delta I$	- %
I <sub>N</sub>	2.75 A	I <sub>A</sub> / I <sub>N</sub>	2.5
n	770 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.006
t <sub>R</sub>	40 °C		40 kg

### Sound levels available upon request

### Dimensions:

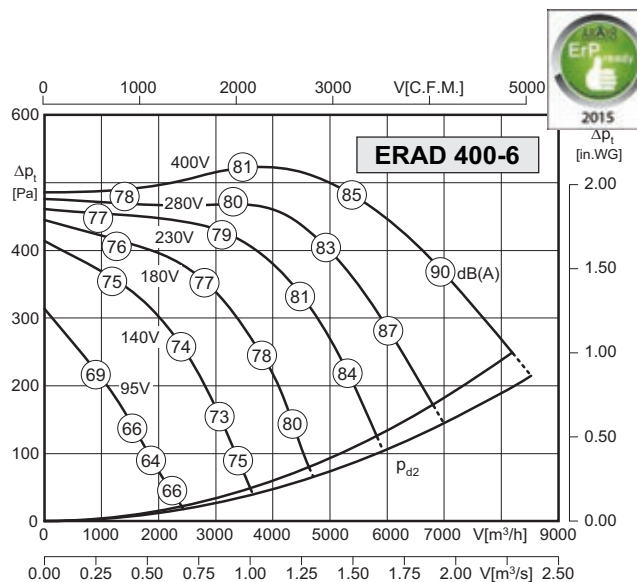
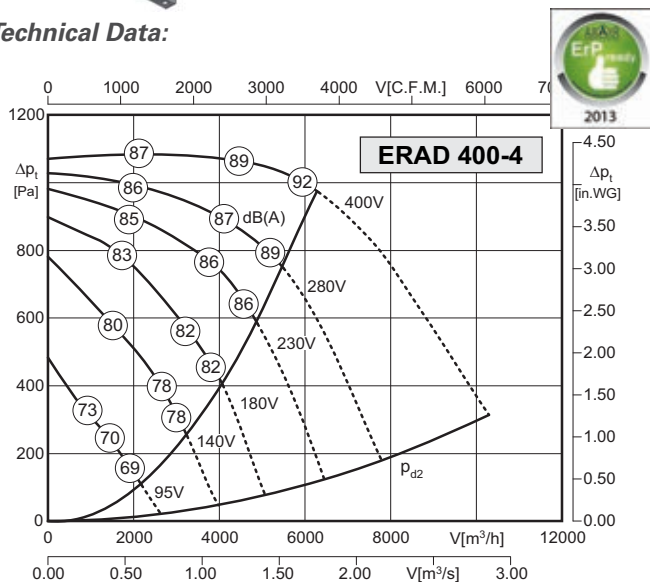
(all dimensions in mm)





- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



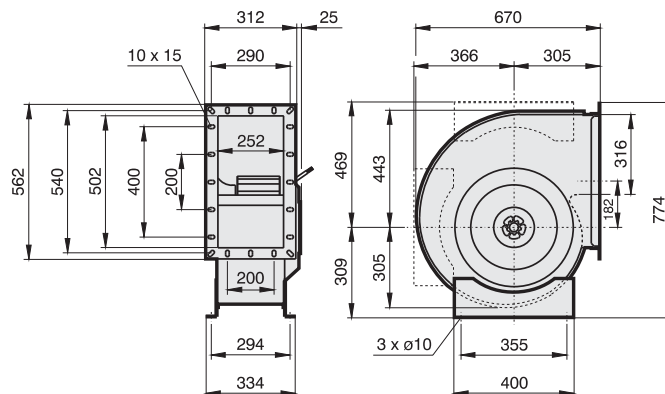
Type : ERAD 400-4		Art.-No. : B10-40040	
U	400V (50Hz)	Δp <sub>fa min</sub>	860 Pa
P <sub>1</sub>	4.1 kW	ΔI	18 %
I <sub>N</sub>	7.1 A	I <sub>A</sub> / I <sub>N</sub>	4.0
n	1360 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		68 kg

Type : ERAD 400-6		Art.-No. : B10-40043	
U	400V (50Hz)	Δp <sub>fa min</sub>	50 Pa
P <sub>1</sub>	3.0 kW	ΔI	3 %
I <sub>N</sub>	5.5 A	I <sub>A</sub> / I <sub>N</sub>	3.1
n	860 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		64 kg

Sound levels available upon request

**Dimensions:**

(all dimensions in mm)



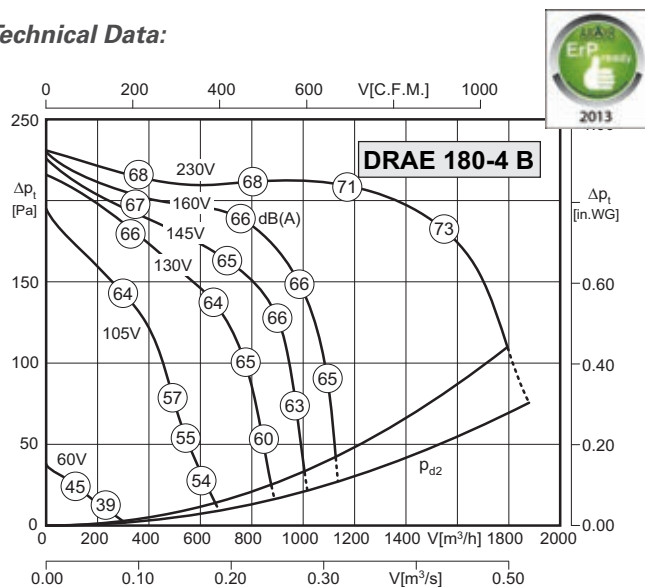
# Centrifugal Fans double inlet

## Size: 180



- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **DRAE 180-4B**

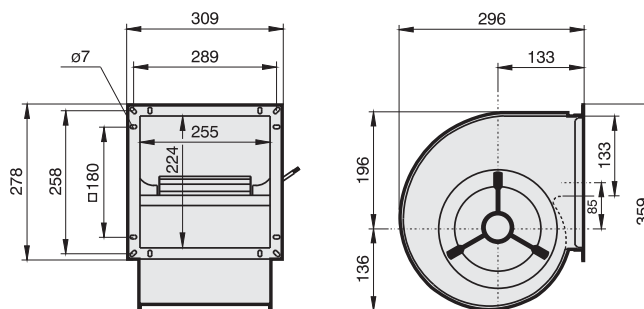
Art.-No. : **C10-18009**

U	230V (50Hz)	$\Delta P_{fa \text{ min}}$	40 Pa
P <sub>1</sub>	0.33 kW	$\Delta I$	- %
I <sub>N</sub>	1.4 A	I <sub>A</sub> / I <sub>N</sub>	1.3
n	1080 min <sup>-1</sup>		IP54
C <sub>400V</sub>	6 μF		01.025
t <sub>R</sub>	40 °C		8,5 kg

### Sound levels available upon request

### Dimensions:

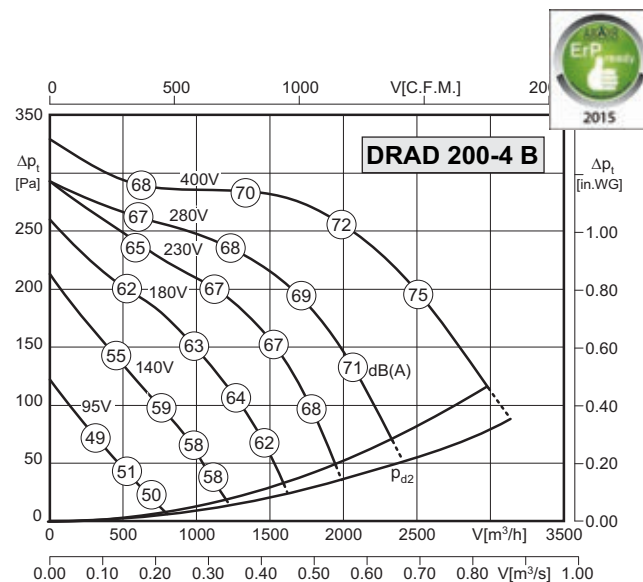
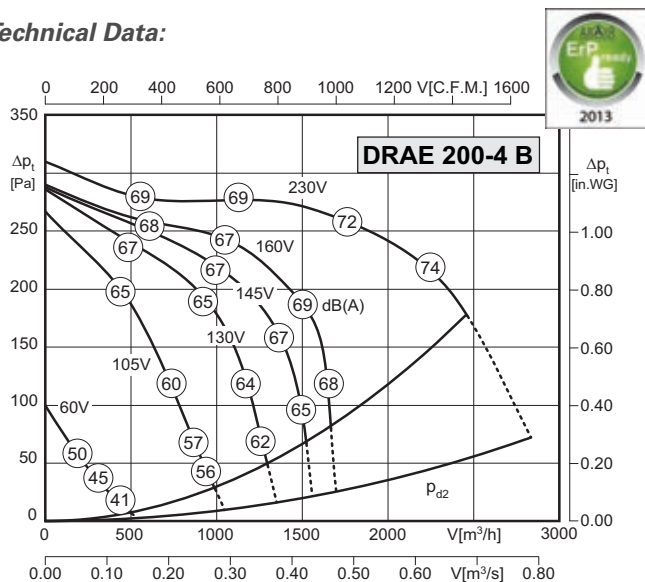
(all dimensions in mm)





- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



**Type : DRAE 200-4B**

**Art.-No. : C10-20010**

U	230V (50Hz)	$\Delta p_{fa \text{ min}}$	125 Pa
P <sub>1</sub>	0.49 kW	$\Delta I$	- %
I <sub>N</sub>	2.1 A	I <sub>A</sub> / I <sub>N</sub>	1.6
n	1230 min <sup>-1</sup>		IP54
C <sub>400v</sub>	10 μF		01.025
t <sub>R</sub>	40 °C		10,7 kg

**Type : DRAD 200-4B**

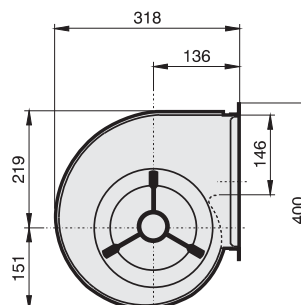
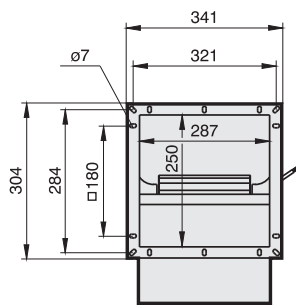
**Art.-No. : C10-20011**

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	40 Pa
P <sub>1</sub>	0.56 kW	$\Delta I$	- %
I <sub>N</sub>	0.98 A	I <sub>A</sub> / I <sub>N</sub>	2.4
n	1170 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		10,7 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



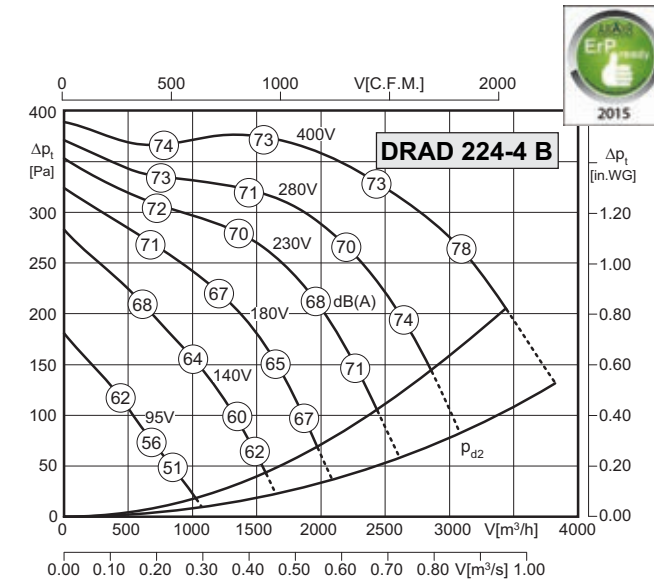
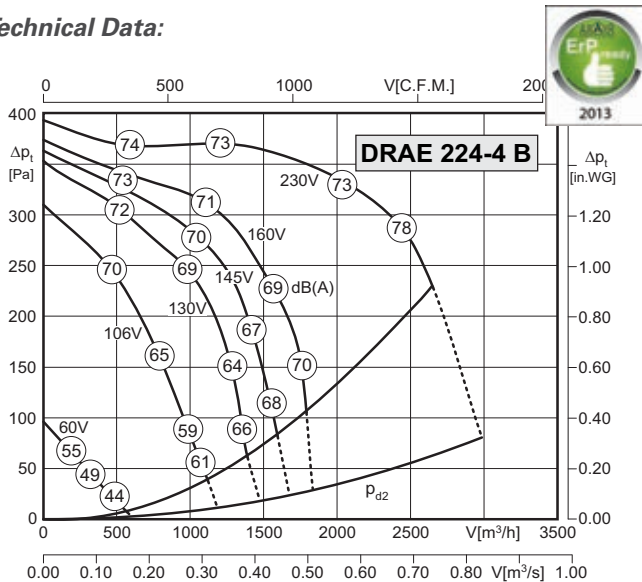
## Centrifugal Fans double inlet

Size: 224



- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **DRAE 224-4B**

Art.-No. : C10-22410

U	230V (50Hz)	Δpfa min	170 Pa
P1	0.72 kW	ΔI	– %
IN	3.1 A	IA / IN	1.4
n	1200 min <sup>-1</sup>	▲	IP54
C400v	14 μF	✱	01.025
tR	40 °C	■	13 kg

Type: **DRAD 224-4B**

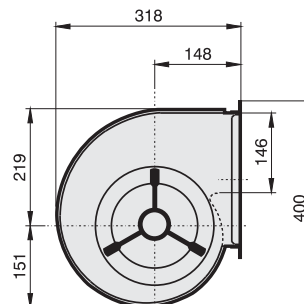
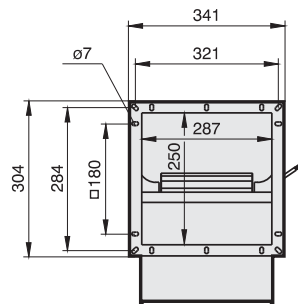
Art.-No. : C10-22411

U	400V (50Hz)	Δpfa min	100 Pa
P1	0.87 kW	ΔI	– %
IN	1.5 A	IA / IN	2.5
n	1210 min <sup>-1</sup>	▲	IP54
C400v	– μF	✱	01.006
tR	40 °C	■	13 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)

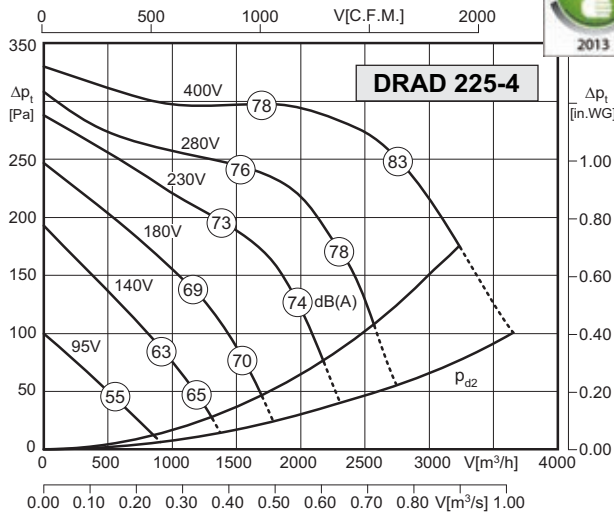






- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



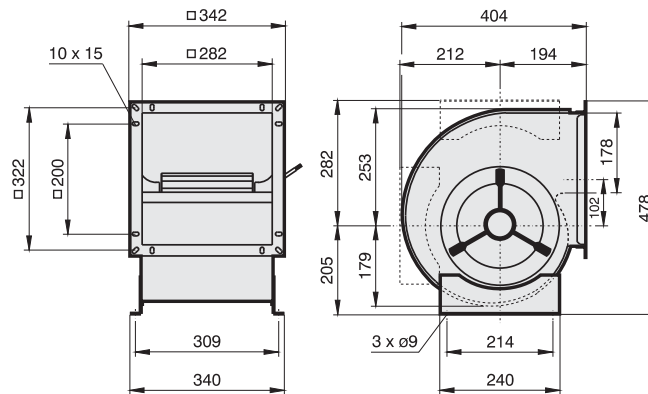
Type: **DRAD 225-4** Art.-No. : **C10-22501**

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	95 Pa
P <sub>1</sub>	0.8 kW	$\Delta I$	— %
I <sub>N</sub>	1.55 A	I <sub>A</sub> / I <sub>N</sub>	2.1
n	1130 min <sup>-1</sup>		IP54
C <sub>400v</sub>	— $\mu$ F		01.006
t <sub>R</sub>	40 °C		18 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



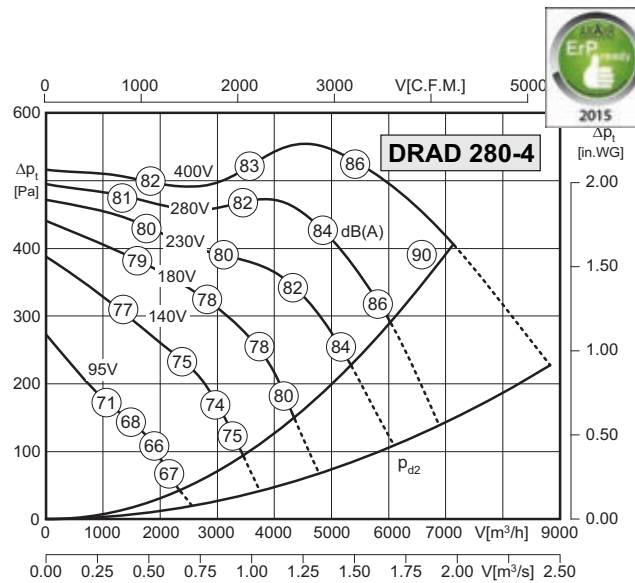
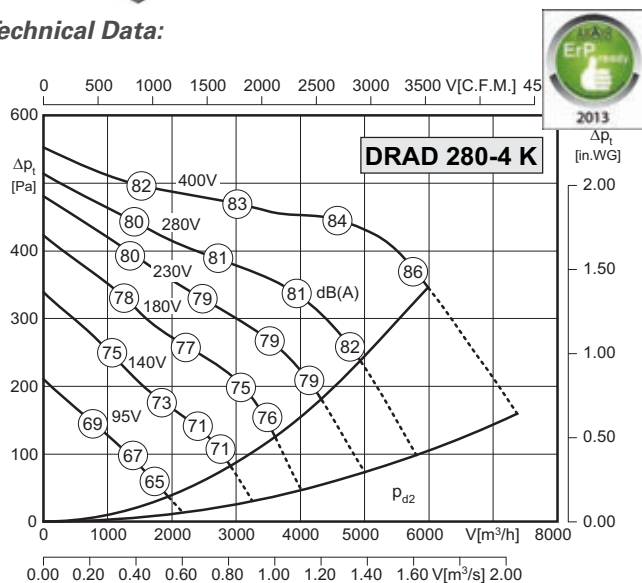
# Centrifugal Fans double inlet

## Size: 280



- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



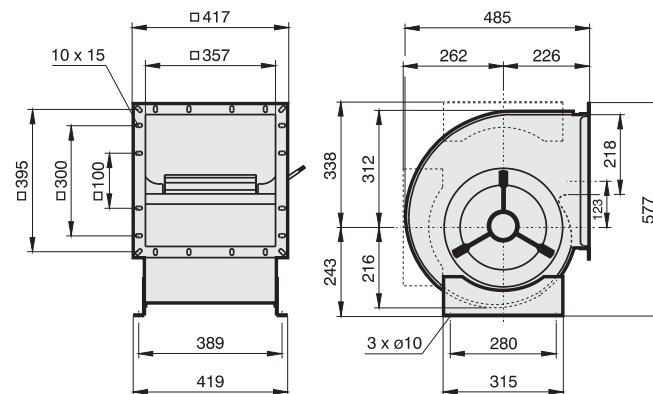
Type: DRAD 280-4K		Art.-No. : C10-28003	
U	400V (50Hz)	Δpfa min	240 Pa
P <sub>1</sub>	2.1 kW	ΔI	— %
I <sub>N</sub>	3.7 A	I <sub>A</sub> / I <sub>N</sub>	3.5
n	1160 min <sup>-1</sup>		IP54
C <sub>400v</sub>	— μF		01.006
t <sub>R</sub>	40 °C		34 kg

Type: DRAD 280-4		Art.-No. : C10-28002	
U	400V (50Hz)	Δpfa min	260 Pa
P <sub>1</sub>	2.6 kW	ΔI	3.5 %
I <sub>N</sub>	4.4 A	I <sub>A</sub> / I <sub>N</sub>	3.5
n	1280 min <sup>-1</sup>		IP54
C <sub>400v</sub>	— μF		01.006
t <sub>R</sub>	40 °C		34 kg

Sound levels available upon request

### Dimensions:

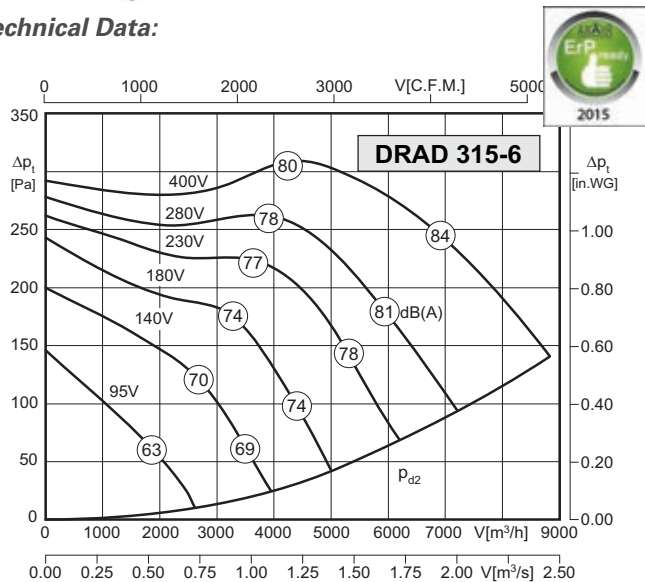
(all dimensions in mm)





- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



Type: **DRAD 315-6**

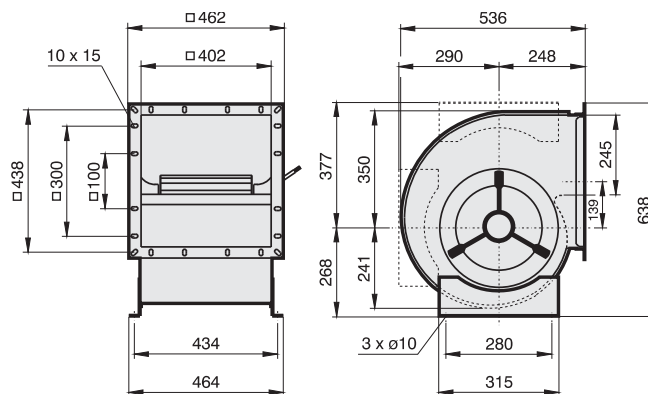
Art.-No.: **C10-31501**

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	-- Pa
P <sub>1</sub>	2.1 kW	$\Delta I$	-- %
I <sub>N</sub>	3.7 A	I <sub>A</sub> / I <sub>N</sub>	2.6
n	780 min <sup>-1</sup>		IP54
C <sub>400V</sub>	-- μF		01.006
t <sub>R</sub>	60 °C		36,5 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



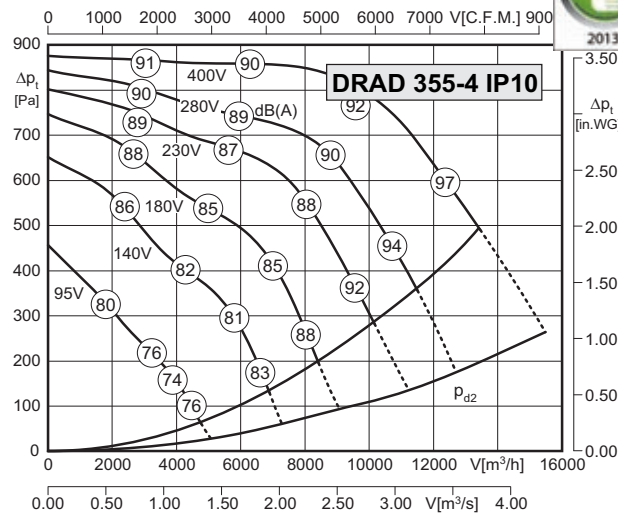
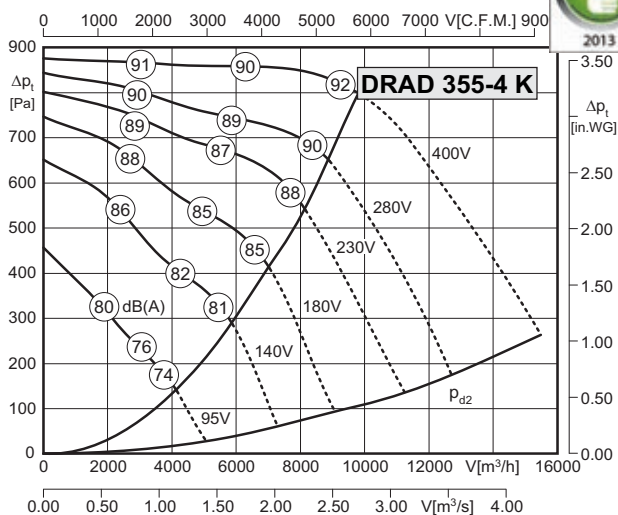
# Centrifugal Fans double inlet

