

proSELECTA II

Simple and reliable selection

proSELECTA II is a technical selection program that allows you to configure your own individually designed fan. It provides you with the opportunity to choose from the entire range of fan types and their associated options.

The result from proSELECTA II is the provision of all the technical data for your fan, including sound level data, dimension specifications and accessories. Apart from that, as a registered user, your purchase prices are provided. Additionally fully dimensioned drawings in dxf format are available, which can be downloaded and transferred straight into your CAD system.

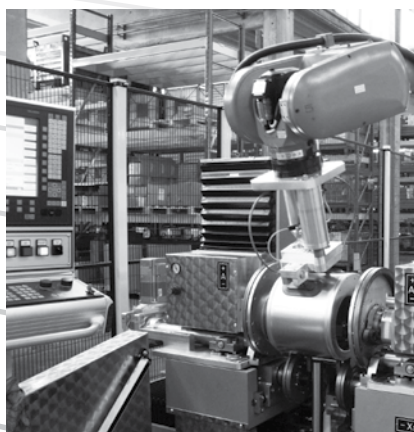
So that you can be sure. Models and options that are technically not permissible, are automatically excluded in proSELECTA II. So there is no chance that you will configure a "wrong" device option.

You can register as a proSELECTA II user with us, which enables us to offer you faster order processing. What this means for you is:

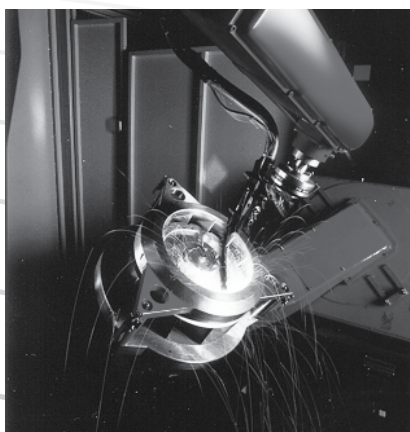
- ▶ The complete configuration of your fan with its associated system accessories and belt drive layout.
- ▶ The possibility to produce fans that operate via a frequency inverter.
- ▶ The option of saving your own fan configuration on our server.
- ▶ The opportunity to modify your saved configuration, even over the phone to your Nicotra Gebhardt representative.



Nicotra Gebhardt technologies like ...



Automated manufacture of compact scroll and impeller with forward curved blades



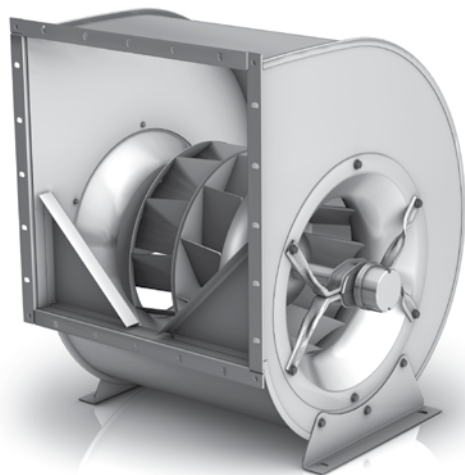
Own motor production for optimal tuning of motor and fan!



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Highest system performance and best energy efficiency



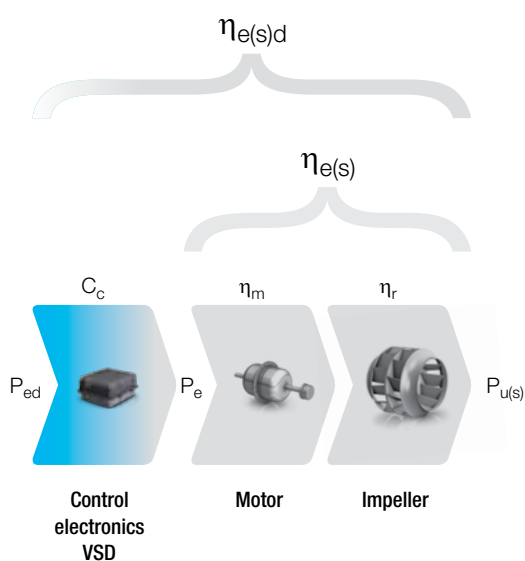
The RZP rotavent serie

Economic, quiet and compact.

Through the combination of two pioneering technologies - the aerodynamics of the rotavent impeller combined with energy efficient brushless integral motors, Nicotra Gebhardt has developed a series of controllable direct drive centrifugal fans setting new standards for economy and quiet operation.

