

AR Axial Fans

Low pressure axial duct fan

- Available with AC motors for 50 and 60Hz
- Installation in any position
- Noise and energy optimized impeller

[Find more details in our online catalogue](#)



Flexible

The AR fans are **designed** for extracting air in **low pressure systems**. They can be installed in any position and way according to your demands.

This ensures that the fans can be used in a variety of **commercial** and **industrial** applications.

Performance

The **noise optimized** axial impellers together with the **high efficient** external rotor motors are designed to ensure high-level performance to **minimize power consumption** and **maximize efficiency**.

Features

Construction

The round casing is made of galvanized steel with powder coating in RAL9005.

The **complete** range is provided **with inlet protection grid**. An **outlet protection grid** is **available as accessory**.

Depending on type, the fans are equipped with an external **terminal box**, protection class **IP44** or **IP54**.

Impeller

The AR fans use **axial impellers**. These are made of **coated steel**, **composite** material or **aluminum**, are dynamically **balanced** and are paired with corresponding external rotor motors.

Motor

AR fans are equipped with an **AC external rotor motor**. The motors are suitable for **50Hz** and **60Hz**.

Motor protection

The **AC** motors are equipped with prewired integral **thermal contact** with leads to be connected to a **motor protection unit**.

Control

The **AC motor** can be controlled by **5-step**, **stepless** speed regulator or **frequency inverter**.

Installation

The AR fans can be installed in **any position** in the **duct** in **indoor** environments.

Technical parameters

Nominal data		
Voltage (nominal)	230	V
Frequency	50	Hz
Phases	1~	
Input power	600	W
Input power kW	0.6	kW
Input current	2.9	A
Impeller speed	1,390	rpm
Air flow	max 7,301	m³/h
Air flow at max. efficiency	5,004	m³/h
Specific ratio	1	
Capacitance of capacitor	14	µF
Temperature of transported air	max 70	°C
Max temperature of transported air, when speed controlled	70	°C

Protection/Classification	
Enclosure class, motor	IP54
Insulation class	F

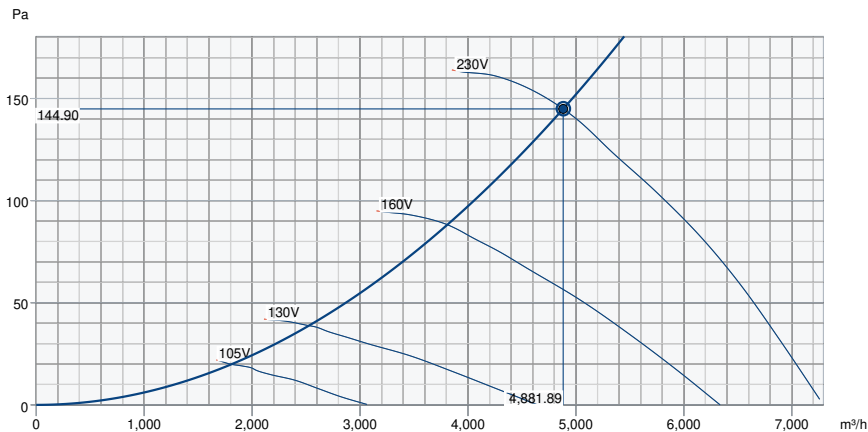
Data according to ErP		
ErP ready	ErP 2018	
Measurement category	A	
Efficiency grade	41.8	η _{actual}
Efficiency, static	34	η _{statA}
Target efficiency grade ErP2013	36	η _{target2013}
Target efficiency grade ErP2015	40	η _{target2015}

Dimensions and weights		
Duct dimension; Circular, inlet	450	mm
Duct dimension; Circular, outlet	450	mm
Weight	17	kg

Others	
Duct connection type	Circular
Color name, casing	Black
Motor type	AC

Performance

Performance curve



Hydraulic data

Required air flow	4,884 m³/h
Required static pressure	145 Pa
Working air flow	4,882 m³/h
Working static pressure	145 Pa
Air density	1.204 kg/m³
Power	590.8 W
Fan control - RPM	1,397 rpm
Current	2.83 A
SFP	0.436 kW/m³/s
Control voltage	230.0 V
Supply voltage	230 V