Size: 355



- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

## Technical Data:



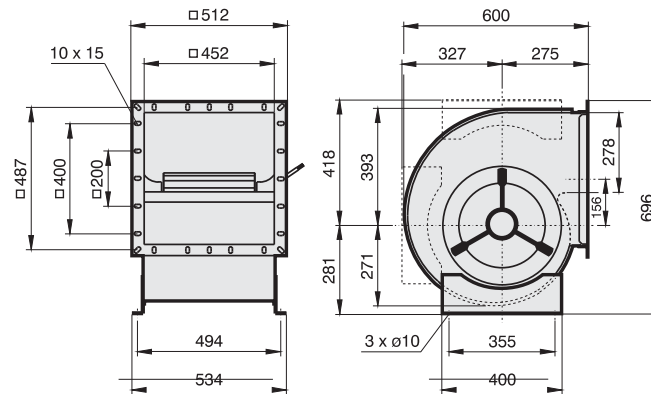
Type: DRAD 355-4K		Art.-No. : C10-35500	
U	400V (50Hz)	$\Delta p_{fa}$ min	700 Pa
P <sub>1</sub>	5.0 kW	$\Delta I$	2 %
I <sub>N</sub>	10 A	I <sub>A</sub> / I <sub>N</sub>	4.6
n	1380 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		67,5 kg

Type: DRAD 355-4		Art.-No. : C10-35501	
U	400V (50Hz)	$\Delta p_{fa}$ min	300 Pa
P <sub>1</sub>	8.0 kW	$\Delta I$	2 %
I <sub>N</sub>	14 A	I <sub>A</sub> / I <sub>N</sub>	4.6
n	1275 min <sup>-1</sup>		IP10
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		67,5 kg

Sound levels available upon request

## Dimensions:

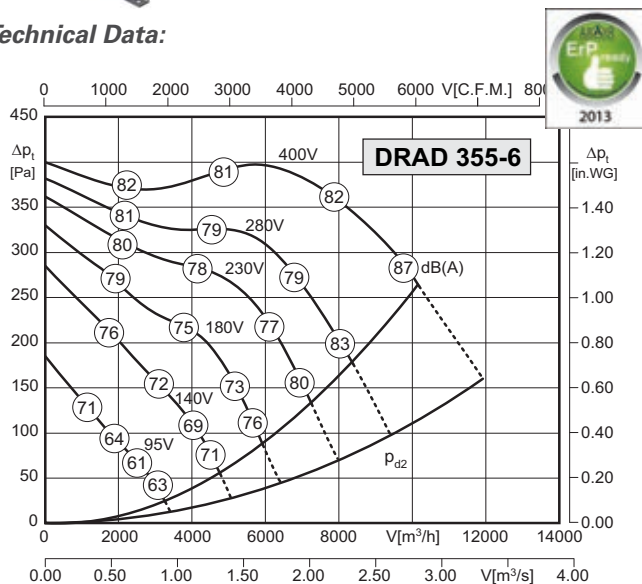
(all dimensions in mm)





- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



Type : **DRAD 355-6**

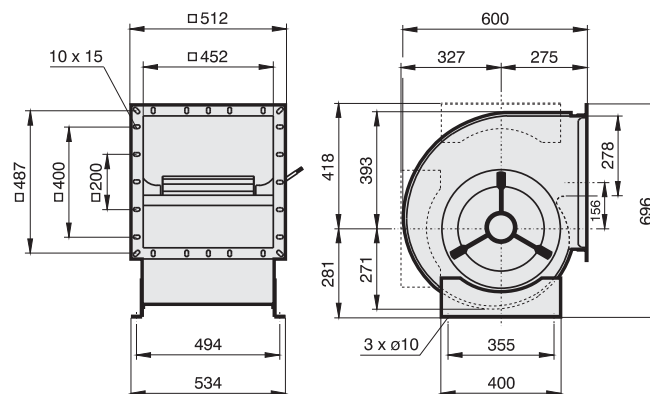
Art.-No. : **C10-35502**

U	400V (50Hz)	Δp <sub>fa min</sub>	140 Pa
P <sub>1</sub>	2.95 kW	ΔI	- %
I <sub>N</sub>	5.2 A	I <sub>A</sub> / I <sub>N</sub>	3.0
n	790 min <sup>-1</sup>	⚠	IP54
C <sub>400V</sub>	- μF	⚡	01.006
t <sub>R</sub>	40 °C	🔋	50,5 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



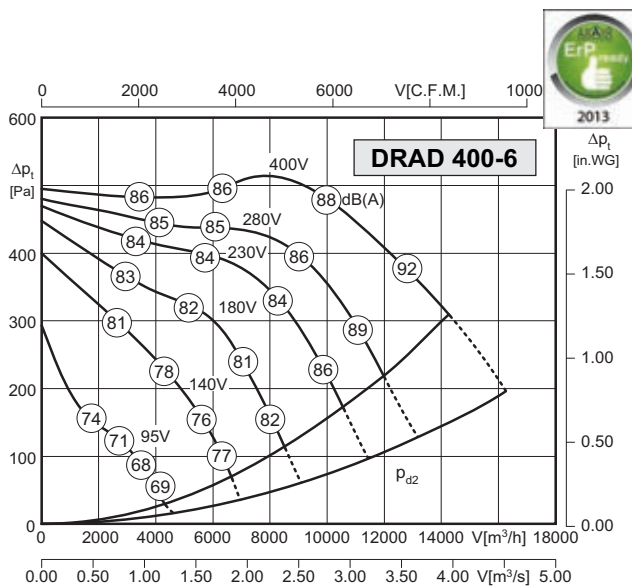
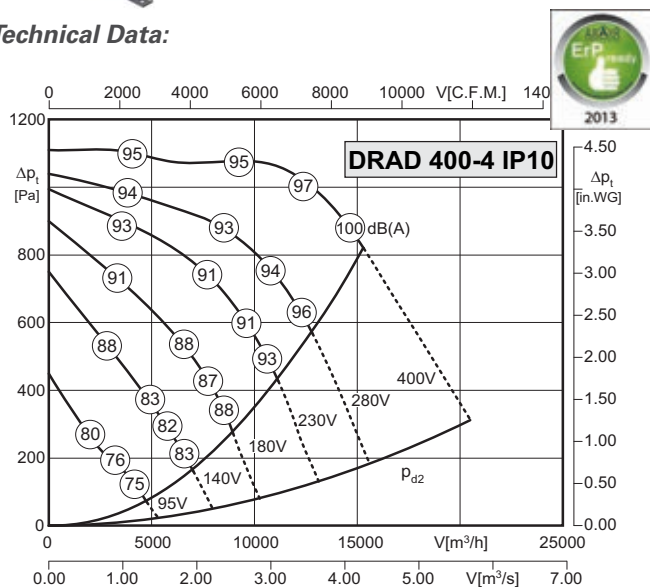
# Centrifugal Fans double inlet

Size: 400



- casing made of galvanized sheet steel
- forward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

## Technical Data:



Type: **DRAD 400-4 IP10**

Art.-No.: **C10-40005**

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	650 Pa
P <sub>1</sub>	11 kW	$\Delta I$	18 %
I <sub>N</sub>	19 A	I <sub>A</sub> / I <sub>N</sub>	4.0
n	1300 min <sup>-1</sup>		IP10
C <sub>400v</sub>	- μF		01.006
tr	40 °C		99 kg

Type: **DRAD 400-6**

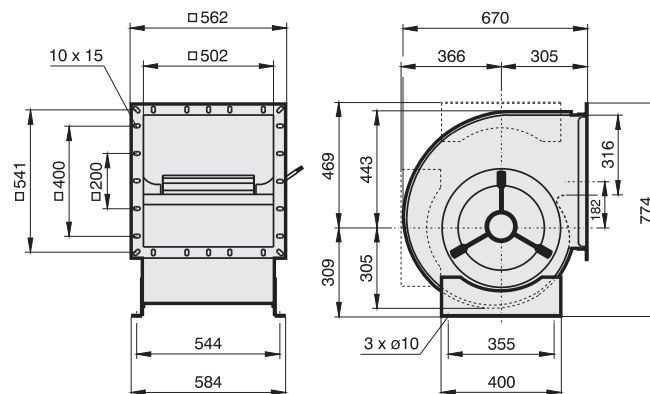
Art.-No.: **C10-40001**

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	160 Pa
P <sub>1</sub>	5.3 kW	$\Delta I$	3 %
I <sub>N</sub>	10 A	I <sub>A</sub> / I <sub>N</sub>	3.2
n	845 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
tr	40 °C		94 kg

Sound levels available upon request

## Dimensions:

(all dimensions in mm)



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## Centrifugal Fans

### High Efficiency Centrifugal Fans with slippage characteristics

Single inlet from Ø279 to Ø399.

Double inlet from Ø279 to Ø399.

High slippage characteristics for variable resistance filtered applications (example air handling units or dust extraction).

Compact design delivering lower volumes against high pressures.

Detachable outlet flanges optional.



#### Type Code

single inlet  
double inlet

centrifugal fan

external rotor motor

E = single phase

D = three phase alternating current

impeller diameter

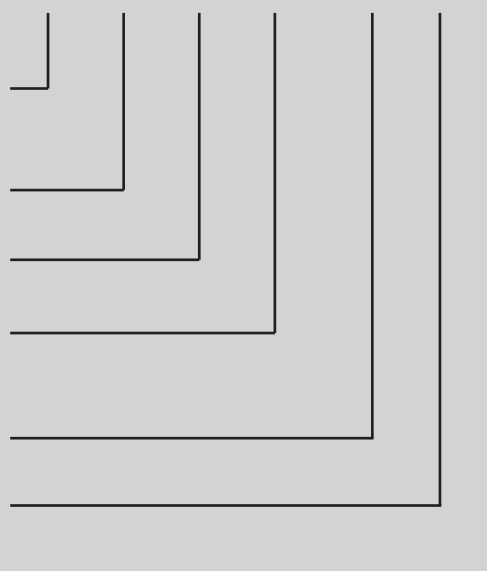
number of poles

K = small motor

L = larger casing width

A = reinforced winding

D E R A D 279 -4 L



### Features and Construction

By use of a special designed external rotor motor with high rotor resistance, in connection with forward curved centrifugal impellers, we developed a centrifugal fan series with extremely high slippage characteristics. The external rotor motor adjusts to the operating conditions and therefore changes the R.P.M. at varying system resistances, regarding on the total pressure. This is a special advantage in systems with variable resistances occurred from dirty filters, controlled dampers in duct installations or clean-room applications.



#### Casing

The spiral scrolls are made of galvanized sheet steel. On request plastic coating is possible (at additional costs).



#### Impellers

The drum impeller is made of galvanized sheet steel, and are mounted directly to the rotor of the external rotor motor and are balanced dynamically at two levels together with the rotor according to quality level G2.5 to DIN1940.

#### Electrical connection

The motors are fitted with flying lead. The electrical connection can be made via an IP54 terminal box, which is supplied loose.

#### Direction of rotation

Direction of rotation for fan types ERA is counter-clockwise viewed from the inlet side, and for fan types DRA it is also counter-clockwise viewed from the cable outlet.

#### Air performance curves

The performance curves for these fan types have been measured in mounting position A (on suction and pressure side no ducts connected) and show the total pressure increase  $\Delta p_t$  as a function of the air flow. The dynamic pressure  $\Delta p_{d2}$  refers to the flange cross section at the outlet side of the fan.

#### Noise levels

The bordered values printed in the performance curve diagrams show the „A“ weighted  $L_{WA6}$  sound power level (fan outlet). Determination of „A“ weighted  $L_{WA5}$  sound power level at fan inlet:

$$L_{WA5} [dB(A)] = L_{WA6} [dB(A)] - 2 \text{ dB [up to size 282]}$$

$$L_{WA5} [dB(A)] = L_{WA6} [dB(A)] - 4 \text{ dB [from size 314]}$$

The „A“ weighted sound pressure level  $L_{PA}$  at a distance of 1 metre is calculated approximately by deducting 7 db(A) from the „A“ weighted sound power level. It is important to note that the reflection and room characteristic as well as natural frequencies influence the sound pressure levels a different way. The relative octave sound power level  $L_{WArel}$  at octave medium frequency you can find on the table on each fan type page.



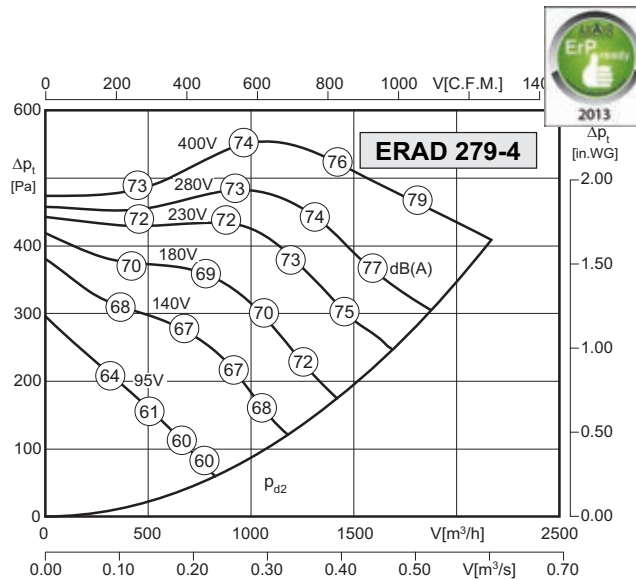
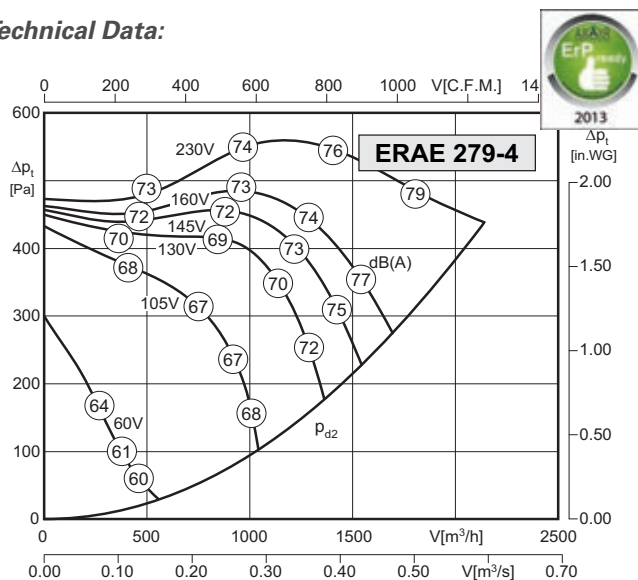
# Centrifugal Fans single inlet

## Size: 279



- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



#### Type: ERAE 279-4

#### Art.-No. : B20-27900

U	230V (50Hz)	ΔPfa min	- Pa
P1	0.81 kW	ΔI	- %
IN	3.85 A	IA / IN	1.95
n	1225 min-1		IP54
C400v	16 μF		01.025
tr	50 °C		15.5 kg

#### Type: ERAD 279-4

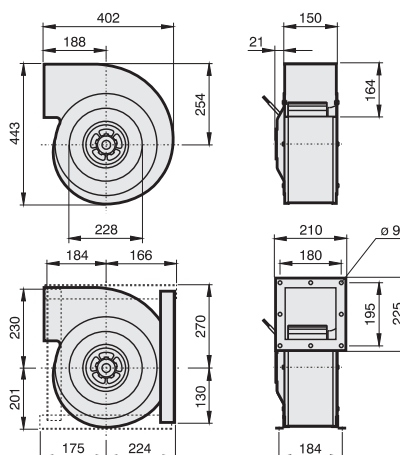
#### Art.-No. : B20-27940

U	400V (50Hz)	ΔPfa min	- Pa
P1	0.85 kW	ΔI	- %
IN	1.75 A	IA / IN	2.7
n	1250 min-1		IP54
C400v	- μF		01.006
tr	60 °C		15.5 kg

### Sound levels available upon request

### Dimensions:

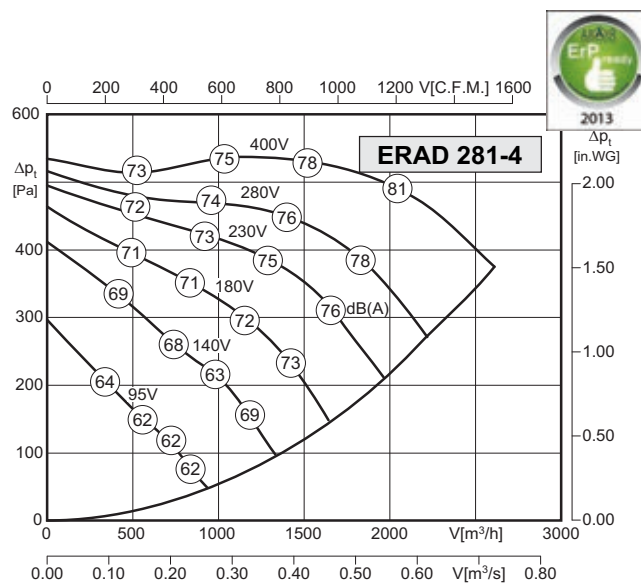
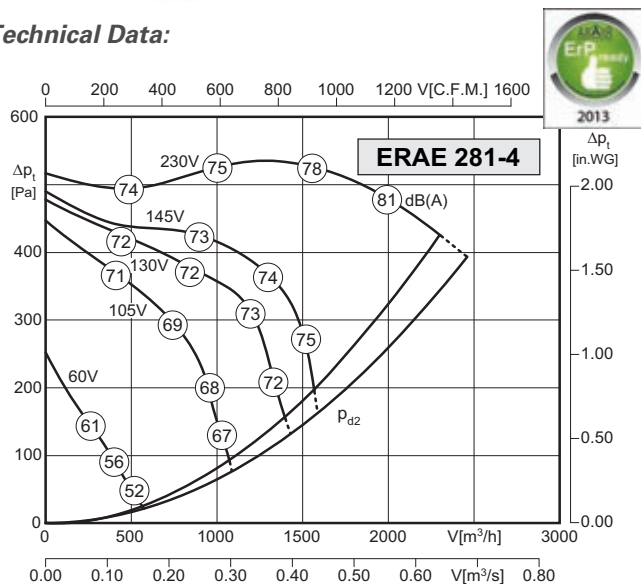
(all dimensions in mm)





- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



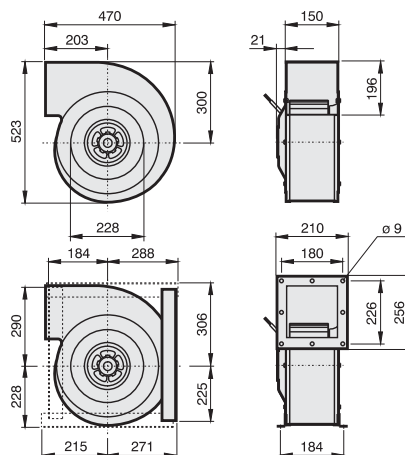
Type: ERAE 281-4		Art.-No. : B20-28100	
U	230V (50Hz)	Δpfa min	80 Pa
P1	0.9 kW	ΔI	— %
IN	4.25 A	IA / IN	1.75
n	1200 min-1	▲	IP54
C400v	16 μF	★	01.025
tR	40 °C	■	17 kg

Type: ERAD 281-4		Art.-No. : B20-28140	
U	400V (50Hz)	Δpfa min	— Pa
P1	1.0 kW	ΔI	— %
IN	1.95 A	IA / IN	2.7
n	1225 min-1	▲	IP54
C400v	— μF	★	01.006
tR	50 °C	■	17 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



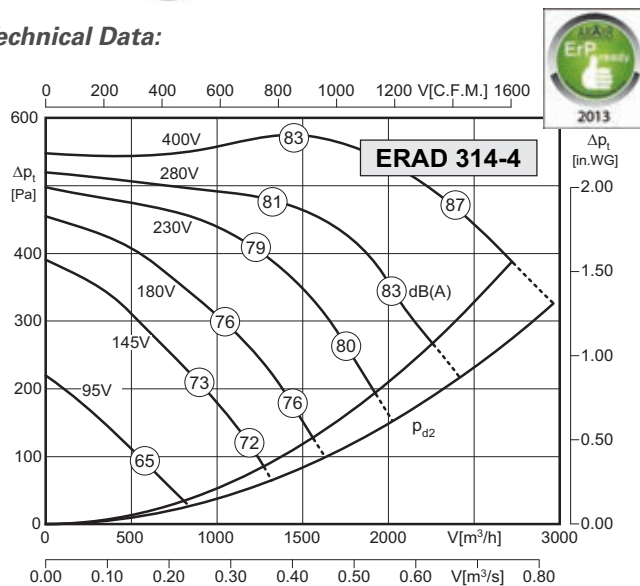
# Centrifugal Fans single inlet

## Size: 314



- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type : **ERAD 314-4**

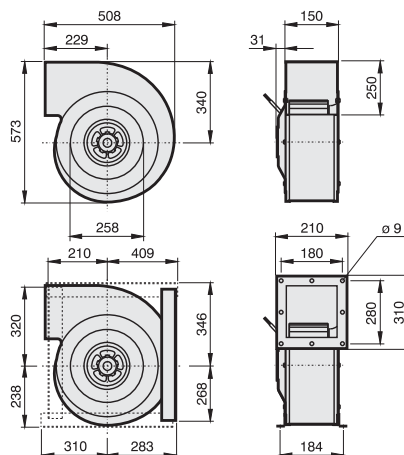
Art.-No. : **B20-31440**

U	400V (50Hz)	Δp <sub>fa</sub> min	115 Pa
P <sub>1</sub>	1.2 kW	ΔI	- %
I <sub>N</sub>	2.15 A	I <sub>A</sub> / I <sub>N</sub>	2.6
n	1240 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.006
t <sub>R</sub>	40 °C		25 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



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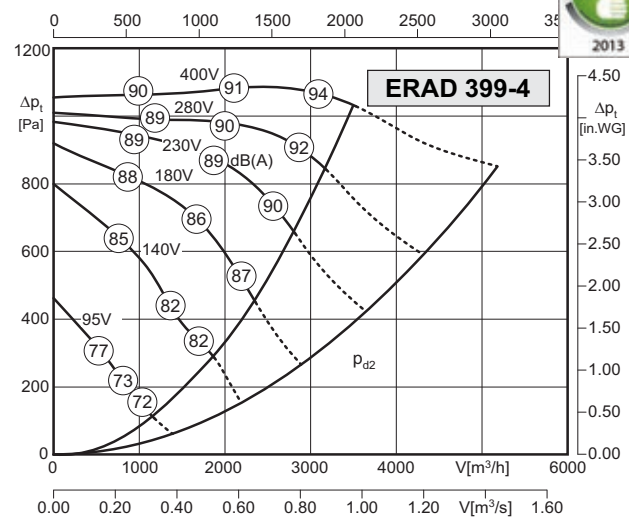
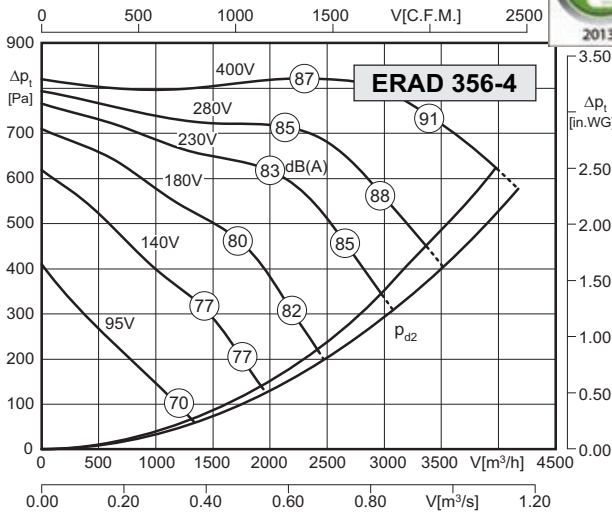
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- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



Type: **ERAD 356-4** Art.-No.: **B20-35640**

U	400V (50Hz)	$\Delta p_{fa}$ min	100 Pa
P <sub>1</sub>	2.45 kW	$\Delta I$	- %
I <sub>N</sub>	4.5 A	I <sub>A</sub> / I <sub>N</sub>	2.8
n	1270 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		35 kg

Type: **ERAD 399-4** Art.-No.: **B20-39940**

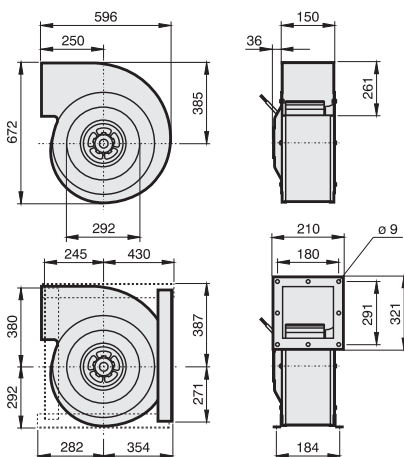
U	400V (50Hz)	$\Delta p_{fa}$ min	650 Pa
P <sub>1</sub>	2.75 kW	$\Delta I$	12 %
I <sub>N</sub>	5.1 A	I <sub>A</sub> / I <sub>N</sub>	4.2
n	1390 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		50 kg