Your benefits:

- ▶ a greater motor efficiency due to the elimination of all slip losses and marked reduction in copper losses
- ▶ a compact range of fans from using built-in brushless DC motors (no belt drives)
- ▶ maintenance and wear free drive (no V-belts)
- ▶ short payback time due to high energy saving, especially with long operating periods
- ▶ higher comfort levels through particularly low noise fans and motors
- ▶ setting unrelated to mains frequency – same operating point for 50/60 Hz
- ▶ problem free speed control from 0 up to 100 %
- ▶ reduced motor heat from higher motor efficiency – reduced energy expenditure for the cooling systems



Make use of our technical selection program proSELECTA II. You receive all technical data for your fan, easy-quick-reliable.

System efficiency

The given System Efficiency is the efficiency of the whole system and includes the individual efficiencies of the component Fan – Motor – Control electronics.

ErP conformity

Depending on the model of the fan, the efficiency grade "N" set in accordance with the ErP Directive must be achieved from 2013 and 2015 respectively.

The efficiency grade designates a parameter in the calculation of the target energy efficiency of a fan depending on the electric input power when operating at the optimal energy efficiency point. The figure of parameter "N" corresponds to the target energy efficiency with a power of 10 kW.

Efficiency grade "N" to ErP Directive

Centrifugal fans with backward curved blades with housing

Measurement category	Efficiency category	Power range P [kW]	Target energy efficiency	Efficiency grade "N"	
				2013	2015
A, C	static	$0.125 \leq P \leq 10$	$\eta_{\text{target}} = 4.56 \cdot \ln(P) - 10.5 + N$	58	61
		$10 < P \leq 500$	$\eta_{\text{target}} = 1.10 \cdot \ln(P) - 2.60 + N$		
B, D	total	$0.125 \leq P \leq 10$	$\eta_{\text{target}} = 4.56 \cdot \ln(P) - 10.5 + N$	61	64
		$10 < P \leq 500$	$\eta_{\text{target}} = 1.10 \cdot \ln(P) - 2.60 + N$		

Calculation example for fan type: RZP 11-0315-EC-51

Measurement category / Efficiency category = **B / TOTAL**
 VSD power range at optimum $P_{\text{ed}} = 4.12 \text{ kW}$ (<10 kW)
 Efficiency grade according to ErP Directive $N_{2015} = 64$

Calculation of the ErP energy efficiency η_{target} required 2015:

$\eta_{\text{target}} = 4.56 \cdot \ln(4.12) - 10.5 + 64$ $\eta_{\text{target}} \approx 60.0 \%$

Fan energy efficiency η_e :

System efficiency (total) by proSELECTA II $\eta_e \approx 65.6 \%$

Calculation of the Fan efficiency grade "N_F":

$N_F = 65.6 - [4.56 \cdot \ln(4.12)] + 10.5$ $N_F = 69.6$

Result: $\eta_e 65.6 \% > \eta_{\text{target}} 60.0 \%$ resp. $N_F 69.6 > N_{2015} 64$

The energy efficiency of the fan surpasses the requirements of the ErP for 2015.

A technical data list according to ErP-REGULATION 327/2011/EU of all fans is available at the end of this chapter "RZP".



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The compact pioneering technology

optimal Aerodynamics

Low turbulence velocity for both inlet and discharge due to the large free cross section and minimal flow restraint of the impeller, an example of aerodynamics and performance of the rotavent.

Acoustics

Reduction of high frequency noise levels is just one of the advantages of the rotavent, together with optimised brushless integral motors. Minimal sound levels due to low blade passing frequencies from the optimised impeller geometry of the rotavent. The impeller has obliquely inclined blades with trailing edges, and the throat plate is inclined opposingly.

high efficiency

A 10% up to 20% better system efficiency is achieved in comparison to similar performance data for voltage controllable fan systems.

Your benefits:

- ▶ negligible sensitivity to built in disturbances
- ▶ minor pressure loss with free discharge operation
- ▶ smaller, yet greater energy performance

Your benefits:

- ▶ reduced size and costs of attenuation and silencers

Your benefits:

- ▶ low running costs
- ▶ high efficiency

Die Produktvorteile des RZP

Die Hochwertigen und präzisen Bauelemente des rotavent, gefertigt mit modernsten Einrichtungen und höchster Wiederholgenauigkeit, bilden die Basis für ein Produkt welches auch höchsten Ansprüchen genügt:

Version	Description	Figure
RZP 11-0200/-0400	Lock formed scroll made of galvanised steel sheet, equipped with multi-position bolted brackets and discharge flange. High performance impeller with backward curved true aerofoil blades, welded and coated.	
The motors	A drive unit involving an electronically commutated motor differs from the DC motors of old through it's lack of collector and carbon brushes. These subject to wear components have been replaced in electronically commutated motors with maintenance free electronics.	
The vibration free motor suspension	The anti-vibration system, specially developed for this application, ensure smooth running of the unit without transmission of vibration to other parts of the installation or to the building.	
The trouble-free speed regulation	from 0 to 100 % by an efficient Control electronics system. Benefits: ▶ high flexibility ▶ easy adaptation to varying operational conditions ▶ high efficiency at part load	



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