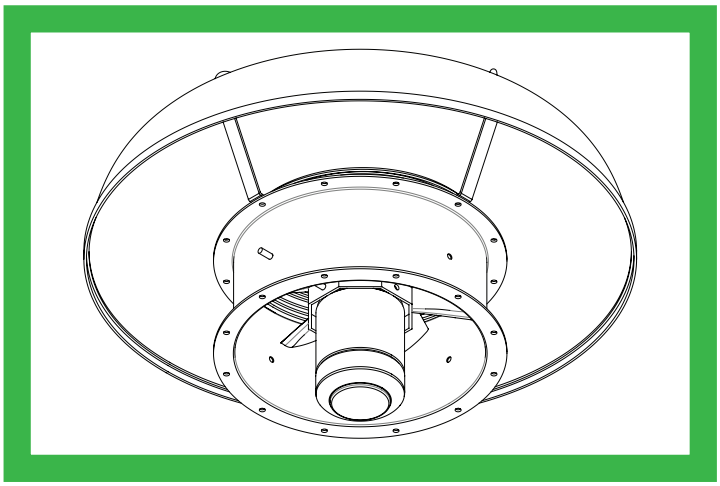
Axial Flow Roof Fans

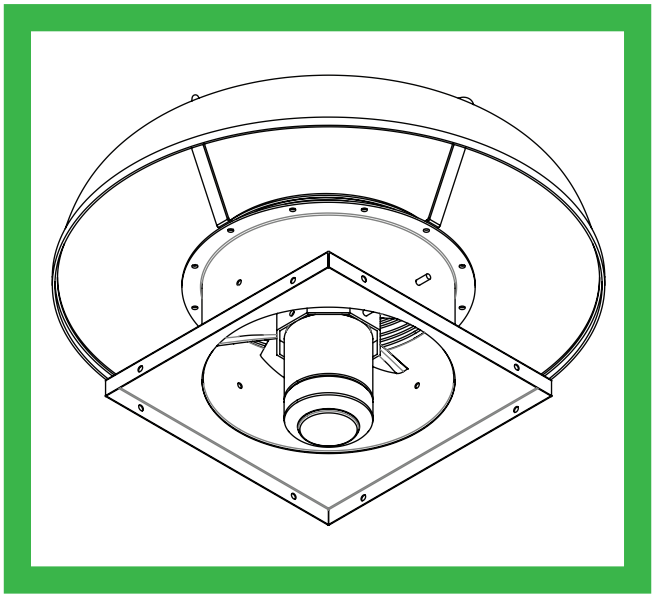
Suitable for smoke spill
Application 400°C / 2h

Axial Dachventilatoren

auch geeignet für
Entrauchung 400°C / 2h



RF-AXV Series



RFB-AXV Series

DA05.5

wolter

Axial Flow Roof Fans

Technical description

Description

Size Ranges (315~1000mm diameters)
Axial roof fans are manufactured with size ranges from 315mm to 1000mm diameters. Diameter above 1000mm can also be supplied upon request.

Performance

The performances are ranged from 1000 to 150000 CMH on air volume at a static pressure up to 1500. Performances are established in accordance to AMCA 210 / ISO 5801, Pt 1, Category D.

Roof Cap and Horizontal Square Base

The light weight standard roof cap are moulded in fire resistant glass fibre reinforced polyester resin which give maximum strength, anti-corrosion and ensures long life in all weather conditions. All metal parts are painted or galvanised.

For application, as option, the square base can be manufactured of galvanised steel sheet, aluminium or stainless steel to suit special requirement.

Suitable for smoke spill Application 400°C / 2h

Smoke Spill Roof Fan

Cylindrical roof cap and square base can be mounted on Wolter RF-AXV-HT axial fan series suitable for 400°C/2hours application. Upon requested, other application such as flameproof, multi-speeds, extra enclosure and over-heat protection can be supplied.

Impellers

The fan blades are aerodynamically profile guarantee highest efficiency and low noise. The standard blades come with durable flame retardant plastic are designed to give maximum performance combine with durability and trouble free operation. The impeller manufactured with high efficiency blade profile and adjustable pitch angle. Cast aluminium alloy blade can be supplied upon requested.

Wire Guard

Standard galvanised wire bird guards at the outlet are available for all models. Finger proof wire guard and wire guard at the inlet are available on requested.