**Sound levels available upon request**

**Sound levels available upon request**

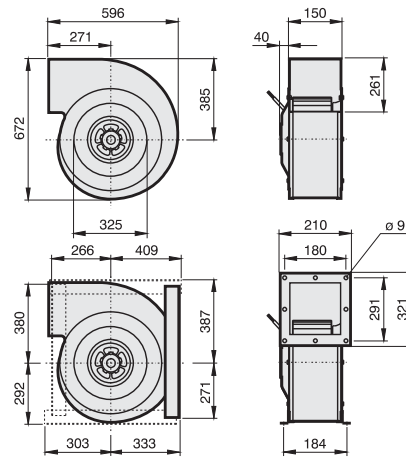
**Dimensions:**

(all dimensions in mm)



**Dimensions:**

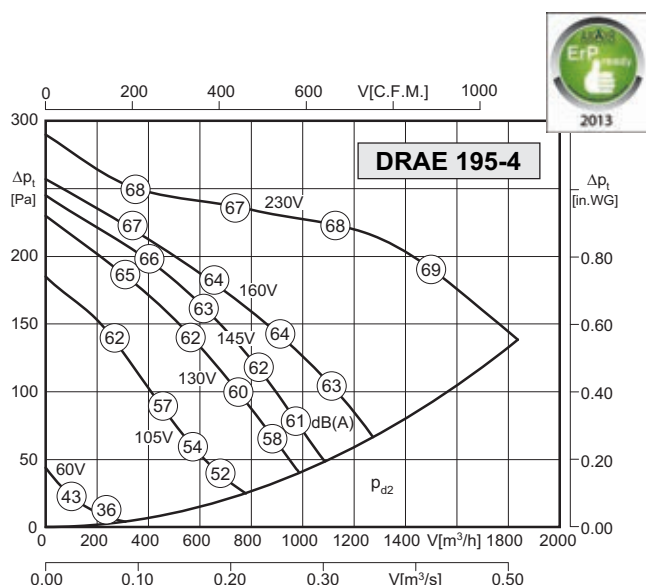
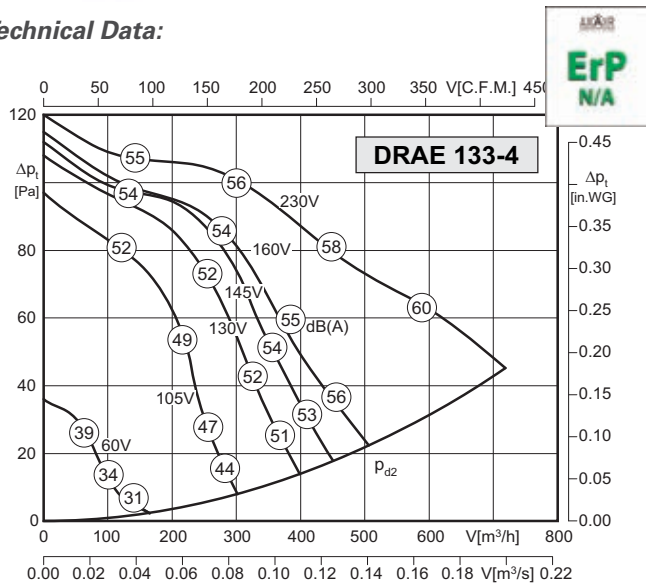
(all dimensions in mm)





- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



**Type: DRAE 133-4**      **Art.-No. : C00-13301**

U	230V (50Hz)	$\Delta p_{fa}$ min	-- Pa
$P_1$	0.09 kW	$\Delta I$	-- %
$I_N$	0.38 A	$I_A / I_N$	1.3
n	1160 min <sup>-1</sup>		IP44
$C_{400V}$	2 $\mu$ F		01.009
$t_R$	60 °C		4 kg

**Type: DRAE 195-4**      **Art.-No. : C00-19501**

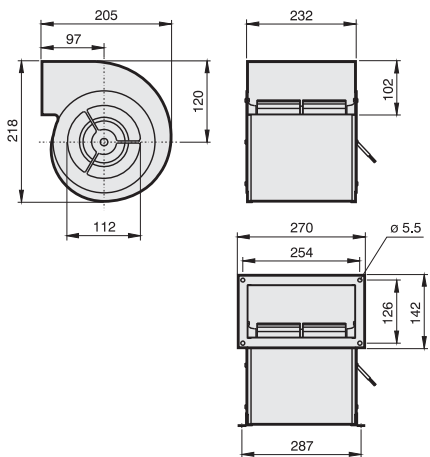
U	230V (50Hz)	$\Delta p_{fa}$ min	-- Pa
$P_1$	0.30 kW	$\Delta I$	-- %
$I_N$	1.4 A	$I_A / I_N$	1.45
n	1020 min <sup>-1</sup>		IP54
$C_{400V}$	5 $\mu$ F		01.025
$t_R$	70 °C		12 kg

Sound levels available upon request

Sound levels available upon request

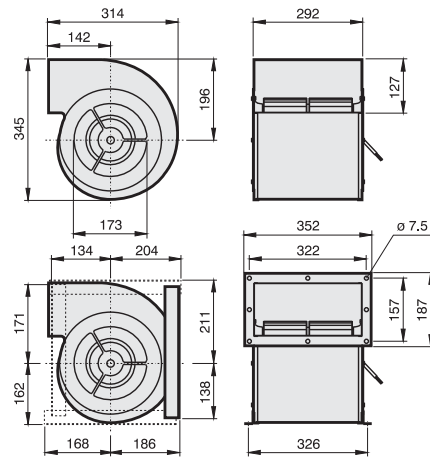
**Dimensions:**

(all dimensions in mm)



**Dimensions:**

(all dimensions in mm)



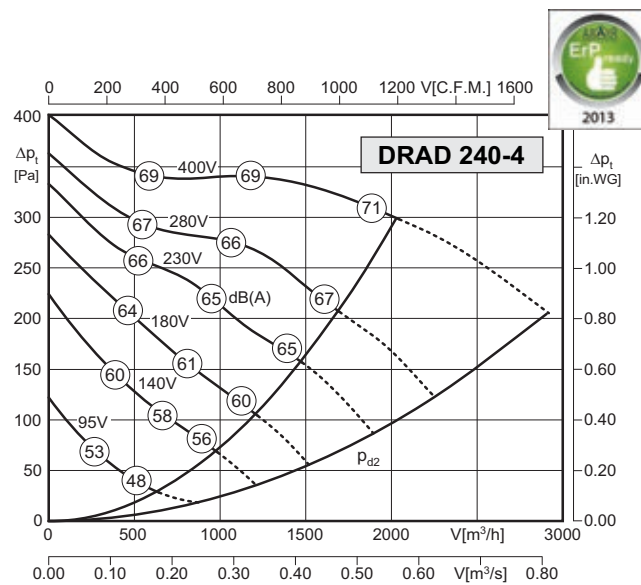
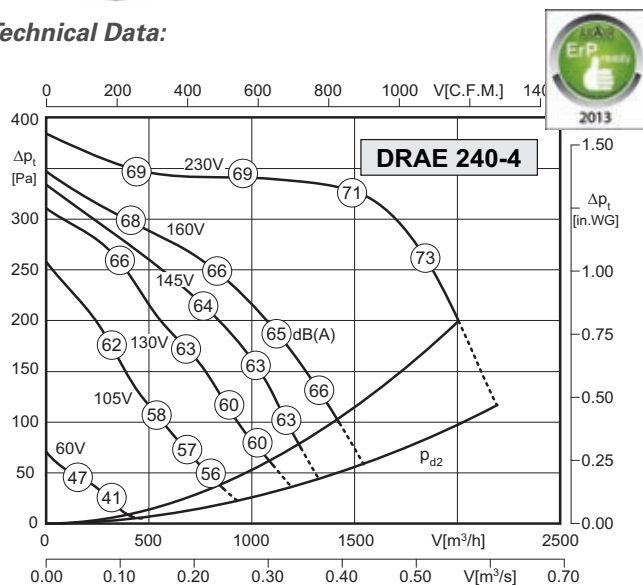
# Centrifugal Fans double inlet

## Size: 240



- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **DRAE 240-4**

Art.-No.: **C00-24000**

U	230V (50Hz)	Δp <sub>fa</sub> min	100 Pa
P <sub>1</sub>	0.5 kW	ΔI	- %
I <sub>N</sub>	2.2 A	I <sub>A</sub> / I <sub>N</sub>	1.3
n	950 min <sup>-1</sup>	⚠	IP54
C <sub>400V</sub>	10 μF	✳	01.025
t <sub>R</sub>	40 °C	🔌	15 kg

Type: **DRAD 240-4**

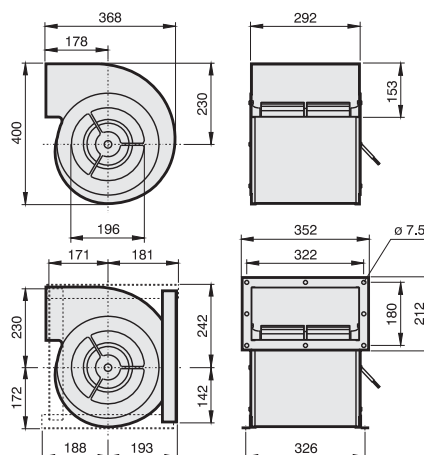
Art.-No.: **C00-24040**

U	400V (50Hz)	Δp <sub>fa</sub> min	200 Pa
P <sub>1</sub>	0.47 kW	ΔI	- %
I <sub>N</sub>	1.0 A	I <sub>A</sub> / I <sub>N</sub>	3.6
n	1150 min <sup>-1</sup>	⚠	IP54
C <sub>400V</sub>	- μF	✳	01.006
t <sub>R</sub>	40 °C	🔌	13 kg

### Sound levels available upon request

### Dimensions:

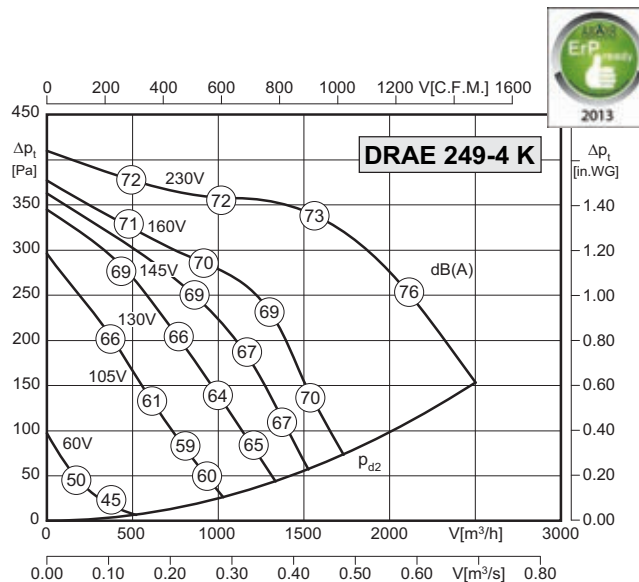
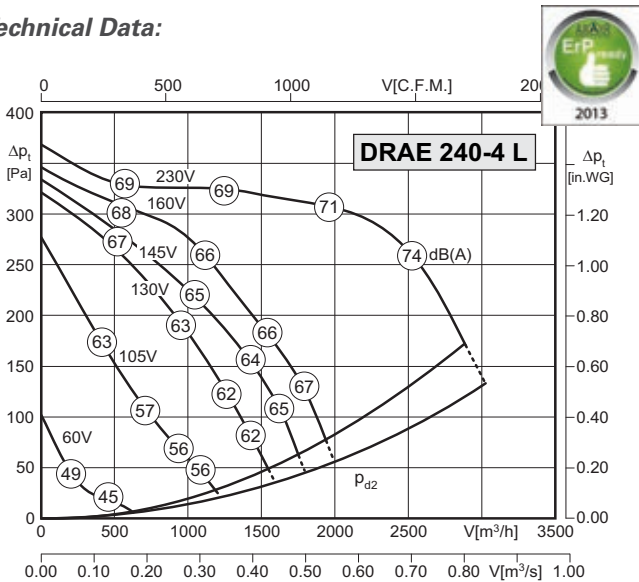
(all dimensions in mm)





- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



**Type: DRAE 240-4 L**

**Art.-No. : C00-24003**

U	230V (50Hz)	$\Delta p_{fa \text{ min}}$	50 Pa
P <sub>1</sub>	0.68 kW	$\Delta I$	-- %
I <sub>N</sub>	3.1 A	I <sub>A</sub> / I <sub>N</sub>	1.3
n	950 min <sup>-1</sup>		IP54
C <sub>400v</sub>	10 $\mu$ F		01.025
t <sub>R</sub>	40 °C		19 kg

**Type: DRAE 249-4 K**

**Art.-No. : C00-24900**

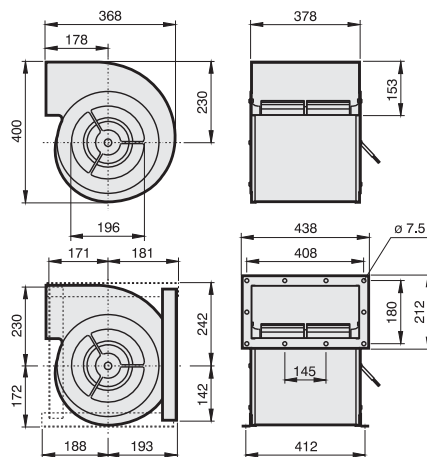
U	230V (50Hz)	$\Delta p_{fa \text{ min}}$	-- Pa
P <sub>1</sub>	0.65 kW	$\Delta I$	-- %
I <sub>N</sub>	2.95 A	I <sub>A</sub> / I <sub>N</sub>	1.6
n	960 min <sup>-1</sup>		IP54
C <sub>400v</sub>	10 $\mu$ F		01.025
t <sub>R</sub>	45 °C		17 kg

**Sound levels available upon request**

**Sound levels available upon request**

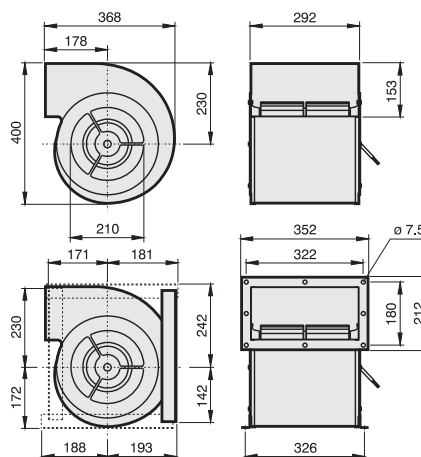
**Dimensions:**

(all dimensions in mm)



**Dimensions:**

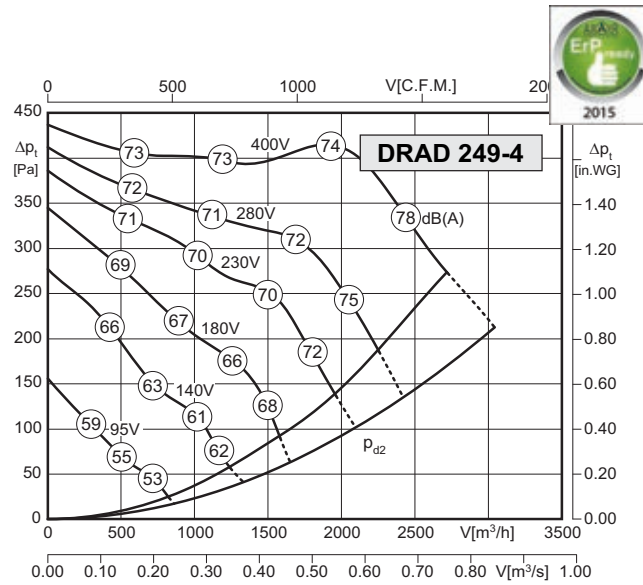
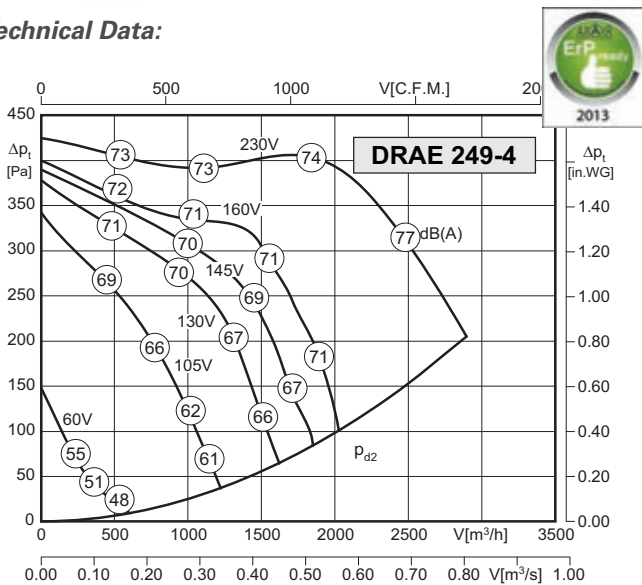
(all dimensions in mm)





- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



Type: **DRAE 249-4**

Art.-No.: **C00-24905**

U	230V (50Hz)	$\Delta p_{fa \text{ min}}$	- Pa
P <sub>1</sub>	0.82 kW	$\Delta I$	- %
I <sub>N</sub>	3.4 A	I <sub>A</sub> / I <sub>N</sub>	1.6
n	1100 min <sup>-1</sup>		IP54
C <sub>400v</sub>	14 μF		01.025
t <sub>R</sub>	40 °C		17 kg

Type: **DRAD 249-4**

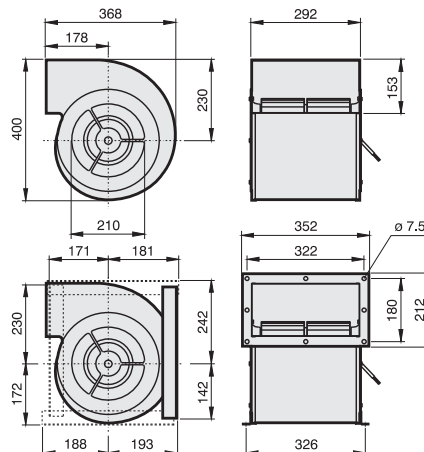
Art.-No.: **C00-24940**

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	100 Pa
P <sub>1</sub>	0.7 kW	$\Delta I$	- %
I <sub>N</sub>	1.4 A	I <sub>A</sub> / I <sub>N</sub>	2.4
n	1220 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		15 kg

Sound levels available upon request

**Dimensions:**

(all dimensions in mm)





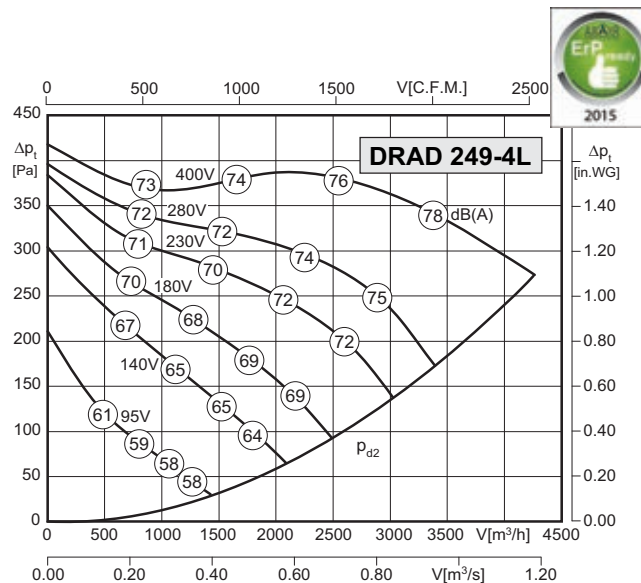
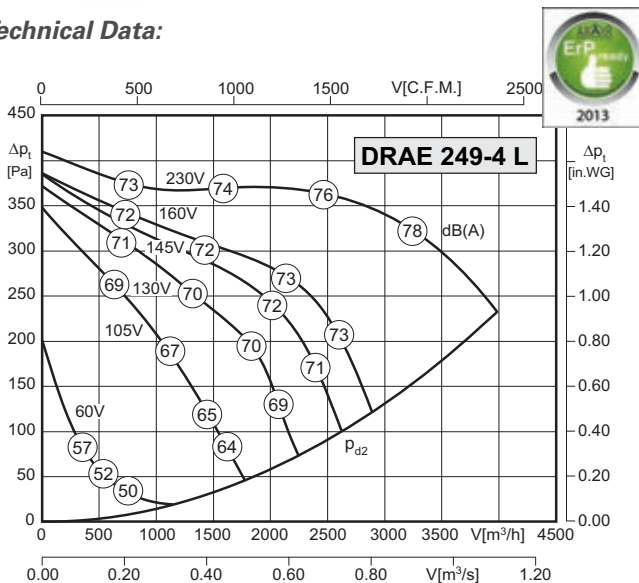
# Centrifugal Fans double inlet

## Size: 249L



- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **DRAE 249-4 L**

Art.-No.: **C00-24906**

U	230V (50Hz)	ΔP <sub>f a min</sub>	- Pa
P <sub>1</sub>	1.0 kW	ΔI	- %
I <sub>N</sub>	4.55 A	I <sub>A</sub> / I <sub>N</sub>	1.6
n	1110 min <sup>-1</sup>		IP54
C <sub>400v</sub>	16 μF		01.025
t <sub>R</sub>	40 °C		20 kg

Type: **DRAD 249-4 L**

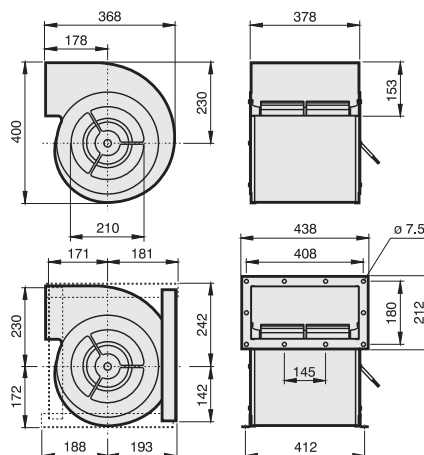
Art.-No.: **C00-24943**

U	400V (50Hz)	ΔP <sub>f a min</sub>	- Pa
P <sub>1</sub>	1.08 kW	ΔI	- %
I <sub>N</sub>	2.05 A	I <sub>A</sub> / I <sub>N</sub>	2.5
n	1140 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		20 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



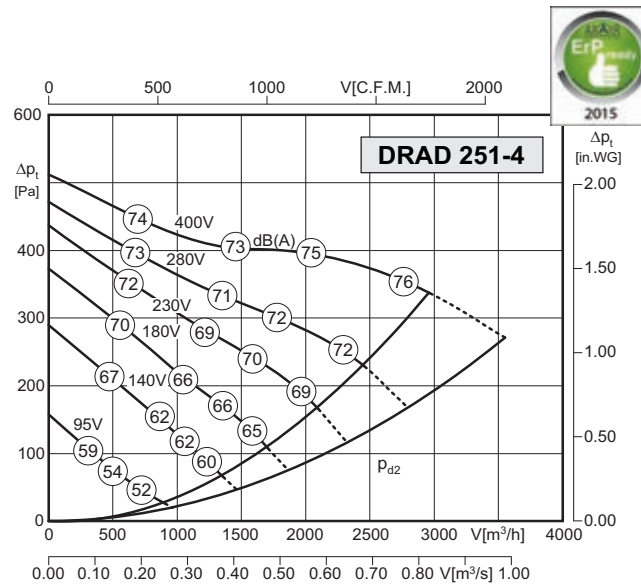
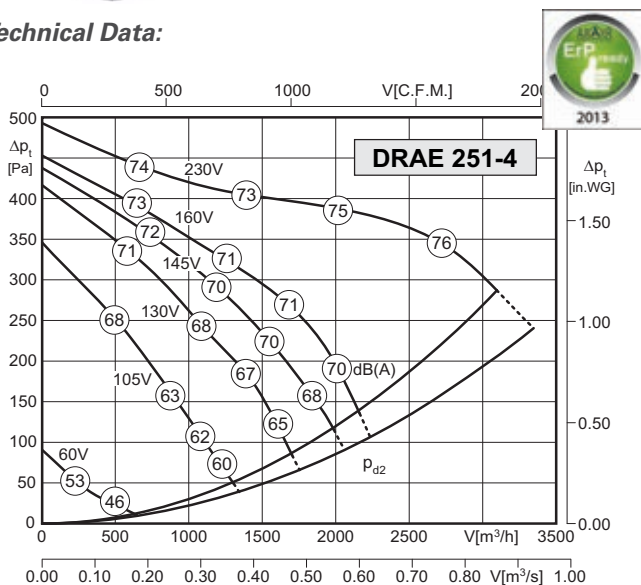
# Centrifugal Fans double inlet

## Size: 251



- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **DRAE 251-4**

Art.-No.: **C00-25105**

U	230V (50Hz)	ΔP <sub>fa</sub> min	80 Pa
P <sub>1</sub>	0.8 kW	ΔI	– %
I <sub>N</sub>	3.5 A	I <sub>A</sub> / I <sub>N</sub>	1.6
n	1160 min <sup>-1</sup>		IP54
C <sub>400v</sub>	14 μF		01.025
t <sub>R</sub>	40 °C		18 kg

