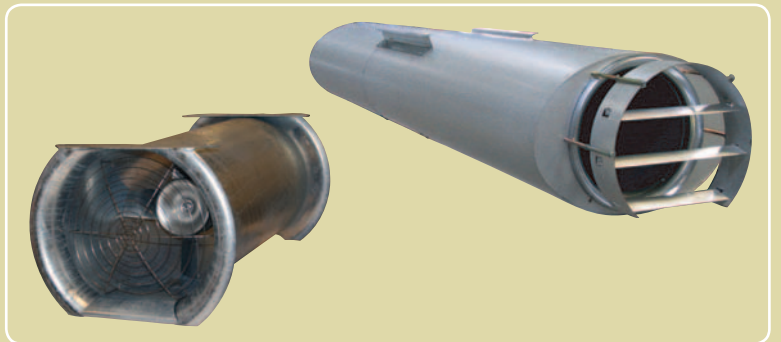


Novenco jet fans

Novax

February 2009



Product facts

Product

Novenco jet fans type Novax are produced in unidirectional (AU_) and reversible (AR_) versions.

- AUT/ART – circular Basic jet fans
- AUO/ARO – oval Design jet fans

Application

The jet fans are f.x. used for ventilation of car parks and large spaces where polluted air needs to be removed effectively. Jet fans are therefore often part of concepts for fire fighting and hot smoke removal in connection with fires.

The operating temperature range is as standard -20 to +40 °C. Max. temperature range is from +40 to +120 °C. Hot smoke versions withstand 400 °C for up to two hours.

Sizes and versions

Novenco jet fans are manufactured in four sizes with different rotor diameters and in unidirectional or reversible versions.

	Diameters [mm]
AUT/ART	Ø400
AUO/ARO	Ø290, Ø380, Ø500

Available rotor diameters

Construction

Common to all jet fan types is a circular fan tube. AUT/ART fans are long tubes with cones in the ends. AUO/ARO fans have silencers with cones. The outer fan casing on

these is made up of a alu-zinc sheet to make a whole with the silencers. The AUO have wire guards on the inlet sides and ARO have external deflectors. Both types are fitted with external deflectors on the outlet side.

AUT and ART have wire guards on both sides and are provided with aerodynamic integrated deflectors instead of external deflectors.

The fans are delivered with suspension brackets for mounting to ceilings or onto walls.

Motors

The motors are two-speed 3x400 V, 50 Hz for direct start.

Motor protection: Min. IP55 in accordance with IEC 34-5

Insulation class: F or H depending on temperature protection

Motor flanges: B14 in accordance with IEC 34-7

Electric isolation

AUO/ARO jet fans have either electric isolating switches integrated in the fan casing or internal terminal boxes. AUT/ART have all external terminal boxes.

The Novax rotor

The rotor consists of two hub discs with cavities, in which four blades are mounted in preset positions.

Silencers

The AUO/ARO fans are fitted with silencers on both sides of the fan casing. Cones designed for mini-

mum pressure loss are mounted on the inlet and outlet sides.

Materials

Blades: Aluminium alloy

Hub shells: Steel sheets

Fan tube: Rolled steel tube in 3 mm sheet

Wire guard: Stainless steel

Deflector: Galvanised steel and aluminium

Suspension brackets: Hot-galvanised 4 mm steel sheet

Outer casing for fan housing and silencers (AUO/ARO): 0.75 mm sheet in alu-zinc

Inside tube for silencers (AUO/ARO): Perforated pregalvanised sheet steel

Sound attenuating material (AUO/ARO): Fireproof and moisture resistant

Cones (AUO/ARO): Galvanised steel

Classifications

The jet fans meet the requirements for operation in unheated, low corrosive environments according to DS/EN ISO 12944-2, corrosion category C3.

Fans for fire fighting and hot smoke removal are CE approved to operate in the following conditions.

	F200 200 °C	F300 300 °C	F400 400 °C
1 hours	–	x	–
2 hours	x	x	x

Approved temperature ranges

Balancing of rotor units is in accordance with VDI 2060, ISO 1940, 1-1986 class Q 6.3.

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Important

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MU 14084 0209

Trademarks

Novenco is a trademark of Novenco.

Patents are pending for Novenco Novax Basic jet fans.

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Description

Product description

Fan types

Jet fans are produced in unidirectional and reversible versions with or without silencers.

Design jet fans with especially low sound levels are called AUO and ARO. They are available with rotor diameters Ø290, Ø380 or Ø500 mm.

Basic jet fans are called AUT and ART. They are only available with rotor diameter Ø400.

Fan housings

The fan housing is made of a rolled and welded steel tube in 3 mm sheet. The Design jet fans AUO and ARO have external oval outer casings of alu-zinc sheet.



Deflector on Novenco ARO Design jet fan

Motors

These require 3x400 V, 50 Hz and direct start. Motor protection is IP 55 in accordance with IEC 34-5. Insulation is class F or H.

Safety switches

The types AUO/ARO can be delivered with or without safety switches mounted in the terminal boxes. The terminal boxes are integrated in the fan casing. AUT/ART are all delivered with external terminal boxes.

Installation

The fans are fitted with brackets for ceiling or wall mounting.

Needed distances to beams as well as the height of these are relatively small. Thus on inlet sides there must be a minimum of 0.5 m to beams and on outlet sides a minimum of 2.0 m. Maximum beam height is 0.4 m on outlet sides in installations that are just within the minimum requirements.