Air Shutter

Air shutter can be supplied upon request for exhaust application to prevent back draught or heat loss from within the building when the fan is not running. Shutters are not recommended for low flow units. Motorise and automatic shutter can be supplied upon request.

Curb mounting units

The base is designed to fix on to a prepared curb on a flat roof. Base curb are available on requested.

Electric Induction Motor

Standard electric motor with wiring terminal box of ball bearing type. 50 or 60 Hz, 220 and 380 volts. Single or three phases supply. Isolator switch can also be supplied upon request.

Tropicalisation

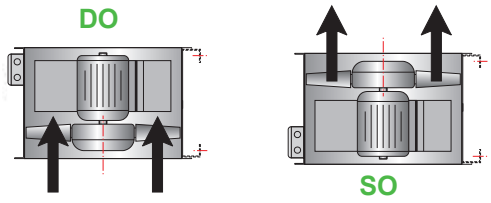
Motor winding are coated with resin varnishes, which make the motor suitable for tropical atmospheres. Additional treatment can be carried out where motors are required to operate in severe tropical environments.

Axial Flow Roof Fans

Technical description

Forms of running

Axial roof fans are available for two forms of running. Standard form of running is “D0“.



Ancillaries

Wolter offers a wide range of ancillaries, e.g.:
- Impeller or motor side guard
- Bell mouth inlet
- Anti-vibration mounts
- Silencers with or without pod
- Anti-spark-track for flame proof

Roof Unit Selection and Application

Quantity of fresh air required
The supply of fresh air to a room or building should remove airborne contamination and maintain an acceptable air temperature. The required flow rate should depend on the amount and type of contamination present in the air and on the thermal loads.

In addition, experiments have shown that odours are less easily dispersed in small airspace, so that room size is also important. These three factors will determine the fresh air requirements allow about 9.5 l/s of fresh air per person, increasing to 23.5 l/s per person where heavy smoking is likely. When dealing with heat load use the normal approximate formula:

$$\text{Volume} = Q / (K\ (Ti\text{-}To))$$

The air flow should be increased if excessive contamination is present such as steam in a kitchen, chemical fumes in a factory, etc., although it is always advisable to use hoods fixed above the relevant equipment and extract the fumes using a fan connected to the hood by ducting. When designing a hood extract system allow a face velocity of between 0.25 -0.75 m/sec at the hood (depending on the amount of air disturbance in the room).

Grease filter should be used on kitchen extract system to avoid the fire risk associated with grease collecting in the ducting.

In cases where heat loads or the number of occupants are unknown it is often acceptable to estimate the air flow rates from data such as that shown in **Table 1** which lists average figures for various applications.

The number of fans to use for a given airflow will depend on the permissible noise levels and on flow distribution requirements.

Duplication the fan is often necessary to safeguard against possible failure. Intake grilles should be carefully positioned to provide even flow distribution and should be large enough to avoid excessive pressure losses.

Intake velocities should be about 5 m/s for industrial applications reducing to about 1m/s for critical draught free areas.
Filters and heater batteries can also be incorporated in input grilles.

By suitably controlling fan speeds either manually or automatically, the airflow rates can be adjusted to suit varying conditions.

Axial Flow Roof Fans

Technical description

In some cases, reversal of fans can provide alternative airflow arrangements. When using extract fans for agricultural purposes, specialist literature should always be consulted due to the large number of factors to take into consideration. Table 2 is intended as a rough guides only.

Table 1, Airflow rate for various applications

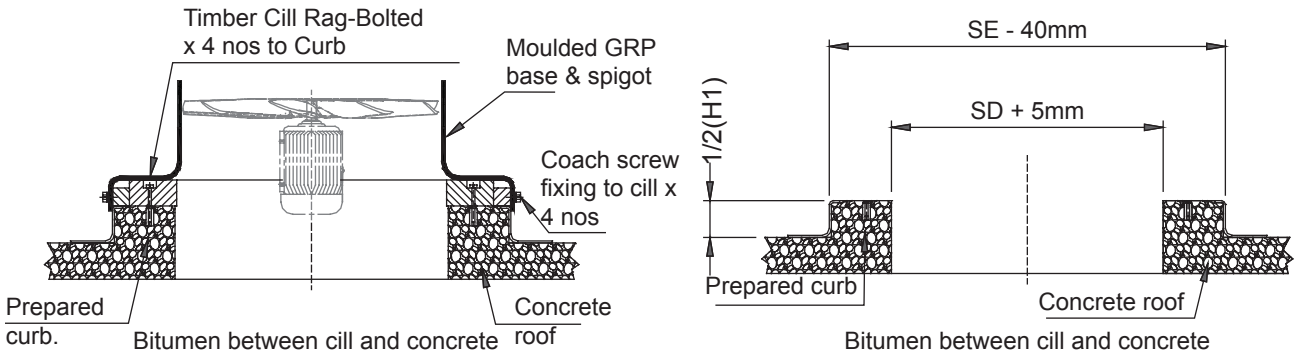
Application	Air change per hour
Classrooms, Offices and Hospital Wards	3 to 6
Dance Halls,workshops, Garages & Restaurants.	6 to 10
Theatres, Cinemas, Toilets & Domestic kitchens.	10 to 15
Commercial Kitchens, Bakeries & Boiler Houses	15 to 25
Heat treatment shops and paint shops	25 to 50