Type: **DRAD 251-4**

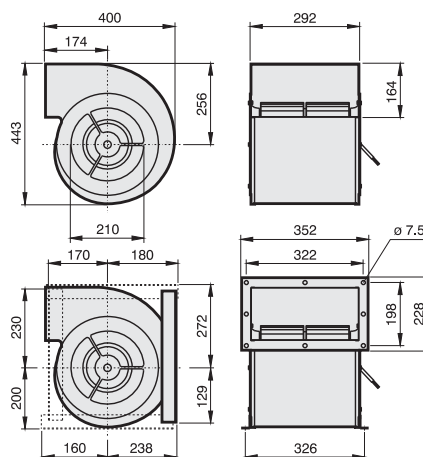
Art.-No.: **C00-25146**

U	400V (50Hz)	ΔP <sub>fa</sub> min	150 Pa
P <sub>1</sub>	0.75 kW	ΔI	– %
I <sub>N</sub>	1.5 A	I <sub>A</sub> / I <sub>N</sub>	2.4
n	1210 min <sup>-1</sup>		IP54
C <sub>400v</sub>	– μF		01.006
t <sub>R</sub>	40 °C		16 kg

### Sound levels available upon request

### Dimensions:

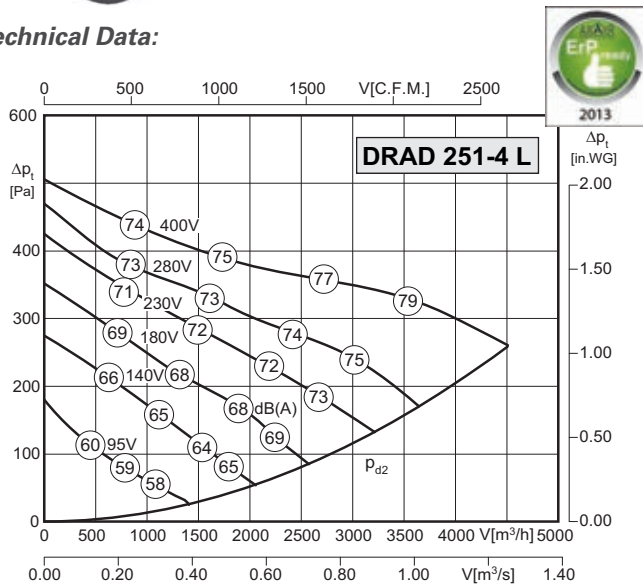
(all dimensions in mm)





- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



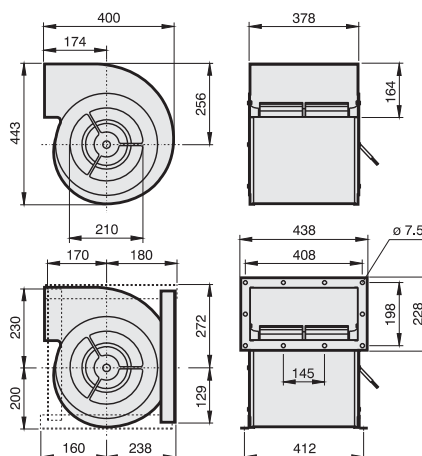
Type: **DRAD 251-4 L** Art.-No. : **C00-25149**

U	400V (50Hz)	Δpfa min	-- Pa
P1	1.08 kW	Δi	-- %
IN	2.05 A	IA / IN	2.5
n	1130 min <sup>-1</sup>	⚠	IP54
C400V	-- μF	⚡	01.006
tR	40 °C	🔧	20 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



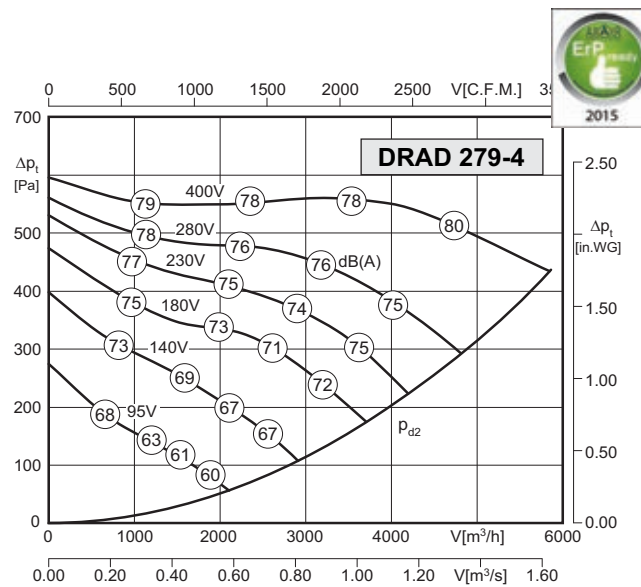
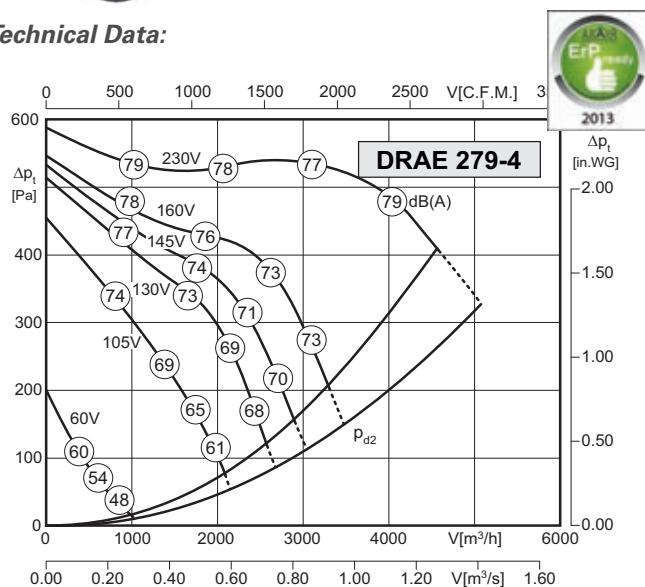
# Centrifugal Fans double inlet

## Size: 279



- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **DRAE 279-4**

Art.-No.: **C00-27900**

U	230V (50Hz)	$\Delta P_{fa \text{ min}}$	140 Pa
P <sub>1</sub>	1.55 kW	$\Delta I$	– %
I <sub>N</sub>	6.5 A	I <sub>A</sub> / I <sub>N</sub>	1.7
n	1110 min <sup>-1</sup>		IP54
C <sub>400V</sub>	25 μF		01.025
t <sub>R</sub>	40 °C		28 kg

Type: **DRAD 279-4**

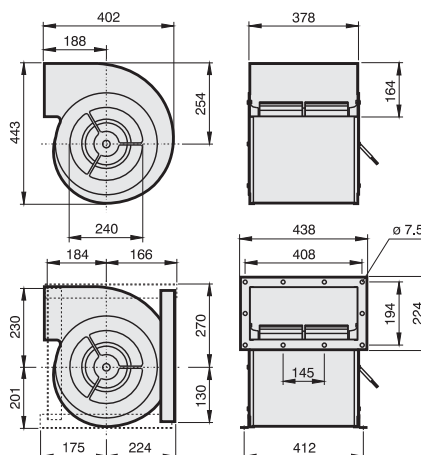
Art.-No.: **C00-27940**

U	400V (50Hz)	$\Delta P_{fa \text{ min}}$	– Pa
P <sub>1</sub>	1.8 kW	$\Delta I$	– %
I <sub>N</sub>	3.45 A	I <sub>A</sub> / I <sub>N</sub>	2.7
n	1180 min <sup>-1</sup>		IP54
C <sub>400V</sub>	– μF		01.006
t <sub>R</sub>	50 °C		27 kg

### Sound levels available upon request

### Dimensions:

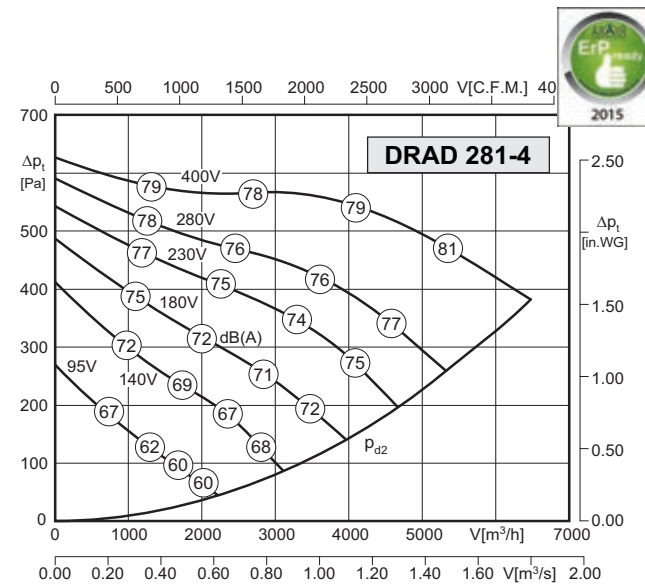
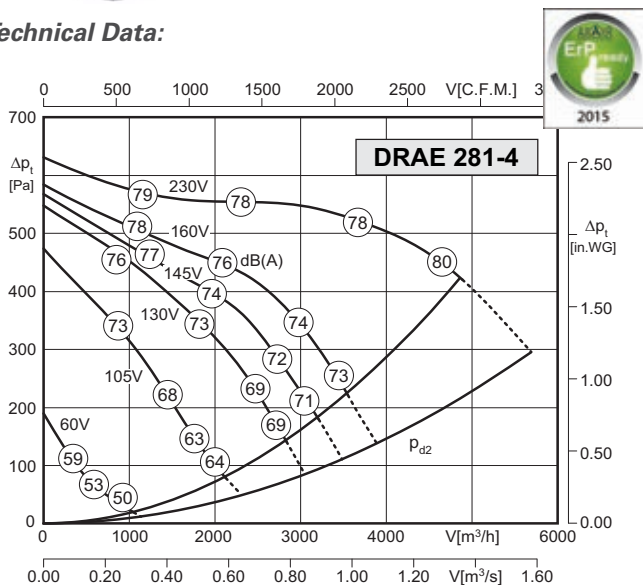
(all dimensions in mm)





- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



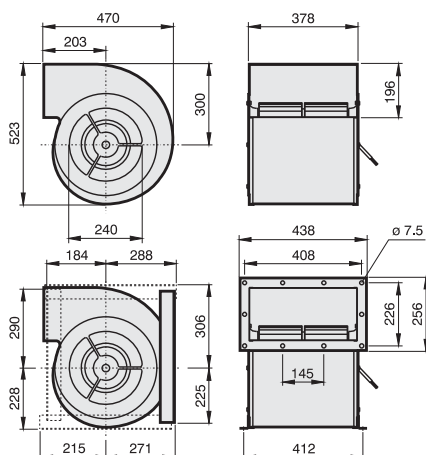
Type: <b>DRAE 281-4</b>		Art.-No. : C00-28103	
U	230V (50Hz)	Δpfa min	210 Pa
P1	1.55 kW	ΔI	-- %
IN	6.5 A	IA / IN	1.7
n	1110 min <sup>-1</sup>		IP54
C400v	25 μF		01.025
tR	40 °C		30 kg

Type: <b>DRAD 281-4</b>		Art.-No. : C00-28143	
U	400V (50Hz)	Δpfa min	-- Pa
P1	1.9 kW	ΔI	-- %
IN	3.6 A	IA / IN	2.7
n	1140 min <sup>-1</sup>		IP54
C400v	-- μF		01.006
tR	40 °C		30 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



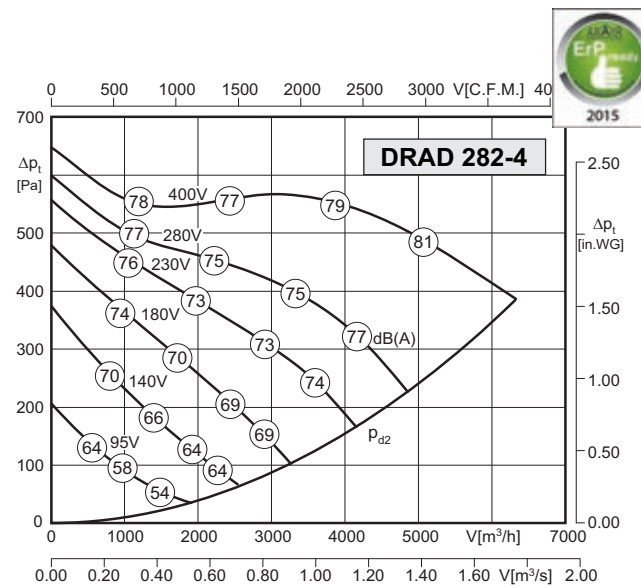
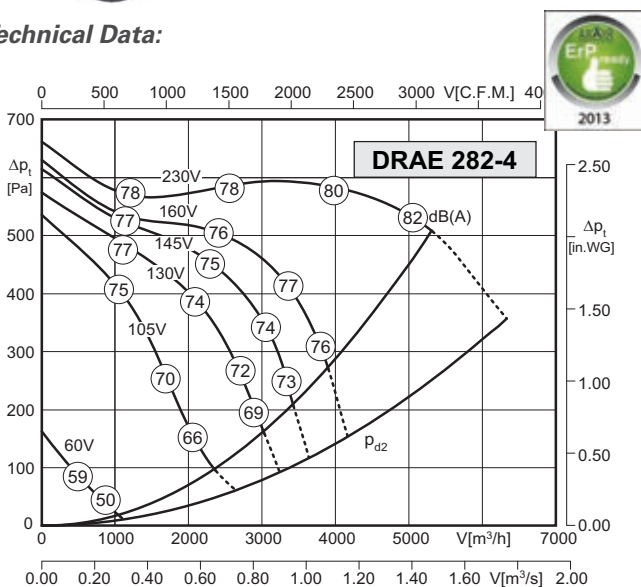
# Centrifugal Fans double inlet

## Size: 282



- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **DRAE 282-4** Art.-No.: **C00-28200**

U	230V (50Hz)	Δpfa min	250 Pa
P1	1.9 kW	ΔI	3 %
IN	7.7 A	IΔ / IN	1.9
n	1250 min <sup>-1</sup>	▲	IP54
C400V	35 μF	★	01.025
tR	40 °C	■	32 kg

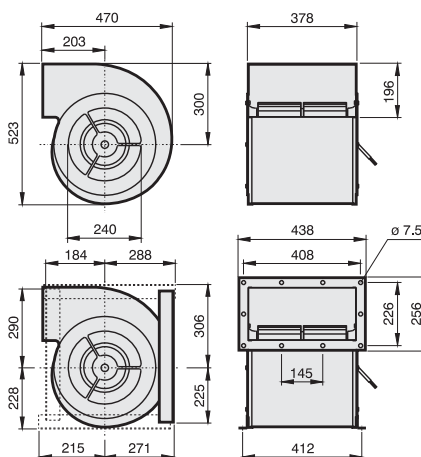
Type: **DRAD 282-4** Art.-No.: **C00-28240**

U	400V (50Hz)	Δpfa min	-- Pa
P1	2.0 kW	ΔI	-- %
IN	3.1 A	IΔ / IN	3.1
n	1090 min <sup>-1</sup>	▲	IP54
C400V	-- μF	★	01.006
tR	50 °C	■	32 kg

### Sound levels available upon request

### Dimensions:

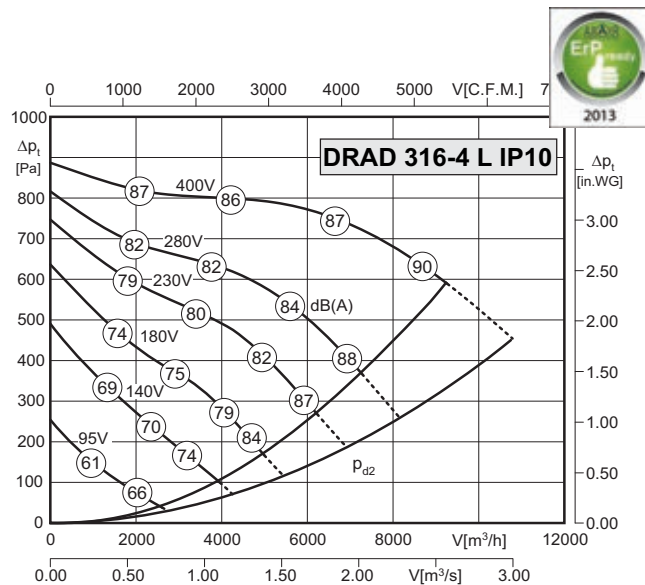
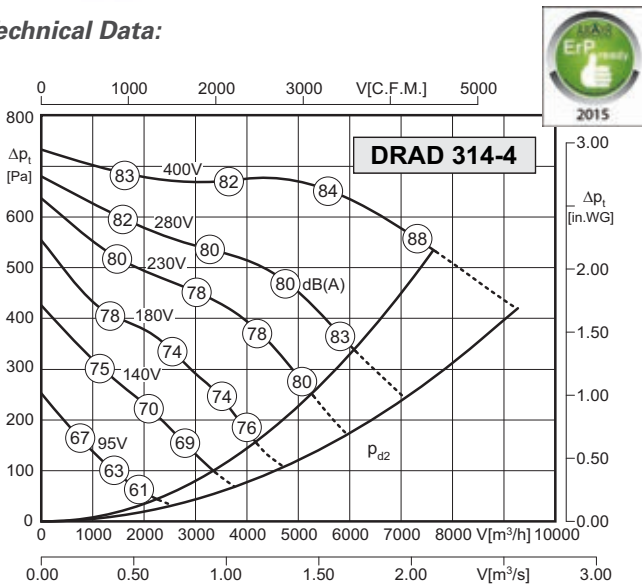
(all dimensions in mm)





- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



Type: **DRAD 314-4**

Art.-No. : **C00-31440**

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	250 Pa
P <sub>1</sub>	2.8 kW	$\Delta I$	– %
I <sub>N</sub>	4.6 A	I <sub>A</sub> / I <sub>N</sub>	2.8
n	1185 min <sup>-1</sup>		IP54
C <sub>400v</sub>	– $\mu$ F		01.006
t <sub>R</sub>	40 °C		46 kg

Type: **DRAD 316-4 L IP10**

Art.-No. : **C00-31643**

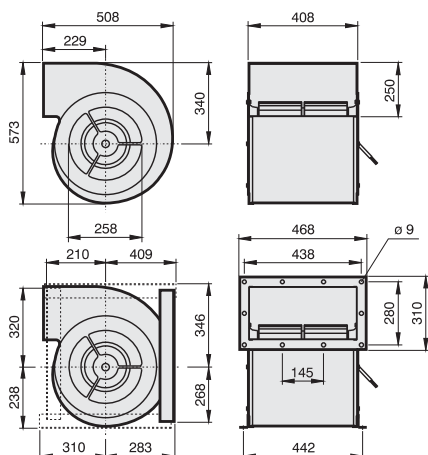
U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	260 Pa
P <sub>1</sub>	4.4 kW	$\Delta I$	8 %
I <sub>N</sub>	7.0 A	I <sub>A</sub> / I <sub>N</sub>	2.3
n	1090 min <sup>-1</sup>		IP10
C <sub>400v</sub>	– $\mu$ F		01.006
t <sub>R</sub>	40 °C		57 kg

Sound levels available upon request

Sound levels available upon request

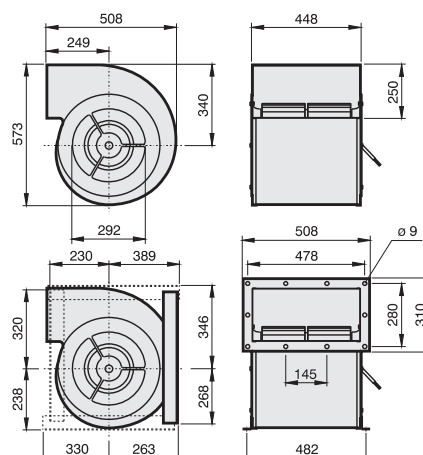
**Dimensions:**

(all dimensions in mm)



**Dimensions:**

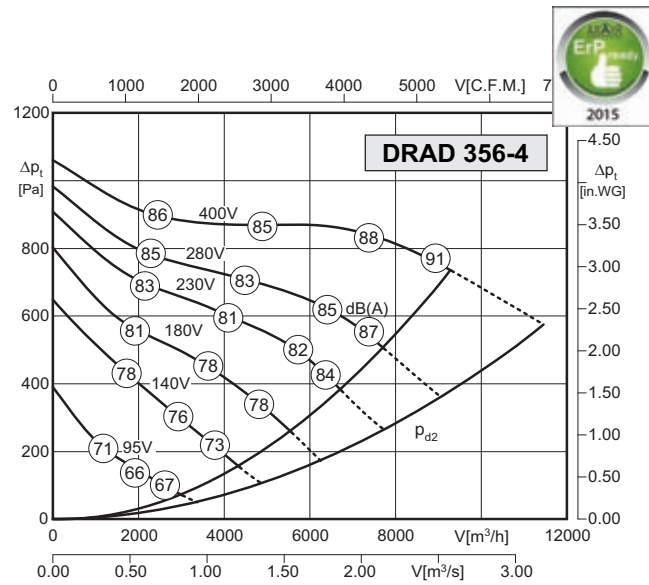
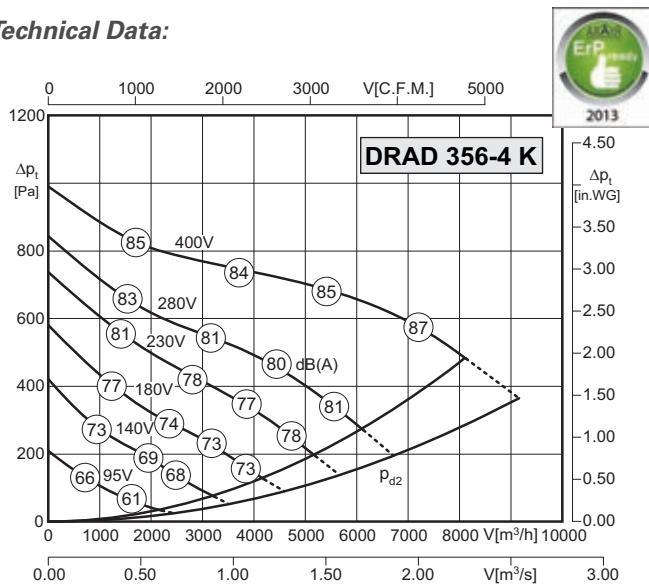
(all dimensions in mm)





- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



**Type: DRAD 356-4 K**

**Art.-No. : C00-35640**

U	400V (50Hz)	ΔPfa min	200 Pa
P1	3.2 kW	ΔI	— %
IN	5.2 A	IA / IN	2.2
n	1020 min <sup>-1</sup>		IP54
C400v	— μF		01.006
tR	40 °C		72 kg

**Type: DRAD 356-4**

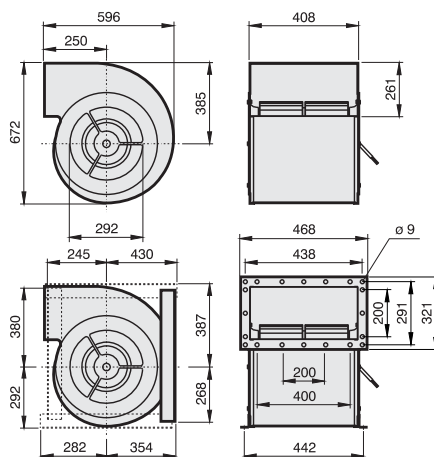
**Art.-No. : C00-35643**

U	400V (50Hz)	ΔPfa min	360 Pa
P1	4.2 kW	ΔI	4 %
IN	6.9 A	IA / IN	3.3
n	1230 min <sup>-1</sup>		IP54
C400v	— μF		01.006
tR	40 °C		72 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)





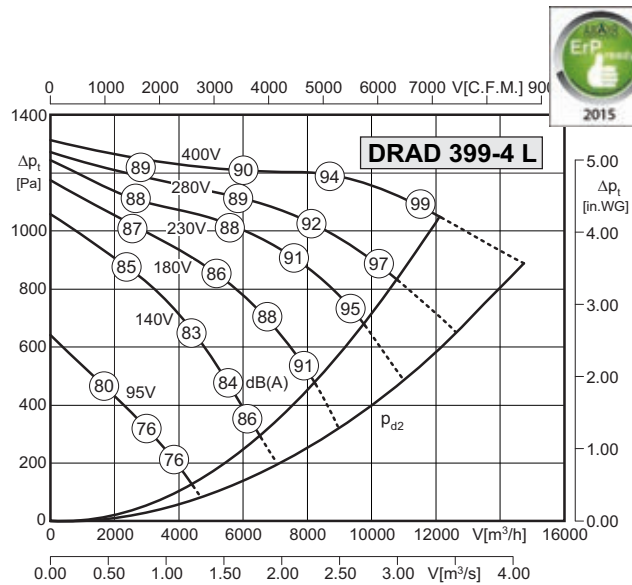
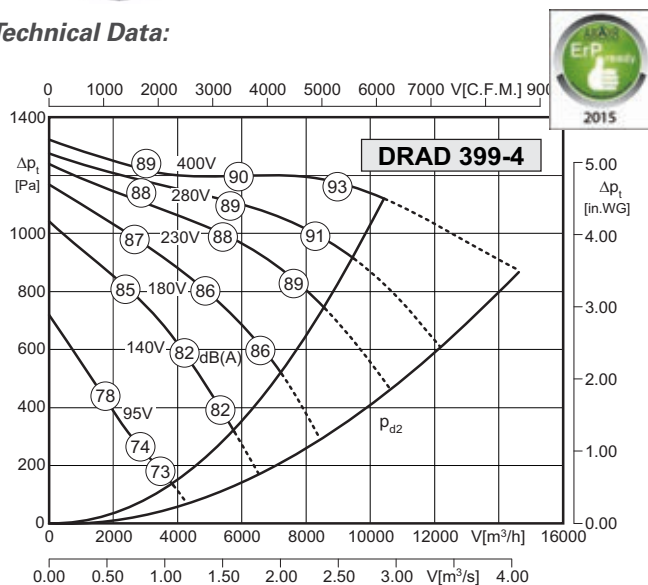
# Centrifugal Fans double inlet

## Size: 399



- casing made of galvanized sheet steel
- steep volume-pressure-performance curve
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- extremely low starting current
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



#### Type: DRAD 399-4

#### Art.-No. : C00-39944

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	680 Pa
P <sub>1</sub>	6.4 kW	$\Delta I$	23 %
I <sub>N</sub>	11.4 A	I <sub>A</sub> / I <sub>N</sub>	4.5
n	1380 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		85 kg

#### Type: DRAD 399-4 L

#### Art.-No. : C00-39946

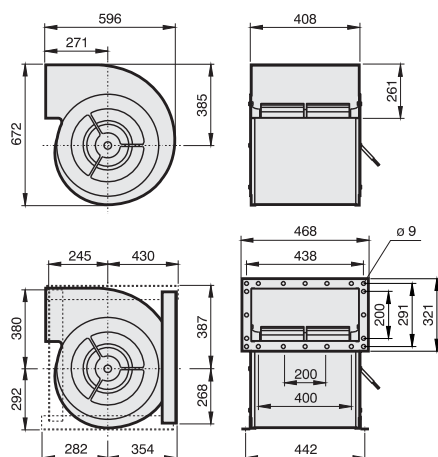
U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	450 Pa
P <sub>1</sub>	8.2 kW	$\Delta I$	18 %
I <sub>N</sub>	14.5 A	I <sub>A</sub> / I <sub>N</sub>	4.5
n	1370 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	40 °C		95 kg

Sound levels available upon request

Sound levels available upon request

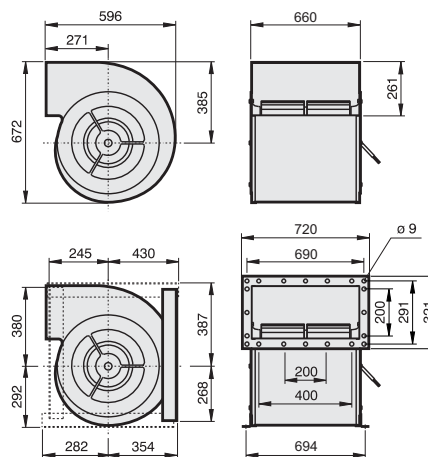
### Dimensions:

(all dimensions in mm)



### Dimensions:

(all dimensions in mm)





### Features and Construction

The high efficiency centrifugal fans with backward curved impeller have been developed especially for modern ventilation and air conditioning applications and are ideal for the movement of air and light aggressive gas and vapours. The sizes comply with standard R20 and are in accordance with DIN323. The designation of size corresponds to the outside diameter of the impeller.