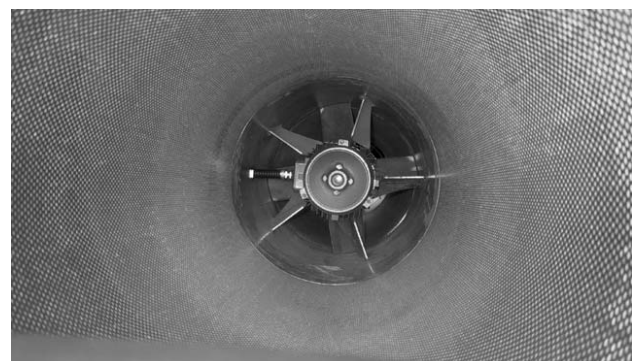
Temperature operating range

The range is as standard -20 to +40 °C.

Fans for fire fighting are CE approved in class F200, F300 or F400 according to EN12101-3 to operate in the following temperature ranges.

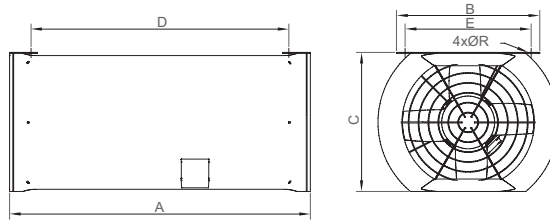
	F200 200 °C	F300 300 °C	F400 400 °C
1 hours	–	x	–
2 hours	x	x	x

Approved temperature ranges

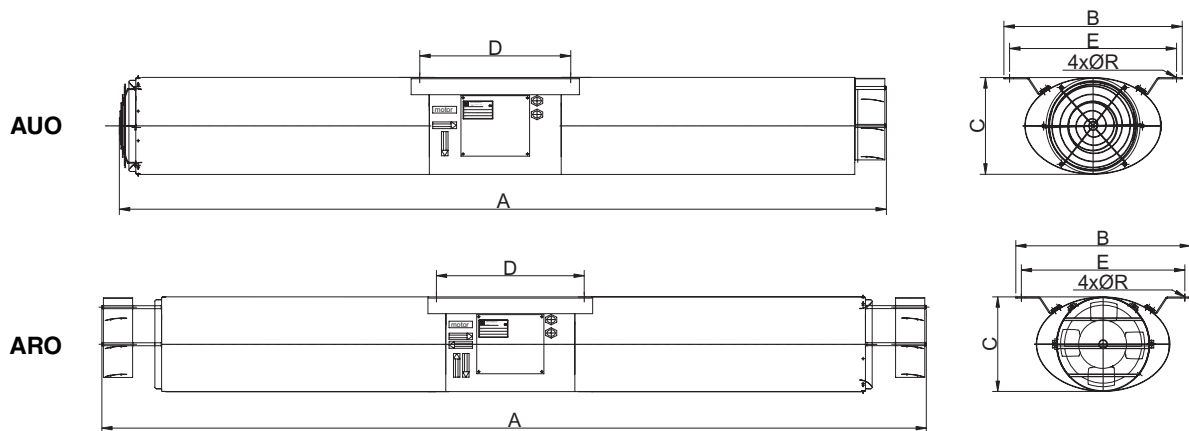


Inside a Novenco AUO Design jet fan

Dimensions



	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	ØR	Total weight [kg]
AUT/ART 400	854	522	423	779	470	14	63



	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	ØR	Total weight [kg]
AUO 290	2570	598	320	506	560	14	80
AUO 380	2672	758	420	506	720	14	110
AUO 500	2606	870	540	600	830	14	160
ARO 290	2823	598	320	506	560	14	80
ARO 380	2918	758	420	506	720	14	110
ARO 500	2854	870	540	600	830	14	160

Specifications

	Sizes 400		Sizes 290		Sizes 380		Sizes 500	
	AUT	ART ¹	AUO	ARO ¹	AUO	ARO ¹	AUO	ARO ¹
Volume flow [m ³ /s]	1.1 / 2.3	1.0 / 2.2	0.5 / 1	0.5 / 0.9	1.0 / 2.0	1.0 / 1.9	2.2 / 4.3	2.2 / 4.3
Air speed [m/s]	9 / 18	8 / 18	9 / 18	9 / 17	11 / 22	11 / 22	11 / 22	11 / 22
Thrust [N]	14 / 53	13 / 50	5 / 21	4 / 15	15 / 57	15 / 52	27 / 105	28 / 111
Voltage	3x400 V, 50 Hz, 2940 RPM							
Power consumption [kW]	0.25 / 1.1	0.3 / 1.3	0.1 / 0.5	0.1 / 0.5	0.25 / 1.1	0.3 / 1.3	0.5 / 2.2	0.5 / 2.2
Sound pressure [dB(A)] ²	54 / 72	56 / 75	35 / 46	35 / 47	39 / 52	42 / 56	45 / 59	49 / 64

1. Data for reversible fans is given for air direction blade – motor.

2. Approximate values for sound pressure levels at 3 m and 45° free field from the fan



Novenco develops and manufactures ventilation and fire fighting systems that are marketed and distributed world-wide through subsidiaries and agents.

The company was founded in Denmark 1947 and has become one of the world-leading suppliers.

Novenco symbolises quality and environmentally friendly products. The company is certified according to ISO 9001 and ISO 14001.

The headquarters of Novenco is located in Naestved, Denmark.

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Read more about Novenco on the Internet.