If necessary, double the above figures where smoking is excessive. Flameproof fans are normally required for garages and paint shops. Where heavy inflammable vapours are present (e.g. petrol), an additional low-level extract fan is necessary.

Table 2, Maximum figures - Summer Temperate Zone

Zone	Cfm/pound Live weight	Litres/sec per kg Live weight
Adult Cattle Young Calf	0.20 to 0.40	0.21 to 0.42
Sow & Litter Fattening Pig	0.25 to 0.50	0.26 to 0.52
Broiler Chickens	0.75 to 1.25	0.78 to 1.30
Laying Poultry	1.50 to 2.50	1.66 to 2.60

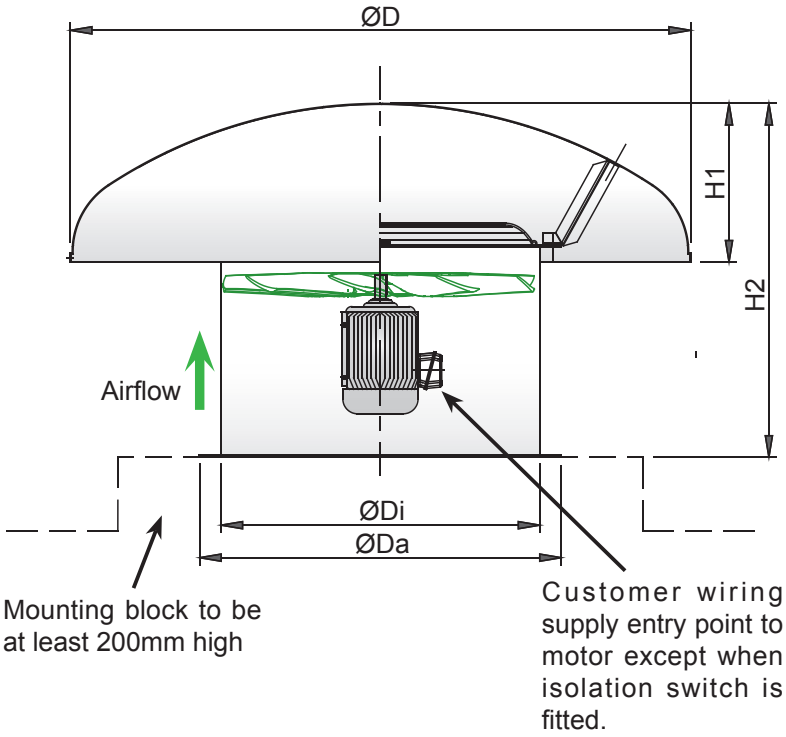
Roof and cowl openning

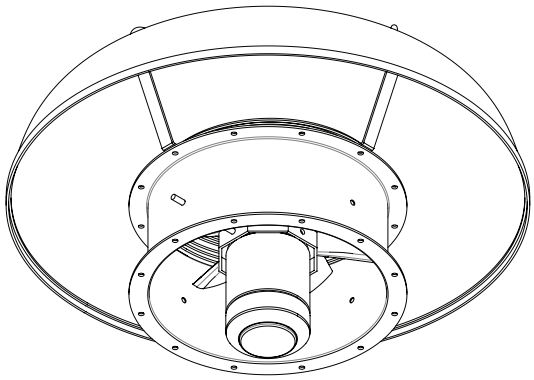


AXIAL FLOW ROOF FANS - RF-AXV Series

DIMENSIONS

Down Discharge with RF-AXV Axial Flow Fan





Model -	Di [mm]	Da [mm]	D [mm]	H1 [mm]	H2 [mm]
RF-AXV 315	320	388	750	225	385
RF-AXV 355	359	428	750	225	405
RF-AXV 400	401	472	750	225	425
RF-AXV 450	450	522	1000	250	450
RF-AXV 500	504	574	1000	250	480
RF-AXV 560	565	654	1000	250	580
RF-AXV 630	634	724	1260	290	605
RF-AXV 710	711	802	1260	290	620
RF-AXV 800	797	889	1550	405	665
RF-AXV 900	894	988	1550	405	715
RF-AXV 1000	1003	1095	1850	480	850