### Casing



The casing of the high efficiency centrifugal fans are made of galvanized sheet steel and the side parts of the scroll is assembled with the spirally shaped guide plate through a standing seam. The side parts are produced with nut sets to fix the mounting brackets, which can be fixed in steps of 90°. From size 450 the units are supplied in rectangular sheet metal construction.



### Impellers

The backward curved impeller is made of aluminium, and is mounted directly to the rotor of the external rotor motor and are balanced dynamically at two levels together with the rotor according to quality level G2.5 to DIN1940.

### Electrical connection

The motors are fitted with an outgoing cable. The electrical connection can be made via an IP44 terminal box, which is supplied loose.

### Direction of rotation

Direction of rotation for fan types EHA is clockwise viewed from the inlet side, but for fan types DHA it is counter-clockwise viewed from the cable outlet.

### Air performance curves

The performance curves for these fan types have been measured in mounting position B (installed on the pressure side and open on the suction side) and show the total pressure increase  $\Delta p_t$  as a function of the air flow. The dynamic pressure  $\Delta p_{d2}$  refers to the flange cross section at the outlet side of the fan.

### Noise levels

The bordered values printed in the performance curve diagrams show the „A“ weighted  $L_{WA6}$  sound power level (fan outlet). Determination of „A“ weighted  $L_{WA5}$  sound power level at fan inlet:

$$L_{WA5} [dB(A)] = L_{WA6} [dB(A)] - 6 dB$$

The „A“ weighted sound pressure level LPA at a distance of 1 metre is calculated approximately by deducting 7 db(A) from the „A“ weighted sound power level. It is important to note that the reflection and room characteristic as well as natural frequencies influence the sound pressure levels a different way. The relative octave sound power level  $L_{WArel}$  at octave medium frequency you can find on the table on each fan type page.

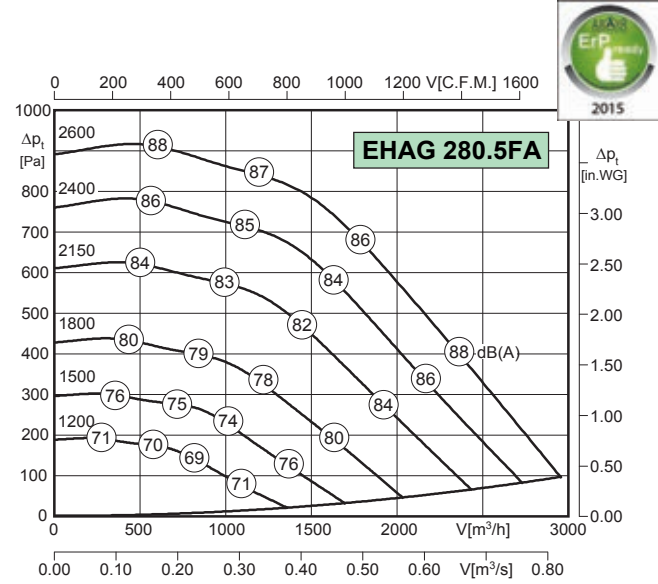
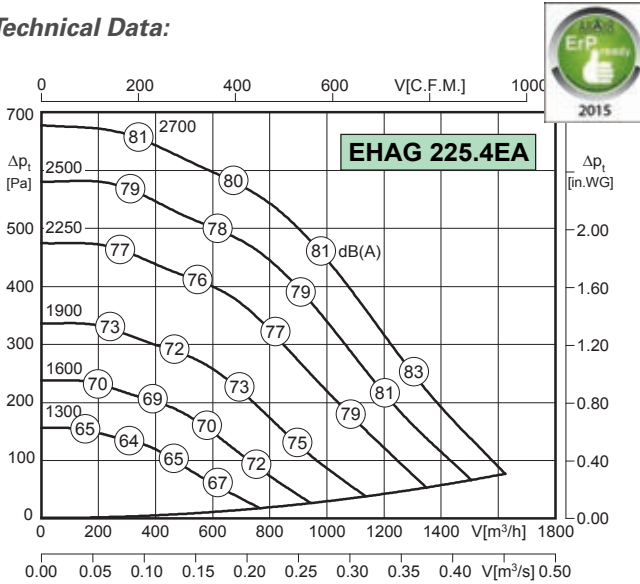
# Backward Curved EC-Centrifugal Fans

## Size: 225/280



- Integrated control system (EC-Controller)
- Complete system with minimal operating costs
- Simple setting and adjustment
- Speed is 100% variable
- Backward curved impeller
- Compact and space saving design

### Technical Data:



Energy saving rate according to AC type up to: **50%\***

\*at speed controlled partial load range



Energy saving rate according to AC type up to: **45%\***

\*at speed controlled partial load range

Type: **EHAG 225.4EA**

Art.-No. : B34-22500

U	~ % V (50Hz)	$\Delta p_{fa \min}$	- Pa
P <sub>1</sub>	" .% kW	$\Delta I$	- %
I <sub>N</sub>	# . * A	I <sub>A</sub> / I <sub>N</sub>	-
n	2) " 0 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.437 a)
t <sub>R</sub>	50 °C		+2) XT

Type: **EHAG 280.5FA**

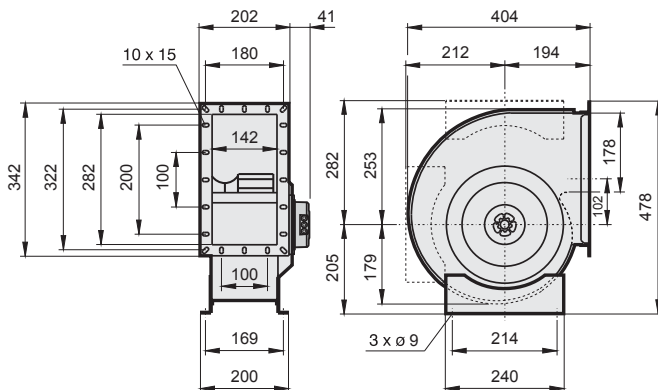
Art.-No. : B34-28000

U	~ % V (50Hz)	$\Delta p_{fa \min}$	- Pa
P <sub>1</sub>	" .) kW	$\Delta I$	- %
I <sub>N</sub>	&. %A	I <sub>A</sub> / I <sub>N</sub>	-
n	2(" 0 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.437 a)
t <sub>R</sub>	50 °C		2" kg

Sound levels available upon request

### Dimensions:

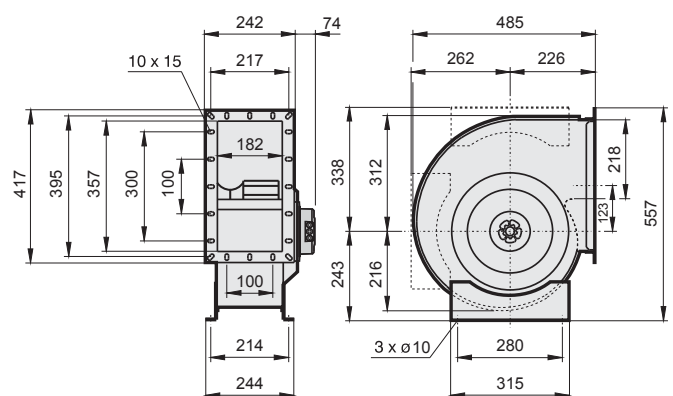
(all dimensions in mm)



Sound levels available upon request

### Dimensions:

(all dimensions in mm)



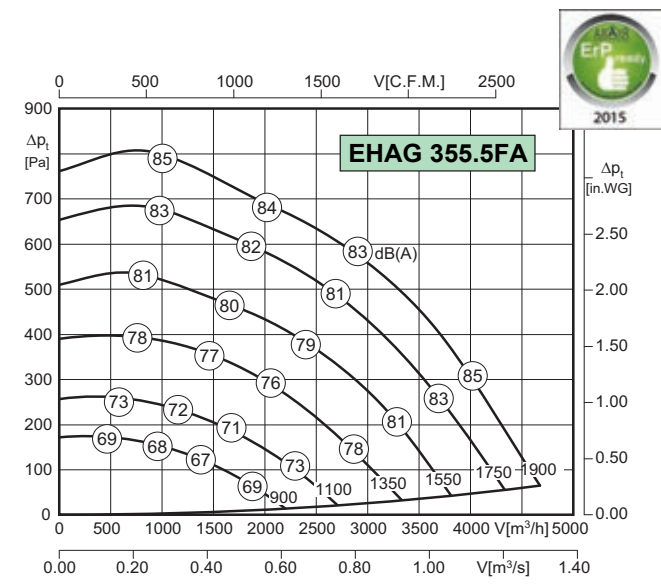
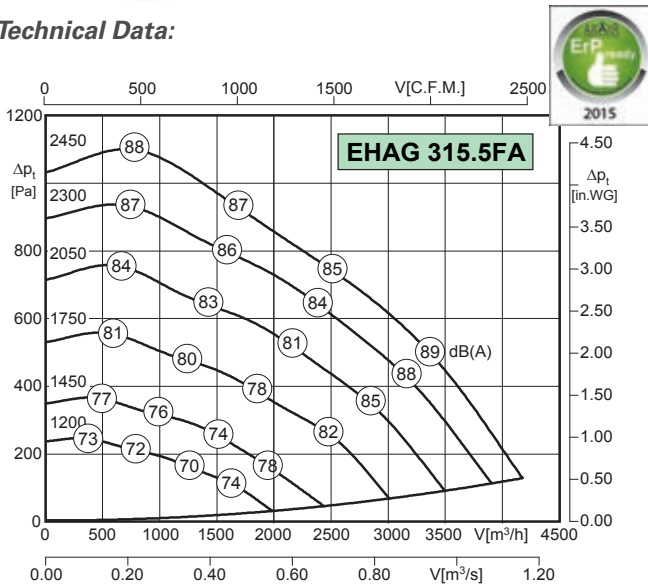
# Backward Curved EC-Centrifugal Fans

## Size: 315/355



- Integrated control system (EC-Controller)
- Complete system with minimal operating costs
- Simple setting and adjustment
- Speed is 100% variable
- Backward curved impeller
- Compact and space saving design

### Technical Data:



Energy saving rate according to AC type up to:

**47%\***

\*at speed controlled partial load range



Energy saving rate according to AC type up to:

**35%\***

\*at speed controlled partial load range

Type: **EHAG 315.5FA**

Art.-No. : **B34-31500**

U	245V (50Hz)	$\Delta p_{fa \text{ min}}$	- Pa
P <sub>1</sub>	0.81 kW	$\Delta I$	- %
I <sub>N</sub>	1.5 A	I <sub>A</sub> / I <sub>N</sub>	-
n	1900 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.437 a)
t <sub>R</sub>	50 °C		21 kg

Type: **EHAG 355.5FA**

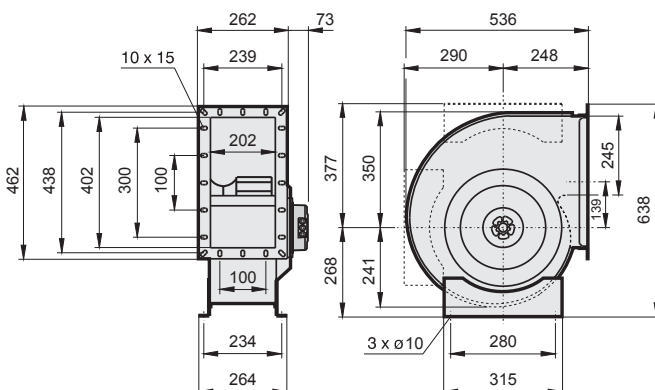
Art.-No. : **B34-35500**

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	- Pa
P <sub>1</sub>	0.81 kW	$\Delta I$	- %
I <sub>N</sub>	1.5 A	I <sub>A</sub> / I <sub>N</sub>	-
n	1900 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.390 a)
t <sub>R</sub>	50 °C		27 kg

Sound levels available upon request

### Dimensions:

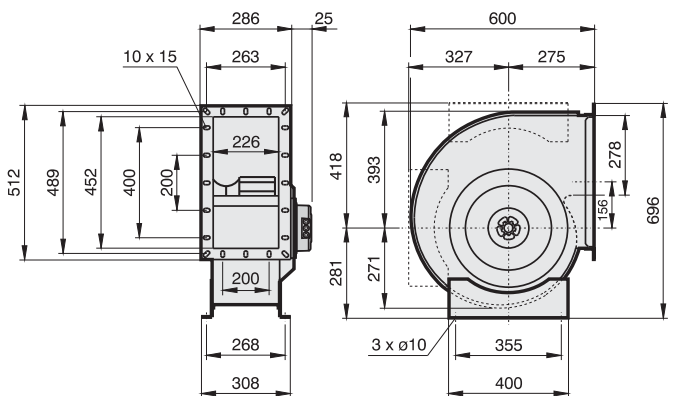
(all dimensions in mm)



Sound levels available upon request

### Dimensions:

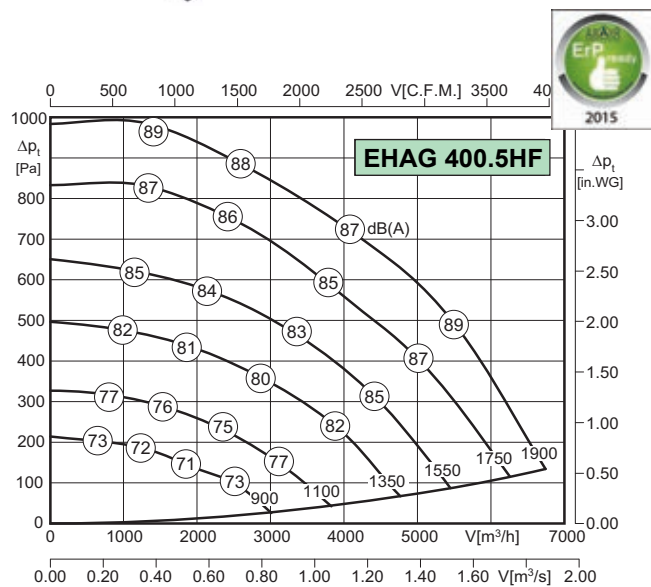
(all dimensions in mm)



## Backward Curved EC-Centrifugal Fans Size: 400



- Integrated control system (EC-Controller)
- Complete system with minimal operating costs
- Simple setting and adjustment
- Speed is 100% variable
- Backward curved impeller
- Compact and space saving design



**Energy saving rate according to AC type up to:**

**35%\***

at speed controlled partial load range

Type : **EHAG 400.5HF**

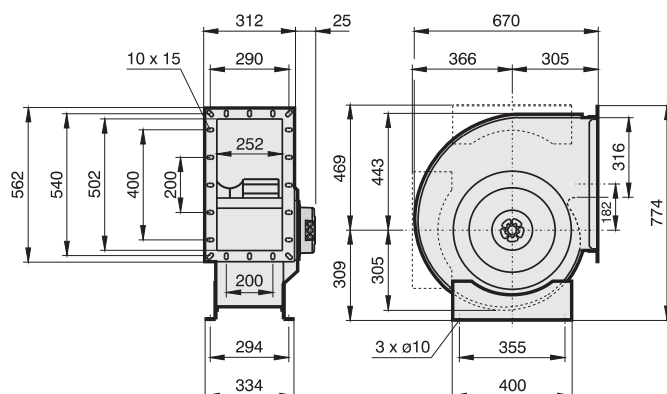
Art.-No. : **B34-40000**

U	400V (50Hz)	$\Delta p_{\text{ra min}}$	-- Pa
P <sub>1</sub>	1.56 kW	$\Delta I$	-- %
I <sub>N</sub>	2.6 A	I <sub>A</sub> / I <sub>N</sub>	--
n	1900 min <sup>-1</sup>		IP54
C <sub>400V</sub>	-- $\mu\text{F}$		01.390 a)
t <sub>R</sub>	40 °C		33 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



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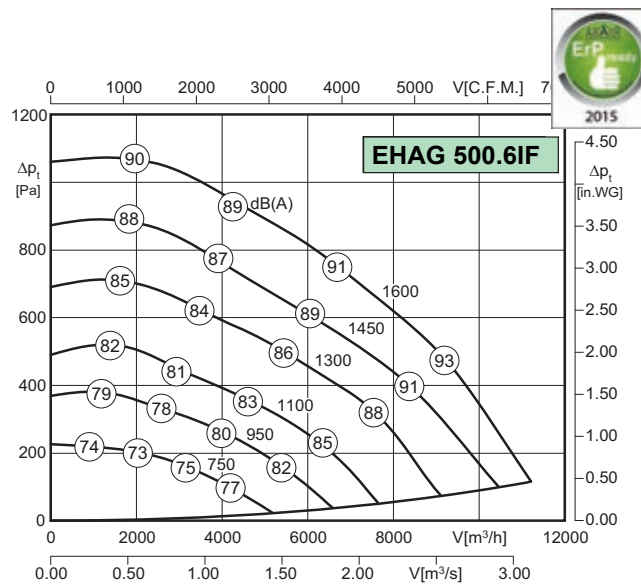
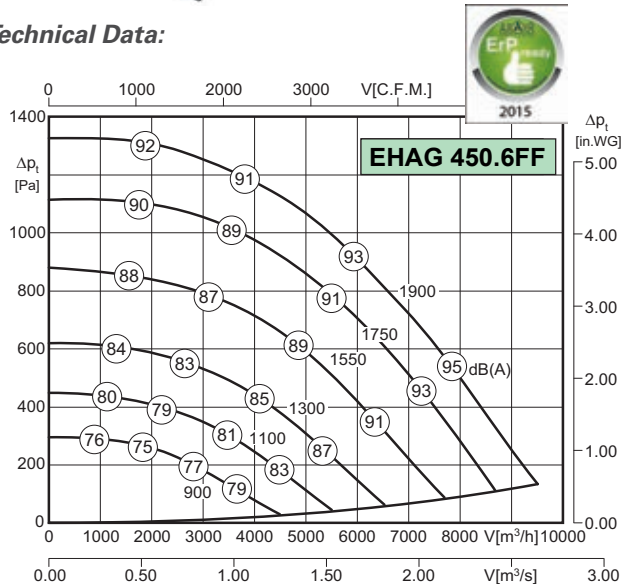
# Backward Curved EC-Centrifugal Fans

## Size: 450/500



- Integrated control system (EC-Controller)
- Complete system with minimal operating costs
- Simple setting and adjustment
- Speed is 100% variable
- Backward curved impeller
- Compact and space saving design

### Technical Data:



**Energy saving rate according to AC type up to: 35%\***

\* at speed controlled partial load range



**Energy saving rate according to AC type up to: 35%\***

\* at speed controlled partial load range

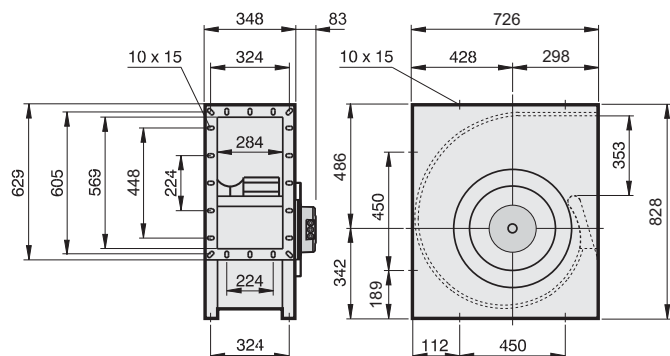
Type: <b>AHAG 450.6FF</b>		Art.-No. : B34-45001	
U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	- Pa
P <sub>1</sub>	2.7 kW	$\Delta I$	- %
I <sub>N</sub>	4.25 A	I <sub>A</sub> / I <sub>N</sub>	-
n	1900 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.390 a)
tr	40 °C		55 kg

Type: <b>AHAG 500.6IF</b>		Art.-No. : B34-50000	
U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	- Pa
P <sub>1</sub>	2.9 kW	$\Delta I$	- %
I <sub>N</sub>	4.6 A	I <sub>A</sub> / I <sub>N</sub>	-
n	1600 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.390 a)
tr	40 °C		61 kg

### Sound levels available upon request

#### Dimensions:

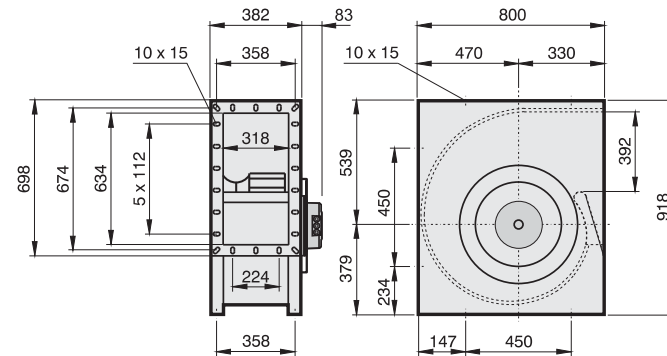
(all dimensions in mm)



### Sound levels available upon request

#### Dimensions:

(all dimensions in mm)



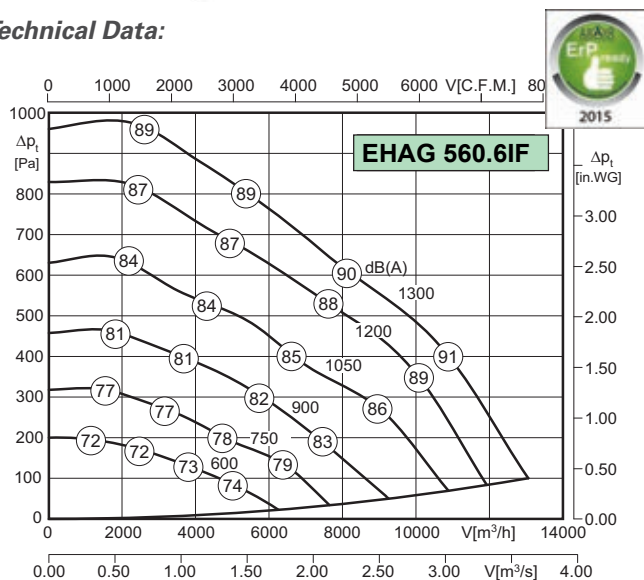
## Backward Curved EC-Centrifugal Fans

Size: 560



- Integrated control system (EC-Controller)
- Complete system with minimal operating costs
- Simple setting and adjustment
- Speed is 100% variable
- Backward curved impeller
- Compact and space saving design