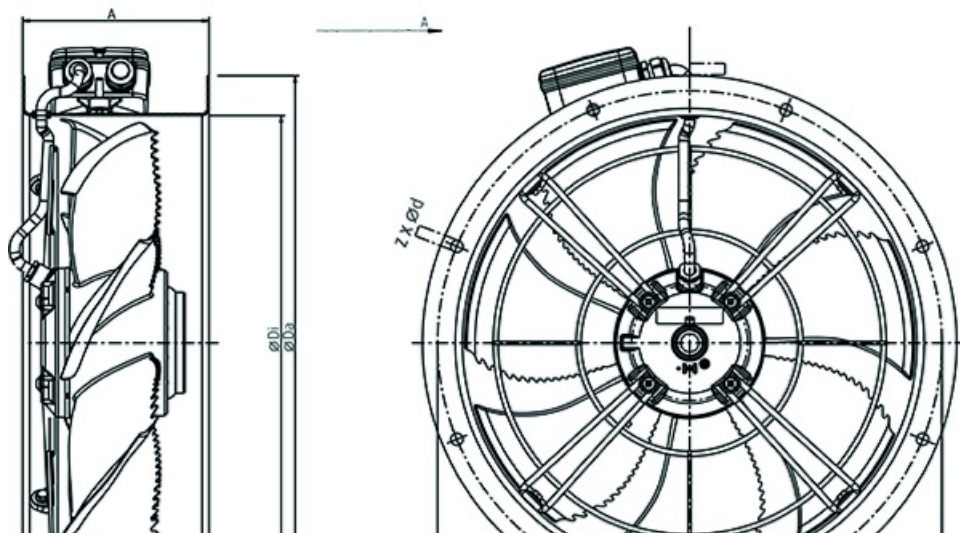
Sound power level		63	125	250	500	1k	2k	4k	8k	Total
Inlet	dB(A)	20	42	53	64	68	68	65	58	73
Outlet	dB(A)	20	42	53	65	68	68	65	60	73

Ecodesign

Ecodesign 327

Manufacturer	Systemair GmbH		
Type	AR 450E4		
Year of manufacture	See name plate of the fan		
Air flow qv	5,005	m³/h	
Efficiency category	static		
Efficiency grade N	41.8		
Efficiency grade target N	40		
Speed (rpm) n	1,398	rpm	
Pressure increase total psf	140	Pa	
Power consumption Ped	590	W	
Overall efficiency	34	%	
Variable speed drive	No		
Additional components	Components used to calculate the energy efficiency that are not apparent from the measurement category are detailed in the CE declaration.		
Maintenance	Information on installation, operation and maintenance is provided in the operating instructions.		
Recycling / disposal	Information on recycling and disposal is provided in the operating instructions.		

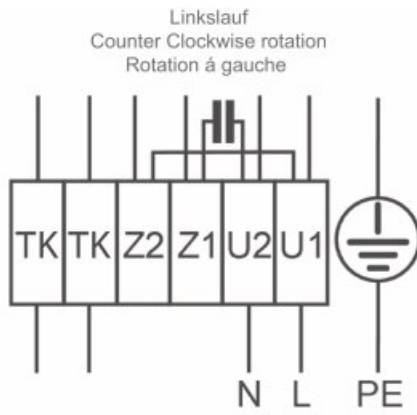
Dimension





	A	ØDi	ØDa	ØTK	z x Ød
AR 450 sileo	185	451	530	500	8 x Ø12

Wiring



Accessories

- EV-AR/AXC 450 flex.conn. 70°C (8355)
- GFL-AR/AXC 450 counter flange (8379)
- Motor protect. switch S-ET 10 (161199)
- REU 5 Speed control (5006)
- RTRE 5 Speed control (5010)
- VK-45 Louvre shutter (87693)
- Frequency converter FRQ5SE-6A (37421)
- MFA-AXC/AM 450 mounting foot (311286)
- REE 4 Speed control (5317)
- REV-5POL/05-7,5kW R/Y (33979)
- Frequency converter FRQSE-6A (37419)

Documents

- L-BAL-001-SYSTEMAIR.PDF
- EU Declaration of Conformity_002
- installation variations_1_AR_AW.pdf