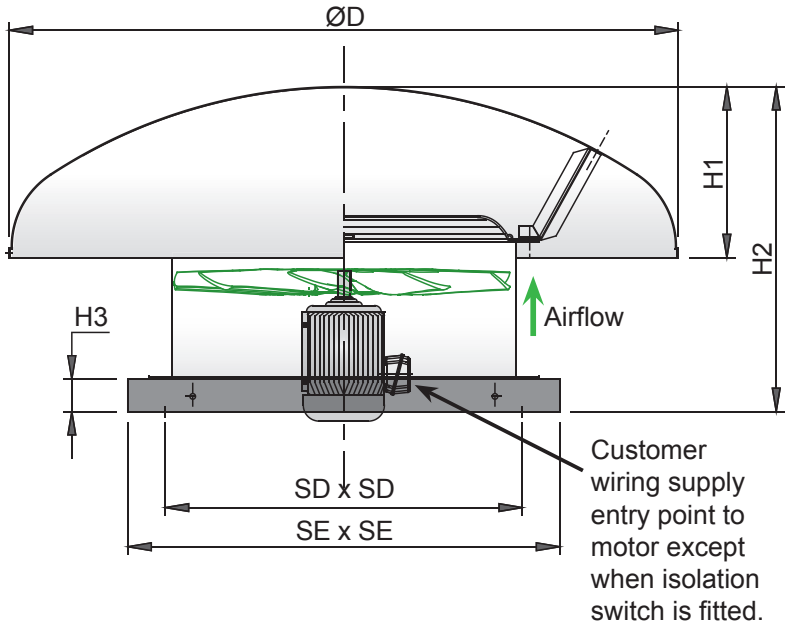
NB: We reserve the right to alter measurements without notice in case of technical improvements.

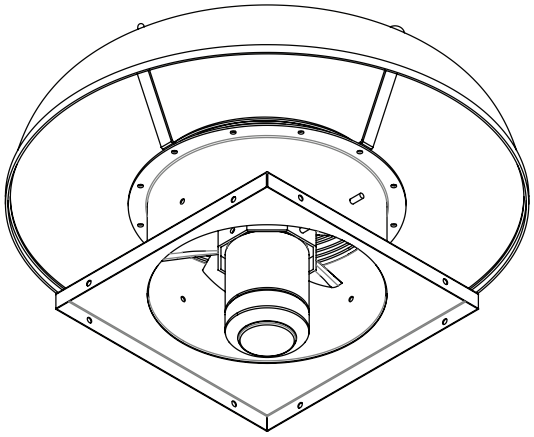
Wolter GmbH+Co KG
Am Wasen 11 D-76316 Malsch-Vö.
Telefon 07204 / 9201-0 Telefax 07204 / 9201-11
http://www.wolterfans.de

AXIAL CURB ROOF FANS - RFB-AXV Series

DIMENSIONS

Down Discharge with RFB-AXV Axial Flow Fan with base curb





Model -	Di [mm]	Da [mm]	D [mm]	H1 [mm]	H2 [mm]	H3 [mm]	SD x SD [mm]	SE x SE [mm]
RFB-AXV 315	320	388	750	225	380	60	340	468
RFB-AXV 355	359	428	750	225	405	60	379	468
RFB-AXV 400	401	472	750	225	436	60	421	565
RFB-AXV 450	450	522	1000	250	460	60	470	565
RFB-AXV 500	504	574	1000	250	490	60	524	700
RFB-AXV 560	565	654	1000	250	565	75	585	700
RFB-AXV 630	634	724	1260	290	605	75	664	855
RFB-AXV 710	711	802	1260	290	620	75	741	855
RFB-AXV 800	797	889	1550	405	665	75	827	1000
RFB-AXV 900	894	988	1550	405	715	75	924	1100
RFB-AXV 1000	1003	1095	1850	480	800	75	1033	1200

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