### Technical Data:



Energy saving rate according to AC type up to:

**35%\***

\* at speed controlled partial load range

Type: **AHAG 560.6IF**

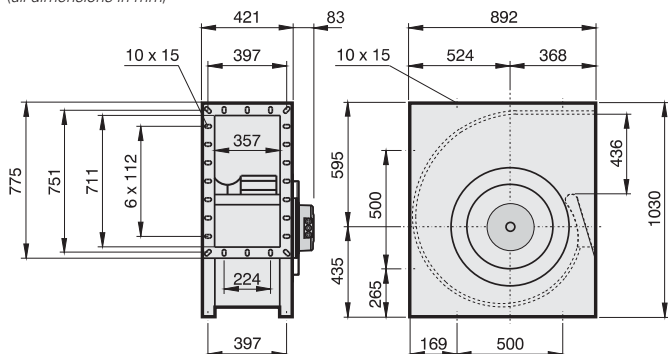
Art.-No. : **B34-56000**

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	- Pa
P <sub>1</sub>	2.75 kW	$\Delta I$	- %
I <sub>N</sub>	4.4 A	I <sub>A</sub> / I <sub>N</sub>	-
n	1300 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.390 a)
t <sub>R</sub>	40 °C		71 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



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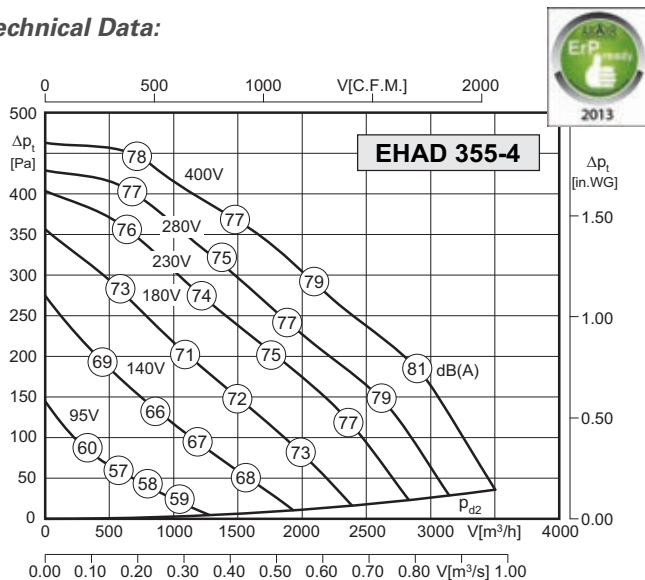






- casing made of galvanized sheet steel
- concave backward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



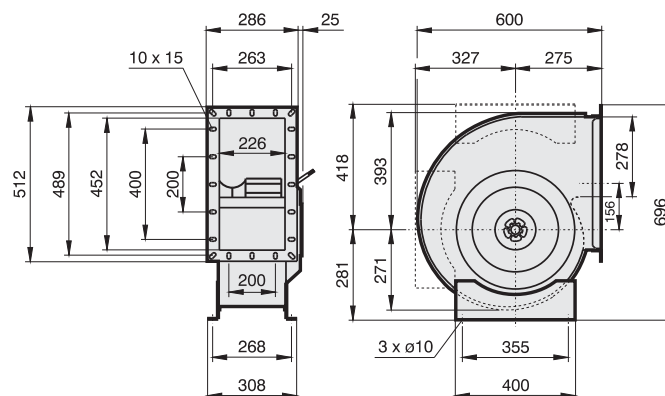
Type: **EHAD 355-4** Art.-No. : **B31-35550**

U	400V (50Hz)	$\Delta P_{fa \text{ min}}$	- Pa
P <sub>1</sub>	0.41 kW	$\Delta I$	4 %
I <sub>N</sub>	0.85 A	I <sub>A</sub> / I <sub>N</sub>	3.5
n	1370 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	60 °C		22,5 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



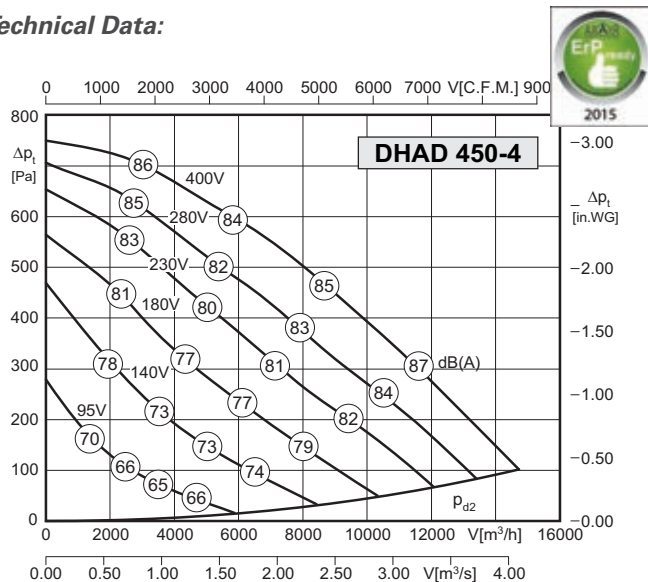
# Backward Curved Centrifugal Fans double inlet

## Size: 450/500



- casing made of galvanized sheet steel
- concave backward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **DHAD 450-4**

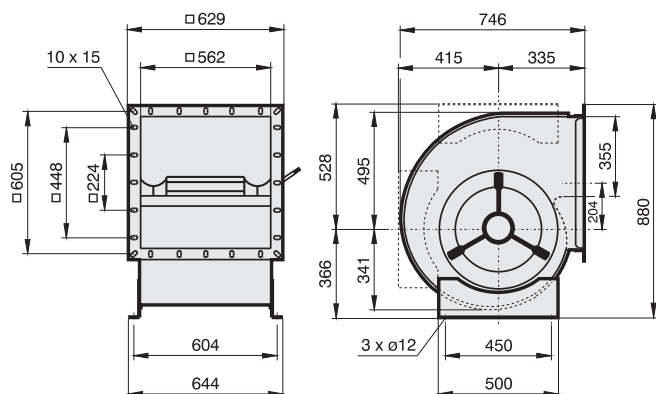
Art.-No. : C31-45050

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	- Pa
P <sub>1</sub>	2.1 kW	$\Delta I$	8 %
I <sub>N</sub>	3.65 A	I <sub>A</sub> / I <sub>N</sub>	4.4
n	1340 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.006
tr	55 °C		62 kg

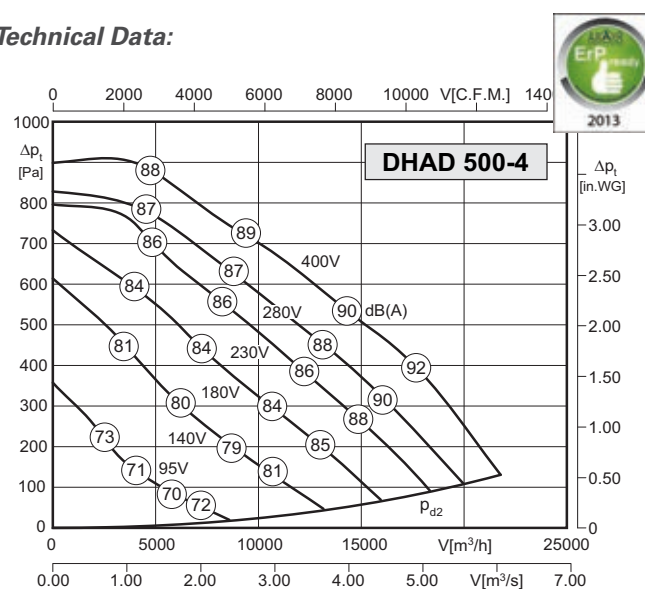
Sound levels available upon request

### Dimensions:

(all dimensions in mm)



### Technical Data:



Type: **DHAD 500-4**

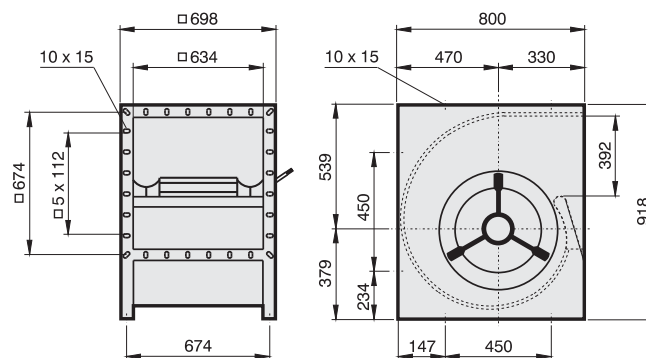
Art.-No. : C31-50050

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	- Pa
P <sub>1</sub>	4.2 kW	$\Delta I$	7.6 %
I <sub>N</sub>	8.1 A	I <sub>A</sub> / I <sub>N</sub>	4.7
n	1370 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.006
tr	50 °C		84 kg

Sound levels available upon request

### Dimensions:

(all dimensions in mm)



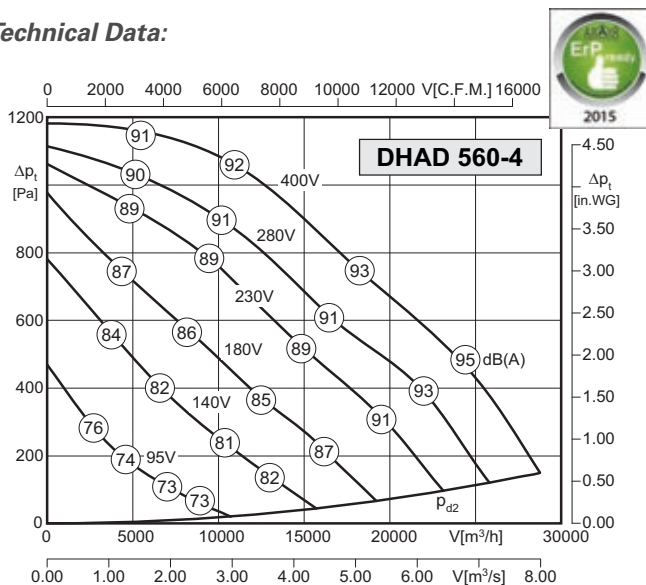
## Backward Curved Centrifugal Fans double inlet

Size: 560



- casing made of galvanized sheet steel
- concave backward curved impeller
- asynchronous external rotor motor
- protection class IP54
- insulation class F
- side cable connection
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **DHAD 560-4**

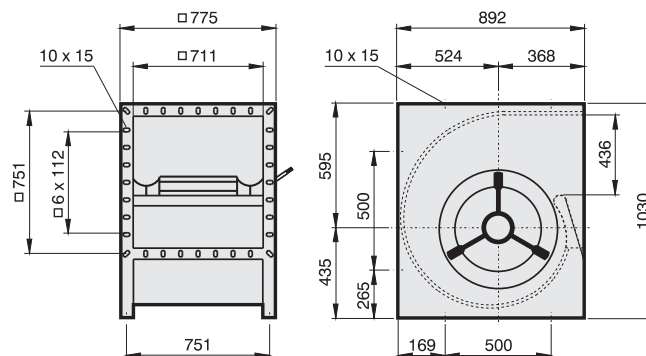
Art.-No. : **C31-56050**

U	400V (50Hz)	ΔP <sub>fa</sub> min	- Pa
P <sub>1</sub>	7.2 kW	ΔI	12 %
I <sub>N</sub>	13.3 A	I <sub>A</sub> / I <sub>N</sub>	4.5
n	1380 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- μF		01.006
t <sub>R</sub>	55 °C		140 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



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## Axial Fans

### *Axial Fans plate mounted or double flange casing*



#### **Type Code**

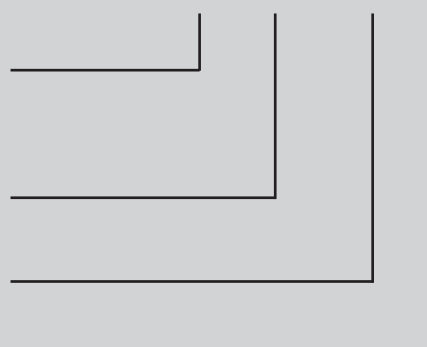
E = single phase  
D = three phase alternating current

R = double flange ring  
Q = square wall ring

impeller diameter

number of poles

D R  
E Q 560 -4



### **Features and Construction**

*High efficiency axial fans are used wherever large air volumes must be conveyed against low up to medium pressure.*

*High efficiency axial fans with square inlet cone are used for ventilating restaurants, gymnasiums, conference rooms, workshops, ware-houses, swimming pools and greenhouses.*

*High efficiency axial fans with double flange ring are used in duct systems for air conditioning, cooling and drying applications.*

### **Casing**

*The casings of high efficiency axial fans are made from galvanized sheet steel and are plastic coated.*

### **Impellers**

*The high efficiency axial fans have aerodynamically profiled blades (sizes 200 to 300 made from galvanized and lacquered sheet steel ; from size 315 to 630-6 made of plastic and sizes 630-4 up to 1000 made of aluminium).*

*The blades are made of galvanized sheet metal, and are mounted directly to the rotor of the external rotor motor and are balanced dynamically together with the rotor according to quality level G2.5 to DIN1940.*

### **Electrical connection**

*The motors are fitted with an outgoing cable. The electrical connection can be made via an IP44 terminal box, which is supplied loose.*

### **Air performance curves**

*The performance curves for these fan types have been measured in mounting position A (free inlet ; free outlet) and show the pressure increase  $\Delta p_{fa}$  as a function of the air flow ; version with inlet cone and without protection guards.*

### **Noise levels**

*The bordered values printed in the performance curve diagrams show the „A“ weighted LWA6 sound power level (fan outlet). Determination of „A“ weighted LWA5 sound power level at fan inlet:*

$$\mathbf{LWA5 [dB(A)] = LWA6 [dB(A)] - 3 dB}$$

*The „A“ weighted sound pressure level LPA at a distance of 1 metre is calculated approximately by deducting 7 db(A) from the „A“ weighted sound power level. It is important to note that the reflection and room characteristic as well as natural frequencies influence the sound pressure levels a different way. The octave sound power level LWA at octave medium frequency you can find on the table on each fan type page.*

# Axial Fans

## Size: 200

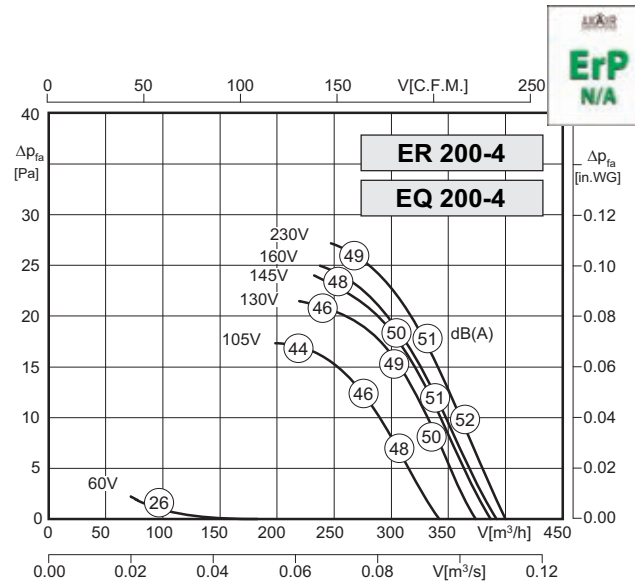
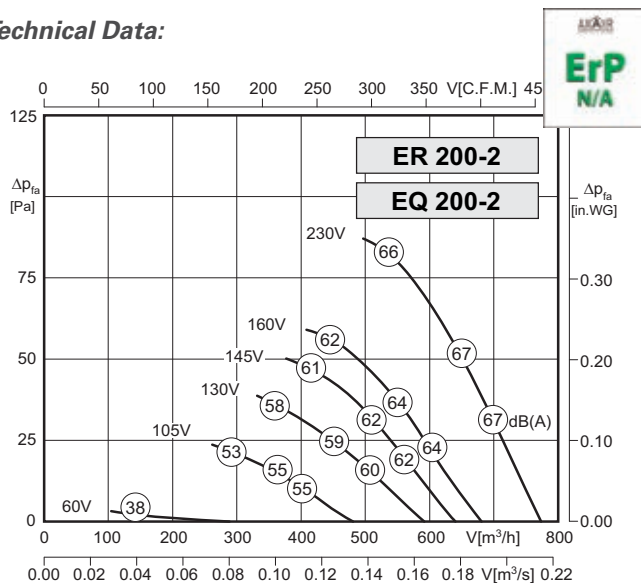


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **ER/EQ 200-2** Art.-No. : E10-20001 / E00-20001

U	230V (50Hz)	ΔDfa min	- Pa
P1	0.07 kW	ΔI	- %
IN	0.30 A	IA / IN	1.5
n	2550 min-1	▲	IP44
C400v	2 μF	✱	01.009
tR	70 °C	■	3 / 3,5 kg

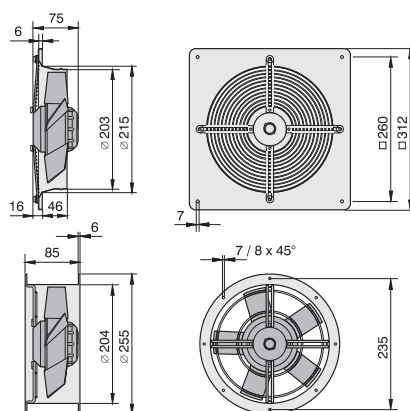
Type: **ER/EQ 200-4** Art.-No. : E10-20000 / E00-20000

U	230V (50Hz)	ΔDfa min	- Pa
P1	0.033 kW	ΔI	- %
IN	0.150 A	IA / IN	1.5
n	1410 min-1	▲	IP44
C400v	1.5 μF	✱	01.009
tR	70 °C	■	3 / 3,5 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



\* only for type ER/DR



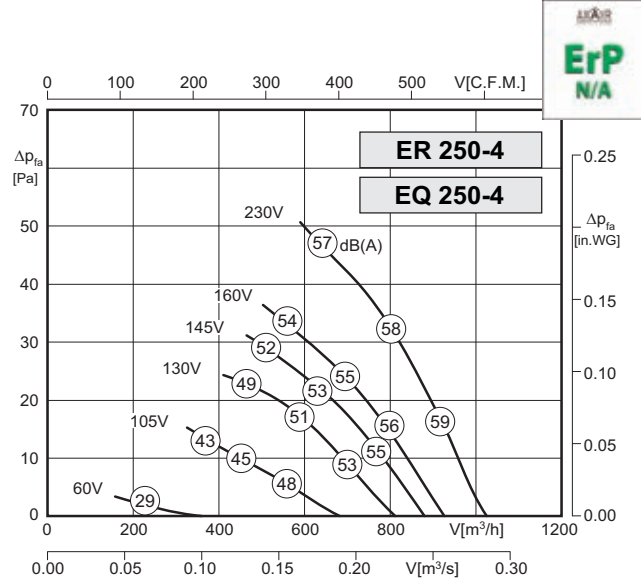
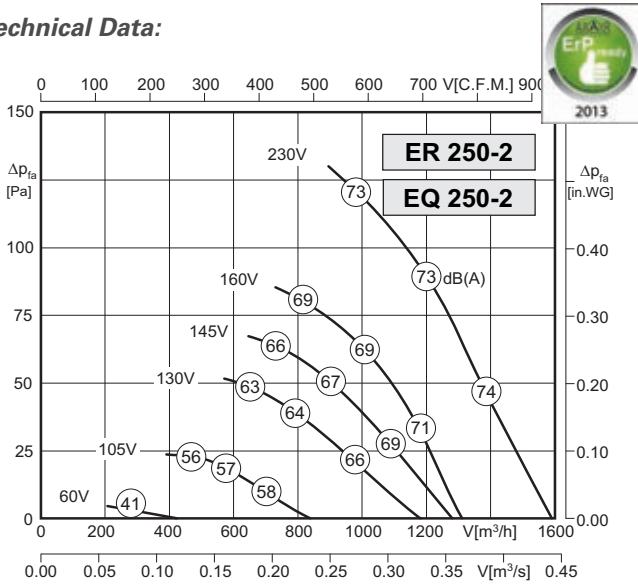


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



Type: **ER/EQ 250-2** Art.-No.: **E10-25001 / E00-25001**

U	230V (50Hz)	$\Delta p_{fa}$ min	– Pa
P <sub>1</sub>	0.14 kW	$\Delta I$	– %
I <sub>N</sub>	0.60 A	I <sub>A</sub> / I <sub>N</sub>	1.8
n	2600 min <sup>-1</sup>		IP44
C <sub>400v</sub>	4 $\mu$ F		01.009
t <sub>R</sub>	60 °C		4 / 4,5 kg

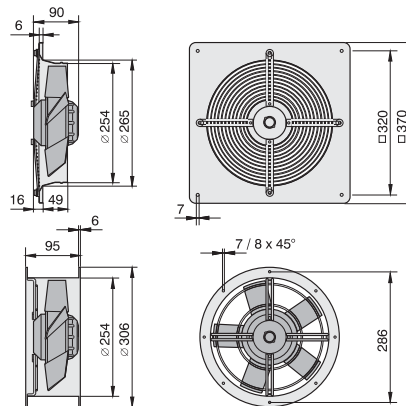
Type: **ER/EQ 250-4** Art.-No.: **E10-25000 / E00-25000**

U	230V (50Hz)	$\Delta p_{fa}$ min	– Pa
P <sub>1</sub>	0.06 kW	$\Delta I$	– %
I <sub>N</sub>	0.27 A	I <sub>A</sub> / I <sub>N</sub>	1.6
n	1270 min <sup>-1</sup>		IP44
C <sub>400v</sub>	1.5 $\mu$ F		01.009
t <sub>R</sub>	70 °C		4 / 4,5 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



\*only for type ER/DR

## Axial Fans Size: 300

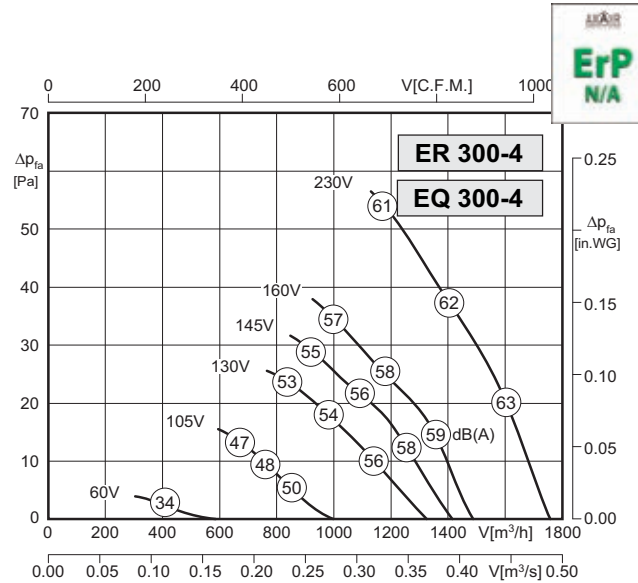
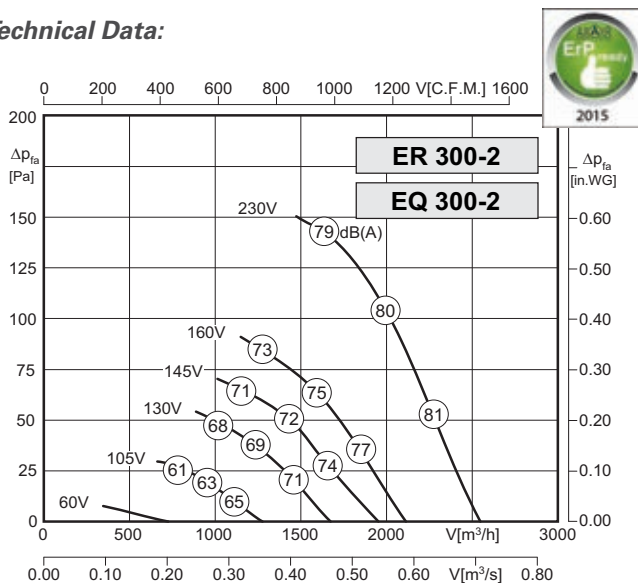


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **ER/EQ 300-2** Art.-No. : E10-30001 / E00-30001

U	230V (50Hz)	Δpfa min	- Pa
P1	0.22 kW	ΔI	14 %
IN	0.95 A	IA / IN	1.8
n	2500 min-1	▲	IP44
C400v	6 μF	★	01.009
tR	60 °C	■	5 / 6 kg

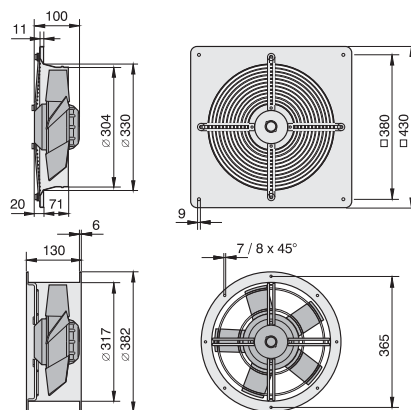
Type: **ER/EQ 300-4** Art.-No. : E10-30000 / E00-30000

U	230V (50Hz)	Δpfa min	- Pa
P1	0.10 kW	ΔI	- %
IN	0.44 A	IA / IN	1.6
n	1270 min-1	▲	IP44
C400v	3 μF	★	01.009
tR	55 °C	■	5 / 6 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



\*only for type ER/DR



# Axial Fans

## Size: 315

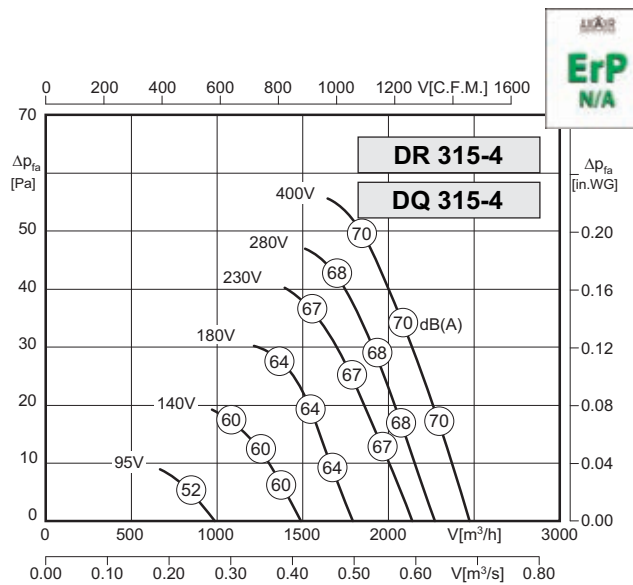
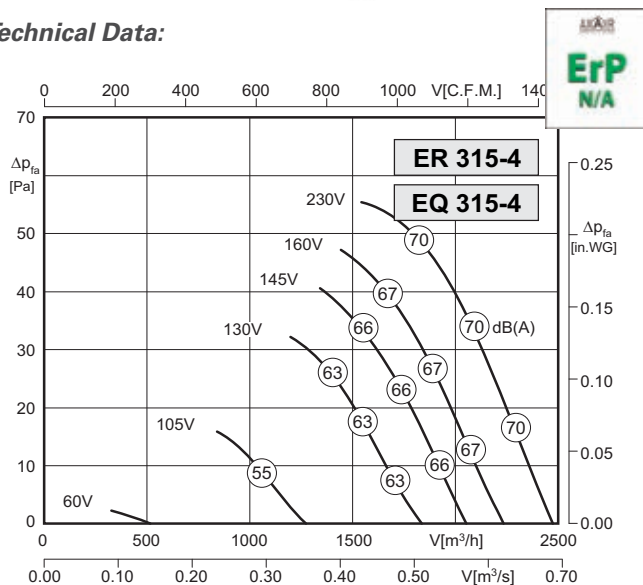


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **ER/EQ 315-4** Art.-No. : **E10-31505 / E00-31505**

U	230V (50Hz)	$\Delta P_{fa}$ min	- Pa
P <sub>1</sub>	0.12 kW	$\Delta I$	- %
I <sub>N</sub>	0.55 A	I <sub>A</sub> / I <sub>N</sub>	2.4
n	1380 min <sup>-1</sup>		IP54
C <sub>400V</sub>	3 $\mu$ F		01.025
t <sub>R</sub>	60 °C		8,5 / 9 kg

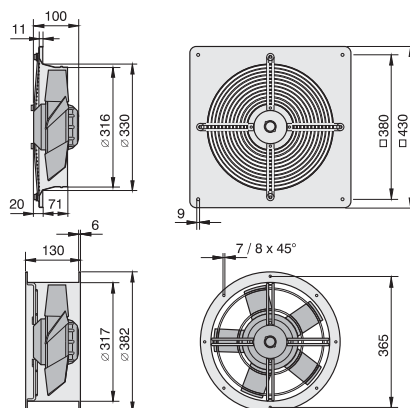
Type: **DR/DQ 315-4** Art.-No. : **E10-31555 / E00-31555**

U	400V (50Hz)	$\Delta P_{fa}$ min	- Pa
P <sub>1</sub>	0.12 kW	$\Delta I$	- %
I <sub>N</sub>	0.33 A	I <sub>A</sub> / I <sub>N</sub>	2.6
n	1385 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- $\mu$ F		01.006
t <sub>R</sub>	60 °C		8,5 / 9 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



\*only for type ER/DR



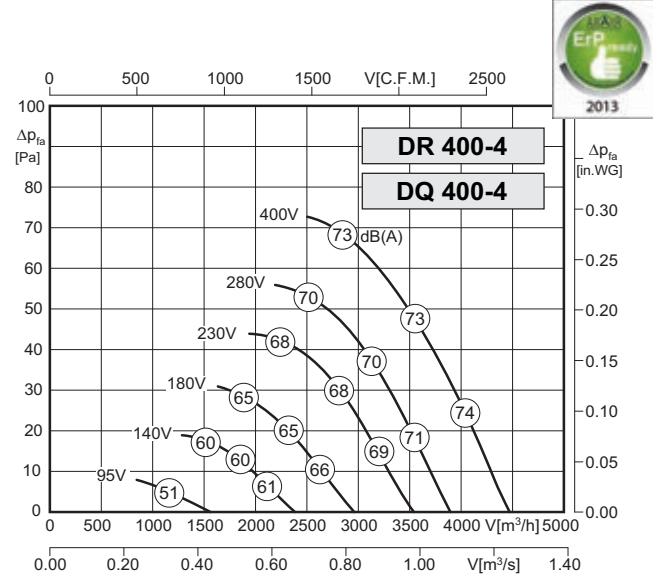
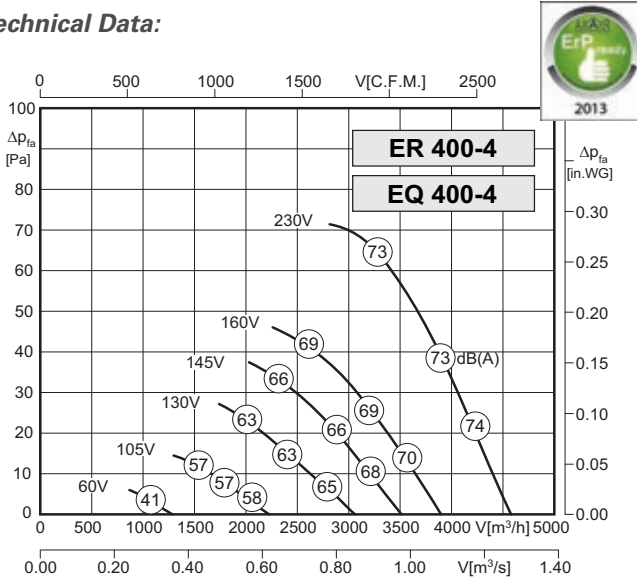


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



Type: **ER/EQ 400-4** Art.-No. : E10-40005 / E00-40005

U	230V (50Hz)	$\Delta p_{fa}$ min	- Pa
P <sub>1</sub>	0.21 kW	$\Delta I$	4 %
I <sub>N</sub>	0.95 A	I <sub>A</sub> / I <sub>N</sub>	2.2
n	1340 min <sup>-1</sup>		IP54
C <sub>400v</sub>	5 $\mu$ F		01.025
t <sub>R</sub>	60 °C		7 / 9 kg

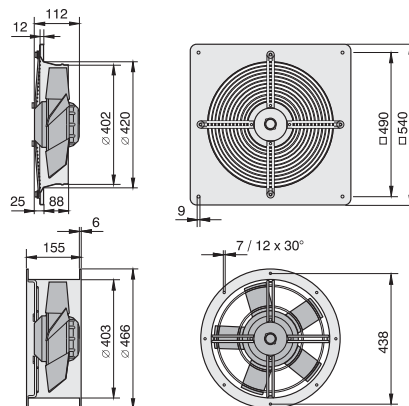
Type: **DR/DQ 400-4** Art.-No. : E10-40055 / E00-40055

U	400V (50Hz)	$\Delta p_{fa}$ min	- Pa
P <sub>1</sub>	0.2 kW	$\Delta I$	- %
I <sub>N</sub>	0.42 A	I <sub>A</sub> / I <sub>N</sub>	3.0
n	1340 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- $\mu$ F		01.006
t <sub>R</sub>	65 °C		7 / 9 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



\*only for type ER/DR

## Axial Fans Size: 400

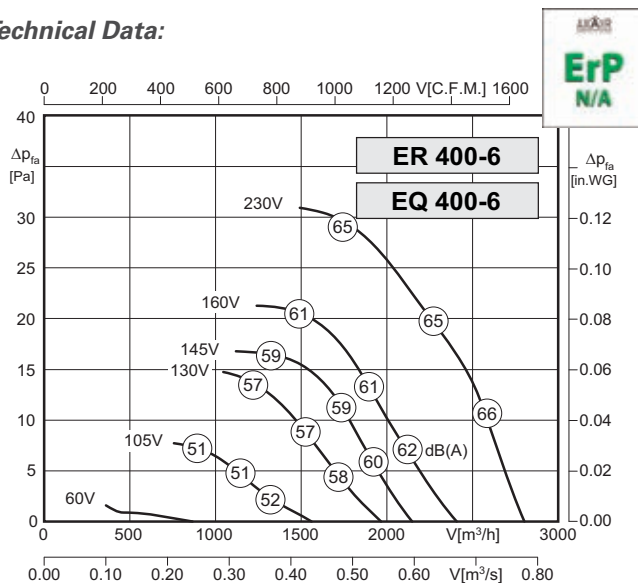


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **ER/EQ 400-6**

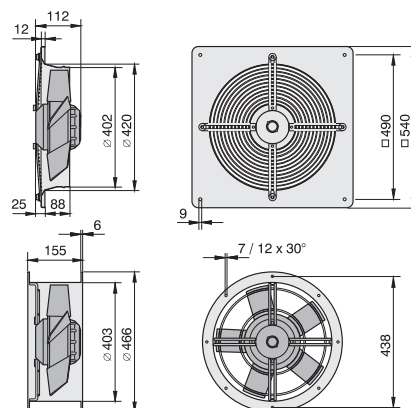
Art.-No. : **E10-40004 / E00-40004**

U	230V (50Hz)	$\Delta P_{fa}$ min	- Pa
P <sub>1</sub>	0.10 kW	$\Delta I$	- %
I <sub>N</sub>	0.46 A	I <sub>A</sub> / I <sub>N</sub>	1.5
n	885 min <sup>-1</sup>		IP54
C <sub>400V</sub>	2 μF		01.025
t <sub>R</sub>	55 °C		6 / 8 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



\*only for type ER/DR

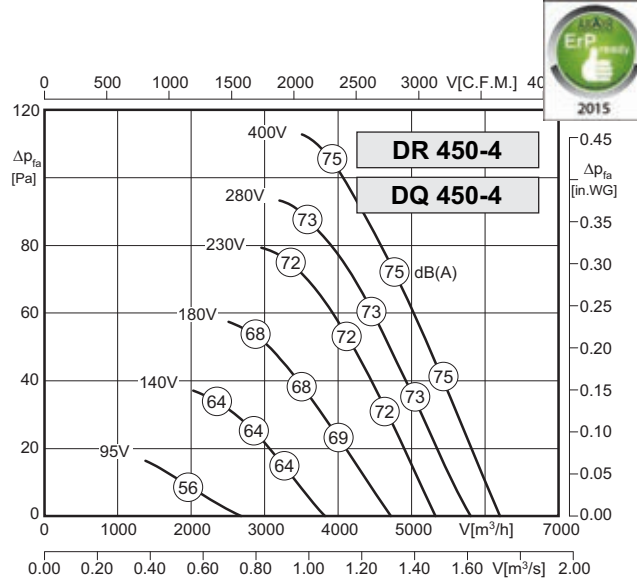
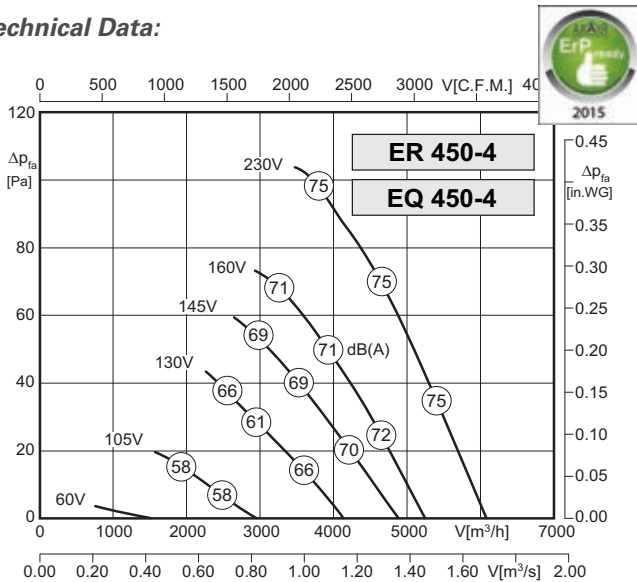


**EQ / DQ**

**ER / DR**

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



**Type : ER/EQ 450-4      Art.-No. : E10-45005 / E00-45005**

U	230V (50Hz)	Δpfa min	- Pa
P1	0.33 kW	ΔI	26 %
In	1.5 A	IA / IN	2.5
n	1360 min-1	▲	IP54
C400v	8 μF	★	01.025
tr	55 °C	■	9 / 10 kg

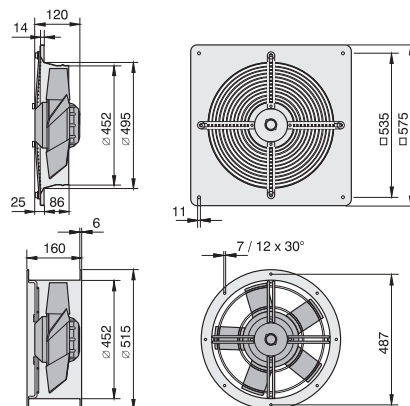
**Type : DR/DQ 450-4      Art.-No. : E10-45055 / E00-45055**

U	400V (50Hz)	Δpfa min	- Pa
P1	0.33 kW	ΔI	5 %
In	0.75 A	IA / IN	1.8
n	1390 min-1	▲	IP54
C400v	- μF	★	01.006
tr	60 °C	■	9 / 10 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



\*only for type ER/DR

# Axial Fans

## Size: 450

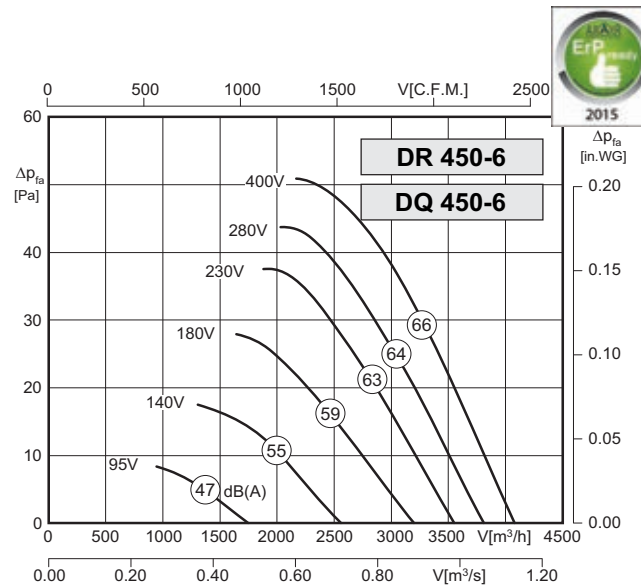
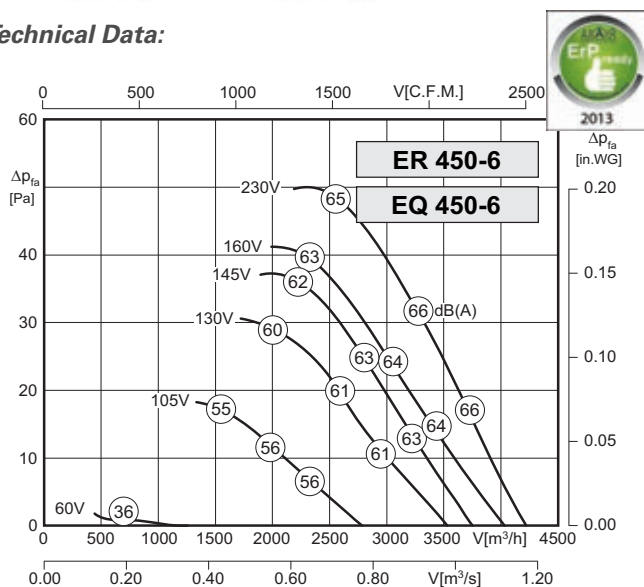


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **ER/EQ 450-6** Art.-No. : E10-45007 / E00-45007

U	230V (50Hz)	ΔPfa min	- Pa
P1	0.14 kW	ΔI	8 %
IN	0.78 A	IA / IN	2.3
n	930 min <sup>-1</sup>	▲	IP54
C400V	4 μF	✱	01.025
tR	70 °C	■	9 / 10 kg

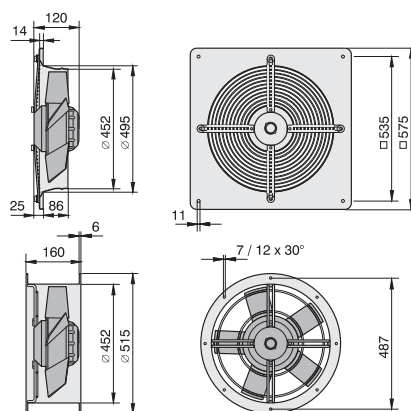
Type: **DR/DQ 450-6** Art.-No. : E10-45057 / E00-45057

U	400V (50Hz)	ΔPfa min	- Pa
P1	0.13 kW	ΔI	- %
IN	0.25 A	IA / IN	3.0
n	900 min <sup>-1</sup>	▲	IP54
C400V	- μF	✱	01.006
tR	60 °C	■	9 / 10 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



\*only for type ER/DR



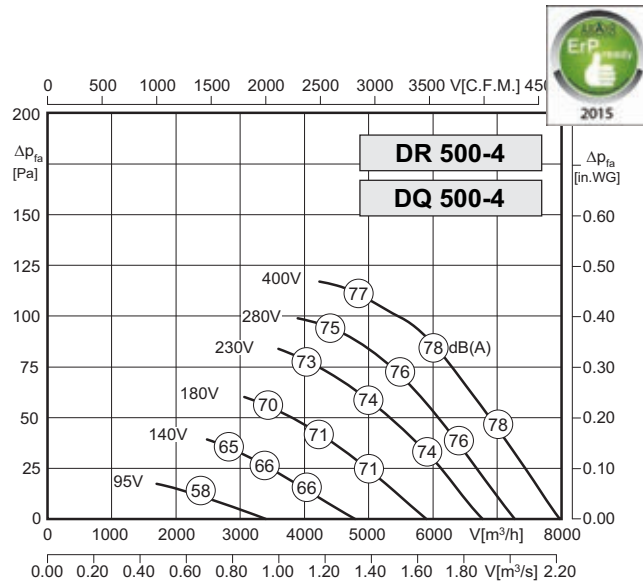
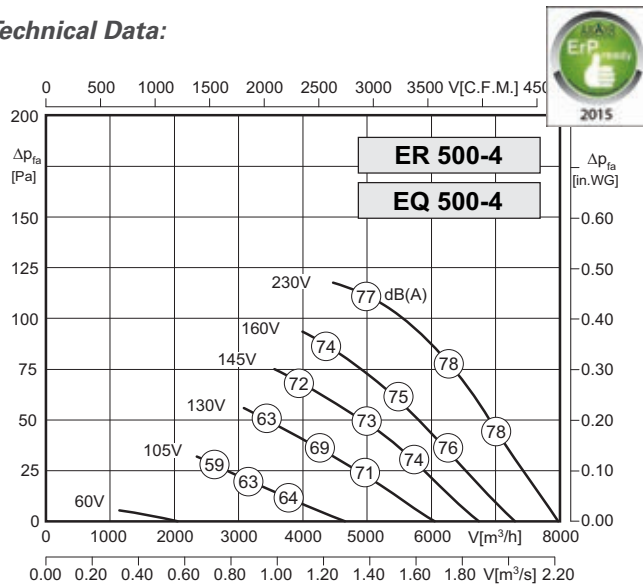


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



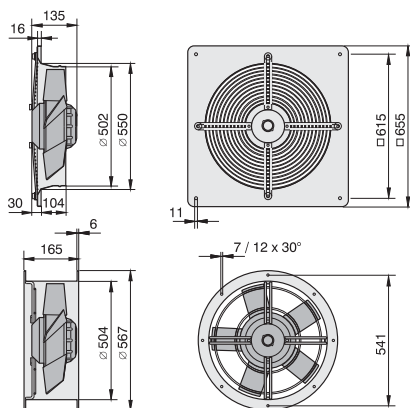
Type : <b>ER/EQ 500-4</b>		Art.-No. : <b>E10-50005 / E00-50005</b>	
U	230V (50Hz)	$\Delta p_{fa}$ min	- Pa
P <sub>1</sub>	0.49 kW	$\Delta I$	21 %
I <sub>N</sub>	2.3 A	I <sub>A</sub> / I <sub>N</sub>	2.6
n	1375 min <sup>-1</sup>		IP54
C <sub>400V</sub>	12 $\mu$ F		01.025
t <sub>R</sub>	50 °C		13 / 16 kg

Type : <b>DR/DQ 500-4</b>		Art.-No. : <b>E10-50055 / E00-50055</b>	
U	400V (50Hz)	$\Delta p_{fa}$ min	- Pa
P <sub>1</sub>	0.41 kW	$\Delta I$	- %
I <sub>N</sub>	1.0 A	I <sub>A</sub> / I <sub>N</sub>	3.5
n	1370 min <sup>-1</sup>		IP54
C <sub>400V</sub>	- $\mu$ F		01.006
t <sub>R</sub>	60 °C		13 / 16 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



\*only for type ER/DR

# Axial Fans

## Size: 500

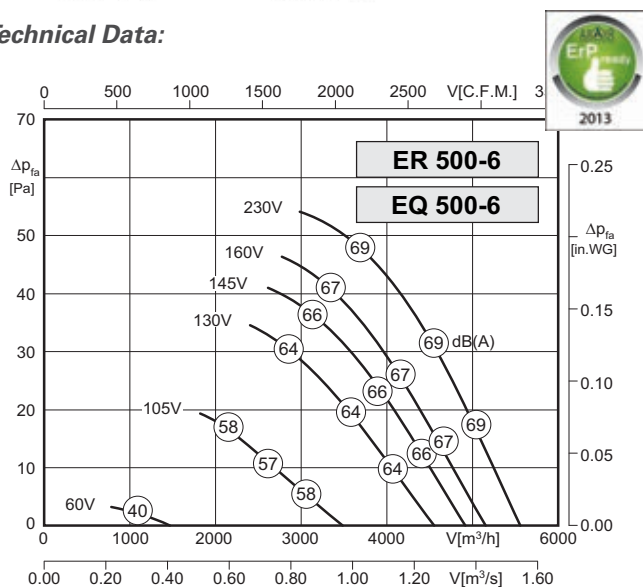


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **ER/EQ 500-6**

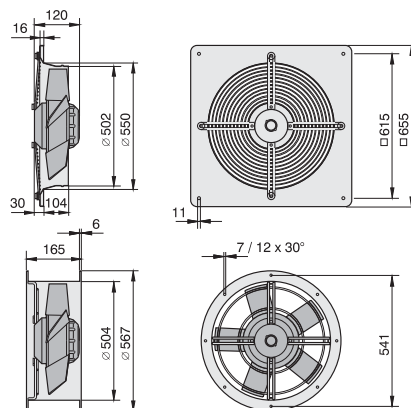
Art.-No. : **E10-50007 / E00-50007**

U	230V (50Hz)	$\Delta P_{fa}$ min	- Pa
P <sub>1</sub>	0.20 kW	$\Delta I$	7 %
I <sub>N</sub>	0.88 A	I <sub>A</sub> / I <sub>N</sub>	2.5
n	935 min <sup>-1</sup>		IP54
C <sub>400V</sub>	5 μF		01.025
t <sub>R</sub>	60 °C		12 / 15 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



\*only for type ER/DR



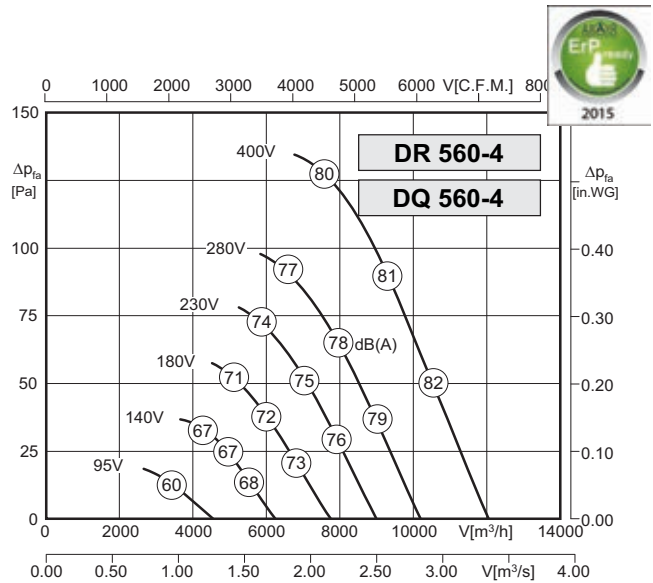
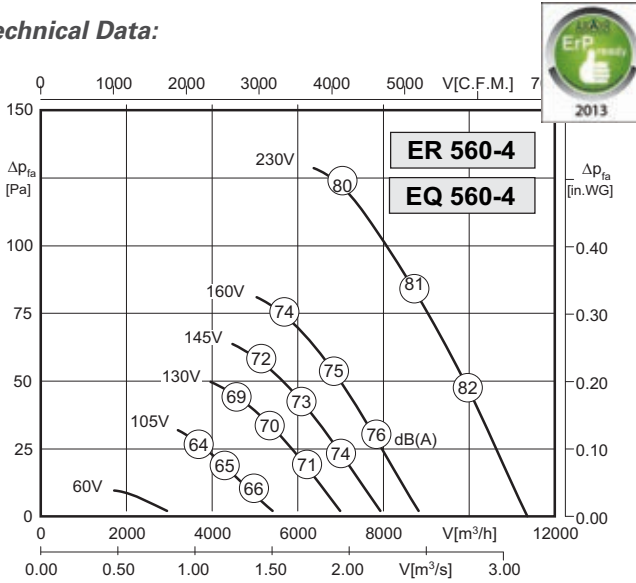


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



Type : **ER/EQ 560-4**

Art.-No. : **E10-56008 / E00-56008**

U	230V (50Hz)	Δpfa min	- Pa
P <sub>1</sub>	0.83 kW	ΔI	5 %
I <sub>N</sub>	3.80 A	I <sub>A</sub> / I <sub>N</sub>	1.8
n	1200 min <sup>-1</sup>		IP54
C <sub>400v</sub>	16 μF		01.025
t <sub>R</sub>	40 °C		16 / 19 kg

Type : **DR/DQ 560-4**

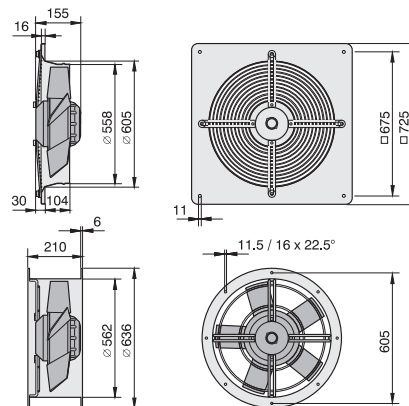
Art.-No. : **E10-56053 / E00-56053**

U	400V (50Hz)	Δpfa min	- Pa
P <sub>1</sub>	0.81 kW	ΔI	- %
I <sub>N</sub>	1.7 A	I <sub>A</sub> / I <sub>N</sub>	2.8
n	1240 min <sup>-1</sup>		IP54
C <sub>400v</sub>	- μF		01.006
t <sub>R</sub>	50 °C		16 / 19 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



\*only for type ER/DR



# Axial Fans

## Size: 560

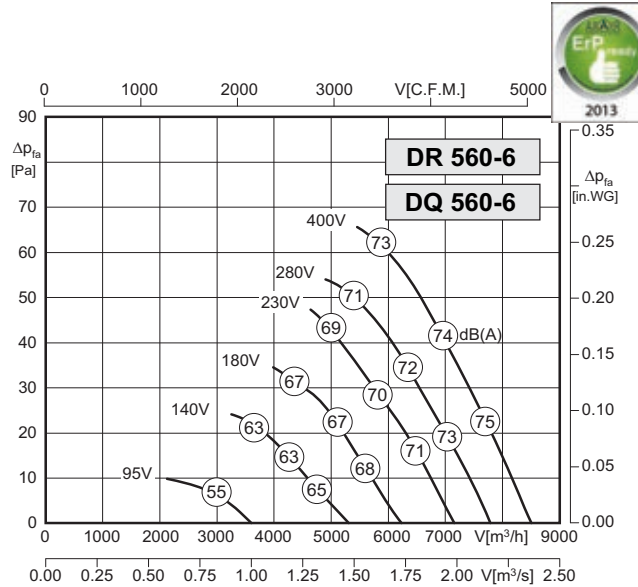
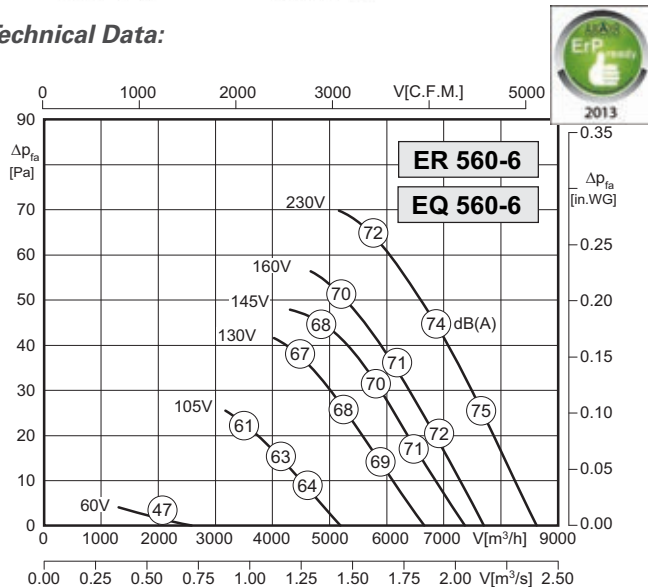


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **ER/EQ 560-6** Art.-No. : E10-56001 / E00-56001

U	230V (50Hz)	ΔPfa min	- Pa
P1	0.38 kW	ΔI	18 %
IN	1.80 A	IA / IN	2.5
n	920 min <sup>-1</sup>	▲	IP54
C400V	10 μF	✱	01.025
tr	40 °C	■	14 / 17 kg

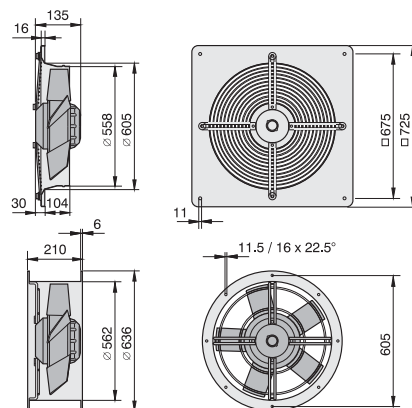
Type: **DR/DQ 560-6** Art.-No. : E10-56052 / E00-56052

U	400V (50Hz)	ΔPfa min	- Pa
P1	0.35 kW	ΔI	- %
IN	0.90 A	IA / IN	3.0
n	920 min <sup>-1</sup>	▲	IP54
C400V	- μF	✱	01.006
tr	55 °C	■	14 / 17 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



\*only for type ER/DR



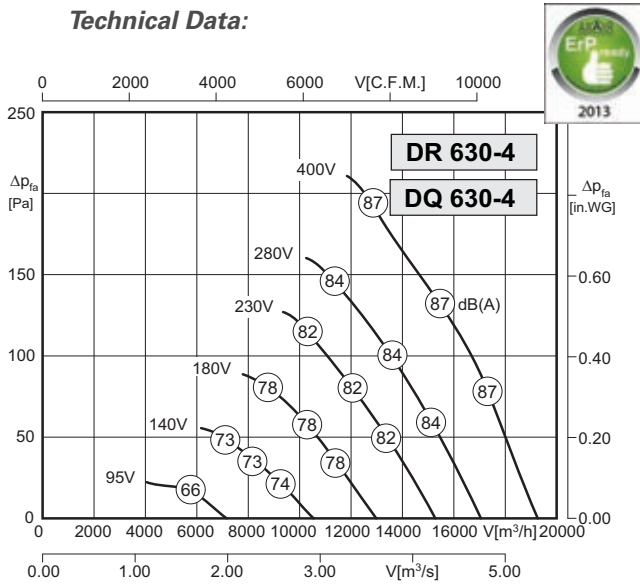


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



Type: **DR/DQ 630-4**

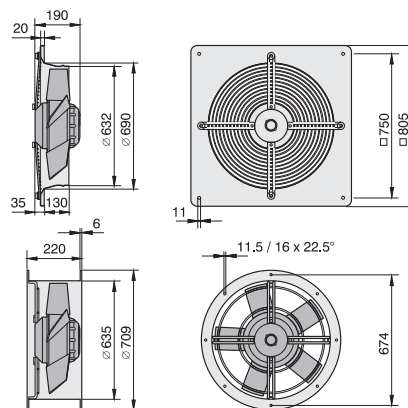
Art.-No. : **E10-63080 / E00-63080**

U	400V (50Hz)	$\Delta p_{fa \text{ min}}$	-- Pa
P <sub>1</sub>	2.15 kW	$\Delta I$	2 %
I <sub>N</sub>	3.9 A	I <sub>A</sub> / I <sub>N</sub>	3.7
n	1305 min <sup>-1</sup>		IP54
C <sub>400V</sub>	-- $\mu F$		01.006
t <sub>R</sub>	50 °C		26 / 28 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



\*only for type ER/DR

# Axial Fans

## Size: 630

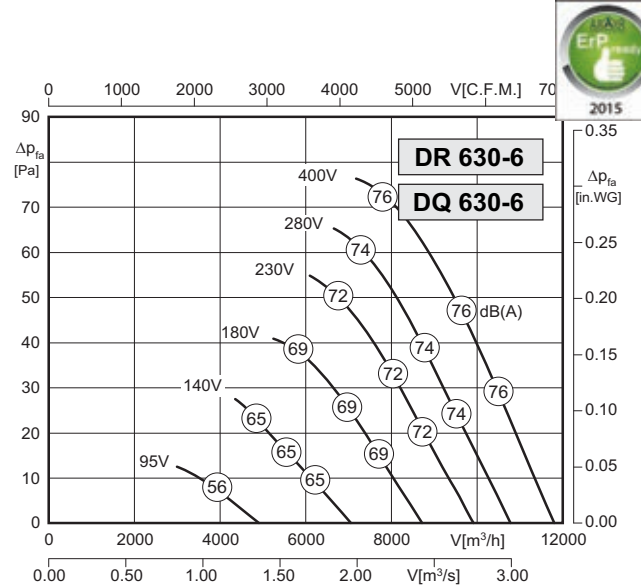
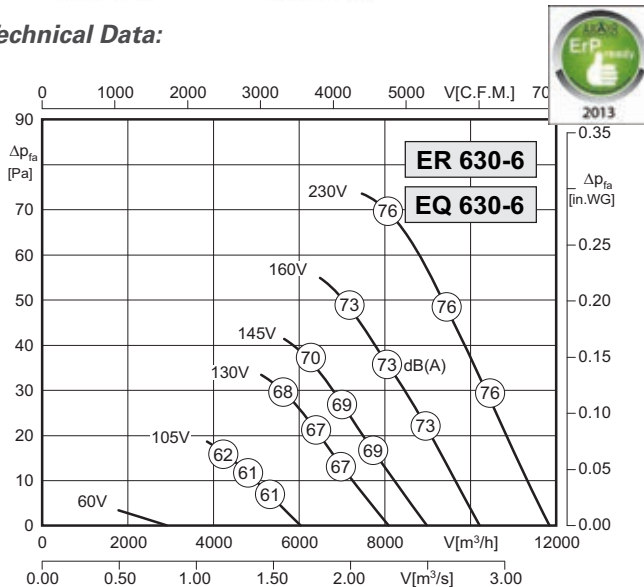


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **ER/EQ 630-6** Art.-No. : E10-63001 / E00-63001

U	230V (50Hz)	ΔPfa min	- Pa
P1	0.53 kW	ΔI	6 %
IN	2.60 A	IA / IN	2.3
n	910 min <sup>-1</sup>	▲	IP54
C400V	12 μF	✱	01.025
tR	40 °C	■	18 / 21 kg

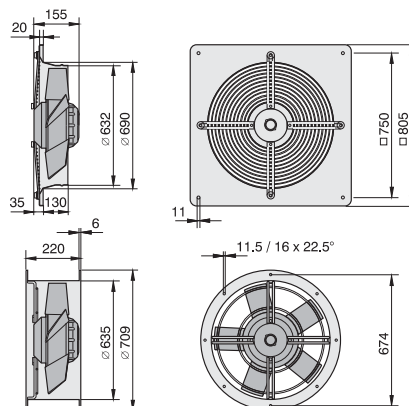
Type: **DR/DQ 630-6** Art.-No. : E10-63052 / E00-63052

U	400V (50Hz)	ΔPfa min	- Pa
P1	0.50 kW	ΔI	- %
IN	1.15 A	IA / IN	3.3
n	920 min <sup>-1</sup>	▲	IP54
C400V	- μF	✱	01.006
tR	55 °C	■	18 / 21 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



\*only for type ER/DR



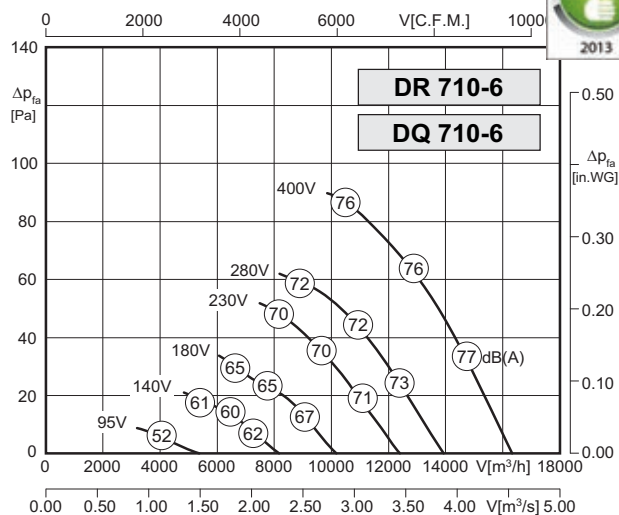


**EQ / DQ**

**ER / DR**

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



Type : **DR/DQ 710-6**

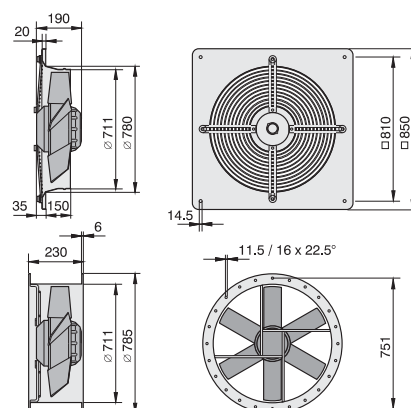
Art.-No. : **E10-71080 / E00-71080**

U	400V (50Hz)	$\Delta p_{fa}$ min	– Pa
P <sub>1</sub>	0.87 kW	$\Delta I$	– %
I <sub>N</sub>	1.8 A	I <sub>A</sub> / I <sub>N</sub>	2.8
n	835 min <sup>-1</sup>		IP54
C <sub>400V</sub>	– $\mu$ F		01.006
t <sub>R</sub>	70 °C		32 / 31 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



\*only for type ER/DR

# Axial Fans

## Size: 800

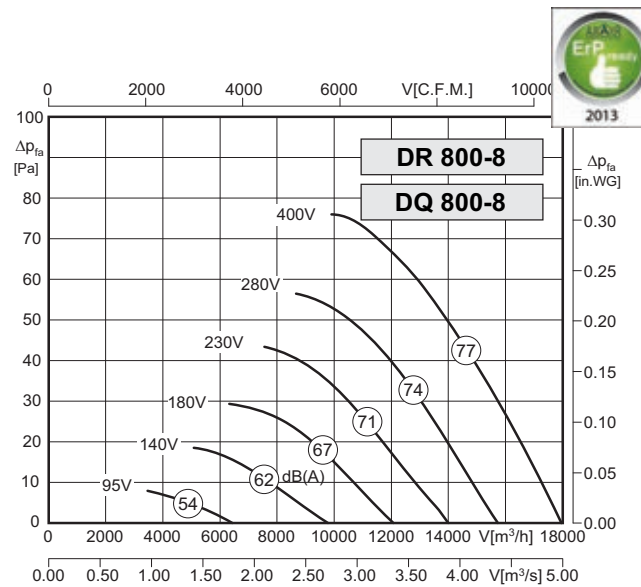
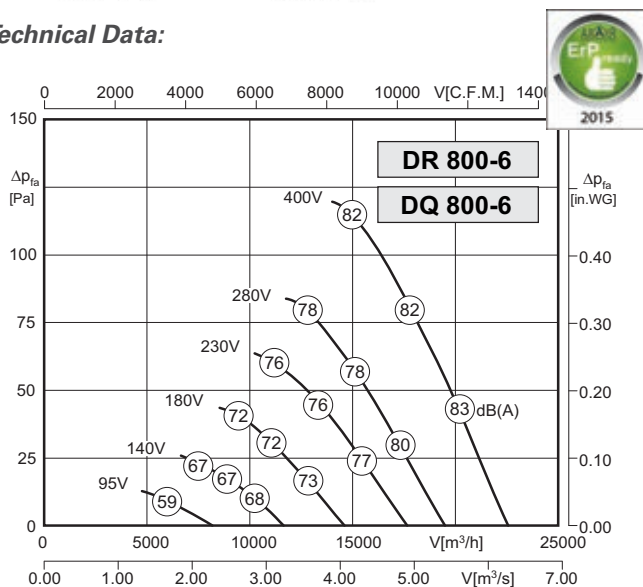


EQ / DQ

ER / DR

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

### Technical Data:



Type: **DR/DQ 800-6** Art.-No. : E10-80080 / E00-80080

U	400V (50Hz)	ΔPfa min	- Pa
P1	1.30 kW	ΔI	- %
IN	2.60 A	IA / IN	2.9
n	845 min <sup>-1</sup>	▲	IP54
C400V	- μF	✱	01.006
tR	70 °C	■	38 / 37 kg

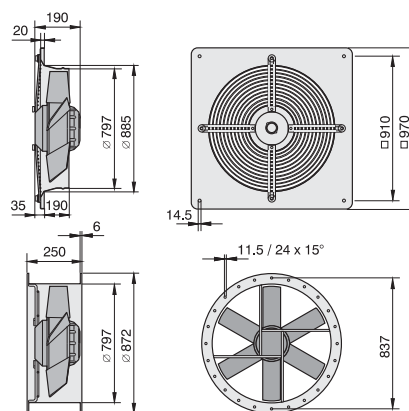
Type: **DR/DQ 800-8** Art.-No. : E10-80090 / E00-80090

U	400V (50Hz)	ΔPfa min	- Pa
P1	0.75 kW	ΔI	- %
IN	1.85 A	IA / IN	2.5
n	665 min <sup>-1</sup>	▲	IP54
C400V	- μF	✱	01.006
tR	70 °C	■	36 / 35 kg

### Sound levels available upon request

### Dimensions:

(all dimensions in mm)



\*only for type ER/DR



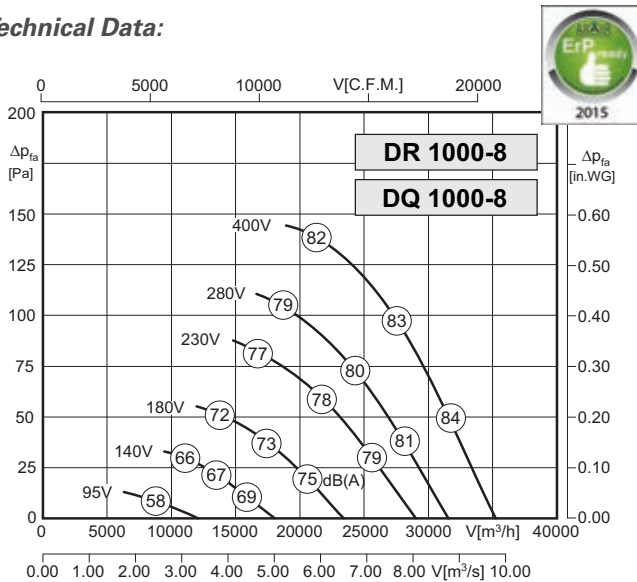


**EQ / DQ**

**ER / DR**

- low installation depth
- usable for many applications
- can be installed in any position
- insulation class F
- motor protection by thermal contacts
- speed is variable using auto transformers

**Technical Data:**



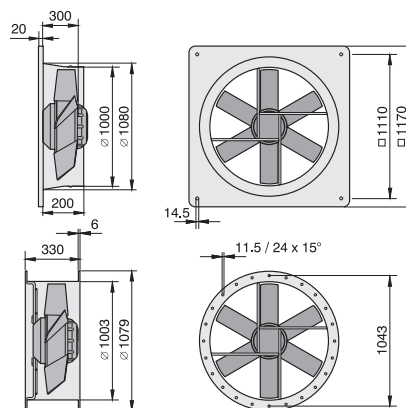
Type : **DR/DQ 1000-8** Art.-No. : **E10-10050 / E00-10050**

U	400V (50Hz)	$\Delta p_{fa}$ min	-- Pa
P <sub>1</sub>	2.15 kW	$\Delta I$	8 %
I <sub>N</sub>	4.40 A	I <sub>A</sub> / I <sub>N</sub>	3.4
n	675 min <sup>-1</sup>		IP54
C <sub>400V</sub>	-- $\mu F$		01.006
t <sub>R</sub>	45 °C		74 / 70 kg

**Sound levels available upon request**

**Dimensions:**

(all dimensions in mm)



\*only for type ER/DR



*Potentiometer*



*Transformer  
Speed Control*



*Electronic Controller*



*Finger Guards*



*Inlet Flange*

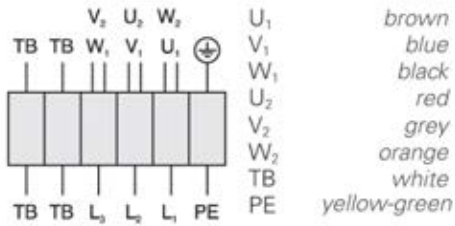


*Outlet Flange*

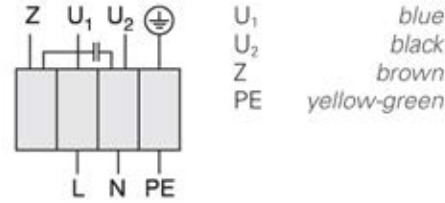


*Feet and Flanges available upon request*

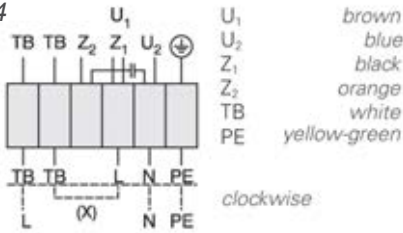
01.006



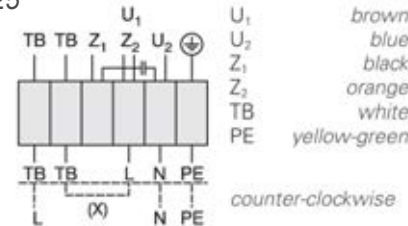
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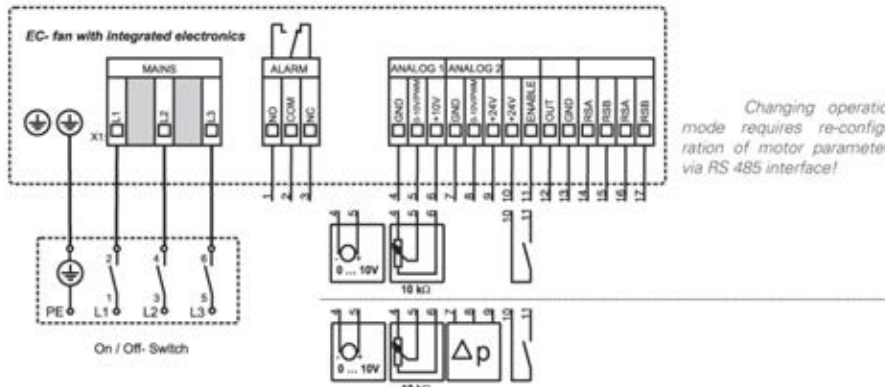
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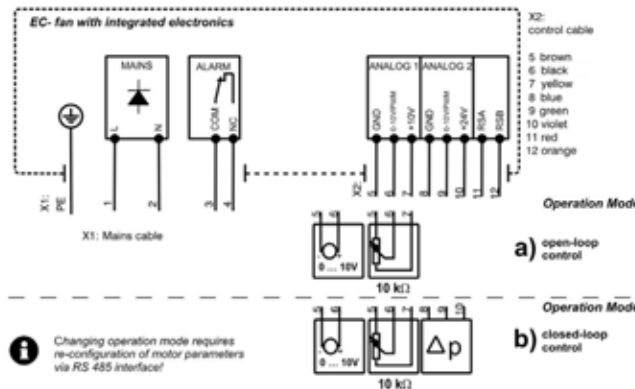
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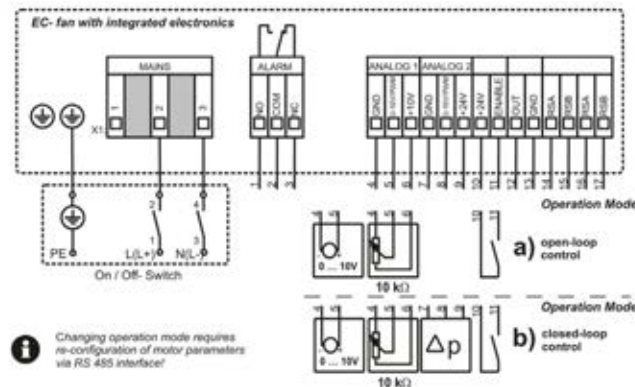
01.390



01.434



01.437







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